

**TECHNICAL GUIDANCE MATERIALS**

**VOLUME 4**

**AIRWORTHINESS INSPECTOR HANDBOOK**



# **TECHNICAL GUIDANCE MATERIAL**

## **Introduction**

**Technical Guidance Material includes Inspector Manual for Civil Aviation Operations, Airworthiness and Personnel Licensing Inspectorate Personnel.**

**These Manuals provide mandatory directions, information and procedures to the Authority's inspectors and officers in the certification, surveillance, audit and regulation enforcement duties. The Manuals are publicly available in the interests of transparency and to provide further advice to industry in its dealings with the Authority.**

**For ease of use the Inspector Manuals are grouped in four areas general and those relating to each specialty (i.e. Personnel Licensing, Aeromedical, Operations and Airworthiness). The general Manual are those cutting across specialties and provides information of a general nature relating to all.**

# TECHNICAL GUIDANCE MATERIAL


## PREFACE

This manual is one in the set of manuals forming the Nigerian Civil Aviation Authority's, Directorate of Airworthiness Standards internal documentation set. This manual is produced to provide the information, policy and procedures needed to perform the tasks as required by the Civil Aviation Act and the Nigeria Civil Aviation Regulations.

This volume of the manual has been prepared for the use and guidance of Airworthiness Aviation Safety Inspectors in the performance of their duties. I require all staff to use this manual in the performance of their duties. However, it is emphasized that all matters pertaining to an inspector's duties and responsibilities cannot be covered in this manual. Inspectors are expected to use good judgment in matters where specific guidance has not been given.

The manual is dynamic documents. As a result of experience, changes in legislation and within the industry, as well as new technology, there may be the need for amendments. I encourage the contribution of comments and recommendations for revision/amendment action to this publication for the improvement of its content.

The Director General, identified in the footer of this manual, is accountable for approving the contents and amendments of this manual.



**Capt. Muhtar Usman**  
**Director General, NCAA**



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## CHAPTER 1

### Inspection and Evaluation of AMO Facilities and Equipment

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#### 1.0 PURPOSE

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This Chapter is issued to provide guidance and information for the airworthiness inspectors to use when inspecting and evaluating facilities and equipment of Approved Maintenance Organization (AMO) or for a change in rating, location or facilities of an AMO.

#### 2.0 REFERENCES

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- 2.1 [Part 6](#) of the Nigeria Civil Aviation Regulations.
- 2.2 [Part 9](#) of the Nigeria Civil Aviation Regulations.
- 2.3 CHECKLISTS: [CL:O-AWS001D](#); [CL:O-AWS002](#)

#### 3.0 GUIDANCE AND PROCEDURES

---

##### 3.1 General

- 3.1.1 When determining the suitability of permanent housing for maintenance of aircraft the inspector should consider work place climatic conditions. This is to determine if the workers efficiency will not be adversely affected by high or low temperatures, sand, dust, rain or other conditions. The inspector should also consider the maintenance work being performed to determine if the work processes (e.g. paint spray) are not affected.
- 3.1.2 Because of the requirement for bi-annual testing of systems on aircraft operating under IFR and other specialized services such as X-ray, magnaflux, etc., there may be a need for an AMO to have the capability to move from location to location.
  - a) Approved Maintenance Organization Certificate holder/applicants may move any or all of their material, equipment, and technical personnel from place to place for the purpose of performing their functions. The address shown on the AMO application will be considered the station's permanent location.
  - b) If the station wishes to establish an additional location different from that shown on the application, the applicant should apply for a line station maintenance facility approval at the named location.
- 3.1.3 Regulations [6.2.1.5](#) and [6.5.1.4](#) of the Nigeria Civil Aviation Regulations requires an applicant for an AMO certificate to provide a list of maintenance functions to be performed by other persons or organizations and to ensure that there is in place a procedure to ensure that AMO established airworthiness safety standards are maintained. It is the inspectors' responsibility to ensure that



Regulation 6.5.1.1 of the Nigeria Civil Aviation Regulations and the associated Parts allow the work to be contracted. This list should be kept by the Authority in the AMO file.

- 3.1.4 If work is sub-contracted out to a non-certified person, the certificate holder/applicant is responsible for ensuring that all work is performed in accordance with applicable Parts of the Civil Aviation (Approved Maintenance Organisation) Regulations.
- 3.1.5 If a certified AMO intends to perform job functions that were previously sub-contracted out, the Authority shall have to evaluate the additional facilities and equipment required to perform these functions, they must be inspected and approved prior to use.

### 3.2 The Inspection Procedures

- 3.2.1 Review the application and MPM for accuracy, determination of ratings and locations. Also determine whether any maintenance functions will be sub-contracted out.
- 3.2.2 Evaluate housing and facilities. By inspecting and assessing the following:
  - a) Adequate housing includes sufficient work space for maintenance functions to be accomplished;
  - b) If AMO has aircraft class rating, and housing that includes:
    - (i) Suitable permanent housing for the heaviest aircraft within the class of the rating being sought;
    - (ii) If climatic conditions allow, suitable work docks that meets the general requirements of Part 6 of the Nigeria Civil Aviation Regulations.
  - c) Proper storage and protection of materials, parts and supplies.
  - d) Proper identification and protection of parts and subassemblies during disassembly, cleaning, inspection, repair, alteration and assembly.
  - e) Segregation of the following:
    - (i) Incompatible work areas, e.g., metal shop, battery charging area, or painting area next to an assembly area; and
    - (ii) Un-partitioned parts cleaning areas.
  - f) Proper ventilation, lighting, and temperature and humidity for the type and complexity of work being accomplished;
  - g) Evaluate technical documents to ensure that documents:
    - (i) are in compliance with the Civil Aviation Regulations;
    - (ii) are appropriate for the maintenance to be performed;
    - (iii) are current, accurate, and complete;
    - (iv) are easily accessible to personnel; and
    - (v) Include a method to ensure revisions are made.



- h) Evaluate equipment, tools, and test equipment, per rating to ensure:
  - (i) Required types and quantities are available and under the control of the AMO;
  - (ii) All required items are serviceable and within calibration criteria, and satisfy the requirements of the Part 6 of the Nigeria Civil Aviation Regulations.

**Note:** If the AMO utilizes an engine test cell, it must be correlated to the manufacturer's specifications.

- a) Review personnel roster to ensure that the Part 6 of the Nigeria Civil Aviation Regulations requirements are satisfied in reference to:
  - (i) Personnel directly in charge of maintenance functions for the AMO.
  - (ii) Roster of supervisory and inspection personnel and appropriately certified staff in a supervisory position. ;
  - (iii) The Approved Maintenance Organization inspectors authorized to make final airworthiness determinations;
  - (iv) The technical supervisory personnel for the AMO approved ratings in accordance with Part 6 of the Nigerian CAR's;

**Note:** Analyze findings; if deficiencies were found, meet with certificate holder/applicant to discuss possible corrective actions.

### 3.3 Results

#### 3.3.1 If the facilities were found to be acceptable:

- a) Circle "Ac" in the Action block of the Activity Checklist;
- b) Complete and sign the recommendation block of the activity checklist;
- c) Compile a report indicating successful completion of the inspection;
- d) If the inspection was for change in location, a new AMO certificate should be issued indicating the new location address;
- e) If the inspection was for a change in rating, the amended MPM/MCM revised pages should be approved and up-graded AMO operating specification indicating the changes in rating issued.

#### 3.3.2 If the facility is found unacceptable:

- a) Circle the 'U' action block of the Activity Check list;
- b) List all the discrepancies noted in the comments field of the activity check list;
- c) Compile a report indicating all discrepancies found and recommendations outlining what will be required to correct the deficiencies;
- d) Schedule a follow up evaluation to review and evaluate the corrective action taken.

#### 3.3.3 All generated paper work should be filed in the certificate holders file.



## CHAPTER 2

### Evaluation and Approval of an Aviation Training Organization

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#### 1.0 PURPOSE

---

This Chapter is issued to provide basic information and guidance to Authority inspectors when evaluating Aviation Training Organization (ATO) for certification and approval under the Nigeria Civil Aviation Regulations.

#### 2.0 REFERENCE

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- 2.1 Regulations [3.2.1.2](#) and [3.2.1.5](#) of the Nigeria Civil Aviation Regulations;
- 2.2 Order No. [NCAA-O-GEN003](#) Five Phase Approval Procedure;
- 2.3 Advisory Circular No. [NCAA-AC-GEN004](#) Statement of Compliance; and
- 2.4 Advisory Circular No. [NCAA-AC-GEN-002](#) Approval of Technical Manuals.

#### 3.0 GUIDANCE INFORMATION

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- 3.1 **General:** The ATO approval and certification is carried out in accordance with the standard certification Five Phases Process.
- 3.2 **Pre Application Phase:** After the applicant has made contact with the Authority on the intention to apply for an ATO approval. The Authority will evaluate the complexity of the proposed operation for the establishment of a certification team. The Authority will assign an inspector who will be the Certification Project Manager (CPM) and contact person for the Authority during the certification process.
- 3.3 The CPM shall arrange for a pre application meeting with the applicant to discuss the formal application requirements. These shall include the following:
  - 3.3.1 **Personnel** - Regulation [4.2 of Part 3](#) of the Nigeria Civil Aviation Regulations make reference to competent and qualified Staff and should include the -
    - a) Accountable manager;
    - b) Quality control manager;
    - c) Head of Training or Chief Instructor
    - d) Adequate number of instructors relevant to the courses provided, qualified in accordance with the requirements of Part 2 of the Nigeria Civil Aviation Regulations.
  - 3.3.2 **Facility and Equipment:** The ATO facility and equipment make reference to Regulation [3.4.3](#) of the





Nigeria Civil Aviation Regulations:

- a) Adequately equipped classrooms for the maximum number of students expected to be taught;
- b) A well equipped library;
- c) Workshops, Equipment, General and Special Tools, adequate supply of materials that are required for the rating sought;
- d) Adequate Office Facilities; and
- e) Examination facilities and Training records.

3.3.3 **Training programme:** The Training Program makes reference to Regulation 3.4.1.2 of the Nigeria Civil Aviation Regulations and shall include:

- a) Pre-requisite entry qualification;
- b) The course syllabus;
- c) Proposed training schedules;
- d) Type of facility to be used for training (ATO);
- e) Special training requirement i.e. simulator, internship etc.;
- f) Assessment and certification.

3.3.4 Each trainee shall maintain an engineer's record of experience/log book and have it available for inspection by the Authority.

3.3.5 **Documentation and Manuals:** The manuals make reference to Regulation 2.1.8 of Part 3 of the Nigeria Civil Aviation Regulations, these will include the following:

- a) Procedures manual;
- b) Training manual;
- c) Quality manual;
- d) Training programmes; and
- e) Reference manuals etc.

3.3.6 Additional information to the applicant:

- a) The formal application form and the necessary advisory material;
- b) The non-refundable application fee;
- c) The approval process facilitation; and
- d) The approval process schedule of events.



**3.3.7 Formal application:**

- a) The application package and proof of approval fee shall be forwarded to the inspector assigned.
- b) A cursory review will be carried out by the team on the application package to determine its acceptance.
- c) On rejection the inspector will give a summary of the observed shortcomings in writing and return the package to the applicant.
- d) The formal application is submitted to the Authority at least 90days before the intended date of commencement.

**Note:** *The 90 days are effective after acceptance of the application.*

**3.3.8 Document evaluation:** On acceptance the team will carry out an in-depth evaluation of the application package to ensure conformity to the regulatory requirements.

**3.3.9 Demonstration and Verification:** During the demonstration and evaluation inspection it is required to establish that the procedures, facilities, equipments and personnel are in accordance with those stipulated in the associated manuals and documents evaluated.

**3.3.10 Certification:**

- a) When the applicant has met all regulatory requirements, the assigned inspector will accomplish the following:
  - b) Complete the audit form and recommend for the issuance of the approval.
  - c) Prepare the Operations Specifications showing the ratings and limitations.
  - d) Prepare the Approval Certificate Form: [AC-040B](#) which will be signed by the Authority.
- e) Ensure that the records kept in the organization's file contains the following:
  - (i) A completed copy of the audit form;
  - (ii) A copy of the statement of compliance;
  - (iii) A copy of the certificate issued;
  - (iv) A copy of the operations specifications issued.
- f) If the applicant is unsuccessful in obtaining the approval the CPM will write a summary report to the Director responsible for safety oversight and the applicant will be notified in writing explaining the reasons for the rejection.

**3.3.11 Validity:** The period of validity of the certificate of approval shall be 24 months unless otherwise specified by the Authority.




- 3.3.12. **Approval renewal:** An approved Training Organization may apply for renewal of its certificate at least 30 days before the expiry date in order to ensure continuity of the training. On receipt of the application the Authority shall assign inspector(s) to carry out the pre-renewal audit. The approval will be renewed when the Authority establishes that the ATO still meets the regulatory requirements and operates in conformity with the approved training specifications and ratings.
- 3.3.13. **Amendments to the Approval:** A holder of an ATO certificate shall not make any change to approved training specifications, ratings and limitations unless such changes are approved by the Authority.





## CHAPTER 3

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# EVALUATING A CONTINUOUS MAINTENANCE PROGRAMME

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# EVALUATING A CONTINUOUS MAINTENANCE PROGRAMME

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## CHAPTER 1

### SECTION 1 BACKGROUND AND DEFINITIONS

#### I. INTRODUCTION.

A continuous maintenance programme combines the maintenance and inspection functions used to fulfil an air operator/applicant's total maintenance needs. The Nigeria CARs Part 9 specifies that each operator/applicant must have a maintenance programme adequate to perform the work and a separate inspection programme adequate to perform the inspections. This chapter provides a background, definitions, and procedures for evaluating an operator/applicant's continuous maintenance programme.

#### A. Definitions.

1. **Airworthiness:** A condition in which the aircraft, airframe, engine, propeller, accessories, and appliances meet their type design and are in a condition for safe operation.
2. **Inspection:** The routine performance of inspection tasks at prescribed intervals. The inspection must ensure the airworthiness of an aircraft up to and including its overhaul or life limits.
3. **Scheduled (Routine) Maintenance:** The performance of maintenance tasks at prescribed intervals.
4. **Unscheduled (Non-Routine) Maintenance:** The performance of maintenance tasks when mechanical irregularities occur. These irregularities are categorized as to whether or not they occur during flight time.
5. **Structural Inspection:** A detailed inspection of the airframe structure that may require special inspection techniques to determine the continuous integrity of the airframe and its related parts.

B. **Programme Requirements.** Basic requirements of a continuous maintenance programme include the following:

1. Inspection and when applicable, a continuing structural programme
2. Scheduled Maintenance tasks and intervals



3. Unscheduled Maintenance
  4. Overhaul and Repair
  5. Required Inspection Items
  6. Reliability Programme and condition monitoring if determined by the NCAA
- C. **Manuals.** Instructions and standards for unscheduled maintenance should be in the operator's technical manuals. The manuals must contain procedures to be followed when using these manuals and recording scheduled and unscheduled maintenance.
- D. **Specific Operating Provisions.** Continuous maintenance programmes are approved according to the specific operating provisions. These provisions describe the scope of the programme and reference manuals and other technical data. Details of the programme must be included in the air operator's manual.
- E. **Air Operator's Organisation.** The operator must have an organisation adequate to carry out the provisions of the continuous maintenance programme. If the work is to be performed by an Approved Organisation, that organisation must meet the same requirements. In determining the adequacy of the organisation, the following must be considered:
1. The complexity of the organisation
  2. The type aircraft
  3. The experience of the personnel
  4. The number of personnel

## II. INSPECTIONS.

- A. **Applicability.** During the original certification process of the air operator, the CAA Inspector should ensure that the continuous maintenance programme is applicable to the operation in question. In order to do so, the CAA Inspector will inform the operator of the pertinent policies, procedures, and requirements of the Nigeria CARs.
- B. **Scheduling.** The operator and the inspector should develop a schedule for the submission of required documents.
1. **Scheduled Maintenance.** Maintenance tasks performed at prescribed intervals are considered scheduled maintenance. Some of these tasks are performed concurrently with inspection tasks and may be included on the same work form. Work forms that include maintenance instructions must be provided for a record of the accomplishment of these tasks.
    - a. Scheduled tasks include replacement of life-limited items and components requiring periodic overhaul, special non-destructive inspections (such as X-rays), checks or test for on-condition items, lubrications, and weighing of aircraft.
    - b. Prime factors considered for inspection intervals are aircraft utilisation, environmental conditions, and type of operation. Examples include changes in temperature, frequency of landings and takeoffs, operation in areas of high



industrial pollutants, and passenger or cargo operations.

- c. To ensure proper maintenance, each inspection interval must be stated in terms of calendar times, cycles, and hours, as required.

2. **Unscheduled Maintenance.** Unscheduled maintenance takes place when mechanical irregularities occur.

- a. **Mechanical Irregularities Occurring During Flight Time (Block to Block).** These include operational failures and malfunctions and abnormal flight operations, such as hard landings or overweight landings. The Aircraft Technical Log, required by Nigeria CARs 9.4.1.9, must be used to record each irregularity and its corrective action.
- b. **Mechanical Irregularities Not Occurring During Flight Time.** These include all other failures, malfunctions and discrepancies, including, but not limited to, inspection findings. A discrepancy form or equivalent system must be used to record each irregularity and its corrective action.

C. **Types of Maintenance.**

1. **Overhaul and Repair (Airframe, Engine, Propeller, and Appliance).** Maintenance for these items, whether scheduled or unscheduled, may be independent from maintenance performed on the aircraft. The operator must provide instructions and standards for repair and overhaul, along with a method of approving and recording the work. Appropriate life-limited parts replacement requirements should be included in this portion of a continuous maintenance programme.

2. **Structural Inspection.**

- a. Each level of inspection must be clearly defined in the operator's continuous maintenance programme. For example, a specific area of the aircraft may require only a visual inspection during pre-flight inspection, A " and B " checks, but will require a detailed, X-ray inspection in the same area for a " c " or D check.
- b. Some aircraft are subject to a Supplemental Structural Inspection Document (SSID), which requires additional age-related structural inspections to be incorporated into the maintenance programme.

D. **Requirements.** If a certificated operator proposes changes to the continuous maintenance programme, the CAA Inspector must determine the impact of the revision on the programme. Since continuous maintenance programmes vary, depending on the operator's complexity of operation, the CAA Inspector must become familiar with all of the pertinent technical and regulatory aspects of the programme.

E. **Return to Service.** Through the provisions of Nigeria CARs Part 9 an air operator who uses an equivalent system of maintenance, the return to service shall be signed by a person or



persons licensed in accordance with Nigeria CARs Part 2. The aircraft may be returned to service by an Approved Maintenance Organisation if approved by the State of Registry. As such, they are authorised to approve aircraft and/or equipment for return to service and are responsible for meeting the requirements of Nigeria CARs Part 5.6.1.4.

1. The persons exercising certificate privileges have always had the responsibility to show compliance with regulatory requirements and to make a determination of conformance and safety. The need to ensure that a replacement part was produced by a CAA approved source is therefore critical.
2. Assigned inspectors, during the process of certification and surveillance, must ensure that the operator fully understands Nigeria CARs Part 5.6.1.4 and the resulting responsibility to show that any/all part and/or materials used, from any source, are airworthy (i.e., conform to the type design), are equal to the original or properly altered condition, and have been maintained properly.
3. Additionally, the inspector must ensure that the operator's manual contains adequate procedures at the incoming inspection to determine the compliance with Nigeria CARs 5.6.1.4, prior to the material being stocked or used.

**III. MAINTENANCE PROGRAMME.** The maintenance program must incorporate a set of procedures that ensures the following:

- Maintenance, preventive maintenance, and alterations are performed according to the operator's manual.
  - Competent personnel, adequate facilities and equipment are provided for the proper performance of maintenance, preventive maintenance, and alterations.
  - Each aircraft released to service is airworthy
  - Airworthiness inspections and required inspections are performed per the operator's manual, and by qualified personnel
  - That a system is in place that addresses how specific required inspections are developed, controlled, and reviewed to ensure the continued airworthiness of aircraft
- A. Airworthiness Inspections. Nigeria CARs 9.4.1.2 stipulates that each operator's manual must discuss airworthiness inspections, including instructions covering procedures, standards responsibilities, and authority of inspection personnel. The methods and procedures established by the operator's manual must be followed as prescribed in Nigeria CARs 9.4.1.4. Items not designated as required inspections will also be inspected according to the manual's instructions.
1. The manual must contain a designation of the items of maintenance and alteration that must be inspected. These will include, at a minimum, those items that could result in failure, malfunction, or defect, endangering the safe operation of the aircraft if maintenance is not performed properly or if improper parts or materials are used. Each operator must evaluate its work program to identify required inspections. Such items may be identified as "R11," an asterisk, or any similar





method.

2. In determining the work items that are to be categorised as required inspections, the operator should consider the importance of the following:
  - a. Installation, rigging, and adjustments of flight controls
  - b. Installation and repair of major structural components
  - c. Installation of aircraft engines, propellers, and rotors
  - d. Overhaul, calibration, or rigging of components such as engines, propellers, transmissions, gearboxes, and navigation equipment

**NOTE:** Many aircraft manufactures of newer type aircraft have developed a recommended list of required inspections and should be available to the operator upon request.

IV. **INSPECTION ORGANISATION.** Each operator must have an organisation adequate to perform required inspections. The performance of required inspections must be organised so as to separate the required inspection functions from other maintenance, and alteration functions.

- A. Personnel Considerations. The operator should maintain a listing of persons qualified to inspect its required inspection items. Where such maintenance is performed by other organisations, the operator must determine that the contractor maintains such a list. Each individual must be identified by name, occupational title, and the inspection items that individual is authorised.

**NOTE:** This list of inspection items authorised may have as an example:

- A 300B4 aircraft only
  - B 777 landing gear only
  - General Electric CF6-50 series engines only
1. To comply with these requirements, the operator's roster (or the organisation's roster) may be used. The roster should include a method for positive identification of those who are trained, qualified, authorised, and current.
  2. Authorised individuals may be informed by letter or by a list showing the extent of their responsibilities, authorities, and inspection limitations. If a list is used, it should be signed by each authorised individual to confirm that the authorised person is fully aware of any inspection limitations.



## SECTION 2 - PROCEDURES

### I. PROCEDURES.

- A. **Review the Schedule of Events.** If this task is performed as a part of an original certification, review the schedule of events to ensure that this task can be accomplished within the schedule.
- B. **Evaluate the Organisations Documentation.( REFERENCE:CHECKLIST: CL:O-AWS004 )**  
The continuous maintenance program must contain the following:
1. A complete description of the operator's organisation as it relates to the program, including the duties and responsibilities of the relevant individuals.
  2. A list of persons with whom the operator has arranged for the performance of any work, along with a general description of that work.
  3. A proper separation of maintenance and inspection functions for the performance of required inspections.
- C. **Evaluate the Inspection and Maintenance Programs.** The continuous maintenance program must contain inspection and maintenance procedures for the performance of maintenance, preventive maintenance, and alterations. These procedures must at a minimum include the following:
1. The method of performing routine and non-routine maintenance, preventive maintenance, and alterations.
  2. A list of designated items that must be inspected.
  3. The method of performing the required inspections.
  4. A system that addresses how specific required inspections are developed, controlled, and reviewed to ensure continued airworthiness of aircraft.
  5. The method of designating personnel performing required inspections by occupational title, name, and authorisation.
  6. Procedures for the re-inspection of work performed as a result of previous required inspection findings (buy-back procedures).
  7. Procedures, standards, and limits necessary for required inspection, including identifying required inspection items within work forms or job cards.
  8. Procedures for the periodic inspection and calibration of precision tools, measuring devices, and test equipment.
  9. Procedures for maintaining records and control of the inspections and calibrations.
  10. Procedures to ensure that all required inspections are performed.



11. Instructions to prevent any person who has performed any item of work from performing any required inspection of that work.
  12. Instructions and procedures to prevent any decision of an inspector (certifying staff) regarding any required inspection from being countermanded. Only supervisory personnel of the inspection unit or an administrative person with overall responsibility for both the required inspection and other maintenance and alteration functions can override an inspector's decision.
  13. Procedures to ensure that required inspections, maintenance, and alterations that are left incomplete as a result of a work interruption are properly completed before the aircraft is returned to service.
  14. Work forms, job cards, and detailed procedures for performing inspections and other maintenance.
- D. **Evaluate the Maintenance Records/System.** The continuous maintenance program must contain a maintenance recordkeeping system. The operator must meet the requirements of Nigeria CARs 9.4.1.8. In addition, the operator must have a system for the retention and retrieval of maintenance records to provide the following:
1. A description of the work performed
  2. The name of the person performing the work and/or the name of the organization if other than the operator.
  3. The name of the person approving the work.
- E. **Evaluate Personnel.** The continuous airworthiness program must contain the following:
1. Procedures to determine the qualifications of personnel, including management and supervisory personnel.
  2. Procedures to ensure that only persons properly trained, authorised, qualified, and current perform any required inspection.
  3. Instructions to ensure that those persons performing required inspections are under the control of the inspection unit.
  4. Instructions to relieve any person performing maintenance functions from all duties for 24 consecutive hours during any 7 consecutive day period. (See Nigeria CARs 9.4.1.16 for specific instructions involving air operator maintenance personnel).
- F. **Evaluate the Structural Inspection Procedures (when applicable).** This part of the continuous maintenance program must include the following:
1. Corrosion Control procedures
  2. A detailed inspection of areas where maintenance is being performed to detect cracks, distortion, and corrosion, to examine attachment of parts, and to determine the condition of the area
  3. Maintenance Review Board/manufacturer's routine structural inspection requirements



**G. Analyse the Findings.**

1. Evaluate all deficiencies to determine what, if any, corrective actions will be required.
2. If there are deficiencies in the continuous maintenance program, schedule a meeting with the operator to discuss needed programme changes and deficiency resolutions.





## CHAPTER 2 - NEW ENTRANT AIR OPERATOR

### I. INTRODUCTION.

This chapter provides guidance to CAA Maintenance and Avionics Inspectors to ensure that all new entrant air operators utilise what is referred to in this chapter as a “manufacturer’s recommended maintenance program, time intervals, and maintenance processes” for initial operation. This is also to say that a new entrant air operator under most circumstances should not be allowed to enter into a contractual maintenance arrangement with an established air operator or approved maintenance organisation using that operator’s or organisation’s increased time intervals, revised maintenance processes, and/or changed maintenance program tasks until such time that the new operator has gained the appropriate operating experience. Deviations from the manufacturer’s recommended maintenance practices, time intervals and maintenance processes may be approved by the CAA only after the new entrant air operator gains the appropriate operating experience and has demonstrated its ability to properly maintain its aircraft. The implementation of this action will create a standard with known or proven benchmarks based on the manufacturer’s historical data established by other operator reported experience related to the product. This will also standardise the starting point of all new entrant air operators during the initial certification.

#### A. Abbreviations.

1. ISC - Industry Steering Committee
2. MPD - Maintenance Planning Document
3. MPG - Maintenance Planning Guide
4. MRB - Maintenance Review Board
5. MRBR - Maintenance Review Board Report
6. MSI - Maintenance Significant Item
7. OAMP - On Aircraft Maintenance Program
8. SIP - Structural Inspection Program
9. SSI - Structural Significant Item

B. Within the context of this chapter, manufacturer’s recommended maintenance programs may be considered documents such as the MPD, MPG, OAMP, etc. Various manufacturer’s title these documents differently. For the purpose of time intervals, a Maintenance Review Board Report, if one exists will be used. If an MRBR does not exist, the guidance in FAA Advisory Circular 121-1A may be used.

C. Documents such as a MPD, MPG, or OAMP provide a starting point for maintenance tasks for a new entrant operator. During initial certification, a new entrant air operator’s maintenance program shall be compared with the appropriate manufacturer’s document/program to ensure that all applicable maintenance tasks are incorporated. The MRBR provides a starting point for time intervals associated with the maintenance program and new entrant operators must use these MRBR time intervals. During initial certification, a new air operator’s time intervals must be compared with those time intervals contained in the MRBR. Maintenance processes may be contained in various manufacturers’ documents including those describe above. It must be understood that limitations referenced on the product Type Certificate Data Sheets must be complied with as well.



- D. An MRBR is prepared for aircraft intended for air operator use according to the following guidelines: An MRBR is normally not prepared for transport category aircraft of less than 5,700 kg. However for transport category over 5,700 kg and having a maximum certificated takeoff weight of over 72,600 kg, an MRB is normally convened and a MRBR generated.
1. An MRBR contains the initial minimum scheduled maintenance/inspection requirements for a particular transport category aircraft and on-wing engine programme, but does not establish off-wing engine maintenance programmes. It should be developed in accordance with the State of Manufacture guidelines and is not to be confused with, or thought of, as a maintenance programme. After approval by the NCAA, the requirements become a base or framework around which each air operator develops its own individual maintenance programme. Although maintenance programmes vary widely from one air operator to another, the initial requirements for a particular type of aircraft will be the same for all. An air operator's total maintenance programme (methods used to implement these requirements) must be approved by the NCAA through specific operating provisions.
  2. Because the MRBR is intended to be an up-to-date document, the manufacture, and the MRB Chairperson should conduct a joint review, at least annually, to determine the need for a revision.
  3. Further guidance may also be provided in the MRBR regarding the means to escalate the initial minimum scheduled inspection/maintenance intervals to a level higher than that provided as initial intervals in the MRBR. (This guidance will be unique to the aircraft.) Escalation guidance should take into consideration the content of like checks and their repetitive intervals. A series or sequence of specified checks must be completed and the results found satisfactory before escalation of that type check. (Description, type of checks, and their intervals would be included in this section of the MRBR.)
  4. If there is an escalation procedure contained in the MRBR, the following rule applies: The individual check intervals listed in this report may be escalated following the completion of the required series or sequence of checks and the satisfactory review of check results and approval by the appropriate NCAA Authority, or in accordance with the air operator's NCAA approved reliability program.
  5. Individual task intervals may be escalated based on satisfactory substantiation by the air operator, and review and approval by the operator's NCAA Authority, or in accordance with the air operator's NCAA approved reliability program.

**NOTE:** See Appendix 1 to this Chapter for a simplified flow chart of the MRBR design process.

- E. During the initial air operator certification, these maintenance documents shall be compared with the air operator's proposed maintenance program to ensure that all maintenance tasks, time intervals and maintenance processes are addressed. The manufacturer's documents may not contain all of the maintenance tasks, time intervals, and maintenance processes. Additional equipment and/or modifications may not be addressed by the manufacturer. Avionics and emergency equipment are two examples of what might not be addressed in the manufacturer's



maintenance program. The operating environment of the air operator must also be considered when reviewing the maintenance program. Operation in extreme temperatures, unprepared runway surfaces, and highly corrosive environments are examples of additional criteria that shall be considered for inclusion in the maintenance program.

- F. Maintenance and Avionics inspectors who are assigned to an air operator that have contracted with the manufacture of the airplane or engine for a customized maintenance program, to be utilised as the air operator's own maintenance program, must also be reviewed for adherence to the procedures described above.
- G. During the maintenance program review, NCAA inspectors may need to contact the Engineering or Certification Departments of the state of manufacture for guidance on a particular MRBR, MPD, MPG, OAMP, as necessary.





## CHAPTER 3 - SHORT-TERM ESCALATION PROCEDURES

- I. **Overview.** This chapter will provide guidance for approving short-term escalation procedures based on specific Operating Provisions.
  
- II. **General.** Time limitations are maintenance intervals established by the provisions of an approved reliability programme or by an operator developed maintenance monitoring programme. They are based on continuing analysis and surveillance of a fleet's operating performance. Since operators try to avoid delays due to components being operated to the point of failure, the time limitations used are a conservative average. An operator therefore may need to adjust these intervals for an individual component, engine or aircraft.
  - A. **Use of Short-term Escalation**
    1. Under controlled conditions, an operator may use short-term escalation for an individual component, engine or aircraft without affecting safety. These procedures require close monitoring to ensure that they do not conceal unsound maintenance practices, maintenance programme deficiencies, or poor management decisions.
    2. Short-term escalations for operators not under a reliability program must be approved by the NCAA on specific operating provisions.
    3. Operators do not require prior approval before using an escalation. The operator must, however, inform the NCAA Certificate Holding Office of an escalation as soon as possible after the escalation is put into effect.
    4. A short-term escalation should only be used after carefully analysing the history of the aircraft and its components. A review of the proposed escalation should include:
      - a. Previous inspection results
      - b. Supplemental/additional inspection that may be needed to ensure continued airworthiness during the escalation
      - c. Items not covered by the escalation. The escalation must not cause these items to exceed their maintenance intervals.
    5. Maximum short-term escalation intervals may be a percentage of an existing interval for a particular inspection, or may be designated in hours of service, cycles, or in other increments. Except under certain conditions, the maximum time for an escalation is 500 hours time-in-service or its equivalent. It must not be used repetitively to, in effect, constitute a fleet time extension.
  
  - B. **Extension of Short-Term Escalations.** The 500 hour maximum time limit for an escalation is usually sufficient for an operator to position and/or repair the affective item. Occasionally, an operator cannot effectively accomplish the task within this time limit. After an in-depth review of this situation, an individual item may be extended beyond the 500 hour limit. In order to do this, an operator must submit justification to the CAA maintenance inspector prior to approval. This extension remains in effect for a prescribed time limit unless the component or inspection is accomplished prior to the time limit.





## Section 2 Procedures

### I. Procedures.

- A. Review the Applicant's Short-Term Escalation Procedures. Ensure that the procedures accomplish the following:
1. List the operator's management personnel with escalation approval authority. These personnel must have at least the equivalent authority for approving:
    - a. A specific operating provision time increase
    - b. A maintenance interval adjustment controlled by a reliability program
  2. Defines the maximum limitations for a short-term escalation.
  3. Contains criteria that define the type of data acceptable for justifying a short-term escalation.
  4. Corresponds with the overall maintenance program. The procedures must ensure that and escalation will not create an unsafe condition.
  5. Ensures that the programme does not allow for escalation of repetitive Airworthiness Directives, life limited parts, or Certification Maintenance Requirements.
  6. Restricts the occurrence of repetitive short-term escalations that indicate a need for a change in the maintenance program.
  7. Provides a method for recording all escalations, with provisions for submitting/reporting each request/use of an escalation to the CAA Certificate Holding Office.
- B. Completion of the above will result in one of the following:
1. A letter to the operator indicating disapproval of the short-term escalation authorisation.
  2. An amendment to the operator's specific operating provisions, if applicable, approving the short-term escalation authorisation.
- C. Close monitoring of the operator's escalation procedures may be required to ensure the following:
1. The authorisation is not being abused
  2. The manual procedures are being followed



## CHAPTER 4

### **REVIEWING, ACCEPTING AND APPROVING MANUALS**



## REVIEWING, ACCEPTING AND APPROVING MANUALS

### SECTION 1. BACKGROUND AND DEFINITIONS

#### I. INTRODUCTION.

This guidance material contains direction and guidance to be used by NCAA Inspectors or the Certification Project manager (CPM) for processing, reviewing, and accepting or approving manuals.

- A. Section 1 contains general background information and definitions of the terms used in this model directive.
- B. Section 2 contains guidance to inspectors and CPMs for approving or accepting an operator's manual.

#### II. OVERVIEW OF MANUAL REQUIREMENTS.

Nigeria Civil Aviation Regulations (Nigeria CARs) require operators to prepare and keep current various manuals for the direction and guidance of flight and ground personnel conducting air transportation operations.

Maintenance Control Manual: Nigeria CAR 9.3.2.4 requires that each operator prepare and keep current a maintenance control manual providing operator procedures and policy guidance for all of its personnel. The AOC holder's maintenance control manual must include a description of the organisational structure and the relationship between the maintenance department and the other departments of the company. The manual must also include adequate policy, direction, and guidance for the safe and efficient performance of the duties assigned to each category of employee. The Nigeria CARs only require an operator to produce a single manual. In practice, however, the manual system may require several manuals or volumes, even for relatively simple operations. Operators have wide latitude in structuring their manuals.

#### III. DEFINITIONS.

The following terms are defined according to their use in this model directive:

- A. **Operations Manual (OM):** A manual containing procedures, instructions and guidance for use by operational personnel in the execution of their duties.
- B. **Maintenance Control Manual (MCM):** A manual containing procedures, instructions and guidance for use by maintenance and concerned operational personnel in the execution of their duties.
- C. **User Manual:** A segment of an OM or a MCM that provides instruction, policies, procedures, and guidance to a specific category of employee. Examples of user manuals that are commonly used in the air transportation industry include the following:



- Inspection procedures
- Maintenance procedures
- Mass and Balance
- Training
- Typical Repairs
- Parts
- Structural Repair
- Wiring

**NOTE:** The user manual titles previously listed are only examples of common titles currently in use in industry. Inspectors should not interpret this as a list of required titles. Operators may choose to divide the MCM in any convenient way and may select different user manual titles.

- D. **Policy:** A written requirement established by an operator's management that is expected to be complied with by appropriate employee personnel. A policy may be within a procedure or stated separately. A written requirement such as, "No person may enter an aircraft fuel tank without a safety observer present" is an example of a policy.
- E. **Recommendation:** A preferred technique or action described by the operator which employees are expected to follow whenever practical. A recommendation is not a policy requirement.
- F. **Procedure:** A logical progression of actions and/or decisions in a fixed sequence that is prescribed by an operator to achieve a specified objective. In short, a procedure is step-by-step guidance on how to do something.
- G. **Abbreviated Procedure:** A list of sequential procedural steps without an amplified description or amplified set of instructions.
- H. **Amplified Procedure:** A description of sequential procedural steps with detailed explanatory descriptions and/or instructions accompanying each step.
- I. **Technique:** A method of accomplishing a procedural step or manoeuvre.
- J. **"Document":** A written description of a system, a method, or a procedure; a written statement of authorisations, conditions, or limitations; or a file of information. A document serves as an official record of understanding and agreement between the NCAA and the operator, describing the means the operator will use to comply with regulatory requirements. An approved document is not a manual. Relevant information from a document, however, may be extracted and published in user manuals. For example, the Specific Operating Provisions (SOPs) are not a manual but an approved document from which information is extracted.

#### IV. DISTRIBUTION AND AVAILABILITY OF MANUALS.

Each operator is required to maintain a complete manual (or set of manuals) at its principal base of



operations and to furnish a complete manual (or set of manuals) to the NCAA certificate holding office (CHO). In addition, each operator must make available or furnish applicable parts of the manual (user manuals) to crewmembers, maintenance and ground personnel who conduct or support flight operations. The manual may be in conventional paper format or in another form that is convenient for the user. Each employee to whom the manual or a user manual is furnished must keep it current. Each employee must have access to appropriate manuals or parts of manuals when performing assigned duties.

## V. REVIEW OF MANUALS.

Manuals must be reviewed by CPMs and other qualified inspectors to ensure they contain adequate content and are in compliance with applicable regulations, safe operating practices, and the operator's SOPs. While CPMs are encouraged to provide guidance and advice to operators in the preparation of their manuals, the development and production of an acceptable manual is solely the responsibility of the operator.

- A. **Initial Review.** Before the initial certification of an applicant, a comprehensive review of the applicant's OM, user manuals and MCM must be conducted by the CPM and other qualified inspectors. In addition, those items in the operator's Statement of Compliance that require the operator to develop a policy statement, system, method, or procedure, must be addressed. If user manuals are furnished, those topics that apply to the specific user must be addressed. Each topic must be presented with enough detail to ensure that the user can properly carry out the portion of the policy or procedure for which the user is responsible.
- B. **Review of Changes to Manuals.** After initial certification the CPM should review each revision or proposed revision to a manual. Inspectors should not limit this review to a strict consideration of the change itself but should also consider the impact of the change on the operator's overall manual system and type of operation. Changes in the operator's SOPs should be accompanied by a review of applicable sections of the operator's manual.
- C. **Periodic Review of Manuals.** After initial certification the continual review of an operator's manuals is necessary because both the aviation environment and the operations conducted by the operator are constantly changing. Each CPM is responsible for developing a surveillance plan for the operator's manual system. At least one portion of the operator's maintenance control manual should be reviewed annually, and the entire maintenance control manual should be reviewed over a period of 1 to 3 years (depending on the complexity of the operation). This periodic review should be planned as a distinct event so that every portion of the manual is systematically reviewed at some time over a 1 to 3 year cycle. This periodic review should be co-ordinated between maintenance/avionics inspectors and operations inspectors to ensure an appropriate exchange of information and to avoid redundant reviews.

## VI. FORMAT AND STYLE OF MANUALS.

Each page of a manual must include the most recent revision date. In general, manuals should be easy to use and understand, and in a format that can be easily revised. When evaluating manuals for ease of use and understanding, inspectors should consider the following guidance concerning format and style:



- A. **Form.** All or part of a manual may be prepared and maintained in conventional paper format (book form) or in other forms, such as microfilm or computer based storage with electronic image.
- B. **Introduction or Preface.** The first page of a manual should contain a description introducing its philosophy and goals or a preface page containing a brief statement of the manual's purpose and intended user. The introduction or preface section should also contain a statement, which emphasises that the procedures and policies in the user manual are expected to be used by company personnel.
- C. **Revision Control.** Each manual should be easy to revise. Also, each manual should contain a revision control page or section from which the user can readily determine whether the manual is current. This page or section should preferably follow the cover page but it can be organised in any logical manner. The control date of the most recent revision of each individual page must appear on each page. Complex operators should establish a bulletin system to bring temporary information or changes that should not be delayed by a formal revision process, to the attention of the user. The bulletin system should have a means of control that includes giving bulletins a limited life and systematically incorporating them into appropriate manuals in a timely manner. Users should be able to easily determine whether they possess all current bulletins.
- D. **Table of Contents.** Each manual should have a table of contents containing lists of major topics with their respective page numbers.
- E. **References.** Manuals must include references to specific regulations when appropriate. A reference to regulations or other manual material is appropriate when it is necessary to clarify the intent of the text or when it is useful to the user for looking up specific subject matter. References should not be made to advisory pamphlets, as these sources are advisory and not binding in nature. Operators should use caution when adapting the text of advisory documents into their manuals. Advisory text may not translate into a directive context.
- F. **Definitions.** Significant terms used in manuals should be defined. Any acronym or abbreviation not in common use should also be defined.
- G. **Elements of Style.** Manuals should be composed in the style of general technical writing. This style should be clear, concise, and easy to understand. When evaluating manuals, inspectors should be knowledgeable of the following suggestions for accomplishing clarity in technical writing:
1. Whenever possible, short, common words should be used. Examples of this include: using the words "keep" or "hold" instead of "maintain"; using the word "start" instead of "establish"; and using the word "stop" instead of "terminate."
  2. When a word has more than one meaning, the most common meaning should be used. For example, the word "observe" should be used to mean, "see and take notice of" rather than "obey and comply."



3. Operators should standardise terminology whenever practical. For example, since the terms "throttles" and "thrust levers" refer to the same item, the operator should choose one term and use it consistently throughout the manual. Once a particular term has been used in a specific sense it should not be used again in another sense.
4. Terms which command actions should be clearly defined, such as "checked," "set," and "as required." Since auxiliary verbs such as "may" and "should" are ambiguous and can create room for doubt, they should not be used when a definite action is commanded. Instead, verbs such as "shall" and "must" are preferable to use when an action is commanded, because they are more definite.
5. To provide appropriate degrees of emphasis on specific points in the text, "cautions," "warnings," and "notes" should be in the operator's manuals.
6. Any instruction, particularly a warning or a caution, must begin with a simple directive in the imperative mood that informs the reader precisely what must be done. To avoid obscuring the directive in the background information, the directive must be stated first and then followed with an explanation. An example of how a directive can be obscured in background information is as follows: "Warning - To avoid the hazard of striking ground handling personnel with the free end of a swinging tow bar, do not place feet on rudder pedals until the captain takes the salute from the ground handler. The hydraulic nose wheel steering can sling the tow bar with hazardous force." In contrast the following is an example of the preferred method of placing the directive first: "Warning - Do not place feet on rudder pedals until the captain takes the salute from the ground handler. The hydraulic nose wheel steering can sling a tow bar with sufficient force to cause serious injury to ground handling personnel."
7. Descriptions in the manual should not be overloaded, but should be presented simply and sequentially. An example of an overloaded description is as follows: "A CSD per engine drives the AC generator at a constant speed of 8,000 RPM regardless of the speed of the engine or the load on the generator." The following is an example of a clearer, more concise description: "A CSD is mounted between each engine and generator. The CSD holds the generator speed at a constant 8,000 RPM."
8. Long sentences should be avoided in the manual. The following example consists of subject matter put into a long sentence which makes it difficult to understand: "During gear retraction, the door operating bar located on the landing gear leg contacts and turns the latch, withdrawing the roller from the slot as a second roller entraps the door operating bar." The following example consists of the same subject matter used in the previous example, however, when it is broken down into shorter sentences, it is easier to understand: "During landing gear retraction, the door operating bar on the landing gear leg is pressed against the door latch. The latch turns, freeing the door roller. The roller moves out of the slot. A second roller then traps and holds the door operating bar."

## VII. ADEQUACY OF PROCEDURES.



The following general guidance is provided for inspectors to use when evaluating procedures in any type of manual:

- A. **Objective.** The objective of a procedure must be stated clearly unless it is so commonly understood that a statement of the objective is not necessary.
  
- B. **Logical Sequence.** Procedures are to flow in a logical step-by-step sequence. The most effective procedures are usually simple and each contains only the information necessary for accomplishing that procedure. Preferably procedures should be described in a sequential step-by-step format rather than a narrative format.
  
- C. **General Considerations.**
  - 1. A procedure must be an acceptable method for accomplishing an intended objective.
  - 2. The individual responsible for each step of a procedure must be clearly identified.
  - 3. The acceptable standards of performance for a procedure are to be stated if those standards are not commonly understood or clearly obvious.
  - 4. Since a variety of personnel with differing degrees of expertise are involved in procedures, adequate information concerning the accomplishment of a procedure must be provided for the least experienced individual. A procedure may be described very briefly and concisely when the user is capable of achieving the objective without extensive direction or detail. When the user has limited training or experience, however, a procedure must be described in enough detail for the user to correctly accomplish it. When the user has limited access to other sources of information and guidance while performing a procedure, enough detail should be provided to make the user independent of other sources of information.
  - 5. When a form, checklist, or tool is necessary to accomplish a procedure, the location of that item must be indicated in the procedure.
  - 6. Enough time should be available under normal circumstances for the user to accomplish a procedure. If sufficient time is not available to the user for accomplishing a procedure, either the procedure itself or the user's duties must be revised.





## SECTION 2. APPROVAL AND ACCEPTANCE OF MANUALS

### I. GENERAL.

This section contains direction and guidance for CPMs when approving or accepting an operator's manual system. This process is based on the general process for approval or acceptance

- A. The Approval Process. The approval process for an operator's manual normally consists of phases one, through five of the general process. However, if the approval is not part of an initial certification, phase four (demonstration and inspection phase) may not be required.
- B. The Acceptance Process. The acceptance process for a manual or manual section normally consists of phases one, two, and three of the general process. The operator must submit to the CPM current copies of required manuals for NCAA review. An operator's entire manual system must be reviewed during the document evaluation phase of initial certification. Once an operator is certified, the operator may revise, distribute, and use accepted material even though the CPM has not completed a review of it. If after review, the CPM determines that portions of the manuals or checklists are unacceptable, the operator must revise the unacceptable portions after notification by the CPM.
- C. Evaluation of Manuals for NCAA Acceptance or Approval. An operator may develop and publish in its manual any policy, method, procedure, or checklist that the operator finds necessary for the type of operations conducted. These policies, methods, procedures, and checklists, however, must comply with the Nigerian CARs and be consistent with safe operating practices. CPMs should encourage operators to be innovative and progressive in developing such policies, methods, procedures, and checklists. The CPM's role in the review process is to provide an independent and objective evaluation of the operator's manual material. The CPM must ensure that the operator's material complies with the Nigerian CARs, is consistent with safe operating practices, and is based on sound rationale or demonstrated effectiveness.
- D. Discrepancies. When a CPM finds a discrepancy in an operator's existing manual material, the CPM shall take action to have that discrepancy resolved. Usually such discrepancies can be resolved through informal discussions. When informal discussion cannot resolve the discrepancy, however, the CPM is required to formally withdraw NCAA approval or acceptance from the operator.

### II. ESTABLISHING A FRAMEWORK FOR REVIEW.

- A. Methods for Manual Organisation. During the Pre-application phase (Phase 1), the CPM should inform the operator that there are various methods that can be used to organise and format manuals, or manual sections requiring NCAA approval/acceptance. The CPM may inform the operator of the content of the following subparagraphs, which describe at least four possible methods that an operator may use:
  - 1. Limited Content. An operator may choose to limit the content of the manual solely to approved material. When this method is used, the entire manual must be approved and the operator may not revise the manual without additional review by the CPM. While this



method facilitates NCAA review and acceptance, the manual may be difficult to use because the intended user may have to frequently switch back and forth between the approved manual and other manuals containing accepted material. When the operator chooses this method, CPMs must ensure that the List of Effective Pages (LEPs) contain a NCAA signature space conveying approval.

2. **Grouping Material.** An operator may choose to group the NCAA approved material in specified sections of the manual and place accepted material in the remaining sections. With this method, the CPM must ensure that a header or footer is on each page of the approved sections indicating that the material on that page is NCAA approved. The operator may submit the approved and accepted sections to the CPM as separate packages.
  3. **Interspersed Material.** An operator may choose to intersperse NCAA approved material and accepted material throughout the manual. When an operator chooses this method, the CPM must ensure that the operator has clearly identified approved material each time it appears in the manual. This method of organisation allows for efficient manual use, but makes the operator's publication process and the approval process difficult.
  4. **"Approval Document".** The operator may choose to place material in an "approval document" solely for the purpose of obtaining NCAA approval of that material. An approval document is a document and therefore may not be used as a manual. After the document has been approved, the operator must develop user manuals, which incorporate the approved information from the document along with detailed, guidance and supplementary information. When this method is used, the user manuals are treated as "accepted" material and do not have to be individually approved. The CPM must, however, review the user manuals to ensure that the information in them is consistent with the approval document. When using this method, the operator may revise the information in user manuals without prior NCAA approval, provided the revision is consistent with, and does not conflict with, the information in the approval document. If the operator or the CPM finds it necessary for the approval document to be revised, the operator must submit the proposed revision for review and approval. A revision to an approval document must be approved before the operator can incorporate the changed information into the user manuals. When an operator uses this method for submitting manual or checklist material for NCAA approval, CPMs must ensure that the operator has stated on the first page of the user manuals that the manual contains NCAA approved material. The manuals or checklists provided to the user, however, do not have to be specifically identified as being NCAA approved ones.
- B. **Submission of Material.** During the Pre-application phase, the CPM should advise the operator on how to submit the documents, manuals, checklists and subsequent revisions for approval or acceptance.
1. **NCAA Approval Submission.** For material that requires NCAA approval, the CPM should advise the operator to submit the following:
    - Two copies of the document, manual, manual section, or revision to be approved:



- or
- One copy of the document, manual, manual section, or revision, and two copies of the page control sheets for the material (the page control sheets, must show an appropriate revision number or original page number for each page, and the effective date of each page)
  - A copy of any supporting documentation or analysis
2. NCAA Acceptance Submission. For material that is to be evaluated for acceptance by the NCAA, the CPM should advise the operator to submit the following:
- A copy of the manual, manual section, or revision to be reviewed.
  - A copy of the page control sheets for the material to be reviewed when appropriate.
3. The CPM will perform a cursory review of submissions in phase 1. This review is intended to ensure that the applicant's submission is clear and contains all required documentation. This review is performed before the in-depth review.

### III. PHASE THREE: IN-DEPTH REVIEW.

A detailed analysis of the operator's submission is performed during the document evaluation phase. During this phase, a qualified inspector must review the operator's submission in detail to determine that the submission is complete and technically correct. The time to complete phase three depends on the scope and complexity of the submission. During the cursory review, the CPM should determine how long the in-depth review would take. The CPM shall give the operator an estimate of the time it should take to complete the review process at the formal application meeting.

- A. The review and analysis should confirm that the operator's submission conforms to, or is consistent with, the following:
- Model Civil Aviation Regulations (Nigerian CARs).
  - Criteria and guidance in this model directive.
  - The operator's SOPs.
  - Criteria and guidance in MAP-001.
  - Applicable maintenance manuals, manufacturer's service bulletins, and airworthiness directives.
  - Safe operating procedures.

**NOTE:** The direction and guidance in this chapter for reviewing procedures and checklists have been developed after consultation with knowledgeable and experienced personnel in the air transportation industry, aircraft manufacturers, and the NCAA. The information presented is considered to be the best guidance currently available on the topic. CPTs should realise, however, that circumstances vary widely. The best set of procedures for one circumstance may not work well in another circumstance. Two recommendations may be in conflict. In such cases, the appropriate resolution must be achieved through compromise. For example, it may be more important for an operator's checklist and procedures design policies to be internally consistent than for an individual procedure to be designed in a specific way.



- B. If this is not the initial certification the CPM should thoroughly consider the operator's experience and history when evaluating procedures. When an operator has a history of successful operations, the CPM should normally approve submissions consistent with the operator's existing procedures.
- C. If this approval is for initial certification the CPM will require verification tests of some procedures before granting approval.
  - 1. These verification tests may be conducted in either phase 3 or 4 of the certification process. Operators may submit evidence that a qualified party (the manufacturer or another operator) has already conducted a validation of a procedure. When such evidence is available, the CPM should not require another validation unless the operator's circumstances are significantly different from the original test.

#### IV. GRANTING NCAA APPROVAL

The CPM grants NCAA approval to the document, manuals, manual sections or revisions. During this phase the CPM must formally notify the operator of the approval and also complete a specific record of the approval. For manuals and manual sections, which are not required to have NCAA approval, written notification of acceptance is at the option of the CPM.

- A. **Notification of Approval.** When the CPM decides to approve a document, manual, manual section, or checklist, the following procedures apply:
  - 1. For documents, manuals, manual sections or revisions that contains page control sheets, the CPM shall annotate both copies of the page control sheets with the phrase "NCAA Approved." Under the words "NCAA Approved," CPMs shall enter the effective date of approval and sign both copies. The operator may pre-print the words "NCAA Approved" and blank lines for the date and signature on the page control sheets or the CPM may use a stamp to add the approval annotation on each sheet.
  - 2. For manuals, manual sections, or checklists that do not contain page control sheets, the approval annotation must be placed by the CPM on each page of the material. In this case the approval annotation must be made on two copies of the material. The annotation shall be the same as discussed above. This procedure should be used only for very short manuals, manual sections, or checklists (usually fewer than 5 pages) or when the use of page control sheets is not practical or serve little purpose.
  - 3. When page control sheets are used, the CPM shall return one copy of the annotated page control sheets to the operator. In the remaining cases one copy of the approved material must be returned to the operator with a notification letter stating that the material is approved. The letter should also contain a statement advising the operator to maintain, for its records, the signed page control sheets or the material with the approval annotation. The CPM shall retain the second copy of the signed page control sheets, or the annotated material, in the district office files.



- B. **Notification of Disapproval.** The co-ordination, revision, and editing activities that take place throughout all phases of the process should eventually result in approved products. Under certain circumstances, however, it may be appropriate for the CPM to terminate the process. For example, the operator may not take any action on the material for 30 days. To terminate the approval process, the CPM shall return the entire submission to the operator with a letter that states that the NCAA is unable to grant approval, along with the reasons why it cannot be granted.
- C. **Certificate Holding Office Records.** The CPM shall maintain a record of approval for each operator-submitted document, manual, manual section, and checklist. Records of approval to revisions of this material must also be maintained. The records should consist of page control sheets, notification letters, and any other related correspondence. While superseded portions of documents, manuals, or checklists do not have to be retained, CPMs may retain this type of material if they determine that it is appropriate. The CPM should include with the material in the operator's file a brief memorandum containing the reasons for retaining the material.





## CHAPTER 5

### Evaluation and Approval of a Maintenance Procedures Manual

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#### 1.0 PURPOSE

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This Chapter is issued to guide Authority Airworthiness Inspectors when evaluating and approving Approved Maintenance Organization's (AMO) Maintenance Procedures Manual (MPM).

#### 2.0 REFERENCES

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- 2.1 Regulation 6.5.1.1 of the Nigeria Civil Aviation Regulations
- 2.2 Checklist CL: O-AWS005

#### 3.0 GUIDANCE AND PROCEDURES

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##### 3.1 General Information

- 3.1.1 The MPM is normally presented with all other required manuals during the Formal Application phase of AMO certification. The MPM is evaluated and approved before the AMO is certificated.
- 3.1.2 The MPM must not be contrary to Civil Aviation Regulations and manufactures recommendations
- 3.1.3 In general the MPM defines the AMO administrative structure, duties and responsibility of staff, the maintenance capability or scope of work, and gives instructions and/or information necessary for personnel to perform their duties.

##### 3.2 Evaluation Procedure

- 3.2.1 The MPM should be evaluated to ensure that it satisfies the Civil Aviation Regulations. It is therefore important to establish that:
  - a) There is a Statement of Compliance that shows all the regulatory requirements have been addressed in the manual.
  - b) The manual adequately describes the means of compliance with the particular regulatory requirements;
  - c) The MPM is reviewed to ensure that:
    - (i) It is in a format that is easy to revise;



- (ii) There is a manual distribution list.
- (iii) It has a document number, issue number and date of issue
- (iv) It has a list of effective pages.
- (v) Has an Index and all the pages are numbered and reflect the date of issue
- (vi) Contains all items required by Regulation 5.1.1 and IS 5.1.1 of Part 6 of the Nigeria Civil Aviation Regulations.
- (vii) All systems outlined in the MPM are in place and operational;
- (viii) Each section contains a reference to the applicable regulation and Schedule as applicable.
- (ix) All proposed systems, processes, charts and procedures are in accordance with applicable Regulations;
- (x) Any referenced documents named in the manual are available and adequate for the proposed use.
- (xi) There is a requirement and commitment to perform aircraft maintenance in accordance with Approved Maintenance Schedule.
- (xii) There is a requirement by the AMO for the operators whose aircrafts it maintains to submit a current copy of the organization Maintenance Control Manual (MCM) and that there is a commitment by the AMO to comply with it.
- (xiii) There is a requirement to have in place a maintenance agreement with all the operators whose aircraft and or equipment the AMO maintains -refer to Regulation 3.2.5 of Part 9 of the Nigeria Civil Aviation Regulations
- (xiv) It is also required that the AMO shall have maintenance agreements with the AMO's to which it sub-contracts maintenance beyond its scope -refer to Regulation 5.1.4 of Part 6 of the Nigeria Civil Aviation Regulations.

3.2.2 The manual should be checked for completeness and correctness of contents and that it adequately describes all of the procedures necessary for airworthiness and maintenance control of the aircraft and or equipment involved.

3.2.3 It is important to ensure that any material copied from the aircraft manufactures or regulations documents to the Maintenance Procedure Manual is in agreement with the information in the current relevant parent document.

**Note:** *The applicant will also need to demonstrate a system that ensures that the Maintenance Procedures Manual will be amended in line with all amendments incorporated in the parent documents.*



### 3.3 Results

3.3.1 If discrepancies are found:

- a) The AMO is notified in writing listing the specific discrepancies found;
- b) Re-submissions are treated as revisions;

3.3.2 When satisfied that the MPM meets all requirements, the document shall be issued with an Approval Note, and the List of Effective Pages shall be stamped by the Authority. One copy will be returned to the AMO and the other will be retained at the Authority.

### 3.4 Amendments to the Approved MPM

Amendments to the approved MPM are subjected to the same approval procedures. The amendment approval evaluation however includes the impact of the amendment to any other AMO manuals.





## CHAPTER 6

### Approval of a Maintenance Control Manual

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#### 1.0 PURPOSE

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This Chapter is issued to provide guidance and information to be used by Airworthiness Inspectors when evaluating an operator's Maintenance Control Manual (MCM) for approval.

#### 2.0 REFERENCES

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- 2.1 Regulation 9.4.1.4 and IS 9.4.1.4 of the Nigeria Civil Aviation Regulations.
- 2.2 Checklist CL: O-AWS006

#### 3.0 GUIDANCE AND PROCEDURES

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##### 3.1 General Information

- 3.1.1 The air operator must prepare the MCM to be used whether maintenance is carried out in the operator's approved maintenance organization or it is contracted out to another Approved Maintenance Organization. It lists the air operator's maintenance responsibility and the procedures by which this responsibility is met.
- 3.1.2 The MCM is normally presented with all other required manuals during the Formal Application phase of an AOC certification. It must satisfy the regulatory requirements of IS 9.4.1.4 of the Nigeria Civil Aviation Regulations and cover in detail all items listed in the Fifth Schedule.
- 3.1.3 It is required to evaluate the MCM to ensure that it satisfies the regulatory requirements of Regulation 9.3.2.4 of the Nigeria Civil Aviation Regulations and that all items listed in the applicable regulations are well covered. It is therefore important to establish that:
  - a) The document has a Statement of Compliance that has addressed all the regulatory requirements;
  - b) The Maintenance Control Manual references given in the Statement of Compliance have been adequately addressed in the manual. Information in the manual should adequately describe the means of compliance with the particular regulatory requirement;
  - c) The MCM is reviewed to ensure that:
    - (i) It is in a format that is easy to revise;



- (ii) There is a manual distribution list.
- (iii) It has a document number, issue number and a date of issue.
- (iv) It has a List of Effective Pages;
- (v) Has a Table of Contents and that all pages are numbered and reflect the date of issue
- (vi) Contains all items required by Regulation 9.3.2.4 and IS 9.3.2.4 of the Nigeria Civil Aviation Regulations.
- (vii) All systems outlined in the MCM are in place and operational;
- (viii) Each section contains a reference to the applicable regulation and Schedule.
- (ix) All proposed systems, charts and procedures are in accordance with applicable Regulations;
- (x) Any referenced manual is available and adequate for proposed use.
- (xi) There is a procedure to establish maintenance contract agreements for all contracted maintenance as required by Part 9 of the Nigeria Civil Aviation Regulations.
- (xii) There is a requirement for contracted AMOs to notify the AOC holder of all maintenance it shall sub-contract.

3.1.4 The manual should be checked for completeness and correctness of contents and that it adequately describes all of the procedures necessary for airworthiness and maintenance control of the aircraft involved.

**Note:** *The certification process cannot proceed until an AWI is satisfied that all the necessary material has been included. Phase*

3.1.5 It is important to ensure that any material copied from the aircraft manufacturers or regulations documents to the Maintenance Control Manual is in agreement with the information in the current relevant parent document.

**Note:** *The applicant will also need to demonstrate a system that ensures that the Maintenance Control Manual will be amended in line with all amendments incorporated in the parent documents.*



### **3.2 Results**

3.2.1 If discrepancies are found:

- a) The operator is notified in writing listing the specific discrepancies found;
- b) Re-submissions are evaluated to determine if they comply with regulatory guidance before final approval;

3.2.2 When satisfied that the MCM meets all requirements, the document shall be issued with an Approval Note, and the List of Effective Pages shall be stamped by the Authority. One copy will be returned to the operator and the other will be retained at the Authority.

### **3.3 Amendments to the Approved MCM**

Amendments to the approved MCM are subjected to the same approval procedures. The amendment approval evaluation however includes the impact of the amendment to the overall operator's manual system.



## CHAPTER 7

### Evaluation and Approval of a Maintenance Quality Assurance System

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#### 1.0 PURPOSE

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This Chapter is issued to provide guidance and information to the Authority Airworthiness Inspectors to evaluate and verify whether the Maintenance Organization (AMO) or Air Operators Maintenance Support Quality System meets the Civil Aviation Regulations requirements.

#### 2.0 REFERENCES

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- 2.1 Regulation [9.2.2.3](#) and [IS 9.2.2.3](#) of the Nigeria Civil Aviation Regulations.
- 2.2 Regulations [6.5.1.2](#) and [6.5.1.4](#) of the Nigeria Civil Aviation Regulations.
- 2.3 Advisory Circular No. [NCAA-AC-GEN005](#) (Quality Assurance System)

#### 3.0 GUIDANCE AND PROCEDURES

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##### 3.1 General Information

3.1.1 A Quality System has two functions:

- a) The "audit function" includes a follow up for those components removed, and the teardown report which both must be a part of the programme. It must also include examining the administrative and supervisory aspects of the operator's programme (including work done outside of the operator's basic organization). The audit must ensure that the Main Base, Sub Base, Line Station, and shops operate in accordance with company procedure. The audit function includes such things as:
  - (i) Ensuring that all publications and work forms are current and readily available to the user;
  - (ii) Ensuring that major repairs/alterations are classified properly and accomplished with approved data;
  - (iii) Ensuring that carryover items and deferred maintenance are properly handled;
  - (iv) Ensuring that vendors are properly authorized, qualified, staffed, and equipped to do the contractor function according to the operator's manual.
- b) The "performance analysis function" includes daily and long term monitoring and emergency



response related to the performance of affected aircraft systems, including aircraft engines and components. This function includes monitoring such things as:

- (i) Daily mechanical problems for affected aircraft (daily monitoring);
- (ii) Deferred maintenance items including the number of deferred items and/or the number of times a single item reoccurs without permanent corrective action taken. (daily monitoring);
- (iii) Pilot reports compiled by Air Transport Association (ATA) code (long term monitoring);
- (iv) Mechanical Interruption Summaries (long term monitoring);
- (v) Contained engine failures (emergency response);
- (vi) High number of unscheduled component removals (long-term monitoring).

- 3.1.2 The Maintenance Quality System should include a system of data collection and analysis that may or may not be part of a reliability programme.
- 3.1.3 The Maintenance Quality System also addresses operational matters, such as maintenance scheduling, control and accountability of work forms, conformity to technical instruction, and compliance with procedural requirements. Additionally, it examines the adequacy of equipment and facilities, parts protection and inventory, mechanic competency, and shop orderliness.
- 3.1.4 For maximum effectiveness, the Maintenance Quality System should be separated from other maintenance functions. Some operators establish a separate quality assurance organization for this purpose. Others assign this function to their inspection/quality control organization. When the analysis and surveillance responsibility is assigned to an organizational unit that has other duties, these functions should be performed independently of the other duties.
- 3.1.5 Mechanical performance analysis may be performed as part of a reliability programme or as an independent data collection and analysis system. The system should include charting or other appropriate methods for recording and accounting of pertinent data at specified intervals. This will ensure continuous programme operation. Data collection and analysis are essential elements for supporting the condition monitoring process.
- 3.1.6 The use of contract agencies tends to complicate an operator's Maintenance Quality System. When a contractor fails to provide the operator with essential information (such as failure characteristics, service times, etc.), gaps are created in the operator's data collection. This obstructs the system. Therefore, the programme must include procedures for transmitting essential information back to the operator.
- 3.1.7 When aircraft fleets are grouped for purposes involving data collection, the data from the total of the fleets may provide a valid comparison for behaviour of one of the fleets. However, data generated by a single airplane or a small fleet can be obscured by a larger fleet of the group.



- 3.1.8 When an operator uses a contractor for total maintenance support, the operator is responsible for the Quality System requirement. The operator must have enough personnel and resources to accomplish both the audit and performance analysis functions.
- 3.1.9 The complexity and sophistication of the Maintenance Quality System should relate to the certificate holder's operation. A small operator should not be expected to have a complex system similar to a large airline. However, small operators must have a system with continuous data collection that includes specified analysis points and repetitive examinations.
- 3.1.10 A data collection and analysis programme may use a manufacturer as a collection and analysis centre if agreed to by the Authority. The operator is still responsible for the development and implementation of corrective actions and the overall effectiveness of the programme.
- 3.1.11 When an operator or applicant enquires about a Maintenance Quality System, brief him about the program requirements. Inform the operator/applicant that an acceptable programme must have a continuous internal audit and analysis system that accomplishes the following:
- a) Evaluates the organization's performance;
  - b) Identifies the performance deficiencies;
  - c) Determines and implements corrective actions;
  - d) Determines the effectiveness of corrective actions.

### **3.2 Evaluation Procedure**

- 3.2.1 Review the Operator/Applicant's Programme. When the operator/applicant presents the complete programme, ensure that the programme audits and analyzes the following:
- a) Aircraft inspections;
  - b) Scheduled maintenance;
  - c) Unscheduled maintenance;
  - d) Aircraft, engine, prop and appliance repair and overhaul;
  - e) Maintenance manuals;
  - f) Failures, Malfunctions and Defects Reports;
  - g) Mechanical Interruptions;
  - h) Vendor facilities and capabilities;



- i) Maintenance organization staffing;
- j) Duplicate Inspection Items (Required Inspection Item Programme, RII).
- k) Major Repair and Modifications Instructions for Continued Airworthiness
- l) Airworthiness Directives and Service Bulletins

3.2.2 Review Operator's Manual - Ensure that the manual contains the following:

- a) An organizational chart that defines the lines of authority;
- b) Definitions of responsibilities and duties;
- c) The means by which the information will flow within the operator/applicant's organization and between any contractor/vendors and the operator/applicant;
- d) Examples of forms or reports that are used;
- e) Procedures that include a record review covering the following items:
  - (i) Accountability for all inspection requirements;
  - (ii) Routine and non-routine maintenance records;
  - (iii) Overhaul records;
  - (iv) Methods of Airworthiness Directives (ADs) compliance;
  - (v) Service bulletin compliance;
  - (vi) Major repairs and Modifications approval data.

3.2.3 Evaluate Available Staffing. Ensure that the staffing described in the manual is available and appropriate for the complexity of the operator/applicant's operation.

3.2.4 Analyze Results. Upon completion of the review, analyze the results and determine whether the operator/applicant's programme meets all requirements. If problems exist, discuss the discrepancies with the operator/applicant and advise them as to what areas need corrective action.

### 3.3 Results

3.3.1 After the review is completed the AWI will meet with the applicant or operator to discuss needed changes and recommendations to resolve discrepancies. This should be followed by a written notification.

- a) If discrepancies are found:



- (i) The notice will be accompanied by a completed Form: O-AWS007 listing specific discrepancies found and recommendations, outlining what will be required to correct the discrepancies;
  - (ii) Treat re-submissions as revisions.
- b) When the inspector is satisfied that the system meets the requirements:
- (i) Circle the "App" block on the Activity checklist as approved and advise the PM;
  - (ii) Return the original approved quality system manual to the applicant or operator accompanied by a letter of approval;
  - (iii) Keep a written copy of the quality system manual on the operator's file with the Authority;
- 3.3.2 These same procedures will be followed when a revision to the original or approved quality system manual is received from the air operator.





## CHAPTER 8

### Short-Term Maintenance Escalation Approval Procedures

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#### 1.0 PURPOSE

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This Chapter is issued to provide guidance for approving short-term maintenance escalation based on operations specifications.

#### 2.0 REFERENCE

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- 2.1 Regulation [9.4.1.12](#) of the Nigeria Civil Aviation Regulations.
- 2.2 Checklist [CL: O-AWS008](#)

#### 3.0 GUIDANCE AND PROCEDURES

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##### 3.1 General Information

- 3.1.1 Time limitations are maintenance intervals established by the provisions of an approved reliability programme or by an operator developed maintenance monitoring programme. They are based on continuing analysis and surveillance of a fleet's operating performance.
- 3.1.2 Under controlled conditions, an operator may use short-term escalation for an individual component, engine or aircraft without affecting safety. These procedures require close monitoring to ensure that they do not conceal unsound maintenance practices, maintenance programme deficiencies, or poor management decisions.
- 3.1.3 Short-term escalations for operators not under an approved maintenance reliability programme must be approved by the Authority.
- 3.2 Operators with escalations (Maximum 5% TBO) as part of an approved reliability programme do not require prior approval before using an escalation. The operator must, however, inform the Authority of an escalation before the escalation is put into effect.
- 3.3 A short-term escalation should only be used after carefully analysing the history of the aircraft and its components. A review of the proposed escalation should include:
  - 3.3.1 Previous inspection results;
  - 3.3.2 Supplemental/additional inspection that may be needed to ensure continued airworthiness during the escalation;



- 3.3.3 Items not covered by the escalation, should not exceed their maintenance intervals;
- 3.3.4 Cross checking with the overall maintenance programme to ensure that the escalation will not create an unsafe condition;
- 3.3.5 Ensuring that the programme does not compromise any due mandatory inspection and escalation of repetitive Airworthiness Directives or fatigue life limited parts;
- 3.3.6 Restrict the occurrence of repetitive short-term escalations that indicate a need for a change in the maintenance programme;
- 3.3.7 Provide a method for recording all escalations, with provisions for submitting and reporting escalations to the Authority;
- 3.3.8 May require a manufacturer's comment or recommendation
- 3.4 The procedure and process of applying for approval and management of short term escalations must be well defined in the operators approved maintenance control manual (MCM).
- 3.5 Maximum short-term escalation intervals may be a percentage of an existing interval for a particular inspection, or may be designated in hours of service, cycles, or in other increments. Except under certain conditions, the maximum time for an escalation is 500 hours time-in-service or its equivalent. It must not be used repetitively to, in effect, constitute a fleet time extension.
- 3.6 Extension of Short-Term Escalations. The 500 hour maximum time limit for an Escalation is usually sufficient for an operator to position and/or repair the affective Item. Occasionally, an operator cannot effectively accomplish the task within this time Limit. After an in-depth review of this situation, an individual item may be extended Beyond the 500 hour limit. In order to do this, an operator must submit justification to the CAA maintenance inspector prior to approval. This extension remains in effect for a prescribed time limit unless the component or inspection is accomplished prior to the time limit.



## CHAPTER 9

# Evaluation of Maintenance Contract Between Air Operators and Approved Maintenance Organisations

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### 1.0 PURPOSE

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This Chapter is issued to provide information and guidance to Authority inspectors in the process of evaluating maintenance contractual arrangements between air operators and approved maintenance organizations.

### 2.0 REFERENCES

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- 2.1 Regulation [9.4.1.2](#) of the Nigeria Civil Aviation Regulations,
- 2.2 Regulation [6.5.1.4](#) of the Nigeria Civil Aviation Regulations.
- 2.3 Checklist [CL: O-AWS009](#)

### 3.0 GUIDANCE AND PROCEDURES

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#### 3.1 General Information

- 3.1.1 It is required that an operator shall have approved maintenance programmes relevant to all types of aircraft in the fleet defining the inspection, maintenance, preventive maintenance and modifications requirements to be performed by an approved AMO or contracted to other approved persons that requires such work be performed in accordance with the operators Maintenance Control Manual (MCM) and/or Maintenance Procedures Manual (MPM).
- 3.1.2 Any organization or person with whom the air operator or AMO has made an arrangement or contract or the performance of any maintenance, preventive maintenance, or modifications involving an aircraft and associated aeronautical products is considered a contract maintenance provider.
- 3.1.3 The use of contract maintenance providers to complete aircraft maintenance is fundamental to an air operator's maintenance programmes.
- 3.1.4 When an air operator uses a maintenance provider to perform all or part of the maintenance on his aircraft or associated aeronautical products, that maintenance provider's organization becomes in effect the air operator's maintenance organization.
- 3.1.5 All parts and/or components used by an air operator on his authorized aircraft must be maintained under the air operator's continuous airworthiness maintenance programme. Leases, exchanges, or other arrangements that do not allow the air operator to be in control of the maintenance of the



leased/exchanged part/component while on maintenance are contrary to the regulations. Traceability of components and parts information may be included in the contract. This could include everything from new parts to the scrapping and/or returning of parts to the air operator. It could also require parts exchanged being in the same configuration.

- 3.1.6 Regulation 9.4.1.4 (a)(1) and (4) of the Nigeria Civil Aviation Regulations require an operator to list in his MCM a description of the administrative agreements between the AOC holder and an AMO, and the names and duties of the person or persons required to ensure that all maintenance is carried out in accordance with the maintenance control manual.
- 3.1.7 The operator should have proof that the organization or person has the capabilities and facilities to perform the intended work as specified by Regulation 6.3.1.1 of the Nigeria Civil Aviation Regulations.
- 3.1.8 The operator may adopt the publications of a contracted organization or person in part or in total as methods, techniques, and standards. The operator's manual must describe the applicability and authority of the affected publication.
- 3.1.9 The inspector should verify that there is in place a continuous analysis and surveillance programme schedule for accomplishing continuing audits or inspections that are designed to determine the maintenance provider's level of compliance with the air operator's MCM and maintenance programme as specified in IS 9.2.2.3 of the Nigeria Civil Aviation Regulations.
- 3.1.10 Throughout the process of evaluating a maintenance contract, it is important to observe that the air operators retain primary responsibility for the airworthiness of his aircraft.
- 3.1.11 An air operator will not normally perform audits of organizations that an AMO sub contracts. He must, however, be aware that it has the necessary approval and competency to perform the intended function(s).
- 3.1.12 To effectively evaluate a maintenance contract agreement the inspector is required to be well versed with the air operator's Maintenance Control Manual (MCM) and the AMO Maintenance Procedures manual (MPM) and therefore to be able to determine whether his procedures adequately address all aspects of contracted maintenance.

### **3.2 Maintenance Contract Agreement Evaluation**

- 3.2.1 When evaluating a maintenance contract agreement the inspector should specifically ensure that the contract includes clauses that address the following:
  - a) The air operator's responsibility for the continued airworthiness of his aircraft.
  - b) A statement that the maintenance provider shall allow the operator/contractor to audit the facilities, equipment, personnel, and records pertaining to the services provided at any reasonable time.
  - c) The Authority shall have unlimited access to the contracted facility for inspection.



- d) A clause that allows the air operator to ensure compliance with his programme requirements and to show the results of such compliance to the Authority.
- e) The maintenance provider declaration to comply with all applicable laws and regulations.
- f) A statement confirming the adequacy of staffing levels and sufficiency of the facilities and equipment to support a varied fleet mix; and adequacy of record keeping and exchange of information with the operator/contractor.
- g) The operator shall provide to the contracted maintenance provider all information (including manuals) covering the administration necessary to ensure compliance with the maintenance programme. And that the operator is responsible to verify any information provided by the maintenance provider before application.
- h) That the contracted organization shall maintain a current listing of persons who have been trained, qualified, and authorized to conduct required inspections. The persons must be identified by name, occupational title, and the inspection that they are authorized to perform.
- i) That the operator shall be responsible for record keeping, however, if the operator delegates this responsibility to the maintenance provider, the contract should clearly explain this arrangement.
- j) Review and ensure that no contract clause contradicts the air operator's policy, procedures and regulations.

### 3.3 Results

3.3.1 If the contract agreement is satisfactory it shall be accepted.

3.3.2 If the contract agreement is found to be unsatisfactory, the operator is notified in writing giving the identified shortcomings.



## CHAPTER 10

### Certification and Approval of Maintenance Organisations

#### 1.0 PURPOSE

This Chapter is issued to provide guidance to airworthiness inspectors in the process of evaluating Maintenance Organisations for purposes of certification and approval in accordance with the Civil Aviation Regulations. The Order is applicable to certification and approval of domestic and foreign based maintenance organisations.

#### 2.0 REFERENCES

- 2.1 [Part 6](#) Civil Aviation (Approved Maintenance Organisation) Regulations.
- 2.2 Checklists: [CL: O-AWS002](#), [CL: O-AWS011](#)
- 2.3 [NCAA-O-GEN003](#) - Five Phase Certification Process
- 2.4 [NCAA-O-AWS002](#) - Inspection and Evaluation of AMO Facility and Equipment
- 2.5 [NCAA-O-AWS005](#) - Evaluation and Approval of AMO MPM
- 2.6 [NCAA-O-AWS007](#) - Evaluation of a Quality Assurance System
- 2.7 [NCAA-O-AWS009](#) - Evaluation and Approval of Maintenance Contract
- 2.8 FORMS: [AC-AWS006](#), [AC-AWS006A](#); [AC-AWS006B](#); [AC-AWS006C](#); [AC-AWS006D](#); [AC-AWS006E](#)  
[AC-AWS006F](#); [AC-AWS006G](#); [AC-AWS007](#); [AC-AWS007A](#); [AC-AWS007B](#)

#### 3.0 GUIDANCE AND PROCEDURES

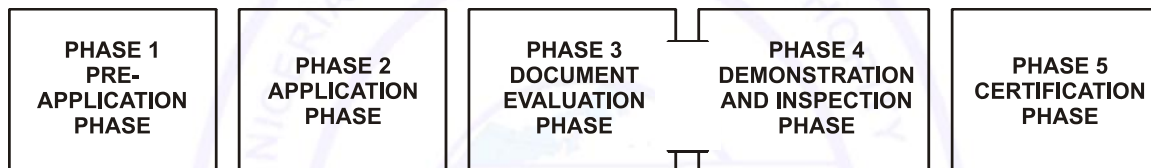
##### 3.1 General Information

- 3.1.1 In general the regulatory requirements for application approval, management and administration of approved maintenance organisation are given in Part 6 of the Nigeria Civil Aviation Regulations.
- 3.1.2 The approval authorises the AMO to conduct maintenance on aircraft registered in Nigeria.
- 3.1.3 Recommendation to approve a maintenance organisation must be based on the organisation demonstration of adequate Organisation structure, methods of control, supervision and training programs consistent with the nature and extent of maintenance activities specified
- 3.1.4 The certification process is designed to ensure that prospective AMO Certificate holders understands and is capable of fulfilling this duty. When satisfactorily completed, the certification process ensures that the applicant is able to comply with the Civil Aviation Regulations.

3.1.5 The AMO Certification is carried out in accordance with the Five Phase Certification and Approval Process which is explained in Order Number NCAA-O-GEN003.

3.1.6 The five (5) Phases are:

- a) Pre-application;
- b) Formal Application;
- c) Document Evaluation;
- d) Demonstration and Inspection;
- e) Certification.



3.1.7 Each phase states the required inspection and evaluation activities to ensure compliance with the Regulations.

3.1.8 The approval process may be flexible where the required sequence of events in this Order is not entirely applicable, the applicant therefore may be allowed to proceed in a manner that considers existing AMO conditions and circumstances. However it must be clearly understood that approval should not be recommended until the Civil Aviation Regulation has been satisfactorily complied with and there is evidence that they will be maintained in an appropriate and continuing manner.

3.1.9 The designated Certification Project Manager (CPM) is the official Authority spokesperson throughout the certification project.

### 3.2 The Approval Procedure

The evaluation and approval process focuses on establishing that the AMO satisfies the requirements of Part 6 of the Nigeria Civil Aviation Regulations. The five phase process provides for interaction between the applicant and the Authority from the initial enquiry to the issue or denial of a certificate. It ensures that programmes, systems, and intended methods of compliance are thoroughly reviewed, evaluated, and tested.

### 3.3 Pre-Application Phase

3.3.1 In response to an initial enquiry, discuss with the prospective applicant the following subjects:

- a) The necessary technical expertise required by the applicant's proposed Organisation, to include



the following:

- (i) Aviation-related experience;
  - (ii) Proposed Organisational structure;
  - (iii) Knowledge of the specific maintenance functions to be performed;
- b) The rating required for the type of work to be accomplished;
- c) Management requirements and sufficient personnel to meet the demands of the proposed Approved Maintenance Organisation. This includes at least one authorized person with appropriate ratings that coincide with the ratings sought;
- d) Facility requirements for the ratings sought, to include:
- (i) The need for climate-controlled conditions;
  - (ii) The size of the facility;
  - (iii) Appropriate test equipment;
  - (iv) Special tools and equipment
- e) The necessity of having current technical data available prior to certification. Technical data will include the following:
- (i) The Nigeria Civil Aviation Regulations.
  - (ii) Airworthiness Directives, (AD);
  - (iii) Type certificate data sheets (TCDS), if applicable;
  - (iv) Advisory Circulars (AC's), as required;
  - (v) Approved Maintenance Programs and Processes;
  - (vi) Manufacturer's component/maintenance/service manuals, instructions, and Service Bulletins (SB);

### 3.4 **The Pre-application Meeting:**

3.4.1 The Authority contacts the applicant to arrange a pre-application meeting to furnish Application Form: AC-AWS006 - Pre-Assessment Statement of Intent (PASI) to the prospective applicant to complete and submit to the Authority and to discuss questions, if any, concerning the certification process, regulatory requirements, the formal application and attachments.

3.4.2 In this meeting, it is important to accomplish the following:

- a) Discuss the regulations applicable to the proposed maintenance operation;
- b) Provide the applicant with the following information/material:
  - (i) Guidance for developing an AMO Maintenance Procedures Manual (MPM);
  - (ii) An application for Approved Maintenance Organisation certificate and/or rating.
- c) Inform the applicant, that a formal application package for an Approved Maintenance





Organisation certificate must contain the following material:

- (i) A completed formal application form, the Pre-Application Statement of Intent (PASI) Form schedule of events and the Management team Bio Data Forms;
  - (ii) Two copies of the Maintenance Procedures Manual (MPM)
  - (iii) A letter indicating when facilities and equipment will be ready for formal inspection;
  - (iv) A Statement of Compliance report;
  - (v) Model Operations Specifications,
  - (vi) Any other applicable publications or documents
- d) The AMO certification team is assigned with the Project Manager (CPM) as the official Authority spokesperson throughout the certification project.

### 3.5 Formal Application Phase

3.5.1 The applicant submits the formal application package to the certification team.

3.5.2 Its important to ensure that all documents have been submitted and are complete;

3.5.3 Evaluate the Application Package and decide whether or not to continue with the certification process;

3.5.4 Schedule a formal application meeting with the applicant to discuss any open questions concerning the package before proceeding to the next phase.

3.5.5 Ensure all issues concerning the proposed operation, the formal application and attachments are resolved at this time. The meeting should consist of the certification team members and key management personnel from the applicant's Organisation.

3.5.6 Individuals assigned to the required management positions should have knowledge of the AMO Maintenance Procedures Manual (MPM), the Regulations currently in force and the planned maintenance activities. The resumes of the qualifications, licenses, ratings, and aviation experience should be submitted with the application.

3.5.7 The key management positions (or their equivalent) include:

- a) Accountable Manager
- b) Base Maintenance Manager
- c) Line Manager
- d) Workshop Manager
- e) Quality Manager

3.5.8 If a deviation from the management requirements is anticipated, it should be indicated in the formal application letter. The actual request for deviation must be made to the Authority with specific justification.



### 3.6 Document Evaluation Phase

3.6.1 Thoroughly review the application package for acceptance or rejection

3.6.2 Review the contents of each submitted document for regulatory compliance. The documents to be reviewed include:

- a) Completed application form, PASI, and Management Team Bio Data Forms;
- b) AMO's Maintenance Procedures Manual;
- c) The Statement of Compliance;
- d) The Capability list and the nature of the work to be performed;
- e) A copy of the approved specification for the work to be performed for a Specialized Service Rating, when applicable;
- f) Copies of all other Approval Certificates held and the respective Specific Operating Provisions (SOP), if any.

3.6.3 If deficiencies are found in any document, return it to the applicant with a letter outlining the deficient areas. Inform the applicant that the certification process will not continue until all deficiencies are resolved.

### 3.7 Demonstration and Inspection Phase

3.7.1 The certification team carries out site verification and inspection to ensure that the applicant's proposed procedures are effective and that the facilities and equipment are actually in place and meet regulatory requirements. The project manager identifies those activities where demonstration will be required.

3.7.2 A Housing and Facility Inspection to ensure that the work to be performed will be protected from weather. Ensure that workers are protected to the point that the quality of their work will not be impaired. In addition, inspect the following:

- a) The inspection system, to ensure:
  - (i) Employees are familiar with and are capable of performing their assigned duties;
  - (ii) Facilities are capable of supporting Maintenance Procedures Manual procedures.
- b) Maintenance record-keeping system satisfies the Maintenance Procedures Manual procedures;
- c) The system for reporting serious defects or un-airworthy condition to ensure compliance with the Maintenance Procedures Manual procedures.



- 3.7.3 Evaluate Maintenance Organisation Structure and management team to ensure that the following requirements are satisfied:
- a) The number of personnel is sufficient to satisfy the volume and type of work to be performed;
  - b) Individuals directly in charge of a maintenance functions are appropriately qualified and authorized;
  - c) A personnel roster is available and includes all supervisory and inspection personnel; and
  - d) Supervisory and inspection personnel are available.
- 3.7.4 Carry out a post inspection de-brief meeting with the applicant to point out the observed deficiencies. It is also required to notify the applicant in writing. If appropriate, meet with the applicant to review deficiencies in detail.

**Note:** Corrective action must be taken and the project manager notified in writing by the applicant, in order for the certification process to continue. Each deficiency and corrective action must be fully documented and recorded in the certification file.

### 3.8 Certification Phase

- 3.8.1 Once the applicant satisfies the regulatory requirements of Part 6 of the Nigeria Civil Aviation Regulations, the certification team will recommend the Maintenance Organisation for issue of the Approval Certificate and the Specific Operating Provisions (SOP) or Operations Specifications with the appropriate Ratings.

**Note:** The SOP or Operations Specifications document shall be signed by the accountable manager and the authorised person of the Authority.

- 3.8.2 Certification process summary report including the approval recommendation should be prepared, signed by the project manager and submitted to the Director responsible for safety oversight for review and subsequent Approval.
- 3.8.3 The Approved Maintenance Organisation Certificate is prepared for the authorized signatory on behalf of the Authority.

### 3.9 Records

- 3.9.1 It is required to open up a file for the Maintenance Organisation (AMO) to keep record of the documents generated during the certification process. These constitute the following:
- a) The completed Pre-Application Statement of Intent (PASI) Form.
  - b) The Application Form for Approved Maintenance Organisations.
  - c) A completed Statement of Compliance.



- d) The Certification checklist and Schedule of Events
- e) All correspondence between the applicant and the Authority.
- f) Minutes of the meetings held with the applicant.
- g) A summary of all discrepancies encountered during the certification process. and corrective actions taken by the applicant.
- h) Copies of the Lease / Contract Agreements (as applicable).
- i) A list of maintenance functions under contract.
- j) Copy of the certification process summary report.
- k) Copy of the Approved Specific Operating Provisions (SOP) or Operations Specifications.
- l) Copy of the Approval Certificate.
- m) The proposed post certification surveillance schedule.
- n) Proof of payment of the approval fee (as applicable).

3.10 Other orders relevant to AMO Certification and Approval Process:

- a. CAA-O-GAW001 - Five Phase Certification Process
- b. CAA-O-AW002 - Inspection and Evaluation of AMO Facility and Equipment
- c. CAA-O-AW005 - Evaluation and Approval of AMO MPM
- d. CAA-O-AW007 - Evaluation of a Quality Assurance System
- e. CAA-O-AW009 - Evaluation and Approval of Maintenance Contract

#### **4.0 APPROVAL OF FOREIGN MAINTENANCE ORGANISATION (AMO)**

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##### **4.1 General Information:**

4.1.1 The Authority can issue an approval Certificate to a foreign AMO to conduct maintenance on a Nigerian registered aircraft and its associated aeronautical products, subject to the AMO being in compliance with Part 6 of the Nigeria Civil Aviation Regulations.

4.1.2 A foreign Maintenance Organisation to qualify for issue of an approval certificate under Part 6 of the



Nigeria Civil Aviation Regulations shall hold a valid local Authority Approval certificate appropriately rated for the scope of maintenance to be carried out on the Nigeria registered aircraft. The Authority approval is limited to foreign Authority approved scope of work.

#### 4.2 Application for Approval

4.2.1 The foreign AMO that wishes to be approved in accordance with the Regulations to carry out maintenance on Nigeria registered aircraft shall complete and submit to the Authority application FORM: AC-AWS006B.

4.2.2 The Authority shall decide whether the applicant will be subjected to the full scale Five Phases Certification and Approval Process as indicated in AC No. NCAA-AC-GEN003.

#### 4.3 Approval Process

4.3.1 Where it has been decided not to apply the Five Phase process the following procedure shall be followed:

- a) The AMO should communicate the need to perform maintenance on Nigeria registered aircraft to the Authority.
- b) A formal application and PASI Forms shall be issued.
- c) Completed application and PASI forms, together with the AMO MPM and copy of the Special Condition Supplement (Appendix -1), should be submitted to the Authority at least ninety days to the intended date of operation. With proof of the approval fee payment for the approval process to begin.
- d) The application and attachment are evaluated and if acceptable the Authority shall advise the AMO of the necessary facilitation requirement for the inspectors to carry out the facility inspection for approval.

#### 4.4 Issue of Approval Certificate to a Foreign Maintenance Organisation

4.4.1 After satisfactory documents evaluation and organisation inspection, recommendation is made to:

- a) Approve the MPM Special Condition Supplement Document.
- b) Issue the AMO Approval Certificate and
- c) Issue the Specific Operating Provisions (SOP) or Operations Specifications.

**Note:** Part 6 of the Nigeria Civil Aviation Regulations requires that the Operations Specifications document is signed by the Authority and the Maintenance Organisation.



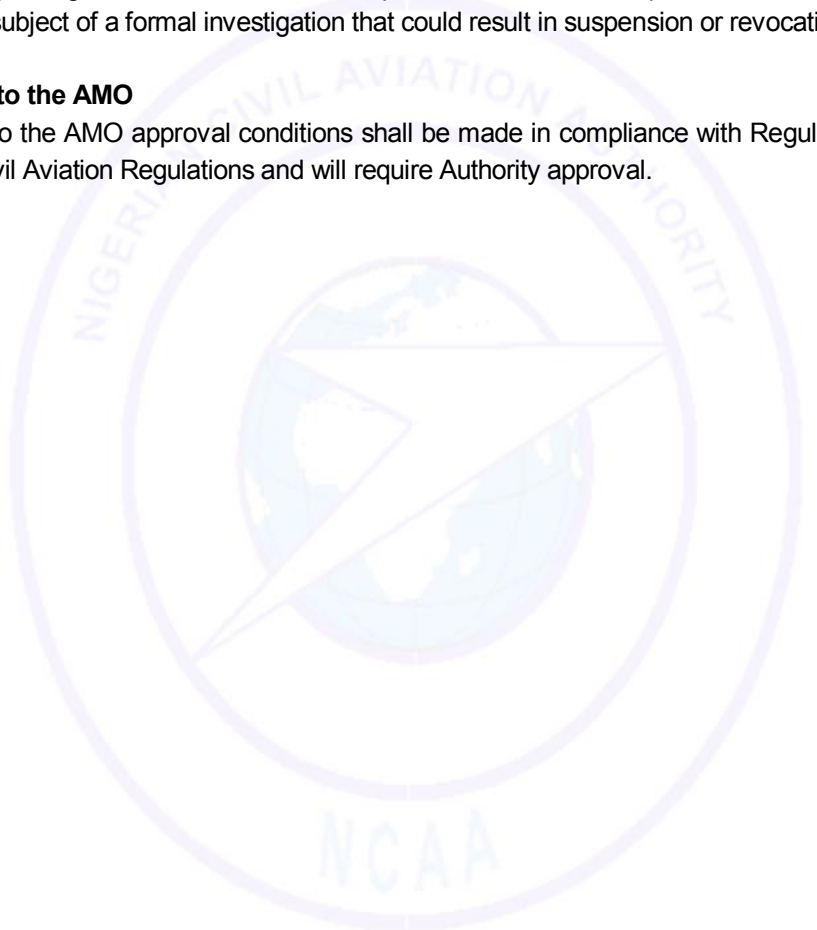
#### 4.5 **Approval Conditions**

4.5.1 The Foreign Maintenance Organisation Approval Certificate issued by the Authority after the facility, document evaluation and the approval of the Special Conditions Supplement (SCS), shall remain valid for the period as specified therein provided the AMO is in compliance with Part 6 of the Nigeria Civil Aviation Regulations currently in force.

4.5.2 The Foreign Approved Maintenance Organisation however, is required and is obliged to notify the Authority of any non compliance audit findings by the internal quality management system, the local Authority or by any other Authority with which it holds an approval. This includes reporting of all foreign approving Authorities actions of suspension, revocation of partial or full approval, or making the AMO subject of a formal investigation that could result in suspension or revocation of the approval.

#### 4.6 **Changes to the AMO**

Changes to the AMO approval conditions shall be made in compliance with Regulation [6.2.1.11](#) of the Nigeria Civil Aviation Regulations and will require Authority approval.





**SPECIAL CONDITIONS SUPPLEMENT (SCS) TO A FOREIGN AMO MAINTENANCE PROCEDURES  
MANUAL (MPM)**

Approved SCS Ref. No. ....

Foreign AMO MCM Ref. No...

Company Name and Facility Address:

.....  
.....  
.....  
.....

Foreign AMO Local Authority Approval No.....

**The Authority AMO Approval No. ....**

This approved Special Conditions Supplement (SCS) forms part of the foreign AMO Maintenance Organisation Exposition.

This SCS together with the foreign AMO local Authority approved MPM form the basis of approval of a foreign AMO to carry out maintenance on aircraft and or components in accordance with Part 6 of the Nigeria Civil Aviation Regulations.

**CONTENTS**

- 1. LIST OF EFFECTIVE PAGES
- 2. STATEMENT OF COMPLIANCE
- 3. AMENDMENT PROCEDURE

Identify the position within the AMO that is responsible for amendment action and coordinating the approval process of the SCS.

**4. INTRODUCTION**

- 4.1 This paragraph should address why the supplement is necessary.
- 4.2 Regulation 9.4.1.2 of the Nigeria Civil Aviation Regulations provides for Authority approval of maintenance organization or repair station selected by the air operators to carry out maintenance on Authority approved AOC holder's aircraft. The organization can be a foreign based
- 4.3 The SCS is meant to cater for the specific Authority requirements and differences that might be there



between Part 6 of the Nigeria Civil Aviation Regulations and the foreign Authority Regulations. The foreign AMO shall be approved when the Authority is satisfied that the AMO complies with maintenance Special Conditions specified in this AC.

## 5. ACCOUNTABLE MANAGER'S COMMITMENT STATEMENT

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This paragraph represents the statement by the Accountable Manager that the Organisation will comply with the conditions specified in the SCS and operate in accordance with the Civil Aviation (Approved Maintenance Organisation) Regulations.

An acceptable statement for this paragraph would be:

"This Supplement in conjunction with the foreign AMO approved MPM Ref. .... defines the Organisation and procedures upon which the Authority approval has been granted.

These procedures are approved by the undersigned, and must be adhered to, as applicable, when maintenance work orders are being progressed under the conditions of Part 6 of the Nigeria Civil Aviation Regulations.

It is accepted that the AMO's procedures do not override the necessity of complying with any additional requirements formally published by the Authority and notified to this Organisation from time to time.

It is understood that the Authority Approval Certificate will be valid whilst the Authority is satisfied that the procedures are being followed and work standards maintained. It is further understood that the Authority reserves the right to revoke the Approval Certificate if it considers that procedures are not followed or standards not upheld.

.....  
Signed by the Accountable Manager  
For and on behalf of the AMO"

**Note:** *Whenever the accountable manager is replaced, the new Accountable Manager must sign the statement to ensure continuous Authority Acceptance.*

## 6. APPROVAL BASIS AND LIMITATION

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The Authority approval is based upon the AMO compliance with local Authority Regulations and Requirements except where varied by the conditions specified in this AC.

The Authority approval is limited the work scope listed below, and as indicated in the approval document Specific Operating Provisions (SOP). In any case whatsoever it must not exceed the scope of work permitted by the foreign local Authority or another recognised Authority as indicted on the approval documents.





## 7. ACCESS BY THE AUTHORITY

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It should be stated that the Authority inspectors will be allowed access to the AMO for the purpose of ascertaining compliance with procedures and standards and to investigate specific problems as required by Regulation 9.1.1.10 of the Nigeria Civil Aviation Regulations and Regulation 6.5.1.7 of the Nigeria Civil Aviation Regulations.

## 8. WORK ORDERS

---

It is the responsibility of the operator to raise the maintenance work orders and scheduled maintenance inspection check list or work package task cards specifying the inspections, repairs, modifications, overhaul, airworthiness directives and parts replacements that should be carried out and to make sure that the AMO receives them in time for the work to be accomplished within the required time frame.

The operator remains responsible for correctly informing the AMO by work order of all required mandatory maintenance inspections and modifications.

## 9. APPROPRIATE MAINTENANCE AND ENGINEERING REFERENCE MANUALS.

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It is the responsibility of the Operator to ensure that the AMO is furnished with all relevant, current maintenance and engineering technical documents (e.g. Manuals, ADs, SBs) appropriate for the type aircraft, ref: Part 8 of the Civil Aviation (Operation of Aircraft) Regulations and Part 5 of the Civil Aviation (Airworthiness) Regulations.

## 10. MAJOR REPAIRS / MODIFICATIONS

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The procedure for the AMO to ensure that of the Authority approves major repairs and major modifications when necessary, or has confirmed that the AMO local Authority approved data is acceptable.

The AMO should request the operator to provide such written proof from the Authority.

**Note:** *The Authority accepts repairs and modifications issued by the Manufacturer and approved by the Authority of the state of manufacture through the Type Certificate holder.*

## 11. RELEASE OF COMPONENTS AFTER MAINTENANCE

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Release to service of components up to and including complete power plants should be carried out in accordance with the AMO local Authority Regulations. At the completion of maintenance appropriate release to service documents and certificates should be issued by the AMO. The AMO release to service certificates must indicate the Authority approval number in addition to the local Authority approval. Ref: Regulation IS 6.4.1.1 of the Nigeria Civil Aviation Regulations.

The release to service certifying statement shall specify any overhaul, repairs, modifications, Airworthiness Directives, replacement parts and quote the reference and issue/revision of the



approved data used, (NCAA or EASA Form One is a typical acceptable component release to service document after maintenance).

## **12. VALIDITY OF AIRWORTHINESS CERTIFICATE**

---

The Operator or owner is responsible for ensuring that the Airworthiness Certificate remains valid. The AMO however, should ensure that the Airworthiness Certificate is valid before it issues the aircraft release to service certificate after maintenance.

## **13. RELEASE OF AIRCRAFT AFTER MAINTENANCE**

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Release to service of aircraft shall be performed as approved in the Special Conditions Supplement unless stated otherwise; in any case however, it must satisfy the requirements Regulation IS 14.5.1.4 of the Nigeria Civil Aviation Regulations.

The release to service document shall specify the aircraft maintenance check carried out, plus any repairs, modifications, Airworthiness Directives, replacement parts together with the issue of approved data used.

Any work not carried out shall be clearly indicated and the operator informed. This should be work within the permitted deviations of the approved maintenance program and it could be when:

- a) Some of the maintenance work requested by the operator has not been carried out.
- b) Or a case where the particular maintenance work requirement is not approved by the AMO local Authority.

Otherwise the AMO must issue the certification when all required maintenance has been carried and appropriately certified.

The AMO Authority approval Certificate Number and the local Authority approval Certificate Number must be quoted on the release to service documents

## **14. REPORTING OF UN AIRWORTHY CONDITIONS**

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The procedure that will be followed to report found un-airworthy conditions be stated indicating the time frame within which the report must be made and to the Authority.

Regulation 6.5.1.10 of the Nigeria Civil Aviation Regulations requires the report to be made to the Authority as soon as possible but in any case not later than three days (72 hours).

## **15. QUALITY MANAGEMENT (QM) SYSTEM**

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Regulation 6.5.1.2 of the Nigeria Civil Aviation Regulations requires an independent AMO quality system.

The QM system procedures shall explain the independent audit system, the management / control



and follow up system, and the annual audit schedule program.

A report should be raised for each audit carried out describing what was checked and any resulting findings/discrepancies.

## 16. PROVISION OF HANGAR SPACE FOR AIRCRAFT MAINTENANCE

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A statement that appropriate housing, facilities and equipment are available and shall be provided for aircraft whose maintenance is being contracted. Ref: Regulation 6.3.1.2 the Nigeria Civil Aviation Regulations.

## 17. COMPONENTS AUTHORISED FOR USE DURING MAINTENANCE & MODIFICATION

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1. Component means any component part of an aircraft up to and including a complete power plant and any operational or emergency equipment. They should be traceable to the Type Certificate (TC) holders Parts Catalogue and MUST be in a satisfactory condition for fitment.
2. New components should be accompanied by appropriate release document issued by the approved Production Certificate holder
3. Used components should be traceable to an approved maintenance Organisations or repair stations which certified the previous maintenance and in case of life limited parts certified the cycles and life used.

## 18. SUB-CONTRACTED MAINTENANCE

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A statement on how sub-contracted maintenance work shall be managed.

Regulation 14.5.1.4 of the Nigeria Civil Aviation Regulations provides for AMO sub-contracting maintenance work to another AMO, (approved or not approved by the Authority). In any case, it is required that there exist a maintenance contract agreement between the two AMOs stating what specific work activity has been contracted.

The contracting AMO must have proof that the sub-contracted AMO holds the required local Authority approval and capability for the contracted maintenance work.

Whatever the case, the sub-contracting AMO remains responsible for the quality and safety of maintenance released to service by the sub-contracted AMO.

### Notes:

- (i) *The AMO shall not be contracted to perform any work which is not within its scope of approval unless it has an acceptable maintenance sub contract agreement with another AMO that is appropriately rated and approved to perform such maintenance work.*
- (ii) *In such a case the sub-contracted AMO may not need to be approved by the Authority, however, the maintenance sub-contract agreement must clearly indicate that the approved AMO still remains responsible for the quality of the released to service of the sub-contracted maintenance work.*



## CHAPTER 11

### Issue of a Certificate of Airworthiness

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#### 1.0 PURPOSE

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This Chapter is issued to provide information and guidance to the Airworthiness inspectors when assessing an aircraft for issue of a Certificate of Airworthiness in accordance with the requirements of the Regulations.

#### 2.0 REFERENCES

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- 2.1 Regulation [5.4.1.2](#) of the Nigeria Civil Aviation Regulations.
- 2.2 Regulation [5.4.1.8](#) of the Nigeria Civil Aviation Regulations
- 2.3 Regulations [4.3.1.2](#) to [4.3.1.5](#) of the Nigeria Civil Aviation Regulations.
- 2.4 CHECKLIST: [CL: O-AWS012A](#), [CL: O-AWS012B](#), [CL: O-AWS012C](#)
- 2.5 FORMS: [FORM: AC-AWS002](#); [FORM: AC-AWS002A](#); [FORM: AC-AWS002B](#) [FORM: AC-AWS002C](#)

#### 3.0 INFORMATION AND GUIDANCE

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##### 3.1 Pre-Requisite

- 3.1.1 Nigeria can only issue a Certificate of Airworthiness to an aircraft that is on the Nigeria civil aircraft register.
- 3.1.2 A certificate of airworthiness must only be issued to a type certificated aircraft acceptable to the authority in compliance with Regulation [4.1.5 of Part 5](#) of the Nigeria Civil Aviation Regulations.

##### 3.2 Aircraft Type Certificate Compliance Requirements

- 3.2.1 Certificates of Airworthiness are issued only to aircraft with a type certificate or equivalent document issued by a contracting state of design in respect of an aircraft or component provided that:
  - a) The type certificate or equivalent document was issued on or based on an airworthiness code recognized by the authority.
  - b) The design, materials, construction, equipment, evaluation against a recognized airworthiness code has been carried out by the authority and has been found to:
    - (i) Meet the required standards of the recognized airworthiness code and
    - (ii) Have complied with any recommendations required by the Authority.



- 3.2.2 The recognized airworthiness code - are standards relevant to the design, materials, construction, equipment, performance and maintenance planning of aircraft or aircraft components issued by the state of design that are acceptable to the Authority.
- 3.2.3 **For effective aircraft safety oversight, there should be manufactures:**
- A) Aircraft technical documents and literature (e.g. flight manual, maintenance manuals etc) published in English.
  - b) Provisions to timely mail to the authority and the operator the current amendments of all relevant aircraft technical and operation literature.
  - c) The aircraft equipment, instruments indication markings and placards to be in English and Arabic numerals.
  - d) The aircraft type design should be incorporating the minimum recommended emergency features and equipment with clear operating instructions in English.
- 3.2.4 An aircraft that does not satisfy these Type Certificate requirements is classified non-compliant and cannot be issued a Certificate of Airworthiness.
- 3.3 Application for a Certificate of Airworthiness
- 3.3.1 Regulation 5.4.1.2 of the Nigeria Civil Aviation Regulations requires an appropriate duly completed application Form for issue of a certificate of airworthiness to be submitted by the owner of an aircraft, agent of the owner or operator to the Authority.
- 3.3.2 The application Form: [AC-AWS 002A](#) should have the following attachments:
- a) Copy of the aircraft Certificate of Registration;
  - b) Copy of the previous C of A or of the Export C of A;
  - c) Aircraft Flight Manual or Pilot Hand-Book;
  - d) The aircraft Airworthiness Directives status report;
  - e) A statement of compliance with the authority requirements and manufactures service bulletins;
  - f) Aircraft previous twelve months maintenance review report and Form: [NCAA-AWS-002B](#);
  - g) Life Limited components status report;
  - h) Current Weight and Balance schedule report;
  - i) Copy of Latest major scheduled maintenance certificate release to service, and inspection summary;
  - j) Copy of the current certificate of release to service if different from (i) above;
  - k) Record of the aircraft equipment and systems installations Form [NCAA-AWS-002C](#);
  - l) Copy of the current aircraft Radio Station licence;
  - m) Copy of the current stand-by compass swing schedule report;
  - n) Aircraft certificate of insurance; and
  - o) Copy of the C of A test flight schedule report (as may be required).
  - p) Listing of Major Repairs/Alterations.
- (i) The major components (e.g. engines, propellers, APU's, landing gears) status report should indicate the time to the next shop visit or overhaul, hours and cycles since new, the time between overhaul, as applicable.
- NOTE;
- (ii) All work for the maintenance of airworthiness of the aircraft must be carried out under the supervision of appropriately licensed aircraft maintenance personnel or of an organization approved by, or acceptable to, the Authority. Full particulars of the work done must be entered in the appropriate log book and a Certificate of Release to Service issued;
- 3.3.3 **Other Documents that are required include:**
- a) A copy each of the manufacturer's maintenance, overhaul, wiring, repair manuals and illustrated parts catalogues;



- b) A complete set of all manufacturer's service bulletins or equivalent documents issued in respect of the aircraft;
- c) A copy of the aircraft flight manual;
- d) A copy of the minimum equipment list (MEL) and the current master minimum equipment list (MMEL) as applicable.
- e) Copy of the proposed aircraft maintenance schedule or program.
- f) Log-Books for the aircraft, engines, propellers and the technical-log as are applicable for the relevant aircraft.

#### 3.3.4 Application and Documents Evaluation

Carry out an in depth document evaluation to verify that they are authentic, relate to the aircraft, as applicable.

#### 3.3.5 Flight Test for the Issue of a Certificate of Airworthiness

- a) At the time of application for issue of Certificate of Airworthiness, the aircraft should have been test flown in accordance with a flight test schedule acceptable to the Authority
  - b) General airworthiness flight tests are normally required (as applicable) for:
    - (i) Performance verification before the issue of a C of A to an aircraft which had previously been issued with a Certificate of Airworthiness by a Contracting State;
    - (ii) Aircraft being flown for performance verification before the renewal of a C of A.
- Note: The Aircraft has not been flown in the sixty (60) day period immediately preceding the date of application for renewal.
- (iii) Aircraft under performance investigation after major maintenance activity that could have affected the aircraft flight characteristics or for the approval of modifications incorporated on an aircraft that has a current Certificate of Airworthiness.
  - c) The airworthiness flight tests are carried out by pilots and crew approved for the purpose by the Authority.

#### 3.3.6 C of A Pre-Issue Aircraft Inspection

- a) This inspection normally is carried out after successful application and document evaluation.
- b) The inspection is meant to evaluate and ensure that:
  - (i) The aircraft physical condition, operation components installation, emergency equipment, Markings and Placards are in place and satisfactory and acceptable condition.
  - (ii) The aircraft Flight Manual, Company Operations Manual, Minimum Equipment List and Technical Log-Book have been provided on the aircraft. And appropriate Log-Books have been initiated.
  - (iii) That the aircraft life history technical and maintenance records are available, up-dated and generally acceptable for a civil registered aircraft.

Note: It is required to rectify all out standing defects, comply with all due mandatory inspection, modification and replacement requirements at the C of A issue.

#### 3.3.7 Issue of a Certificate of Airworthiness

When the Authority is satisfied that all the applicable regulatory requirements have been complied with and the required issue fee has been paid, the Certificate of Airworthiness is issued.

#### 3.3.8 Period of Validity of a Certificate of Airworthiness

- a) A certificate of airworthiness is valid for a period up to eighteen months in the case of Transport Category aircraft and up to twelve months for all other Standard Certificates of Airworthiness.
- b) A certificate of airworthiness ceases to be valid on the expiration date as indicated on the



Certificate and when:

- (i) The aircraft or such of its equipment as is necessary for the airworthiness of the aircraft is maintained, overhauled, repaired or modified or if any part of the aircraft or such equipment is removed or if any part of the aircraft is replaced, otherwise than in a manner and with material of a type approved by the Authority.
  - (ii) The aircraft or any of its equipment is not maintained as required by the maintenance programme or schedule approved by the Authority.
  - (iii) An inspection or modification classified as mandatory by the Authority, state of design/manufacture applicable to the aircraft or of any such equipment has not, been completed as required.
  - (iv) The aircraft or any such equipment as required for safe operation has sustained damage.
- c) The Authority can amend, extend, suspend, revoke or terminate the certificate of airworthiness when it is deemed necessary for flight safety reasons.

### 3.3.9 Revision of Manuals and Technical Literature

The applicant is required to make the necessary arrangements with aircraft and engine manufacturers for the provision of amendments to all the manuals including those submitted to the Authority, and all service bulletins that may be issued from time to time.

## 4.0 STANDARD CERTIFICATE OF AIRWORTHINESS CATEGORY

Nig. CARs Part 5.4.1.4(a) requires the Authority to issue Standard Certificate of Airworthiness (C of A) in the underlisted category and model designated by the State of Design in the Type Certificate Data Sheets (TCDS). Inspectors are required to issue C of A based on these category as specified in the TCDS.

- (1) **THE NORMAL CATEGORY** is limited to airplanes that have a seating configuration, excluding pilot seats, of nine or less, a maximum certificated takeoff weight of 12,500 pounds or less, and intended for non-acrobatic operation. Non-acrobatic operation includes:
  - (1) Any maneuver incident to normal flying;
  - (2) Stalls (except whip stalls); and
  - (3) Lazy eights, chandelles, and steep turns, in which the angle of bank is not more than 60 degrees.
- (2) **THE UTILITY CATEGORY** is limited to airplanes that have a seating configuration, excluding pilot seats, of nine or less, a maximum certificated takeoff weight of 12,500 pounds or less, and intended for limited acrobatic operation. Airplanes certificated in the utility category may be used in any of the operations covered under paragraph (a) of this section and in limited acrobatic operations. Limited acrobatic operation includes:
  - (1) Spins (if approved for the particular type of airplane); and
  - (2) Lazy eights, chandelles, and steep turns, or similar maneuvers, in which the angle of bank is more than 60 degrees but not more than 90 degrees.
- (3) **THE ACROBATIC CATEGORY** is limited to airplanes that have a seating configuration, excluding pilot seats, of nine or less, a maximum certificated takeoff weight of 12,500 pounds or less, and intended for use without restrictions, other than those shown to be necessary as a result of required flight tests.
- (4) **THE TRANSPORT CATEGORY** the transport category airplanes typically have [maximum takeoff weights](#) greater than 12,500 lb (5 700 kg) although there is no lower weight limit. Transport category helicopters typically have [maximum takeoff weights](#) greater than 7,000 lb (3 175 kg) although there is no lower weight limit.
- (5) **THE COMMUTER CATEGORY** is limited to propeller-driven, multiengine airplanes that have a seating configuration, excluding pilot seats, of 19 or less, and a maximum certificated takeoff weight of 19,000 pounds or less. The



commuter category operation is limited to any maneuver incident to normal flying, stalls (except whip stalls), and steep turns, in which the angle of bank is not more than 60 degrees.

(e) Except for commuter category, airplanes may be type certificated in more than one category if the requirements of each requested category are met.

(6) **THE BALLOON CATEGORY** is a non power driven lighter-than-air aircraft.

(7) **The other category** is as specified in the Type Data Sheets or determined by the Authority

**SPECIAL AIRWORTHINESS CERTIFICATE CATEGORY**

Nig. CARs Part 5.4.1.4(b) requires the Authority to issue Special Airworthiness Certificate in the underlisted category for aircraft that do not meet the requirements of the State of Design for a standard airworthiness certificate. Inspectors are required to issue special airworthiness certificate based on the categories specified in the TCDS.

Category	Purpose(s)
Primary	Aircraft flown for pleasure and personal use
Restricted	Aircraft with a "restricted" category type certificate, including: <ul style="list-style-type: none"> <li>• <a href="#">Agriculture and Pest Control</a></li> <li>• Forest and wildlife <a href="#">conservation</a></li> <li>• Aerial <a href="#">surveying</a></li> <li>• Patrolling (pipelines, power lines)</li> <li>• <a href="#">Weather control</a></li> <li>• Aerial <a href="#">advertising</a></li> <li>• Other operations specified by the Authority</li> </ul>
Multiple	Multiple airworthiness certificates
Limited	Aircraft with a "limited" category type certificate
Light-Sport	Operate a light-sport aircraft, other than a <a href="#">gyroplane</a> , kit-built, or transitioning <a href="#">ultralight</a> like vehicle
Experimental	<ul style="list-style-type: none"> <li>• <a href="#">Research and development</a></li> <li>• Showing compliance with regulations</li> <li>• Crew training</li> <li>• Exhibition</li> <li>• Air racing</li> <li>• Market surveys</li> <li>• Operating amateur-built aircraft</li> <li>• Operating kit-built aircraft</li> <li>• Operating light-sport aircraft</li> <li>• <a href="#">Unmanned Aircraft Systems</a> (UAS)</li> </ul>
Special Flight Permit	Special-purpose flight of an aircraft that is capable of safe flight, but unable to meet applicable airworthiness requirements,
Provisional	Aircraft with a "provisional" category type certificate for special operations and operating limitations
Other	As specified in the Type Certificate Data Sheet or determined by the Authority.





## CHAPTER 12

### Acceptance of Aircraft for Registration

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#### 1.0 PURPOSE

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This Chapter is issued to provide information and guidance to Airworthiness inspectors in the process of evaluating an aircraft for acceptance for registration under the Civil Aviation (Aircraft Registration and Marking) Regulations.

#### 2.0 REFERENCES

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- 2.1 Regulation [4.2.1.1](#) of the Nigeria Civil Aircraft Regulations and
- 2.2 Regulation [4.2.1.2](#) of the Nigeria Civil Aircraft Regulations.
- 2.3 CHECKLIST: [CL:O-AWS016](#)
- 2.4 FORMS: [AC-AWS001](#); [AC-AWS001A](#), [AC-AWS001B](#); [AC-AWS001D](#); [AC-AWS001E](#); [AC-AWS001F](#)  
[AC-AWS002C](#); [AC-AWS027](#); [AC-AWS027A](#); [AC-AWS027B](#); [AC-AWS027C](#); [AC-AWS027D](#)

#### 3.0 GUIDANCE

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##### 3.1 Aircraft Acceptance Process

Aircraft evaluation for acceptance to be registered is a function of the Airworthiness Division of the Authority.

##### 3.2 Application

- 3.2.1 A person who wishes to register an aircraft in Nigeria shall apply for aircraft acceptance by submitting a duly completed prescribed application Form: [AC-AWS 001A](#) to the authority
- 3.2.2 In addition to the application form the following documents and or information should be submitted by the applicant to facilitate the aircraft acceptance evaluation exercise.
  - a) The full specification of the aircraft including the type, model, serial number, type certificate, and relevant supplementary type certificates as applicable;
  - b) Serial numbers of major components (e.g. engines, and propellers as applicable);
  - c) Part numbers of avionics and equipment installation;
  - d) Airworthiness Directives (AD's) status report; and
  - e) A copy of the current C of A (if any).

- 3.2.3 The application will not be accepted unless all the required information and documents have been



submitted.

- 3.2.4 The aircraft physical inspection may not be done at this stage.
- 3.2.5 The application shall be for an aircraft, its engines, propellers, equipment and systems whose type Certificate complies with the Authority acceptable airworthiness code as specified by Regulation 4.1.5 of Part 5 of the Nigeria Civil Aviation Regulations.

**NOTE:** *The application evaluation exercise is meant to establish that the attached documents are authentic, valid and relate to the subject aircraft. Documents and information that is not satisfactory must be rejected.*

### 3.3 Acceptance of Type Certificates

- 3.3.1 Acceptance of an aircraft type certificate or equivalent document issued by a State of Design in this respect means that; the type certificate or equivalent document in relation to design, materials, construction, equipment, was issued on, or is based on contracting state airworthiness code recognized by the Authority.
- 3.3.2 A recognized airworthiness code - means Civil Aviation Regulations and Standards of the contracting State of design relating to the design, materials, construction, equipment, performance and maintenance of aircraft and its components are acceptable to the Authority.
- 3.3.3 To facilitate effective aircraft safety oversight, the State of design or State of manufacture acceptable Aircraft Type Certificate must have provisions:
- a) To publish aircraft technical documents and literature (e.g. flight manual, maintenance manuals etc) in English.
  - b) To mail to the authority and the operator the current amendments of all relevant aircraft technical and operation literature.
  - c) To manufacture aircraft equipment, instruments with indication markings and placards in English and Arabic numerals.
  - d) To deliver aircraft type design incorporating the minimum recommended emergency features, and emergency equipment with clear operating instructions in English.

### 3.4 Ineligibility

The aircraft that does not satisfy the acceptable Type Certificate requirements is classified Non Compliant and cannot be accepted for registration.

### 3.5 Registration Acceptance

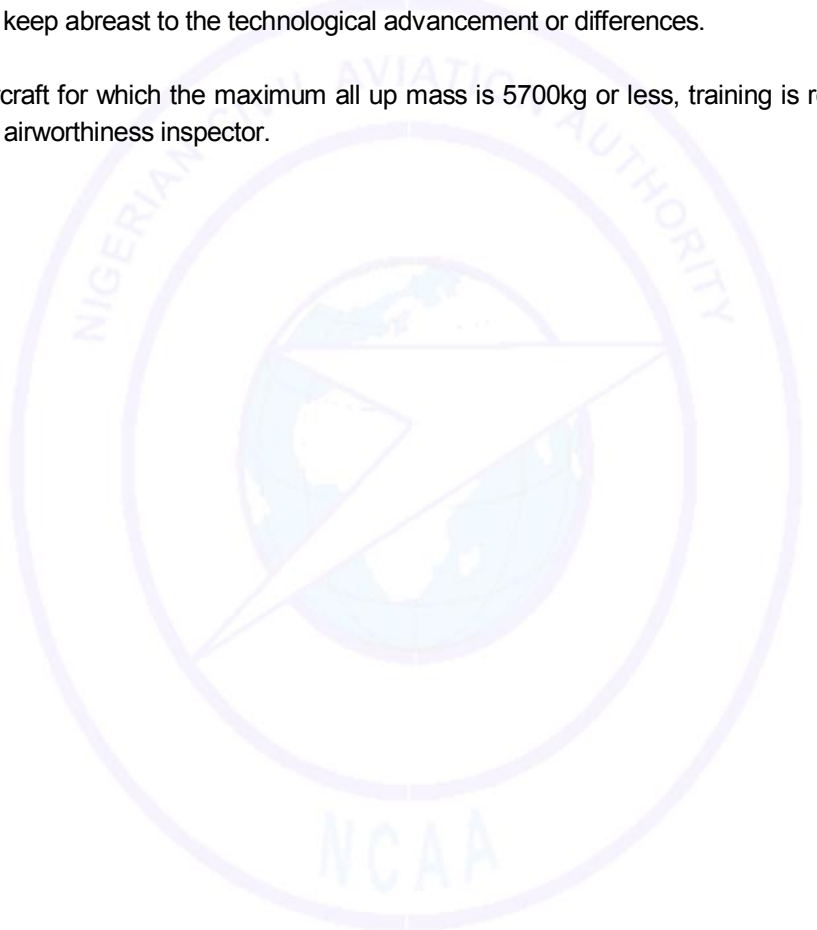
On completion of a successful documents evaluation, the airworthiness inspector issues the aircraft acceptance for registration note.

No aircraft shall be registered without a registration acceptance letter issued by the Authority.



### 3.6 Training requirements

- 3.6.1 For a new aircraft type on the Nigeria Aircraft Civil Register, the airworthiness inspector is to advise the operator about the Authority operations and airworthiness inspectors' aircraft type training facilitation requirements.
- 3.6.2 The number of inspectors to be trained normally is dependent on the size and complexity of the aircraft. This will include an inspector from Airworthiness and Flight Operations Directorates.
- 3.6.3 For a series type of an aircraft, a refresher or difference course is required to enable the Authority inspectors keep abreast to the technological advancement or differences.
- 3.6.4 For the aircraft for which the maximum all up mass is 5700kg or less, training is required for at least one A & C airworthiness inspector.





## CHAPTER 13

### Reliability Programme Approval

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#### 1.0 PURPOSE

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This Chapter is issued to provide guidance and information to airworthiness inspectors for evaluating and approving reliability programmes.

#### 2.0 REFERENCES

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- 2.1 Regulation [9.4.1.13](#) of the Nigeria Civil Aviation Regulations
- 2.2 The Authority Advisory Circular No. [NCAA-AC-AWS008](#) (Aircraft Maintenance Program Development)
- 2.3 The Authority Circular No. [NCAA-AC-GEN002](#) (Approval of Technical Manuals)
- 2.4 Federal Aviation Administration AC 120-17A as revised (Maintenance Control by Reliability Methods).
- 2.5 The Authority Circular No. [NCAA-AC-AWS010](#) (Maintenance Control By Reliability Methods)
- 2.6 The Airline/Manufacturer Maintenance Program Planning Document, Maintenance Steering Group (MSG)-2/3
- 2.7 CHECKLIST: [CL: O-AWS014](#)

#### 3.0 GUIDANCE

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##### 3.1 General

- 3.1.1 The Airworthiness inspector performs this task, which needs to be closely coordinated between both the mechanical and avionics specialties. Approving a reliability program is one of the most complex duties of an Airworthiness inspector, who must give special attention to every element of the proposed program.
- 3.1.2 Reliability programs establish the time limitations or standards for determining intervals between overhauls, inspections, and checks of airframes, engines, propellers, appliances, and emergency equipment.
- 3.1.3 It is important that the Airworthiness inspector explains all of the program requirements to the operator/applicant.



## 3.2 Primary Maintenance Processes

### 3.2.1 MSG-2, Primary Maintenance Processes Definitions

- a) Hard-Time (HT), Overhaul Time Limit, or Part Life-Limit: This is a preventive primary maintenance process that requires a system, component, or appliance to be either overhauled periodically (time limits) or removed from service (life limit). Time limits may only be adjusted based on operating experience or tests, in accordance with (IAW) procedures in the operator's approved reliability program.
- b) On-Condition (OC): This is also a preventive primary maintenance process that requires a system, component, or appliance be inspected periodically or checked against some appropriate physical standard to determine if it can continue in service. The standard ensures that the unit is removed from service before failure during normal operation. These standards may be adjusted based on operating experience or tests, as appropriate, IAW a air operator's approved reliability program or maintenance manual.
- c) Condition Monitoring (CM): MSG-2 introduced condition monitoring. This process is for systems, components, or appliances that have neither HT nor OC maintenance as their primary maintenance process. It is accomplished by appropriate means available to an operator for finding and solving problem areas. The user must control the reliability of systems or equipment based on knowledge gained through analysis of failures or other indications of deteriorations.

### 3.2.2 MSG-3, Maintenance Task Definitions

- a) Lubrication/Service (LU/SV): Any act of lubrication or servicing for the purpose of maintaining inherent design capabilities. The replenishment of the consumable must reduce the rate of functional deterioration.
- b) Operational/Visual Check (OP/VC): Hidden functional failure categories. An operational check is a task to determine if an item is fulfilling its intended purpose. The check does not require quantitative tolerances, but is a failure-finding task. A visual check is an observation to determine that an item is fulfilling its intended purpose and does not require quantitative tolerances. This is a failure-finding task that ensures an adequate availability of the hidden function to reduce the risk of a multiple safety failures and to avoid economic effects of multiple failures and be cost-effective.
- c) Inspection/Functional Check (IN/FC), All Categories:
  - (i) Inspections
    - (aa) Detailed inspection: An intensive visual examination of a specific structural area, system, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate by the Airworthiness inspector. Inspection aids such as mirrors or magnifying lenses may be used. Surface cleaning and elaborate access procedures may be required.



- (bb) General visual (surveillance) inspection: A visual examination of an interior or exterior area, installation, or assembly to detect obvious damage, failure, or irregularity. This level of inspection is made under normally available lighting conditions, such as daylight, hangar lighting, flashlight, or drop-light, and may require removal or opening of access panels or doors. Stands, ladders, or platforms may be required to gain proximity to the area being checked.
- (cc) Special detailed inspection: An intensive examination of a specific item(s), installation, or assembly to detect damage, failure, or irregularity. The examination is likely to make extensive use of specialized inspection techniques and/or equipment. Intricate cleaning and substantial access or disassembly procedures may be required.
- (dd) Functional Check: A quantitative check to determine if one or more functions of an item perform within specified limits. Reduced resistance to failure must be detectable, and there must be a reasonably consistent interval between a deterioration condition and functional failure.
- (ii) Restoration (RS), All Categories: That work necessary to return an item to a specific standard. Since restoration may vary from cleaning or replacement of single parts to a complete overhaul, the scope of each assigned restoration task has to be specified.
- (iii) Discard (DS), All Categories: The removal from service of an item at a specified life limit. Discard tasks are normally applied to so-called single-celled parts, such as:
  - (aa) Cartridges,
  - (bb) Canisters,
  - (cc) Cylinders,
  - (dd) Engine disks, or
  - (ee) Safe-life structural members.

3.3 **New Aircraft:** The lack of real experience with new aircraft requires a careful, detailed study of their characteristics to determine which components or systems would probably benefit from scheduled maintenance (HT or OC).

3.3.1 Special teams of industry and Federal Aviation Administration (FAA) personnel developed the initial maintenance programs for the B-747, DC-10, and L-1011 aircraft. Using the MSG-2 decision analysis, these teams identified potential maintenance tasks and determined which of these tasks must be performed to ensure operating safety or determine essential hidden function protection. The remaining tasks were evaluated to determine if they were economically useful.

3.3.2 This evaluation provided a systematic review of the aircraft design so that, in the absence of real experience, the best maintenance process could be employed for each component or system. The B-747, DC-10, and L-1011 aircraft operating experience confirmed the effectiveness of these procedures.



### 3.4 Data Collection System

#### 3.4.1 Typical sources of data collection include:

- a) Unscheduled removals,
- b) Confirmed failures,
- c) Pilot reports,
- d) Sampling inspections,
- e) Shop findings,
- f) Functional checks,
- g) Bench checks,
- h) Service difficulty reports,
- i) Mechanical Interruption Summaries, and
- j) Other sources the operator considers appropriate.

3.4.2 Not all of these sources may be covered in each and every program. However, the availability of additional information provides the operator with an invaluable source of operating history for determining success or failure in meeting program goals.

3.4.3 Data collected must be accurate and factual to support a high degree of confidence for any derived conclusion. It must be obtained from units functioning under operational conditions and must relate directly to the established levels of performance.

3.5 **Data Analysis and the Application to Maintenance Controls:** The objective of data analysis is to recognize the need for corrective action, establish what corrective action is needed, and determine the effectiveness of that action.

3.5.1 **Data Analysis Systems:** Data analysis is the process of evaluating mechanical performance data to identify characteristics indicating a need for program adjustment, revising maintenance practices, improving (modifying) hardware, etc. The first step in analysis is to compare or measure data against acceptable performance levels. The standard may be a running average, tabulation of removal rates for past periods, graphs, charts, or any other means of depicting a norm.”

#### 3.5.2 Programs Incorporating Statistical Performance Standards (“Alert” Programs)

- a) Reliability programs developed under NCAA-AC-AWS010, current edition, and earlier criteria use parameters for reliability analysis such as delays per 100 departures for an aircraft system. They incorporate performance standards as described in paragraph 3.2.2.b).(i). These



standards define acceptable performance.

- b) System performance data usually is reinforced by component removal or confirmed failure data. The condition-monitored process can be readily accommodated by this type of program.

3.5.3 Programs Using Other Analysis Standards (-Non-Alert” Programs): Data compiled to assist in the day-to-day operation of the maintenance program may be used effectively as a basis for continuous mechanical performance analysis.

- a) The following are examples of the types of information suitable for this monitoring method:
  - (i) Mechanical interruption summaries
  - (ii) Flight record review,
  - (iii) Engine monitoring reports,
  - (iv) Incident reports, and
  - (v) Engine and component analysis reports.
- b) The number and range of inputs must be sufficient to provide a basis for analysis equivalent to the statistical programs standards.
- c) Actuarial analysis should be conducted periodically to ensure that the current process classifications are correct.

### 3.6 Performance Standards

3.6.1 The following factors are acceptable for establishing or revising a reliability program's performance standards:

- a) Past and present individual operator and industry experience. If industry experience is used, the program must include a provision for reviewing the standards after the operator has gained one year of operating experience;
- b) Performance analysis of similar equipment currently in service;
- c) Aircraft or equipment manufacturers' reliability engineering analysis; or
- d) History of experience where reliability standards were acceptable to the airline industry.

3.6.2 If the program does not incorporate statistical performance standards or significantly deviates from the instructions in NCAA-AC-AWS010 -

- a) Performance measurements expressed numerically in terms of:
  - (i) System or component failure,
  - (ii) Pilot reports,
  - (iii) Delays,
  - (iv) A/C operating hours,
  - (v) Number of landings,
  - (vi) Cycles, or
  - (vii) Other.





- b) Standards adjusted to:
  - (i) Operator's experience,
  - (ii) Seasonal, and/or
  - (iii) Environmental.
- c) Procedures for periodic review:
  - (i) Upward adjustment, and
  - (ii) Downward adjustment.
- d) Monitoring procedure:
  - (i) New aircraft, and
  - (ii) Computing performance standards.
- e) No statistical performance standards: Do not approve program.
- f) Also any significant deviation from the current NCAA-AC-AWS010.

### 3.7 Evaluating Program Displays and Status of Corrective Action Programs and Reporting.

3.7.1 Corrective Action System. Corrective action should be positive enough to restore performance effectively to an acceptable level within a reasonable time. The corrective action system must include provisions for the following:

- a) Notifying the organization responsible for taking the action.
- b) Obtaining periodic feedback until performance reaches an acceptable level.
- c) Encompassing methods that have been established for the overall maintenance program, such as:
  - (i) Work orders,
  - (ii) Special inspection procedures,
  - (iii) Engineering Orders, and
  - (iv) Technical standards.
- d) Critical failures in which loss of function or the secondary effects of failure could affect the airworthiness of the aircraft.

### 3.7.2 Statistical Performance Standards System.

- a) A performance measurement expressed numerically in terms of system or component failure, pilot report, delay, etc (bracketed by hours of aircraft operation, number of landing, operating cycles, or other exposure measurement) serves as the basis for the standard. Control limits or alert values are usually based on accepted statistical methods, such as standard deviations or the Poisson distribution.
- b) Some applications use an average or baseline method. The standard should be adjustable and



should reflect the operator's experience during seasonal and environmental condition changes and variations.

- c) The program should include procedures for periodic review and adjusting the program as appropriate.
- d) The program should include procedures for monitoring new aircraft until sufficient operating experience is available to compute performance standards, normally one year.

### 3.7.3 Data Display and Reporting System

- a) Operators with programs incorporating statistical performance standards ("alert" programs) should develop a monthly report, with appropriate data displays summarizing the previous month's activity. This report should include the following:
  - (i) All aircraft systems controlled by the program in sufficient depth to enable the Authority and other recipients to evaluate the effectiveness of the total maintenance program;
    - a. Systems that exceeded the established performance standards and discussion of what action has been taken or planned;
  - (ii) An explanation of changes that have been made or are planned in the aircraft maintenance program, including changes in maintenance and inspection intervals and changes from one maintenance process/task to another;
  - (iii) A discussion of continuing over-alert conditions carried forward from previous reports; and
  - (iv) The progress of corrective action programs.
- b) Programs using other analytical standards ("non-alert" programs) should consolidate or summarize significant reports used in controlling their program to provide for evaluating program effectiveness. These reports may be computer printouts, summaries, or other forms. A typical program of this type reports the following information:
  - (i) Mechanical Interruption Summary (MIS) reports,
  - (ii) Maintenance process/task and interval assignments (master specification),
  - (iii) Weekly update to the maintenance process and interval assignments,
  - (iv) Daily repetitive item listing by aircraft,
  - (v) Monthly component premature removal report, including removal rate,
  - (vi) Monthly engine shutdown and removal report,
  - (vii) Quarterly engine reliability analysis report,
  - (viii) Engine threshold adjustment report, and
  - (ix) Worksheets for maintenance process/task and interval changes (not provided to the Authority, but the Authority approves the process/task changes).
- c) Program Review System. The program should include a procedure for revision which is compatible with Authority approvals. The procedures should identify organizational elements involved in the revision process and the authority. The program areas requiring formal Authority



approval include any changes to the program that involve the following:

- (i) Procedures relating to reliability measurement/performance standards,
- (ii) Data collection,
- (iii) Data analysis methods and application to the total maintenance program,
- (iv) Process/task changes,
- (v) Adding or deleting components/systems,
- (vi) Adding or deleting aircraft types, or
- (vii) Procedural and organizational changes concerning administration of the program.

### 3.8 Interval Adjustments, Process, and/or Task Changes.

3.8.1 Maintenance Interval Adjustment, Process Category, and/or Task Change System. Reliability programs provide an operator with a method of adjusting maintenance, inspection, and overhaul intervals without prior Authority approval. This does not relieve the operator or the Authority of their responsibilities regarding the effects of the program on safety.

**NOTE:** *If the AIRWORTHINESS INSPECTOR has any doubt as to the soundness of a requested maintenance interval adjustment or task change, the inspector should coordinate the request with the appropriate State of Design.*

3.8.2 Procedures: Procedures for adjusting maintenance intervals must be included in the program. Maintenance interval adjustments should not interfere with ongoing corrective actions. There should be special procedures for escalating systems or components whose current performance exceeds control limits.

a) Typical considerations for adjusting HT or OC intervals include the following:

- (i) Sampling,
- (ii) Actuarial studies,
- (iii) Unit performance,
- (iv) Inspector or maintenance findings, and
- (v) Pilot reports.

b) Methods for adjusting aircraft/engine check intervals should be included if the program controls these intervals. Sampling criteria should be specified.

3.8.3 Classifying the Maintenance Processes and/or Tasks. The program should include procedures for the classification and assignment of maintenance processes and/or tasks and for changing from one process and/or task to another. Refer to MSG-2 for maintenance processes and MSG-3 for maintenance tasks. It should include the authority and procedures for changing maintenance specifications and the related documents to reflect the interval adjustments or process and/or task change.

### 3.9 Prerequisites and Coordination Requirements

3.9.1 Prerequisites: Previous experience with the type of equipment the operator/applicant proposes to include in the program.



3.9.2 Coordination: This task requires coordination between the Airworthiness Inspectors, both mechanical and avionics.

3.10 **Procedures.**

a) Meet With Operator/Applicant. In addition to providing NCAA-AC-AWS010, current edition, inform the operator/applicant of the following program requirements:

- (i) Program application,
- (ii) Organizational structure,
- (iii) Data collection system,
- (iv) Methods of data analysis and application to maintenance control,
- (v) Procedures for establishing and revising performance standards,
- (vi) Definition of significant terms,
- (vii) Program displays and status of corrective action programs,
- (viii) Procedures for program revision, and
- (ix) Procedures for maintenance control changes.

b) Evaluate the Program Application Procedures. When the applicant submits a formal program, ensure that the program document defines the following:

- (i) Components, systems, or complete aircraft controlled by the program. Individual systems and/or components are identified by Air Transport Association of America (ATA) Specification 100. A list of all components controlled by the program must be included as an appendix to the program document or included by reference (e.g., time limits, manuals, or computer report).
- (ii) The portion of the maintenance program controlled by the reliability program (e.g., overhaul and/or inspection, check periods).

c) Evaluate Organizational Structure. The structure must be described adequately and address committee membership, if appropriate, and meeting frequency. Ensure that the reliability program includes an organizational chart that shows the following:

- (i) The relationships among organizational elements responsible for administering the program.
- (ii) The two organizational elements responsible for approving changes to maintenance controls and specifying the duties and responsibilities for initiating maintenance program revisions.

**NOTE:** One of the two organizational elements must have inspection or quality control responsibility or have overall program responsibility.

d) Evaluate the Organizational Responsibilities.

- (i) Determine if the reliability program document addresses the following:
  - aa) The method of exchanging information among organizational elements. This may be displayed in a diagram.



- bb) Activities and responsibilities of each organizational element and/or reliability control committee for enforcing policy and ensuring corrective action.
- (ii) Ensure that authority is delegated to each organizational element to enforce policy.
- e) Evaluate the Data Collection System.
  - (i) Ensure that the reliability document fully describes the data collection system for the aircraft, component, and/or systems to be controlled. The following must be addressed:
    - a) Flow of information,
    - b) Identification of sources of information,
    - c) Steps of data development from source to analysis, and
    - d) Organizational responsibilities for each step of data development.
  - (ii) Ensure that the document includes samples of data to be collected, such as:
    - a) Powerplant disassembly and inspection reports,
    - b) Component condition reports,
    - c) Mechanical delay and cancellation reports,
    - d) Flight record reports,
    - e) Premature removal reports,
    - f) In-flight shutdowns,
    - g) Confirmed failure reports,
    - h) Internal leakage reports, and
    - i) Engine shutdown reports.
  - (iii) Ensure that the reliability document includes a graphic portrayal of program operations. It must be a closed loop and show source data, data collection, and analysis.
- f) Evaluate the Methods of Data Analysis and Application to Maintenance Controls. Ensure that the data analysis system includes the following:
  - (i) One or more of the types of action appropriate to the trend or level of reliability experienced, including:
    - aa) Actuarial or engineering studies employed to determine a need for maintenance program changes;
    - bb) Maintenance program changes involving inspection frequency and content, functional checks, overhaul procedures, and time limits;
    - cc) Aircraft, aircraft system, or component modification or repair; and/or
    - dd) Changes in operating procedures and techniques.
  - (ii) The effects on maintenance controls such as overhaul time, inspection and check periods, and overhaul and/or inspection procedures.
  - (iii) Procedures for evaluating critical failures as they occur.
  - (iv) Documentation used to support and initiate changes to the maintenance program,



including modifications, special inspections, or fleet campaigns. The program must reference the operator's manual procedures for handling these documents.

- (v) A corrective action program that shows the results of corrective actions in a reasonable period of time. Depending on the effect on safety, a "reasonable" period of time can vary from immediate to an overhaul cycle period. Each corrective action plan or program must be made a matter of record and include a planned completion date. Samples of forms used to implement these actions must be included in the program document.
  - (vi) A description of statistical techniques used to determine operating reliability levels.
- g) Evaluate the Procedures for Establishing and Revising Performance Standards.
- (i) Ensure that each program includes one of the following for each aircraft system and/or component controlled by the program:
    - aa) Initial performance standards defining the area of acceptable reliability; or
    - bb) Methods, data, and a schedule to establish the performance standard.
  - (ii) Ensure that the performance standard is responsive and sensitive to the level of reliability experienced and is stable without being fixed. The standard should not be so high that abnormal variations would not cause an alert or so low that it is constantly exceeded in spite of the best known corrective action measures.
  - (iii) Ensure that the procedures specify the organizational elements responsible for monitoring and revising the performance standard, as well as when and how to revise the standard.
- h) Evaluate Definitions. Verify that each program clearly defines all significant terms used in the program. Definitions must reflect their intended use in the program and will therefore vary from program to program. Acronyms and abbreviations unique to the program must also be defined.
- i) Evaluate Program Displays and Status of Corrective Action Programs and Reporting.
- i) Ensure that the program describes reports, charts, and graphs used to document operating experience. Responsibilities for these reports must be established and the reporting elements must be clearly identified and described.
  - ii) Ensure that the program displays containing the essential information for each aircraft, aircraft system, and component controlled by the program are addressed. Each system and component must be identified by the appropriate ATA Specification 100 system code number.
  - iii) Ensure that the program includes displays showing:
    - aa) Performance trends,
    - bb) The current month's performance,
    - cc) A minimum of 12 months' experience , and



- dd) Reliability performance standards (-alert" values).
- iv) The program must include the status of corrective action programs. This includes all corrective action programs implemented since the last reporting period.
- j) Evaluate the Interval Adjustments and Process and/or Task Changes System.
  - aa) Review the change system procedures. Ensure that there are special procedures for escalating systems or components whose current performance exceeds control limits.
  - bb) Ensure that the program does not allow for the maintenance interval adjustment of any Certification Maintenance Requirements (CMR) items. CMRs are part of the certification basis. No CMR item may be escalated through the operator maintenance/reliability program. CMRs are the responsibility of the Authority as far as approval and escalation.

**NOTE:** *The operator may not use its reliability program as a basis for adjusting the repeat interval for its corrosion prevention and control program; however, the operator may use the reliability program for recording data for later submission to the Authority to help substantiate repeat interval changes.*

- cc) Ensure that the program includes provisions for notifying the Authority when changes are made.
- k) Evaluate the Procedures for Program Revisions. The reliability document must accomplish the following:
  - (i) Identify and isolate areas which require the Authority approval for program revision, including the following:
    - aa) Reliability measurement;
    - bb) Changes involving performance standards, including instructions relating to the development of these standards;
    - cc) Data collection system;
    - dd) Data analysis methods and application to maintenance program; and
    - ee) Any procedural or organizational change concerning program administration.
  - (ii) If the operator proposes that the Authority approve all revisions to the program document, isolation of those areas requiring Authority approval is not required. However, the document must recognize each of the above requirements and must contain procedures for adequately administering and implementing changes required by these actions.
  - (iii) Identify the organizational element responsible for approving amendments to the program.
  - (iv) Provide a periodic review to determine that the established performance standard is still realistic.
  - (v) Provide procedures for distributing approved revisions.
  - (vi) Reference the operator's manual and provide the overhaul and inspection periods, work



content, and other maintenance program activities controlled by the program.

- l) Evaluate the Procedures for Maintenance Control Changes. Ensure that the reliability program document addresses the following:
  - (i) Procedures for maintenance control changes to the reliability program.
  - (ii) The organizational elements responsible for preparing substantiation reports to justify maintenance control changes. At least two separate organizational elements are required, one of which exercises inspection or quality control responsibility for the operator.
  - (iii) Processes used to specify maintenance control changes (e.g., sampling, functional checks, bench checks, decision tree analysis, and unscheduled removal).
  - (iv) Procedures covering all maintenance program activities controlled by the program.0
  - (v) Procedures for amending OpSpecs, as required.
  - (vi) Procedures to ensure maintenance interval adjustments are not interfering with ongoing corrective actions.
  - (vii) Critical failures and procedures for taking corrective action.
  - (viii) Procedures for notifying the Authority, when increased time limit adjustments or other program adjustments are addressed.
- m) Analyze Reliability Program
  - (i) After the review is completed the Inspector will meet with the applicant or operator to discuss needed programme changes and recommendations to resolve discrepancies. This should be followed by a written notification.
  - (ii) If discrepancies are found the notification will list specific discrepancies found and recommendations, outlining what will be required to correct the discrepancies;
  - (iii) When the inspector satisfied that he reliability programme meets the requirements:
  - (iv) Return the original approved reliability programme to the applicant or operator accompanied by a letter of approval;





#### **4.0 CONCLUSION**

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- 4.1 Successful completion of this task will result in the approval of the operator/applicant's reliability program and OpSpecs
- 4.2 Keep a copy of the reliability programme on the operator's file.
- 4.3 The same procedures will be followed when a revision to the original or approved reliability programme is received from the air operator.

#### **5.0 FUTURE ACTIVITIES**

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- 5.1 **Normal surveillance**





## CHAPTER 14

### Major Modifications and Repairs Approval

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#### 1.0 PURPOSE

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This Chapter is issued to provide guidance to inspectors when assessing an application of a major modification or major repair for approval.

#### 2.0 REFERENCE

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- 2.1 Regulations [9.4.1.3](#) and [9.4.1.11](#) of the Nigeria Civil Aviation Regulations.
- 2.2 CHECKLIST: [CL: O-AWS015](#)
- 2.3 FORMS: [FORM: AC-AWS014](#); [FORM: AC-AWS014A](#)

#### 3.0 GUIDANCE

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##### 3.1 General Information

- 3.1.1 A major modification or repairs to an aircraft are normally accomplished in accordance with design data approved by the State of Design and accepted by the Authority.
- 3.1.2 Major modifications and repairs design are prepared only by persons duly authorised with knowledge of the design principles embodied in the aircraft type being modified or repaired.
- 3.1.3 It is required that the analysis and test reports from the original type certification of the aeronautical product are provided for verification that the modification or repair is compatible with all other design changes installed on that aircraft.
- 3.1.4 The effects of any potential incompatibilities between the proposed design change and any known existing or reasonably foreseeable modifications or repairs information to correct airworthiness deficiencies discovered in service which relate to the design change should be documented and submitted to facilitate the approval analysis.
- 3.1.5 There should be a provision to notify the Authority immediately when during the course of incorporation or operation an unsafe condition related to the design change is found.
- 3.2 Application for Approval of Major Modifications and Repairs the application for major modification and/or repair is made by submitting in duplicate a dully completed original Authority's prescribed application Form: [AC-AWS 014](#) for approval of major modifications and/or repairs.

##### 3.3 Acceptance of the Application

- 3.3.1 Ensure application has been made using the prescribed application form submitted in duplicate.



3.3.2 The following modification or repair documents should be attached -

- a) Detailed description of the proposed modification or repair;
- b) A master documentation list detailing the individual drawings and specifications which define the modification or repair;
- c) Drawings and instructions necessary for incorporation of the modification or repair;
- d) Testing procedures or methods to meet certification and operating rules, such as flammability, carbon monoxide, and noise requirements
- e) Test procedures that are appropriate to the modification or repair and to verify that the modification or repair meets applicable certification requirements.
- f) Detailed design standards, to ensure that the operator has considered all applicable design requirements and acceptance engineering reports including expected test results to be used in determining the compliance of the modified or repaired product.
- g) A record of the change in mass and moment arm when the modification or repair is installed in the aeronautical product;
- h) A record of the change in electrical load when the modification or repair is installed in an aircraft;
  - i) Supplements to:
    - (i) The approved flight manual
    - (ii) Maintenance instructions;
    - (iii) Instructions for continuing airworthiness
    - (iv) Repair instructions.
- j) Any other factors that may affect safety or airworthiness;

### 3.4 Application and Documents Evaluation

3.4.1 The major modification or repair documents submitted must be in accordance with the aircraft design data approved by the state of design.

**Note:** Repairs designed in accordance with the manufacturers Structural Repair Manual (SRM) approved by the airworthiness authority of the State of Design may be accepted because such manuals are considered to be in accordance with approved type certificate data.

3.4.2 Evaluate Application to ensure that:

- a) The description of the proposed modification or repair correctly and accurately describes the modification or repair.
- b) Documents are complete and if not advice applicant what additional information is needed.



- c) The applicant has conducted and submitted an acceptable conformity evaluation statement that ensures the proposed modification or repair will not impact the airworthiness of the aircraft.
- d) There is proof that the modification or repair is compatible with previously approved modification or repairs.

3.4.3 Study the application document and verify that:-

- a) The proposed modification or repair has no unsafe features;
- b) The applicant has met the requirements for the provision of engineering data and documentation from the State of Design; and
- c) The applicant is authorized or has stated a competent AMO to perform the modification or repair.

3.5 **Approval**

- 3.5.1 Approval of major modifications and repairs is signified by signing the approval section of the application forms. One copy is returned to the applicant the other is retained by the Authority for records.
- 3.5.2 If the modification or repair documentation as required has not been submitted, the approval process is stopped and the person responsible for safety oversight is informed and the applicant is notified in writing the reasons for suspension or denial.
- 3.5.3 The applicant can be given opportunity to make corrections as necessary and re-submit the application.



## CHAPTER 15

### Re-Certification of Approved Maintenance Organization Under the New Regulations

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#### 1.0 PURPOSE

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- 1.1 This Chapter is issued to provide guidance to the Authority inspectors when re-certifying Maintenance Organisations that hold valid (AMO) certificates issued under the old Regulations.
- 1.2 The process is designed to ensure that the AMO certificate holder understands the new Regulations and makes the necessary organisation restructuring to comply with the new regulatory requirements as applicable.

#### 2.0 REFERENCES

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- 2.1 [Part 6](#) of the Nigeria Civil Aviation Regulations;
- 2.2 [Part 5](#) of the Nigeria Civil Aviation Regulations;
- 2.3 [Part 9](#) of the Nigeria Civil Aviation Regulations;
- 2.4 [Part 8](#) of the Nigeria Civil Aviation Regulations;
- 2.5 [NCAA-AC-AWS006](#) - Approved Maintenance Organisations Certification;
- 2.6 [NCAA-AC-AWS007](#) - Foreign Approved Maintenance Organisation Certification;
- 2.7 [NCAA-AC-GEN003](#) - Five Phase Certification Procedure.
- 2.8 CHECKLISTS: [CL: O-AWS010](#); [CL: O-AWS011](#)
- 2.9 FORM: [FORM: AC-AWS020](#)

#### 3.0 INFORMATION AND GUIDANCE

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##### 3.1 General Information

- 3.1.1 Maintenance Organisations that hold valid certificates issued under Air Navigation Regulations shall be re-certified under the Civil Aviation Regulations.
- 3.1.2 Where an application for re-certification is made after the expiry of the AMO certificate outside the grace period allocated to implement the Civil Aviation Regulations, the applicant shall be subjected to the full AMO Certification requirements provided for in the Civil Aviation Regulations.



3.1.3 The AMO re-certification process may not entail the full application of the Five Phase Process as described in AC No. [NCAA-O-GEN003](#) because the AMO has already demonstrated operational competency under the Regulations, the applicant however is required to:

3.1.4 Submit to the Authority a duly completed prescribed original Authority application Form [AC-AWS 006B](#) for certification of AMOs within the transition period.

### 3.2 **AMO Re-Certification Process**

It is required that the Inspectors use the relevant evaluation check lists and the AMO certification Job Aid and Schedule of Events Form: [AC-AWS 006E](#). The AMO certification checklists include:

- a) AMO approval Checklist;
- b) MPM Evaluation Checklist;
- c) Maintenance contract Arrangement Check list;
- d) Maintenance Program Evaluation Checklist

3.2.1 Pre-application Phase: Applicant is required to -

- a) Have copies and to be conversant with the Civil Aviation Regulations and all relevant Advisory Circulars.
- b) Be issued with the following:-
  - (i) The application form for issue of AMO certificate;
  - (ii) The Pre-Application Statement of Intent (PASI) Form;
  - (iii) Management Team Biographical Data Forms;
  - (iv) Notification of the Certification fee and inspection facilitation that may be needed.

3.2.2 Application Phase:

- a) The following should have been submitted -
  - (i) Original prescribed AMO re-certification application form;
  - (ii) A duly completed PASI form;
  - (iii) A proposed certification schedule of events form;
  - (iv) A statement of compliance;
  - (v) Two copies of revised MPM; and
  - (vi) Proof of re-certification fee payment.
- b) A cursory review is carried out on the application and the required attachments. If acceptable, agree on the planned re-certification process Schedule of events.
- c) Application is rejected if the application package is incomplete or unsatisfactory.

**Note:** The applicant should be provided a letter identifying the discrepancies in the incomplete or/and



*unsatisfactory application package.*

3.2.3 Document Evaluation - Evaluate the application package to ensure that:

- a) The statement of compliance showing where all relevant regulations have been addressed..
- b) The PASI and MPM clearly explains the entire organisation structure, functions, activities and programs for the ratings applied for on the application form. It is important to establish that they show how the organisation shall comply with the new Regulations.

3.2.4 Demonstration and Inspection

- a) Identify and be satisfied that the AMO can demonstrate compliance and capability of all the functions for the ratings applied for as required by the new Regulations.
- b) Areas normally inspected should include but are not limited to:
  - (i) Management Team Structure and Qualification requirements;
  - (ii) Functioning of the independent quality system;
  - (iii) Technical personnel assessment, training programme and records;
  - (iv) Contracted maintenance management;
  - (v) Sufficient numbers of qualified personnel.

3.2.5 Re-certification

- a) When satisfied that all requirements for certification of an AMO under the Civil Aviation (Approved Maintenance) Regulations have been met, the AMO should be recommended for issue of approval Certificate, Specific Operating Provisions (SOP) or Operations Specifications and Limitations.
- b) The AMO Certificate is valid for twenty-four (24) calendar months as provided under Regulation 2.1.7 of Part 6 of the Nigeria Civil Aviation Regulations unless otherwise specified by the Authority.

3.2.6 Records:

- a) A new file is required for the Approved Maintenance Organisation (AMO) to keep records of the documents generated during the re-certification process.
- b) The re-certification report should include:
  - (i) The completed PASI Form.
  - (ii) The Application Form for Approved Maintenance Organisations.
  - (iii) A completed Statement of Compliance.
  - (iv) The Certification Job Aid and Schedule of Events
  - (v) All correspondence between the applicant and the Authority.



- (vi) Minutes of the meetings held with the applicant (as applicable).
- (vii) A summary of all discrepancies encountered during the inspection and corrective actions taken by the applicant.
- (viii) Copies of the Lease / Contract Agreements (as applicable).
- (ix) A list of maintenance functions under contract (as applicable).
- (x) Copy of the certification process summary report (as applicable).
- (xi) Copy of the Specific Operating Provisions.
- (xii) Copy of the Approval Certificate.
- (xiii) The proposed post certification surveillance schedule.
- (xiv) Proof of payment of the approval fee (as applicable).







## CHAPTER 16

### Civil Aviation Safety Inspector Qualifications Training and Duties - Airworthiness Inspectors

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#### 1.0 PURPOSE

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This Chapter is issued to provide information and guidance to the Authority on qualifications and training requirements for Airworthiness Inspectors in order to enable them carry out their duties effectively and efficiently.

#### 2.0 REFERENCES

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- 2.1 The Civil Aviation Act 2006;
- 2.2 The Civil Aviation Regulations
  - 2.2.1 [Part 2](#) Personnel Licensing;
  - 2.2.2 [Part 5](#) Airworthiness;
  - 2.2.3 [Part 8](#) Operation of Aircraft;
  - 2.2.4 [Part 9](#) Air Operators Certification and Administration;
  - 2.2.5 [Part 4](#) Registration of Aircraft;
  - 2.2.6 [Part 6](#) Approved Maintenance Organisations;
  - 2.2.7 [Part 11](#) Aerial work;
  - 2.2.8 [Part 3](#) Approved Training Organisations;
  - 2.2.9 [Part 10](#) Commercial Air Operations by Foreign Air Operator;
  - 2.2.10 [Part 7](#) Instruments and Equipment and;
  - 2.2.11 [Part 14](#) Rules of the Air and Air Traffic Control
- 2.3 ICAO Doc 9389-AN/919 - Manual of Procedures for an Airworthiness Organisation;
- 2.4 FORM: [FORM: AC-AWS017](#)



### **3.0 BACKGROUND**

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- 3.1 The Section of Airworthiness is responsible for performing the Nigerian Civil Aviation Authority (Authority) obligations of maintaining regular safety oversight of all of the airworthiness aspects of aviation in the country, which includes certification and surveillance of air operators, approved maintenance organisations and oversight of any other person or organisation involved in the maintenance/modification/repair of aircraft and training aspects of personnel engaged in civil aviation. The Section is also addresses responsibility for the Licensing/approval of maintenance staff as a part of its regular inspection programme in support of Personnel Licensing Section.
- 3.2 Effective safety oversight is tenet to aviation safety ensures maintenance of high standards and will fulfill Nigeria obligations under the Convention on International Civil Aviation for providing safety oversight of all civil aviation activities in the country in line with the requirements of the Nigeria Civil Aviation Regulations.
- 3.3 The Airworthiness Inspectors are responsible for carrying out all of the safety oversight responsibilities assigned by the Civil Aviation Act 2006 and its Regulations referred to in 2 above. In order for Nigeria to maintain a satisfactory level of airworthiness in line with the legislation requirements and protect public interest it will depend on the competence of the Airworthiness Inspectors.
- 3.4 Airworthiness inspectors should have educational and technical experience qualifications that compare favourably with the maintenance personnel they will inspect or regulate. Furthermore, they should also enjoy terms and conditions of service consistent with their education, technical knowledge and experience comparable to those personnel they will inspect and supervise.

### **4.0 FUNCTIONS AND STAFFING OF AIRWORTHINESS SECTION/DEPARTMENT/DIVISION**

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- 4.1 The airworthiness regulatory functions include:
- 4.1.1 aircraft registration, deregistration and maintenance of civil aircraft register;
  - 4.1.2 recommendation on acceptance of aircraft type certificate;
  - 4.1.3 evaluation and advice on the acceptance of the application for production of aircraft or aircraft component;
  - 4.1.4 approval of changes to the type certificate (modifications & repairs);
  - 4.1.5 issue/renewal and validation of Certificates of Airworthiness;
  - 4.1.6 approval of aircraft maintenance organisations;
  - 4.1.7 certification of air operators;
  - 4.1.8 investigation of accidents, incidents and major aircraft defects;



- 4.1.9 service bulletins and foreign airworthiness directives review for applicability to national aircraft;
- 4.1.10 conducting examinations for applicants of aircraft maintenance licences;
- 4.1.11 development of technical guidance materials for airworthiness practices and procedures; and
- 4.1.12 development and recommendation of regulatory changes to civil aviation legislations as appropriate
- 4.2 The Nigerian Civil Aviation Authority and the Director General is by the Civil Aviation Act 2006 empowered to carry out the above functions and through the allocation of functions, the Airworthiness Section is mandated and the inspectors are appropriately delegated by the Director General to carry out the above functions.
- 4.3 **Staffing requirements**
- 4.3.1 Staffing of the Airworthiness Section with a sufficient number of suitable Airworthiness Inspectors, experienced, qualified and capable of accomplishing the wide range of activities required specified broadly in 4.1 and in 7 and 8 below is paramount to the success of the safety oversight obligations of the Nigerian Civil Aviation Authority.
- 4.3.2 Airworthiness Inspectors must not only have the knowledge, experience and qualifications to carry out their duties in a professionally sound manner, but also possess the personality to win the respect and confidence of the operators. This would require a reasonable level of tact, understanding, firmness, impartiality, integrity and an exemplary personal conduct both in the office and at the operators' premises.
- 4.3.3 The number of Airworthiness Inspectors required will be determined by the level of and the growth of aviation in the country. A periodic review will take place from time to time to determine whether or not there needs to be a change in the number of Inspectors.
- 4.3.4 Determination of the minimum number that is considered reasonable for Airworthiness Inspectors to carry out their tasks will take into account the number of a particular type or group of types of aircraft to be handled by one Airworthiness Inspector taking also into consideration the number of operators and the complexity of the air operations as these would affect the workload as well as the cooperative arrangement under the COSCAP-BAG Community.
- 4.3.5 A rough rule of thumb would be one Airworthiness Inspector per approximately ten aircraft of a particular type or group of a particular category in scheduled operations:
- (a) for turbo props up to 30,000kg MTOW; and
  - (b) for jet in two groups of -
    - (i) medium (single aisle); and
    - (ii) Large transport.
- 4.3.6 For general aviation (to include those used for charter operations):
- (a) single piston engined - thirty aircraft, regardless of type, per inspector;



- (b) Twin engined piston - twenty aircraft, regardless of type per inspector.
- (c) turbo props up to 30,000kg MTOW - approximately twenty aircraft of a particular type or group of a particular category per inspector.

**Note:** *the ratio between required airworthiness inspectors between mechanical and avionics would be determined by the complexity of the fleet e.g. old generation aircraft such as B727 may require more mechanical inspectors (5 to 1) as opposed to new generation aircraft such as A320 will require more avionics inspectors (3 to 1).*

## 5.0 QUALIFICATIONS OF AIRWORTHINESS INSPECTORS

### 5.1 Academic and Professional Qualifications

- 5.1.1 A holder of a University Degree in relevant field e.g. aeronautical, mechanical, electrical, electronic or telecommunication; or equivalent professional qualifications.
  - a) For graduates, except for aeronautical engineers, they should have attended or be provided with a basic training in aircraft maintenance engineering;
  - b) For equivalent professional qualifications they should possess aircraft maintenance engineer's licenses with ratings or appropriate approvals, commensurate with their job responsibilities, i.e., Category A or C (mechanical) Licences with airframe and power plant ratings, category X or R (Avionics) Licence with ratings in Electrical, Instrument or Radio.

### 5.2 Experience

- 5.2.1 Have progressed through positions of increased technical and supervisory responsibility in the aviation industry covering civil and/or military aviation as appropriate.
- 5.2.2 At least five years of employment as a fully qualified aircraft maintenance engineer is normally required to obtain minimum qualifications and experience for an individual to adequately accomplish the duties and responsibilities of a basic starting position in the mechanical or avionics field as an Airworthiness Inspector.

### 5.3 Other Attributes

- 5.3.1 The Inspectors should possess a high degree of integrity, be impartial in carrying out their tasks, be tactful, have a good understanding of human nature and possess the ability to get along well with people.
- 5.3.2 Should be computer literate.



## 6.0 TRAINING OF AIRWORTHINESS INSPECTOR

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The Airworthiness Inspectors should be provided with basic training before assigning him/her for airworthiness inspectors' job functions. In all cases, they must have successfully completed a CAA approved Basic Course, detailed in 6.2, for Airworthiness Inspectors.

- 6.1 For a newly recruited Inspector who meets the requirements specified in 5 above, the mandatory ITS training should be provided to qualify him/her as an Inspector. In addition to the ITS, the following prerequisite basic training is required:
  - 6.1.1 Civil Aviation Regulations;
  - 6.1.2 Technical Guidance Materials;
  - 6.1.3 Authority acceptable Airworthiness Inspectors Course (e.g. FAA (ICAO endorsed Government Aviation Safety Inspector Airworthiness, UK CAA, JAA, etc) and;
  - 6.1.4 OJT in specific duties specified in the OJT Appendix hereunder under a qualified senior Inspector;
  - 6.1.5 Aircraft type/systems course (as required)
- 6.2 Advanced/Specialised training required for Airworthiness Inspectors instructions will include::
  - 6.2.1 Human factors - maintenance;
  - 6.2.2 Auditor's Course
  - 6.2.3 Special trainings in different applicable techniques to reflect inspection requirements in line with technological advances e.g. welding, composite materials, destructive testing, dangerous goods; ETOPs operations; MMEL/MEL; SMS etc
  - 6.2.4 Structural Inspection Programs
  - 6.2.5 Accident Investigation Course
  - 6.2.6 Safety Oversight training
  - 6.2.7 Examination technique
  - 6.2.8 Special training in environment protection matters related to aircraft engine emissions and aircraft noise.
- 6.3 Airworthiness Inspectors must also be provided with continuous training to ensure that they remain current in their profession. Periodic practical and theoretical specialised (technical) training, including supervisory courses, will enable the Inspectors to maintain a high level of knowledge and expertise to carry out their responsibilities effectively and efficiently.



6.4 To ensure systematic and comprehensive training of Airworthiness Inspectors it is necessary to maintain a Training File for each Inspector. The Training File records must be reviewed and updated at regular intervals. Record of all 'On Job Training' imparted to an Inspector must also be maintained in the Training File.

#### 6.5 **Technical Training of Airworthiness Inspectors**

6.5.1 Technical Training of Airworthiness Inspectors may be accomplished from several sources. These can be contracted to an operator who offers a course that is approved in its country or offered by aircraft manufacturers.

6.5.2 An Inspector is required to undergo a type-rating course before approving maintenance schedules and related activities. Routine surveillance activities can be accomplished on any aircraft in airline service whether or not the Inspector is type trained on that particular type.

6.5.3 Although Airworthiness Inspectors are not required to keep their licences current when employed by the Authority and performing certification or surveillance activities, they are required to maintain the same level of knowledge as is required of engineers that are exercising the privilege of their licences.

6.5.4 There may be an occasion where there is no inspector qualified on a particular type of aircraft and there is an urgent need for one to accomplish a task that normally required type training. In such cases, the Director General may, at his discretion, relax the requirements, taking into consideration the Inspectors past performance, employment record and experience.

### 7.0 **DUTIES OF AIRWORTHINESS INSPECTORS**

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7.1 The duties and responsibilities of Airworthiness Inspectors are as laid down in this Order and are divided into various groups, including -

7.1.1 granting of Approvals to carry out airworthiness related activity;

7.1.2 aircraft certification;

7.1.3 examination/licensing of aircraft maintenance engineers;

7.1.4 approval of modifications and major repairs; and

7.1.5 routine surveillance and audit.

7.2 The specific duties and responsibilities of individual airworthiness Inspectors will vary somewhat depending on their technical specialty (i.e., power plants, avionics, airframes, etc). But in general terms they should include at least the following:

7.2.1 conduct inspections and carry out auditing functions;



- 7.2.2 prepare detailed reports on inspections and auditing activities;
- 7.2.3 enforce compliance with airworthiness regulations and directives;
- 7.2.4 report breaches of regulations and directives to the appropriate authority within the Authority;
- 7.2.5 report defects noted to aircraft operators/owners/type certificate holders and approved airworthiness organisations for remedial action;
- 7.2.6 conduct, in co-operation with members of the Authority Operations Section, operator certification inspections;
- 7.2.7 monitoring airworthiness certifications and ensuring that they are carried out by persons who are properly authorised, and that the certifications made are for the purpose and in accordance with the requirements of the applicable airworthiness regulations;
- 7.2.8 monitoring the implementation of the relevant airworthiness regulations;
- 7.2.9 familiarizing himself with the content of all Airworthiness Directives, service bulletins and similar documents in respect of the aircraft (including power plants) and equipment registering or operating into the State and monitoring the extent of implementation;
- 7.2.10 reviewing maintenance procedure manuals, making recommendations in respect of amendments which may be required by the Authority prior to approval of the manual;
- 7.2.11 undertaking liaison with other inspectors regarding recommendations in respect of issue and renewal of Certificates of Airworthiness, checking all documents associated with the above including the flight manual amendment status and airframe and engine log books;
- 7.2.12 Checking that all relevant work are carried out, and authorising release for test flight of aircraft and avionics installation issued ensuring that the resulting reports are satisfactory and in accordance with the Authority requirements;
- 7.2.13 approval of preventive maintenance programs;
- 7.2.14 monitoring approved operator maintenance training programs;
- 7.2.15 conducting inspections of operator's route station facilities;
- 7.2.16 adherence to and responding promptly where necessary to all orders/notices/circulars issued by the Authority;
- 7.2.17 Using initiative to pursue any matter that needs to be attended to by the Authority, including amendment to regulations and technical guidance, in the interest of air safety and for efficiency of the system;
- 7.2.18 Ensuring that confidentiality is always maintained;



7.2.19 Maintaining a constant dialogue with operators and officials in the aviation industry on professional matters in order to keep up to date with latest developments.

## 8.0 QUALIFICATIONS REQUIRED FOR INSPECTOR ACTIVITIES

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8.1 The following are highlights for the qualifications required by an inspector for conducting of the various activities under the airworthiness functions:

- 8.1.1 (a) Type of duty - General Regulatory Matters
- (i) Preparation of Draft regulations and advisory material and recommending changes to the National Civil Aviation law;
  - (ii) Examination of current and new international and foreign Airworthiness standards related to continuing Airworthiness and determination of the need for adoption;
  - (iii) Conferring on National and international levels on matters relating to the regulation of Airworthiness; or
  - (iv) Giving of advice and recommendations to other areas of the Authority responsibilities on legal matters.
- (b) Inspectors Qualification required
- (i) Completion of a basic inspector course; and
  - (ii) A thorough knowledge of the Nigeria Civil Aviation Regulations and advisory material published by the Authority.
- 8.1.2 (a) Type of duty - Aircraft Maintenance
- (i) Survey of aircraft for issue/renewal of the Certificate of Airworthiness;
  - (ii) Evaluation of maintenance programmes;
  - (iii) Preparing a report for approval of a maintenance programme;
  - (iv) Auditing of Facilities and Equipment for the activity for which the approval is sought;
  - (v) Auditing of required Technical Data and ensuring their status;
  - (vi) Assessment of man power requirements; or
  - (vii) Preparing task report for approval.
- (b) Inspectors Qualification required
- (i) Completion of Basic inspector courses;
  - (ii) Completion of Advanced course (Depending on the activity of the operator);
  - (iii) Completion of type rated course on the type of aircraft, engine and systems as per the specialty of individual.
- 8.1.3 (a) Type of duty - Routine Surveillance / Audit of Approved Maintenance Organisation
- (i) Carrying out routine and / or specific audits;
  - (ii) Preparing audit reports;
  - (iii) Reporting breaches of regulations and directives to the appropriate authority within the Authority;
  - (iv) Reporting defects noted to aircraft and approved organisations for remedial action;
  - (v) Participating with operation inspectors for operator certification inspection;





- (vi) Carrying out follow-up audits as required.
- (b) Qualification required
  - (i) Completion of Basic Inspector course;
  - (ii) Completion of Advanced course (Audit course in particular)
  - (iii) Type course on Airframe/ Power plant and systems, or
  - (iv) Experience in Airline Maintenance
- 8.1.4 (a) Type of duty - Maintenance Personnel Licensing
  - (i) Preparation of examination papers and marking schemes;
  - (ii) Conducting oral/practical examination;
  - (iii) Marking the examination papers and/or preparing assessment reports;
  - (iv) Keeping records and observing confidentiality
- (b) Inspectors Qualification required:
  - (i) Completion of a Basic Inspector's course;
  - (ii) Completion of a specific type training course on specific trade; and
  - (iii) Completion of examination technique course.
- 8.1.5 Any other activities as assigned by the Head will require qualifications dependent on the activity for which the inspector is assigned e.g. investigation of incident/accident, will require completion of training in accident investigation; evaluation of specialised function such as NDT or welding or environment protection regulation will require training in that area.

A large, faint watermark of the NCAA logo is centered on the page. It consists of a circular border containing the text 'NIGERIAN CIVIL AVIATION AUTHORITY' and 'NCAA' at the bottom. In the center of the circle is a globe with a lightning bolt striking it.

**APPENDIX**  
**AIRWORTHINESS INSPECTORS ON-JOB-TRAINING GUIDE**

**1.0 BACKGROUND**



- 1.1 **PREREQUISITES.** New inspectors will be programmed for initial and ongoing training based on their assigned duties. The inspector's initial training is commonly referred to as, basic indoctrination training, or initial training. The inspectors initial new hire courses are mandatory and must be completed satisfactorily.
- 1.2 **ON-THE-JOB TRAINING (OJT).** Newly hired inspectors, and inspectors transitioning to a position that they have not previously received OJT for, are assigned an experienced and qualified inspector who is jointly responsible with the inspector for completion of OJT requirements. The inspector will go through the following levels of OJT training:
  - 1.2.1 The first level of training is familiarization with Authority guidance relevant to a particular task or job.
  - 1.2.2 During the second level the inspector observes a qualified inspector performing the task.
  - 1.2.3 In level three, a qualified inspector observes the trainee perform the task. The OJT training record is certified at each level and signed off when the inspector is competent at performing the task.
- 1.3 Complete FORM: O-[AWS017](#) appended to the OJT training guide as follows:
  - 1.3.1 Block 1 enter the name of the inspector receiving OJT training
  - 1.3.2 Block 2 check specialty of inspector
  - 1.3.3 Block 3 enter the position the inspector is currently in
  - 1.3.4 Block 4 enter the task that the inspector is receiving OJT on
  - 1.3.5 Block 5 enter the corresponding Order number that relates to the task
  - 1.3.6 Blocks 6, 7 & 8 the experienced inspector and the inspector receiving OJT should enter their initials and the date which the inspector completed that level of OJT training.
  - 1.3.7 Block 9 should be signed and dated by the experienced inspector to confirm that the inspector receiving training has performed and satisfactorily completed OJT in the subject task
- 2.0 The inspector's official training and OJT records are maintained by the Authority for the duration of the inspector's employment.
  - 2.1 The Authority is responsible for ensuring that all their inspectors receive OJT training for the specific duties that they will be performing on a regular basis and to maintain records documenting the OJT training that has taken place. Additionally, the Authority is responsible to continually monitor the effectiveness of the OJT program and revise as necessary.
  - 2.2 Newly hired, or newly assigned inspectors will be considered qualified to complete job functions and or tasks associated within their specialty when all profile training requirements, aviation personnel qualifications, and certifications have been satisfactorily completed, verified and documented. For example, the following conditions must be met in order for an Air Operator Operations Inspector to be



considered qualified to perform specific job functions without supervision including:

- 2.2.1 Satisfactory completion of indoctrination training;
- 2.2.2 Additional Authority programmed and profile training; training profiles;
- 2.2.3 Satisfactory completion of specific training courses for unique job functions, if required; and
- 2.2.4 Satisfactory completion of all OJT requirements for that job function.

**NOTE:** *In certain instances the Authority may authorize the inspector to perform a required job function prior to completing all of the training associated with the inspector's specialty position assignment.*

3.0 The following guide has been developed to assist with the training of Airworthiness Inspectors. It is provided as a guide and should not be considered limiting. Airworthiness Inspector (AWI) activities often interact with Operations, Cabin Safety, Dangerous Goods. These specialty activities are briefly mentioned within this checklist. The following specialties will normally deal with issues listed:

### **3.1 Flight Operations**

- 3.1.1 Ramp inspections;
- 3.1.2 Cabin en route inspections;
- 3.1.3 Cockpit en route inspections;
- 3.1.4 Pilot proficiency and competency checks for operators; and
- 3.1.5 Flight Engineer proficiency checks for operators.

### **3.2 Cabin Safety**

- 3.2.1 Safety Features Cards
- 3.2.2 Cabin Attendant Manuals
- 3.2.3 Cabin Attendant Training Programs

### **3.3 Dangerous Goods**

- 3.3.1 Company Operations Manual Dangerous Goods Chapter Review
- 3.3.2 Company Dangerous Goods Permit(s) for Equivalent Level of Safety
- 3.3.3 Dangerous Goods Specialty Audits and Inspections
- 3.3.4 Dangerous Goods Cargo Facility Inspections



- 3.3.5 Dangerous Goods Random Ramp Inspections
  - 3.3.6 Dangerous Goods Passenger Terminal Inspections
  - 3.3.7 Dangerous Goods Surveillance Operations
  - 3.3.8 Dangerous Goods Packaging Inspections
  - 3.3.9 Dangerous Goods Investigations and Compliance Actions
  - 3.3.10 Company Dangerous Goods Records and Document Retention programs
  - 3.3.11 ICAO Doc 9284 Technical Instructions for Safe Transport of Dangerous Good, by Air
- 4.0 This checklist has been written with the intent of capturing most activities encountered by Air Carrier Airworthiness Inspectors. It is not meant to reflect specific tasks, such as certain office routines or methods on how particular situations are dealt with.

**Note:** *A qualified AWI shall be entrusted with activities specified in 3.1.1 and 3.1.2 and 3.2 if specialised inspectors in this area are not available and therefore AWIs should be trained on such issues as Cabin Safety, Carriage of Dangerous goods, en route inspection etc.*



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## On-Job-Training Activities Checklist

### SECTION 1 - OFFICE ADMINISTRATION ACTIVITIES

- 1.0 Meet the staff and discuss a brief outline of their responsibilities.**
- 2.0 Review the following documents.**
  - 2.1 Job Description
  - 2.2 Delegation of Authority
  - 2.3 Access to Information
- 3.0 Explain Office Procedures and Policy.**
  - 3.1 Approval of Leave
  - 3.2 Working Hours
  - 3.3 Employee In/Out Board
  - 3.4 Vehicle Sign Out
  - 3.5 Procedures for accident reporting
  - 3.5 Personal vehicle use
  - 3.6 Inspector Scheduling System
    - 3.6.1 Travel arrangements
    - 3.6.2 Approval requests
- 4.0 Explain Administrative Procedures**
  - 4.1 Forms, training.
  - 4.2 Travel Claims and Advances
  - 4.3 File Register - Correspondence
  - 4.4 Work at home
- 5.0 Review Documents**
  - 5.1 Civil Aviation Rules/Regulations;
  - 5.2 Airworthiness Inspector Manual (Orders);
  - 5.3 Manual of Regulatory Audits (If available);
  - 5.4 MMEL /MEL Policy and Procedures Manual;
  - 5.5 Policy Letters (Aeronautical Information Circulars);
  - 5.6 Advisory Circulars;
  - 5.7 Enforcement/Compliance Manual;
  - 5.8 ICAO Annexes 1 to 18;
  - 5.9 ICAO Documents -
    - a) 9051- AN/896 Airworthiness Technical Manual;
    - b) 9365-AN/910 Manual of All Weather operation;
    - c) 9379-AN/916 Manual for procedures for establishment and management of a state's Personnel Licensing System;
    - d) 9389- AN/919 Manual for procedures for an Airworthiness Organisation;
    - e) 9401- AN/921 Manual on establishment and operation of Aviation Training Centres;
    - f) 9501- AN/929 Environmental Technical Manual on the use of Procedures in the Noise



Certification of Aircraft;

- g) 9574- AN / 934 Manual on implementation of R.V.S.M;
- h) 9642-AN/ 941 Continuing Airworthiness Manual;
- i) 9654-AN/ 945 Manual on prevention of problematic use of substances in the aviation work place;
- j) Circular 253-AN/151 Human Factor Digest No 12 (Human Factor in Aircraft Maintenance and Inspection); and
- k) 7300 Convention on International Civil Aviation.

## 6.0 Training

- 6.1 Review Training Policy Letters
- 6.2 Training Calendar of Courses
  - 6.2.1 Airworthiness Inspector Course;
  - 6.2.2 Advance Airworthiness Inspector Courses (To include- ETOPS, CAT II & III, RVSM/MNPS, and MMEL);
  - 6.2.3 Audit Policy and Procedures Course;
  - 6.2.4 Aircraft Performance Course (Depending on Assigned Duties);
  - 6.2.5 Aircraft Type Training (as required);
  - 6.2.6 Aviation Safety Promotion Course (Depending on Assigned Duties);
  - 6.2.7 Accident Investigation Course (Depending on Assigned Duties); and
  - 6.2.8 Personnel Licensing Course (Depending on Assigned Duties).
- 6.3 Personal Development
  - 6.3.1 Development Course
  - 6.3.2 Computer and Work Processing Courses

## SECTION 2 - AIRWORTHINESS ACTIVITIES (ADMINISTRATION)

- 1.0 Process Applications for Operating Certificates
  - 1.1 Check and confirm application is complete  
Inspector must know:
    - 1.1.1 What comprises a complete application package;
    - 1.1.2 Refer to Certification Manual and Airworthiness Inspector Manual and ICAO Doc 8335;
    - 1.1.3 Details required to complete application; and
    - 1.1.4 What form application should take
  - 1.2 Circulate forms to appropriate branches Inspector must know:
    - 1.2.1 Which sections share certification responsibilities; and
    - 1.2.2 What forms to circulate
  - 1.3 Verify management personnel qualifications Inspector must know:
    - 1.3.1 What qualifications are required from the Regulations; and
    - 1.3.2 Whether the qualifications submitted are consistent with company operations
  - 1.4 Review manuals ensure they are compatible with requirements Inspector must understand:
    - 1.4.1 The requirements of the Regulations;
    - 1.4.2 That the Procedures Manual accurately reflects Air Operator's operation;
    - 1.4.3 Training Manual; and
    - 1.4.4 Complete the check list in respect to this functional area.



**1.5 Recommend required approvals**

Inspector must know:

- 1.5.1 How to make an overall assessment of the company submission to ensure compliance with terms of Approval and applicable Regulations;
- 1.5.2 How to complete all relevant forms;
- 1.5.3 The Five Phase Certification Procedures Order;
- 1.5.4 What approvals are required for each aircraft's Maintenance program;
- 1.5.5 Approve training program which include:
  - (i) A/C Type (To include type course, and simulator/C.P.T experience including ground running of engines.);
  - (ii) MEL; and
  - (iii) Company Procedures.

**1.6 Arrange for Base Inspection**

Inspector must know:

- 1.6.1 How to plan and conduct an initial inspection as per relevant Orders.
- 1.6.2 Who to contact to make arrangements; and
- 1.6.3 Complete check list of relevant functional area.

**1.7 Ensure the file is complete.**

The inspector must know

- 1.7.1 How to make annotations on a file;
- 1.7.2 How to record reference for findings; and
- 1.7.3 Follow up action if any.

**2.0 Process amendments to Engineering Manual and Operations Specifications (or equivalent doc.)**

2.1 Confirm change is consistent with regulations, operation and scope of approval Inspector must know the:

- 2.1.1 Scope of the approval; and
- 2.1.2 Operator's authority.

2.2 Advise operator of necessary changes (if required)





Inspector must know:

- 2.2.1 The standards relative to change requested; and
- 2.2.2 Effective writing techniques.
- 2.3 Verify accuracy of final draft**
- 2.4 Recommend acceptance/approval**
  - 2.4.1 Differentiate between approvals and acceptances; and
  - 2.4.2 Recommendation procedure
- 3.0 Minimum Equipment List Approvals
  - 3.1 Compare proposed MEL to MMEL
    - 3.1.1 Research standards, legislation, requirements and procedures;
    - 3.1.2 Study aircraft systems;
    - 3.1.3 Discuss with appropriate counterpart in Operations Sections;
    - 3.1.4 Purpose of proposed MEL; and
    - 3.1.5 Reference of MMEL.
  - 3.2 Ensure proposed MEL does not conflict with any legislation or design standard
    - 3.2.1 Review pertinent legislation; and
    - 3.2.2 Obtain concurrence from Operations Sections.
  - 3.3 Ensure proposed MEL is appropriate for the operation
    - 3.3.1 Review particular type of operation
- 3.4 **Recommend changes to the MEL**

Inspector must be familiar with:

  - 3.4.1 Minimum equipment required for proposed type of operation
  - 3.4.2 The approving authority for MEL's
- 3.5 **Issue approval**

Follow the normal approval procedure.



- 4.0 Special approval if requested.
- 4.1 Operation in R.V.S.M area and Category II and III operation
  - 4.1.1 The inspector must be aware of the technical requirement
  - 4.1.2 Organisation must prepare and submit specific maintenance programme for approval
  - 4.1.3 Inspector must ensure programme meets the component and Aircraft manufacturer's recommendations and country's Regulations;
  - 4.1.4 Ensure that the operator is equipped to carry out all the inspection items.
  - 4.1.5 Ensure specific training is given to authorized personnel who authorize such flights.
- 5.0 Regulatory Compliance Investigations
  - 5.1 Conduct preliminary investigation
    - 5.1.1 How to collect information
    - 5.1.2 How to complete Preliminary Investigation Report



### SECTION 3 - FIELD ACTIVITIES

- 1.0 Aircraft Inspections
  - 1.1 Inspect aircraft documents
    - 1.1.1 Documents that are required;
    - 1.1.2 C of A requirements;
    - 1.1.3 Registration and leasing requirements;
    - 1.1.4 radio Licence;
    - 1.1.5 Weight and balance report, amendments and validity;
    - 1.1.6 Aircraft flight manual, supplements and amendments;
    - 1.1.7 Journey log, hold items, MEL; and
    - 1.1.8 Release for flight.
  - 1.2 Inspect instrumentation and associated communication and navigation equipment
    - 1.2.1 Instruments and communication/navigation equipment required for the particular type of operation;
    - 1.2.2 Instrument markings;
    - 1.2.3 Compass card validity; and
    - 1.2.4 Auto-pilot/Stabilization Augmentation Systems.
  - 1.3 Inspect emergency equipment and emergency exits
    - 1.3.1 Safety equipment;
    - 1.3.2 Proper exit marking and lighting;
    - 1.3.3 Exit accessibility;
    - 1.3.4 ELT requirements; and
    - 1.3.5 Fire extinguishers.
  - 1.4 Check safety information is available and adequate
    - 1.4.1 Requirements;



- 1.4.2 Acceptable format;
- 1.4.3 Where located; and
- 1.4.4 Passenger, Safety Information Card.
- 1.5 Inspect cargo restraint system and other auxiliary equipment
  - 1.5.1 Operate load release systems;
  - 1.5.2 Restraining loads;
  - 1.5.3 Various methods of restraint;
  - 1.5.4 External load release;
  - 1.5.5 External load methods; and
  - 1.5.6 Segregation (Dangerous Goods).
- 2.0 Ramp Checks
  - 2.1 Documents on board
  - 2.2 Emergency equipments on board.
  - 2.3 Compliment of cabin crew
  - 2.4 External check by crew member
  - 2.5 Release to service by appropriate person
  - 2.6 Use of MEL/ Deferred defect
  - 2.7 Release for special operation like ETOPS, RVSM, Cat II or III etc.



## **CHAPTER 17**

### **CONDUCT OF AN ACCIDENT INVESTIGATION**

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#### **1.0 DEFINITION**

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##### **1.1 AIRCRAFT ACCIDENT:**

An occurrence associated with the operation of an aircraft that:

- \* Takes place between the time the first person boards the aircraft with the intention of flight and the last person has disembarked.
- \* Results in death or serious injury.
- \* Causes substantial damage to the aircraft.

##### **1.2 AIRCRAFT INCIDENT:**

An occurrence, other than an accident, associated with the operation of an aircraft that affects or could affect the safety of operations.

##### **1.3 SERIOUS INJURY:**

An injury that:

- \* Requires hospitalization for more than 48 hours, within 7 days from the date an injury was received.
- \* Results in a fracture of any bone (except simple fractures of fingers, toes, or nose).
- \* Causes severe haemorrhages, and/or nerve, muscle, or tendon damage.
- \* Involves second or third degree burns, or burns affecting more than 5 percent of the body surface.
- \* Involves damage to any internal organ.



## 1.4 SUBSTANTIAL DAMAGE:

Damage or failure that adversely affects the structural strength, performance, or flight characteristics of the aircraft, and that would normally require major repair or replacement of the affected component.

- (a) For the purpose of this task, exceptions to this definition includes:
- \* Engine failure or damage limited to an engine.
  - \* Bent fairings or cowling.
  - \* Dented skin or small puncture holes in the skin or fabric.
  - \* Ground damage to rotor or propeller blades.
  - \* Damage to landing gear, wheels, brakes, tires, flaps, engine accessories, or wing tips.
- (b) Aviation Safety Inspectors are urged to fully consider all aspects of these exceptions before making a final “substantial damage” determination that would classify the occurrence as an incident.

## 2.0 GENERAL

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- 2.1** The primary responsibility of Accident Investigation rests the Accident Investigation Bureau (AIB)
- 2.2** This Order provides general guidance for conducting an accident investigation. NCAA Inspector involvement in accident investigation is basically as members, experts and or loan staff to the team of Accident Investigation Bureau (AIB) investigators.
- 2.3** The Accident Investigation Bureau (AIB) investigator in charge of the investigation is responsible for making a determination of NCAA involvement and will include this in the notification to the NCAA.



**2.4** The NCAA compliance and enforcement programme promotes aviation safety and protects the public interest by seeking compliance with the regulatory requirements through the use of:

- \* Education.
- \* Surveillance.
- \* Enforcement.

**2.5** NCAA actions, from investigation to disposition, must ensure fair and equal treatment for all involved individuals. This requires NCAA employees to approach work objectively and pursue each step of the process without delay.

**2.6 Pre-Accident Plan.**

The NCAA Office should have a pre-accident plan that is tailored to the specific requirement

(e.g., geographic location, climate, staffing, resources, etc.). The success of an accident investigation often depends on how well the pre-accident plan is kept current, rehearsed, and carried out.

**3.0 RESPONSIBILITIES**

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**3.1 NCAA Responsibilities.**

NCAA accident investigation responsibilities include the following:

- (1) Ensuring that:
  - \* All facts and circumstances leading to the accident are recorded and evaluated.
  - \* Actions are taken to prevent similar accidents in the future.



(2) Determining if:

- \* There was a violation of the Civil Aviation (Air Navigation) Regulations.
- \* The performance of NCAA facilities or functions was a factor.
- \* The airworthiness of aircraft was a factor.
- \* The competency of NCAA certificated airmen, air agencies, operators, or an airport was a factor.
- \* The Civil Aviation (Air Navigation) Regulations were adequate.
- \* The airport certification safety standards or operations were involved.
- \* The operator/airport security standards or operations were involved.
- \* Airmen medical qualifications were involved.

**3.2** The NCAA is obligated to supply all resources essential to producing aircraft accident reports, e.g., manpower, travel, inspection, testing, wreckage recovery, security guards, etc. and order such services and commit the funds for these activities.

**3.3.** The authority to conduct autopsies and tests of the remains of persons aboard the aircraft at the time of the accident may be delegated by the Director General to a medically qualified official or medically qualified employee of the NCAA in agreement with AIB. Designated aviation medical examiners are not deemed to be officials or employees for this purpose.

**3.4. NCAA Investigator-In-Charge's Responsibilities.**

The NCAA shall at all times have an Investigator-In-Charge designated as its principal representative. The designation of Investigator-In-Charge constitutes that person's authority to procure and utilize the services of all needed NCAA personnel, facilities, equipment, and records.

- (1) *General responsibilities.* The NCAA Investigator-In-Charge directs and controls all NCAA participation in the investigation until the accident investigation is complete. During the assignment as NCAA Investigator- In- Charge responsibility is direct to the Chairman, Flight Standard Group





### 3.5 NCAA Participant Responsibilities

- (1) Participants are responsible to the Investigator-In-Charge in all matters related to the investigation, to include obtaining consent before:
  - \* Withdrawing from the investigation.
  - \* Submitting requested reports.
  - \* Supplying information or reports to any person outside their assigned group.
- (2) Personnel representing the NCAA organizational element authorized access to the accident scene are subject to the requirements of the above paragraph. These personnel shall provide the Investigator-In-Charge with reproducible copies of all reports that they have prepared or received during the investigation.
- (3) NCAA personnel not specifically assigned as participants or support personnel are not permitted at the scene of an accident without the knowledge and consent of the Investigator-In-Charge.

## 4.0 TYPES OF AIRCRAFT ACCIDENT INVESTIGATIONS

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### 4.1 Military Accident Investigations

- (1) A “function of the NCAA” is defined as involvement of:
  - \* An NCAA employee or designee.
  - \* An NCAA facility.
  - \* NCAA procedures, directives, or publications.
  - \* A NCAA certificated civilian airman.
  - \* A NCAA certificated joint use airport.
  - \* An aircraft and/or equipment common to both civil and military aviation.
  - \* Common interest environmental factors.



- (2) The military commander in charge of the investigation is responsible for making a determination of NCAA involvement and will include this in the notification to the NCAA.
- (3) In a military aircraft (mishap) in which a mutual interest exists but no NCAA function is or may be involved, the NCAA can request to participate in the investigation. Requests for participation shall be forwarded to the appropriate military safety center, following coordination with the NCAA Director General.

#### **4.2 Agricultural Aircraft Accident Investigation.**

- (1) The Investigator-In-Charge should use extreme caution when arriving at an accident site in which an agricultural aircraft is involved, as the site may be contaminated with hazardous chemicals or “economic poisons.” If this is the case, protective clothing or other appropriate cautions may be required during the investigation.
- (2) If there is any question as to what type of substance is on board the aircraft, the Investigator-in-Charge should make every attempt to contract the operator to identify the substance and determine whether there are any associated risks before allowing anyone on the site.

#### **4.3 Foreign Accidents.**

- (1) When Nigerian aircraft are involved in an accident/incident in a foreign country, they will be investigated by the AIB in agreement Local Authority in charge of accident investigation in the country where the accident occurred.
- (2) When foreign-registered aircraft are involved in an accident/incident in Nigeria that accident/incident will be handled the same way as a Nigerian civil aircraft accident/incident investigation.



## 5.0 POST-NOTIFICATION ACTIVITIES

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### 5.1 Investigation Delegates.

Certain steps have to be taken to initiate NCAA involvement in accident investigations. The facilities of an Airport Control Centre (ACC), where one exists, may be used to establish the necessary contacts and coordination with the following:

- (1) Law enforcement or airport authorities for:
  - \* Wreckage and site security.
  - \* Information on accessibility of the accident site and environmental conditions.
  - \* Arrangements for local travel to the site, etc.
- (2) Coroner or nearest Aviation Medical Examiner (AME), for arrangements for proper autopsies and toxicological tests, etc.
- (3) Manufacturer, operator, or owner for specific assistance, such as documents, certificates, data, etc.
- (4) Air Traffic Centre, and tower facilities for:
  - \* Preliminary information on flight plan and pilot's intent.
  - \* Radio communications.
  - \* Flight progress report, etc.
- (5) Weather Service, or certified observers for relevant weather information.

### 5.2 Office Coordination.

- (1) Coordination will be necessary to ensure that response time to an accident investigation is as brief as possible.



- (2) Coordination should be established to give AIB the name of the Investigator-In-Charge and the expected time of arrival. Before departing, the Investigator-In-Charge should designate an initial contact point to which messages can be sent during the transient status.

### 5.3 Investigation Equipment.

The diversity of aircraft accidents makes it difficult to have all the necessary equipment available. Certain items commonly used in every investigation should be kept in readiness. The NCAA Office must develop its own requirement.

### 5.4 Safety at the accident site.

This is an area of vital importance and needs to be addressed by the Investigator-In-Charge when planning the investigation. Aspects to be considered include both inspector and bystander safety.

- (1) Some items to be considered by the Investigator-In-Charge include the following:
  - \* Shifting wreckage on steep slopes.
  - \* Pressurized systems and components, including hydraulic, pneumatic, and oxygen systems.
  - \* Blowout (explosion) of damaged landing gear tyres.
  - \* Ejection seat cartridges in military or ex-military aircraft.
  - \* Loaded weapons, such as when law enforcement agencies or hunters were known to be aboard.
  - \* Electrically charged wreckage.
  - \* Reactions of toxic agents present in a fire.
  - \* Hazardous agricultural chemicals.



- (2) Some actions to be considered by the Investigator-In-Charge include the following:
- \* Wearing gloves when handling wreckage and using hard hats when working inside or under wreckage.
  - \* Delaying the handling of wreckage if there is any reason to suspect the presence of hazardous cargo, including radioactive materials or chemicals, until the necessary checks have been made and the site has been declared safe
  - \* Taking into account the advice of local experts such as law enforcement personnel as to the type of protection and precautions needed in certain terrain.
  - \* Providing for first aid, shelter, food, water, and fuel due to unexpected weather or equipment failures that may isolate the investigation team in remote areas.
  - \* Setting up a communications system for logging-in and logging-out of personnel operating in remote areas.
  - \* Controlling access to the site to ensure bystander safety.

### **5.5 Accident Site Preservation.**

Preservation of the accident site is of primary importance to a successful accident investigation. Removal of survivors and victims', fire fighting, and removal of hazardous materials can damage the accident site, but may be necessary prior to the start of the investigation. The Investigation- In-Charge is responsible for securing the site to ensure preservation.

### **5.6 Rotorcraft Wreckage Considerations.**

The Investigator-In-Charge should be aware that the investigation of a rotorcraft accident may present problems that would not be encountered in an airplane accident investigation. When the Investigator-In-Charge is not thoroughly familiar with rotorcraft engineering and aerodynamics, assistance should be requested. Some unique considerations include the following:



- (1) Rotating components that separate in-flight may produce unpredictable scatter patterns, while the heavy items in single rotor rotorcrafts tend to be clustered together around and beneath the mast.
- (2) In general, a rotorcraft is very intolerant of mechanical and maintenance deficiencies and operations outside of its performance envelope.

## 5.7 Witness Statements

- (1) If a violation is suspected there are additional requirements for the handling of witness statements. These requirements include the following:
  - \* If witnesses object to a copy of their statement being used, they must be informed that they may be subpoenaed if enforcement action is taken.

## 5.8 On site Survey.

During the time spent at the accident site there should be a continual gathering of facts by all involved inspectors. The Investigator-In-Charge should be continually evaluating this evidence for possible consideration as a contributing factor.

- (1) Some evidence to be considered includes the following:
  - \* Missing extremities such as wing or stabilizer tips, vertical stabilizer tip, propeller or rotor tips.
  - \* Missing flight control surfaces such as rudder, elevators, ailerons, flaps, stabilizers, spoilers, slats, tabs.
  - \* Missing structure.
  - \* Pre-impact versus post-crash fire evidence.
  - \* Metal fatigue versus instantaneous breaks.
  - \* In-flight versus impact breaks
  - \* Positive versus negative G-forces.
  - \* Overloading or out of centre-of -gravity evidence.



- \* Evidence of aircraft attitude at impact.
  - \* Controlled versus uncontrolled attitude at impact.
  - \* Engine power at impact.
  - \* Systems operation prior to impact.
  - \* Evidence of G-force at impact.
  - \* Post-crash flight control positions.
  - \* Cockpit documentation.
  - \* Evidence of impact prior to final terrain contact, such as damage to trees, wires, buildings, terrain, poles, or obstructions.
  - \* Witness statements.
  - \* Fuel contamination or exhaustion
- 2) Accident probable cause statistics show that a high percentage of accidents are caused by human error. Therefore the Investigator-In-Charge must consider other elements that could have contributed to the cause of the accident. The following is a partial list of areas of consideration:
- \* Possible fatigue factors.
  - \* Crew qualifications.
  - \* Medical factors.
  - \* Peer group pressures.
  - \* Over extension of capabilities.
  - \* Drug and/or alcohol usage.



## 6.0 POST ON-SITE INVESTIGATION ACTIVITIES.

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The Investigator-In-Charge's responsibilities do not end with the conclusion of the on-site investigation. Some of the activities necessary after completion of the on-site investigation might include:

- \* Testing and teardown of aircraft components and parts in accordance with the manufacturer's manuals.
- \* Comparing the aircraft's certificated performance with the performance under the conditions existing at the time of the accident. Simulator or actual flight tests may be required.
- \* Reviewing all relevant certification standards (aircraft, airmen, operators, airport facilities, schools, repair stations, etc.) for factors that may have contributed to the accident.
- \* Documenting the pilot's flying background, experience, training, medical history, and certification.
- \* Documenting the pilot's preparation and execution of the flight. This could entail contacting the Tower and Air Traffic Centre facilities involved, and obtaining final transcripts of all recorded communication, as required.
- \* Documenting all pertinent weather data, such as pilot briefings, forecast weather, actual weather, PIREP's, SIGMET's etc.
- \* Submitting safety proposals in the form of accident prevention recommendations.

## 7.0 VIOLATIONS

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If, at any time during the investigation, facts are revealed that indicate a violation of the Civil Aviation (Air Navigation) the Investigator-In-Charger should notify the Chairman, Flight Standard Group and the Director General.





## 8.0 DOWNGRADING AN ACCIDENT TO AN INCIDENT.

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If a determination is made that the incident should be downgraded to incident status, the AIB Investigator-In-Charge will:

- \* Coordinate with the NCAA Representatives for a joint agreement on this decision.
- \* The AIB will formally in writing hand over the investigation to NCAA for further investigation.
- \* Follow the procedures outlined in, Conduct of an Incident Investigation.

## 9.0 ACCIDENT INVESTIGATION RECORDS DISPOSAL.

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Accident investigation records shall be retained in the Flight Standard Group Office for a minimum of five (5) years.

## 10. PREREQUISITES AND COORDINATION REQUIREMENTS.

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### 10.1 Prerequisites

- \* Knowledge of the regulatory requirements of the Nigerian Civil Aviation Regulations.
- \* Successful completion of an Inspector's Indoctrination Course for General Aviation and Air Carrier Inspections, or previous equivalent.
- \* Successful completion of Aircraft Accident Investigation Course and or other relevant courses/ experience necessary for accident investigation.

### 10.2 Coordination.

This task requires coordination with the Director General, Director, Flight Standard Group Directors, the involved Airport Authority and Air traffic control facility.

### 10.3 References

- \* The Nigeria Civil Aviation Regulations.
- \* Technical guidance materials.



## 11.0 PROCEDURES

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### 11.1 Receive Initial Notification.

- (1) Record the initial accident information.
- (2) Determine the type of accident, such as:
  - \* Transport or Aerial Work Category
  - \* Agricultural.
  - \* Military.
- (3) Notify the Chairman of Flight Standard Group to contact the appropriate personnel and agencies as required by the category of accident. If the aircraft is a foreign registered aircraft, after receiving authorization from the AIB, contact the Accident Investigation Agency and Regulatory Authority of registry with the invitation to participate in the investigation.
  - \* Determine NCAA responsibility in accordance with office policy.
- (4) Assignment of the NCAA Investigator-In-Charge by the Chairman of Flight Standard Group
- (5) Contact the aircraft and power plant manufacturers and invite their participation in the investigation in agreement with the AIB

### 11.2 Initiate Organization of Investigation

- (1) If the accident involves an Air Traffic Centre, the Investigator-In-Charge should request the following information, as required:
  - \* Flight progress strips.
  - \* Air Traffic Centre tapes.
  - \* Radar printouts.
  - \* Weather information.



- (2) Determine what specialties will be required based on the initial accident information submitted (e.g., operations, airworthiness, avionics, aviation medical examiner (AME), coroner, pathologist, etc.).
- (3) Brief all participants on their responsibilities and the preliminary accident information.
- (4) Contact the nearest local law enforcement agency and/or airport security to:
  - (a) Provide accident site security until the arrival of Team of Accident Investigators.
  - (b) Ensure that rescue operations have been initiated.
    - \* If rescue operations have not been initiated, take the necessary steps to begin rescue operations, if necessary.
    - \* Determine if specialized personnel and/or equipment are required to begin or continue rescue operations.
- (5) Obtain the accident investigation kit from the office and proceed to the accident site.

### 11.3 Perform Preliminary on Site Investigation.

**NOTE: The Investigator-In-Charge must ensure that sufficient data is gathered to complete an aircraft report.**

- (1) Determine if the accident site is safe for performance of investigation procedures.
  - (a) If it has been determined that the aircraft accident site is not safe for the preliminary investigation, contact the appropriate, local, authorities for assistance in controlling the hazard.
  - (b) If it has been determined that the aircraft accident site is safe for the investigation procedures, continue with preliminary investigation.



- (2) Ensure accident site security has been properly established.
- (3) Conduct an on-site briefing of participants, to include:
  - (a) Assigning responsibilities to each of the participant (e.g., photographic, witness statement, etc.)
  - (b) Assigning a time and place to meet after the preliminary investigation has been completed.
  - (c) Passing out any forms, instructions, or other material for participants to accomplish their assigned duties.
- (4) Determine the circumstances and factors surrounding the condition of personnel aboard aircraft, to include possible medical laboratory analysis, such as:
  - \* Passengers - toxicity.
  - \* Crewmembers - drug, alcohol, etc.
- (5) Determine the status of fatalities and injured, if applicable, to include:
  - (a) Who the medical personnel working at the accident site are/were.
  - (b) Where injured were taken.
  - (c) Where remains have been taken and if autopsies are required. If autopsies are required:
    - \* Make necessary arrangements.
    - \* Provide toxicology kit for crewmember autopsies.



- (6) Determine if mechanical laboratory analysis may be needed and how specimens will be obtained and transported, to include:
  - \*Fuel samples.
  - \*Oil samples.
  - \*Metallurgy tests.
- (7) Ensure that the Emergency Locator Transmitter (ELT) has been deactivated.
- (8) Ensure that Cockpit Voice Recorder (CVR) and Flight Data Recorder (FDR) have been deactivated, if applicable.
- (9) Obtain the aircraft type, model, registration number, and serial number.
- (10) Ensure that personal items have been tagged and secured.
- (11) Obtain any eyewitness and survivor statements, to include the following:
  - (a) Securing copies of statements made prior to the inspector's arrival.
  - (b) Recording the names, addresses, and phone numbers of any eyewitnesses, survivors, relatives, etc., as applicable.
- (12) Determine the type of cargo, such as:
  - \* Hazardous materials.
  - \* Passenger baggage.
  - \* Livestock.
  - \* General cargo.
- (13) If a fire was involved, determine how the fire was started.
- (14) Obtain all of the required weather information.



- (15) Assess the topographical features of the accident site, such as:
  - \* Visible damage path.
  - \* Actual location of wreckage.
  - \* Obstructions.
- (16) Determine if engineering assistance is required. Contact the Director General for list of DERs in the United States if engineering assistance is required. Arrange for a qualified DER to participate in the investigation.
- (17) Photograph the wreckage and any area associated with the accident to obtain an overall view of the site.
- (18) Prepare a wreckage distribution diagram which includes, if appropriate, body distribution.
- (19) Secure the aircraft records and pilot logbooks, if available.

#### **11.4 Perform Wreckage Investigation.**

- (1) Record external flight control positions (e.g., rudder, elevators, ailerons, flaps, slats, spoilers, stabilizers, tabs, etc.). Tag any parts as necessary.
- (2) Record all of the data from the cockpit flight control indicators.
- (3) Document the cockpit instrument readings.
- (4) Document the condition of cabin/cockpit area.
- (5) Document the burn pattern, if applicable.
- (6) Identify and document any structural failures and missing components.
- (7) Determine and record the amount of remaining fuel.
- (8) Obtain fuel, oil, and hydraulic fluid samples, as required.



### 11.5 Conclude Field Phase Investigation.

- (1) Release of Aircraft Wreckage and/or Parts, to the owner or the owner's designated representative.
- (2) Release the wreckage if the occurrence has been downgraded to an incident.
- (3) Review the witness statement to determine if the following is required:
  - \* Re-interviewing of important witness.
  - \* Acquiring additional witness statement.
- (4) Obtain preliminary findings of pathologist, coroner, or medical examiner, including crash injury information, as applicable.
- (5) Obtain preliminary toxicology results from laboratory.
- (6) Interview injured occupants, if applicable.

**NOTE: Consent of the treating physician may be required.**

- (7) Obtain injury status of all surviving aircraft occupants, if applicable.
- (8) Request copies of the activity logs and investigative reports of involved law enforcement agencies, fire fighting, rescue services, and search and rescue organizations, as applicable.
- (9) Obtain and review copies of pertinent newspaper photographs and other media recordings, to check for items that may require follow-up.
- (10) Obtain appropriate local maps (city, airport, topographical, aeronautical, etc.) and/or aerial photographs.
- (11) Obtain data or information from the pilot's last departure point or home base (aircraft loading, refueling, maintenance, pilot's intent, etc.).



- (12) Review the Accident Report Information and all applicable report supplements to ensure that all locally available data is documented or requested. This applies especially to:
  - (a) Pilot training, certification, experience, background, medical condition, etc.
  - (b) Aircraft registration, airworthiness certificates, aircraft records, etc.
  - (c) Air Traffic Center communication, flight tracking, etc.
  - (d) Weather information.
  - (e) Airport conditions at the time of accident.
  - (f) Condition of pertinent NAVAIDS, ILS, etc.
- (13) Invite appropriate participants to observe the teardown or testing of retained parts and to participate in other follow-up activities, as applicable.
- (14) Confirm any agreement made to forward copies of specified documents, records, and manuals directly to the Investigator-In-Charge.
- (15) Obtain the necessary information and documentation needed to fulfill all of the NCAA financial obligations, to include:
  - \* Guard services.
  - \* Assistance from hired personnel.
  - \* Rental equipment.
  - \* Storage and transport of wreckage.
- (16) Inform the Director, Airworthiness Standards of the status of the investigation, to include:
  - \* Current findings.
  - \* Additional required tasks.





\* Estimated time of return to the office or next destination.

(17) Debrief all NCAA participants prior to their departure from the accident site.

## 12.0 TASK OUTCOMES

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12.1 Completion of this task will result in the following:

- (1) Completion of Accident Report. Do not release the report until all NCAA deficiencies uncovered in the investigation have been reviewed and comments made by the appropriate personnel.
- (2) A letter that includes recommendations for accident prevention.

12.2 Document the Task. Place a copy of all aircraft accident investigation related material in the appropriate office file.

## 13.0 FUTURE ACTIVITIES

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13.1 Conduct a violation investigation as applicable.



## **CHAPTER 18**

### **CONDUCT OF AN INCIDENT INVESTIGATION**

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#### **1.0 DEFINITION**

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##### **1.1 Aircraft incident:**

An occurrence, other than an accident, associated with the operation of an aircraft that affects or could affect the safety of operations. See Section 1 of this Chapter for the definition of an aircraft accident.

##### **1.2 Aircraft accident:**

An occurrence associated with the operation of an aircraft that:

- \* Takes place between the time the first person boards the aircraft with the intention of flight and the last person has disembarked.
- \* Results in death or serious injury.
- \* Causes substantial damage to the aircraft.

#### **2.0 PURPOSE**

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This Section provides guidance for conducting an incident investigation.

#### **3.0 GENERAL**

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##### **3.1 Pre-Incident Plan.**

A pre-incident plan should be developed by the Safety Deficiencies and Incident Analysis Unit (SDIA Unit) of NCAA and should reflect specific requirements (e.g., staffing, resources, etc.). The success of an incident investigation often depends on how well the pre-incident plan is kept current, rehearsed, and carried out.



## 4.0 RESPONSIBILITIES

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### 4.1 NCAA Responsibilities.

NCAA incident investigation responsibilities include the following:

- (1) To ensure that:
  - ◆ All facts and circumstances leading to the incident are recorded and evaluated.
  - ◆ Actions are taken to prevent similar incidents in the future.
- (2) To determine if:
  - ◆ There was a violation of the Nigerian Civil Aviation Regulations.
  - ◆ The performance of NCAA facilities or functions was a factor.
  - ◆ The airworthiness of aircraft was a factor.
  - ◆ The competency of NCAA certificated airmen, approved maintenance organizations, Air Operator Certificate holders, or airport was a factor.
  - ◆ The Nigerian Civil Aviation Regulations were adequate.
  - ◆ The airport certification safety standards or operations were involved.
  - ◆ The operator/airport security standards or operations were involved.
  - ◆ Airmen medical qualifications were involved.

### 4.2 Investigator-In-Charge's Responsibilities

- (1) The NCAA will at all times have an Investigator-In-Charge designated by the Director, Airworthiness Standards as the principal representative. The designation as Investigator-In-Charge constitutes that person's authority to procure and utilize the services of all needed NCAA personnel, facilities, equipment, and records.



- (2) The Investigator-In-Charge directs and controls all NCAA participation until the incident investigation is complete. During the assignment as Investigator-In-Charge, responsibility is direct to the Director, Airworthiness Standards.

C. NCAA Participant Responsibilities

- (1) Participants are accountable to the Investigator-In-Charge in all matters related to the investigation. Participants cannot withdraw from the investigation without the concurrence of the Investigator-In-Charge. Participants will submit reports when requested by the Investigator-In-Charge.
- (2) Participants will not supply information or reports to any person except with the full knowledge and consent of the Investigator-In-Charge.
- (3) Personnel representing the NCAA organizational element authorized access to the incident scene are subject to the requirements of paragraph (1) and (2) above. These personnel must provide the Investigator-In-Charge with reproducible copies of all reports that they have prepared or received during the investigation.
- (4) NCAA personnel not specifically assigned as participants or support personnel are not permitted at the scene of an accident/incident without the knowledge and consent of the Investigator-In-Charge.

D. Other Agency or Organization Responsibilities.

- (1) Air Traffic Managers are responsible for the investigation and reporting of incidents that involve only air traffic function (e.g., operational errors/deviations).
  - (a) The Investigator-In-Charge must determine the extent of investigation necessary before requesting an Air Traffic package. When Air Traffic provides notification of an incident, the Director, Airworthiness Standards will inform the reporting facility of the final disposition of the incident.



- (b) When Air Traffic personnel or facilities are involved, the Investigator-In-Charge will afford such parties an opportunity to provide comment and will indicate on the report that this opportunity was given.
  
- (2) The Airports Authority will be notified by the Investigator-In-Charge when functions of those offices are involved in the incident.

## 5.0 TYPES OF INCIDENT INVESTIGATIONS.

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The type of incident refers to the immediate circumstances of the incident, not the cause. The following are some of the different classifications that might be encountered:

- \* Aircraft that have been damaged but do not meet the definitions of an accident, including the exceptions listed under substantial damage in this Chapter, Section 1.
- \* Incidents involving military aircraft.
- \* Foreign air operator incidents.
- \* Near midair collisions.
- \* Emergency evacuations.
- \* Parachute jumping.
- \* Reckless flying.

## 6.0 METHOD OF INVESTIGATION

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The type of incident will dictate what action the Investigator-In-Charge should take (e.g., on site investigation, desk audit).

- A. Desk Audit.  
The Investigator-In-Charge can usually conduct the entire investigation from the office (desk audit). When specific airman or aircraft data is required during a desk audit, the information should be obtained from the Licensing Officer or the office in charge of aircraft registration.



**B. On-Site Investigation.**

Although most incident investigations can be handled by the use of a desk audit, there will be circumstances that require an on-site investigation.

The Investigator-In- Charge determines whether an on-site investigation is necessary based on the initial information received regarding the incident. Circumstances that might preclude a desk audit can be based on the following variables:

- (1) Whether the incident involves aircraft damage.
- 2) Whether there was an emergency evacuation.
- (3) Whether the Director, Airworthiness Standards dictates the method based on the following:
  - \* The geographic location.
  - \* The type of incident.
  - \* The depth of the NCAA involvement.

**C. Organizing the Investigation.**

Organizing an incident investigation is a process that begins with the initial notification and continues throughout the investigation. There may be occasions when the Investigator-In-Charge is the only participant in the investigation. In this instance, the Investigator-In-Charge should still formulate a plan that can be followed throughout the investigation.

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**7. POST-NOTIFICATION ACTIVITIES.**

**A. Incident Investigations.**

Certain steps have to be taken to initiate an incident investigation. The facilities of an Airport Control Centre (ACC), where one exists, may be used in establishing the necessary contacts and coordination with the following, as applicable:



- (1) Law enforcement or airport authorities for:
  - \* Site security.
  - \* Information on accessibility of the site and environmental conditions.
  - \* Arrangements for local travel to the site, etc.
- (2) Nearest Aviation Medical Examiner (AME), for arrangements for toxicological tests.
- (3) Manufacturer, operator, or owner for specific assistance, such as documents, certificates, data, etc.
- (4) Tower facilities for:
  - \* Preliminary information on flight plan and pilot's intent.
  - \* Radio communications.
  - \* Flight progress reports, etc.
- (5) Weather service or certified observers for relevant weather information.

**B. Office Coordination**

- (1) Coordination will be necessary to ensure that response time to an incident investigation is done in a timely manner.
- (2) Coordination should be established to give local authorities the name of the Investigator-In-Charge and the expected time of arrival. Before departing, the Investigator-In-Charge should designate an initial contact point to which messages can be sent during the transient status.

**C. Investigation Equipment.**

The diversity of aircraft incidents makes it difficult to have all the necessary equipment available. Certain items commonly used in every investigation should be kept in readiness.



D. Safety at the Site.

This is an area of vital importance and should be addressed by the Investigator-In-Charge when planning the investigation activities. Aspects to be considered include both ASI and bystander safety.

(1) The Investigator-In-Charge's responsibility will include planning for the following possible on-site hazards:

- \* Pressurized systems and components, including hydraulic, pneumatic, and oxygen systems.
- \* Blowout (explosion) of damaged landing gear tires.
- \* Sharp, jagged pieces of metal.
- \* Reactions of toxic agents present in a fire.
- \* Hazardous agricultural chemicals.

(2) Additional consideration to be taken by the Investigator-In-Charge include the following:

- \* Delaying the handling of materials if there is the slightest reason to suspect the presence of hazardous cargo, including radioactive materials or chemicals. The delay should last until the necessary checks have been made and the site has been declared safe.
- \* Taking into account the advice of local experts, such as Aviation Medical Examiners (AMEs), industrial hygienists, surveyors, and law enforcement personnel, as to the type of protection and precautions needed in certain terrain.
- \* Ensuring that all personnel use personal protection against possible contamination by communicable disease.
- \* Securing all critical areas to ensure bystander safety.





E. Pilot Deviations.

- (1) If the incident involves a pilot deviation or operational error, certified true copies of the following should be requested from the reporting Air Traffic Facility, as applicable:
  - \* Pertinent Air Traffic Centre flight progress strips.
  - \* Communication tapes.
  - \* Radar printouts.
- (2) These items should be sent to the Office of DAWS as soon as possible so that the Investigator-In-Charge can use them for the investigation. These items will become a part of the final report.

F. Analysis Considerations.

During the documentation and investigation process certain evidence will require a more detailed examination. The Investigator-In-Charge should be continually evaluating evidence as a possible contributing factor.

G. Incident Reports.

The Investigator-In-Charge is responsible for the report.

- (1) This report must be submitted after the completion of the investigation and must contain the facts, conditions, and circumstances disclosed by the investigation.
- (2) The Office of DAWS will determine the accident prevention recommendations from the contents of this report. Therefore, the incident report must be an accurate reflection of all pertinent data and reports collected by the NCAA investigation team.



## 8. WITNESS STATEMENTS

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- A. If a violation is suspected, there are additional requirements for the handling of witness statement. These requirements include the following:
- ◆ If witnesses object to a copy of their statement being used, they must be informed that they may be subpoenaed if enforcement action is taken.
  - ◆ When taking witness statements over the telephone, make an accurate record of the telephone call.

## 9. VIOLATIONS.

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If at any time during the investigation facts are revealed that indicates a possible violation of the Nigerian Civil Aviation Regulations, the Investigator-In-Charge must follow the procedures in this Handbook, Chapter 6, Section 3.

## 10. UPGRADING AN INCIDENT TO AN ACCIDENT.

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If the investigation reveals facts that would indicate an upgrade to an accident, the Investigator-In-Charge must:

- ◆ Notify the Director General and Director, Airworthiness Standards.
- ◆ After the upgrade, proceed with the produced outlined in this Handbook, Chapter 6, Section 1.

## 11. PREREQUISITES AND COORDINATION REQUIREMENTS

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A. Prerequisites

- ◆ Knowledge of the Nigeria Civil Aviation Regulations.
- ◆ Successful completion of an Airworthiness Inspectors Indoctrination Course or equivalent.

B. Coordination.

This task requires coordination with other operations and airworthiness inspectors and the Director, Airworthiness and Operations Standards.



## 12. REFERENCES

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### A. References.

- ◆ Nigeria Civil Aviation Regulations.
- ◆ Technical guidance material.
- \* [Form AC-AWS038](#)

## 13. PROCEDURES

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### A. Receive the Initial Notification.

### B. Record the initial incident information.

- (1) If the notification is made by an Air Traffic (AT) facility request the following data:
  - ◆ Flight progress strips.
  - ◆ Air Traffic Centre tapes.
  - ◆ Radar printouts.
  - ◆ Weather information
- (2) If the incident involves an operational error and/or deviation, determine when the Air Traffic facility is going to submit a report.
- (3) If notification is made by a source other than an Air Traffic facility, accomplish the following:
  - (a) Notify the Director, Airworthiness Standards.
  - (b) Notify the responsible Air Traffic facility and request that certified true copies of the following is submitted:
    - ◆ Flight progress strips.
    - ◆ Air Traffic Centre tapes.
    - ◆ Radar printouts.



- ◆ Weather information.

B. Determine the NCAA Involvement in the Investigation.

If the incident does not involve aircraft damage or is an operational error/deviation, determine the most effective method of investigation.

C. Classify the Occurrence.

Based on the preliminary information, determine whether the occurrence fits the definition of an incident.

- (1) If the occurrence should be classified as an incident, proceed with the following steps.
- (2) If the occurrence should be classified as an accident, refer to this Handbook, Chapter 6, Section 1.

D. Review the Air Traffic Facility Reports and Other Related Information.

Upon receipt of the requested forms and reports, determine the NCAA involvement in the investigation and review the following for statistical data:

- ◆ Location of occurrence.
- ◆ Time of occurrence.
- ◆ Weather conditions at time of occurrence.
- ◆ Other information pertinent to the investigation.

E. Determine the Method of Investigation.

Base the decision regarding the method of investigation on the information obtained from the reports and personal judgment.

- (1) If an on-site investigation is not necessary, conduct the investigation by telephone.



- (2) If an on-site investigation is necessary, organize the investigation accordingly.

F. Organize the Incident Investigation.

Organize the incident investigation based on the information received from the reporting facility or person.

- (1) Determine what specialties or other participants are required (e.g., operations, airworthiness, avionics, aviation medicine, etc.).
- (2) Make the request for technical support from the Director, Airworthiness Standards.
- (3) Brief all participants on the preliminary incident information and their associated responsibilities.
- (4) If the investigation requires an on-site investigation, make the necessary preparations.

G. Initiate a Telephone Investigation.

Contact each of the owners and/or pilots and all identified witnesses for statements regarding the incident.

- (1) Record all pertinent information concerning the witness, including the witness's name, address, and a telephone number for future contact.
- (2) Document the date and time of the occurrence and request a written statement, if required and the witness is willing.

H. Prepare for an On-Site Investigation.

Before leaving the office for the incident site, accomplish the following:

- (1) Obtain office accident/incident investigation kit.



(2) Contact the Director, Airworthiness Standards and provide the following:

- ◆ The location of the on-site investigation.
- ◆ The estimated time of arrival.
- ◆ A list of all persons from the office that will be on-site.
- ◆ The known background information regarding the incident.
- ◆ The estimated time of return, if known.

I. Conduct the Investigation.

- (1) Brief all participants, as appropriate.
- (2) Contact the involved parties and obtain witness statements.
- (3) If an on-site investigation, take pictures using the office camera or make arrangements for another participant to take the pictures.
- (4) Obtain any supporting data concerning the aircraft, pilot, weather, etc.
- (5) If crewmen incapacitation was a possible factor, notify the NCAA Medical Examiner.
- (6) If Air Traffic personnel or facilities are involved, request comments from the appropriate Air Traffic facility.

#### 14. TASK OUTCOMES

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- (1) Completion of an incident report.
- (2) When Air Traffic personnel or facilities are involved, handle Air Traffic comments as follows:
  - (a) If the Air Traffic facility does not submit any comments indicate that an opportunity for comments was afforded but refused.



(b) If the Air Traffic facility does submit comments, include those comments as an attachment to the incident report.

- (3) Initiation of medical response if medical certification factors were involved.
- (4) Initiation of violation investigation if a violation of Civil Aviation (Air Navigation) Regulations is suspected.
- (5) Document the Task. File all supporting paperwork in the operator/certificate holder's office file, as applicable.

#### **15. FUTURE ACTIVITIES**

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Conduct a violation investigation, if required.



## CHAPTER 19

### PROCESSING OCCURRENCE REPORTS

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#### 1.0 PURPOSE

This chapter describes the steps necessary to process the Mandatory Occurrence Report (MOR.), Service Difficulty Report (SDR), Bird Strike Report, Dangerous Goods Occurrence Report and other Occurrence Reports.

#### 2.0 REFERENCE

- 2.1 Civil Aviation Act 2006;
- 2.2 ICAO Annex 6, Part 1, Chapter 8;
- 2.3 ICAO Document 9389-AN/919, Chapter 4, Attachment 4-A Appendix 4-A-1;
- 2.4 ICAO Document 9642-A/94, Part II, and Chapter 1;
- 2.5 [Part 9](#) of the Nigeria Civil Aviation Regulations;
- 2.6 [Part 8](#) of the Nigeria Civil Aviation Regulations;
- 2.7 [Part 6](#) of the Nigeria Civil Aviation Regulations;
- 2.8 [Part 5](#) of the Nigeria Civil Aviation Regulations.
- 2.9 CHECKLIST: [CL: O- AWS017](#)
- 2.10 FORM: [FORM: AC-AWS038](#)

#### 3.0 GENERAL.

- 3.1 The completion of an Occurrence Report requires careful review of the reported discrepancy and supporting data. An effective evaluation of the extent of the problem and its causes is essential for determining corrective action.
- 3.2 **Evaluating Operator Report.**  
An operator may choose the format used for reporting an occurrence from the occurrence reporting forms. Nigeria Civil Aviation Regulations Part 5,6,8,9 lists reportable occurrences and the corresponding regulatory requirements. The inspector must review the submitted report to determine if a Mandatory Occurrence Report is necessary.





### 3.3 Reporting of Significant Problems.

If the initial evaluation indicates a serious airworthiness problem, the inspector should immediately contact the Civil Aviation Authority for the State of Design of the aircraft, aircraft engine, propeller or appliance involved. The Civil Aviation Authority Engineering Department responsible for the product must be informed of the equipment Service Difficulty and any recommendations for corrective action.

Corrective action recommendations may include the following:

- ◆ Product modifications.
- ◆ Revised inspection techniques.
- ◆ Directed safety investigations.

### 3.4 Checking for Trends.

The inspector should review prior reports for possible trends, e.g., vendor problems, manufacturer equipment problems, training, and/or procedural problems.

## 4.0 PREREQUISITES AND COORDINATION REQUIREMENTS

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### 4.1 Prerequisites

- \* Knowledge of the equipment involved.
- \* Knowledge of the Nigerian Civil Aviation Regulations.

### 4.2 Co-ordination.

- \* This task may require coordination with DAWS, DOT, DAAS and DOL Aviation Safety Inspectors, State of Design involved, and equipment manufacturers.

## 5.0 REFERENCES AND FORM

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### 5.1 References

- \* Appropriate ICAO documents
- \* Appropriate Nigeria Civil Aviation Regulations.
- \* Manufacturers and Operators manuals.



## 5.2 Forms

- \* Service Difficulty Report – Form: AC OPS007A
- \* Dangerous Goods Occurrence Report – Form: AC OPS007B

## 6.0 PROCEDURES

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### 6.1 Submission of Occurrence Reports

- a) The Quality Assurance Manager (QAM) of the operator is responsible for reporting all Mandatory Occurrence Reports (MOR) to the NCAA. The MOR(s) will be made on NCAA Occurrence reporting forms AC-OPS031, AC-OPS031A, AC- OP031B, AC-OP031C in accordance with the Nigeria Civil Aviation Regulations.
- b) The completed forms should be dispatched to the Chairman Flight Standard Group (FSG) as soon as possible but not later than 3 days from the time of the incident. This should not be delayed due to rectification or investigation details not being available. A supplementary report with those details should be sent to the NCAA when they become known. On the receipt of the MOR, the Chairman FSG will immediately forward it to the Safety Deficiencies and Incident Analysis Unit for necessary actions.

### 6.2 Review the Operator Report.

Review the submitted report to determine if an Occurrence Report is required. Examine the following:

- \* The level of detail provided.
- \* Suitability of suggested corrective action.
- \* Programs for routine and non-routine maintenance.
- \* Contractual arrangements
- \* Training programs.
- \* Enforcement of non-compliance findings.

### 6.3 Conduct an Investigation and Notification.

- (1) If the evaluation indicates that follow up action is required to determine the cause Of the occurrence, inspect the following areas, as applicable:



- \* Aircraft, engine, propeller, components and accessories.
- \* Appropriate maintenance records.
  
- \* Maintenance procedures.
- \* Training procedures and records.
- \* Vendor sources

(2) If the evaluation indicates an accident or serious incident, notify the Accident Investigation Bureau (AIB) immediately.

(3) Evaluate report and cross check list of ICAO reportable incidents. If the evaluation indicates a reportable incident to ICAO, notify ICAO immediately.

#### **6.4 Identify and Correct Discrepancies**

(1) If the investigation reveals inadequacies in the operator's maintenance or inspection procedures, ensure that procedures are changed to prevent a recurrence of the discrepancy.

(2) If the investigation reveals a lack of training and/or inadequate training, the training program must be evaluated and procedural changes incorporated to correct the deficient areas.

(3) If the investigation reveals a serious manufacturing defect, contact the following immediately:

- ◆ The Director of Airworthiness Standards.
- ◆ Civil Aviation Authority for the State of Design
- ◆ The appropriate manufacturer involved.

(4) If the investigation reveals inadequacies or discrepancies in the airspace and aerodrome standards, contact the following immediately:

- ◆ The Director of Airspace and Aerodrome Standards.
- ◆ Nigerian Airspace Management Agency.
- ◆ Federal Airports Authority of Nigeria.

(5) If the investigation reveals discrepancies in Personnel Licensing and Aero Medicals, contact the following immediately:

- ◆ The Director of Licensing.



(6) If the investigation reveals discrepancies in Operations and Training, contact the following immediately:

- ◆ The Director of Operations and Training.

## 7.0 TASK OUTCOMES.

---

7.1 Completion of this task may result in the following:

- ◆ Follow-up action for discrepancies.
- ◆ Enforcement action for regulatory non-compliance.

### 7.2 Complete Occurrence Report.

Ensure that all related information is completed, including all recommendations and operator's data. Forward the completed package to the Civil Aviation Authority for the State of Design and Type Certificate (TC) holder as applicable.

### 7.3. Document the Task.

- ◆ Enter the report in the NCAA incident database.
- ◆ Retain the operator's report in the Operators NCAA office occurrence file and a copy of the Occurrence Report dispatched for follow ups and notifications.

## 8.0 NCAA INTERNAL OCCURRENCE PROCESSING PROCEDURES

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8.1 Occurrence Reports contain information pertaining to aviation events (accidents, incidents or mechanical failures) related to the safety of aircraft operations. The Nigerian Civil Aviation Regulations requires all Air Operators to provide the Authority with a Mandatory Occurrence Report (MOR) whenever certain situations warrant. It is the operator's responsibility to close out the MOR with appropriate action. If the NCAA believes additional action by the operator is necessary, the operator will be so informed.

8.2 All inspectors are expected to become familiar with the following internal (NCAA) evaluation and processing of an operator's MOR:

- All Occurrence reports received by the NCAA will be routed to the Safety Deficiencies and Incident Analysis Unit (SDIA Unit) for review and processing;
- Upon receipt of an Occurrence report, the SDIA unit will:



1. Ensure that the data from the report is entered appropriately to the NCAA incident Database.
  2. A copy of each report is provided to the inspector responsible for the Operator in the SDIA unit for evaluation, conduct an investigation and follow-up actions as may be required.
  3. Determine the cause of the occurrence. If the cause was not due to human error or procedural deficiencies and appropriate action was taken by the operator - closeout the incident report. If it was caused by human error or procedural deficiencies - conduct investigation and recommend appropriate measures for NCAA action (if acceptable action was taken by the operator, send the operator a close-out letter of correction (LOC).
  4. A copy of each report is provided to the Operators Principal Maintenance Inspector (PMI)/ Principal Avionics Inspector (PAI)/ Principal Operations Inspector, Aero-medical department or the Directorate of Airspace and Aerodrome Standards as applicable for follow-up monitoring.
  5. Ensure that the original copy is filed appropriately to the Operator's NCAA Occurrence file.
  6. Review the status of "open" Occurrence reports weekly during the SDIA unit meeting.
  7. Review the status of "open" Occurrence reports, Analysis and Recommendations during the Flight Standard Group (FSG) meetings.
  8. Review the status of Occurrence reports, Analysis and Recommendations during the State Safety Program meetings.
  9. Notify the Aircraft/ Equipment manufacturer if the occurrence is due to component defect.
  10. Notify CAA of Aircraft State of registry if the occurrence is with a foreign registered aircraft.
  11. Notify ICAO if the occurrence is in ICAO list of reportable incidents.
- c) The NCAA incident database update will be made available to every Aviation Safety Inspector for update information and follow-up monitoring.



## CHAPTER 20

### SPECIAL FLIGHT PERMIT

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#### 1.0 PURPOSE

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This section provides guidance for evaluating an application for a special flight permit in accordance with Nig. CARs [Part 5](#).

Reference: CHECKLIST [CL:O-AWS012](#), FORMS [AC-AWS004](#), [AC-AWS004A](#)

#### 2.0 GENERAL

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- A. Definition: Damaged aircraft - An Aircraft that has sustained physical damage or has inoperative/malfunctioning equipment.
- B. Issuance. The authorizing statute does not automatically authorize the issuance of permits to all eligible operators.
- C. Eligibility
  - (1) **The special flight permit shall be issued for the purpose of:**
    - a) Relocating aircraft to a base where repairs modifications or maintenance are to be performed, or to a point of storage.
    - b) Delivering or exporting the aircraft, subject to the approval of DAWS
    - c) Evacuating the aircraft from an area of impending danger or in cases of force majeure.
    - d) At any other times determined by DAWS
    - e) For prototype aircraft of any category
    - f) For experimental aircraft.
  - (2) Aircraft involved in an accident or incident may not be ferried prior to notifying and receiving written authorization from the Director, Airworthiness Standards.
  - (3) An airworthiness directive (AD) may dictate that safety demands further limitations. The AD may limit ferry flight to those specifically approved by the NCAA.



- (4) The Nigeria CARs provide that no person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD. Therefore, if an AD Requires compliance before further flight, with no provision for the issuance of special flight permit, the operation of the specified aircraft would not be permitted.
- D. The Operator is required to issue a certificate of fitness to flight in respect of the special flight permit.
- E. NCAA form AC-AWS004A will be used by the Authority for issuance of such onetime special flight permits.





## CHAPTER 21

### SPECIAL FLIGHT PERMIT WITH CONTINUING AUTHORIZATION TO CONDUCT FERRY FLIGHT

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#### 1.0 PURPOSE

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This section provides guidance for evaluating an application to amend operations specifications for a special flight permit to conduct ferry flights.

Reference: ICAO 9389 - AN/919, Chapter 7, Attachment 7A. CHECKLIST: [CL: O-AWS012](#)

#### 2.0 GENERAL

---

- A. Definition: Damaged aircraft - An aircraft that has sustained physical damage or has inoperative/malfunctioning equipment.
- B. Issuance. The authorizing statute does not automatically authorize the issuance of permits to all eligible operators. Therefore, an eligible operator's operations specifications will be used to authorize the permits and to ensure responsible utilization of the permit.
- C. Eligibility
- (1) The special flight permit is issued only to operators subject to the following:
    - Operators of large transport aircraft
    - Operators maintaining aircraft under a continuous airworthiness maintenance programme.

**NOTE: Operators of small aircraft are not eligible.**

- (2) Aircraft involved in an accident or incident may not be ferried prior to notifying and receiving written authorization from the Director, Airworthiness Standards.
- (3) An airworthiness directive (AD) may dictate that safety demands further limitations. The AD may limit ferry flight to those specifically approved by the NCAA.





- (4) The Nig. CARs provide that no person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD. Therefore, if an AD requires compliance before further flight, with no provision for the issuance of special flight permit, the operation of the specified aircraft would not be permitted.

D. Manual Review

- (1) The operator may consider certain conditions and limitations necessary to facilitate the inspection and operation of an aircraft. These conditions should be included in the operator's manual.
- (2) When reviewing manual materials, the following items should be considered:
  - (a) Technical data
  - (b) Operational equipment necessary for safe operation of the aircraft
  - (c) Aircraft weight limits
  - (d) Fuel distribution limits
  - (e) Centre of gravity limits
  - (f) Aircraft manoeuvre limitations
  - (g) Flight equipment usage limitations, e.g.; auto pilot, etc.
  - (h) Airspeed limits
  - (i) Meteorological limits, including:
    - Conditions to be avoided
    - Required inspections when these conditions are encountered
    - Weather minimums

E. Authorization for Ferry Flights with one Engine Inoperative. Operators may conduct a ferry flight of a four-engine airplane or a turbine engine-powered airplane equipped with three engines, with one inoperative, to a base for the purpose of repairing that engine. The following restrictions will apply:

- (1) The particular aeroplane model must have had a test-flight conducted with an engine inoperative in accordance with performance data contained in the applicable airplane flight manual.



- (2) The approved airplane flight manual must contain the performance data for ferry flights with one engine inoperative.
- (3) The operator's manual must contain operating procedures for safe operation of the airplane, including the specific requirements in the manufacturer's approved data for flights with one engine inoperative.
- (4) The operator may not depart an airport where the initial climb-out is in thickly-populated areas or the weather conditions at the takeoff or destination airport are less than those required for Visual Flight Rules (VFR) flight.
- (5) Only required flight crewmembers can be carried aboard during this ferry flight.
- (6) The required flight crewmembers must be thoroughly familiar with the company's operating procedures and the airplane Approved Flight Manual for one-engine inoperative ferry flights.

### 3.0 APPLICATIONS INVOLVING FOREIGN AIR TRANSPORTATION

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- A. ICAO Annex 8 recognizes the temporary loss of airworthiness due to damage to the aircraft. In this case, damaged aircraft refers to inoperative or malfunctioning equipment as well as physical damage to the aircraft. In such event, Part II, Section 6.2.2, recognizes that the country of registry may allow the aircraft to be ferried to a base where it can be restored to an airworthy condition.
- B. Because Annex 8 provides for this flight situation, a certificate holder engaged in foreign air transportation is not required to obtain permission to fly over, into, or out of foreign countries when exercising the provision of a special flight permit with continuing authorization to conduct ferry flights for purposes of repair.

**NOTE: This authorization does not extend to situations which involve flying an undamaged aircraft to a base where alterations will be performed.**

### 4.0 DISPLAY OF PERMIT

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The operator must display in the aircraft the current airworthiness certificate, including a special flight permit or authorization. The operator must carry either the operations specifications or portions of the certificate holder's manual containing a restatement of the permit with those conditions and limitations imposed by the NCAA.



## 5.0 FACSIMILE (FAX) TRANSMISSION OF SPECIAL FLIGHT PERMITS

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At the request of the applicant, a special flight permit may be transmitted by the NCAA.

- A. The permit must include any additional operating limitations that may be required and must be displayed in the aircraft prior to conducting the special flight.
- B. The transmission of a special flight permit via FAX allows an aircraft to be moved when the flight cannot be delayed.
- C. Fax-transmitted special flight permits are to be used only for the following purposes:
  - Flying the aircraft to a base where repairs, alteration, or maintenance are to be performed or to a point of storage.
  - Evacuating aircraft from areas of impending danger
- D. The NCAA Inspector sending the FAX will advise the applicant that payment for the special flight by FAX permit must be made at the receiving location. If a collect FAX message cannot be sent to the applicant, a statement requesting payment will be sent to the applicant's principal base of operation.

## 6.0 PROCEDURES

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- A. Coordination. This task requires coordination between the assigned inspectors.
- B. References
  - International Civil Aviation Organization (ICAO) Annex 8.
- C. Verify that the Aircraft is Capable of Safe Flight. The aircraft does not have to meet all airworthiness requirements.
- D. Review the Operator's Manual
  - (1) Ensure that the manual has the following procedures for ferry flights:
    - (a) Provisions for conveying the authorization to ferry to the operating crew.
    - (b) A system for recording each flight conducted under this authorization.



- (c) Procedures to determine that the proposed special flight complies with the NCAA and ICAO rules and is not prohibited by any Airworthiness Directives (ADs).
  - (d) Procedures to allow additional crewmembers and other authorized persons to be carried aboard the aircraft during ferry flights when the aircraft flight characteristics have not been appreciably changed or its operation in flight substantially affected.
  - (e) Procedures to ensure the display of the current airworthiness certificate and any special flight permit or authorization.
  - (f) Procedures to ensure the review of the following items prior to releasing the ferry flight:
    - Technical data to which the aircraft must perform
    - Operational equipment necessary for safe operation of the aircraft
    - Aircraft weight limits
    - Fuel distribution limits
    - Centre of gravity limits
    - Aircraft maneuver limitations
    - Equipment usage limitations, e.g., auto pilot
    - Airspeed limits
    - Meteorological limits, including conditions to be avoided, inspections required should these conditions be encountered inadvertently and weather minimum.
- (2) For one engine-inoperative ferry flight, ensure the following:
- (a) The operator has a four-engine airplane or an airplane or a turbine engine-powered airplane equipped with three engines.
  - (b) The applicable airplane has been previously test-flown with one engine inoperative in accordance with its approved Airplane Flight Manual. The approved Airplane Flight Manual must contain the following data:
    - Maximum mass
    - Configuration of the inoperative propeller, if applicable



- Runway length for takeoff, including temperature accountability
- Altitude range
- Certificate limitations
- Ranges of operational limits
- Performance information
- Operating procedures

(3) The operator's manual must include the following:

- A limitation that the operating weight on any ferry flight must be the minimum necessary with the necessary reserve fuel load.
- A limitation that takeoffs must be made from dry runways, based on a showing of actual runways operating takeoff techniques on wet runways with in engine inoperative, takeoffs with full controllability from wet runways have been approved for specific model aircraft and included in the approved Airplane Flight Manual.
- Procedures for operations from airports in which the runways may require a takeoff or approach over populated areas.
- Inspection procedures for determining the operating conditions of the operative engines.
- A restriction that no person may takeoff from an airport in which the initial climb is over thickly populated areas or weather conditions at the takeoffs and destination airport are less than those required for Visual Flight Rules (VFR) flight.
- Procedures that ensure carrying only essential flight crewmembers aboard the airplane during ferry flight.
- Procedures that ensure flight crewmembers are thoroughly familiar with the operator's operating procedures and the approved Aeroplane flight Manual for the one-engine-inoperative ferry flight.

**Notify the Director, Airworthiness Standards prior to any authorization of an aircraft involved in an accident or incident.**



## 7.0 TASK OUTCOMES

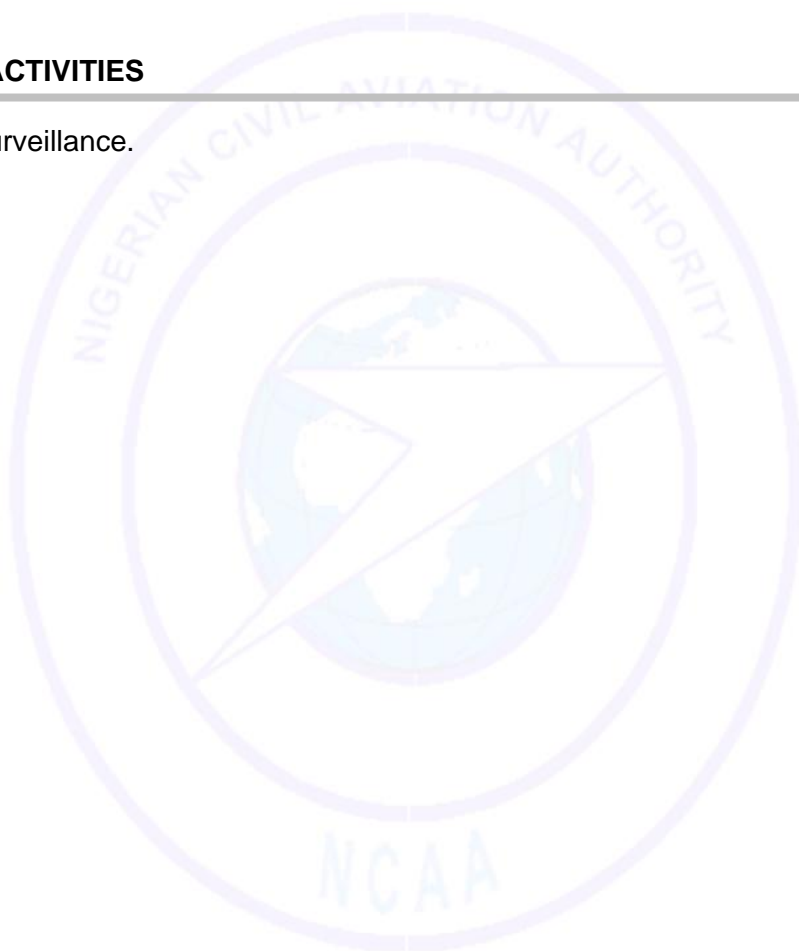
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- A. Successful completion of this task will result in issuance of operations specifications paragraph D-57.
- B. Document Task. File all supporting paperwork in the operator's office file

## 8.0 FUTURE ACTIVITIES

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Normal Surveillance.



## CHAPTER 22

### **GUIDELINES ON THE IMPLEMENTATION OF ARTICLE 83 *bis***

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#### **1.0 OBJECTIVE**

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This section provides guidance for implementation of Article 83b is in accordance with Section 69 of the Civil Aviation Act and Nig CARs [PART 9](#).  
Reference: ICAO, Annex 6, Part I, Chapter 8, Annex 8, Part II Chapter 4, Doc 9760, Vol II, Part B, Chapter 10, Doc 8335 Chapter 10 Circular 295, [FORM: AC-AWS032](#).

#### **2.0 GENERAL**

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- 2.1** All or part of the duties and functions pertaining to Articles 12, 30, 31 and 32a) of the Convention may be transferred from the State of Registry to the State of the Operator. The duties and functions to be transferred must be mentioned specifically in the transfer agreement as, in the absence of such mention, they are deemed to remain with the State of Registry.

*Note.— Guidance on the transfer of airworthiness-related duties and functions may be found in the Airworthiness Manual (Doc 9760), Volume II, Part B, Chapter 10 — International Leasing Arrangements.*

*Authorities concerned shall give special consideration to the objectives of continuing airworthiness and to the transfer of information as required in Annex 6, Part I, 8.3 to 8.8, as well as in Annex 8, Part II, Chapter 4.*

*Additional guidance regarding operational surveillance may be found in the Manual of Procedures for Operations Inspection, Certification and Continued Surveillance (Doc 8335), Chapter 10 — Lease, Charter and Interchange Operations.*

- 2.2** States should not enter into a transfer agreement if the State of the Operator concerned is not capable of adequately performing the duties and functions that are envisaged for transfer.
- 2.3** The aircraft concerned should be clearly identified in the agreement by including reference to the aircraft type, registration and serial numbers.
- 2.4** Any type of commercial arrangement for cross-border lease, charter or interchange of aircraft, or any similar arrangement, may give rise to a transfer agreement.

*Note.— Article 83 bis refers inter alia to “lease” in general, not excluding wet leases in principle. Nevertheless, the application of Article 83 bis to wet lease arrangements would then require that foreign wet-leased aircraft concerned be operated under the lessee’s AOC. Such cases are rare, in view of the difficulty for the State of the lessee, as State of the Operator, to implement the operational requirements of Annex 6 to the Convention.*



- 2.5** The issuance of an AOC, as required by Annex 6 for international commercial operations, is not an absolute precondition for such a transfer agreement, the object of which may be general aviation aircraft as well.
- 2.6** The duration of the agreement on the transfer should not exceed the period covered by the corresponding commercial arrangement (for example, the lease). Accordingly, the period of validity of the transfer should be mentioned in the agreement, taking into consideration that the registration of the aircraft concerned will not be changed.
- 2.7** The level of authority for signing transfer agreements should be equivalent to that required for administrative arrangements between aeronautical authorities.

*Note.— Pursuant to Article 83, as referred to in Article 83 bis b), the Rules for Registration with ICAO of Aeronautical Agreements and Arrangements (Doc 6685) apply to any agreement or arrangement relating to International civil aviation. Implementation of Article 83 bis may be made through administrative agreements or arrangements between civil aviation authorities, usually signed at the level of director general, i.e. they do not require diplomatic credentials for signature, nor do they require ratification. More formal agreements (e.g. bilateral agreements) are, of course, also legally adequate.*

- 2.8** Any transfer agreement signed between States parties to Article 83 bis will be binding upon the other States parties thereto, on condition that it has been formally registered with the Council of ICAO and made public in accordance with Article 83 of the Convention, or that any third State concerned has been officially advised by way of direct notification, normally by the State of the Operator. Consequently, the State of Registry shall be relieved of responsibility (and, where applicable, of liability) in respect of the functions and duties duly transferred to the State of the Operator, and the latter shall comply with them in accordance with its own laws and regulations.

*Note. — The Protocol relating to Article 83 bis (Doc 9318) came into force on 20 June 1997 in respect of the States which have ratified it. While direct notification of a transfer agreement may be preferable for the parties in certain circumstances, for instance in the case of short-term arrangements, attention is drawn to the fact that the States' obligation to register such agreements with ICAO, nevertheless, remains unaffected pursuant to Article 83 of the Convention. The registered agreements are published in the quarterly List of Agreements and Arrangements Concerning International Civil Aviation Registered with ICAO, which is issued by ICAO.*

- 2.9** For the purpose of entering into transfer agreements, and with reference to Assembly Resolutions A23-3 and A23-13, States should ensure that, as a State of Registry, their national legislation enables them to divest themselves of the functions and duties which are the object of a transfer agreement. Furthermore, as a State of the Operator, States should ensure that their national legislation will apply to foreign-registered aircraft subject to a transfer agreement.





- 2.10** Under Article 33 of the Convention, Contracting States must recognize the validity of each other's C of As and crew licences, provided the conditions of issuance meet the minimum requirements established by the Standards governing personnel licensing (Annex 1) and airworthiness of aircraft (Annex 8). Article 33, it should be emphasized, refers to certificates and licences "issued or rendered valid by the Contracting State in which the aircraft is registered". The entry into force of Article 83 *bis* requires a new reading of Article 33: if the authority to issue these certificates and licences has been formally transferred to the State of the Operator, Contracting States which have ratified Article 83 *bis* will be obliged to recognize the validity of the certificates and licences if they have been officially informed of the transfer (on the proviso that the State of the Operator has issued them or rendered them valid, while fully meeting the requirements of Annexes 1 and 8). Accordingly, States ratifying Article 83 *bis* should ensure that their rules and policies allow the recognition of C of As and crew licences issued by the State of the Operator, in addition to those issued by the State of Registry.
- 2.11** States which have ratified Article 83 *bis* should ensure that the information they have received concerning the existence of transfer agreements relating to aircraft operating to/from their territory is promptly relayed to the national authorities involved in inspection. Adequate procedures need to be developed and implemented for that purpose.
- 2.12** For the purpose of identifying the States responsible for safety oversight on the occasion of any verification process such as ramp inspections, a certified true copy of the transfer agreement should be carried on board the aircraft at all times while the transfer agreement is in force. It is also recommended that a certified true copy of the AOC under which the aircraft is operated, and in which it should be listed, be carried on board.
- 2.13** In case the aircraft is to enter the airspace of Contracting States which are not parties to Article 83 *bis*, or which are parties but have not been duly advised about a transfer agreement in accordance with this provision, the certificates and licences on board the aircraft should be issued or rendered valid by the State of Registry as the latter would, in this case, remain fully responsible in regard to Articles 30, 31 and 32 a) of the Convention despite the transfer agreement with the State of the Operator.

### **3.0 PROCEDURES**

- A. Coordination. This task requires coordination among Director General's office, Legal Unit, Directorate of Operations & Training and the Directorate of Airworthiness Standards and may also require coordination with the regulatory authority of the State of Registry/State of Operator (as the case may be).  
The Director General will determine the officers that will attend the meeting to draw up the agreement in accordance with the draft agreement.
- B. The Authority shall prior to meeting the CAA of the State of Registry/Operator obtain information on the safety oversight capabilities, and the level of compliance with ICAO Standards, of the CAA of the State of Registry/Operator by accessing information from the ICAO Universal Safety Oversight Audit Programme (USOAP).

This information is available—

- (1) On the ICAO website <http://www.icao.int> and accessible through the Flight Safety Information Exchange (FSIX) - Safety Oversight Information - Audit Reports (1999-2004) or Audit Reports (Comprehensive Systems Approach); and



(2) On the ICAO Safety Oversight Audit (SOA) Secure Site which is accessible, subject to a password available only to the Authority from ICAO, through the FSIX home page

- C The Operator is required to submit the following:
- A copy of the lease/transfer agreement.
  - Aircraft Technical Specifications.
  - Operators Manuals
- D. Meeting must be arranged between State of Registry/Operator and Nigeria to discuss all areas of safety oversight functions such as:
- Continuing airworthiness of aircraft
  - Communication with State of Design
  - Maintenance Responsibility
  - Aircraft Maintenance Programme
  - Maintenance Records
  - Continuing Airworthiness Information
  - Modification and Repairs
  - Maintenance Organisation
  - Aircraft affected by the agreement
  - Any significant matters arising out of inspection
- E. Ensure that the Operator's Manual Includes the Following:
- (1) Procedures on:
- Aircraft modification and repairs.
  - Maintenance arrangements
  - Maintenance Programme.
  - Maintenance responsibility

#### 4.0 TASK OUTCOMES

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- A. Completion of this task will result in one of the following:
- Signing of safety oversight functions transfer agreement between the State of Registry/Operator and Nigeria in accordance with Article 83bis.
  - Notification of ICAO on the existence of such agreement.
- B. Document Task. File all supporting paperwork in the operator/applicant's office file.

#### 5.0 FUTURE ACTIVITIES.

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1. Meeting should be held between the State of Registry/Operator and Nigeria to review the agreement at interval specified in the agreement
2. Normal surveillance.



## CHAPTER 23

### CONTINUING SURVEILLANCE

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#### 1.0 PURPOSE

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This chapter is issued to provide guidance and procedures for continuing surveillance of certificated Approved Maintenance Organisation (AMO) or AOC holder with equivalent maintenance system approval.

#### 2.0 REFERENCES

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- 2.1 [Part 6](#) of the Nigeria Civil Aviation Regulations
- 2.2 [Part 9](#) of the Nigeria Civil Aviation Regulations
- 2.3 AMO Modular Surveillance Checklist [CL: O-AWS010](#)
- 2.4 AMO Certification Job Aid [AC-AWS006D](#)
- 2.5 Non-Conformance Finding Form [CL:O-AWS029](#)
- 2.6 Aircraft Ramp Inspection Notice [CL:O-AWS001B](#)
- 2.7 Safety Issues Resolution Report [Form O-OPS003](#)

#### 3.0 GUIDANCE AND PROCEDURES

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##### 3.1 General Information

- 3.1.1 Continuing surveillance by the NCAA on certificate holders' operations is an inherent system of certification and is essential part of NCAA responsibility to ensure that the required standards are maintained. The authority for this continuing is contained in regulations 9.1 .1.11 and 6.2.1.9.
- 3.1.2 The required surveillance and inspections shall be planned and the areas to be covered will be essentially the same as those examined during the original certification process and will include at least a re-evaluation facilities, personnel, certifying staff, tools, equipment and materials, airworthiness data, certification of maintenance maintenance records, MORs, detailed procedures, quality system, products among others.
- 3.1.3 The NCAA has an annual plan of inspections and observations of each certificate holder to ensure that they continue to meet the basis for issuance of the approvals given during the original certification.
- 3.1.4 If the NCAA determines that there are safety issues, the certificate holder will be requested to take the necessary action to achieve a mutual resolution. Correction of some of these issues may require "document evaluation," "satisfactory demonstration," and "acceptance or



approval.” It should be noted that, even when there are no certificate requests for certification actions, the AOC holder is being “recertificated” on an annual basis.

**3.1.5** The certificate holder is responsible for conducting all operations in full compliance with applicable:

- ◆ ICAO Standards
- ◆ Nigeria Civil Aviation Regulations

If at any time, the certificate holder and its operations are found not to be equal to or exceeding these standards, this could be the basis for suspension and/or revocation of the certificate.

## **3.2 Post Certification inspections**

Following the completion of the certification, the NCAA will continue to do a heightened level of surveillance to ensure that the certificate holder transitions smoothly into a mature status. This is not considered a part of the original Inspection and Demonstration Phase, but is in fact an extension of the concept of early validation of certificate holder. The certification team will discuss and produce post certification surveillance programme that will be incorporated into the annual surveillance programme.

## **3.3 Surveillance and Inspection Programme**

The surveillance and inspection Programme for each certificate holder will contain both planned and random events. An annual Programme of required minimum inspections for each certificate holder will be developed in November for the coming calendar year. These individual inspections will be assigned to specific quarters of the year and to specific inspectors for accomplishment no later than December 15. Other, more random, inspections will be scheduled on a weekly basis to sample the on-going operations of certificate holders.

### **3.3.1 Issuance of Quarterly Inspection Requirements**

The Head AMO will ensure that quarterly inspection requirements have been issued based on the following guidelines for planning of minimum required annual inspections. The validity periods for these inspection requirements will be from January through March, April through June, July through September, and October through December. These requirements will be submitted for review and signature of the Director, Airworthiness Standards no later than 15 days prior to the beginning of the next applicable period.

Each authorization will be specific to the certificate holder, listing the minimum required inspections for that quarter and the inspectors who are assigned to the inspections. It will be the responsibility of the inspectors assigned to schedule and complete the inspections listed in these authorizations within the time period specified.

There shall be a quarterly review of surveillance activities, inspections and incidents reports by FSG



Quarterly reviews will include inspections, incidents, findings from Operations, Airworthiness and Personnel licensing/ Medicals. Items reviewed will include follow up actions / enforcement actions, trends affecting safety and need to increase or refocus future Operators Inspections.

Risk analysis and Safety Management system (SMS) concepts will be used in the quarterly reviews.

### 3.3.2 Minimum Required Annual Inspections

Inspections are to be carried out at the following intervals, the frequency of which may be increased at the discretion of the DAWS.

- ◆ **Manuals conformity.** Two (2) inspections each calendar year for all the approved manuals.
- ◆ **Housing and Facilities.** Two (2) inspections each calendar year of the hangar facilities and support shops. Where the hangar is on lease, the hangar will be inspected and the planned schedule visits will compared with the hangar availability.
- ◆ **Personnel and Training.** Two (2) inspections per each calendar year of the personnel qualifications and training records.
- ◆ **Airworthiness Data.** Two (2) inspections each per calendar year.
- ◆ **Certification of Maintenance.** Two (2) inspections each per calendar year.
- ◆ **Maintenance Records.** Two (2) inspections each per calendar year
- ◆ **Station inspections.** One inspection each 12 months period for each AOC holder conducting scheduled passenger service.
- ◆ **Quality System.** Two (2) inspections each per calendar year
- ◆ **Tools, Equipment and Materials.** Two (2) inspections each per calendar year.
- ◆ **MORs.** Two (2) inspections each per calendar year.
- ◆ **Products.** Two (2) inspections each per calendar year.
- ◆ **Ramp Inspection.** Minimum of one per week (may be increased by the Principal Inspector).
- ◆ **Maintenance Spot Inspection.** Based on the approved maintenance programme.



### 3.3. Deficiencies

If a deficiency is observed during the inspection, the inspector shall record the deficiency in the **SAFETY ISSUES RESOLUTION FORM No.O-OPS003** or the **NON-CONFORMANCE FINDING FORM No.CL: O-AWS029**. The operator and the inspector must agree on the corrective action plan and the target date. For deficiency that is a violation of the regulations, the inspector should follow the procedures detailed in the **Compliance and Enforcement Handbook**.

For ramp inspection, **AIRCRAFT RAMP INSPECTION NOTICE FORM NO. CL:O-AWS001B** should be issued and the operator representative must be made to enter it in to the technical logbook.

For AMO audit, the **NON-CONFORMANCE FINDING FORM No. CL: O-AWS029** must be used by the inspector.

For AOC audit, the **SAFETY ISSUES RESOLUTION FORM No. O-OPS003** must be used by the inspector

### 3.3.1 Surveillance based on risk management system

Selection of a particular aircraft to inspect will normally be done at random in a non discriminatory manner. The Authority will apply the principle of risk management: to identify Operations perceived to present a higher safety risk and as a result, will conduct additional inspection activities aimed at those Operations that can be linked to specific:

- a) State of the Operator or State of Registry;
- b) Aircraft type;
- c) Nature of Operations (scheduled, non-scheduled, cargo, air taxi etc )
- d) Foreign Operator; or
- e) Individual Aircraft

The Flight Standards Group (FSG) will meet monthly to identify operations perceived to present a higher safety risk by discussing the Occurrence database analysis carried out by safety Deficiencies and Incident Analysis (SDIA) unit, audit reports and Ramp Inspection reports based on which the minimum required inspection is increased by a factor determined at the meeting.



## CHAPTER 24

### GENERAL AVIATION OPERATOR'S MAINTENANCE RECORDS

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#### 1.0 OBJECTIVE

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**This chapter describes the process used to inspect the maintenance records of general aviation aircraft.**

**Reference: ICAO Annex 6, Part 11, Chapter 8, and Section 8.3.1.9**

**Nig. CARs Part 8 , FORM: AC- AWS028**

#### 2.0 GENERAL

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The Nigeria Civil Aviation Regulations establishes the record keeping responsibilities and requirements for the owner/operator of an aircraft.

A. *Current Airworthiness Directive Status.* The owner/operator must keep a record showing the current status of applicable Airworthiness Directives.

(1) This record must include the following:

- A list of Airworthiness Directives applicable to the aircraft, to include the Airworthiness Directive numbers and revision dates.
- The method of compliance.
- The time when the next action is required for a recurring Airworthiness Directive.

(2) An acceptable method of compliance should include a reference to one of the following:

- A specific portion of the Airworthiness Directive.
- A manufacturer's service bulletin, if the bulletin is referenced in the Airworthiness Directive.
- Another document generated by the person performing the maintenance that shows compliance with the Airworthiness Directive, such as an Engineering Order (EO) or Engineering Authorization (EA).

(3) When an Engineering Order/Authorization is used, the details must be retained by the person performing the maintenance. If the Engineering Order/Authorization also contains the accomplishment instructions and sign-off, it must be retained with the aircraft in definitely. If the airplane is sold, the records must be transferred to the purchaser.



- (4) The document that contains the current status of Airworthiness Directives/method of compliance may be the same as the record of Airworthiness Directive accomplishment. This record must be retained with the aircraft indefinitely. If the airplane is sold, the records must be transferred to the purchaser.
- B. *Total Time in Service Records.* Total time in service records for airframes, engines, and propellers are to be retained by the owner/operator. These records are used to schedule overhauls, retirement life limits, and inspections.
- (1) Total time in service records may consist of the following:
- Aircraft maintenance record pages.
  - Designated cards or pages.
  - A computer listing
  - Other methods accepted by NCAA.
- (2) Total time in service records must be retained with the aircraft indefinitely. If the airplane is sold, the records must be transferred to the purchaser.
- C. *Life Limited Current Status Records.* The owner/operator is required to retain a current status record for each airframe, engine, propeller, rotor, and appliance component that is identified to be removed from service when the life limit has been reached.
- (1) The current life limited status of the part is a record indicating the life limit remaining before the required retirement time of the component is reached. This record should include any modification of the part according to Airworthiness Directives, service bulletins, or product improvements by the manufacturer or applicant.
- (2) The following are not considered current life limited status records:
- Work orders
  - Purchase requests
  - Sales receipts
  - Manufacturer's documentation of original certification.
  - Other historical data
- (3) Whenever the current status of life limited parts records cannot be established and the historical records are not available, the airworthiness of that product cannot be determined and it must be removed from service.





- (4) Current status of life limited parts records must be retained with aircraft indefinitely. If the airplane is sold, the records must be transferred to the purchaser.

D. *Certification for Release to Service.*

- (1) Following the performance of maintenance, preventive maintenance, or alterations on an aircraft, certificate of release to service must be completed before the aircraft is operated.
- (2) The person ensuring the certificate of release to service on the aircraft, airframe, engine, propeller, rotor, appliance, or component must make an entry in the maintenance record that contains the following information:
  - The type of inspection, with a brief description of the extent of the inspection.
  - The date of the inspection and the aircraft total time in service.
  - The signature, certificate number, and type of certificate of the person making the approval/disapproval.

E. *Overhaul Records*

- (1) A record must be made by the person performing the maintenance when overhauling an item of aircraft equipment. This record must include the following:
  - A description of the work performed or a reference to data acceptable to the NCAA.
  - The date of completion of the work performed.
  - The name of the person performing the work.
  - The signature and certificate number of the individual signing the aircraft's certificate of release to service.

**NOTE: A release to service tag does not constitute an overhaul record, but may be used to reference the overhaul records.**

- (2) The owner/operator must retain the record and make it available to the NCAA upon demand. The overhaul records must be retained until the work is superseded by the work of equal scope and detail

- F. *Current Aircraft Inspections Status.* The owner/operator must retain records identifying the current inspection status of each aircraft. These records must show the time in service since the last inspection required by the inspection programme under which the aircraft and its appliances are maintained.



G. *Major Repair and Major Alteration Records.* The owner/operator must retain the records for each major repair/alteration made to an aircraft, including work done on the following:

- Airframe
  - Engine
  - Propeller
  - Rotor
  - Appliance
- (1) The records for major repairs must be retained until the work is repeated or superseded, or for two years after the work has been performed.
- (2) The records for major alterations must be retained with the aircraft indefinitely. If the airplane is sold, the records must be transferred to the purchaser.

### 3.0 COORDINATION.

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A. *Coordination.* This task will require coordination with the owner/operator and the person(s) performing the maintenance.

### 4.0 PROCEDURES

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A. *Conduct the Owner/Operator.* Arrange to obtain the aircraft maintenance records for review. If custody of the records is to be temporarily transferred to the NCAA, provide a receipt to the owner/operator.

B. *Review the owner/Operator's Maintenance Records.* Determine whether the record keeping requirements of the Nigeria Civil Aviation Regulations have been met.

(1) Ensure the entries for maintenance include the following:

- A description of the work performed or a reference to data acceptable to the NCAA.
- The date of completion.
- Signature and certificate number of the person releasing the aircraft service.

(2) Ensure entries for inspection include the following:

- Type of inspection
- Brief description of the extent of the inspection.



- Date of the inspection
  - Total time in service for the aircraft.
  - Signature, certificate number, and type of certificate held by the person signing or disapproving the signing of the aircrafts of release to service.
  - A statement certifying the airworthiness status of the aircraft.
- (3) Ensure the owner/operator has records containing the following information:
- Total time in service for the airframe.
  - The current status of life-limited parts of each airframe, engine, propeller, rotor and appliance.
  - Total time since last overhaul for those items installed on the aircraft that are required to be overhauled on a specified time basis.
  - Current inspection status of the aircraft, including time since last inspection, as required by the programme under which the aircraft and its appliances are maintained.
  - Copies of Major Repairs and Alterations, for each major alteration to airframe, engine, rotors, propellers, and appliances.
- (4) Ensure the owner/operator has records for the current status of each applicable Airworthiness Directive, including the following:
- A list of Airworthiness Directives applicable to the aircraft, to include the Airworthiness Directive numbers and revision dates.
  - The method of compliance.
  - The time when the next action is required for a recurring Airworthiness Directive.
- C. *Analyze Results.* Bring any discrepancies to the attention of the owner/operator.

## 5.0 TASK OUTCOMES

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- A. *Return Records to the Owner/Operator.*
- B. *Document the Task.* File all supporting paperwork in the owner operator's office file.

## 6.0 FUTURE ACTIVITIES

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Routine surveillance.



## CHAPTER 25

### GROUNDING OF OPERATOR'S AIRCRAFT

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#### 1.0 OBJECTIVE.

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This chapter provides guidance for grounding an aircraft used in air transportation, under the provisions of the Nigeria Civil Aviation Regulations as amended.

Reference: ICAO Document 8335 - AN/879, Chapter 8, Section 8.3.

CHECKLIST: [CL: O-AWS028](#)

#### 2.0 GENERAL

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- A. An inspector will seldom have to impose the grounding provisions of the above Nigeria Civil Aviation Regulations. The knowledge that the inspector has this authority and is not reluctant to use it is usually sufficient to cause an operator to take the necessary corrective actions.
- B. An inspector must be able to substantiate a grounding action with factual justification of an unsafe condition. The grounding notice must not be issued unless it is clear to the inspector that, if operated in this condition, the aircraft would be subject to the probable danger of an accident and likely to cause injury/damage to persons or property.

#### 3.0 INSPECTOR RESPONSIBILITY

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An inspector who becomes aware of an unsafe condition in an aircraft that is being operated or about to be operated and fails to act under the provisions of Nigeria Civil Aviation Regulations as amended, is in dereliction of duty. This duty is placed specifically upon the inspector. If the inspector, after due consideration, still has any doubts regarding whether or not to ground the aircraft, the grounding notice should be issued.

#### 4.0 PREREQUISITES AND COORDINATION REQUIREMENTS

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- A. *Prerequisites*
  - Knowledge of the Nigeria Civil Aviation Regulations, as amended.
- B. *Co-ordination*. This task will require co-ordination between the Aviation Safety Inspector (ASI), the DAWS, and the Director General (DG), NCAA.



## 5.0 REFERENCES AND FORMS

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- A. *Reference.*
- Civil Aviation Act 2006 Part XIII, 53
  - The Nigeria Civil Aviation Regulations – Part [1.3.3.4](#)
- B. *Form.*
- Aircraft Grounding Form [CL:O-AWS28](#)

## 6.0 PROCEDURES

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- A. *Determine Extent of Problem.* In order to issue a grounding notice, the inspector must come to the following conclusions:
- The aircraft is not in a condition for safe operation.
  - The operator intends to put the aircraft into revenue service in that unsafe condition.
  - This unsafe condition constitutes a hazard to persons and/or property.
- B. *Consult With the DAWS/DG, if Time Permits.* This coordination must not interfere with any immediate action necessary to ground an unsafe aircraft that is expected to operate.
- (1) Before notifying an operator that an aircraft is being grounded, the inspector may if circumstances permit, consult by phone with the DAWS/DG.
  - (2) If the inspector performing the task is not the ASI assigned to the operator, the inspector should consult with the assigned inspector, time permitting.
- C. *Notify Appropriate Responsible Personnel that the Aircraft is grounded.*
- (1) Immediately after discovering the unsafe condition, verbally notify the pilot in command or other operator responsible personnel who have the authority to keep the aircraft on the ground, of the following:
    - (a) The aircraft cannot be operated for a specified, period or until the unsafe condition is corrected.
    - (b) The reasons for the grounding action.
    - (c) That necessary precautions must be taken to ensure that the aircraft is not operated.



- (d) The authority of the Nigeria Civil Aviation Regulations, as amended.
- (2) In the event that the representative of the operator responsible insist upon written notification of the grounding as a prerequisite to taking the aircraft out of service, provide a letter containing as much information as possible.
- D. *Debrief DAWS/DG.* Provide details of the grounding to the DAWS/DG in accordance with established procedures.
- E. *Ensure That Written Notification is Received by the Appropriate Operator Responsible Personnel.* Obtain a receipt for the written notification. The word “received,” date, and signature of an operator representative on a copy of the notification is sufficient.
- F. *Determine if Violation Action is Necessary.* If the unsafe condition was as a result of a failure to comply with the Nigeria Civil Aviation Regulations initiate enforcement action in accordance with established office procedures.

## 7.0 TASK OUTCOMES

- A. *Confirm Verbal Grounding in Writing.* As soon as possible, confirm the verbal grounding in writing. Include the following information:
  - (1) Time and date when verbal grounding notification was given.
  - (2) Person(s) to whom verbal grounding notification was given.
  - (3) A statement of unsafe condition(s) that caused the temporary grounding action.
  - (4) A statement that the Nigeria Civil Aviation Regulations , as amended, was used as authority for the grounding action.
  - (5) A statement that specified grounding period began when the inspector first verbally notified the operator.
- a. *File copies with the Office of DAWS/DG.*
  - (1) Provide the details of the grounding and a copy of the grounding confirmation to the operator’s assigned inspector, when applicable.
- C. *Document Task.* File all supporting paperwork in the operator’s file in the office of DAWS.



## 8.0 FUTURE ACTIVITIES

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### A. *Inspector*

- (1) Closely follow the action taken by the operator to correct the unsafe condition. If the condition is corrected and the aircraft is made safe for the operation before the specified period elapse, notify the operator in writing that the aircraft may now be operated.
- (2) If the unsafe condition is not corrected, and there is good reason to expect the operator will operate the aircraft after the specified time elapse, inform the DAWS/DG of this situation. Request that a formal order be issued by the legal counsel suspending or revoking the Certificate of Airworthiness. This action should be initiated in time to allow such an order to be issued effective immediately upon termination of specified grounding period.

### B. *Director, Airworthiness Standards (DAWS)*

- (1) The DAWS, after receiving the details of the grounding, will notify the DG as promptly as possible. The DG will be given all pertinent details, including a copy of the written confirmation of grounding given the operator by the inspector.
- (2) If there is a possibility that the operator will contest the grounding action, the Minister should be informed promptly for the facts, conditions, and circumstances involved.



**AIRCRAFT GROUNDING**

THIS IS TO INFORM YOU THAT AIRCRAFT MAKE \_\_\_\_\_, MODEL \_\_\_\_\_,  
SERIAL # \_\_\_\_\_, - \_\_\_\_\_ IS FOUND TO BE UNSAFE FOR OPERATION  
DUE TO THE FOLLOWING CONDITION:

\_\_\_\_\_  
\_\_\_\_\_

AS A RESULT OF THIS UNSAFE CONDITION AND DUE TO THE FACT THAT \_\_\_\_\_  
\_\_\_\_\_ AIRLINES INTENDS TO OPERATE 5 N \_\_\_\_\_ IN  
REVENUE SERVICE, THE NCAA HEREBY EXERCISES THE GROUNDING AUTHORITY  
OF THE **NIGERIA CIVIL AVIATION REGULATIONS** AS AMENDED.

VERBAL NOTIFICATION OF THE GROUNDING OF 5 N \_\_\_\_\_ HAS BEEN GIVEN  
TO (NAME) \_\_\_\_\_ ON (DATE) \_\_\_\_\_ AT  
(TIME) \_\_\_\_\_

UNDER THE PROVISIONS OF THE **NIGERIA CIVIL AVIATION REGULATIONS** AS AMENDED,  
AIRCRAFT, 5N \_\_\_\_\_

IS GROUNDED FOR A PERIOD OF \_\_\_\_\_ DAYS AND CANNOT NOT BE USED IN AIR  
TRANSPORTATION UNLESS FOUND BY THE NCAA TO BE IN A SAFE CONDITION FOR  
SAFE OPERATION. THE GROUNDING STARTED AT THE TIME OF VERBAL  
NOTIFICATION BEING GIVEN:

NCAA AVIATION SAFETY INSPECTOR \_\_\_\_\_

DIRECTOR GENERAL, NCAA \_\_\_\_\_

RECEIVED BY (NAME) \_\_\_\_\_

OPERATOR'S NAME \_\_\_\_\_

DATE \_\_\_\_\_





## CHAPTER 26

### PROCEDURES FOR ISSUANCE OF AIRWORTHINESS DIRECTIVES

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#### 1.0 PURPOSE

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This section prescribes the procedures that must be followed in the publication and circulation of Airworthiness Directives (ADs) as required by the Nigerian Civil Aviation Regulations to the industry. Reference: Nig. CARs [Part 5.4.1.9](#)

#### 2.0 GENERAL

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2.1 A primary safety function of the airworthiness organization within the CAA is to require correction of unsafe conditions found in an aircraft, aircraft engine, propeller, equipment or instrument or when such conditions develop in other aeronautical products of the same design. The unsafe conditions may be due to design deficiencies, manufacturing defects, maintenance programme deficiencies, or other causes. Mandatory Continuing Airworthiness Information (MCAI) are the means used to notify aircraft owners and other interested persons of unsafe conditions and to prescribe the conditions under which the aeronautical product may continue to be operated. One of the most commonly used types of MCAI issued by States is an Airworthiness Directive (AD). Some States may also consider as MCAI any mandatory and alert service bulletins issued by the organization responsible for the type design.

ADs are generally divided into two categories:

- a) those of an urgent nature requiring immediate compliance upon receipt; and
- b) those of a less urgent nature requiring compliance within a relatively longer period.

2.2 The implementation of Airworthiness Directive (AD) could be limited to the State that issues the directive. It is essential, however, that appropriate action be taken on all affected aircraft and parts of all States concerned. States should therefore carefully assess the AD issued by the State of Design. The State of Design and the type design organization are primarily responsible for issuing this airworthiness information and are best suited for being informed about accidents, incidents and service experience concerning the continuing airworthiness of aircraft. A State of Registry may adopt by reference the AD issued by the State of Design of the aircraft, engine, propeller and appliances/accessories. Therefore, aircraft AD could be issued from a different State than the engine, propeller and appliances/accessories AD. The State should ensure that its operators have access to relevant AD and implement the required actions within the compliance time limit



- 2.3 In addition to the MCAI issued by the State of Design, the State of Registry may issue MCAI for an aircraft on its register. States should only make mandatory requirements additional to those of the State of Design when there are urgent safety-related reasons or when the State of Registry has modified an aircraft because of unique airworthiness requirements. When possible, such action should entail prior consultation with the State of Design, but in all cases the State of Design should be notified as soon as practicable.

### 3.0 PROCEDURES

#### 3.1 ACTION BY THE NCAA UPON RECEIPT OF AIRWORTHINESS DIRECTIVES FROM STATE OF DESIGN

- 3.1.1 Airworthiness Directive (AD) issued by the State of Design are automatically applicable to all Nigerian registered aircraft as required by regulation 5.4.1.9(a) & (b). DAWS would assess the AD and verify during C of A renewal and during safety audit whether or not the AD is applicable to the aircraft on the Nigeria aircraft register and can be accomplished as intended. For instance, in some cases the aircraft may have been modified or had equipment installed without the type design organization or the State of Design directly involved in that modification or installation approval.
- 3.1.2 DAWS Principal Inspectors should be aware that some States of Design do not issue their Mandatory Continuing Airworthiness Information (MCAI) in the form of ADs, and may instead give mandatory status to notices such as Service Bulletins (SBs) or by requesting the type design organization to include a statement in the SB that the information has mandatory status for aircraft registered in the State of Design. Some States of Design publish summary lists of SBs which are classified as mandatory.
- 3.1.3 Any service information made mandatory by the State of Design should be clearly distinguished from service information that might be declared mandatory by the organization responsible for the type design. The type design organization may have classified the information as mandatory for the purpose of improving maintainability, inspectability, the part's life-limit or for liability reasons. DAWS Principal Inspector should require operator to accomplish all service information made mandatory by State of Design in order to keep the aircraft airworthy. All relevant AD and service information should be recorded in the maintenance records and all the related maintenance records should be kept so that they could be presented to the NCAA upon request. Proper documentation of mandatory actions will also enable a smoother transfer of aircraft between States.
- 3.1.4 If an operator wishes to comply with the AD in an alternative way or have an extension of its compliance limit, a written request should be submitted for approval to the NCAA and in the case of the mandatory information issued by the



State of Design and adopted by the NCAA, the NCAA may not be able to make such a decision due to lack of relevant information or expertise. In such a case, the NCAA may consult the CAA of the State of Design or accept advice from the type design organization.

### **3.2 ISSUANCE OF AIRWORTHINESS DIRECTIVES BY NCAA**

- 3.2.1 The Nigerian Civil Aviation Authority (NCAA) through the Directorate of Airworthiness Standards (DAWS) is empowered by Civil Aviation Act 2006 Section 30(3)(g) and Nig. CARs Part 5.4.1.9 to develop, publish and circulate to the aviation industry Airworthiness Directives as soon as the NCAA considers a condition in an aircraft, airframe, engine, propeller, appliances or component is unsafe.
- 3.2.2 The Directorate of Airworthiness Standards may assess manufacturer's Service Bulletins and Alert Service Bulletins for potential Airworthiness Directive action [regulation 5.4.1.9(c)].
- 3.2.3 If the DAWS does not find the required action taken by the State of Design sufficient to correct an unsafe condition, the NCAA will issue its own mandatory action [regulation 5.4.1.9(c)]. In addition, the NCAA will make the necessary coordination with the State of Design.
- 3.2.4 The DAWS will constitute a team to draft the AD in consultation with the Type Design Holder and possibly the State of Design. At a minimum, the contents of ADs include the aircraft, engine, propeller, equipment or instrument type, model and serial numbers affected. Also included are the compliance time or period, a description of the difficulty experienced, and the necessary corrective action.  
The AD shall contain the following:
- i) The Unsafe Condition that the AD is meant to prevent
  - ii) The action required or compliance.
  - iii) The alternative method of compliance, if available.
  - iv) The cost of compliance and man-hours required, if determinable
  - v) Reference SB, ASB or other technical document, if available
  - vi) The applicability
  - vii) The effective date.

#### **3.2.5 AD Consultation Process**

After the draft AD specified in the Para 3.2.4 is completed, the final proposed AD after Director General's approval will be published Notice of Proposed Airworthiness Directive (NPAD) on NCAA website for 30 days for public comments. If deemed necessary, DAWS may decide to modify this period depending on the type of proposed AD. The DAWS may collect public

comments, either in a meeting or in written, from the original equipment manufacturer (OEM) and operators to provide comments about corrective actions for unsafe conditions, reasonable cost impact, practicable effective date and compliance time etc.

### 3.2.6 Approval of the Proposed AD

All Comments received within the comment period will be consolidated and a draft Comment Response Document will be prepared by the team. The Comment Response Document will be submitted to the DAWS for review through GM-ASA. The DAWS with his management reviews the comments received to decide appropriate responses. The DAWS may consult expert from industry to finalise the corrective action plan. The AD team after incorporating the changes on the basis of decision taken on the comment response document, will prepare the final AD and submit through GM-ASA to DAWS for approval of the DG. When time constraint makes collecting public comments impracticable, the NCAA may issue the AD first then collect public comments later to revise the AD. After the AD specified above is issued, the DAWS may collect comments, either in a meeting or in written, from the public to revise the AD when necessary.

### 3.2.7 Numbering of AD

The approved AD will be allotted a number. AD number for a new or superseded AD will be given in a format NCAA-YR-MTH-ADXXX for example, NCAA-2016-01-AD001, where NCAA stands for the Nigerian Civil Aviation Authority, and the 1st string represents the year, the 2nd string represents the month, and the last string is the number in sequence Airworthiness Directive - AD 001, AD 002

### 3.2.8 Changes to previously issued AD

If changes to previously issued ADs are deemed necessary, these changes are issued as corrections or revisions to the original AD depending on the nature of the content being changed. In addition, ADs may be superseded by new ADs depending on the nature of the content being changed. The final consideration is the effect the change will have on the AD and on the owners/ operators who would be affected by the AD.

### 3.2.9 Corrected AD

The simplest form of an AD change is a corrected AD of non substantive material, i.e., the change has no effect on compliance with the AD. An AD may



require correction of a non substantive NCAA error or a printing error in the NCAA website. If a non substantive error or typing error is found in an AD, it may be called for correction. The DAWS reviews such error in the AD in coordination with AD team, if necessary. Then, the GM-ASA corrects the AD and submits it to the DAWS for approval and publication. The original AD is replaced with the corrected AD. The corrected AD is indicated with letter 'A' at the end of last string on the original AD number e.g. NCAA-2016-01-AD001A.

### 3.2.10 Superseding / Revised AD

A substantive change to an AD, is issued as a superseded AD. Substantive changes, including corrections, are those made to any instruction or reference that affects the substance of the AD. Substantive changes may include part numbers, service bulletin and manual references, compliance time, expanded applicability, methods of compliance, corrective action, inspection requirements, and effective dates. In general, whenever there is an additional (or different) requirement imposed or an expanded scope of required inspection, the change should be issued as a superseded AD. Substantive changes to an AD are assessed by the DAWS in coordination with the TC/STC holder / Industry expert following the process detailed above. After approval of DG, the AD will be issued for distribution and publication. The reason paragraph should include a discussion of each change, how each change affects compliance, and the fact that all other parts of the AD remain as originally published.

### 3.2.11 Record Keeping

All records related to procedures followed for issuance of AD /EAD should be retained in the TFCC. Before issuing an AD, an AD database containing all key data should be maintained for making AD lists and AD inquiries. The processes leading to the issuance of AD will be filed in a file called AD process file.

### 3.2.12 Notification, Distribution and Publication of the AD

The approved AD will be published on NCAA website for compliance by stake holders. A copy of AD will also be forwarded to the TC / STC holder and affected owners/operators by email. The information on AD, will also be forwarded to the State of Design for information.

## 4.0 EMERGENCY AD PROCEDURES

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- 4.1 In case of situations, in which emergency action by NCAA is required, the DAWS reviews the proposed corrective action as per Para 3 above and assess,

if an Emergency AD is appropriate. The DAWS then drafts the Emergency AD in co-ordination with the TC/ STC holder or industry expert, if available. As the Emergency AD requires immediate notification and publication, the DAWS submits the Emergency AD to DGB for approval.

- 4.2 NCAA may decide not to implement the consultation process. A justification explaining why the consultation process is not followed and the reasons for issuing an Emergency AD is provided in the text of the Emergency AD, "Reason". The standard AD review and public comments collection process may be implemented later on and to revise the AD, if required.
- 4.3 Notification, distribution and publication of Emergency ADs
  - 4.3.1 After approval by the DG, in accordance with Para 3, the DAWS advises immediately for issuance of the Emergency AD. Intimation, distribution and publication of Emergency ADs follow the provisions under para 3.2.12.
  - 4.3.2 The effective date of the Emergency AD is the date of approval unless otherwise specified in the AD itself.



## CHAPTER 27

### PROCEDURES FOR ISSUANCE OF AIRCRAFT CERTIFICATE OF REGISTRATION, RESERVATION OF REGISTRATION MARKS AND DEREGISTRATION AIRCRAFT

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#### 1.0 OBJECTIVE.

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**This chapter provides guidance for registration, reservation of registration marks and deregistration of aircraft.**

**Reference: ICAO, Annex 7, ICAO Document 9760 Vol. I Chapter 5, Nig. CARs Part 4. CHECKLIST: CL: O-AWS016, AND FORMS, AC-AWS001, AC-AWS001A, AC-AWS001B, AC-AWS001C, AC-AWS001D, AC-AWS001E, AC-AWS001G**

#### 2.0 GENERAL

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The proper registration of aircraft is fundamental to the safety of international air operations and is therefore accorded considerable attention in Chapter III of the Convention on International Civil Aviation. Further, details on the registration and marking of aircraft are contained in Annex 7 to the Convention. 5.1.2 In accordance with international provisions, each aircraft must be registered in a State and each State must maintain a registry of aircraft. An aircraft cannot be validly registered in more than one State, but its registration may be changed from one State to another. The Convention does not provide for an aircraft to be registered by an international organization such as an agency of the United Nations; however, Article 77 of the Convention does provide for two or more Contracting States to establish joint air transport operating agencies subject to ICAO Council determination as to how the provisions of the Convention will apply concerning the registration and nationality of the aircraft operated by such agencies. To date no such agencies have been formed. Subject to any future action the Council might take in respect of joint operating agencies, each aircraft must have only one State of Registry and that State has, among a number of responsibilities in respect of each aircraft on its register, a fundamental responsibility to ensure that the aircraft is operated in an airworthy condition.

Under Article 19 of the Convention, the registration or transfer of registration of aircraft in any Contracting State shall be made in accordance with its laws and regulations. Accordingly, the Director, CAA will need to ensure that the State adopts detailed regulations covering all aspects of registration including such matters as the basic requirement for aircraft to be registered with the State's application procedures, data required, display of the registration certificate and fees (if any). The Director-General has put administrative instructions in place on the maintenance of the register within the NCAA.

Annex 7 requires that the register of each State shall show, for each aircraft registered, the information recorded in the certificate of registration. The NCAA's certificate of registration shall be carried in the aircraft at all times and shall in wording and arrangement conform with ICAO standards.



1. **DF9F9EI GH9G**

A. Knowledge of the NCAA regulatory requirements (Nig. CARs [Part 4](#)).

2. **DFC79GG9G**

3. **5F7F5: HF9; GHF5 HCB DFC798I F9**

Follow the flow – chart in the [CL: O-AWS016](#) and do the following at each of the stages specified:

1. A qualified applicant is as in the Civil Aviation Regulations [Part 4](#)
2. Applicant submits application package for C of R
3. DG minutes application to DAWS
4. DAWS minutes application to group in – charge of registration
5. Vet application for completeness as per list of requirements for C of R using form [AC-AWS001A](#). **FBCH9. H<9F9 AI GH69 5B9J-89B79 C: 89!F9; GHF5 HCB: FCA DF9J=CI GGH5H9 C: F9; GHFML**
6. If items are not complete, acknowledge receipt of application using form [AC-AWS001F](#). Check “Unsatisfactory” and attach list of requirements with a mark “ X” against unacceptable or documents not submitted.
7. Indicate on this form if type certificate acceptance is required in accordance with Nigeria Civil Aviation Regulations [Part 5](#).
8. Inform applicant of outstanding requirements.
9. If application is satisfactory, carry out a detail review of the package as follows:
10. Verify the aircraft specification (use the aircraft type data sheet)
11. Send the application package to NCAA legal department to evaluate.
12. The legal department reviews the application package and returns it. If there are observations, applicant is notified with reasons why the application cannot be processed further.
13. If it is satisfactory the final process of issuance of the C of R is initiated , by verifying if all regulatory requirements as on list of requirements have been complied with.
14. Open a C of R file
15. Assign a C of R file # CA05/XXXX from the aircraft register sequentially
16. Assign the next registration marks sequentially from the aircraft register
17. Assign a registration number next on the list of available marks or special registration marks reserved by the applicant.
18. Print out 3 copies of the C of R (ref. to C of R sample form)
19. Submit C of R for to the Director, Airworthiness Standards for signature





20. Update aircraft register with the information specified there-in, which contains all information on the C of R.
21. Complete the C of R data form
22. Send data form to computer operator for update of aircraft registration data base
23. Dispatch C of R copies to
  1. Applicant (must acknowledge receipt)
  2. Aircraft file
  3. C of R file
18. Notify CAA of state of design and manufacturer of aircraft registration

#### 4.2 RESERVATION OF AIRCRAFT REGISTRATION MARKS

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Follow the flow – chart figure A

1. Evaluate application using requirements for reservation ([Form AC-AWS001D](#)).
2. If evaluation is satisfactory, assign the next available registration marks on the register.  
If the application requested for special registration marks verify availability and assign if special marks are not available inform applicant.
3. Note reserved mark on register.
4. Notify applicant of reserved registration marks ([Form AC-AWS001D](#))

#### 4.3 PROCEDURES FOR DEREGISTRATION OF AIRCRAFT

---

1. Review formal application form in accordance with requirements for deregistration (form [57!5 K G\\$\\$%](#) )
2. Check the register of mortgages/liens for any lien holder liability.
3. If there is/are lien holder(s), obtain lien holders consent
4. If no lien holders prepare a notice of deregistration (in triplicate) form [57!5 K G\\$\\$% "](#)
5. Obtain DAWS endorsement on the notice of deregistration stamp the notice with NCAA official stamp
6. Update aircraft register (Hard & Soft copies)
7. Distribute the notice of deregistration as follows:



- 1 copy to C of R file
- 1 copy to applicant
- 1 copy to proposed next state of registry (if applicable)

NB: In case of dispute obtain input from NCAA Company Secretary/Legal Adviser.

## 5.0 TASK OUTCOMES

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- A. Completion of the tasks in 5.1, 5.2 and 5.3 can result in the following:
- Aircraft Registration or non registration
  - Reservation of registration marks or non –reservation
  - Deregistration or non – deregistration.
- B. *Document Task.* File all supporting paper work in the applicant's office file.
- C. The information entered into the database by the computer operator shall be verified by the desk officer (inspector) before it is finally saved into the database server.

## 6.0 FUTURE ACTIVITIES

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Ensure conditions under which the aircraft was registered remain valid while the aircraft is still on the register.



## CHAPTER 28

### AIRWORTHINESS APPROVALS FOR EXPORTS

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#### 1.0 PURPOSE

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**This chapter is to provide guidance and information on the issuance of export C of A. Reference: Regulation 5.4.1.15, CL:O-AWS012A / CL:O-AWS012B AND FORM, FORM: AC-AWS029**

#### 2.0 GENERAL

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An exporter of an aircraft or an aeronautical product is normally required to obtain an export airworthiness approval from the Civil Aviation Authority of the State in which the aircraft is registered or in the case of a new aircraft or an aeronautical product, the State of Manufacture. The Civil Aviation Authority of the importing State normally revalidates the export approval. A number of States have identified certain special requirements/ conditions to which the aircraft or aeronautical product must conform before they will validate the export approval issued by the exporting State. In many cases information on such special requirements/conditions is not readily available. It is therefore important that the exporter obtain the necessary information on any special requirements/conditions from the Civil Aviation Authority of the importing State. The additional design requirements considered necessary by the importing State, in addition to the requirements of exporting States, to provide a level of safety and environmental quality (including noise) equivalent to those provided by the importing State's certifications should be included in the Type Certification Data Sheet. When any of the special conditions cannot be satisfied, the exporters must obtain a statement from the Civil Aviation Authority of the importing State indicating that they will accept the deviation.

#### 3.0 SPECIAL REQUIREMENTS

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#### 4.0 SPECIAL CONDITIONS

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The additional design requirements considered necessary by the importing State, in addition to the requirements of the exporting State to provide a level of safety and environmental quality (including noise ) equivalent to those provided by the importing State's certification basis are referred to as special conditions. These additional validation conditions should be included in the Type Certification Data Sheet. When any of the special conditions cannot be satisfied, the exporters must obtain a statement from the Civil Aviation Authority of the importing State indicating that they will accept the deviation.

#### 5.0 CLASSIFICATION OF PRODUCTS FOR EXPORT

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The regulations issued by the NCAA concerning exports provide that any exporter, or his authorized representative may obtain an export airworthiness approval. For this purpose, the products may be classified as follows:



- a. Class I Product -includes a complete aircraft, aircraft engine or propeller which has been type certificated in accordance with the applicable airworthiness requirements and for which the necessary Type Certificate Data Sheets or equivalent have been issued.
- b. Class II Product -includes a major component of Class I Product, e.g., Wings, Fuselages, Empennage surfaces, etc., the failure of which would jeopardize the safety of a Class I product, or any part, material or system.
- c. Class III Product -is any part or component, which is not a Class I or Class II product and standard parts.

In the case of an aircraft the export approval is normally issued in the form of an Export Certificate of Airworthiness. For other products, it may be issued in the form of airworthiness approval tags. Both should include, among other things, the conformity certification and should indicate whether the product is new, newly overhauled or used.

Note: When the term "newly overhauled" is used to describe the product it means that the product has not been operated or placed in service except for functional testing, since having been overhauled, inspected and approved in accordance with the applicable airworthiness requirements, for return to service.

## 6.0 ISSUANCE OF EXPORT CERTIFICATE

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The Export Certificate of Airworthiness for an aircraft should not cover the flight approval for a foreign registered aircraft. Before an aircraft is flown the certificate should be either revalidated or replaced by a new certificate issued by the new State of Registry, and flight permit for export delivery should be issued by the Civil Aviation Authority of the exporting State. Guidance on the issue of NCAA export airworthiness approval is included in (Form No. [AC-AWS029](#))

## 7.0 APPLICATION FOR AN EXPORT AIRWORTHINESS APPROVAL

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- 7.1 A separated application for an export airworthiness approval should be made for:
- i. Each aircraft;
  - ii. Each engine and propeller, except that one application may be made for more than one engine or propeller, if all are of the same type and model and exported to the same purchaser and country;
  - iii. Each type of Class II product, except that one application may be used for more than one type of Class II product; and
- a. They are separated and identified in the application as to type of the related Class I product; and
  - b. They are to be exported to the same purchaser and country



## 7.2 EACH APPLICATION FOR EXPORT AIRWORTHINESS APPROVAL OF A CLASS I PRODUCT (FORM NO. AC-AWS029) SHOULD INCLUDE, AS APPLICABLE:

- i. A statement of conformity, for each new product that has not been manufactured under a Production Certificate;
- ii. A mass and balance report etc., with a loading schedule when applicable for all transport aircraft. This report should be based on an actual weighing of the aircraft within the preceding twelve months, after all major repairs or alterations to the aircraft. Changes in equipment not classified as major changes that are made after the actual weighing may be accounted for on a "computer" basis and the report revised accordingly. Manufacturers of new non-transport aircraft may submit reports having computed mass and balance data, in place of an actual weighing of the aircraft, if fleet mass control procedures approved by the NCAA, State of Registry or Manufacturer's CAA have been established for such aircraft. In such cases, the following statement should be entered in each report:

"The mass and balance data shown in this report are computed on the basis of NCAA, State of Registry or Manufacturer's CAA approved procedures for establishing fleet mass averages. The mass and balance report should include an equipment list showing mass and moment arms of all required and optional items of equipment that are included in the certificated empty mass."

- iii. A maintenance manual for each new product when such a manual is required to the applicable airworthiness rules;
- iv. Evidence of compliance with the applicable Airworthiness Directives. A suitable notation should be made when such Directives are not complied with;
- v. When temporary installations are incorporated in an aircraft for the purpose of export delivery, the applications together with a statement that the installation will be removed and the aircraft restored to the approved configuration upon completion of the delivery flight;
- vi. Historical records such as aircraft and engine log books, repair and alteration forms, etc., for used aircraft and newly overhauled products;
- vii. For products intended for overseas shipment, the application form should describe the methods used, if any, for the preservation and packaging of such products to protect them against corrosion and damage while in transit or storage. The description should also indicate the duration of the effectiveness of such methods;
- viii. The aircraft flight manual, when such material is required by the applicable airworthiness regulations for the particular aircraft;
- ix. A statement as to the date when title passed or is expected to pass to a foreign purchaser; and
- x. The data required by the special requirements of the importing country.

## 7.3 ISSUE OF EXPORT CERTIFICATE OF AIRWORTHINESS FOR CLASS I PRODUCTS AN APPLICANT SHOULD BE ENTITLED TO AN EXPORT CERTIFICATE OF AIRWORTHINESS FOR A CLASS I PRODUCT IF HE SHOWS THAT AT THE TIME THE PRODUCT IS SUBMITTED TO NCAA FOR EXPORT AIRWORTHINESS APPROVAL, IT MEETS THE FOLLOWING REQUIREMENTS, AS APPLICABLE:



- i. New or used aircraft manufactured in the Nigeria should meet the airworthiness requirements of Nigeria, subject to the special requirements of the importing country;
- ii. New or used aircraft manufactured outside the country should have a valid CAA Airworthiness Certificate;
- iii. Used aircraft should have undergone an annual type inspection and be approved for return to service. The inspection should have been performed and properly documented within 30 days before the date the application is made for an Export Certificate of Airworthiness;
- iv. New engines and propellers should conform to the type design and should be in condition for safe operation;
- v. New engines and propellers which are not being exported as part of a certificated aircraft should have been newly overhauled; and
- vi. The special requirements of the importing country should have been met.

#### **7.4 ISSUE OF EXPORT AIRWORTHINESS APPROVAL TAGS FOR CLASS II PRODUCTS**

7.4.1 An applicant should be entitled to an Export Airworthiness Approval Tag for a Class II product if the shows that:

- i. The product conforms to the approved design data;
- ii. The product is in a condition for safe operation;
- iii. In the case of a newly overhauled product, it has not been operated or placed in service except for functional testing since having been overhauled, inspected and approved for return to service;
- iv. The product is identified with at least the manufacturer's name, part number, model designation (when applicable), and serial number or equivalent; and
- v. The product meets the special requirements of the importing country.

#### **7.5. ISSUE OF EXPORT AIRWORTHINESS APPROVAL TAGS FOR CLASS III PRODUCTS**

7.5.1 An applicant should be entitled to an Export Airworthiness Approval Tag for Class III product if the shows that:

- i. The product conforms to the approved design data applicable to the Class I or Class II product of which it is a part;
- ii. The product is in a condition for safe operation; and
- iii. The product complies with the special requirements of the importing country.

#### **7.6. RESPONSIBILITIES OF EXPORTERS**

7.6.1 Each exporter receiving an export airworthiness approval for product should:



- i. Forward to the Civil Aviation Authority of the importing country documents and information necessary for the proper operation of products being exported, e.g., flight manuals, maintenance manuals, service bulletins, assembly instructions, and other material as is stipulated in the special requirements of the importing country .The documents, information, and material may be forwarded by means consistent with the special requirements of the importing country;
- ii. Forward the manufacturer's assembly instructions and NCAA approved flight test check-off form to the Civil Aviation Authority of the importing country when unassembled aircraft are being exported. These instructions should be in sufficient detail to permit whatever rigging, alignment, and ground testing is necessary to ensure that the aircraft will conform to the approved configuration when assembled;
- iii. Remove or cause to be removed any temporary installation incorporated on an aircraft for the purpose of export delivery and restore the aircraft to the approved configuration upon completion of the delivery flight;
- iv. Secure all proper foreign entry clearances from all the countries involved when conducting sales demonstrations or delivery flights;
- v. When title to an aircraft passes or has passed to a foreign purchaser:
  - a. Request cancellation of the current registration and Certificates of Airworthiness, giving the date of transfer of title, and the name and address of the foreign owner;
  - b. Return the Certificate of Registration and Certificate of Airworthiness to the NCAA; and
  - c. Submit a statement certifying that the State's identification and registration numbers have been removed from the aircraft.



# NIGERIAN CIVIL AVIATION AUTHORITY

AIRWORTHINESS DIVISION

## APPLICATION FOR EXPORT CERTIFICATE OF AIRWORTHINESS

EXPORT CERTIFICATE No.

INSTRUCTIONS: This application is to be submitted to the NCAA (one copy) when the product(s) to be exported is (are) presented for inspection. **Use Part I for Class I Products and Part II for Class II.** For complete aircraft execute items I through II as applicable. For engines and propellers, omit items 5a) and 6. Part III is for NCAA use only.

### PART I (For Class I Products)

1. Application is made for an Export Certificate of Airworthiness to cover the product(s) described below, which is (are):  
 New                       Used (Aircraft)                       Newly Overhauled

2. Name and Address of Exporter	3. Name and Address of Foreign Purchaser	4. Country of Destination
---------------------------------	--	---------------------------

5. Description of Product(s):	
-------------------------------	--

Type	Make and Model	Identification No.	Serial Numbers	Specification No.	Operating Time (Hours)	
					Since Overhaul	Total
a) Aircraft						
b) Engines						
c) Propellers						

6. The aircraft was given a satisfactory flight test On \_\_\_\_\_ (Date)

7. Does the product comply with all applicable NCAA regulations, Airworthiness Directives and other Airworthiness requirements? Yes No (explain in "Remarks")

8. Have applicable special requirements of the importing country been complied with? Yes No (explain in "Remarks")

9. Has proper preventive treatment been applied to products susceptible to rapid corrosion when being shipped? Yes No (explain in "Remarks")

10. Remarks

11. Exporter's Certification  
The undersigned certified that the above statements are true and that, the product(s) described here is (are) airworthy and in condition for safe operation except as may be noted under item 10 "Remark", above.

\_\_\_\_\_  
(Signature of Applicant or Authorized Representative)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(date)



**PART II**  
(For class II Products)

12. Application is made for approval of aeronautical parts for export as indicated below:

13. Name and address of exporter	14. Name and address of Foreign purchaser	15. Country of destination
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16. Parts are eligible for installation on:

\_\_\_\_\_ (Spec No. \_)  
Make and Model Class 1 Product)

17. The parts are: (check one)  New  Newly Overhauled

18. The parts are described (check one):

<input type="checkbox"/> By Name, Part Number, and Quantity On the attached Invoice or Packing Sheet No. _____	<input type="checkbox"/> Below by name, Part Number, and Quantity.
--	--

<u>Name</u>	<u>Part Number</u>	<u>Quantity</u>
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19. Exporter's Certification

I certify that the foregoing statements are true and that parts described herein are airworthy and conform to AID approved design data.

\_\_\_\_\_  
(Signature of Applicant or Authorized Representative) (Title) (Signature) (date)

**PART III – Approval (for NCAA use only)**

20. It is considered that the product(s) described in \_\_\_\_\_ is (are) airworthy and conform(s) to pertinent requirements except as noted in Item 10. (Part I or II)

\_\_\_\_\_  
(Name) (Signature) (Date)

21. \_\_\_\_\_ Approval tags, forms were issued for the parts described in Part II.  
(Quantity)

22. Export file spot-checked by:

\_\_\_\_\_  
Name Signature (Date)



# NIGERIAN CIVIL AVIATION AUTHORITY

AIRWORTHINESS DIVISION

## EXPORT CERTIFICATION OF AIRWORTHINESS

(For Class I Products)

Number: \_\_\_\_\_

This Certifies that the product identified below and more particularly described in Specification(s)<sup>1</sup> of the State of Design's Type Certificate Number \_\_\_\_\_, has been examined and as of the date of this Certificate, is considered airworthy in accordance with a comprehensive and detailed airworthiness code of Nigeria, (Nigerian CARs Part 5.4.1.4) and is in compliance with those special requirements of the importing State filed with Nigeria, except as noted below. **This certificate in no way attests to compliance with any agreements or contracts between the vendor and purchaser, nor does it constitute authority to operate an aircraft.**

Product: \_\_\_\_\_ Engine Model: \_\_\_\_\_

Manufacturer: \_\_\_\_\_ Propeller model: \_\_\_\_\_

Serial No.:

New

Newly Overhauled

Used Aircraft

State to which exported: \_\_\_\_\_

Exceptions: \_\_\_\_\_

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Signature)

<sup>1</sup>For complete aircraft, list applicable specification or Type Certificate Data Sheet numbers for the aircraft, engine, and propeller. Applicable specifications or Type Certificate Data Sheet, if not attached to this Export Certificate, will have been forwarded to the appropriate governmental office of the importing country.

**NOTE: The Export C of A is required to remain in force for a period of 60 days from the date of issuance.**



# NIGERIAN CIVIL AVIATION AUTHORITY

AIRWORTHINESS DIVISION

## EXPORT AIRWORTHINESS APPROVAL TAG

(For Class II Products)

Number: \_\_\_\_\_

1. Name and Address of Exporter	2. Name and Address of Foreign Purchaser	3. Country of Destination
---------------------------------	--	---------------------------

4. Parts are eligible for installation on \_\_\_\_\_  
 (Make & Model  Class I Product) (Airworthiness Specification No.)

5. The parts are described (check one):  
 New  Newly Overhauled

6. The parts are described (check one):

<input type="checkbox"/>	By name, Part Number, and Quantity On the attached Invoice or Packing Sheet No. _____	<input type="checkbox"/>	Below by Name, Part Number, and Quantity
	<u>Name</u>		<u>Part Number</u>
			<u>Quantity</u>

7. The parts do not meet the applicable NCAA Requirements in respect of the following:

8. It is considered that the product(s) described in Item 6 is (are) airworthy and conform(s) to pertinent requirements except as noted in Item 7.

_____ (Name of Applicant or Authorized Representative)	_____ (Title)	_____ (Signature)	_____ (date)
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## CHAPTER 29

### PROCEDURES FOR THE ACCEPTANCE AND ISSUANCE OF AIRCRAFT NOISE CERTIFICATES

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**The Nigerian Civil Aviation Authority has developed regulations requiring airplanes to comply with noise certification standards as set out in Nig. CARs Part 16.**

**REFERENCE, CHECKLIST: [CL:O-AWS030](#), FORMS: [AC-AWS025](#), [AC-AWS025A](#), [AC-AWS025B](#)**

#### REQUIREMENTS:

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1. Annex 6, part 1, Section 6.13 states that "An aeroplane shall carry a document attesting noise certificate." The attestation may be contained in any document carried on board, approved by the State of Registry.
2. Noise certification may be accepted by the State of Registry of an aircraft on the basis of satisfactory evidence that the aircraft complies with requirements which are at least equal to the applicable standards specified in the ICAO annex 16, Vol.1, (1.2).
3. Annex 16 Vol.1 chapter 1 par.1.5 states that Contracting State shall recognise as valid a noise certification granted by another contracting State provided that the requirements under which such certification was granted are at least equal to the applicable standards specified in the Annex.
4. Annex 16 Vol. I chapter 1 par. 1.6 states that a contracting state shall suspend or revoke the noise certification of an aircraft on its Register of the aircraft ceases to comply with the applicable noise standards. The State of Registry shall not remove the suspension of a noise certification or grant a new noise certification unless the aircraft is found, on re-assessment, to comply with the applicable noise standards.

It is further required that NCAA shall ensure that:

- (i) The State of Registry of aircraft is an ICAO member
- (ii) A noise certificate, in respect of the said aircraft, is in force.
- (iii) The data on the aircraft noise certificate/statement are not at variance with those contained in the flight manual of the respective aircraft.
- (i) The certificate is properly issued and endorsed by the issuing authority.

Above conditions having been met, a NOISE CERTIFICATE/STATEMENT shall be caused to be issued to the aircraft provided the aircraft is duly registered in Nigeria.

The proposed formats of the certificate are hereby attached.



# NOISE CERTIFICATE

CERT NO.		
1. NATIONALITY AND REGISTRATION MARKS	2. MANUFACTURER AND TYPE OF THE AIRCRAFT	3. AIRCRAFT SERIAL NUMBER
4. YEAR OF MANUFACTURE	5. MAXIMUM TAKEOFF WEIGHT APPROVED	
ENGINE MANUFACTURER		MODEL
6. AUTHORITY AND BASIS FOR ISSUANCE: <p>This Noise Certificate is issued pursuant to the Civil Aviation Act 2006 and Nigerian CARs made hereunder, in respect of the above mentioned aircraft, which is considered to comply with the noise requirements of ICAO Annex 16 when maintained and operated to or within the weight limits specified above and in accordance with the foregoing and the pertinent operating limitations.</p>		
TYPE OF ENGINE		TYPE OF PROPELLER
ADDITIONAL MODIFICATIONS		
REFERENCE POINT	NOISE LEVEL, EPNdB	CERTIFICATION STANDARD
LATERAL NOISE MEASUREMENT POINT FLY-OVER NOISE MEASUREMENT POINT APPROACH NOISE MEASUREMENT POINT		ICAO ANNEX 16 VOLUME 1  Nigerian CAR Part 16
REMARKS		
DATE OF ISSUE	DIRECTORATE OF AIRWORTHINESS STANDARDS	



**NIGERIAN CIVIL AVIATION AUTHORITY**  
AVIATION HOUSE  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**APPLICATION FOR AIRCRAFT NOISE CERTIFICATE**

I. **NAME AND ADDRESS OF OPERATOR**

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---

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II. **BASE(S) OF OPERATION**

1. 

---

2. 

---

3. 

---

4. 

---

III. **AIRCRAFT TECHNICAL DATA**

1. Type/Model 

---

2. Manufacturer 

---

3. Registration Number 

---

4. C of A Validity 

---

5. Date of Manufacture 

---

6. Maximum Take-Off-Mass 

---

IV. **ENGINE DATA**

1. Type/Model 

---

2. Manufacturer 

---

V. **PROPELLER DATA**

1. Type/Model 

---

2. Manufacturer 

---

VI. **NOISE DATA**

1. Lateral Noise Level (EPNdB) \_\_\_\_\_
2. Fly-over Noise Level (EPNdB) \_\_\_\_\_
3. Approach Noise Level (EPNdB) \_\_\_\_\_

VII. The above information is in fulfillment of the requirement of ICAO Annex 16 Vol. 1 / CARs Part 16-3(ii).

NAME \_\_\_\_\_

DESIGNATION \_\_\_\_\_

SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

**FOR DAWS USE ONLY**

RECEIVED BY \_\_\_\_\_

DATE RECEIVED \_\_\_\_\_

CHECKED BY \_\_\_\_\_

SATISFACTORY

ISFACTORY

Inspectors Comments (if unsatisfactory): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

ISSUE

REFUSE

Inspector's Signature: \_\_\_\_\_

**Documents to be submitted alongside this application**

1. Copy of current noise certificate
2. Copy of Certificate of Registration of aircraft
3. Copy of Certificate of Airworthiness
4. Copy of Type Certification Data sheet or equivalent approved document (e.g. approved flight manual)
5. Copy of payment receipt for statutory fee(s)



**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**PROCEDURES/CHECKLIST FOR THE ACCEPTANCE AND  
 ISSUANCE OF A NOISE CERTIFICATE**

**Applicant:** \_\_\_\_\_

**Aircraft Manufacturer:** \_\_\_\_\_


**Type/Model & Serial No.:** \_\_\_\_\_

**Registration Marks:** \_\_\_\_\_

**Date:** \_\_\_\_\_

<b>S/N</b>	<b>CHECKLIST PROCEDURE</b>		
I	Individual/organisation/operator requests for issuance/acceptance of a noise certificate		
II	Applicant is issued relevant NCAA application form number AW021, alongside completed payment slip specifying the statutory fee(s)		
III	Applicant submits formal application		
<b>1</b>	<b>EVALUATION OF APPLICATION FORM</b>	<b>STATUS</b>	
		<b>Unsatisfactory (U/S)</b>	<b>Satisfactory (S)</b>
1.1	Has the application form been properly completed, and are the accompanying documents as listed therein available?		
1.2	Is the State of Design of the aircraft an ICAO contracting state?		
1.3	If granting noise certification based on approved documentation - does the noise certificate data contained in the approved document (e.g. approved flight manual, type certificate data sheet, etc.) conform to ICAO Annex 16, Vol. 1?		
1.4	If validating noise certification - is the noise certificate properly issued and endorsed by the issuing authority?		
1.5	<i>If all the items in step '1' above are satisfactory, proceed to step '3'; otherwise go to step '2'</i>		
<b>2</b>	<b>REJECTION OF APPLICATION</b>	<b>STATUS</b>	
		<b>Pending (P)</b>	<b>Completed (C)</b>
2.1	Recommend as appropriate, in the space provided below, the denial of issuance/acceptance of noise certification. Give reason(s) as to recommendation. Then, forward the recommendation to Director, Airworthiness Standards		
2.2	Inform operator of the discrepancies observed in their application		
<b>3</b>	<b>NOISE CERTIFICATE – ISSUANCE/ACCEPTANCE</b>	<b>STATUS</b>	
		<b>Pending (P)</b>	<b>Completed</b>



			(C)
3.1	Obtain the aircraft file and, on a clean copy of the NCAA noise certificate, fill out the following information:		
(i)	Noise certificate number (i.e. C of R number)		
(ii)	Registration marks		
(iii)	Aircraft serial number		
(iv)	Year of manufacture		
(v)	Maximum Take-Off Weight		
(vi)	Engine manufacturer (e.g. Rolls Royce)		
(vii)	Engine model (e.g. JT8D-15A)		
(viii)	Type of engine (e.g. turbofan, turboprop)		
3.2	Insert the noise level values as specified on the previous State of Registry noise certificate, including the certification standard. Ensure that standards are not less than requirements of Annex 16, Vol. I  <b>NB:</b> Where previous noise certificate is not available, operator should make available the relevant copy of the page from the aircraft flight manual		
3.3	Cross-check your entries into the draft copy of the noise certificate		
(i)	Once draft copy is adjudged to have been satisfactorily completed, prepare three original typed/computer printed copies on the actual NCAA Noise Certificate card		
3.4	Attach both original NCAA noise certificates to:		
	- the operator's application letter		
	- the copy of the payment receipt		
(i)	Recommend as appropriate, in the space provided below, the issuance/validation of the noise certificate		
(ii)	Forward to the Director, Airworthiness Standards for endorsement		
3.5	Once endorsed by DAWS, dispatch one of the original copies, along with a covering letter, to the applicant and then file the second original copy in the respective aircraft file		
3.6	Insert (i) the third original copy of the noise certificate, (ii) the operator's application letter/form and all related correspondence, (iii) copy of payment receipt and (iv) signed acknowledgment copy of the noise certificate and the dispatch covering letter, into Noise Certificate Issues file AD.29 latest volume		
3.7	File this Checklist Procedure in the respective aircraft file		
<b>RECOMMENDATION:</b>			
			

**INSPECTOR(S) NAME(S) & SIGNATURE:** \_\_\_\_\_  
 \_\_\_\_\_



## CHAPTER 30

### EVALUATION OF CATEGORY I/II/III/IIIA LANDING MINIMUM MAINTENANCE/INSPECTION PROGRAMMES

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#### 1.0 OBJECTIVE

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This section provides guidance for evaluating and accepting applications for lower approach and landing minima in respect to the appropriate support programme. Reference: ICAO Annex 6, Chapter 1. Nig. CARs Part [7.2.1.6](#), [7.2.1.7](#)

#### 2.0 GENERAL

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##### A. Responsibilities

(1) The Airworthiness Aviation Safety Inspector (ASI) will provide technical support to the Operations ASI and the applicant. The responsibility for monitoring all applicants during the evaluation period should be coordinated between the Avionics and Operations ASIs, to include:

- Approvals
- In-flight evaluation observations
- Surveillance

(2) It is the applicant's responsibility to obtain and submit all documents that establish the eligibility of its aircraft, such as:

- The required maintenance/inspection programme necessary for continued eligibility.
- The applicant's Minimum Equipment List (MEL), with the limitations for Category I operations, if applicable
- An acceptable means for maintaining the reliability of the flight guidance control and associated systems.

##### B. Qualifications for Low Approach Landing Minimums.

Low approach landing minima are issued to qualified operators operating under the Nigeria CARs. While the operating rules for each of these authorizations may vary significantly, the approved guidelines do not. Approval for low or minima approaches in all categories will require compliance in the following three major areas:



- Airborne equipment and systems
  - Flight crew and maintenance personnel qualifications
  - Lowered minimum procedures, including a maintenance/inspection programme.
- C. Deviations. Commitments to deviations should not be made without coordination between the Airworthiness and Operations ASIs. All requests for deviations must be forwarded to the Director, Airworthiness and Operations Standards, by the Operations ASI. The applicant should be advised not to proceed in operating under its lower minimum proposal until the deviation request is resolved.

### 3.0 CATEGORY I OPERATIONS

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The Avionics ASI's responsibilities for Category I authorizations are primarily limited to the evaluation of the flight director and/or auto pilot systems. The assigned Operations Inspector is responsible for determining the overall suitability of an operator's Category I capabilities.

### 4.0 CATEGORY II EQUIPMENT APPROVAL FOR AIRCRAFT CERTIFICATED WITH 9 OR LESS PASSENGER SEATS

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- A. Lower Approach Minimum Approval. An application for lower approach minimum authority should specify the basis for the aircraft approval to conduct lower minimum approaches. This authority may be based on:
- (1) Type certification and the Airplane/Rotocraft Flight Manual
  - (2) Supplemental type certification
  - (3) Any acceptable combination of the above
- B. Requirements for Category II Approval
- (1) Requirements for Category II approval for general aviation operators should specify:
    - Required instruments and items of equipment
    - Methods of approval
    - Evaluation programme conduct
    - Calibration standards
    - Maintenance/inspection programmes
  - (2) ICAO DOC. 9365, or the U.S. -FAA Advisory Circular 91-16, Category II Operations-General Aviation Airplanes, as amended, is available to assist operators in developing and obtaining approval of Category II equipment installations and maintenance/inspection programmes.



- C. Operational Evaluation Programmes. Manufacturer's engineering coordination should be requested when necessary, particularly for those aircraft in which the functions and limitations of the automated systems are significant factors for safe operations.
- D. Flight Director Systems. ASIs should be aware that single flight director systems with dual displays in which the second display repeats only the ILS information on the pilot's display will not meet the requirements for two ILS receiving systems.
- E. Optional Avionics Equipment. Optional avionics equipment installed by the operator will be referred to an authorized engineering source for evaluation. The engineering evaluation can assist in determining if flight-testing is required, what limitations may apply, and whether or not the installation may require a Supplemental Type Certificate. If a Supplemental Type Certificate from the regulatory authority of aircraft manufacturer is required, avionics personnel will assist in the accomplishment of a compliance and conformity inspection, as necessary. Optional equipment that may be installed and require approval include the following:

- Flight director systems
- Automatic throttle control systems
- Auto pilot and approach coupler systems
- Speed control command systems
- System faults detection and warning systems
- Radio altimeters

**NOTE: An authorized engineering source may be the engineering department of an aircraft manufacturer or a designated engineering representative certificated by the regulatory authority where the aircraft was manufactured.**

- F. Alterations. Proposals to alter installed avionics equipment required for a particular category of operation should be carefully reviewed and handled in accordance with established procedures. Each proposal should be evaluated for its effect on system performance, compatibility with the original standard, and compliance with Category II criteria.
- (1) When manufacturer-proposed alterations to existing avionics equipment appear to be major, verify the approval status before sanctioning incorporation of the change by the operator. If approval from the manufacturer's regulatory authority for the alteration is not clearly indicated in the manufacturer's instructions, the operator should obtain such approval before performing the alteration.



- (2) An ASI should exercise a cautious approach to field approval of alterations. Pressure from any source should not discourage the ASI from verifying that the alteration is being made in accordance with approved technical data and that the technical evaluation is clearly within the scope of the ASI's training, experience and approval authority.
- (3) Alterations originating in an operator's engineering department should also be examined carefully and, when necessary, referred to an authorized engineering source.

## 5.0 CATEGORY II-III EQUIPMENT APPROVAL FOR AIRCRAFT TYPE CERTIFICATED FOR 10 OR MORE PASSENGER SEATS

- A. Large Aircraft Criteria. Operators using large aircraft should meet all of the requirements that are outlined in ICAO DOC. 9365, or U.S. -FAA Advisory Circular 120-28C. Criteria for Approval of Category III Landing Weather Minima, as amended, or 120-29: Criteria for Approving Category I and Category II Landing Minima for Operators, as amended.
- B. Turbojet Criteria. All operators using turbojet aircraft must comply with the aircraft systems evaluation criteria that applies to large aircraft operators. Applicants using turbojet aircraft should also use the aircraft equipment evaluation standards outlined in or the U.S. - FAA Advisory Circular 120-28C or 120-29.
- C. Systems Evaluation Approval. Systems evaluation approval should be accomplished in accordance with the U.S. -FAA Advisory Circulars 91-16, 120-28C, or 120-29, as applicable.
- D. The aircraft requirements for Category IIIA authorization include requirements for the total aircraft performance and associated systems. The acceptance of an aircraft for this category must be completely based on performance and data approved by the regulatory authority where the aircraft was manufactured.
  - (1) Upon receiving an operator's request for Category IIIA authorization, the assigned Avionics ASI should immediately contact the type certificating authority where the aircraft was manufactured. This action is to determine whether the aircraft has been approved for such operation and what equipment and systems have been approved. If the aircraft has not been Category IIIa certified, the ASI should request assistance from the appropriate type certificating authority so that an application for a Supplemental Type Certificate can be properly consolidated.
  - (2) The U.S. FAA Advisory Circular 120-28C, as amended, outlines the requirements for the maintenance programme. The nature of this type of operation will necessitate a detailed evaluation supported by well-defined



maintenance, training, and reliability programmes. All maintenance and reliability supporting documents become part of the accepted programme.

- (3) The initial programme should also include appropriate programmes identified in the Maintenance Review Board document. The frequency of maintenance actions may be revised when sufficient experience has been gained to justify a change and when there is no conflict with the certification requirements.
- (4) The reliability of systems and/or components set forth as substantiation for the Category IIIa certification becomes the performance criteria for the programme.
  - (a) Controlled monitoring of Category III a system reliability will require that the operator, after initial evaluation, incorporate the pertinent systems and components into the approved reliability programme. If the Category IIIa system reliability exceeds the approved programme, the operator should be allowed a reasonable time period in which to improve the reliability.
  - (b) The type certificating regulatory authority's Engineering Office should be advised when the monthly removal rate is exceeded and informed of the probable cause. The reliability reporting is a necessity, particularly when operational approval was predicated upon probability analysis.
- (5) The maintenance manual should identify all special techniques, maintenance/inspection frequencies, and test equipment requirements to support the programme. It should also specify the method of controlling the operational status of the aircraft. Those technicians qualified to release an aircraft for Category III must be identified.
- (6) An approved training and recurrent training programme must be provided. The listing of such personnel must be current. Only those persons trained and qualified should be permitted to perform Category III maintenance/inspections.
- (7) The operational demand for Category III airborne systems with exposure to numerous hidden functions requires that the aircraft be either periodically exercised or functionally checked. This is to ensure that all systems are operational and that no dormant failure has occurred. The initial programme should provide either a periodic Category III approach or periodic system functional check.
- (8) Until sufficient experience and data is available (excluding the six month's demonstration), it is recommended that the aircraft status period does not exceed 35 days. Failure to exercise the system by simulated Category IIIa approach or functionally checking the system within 35 days should



automatically place the aircraft in a non-Category IIIA status. The aircraft must contain this status until the required functional check is made.

## 6.0 PROGRAMME DEVELOPMENT

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- A. Initial Development. At the time of formal application, the ASI should begin to monitor development activity. Participation in all meetings with an applicant will usually require coordination with the Operations ASI. It is important for the operator to include all key personnel in any meeting.
- B. The Operator's Lower Minimum Programme. The operator's lower minima programme must be developed and the procedures used during the evaluation period. Operations Specifications Part D must reflect all special Category II maintenance requirements that were developed to support repetitive evaluation of Category II systems and equipment.

## 7.0 CATEGORY II MAINTENANCE MANUAL REQUIREMENTS

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- A. The maintenance manual should identify all special techniques, maintenance/inspection frequencies, and test equipment requirements that support the programme. Those technicians qualified to release an aircraft with lower minima should be listed or identified.
- B. The operator's procedures must include a method for manual distribution to ensure availability to the appropriate maintenance facility.
- C. Operators should be encouraged to show the method of approval of required equipment as listed in the maintenance portion of the manual.

## 8.0 MAINTENANCE/INSPECTION PROGRAMMES

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The proposed maintenance/inspection programmes must be tailored to the applicant's operations and maintenance organization. All maintenance and reliability supporting documents become part of the accepted programme.

- A. Requirements for Maintenance/Inspection Programmes. ICAO DOC. 9365, or the U.S. FAA Advisory Circulars 120-28C and 120-19, as amended, outline the requirements for the maintenance /inspection programmes. Maintenance/inspection programmes must provide for the proper maintenance and inspection of equipment and aircraft systems.
- B. Control and Accountability. Emphasis must be placed on control and accountability of all areas associated with lower landing minima approval. These areas primarily encompass the following:
  - Initial and recurrent training on flight guidance control systems
  - The use of test equipment



- The difference in aircraft systems between aircraft in an operator's fleet.
  - Special procedures for airworthiness release and control of the aircraft approach status.
  - Initial and recurrent training in all areas of the lower minima programme
  - Training for new personnel and equipment types.
- C. Operational Status of the Aircraft. The method for controlling the operational status of the aircraft lower minimum required equipment must ensure that flight, dispatch, and maintenance personnel are kept aware of the current status.
- D. Purchase of Avionics Equipment "Package" Installations. General aviation maintenance/inspection programmes may be developed by some manufacturers and repairs stations in conjunction with their Category II avionics equipment installation "package". The contents of such programmes should be thoroughly evaluated for compliance and maintainability with Category II regulations.
- E. Re-qualification Procedures. The programme must include procedures for re-qualification of an aircraft for lower minimum following maintenance on any required system. This must include tests after replacements, resetting in rack, and interchange of components.
- F. Approval. The ASI will indicate approval of the maintenance programme portion of the operator's Category II manual by signing and dating each page of the programme.

## 9.0 MAINTENANCE TRAINING PROGRAMMES

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Avionics ASIs, during the course of normal surveillance should evaluate the maintenance facilities performing Category II equipment maintenance to ensure that the training provided meets the requirements of lower minimum standards.

## 10.0 EXISTING MAINTENANCE/INSPECTION PROGRAMMES

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- A. Programmes can be developed to be compatible with the existing maintenance/inspection programme, as long as there is a clear distinction between normal and lower minimum requirements.
- B. When an operator's proposal is based on an existing maintenance/inspection programme, the ASI must ensure that all procedures will provide for the lower minimum programme requirements. Caution should be exercised when an applicant has used a programme approved for use by another operator for developing its own.
- C. The following areas of the proposal and existing programmes should be closely reviewed:





- The existing reliability programme
  - The training programme
  - The initial evaluation checks for existing aircraft and for new aircraft.
  - The existing parts pool, borrowed parts procedure, and control of spare parts.
- D. Existing Reliability Programmes. An operator's existing reliability programme may be accepted when shown to be adequate for its lower minimum operations.

## 11.0 TEST EQUIPMENT AND STANDARDS

- A. Performance Standards, Tolerances, and Calibration Procedures
- (1) Performance standards, tolerances, and calibration procedures applicable to ILS equipment have been adequately covered by:
    - Technical Standard Orders (TSO)
    - Radio Technical Commission of Aeronautics (RTCA) documents
    - Manufacturer's instruction manuals
  - (2) These standards or their equivalent are generally considered acceptable for inclusion in maintenance/inspection programmes for equipment operated to landing minima of 220-1/2 (Category I). Such standards may not be adequate for Category II. Those which will not provide category system performance should be revised to provide the required level of performance.
- B. Category II Tolerances. In many cases, the tolerances for Category II airborne equipment are more rigid than those for Category I. Therefore, the equipment used to inspect, test, and bench check Category II equipment may require more frequent test and calibration.
- C. Established Standards and Tolerances. Standards and tolerance established in the maintenance/inspection programme for testing and calibrating airborne equipment and systems that are required for Category II operations should not be relaxed following programme approval without adequate substantiation that system performance will not be degraded.
- D. Self-Test Features. Self-test features may be used for periodic inspections if:
- (1) They have been evaluated and found to adequately test the system.
  - (2) Instructions for their use and interpretation of self-test indications are included in the maintenance/inspection programme portion of the



Category II manual. Inclusion in the approved maintenance/inspection programme will indicate NCAA approval.

## 12.0 MAINTENANCE PERIOD EXTENSIONS - GENERAL AVIATION

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- A. Application for Extensions
- (1) Applications for extensions of maintenance periods for general aviation operators may be considered at the completion of one maintenance cycle of at least 12 calendar months. Application should be made by letter to the NCAA.
  - (2) The following factors are considered in granting an extension:
    - Records of Category II approaches due to malfunctioning equipment
    - Number of Category II approaches (actual and simulated).
    - Maintenance records of Category II equipment failures.
    - Service history of known trends towards malfunctioning
    - Unit mean time between failures
    - Records of functional flight checks
- B. Check, Test, and Inspection Extensions. Extensions to the check, test, and inspection periods may be granted if factors indicate that the performance and reliability of the Category II instruments and equipment will not be adversely affected. General Aviation extension periods, in most cases, would be one calendar month for tests, inspections, and functional flight checks, and four calendar months for bench checks. The operator's programme should include procedures for obtaining the extensions.
- C. Increased Extension Periods. The extension periods suggested in paragraph B may be increased at the discretion of the Avionics ASI.

## 13.0 FUNCTIONAL FLIGHT CHECKS

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Some operators have submitted programmes that provide for functional flight checks. This procedure must not be approved unless all airworthiness requirements have been satisfied before dispatch. In no instance can a functional flight check be substituted for the certification by maintenance of complete systems or equipment operation.



## 14.0 REPORTS AND RECORDS - GENERAL AVIATION

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- A. Responsibilities of Record Keeping. The persons responsible for these reports should be provided training in appropriate parts of the proposed lower landing minimum programme.
- B. Category III or any Autoland Category. Operators authorized for Category III, or any Autoland category, should be encouraged to provide reports of airborne equipment malfunctions during actual approaches. The reports may be provided on a yearly basis or at any time the malfunctions significantly affect the Autoland capability.

## 15.0 PROCEDURES

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- A. Coordination. This task requires close coordination with the Operations Aviation Safety Inspector (ASI), the applicant, and an authorized engineering source.
- B. REFERENCES
  - ICAO DOC. 9365, Chapters 4 and 5.
  - U.S. FAA Advisory Circulars 91-16, Category II Operations-General Aviation airplanes, as amended
  - U.S. FAA Advisory Circular 120-28C, Criteria for Approval of Category II Landing Weather Minima, as amended
  - U.S. FAA Advisory Circular 120-29, Criteria for approving Category I and Category II Landing Minima for FAR 121 Operators, as amended.
- C. Review the Maintenance/Inspection Programme. Review the applicant's maintenance/inspection programme to ensure that it contains control and accountability of the following:
  - (1) All maintenance accomplished on lower minimum required systems and equipment.
  - (2) All alterations to systems and equipment.
  - (3) Approach status of each aircraft at all times
  - (4) Evaluations of self-test, Built-in Test Equipment (BITE), or Automated Test Equipment (ATE) to ensure suitability.
  - (5) Spare equipment
  - (6) Maintenance calibration, use of test equipment, record/reporting requirements



- (7) Repetitive and chronic discrepancies to ensure the affected aircraft remains out of lower minimum approach status until positive corrective actions is made.
  - (8) All aircraft in the fleet that have not been evaluated for lower minimum approaches.
- D. Review the Existing Maintenance/Inspection Programmes. Ensure that the existing maintenance/inspection programme has procedures for the following:
- (1) Identifying chronic discrepancies and corrective action follow-up.
  - (2) Keeping aircraft with chronic and/or repetitive discrepancies out of a lower minimum status until positive corrective action is taken.
  - (3) Training maintenance personnel assigned to reliability analysis
  - (4) Initial evaluation checks for existing aircraft and for new aircraft to the fleet before inclusion in the operator's lower minimum operations.
  - (5) Identification of all components used in the lower minimum systems in the existing parts pool, parts borrowing procedure, and control of spare parts.
  - (6) Ensuring that calibration standards for all test equipment used for maintaining lower minimum systems and equipment are met.
  - (7) Ensuring that each flight crew and persons with operational dispatch authority are aware of any equipment malfunction that may restrict lower minimum operations.
- E. Review the Functional Flight Checks. If a functional flight check has been submitted, ensure that the following information is included:
- (1) Maintenance clearance and/or concurrence before an aircraft is returned to a lower minimum status, even if the functional flight check was found to be satisfactory.
  - (2) Request for a flight check by maintenance in the aircraft log
  - (3) Maintenance entry acknowledging the results and the action taken.
- F. Evaluate the Supporting Data. Unless the applicant provides supporting approval data, the Avionics ASI should coordinate with the Operations ASI and the aircraft Type Certificate Holding Region/Country to determine the acceptability of each aircraft for the authorizations requested.
- G. Review the Minimum Equipment List (MEL). Appropriate sections of the MEL must be revised to identify Category II required systems and special procedures, if applicable.
- H. Review the Personnel Training Requirements. Ensure there are procedures for the following:



- (1) Ensuring personnel contracted to perform Category II related maintenance are qualified and the programme requirements are made available to these persons.
- (2) Training and/or recurrent training for the air taxi maintenance personnel. Personnel not qualified to perform maintenance on Category II systems and systems and equipment, including flight crew and dispatch, should be trained in the airworthiness release requirements of the lower minimum programme.

## 16.0 TASK OUTCOMES

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The Principal Operations Inspector has the primary responsibility to grant the operator approval for lower minimums. It is the Avionics ASI's responsibility to evaluate and approve the avionics requirements and associated support programmes. Successful completion of this task will therefore consist of coordination with the Operations ASI for providing original Category II and III documentation to the Director, Airworthiness and Operations Standards.

## 17.0 FUTURE ACTIVITIES

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None.



## CHAPTER 31

### EVALUATE EXTENDED DIVERSION TIME OPERATIONS (EDTO)

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#### 1.0 OBJECTIVE

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**This section describes the process of evaluating an operator for a deviation under the Nig. CARs for extended diversion time operations.**

**References: ICAO Annex 6, Part I, Attachment E, ICAO Document 9642 - AN/941, Part III, Chapter I. and Nig. CARs Part 8.6.2.11**

#### 2.0 GENERAL

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- A. Definition:  
Extended Diversion Time Operations (EDTO): Operations conducted over a route containing a point further than one hour flying time at the normal one-engine inoperative cruise speed (in still air) from an adequate airport.
- B. An EDTO authorization requires an approval from the Director, Airworthiness Standards and Director, Operations and Training for a deviation to the operating rules, To meet the requirements of this deviation the operator must be able to:
- (1) Substantiate that the type design reliability and the performance of the proposed aeroplane/engine combination have been evaluated per the guidance in U. S. FAA Advisory Circular 120-42, Extended-Range Operation with Two-Engine Airplanes as amended, and found suitable for extended range operations.
  - (2) Submit an application package that includes supplemental maintenance requirements and programmes that allow for safe operations under an EDTO authorization.
- C. Application Package. The application package must include the following programmes:
- (1) Supplemental maintenance programme. This programme must include the basic maintenance programme with additional EDTO requirements for the aeroplane being considered. These requirements should include maintenance procedures that prevent actions such as  
  
changing oil filters, chip detectors, fuel controls, etc., from being done simultaneously on both engines.
  - (2) Verification programme. This programme must have procedures that would preclude an aeroplane from being dispatched for extended range operation



unless appropriate corrective actions have been taken and verified, after any of the following:

- A propulsion system shutdown
  - A primary system failure
  - Any significant adverse trends/repeat problems from a previous flight
- (3) Airframe/Engine condition monitoring programme. Condition monitoring should provide a system for a data collection that ensures the timely analysis and correction of engine problems. This programme should accomplish the following:
- Prevent in-flight shutdowns of power plant systems through detection of early stage deterioration
  - Ensure that engine limit margins are maintained so that a prolonged single-engine diversion may be conducted without exceeding approved engine limits (i.e., rotor speeds, exhaust gas temperature, etc.) at all approved power levels and expected environmental conditions.
- (4) Reliability programme. This must be an event-oriented reliability programme designed primarily to identify and prevent problems. This programme must incorporate reporting criteria for use by the operator and the NCAA as a measure of extended range reliability. The EDTO reliability programme can be a supplement to an existing reliability programme if the existing programme is event oriented.
- (5) Engine/APU oil consumption monitoring programme. This programme must monitor oil consumption on a flight-by-flight basis. This monitoring must take into account the amount of oil added at the departing EDTO stations with a reference to the running average consumption.
- Additionally, prior to each extended range leg, the programme must verify the oil system integrity.
- (6) Extended range parts control programme. This programme should ensure that distinct EDTO parts, as required by the type design criteria, are utilized to maintain the integrity of systems unique to EDTO. This programme must consider verification of parts placed on the aircraft through parts borrowing and pooling agreements. For further information see Approved Parts/Parts Pool/Parts Borrowing.
- (7) Maintenance training programme. The training programme should focus on extended range awareness for all personnel involved in the extended range maintenance programme. It may be included in the normal maintenance training but should emphasize the special nature of extended range maintenance requirements.



- (8) Engine Condition Monitoring programme. The air operator's developed engine condition-monitoring programme should provide for surveillance of the extended range programme. This supplemented programme must ensure the continued integrity of the EDTO engine programme while allowing for programme adjustments, as required. See U. S. FAA Advisory Circular 120-42 for reporting and additional requirements.

### 3.0 PROCEDURES

#### A. Coordination

- (1) This task requires coordination among maintenance inspectors and avionics inspectors.
- (2) For questions regarding an EDTO authorization, contact the following, as required:
- US-FAA, AFS-330, Maintenance Division
  - ICAO
  - Nig. CARs

#### B. References

- US-FAA Advisory Circular 120-42
- CAR

#### C. Checklist NCAA Form No [CL:O-AWS021](#)

#### D. Verify the Compliance of the Aircraft with the Configuration, Maintenance, and Procedures Document. Verify compliance through coordination with the US-FAA, AFS-330.

#### E. Evaluate the Operator's Current Maintenance Programme. Request and evaluate the following information for EDTO suitability:

- (1) The date of type design and the review of each engine/airframe combination
- (2) The in-service experience for each engine/airframe combination, to include the following.
- (a) The number of months/years of operational experience with each specific engine/airframe combination





- (b) The total number of EDTO and/or domestic operations conducted with the specific engine/airframe
  - (c) The engine/airframe hours and cycle, to include both total and high time engines
  - (d) The in-flight shutdown rate (all causes), including the 12-month and 6-month rolling average for both the EDTO and the world fleet.
  - (e) The unscheduled engine removal rate for both the world fleet and the operator
  - (f) The mean time between failure (MTBF) for major components
  - (g) The record of APU start and run reliability
  - (h) The records of delays and cancellations, with the causes, by the specific aircraft systems
  - (i) The records of significant operator events, including the phase of flight where the vent occurred, such as:
    - Uncommanded power changes (surge or rollback)
    - Inability to control engine or obtain desired power
    - In-flight shutdown events
- F. Review the Operator's Manual. The inspector must ensure that the following programmes and procedures have been included as part of the operator's supplemental maintenance programme:
- (1) Verification programme, including:
    - A list of primary systems
    - Conditions that require verification flights
    - Procedures for initiating verification actions
    - Procedures that monitor and evaluate corrective actions
    - Procedures that verify the implementation of corrective action
    - Procedures that identify and reverse the adverse trends
  - (2) Engine condition monitoring programme, including:
    - Scope of programme, e.g., data collection and analysis

- Notification procedures for deterioration
  - Deterioration monitoring limits for internal engine parts
- (3) Reliability programme, including:
- Reporting criteria
  - Procedures to ensure reporting of significant individual events (engine shutdowns, flight diversions, etc.)
- (4) Engine/APU oil consumption monitoring programme, to include:
- Established limits of consumption
  - Procedures for use and verification prior to the start of each extended range leg
- (5) Extended range parts control, including:
- Methods of verification of proper parts
  - Control procedures during parts pooling and borrowing
- (6) Maintenance training programme, to ensure:
- Personnel are aware that an EDTO authorization is in place
  - Personnel, including contract personnel, are adequately trained on the special programmes required by an EDTO authorization
- (7) Aircraft and Engine Monitoring programme to include:
- Ensuring the continued integrity of the EDTO maintenance programmes
  - Ensuring that adjustments are made, as required, to the EDTO programmes
- (8) Procedures that accomplish the following:
- Preclude simultaneous actions from being applied to multiple similar elements in any EDTO-critical system



- Identify EDTO-related tasks on routine work forms and related instructions
- Develop an EDTO over-water service check to verify the status of the aeroplane and ensure certain critical items are acceptable.

G. Analyze Results

- (1) If problems are found, return the material to the operator.
- (2) If the submitted material is acceptable, forward the material to the NCAA, Airworthiness Department, DAWS for concurrence.

#### 4.0 TASK OUTCOMES

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- A. Successful completion of this task will result in the following:
- An Extended Diversion Time Operations' Aeroplanes Authorization.
  - Amendment to the Operations Specifications paragraphs D-51
- B. Document Task. File all supporting paperwork in the operator's office file.

#### 5.0 FUTURE ACTIVITIES

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Normal surveillance.

#### 6.0 MONITORING OF EDTO OPERATION

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Since extended range programmes have such a great potential for adverse safety impact if not properly administered, inspectors dealing with EDTO must place special emphasis on surveillance activities.

- A. Surveillance should include scheduling, coordinating and reviewing the following, as applicable:
- Trend analysis.
  - Problem identification and resolution.
  - Implementation of corrective actions.
- (1) During the surveillance, report events or problems to the Director, Airworthiness Standards (DAWS) immediately.

- (2) In addition to the items required to be reported by the Nigeria Civil Aviation Regulations, the following information should be included:
- In-flight shutdowns.
  - Diversions or turnbacks.
  - Uncommanded power changes or surges.
  - Inability to control the engine or obtain desired power.
  - Problems in systems considered to have a fundamental influence on flight safety.
  - Failure to start APU while airborne.
  - Uncommanded inflight shutdowns of the APU.
  - Any other event the inspector considers detrimental to extended diversion time operations.
- (3) Items/systems that are considered critical to flight safety include the following:
- Electrical, including batteries.
  - Hydraulic.
  - Pneumatic.
  - Flight instrumentation.
  - Fuel.
  - Flight control.
  - Ice protection.
  - Engine start and ignition.
  - Propulsion systems instruments.
  - Navigation and communications.
  - Auxiliary power-units.
  - Air conditioning and pressurization.



- Cargo fire suppression.
  - Emergency equipment.
  - Any other equipment that is required for extended diversion time operations.
- (4) The event or problem reports must contain the following information:
- The type of aircraft.
  - The registration number of the aircraft.
  - The engine type and serial number.
  - The total time and cycles, including the last inspection or shop visit.
  - The total time since overhaul or inspection of the unit or the system affected.
  - The phase of flight, to include climb, cruise and descent. Coordinate with operations inspectors to acquire information such as speed, altitude ambient temperatures, and atmospheric conditions during the event.
  - The location and length of the diversion or turnback.
  - Any corrective actions taken.
  - Any other information pertinent to the event.
- (5) Each month, the inspector must acquire and evaluate the following information:
- A summary of in-flight shut-down rates (12 month rolling average)
  - Any delays and cancellations.
  - All ground events (aborted takeoff, power shortfall or loss, and engine removals).
- B. *Approved Maintenance Programme Changes.* Operator submitted maintenance programme changes must meet the following criteria prior to approval:
- (1) Changes must be submitted with supporting documentation.
  - (2) Changes must be submitted at least 60 days prior to the scheduled implementation.



- (3) Changes must enhance the programme without deleting or degrading approved programme elements.

**NOTE: Under no circumstances should the inspector allow changes to be made to Certification Maintenance Requirements (CMR) or Configuration Maintenance Procedures document (CMP) without prior approval from the NCAA.**

C. *Trend Analysis*

- (1) Surveillance should be directed toward the identification and correction of adverse trends found during APU, airframe, and propulsion systems monitoring.
- (2) Other indications of adverse trends include the following:
  - Repeat write-ups by the pilot.
  - The degradation of engine condition.
  - High fluid consumption rates
  - The recurrence of deficient areas as identified by the carrier's continuing analysis and surveillance programme.
  - Any patterns of irregularities, overly frequent repairs, etc.

D. *Reducing Diversion Times.* When adverse trends and/or maintenance problems have been detected, a reevaluation of the operator's programme should be performed.

- (1) This re-evaluation should be performed by the operator and the assigned inspector with consultation from the aircraft and powerplant manufacturer.
- (2) Based on the results of the re-evaluation, the assigned inspector will make a written recommendation to the DAWS.

E. *Reinstating Diversion Times.* In order to reinstate an operator's diversion times the operator must first develop and submit a Corrective Action Plan to the Director, Airworthiness Standards.

- (1) When reviewing the operator-submitted Corrective Action Plan, the assigned Airworthiness Inspector should compare the Corrective Action Plan to the recommendations set forth in the Evaluation Report. The assigned Airworthiness Inspector should cooperate with the operator during the development of the Corrective Action Plan but should not become involved in the actual writing of the plan.



- (2) Upon operator initiation of the corrective actions, the assigned Airworthiness Inspector must perform specific surveillance of those corrective actions in addition to the normal surveillance of the EDTO programme.
  - (a) After a minimum of six months of additional surveillance the assigned Inspector must perform an in-depth audit to verify the effectiveness of the corrective actions.
  - (b) When the assigned Airworthiness Inspector is satisfied that the problems have been solved, a recommendation can be made to the DAWS for reinstatement or adjustment of the diversion times. For example, a suspended diversion time of 180 minutes could be reinstated to 120 minutes.

## 7.0 PREREQUISITES AND COORDINATION REQUIREMENTS.

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### A. *Prerequisites*

- Knowledge of the regulatory requirements of the Nigerian Civil Aviation Regulations.
- Knowledge of US FAA Advisory Circular 120-42, Extended -Range Operation with Two-Engine Airplanes, as amended.
- Successful completion of an Aircraft Maintenance Reliability Programme Course, when available.
- Successful completion of the Aircraft Systems Training Course, when available.

### B. *Coordination.*

- (1) This task requires coordination among maintenance inspectors, avionics inspectors, operations inspectors and the respective aircraft and powerplant manufacturer.
- (2) For questions regarding an EDTO authorization, contact the following as required:
  - The aircraft/powerplant manufacturer.
  - The CAA at the State of the manufacturer.
- (3) For questions regarding an EDTO Minimum Equipment List, contact the following, as required:
  - The aircraft/powerplant manufacturer
  - The CAA at the State of manufacturer



## 8.0 PROCEDURES

A. *Monitor the Operators Programme.* Ensure the following:

- (1) The approved extended-range maintenance programmes are followed as outlined in the maintenance manual sections that are referenced in the operations specifications.
- (2) Operator-proposed changes to the approved extended-range maintenance programme are submitted to the NCAA for review 60 days prior to implementation.

**NOTE: The inspector must report events or problems to the DAWS, immediately.**

B. *Submit Reports*

- (1) On a monthly basis a written report should address the following information:
  - A summary of in-flight shut down rates.
  - Any delays and cancellations.
  - All ground events (aborted takeoff, power shortfall or loss, and unscheduled engine removals).
- (2) Respond to special events by gathering and submitting the following information:
  - Engine condition monitoring and oil condition monitoring programme summaries.
  - Component removal failure summaries.
  - Pilot reports.
  - Any other information, as requested.

C. *Review Trend Analysis.* Perform an immediate evaluation of the operator's programme when any of the following occur:

- The propulsion system IFSD exceeds .05/1000 engine hours for a 120-minute operation (based on a 12 month rolling average).
- The propulsion system IFSD exceeds .03/1000 engine hours for a 180-minute operation (based on a 12 month rolling average).
- Any significant diversions occur due to airframe and/or powerplant induced discrepancies.





**NOTE: Consideration must be given to operators with small fleets due to the impact of a single event on the statistical rate. In these circumstances a review of the specific events will be more useful.**

D. *Reduce Diversion Times*

- (1) When adverse trends and/or maintenance problems have been detected ensure that an immediate evaluation is performed by the operator and the NCAA. If necessary, contact the aircraft/powerplant manufacturer and/or the CAA at the State of manufacture for consultation.
- (2) Submit a report outlining the identified problems and any corrective actions to the Director, Airworthiness Standards.
- (3) Based on the results of the evaluation, make a written recommendation and submit it to those identified in D (1) above.

E. *Reinstate Diversion Times.*

- (1) Review and, as appropriate, approve the operator-submitted Corrective Action Plan.
- (2) Schedule and conduct an in-depth audit of the EDTO programme corrective actions after a minimum of six months of additional surveillance.
- (3) Upon completion of the audit make the appropriate recommendation on the reinstatement or adjustment of the diversion times, in writing.



## CHAPTER 32

### EVALUATE AIRCRAFT LEASE/INTERCHANGE AGREEMENT

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#### 1.0 OBJECTIVE.

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This chapter provides guidance for evaluating aircraft leases and interchange agreements for Nigeria certificated operators. Reference: ICAO Document 8335-AN/879 Chapter 10 and Nig. CARs Part 9.2.3.1, 9.2.3.2, 9.2.3.3 and 9.2.3.4.

#### 2.0 GENERAL

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##### A. Definitions

- (1) *Lease*: Any agreement by a person (the lessor) to furnish an aircraft to another person (lessee) to be used for compensation or hire purposes.
- (2) *Dry Lease*: Any agreement in which a lessor, (which could be an air carrier, bank, or leasing company) leases an aircraft without flight crewmembers to an air carrier (the lessee), and in which the lessee maintains operational control.
- (3) *Wet Lease*: Any agreement in which a lessor, (Nigeria air carrier only), leases an aircraft, with at least one pilot flight crewmember, to either a Nigeria air carrier, foreign air carrier, or a foreign person (the lessee).
- (4) *Damp Lease* : When an aircraft is wet leased with only a partial crew, the provisions of section 24 (3) and 26 (3) of this Part shall apply in respect of the crew, while the provisions of section 24 (2) and 26 (2) of this Part shall apply in respect of the crew provided by the lessee.
- (5) *Interchange Agreement*: Any agreement between operators (Nigerian and foreign) in which the operational control of an aircraft is transferred for short periods of time from one operator to another. With this type agreement, the latter Operator assumes responsibility for the operational control of the aircraft at the time of transfer.
- (6) *Operational Control*: Operation of aircraft
- (7) *Lessee*: The party using the aircraft under the provisions of a lease
- (8) *Lessor*: The party furnishing the aircraft under a lease

B. *Determining Operational Control of a Dry-Leased Aircraft*. Normally, operational control of any dry-leased aircraft rests with the lessee. In most dry lease agreements, the lessor is a bank of either a leasing or a holding company. In neither case will the



- lessor have the operational expertise, the facilities, or the desire to assume responsibility and liability for controlling the day-to-day operations of the aircraft.
- C. *Determining Operational Control of Wet-Leased Aircraft.* The fact that the Federal Ministry of Aviation characterizes a lease as a wet lease does not necessarily make the lessor responsible for operational control. When Legal Unit determines who has operational control, the AOC Certification and Surveillance Unit of DAWS must be advised by letter. The AOC Certification and Surveillance Unit must make this letter a matter of record in the operator's office file.
- D. *Other Factors in Determining Operational Control of Leased Aircraft*
- (1) CAR Parts 9 provides that the NCAA shall determine if a person has operational control if that person exercised authority and responsibility for a specified number of operational functions. This could include scheduling flights and crewmembers, initiating flights, and terminating flights.
  - (2) In cases where there is doubt or controversy over who exercises operational control, the Legal Unit may consider additional factors, such as who is responsible for maintenance, servicing, and crewmember training.

### 3.0 INTERCHANGE AGREEMENTS

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- A. An interchange agreement is a form of dry lease agreement. It allows an air carrier to dry lease aircraft to another air carrier for short periods of time.
- B. Occasionally, important details may be overlooked unless interchange conditions are closely monitored. Equipment variances can be potentially dangerous unless effective training or corrective action is taken before operations begin. For example, life rafts or an emergency radio might be improperly stowed during over-water flights on aircraft that have no provisions for their stowage, thus creating a hazardous condition in turbulent weather.

### 4.0 NCAA RESPONSIBILITIES

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- A. *Determine UNIT Responsibility.* Approval of the operations specifications is the responsibility of the AOC Certification and Surveillance Unit, assigned to the operator exercising operational control of the aircraft. This determination must be made by reviewing the specific assignment of operational control listed on the lease/interchange agreement by the NCAA Legal Unit.
- B. *Review the Lease.* An aircraft lease/interchange agreement is reviewed to determine if all of the responsibilities of the lessor/lessee are described. The inspector must ensure that the lease/interchange contains all effective dates and provisions required by regulation. Those items not required by regulation must be reviewed to determine their applicability and compatibility with the regulatory requirements.
- C. *The Lessor's Operator's Manual.* The lessor's manual must be reviewed for the following:



- (1) The continuous airworthiness maintenance program, for the aircraft, engines, propellers (if applicable), and appliances
  - (2) The maintenance reliability program, if applicable
  - (3) A training program for the maintenance personnel on the aircraft
  - (4) Fueling procedures for the aircraft
  - (5) Provision for use of an approved Minimum Equipment List (MEL)
  - (6) Provisions for leasing the aircraft to the lessee
- D. *The Lessee's Operator's Manual.* The lessee's manual must be reviewed for the following:
- (1) To determine if the manuals provide adequate procedures and guidance for incorporating leased aircraft into its operating system
  - (2) Procedures for the use of the lessor's continuous airworthiness maintenance program, for the aircraft, engines, propellers (if applicable), and appliances
  - (3) Procedures for the use of the maintenance reliability program, if applicable
  - (4) Procedures in the maintenance training program that are adequate to provide for configuration differences, if the aircraft is maintained under the lessor's maintenance program
  - (5) Fueling procedures for the aircraft
  - (6) Provisions for use of an approved MEL
- E. *Aircraft Maintenance Records.* The lessor will maintain the aircraft maintenance record and ensure that the items required to be inspected, repaired, or overhauled are addressed in those records.
- F. *Aircraft Conformity Inspections.* Aircraft conformity inspections are conducted to ensure that:
- (1) Differences between aircraft already in a lessee's fleet and aircraft being leased are noted. These differences must be addressed with:
    - Amendments to the lessee's operations specifications
    - Revisions to the lessee's maintenance manual
  - (2) Configuration of the aircraft meets the regulatory requirements of the intended operation
- G. NCAA must notify the Authority of the State of the Lessor of its intention to issue a lease approval and any condition(s) attached to the approval.



## 5.0 PREREQUISITES AND COORDINATION REQUIREMENTS

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### A. *Prerequisites*

- Knowledge of the regulatory requirements of CAR Parts 8 and 9
- Successful completion of Airworthiness Inspector's Indoctrination Course for General Aviation and Air Carrier Inspections, or previous equivalent

B. *Coordination.* This task requires coordination among maintenance, avionics, and operations Aviation Safety Inspectors (ASIs). Regional coordination will also be required.

## 6.0 REFERENCES, FORMS, AND JOB AIDS

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### A. *References*

- Evaluate Nig. CARs [Part 8](#) Operator's Maintenance Records, and Nig. CARs [Part 9](#) Operations Specifications

### B. *Forms*

- NCAA Operations Specifications forms
- Lease Agreement Checklist

## 7.0 PROCEDURES FOR LEASE AGREEMENTS

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A. *Determine if a Lease Agreement has Occurred.* Request a copy of the lease or lease memorandum.

- (1) Determine which UNIT(s) should be involved in the evaluation of the lease agreements.
- (2) Determine UNIT PMI responsibility. If more than one UNIT is involved, determine which PMI will be responsible for approving the operations and maintenance portions of the operations specifications.

B. *Review the Lease. Ensure that:*

- (1) The lessor and lessee are properly identified on the lease
- (2) The lease is signed by the appropriate personnel in both the lessor's and the lessee's organizations
- (3) All strikeovers, erasures, and corrections are initialed by both the lessor and the lessee



- (4) The aircraft subject to the lease agreement are identified by aircraft make and model, registration number, and serial number
  - (5) The effective dates of the lease are identified
  - (6) Operational control is specifically designated
  - (7) Responsibilities for performing maintenance release are specifically designated
  - (8) Responsibilities for ensuring AD compliance are specifically designated.
  - (9) Responsibilities for keeping aircraft maintenance records are specifically designated
  - (10) Maintenance programs task completion (lessee's or lessor's) that will be utilized are specifically designated
- C. *Review the Lessee's Manuals.* Ensure that the manual includes the following:
- (1) Procedures adequate to incorporate the leased aircraft into his operating system, i.e., aircraft acceptance checks, etc.
  - (2) Provisions in the maintenance training program to account for any differences in the configuration of the leased aircraft from the existing fleet
  - (3) A program that is adequate to provide for configuration differences if the aircraft is to be maintained under the lessee's maintenance program
  - (4) A Minimum Equipment List (MEL) that is applicable to the leased aircraft
- D. *Review the Aircraft Maintenance Records.*
- E. *Perform an Aircraft Conformity Inspection.* After performing the inspection, review the results to ensure that the differences between the leased aircraft and the aircraft already in operation are identified and will be addressed in operation specifications and the lessee's maintenance manual.

## 8.0 PROCEDURES FOR INTERCHANGE AGREEMENTS

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- A. *Review the Agreement.* Ensure that:
- (1) The operator submits a written agreement or memorandum of the interchange agreement
  - (2) The aircraft subject to the interchange agreement are identified by aircraft make and model, registration number, and serial number
  - (3) The effective dates/times of the interchange are identified



- (4) Operational control is specifically designated
  - (5) Responsibilities for performing maintenance are specifically designated
  - (6) Responsibilities for keeping aircraft maintenance records are specifically designated
  - (7) The maintenance program to be utilized is designated
  - (8) All strikeovers, erasures, and corrections are initialed by both parties to the agreement
  - (9) The interchange agreement or memorandum provides for all differences in aircraft configuration due to the operating or maintenance requirements of both operators
- B. *Review the Lessor's Operator's Manual.* Review the following:
- 1) The continuous airworthiness maintenance program, for the aircraft, engines, propellers (if applicable), and appliances
  - (2) The maintenance reliability program, if applicable
  - (3) A training program for the maintenance personnel on the aircraft
  - (4) Fueling procedures for the aircraft
  - (5) Provision for use of an approved MEL
  - (6) Provisions for leasing the aircraft to the lessee
- C. *Review the Lessee's Operator's Manual.* Review for the following:
- (1) To determine if the manuals provide adequate procedures and guidance for incorporating leased aircraft into its operating system
  - (2) Procedures for the use of the lessor's continuous airworthiness maintenance program, for the aircraft, engines, propellers (if applicable), and appliances
  - (3) Procedures for the use of the maintenance reliability program, if applicable
  - (4) Procedures in the maintenance training program that are adequate to provide for configuration differences, if the aircraft is maintained under the lessor's maintenance program
  - (5) Fueling procedures for the aircraft
  - (6) Provisions for use of an approved MEL



- D. *Analyze the Findings.* Evaluate all deficiencies to determine what corrections will be required.
- E. *Schedule a Meeting.* If deficiencies are discovered during the evaluation, advise the operator/applicant. Schedule a meeting with the operator/applicant to discuss the problem areas, if necessary.

## 9.0 TASK OUTCOMES

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- A. Completion of this task will result in one of the following:
  - (1) Approval of the agreement by accomplishing the following:
    - Sending a letter to the operator indicating acceptance of the agreement
    - Approval of operations specifications in accordance with Nig. CAR [Part 9](#).
  - (2) Disapproval of the agreement by sending a letter to the operator/applicant listing the reasons for disapproval
- B. *Document Task.* File all supporting paperwork in the operator/applicant's office file.

## 11.0 FUTURE ACTIVITIES

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Normal surveillance.





## CHAPTER 33

### INSPECT OF OPERATOR'S MAINTENANCE FACILITY

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#### 1.0 OBJECTIVE.

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This chapter provides guidance for inspecting a certificated operator's maintenance or contract maintenance facility for regulatory compliance when the operator maintains its aircraft under a continuous airworthiness maintenance programme. Reference: ICAO Document 8335 -AN/879, Paragraphs, 6.4, 9.6.3 and 9.6.20 through 9.6.23.

#### 2.0 GENERAL

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The maintenance inspection is performed to ensure that adequate housing, equipment, spare parts, technical data and qualified personnel are being utilized to satisfactorily complete all maintenance functions.

#### 3.0 PERFORMING THE INSPECTION

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- A. *Equipment Identification.* Inspectors should be aware of the type of aircraft being operated. The operations specifications will identify the type of aircraft authorized for use.
- B. *Previous Inspection Reports.* Previous inspection reports, correspondence, and other documents in the office files should be reviewed to determine if there are any open items or if any areas are identified that require special attention.
- C. *Facilities.* The maintenance facility is required to perform maintenance in accordance with the operator's maintenance manuals. The inspector should use these documents to determine what special equipment, housing, and environmental conditions are necessary to perform the work. For example, the manufacturer may require special stands, hand tools, or a dust-free environment to repair a specific item.
- D. *Contract Maintenance Arrangements.* If any maintenance will be performed by a contract facility, an inspection must be performed at the contractor's facility. During the inspection the inspector must determine if the contractor has adequate facilities and personnel to perform the contracted work. The inspector must keep in mind that the contract maintenance facility is an extension of the operator's overall maintenance organization. Maintenance performed by the contractor must be in accordance with the operator's approved maintenance programme / schedule.
  - (1) The operator's manuals must be reviewed to determine the levels of maintenance performed at the contract maintenance facility.



- (2) The contract maintenance facilities should be inspected to ensure that they are properly certificated and rated for the scope of work performed, e.g., aircraft, powerplant, propeller, components, and accessories.
- E. *Enforcement History.* Inspectors should check the Enforcement Information to determine if there are any areas that require special attention. If a contract maintenance organization is used, it should also be checked.
- F. *Approved Flight Manual.* The approved flight manual for operators of rotorcraft external load and agricultural operations should be reviewed to determine the type of equipment being used. Based on the listed equipment, this review will help determine if the maintenance base has the necessary tools and equipment to service the aircraft and associated devices, e.g., external load devices (rotorcraft) and spraying devices (agricultural operators).

#### 4.0 PREREQUISITES AND CO-ORDINATION REQUIREMENTS

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- A. *Prerequisites*
  - Knowledge of the Nigeria Civil Aviation Regulations.
  - Familiarity with the type of operation being inspected
- B. Co-ordination. This task may require co-ordination between the assigned Airworthiness Inspectors.

#### 5.0 REFERENCES, FORMS, AND JOB AIDS

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- A. References
  - Nigeria Civil Aviation Regulations
  - Operator's maintenance manual
  - Operations specifications
  - CHECKLIST [CL: O-AWS001D](#)

#### 6.0 PROCEDURES

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- A. *Review the Operator's Data.* Review the following:
  - (1) The office files to determine if any chronic or open items exist, status of Enforcement Investigation Reports, exemptions, etc.
  - (2) The operator's maintenance manuals to determine the level of maintenance accomplished and the complexity of operation at the maintenance facility.
  - (3) The operator's operations specifications to determine the maintenance and inspection program content and complexity.



- B. *Inspect the Operator's Technical Library.* Ensure that all required technical data is available and current. If data is on microfiche, ensure that readers are available and serviceable. The data must include the following, as applicable:
- Operations specifications
  - Operator's maintenance management exposition
  - Aircraft manufacturer's manuals
  - Propeller, appliance, engine, and emergency equipment manufacturer's manuals
  - Manufacturer's and vendor's service bulletins/letters
  - Applicable Civil Aviation Regulations
  - Applicable Airworthiness Directives
  - Applicable type data sheets/Supplemental Type Certificates
  - Approved Flight Manual
- C. *Inspect the Aircraft Maintenance Record Retention System.* See Chapter 5, Section 7 for guidance concerning Operator's Maintenance Records, as applicable.
- NOTE: Sample a representative number of aircraft records to ensure the integrity of the system.**
- D. *Inspect the Maintenance Organization.* Ensure the following:
- (1) Staffing meets maintenance needs based on the complexity of operation.
  - (2) Responsibilities are separated between inspection and maintenance sections.
  - (3) Maintenance and inspection management personnel are qualified.
- E. *Inspect the Operator's Maintenance Facilities.* Using the operator's manual as a reference, inspect the following:
- (1) Parts and storage areas, to ensure:
    - (a) Adequate spare parts are available to support complexity of operation.
    - (b) Receiving inspections are accomplished in accordance with operator's manual.
    - (c) Shelf life-limits are established for items, and that these items are controlled in accordance with operator's manual or manufacturer's recommendations.
    - (d) Components and hardware are properly identified, protected, and classified as to serviceability.
    - (e) Segregation of serviceable and unserviceable components and hardware is maintained.
    - (f) Hazardous materials are suitably segregated and stored.



- (2) Special tools and test equipment, to ensure:
  - (a) Serviceability and calibration are accomplished in accordance with operator's manual.
  - (b) All required items are serviceable and within calibration criteria, to include traceability to one of the following:
    - Nigeria Standards Organisation Weights and Measures Department.
    - Standard established by the item's manufacturer
    - If foreign manufactured, the standards of the country where manufactured
  - (c) Appropriate types and quantities are available
  - (d) Proper storage and protection are utilized
- (3) Fuel/oil storage and dispensing facilities, if operated and maintained by operator. Chapter 5, Section 8 Monitor Operator's Refuelling Procedures.
- (4) De-icing chemical storage and dispensing equipment, if applicable. The following must be inspected to ensure compliance with the operator's manual:
  - (a) Chemical storage and dispensing
  - (b) Serviceability of equipment
  - (c) General condition and safety of storage areas
  - (d) Training of personnel in operator's de-icing procedures.

**NOTE: If de-icing services are provided on a contract basis, ensure that the contractor meets the above requirements.**

- (5) Support shops (avionics, sheet metal, engine etc.), to ensure:
  - (a) All required technical data is current and available. If data is on microfiche, ensure that readers are available and serviceable.
  - (b) Staffing reflects complexity of shop.
  - (c) Personnel are properly trained, qualified, and authorized.
  - (d) Procedures for shift turnover are in place and properly utilized.
  - (e) All required special tooling and equipment is available, serviceable, and within calibration criteria.
  - (f) Maintenance tasks and inspection functions are being accomplished in accordance with operator's maintenance manual.
  - (g) Safety equipment is available and serviceable.
  - (h) Individual shop storage areas are maintained to same standards as main storage area.
  - (i) Work areas do not conflict with each other, e.g., lathe next to avionics repair area.
  - (j) Lighting, ventilation, and general housekeeping are adequate.



- (6) Hangar facilities, to ensure:
  - (a) Facilities are adequate for work being performed.
  - (b) Staffing reflects the complexity of work being performed.
  - (c) Personnel are properly trained, qualified, and authorized.
  - (d) Procedures for shift turnover are in place and properly utilized.
  - (e) Special equipment and tooling is available, serviceable, and calibrated, if applicable.
  - (f) Safety procedures are established and adhered to.
  - (g) Procedures direct the flow and control of all maintenance and inspection records.
  - (h) Lighting, ventilation and general housekeeping are adequate.
- (7) Hangar ground support equipment, to ensure the equipment is serviceable and appropriate for the work being performed.

F. *Inspect the Engineering Department, if applicable.* Ensure the following:

- (1) Staffing is adequate for complexity of assigned duties
- (2) Personnel are qualified
- (3) All required technical data is current and available.
- (4) Engineering orders are accomplished and recorded in accordance with operator's manual
- (5) Major repair and alterations are accomplished in accordance with approved data. The data should be approved by the regulatory authority where the repairs or alterations were accomplished
- (6) Major repair reports are retained and available

**NOTE: Review a representative sample of operator generated Engineering Orders to ensure that the programme is being followed and items are being properly categorized (major vs. minor).**

G. *Inspect the Inspection Department.* Ensure the following:

- (1) Designated staffing is adequate for complexity of operation.
- (2) Delegated staffing (Required Inspection Items) is at reasonable level.
- (3) System ensures that inspection personnel are trained, qualified, and properly authorized.

H. *Inspect the Maintenance control, if applicable*

- (1) Ensure the following:
  - (a) Staffing is adequate for the complexity of the operation and that personnel are trained and qualified.
  - (b) Technical data is available and current.
  - (c) Communications system provides effective communication between all departments and stations.
- (2) Review the activity/turnover log to look for trends and to evaluate the general effectiveness of the overall maintenance programme



- I. *Inspect the Maintenance Production/Planning Control, if applicable.* Ensure the following:
  - (1) Staffing is adequate for the complexity of the operation
  - (2) Planning system is effective, e.g., inspection/overhaul scheduling, facility scheduling, parts forecast, personnel requirements, and communication with other departments
  - (3) The system provides for scheduling corrections of deferred and carryover maintenance items

**NOTE: Randomly sample a representative number of open and completed work packages to ensure the effectiveness of the system.**

- J. *Inspect Aircraft.* Inspect any available aircraft to determine the quality of maintenance being performed. Introduction to Aircraft and Equipment, Chapter 5, Section 1.
- K. *Analyze Findings.* Upon completion of inspection, record all deficiencies noted and determine the appropriate corrective action(s) to be taken.

## 7.0 TASK OUTCOMES

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- A. Completion of this task may result in the following:
  - Letter to the operator confirming results of the inspection.
  - Enforcement Investigation Reports, as necessary.
- B. *Document the Task.* File all supporting paperwork in the operator's office file.

## 8.0 FUTURE ACTIVITIES.

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If deficiencies are noted during surveillance, schedule a follow-up inspection.



## CHAPTER 34

### INSPECTION OF OPERATOR'S CONTINUOUS AIRWORTHINESS MAINTENANCE PROGRAMME RECORDS

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#### 1.0 PURPOSE

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This chapter provides guidance for inspecting an operator's aircraft maintenance records under continuous airworthiness maintenance programme. Reference: ICAO, Annex 6, Chapter 8, Sections 8.3.16 ICAO Document 8335 - AN/879, Chapter 6, Paragraph 6.8 and Chapter 9, Paragraph 9.6.27. Nig. CARs [Part 8](#).

#### 2.0 GENERAL

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- A. Aircraft maintenance records include any records that document the performance of work on an aircraft. An Operator's aircraft maintenance records must be inspected periodically to ensure that they meet the requirements of the operator's approved record-keeping system.
- B. *Surveillance Criteria.* While inspecting an operator's aircraft maintenance records, assigned inspectors must determine that all the work was based on instructions, procedures, or information that has been approved previously or accepted by the NCAA. Such data can be in the form of:
- Manufacturer's manuals.
  - Service bulletins
  - Service letters
  - Data included in the operator's approved inspection and/or maintenance programmes.
  - Approved Engineering Orders or Authorizations
  - Airworthiness Directives (ADs)
  - Other accepted documents
- C. *Personnel Identification Recording Requirements.* The certificate holder's manual must provide for a positive means of identification, such as an employee identification number, for any person performing or approving work.



### 3.0 RECORD REQUIREMENTS

A. *Retaining Certificate of Release to Service*

- (1) Maintenance releases must be preserved by the operator for two (2) years from the date of issue.
- (2) All of the records necessary to show that the requirements of the issuance of a maintenance release have been met must be retained for two (2) years from date of issue.

B. *Total Time in Service Records*

- (1) The total time in service record is a record starting from the date of manufacture and continuing through the life of the aircraft.
- (2) When an engine is rebuilt and certified to zero time, total time in service becomes zero.

C. *Life-limited Parts.* Operators must have current record of the status of life-limited items. This record indicates the present accumulated time in service of each life-limited item.

**NOTE: Life-limited parts may not be rebuilt and certified to zero time.**

D. *Records of Overhaul.* An operator must maintain overhaul records of any item required to be overhauled. These records must be maintained until the work is superseded or repeated by work of equivalent scope and detail.

E. *Inspection Status.* Inspection status defines the work that has been and is scheduled to be performed per the inspection or maintenance programme. The inspection status records must show the following:

- Type of most recent inspection.
- The time at which that inspection was performed.
- The time since that most recent inspection expressed in terms of hours, cycles, or calendar time.
- The scheduled time and type of next inspection.

F. The operator must maintain a record of the current status of all applicable ADs for the operator's equipment. Some acceptable sources of procedures for compliance with ADs are:

- Service bulletins





- Service letters
- Specific instructions provided in the Airworthiness Directive.
- Approved Engineering Orders or Authorizations.

**NOTE: Only data specifically approved for AD accomplishment by the appropriate regulatory authority where the aircraft was certified is authorized.**

- (1) The surveillance of ADs should be included in all work programmes where an operator performs maintenance. AD verification can be accomplished by the following methods:
  - (a) Actual surveillance of the AD being accomplished. This would also include a review of all paper work such as Engineering Authorizations, Engineering Orders, work cards, maintenance manual references and service bulletins to ensure that the Airworthiness Directive is properly complied with.
  - (b) Physical verification of previous Airworthiness Directive accomplishment.

G. *Major Repair and Major Alteration Records.*

- (1) An operator must prepare a report of each major repair and major alteration.
  - (a) The major alteration report must be sent to the NCAA.
  - (b) A copy of the major repair report must be kept available for inspection.
- (2) Additionally, the operator must keep a list of all current major alterations.

#### 4.0 REPAIR STATION RECORDS OF WORK PERFORMED ON OPERATOR'S AIRCRAFT.

Since repair stations only have to retain records of work performed for two (2) years, some operators have reported that maintenance records are not always available from repair station beyond the two- (2) year retention period. Since the operator is always responsible for obtaining and retaining the records required by the NCAA, operators should be advised to require a copy of the work documentation from the repair station at the time that work is performed.



## 5.0 PREREQUISITES

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- Knowledge of the requirements of the Nigerian Civil Aviation Regulations.
- Familiarity with the type of operation being inspected.

## 6.0 PROCEDURES

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- A. *Review the NCAA Office File.*
- B. *Inspect the Maintenance Records.* Ensure that the operator has retained the required maintenance/alteration/inspection records of each aircraft, including airframe, engine, propeller, and appliances. These records should include the following:
- (1) A description of the work performed (data acceptable to the NCAA), including the date of completion.
  - (2) The name of the person performing the work if that person is not an employee of the operator.
  - (3) The name or other positive identification of the person approving the work.
- C. *Inspect the Operator's Record System.* Inspect records to ensure that manual procedures are being followed. During inspection, document and photocopy any confusing areas, obvious omissions or apparent discrepancies. Records checked should include the following:
- (1) *Certificates of Release to Service (Airworthiness Releases)*
    - (a) Ensure that the operator is retaining Certificates of Release to Service for at least two (2) years.
    - (b) Ensure that the Certificate of Release to Service signature is authorized by the operator.
    - (c) Review the signatory's training record to ensure that the person is trained to the level identified in the operator's manual.
  - (2) *Log Books.*

Obtain and review the logbooks to determine the effectiveness of the Certificate of Release to Service Procedures following scheduled inspection and non-routine Release to Service records to ensure the following:



- (a) Flight discrepancies are entered after each flight.
  - (b) Corrective actions are related to the discrepancy.
  - (c) Corrective actions and sign-offs are entered in the maintenance record per manual procedures
  - (d) Repetitive discrepancies are handled according to the manual.
  - (e) Deferred maintenance as authorized by the Minimum Equipment List (MEL) is deferred per the operator's MEL and manual instructions.
  - (f) RII items (duplicate inspections) are signed off per the manual instructions and the inspector is authorized by the operator to perform the inspection.
- (3) *Schedule inspections.* Select or obtain work packages for schedule inspections and ensure the following:
- (a) That schedule inspections are properly signed off.
  - (b) That generated non-routine items are properly signed off.
  - (b) That RII (duplicate inspection) items are properly identified and signed off by properly authorized, qualified, certificated and trained personnel.
  - (c) That repairs are categorized correctly (major or minor) and that approved data is being used.
- (4) *Total time in service records.* Compare the manual procedures with the actual accomplishment of the total time/cycles in service records for the airframe, engine, propeller and rotor.
- (a) Select and obtain a total time/cycles in service record for a sample number of aircraft to ensure that cumulative flight times/cycles are added to the record.
  - (b) Make a spot check of the cumulative total time/cycle in service against the flight logs to ensure that daily entries correspond to the flight log.
  - (c) If the operator maintains a handwritten maintenance record for engines, compare the record entries to the aircraft flight log for the following:
    - Overall accuracy
    - The possible transposition of flight time/cycles in service, numbers, etc.



- (5) *Life-limited parts records.* Compare the manual procedures for life-limited parts with the actual recording of the current status of life-limited parts. Select a random sample of records and ensure the following:
- (a) All life-limited parts described on type certificate data sheets or in a manual referenced on the type certificate data sheets are noted.
  - (b) The current status of each part is provided, to include:
    - Total operating hours/cycle accumulated
    - Life-limit (total service life).
    - Remaining time/cycles.
    - Modifications.
  - (c) The time/cycles limits on the operator's list are the same as those on the type certificate data sheets.
  - (d) Life-limits have not been exceeded. Select a sample of life-limited items that have been installed within the last 12 months and review records to ensure that life-limited time was carried forward from the previous service record.
  - (e) If overhauled, the overhaul record is available.
  - (f) The life-limit of an item has not been changed as a result of the overhaul.
- (6) *Overhaul records.* Compare the manual procedures for maintaining the overhaul record with the actual overhaul record content.
- (a) Select a random sample of overhauled items to ensure the following:
    - Overhaul records are available for items selected
    - The records contain a description of the overhaul.
    - The item was overhauled per the overhaul specifications by a qualified and authorized person.
    - The component was released to service by an authorized person.
  - (b) Review removal installation records of overhauled components to determine if the overhaul was done within the authorized time limits. Current regulations require these records to be maintained until the work is superseded by work of equivalent scope and detail.
- (7) *Inspection status records*



- (a) Compare the manual procedures for maintaining the current aircraft inspection status with available records to ensure that the recorded daily flight hours/cycles are used to obtain the current inspection status.
- (c) Take a random sample of aircraft inspection records to ensure that schedule inspections times/cycles were not exceeded (over flown).
- (8) *Airworthiness Directives*. Request a random sample of aircraft AD compliance records to ensure the following:
  - (a) The records contain all applicable ADs for the sampled aircraft.
  - (b) That AD requirements were accomplished within the effective times of the AD

**NOTE: Special emphasis should be put on checking recurring ADs.**

- (c) The AD record contains current status and method of compliance. The current status must include the following:
  - A list of all ADs applicable to the aircraft
  - Date and time of compliance
  - Time and/or date of next required action(if recurring AD)
- (d) The record is being retained indefinitely

**NOTE: If any ADs have an alternative method of compliance, ensure that the operator has obtained prior approval for that alternative method. Time extensions for ADs may only be approved by the Engineering Department of the Regulatory Authority of the country where the aircraft was manufactured.**

- (e) The method of compliance is the same as specified in the AD.
- (f) The date of compliance is identical with the date on the current status list.
- (g) The mechanic/inspector was properly trained and authorized to accomplish the work.
- (h) The accomplishment was properly signed off
- (9) *Major alteration and major repair records*
  - (a) Compare the manual procedures for maintaining a list of major alterations and the reports for major repairs with the actual records.



- (b) Compare a random sample of major repair and alteration records to the alteration and repair list and/or reports to ensure the following:
- List and/or reports contain the date of accomplishment and a brief description of the work
  - The respective maintenance records show that the work was accomplished per approved data.

**NOTE: When major alterations or major repairs are identified and not recorded on the above-mentioned list or report, request the actual maintenance accomplished record and the approved data from the operator.**

- D. *Analyze the Findings.* Evaluate all deficiencies to determine if corrective actions will be required.

## 7.0 TASK OUTCOMES

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- A. *Completion of this task may result in the following:*
- A letter from the NCAA informing the operator of the results of the inspection.
  - Enforcement Investigation Report, as applicable.
- B. *Document the Task.* File all supporting paperwork in the operator's office file.

## 8.0 FUTURE ACTIVITIES.

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Normal surveillance.



## CHAPTER 35

### MONITORING OF OPERATOR DURING STRIKE/LABOUR UNREST/FINANCIAL DISTRESS

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#### 1.0 OBJECTIVE

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This chapter provides guidance for monitoring an operator before, during, and after a strike labour dispute, or financial crisis. Reference: ICAO Document 8335 - AN/879 - Chapter 8.

#### 2.0 BACKGROUND

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Continued airworthiness is of particular concern where a strike, labour unrest, or financial stress might cause disruption or inconsistency in an operator's maintenance programme.

- A. The NCAA must ensure that public safety is not jeopardized when operators become financially distressed. Operators that are financially distressed may attempt to decrease costs by curtailing certain necessary maintenance and operational activities, thereby adversely impacting safety. Such operators include those whose status is as follows:
- Approaching economic failure (sustained periods when revenues do not cover costs).
  - Insolvent (unable to meet obligations when due).
  - Bankrupt or have reorganized under the Nigerian Bankruptcy Code.
- B. Under these circumstances, the NCAA emphasizes maintenance surveillance from anticipation of the crisis through the final settlement.
- C. *Responsibility.* The Director, Airworthiness Standards (DAWS) is responsible for determining the extent to which additional surveillance will be required. The DAWS will also decide which locations will require increased surveillance in order to arrange for necessary additional manpower.
- D. *Reporting.* Strikes and labour disputes generate many inquiries, complaints, and opinions from the general public, parliament and other

sources. Therefore it is imperative that the Director General be kept informed at all times.

**NOTE: Under no circumstances are assigned inspectors to express opinions to any party, including the press, regarding the issues involved in a strike or labour dispute.**

E. *Resumption of Activities after Strike/Labour Unrest/Financial distress.* When aircraft have spent time in storage, the assigned inspector should consider the following while developing the follow-up surveillance plan, prior to the operator returning the aircraft to service:

- The types of inspections the operator will conduct.
- Ground run-up of engines.
- Test flights of aircraft.
- Personnel qualifications.

### 3.0 PROCEDURES

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A. *Notify the Director General.*

(1) When news that a possible strike, labour dispute, or financial emergency could occur:

- Report the extent of the possible work stoppage.
- Report any tentative plans for surveillance during the crisis.

(2) When the strike, labour dispute, or financial emergency actually occurs, immediately inform the Director General of any newsworthy events or significant developments.

B. *Arrange Additional Surveillance as Needed.*

C. *Submit a Weekly Report.* Throughout the course of the crisis submit a consolidated weekly report to the Director, Airworthiness Standards.

(1) All Aviation Safety Inspectors (ASIs) involved must include information regarding the crisis in weekly reports.

(2) Specify the content and frequency of reports from the assigned ASIs, and include the following information in these reports:





- The approximate number of maintenance personnel on duty at each location within the ASI's assigned area.
- The approximate number of certified maintenance personnel on duty.
- The number and type of inspections performed by the operator.
- The number and type of inspections performed by ASIs.
- Deficiencies/discrepancies noted.
- Corrective actions requested for minor deficiencies.
- Status of previous requests for corrective actions.
- Percentage of normal schedules being maintained.
- Any other pertinent information.

D. *Develop and Report Plans for Return to Service*

- (1) Once the strike, labour dispute, or period of financial distress has been settled, decide upon the level of surveillance required to ensure that the operator is able to return the affected aircraft to service while maintaining the highest level of safety.
- (2) After developing the follow-up surveillance, notify the DAWS. The DAWS must be informed of the operator's plans to return to normal service and of follow-up surveillance planned.

#### 4.0 TASK OUTCOMES

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- A. *Schedule Follow-up Surveillance.*
- B. *Document the Task.* File all supporting paperwork in the operator's office file.

#### 5.0 FUTURE ACTIVITIES

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Accomplish tasks for post-crisis surveillance as indicated in the final report.



## CHAPTER 36

# REDUCED VERTICAL SEPARATION MINIMA (RVSM) AIRSPACE APPROVAL (TECHNICAL REQUIREMENTS)

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## 1.0 GENERAL

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This chapter contains criteria to be used by airworthiness inspectors when asked to approve an operator's request for North Atlantic (NAT) RVSM airspace approval. The criteria used to obtain approval is developed from ICAO and FAA guidance material. The authority for RVSM airspace approval is contained in Nigeria CARs Part 8. ICAO requires operators to obtain approval from their CAA before conducting any operations within this airspace. The criteria and guidance to be used shall be the JAA Temporary Guidance Leaflet (TGL) No. 6, as amended herein attached as Appendix App 3-1. When the criteria for approval is met, the operations inspector will issue OpSpec paragraph B15. ICAO's Doc 9574, contains the airworthiness and operational requirements and defines the altitudes and NAT airspace boundaries. When applying, the operator must list the aircraft by type and series. If aircraft of the same type/series are equipped with different altimetry system configurations, they should be listed by the aircraft registration or serial number. If an operator has aircraft that are capable of flying within NAT MNPS/RVSM airspace but does not intend to operate there, they should not be issued B15, but OpSpec paragraph A 4.b. should have the statement, "Operate in NAT MNPS/RVSM airspace" inserted to ensure it is aware of the restriction. Use RVSM Checklist.

1.1 REFERENCE: [CHECKLIST: O-AWS036](#)

## 2.0 THE APPROVAL PROCESS

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Airspace where RVSM is applied should be considered special qualification airspace. Both the individual operator and the specific aircraft type or types which the operator intends to use should be approved by the NCAA before the operator conducts flight in RVSM airspace.

## 3.0 AIRCRAFT APPROVAL

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Each aircraft type that an operator intends to use in RVSM airspace should have received airworthiness approval in accordance with the established criteria. Individuals or operators seeking approval for its aircraft should contact the manufacturer of the specific aircraft type and apply to the NCAA to determine/coordinate the process.



## 4.0 PREAPPLICATION MEETING

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A preapplication meeting should be scheduled between the operator and the NCAA to inform the operator of NCAA expectations in regard to the approval process to operate in a RVSM environment. The content of the operator RVSM application, NCAA review and evaluation of the application, validation flight and conditions for removal of RVSM authority should be basic items of discussion.

## 5.0 CONTENT OF OPERATOR RVSM APPLICATION

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The following paragraphs describe the material which an operator applying for RVSM authority should provide to the NCAA for review and evaluation at least 60 days prior to the intended start of RVSM operations.

- a) Description of Aircraft Equipment. The applicant should provide a configuration list which details all components and equipment relevant to RVSM operations.
- b) Past Performance. An operating history should be included in the application. The applicant should show any events or incidents related to poor height keeping performance which may indicate weaknesses in training, procedures, maintenance, or the aircraft group intended to be used.
- c) Minimum Equipment List. A minimum equipment list (MEL), adopted from the master minimum equipment list (MMEL), should include items pertinent to operating in RVSM airspace.
- d) Airworthiness Documents and a Maintenance Programme. Sufficient documentation should be available to show that the aircraft and maintenance programme has been approved in accordance with Nigerian CARs Part 8.

## 6.0 DEFINITIONS

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The following definitions are intended to clarify certain specialized terms used in this advisory material:

- a) Aircraft Group. A group of aircraft that are of normally identical design and build with respect to all details that could influence the accuracy of height keeping performance .



- b) Altimetry System Error (ASE) The difference between the pressure altitude displayed to the flightcrew when referenced to ISA standard ground pressure setting (29.92 in. Hg/1013.23 hPa) and free stream pressure altitude.
- c) Assigned Altitude Deviation (AAD). The difference between the transponded Mode C altitude and the assigned altitude/flight level.
- d) Automatic Altitude Control System. Any system which is designed to automatically control the aircraft to a referenced pressure altitude.
- e) Avionics Error (AVE). The error in the processes of converting the sensed pressure into an electrical output, of applying any static source error correction (SSEC) as appropriate, and of displaying the corresponding altitude.
- f) Basic RVSM Envelope. The range of Mach numbers and gross masses within the altitude ranges FL 290 to FL 410 (or max available altitude) where an aircraft can reasonably be expected to operate most frequently.
- g) Full RVSM Envelope. The entire range of operational Mach numbers,  $w/\delta$ , and altitude values over which the aircraft can be operated within RVSM airspace.
- h) Height-Keeping Capability. Aircraft height-keeping performance which can be expected under nominal environment and operating conditions with proper aircraft operating practices and maintenance.
- i) Height-Keeping Performance. The observed performance of an aircraft with respect to adherence to a flight level.
- j) Non-Group Aircraft An aircraft for which the operator applies for approval on the characteristics of the unique airframe rather than on a group basis.
- k) Residual Static Source Error. The amount by which static source error (SSE) remains under corrected or overcorrected after the application of SSEC.
- l) Static Source Error. The difference between the pressure sensed by the static system at the static port and the undisturbed ambient pressure.



- m) Static Source Error Correction (SSEC). A correction for static source error.
- n) Total Vertical Error (TVE). Vertical geometric difference between the actual pressure altitude flown by an aircraft and its assigned pressure altitude (flight level).
- o) W/δ. Aircraft weight/mass (e/m), divided by the atmospheric pressure ratio,  $\delta$ , or mass
- p) Approved Data Package. A package developed by the aircraft manufacturer or design organization through which RVSM airworthiness approval is sought from the regulatory authority of the manufacturer. Once the regulatory authority approves the package, the operator applies the procedures defined in the package to obtain approval from the operator's regulatory authority to utilize its aircraft to conduct flight in the RVSM airspace.

## 7.0 MAINTENANCE REQUIREMENTS

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- A. General.
  - (1) The integrity of the design features necessary to ensure that altimetry systems continue to meet RVSM standards should be verified by scheduled tests and/or inspections in conjunction with an approved maintenance programme. The operator should review its maintenance procedures and address all aspects of continuing airworthiness which are affected by RVSM requirements.
  - (2) Each person or operator should demonstrate that adequate maintenance facilities are available to ensure continued compliance with the RVSM maintenance requirements.
- B. Maintenance Programme Approval Requirements. Each operator requesting RVSM operational approval should submit a maintenance and inspection programme which includes any maintenance requirements defined in the approved data package as part of a continuous airworthiness maintenance programme approval. The maintenance and inspection programme will incorporate altimeter system and altitude reporting equipment tests and inspections as a requirement for maintenance programme approval.



- C. Maintenance documents Requirements: The following items should be reviewed as appropriate for RVSM maintenance approval:
- (1) Maintenance Manuals and Aircraft Service Bulletins
  - (2) Structural Repair Manuals.
  - (3) Standards Practices Manuals
  - (4) Illustrated Parts Catalogues.
  - (5) Maintenance Schedule.
  - (6) MMEL/MEL.
- D. Maintenance Practices.
- 1) If the operator is subject to an ongoing approved maintenance program, that programme should contain the maintenance practices outlined in the applicable aircraft and component manufacturer's maintenance manuals for each aircraft type. The following items should be reviewed for compliance for RVSM approval and if the operator is not subject to an approved maintenance programme the following items should be followed:
    - (i) All RVSM equipment should be maintained in accordance with the component manufacturer's maintenance requirements and the performance requirements outlined in the approved data package.
    - (ii) Any modification, repair, or design change which in any way alters the initial RVSM approval, should be subject to a design review by persons approved by the approving authority for the manufacturer.
    - (iii) Any maintenance practices which may affect the continuing RVSM approval integrity, e.g., the alignment of pitot/static probes, dents, or deformation around static plates, should be referred to the approving authority or persons delegated by the authority for the manufacturer.



- (iv) Built-in Test Equipment (BITE) testing is not an acceptable basis for system calibrations, (unless it is shown to be acceptable by the airframe manufacturer with the approval authorities agreement) and should only be used for fault isolation and troubleshooting purposes.
- (v) Some aircraft manufacturers have determined that the removal and replacement of components utilizing quick disconnects and associated fittings, when properly connected, will not require a leak check. While this approach may allow the aircraft to meet static system certification standards when properly connected, it does not always ensure the integrity of the fittings and connectors, nor does it confirm system integrity during component replacement and reconnections. Therefore, a system leak check or visual inspection should be accomplished any time a quick disconnect static line is broken.
- (vi) Airframe and static systems should be maintained in accordance with the airframe manufacturer's inspection standards and procedures.
- (vii) To ensure the proper maintenance of airframe geometry for proper surface contours and the mitigation of altimetry system error, surface measurements or skin waviness checks should be made if needed to ensure adherence to the airframe manufacturer's RVSM tolerances. These tests and inspections should be performed as established by the airframe manufacturer. These checks should also be performed following repairs, or alterations having an effect on airframe surface and airflow.
- (viii) The maintenance and inspection programme for the autopilot should ensure continued accuracy and integrity of the automatic altitude control system to meet the height-keeping standards for RVSM operations. This requirement will typically be satisfied with equipment inspections and serviceability checks.
- (ix) Where the performance of existing equipment is demonstrated as being satisfactory for RVSM approval, it should be verified that the existing maintenance practices



are also consistent with continued RVSM approval integrity. Examples of these are :

- (A) Altitude alert.
- (B) Automatic altitude control system.
- (C) ATC altitude reporting equipment
- (D) Altimetry systems.

E. Maintenance Practices for Noncompliant Aircraft. Those aircraft positively identified as exhibiting height-keeping performance errors which require investigation should not be operated in airspace where RVSM is applied until the following actions have been taken.:

- (1) The failure or malfunction is confirmed and isolated by maintenance action and,
- (2) Corrective action is carried out as required and verified to ensure RVSM approval integrity.

F. Maintenance Training Requirements. It is expected that new training requirements will be introduced by the RVSM approval processes. Areas that may need to be highlighted for initial and recurrent training of shop and line personnel are:

- (1) Aircraft geometric inspection techniques.
- (2) Test equipment calibration/usage techniques
- (3) Any special documentation or procedures introduced by RVSM approval.

G. Test Equipment.

- (1) General. The test equipment should have the capability to demonstrate continuing compliance with all the parameters established for RVSM approval in the initial data package or as approved by the approving authority.





- (2) Standards. Test equipment should be calibrated utilizing reference standards whose calibration is certified as being traceable to the national standard. It should be calibrated at periodic intervals as agreed by the approving authority. The approved maintenance programme should encompass an effective quality control programme which includes the following:
- (i) Definition of required test equipment accuracy.
  - (ii) Regular calibrations of test equipment traceable to a master in-house standard. Determination of calibration interval should be a function of the stability of the test equipment. The calibration interval should be established on the basis of historical data so that degradation is small in relation to the required accuracy.
  - (iii) Regular audits of calibration facilities both in-house and outside.
  - (iv) Adherence to acceptable shop and line maintenance practices.
  - (v) Procedures for controlling operator errors and unusual environmental conditions which may affect calibration accuracy.



## CHAPTER 37

### TRAINING PROGRAMME APPROVAL PROCESS

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#### 1.0 SECTION 1 - GENERAL

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- A. A maintenance organisation must establish an initial and recurrent training for maintenance personnel and certifying staff. Maintenance personnel and certifying staff shall meet the qualification requirements and receive initial and continuation training to their assigned tasks and responsibilities. The training program established by the AMO shall include training knowledge and skills related to human performance, including co-ordination with other maintenance personnel and flight crew as appropriate.
- B. The AMO shall establish the curriculum and standards for training, as well as the pre-qualification standards for the personnel that will attend the training. The Pre-qualification standards are intended to insure that the trainee has a reasonable chance of successfully completing any of the courses required by the AMO.
- C. In assessing the adequacy of the applicant's maintenance programme, the inspector should determine that the scope of maintenance and inspection personnel training is sufficient to ensure performance of maintenance by the applicant, is maintained to a high degree of airworthiness.
- D. The level of training required for each individual is a function:
  - 1 Of his or her experience and the complexity
  - 2 Of the work he or she is expected (authorised) to perform. In many cases the work may be complex and require the use of specialised equipment. In such cases, required training may range from on-the-job training to formal classroom training and appropriate examinations. In any case, the programme should provide sufficient training for each individual to competently perform the work authorised.
- E. The size and scope of the applicant's proposed operation have no bearing on the need for an effective training programme. All organisations need such a programme; however, a small organisation should not be expected to duplicate all of the facilities provided by a large operator. Training of the certifying staff shall be performed by the AMO/AOC or by an institute selected by the AMO or AOC. In either case, the AMO/AOC shall establish the curriculum and standards for training, as well as pre-qualification standards for the personnel intended for training. Pre-qualification standards are intended to ensure that the trainee has a reasonable chance of successfully completing any course.



- F. Curriculum components. An approved curriculum will consist of at least the following elements:
- 1 Subjects, appropriate to ratings requested
  - 2 Course content, appropriate to ratings requested
  - 3 Objective testing and grading criteria
  - 4 Classroom or theory, appropriate to ratings requested
  - 5 Total number of hours required for successful completion
  - 6 A schedule of required tests, which indicates the sequence of examinations for each subject in the curriculum
  - 7 The order of instruction for each subject element.
- G. The training programme shall include details of the number of personnel who will receive initial training to qualify personnel to become certifying staff personnel over specified time periods. If there is any change to the curriculum it will have to be approved by the CAA Inspector, in writing.
- H. Following the satisfactory completion of the inspections described in this chapter and the required correction of any deficiencies by the applicant, the CAA inspector should submit his recommendations by letter or memo to the Certification Project Manager (CPM) as to the applicant's ability, in respect of maintenance, to carry out the proposed operation.

## **2.0 SECTION 2 – TRAINING PROGRAMME APPROVAL PROCESS**

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### **2.1 GENERAL**

- A. Training curriculum approval follows the five phase general process for approval or acceptance described in this chapter. The basic steps of this process must be followed. Each phase, however, may be adjusted to accommodate existing circumstances. Depending on the complexity of the organisation and the availability of CAA resources, the approval/acceptance process may be accomplished in only a few days, or the process may last many months. The approval process applies to each organisation requesting approval of a new curriculum or a revision to a currently approved curriculum. Inherent in the approval process is the CAA's responsibility to deny approval of any training which does not meet regulatory requirements or which has been found deficient. Training curricula which have been granted approval and later found either to be in conflict with regulatory requirements or to be ineffective, must be appropriately modified by the organisation, or CAA approval must be withdrawn. This chapter establishes procedures for granting approval or withdrawing approval of all or part of a training curriculum.



- B. The training approval process discussed in this chapter applies only to applicant's for an Approved Maintenance Organisation Certificate. NIG. CARs Part 6.4.1.1 (i) states that maintenance personnel and certifying staff shall have training and recurrent training. IS 6.4.1.1 (r) allows that training may be performed by an outside agency. If this option is used, the AMO establishes the curriculum and standards for training.

- C. **REFERENCES:** Nig. CARs 6.4.1.2, Checklist [CL: O-AWS037](#)

## 2.2 II. INITIATING THE APPROVAL PROCESS – PHASE ONE.

- A. The training approval process can be initiated by either the AMO or the CAA as follows:
1. AMO Initiated. The organisation informs the CAA that it is planning to establish a new training curriculum or to change an existing curriculum
  2. CAA Initiated. The CAA informs an organisation that revisions to its training program are required based on recently acquired information relative to training techniques, aviation technology, operator performance, or regulatory changes.
- B. When a proposal is initiated by the AMO, one of the first steps the CAA inspector should take is to obtain the following basic information:
- 1 Type of equipment
  - 2 Proposed training schedules
  - 3 Proposed contract training, if any
  - 4 Facilities to be used

## 2.3 III. CAA INVOLVEMENT IN PHASE ONE.

- A. Early in the process, the CAA and the AMO should establish, through discussion, a common understanding of both the regulatory training requirements and the direction and guidance provided in this chapter. The CAA inspector and the AMO must examine the entire operation to ensure that any training necessitated by authorisations, or limitations, such as those in the operations specifications, deviations, is included in the organisation's training curricula. The training program is the area most affected by operational changes. The Inspector should review all general requirements in the NIG. CARs and in this directive that apply to the proposed operation.
- B. The inspector should be aware of changes to the information initially provided by the organisation. The inspector should discuss with the AMO the sequence and timing of events which occur in the development and the granting of initial and final approval of a training curriculum. If the AMO's proposal involves complex operations, such as ceramic coating or composite repair, the inspector must consult appropriate sections of this chapter and other relevant documents and be prepared to advise the AMO during this



phase. In such a case, the inspector should determine whether assistance from a CAA specialist is needed.

- C. A CAA inspector should be prepared to provide advice to an AMO during training curriculum development. During phase one, the operator must be informed of the procedure for requesting initial approval and of the types of additional supporting information that the inspector will require the AMO to submit. An inspector should be prepared to provide guidance to the AMO on the following:

- 1 The general formats and content of curricula, curriculum segments  
And training modules.
- 2 Courseware
- 3 Facilities
- 4 Qualifications of instructor personnel
- 5 Other areas of the organisation's proposed training program

- D. Early CAA involvement is also important for the following reasons:

- 1 CAA advice and guidance during development of training may provide a useful service to the organisation. This advice may save the AMO and the CAA from unnecessary use of resources. It may also prevent the AMO from submitting a training curriculum proposal that would not be approved by the CAA .
- 2 The inspector can become familiar with the material the AMO intends to submit. This facilitates review of the proposal before the granting of initial approval .
- 3 The inspector can begin planning long range needs, such as arranging for the utilisation of a CAA specialist to assist in the evaluation of the program's overall effectiveness.

**Note:** *Early CAA inspector involvement in the development of training programs is appropriate. A CAA inspector must act in an advisory capacity only. The inspector must avoid active participation in the actual training program development. The organisation is responsible for the development of its own training program. The CAA inspector must not assume that responsibility.*



## 2.4 IV. REQUEST FOR INITIAL APPROVAL – PHASE TWO.

A. Phase two begins when the AMO submits its training curriculum in writing, for initial approval, to the CAA. The AMO should submit to the CAA an outline of each curriculum segment and any additional relevant supporting information requested by the CAA inspector. These outlines, any additional supporting information, and a letter must be submitted to the CAA. This letter should request CAA approval of the training curriculum. Two copies of each curriculum should be forwarded along with the letter of request to the CAA.

1. The curriculum may be a section of the MPM.

B. Each AMO must submit its own specific curriculum segment outlines appropriate for the ratings requested. These outlines may differ from one AMO to another and from one category of training to another in terms of format, detail, and presentation. Each curriculum should be easy to revise and should contain a method for controlling revisions, such as a revision numbering system, if not part of the MPM.

C. Each curriculum outline must include the following information:

- AMO Name
- Title of curriculum including the category of training, such as indoctrination, or recurrent.
- Consecutive page numbers
- Page revision control dates and revision numbers
- D. Each curriculum must also include the following items, as appropriate:
  - Prerequisites prescribed by the NIG. CARs or required by the operator for enrolment in the curriculum
  - Statements of objectives of the entire curriculum and a statement of the objective of each curriculum segment
  - A list of each training device, if required
  - An outline of each training module within each curriculum segment (Each module should contain sufficient detail to ensure that the main features of the principal elements or events will be addressed during instruction.)
  - Training hours will be applied to each curriculum segment and the total curriculum.
  - The checking and qualification modules of the qualification segment used to determine successful course completion.



## 2.5 V. ADDITIONAL RELEVANT SUPPORTING INFORMATION - PHASE TWO

- A. When applying for an Approved Maintenance Organisation Certificate, an AMO must submit any additional relevant supporting information requested by the CAA inspector as supported by NIG. CARs 6.2.1.5 (a) (6). This additional information is necessary for determining whether the proposed training program is feasible and adequately supported. It is information, which would be difficult to include in a curriculum outline format. The type and amount of supporting information will vary depending on the type of training. The inspector must determine the appropriate types of supporting information to be required. This should be limited to information used for determining the proposed training programme's acceptability. The following list of types of relevant supporting information is not all-inclusive, but includes information that is typical.
- 1 A description of facilities is appropriate if the inspector is unfamiliar with the facilities or if the facilities are not readily available for examination.
  - 2 A list of instructors and their qualifications may be requested. This information is particularly important if the operator intends to use contract instructors.
  - 3 A detailed description of each training device is appropriate when the training device is not readily available for the inspector's examination.
  - 4 A detailed description of minimum student qualifications and enrolment prerequisites is appropriate when such prerequisites are not described in detail in the curriculum. Examples of these prerequisites may need to be detailed as supporting information may include, type of airman license, previous training programs, experience with other AMO's and recency of experience. This description may be useful to the inspector when determining whether the proposed amount of detail outlined in training modules and proposed training hours are adequate.
  - 5 Copies of training forms and records to be used for recording student progress and the completion of training may be required. This ensures the organisation has planned for the NIG. CARs record keeping requirements. This type of supporting information shall be required of applicants for an AMO. It may also be required of an organisation with any significant revision to existing training programs. These forms, records, or computer transmittal worksheets must be designed so that attendance and course completion information is recorded and retrievable for verifying regulatory compliance.
  - 6 Supporting information may include samples of courseware, such as training modules/lesson plans and instructor guides. Description of other types of courseware, such as home study, computer based instruction, should be in enough detail to provide an understanding of how the training will be administered and of the proposed instructional delivery method. This information should describe the instructor/student interaction and indicate methods for measuring student learning.



## 2.6 VI. INITIAL REVIEW OF REQUESTS FOR APPROVAL - PHASE TWO

In phase two the inspector must review the submitted training curriculum and supporting information for completeness, general content, and overall quality. A detailed examination of the documents is not required during phase two. If after initial review, the submission appears to be complete and of acceptable quality or if the deficiencies are immediately brought to the AMO's attention and can be quickly resolved, the inspector may begin the phase three in-depth review. If the submission is determined to be incomplete or obviously unacceptable, the approval process is terminated and the inspector must immediately return the documents (preferably within 5 working days) with a written explanation of the deficiencies. The documents must be immediately returned, so the operator will not erroneously assume the inspector is continuing the process to the next phase. The approval process can be resumed when the revised training curriculum or curriculum segment is resubmitted.

## 2.7 VII. TRAINING CURRICULA SUBMITTED WITH APPROVED MAINTENANCE ORGANISATION CERTIFICATE APPLICATIONS

An applicant for a certificate in the early stages of certification may be unable to provide all information required for its training program. For example, the applicant may not yet know what training facilities or devices it intends to use. The lack of such information in the formal application does not necessarily indicate that the training curriculum attachment be returned. There should be an understanding between the applicant and the Certification Project Manager (CPM) that such parts are missing. The PM may initiate the phase three in-depth reviews without this type of information. Initial approval, however, of a curriculum segment must be withheld until all parts pertinent to the curriculum segment have been examined. For example, it may be appropriate to initially approve a training curriculum segment even though the entire program has not been evaluated and approved. However, effective evaluation of training curricula can be hampered when excessive number of incomplete segments is permitted. The PM shall either delay initial approval of training curricula or return them to the applicant when excessive number of incomplete curriculum segments have been submitted with the formal application.

## 2.8 VIII. IN-DEPTH REVIEW OF SUBMITTED CURRICULA-PHASE THREE

- A. Phase three is initiated when the CAA begins a detailed analysis and evaluation of a training curriculum or curriculum segment. The purpose of this phase is to determine the acceptability of training curricula for initial approval. This phase ends either with the initial approval or with the rejection of all or part of the training curriculum. To complete an evaluation in a timely manner the inspector may need to involve other CAA personnel early in this phase. Certain specialists or offices may be required to participate in the approval process as follows:
- 1 The security inspector (SI) should be involved in security and hazardous materials training issues if required.
  - 2 Various aviation safety inspector specialists should be involved when appropriate.





*For example, non-destructive testing (NDI) specialists should be involved with evaluating special NDI Procedures.*

- 1 The inspector's office manager and certain headquarters personnel may need to be involved with locating and directing additional CAA resources to accomplish the approval process.
  - 2 CAA Headquarters may be requested to provide assistance with obtaining training quotas for selected inspectors or with obtaining information concerning exemptions.
- B. Before granting initial approval for a specific curriculum or curriculum segment, the inspector must ensure that the following evaluations are accomplished:
1. A side-by-side examination of the curriculum outline with the appropriate regulations and with the direction provided in this chapter must be performed. This examination is to ensure that training will be given in at least the required subjects. It should also ensure that appropriate training would be given on safe operating practices.
  2. An examination of the courseware developed or being developed by the operator must be performed. This review should include a sampling of available courseware such as training modules and lesson plans, audio – visual programs, procedure documents, and student handouts. The courseware must be consistent with each curriculum outline. From this review, the inspector should be able to determine whether the operator is capable of developing and producing effective training courseware.
  3. The training hours specified in each curriculum segment outline must be evaluated. An inspector should not attempt to measure the quality or sufficiency of training by the number of training hours alone. This can only be determined by direct observation of training and testing (or checking) in progress. The specified training hours must be realistic in terms of the amount of time it will take to accomplish the training outlined in the curriculum segment so as to achieve the stated training objectives. During the examination of courseware, an inspector should note the times allotted by the organisation for each training module. These times should be realistic in terms of the complexity of the individual training modules. The number of training hours for any particular curriculum segment depends upon many factors. Some of the primary factors are as follows:
    - (a) Regulatory requirements
    - (b) Complexity of the specific aircraft or component
    - (c) Complexity of the type of operation involved
    - (d) Amount of detail that needs to be covered



- (e) The experience and knowledge level of the students
  - (f) Efficiency and sophistication of the operator's entire training program (including items such as instructor proficiency, training aids, facilities, courseware and the organisation's experience with the aircraft.)
- C. If after completing these evaluations, the inspector determines that the curriculum or curriculum Segment is satisfactory and adequately supported, and that the training hours are realistic, initial approval should be granted. Sometimes a portion of the submittal may appear to be unsatisfactory. However, if that portion is dependent upon another undeveloped portion or another unsatisfactory portion, initial approval must be withheld. For example, the initial training on ultrasonic equipment set-up segment is satisfactory but related training modules within the initial equipment operation training curriculum segment are unsatisfactory. In such a case, it may be inappropriate to grant approval to the initial equipment training curriculum segment until the operation training curriculum segment is determined to be satisfactory.
- D. During phase three of the approval process, the inspector must establish priorities to ensure that, if appropriate, the granting of initial approval is not unnecessarily delayed. These priorities should assure that deficiencies are resolved so that initial approval can be granted before the organisation's planned starting date for training.

## 2.9 IX EXPIRATION DATES FOR INITIAL APPROVALS.

- A. When the inspector determines that a training curriculum or curriculum segment should be initially approved, the inspector must also determine an appropriate expiration date for the initial approval. The expiration date is important throughout phase four of the approval process.

**Note:** *NIG. CARs Part 6.4.1.2 (d) requires the operator to obtain "APPROVAL" of training curricula.*

- B. The initial approval expiration date provides an incentive to the AMO for refining all aspects of the program to assure that this requirement is met. The expiration date also provides the inspector with a time frame to plan evaluation activities for determining the effectiveness of the training. The expiration date assigned to an initially approved training curriculum must not exceed 24 months from the date of initial approval.
- C. The inspector may reduce the expiration date of initial approval, if it is apparent that a 24-month time frame will unnecessarily delay final approval. The inspector should be aware that shortening the initial approval expiration date would commit him/her to completing the final approval phase within a shorter time period. The inspector may grant final approval any time before the expiration date. Except when unforeseen circumstances preclude an adequate evaluation of training effectiveness, an



extension to the initial approval expiration date should not be permitted. A new expiration date, however, may be established for a curriculum segment when there are significant revisions to an initially approved curriculum segment.

**2.10 X. METHOD OF GRANTING INITIAL APPROVAL.**

- A. Initial approval is granted by letter. Sample letters granting initial approval or denying approval are included at the end of this paragraph (figures 1 and 2). The initial approval letter must include at least the following:
- 1 Specific identification of the curricula and/or curriculum segments initially approved, including page numbers and revision control dates.
  - 2 A statement that initial approval is granted, including the effective and expiration dates.
  - 3 Any specific conditions affecting the initial approval, if applicable.
  - 4 A request for advance notice of training schedules so that training may be evaluated.
  - 5 If the inspector authorises a reduction in the programmed hours, a statement concerning the basis for the reduction in requirements.
- B. An initial letter serves as the primary record of curriculum or curriculum segment pages that are currently effective. In the past, initial approval was stamped on each of a curriculum. If this method is no longer necessary, the inspector and each organisation may agree to use the method to account for revisions to training documents. If this method is used, the stamp must clearly indicate initial approval and the expiration date. Other acceptable methods include a list of effective curriculum or curriculum segment pages or pages with a pre-printed signature and date blocks.
- C. The Original pages of the curriculum or curriculum segment shall be returned to the operator with the transmittal letter. These documents should be retained by the organization as an official record. A copy of the training curriculum or curriculum segment, with a copy of the transmittal letter granting initial approval attached, shall be maintained on file in the CAA office by the inspector during the period that the initial approval is valid. The inspector shall also maintain on file with the curriculum all additional relevant supporting information.



**FIGURE 1**

**LETTER OF INITIAL APPROVAL**

(Name of Organisation) Director of AMO / Training (as appropriate) (appropriate address)

Dear Mr./Mrs./Ms. \_\_\_\_\_

Effective \_\_\_\_\_, initial approval is granted to International Maintenance Ltd.'s training Curriculum, pages 1 through 10 dated March 11, 2000. This training curriculum is initially approved in accordance with the provisions of Section 6.4.1.2 of the (NIG. CARs), effective March 30, 2000.

Initial approval of this training curriculum shall remain in effect until \_\_\_\_\_, (no more than 24 months), or upon granting of final approval, whichever occurs first. In accordance with NIG. CARs 6.4.1.2, International Maintenance LTD, is requested to notify this office at least 24 hours in advance of any training to be conducted under this program so that the CAA may evaluate the effectiveness of the training.

Certification Project Manager



**FIGURE 2**

**LETTER OF DENIAL OF INITIAL APPROVAL**

(Name of Organisation) Director of AMO / Training (as appropriate) (appropriate address)

Dear Mr./Mrs./Ms. \_\_\_\_\_

This letter is in response to your request of Revision 2 to International Maintenance LTD's training curriculum, dated August 2, 2000. Your request for initial approval is denied for the following reason(s):

Your initial and recurrent training does not coincide with your list of maintenance activities listed on your application.

Certification Project Manager



## 2.11 XI. EVALUATING INITIALLY APPROVED TRAINING CURRICULA – PHASE FOUR

- A. Phase four begins when the organisation starts training under the initially approved curriculum during the Demonstration and Inspection Phase. This phase should provide the AMO with adequate time to test the program and the flexibility to adjust the program during CAA evaluation. The inspector must require an AMO to provide ongoing schedules of all training and checking to be accomplished under an initially approved training curriculum. The inspector must closely monitor training conducted under initial approval. Whenever possible, the first session of training conducted under initial approval should be monitored by the inspector or a qualified maintenance/avionics inspector. A CAA inspector does not need to observe every training session. A sufficient sampling of the training sessions, however, should be observed as a basis for a realistic evaluation. Inspectors qualified in the type of operation, and other individuals knowledgeable of the curriculum subject matter, should assist in evaluating the training. Often adjustments can be made by changing courseware and instructional delivery without (or with only minor) revisions to the initially approved curriculum. Conversely, it may be necessary for the organisation to substantially change the curriculum that may require another initial approval action by the inspector before the changes can be put into effect.
- B. As a check on the effectiveness of the applicant's training programme, the inspector should examine, on a random basis, the qualifications of the inspection and maintenance staff to determine recent training received and their ability to perform their authorised work processes in respect of inspections and overhaul, repair and alterations appropriate to their ratings.
- C. Sometimes proposed revisions may be transmitted to the inspector just before the initial approval expiration date. If the change is significant, the inspector may need to establish a different expiration date for the curriculum segment, or for the revised portions, to allow adequate time for a proper evaluation.
- D. An inspection of training facilities, training devices, and instructional aids must be performed if the inspector is not familiar with the operator's training program capabilities.
- E. During phase four, the organisation must demonstrate the ability to effectively train maintenance/avionics inspectors. Each deficiency identified during the evaluation of training conducted under an initially approved curriculum must be discussed with the operator. If the deficiencies are significant, they must be documented and kept on file. In most cases, when the cause of a deficiency has been accurately identified, the organisation will make necessary changes to correct the deficiency to obtain final approval. Each significant deficiency identified must be immediately corrected. If an organisation does not take corrective action, the inspector shall advise the AMO in writing that initial approval is withdrawn.



## 2.12 XII. ELEMENTS AVAILABLE FOR EVALUATING TRAINING – PHASE FOUR.

- A. The inspector must develop a plan for a systematically evaluating training given under the initially approved curriculum. This plan should remain in effect throughout the initial approved training curriculum. There are four elements that can be evaluated when assessing the overall effectiveness of training programs. These four elements are:
- 1 Curriculum segment outlines
  - 2 Courseware
  - 3 Instructional delivery methods and training environment
  - 4 Testing and checking
- B. Before evaluating a training program, an inspector must become familiar with the contents of the curricula or curriculum segments to be evaluated. This preparation is essential if an inspector is to determine whether an AMO has developed an effective course of instruction from its initially approved training curriculum.
- C. Direct examination of courseware includes reviewing materials such as training modules, lesson plans and workbooks. The inspector must determine whether the courseware is consistent with the curriculum or curriculum segment and that it has been organised to facilitate effective instructional delivery. Courseware is usually the training program element that is most adaptable to revision or refinement. Inspectors must review at least a sampling of the courseware.
- D. Direct observation of instructional delivery includes surveillance of training methods, such as instructor lectures, computer based instruction presentations, and hands-on demonstration. Effective learning can only occur when an instructor is organised, prepared, and properly uses the courseware and various training aids. The inspector must determine that the instructional delivery is consistent with the courseware. For example, the inspector should note whether the instructor teaches the topics specified in the training module lesson plan. Training aids and devices should function as intended during the instructional delivery. In addition, during training, the inspector should be sensitive to the type of questions being asked by students and should identify the reasons for any excessive repetition. These conditions may indicate ineffective instructional delivery or courseware. The inspector must also determine if the instructional environment is conducive to learning. Distractions, which adversely affect instructional delivery, such as excessive temperatures, extraneous noises, poor lighting, cramped classrooms or workspaces, are deficiencies because they interfere with learning.



- E. Direct observation of testing and checking is an effective method for determining whether learning has occurred. Examining the results of tests, such as oral or written tests provides a quantifiable method for measuring effectiveness. The inspector must examine and determine the causal factors of significant failure trends.
- F. Direct observation of training and checking in progress is an effective method of evaluating training. Sometimes the opportunity for direct observation, however, will be limited. In such cases, if the AMO is using an already established training facility elsewhere, the inspector may rely more on his/her evaluation of other sources of information, such as reports of surveillance and investigation. A result of inspection reports, enforcement actions, and other indications of training effectiveness and other relevant information about the organisation's performance. The inspector must establish methods to evaluate these sources of information for trends that may develop while training is being conducted under initial approval. For example, repeated reports of deficiencies may be traceable to a lack of specific training or ineffective training. Such information may provide indications that revisions or refinements are needed for a curriculum segment and/or training module.
- (a) Curriculum Segment Outlines - Curriculum segment outlines contain the specific training modules and the amount of time allocated for the curriculum segment. The modules must be consistent with regulatory requirements and safe operating practices. This element requires direct examination.
  - (b) Courseware - Courseware converts curriculum outline information into usable instructional material. Courseware must be consistent with the curriculum outline and be organised to permit effective instructional delivery. It is readily adaptable to adjustments and refinement by the AMO. This element usually requires direct examination.
  - (c) Instructional Delivery Methods And Training Environment - Instructional delivery methods are used to convey information to the student. Effective learning is maximised if the instructional delivery adheres to and properly uses the courseware. The training environment should be conducive to effective learning. This element requires direct observation.
  - (d) Testing And Checking - Testing and checking is a method for determining whether learning has occurred. Testing and checking standards are used to determine that a desired level of knowledge and skill has been acquired. Testing and checking also measures the effectiveness of courseware and instructional delivery. This element requires direct observation.





**2.13 XIII. METHOD FOR GRANTING FINAL APPROVAL – PHASE FIVE.**

This phase involves the granting of final approval of an operator’s training curriculum. Based on the results of the evaluation, the inspector must determine whether to grant or deny final approval of a training curriculum. This determination must be made before the expiration date of the initial approval. If the inspector decides that final approval should be granted the following procedures apply:

- A. Programs that contain a List of Effective Pages. Final approval of the training curriculum can be granted and documented by the inspector on the List of Effective Pages. This means that the CAA has given final approval of every page of the operator’s training curriculum, as listed on that page, but only one CAA approval block must be completed and signed.
  - 1. The stamped page that documents final approval of the training curriculum and/or curriculum segment shall be stamped for approval, dated, and signed by the inspector. The approval stamp that appears on the page should be a facsimile of the stamp that appears in this paragraph.
  - 2. The original curriculum and/or curriculum segment must contain the one page that documents the CAA approval on the List of Effective Pages. The curriculum and/or curriculum segment must be transmitted to the operator with an approval letter signed by the inspector in accordance with this chapter.
- B. Programs that do not contain a List of Effective Pages the original and a copy of each page of the training curriculum and/or curriculum segment shall be stamped for approval, dated, and signed by the inspector. The approval stamp shall appear on each page and have a facsimile of the following stamp:
- C. The original stamped curriculum or curriculum segment must be transmitted to the organisation with an approval letter signed by the inspector. This letter must specifically identify the curriculum or curriculum

<b>CAA Final Approval</b>	
Office Designator:	_____
Effective Date:	_____
Name:	_____
Signature:	_____

segment, containing a statement that final approval is granted, and provides the effective date of approval. This letter must also state that final approval shall remain in effect until otherwise notified by the CAA that a revision is necessary in the interest of safety. If the inspector is authorising a reduction in the programmed hours specified by the regulations, the letter must contain a statement the basis for reduction. A copy of the stamped curriculum or curriculum segment, and a copy of the letter must be kept on file in the CAA office.



#### 2.14 XIV. WITHDRAWING APPROVAL OF TRAINING CURRICULA.

Before withdrawing approval of an operator's curriculum or curriculum segment, the inspector shall make reasonable efforts to convince the AMO to make the necessary revisions. It is important to understand that withdrawing approval could be detrimental to the AMO's business. The AMO's ability to continue to hold a certificate may be in question if a new curriculum is not submitted for initial approval within a reasonable period of time. A decision to withdraw approval must be based on sound judgement and justifiable safety reasons. When sufficient reasons are established, it is mandatory for the inspector to take immediate action to remove the CAA approval from an ineffective or non-compliant training curriculum. When approval is withdrawn, the inspector must ensure that the operator clearly understands that any further training conducted under an unapproved curriculum is contrary to NIG. CARs requirements. Enforcement action must be taken if any company employee who received any further training is used in maintenance conducted as an AMO. The three methods for withdrawing approval of a training curriculum are as follows:

- A. Allowing an initially approved training curriculum to expire without granting final approval.
- B. Withdrawing approval of an initially approved curriculum before the expiration date.
- C. Withdrawing approval of a training curriculum, which has already received final approval, in accordance with the NIG. CARs and this chapter.

#### 2.15 XV. EXPIRED TRAINING CURRICULA.

- A. A training curriculum granted initial approval has an expiration date. Usually, this date shall not be later than 24 months after the initial approval date. If the inspector does not grant final approval before the expiration date, training under that curriculum must terminate as of that date. Therefore the inspector shall not allow an initially approved curriculum to expire due to the CAA's inability to administratively grant final approval. Final approval may not be granted to an AMO's training curriculum for several reasons.
- B. One reason, for example, may be the operator's inability to achieve an acceptable level of training effectiveness during phase four of the approval process. Another example of a reason for not granting final approval is the discontinued use of the initially approved curriculum.
- C. When the inspector decides not to grant final approval before the expiration date, he/she must notify the operator of this decision in writing, at least 30 days before the expiration date of the initially approved curriculum. An operator not so notified may mistakenly assume that the initial approval will continue in effect until receipt of notification of either final approval or termination. The notification letter should contain the reasons for allowing the curriculum to expire and should state that any further training under the expired curriculum will not be in compliance with regulatory requirements. An inspector who fails to provide this 30-day notification must establish a new expiration date so appropriate notification can be given to the operator.



## CHAPTER 38

# AIRCRAFT CONFORMITY INSPECTION

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## PART 1. INTERIOR/EXTERIOR GUIDELINES

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### 1.0 INTRODUCTION.

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- A. The following Job Aids are provided to assist the CAA Maintenance Inspector in performing interior and exterior commercial aircraft inspections. These guidelines may be used to perform Ramp, En route and Nig. CARs Part 7, 8, and 9 conformity inspections. The conformity inspection should be conducted during the Demonstration and Inspection Phase during initial certification and if the operator adds additional aircraft after certification. If conducting a Ramp or En-Route inspection these guidelines should be utilised as time permits and must be adapted to the type of aircraft being inspected. This requires a basic knowledge and familiarity of the type operation being inspected. These guidelines are not intended to be tasks unto themselves, but should be used as additional guidance while performing en route, ramp, and conformity inspections.

### 2.0 PREREQUISITES.

- A. Prior to conducting these inspections the CAA Maintenance Inspector (MI) must have:
1. Have knowledge of the regulatory requirements of Nig.CARs Parts 7, 8, and 9 as applicable.
  2. Be familiar with the Air Operator's Maintenance Control Manual (MCM), Aircraft Maintenance Manual, Operations Specifications (OpSpecs) and the approved Aircraft Flight Manual (AFM).
  3. Be familiar with the type of aircraft being inspected.
  4. Co-ordinate with the Avionics Inspector (AI).
- B. Inspectors should use the job aids in Figure 1-1 "Interior Inspection Guidelines" and Figure 2-1 "Exterior Inspection Guidelines", to assist them in conducting aircraft inspections. The job aid should be used as follows:
1. Make a copy.
  2. Tailor it to conform to type of operation, (all cargo, passenger etc.).
  3. Give copies to inspectors assisting in the inspection, (if applicable)
  4. Check the appropriate box.
  5. Enter remarks
  6. Debrief the operator and document the findings.



## Figure 1-1 Interior Inspection Guidelines

This part of the form should be filled out and signed for each aircraft type/model.

**AIRCRAFT TYPE/MODEL:** \_\_\_\_\_

**ACCEPTABLE “A” UNACCEPTABLE “U” NOT APPLICABLE “NA” REMARKS “Y” “N”**

ITEM RESULT	S	REMARKS
<b>EXAMINE AIRWORTHINESS AND REGISTRATION CERTIFICATES TO ENSURE THE FOLLOWING:</b>		
• Airworthiness and Registration certificates are current and valid		
• Both certificates contain the same model, serial number, and registration markings		
• (If temporary registration, is it current)		
• Signatures are in permanent ink		
<b>FLIGHT DECK INSPECTION. INSPECT THE FOLLOWING:</b>		
• Aircraft Technical Log for a journey record section and maintenance record section		
• Instrument security and range markings		
• Windshields/windows for delamination, scratches, crazing, and general visibility		
• Seat belts and shoulder harnesses (TSO markings, metal to metal latching and general condition)		
• Medical Kit (passenger flights only) (if installed in the flight deck)		
• Emergency Equipment as a minimum should consist of:		
→ First Aid Kit (FAK)		
→ Crash Axe (AX)		
→ Portable Oxygen Bottle (POB)		
→ Halon Fire Extinguisher (HL)		
→ Emergency Flashlights (ELS)		
→ Protective Breathing Equipment (PBE)		
→ Crew Life Vests (CLV)		
→ Emergency Escape Ropes		
<b>☉ If jump seat use is intended check the following:</b>		
• Turn on and check oxygen regulator, set to 100% oxygen		
• Interphone system. Select Comm 1 and Comm 2 to ensure system is operating		
• Ensure the jump seat is serviceable and that the seat belt and shoulder harness are available and serviceable		
• If the forward most seat is in the cabin, coordinate with the crew for connecting the cables and headset		

**REMARKS:**



## Figure 1-2 Interior Inspection Guidelines

This part of the form should be filled out and signed for each aircraft type/model.

**AIRCRAFT TYPE/MODEL:** \_\_\_\_\_

**ACCEPTABLE "A" UNACCEPTABLE "U" NOT APPLICABLE "NA" REMARKS "Y" "N"**

ITEM RESULT	S	REMARKS
<b>Inspect the cabin to include the following:</b>		
⊙ <b>Lavatory. Ensure the following:</b>		
• Fire extinguisher system installed in sealed trash containers		
• Smoke detection system is installed		
<b>Note: The following items are normally required by Airworthiness Directives</b>		
• Trash containers are sealed according to the AD		
• "No Smoking" placards are posted		
• Smoke detector placards installed		
• Ashtrays are available outside the lavatory		
⊙ <b>Flight attendant seats</b>		
• Pull the jump seat down to the sitting position and ensure it will retract automatically (if in isle way path to exit)		
• Seat belts and shoulder harnesses (TSO markings, metal to metal latching and general condition)		
• Flight attendant emergency flashlights		
⊙ <b>Cabin emergency equipment.</b> All equipment requiring periodic inspections should have an inspection date marked on it. Inspect the following:		
• Slide raft containers to ensure containers are marked for content. Check pressure of slide raft inflation bottle		
• Medical kit (if not checked on flight deck)		
• First aid kit(s)		
• Emergency oxygen bottles and masks (proper pressure, security and conditions)		
• Megaphone(s) (security and general condition)		
• Fire extinguishers (security, pressure, seal, and type)		
• Protective Breathing Equipment (PBE)		
• Emergency briefing cards (random sample)		
• Emergency floor path lighting system (general condition)		
• Placement of all "Emergency Exit" signs		
• Presence and legibility of "Emergency Exit" operating instructions		
• Location of all emergency equipment identified by placards		
• Life preservers (vests) crew and passengers		
• Life raft(s) (if required)		

**REMARKS:**



### Figure 1-3 Interior Inspection Guidelines

This part of the form should be filled out and signed for each aircraft type/model.

**AIRCRAFT TYPE/MODEL:** \_\_\_\_\_

**ACCEPTABLE "A" UNACCEPTABLE "U" NOT APPLICABLE "NA" REMARKS "Y" "N"**

ITEM RESULT	S	REMARKS
<b>⊙ Passenger seats. Ensure the following:</b> <ul style="list-style-type: none"> <li>• Seats that are adjacent to emergency exits do not block exit path</li> <li>• Seats are secure in seat tracks (random sample)</li> <li>• Seat "breakover" pressure in accordance with operator's maintenance program (random sample)</li> <li>• "Fasten Seat Belt While Seated" placards/signs are visible from all seats</li> <li>• Seat belts have metal-to metal latches and are in good general condition</li> </ul>		
<b>⊙ Galleys/Service centers. Inspect the following:</b> <ul style="list-style-type: none"> <li>• Storage compartment restraints in place and secure, weight restriction placards</li> <li>• Trash bin lids for proper fit</li> <li>• Bar Cart braking system in serviceable condition</li> <li>• Lower lobe equipment/restraints in place/secure (if applicable)</li> <li>• Lift operation (if applicable)</li> <li>• Galley supply stowage in serviceable condition</li> </ul>		
<b>⊙ Overhead baggage compartments.</b> Check for weight restriction placards and the doors for proper latching (when applicable)		
<b>⊙ Inspect cargo compartments (cargo operation)</b> <ul style="list-style-type: none"> <li>• Cargo compartment fire protection is appropriate for the classification</li> <li>• Cargo liner is free from tears and/or punctures. If these are noted, inspect structure behind liner for damage, e.g., stringers, circumferentials, etc. Ensure sealing tape is proper type and in good condition.</li> <li>• Cargo door is free of fluid leaks and structural damage</li> <li>• Fuselage door structure and sill is free from damage</li> <li>• Smoke detectors are in operable condition</li> <li>• Lighting is operable and protective grills are installed</li> <li>• Cargo floor is free from structural damage</li> <li>• Pallet positions/compartments are placarded for position identification and weight limitations</li> </ul>		

**REMARKS:**



## Figure 1-4 Interior Inspection Guidelines

This part of the form should be filled out and signed for each aircraft type/model.

**AIRCRAFT TYPE/MODEL:** \_\_\_\_\_

**ACCEPTABLE “A” UNACCEPTABLE “U” NOT APPLICABLE “NA” REMARKS “Y” “N”**

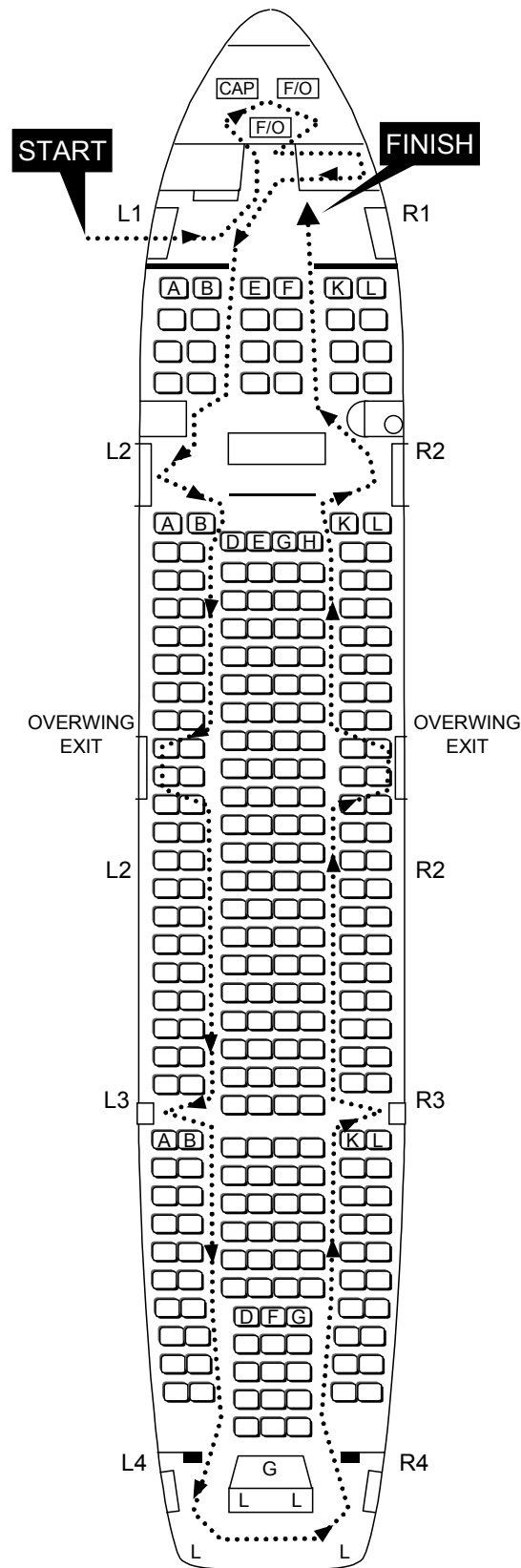
ITEM RESULT	S	REMARKS
⊙ <b>Inspect pallet system, if applicable.</b> Ensure the following:		
• Ball mats are serviceable, no broken or missing balls		
• Forward, aft, and side restraints are serviceable		
• Roller assemblies are secure and have no missing or broken rollers		
• Ensure that cargo restraint/net is serviceable		
• Inspect fire extinguishers for inspection due dates and pressure		
• Inspect cabin-mounted equipment		
⊙ <b>Hazardous Material, if present.</b> Inspect load manifest for hazardous material		
• Determine crew knowledge of the following:		
• Location and labelling of hazardous material		
• Special requirements if any		
• If proper paperwork is on board		

**REMARKS:**





### Figure 1-6 Interior Inspection Route





## Figure 2-1 Exterior Inspection Guidelines

This part of the form should be filled out and signed for each aircraft type/model.

AIRCRAFT TYPE/MODEL: \_\_\_\_\_

**ACCEPTABLE "A" UNACCEPTABLE "U" NOT APPLICABLE "NA" REMARKS "Y" "N"**

ITEM RESULT	S	REMARKS
☉ Accompany a flight crewmember during the exterior inspection, if possible, and inspect the following items, as applicable.		
☉ <b>Landing gear and wheel well areas.</b> Check for the following:		
• Any indication of wear, chaffing lines, chaffing wires, cracks, dents, or other damage		
• Structural integrity of gear doors (cracks, dents, or other damage)		
• Hydraulic leaks (gear struts, actuators, steering valves, etc.)		
• Tire condition and pressure (if pressure indicators installed)		
• Wheel installation and safety locking devices		
• Wear, line security, leaks, and installation of brakes		
• Corrosion		
☉ <b>Fuselage and Pylons.</b> Inspect the following:		
• Structure for cracks, corrosion, dents, or other damage		
• Fasteners (loose, improper, missing)		
• Condition of radome		
• Condition of pitot tubes		
• Static ports (cleanliness and free from obstructions)		
• Stall warning devices and other sensors		
• Antennas (security, and indication of corrosion)		
• Stains of other indications of leaks		
• Lavatory servicing areas (evidence of "Blue Water" streaks)		
• Cargo compartments for integrity of fire protective liners (no holes, or duct tape used for repairs) Blow-out panels not taped closed		
• Emergency exit identification/markings (Two inch contrasting borders outlining exits)		
• Registration markings (match airworthiness and registration certificates)		
• All lights (general condition, broken lenses, etc.)		
☉ <b>Wings and Pylons.</b> Inspect the following:		
• Structure for cracks, corrosion, dents or other damage		
• Leading edge (dents and/or damage in line with engine inlets)		
• Leading edge devices (when open for actuator leaks, general condition of line, wires, and plumbing)		
• Evidence of fuel leaks (if found, maintenance must prove leak is within limits)		
• All lights (general condition, broken lenses, etc.)		
• Flaps (cracks, corrosion, dents, and delamination)		
• Flap wells (general condition of lines, wires, and plumbing)		

**REMARKS:**



## Figure 2-2 Exterior Inspection Guidelines

This part of the form should be filled out and signed for each aircraft type/model.

**AIRCRAFT TYPE/MODEL:** \_\_\_\_\_

ACCEPTABLE "A" UNACCEPTABLE "U" NOT APPLICABLE "NA" REMARKS "Y" "N"	S	REMARKS
ITEM RESULT		
<b>⊙ Wings and Pylons. (cont'd)</b>		
• Static eliminators (number missing in accordance with MEL/CDL)		
• Ailerons and aileron tabs (cracks, corrosion, dents, delamination)		
• Missing, loose, or improperly secured access door/inspection panels and blow-out panels		
<b>⊙ Engines. Inspect the following:</b>		
• Intakes for fan blade damage and oil leaks		
• Ring cowl for security and proper fit		
• Cowling doors for security and proper fit		
• Lower cowling for security and evidence of fluid leaks		
• Exhaust for turbine and tailpipe damage and evidence of fluids		
• Reverser doors for stowage and security, evidence of leaks		
• Access doors for security		
<b>⊙ Propellers. Inspect the following:</b>		
• Leading edge of propeller for cracks, dents, and other damage		
• De-icer boots for signs of deterioration and security		
• Spinners for security, cracks, and evidence of fluid leaks		
<b>⊙ Empennage. Inspect the following:</b>		
• Leading edge for dents		
• All lights (general condition, broken lenses, etc.)		
• Missing static discharge eliminators (in accordance with MEL/CDL)		
• Elevators, rudders, and tabs (cracks, corrosion, dents delamination)		
• Evidence of elevator and rudder power units for hydraulic leaks		
<b>Note:</b> Time permitting the following ground safety areas should be inspected.		
<b>⊙ Baggage. Observe the loading and unloading of baggage compartments to include the following:</b>		
• Baggage restraining system (in-place and proper use)		
• Load distribution in accordance with weight placard instructions		

**REMARKS:**



### Figure 2-3 Exterior Inspection Guidelines

This part of the form should be filled out and signed for each aircraft type/model.

**AIRCRAFT TYPE/MODEL:** \_\_\_\_\_

**ACCEPTABLE "A" UNACCEPTABLE "U" NOT APPLICABLE "NA" REMARKS "Y" "N"**

<b>Note:</b> Time permitting the following ground safety areas should be inspected.		
• Positioning of ground support equipment (GSE)		
• Fuelling of aircraft to include the following:		
→ Refuelling pressure		
→ Condition of refuelling units (leaks, filter change dates, exhaust system, etc.)		
→ Ground connections and procedures		
→ Fire protection		
→ General fuelling procedures		

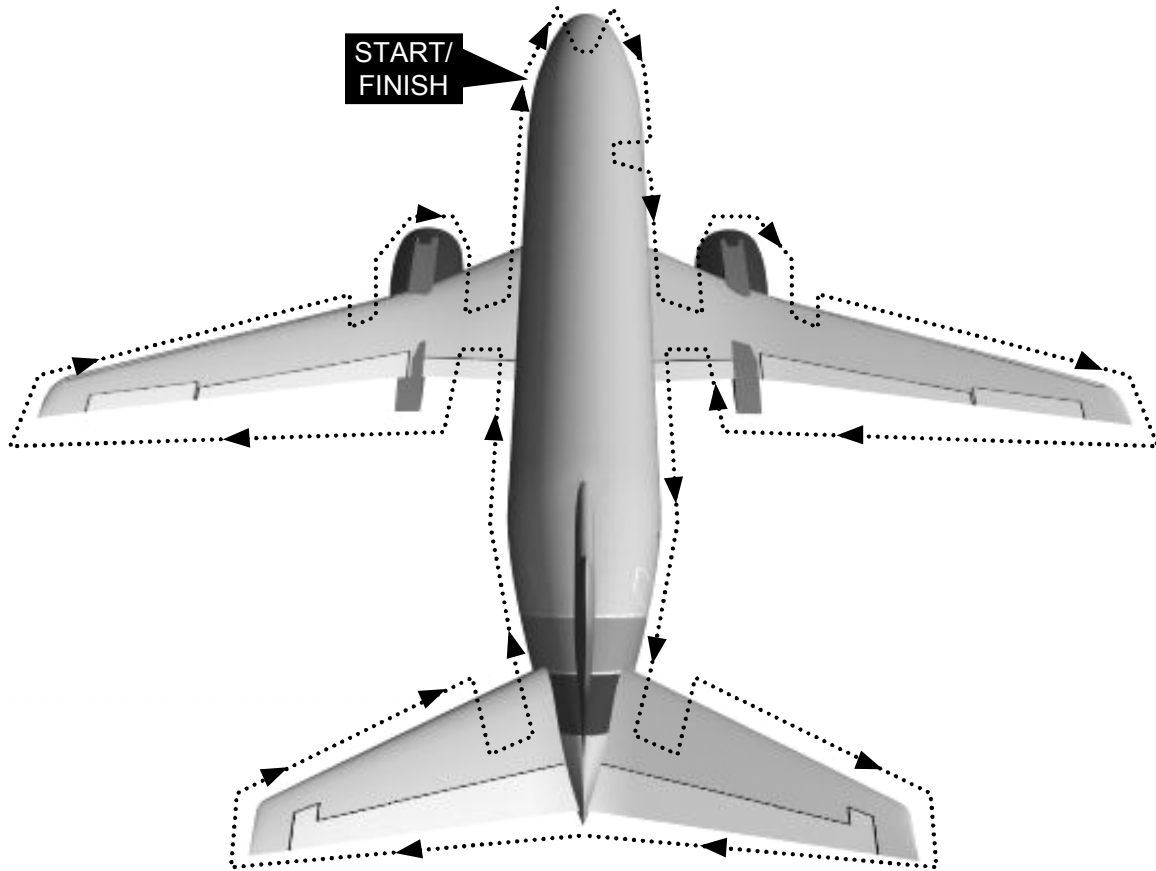
**REMARKS:**

**Name & Signature of Inspector(s):** \_\_\_\_\_

**Date:** \_\_\_\_\_ **Location:** \_\_\_\_\_

**Name of Air Operator:** \_\_\_\_\_

## FIGURE 2-4 Exterior Inspection Route





## CHAPTER 39

### ISSUE/RENEWAL OF LETTER OF AUTHORIZATION FOR OPERATIONS IN SPECIAL AREA OF OPERATION FOR GENERAL AVIATION OPERATORS

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#### 1.0 OBJECTIVE

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The objective of this task is to issue a letter of authorization (LOA) to a general aviation operator planning a flight in special area of operation. Guidance to inspectors issuing operations specifications to air carriers planning flights in special area of operation is contained in Technical Guidance Material Volume 4 Airworthiness Inspectors Handbook Chapter 40

#### 2.0 BACKGROUND.

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Special area of operation is international airspace where navigation performance standards are governed by international agreements, separation minimums are reduced, and the standards of navigation performance accuracy are strictly enforced. In this chapter, particular emphasis is placed on Minimum Navigation Performance Specification (MNPS) airspace in the North Atlantic (NAT) region. Inspectors should be familiar with the information in this chapter and with the contents of Advisory Circular [NCAA-AC-OPS 041 to 043](#), before processing an LOA for operations in special area of operation.

#### 3.0 GENERAL REQUIREMENTS FOR OCEANIC OPERATIONS.

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Inspectors should be aware of the requirements imposed on operators for flights in special area of operation. Operator, as used in this chapter, is defined to mean one who exerts operational control as defined in Nig. CARs Part 1.5.

- A. Navigation Equipment and Procedures.** Approved navigation equipment must be installed in accordance with a supplemental type certificate or a field approval. In either case, the operations inspector should coordinate with the principal avionics inspector to ensure that the equipment installation is acceptable.
- B. Operations Manual Requirements.** Although not required by regulation, operators should be encouraged to prepare an International Operations Procedures Manual. Either a journey logbook or a navigation log is required by International Civil Aviation Organization (ICAO) for any aircraft engaged in international navigation and is regulatory for Nigeria-registered aircraft under Nig. CARs Part 8.8.1.21. In either case, the information should be accessible to the flightcrew. The manual should include specific preflight, in-flight, and postflight procedures. The manual should specify the crewmember(s) responsible for inserting waypoints in the long-range navigation systems (LRNS) and for verification of the waypoint insertions, and should also identify the source of the waypoint information. Much of this information will depend upon the



type of LRNS equipment in use. Procedures for logging equipment accuracy should be explained. If a manual is developed, the log should be depicted in the manual, and a sample log page should be submitted to the Authority. Plotting chart procedures should also be included in the manual, and a completed sample chart should be submitted. An LRNS checklist should be incorporated with the regular aircraft checklists and should include procedures in case of LRNS equipment failure.

**C. Communication Equipment Required.** ICAO rules state that an aircraft operated on a flight plan shall maintain continuous listening watch on the appropriate radio frequency and establish two-way communication, as necessary, with the appropriate air traffic control (ATC) facility, except as prescribed by the ATC authority in regard to an aircraft forming part of the air traffic pattern at a controlled airport. In addition, Canadian regulations require that aircraft flying in or departing from Canadian airspace for transoceanic flights have the following communications equipment installed on the aircraft. These requirements are in addition to applicable requirements of Nig. CARs Part 8.

- 1) In order to maintain communication capability, high frequency (HF) communications equipment is normally used by each aircraft crossing the Atlantic. The only exception is for aircraft flying at flight level (FL) 250 or above on specific routes crossing Greenland. In the oceanic control areas (OCA) and flight information regions (FIR), very high frequency (VHF) coverage is not sufficient to ensure continuous two-way communications with ground stations. Although relay through other aircraft is possible, it is not guaranteed.
- 2) VHF equipment shall include 121.5 MHz capability. A listening watch should be maintained on 121.5 MHz unless communication on another frequency prevents this. Frequency 121.5 MHz is not authorized for routine use; 123.45 or 131.8 MHz should be used for air-to-air communications.

**D. Crew Qualification Requirements.** In the International Standards and Recommended Practices—Annex 6, Operation of Aircraft, ICAO makes the following stipulations for flights outside the jurisdiction of member states:

- 1) An operator shall ensure that all employees, when abroad, know that they must comply with the laws, regulations, and procedures of those states where operations are conducted, and also comply with the relevant laws, regulations, and procedures of their state of registry.
- 2) An operator shall ensure that all pilots are familiar with the laws, regulations, and procedures pertinent to the performance of their duties that are prescribed for the areas to be traversed, the airports to be used, and the related air navigation facilities. The operator shall ensure that other members of the flightcrew are familiar with those laws, regulations, and procedures that are pertinent to the performance of their duties.
- 3) Operators shall ensure that all pilots-in-command (PIC) understand that, if a deviation in an emergency situation violates local regulations or procedures, the PIC shall notify the appropriate local authorities without delay. If required by the state



where the incident occurs, the PIC shall submit a report on any such violation to the appropriate authority of that state.

- 4) An operator shall not use a pilot as PIC of an aircraft on a route or route segment for which that pilot is not currently qualified until that pilot has satisfied the knowledge requirements of the following:

- The route to be flown and the airports to be used
- The terrain and minimum safe altitudes
- The seasonal meteorological conditions
- The meteorological, communication and air traffic facilities, services and procedures
- Search and rescue procedures
- The navigational facilities and procedures, including any long-range navigation procedures associated with the planned route

**E. Pilot Qualification.** The minimum pilot qualification for any oceanic flight is a private pilot certificate. An instrument rating is required if operating at or above 6,000 feet pressure altitude in the NAT region. Some states (for example, Canada) require pilots to hold an instrument rating for operating at any altitude in the NAT region under their jurisdiction; therefore, it is imperative that pilots are acquainted with states' varying legislative requirements. Pilots must comply with the regulations imposed by the state of registry of the aircraft being flown and with the regulations of countries in which they land or overfly. Irrespective of the mandatory requirements, inspectors should strongly recommend that all pilots hold a valid instrument rating. In addition to cross-country flight time, the demanding nature of the oceanic operational environment requires that the PIC meet the recency of experience requirements stipulated by the state of registry, have adequate recent flight experience in the use of long-range navigation equipment and communications equipment, and have training in dead reckoning navigation techniques.

**F. Training Curriculum Content.** Experience has clearly demonstrated that the presence of sophisticated navigational equipment on board an aircraft does not, by itself, ensure that a high level of performance will be achieved. It is essential that operators provide adequate training for the personnel operating or maintaining the equipment, and that operating drills and procedures are included in crew training. Air carrier operators' training programs are approved in conjunction with their certification and subsequent issuance of operations specifications. Questions concerning the acceptability of training should be referred to the Flight Standards Group. Inspectors should strongly recommend that the crew qualifications include, as a minimum, the subjects listed below.

- ICAO operational rules and regulations
- ICAO measurement standards
- Use of oceanic flight planning charts
- Sources and content of international flight publications
- Itinerary planning
- Preparation of international flight plans, ICAO flight plans, and flight logs





- Route planning within the special area of operation where flights are to be conducted
- En route and terminal procedures (different from Nigeria procedures)
- Long-range, air-to-ground, communication procedures
- Structure of the special area of operation where the flights are to be conducted
- Air traffic clearances
- International meteorology, including significant weather charts, prognostic weather charts, tropopause prognostic charts, and terminal weather forecasts (TAF)
- Specific en route navigation procedures for each type of navigation equipment required for use in the special area of operation, including abnormal procedures
- Emergency procedures, including required emergency equipment, search and rescue techniques, and navigation and communications equipment failure techniques
- If operations are to be conducted in areas of magnetic unreliability, specialized training must be given.

#### **SPECIAL AREA OF OPERATION REQUIREMENTS.**

**G. When Authorization Is Required.** There is no requirement for a general aviation operator to obtain authorization for oceanic operations outside of designated special area of operation. However, the inspector may be called upon to advise pilots desiring to obtain information on oceanic operations. In addition to the guidance in this chapter, NCAA-AC-OPS041 to 043 contains detailed information on most aspects of oceanic operations.

**H. ICAO Requirements.** When conducting oceanic flights, pilots of Nigeria-registered aircraft must adhere to the Nigeria regulations, ICAO rules, and the regulations of the nations that they overfly or where they land. This requirement is based upon the Convention on International Civil Aviation, commonly known as the Chicago Convention. Flight regulations for oceanic operations are specifically covered in Annex 2, Rules of the Air, and Annex 6, Part II, International General Aviation-Aeroplanes. Nig. CARs Part 8 ensures that ICAO rules are regulatory to operators of Nigeria-registered aircraft operating in oceanic airspace.

#### **NAT REGION OCEANIC OPERATIONS.**

**I. NAT Region.** The majority of the airspace in the NAT region is controlled airspace. Instrument flight rules (IFR) apply to all flights at or above FL 60 or at 2,000 feet above ground level, whichever is higher. Within the NAT region, two types of special area of operation have been structured. The first of these is MNPS airspace, which has been operational for many years. The second special area of operation is Reduced Vertical Separation Minimum (RVSM) airspace. RVSM airspace is any airspace or route where aircraft are separated by 1,000 feet vertically between FL 330 and FL 370. Interim guidance for approvals to authorize operation in this airspace is contained in Chapter



36, Approval of Aircraft and Operators for Flight in Airspace Above Flight Level (FL) 290 Where a 1,000 Foot Vertical Separation Minimum is Applied.

**J. MNPS Airspace.** MNPS airspace is that portion of the NAT airspace between FL 275 and FL 400, between latitudes 27 1/2 N and the North Pole; bounded in the east by the eastern boundaries of control areas (CTA) Santa Maria Oceanic, Shanwick Oceanic, and Reykjavik; and bounded in the west by the western boundary of CTAs Reykjavik and Gander Oceanic, and New York Oceanic east of longitude 60° W and south of 38° 30' N. All aircraft operating in MNPS airspace are required to have a specified minimum navigation performance capability that has been approved by the state of registry or by the state of the operator, as appropriate. The approval process includes all aspects of the required navigation accuracy, navigation equipment required, installation and maintenance procedures, and crew training. The integrity of MNPS airspace is maintained by a series of procedures that include approval of navigation equipment and procedures plus continuous monitoring of the navigation accuracy of aircraft using MNPS airspace. It is implicit in the concept of MNPS airspace and essential to the application of the lateral separation minimums that all operations in MNPS airspace achieve the highest standards of navigation performance accuracy. The obligations of the operator and crew operating under part Nig. CARs Part 8 for flight in MNPS airspace can be summarized as follows:

- 1) The operator must have an LOA from the state of registry for that aircraft;
- 2) The approved aircraft minimum navigation installations must be operable and must have been checked for accuracy, airborne by the flight crew, before entry into MNPS airspace;
- 3) Approved operating procedures must be followed while in MNPS airspace, and deviations from track must not be made without prior ATC clearance, except in an emergency;
- 4) ATC must be advised in the event of navigation equipment failure or navigation uncertainty;
- 5) There must be a high standard of supervision, monitoring, and cross-checking of data inserted into automatic navigation systems;
- 6) Coordination must be maintained with ATC to ensure that misunderstandings over the route to be flown do not occur; and
- 7) RVSM authorization should be noted in the LOA for operators wishing to operate in RVSM airspace.
  - a) Additionally, for AOC holders, approval to operate in RVSM airspace is indicated in Part B of the operations specifications.
  - b) Operators operating in RVSM airspace are required to participate in the monitoring program. The operator can currently participate in the program by overflying the fixed-location height monitoring unit (HMU) located at South Africa, or by carrying a portable GPS-based monitoring unit (GMU). Operators



requiring the use of a GMU should contact the ARINC RVSM Program Office at (410) 266-4746.

**K. Navigation Performance Requirements.** For approval of unrestricted operation in NAT MNPS airspace, an aircraft must be equipped with two fully serviceable and independent LRNSs. Acceptable LRNSs include an inertial navigation system (INS), Omega navigation system, a technical standard order (TSO) C-129 approved global positioning system (GPS) (use of and approval of GPS is detailed in paragraphs 4-1292 and 4-1293 of this section), and flight management computer systems (FMCS) with inputs from one or more inertial reference systems (IRS), Omega sensors, or approved GPS sensors. Each LRNS must be capable of providing a continuous indication of the aircraft's position relative to track. When coupled with an FMCS for automatic flight guidance, INS and an inertial sensor system (ISS)/IRS have demonstrated a capability to meet MNPS requirements. Some smaller aircraft may carry two IRSs (or ISS) but only one FMCS. Such an arrangement may meet track-keeping parameters, but does not provide the required redundancy (in terms of continuous indication of position relative to track or of automatic steering guidance) should the FMCS fail. In this case, dual FMCS is required to obtain MNPS certification. The use of Doppler equipment (having a capability of displaying drift, groundspeed and crosstrack error) has been approved, on occasions, in conjunction with single INS, Omega, or Omega/very low frequency (VLF) for operations in NAT MNPS airspace. However, such approvals are considered to be at the lowest acceptable level of navigation fit suitable for the MNPS. Doppler requires that continuous attention be paid to in-flight rating of, and compensation for, systematic errors to guard against failure of the other navigational aid (NAVAID). Thus, use of Doppler and one other LRNS cannot be recommended for unrestricted MNPS operations.

**L. Routes for Aircraft With Only One LRNS.** A number of special routes have been developed for aircraft equipped with only one LRNS. These routes are within MNPS airspace and require an LOA. Aircraft that are equipped with normal short-range navigation equipment (VHF omnidirectional radio range (VOR)/distance measuring equipment (DME), automatic direction finding (ADF)) and at least one fully operational LRNS should be considered capable of meeting the MNPS while operating along the routes listed below. Routes, listed below, were known as Blue Spruce routes and are now referred to as special routes. Continuous VHF coverage exists on these routes at FL 300 and above, except as noted. Inspectors issuing an LOA for routes approved for aircraft with only one LRNS must note this limitation on the LOA. This should be entered on the line entitled Aircraft Limitations (see Figure 1) and must be stated in one of the following formats:

- 1) A listing of the specific route(s) authorized.
- 2) A statement: All routes authorized for aircraft with only one LRNS in volume 4, chapter 12, section 1.
- 3) A statement: See reverse side of this LOA. (See Figure 4-69 below.) (If this statement is used, the routes must be specified on the reverse side of the LOA with a line drawn under the last route for which approval is given followed by the office manager's signature.)



### Figure A Sample of Reverse Side of LOA

- Stomoway } - 60N 10W - 61N 12 34W - ALDAN - Keflavik;  
(HF required on this route)
- Benbecula } - 61N 10W - ALDAN - Keflavik (VHF coverage exists, and subject  
to prior coordination with Scottish Airways and Shanwick, this  
route can be used by non HF equipped aircraft.)
- Machrihanish }  
• Glasgow } - 57N 10W - 60N 15W - 61N16 30W - BREKI -  
• Shannon } Keflavik; (HF is required on this route)
- Belfast }
- Keflavik - GIMLI - Kulusuk - Sondre Stromfjord - Frobay (HF is required on this route);
- Keflavik - EMBLA - 63N 30W - 61N 40W - Prins Christian Sund;
- Prins Christian Sund - 59N 50W - PRAWN - NAIN;
- Prins Christian Sund - 59N 50W - PORGY - Hopedale;
- Prins Christian Sund - 58N 50W - LOACH - Goose VOR;
- Cork } - LOACH - Goose VOR;
- Lands End - Gapli } (HF is required on this route);
- Funchal/Porto Santo - Santa Maria/Ponta Delgada/Lajes;
- Lisboa/Porto/Faro - Ponta Delgada/Santa Maria/Lajes;
- between Greenland and Canada (HF is required over the Greenland icecap below FL 195):
  - Sondre Stromfjord NDB 67N 60W, Cape Hooper NDB;
  - Kook Islands NDB, 66N 60W, Cape Dyer NDB;
  - Kook Island NDB, 66N 60W, 64N 63W, Frobay VOR; and
- between Iceland and Greenland: Reykjaneskoli NDB, 69 30N 22 40W, Constable Pynt NDB.

**M. Routes for Aircraft With Short-Range Navigational Equipment.** The following routes may be flown by aircraft with short-range navigation equipment (VOR/DME, ADF), but an LOA for operation within MNPS airspace is still necessary:

Flesland-Myggenes-INGO-Keflavik (G3)

Sumburgh-Akraberg-Myggenes (G11)

**N. Special Provisions for Aircraft Not Equipped for Operation in MNPS Airspace to Climb or Descend through MNPS Airspace.** Some aircraft, particularly higher performance international general aviation (IGA) aircraft, operate at flight levels above the upper limit of MNPS airspace (FL 410 and above). Depending on their point of departure, such aircraft often require a comparatively brief penetration of MNPS airspace. In order that these aircraft are not unduly penalized by being excluded from operating at their most economic cruising level, provisions are made for climb and descent through MNPS. The NAT Special Planning Group agreed to the following provisions on the understanding that these would be published in the relevant aeronautical information publications (AIP) by the states concerned, stating the VOR/DMEs to be used and indicating those parts of the MNPS airspace which may be affected by this procedure. Aircraft not equipped for operation in MNPS airspace may be cleared by the responsible ATC unit to climb or descend through MNPS airspace provided the following circumstances exist:



- The climb or descent can be completed within the usable coverage of selected VOR/DMEs and/or within the radar coverage of the ATC unit issuing such clearance;
- The aircraft is able to maintain direct pilot-controller communications on VHF; and
- MNPS authorized aircraft operating in that part of the MNPS airspace affected by such climb or descent are not penalized by the application of this procedure.

**USE OF GPS EQUIPMENT.** Inspectors should note that the information in this Chapter is the most current information available at the time of publication. As additional information becomes available, this guidance will be updated through issuance of bulletins or revisions to this chapter.

- O. GPS Navigation.** The GPS is a satellite-based radio navigation system that uses precise range measurements from GPS satellites to determine a precise position anywhere in the world. The GPS constellation consists of 24 satellites in various orbital planes approximately 11,000 nautical miles (NM) above the earth. The satellites broadcast a timing signal and data message that the airborne equipment processes to obtain satellite position and status data, and to measure how long each satellite's radio signal takes to reach the receiver. By knowing the precise location of each satellite and precisely matching timing with the atomic clocks on the satellites, the receiver can accurately measure the time the signal takes to arrive at the receiver and thus determine the satellite's precise position. A minimum of three satellites must be in view to determine a two-dimensional position. Four satellites are required to establish an accurate three-dimensional position. GPS equipment determines its position by precise measurement of the distance from selected satellites in the system and the satellite's known location. The accuracy of GPS position data can be affected by various factors. Many of these accuracy errors can be reduced or eliminated with mathematics and sophisticated modeling, while other sources of errors cannot be corrected. The following are examples of those errors which cannot be corrected:
- 1) Atmospheric propagation delays can cause relatively small measurement errors, typically less than 100 feet. Ionospheric propagation delays can be partially corrected by sophisticated error-correction capabilities.
  - 2) Slight inaccuracies in the atomic clocks on the satellites can cause a small position error of approximately 2 feet.
  - 3) Receiver processing (such as mathematical rounding and electrical interference) may cause errors that are usually either very small (which may add a few feet of uncertainty into each measurement) or very large (which are easy to detect). Receiver errors are typically on the order of 4 feet.
  - 4) Conditions that cause signal reflections before the satellite's transmitted signal gets to the receiver can cause small errors in position determination or momentary loss of the GPS signal. While advanced signal processing techniques and sophisticated antenna design are used to minimize this problem, some uncertainty can still be added to a GPS measurement.



- 5) A satellite's exact measured orbital parameters (ephemeris data) can contain a small error of approximately 4 feet.

**P. System Operation.**

- 1) The US Department of Defense (DOD) is responsible for operating the GPS satellite constellation and constantly monitors the GPS satellites to ensure proper operation. Every satellite's ephemeris data are sent to each satellite for broadcast as part of the data message sent in the GPS signal. The GPS is a system of Cartesian earth-centered, earth-fixed coordinates as specified in the US DOD World Geodetic System 1984 (WGS-84). Navigation values, such as groundspeed and distance and bearing to a waypoint, are computed from the aircraft's latitude/longitude and the location of the waypoint. Course guidance is usually provided as a linear deviation from the desired track of a Great Circle course between defined waypoints.
- 2) GPS navigation capability from the 24-satellite constellation is available 24 hours a day anywhere in the world. GPS status is broadcast as part of the data message transmitted by the satellites. Additionally, system status is planned to be available through Notices to Airmen (NOTAM). Status information is also available by means of a telephone data service from the U.S. Coast Guard. Availability of suitable navigation capability from the satellite constellation is expected to approach 100 percent.
- 3) GPS signal integrity monitoring will be provided by the GPS navigation receiver using receiver autonomous integrity monitoring (RAIM). For GPS sensors that provide position data only to an integrated navigation system (e.g., flight management system (FMS) multisensor navigation system), a level of GPS integrity equivalent to that of RAIM may be provided by the integrated navigation system. Availability of RAIM capability to meet nonprecision approach requirements in the United States with the 24 satellite constellation is expected to exceed 99 percent.

**Q. Selective Availability (SA).** SA is essentially a method by which DOD can artificially create a significant clock and ephemeris error in the satellites. This feature is designed to deny an enemy nation or terrorist organization the use of precise GPS positioning data. SA is the largest source of error in the GPS system. When SA is active, the DOD guarantees horizontal position accuracy will not be degraded beyond 100 meters 95 percent of the time, and beyond 300 meters 99.99 percent of the time.

**R. Portable Units.** All portable electronic systems and portable GPS units must be handled in accordance with the provisions of Nig. CARs Part 8.5.1.26. The operator of the aircraft must determine that each portable electronic device will not cause interference with the navigation and communications systems of the aircraft on which it is to be used. Portable GPS units which are attached by Velcro tape or hard yoke mount that require an antenna (internally or externally mounted) are considered to be portable electronic devices and are subject to the provisions of Nig. CARs Part 8.5.1.26. All portable GPS equipment attached to the aircraft by a mounting device must be installed in an approved manner and in accordance with Nig. CARs Part 5. Questions concerning installation should be referred to an avionics or airworthiness inspector. A critical aspect of any GPS installation is the installation of the antenna. Shadowing by



the aircraft structure can adversely affect the operation of the GPS equipment. FAA approval of avionic components, including antennas, requires an evaluation of the applicable aircraft certification regulations prior to approval of an installation. The regulations require that the components perform their intended functions and be free of hazards in and of themselves and to other systems as installed. Pilots should be aware that a GPS signal is weak, typically below the value of the background noise. Electrical noise or static in the vicinity of the antenna can adversely affect the performance of the system. It is recommended that system installations be flight tested in conjunction with other navigation equipment prior to using the system for actual navigation. Unless a portable GPS receiver is TSO C-129 approved, it is not to be used as a basis for approval of operations in the NAT MNPS.

**S. Navigation Classes.** All navigation performed in flight is either Class I or Class II navigation.

- 1) **Class I Navigation:** Any en route flight operation or portion of a flight operation conducted in an area entirely within the officially designated operational service volumes of ICAO standard airways navigation facilities (VOR, VOR/DME, NDB). The two generic types of Class I navigation are navigation by direct reference to ICAO standard NAVAIDS and navigation by use of area navigation systems.
- 2) **Class II Navigation:** Any operation or portion of an en route operation which takes place outside (beyond) the officially designated operational service volumes of ICAO standard NAVAIDS (VOR, VOR/DME, NDB). Any en route flight operation or portion of a flight operation which is not Class I navigation. There are three generic classes of Class II navigation. These are navigation by reference to ICAO standard NAVAIDS supplemented by dead reckoning, navigation by use of pilot-operated electronic LRNS's (e.g., INS, Omega, GPS), and navigation by use of a flight navigator.

**T. RAIM.** A technique whereby a civil GPS receiver/processor determines the integrity of the GPS navigation signals using only GPS signals or GPS signals augmented with altitude. This determination is achieved by a consistency check among a series of satellites being tracked. At least one satellite in addition to those required for navigation must be in view for the receiver to perform the RAIM function.

**U. Supplemental Air Navigation System.** An NCAA-approved navigation system that can be used in addition to a required means of air navigation. It may be used as the primary navigation system provided an operational approved alternate means of navigation suitable for the route of flight is installed on the aircraft.

**V. System Availability.** The percentage of time (specified as 98 percent) that at least 21 of the 24 satellites must be operational and providing a usable navigation signal.

#### **NCAA OPERATIONAL APPROVAL OF GPS EQUIPMENT.**

**W. GPS Equipment Classes.** GPS equipment is categorized into classes (A), (B), and (C) (ref. TSO-C129).



- 1) Class (A). Equipment incorporating both the GPS sensor and navigation capability. This equipment incorporates RAIM.
    - a) Class A1 equipment includes en route, terminal, and non-precision approach navigation capability.
    - b) Class A2 equipment includes en route and terminal navigation capability only.
  - 2) Class (B). Equipment consisting of a GPS sensor that provides data to an integrated navigation system (FMS, multi-sensor navigation system, etc.).
    - a) Class B1 equipment includes RAIM and provides en route, terminal, and non-precision approach capability.
    - b) Class B2 equipment includes RAIM and provides en route and terminal capability only.
    - c) Class B3 equipment requires the integrated navigation system to provide a level of GPS integrity equivalent to RAIM and provides en route, terminal, and non-precision approach capability.
    - d) Class B4 equipment requires the integrated navigation system to provide a level of GPS integrity equivalent to RAIM and provides en route and terminal capability only.
  - 3) Class (C). Equipment consisting of a GPS sensor that provides data to an integrated navigation system (FMS, multi-sensor navigation system, etc.), which provides enhanced guidance to an autopilot or flight director in order to reduce flight technical error. Installation of Class (C) equipment is limited to aircraft approved under Nig. CARs Part 9 or equivalent criteria.
    - a) Class C1 equipment includes RAIM and provides en route, terminal, and non-precision approach capability.
    - b) Class C2 equipment includes RAIM and provides en route and terminal capability only.
    - c) Class C3 equipment requires the integrated navigation system to provide a level of GPS integrity equivalent to RAIM and provides en route, terminal, and non-precision approach capability.
    - d) Class C4 equipment requires the integrated navigation system to provide a level of GPS integrity equivalent to RAIM and provides en route and terminal capability only.
- X. Approval Criteria.** A GPS installation with a TSO C-129 authorized navigation system in Class A1, A2, B1, B2, C1, or C2 may be used in combination with other approved LRNS for unrestricted operations in NAT MNPS airspace or may be used as the sole means of long-range navigation on the special routes that have been developed for aircraft equipped with only one LRNS and on the special routes developed for aircraft





equipped with short-range navigation equipment. The basic integrity for these operations must be provided by RAIM or an equivalent method. A single GPS installation in Class A1, A2, B1, B2, C1, or C2 which provides RAIM for integrity monitoring may also be used on those short oceanic routes which have only one required means of long-range navigation.

- Y. Avionics.** Documentation must be provided which validates approval of the installed GPS airborne receiver in accordance with Nig. CARs Part 5 or other applicable airworthiness criteria established for GPS installations. When it has been established that the airborne system has been certified for GPS IFR operations, the following criteria should be used to determine the operational suitability of airborne systems for GPS IFR use.
- Z. Initial Installations and Continued Airworthiness.** The operator must assure that the equipment is properly installed and maintained. No special requirements, other than the standard practices currently applicable to navigation or landing systems, have been identified that are unique to GPS; e.g., Airworthiness Directives, Service Bulletins.
- AA. Action.** Aviation safety inspectors (ASI) must evaluate installation (an avionics inspector should evaluate the avionics installation and recommend the approval prior to the issuance of an LOA to operate in NAT MNPS airspace), crew capabilities, and operational responsibilities relative to GPS oceanic operations prior to issuing an LOA for operation in MNPS. Specific items to check are as follows:
- 1) The GPS navigation equipment used must be approved in accordance with the requirements specified in TSO C-129 and the installation must be made in accordance with Nig. CARs Part 5.
  - 2) The basic integrity for these operations must be provided by RAIM or an equivalent method.
  - 3) The GPS operation must be conducted in accordance with the approved flight manual or flight manual supplement, if required.
  - 4) Aircraft using GPS equipment under IFR must be equipped with an approved and operational alternate means of navigation appropriate to the route to be flown. This traditional navigation equipment must be actively used by the flight crew to monitor the performance of the GPS system.
  - 5) Procedures must be established for use in the event that significant GPS navigation outages are predicted to occur. In situations where this is encountered, the flight must rely on other approved equipment, delay departure, or cancel the flight.
  - 6) Aircraft navigating by GPS are considered to be RNAV aircraft. Therefore, the appropriate equipment suffix must be included in the ATC flight plan.



**FLIGHT INFORMATION.** Operators must supply or ensure that the information necessary to plan, conduct, and control operations is available to operational control and flightcrew personnel. Most of this data can be obtained through subscriptions to a government service or to a commercial aeronautical information and charting service. Operators should be expected to supplement these services if necessary and, in all cases, are responsible for ensuring that the information used is accurate and complete. Operators must also supply other data, such as NOTAMs, track messages, and airport obstruction data, when applicable. Omega, Loran, and GPS advisories are available by computer modem to a special bulletin board operated by the GPS Information Center of the Coast Guard. Call (703) 313-5910. A 24-hour voice bulletin board is also available by calling (703)313-5907.

**BB. Airport and Facilities.** The Airport/Facility Directory (A/FD) contains information on airports and facilities that is needed by flight crewmembers and operational control personnel. For example, the information that certain runways are closed to air carrier aircraft may be contained in the Airport Remarks section for each airport listed in the A/FD. Inspectors should inform their operators that such information is removed from the NOTAMs system when it is published in the A/FD. This information is obtained from the AIPs of the country for operations. Also, inspectors should ensure that operators understand their requirement to make the A/FD information (for those airports at which operations are conducted) available to their personnel.

**CC. NOTAMs.** Operators must provide NOTAMs to flightcrews and operational control personnel for domestic and international operations in airspace covered by NOTAM systems. NOTAMs are disseminated by two methods: electronically through what is termed Service A, and in printed form through the biweekly publication, Notices to Airmen. In general, NOTAMs originally appear in electronic form and are later incorporated in the biweekly publication. Once incorporated in writing, they are no longer transmitted electronically. NOTAM information is classified into the following three groups: NOTAM (D)s, NOTAM (L)s, and FDC NOTAMs. These groups, subdivisions of these groups, and other information concerning the NOTAM system are described below.

- 1) NOTAM (D), or distant dissemination information, pertains to NAVAIDS, landing areas, airport runway lighting facilities, and other data that is normally not published, such as parachute jumping areas, restricted areas, and some air shows. NOTAM (D)s are appended to electronically transmitted weather reports, such as the Service A network. NOTAM (D)s are disseminated for all NAVAIDS that are part of the National Airspace System as well as all public-use airports, seaplane bases, and heliports listed in the A/FD.
  - a) Center Area NOTAMs (CAN) are issued on airway changes within controlled airspace, and they are transmitted as FDC NOTAM information on Service A.
  - b) Special notices concern matters having a significant impact on flight safety. They are transmitted only once on Service A, and then are published in the biweekly, Notices to Airmen. An example of the kind of information carried in the Special Notices Section is that of available landing distances when land-and-hold-short operations (LAHSO) are in effect.



- c) LORAN systems are covered by NOTAMs. While these are technically NOTAM (D)s, they are grouped in a special file entitled Long-Range Navigation (LRN) NOTAMs. Omega navigational system outages are also listed in the LRN NOTAM file. These NOTAMs may be obtained from any flight service station (FSS) on request, or by phoning the Naval Observatory at (202) 653-1757.
- 2) NOTAM (L), or local information, includes such information as airport and taxiway construction and certain airport lighting. This information is directly relevant to surface movement guidance and control. NOTAM (L)s can also contain information that is expected to be in effect for less than one hour concerning NAVAIDS, lighting, and runways. NOTAM (L)s are not normally transmitted beyond the area of coverage for the local FSS or automated flight service station (AFSS).
  - a) Principal operations inspectors (POI) must ensure that specific procedures for the acquisition and dissemination of local NOTAM information to flightcrews and operational control personnel are readily available.
  - b) NOTAM (L) information may be obtained from the FSS having responsibility for the geographic area in which the destination airport is located. Another acceptable means for operators to acquire this information is to task an authorized agent with collecting this information and reporting it to the operator's operational control center.

NOTE: FAA inspectors and National Transportation Safety Board (NTSB) accident investigators have reported that a failure of operators to provide NOTAM (L) data to flightcrews has been a contributing factor in several accidents and incidents. For example, a part 121 operator dispatched a flight of approximately 30 minutes duration to a destination at which the instrument landing system was reported by NOTAM (L) to be out of service.

- 3) National Flight Data Center (FDC) NOTAMs are issued by the USNOF and are regulatory in nature. They are transmitted electronically and are transmitted nationally only once. After national transmission, FDC NOTAMs are normally only maintained in a file by FSSs and AFSSs within 400 NM of the respective FDC location. FDC NOTAMs are canceled by a one-time notice that is transmitted electronically. FDC NOTAMs include, but are not limited to, the following:
  - Interim IFR flight procedures
  - Temporary flight restrictions
  - Presidential (and other parties) flight
  - Restrictions
  - Permanent certified airport condition changes pertaining to the Aircraft Rescue and Fire Fighting Equipment (ARFF) Index
  - Snow conditions affecting glide slope operations
  - Air defense emergencies
  - Emergency flight rules
  - Substitute airway routes



NOTE: Operators should clearly understand that since FDC NOTAM dissemination is normally limited to within 400 nm of the tie-in FSS/AFSS, a means must be devised to collect en route, destination, and alternate airport FDC NOTAMs that may impact operations.

NOTE: VLF stations are not covered by regular NOTAMs service, but the Naval Observatory does provide certain information at (202) 653-1757.

- 4) GPS NOTAM requirements and specifications are currently under development. At present the GPS system is not covered by NOTAMs.
- 5) International NOTAMs are transmitted electronically to those operators that have arranged to receive them, and they are available, on a request-reply basis, for those offices with Aeronautical Fix Telecommunication (AFTN) circuits. International NOTAMs are also available from some commercial services.
- 6) Operators may need to establish procedures or systems to develop or disseminate flight safety information concerning areas not covered by domestic or international NOTAMs, such as isolated airports or offshore operations.
- 7) Inspectors and operators alike should be aware that printed NOTAMs contained in the biweekly Notices to Airmen are not provided by the FSS specialist unless specifically requested. Also, lengthy and graphically depicted NOTAMs, because of their complexity, are normally not obtainable during a telephone FSS briefing. Notwithstanding the above limitations, POIs must ensure that operators that direct their crews to obtain FSS briefings also make the following information available to flight crew and operational control personnel: electronically transmitted NOTAMs, local NOTAMs and other flight safety data, such as special notices and information from the Airport Remarks section of the A/FD.

**DD. Track Messages.** Messages containing the coordinates of routes to be followed on flexible track systems such as the North Atlantic organized track structure are transmitted approximately every 12 hours. Western Pacific and Northern Pacific Track NOTAMs are available as international NOTAMs under the location identifiers of the respective air route traffic control center; examples are Oakland Center (KZOA) or Anchorage Center (PAZA). Flight crews operating over these routes are required to have all current valid track coordinates available in the cockpit to verify flight plan coordinates, should an in-flight rerouting become necessary. Inspectors must ensure that an operator's operational control personnel have this information for flight planning and flight monitoring purposes.



### PREREQUISITES AND COORDINATION REQUIREMENTS.

- EE. Prerequisites.** This task requires knowledge of NCAA policies, pertinent ICAO regulations and other applicable regulations, and qualification as an ASI (operations).
- FF. Coordination Requirements.** This task may require coordination with the Flight Standards Group (FSG) the airworthiness and the avionics specialist.

### REFERENCES, FORMS, AND JOB AIDS.

#### GG. References.

- AC 91-70, Oceanic Operations, An Authoritative Guide to Oceanic Operations
- Nig. CARs 7.4 and 8.8.1.21
- TSO C-94
- Annexes to the Convention on International Civil Aviation

#### HH. Forms. NCAA Form, FSG Portal System

##### II. Job Aids.

- Format for an LOA to Operate in the NAT MNPS (Figure 4-70)
- Format for Letter To Renew an LOA (Figure 4-71)

### THE APPROVAL PROCESS.

The approval process for oceanic operations is used to ensure that those operations meet regulatory standards and provide for safe operating practices. The process consists of five phases that result in approving or not approving an applicant's proposal. The inspector must:

- accurately assess the character and scope of the proposal;
- determine if a demonstration is required;
- determine the need for any coordination requirements;
- ensure that the operator has a clear understanding of the minimum requirements that constitute an acceptable submission; and
- determine the date the operator intends to implement the proposal.



## MNPS OPERATIONAL APPROVAL.

Operational approval to fly in MNPS airspace is obtained by the issuance of operations specifications for certificated operators or by issuance of an LOA to a general aviation or commercial operator. During initial inquiries, it is important for the NCAA and the operator to become familiar with the subject matter in section 1. Authorization for operations in NAT MNPS airspace requires NCAA approval of crew qualifications as described in NCAA-AC-OPS 041 to 043, approval of equipment installation and maintenance procedures, and verification that the ICAO Annex 6 requirements for navigation equipment redundancy are satisfied. FSG Portal entries will ensure that a database of all NCAA approvals for operation in special area of operation is maintained and available. Additionally, reports of oceanic operations deviations will be available from FSG Portal entries. These data bases will ensure that the Nigeria States meets two specific obligations as an ICAO member state. These obligations are that the states should maintain detailed records of all current IGA approvals, and that the responsibility for enforcement of flight rules that apply over the high seas rests with the aircraft's state of registry or the state of the operator.

**PHASE ONE.** Phase one is initiated when an applicant inquires about the need for an LOA.

**JJ. Purpose of the LOA.** Under Nig. CARs Part 8.8.1.21, operators of Nigeria registered aircraft must be authorized by the Director General to conduct operations in special area of operation. The issuance of an LOA (or operations specifications) satisfies the requirements of Nig. CARs Part 8.8.1.21. All LOAs will have a FSG Portal tracking number and expiration date. Renewal of the LOA may be accomplished by letter if the aircraft's equipment or the person responsible for international crew qualifications have not changed since the issuance of the previous LOA. If new equipment has been installed or a different person is responsible for international crew qualifications, a new application for an LOA must be made in the same manner as that required for the initial LOA. LOAs or LOA tracking numbers must be carried on the aircraft at all times when operating in MNPS airspace. The type of operation authorized will be specified in the LOA. These include unrestricted MNPS airspace authorization, restricted authorization for routes requiring one LRNS, routes for aircraft with short-range navigation equipment, and restricted authorization for routes not requiring HF radios.

- 1) A standard format LOA (Figure 4-70) will be issued to grant approval for operations in MNPS airspace. The LOA must be typed in a standard letter format bearing an NCAA letterhead, and must be signed by the Director.
- 2) LOAs will have a 24-calendar-month validity period.

**KK. Applicant-NCAA Communication.** In phase one, the inspector must ensure that the operator clearly understands the requirements that must be met for the proposal to be approved by the NCAA. It is essential for the operator to understand that, although the inspector may provide advice and guidance, the proposal submitted to the NCAA for approval is solely the operator's responsibility. The operator must be informed of the benefits of submitting required documents as early as possible. The operator must also be aware of the responsibility to advise the NCAA, in a timely manner, of any significant changes in the proposal.



**LL. Authorization Criteria for Issuance of LOAs.** A listing of regulations pertinent to international operations is located in Figure 4-73. Before receiving approval for operations in oceanic airspace, the operator must meet the following requirements:

- 1) The required navigation and communication equipment must be inspected and approved;
- 2) The aircraft must be properly registered and certificated as airworthy;
- 3) The operator must develop a journey log in accordance with Article 34 of the Convention on International Civil Aviation. The article states, in part, there shall be maintained in respect to every aircraft engaged in international navigation a journey logbook in which shall be entered particulars of the aircraft, its crew, and of each journey.

**NOTE:** The term logbook in this context means a navigation log and/or plotting chart that may be kept in the form of electronic data. This record should be maintained for 6 calendar-months following the flight.

- 4) The crew(s) must have international operations qualifications as certified by an individual Nigerian citizen who must accept responsibility for the crew's operation in international airspace. Crews must meet the applicable requirements. If the inspector determines the crew's qualifications to be inadequate, a validation test will be required. Qualifications for the issuance of an LOA may be satisfied by one of the following:
  - Completing an operator's oceanic operations training program.
  - Completing a commercial oceanic operations training program.
  - Submitting military training records indicating prior oceanic operations experience.
  - Other methods indicating to the inspector that the operator has been assured that the crew can safely conduct oceanic operations (examples could include written or oral testing).

**NOTE:** Specific training is not required by the regulations or by Annex 2 to the ICAO Rules of the Air. Inspectors should exercise a great deal of latitude in determining qualifications. For example, a record of previous flights in MNPS airspace without incident is sufficient to indicate that the crew is qualified.

- 5) For a crew to be considered as being qualified for oceanic operations, crew members must be knowledgeable in the following subject areas:
  - ICAO operational rules and regulations;
  - ICAO measurement standards;
  - Use of oceanic flight planning charts;
  - Sources and content of international flight publications;
  - Itinerary planning;
  - NCAA international flight plan, ICAO flight plan, and flight log preparation;



- Route planning within the special area of operation where flights are to be conducted;
- En route and terminal procedures-different from Nigeria procedures;
- Long-range, air-to-ground communication procedures;
- Structure of the special area of operation where the flights are to be conducted;
- Air traffic clearances;
- International meteorology, including significant weather charts, prognostic weather charts, tropopause prognostic charts, and TAFS;
- Specific en route navigation procedures for each type of navigation equipment required for use in the special area of operation; and
- Emergency procedures, including required emergency equipment, search and rescue techniques, navigation equipment failure techniques, and communication equipment failure techniques.

**PHASE TWO.** Phase two begins when the operator formally submits a proposal for NCAA evaluation. The NCAA makes initial examination of the documents for completeness with respect to requirements established in phase one. As a result of phase two, the proposal is accepted or returned with an explanation of deficiencies.

**MM. Initial Action.** In phase two, the inspector's initial action is to review the operator's submission to ensure that the proposal is clearly defined and that the documents specified in phase one have been provided. The required information must be complete and detailed enough to permit a thorough evaluation of the operator's ability and competence to fully satisfy the applicable regulations, national policy, and safe operating practices in oceanic operations. The inspector also queries the FSG Portal data base to obtain the flightcrew's accident, incident, and pilot violations history to determine eligibility, and to ascertain whether the aircraft registration and operator citizenship satisfy the requirements of Nig. CARs Part 4. Authorization for operations in special area of operation requires that an individual Nigeria citizen be responsible for crew performance in MNPS airspace. Phase two does not include a detailed operational and technical evaluation or analysis of the submitted information (see phase three). However, in phase two the submission must be examined to assess the completeness of the required information.

**NN. Unsatisfactory Submission.** If the operator's submission is not complete or the quality is obviously unacceptable, it must be immediately returned before any further review and evaluation is conducted.

- 1) Normally, an unacceptable submission is returned with a written explanation of the reasons for its return.
- 2) In complex cases, a meeting with the operator's key personnel may be necessary to resolve issues and agree on a mutually acceptable solution. If mutual agreements cannot be reached, the inspector must terminate the meeting, inform the operator that the submission is unacceptable, and return the submission.





- 3) If all parties are able to reach agreement on measures to correct omissions or deficiencies, and the principal inspectors (operations, maintenance, and avionics, if applicable) determine that the submission is acceptable, the operator is informed, and phase three begins.

**OO. Status Reports.** It is important for the inspector involved to keep the operator advised of the status of the proposal. If the inspector takes no other action, or if the submission is deficient and not returned in a timely manner, the operator may assume that the NCAA has tacitly accepted the submission and is continuing with the process. Timeliness of action depends on the situation and on the inspector's judgment.

**PHASE THREE.** During phase three, the NCAA evaluates the operator's formal proposal for compliance with the regulations, compliance with the direction provided in this handbook, and compliance with other safety-related documents and safe operating practices. If the results of the evaluation are unsatisfactory, the proposal is returned to the operator for correction and/or termination of the phase. Planning of phase four (if required) may begin during phase three. When the results of the evaluation are satisfactory, proceed with phase four (if a demonstration is required) and grant conditional approval or acceptance, if appropriate. Proceed to phase five if a demonstration is not required.

**PP. Detailed Analysis.** Phase three is the NCAA's detailed analysis, review, and evaluation of the operator's proposal. In phase three, the NCAA evaluation is focused on the form, content, and technical quality of the submitted proposal.

**QQ. Evaluation Criteria.** The inspector must ensure that the documents adequately establish the operator's ability and competence to conduct operations safely in accordance with the submitted proposal. Operators must present their aircraft at a location convenient to the operator and the inspectors. A representative minimum flightcrew must accompany the aircraft to the inspection site for evaluation of the crew's qualifications to operate navigation and communication equipment in accordance with the approved manual. Additional crews do not need to be present during this inspection, but a representative of the operator will be required to certify, by the signing of the LOA, that all crews operating aircraft in special area of operation are at least as qualified as the representative crew. Communication and navigation equipment must be inspected by an avionics inspector to ensure that the installation was done in a manner approved by the Authority, and to verify that the aircraft has the required communication and navigation equipment for operations in MNPS airspace.

**RR. Equipment Manuals.** Operations manuals are required for all navigation equipment. These manuals must contain the material required to define all operational limitations associated with the system's performance. For example, in the case of a station referenced system, the manual would include details of the areas where an adequate signal level may be received or, in the case of an inertial system, any limitations of the system's ground alignment and of the time period within which adequate navigational performance within specified limits can be reasonably assured.



- SS. Addressing Deficiencies.** During phase three the inspector must address any deficiencies in the submitted material in a timely manner before proceeding to subsequent phases. Discussion with the operator may be sufficient to resolve certain discrepancies or questions or to obtain additional information. It may be necessary to return certain portions of the submission to the operator for specific changes. However, when an inspector determines that, for specific reasons, the material is unacceptable, the inspector must return the proposal to the operator with an explanation and immediately terminate the process and close the FSG Portal file. If the results of the evaluation are acceptable and a demonstration is necessary, the inspector may need to grant conditional, initial, or provisional approval of the proposal, pending the results of the demonstration, before continuing with the process.
- TT. Phase Four Planning.** An important aspect of phase three is for inspectors to begin planning the conduct of phase four. While evaluating the operator's formal proposal, inspectors should begin to formulate plans to observe and evaluate the operator's ability to perform, if necessary. These plans must be completed before the actual demonstrations. Inspectors should be aware that situations may arise when a crew that has been conducting oceanic operations under Nig. CARs Part 9 requests approval to operate under general aviation, or vice versa. In either case, the inspector may grant credit for the previous operational experience if it is determined that operations can be safely conducted under either set of regulations.
- PHASE FOUR.** During phase four, the NCAA observes the validation test, and the operator demonstrates ability. As a result of phase four, the validation test is either satisfactory or unsatisfactory.
- UU. Observation and Evaluation of Demonstration.** Phase four is an operational evaluation of the operator's ability to function in accordance with the proposal evaluated in phase three. This phase may be completed in phase three unless the inspector determines that a validation test is required. If a validation test is required, it will be necessary to complete this phase in accordance with TGM Volume 3, Chapter 15.
- VV. Evaluation Criteria.** Criteria for evaluating an operator's eligibility for an LOA are described in section 1.
- WW. Handling Discrepancies.** The inspector must plan for the conduct and observation of the validation test, including such items as participants, evaluation criteria, and sequence of events. During these tests it is normal for minor discrepancies to occur. Discrepancies can often be resolved during the tests by obtaining commitments from responsible company officials. Inspectors may also request the assistance of the FSG during this phase. If any questions should arise with regards to the issuance of an LOA, principal inspectors should request guidance from a specialist within FSG.



- 1) The inspector responsible for overseeing a demonstration must evaluate each discrepancy in terms of its overall impact on the operator's ability and competence to conduct the proposed operation.
- 2) The inspector must stop the demonstration in phase four when deficiencies or unacceptable levels of competency are observed. The inspector must identify the phase of the general process to which the applicant must return or decide to terminate the process entirely. If the demonstration is unacceptable because crewmembers were unable to perform their assigned duties, it may be appropriate to advise the operator that the process is terminated and a new proposal should be submitted.

**XX. Acceptable Demonstrations.** If the NCAA evaluation of the operator's demonstrated ability is acceptable, the process continues. An operator will not, under any circumstances, be authorized or otherwise approved to conduct any particular operation until all airworthiness and operations requirements are met and the operator is clearly capable of conducting a safe operation in compliance with NCAA regulations and safe operating practices.

**PHASE FIVE.** During phase five, the NCAA approves or accepts a proposal.

**YY. Indicating Approval.** Approval is granted by the issuance of an authorization in the format illustrated in Figure 4-70. Upon satisfactory completion of the aircraft and crew inspection, the inspector issues the approval. The inspector assigns an authorization number in the manner prescribed in paragraph D below, enters the issue date and expiration date, checks one of the approval blocks (MNPS or RVSM) enters the information into the FSG Portal system and gives the original letter, signed by the district office manager, to the operator.

**NOTE:** Inspectors issuing an LOA for routes approved for aircraft with short-range navigational equipment must note this limitation on the LOA. The limitation should be entered as follows: A statement All routes authorized for aircraft with short-range navigation equipment in volume 4, chapter 12, section 1.

**NOTE:** All LOAs must contain entries for each of the categories listed in Figure 4-70. Respond to every item contained in Figure 4-70. For example, the category crew training conducted by may have an entry of none, self, company training, or the name of a commercial oceanic training course.

**ZZ. Acceptances.** Other proposals, submissions, or requests not requiring specific NCAA approval but required to be submitted to the NCAA, are items that are presented for acceptance. Acceptance of an operator's proposal may be accomplished by various means including a letter, verbal acceptance, or by taking no action, which indicates there is no NCAA objection to the proposal.



**AAA. Conditional Approval or Acceptance.** Sometimes NCAA approval or acceptance of an operator's proposal may be conditional in nature. For example, a training program may be initially approved, provided the simulator to be used in that program receives approval from the National Simulator Evaluation Team.

**BBB. Assign an Authorization Number.** Inspectors must compose an authorization number to be included on the authorization for tracking purposes. Utilize the four-place alpha-numeric code for the district office. This code, combined with the year in which the authorization is issued, and the sequential number of the authorization issued in that year by that office, make up the authorization number.

**RENEWAL OF AN LOA.** Requirements for renewal of an LOA are the same as those for original issuance. If no change of equipment has been made and the same individual is still in charge of crew training in international operations, a new LOA may be issued without a re-inspection of the aircraft or a validation flight.

**DENIAL OF A REQUEST FOR AN LOA.** If an operator is unable to satisfy all requirements for issuance of an LOA, the inspector shall deny the request, notify the operator by letter (Figure 4-72), and return all submitted documents to the operator.

#### COMPLETION.

**CCC. FSG Portal.** Upon completion of all of the above phases, inspectors should complete a FSG Portal Data Sheet and then enter the information into the FSG Portal.

**TASK OUTCOMES.** The completion of this task results in:

**DDD. Issuance.** Issuance of an LOA authorizing operations in special area of operation.

**EEE. Renewal.** Renewal of an LOA.

**FFF. Denial.** Denial of application for an LOA.

#### FUTURE ACTIVITIES.

**GGG. Renewal.** The operator may apply for renewal of an existing LOA.

**HHH. Investigate.** The inspector may be asked to investigate a reported navigational error, altitude deviation, or erosion of longitudinal separation.

**III. Verify.** The inspector may be asked to verify an LOA.

**JJJ. Cancel.** An LOA may be canceled.



**Figure 1. Format for an LOA To Perform En Route Operations Requiring Special Approvals**

This letter constitutes approval for the named aircraft to operate in specialized airspaces, by the authorized operator or crew listed under the conditions and limitations below. Operators should check each authorization requested. An Aviation Safety Inspector's signature is required in each block for which authorization is approved.

North Atlantic Minimum Navigation Performance Specifications airspace (MNPS)\_\_\_\_\_

\_\_\_\_\_  
Signature date signed expiration

Reduced Vertical Separation Minimums (RVSM)\_\_\_\_\_

\_\_\_\_\_  
Signature date signed expiration

Required Navigation Performance 10 (RNP-10) in\_\_\_\_\_Oceanic/Remote areas

\_\_\_\_\_  
Signature date signed expiration

Other\_\_\_\_\_Specify

\_\_\_\_\_  
Signature date signed expiration

Aircraft make and model\_\_\_\_\_

N-Number\_\_\_\_\_

Aircraft serial number\_\_\_\_\_

Aircraft color\_\_\_\_\_

NAVIGATION EQUIPMENT

TYPE/MANUFACTURER/MODEL PART NUMBER DATE INSTALLED

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

COMMUNICATION EQUIPMENT

TYPE/MANUFACTURER/MODEL PART NUMBER DATE INSTALLED



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Other Equipment (If required for specific operations)

TYPE/MANUFACTURER/MODEL	PART NUMBER	DATE INSTALLED
<hr/>		

Aircraft base of operations (city, state, zip)\_\_\_\_\_

Name of aircraft owner/operator\_\_\_\_\_

Crew training conducted by\_\_\_\_\_

Print name of person responsible for crew operations or agent for service (must be resident in Nigeria)

Signature of person responsible for crew operations or agent for service

Street address (cannot be a Post Office box)\_\_\_\_\_

City, State, zip code\_\_\_\_\_

FOR NCAA USE ONLY (To be completed by issuing office)

Authorization Number\_\_\_\_\_

Aircraft limitations (if applicable)\_\_\_\_\_

FSG Portal Tracking number\_\_\_\_\_

Date of Issuance\_\_\_\_\_ Expiration Date\_\_\_\_\_

This authorization is subject to the conditions that all operations conducted within airspaces requiring special approvals are in accordance with Nig. CARs Part 8 and the flight rules contained in International Civil Aviation Organization (ICAO) Annex 2. The person responsible for crew operations or agent for service must accept responsibility for complying with the stated regulation by signing this document. In accordance with Nig. CARs Part 8 and ICAO Annex 2 (Rules of the Air), paragraph 2.3.2 (Pre-flight action) crews are responsible for policies and procedures in areas of operations where flights are conducted. This document is considered invalid until signed by the person responsible for crew operations. If the person signing this document relinquishes responsibility, changes mailing address, or the aircraft changes ownership or base of operation, this letter becomes



invalid and the signee should immediately notify the issuing office of the change. Letters of Authorizations can be renewed via a letter or fax request submitted at least 30 days prior to the expiration date, if no changes have been made. If any changes have been made, application for a new LOA must be made in the same manner as that required for the initial LOA.

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Director of Operations & Training's Signature

**Figure 2 Format for Letter To Renew an LOA**

FROM:[person or department requesting LOA]  
[company name (if applicable)]  
[street address] (P.O. Box not acceptable)  
[city, state, zip code]

TO: Chairman,  
Flight Standards Group  
Nigerian Civil Aviation Authority  
[street address]  
[city, state, zip]

Dear Inspector:

Enclosed is a copy of our letter of authorization (LOA) which is due to expire within the next 60 days, and a completed form requesting a new LOA for operations in Minimum Navigation Performance Specification and/or Reduced Vertical Separation Minimum airspace.

I/we further certify that all authorized crews are qualified to operate in oceanic areas.

Sincerely,

---

[person's signature responsible for crew operations or agent for service]

[typed name of person responsible for crew operations or agent for service]

[title]

[date]

NOTE: The letter should be sent to the office that issued expired LOA.



**Figure 3 Letter Informing Operator That a Request for an LOA Has Been Denied**

FROM: Federal Aviation Administration  
Flight Standards District Office  
[street address]  
[city, state, zip]

TO: [person or department requesting LOA]  
[company name (if applicable)]  
[street address] (P.O. Box not acceptable)  
[city, state, zip code]

Dear [name],

Your request for a letter of authorization (LOA) to operate in [name of special area of operation] airspace has been denied for the following reasons:

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You may reapply for an LOA upon correction of the discrepancies listed above. You may contact this office at [telephone number] if you have any questions.

Sincerely,

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[inspector's signature who reviewed application]

[inspector's name]

[title]

**Figure 4 Regulations Pertinent to International Operations**

Regulations that have particular importance in international operations. Crews are advised to reference these regulations prior to planning an oceanic or international flight. This listing of regulations is for guidance only, and does not eliminate or provide relief from other regulations that are not listed. Pilots transporting aircraft internationally should also be aware of the contents of Chapter III, Nationality for Aircraft, in the Agreements of the Chicago Convention.





## CHAPTER 40

### EVALUATION OF AOC HOLDERS FOR AUTHORIZATION TO CONDUCT OPERATIONS IN SPECIAL NAVIGATION AREAS OF OPERATION (MNPS, RVSM, RNP-10)

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#### 1.0 GENERAL

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Special areas of operation are geographic areas having unique characteristics that require the use of special equipment, procedures, and/or techniques to safely conduct flight operations. These special areas also include operational situations when the application of standard criteria is not sufficient and other than standard criteria are more appropriate and can be safely used. This chapter provides direction and guidance for the evaluation and approval or denial of an operator's request to conduct operations in these special areas of operation. Special areas of operation include the following:

- Areas requiring high levels of performance due to a reduction in separation standards;
- Areas where navigation by magnetic reference is unreliable and/or inappropriate;
- Areas where metric altitudes/flight levels (FL) are used (altitudes in meters);
- Areas where communication difficulties are frequently encountered;
- Areas where air traffic control (ATC) difficulties are frequently encountered;
- Areas where operations by Nigeria operators have political or international sensitivity;
- Areas where aircraft with unique performance characteristics require special criteria; and
- Areas where dual long-range navigation systems (LRNS) are not normally required.
- GENERAL

#### 2.0 REFERENCES:

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- (a) Nig. CARs Part 5, 7, 8 & 9
- (b) FAA 8900.1 Chapter 37
- (c) FAA Order 8400.12A

#### 3.0 AREAS REQUIRING HIGH LEVELS OF PERFORMANCE.

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In special areas of operation, the ATC system supports a reduction in separation standards. This reduction in separation standards requires improved levels of performance. Significant increases in air traffic over certain busy routes, such as U.S.



National Air Space (NAS), European Domestic Airspace, and the North Atlantic, can be accommodated efficiently if the ATC separation minimums are reduced to permit more aircraft to operate in the same airspace, at the same time. However, this reduction in separation minimums can only be safely accomplished through significant improvements in ATC capabilities and the performance of all aircraft operating within that segment of airspace. The options currently available to permit reductions in ATC separation minimums include the use of the following:

- Independent surveillance (ATC radar),
- Automatic Dependent Surveillance (ADS) (data link of the aircraft's present position to the ATC system),
- Improved traffic flows through the use of time-based metering,
- Reduced lateral separation minimums,
- Reduced vertical separation minimums,
- Reduced longitudinal separation minimums, and
- Communication.

#### 4.0 NORTH ATLANTIC MINIMUM NAVIGATION PERFORMANCE SPECIFICATIONS AIRSPACE (NAT/MNPS).

**4.1 General.** The NAT/MNPS, as implemented in the North Atlantic Region, is a demanding standard. Safety of flight in this airspace is critically dependent on each operator achieving and continuously maintaining a high level of navigation accuracy. The references are Nig. CARs Part 8.8.1.21 and NCAA Advisory Circular NCAA-AC-OPS, Oceanic Operations, current edition. Nig. CARs Part 7.4 and 8.8.1.21 requires each Nigerian operator to acquire Nigerian Civil Aviation Authority approval before conducting any operation in minimum navigation performance specification (MNPS) airspace. The operator must obtain this approval for each airplane and navigation/system combination used for operations in this airspace. To obtain MNPS approval, the operator must show compliance with the following conditions:

- Each aircraft is suitably equipped and capable of meeting the MNPS standards.
- The operator has established operating procedures that ensure MNPS standards are met.
- The flightcrews are trained and capable of operating to MNPS requirements.

**4.2 Navigational Performance.** The NAT/MNPS represents navigational performance (necessary to reduce the risk of collision) on an internationally established level. (See Figure 1.) While the NAT/MNPS airspace currently does not have a published Required Navigation Performance (RNP) value, it is anticipated that in the future an RNP requirement will be implemented. The NAT/MNPS predates the implementation of RNP, but is consistent with RNP principles. The MNPS establishes the following demanding criteria:

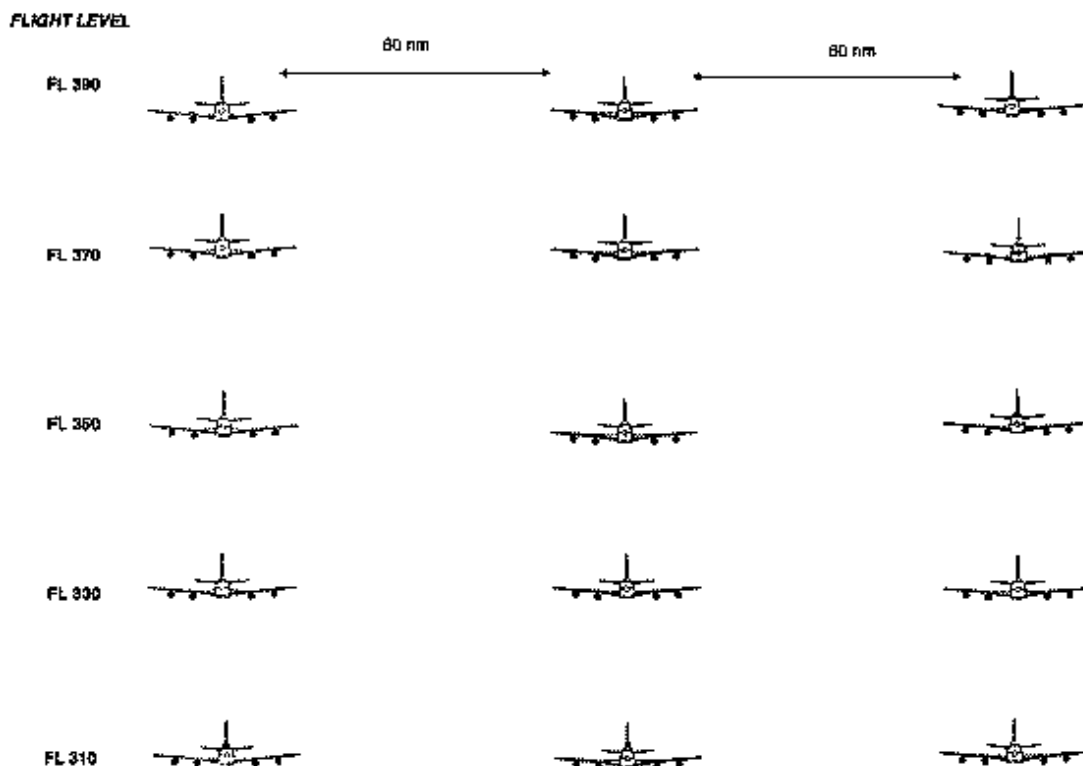
**4.2.1** The average lateral deviation (for any cause) cannot be greater than 6.3 nautical miles (NM) from the centerline of the assigned route over any portion of the route.



- 4.2.2** Ninety-five percent of all of the lateral displacements (for any cause) from the centerline of the assigned route cannot be greater than 12.6 NM for all flights over any portion of that route.
- 4.2.3** Each operator cannot have more than one lateral deviation (for any cause) of 30 NM or more in 1,887 flights in the NAT/MNPS airspace. When errors of these magnitudes occur, the aircraft has failed to navigate to the degree of accuracy required for the control of air traffic.
- 4.2.4** Each operator cannot have more than one lateral deviation (for any cause) which is within  $\pm 10$  NM of a multiple of the separation minimums applied in 7,693 flights in the NAT/MNPS airspace. NAT/MNPS airspace routes are separated by 60 NM. If an error of 50-70 NM occurs, the aircraft has blundered into the airspace of an adjacent route. Errors of these magnitudes are extremely serious. The potential for a collision is high because the resulting flight path can overlap the flight path assigned to another aircraft (possibly coming from the opposite direction).

NOTE: Operational history in NAT/MNPS airspace clearly shows that most serious navigational errors are directly related to operator/pilot error. Equipment malfunction and equipment accuracy are usually not the primary cause for these errors. Most of these serious errors are caused by the flightcrew navigating very precisely to the wrong place while believing that the aircraft is complying with the "currently effective" ATC clearance.

Figure 1 Illustration of NAT/MNPS Rectangular Separation



**NORTH ATLANTIC MNPS SEPARATION STANDARDS.** Aircraft are separated by one of the following methods:

- A. *Lateral Separation.* Lateral separation between co-altitude aircraft (aircraft at the same flight level) is 60 nm.
- B. *Vertical Separation.* Vertical separation between aircraft on the same track is 2,000 feet.
- C. *Longitudinal Separation.* Basic longitudinal separation between aircraft on the same track is 10 minutes. If an aircraft is flying faster than the aircraft behind it (mach advantage), then this criteria may be reduced.

**NOTE:** Separation standards may be changed. Consult Regional Supplementary Procedures (ICAO Document 7030/3) for current standards applied in the NAT Region.



- 4.3 Reduced Vertical Separation Minimum (RVSM).** RVSM is implemented at various FLs within the MNPS. Operations at these FLs have demanding vertical height-keeping performance requirements in addition to the NAT/MNPS navigation requirements. See the following for specific RVSM guidelines and requirements:
- Nig. CARs Part 8,
- 4.4 Initial NAT/MNPS Approvals.** Each operator, and each aircraft and navigation system combination must be approved before operating in NAT/MNPS airspace. Each operator must demonstrate (validate) that it can meet MNPS standards before receiving approval.
- 4.4.1** Validation flights must be conducted through NAT/MNPS airspace. See TGM Volume 3, Operations Handbook Chapter 15, for guidance on validation flights.
- 4.4.2** Inspectors must ensure that requirements of the applicable AC(s) and/or other NCAA official documentation for long-range navigation-C system (LORAN-C), global positioning system (GPS), or multisensors (or equivalent) are fully met by the operator using those systems before approving any operation in this airspace. All NAT/MNPS approvals are granted by issuing OpSpec paragraph B, Operations within North Atlantic (NAT) Minimum Navigation Performance Specifications (MNPS) Airspace, and by adding that area of en route operation to paragraph B, Authorized Areas of En Route Operation, Limitations, and Procedures, of the standard OpSpecs.
- 4.4.3** All operations using GPS in NAT/MNPS airspace must be approved. The operator is not required to collect navigation performance data for GPS in NAT/MNPS airspace to apply to pass/fail graphs.
- 4.5 Maintaining NAT/MNPS Authorization.** In addition to initially meeting MNPS criteria, each operator must continuously maintain the required level of navigational performance. Each gross navigational error (GNE) (errors 25 NM or more) has a significant impact on flight safety in this airspace and must be fully investigated in a timely manner. The cause of each error must be identified and effective action must be taken to prevent reoccurrence of similar errors. GNEs are detected by ATC and reported to one of the regional monitoring agencies of the world. The regional monitoring agency then provides the notification of the GNE to not only the operator that made the GNE but also to the Authority. When an inspector learns of a GNE by one of his/her operators, the inspector must immediately contact the operator and advise that the GNE will be investigated. The inspector must ensure that the operator takes timely corrective action. After this notification, inspectors must determine the effectiveness of the operator's actions as follows:
- 4.5.1** If it is determined that an operator's actions will prevent the occurrence of similar errors, the operator should be permitted to continue NAT/MNPS operations with close surveillance of the operator's navigational performance. If similar errors occur (in subsequent operations) more frequently than permitted by the standard, stronger action must be taken.
- 4.5.2** If an operator fails to take action to improve navigation performance, action must be initiated to suspend NAT/MNPS authorization (OpSpec B is rescinded).



- 4.5.3** If it is determined that an operator's actions to improve navigational performance are inadequate or otherwise unsatisfactory, the operator must be notified that the corrective action is unacceptable. When an operator does not implement a satisfactory solution in a timely manner, the action must be initiated to suspend NAT/MNPS authorization and could include enforcement action.

## 5.0 NORTH POLAR OPERATIONS.

The north polar area of operations is defined as that area that lies north of latitude N 78°00' (see OpSpec A, Definitions and Abbreviations). The north polar routes across Russia are shown in the Russian AIP or in commercial charting publications for Eastern Europe and Eurasia. OpSpec B authorizes north polar operations. In general, in addition to the authorization for operations in the AMUs, the following will be required for authorizing operations in the polar areas.

- 5.1 Fuel Freeze Temperature.** A procedure must be established to determine the fuel freeze temperature of the actual fuel load on board the aircraft that requires coordination between maintenance, dispatch, and assigned flightcrew. The operator may develop a fuel freeze analysis program in lieu of using the standard minimum fuel freeze temperatures for specific types of fuel used.
- 5.2 Communication Capability.** In accordance with Nig. CARs Part 9 Communications facilities—domestic and flag operations, the operator must have effective communications capability with dispatch and with ATC for all portions of the flight route. The operator must show the NCAA the communications medium(s) that it intends to use to fulfill these requirements in the north polar area.
- (a) The communications medium used must meet NCAA regulatory requirements and fulfill policy/procedures established by each ATS unit providing control on the route of flight. Other countries publish ATS policies and procedures in their State AIPs.
  - (b) High frequency (HF) voice has been considered the primary communications medium in the North Polar Area. However, other mediums may be used as a supplemental means in accordance with the applicable policy. For example, although HF voice remains primary for communications with Anchorage Center, in areas where there is satellite coverage, satellite communication (SATCOM) voice may be used as a back-up to communicate with ARINC Radio and in non-routine situations to establish direct pilot-controller voice communications.
  - (c) In areas of satellite coverage, Controller-Pilot Data Link Communications (CPDLC) may be used for ATC communications, provided the ATS unit has an approved capability. In addition, provided the capability is approved, HF datalink may also be used to fulfill communications requirements with ATS units having the capability and with airline dispatch. Inspectors must ensure the operators meet the regulatory Nig. CARs Part 7 and policy requirements for long-range communication systems (LRCS). HF voice capability is always required.



- (d) It is recognized that SATCOM may not be available for short periods during flight over the North Pole, particularly when operating on some designated polar routes. Communication capability with HF radios may also be affected during periods of solar flare activity. For each dispatched polar flight, the operator must take into consideration the predicted solar flare activity and its effect on communication capability.

**5.3 Minimum Equipment List (MEL).** Before receiving NCAA authority to conduct polar operations, the MEL must indicate that the following systems/equipment is required for polar operations dispatch:

- (a) Fuel quantity indicating system (FQIS) (to include fuel tank temperature indicating system).
- (b) Autothrottle system.
- (c) Communication system(s) relied on by the flightcrew to satisfy the requirement for effective communication capability.
- (d) Except for all-cargo operations, expanded medical kit to include automated external defibrillators (AED).

NOTE: See NCAA-AC-OPS005, Use of Portable Electronic Devices Aboard Aircraft.

- (e) For Extended Operations (ETOPS) aircraft:
- (i) All MEL restrictions for 180-minute operations are applicable.
- (ii) Auxiliary power unit (APU) - for two-engine airplanes (including electrical and pneumatic supply to its designed capability)

**5.4 Training Program Requirements.** The following must be in the approved training programs:

- Training on Barometric pressure for Standard Altimeter Setting (QNE)/ Barometric pressure for Local Altimeter Setting (QNH) and meter/feet issues is required for flightcrew and dispatcher training.
- Training on fuel freeze (included in maintenance, dispatch, and flightcrew training (special curriculum segments.))
- General area and route-specific training on weather patterns and aircraft system limitations.
- Training on special considerations, such as diversion decision-making into austere airport environments to include aircraft performance, crash, fire, and rescue availability, and passenger support.
- Flightcrew training in the use of the cold weather anti-exposure suit.



**5.5 Special Flight crew Issues for Long-range Operations.** The operator needs to address the following special long-range flightcrew issues:

- Long-range flightcrew rest plan submitted to the principal operations inspector (POI) for review and approval.
- Multicrew (augmented flightcrews) flight proficiency/currency issues need to be addressed in the training program.
- The progression of pilot in command (PIC) authority, as designated in the operator's manual.
- A minimum of two cold weather anti-exposure suits will be required to be on board so that outside coordination at a diversion airport with extreme climatic conditions can be accomplished safely.

**5.6 En Route Polar Diversion Alternate Airport Requirements.** Operators are expected to define a sufficient set of polar diversion alternate airports, such that one or more can be reasonably expected to be suitable and available in varying weather conditions (NCAA-AC-OPS042) Extended Range Operation With Two-Engine Airplanes (ETOPS), provides additional guidance for two-engine airplanes).

**5.7 Aircraft and Passenger Recovery Plans.** A recovery plan is required that will be initiated in the event of an unplanned diversion. The recovery plan should address the care and safety of passengers and flightcrew at the diversion airport and include the plan of operation to extract the passengers and flightcrew from that airport.

**5.8 Validation Flights.** An NCAA-observed validation flight is required in which the operator exercises its reaction and recovery plan in the event of a diversion to one of its designated en route polar diversion alternate airports. The exercise of the operator's reaction and recovery plan may also be completed prior to the validation flight. The Authority will give favorable consideration to a request by the operator, through the POI, to conduct the validation flight in a passenger revenue status only if the operator's reaction and recovery plan has been previously demonstrated to the satisfaction of the NCAA. If the operator elects to demonstrate its reaction and recovery plan as part of and during the validation flight, the flight cannot be conducted in a passenger revenue status. The carriage of cargo revenue is permissible in this case and encouraged, for airplane weight and balance purpose.

## **6.0 AREAS WITH SIGNIFICANT COMMUNICATIONS AND/OR ATC DIFFICULTIES.**

The levels of sophistication in communication, navigation, and ATC capabilities in certain areas of operation outside North America and Europe vary widely. The following subparagraphs provide evaluation criteria that must be considered when approving operations in these areas.

**6.1 NAVAIDs.** The ground-based facilities that are implemented to support air navigation in some of these areas are based on antiquated technology and frequently experience reliability problems. The NAS and the navigational performance requirements in many countries are based almost exclusively on non-directional radio beacons (NDB). Also, many of the NAVAIDs do not operate continuously. For example, NAVAIDs are shut down from dusk to dawn in certain countries.





**6.2 Communication.** The primary means of en route communication with ATC in many areas of operation is almost exclusively HF radio. Atmospheric noise created by extensive thunderstorm activity in tropical areas and aurora activity in polar areas significantly increases the difficulty of using HF as a prime means of communication with ATC.

**6.3 ATC.** The level of ATS varies from radar based services (equivalent to domestic U.S. operations) to a total absence of any ATC. Flight information regions (FIR) have been established in most areas of the world. Specific ICAO member states have been assigned the responsibility of providing ATS in these FIRs. There are wide variations in the ATC services available. En route ATC radar is not available in all countries and ATS may rely heavily on position reports and airborne navigation performance capabilities for the separation of aircraft. Various levels of ATS provided in these areas are as follows:

NOTE: It is critical that flightcrews understand that subtle terminology differences and language barriers may exist in foreign countries where they operate. For example, crews must ensure they understand whether the altimeter setting issued by ATC is in hectopascals (millibars) or inches of mercury.

- (a) Within controlled airspace, ATC provides ATC service to prevent collisions between aircraft and to expedite and maintain an orderly flow of air traffic. This also includes air traffic advisory services and those alerting services related to weather and search and rescue.
- (b) Within advisory airspace, air traffic advisory service is available to provide separation, to the extent possible, between aircraft operating on IFR flight plans. It is important to understand that this is an advisory service (similar to a Flight Service Station (FSS)), not a control service (prevention of collision). In advisory airspace, flightcrews are provided information concerning the location of other aircraft. Prevention of collision is the responsibility of the PIC. Terrain clearance is also the responsibility of the PIC. The ATS available also include those alerting services related to search and rescue. In certain areas, special reporting procedures called “broadcasts in the blind” have been established to assist pilots in avoiding other aircraft. At designated intervals, each pilot broadcasts the aircraft’s position, route, and FL over a specified very high frequency (VHF). Awareness of the proximity of other aircraft is obtained by maintaining a continuous listening watch on the specified frequency. This procedure is an “expected” practice in large portions of Northwestern Africa (including the Dakar FIR) and South America (including most Brazilian airspace). In many of these areas, the “broadcast in the blind” procedure is used to augment the separation of IFR aircraft.
- (c) Flight information regions have not been established for a few areas in the world. These are commonly called uncontrolled information regions or no man’s land. The largest of these areas is in the South Atlantic Ocean, annotated as “No FIR.” Flight information services also do not exist in the high altitude structure in other large areas (above the top of controlled airspace). Within no man’s land, aircraft separation (prevention of collision) is entirely the responsibility of the PIC. Advice and information for the safe and



efficient conduct of flights is not provided from an ATS unit. An ATS unit does not provide alerting services related to search and rescue.

- 6.4 Metric FLs.** The NAS in the CIS, many Eastern European countries (former Eastern Bloc countries), and some mainland Asian countries are based on the use of metric flight altitudes/levels. Operations within these areas require special procedures for conversion charts between metric FLs and FLs based on feet. For example, a FL of 10,000 meters represents FL 328 or a flight altitude of 1,000 meters represents an altitude of 3,280 feet.

## 7.0 EVALUATION CRITERIA FOR AREAS WITH COMMUNICATIONS AND ATC DIFFICULTIES.

POIs must evaluate, on a case-by-case basis, all proposals to conduct operations in the sovereign airspace of countries that are not equivalent or similar to the U.S. NAS.

- 7.1 General Criteria.** The operator must show (considering factors unique to the proposed area of operation) that safe operations can be conducted within the area of operation and that the facilities and services necessary to conduct the operation are available and serviceable during the period when their use is required. The operator must also show that the proposed operation is in full compliance with the requirements in part B of the OpSpecs that are applicable to that operation.
- 7.2 Operations in Advisory Airspace.** The operator must show that its training programs and operating procedures permit safe operations in advisory airspace and ensure compliance with the “expected” operating practices. The operator must also show that the operation is in compliance with OpSpec Paragraph A, IFR En Route Operations in Class G Airspace.
- 7.3 Operations in Uncontrolled Information Regions (No Man’s Land).** Since ATC, air traffic advisory, flight information, and alerting services are not available from ATS units when operating within these areas, the operator must show that acceptable, alternative means are available to ensure the following:
- (a) The appropriate organization can be notified in a timely manner when search and rescue aid is needed.
  - (b) Changes in significant weather information can be provided to the flightcrew in a timely manner.
  - (c) Changes in the serviceability of the required navigation aids are available to the flightcrew and the operator’s operational control system.
  - (d) Reliable information concerning other IFR aircraft operating within this area is available in-flight (e.g., Traffic Alert and Collision Avoidance System (TCAS), Automatic Dependent Surveillance-Broadcast (ADS-B)). This includes “broadcast in the blind” procedures and other “expected” practices.



- (e) The required navigation facilities necessary to safely conduct the operation are available and serviceable.

**7.4 Role of Navigation Specialists.** The uniqueness of operations in advisory airspace and in no man's land usually requires assistance from persons with special navigational knowledge, skills, and expertise. Inspectors are expected to request the assistance of these specialists when evaluating proposals to conduct operations outside controlled airspace.

## 8.0 RNP IN CLASS II AIRSPACE.

The implementation of RNP is part of a worldwide ICAO effort for the implementation of the Future Air Navigation System (FANS), Communication, Navigation, and Surveillance (CNS), and air traffic management (ATM) concepts.

**8.1 General.** Aircraft/operators that operate on routes where RNP separation standards are applied must be approved by the State of the operator or registry, as appropriate, as capable of navigating to prescribed RNP standards (e.g., RNP-10 for the entire route on which RNP-10 is required). Other separation standards are projected to require different RNP types (e.g., 30 NM lateral separation is projected to require Required Navigation Performance 4 (RNP-4)). The implementation of more stringent RNP and other CNS capabilities is part of an ICAO coordinated effort to introduce separation standards that will enable more efficient ATM while maintaining acceptable levels of safety. Benefits to users are increased availability of fuel/time efficient altitudes, routes and enhanced airspace capacity, and controller flexibility.

### 8.2 Operational Approval in Oceanic Airspace Where RNP-10 Is Required.

#### 8.2.1 Background.

- (i) States and operators are implementing RNP as part of a worldwide ICAO effort to implement the FANS, CNS, and ATM concepts. To support this effort, in 1998, the Pacific oceanic planning groups began a phased implementation of 50 NM lateral separation in Pacific oceanic airspace. In addition, 50 NM longitudinal separation has also been introduced for aircraft that are equipped with the required CNS equipment. In accordance with ICAO Document 7030, aircraft/operators that operate on routes where these separation standards are applied must be approved by the State of operator or registry, as appropriate, as capable of navigating to RNP-10 for the entire route on which RNP-10 is required.

NOTE: This navigation performance requirement is similar to MNPS over the Atlantic which is equivalent to Required Navigation Performance 12 (RNP-12).

- (ii) The first oceanic airspace where RNP-10 and 50 NM lateral separation were implemented was the NOPAC Route System. Implementation in additional Pacific oceanic areas proceeded over the next two years.



- (iii) Other separation standards require different RNP types (e.g., 30 NM lateral separation requires RNP-4). The implementation of more stringent RNP and other CNS capabilities is part of an ICAO coordinated effort to introduce separation standards that will enable more efficient air traffic management while maintaining acceptable levels of safety. Benefits to users are increased availability of fuel/time efficient altitudes, routes and enhanced airspace capacity, and controller flexibility.

### 8.2.2 Policy.

- (i) FAA Order 8400.12A is a guide to RNP-10 aircraft and operator approval in any airspace where RNP-10 navigation criteria is required. The FAA has determined that Order 8400.12A provides acceptable criteria and processes for an operator to obtain authority to operate specific aircraft/navigation systems in areas or on routes where RNP-10 is required.
- (ii) CNS requirements, policy and guidance for operation in oceanic airspace can be found on the Oceanic Operations Standards Group Web site ([http://www.faa.gov/about/office\\_org/headquarters\\_offices/ato/service\\_units/enroute/oceanic/](http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/enroute/oceanic/)).
- (iii) Operator applications for RNP-10 approval must be evaluated in accordance with Order 8400.12A and any additional criteria specified in this appendix. If an operator requests to deviate from the practices and procedures provided in Order 8400.12A.
- (iv) AOC holders are approved for RNP-10 by the issuance of standard OpSpec paragraphs.
- (v) Nig. CARs Part 8 general aviation operators will be approved through the issuance of automated operator LOA, Operations in RNP Airspace or, for short-term operations, LOA, Flight in Special Areas of Operation For Short-Term Operations. LOAs should be issued using the guidance in this handbook and Order 8400.12A.

**8.3** The principal inspectors should inform their certificate holders that this appendix contains the approval process for RNP-10 authorization. The steps in this process should be followed when an operator seeks authority to operate an airplane type/LRNS combination in Class II navigation areas where RNP-10 is applied and the operator has not previously received RNP-10 approval for that specific airplane type/LRNS combination. Normally, if an operator has received initial Class II navigation/RNP-10 approval for a specific airplane type/LRNS combination, that operator should not be required to re-apply for approval to conduct Class II navigation/RNP-10 operations on additional routes or areas.

- (i) The POI and the certificate holders may find it easier to use Order 8400.12A if they are aware that Appendix 8 is an index to the Order. The certificate holder should be made aware that references to the



appropriate subparagraphs and sections of Order 8400.12A are indicated in subparagraphs below:

- (ii) Order 8400.12A, paragraph 9 provides guidance on the content of an operator's RNP-10 application. The application should contain the items listed in subparagraphs below. Subparagraphs provide additional detail on application items.
  - (a) Airworthiness documents that establish the proposed aircraft/navigation system group, its RNP-10 approval status, and a list of airframes in that group.
  - (b) Approved or requested RNP-10 time limit for aircraft for which INS or IRU are the only source of long-range navigation (LRN).
  - (c) Documentation establishing the RNP-10 area of operations or routes for which the specific aircraft/navigation system is eligible.
  - (d) Documentation that the operator has adopted operating practices and procedures related to RNP-10 operations.
  - (e) Documentation showing that the pilot and, if applicable, dispatcher knowledge of RNP-10 operating practices and procedures will be adequate.
  - (f) Documentation that appropriate maintenance practices and procedures have been adopted.
  - (g) MEL updates, if applicable.
  - (h) Operating history that identifies past problems and incidents, if any, and actions taken to correct the situation.
  - (i) Awareness of the necessity to follow up action after navigation error reports, and the potential for removal of RNP-10 operating authority.
- (iii) In accordance with Order 8400.12A, paragraph 11, the operator must show the aircraft/navigation system groups that will be presented for approval of RNP-10 operations and provide a list of airframes that are determined to be in the specific aircraft/navigation system groups to be evaluated.
- (iv) Order 8400.12, paragraph 12A, Determining Aircraft Eligibility, requires that for aircraft navigation systems which have been approved by an



aircraft certification authority to RNP-10 or better, the operator must provide appropriate sections of the Aircraft Flight Manual (AFM) that address RNP, including any associated time limits for INS and IRU navigation systems.

- (v) Order 8400.12A, paragraph 12b(4), Aircraft Equipped with Global Positioning Systems (GPS) Approved to Primary Means of Navigation Standards, requires that for aircraft equipped with GPS, where such GPS units are the only systems for LRN, the operator must show that it is approved in accordance with paragraph 12b(4). An RNP-10 time limit is not applicable.
- (vi) Order 8400.12A, paragraph 12b(5), Multisensor Systems Integrating GPS (with GPS Integrity Provided by Receiver Autonomous Integrity Monitoring (RAIM)), requires that for multisensor systems incorporating GPS, the operator must show that systems are approved and operated in accordance with paragraph 12b(5). An RNP-10 time limit is not applicable.
- (vii) GPS Equipage In Combination With Another Approved LRNS (e.g., INS or IRU); Reference the current editions of AC 90-94, Guidelines for using Global Positioning System Equipment for IFR En Route and Terminal Operations and for Nonprecision Instrument Approaches in the U.S. National Airspace System; and AC 20-138, Airworthiness Approval of Global Navigation Satellite System (GNSS) Equipment. The operator must show that aircraft equipped with GPS and one or more approved LRNS are installed and operated in accordance with AC 90-94, and AC 20-138. An RNP-10 time limit is not applicable.
- (viii) Order 8400.12A, paragraph 12b(1), (2), and (3) require the operator to show that INS or IRU installation is approved in accordance with paragraph 12b(1), (2) or (3). Unless the operator takes action to extend the approved navigation system time limit and/or plans to update the system en route, a baseline RNP-10 time limit of 6.2 hours, starting at the time the system was placed in navigation mode, is applicable. See paragraph 4-107B3)k) on extending navigation system time limit and paragraph 4-107B3j) 1c. on en route updating.
- (ix) Order 8400.12A, paragraph 12c, Aircraft Eligibility Through Data Collection, (Eligibility Group 3) specifies that for navigation systems not approved under existing criteria, the operator may demonstrate RNP-10 eligibility through data collection in accordance with paragraph 12c using the processes detailed in Order 8400.12, appendices 1 or 6.
- (x) Order 8400.12A, paragraph 15e, Route Evaluation for RNP-10 Time Limits for Aircraft Equipped with only INSs or IRUs, requires the operator to show the routes or areas where it is eligible to operate if restrictions (e.g., INS RNP-10 time limit) apply to navigation systems. In accordance with paragraph 15e, the operator can conduct a one-time evaluation of



eligibility to fly in an RNP-10 area of operations or on specific RNP-10 routes or may elect to evaluate on a per-flight basis.

- (a) For one-time evaluation of a specific RNP-10 area or track system, aviation safety inspectors (ASI) should expect the operator to accomplish the following:
- (i) Calculate the longest distance from either departure airports or en route update points (if applicable) to the point at which the aircraft will begin to navigate by reference to VHF omni-directional range station (VOR), distance measuring equipment (DME), NDB, or comes under ATC radar surveillance.
  - (ii) As detailed in paragraph 15e, using 75 percent probability wind component, convert this distance to en route time.
  - (iii) As detailed in paragraph 12e, if navigation systems are to be updated en route, adjust the base line RNP-10 time limit approved for the specific operator navigation system to account for update accuracy.
    - Subtract 0.3 hour from the baseline for DME/DME.
    - Subtract 0.5 hour from the baseline for VOR/DME.
    - Subtract 1 hour from the baseline for manual update.
  - (iv) Compare calculated en route time to the navigation system RNP-10 time limit (adjusted for en route update, if applicable) to determine if the airplane is eligible for the operation.
  - (v) If the aircraft navigation system is found eligible for operation on the specific routes evaluated, then the RNP-10 area of operations or routes on which RNP-10 operations can be conducted are established. If the aircraft navigation system is not found eligible for operation on all routes evaluated, then the operator will need to designate routes for which it is eligible or take action to gain approval for an extended RNP-10 time limit. See paragraph 4-104 B3)k).
- (b) Order 8400.12A, paragraph 15e(6), Calculation of Time Limit for Each Specific Flight. For a per-flight evaluation of eligibility to fly a specific RNP-10 route, follow the steps shown in paragraph 4-107B3)j) 1., using flight plan winds to determine en route time. If the RNP-10 time limit is exceeded, the flight must be re-routed or delayed.
- (xi) Order 8400.12A, paragraph 12d, Obtaining Approval for an Extended Time Limit for INS or IRU Systems, specifies how the operator can show eligibility for an extended time limit by:



1. Obtaining approval from an appropriate Aircraft Certification Office, or
  2. Conducting operational data collection using the processes established in appendix 1 or 6 of Order 8400.12A.
- (xii) Order 8400.12A, paragraph 14, Continuing Airworthiness (Maintenance Requirements), specifies that the certificate holder must provide documentation that appropriate maintenance practices and procedures have been adopted.
- (xiii) Order 8400.12A, paragraph 13, MEL, requires the operator to revise the MEL to address any new operating requirements.
- (xiv) Operations Programs.
1. FAA Order 8400.12A, paragraphs 9a(5), 12f, 12g, 15, and appendices 4 and 7 (if applicable).
    - (a) AOC holders must provide revisions to manuals and checklists to show the adoption of the RNP-10 operating practices and procedures contained in the reference paragraphs and sections listed in paragraph 4-107B3)n).
    - (b) If applicable, general aviation operators should show appropriate sections of the AFM relating to RNP-10 aircraft/navigation system eligibility.
  2. Order 8400.12A, paragraphs 9a(4), 12f, 12g, 15, and appendices 4 and 7 (if applicable).
    - a. AOC holders should show that training programs have been updated to include the practices in Order 8400.12A, paragraphs 12f and/or 12g (if applicable), paragraph 15, and appendices 4 and 7 (if applicable). Part 125 initial and recurrent pilot testing programs should be updated with applicable information from these paragraphs.
    - b. In accordance with Order 8400.12A, appendix 4, paragraph 5b, general aviation operators must show during the application process that pilot knowledge of paragraphs 12f and 12g (if applicable), paragraph 15, and appendices 4 and 7 (if applicable) will be adequate. appendix 4, paragraph 5b contains options for general aviation operators to fulfill this requirement.
- (xv) The Authority may authorize a certificate holder to deviate from the RNP-10 requirements in subparagraph c of OpSpec B for a specific flight in designated RNP-10 airspace if the ATS provider determines that the airplane may be provided appropriate separation and the flight will not interfere with, or impose a burden on other operators. For operations under such authority, the certificate





holder shall not take off for flight in designated RNP-10 airspace, unless the following requirements of subparagraphs b and d of B are met:

1. If fuel planning is predicated on en route climb to FLs where RNP-10 is normally required, an appropriate request must be coordinated with the ATS provider in advance of the flight.
  2. The appropriate information blocks on the ICAO flight plan filed with the ATS provider show that the airplane and/or certificate holder is not approved for RNP-10 as specified in the certificate holders OpSpec B.
  3. For these flights either of the following conditions must be met:
    - a. At least one of the navigation system configurations listed below must be installed and operational:
    - b. At least two independent INS.
    - c. At least two flight management system/navigation sensor combinations (or equivalent).
    - d. At least two independent approved GPS navigation systems acceptable for primary means of Class II navigation in oceanic and remote areas.
    - e. At least two approved independent LRNS from the list below:
      - INS.
      - Flight management system/navigation sensor combination (or equivalent).
      - GPS navigation system approved for Class II navigation in oceanic and remote areas.
- (xvi) Order 8400.12A, paragraph 9b, Evaluation of Application, Conditions for Removal of Authorization, and Error Reports. The operator should indicate awareness of the provisions of paragraph 9b for operator follow-up action on reported navigation errors and of the potential to remove RNP-10 operating authority.
- (xvii) Validation Tests and Validation Flights for AOC holders, reference TGM Volume 3, Operations Handbook Chapter 15, Proving and Validation Tests.
1. The following is intended to provide broad guidance for establishing requirements for validation tests and/or validation flights. The POI should consider each application on its own merit and volume 3, chapter 29. Consult with the regional Flight Standards division (RFSD), as necessary.



2. Validation testing requires that ASIs evaluate operator programs and documents in accordance with the guidance in this section.
3. The following is provided as guidance for ASIs to consider in determining whether or not validation flights are required.
  - a. For operators with previous Class II navigation experience with the same navigation equipment as that being proposed for RNP-10 approval, evaluation of the applicant's programs and documents should normally suffice. A validation flight should not normally be required.
  - b. For operators with previous Class II navigation experience navigating with an LRNS other than that being proposed for RNP-10 approval, evaluation of the applicant's programs and documents is required. A validation flight should normally be required. If conducted in Class I airspace, the validation flight may be conducted in revenue service. If conducted in Class II airspace, it must be non-revenue with the exception that cargo may be carried.
  - c. For operators with no previous Class II navigation experience proposing to operate where RNP-10 is required, evaluation of the operator's programs and documents is required. A validation flight should be required and should be conducted in Class II airspace. It should be a non-revenue flight with the exception that cargo may be carried.
4. Conditions for Validation Flights.
  - a. At least one flight should be observed by an NCAA ASI.
  - b. A demonstration of any required dispatch procedures must be conducted for routes or areas where RNP-10 is required.
  - c. The flight(s) should be of adequate duration for the pilots to demonstrate knowledge of dispatch requirements, capability to navigate with the system, and to perform the normal and non-normal procedures.

**8.4** FSG Portal entries will be made.



## CHAPTER 41

### **CERTIFICATION OF FOREIGN APPROVED MAINTENANCE ORGANIZATION.**

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#### **1.0 PURPOSE**

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- 1.1 This chapter is issued to provide guidance to the Authority Inspectors when certifying Foreign Maintenance Organizations.
- 1.2 The process is designed to ensure that the Foreign Amos fully understands the Nigeria Civil Aviation Regulations and ensure full compliance when maintaining Nigeria registered aircraft, Including its engines, components and issuing appropriate Certificate of Release to Servie ( CRS).

#### **2.0 REFERENCES:**

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- 2.1 [Part 6](#) of the Nigeria Civil Aviation Regulations
- 2.2 [Part 5](#) of the Nigeria Civil Aviation Regulations
- 2.3 [Part 9](#) of the Nigeria Civil Aviation Regulations
- 2.4 [Part 8](#) of the Nigeria Civil Aviation Regulations
- 2.5 [NCAA-AC-AWS007](#) Certification of Foreign Approved Maintenance Organization (AMO)
- 2.6 CHECKLISTS: [CL: O-AWS011](#), and [CL:O-AWS002](#)
- 2.7 FORMS: [FORM: AC-AWS006B](#), [AC-AWS006F](#)

#### **3.0 INFORMATION AND GUIDANCE**

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- 3.1 General Information
  - 3.1.1 The Foreign AMO must hold a valid local Authority Approval appropriately rated for the scope of maintenance to be carried out on Nigeria registered aircraft, Any other recognized Authority Approval would be an added advantage ( FAA, EASA, Transport Canada etc). The NCAA scope of approval shall be limited to the scope of work approved by the local Authority.



- 3.1.2 The AMO shall have an effective working independent quality system to ensure that the AMO remains in compliance with the local approving Authority regulatory requirements and the special conditions supplement (SCS) to a Foreign AMO Maintenance Procedures Manual (MPM)/ Procedures Manuals approved by the Authority in accordance with part 6.5.1.1 of The Nigeria Civil Aviation Regulations.

### 3.1.3 Physical Inspection of Maintenance Facilities

- a) The Authority shall identify and be Satisfied that the AMO can demonstrate compliance and capability of all the functions for the ratings applied for as required by the Regulations.
- b) Areas normally inspected would include, but are not limited to:
  - (i) Management Team Structure and Qualification Requirements ,
  - (ii) Functioning of the Independent quality System;
  - (iii) Technical personnel assessment, training programme and records.
  - (iv) Sufficient numbers of qualified personnel.
  - (v) Equipment, Tools and Material
  - (vi) Airworthiness Data
  - (vii) Maintenance Certification and records
  - (viii) Reporting of Unairworthy Conditions
  - (ix) Continued validity of the Approval

### 3.1.4 Certification

- (a) when satisfied that all requirements for Certification of an AMO under the Nig CARs part 6 have been met, the AMO would be granted.
- (b) The AMO Certificate is valid for twenty-four (24) Calendar months as provided under Nig CARs Part 6.2.1.7 unless otherwise specified by the Authority.

### 3.1.5 Records:

- (a) A new file is required for every Approved Maintenance Organization (AMO) to keep records of the documents generated during the Certification process.



- (b) The Certification report should include:
- (i) The Application Form for Approved Maintenance Organizations Forms: FORM:AC-AWS006B, AC-AWS006F
  - (ii) Soft copy of Maintenance Organization Exposition/Repair station Manual (RSM)
  - (iii) Special Conditions Supplement (SCS) to a Foreign AMO Maintenance Procedures Manual (MPM)
  - (iv) All correspondences between the applicant and the authority.
  - (v) Proof of payment of the approval fee (as applicable)
  - (vi) A summary of all findings encountered during the inspection and corrective actions taken by the applicant.
  - (vii) Copy of the Maintenance Support Agreements ( as applicable )
  - (viii) Copy of the local AMO Certificate and Certificates of other Civil Aviation Authorities.
  - (ix) Completed : CL:O-AWS011 and CL: O-AWS002
  - (x) Copy of NCAA AMO Certificate and Operations Specifications

## CHAPTER 42

### INTERNAL QUALITY ASSURANCE PROGRAMME.

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#### 1.0 PURPOSE

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**1.1 This chapter is issued to provide guidance and information on how the Directorate of Airworthiness Standards will ensure quality of and carry out internal audits of its Airworthiness safety oversight activities.**

#### 2.0 REFERENCES:

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2.1 CHECKLISTS: [CL: O-AWS039](#)

#### 3.0 GUIDANCE AND PROCEDURES.

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##### 3.1 Quality Policy.

- 3.1.1 DAWS will develop and implement Technical Guidance Materials (TGMs) for guidance and use of its inspectors in the discharge of their airworthiness safety oversight duties.
- 3.1.2 DAWS will ensure standardization in the discharge of its safety oversight duties through the use of checklists and forms.
- 3.1.3 DAWS will ensure qualified and authorized officers are used in carrying out its safety oversight duties.
- 3.1.4 DAWS will ensure its inspectors are properly trained and qualified in accordance with the Inspectors Training System (ITS) as recommended by ICAO.
- 3.1.5 DAWS will ensure the Nigeria Civil Aviation Regulations are in compliance with the latest amendments to ICAO annexes.
- 3.1.6 DAWS will ensure the quality of safety oversight services rendered to its clients meet the international standards.
- 3.1.7 The Director will have overall responsibility for the DAWS quality assurance system, including the frequency, format and structure of the internal management evaluation activities as prescribed below.

##### 3.2 Purpose of the Quality Assurance System.

3.2.1 The purpose of DAWS quality assurance system is to enable continued monitoring of compliance with ICAO Standards and Recommended Practices (SARPs), Civil Aviation Act 2006, Nigeria Civil Aviation Regulations, NCAA Policies and Procedures as documented in the Technical Guidance Materials (TGMs) and any other directives issued by the Director General.

##### 3.3 Quality Assurance System Coordinator.

- 3.3.1 The DAWS shall appoint an officer not below the rank of Deputy General Manager as Quality Assurance System Coordinator who shall be responsible to the Director, Airworthiness Standards and has direct reporting line to the Director General.
- 3.3.2 The function of the Quality Assurance System Coordinator is to monitor compliance with, and the adequacy of, procedures required to ensure effective airworthiness safety oversight in accordance with ICAO annexes, Civil Aviation Act, 2006, Nigeria Civil Aviation Regulations and Technical Guidance Materials.



- 3.3.3** The primary role of the Quality Assurance System Coordinator is to verify, by monitoring activity in the field of, airworthiness oversight, that the standards required by the DAWS, and any additional requirements defined by the NCAA **2.3.4** The Quality Assurance System Coordinator should be responsible for ensuring that the quality assurance programme is properly established, implemented and maintained.

## **4.0 QUALITY SYSTEM.**

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### **4.1 Introduction**

- 4.1.1** The DAWS quality assurance system should ensure compliance and adequacy of operational and maintenance activities requirements, standards, and procedures.

### **4.2 Scope.**

- 4.2.1** As a minimum, the quality assurance system will address the following:

- (a) The ICAO Standards and Recommended Practices (SARPs) as contained the annexes;
- (b) The ICAO Technical Documents;
- (c) The ICAO Eight Critical Elements of a State Safety Oversight System
- (d) The Civil Aviation Act;
- (e) The Nigeria Civil Aviation Regulations;
- (f) Technical Guidance Materials;
- (g) Advisory Circulars;
- (h) Compliance and Enforcement Handbook
- (i) State Safety Programme;
- (j) Quality assurance;
- (k) The required financial, material and human resources;
- (l) Training requirements.

- 4.2.2** The quality assurance system includes a feedback system to the Director General to ensure that corrective actions are both identified and promptly addressed. The feedback system will also specify who is required to rectify discrepancies and non-compliance in each particular case, and the procedure to be followed if corrective action is not completed within an appropriate timescale.

The quality assurance programme, reflecting:

- (1) Schedule of the monitoring process;
- (2) Audit procedures;
- (3) Reporting procedures;
- (4) Follow-up and corrective action procedures;
- (5) Recording system;
- (6) The training syllabus; and
- (7) Document control

## **5.0 QUALITY ASSURANCE PROGRAMME**

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### **5.1 Introduction.**

- 5.1.1** The quality assurance programme includes all planned and systematic actions necessary to provide confidence that all airworthiness safety oversight is conducted in accordance with all applicable requirements, standards and procedures.

**5.1.2** The DAWS quality assurance programme includes the following:

- (a) Quality inspection;
- (b) Audit;
- (c) Auditors;
- (d) Auditor's independence
- (e) Audit scope;
- (f) Audit scheduling;
- (g) Monitoring and corrective action;
- (h) Management evaluation

## **5.2 Quality Inspection.**

**5.2.1** The primary purpose of a quality inspection is to observe a particular event/action/document, etc. in order to verify whether established procedures and requirements are followed during the accomplishment of that event and whether the required standard is achieved.

**5.2.2** Typical subject areas for quality inspections are:

- (1) Office accommodation;
- (2) Work environment;
- (3) Tools, Equipment and Materials;
- (4) Certificate of Airworthiness Issue Inspection;
- (5) Management of changes;
- (6) Staff numbers and man-hour plan;
- (7) Qualifying of Inspectors;
- (8) Training Records of Inspectors;
- (9) Issuance of Scope of Authorisations
- (10) Aircraft Type Certificate Acceptance Programme;
- (11) Registration and Deregistration of Aircraft;
- (12) Technical Documents held;
- (13) Approval of Aircraft Repairs and Modification;
- (14) Approval of Aircraft Maintenance Programme;
- (15) Approval of Quality Manual;
- (16) Approval of Maintenance Control Manual;
- (17) Approval of Maintenance Procedures Manual;
- (18) Approval of Minimum Equipment List (MEL);
- (19) Approval of Safety Management System Manual;
- (20) Approval of Reliability Programme;
- (21) Air Operator Certificate Certification Airworthiness Aspects;
- (22) Aircraft Ramp Inspection;
- (23) Approved Maintenance Organisation Certification;
- (24) Foreign Airline Base Inspection;
- (25) Incident Investigation;
- (26) State Safety Programme;
- (27) Special Operations Approval (EDTO, PBN, RVSM);
- (28) Maintenance Clearance Certificate Issuance Inspection; and
- (29) Any other areas deem fit by the NCAA management.





Typical methods for quality inspections include:

- (a) Certification Report sampling –the inspection of certification report for completeness; shall be carried out between three (3) to four (4) months
- (b) Inspection Report sampling - the inspection of inspection report for completeness; shall be carried out between three (3) to four (4) months
- (c) Approved Manual sampling - the inspection of approved manual; shall be carried out between three (3) to four (4) months

### 5.3 Audit.

5.3.1 An audit is a systematic and independent comparison of the way in which an operation is being conducted against the way in which the published operational procedures say it should be conducted.

5.3.2 Audits will include at least the following quality procedures and processes:

- (a) A statement explaining the scope of the audit;
- (b) Planning and preparation;
- (c) Gathering and recording evidence; and
- (d) Analysis of the evidence.

5.3.3 The auditing techniques that would be applied to ensure an effective audit are:

- (a) Interviews or discussions with personnel;
- (b) A review of published documents;
- (c) The examination of an adequate sample of records;
- (d) The witnessing of the activities that make up the operation; and
- (e) The preservation of documents and the recording of observations.

### 5.4. Auditors.

5.4.1 Auditors will be officers on grade level 15 and above with years of experience in airworthiness safety oversight duties. Auditors must have undergone audit techniques course, auditor's course, lead auditors course or quality management course.

5.4.2 The responsibilities of the auditors will be to carry out audit of directorate of airworthiness standards safety oversight activities as being carried out by the departments and submit report to the Audited Department, Director, Airworthiness Standards and the Director General.

### 5.5 Auditor's Independence.

5.5.1 The persons directly responsible for the safety oversight activities to be audited should not be selected as part of the auditing team to audit his/her own job.

5.5.2 The DAWS quality assurance programme will identify the persons within the directorate who have the experience, responsibility and authority to:

- (a) Perform quality inspections and audits as part of ongoing quality assurance;
- (b) Identify and record any concerns or findings, and the evidence necessary to substantiate such concerns or findings;
- (c) Initiate or recommend solutions to concerns or findings through designated reporting channels;
- (d) Verify the implementation of solutions within specific timescales;

## 5.6 Audit Scope.

5.6.1 The audit scope includes but not limited to monitor compliance with:

- (a) The ICAO Standards and Recommended Practices (SARPs) as contained the annexes;
- (b) The ICAO Technical Documents;
- (c) The ICAO Eight Critical Elements of a State Safety Oversight System
- (d) The Civil Aviation Act;
- (e) The Nigeria Civil Aviation Regulations;
- (f) Technical Guidance Materials;
- (g) Advisory Circulars;
- (h) Compliance and Enforcement Handbook
- (i) State Safety Programme;
- (j) Quality assurance;
- (k) The required financial, material and human resources;
- (l) Inspector Training System Requirement

## 5.7 Audit Scheduling.

5.7.1 A quality assurance programme has been designed to include a defined audit schedule and a periodic review cycle area by area. The schedule will be flexible, and allow unscheduled audits when trends are identified. Follow-up audits should be scheduled when necessary to verify that corrective action was carried out and that it was effective.

5.7.2 The DAWS will establish and publish a schedule of audits to be completed during a specified calendar period. All aspects of the safety oversight activities will be reviewed within every 12-month period in accordance with the programme unless an extension to the audit period is accepted as explained below. The Quality Assurance System Coordinator may increase the frequency of audits at his discretion but should not decrease the frequency without the agreement of the Director. Audit frequency may not be decreased beyond a 24-month period interval.

5.7.3 When DAWS defines the audit schedule, significant changes to the management, organisation, operation, or technologies should be considered as well as changes to the regulatory requirements.

## 5.8 Monitoring and Corrective Action.

5.8.1 The aim of monitoring within the quality assurance system is primarily to investigate and judge its effectiveness and thereby to ensure that defined policy and procedures are continuously complied with. Monitoring activity is based upon quality inspections, audits, corrective action and follow-up.

5.8.2. Any non-compliance identified as a result of monitoring should be communicated to the General Manager responsible for taking corrective action or, if appropriate, the Director and Director General. Such non-compliance should be recorded, for the purpose of further investigation, in order to determine the root cause and to enable the recommendation of appropriate corrective action.

5.8.3 Corrective action. Subsequent to the quality inspection/audit, the c will establish:

- (a) The seriousness of any findings and any need for immediate corrective action;
- (b) The origin of the finding;
- (c) What corrective actions are required to ensure that the non-compliance does not recur;
- (d) A schedule for corrective action;
- (e) The identification of individuals or departments responsible for implementing corrective action;
- (f) Allocation of resources by the Director Airworthiness.

**5.8.4** The Quality Assurance System Coordinator will:

- (a) Verify that corrective action is taken by the General Manager responsible in response to any finding of non-compliance;
- (b) Verify the corrective action includes the elements outlined in paragraph 3.8.4 above;
- (c) Monitor the implementation and completion of corrective action;
- (d) Provide management with an independent assessment of corrective action; implementation and completion;
- (e) Evaluate the effectiveness of corrective action through follow-up process.

**5.9 Management Evaluation.**

**5.9.1** A management evaluation is a comprehensive, systematic, documented review by the management of the DAWS of the quality assurance system, policies and procedures, and will consider:

The results of quality inspections, audits and any other indicators;

The overall effectiveness of the DAWS in achieving stated objectives.

**5.9.2** DAWS management will identify and correct trends, and prevent, where possible, future non-conformities. Conclusions and recommendations made as a result of an evaluation should be submitted in writing to the responsible General Manager for action. The responsible General Manager should be an individual who has the authority to resolve issues and take action.

**5.9.3** The DAWS management will decide upon the frequency, format and structure of internal management evaluation activities.

**5.10 Recording.**

**5.10.1** Accurate, complete and readily accessible records documenting the results of the quality assurance programme must be maintained by the Quality Assurance System Coordinator. Records are essential data to enable DAWS Management to analyze and determine the root causes of non-conformity, so that areas of non-compliance can be identified and addressed.

**5.10.2** The following records should be retained for a period of 5 years:

- (a) Audit schedules;
- (b) Quality inspection and audit reports;
- (c) Responses to findings;
- (d) Corrective action reports;
- (e) Follow-up and closure reports; and
- (f) Management evaluation reports.

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**6.0 ROOT CAUSE ANALYSIS (RCA)**

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**6.1** This section highlights the purpose of and guidance on the root cause analysis (RCA). It provides a procedure to identify and document the root cause of a particular finding or non-compliance and the follow-up actions necessary to properly address the root cause. As the purpose of the RCA is to determine the root cause of a problem, it should result in some corrective actions that may be taken to ensure the same finding or non-compliance is not repeated. It is imperative that all of the findings and corrective actions are detailed and formally communicated to the audited department.





## CHAPTER 43

### ACCEPTANCE OF AIRCRAFT TYPE CERTIFICATES ISSUED BY OTHER STATES.

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#### 1.0 PURPOSE

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This chapter provides guidance for acceptance of an Aircraft Type Certificate or equivalent document issued by a state of design in respect of an aircraft or aircraft component.

#### 2.0 REFERENCES

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- 2.1 ICAO Annex 8
- 2.2 Part 5 of the Nigeria Civil Aviation Regulations
- 2.3 Checklists [CL:O-AWS018](#), [CL:O-AWS018A](#) and [CL:O-AWS018B](#)
- 2.4 Forms [AC:-AWS027](#), [AC-AWS027A](#), [AC-AWS027B](#), [AC-AWS027C](#)  
[AC-AWS027D](#)

#### 3.0 GUIDANCE AND PROCEDURES.

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##### GENERAL

If an aircraft has been designed constructed and type certificated in another State, the certification process generally reduces to one of examination of the type design record and the certification documents held by the State, which initially certificated the aircraft (State of Design). The examination normally includes:

- a) an assessment of the adequacy of the code of design standards applied and their amendment status to ensure that no hazardous characteristics exist in the design and construction of the aircraft;
  - b) an assessment of acceptability of any waivers or variations granted by the State of Design;
  - c) an assessment of suitability of any special conditions specified and certified by the State of Design; and
  - d) an assessment of adequacy of type design in regard to specified requirements, operating conditions and airworthiness philosophies of the importing State.
4. In full recognition of all of the above matters, the DAWS should ensure that:
- (a) The applicant has received proper notification of any special conditions to be met (and the assessment of their compliance) and the airworthiness documents (design) data, flight manual, etc.) to be lodged for acceptance of the aircraft type in the importing State;



- b) the State of Design has certified that the product has been examined, tested and found to meet the applicable aircraft noise and engine emissions requirements including any other requirements the CAA has prescribed for that type of aircraft;
- c) the applicable airworthiness requirements of the State of import or the applicable airworthiness requirements of the State in which the product was manufactured and any other special requirements the CAA may prescribe have been complied with;
- d) the applicant has submitted the Type Design Record and the Type Certificate Data Sheet concerning aircraft in the form prescribed by the CAA;
- e) the manuals, placards, listings and instrument markings required by the applicable airworthiness and noise (where applicable) requirements are presented in the language prescribed by the CAA; and
- f) where applicable, a copy of the Master Minimum Equipment List (MMEL).

Nig. CAR's Part 5. allows the Authority to automatically issue a Nigerian Type Acceptance Certificate (TAC) for an aircraft type that has a current TC issued to it by the states of design Civil Aviation Authorities of all ICAO Contracting States.

Some of the countries may not use the term "Type Certificate", but may use "Type Approval Certificate", "Certificate of Type Approval", "Fiche de Navigabilite" etc. The foreign CAA that issued the original TC or equivalent document will be regarded as the relevant CAA for airworthiness control of the aircraft listed on that certificate.

The TAC is issued in respect of the aircraft type itself in recognition of the type and model being type-certificated by the recognised CAA. There is no (TAC) certificate holder. However, the original of the TAC may be sent to the foreign TC holder as a courtesy. Type Acceptance Certificates for Imported Aircraft, provides applicants with guidance for the issue of a TAC using automatic acceptance procedures.

The foreign CAA that issued the original TC or equivalent document will be regarded as the relevant CAA for airworthiness control of the aircraft listed on that certificate.

**Note:** This automatic acceptance procedure does not apply in situations where the CAA of a recognised country has issued a TAC or similar document on the basis that the CAA of another country has issued a TC.

### **Certificate of Airworthiness Categories**

C of As will usually be issued in the same category available under the foreign TC, subject to a review by the Authority of the foreign certification basis, including any special conditions, waivers, exemptions, equivalent safety determinations etc. made by the foreign CAA.



In cases where the category is not specified on the TCDS, the Authority may nominate the category deemed appropriate under the TAC. In this case a Type Acceptance Certificate Data Sheet (TACDS) must be raised and the category entered on the TACDS. TACs are not issued for aircraft engines or propellers.

## Acceptance Certificate Process Responsibility for Issue

TACs are issued only by the Director, Airworthiness Standards or an Authorised NCAA official. Applications on a completed NCAA Type Acceptance Certificate for Imported Aircraft Application form (form:AC-AWS027B) may be lodged directly with the NCAA Headquarters.

The application should state exactly which models are to be included on the TAC. These models must be included on the foreign TC. Each model included on the TAC must be covered by the data requirements.

### TC ACCEPTANCE PROCESS

#### Establishment of a TC Acceptance Project

The following steps occur when an application for issue of a TAC is received in the NCAA Directorate of Airworthiness.

1. Enter the task on the Section database of certification tasks and allocate the project control number.
2. Acknowledge receipt of the application to the applicant in writing.
3. Raise a file (note the TAC number is not allocated at this stage). The format of the file's title is: Airworthiness – Airworthiness Certification – (Manufacturer) – (Model) – (Type of aircraft e.g. aeroplane, rotorcraft, balloon etc.) – Engineering Data and Certification.  
The file number should be used by all personnel in all correspondence, reports, and other documents pertaining to the project.
4. Assign the project a priority.
5. Nominate a Project Manager.
6. Request the Technical library to advise what data, if any, is already held by the Authority.



7. Advise the applicant in writing:
  - That the project has commenced
  - The name and contact details of the Project Manager
  - To make all correspondence on the project to the attention of the Project Manager.
  
8. Circulate the application for the Type Acceptance Certificate to the other NCAA Technical Directorates, for advice and any input.
  - a) Assess application in accordance with
    - i) AIRCRAFT TYPE CERTIFICATE DATA FORM (CL:O-AWS018)
    - ii) TYPE CERTIFICATE EVALUATION / ACCEPTANCE PROGRAMME (CL:O-AWS018A)
    - iii) AIRCRAFT TYPE CERTIFICATION DOCUMENTS REQUIRED (CL:O-AWS018B)

### **Type Certification Procedures Manual Type Acceptance Certificate Numbers**

A common register of TAC numbers is maintained by the Directorate of Airworthiness Standards for TACs issued under Nig. CAR's Part 5.

The TAC number is not assigned until the TAC is ready to be issued. This is because:

- Uncontrolled use of the TAC number could lead to a perception that the TAC has been issued
- If the project were to lapse, or never reach fruition, there would be gaps in the register.

When the TAC is ready to be issued, the Project Manager obtains the TAC number from the certification group responsible for TC acceptance.

Note that the numbers start from 1 e.g. the first TC for an aircraft in the series would be 001.

### **Type Acceptance Certificate Format**

The TAC is prepared using the NCAA template for the Type Acceptance Certificate (Form: AC-AWS027)

The TAC is signed and dated by the Director, Airworthiness Standards and stamped with the NCAA official seal in blue ink after signing.





## Type Acceptance Certificate Data Sheet Format

The TACDS is prepared using the NCAA template for the Type Acceptance Certificate Data Sheet (Form:AC-AWS027A).

### Amendment to a TAC

Any person may apply for another model to be added to an existing TAC.

Only data relevant to the new model will be required.

Amendment of a TAC is accomplished by re-issuing the TAC under the same number with a new issue number. Revisions to any TACDS are indicated by a revision number.

### Supply of Certification Data

The data, as listed in Nig. CAR's Part 5 supporting the application should be supplied by the applicant at the time of application, or, if it is not available at that time, a covering letter should be supplied giving the reasons and details of when the data will be available. Such data must be supplied before the TAC is issued.

Provision of a copy of the current TC and TCDS would satisfy the requirement that the type design has been approved by the CAA of the recognised country by the issue of a type certificate or equivalent document. In some cases, only a copy of the TCDS is available. This is sufficient provided that it is accompanied by a statement from the CAA that issued the TC to the effect that the TC is still valid but not available.

In unusual circumstances, suitable statements from the relevant CAA as to the aircraft specifications and limitations may suffice.

If the TC has been transferred, a copy of any transfer page is also required.

**Note:** Where the aircraft includes a new type/model of engine and/or propeller, the data associated with the engine and/or propeller is also required.

### Project Manager

The Project Manager is responsible for:

- Ensuring that the data is supplied and passed to the Technical library for cataloguing and storage
- Sighting evidence that the holder of the foreign TC has undertaken to continue to supply service bulletins and instructions for the continuing airworthiness of aircraft of that type and any amendments of those documents to the Authority
- Ensuring that the division responsible for AD Publishing has arranged with the relevant CAA for the supply of all ADs issued by that CAA in respect of that aircraft type. This is required for C of A issue, but is better arranged as part of the certification.



If the application relates to a variant of an aircraft type for which there is already a TAC in force, then only data peculiar to the variant need be supplied. The TAC will be amended to include the new variant.

A recommendation for issue of the TAC should not be made until the Project Manager is satisfied that arrangements for the supply of documentation and ADs are satisfactory.

### **Supply of Certification Data for an Aircraft Type Previously Approved**

The Project Manager is to confirm that the documents required, particularly a copy of the AFM required under regulation Nig. CAR's Part 5, are already held by the Authority when an application for TAC issue is received for an aircraft type and model:

- Currently on the Aircraft Register but approved under previous legislation, or
- Approved under previous or current legislation and returning to the Aircraft Register.

Documents already held by NCAA need not be duplicated prior to issue of the TAC. However, these may not be the current issue, and it is the responsibility of the applicant for the provision of any required current issues.

In the case of an aircraft type/model returning to the aircraft register, current information may be required or old valid information may need to be obtained from archives.

### **Issue of a TAC Subject to Conditions**

The Authority may, under Nig. CAR's Part 5, issue a TAC subject to a condition if there are reasonable safety grounds, provided the condition(s) is substantially the same as a condition imposed by the CAA of a recognised country on the corresponding foreign TC.

The Authority may also issue a TAC subject to other conditions, provided there are reasonable grounds for believing that issuing the certificate without imposing conditions or taking other measures would constitute a significant threat to aviation safety.

In unusual situations, if the Project Manager determines there may be a need for a review of any unusual or novel features, or a review of any special conditions applied by the relevant CAA, the Project Manager is to liaise with the appropriate Technical Section Heads.

One such issue is the supply of service documents and AFM in the English language, either as approved by the relevant CAA or as certified translations.

### **Refusal to Issue a TAC**

The liaison referred to above may result in a recommendation that the Authority refuse to issue a TAC because of reasonable safety grounds.



## **Suspension or Cancellation of a TAC**

The Directorate of Airworthiness Standards is to assess any information received that may lead to suspension or cancellation of a TAC in conjunction with a Project Manager and airworthiness specialists (if necessary).

The Authority may suspend or cancel a TAC if it considers that it is necessary to do so in the interests of aviation safety. An inability on the part of the foreign TC holder to provide ongoing technical support for the aircraft type may constitute grounds for such suspension or cancellation.

If the foreign TC on which the TAC is based is suspended or cancelled by the foreign CAA, the Directorate of Airworthiness must consider the effect on Nigerian aircraft.

## **Exercise of Powers for Special Conditions, Suspension and Cancellation**

Only the Director General of the NCAA has the power to:

1. Issue a TAC subject to a condition that is not substantially the same as that which has been imposed by the CAA of a recognised country.
2. Refuse to issue a TAC, or
3. Suspend or cancel a TAC.

In all the cases of imposing special conditions, refusal to issue, suspension or cancellation, the Authority shall first consult with and consider the views of the applicant, the CAA that issued the foreign TC and the manufacturer.

In these unusual cases, the Project Manager is responsible for the negotiations between the group responsible for certification, the appropriate airworthiness specialists, the applicant, the manufacturer and the relevant CAA, and for the preparation of a report for the Directorate of Airworthiness Standards. All correspondence and the final decision must be properly documented.

## **First-of-type/First-of-model**

NCAA airworthiness aviation safety inspectors at the responsible NCAA office where the first aircraft of a new type/model will be issued a C of A must produce a type acceptance report based on the C of A issue exercise.

Any condition identified during the type acceptance report must be included in the report to enable assessment as a condition to be included on the TACDS and to be entered on the C of A for all aircraft of this type and model.



A copy of the type acceptance report is to be forwarded to the Project Manager, highlighting any significant conditions identified. This is to be assessed by the Project Manager for any necessary action, and the type acceptance report is to be forwarded to the Technical library for cataloguing and storage.

### **Age and Modification Status**

Old aircraft and those incorporating major modifications usually incur some extra time and effort in terms of documentary requirements, as discussed further below.

Special requirements may be imposed at C of A issue on used aircraft. For such aircraft, data requirements are:

1. Details regarding previous operators of the aircraft, previous countries in which the aircraft has operated and details of all structural repairs to the aircraft not carried out in accordance with the manufacturer's approved data.
2. A copy of the relevant Structural Inspection Document (e.g. USA FAA Advisory Circular No. 91-60 may be relevant) and any Corrosion Control and Prevention Program (required under Nig. CAR's Part 5 for continuing airworthiness).

### **Additional TAC Application in Respect of another Foreign TC**

An application may be received for the issue of a TAC in respect of the TC issued by a recognised CAA and a TAC has already been issued for the type/model in respect of a different foreign TC.

The Project Manager is to determine if any additional data other than the additional TC and TCDS is required, and to advise the applicant whether or not data will be required.

The process is as for normal issue of a TAC, with a separate TAC issued.

**Note:** No two country TC references are to appear on the same TAC.

### **Recommendation for Issue of a TAC**

When the Project Manager is satisfied that all of the requirements for issue of a TAC have been met, the Project Manager is to provide the Directorate of Airworthiness Standards with a summary of the documents received and a recommendation for issue of the TAC.

### **Records Management and Documentation**

Upon issue of the TAC, the Project Manager is responsible for the following actions:

1. Completing the details of the TAC in the Type Acceptance Certificate Register.
2. Forwarding the original of the TAC and any TACDS to the foreign TC holder.



3. Forwarding a copy of the TAC and any TACDS to:
  - the applicant
  - the responsible NCAA office for C of A issue.
4. Placing a copy of the TAC and any TACDS on:
  - the file for the project
  - the folder of issued TACs and TACDSs.
5. Providing the Technical library with details of file references and project numbers, and also ensuring that any data to be retained by NCAA are delivered to the Technical library to be catalogued and stored.
6. Ensuring that the applicant provides any required MMEL, including the establishment of an update service. This is required for aircraft of appropriate categories from countries other than the USA and Canada where Internet access has been provided to MMELs.
7. Supplying the aircraft register controller with the information currently required for the aircraft register.

#### **TASK OUTCOMES**

- A. Successful completion of this task will result in the acceptance of the original type certificate issued by the aircraft State of Design. A Type Acceptance Certificate below will be issued by the Director, Airworthiness Standards
- B. Document Task. File all supporting paperwork in the office file.

#### **4.0 FUTURE ACTIVITIES**

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Normal surveillance.



## CHAPTER 44

### ISSUANCE OF OPERATIONS SPECIFICATIONS, PARTS D & E.

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#### GENERAL INFORMATION AND PROCEDURES

##### 1.0 OBJECTIVE.

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This chapter provides guidance for the preparation, processing, generation, and issuance of operations specifications.

##### 2.0 GENERAL

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- A. Operations specifications transform the general terms of applicable regulations into an understandable document tailored to the specific needs of an individual Air Operations Certificate (AOC) holder. When approved, the provisions of operations specifications are as legally binding as the regulations themselves.
- B. Regulatory Reference Nig. CARs Part 9.1.1.7

##### 3.0 AVIATION SAFETY INSPECTOR (ASI) RESPONSIBILITIES

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- A. When working with an AOC holder in developing operations specifications, coordination among all of the involved principal inspectors is crucial. Coordination ensures the following:
  - (1) That all ASIs are aware of pending changes to an existing certificate holder's operation.
  - (2) That the certificate holder/applicant is not needlessly bothered by repetitious questions.
- B. Operations specifications are divided into six parts, each of which has an assigned letter designator and contains standards paragraphs. Principal inspectors, depending upon their specialty, are responsible for the following paragraphs:
  - (1) Part A - General (paragraphs A1 through A11). Operations ASIs are responsible for these paragraphs.



- (2) Part B - En-Route Authorizations. Limitations and Procedures (paragraphs B15 through B17). Operations ASIs are primarily responsible for preparing and approving Part B, with coordination with the Avionics ASI for Part B, IFR Class I and MNPS navigation using area or long range navigation systems. The Operations ASI has sole responsibility for Part B.
- (3) Part C - Airplane Terminal Instrument Procedures and Airport Authorizations and Limitations (paragraphs C25 through C32). Part C pertains to airplanes only. Operations ASIs are primarily responsible for preparing and approving the paragraphs in Part C.
- (4) Part D - Aircraft Maintenance (paragraphs D40 through D60 ). Airworthiness ASIs are primarily responsible for preparing and approving the paragraphs in Part D. Paragraphs D65 through D70 are reserved for future development by the NCAA.
- (5) Part E - Mass and Balance, Paragraphs E61. Airworthiness ASIs are primarily responsible for preparing and approving Part E. Part E must be carefully coordinated with Operations ASIs.
  - (a) Paragraphs E62 through E64 are reserved for future development by the NCAA.
  - (b) Paragraph E61 shall be issued to AOC holders using approved mass and balance control procedures.
- (6) Part G - Aircraft Leasing Arrangements. Operations ASIs are primarily responsible for preparing and approving the paragraphs in Part G. Coordination with airframe/engine and avionics ASIs is required.
- (7) Part H - Helicopter Terminal Instrument Procedures and Airport Authorizations and Limitations (paragraphs H 101 through H 110 ). Part H pertains to rotorcraft only. Operations ASIs are primarily responsible for preparing and approving the paragraphs in Part H.

#### **4.0 MAINTENANCE OPERATIONS SPECIFICATIONS - PART D.**

When adding or deleting any of the following paragraphs, Operations Specifications, Paragraph A4 should be updated. When "See attached list" is used, the actual list must include identifiers so as to be traceable to the applicable paragraph in the operations specifications. This identification will include the following information, as applicable:



- AOC holder's Name
  - AOC number
  - Applicable paragraph number
  - Effective date
  - Amendment number
- A. Paragraph D40 - Aircraft Maintenance - General Requirements. This paragraph applies to aircraft subject to a Continuous Airworthiness Maintenance Programme. It contains the conditions that must be met for a certificate holder to operate its aircraft under the terms of its operations specifications.
- B. Paragraph D41 - Approved Small Aircraft Inspection Programme. This paragraph identifies aircraft subject to an Approved Small Aircraft Inspection Programme under the applicable Nig. CARs and Directives. Additional guidance is found in Chapter 51.
- C. Paragraph D42 - Additional Maintenance Requirements For Small Aircraft. This paragraph applies to all AOC holders maintaining small aircraft under an Approved Aircraft Inspection Programme. It identifies the manufacturer's maintenance programme and/or the approved operator-developed maintenance programme. Additional guidance is found in Chapter 52
- D. Paragraph D43 - Aircraft Listing. Certificate holders with aircraft under a Continuous Airworthiness Maintenance Programme are required to list all such aircraft.
- (1) The aircraft may be listed in Paragraph D43 or in a current listing attached to the operations specifications. The listing shall include at least the following information:
- Type of aircraft by make, model and series (Boeing 727-200, etc.)
  - Registration number
  - Serial number





- (2) Identify any aircraft used under an interchange agreement with an (\*) or other identifier, with a note to reference the corresponding paragraph in Part A of the operations specifications.
  - (3) The statement "This list supersedes any previous lists", or a similarly worded statement, must be included in the document.
- E. Paragraph D44 - Maintenance Contractual Arrangement Authorization For An Entire Aircraft. This paragraph authorizes a certificate holder to use a contractor's approved maintenance programme for the maintenance of its entire aircraft, including participation in the contractor's reliability programme. Guidance for approving maintenance contractual arrangements is found in Chapter 53
- F. Paragraph D45 - Leased Aircraft Maintenance Programme Authorization : Nigerian Registered Aircraft. This authorization allows a certificate holder (lessee) to use a lessor's approved maintenance programme for the leased aircraft. This paragraph applies only to leases of aircraft that are intended to be returned to the lessor at a time specified in the lease agreement. Further guidance on approving a leased aircraft maintenance programme is in Chapter 54
- G. Paragraph D46 - Maintenance Programme Authorization For Leased Foreign-Registered Aircraft Operated By Nigerian Air Operator. This paragraph authorizes a certificate holder to maintain leased, foreign-registered aircraft by adopting the foreign air operator maintenance programme as its own. ASIs shall fully evaluate each certificate holder's proposed foreign maintenance programme to be used for its leased, foreign-registered aircraft before approving this paragraph. Each revision to the adopted foreign air operator maintenance programme shall be approved on an individual basis by amending paragraph D46 to reflect the new revision number and date. Further guidance is found in Chapter 55.
- Note: Identification of the maintenance programme cannot be the manufacturer's programme.**
- H. Paragraphs D47 & D53 - Minimum Equipment List Authorization. These paragraphs authorize a certificate holder conducting operations under the Nig. CARs to use an approved Minimum Equipment List (MEL).
- (1) Paragraphs D47 & D53 set forth the conditions and limitations that must be met by the certificate holder to be able to operate its aircraft under the terms of the MEL.
  - (2) The paragraph may be issued for all aircraft authorized for use in Paragraph A3 or for selected aircraft within an operator's fleet. Further guidance is found in Chapter 4 of General Inspector Handbook.



- I. Paragraph D48 - Reliability Programme Authorization: Entire Aircraft. This paragraph authorizes the use of a maintenance reliability programme that contains standards for determining maintenance intervals and processes. This programme controls the inspection, check and overhaul times for the entire aircraft and is the sole control as far as operations specifications are concerned. Each make/model/series of aircraft controlled by reliability and its approved reliability document shall be identified on this operations specification. Guidance for approving a reliability programme is found in Chapter 13.

**NOTE:** The Airworthiness ASIs do not control the time limitations but will control the procedures of the programme.

- (1) The time limitations for overhaul, inspections and checks shall be contained in one of the following:
- Certificate holder's manual
  - Maintenance specification document
  - Any other document approved by the Director, Airworthiness Standards
- (2) These time limitations must not exceed the manufacturer's retirement times, Type Certificate limitations, or Airworthiness Directive limitations.
- J. Paragraph D49 - Reliability Programme Contractual Arrangement Authorization. This paragraph authorizes a certificate holder's (contractor's) CAA-approved reliability program for its aircraft or engines. The certificate holder's aircraft or engines may be included in the contractor's fleet for the purpose of this programme. Guidance for approving a contractual reliability programme is found in Chapter 56.
- K. Paragraph D50 - Reliability Programme Authorization: Airframe, Powerplant, Systems, or Selected Items (*Partial Reliability Program*). This paragraph authorizes the use of a maintenance reliability programme containing the standards for determining maintenance intervals and processes. The programme controls the inspection, check and overhaul time for airframe, powerplant, systems, or individually selected items within a system (e. g., hydraulic systems, pumps, valves, actuators, etc.) and must be identified on the operations specifications.
- (1) Airframe, powerplant, systems, or items controlled by reliability shall be identified in the Maintenance Time Limitations Section by an asterisk or other identifier, and a note.



- (2) If preferred, a certificate holder may reference in its Maintenance Time Limitations Section a document approved by the Director, Airworthiness Standards. The referenced document shall contain at least that information required by the Maintenance Time Limitations Section. Further information on this subject may be found in Chapter
- L. Paragraph D51 - Maintenance Programme Authorization For Two-Engine Airplanes Used In Extended Range Operation. This paragraph authorizes a certificate holder to use certain approved aircraft for use in extended-range operations. Assigned Airworthiness Inspectors must be familiar with paragraph B17 and shall coordinate with assigned Operations Inspectors before approving paragraph D51. Further guidance is found in Chapter 31
- M. Paragraph D52 - This paragraph authorizes a certificate holder to use short-term escalation procedures with aircraft, powerplants, systems, or appliances not authorized short-term escalation through a reliability programme. This subject is discussed in greater detail in Chapter 8
- N. Paragraph D53 - Minimum Equipment List Authorization: Small Aircraft. See paragraph D47 for additional information.
- O. Paragraph D54 - Parts Borrowing Authorization. This paragraph authorizes a certificate holder conducting operations under the Nig. CARs nominal and reasonable relief from its approved overhaul limits when borrowing parts from another certificate holder. Further information and guidance on parts borrowing is located in Chapter 57
- P. Paragraph D55 - Maintenance Time Limitations, (*Operators without a reliability programme*). This paragraph authorizes a certificate holder requiring a maintenance time limitations section to use a separate approved document attached to Paragraph D55. Additional information on maintenance time limitations is located in Chapter 58
- (1) The referenced document(s) must be approved by the Director, Airworthiness Standards and must have procedures for effecting revisions and revision control acceptable to the assigned Airworthiness Inspector.
- (2) This paragraph is to be issued only if the operator is not authorized any type of reliability programme.
- (3) For a change to the time limitations, the certificate holder must provide the actual data change to be included in either the operations specifications or a referenced list.



- (4) Changes to the time limitations must be justified. This supporting information must tie in all of the data supporting the change to the operations specifications by referencing the NCAA-approved document.
- Q. Paragraph D56 - Maintenance Time Limitations. This paragraph authorizes a certificate holder requiring a maintenance time limitations section, because of a partial reliability programme, to use a separate approved document or approved section in the certificate holder's manual. Additional information on maintenance time limitations is located in Chapter 58
- (1) The referenced document or manual chapter must have procedures for effecting revisions and revision control acceptable to the assigned Airworthiness Inspector.
  - (2) Each change to an item not controlled by a reliability programme must be NCAA-approved.
  - (3) For a change to the time limitations, the certificate holder must provide the actual data change to be included in either the operations specifications or a referenced list.
  - (4) The back page of the operations specifications (application for amendment) provides a section where the operator can justify the change to the time limitations. This supporting information reference must tie in all of the data supporting the change to the operations specifications by referencing the NCAA-approved document.
- R. Paragraph D57 - Special Flight Permit With Continuous Authorization To Conduct Ferry Flights. This paragraph authorizes a certificate holder, whose aircraft are maintained under a Continuous Airworthiness Maintenance Programme, to issue a special flight permit with continuous authorization to conduct ferry flights. Chapter 21.
- S. Paragraph D58 - Prorated Time Authorization. This paragraph authorizes a certificate holder to use aircraft for which inspection and overhaul times have been established using the proration process. Chapter 59, contains additional proration guidance and information.
- (1) Paragraph D58 is essential for proper time accountability and transfer of the time if the aircraft is sold to another certificate holder.
- T. Paragraph D59 - Parts Pool Agreement Authorization. This paragraph may be approved for a certificate holder desiring to enter into a pooling agreement with acceptable foreign air operator or agencies who are properly certificated in an ICAO member country. Information and guidance regarding parts pooling agreements is contained in Chapter 60



- U. Paragraph D60 - Maintenance Contractual Arrangement Authorization For Specific Maintenance. This paragraph authorizes a certificate holder to arrange with one or more contractors for specific maintenance functions using the contractor's approved maintenance programme. Guidance for approving maintenance contractual arrangements is in Chapter 9

## 5. MASS AND BALANCE OPERATIONS SPECIFICATIONS - PART E

- A. Paragraph E61 - Mass and Balance. This paragraph authorizes a certificate holder to use its approved mass and balance control procedures. Further guidance and information on approving mass and balance procedures is found in Chapter 61.

## 6. REVIEW, APPROVAL, AND DISTRIBUTION OF OPERATIONS SPECIFICATIONS

- A. General. Operations specifications are legal documents and care must be taken in their preparation. Operations specifications may be recommended for approval only by assigned inspectors to NCAA Director, Airworthiness Standards.
- B. Final NCAA Review. Assigned inspectors shall review the operations specifications for accuracy and completeness of the added information.
  - (1) Operations specifications paragraphs shall be checked to ensure the following:
    - (a) The effective date appears in the bottom right corner
    - (b) Operator's certificate number appears on the back page
    - (c) Operator's correct name appears on the back page and in the top center of the front page replacing "XYZ Airline"
    - (d) The certificate holder has included each change to the times in the operations specifications or an attached list
    - (e) The certificate holder has provided the supporting information reference
    - (f) The title, date and authorized signature of the certificate holder are completed on the back page



- (2) Maintenance Time Limitations Sections shall be reviewed to ensure the following:
  - (a) The page headings include the make, model and series of the aircraft (e.g. Boeing 727-200, Airbus 310-324, etc.)
  - (b) The effective date is in the lower right corner and on the back page with the approval signature and title of the approving officer (DAWS)
  - (c) The page number is in the top right corner of each page
- C. Approving Operations Specifications. To approve operations specifications, the assigned inspector shall enter the effective date and amendment number on the back page. Page 3.1.12 at the end of this Section contains instructions for completing the back page of each operations specification. The back page of the operations specifications must be signed by the Director, Airworthiness Standards. This signature must be in ink.
- D. Distribution of Operations Specifications. After approval of the operations specifications, the assigned inspector shall forward the original and a copy of each paragraph and each Maintenance Time Limitations Section page (if applicable) to the certificate holder's representative authorized to receive operations specifications. The certificate holder shall retain the original, indicate receipt on the back page of the copy, and return the copy to the assigned inspector. Assigned inspectors shall keep copies of all operations specifications on file in the NCAA. Superseded operations specifications shall be retained for at least 5 years.

## 7. AMENDMENT OR CANCELLATION OF OPERATIONS SPECIFICATIONS

- A. Effective Date. Except for emergency amendments, amendments to operations specifications become effective on the date the amendment is approved by the authority. At this time the ASI must date and stamp "superseded" on all versions of the old operations specifications.
- B. Amendments Not Acceptable to the Operator. When an amendment is necessary in the interest of safety and the certificate holder will not consent to the amendment, the following shall apply:



- (1) The described amendment to the operations specifications shall be prepared and forwarded to the Legal Adviser for the NCAA.
  - (2) The assigned inspector and the Director, Airworthiness Standards shall consult with the Director General, NCAA and with the Legal Adviser regarding the action to be taken to amend the certificate holder's operations specifications.
  - (3) A letter of transmittal shall be prepared, addressed to the highest authority in the certificate holder's organization who handles maintenance matters. The letter shall indicate that "In accordance with the applicable law and regulations, the Director General, NCAA, hereby amends the existing operations specifications in the following manner for the reasons indicated and that the amendment will become effective 30 days from receipt".
  - (4) The letter of transmittal and the amended operations specifications shall be forwarded to the certificate holder by certified mail or by certified courier to establish the date of receipt.
- C. Emergency Amendments. By authority in the Nig. CARs, the Director General, NCAA, may require immediate amendment to the certificate holder's operations specifications when such action is required to ensure safety. Extreme caution should be exercised when employing emergency amendment procedures. When action is deemed necessary, the following shall be accomplished.
- (1) The ASI recommending such action shall inform the Director, Airworthiness Standards and the Director General, NCAA, of all the pertinent facts.
  - (2) The Director, Airworthiness Standards or the Director General shall notify the Legal Adviser.
  - (3) If an emergency amendment is determined to be the proper and necessary course of action, the ASI who recommended the action will be so advised. The ASI will then notify the certificate holder in writing.
- D. Cancellation of Operations Specifications.
- (1) Certificate holder-initiated cancellation of operations specifications. The certificate holder should advise the assigned inspector in writing, of the particular specification for which cancellation is desired and the effective date of the cancellation.



- (a) Upon receipt of the cancellation request the assigned inspector shall stamp or mark “cancelled” across the face of the applicable specification, along with the cancellation date.
  - (b) The assigned inspector should advise the certificate holder of the operations specifications cancellation date. Cancelled operations specifications shall be retained for at least 5 years.
- (2) NCAA-initiated cancellation of operations specifications. In cases where the operations specifications is no longer required, the assigned inspector shall notify the certificate holder, in writing, to cancel the specification. The letter must clearly state that the specification is cancelled, the effective date of the cancellation and the reason.

## 8. COORDINATION.

This task requires close coordination between the assigned Airworthiness and Operations Aviation Safety Inspectors. Each specialty should be involved in the review process to ensure that all relevant issues are addressed.

## 9. REFERENCES

- U.S.-FAA Advisory Circular 121-1, Standard Operations Specifications, as amended.

## 10. PROCEDURES

### A. Conduct Meeting With Operator/Applicant

- (1) New applicant. When an applicant applies for a new certificate, the Director, Airworthiness Standards should conduct a meeting with the applicant along with all involved inspectors to acquire initial information.

**NOTE: The meeting should be scheduled at the discretion of the Director, Airworthiness Standards and not necessarily as part of the initial pre-certification meeting.**

- (2) Operator requiring an operations specifications amendment. For an established operator needing an amendment to operations specification, review and update the following, as required:
  - (a) Ensure that all required information is included in the amended operations specification and that this information is current and accurate.





B. Completion of Operations Specifications

- (1) Review the completed Operations Specifications to determine if additional information is still required.
- (2) Assigned Airworthiness Inspectors should coordinate with operations inspectors and the operator as required.
- (3) After a review with the operator/applicant, ensure there is agreement that the selected statements accurately describe the operation.
- (4) Enter the data from the completed operations specifications into the computer. Print the Operations Specifications for review.
- (5) Review the data and note those paragraphs that may need additional information or clarification.
- (6) Make changes and proof read the information for accuracy. New information will contain vertical lines adjacent proof-read to the amended or revised information. Enter corrections into computer.
- (7) Issue operations specifications to operator/applicant.



## CHAPTER 45

### APPROVED SMALL AIRCRAFT INSPECTION PROGRAMME.

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#### 1.0 OBJECTIVE

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This section describes how to evaluate and approve a (9 or less passenger seats) operator's Approved Aircraft Inspection Programme (AAIP). It ensures that programmes, systems, and intended methods of compliance are thoroughly reviewed, evaluated, and tested. Reference: ICAO, Annex 6, Part II, Chapter 8.

**DEFINITION.** Small aircraft means an aircraft of 5,700 kg (12,500 lbs.) or less. The words aeroplane and aircraft may be interchanged.

#### 2.0 GENERAL.

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- A. Inspectors should become thoroughly familiar with the operator/applicant's operation. Special attention should be given to :
- Areas of operation
  - Type of equipment
  - Operating history
  - Maintenance/inspection organization, as applicable
- B. An approved Aircraft Inspection Programme is authorized for use on operations specifications. Therefore, it cannot be transferred.
- C. Turbine-powered multiengine aircraft inspection programmes are more specific than the 50/100 hour/annual inspections but lack the ease and control provided by the approved aircraft inspection programme. The programmes for turbine-powered multiengine airplanes of 9-or-less passenger seats should be approved as AAIPs, because of the complexity of the aircraft. An AAIP is not considered better than a manufacturer's programme. However, an AAIP provides the NCAA Inspector with more control of the programme's content. It requires the operator to substantiate its programme and revisions to the approving inspector. Manufacturer's programmes do not require this approval. This is not so to say the manufacturer's programme cannot be used, but it must be identified as an AAIP approved for a particular operator as the operator's programme, not the manufacturer's.



## 1. CHANGES TO APPROVED TIME INTERVALS

### A. Operator-Initiated Changes

- (1) The operator may request approval to amend inspection or overhaul intervals.
  - (a) The operator must justify the request using the following:
    - Past operating experience
    - Environmental conditions
    - Inspection programme provisions
    - At least one overhaul tear-down report
    - Any other data necessary to substantiate changes
  - (b) Operator-initiated time changes require revisions to both the Approved Aircraft Inspection Programme and operations specifications.
- (2) Amendments or extensions are not allowed for life-limited items and/or those designated by airworthiness directives unless authorized in NCAA approved revisions.

### B. Manufacturer Escalations

- (1) If a manufacturer extends the recommended inspection or overhaul interval, the operator may request approval to use the extension by submitting a revision to the Approved Aircraft Inspection Programme. The request must be accompanied by the manufacturer's recommendation.
- (2) Inspectors should not automatically approve a time escalation recommended by the manufacturer. The individual operator's aircraft use and experience must be considered. The inspectors should ensure that the escalation will not compromise safety.



- 2. OPERATOR'S MAINTENANCE MANUAL/MAINTENANCE MANAGEMENT EXPOSITION:** The Approved Aircraft Inspection Programme must be included in the operator's maintenance manual. The operator should request a manual revision (in accordance with manual revision procedures) at the same time the Approved Aircraft Inspection Programme/revision is submitted for approval. This allows the NCAA to approve the Approved Aircraft Inspection Programme/revision and accept the manual concurrently, while advancing implementation of the programme.

### PROCEDURES FOR APPROVAL OR REVISION OF OPERATIONS SPECIFICATION

1. **COORDINATION.** This task is performed by both airframe/engines and avionics inspectors. It may require coordination with operations inspectors.
2. **PROCEDURES.**
  - A. Schedule and Conduct Preliminary Meeting, As Needed
    - (1) Advise applicant of regulatory requirements and policies.
    - (2) Remind the operator that the Approved Aircraft Inspection Programme/revision must be included in the maintenance manual.
  - B. Plan and Coordinate Task
    - (1) Determine whether the aircraft meets eligibility requirements.
    - (2) Review operator file to identify any information concerning the Approved Aircraft Inspection Programme/revision. Determine its effect on the operator's other programmes or procedures.
    - (3) If this task is performed as part of an original certification, review the Schedule of Events to ensure that the evaluation can be accomplished according to the schedule.
  - C. Evaluate the Proposed Programme/Revision
    - (1) Evaluate instructions, procedures and standards for conducting inspections.
      - (a) The programme must include:
        - Airframe
        - Aircraft engines
        - Propellers



- Appliances
  - Survival and emergency equipment
  - Component parts for the above items
- (b) When establishing an inspection programme for an aircraft, the programme should include installed avionics and instrument systems (appliances). These systems are not always installed by the aircraft manufacturer and may not be included in their recommended inspection programme; instructions and procedures for all installed systems should be incorporated into the programme.
- (c) Inspection standards, procedures, methods, instructions or other technical data may be included in the programme by reference, eliminating the expense and trouble of reprinting them. Such references may be either the airframe manufacturer's or the appliance manufacturer's service data. However, when both airframe manufacturer and the appliance manufacturer provide inspection data, that of the airframe manufacturer should be used.
- (d) The avionics and instrument systems inspection should include a visual and functional check. Therefore, these definitions should be included in the programme:
- Visual Check - Utilizing acceptable methods, techniques, and practices to determine physical condition and safety of an item.
  - Operational Check - This is an operational test to determine whether a system or component is functioning properly in all aspects in conformance with minimum acceptable manufacturer design specifications.
  - Functional Check - This test may require the use of appropriate test equipment.
- (e) The avionics and instrument systems inspections should be incorporated into the basic airframe programme. The visual inspection of the avionics and instrument systems should be accomplished at intervals corresponding to the airframe inspection interval. Inspect avionics and instrument equipment, wiring, connectors, bonding straps, circuit breakers, switches, etc. forward of the instrument panel at the same interval with controls and structural inspections in that area.



- (f) Functional checks of the avionics and instrument systems, using appropriate ramp test equipment should be performed at intervals which would be a function of the aircraft operating environment. Example: One (1) year of manufacture design specification. The term “avionics” means aviation electronics and includes the following systems:
- Communications
  - Navigation
  - Electrical
  - Instrument
  - Lights
  - Auto-Pilot/Flight Director System
- (g) All required tests and checks recommended by the aircraft or equipment manufacturer must be addressed.
- (h) Persons responsible for performing the work must be identified.
- (i) The instructions, procedures, and standards must be clear and easily understood. They must identify the scope of each task and provide a detailed outline of each step that must be accomplished to perform the inspection and ensure that established standards are met.
- (2) Evaluate the procedures for life-limited parts. The programme must contain provisions to ensure that records are current. Life-limits must be expressed in one of the following measures:
- Length of time in service
  - Number of cycles
  - Number of landings
  - Calendar time
  - A combination of the above measures
- (3) Evaluate procedures for scheduling inspections.
- (a) The programme must list inspection intervals and describe personnel responsibilities for scheduling and performing inspections.
- (b) Procedures must ensure that inspections are performed by properly certificated, qualified, trained, current, and authorized personnel. The programme must identify, by title, the person responsible for ensuring inspection personnel meet NCAA requirements.



- (4) Ensure that engine overhaul periods correspond to the recommended overhaul intervals in the engine manufacturer's manuals and/or service bulletins.
  - (5) Evaluate procedures for reporting and correcting mechanical irregularities. The programme must include detailed instructions, procedures, and the necessary forms and documents for the recording and repair of mechanical irregularities. These instructions, procedures, and forms may appear elsewhere in the company manual, but their location must be referenced in the Approved Aircraft Inspection Programme.
  - (6) Ensure that the Approved Aircraft Inspection Programme includes instructions on its use.
- D. Analyze Findings. Determine if programme changes are required. Before meeting with the operator/applicant, discuss initial findings with appropriate CAA personnel to determine the content of the briefing. Depending on the findings, it may be necessary to coordinate with other inspectors or the Director, Airworthiness Standards.
- E. Debrief Operator/Applicant. Discuss results of the evaluation including any deficiencies noted during inspection.

### 3.0 TASK OUTCOMES

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- A. Completion of this task will result in one of the following:
- (1) If the Approved Aircraft Inspection Programme/revision is not acceptable, advise the operator/applicant by letter that the program/revision is rejected. Give the reasons for the rejection. Return the programme proposal and documentation to the operator/applicant.
    - (a) If this review is performed as a part of a certification, inform the applicant in the letter that the certificate will not be issued until the deficiencies are corrected. If necessary, advise the applicant to revise the Schedule of Events.
    - (b) The letter must also accomplish the following:
      - Confirm all agreements made during the debriefing
      - Identify the date the Approved Aircraft Inspection Programme/revision was submitted



- Show the revision number and date, as applicable
  - Identify and describe all deficiencies by chapter, section, page, etc.
  - Reference each deficiency to the appropriate regulation
  - Request a revised schedule of events, if necessary
  - If a revision, remind operator not to implement the revision.
- (2) If the programme or revision meets all regulatory requirements, accomplish the following:
- (a) Ensure that the approved Aircraft Inspection Programme or revision has been fully coordinated between airframe/engines and avionics.
  - (b) For a new or totally revised programme, indicate “Approved and authorized for use on Operations Specifications dated\_\_\_\_\_”. The approving Maintenance Avionics Inspector shall sign and date the document. The date of the document approval must be the same date approved by the Aircraft Inspection programme.
  - (c) Initial and date each page of the Approved Aircraft Inspection Programme or revision unless a control page is used.
  - (d) In the case of a revision to an approved programme, issued amended operations specifications. The back page of the amendment must identify and justify the changes to the programme.
  - (e) Send the operator a letter accepting the approved Aircraft Inspection Programme. The letter must accomplish the following:
    - Request that the operator acknowledge receipt of the operations specifications by signing and dating the original and copy, and forward the copy to the NCAA.
    - Confirm all information given during the debriefing
    - Indicate the date the Approved Aircraft Inspection Programme/revision was submitted
    - Show the revision number and date, if applicable
    - If revision, indicate the number of approved pages





- Advise the operator that the revision may be implemented
- If a manual revision was submitted and is acceptable, advise the operator of the acceptance
- If a manual revision was not submitted, remind the operator to revise the manual to incorporate the programme/revision. Advise the operator to submit the manual change for acceptance.
- Enclose the stamped, dated, and initialed original Approved Aircraft Inspection Programme.
- Enclose the original and one copy of the approved operations specifications
- Enclose the accepted manual revision, if appropriate.

#### 4.0 FUTURE ACTIVITIES

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- A. Schedule of Events. In case of original certification, review of the Schedule of Events to determine if a revised Schedule of Events is necessary.
- B. Operator's Maintenance Manual. Ensure that the Manual includes the Approved Aircraft Inspection Programme/revision.



## CHAPTER 46

### ADDITIONAL MAINTENANCE REQUIREMENTS FOR SMALL AIRCRAFT

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#### 1.0 OBJECTIVE

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This section provides guidance for evaluating, approving and administering aircraft inspection and additional maintenance requirements for a (nine or less seats) operator. Reference: ICAO, Annex 6, Part II, Chapter 8.

#### 2.0 GENERAL

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- A. The aircraft's type certificated passenger capacity is the passenger seating capacity as indicated on the Type Certificate (TC) or Supplemental Type Certificate (STC). The manufacturer (type certificate holder) may have several approved passenger seating configurations allowing the TC or STC approved capacity to be reconfigured by converting from one to another. Removing passenger seats does not constitute a change in type certificated capacity unless the resulting cabin configuration conforms to an STC or approved data.

**NOTE: It is not the intent of the Nig. CARs to allow operators to remove or block passenger seats in order to circumvent maintenance requirements.**

- B. Except as discussed in subparagraph C, aircraft type certificated for nine or less passenger seats must meet the inspection requirements of an Approved Aircraft Inspection Programme (AAIP), or a 50/100 hour Light Aircraft Maintenance Schedule (LAMS). The additional maintenance requirements in this section must be met in either case.
- C. A (nine or less) operator/applicant may elect to maintain its aircraft under a continuous airworthiness maintenance programme. If the operator/applicant elects to use such a programme, it should be approved in accordance with vol 4 chapter 3, Evaluate Continuous Airworthiness Maintenance Programme/Revision.



### 3. LIGHT AIRCRAFT MAINTENANCE SCHEDULE (LAMS)

#### A. Preamble

1. This Schedule has been prepared in general terms to cover various types of aeroplanes, the maximum certificated take-off mass of which does not exceed 2730 kg, and is approved by the NCAA for use when complying with the provisions of the Civil Aviation Regulations 2015, in respect, of the maintenance of aircraft to approved maintenance schedules. However, note must be taken of the contents of paragraph 6 relating to the responsibilities of the Operator for the accuracy of information which is subsequently entered in Sections 3-H, 3-I and 3-J on Page 4.2.21 of this Chapter.
2. The requirements of the Schedule shall be applied to the aeroplane as appropriate to the Certificate of Airworthiness (C of A) Category and to the design and construction of, and the equipment fitted to the aeroplane. (See also paragraphs 4, 5 and 6). The depth of inspection shall be related to the service history of the aeroplane.  
  
**Note: Owners/operators who wish to change the Category of the C of A should consult the NCAA in writing.**
3. The Schedule shall be interpreted against the background of current aeronautical maintenance practices appropriate to the type of aeroplanes.
4. In addition to the performance of the maintenance actions prescribed in the Schedule, compliance shall also be established with all appropriate mandatory requirements issued by the NCAA and by the recognised airworthiness authority of the country of origin of the aeroplane. Retirement life limitations prescribed by manufacturers shall also be observed unless otherwise authorized in writing by the Director General, NCAA.
5. Recommendations issued by the manufacturer of the aircraft, engines, propellers and equipment, in Maintenance Manuals, Service Bulletins, and other technical service information shall be evaluated and appropriate action shall be taken as considered necessary.



6. It is the responsibility of the Operator and/or his/her Maintenance Organisation to ensure that Supplementary Special Inspection/Overhaul and Placard and Notice Requirements related to the specific aeroplane are accurately entered on the appropriate pages provided in Sections 3-H, 3-I and 3-J on Page 4.2.21. Additional pages should be numbered in the appropriate sequence.
  7. In addition to compliance with this Schedule, persons employed in its implementation are expected to exercise their skill and judgment in noting at all times any other matters that could affect the airworthiness of the aeroplane.
  8. The procedure for the renewal of Certificates of Airworthiness for aircraft of masses not exceeding 2730 kg requires an Operator's Report and Recommendation to be submitted to the NCAA.
- B. General Inspection Standards.
1. When carrying out scheduled maintenance, the term "Inspect" shall be interpreted that the systems, components or items are to be inspected externally and in situ, taking into account the provisions of 1.1 to 1.5 unless otherwise stated, and their condition when so inspected should be such as to preserve continuing airworthiness.
    - 1.1 When inspecting metal parts (e.g. bodies or castings of units in systems and in electrical, instrument and radio installations, metal pipes, ducting, tubes, rods levers) account shall be taken of:
      - (a) Cleanliness. External evidence of - damage; leaks; overheating or discharge. Fluid contamination. Obstruction or drainage or vent holes or of overflow pipe orifices. Correct seating of fairings and covers and serviceability of fasteners.
      - (b) Freedom from - distortion; dents; scores; chafing; pulled or missing fasteners, rivets, bolts, screws. No evidence of - crack and wear; separation of bond; failure of welds and spots welds, corrosion, deterioration of protective treatments.
      - (c) Security of attachments, connections, locking and bonding. See Note, Section B, Page 4.2.8.



1.2. When inspecting wooden parts (e.g. structural members) account shall be taken of:

- (a) Cleanliness. External evidence of damage. Obstruction of drainage or vent holes. No evidence of fluid soakage or failure of glued joints. Protective treatments (finish) intact.
- (b) Freedom from - splits; cracks; shakes; scores; distortion; mold; shrinkage or crushing. Distortion of attachment bolt holes - if dismantled.
- (c) Security of attachments and bonding.  
See Note, Section B, Page 4.2.8.

1.3 When inspecting rubber, fabric, glass, glass fibre and plastic parts (e.g. coverings, ductings, flexible hoses, flexible mountings, seals, insulation of electrical cables, windows) account shall be taken of:

- (a) Cleanliness. Freedom from - cracks; chafing; kinking; twisting; crushing; contraction-sufficient free length; deterioration; crazing; loss of flexibility; overheating; fluid soakage.
- (b) Security of - attachments (supports, packings and electrical bonding correctly positioned, serviceable and secure); connections and locking.

1.4 When inspecting control system components, in addition to the considerations of 1.1, 1.2 and 1.3, as appropriate, account shall be taken of: Correct alignment - Full and correct movements. Distortion. Evidence of - bowing; scoring; chafing; fraying; kinking; wear; flattening; cracks; loose rivets; deterioration of protective treatments; corrosion. Electrical bonding correctly positioned, undamaged and secure. Attachments, end connections and locking secure.

1.5 When inspecting electrical motors, alternators and generators, actuators, relays, solenoids and contractors, in addition to the consideration of 1.1, 1.2 and 1.3, as appropriate, account shall be taken of: Cleanliness, evidence of damage, overheating, corrosion, security of attachments and connections. If protective covers are required to be removed, check for cleanliness. Evidence of scoring or pitting, Brushes free of holders and not excessively worn and correct bedding. Adequate spring tension. Evidence of overheating; fluid ingress.



## 2. Manufacturer's Recommendations

2.1 Overhaul, Test Periods and Published Life Limits relating to aircraft parts, engines, propellers, instruments and accessories shall be those recommended by the Constructors/Manufacturers and those required by the recognised airworthiness authority of the country of origin. In certain circumstances, the NCAA may revise these requirements. In relation to engines, see "Revising Time Limitations, Page 4.2.26. The NCAA must approve concessions to component lives. Except where otherwise agreed by the NCAA, servicing, overhaul and inspection of combustion heaters and their associated exhaust systems shall be in accordance with the instructions contained in the appropriate manuals produced by the aircraft constructor and the equipment manufacturer. If the instructions in the aircraft constructor's manual are more stringent, those of the aircraft constructor shall be assumed to be overriding. In addition to compliance with the provisions of the appropriate instructions, compliance shall (unless already accomplished in the course of aircraft maintenance) also be shown with (i) and (ii), at intervals not exceeding 500 heater operating hours or two years, whichever is the sooner. It must be assumed that heater hours are equal to aircraft flying hours; or some percentage of flying hours that has been agreed with the NCAA.

- (i) Combustion heaters and their exhaust systems shall be completely dismantled and inspected, and restored to the extent necessary to ensure continued safe operation. Combustion chambers shall, in addition, be pressure tested.
- (ii) The hot air outlet ducting adjacent to the heater shall be inspected for exhaust contamination and the appropriate action shall be taken where there is any evidence of contamination.

2.2 In the absence of specific recommendations, the following periods shall be used to establish the necessity to overhaul, test or renew, as appropriate, in respect of the following components:



- (a) Combustion Heaters. (500 hrs. or two years, whichever is sooner)
- (b) Pressure Vessels (excluding fire extinguishers). Five years from date of manufacture or last overhaul.
- (c) Instruments
  - (i) Check calibrate the following instruments (in situ is permissible) at the periods shown:  
Air speed Indicators. Public Transport and Aerial Work Category, not exceeding 12 months. Private Category, not exceeding 36 months.  
  
Altimeters. Public Transport and Aerial Work Category, not exceeding 12 months. Private Category, not exceeding 36 months.
  - (ii) At the Annual Check coincident with the Certification of Airworthiness renewal, taking account of knowledge of previous maintenance history, operational environment and utilisation, carry out such checks as are necessary to establish that all aircraft instruments and indicators are reading or recording accurately. Such checks may be accomplished in situ by a comparison check with an instrument of known accuracy.
- (d) Compasses. Check swing not exceeding 24 months.
- (e) Spark Plug and Oil Changes: Spark plug service, 100 hours. Oil changes, 50 hours.
- (f) Radio Equipment. Fixed overhaul periods are not prescribed for radio equipment. The requirements for maintaining the various installations are detailed in the Annual Check (Section F), and the out of phase requirements are detailed in the Radio Maintenance Appendix (Section G). The out of phase requirements may be performed during defect rectification on a not exceed basis out of



phase with scheduled maintenance checks. The specific maintenance activity must be certified in the aircraft logbook by a Certificate of Release to Service (Airworthiness Release) when accomplished.

(g) Flexible Fuel and Oil Hoses - not exceeding 6 years from installation and every 3 years thereafter. Inspect and test in accordance with the manufacturer's instructions.

(h) Batteries.

Aeroplanes certificated in the Transport Category: Capacity Check, not exceeding 4 months.

Single-engine aeroplanes not certificated in the Transport Category: Capacity Check not exceeding 12 months.

3. Persons certifying the Annual Check shall assess the need to perform any of the following activities in addition to those prescribed in the Schedule. In making the assessment, account shall be taken of previous maintenance history, operational environment and utilisation.

(a) The internal examination of struts, control tubes and similar hollow members.

(b) The removal of flying control cables and control system components for detailed inspection.

(c) The pressure/bore testing of fluid system rigid pipelines and flexible hoses. (See also para.2.2 (g) above)

(d) The internal examination and pressure testing of fluid tanks/reservoirs.

(e) The testing of insulation resistance and bonding.

(f) The inspection of pipelines, wiring, controls, systems and components in areas not normally exposed by the removal of access panels.





- (g) The detailed inspection for deterioration of wooden constructed aircraft in accordance with Section B, para. 1.2, Page 4.2.4, of this Schedule.

**NOTE: To gain access, it may be necessary to remove or cut fabric to enable adequate inspection of the above areas. The fitment of Woods Rings or other repairs to fabric coverings to permit ease of re-inspection should be in accordance with the relevant aircraft manufacturer requirements or as approved by the NCAA.**

C. Log Book Entries and Certification

1. Log Book Entries. On completion of any Check, except Check A, required by this Schedule, an entry shall be made in the appropriate logbook.
2. Certificates of Release to Service. Whenever work has been completed involving overhaul, repair, replacement, modification, schedule or mandatory inspection, a Certificate of Release to Service (Airworthiness Release) shall be issued, but see the following qualifying notes in respect of scheduled inspections only.

Notes: (1) A Certificate of Release to Service in Category 'R' (Radio) is only required at each Annual Check and when completing the out of phase Radio Appendix items of Section G of this Schedule.

(2) A Certificate of Release to Service is not required in Category 'R' (Radio) at any time where the Radio installation comprises VHF Communication equipment only.

(3) A Certificate of Release to Service is not required for the completion of a Check 'A' inspection.

3. Certificates of Maintenance Review. Certificates of Maintenance Review are required by this Schedule only for aircraft certificated in the Transport and Aerial Work Categories, and shall be raised in accordance with the requirements of the Regulations. Signatories shall have access to such documents and records as may enable them to issue the certificates, and shall make any inspection of the aircraft as may appear to them to be necessary.



- 3.1 The Certificate of Maintenance Review shall be certified at each Scheduled Maintenance Check by an appropriately licenced engineer
- 3.2 The period of validity of the Certificate of Maintenance Review must not exceed the due date of the next Annual Check, subject to the variation permitted by Notes 1 and 2 Section D, of this Schedule.

D. The Maintenance Check Cycle

1. Transport and Aerial Work Category

- |                |   |   |
|----------------|---|---|
| Check A        | - | Prior to first flight of the day.                                     |
| 50 Hour Check  | - | Not exceeding 50 flying hours, or 62 days, whichever is the sooner. * |
| 100 Hour Check | - | Not exceeding 100 flying hours. *                                     |
| Annual Check   | - | Not exceeding 12 months, but see Note (2).                            |

**1.1 Checks shall be completed only by organisations approved by the NCAA.**

2. Private Category

- |                |   |   |
|----------------|---|---|
| Check A        | - | Prior to first flight of the day.         |
| 50 Hour Check  | - | Not exceeding 50 flying hours. *          |
| 100 Hour Check | - | Not exceeding 100 flying hours*           |
| Annual Check   | - | Not exceeding 12 months, but see Note (2) |

- 2.1 The Annual Check shall be completed only by organisations approved by the NCAA.



\*Notes: (1) Provided that airworthiness is not impaired, it is permitted to extend the period prescribed for any complete maintenance check, with the exception of the Annual Check, by a maximum of 10%. Extensions are not required to be deducted from the next scheduled period. An extension may only be authorised by persons acceptable as signatories for the prescribed Check. The extension shall be recorded in the appropriate logbook.

(2) Annual Checks may be anticipated for scheduling up to sixty (60) days prior to the expiration of the current Annual Check. The next Annual Check will then become due twelve (12) months after the anticipated Annual Check has been completed.

## E. Signatories For Maintenance Checks

### 1. General

1.1 Signatories shall have access to such documents and records as may enable them to issue the certificates, and shall make any inspection of the aircraft as may appear to them to be necessary.

1.2 50 hour, 100 hour and Annual Checks shall be recorded in the appropriate logbook.

1.3 There is no requirement for the check A to be certified, but the Check must be completed by a person to whom the Owner or Operator has entrusted the Check, and to the satisfaction of the Pilot.

1.4 Persons authorized as signatories shall be as follows.

#### 1.4.1. 50 and 100 Hour Checks

The holder of a Nigeria Aircraft Maintenance Licence with the appropriate Type Ratings.

#### 1.4.2 Annual Check



1. The holder of a Nigerian Aircraft Maintenance Licence with the appropriate Type Ratings.
2. The holder of a Nigerian Aircraft Maintenance Licence in Avionics.

F. Scheduled Maintenance

CHECK A

1. General

Check that the necessary aircraft documents are available and in order. Ensure all loose equipment is correctly stowed and the aircraft is free of extraneous items. If the aircraft has not been regularly used, ensure before resumption of flying that:

- (a) Either (i) the engine has been turned weekly or run fortnightly (each two weeks).  
Or (ii) the manufacturer's recommendations have been complied with.
- (b) Compression appears normal when engine turned by hand
- (c) Previously reported defects have been rectified.

2. Power-Plant/Engine

Check - oil level: security of filler cap and dipstick. Inspect - engine, as visible, for leaks, signs of overheating, and security of all items. Inspect - air filter/air intake for cleanliness. Check - security of cowlings, access doors and cowl flaps.

3. Propeller

Inspect - blades and spinner for damage and security.

4. Windscreen

Inspect - for damage and for cleanliness.

5. Fuel System

Check visually that quantities are compatible with indicator readings. Drain fuel sample from each drain point into a transparent container and check for water, foreign matter and correct colour.



6. Wings

Inspect - skin/covering, bracing wires, struts and flying control surfaces for damage and security of all items. Inspect - pitot/static vents and drain holes for freedom from obstruction. Test operation of stall warning device.

7. Landing Gear

Check - shock-absorber struts for leaks and that extension appears normal. Check - tyres for inflation, damage and creep. Inspect - brake installation for external evidence of leaks, and for damage and security.

8. Fuselage and Empennage

Inspect - skin/covering, bracing wires, struts and flying control surfaces for damage and security of all items. Inspect - drain holes and vents for freedom from obstruction. Inspect - radio aerials for damage and security.

9. Cabin Area

Check - flying and engine controls, including trimmers and flaps, for full and free movement in the correct sense. Check - brake operation is normal. Check - instrument readings are consistent with ambient conditions. Perform manual override and disengagement check on autopilot. Check - avionics equipment operation, using self-test facilities where provided. Inspect - seats, belts and harnesses for satisfactory condition, locking and release. Check - emergency equipment properly stowed and inspection dates valid. Test operation of electrical circuits. Inspect - cabin and baggage doors for damage, security, and for correct operation and locking. Check that markings and full complement of placards are correctly positioned and legible.

10. Agricultural Installations

Inspect - hopper, hopper lid, tank, pump, fan, boom assemblies, pipe-runs blowers and spreaders for damage and security.

NOTE: At the conclusion of agricultural operations the aeroplane shall be completely cleaned to remove chemicals. Perform an inspection of those parts of the aircraft structure which are likely to have been contaminated, e.g. skin/covering and exposed control cables, shall be carried out before the aeroplane is returned to any work other than agricultural operations.



11. Marine Aircraft

Inspect - hull floats, spreaders, struts bracing wires, water rudders and alighting gear for damage, security and corrosion. Drain all bilge compartments. Check - water rudder system for full and free movement in the correct sense.

**50 HOUR, 100 HOUR AND ANNUAL CHECKS**

Item	Detail (Inspection required shown X)	50	100	Annual
1.	Inspect -external covering of fuselage tail booms, main planes, nacelles, empennage, control surfaces, flaps and other high lift devices. Inspect-normal and emergency windows and doors, and Check-satisfactory operation of latching and locking. Check-protective treatments; drain holes free from obstruction; access panels secure.	X	X	X
2.	Remove sufficient detachable panels and covers and/or fabric (see note Section B/ para.3 Page 4.2.8) to Inspect-internal structure of fuselage, floor bulkheads, tail booms, main planes, nacelles, empennage, control surfaces, flaps and other high lift devices, structural attachment joint assemblies; struts; bracing wires and their attachments; internal protective treatments; surface de-icer systems; check condition of static discharge wick.	X	X	
3.	Check-function of emergency exits by internal and external release methods. Inspect-condition of lightning strike bonding.			X
4.	Inspect-landing gear assemblies; shock-absorber struts or units for leaks and correct extension; brake system-brake linings, drum/discs; wheels and tyres. Check-tyre pressures; hydraulic brake system fluid level (s).	X	X	X



- |     |  |   |   |   |
|-----|--|---|---|---|
| 5.  | Prior to raising aircraft carry out Item 4. With aircraft supported and mass/weight off the wheels, Inspect-structural members and attachment fittings, including pivot points; shock absorbing devices; bungee rubbers; torque links; main, nose/tail wheels, including bearings, skids. Anti-skid devices, hoses and lines; hydraulic and electrical actuators and hydraulic jacks. Check-main and parking brake systems for correct operations. Carry out normal and emergency retraction and extension checks, including operation of locking devices, doors and warning devices. Check hydraulic/pneumatic operating pressures. | X | X | X |
| 6.  | Check flying controls for full and free movement in the correct sense; position indicators agree with surface movement.  | X | X | X |
| 7.  | Inspect-hinges; brackets; push-pull rods; bellcranks; control horns; balance weights; cables; pulleys chains; tubes; guides and fairleads; rollers; tracks and rails; screw jack/rams, including auxiliary gearboxes or other power-operated systems. Check turnbuckles/locking devices in safety. Inspect-flap asymmetric protection mechanisms.  |   | X | X |
| 8.  | Check-all control cables for correct tension; control neutrals and travels. Record results.  |   |   | X |
| 9.  | Inspect-hydraulic, pneumatic, vacuum and other fluid systems, as visible. for leaks and damage. Check-fluid levels in reservoirs; accumulator pressures; pitot/static vents clear; pitot head correctly aligned.   | X | X | X |
| 10. | Check-tanks; powerpacks; valves; pipelines; hoses actuators; filters; venturis. Check-systems for leaks with systems pressures during engine ground run.   |   |   | X |



11.	Check-pitot/static systems for leaks.			X
12.	Check-correct stowage of equipment and validity of date on emergency equipment; seats, belts/harnesses for satisfactory condition, locking and release; fire extinguishers for leakage or discharge.	X	X	X
13.	(a) Check-cabin air system for correct operation. Inspect-heater for signs of overheating or contamination. Check-air conditioner for leaks and correct oil level. Inspect-ventilator blower; outflow valves; pressurisation controller; bleed system; shut-off valves.	X	X	
	(b) Carry out ground function pressurisation check.		X	
14.	Check-fire extinguisher (s) contents by pressure/weight.		X	
15.	Inspect-instruments for damage, and for legibility of markings and associated placards. Check-readings are consistent with ambient conditions; operation, as far as possible, on engine ground run; stall warning device operation.		X	X
16.	Inspect-instruments; panels; mounts; pipes; hoses; electrical wiring; gyro filters; flux detectors; instrument transmitters.		X	X
17.	Ensure-last compass swing will remain valid until next check (see Section B, para. 2.2 (d), Page 4.2.6. Instrument calibration periods will remain valid until next check (see Section B, para. 2,2 (c)).	X	X	X
18.	Inspect-displays; instruments; controllers. Check-operation, as far as possible, on engine ground run, and perform manual override and disengagement checks.	X	X	X
19.	Inspect-computers; amplifiers; power supplies; servo motors; connections to flying control systems; automatic trim systems; yaw dampers; manometric systems inter-connections.	X	X	X





20.	Maintain battery. Inspect-battery stowage/ compartment and vents/drains. Check-operation of all electrical circuits.	X	X	X
21.	Inspect-components; wiring; terminals; connectors. Check-correct type and rating of fuses and circuit breakers; correct spare fuses carried; flap asymmetric protection and all travel limit micro switches; lamps and lighting; fire circuits; brushes in starters and generators; drive belt tension and condition. Ensure voltage regulator load sharing is correct.		X	X
22.	Inspect-Antennas; insulators; controllers; instruments and displays; microphones and headsets. Check-placards and markings legible. Carry out VHF ground function test.	X	X	X
(a)	HF Communication-Test the function of the system			X
(b)	ADF-Carry out ground function test using station (s) of known establish bearing accuracy. Check-audio.		X	
(c)	ILS Localiser and Guide Slope-Carry out a check with a Field Test Set, including flag warnings of single tone failure. Check-centre-line accuracy's, sense and course widths. Check-audio.		X	
(d)	VOR-Carry out a check with a Field Test Set, including flag warnings omni-radial resolving and radio-magnetic indicators accuracy at 90 degree intervals. Check-sense and course width.			X
(e)	Marker-Carry out a check with a Field Test Set, including 3-Tone operational check. Check-High/ Low sensitivity.		X	
(f)	DME-Carry out a check with a Field Test Set, including range accuracy.		X	
(g)	ATC Transponder-Carry out a check with a Field Test Set. Check-frequency tolerance and side-lobe suppression. Check-Mode "C".			X
(h)	Airbourne Search/Weather Radar-Test the function of all models.	X		of



(l)	Area Navigation-Establish accuracy of way point distance and bearing.		X	
(j)	Audio-Check 'Emergency' operation.		X	
23.	Verify by reference to Section G that all required maintenance activities have been complied with (see also Section B, para 2.2 (f)), Page 4.2.7.	X	X	X
24.	Inspect-cables and terminals; cooling systems; moisture trap areas.	X	X	
25.	Lubricate aircraft in accordance with manufacturer's recommendations.	X	X	X
26.	Inspect-blades for damage. Check-accumulator/dome pressure.	X	X	X
27.	Inspect-spinner; backplate; constant speed unit (governor); accumulators; de-icing boots; slip rings/brushes; fluid systems; control systems. Check-pitch change mechanism for backlash; propeller hub for condition. Lubricate and check for oil leaks.		X	X
28.	Engine controls-Check for full and free movement of throttle, mixture and propeller controls over correct range.	X	X	X
29.	Check for evidence of leaks, overheating or other unsatisfactory operation.	X	X	X
30.	Inspect-crankcase; accessory housings; cylinder assemblies; valve operating mechanism; accessory drive belts; mount frames; bulkheads, firewalls and sealing; cooling baffles; cowlings; items in engine bay for mutual interference; compressor, turbine and gear housings; breathers and vents. Carry out compression check and record results and methods used.		X	X
31.	Inspect-air filter/intake for condition, and cleanliness; indication system and first stage compressor impeller for damage.	X	X	X



32.	Check-security of induction system components; correct operation of carburettor heat; alternative air bypass doors; flame traps; control systems; drains.		X	X
33.	Inspect-filters for cleanliness Drain samples from all drain points and check for water' foreign matter and correct colour. Check-tank vents unobstructed.	X	X	X
34.	Inspect-tanks; selector valves; pumps pipelines; hoses; carburetors; injector systems; throttle, mixture and fuel selector controls; turbine fuel control units; nozzles.		X	X
35.	Inspect-magnetos; harnesses; spark plug switches; starting vibrators; contact breakers. Check-magneto internal timing and timing to engine. Assess condition of plug leads and HT harnesses. Service and test spark plugs (but see Section B, para 2.2 (e)), Page 4.2.6. Check-magneto cam lubrication and ventilators; turbine ignitors and ignition units.		X	X
36.	Inspect-exhaust manifolds and mufflers for leaks, damage and security.	X	X	X
37.	Remove cabin heat exchanger shrouds and inspect for signs of exhaust gas leakage. Inspect-turbo-charger (especially for cracks in turbine housing, compressor damage and freedom of rotation). Check waste gate for correct operation. Inspect-turbo-charger control system, pipelines and hoses.	X	X	X
38.	Carry out pressure test or cabin heat exchanger.			X
39.	Inspect and check-filters; screens; magnetic plugs. Change oil (but see Section B, para 2.2, Page 4.2.6).	X	X	X
40.	Inspect-tanks; sumps; coolers; hoses; pipelines; vents. Lubricate engine and controls as required by manufacturer.		X	X
41.	Ensure that:			
	(a) All tools, rags or other loose articles are removed from the aircraft.	X	X	X
	(b) All mandatory requirements (modifications, inspections and other directives) have been complied with.			



- (c) All applicable Service Bulletins and other technical information have been evaluated and action taken as appropriate.
  - (d) All applicable requirements entered in Sections 10 and 11 have been complied with.
  - (e) All mandatory placards are legible, correct positioned and worded.
  - (f) The logbooks have been correctly filled in and are up to date.
42. Carry out engine ground run and check, as far as possible, all systems and services for correct operation. Check-power-plant installation for leaks following run. Ensure all cowling, access panels and doors are secure. X X X
43. Carry out Items 10 and 11 of the Check A when applicable to the type of aeroplanes. X X X

G. Radio Maintenance

Annual Checks

1. Marker - Carry out check with a Field Test Set, including 3-tone operational check. Check - High/Low sensitivity.
2. DME - Carry out a check with a Field Test Set, including range accuracy.
3. ATC Transponder - Carry out a check with a Field Test Set. Check - frequency tolerance and side-lobe suppression. Check-Mode 'C'.
4. Airborne Search/Weather Radar - Test the function of all modes.
5. Area Navigation - Establish accuracy of waypoint distance and bearing.
6. Audio - Check 'Emergency' operation.
7. Inspect - cables and terminals; cooling systems; moisture trap area.

Out Of Phase



8. HF Communication Check frequency tolerance of 48mths all transmitter crystals
9. VHF Communication Check frequency tolerance of 48mths all transmitter crystals
10. Aerials and Feeders Carry out VSWR check 36mths (DME and Transponder only) Carry out insulation check 36mths (HF Com only)
11. Bonding Carry out bonding check 36mths

#### H. PLACARD AND NOTICE REQUIREMENTS

A copy of these requirements must be lodged with the NCAA and incorporated into the operator's General Maintenance Manual (GMM) in a separate section.

Sign and date all entries.

#### I. MANDATORY REQUIREMENTS

These requirements must be entered in the GMM.

#### J. SUPPLEMENTARY INSPECTIONS AND SERVICING-SCHEDULED AT OR LESS THAN 100 FLYING HOURS:

A copy of these requirements must be lodged with the NCAA and incorporated into the operator's GMM in a separate section.

Sign and date all entries.

### 4. PROGRESSIVE INSPECTIONS

- A. Each operator/applicant wanting to use a progressive inspection must submit a written request to the NCAA. The operator/applicant must have the following:
  - (1) A certificated and authorized holder of an Aircraft Maintenance Licence or a certificated airframe repair station to perform the inspection.
  - (2) A current inspection procedures manual that meets all CARS requirements.
  - (3) Enough housing and equipment for necessary disassembly and proper inspection of the aircraft.
  - (4) Appropriate current technical information for the aircraft.



## 5. PROGRESSIVE INSPECTION INTERVALS

- A. A progressive inspection programme must provide for a complete inspection of the aircraft within each 12 calendar month period and be consistent with the manufacturer's recommendations, field service experience, and the kind of operation in which the aircraft is engaged. The inspection schedule must ensure that the aircraft is, at all times, airworthy and conforms to all applicable aircraft specifications, type certificate data sheets, Airworthiness Directives, and other approved data.
- B. Inspection intervals should be based on manufacturer's recommendations, field service experience, malfunction and defect history, and the type of operation in which the aircraft is engaged.
- (1) If the operator/applicant requires assistance in establishing inspection intervals, then the Aviation Safety Inspector (ASI) should provide assistance based upon his experience and knowledge of the particular aircraft.
  - (2) When adequate knowledge of service problems is lacking for a particular aircraft, the operator/applicant should be advised to establish reasonable initial routine and detailed inspection intervals and plan to adjust intervals based on service experience. The operator/applicant should be made aware of the responsibility for initiating an inspection frequency. This will result in a complete inspection of the aircraft.
- C. Requirements
- (1) Before an aircraft can be placed in a progressive inspection programme, it must undergo an inspection at least equal to a 100-hour inspection. After this initial inspection, routine and detailed inspections must be conducted as prescribed in the progressive inspection schedule.
  - (2) Routine inspections consist of visual examination or check of the aircraft, appliances, and components and systems insofar as practicable without disassembly.
  - (3) A detailed inspection consists of a thorough examination of these items with such disassembly as necessary. For the purposes of this subparagraph, the overhaul of a component or system is considered to be a detailed inspection.
  - (4) Before an aircraft can be removed from a progressive inspection programme and returned to an annual/100 hour inspection programme, the remaining portions of the progressive inspection must be completed.



## 6. ADDITIONAL MAINTENANCE REQUIREMENT

- A. Each operator/applicant maintaining small aircraft must comply with these additional maintenance requirements or a programme approved by the NCAA. These requirements ensure that major maintenance tasks (overhaul, hot section inspections, etc.) are performed on engines, propellers, rotors, and emergency equipment. It also includes carry-on oxygen for medical purposes. These requirements do not apply to the airframe and are not intended to impose a continuous airworthiness maintenance programme or otherwise augment the aircraft inspection programme.
- B. Engine requirements apply to the engine itself, including turbo-superchargers, appurtenances, and accessories necessary to its function. It does not include aircraft provisions such as mounts or cowling or accessories such as generators or starters. By definition a propeller includes controls supplied by the manufacturer. Most propeller type certificate data sheets specify the applicable control unit which should be considered part of the propeller.
- C. The operator/applicant may use either the manufacturer's recommended maintenance requirements or develop a programme that includes equivalent requirements.
- D. In meeting NCAA requirements an operator/applicant may use applicable portions of an aircraft manufacturer's recommended maintenance requirements for the engine, propeller, rotor, and emergency equipment; the manufacturer's programmes for individual items; or a combination of both. Manufacturer's requirements, such as pilot preflight or other inspection items within the scope of the inspections should not be included as additional maintenance requirements.

**NOTE:** The aircraft manufacturer's maintenance programme does not include the avionics equipment installed in the aircraft. It may be necessary to require the operator/applicant to develop an inspection and maintenance programme that includes the inspection and maintenance of the avionics equipment.



- E. A manufacturer's maintenance programme is defined as one that is in the manufacturer's maintenance manual or instructions. It does not include individual authorizations or recommendations by a repair facility or manufacturer to a particular operator/applicant.
- (1) These manuals and instructions generally include service bulletins, service letters, and other maintenance publications.
  - (2) Service bulletins and service letters concerning repairs, alterations, or other items beyond the meaning of the term "maintenance" do not fall within the scope of the CARs and compliance is not required unless it is made mandatory by an airworthiness directive or the NCAA. The operator/applicant may include these items in the additional maintenance programme to support higher maintenance intervals or other inspection variables.
- F. An operator/applicant may adopt a manufacturer's entire maintenance programme. The programme must apply to the specific make, model, configuration, etc., and meet the requirements of the CARs. If the aircraft manufacturer's programme does not include engine overhaul (or comparable heavy maintenance) and the engine manufacturer's programme does, the operator/applicant must incorporate the engine manufacturer's programme to the degree necessary to encompass the engine overhaul requirement. It may be necessary to designate service bulletins, other manufacturer's maintenance instructions, and a manufacturer's maintenance manual to ensure an adequate programme. Programme limitations must be shown on operations specifications.
- G. Operator/applicant may develop their own maintenance programme. An operator/applicant-developed programme requires NCAA approval and the operator/applicant must justify the programme. In most cases, these programmes are derived from a manufacturer's maintenance programme, although they may contain variations such as a higher engine overhaul period. In evaluation the operator/applicant's programme, the ASI should consider industry experience in using the manufacturer's programme.
- (1) Each change to an operator/applicant-developed programme requires NCAA approval. Changes to a manufacturer's programme should be considered but shall not be incorporated into an operator/applicant-developed programme without specific approval.





## **7.. MAINTENANCE PROGRAMME APPROVAL FOR CARRY-ON OXYGEN EQUIPMENT USED FOR MEDICAL PURPOSES**

- A. The CARs require that equipment used for storage, generation, or dispensing of oxygen and carried aboard an aircraft must be maintained in accordance with the operator/applicant's approved maintenance programme. The CARs do not have specific rules for maintaining and testing pressure cylinders. However, procedures in the CARs, U.S. Department of Transportation (DOT) regulations, or other foreign country's regulations where pressure cylinders are manufactured are considered acceptable for controlling hydrostatic and life-limits of pressure cylinders.
- B. The schedule for performing inspections and maintenance, whether by time in service, calendar time, system cycles, or combination, must comply with the applicable regulations. Instructions and procedures for conducting the maintenance programme, including the necessary checks and test, must be in sufficient detail for maintenance personnel to correctly perform the maintenance without further guidance.
- C. U. S. retest of a container, states that a container for which prescribed period retest has become due must not be charged and shipped until it has been properly retested. Pressure cylinders used as aircraft equipment that remain charged or partially charged on the date a hydrostatic test is due may remain in service beyond the test date provided the cylinder is tested before its next full or partial refilling.
- D. The maintenance programme for carry-on oxygen equipment for medical purposes is approved for use on operations specifications paragraph D42 as an item of emergency equipment.

## **8. REVISING TIME LIMITATIONS**

- A. Revisions to inspections and overhaul time limitations for powerplants, propellers, rotors, and emergency equipment normally are based on service experience. An operator may request authorization for a time increase by submitting justification to support the requested increase.



The data must indicate that they increase will not adversely affect the airworthiness of the aircraft. If service records indicate that any item consistently requires repair, adjustment, or other maintenance within the current time limitations due to damage, wear, or deterioration, the operator must take corrective action.

- B. Time limitations may be established in terms of hours of operations, cycles, or calendar time. Time limitations for items on which deterioration is not necessarily a function of hours of operation (such as electronic units and emergency flotation equipment) should be established in terms of calendar time.
- C. Increases in engine overhaul intervals may be approved in increments mutually agreed upon by the operator and the ASI. Increases should be based on satisfactory service experience and/or or teardown examination of at least one exhibit engine. The engine chosen for exhibit should have operated to within 5 percent of the currently approved time interval.
- D. The current operator must justify an inspection time interval increase by providing sampling documentation that supports the proposed increase. The ASI must ensure that the part or engine sampled represents the total sample population and that it has not been given special treatment or been subjected to early inspections by the operator. A substantial portion of the time in service should have been accrued by the current operator. Industry experience and manufacturer's recommendations for similar equipment can be used as supporting justification, but should not be the sole source.
- E. Time extensions shall not exceed 200 hours on reciprocating engines or 10 % of the previous time limitations for on turbine-powered engines.
- F. Time limitation extensions are approved and authorized for use by amending operations specifications.

## 9. PROCEDURES

- A. Brief the Operator/Applicant. Provide the operator/applicant with policies and regulatory requirements. Schedule and conduct a preliminary meeting, if necessary.
- B. Review the Schedule of Events. If this task is to be performed as part of an original certification, review the Schedule of Events to ensure that the task can be accomplished.



- C. Evaluate the Maintenance Manual Requirements. Ensure that the operator/applicant's maintenance manual describes procedures, levels of authority, and information appropriate to the inspection and maintenance requirements of the CARs.
- D. Evaluate the Inspection and Maintenance Requirements. Accomplish the following:
- (1) Determine if the aircraft meets the nine or less passenger seat requirements.
  - (2) Verify with the operator/applicant the type of programme with which the aircraft is to be inspected.
    - (a) If the operator/applicant would prefer to be on a progressive inspection, ensure that the requirements specified in Paragraph 4, Page 4.2.22 are met.
  - (b) If the operator/applicant would prefer to be on a 50/100-hour/annual inspection, ensure that the requirements of Paragraph 3, Page 4.2.1 or this Section are met.
  - (3) Determine if the operator/applicant meets the additional maintenance requirements this section for engines, propellers and rotors (as applicable), and emergency equipment
    - (a) Determine if the operator/applicant intends to use the manufacturer's maintenance programme or develop one of its own.
    - (b) Determine the time in service intervals for which the operator/applicant intends to apply.
- E. Analyze Findings. Discuss with the operator/applicant any discrepancies and the changes required to resolve them.



## 10. TASKS OUTCOMES

- A. Completion of this task, when all requirements for acceptance and approval of the inspection and maintenance programmes have been met, will result in approval or amendment of operations specifications.
- B. Document Task. File all supporting paperwork in the operator/applicant's office file.

## 11. FUTURE ACTIVITIES.

Normal surveillance.





## CHAPTER 47

### EVALUATION OF MAINTENANCE CONTRACTUAL ARRANGEMENTS.

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#### 1.0 OBJECTIVE

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This section provides guidance for evaluating a maintenance contractual arrangement for an operator that operates its aircraft under a continuous airworthiness maintenance programme. Reference: ICAO Document 9389-AN/919, Chapter 6, Section 6.6, Attachments 6 E, 6 F and Document 8335 - AN/879, Chapter 6.

#### 2.0 GENERAL

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- A. A contractual arrangement extends the maintenance facilities and capabilities of an operator for accomplishing elements of the approved maintenance programme. An operator contracting to have maintenance performed by another certificate holder may be authorized by operations specifications to adopt all or part of the contractor's maintenance programme, including involvement in that contractor's reliability programme
- (1) The operator retains primary airworthiness responsibility regardless of the terms of any contractual arrangement. It is the operator's responsibility to verify the suitability of the arrangement.
  - (2) A contractor must have the capabilities and facilities to perform the contracted work.
  - (3) The publications of a contractor may be adopted in part or in total by the operator as methods, techniques, and standards. The operator's manual must describe the applicability and authority of the affected publication.
  - (4) The maintenance manual of the operator must describe the policies and procedures for administering the contractual arrangement.
    - (a) The operator is required to list in its manual the persons with whom it contracts for maintenance and include a description of the contracted work.
    - (b) The operator should develop appropriate procedures for administering such arrangements and include these procedures in its maintenance manual.
    - (c) The related procedures should apply to the arrangement as a whole and should not require NCAA notification or approval for each action under the authorization.



B. Contractual Categories, Related Provisions, and Restrictions. The following paragraphs describe general categories of contract maintenance:

- (1) Category A: Operator arranges for the performance of maintenance. This category includes contracts with repair stations, certificated aircraft maintenance personnel, or other certificated operators to repair, inspect, or overhaul engines, structures, airframes, and/or appliances. Work is accomplished in accordance with the operator's approved programme. The operator's manual must list the names of these organizations and the scope of the work contracted. **This type of contractual arrangement is not required to be authorized by operations specifications.**
- (2) Category B: Operator contracts for an all-encompassing maintenance programme..
  - (a) In this category, all maintenance is performed in accordance with the contractor's programmes, methods, procedures, and standards. The operator's equipment is considered part of the contractor's fleet for purposes of maintenance programme content and maintenance intervals, including reliability control. Reliability data generated by the operator's equipment must be accounted for in the contractor's reliability programme, unless data generated by the contractor's fleet is adequate and appropriate to the operator's fleet. Data generated by the operator's fleet should be compared periodically to data from the contractor's fleet. The contractor must account for all inconsistencies. This type of contractual arrangement must be authorized by operations specifications.
  - (b) Maintenance programme content changes and interval adjustments may not require approval by the assigned Airworthiness Inspector(s). If approval is required, the operator is obligated to provide the Airworthiness Inspector(s) with supporting data on which such changes are based.
  - (c) The operator generally is approved for the contractor's existing maintenance intervals. Special requirements may be needed to compensate for configuration differences, operational and environmental conditions (geographic areas, etc.), or other variables (hours per cycle vs. cycles per hour). The maintenance time limitations section of the operations specifications must identify any special requirements, either specifically or by reference to another document approved by the NCAA.



- (d) All maintenance, whether performed by the contractor or by other persons, shall be performed in accordance with the contractor's methods, standards, and procedures.
  - (3) Category C: Operator contract specific functions using the contractor's approved maintenance programme. This category is similar to Category B except that the contract covers specific functions rather than an all-encompassing programme. For example, the contract may cover heavy maintenance on engines under the contractor's approved maintenance programme. These contracts shall be approved for use by operations specifications.
  - (4) Category D: Operator contracts to participate in the contractor's NCAA approved reliability programme. In this category, the operator does not use the contractor's maintenance programme, but participates in the contractor's NCAA approved reliability programme. This type of contractual arrangement may encompass the entire aircraft, or engines, and must be included in the contractor's fleet for reliability purposes. This arrangement must be approved for use by operations specifications.
- C. Operations Specifications
- (1) Operations specifications must provide sufficient detail to control the contractual arrangement, including data transactions and records. The contract and details of the obligations/commitments of each participant must be referenced on operations specifications. The operations specifications provide for cancellation.
  - (2) Programmes outlined and authorized by operations specifications become an integral part of the operator's continuous airworthiness maintenance programme. Guidance material for issuing operations specifications is contained in Chapter 3 of this handbook.

### 3.0 PROCEDURES

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- A. Coordination. This task requires coordination with the assigned airframe/engine Inspector and Avionics Inspector and may also require coordination with the regulatory authority of the country where the contractual maintenance is accomplished.



B. Review the Data Submitted by the Operator

(1) Ensure that the following are present:

- A copy of the contract and referenced documents if applicable
- Contractor's operations specifications
- Contractor's maintenance manual and revisions to the operator's manual

C. Ensure that Contract/Referenced Documents Describe the Following:

- The work scope and methods of compliance
- Responsibilities of all participants
- Location of contracted work
- Duration of the contract, if applicable

D. Ensure that the Operator's Manual Includes the Following:

(1) A list of all contracted persons, including:

- Certificate number
- Ratings and limitations
- Description of work scope authorized

(2) Procedures to ensure:

- Proper transfer of all required documents and reports between contractor and operator as required by the Nig.CARs.
- Work is accomplished by the contractor
- Periodic evaluations of the contractor's facilities are accomplished by the operator.
- Contracted personnel are appropriately certificated, trained, qualified, and authorized to performed maintenance, inspections, and the operator's Required Inspection Items (RII).





- The contractor's maintenance manuals or portions thereof that are to be used for the contract maintenance are accepted and included in the operator's manual

E. Determine the Capabilities of Contractor

- (1) The assigned ASI must inspect the facilities and determine the contractor's authorizations and capabilities.

4. **TASK OUTCOMES**

A. Completion of this task will result in one of the following:

- If operator's manual and contracted agency are determined to be satisfactory, accept the manual and approve the operations specifications per the guidance in Chapter 3.
- If operator's manual is determined to be unsatisfactory, return the manual for corrections
- If the review is determined to be unsatisfactory, deny the operator the use of that contractor

B. Document Task. File all supporting paperwork in the operator/applicant's office file.

**5.0 FUTURE ACTIVITIES.**

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Conduct normal surveillance. It is the duty of the AMO or Certificated Operator to inform the authority of recent changes (if any) to its approved Scope of Approval.



## CHAPTER 48

### EVALUATE LEASED MAINTENANCE PROGRAMME AUTHORIZATION: NIGERIAN REGISTERED AIRCRAFT

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#### 1.0 OBJECTIVE

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This section provides guidance for authorizing an operator (lessee) to maintain a leased aircraft in accordance with the previous operator's (lessor's) current and approved maintenance programme for that type aircraft. Reference: ICAO Document 9642 - AN/941, Appendix A & D to Part V III, Chapter 1, International Leasing Arrangements, and ICAO Document, 8335 - AN 879, Chapter 10.

#### 2.0 GENERAL

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- A. Operators have leased aircraft from other operators with the understanding that the aircraft will be returned to the previous operator upon termination of the lease. It may be to the lessor's advantage to have the aircraft maintained under the lessor's programme so that it can be readily integrated back into the fleet when the lease expires.
- B. The key factor in this type of arrangement is the lessee's capability of accomplishing the programme to the lessor's standards. The lessee's responsibility for the effectiveness of the adopted programme is the same as for any other maintenance program approved for the lessee's use.

#### 3.0 ACCOMPLISHING THE TASK

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An ASI reviewing an operator intending to maintain a leased aircraft in accordance with the lessor's programme must substantiate that:

- (A) The lessor's programme, as carried out by the lessee, will result in a level of airworthiness equivalent to that of the aircraft maintained by the lessee.
- (B) The lessee is capable of accomplishing the lessor's programme with regards to facilities, equipment, personnel, training, etc.
- (C) The lessee arranges for the maintenance of equipment or installations not covered by lessor's programme, such as life vest, life rafts, emergency locators, pressure cylinders, etc.
- (D) The lessee takes adequate steps to ensure that maintenance programmes for the leased and any owned aircraft are kept separate and are applied to their respective aircraft.



- (E) The lessee receives and maintains the records required or has arranged with the lessor to gain access to these records. The lessee must have and maintain adequate records to determine the status of applicable airworthiness directives, life-limited parts, time-controlled items, and inspections.
- (F) The lessee has the necessary records to schedule maintenance tasks at the intervals specified by the lessor's programme or has arranged with the lessor for this service.
- (G) The lessee has adequate manuals and technical material to accomplish the lessor's maintenance programme.
- (H) The lessee amends its mass and balance programme as necessary to accommodate the leased aircraft. This may require coordination with the assigned Operations Inspector.
- (I) The lessee has procedures for reporting maintenance activities and data to the lessor (e.g., component replacements, scheduled inspections, Airworthiness Directive notes, engine trend monitoring data and major repairs).

#### 4. **APPROVAL**

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Adopted maintenance programmes for aircraft on lease shall be approved by operations specifications (Paragraph D45). Provisions for additional maintenance requirements and maintenance of equipment that is not included in the lessor's programme shall be listed in a supplemental paragraph in those operations specifications.

#### 5. **PROCEDURES**

##### A. Coordination.

This task requires coordination with the assigned Maintenance Inspector, Avionics Inspector, and the Operations Inspector.

##### B. Schedule and Conduct an Informal Meeting. The operator/applicant must indicate its intention to utilize aircraft under a short-term lease arrangement with the use of the lessor's maintenance programme. Advise the operator/applicant of the following requirements:

- (1) The aircraft must conform with all applicable requirements of the Type Data Sheets and the Nigerian CARs.



- (2) The lessee must have the capability to support and maintain aircraft in accordance with the lessor's programme to include:
  - Personnel
  - Training
  - Facilities
  - Equipment
  - Manuals
- (3) The lessee must have current records to determine the status of the following:
  - Scheduled inspections
  - Airworthiness Directives
  - Life limited items
  - Time controlled components
- (4) The lessee must have the current mass and balance data for the leased aircraft.
- (5) The lessee must provide a copy of the contract between the lessor and lessee to the CAA (assigned Maintenance Inspector).
- (6) Lessee must initiate procedures for transfer of aircraft maintenance and performance data to lessor.
- (7) Lessee must have procedures that ensure that maintenance programmes for the leased aircraft and the lessee's own are kept separate and are applied to the respective aircraft.



- C. Conduct Formal Meetings. The operator should state that aircraft, records, and facilities, are ready for inspection and must present required data and proposed operations specifications.
- D. Review the Contract. (Use Checklist - NCAA Form No AW064)  
Examine the following:
- Length of contract
  - Maintenance responsibilities
  - Data reporting requirements
- E. Review Lessor's Maintenance Programme and Operations Specifications
- F. Review Lessee's Technical Data. Ensure that lessee has all appropriate technical data to support the aircraft (see Chapter 4, Section 8). This includes such items as maintenance manuals, wiring manuals, etc.
- G. Ensure That Lessee Has Adequate Personnel To Support the Aircraft.
- H. Determine if Differences in Equipment and Installations Have Been Addressed and Personnel Have Been Trained Accordingly.
- I. Ensure That Facilities Are Sufficient To Support Additional Aircraft. This includes special tooling, test equipment, spare parts, and equipment.
- J. Determine if Adequate Procedures Are in Place to Ensure That Separation of Maintenance Programmes for Leased Aircraft. Ensure that these procedures are applied to the respective aircraft.
- K. Review Mass and Balance Data for Leased Aircraft. Ensure that data is compatible with lessee's programme. Ensure that data is compatible with lessee's programme. If data is not compatible, ensure that procedures have been developed and are in place.
- L. Review Aircraft Records. Ensure that all records are transcribed in the English Language.
- M. Inspect Aircraft, if necessary.
- N. Review Operations Specifications Parts D and E. (See Chapter 2).



- O. Analyze Results. Determine whether the operator/applicant meets all necessary requirements.
- P. Meet With Operator/Applicant to Discuss Deficiencies. Advise the operator/applicant on which areas require corrective action.

#### **4.0 TASK OUTCOME**

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- A. Completion of this task will result in issuance of approved operations specifications.
- B Document the task. File all supporting paperwork in the operator/applicant's office file.

#### **5.0 FUTURE ACTIVITIES.**

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Normal surveillance.



## CHAPTER 49

### EVALUATE FOREIGN-REGISTERED AIRCRAFT OPERATED BY NIGERIAN OPERATORS.

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#### 1.0 OBJECTIVE

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This section provides guidance for ensuring that foreign-registered aircraft, intended for use by Nigerian operators meet all CARs Reference: ICAO Document 9642 - AN/941 Chapter 1, International Leasing arrangements, Appendix A to Part VIII and Document 8335 - AN/879 Chapter 10.

#### 2.0 GENERAL

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A Nigerian may operate a foreign-registered civil aircraft in common carriage and for carriage of mail. An aircraft must be leased or chartered without crew.

The country of aircraft registry must be a member of the convention of the International Civil Aviation Organization (ICAO). This section does not apply to aircraft operated under a wet lease.

#### 3.0 FOREIGN AIRWORTHINESS CERTIFICATES.

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- A. The airworthiness requirements of foreign countries may differ from Nigerian requirements. Aircraft changes may have to be made before a Nigerian operator can use a foreign aircraft. Such changes may invalidate the certificate. In such cases, an exemption may be required from a foreign airworthiness authority.
- B. To maintain the validity of the foreign airworthiness certificate, the Nigerian operator may have to perform more extensive inspections or tests than those required by its NCAA approved continuous airworthiness maintenance programme and/or the CARs

#### 4.0 DIFFERENCES AND/OR EXCEPTION OF MAINTENANCE TASKS

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The following maintenance tasks may be different from the foreign operator's maintenance programme and will be exceptions to the foreign programme. These exceptions shall be performed according to the certificate holder's maintenance programme. Examples of differences are as follows:

Inspection/maintenance of required emergency equipment.

Inspection/maintenance of encoding altimeters and transponders.



Inspection/maintenance of fire extinguishers, air and oxygen bottles and hydrostatic tests and life limits. These tasks shall be accomplished according to the foreign manufacturer's regulations.

**NOTE: These differences and/or exceptions must be evaluated to ensure that the requirements to keep the foreign certificate of airworthiness current are retained.**

## 5.0 PROCEDURES

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- A. Coordination. This task requires coordination between the assigned Airworthiness Inspector and the operator.
- B. Inspect the Airworthiness Certificate. Ensure that the certificate was issued by the country of registry and meets the registration and identification requirements of that country.
- C. Inspect the Aircraft. Ensure that:
  - (1) The aircraft meets the requirements for issuance of an NCAA standard airworthiness certificate.
  - (2) The aircraft conforms to its type design approved under the manufacturer's type certificate.
  - (3) The aircraft complies with applicable maintenance, operating, and equipment rules.
  - (4) The aircraft complies with all applicable Airworthiness Directives.
  - (5) The aircraft complies with life-limited parts requirements.
  - (6) The aircraft complies with applicable noise, fuel, venting, and engine emission requirements. Any further noise and/or emission requirements adopted or amended by the NCAA applies equally to foreign-registered aircraft.
- D. Evaluate the Foreign Maintenance Programme, if Adopted.
  - (1) Ensure that the programme meets levels of safety that are equivalent to the certificate holder's existing programme. If the certificate holder does not have a programme for the aircraft listed, the lessor's foreign programme must be submitted to the

NCAA and be justified as an acceptable initial maintenance programme. (See Chapter 4, Section 8).





- (2) List all programme differences and exemptions on the operations specifications.

## 6.0 TASK OUTCOMES

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- A. Completion of this task will result in one of the following:
  - Approval of the operations specifications
  - A letter to the operator listing the reasons of rejection
- B. Document Task. File all supporting paperwork in the operator's office file.

## 7.0 FUTURE ACTIVITIES.

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Normal Surveillance.



## CHAPTER 50

### APPROVAL OF A CONTRACT RELIABILITY PROGRAMME

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#### 1.0 OBJECTIVE

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This section provides guidance for approving contract reliability programmes for operator/applicants. Reference: ICAO Document 9389 - AN/919, Chapter 7, Sections 7.3.4 through Sections 7.3.14.6.

#### 2.0 GENERAL

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A. Definitions:

- (1) Operator: An air operator contracting with another air operator for a maintenance programme controlled by a reliability programme.
- (2) Contractor: An operator contracting out an approved maintenance programme controlled by a reliability programme to another operator.
- (3) Responsibility: This task is performed by the Airworthiness Aviation Safety Inspectors (ASIs) assigned to the operator/applicant. Special attention must be given to each element of a proposed programme.

#### 3.0 CONTRACTUAL MAINTENANCE AGREEMENTS

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A. Contractual maintenance agreements are used by operators for various reasons, including:

- The impracticality of staffing and equipping maintenance facilities.
- Lack of technical support staff to develop effective maintenance programmes
- Insufficient reliability control due to a lack of statistical data

B. Under contractual maintenance agreements, an operator's aircraft are treated as part of a contractor's operating fleet. The operator is not required to develop its own reliability programme for this arrangement. The operator must, however, participate in the contractual arrangement as necessary to uphold its airworthiness responsibilities.



- C. An operator/applicant must provide the assigned Airworthiness Inspector with the information and data needed to show the effectiveness of this agreement.
- D. Traditionally, an aircraft maintenance programme is based on:
- Integrity of the system, component, or installation
  - The capability of the facility performing the maintenance
  - The types of operation and environmental conditions in which the equipment is used
- E. Equipment similarities and operating characteristics, such as utilization, flight cycle length, and environment must be considered when evaluating a contractual arrangement. Programme approval and the need to adjust inspection intervals, overhaul periods, etc., must be based on the suitability of the programme.

#### **4.0 OPERATOR/APPLICANT AND CONTRACTOR COMPATIBILITY.**

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When evaluating a contractual arrangement for a reliability programme, the following must be considered:

- A. **Equipment.** When model, configuration, or previous maintenance programmes vary between the operator/applicant's equipment and the contractor's equipment, the programme must identify the maintenance tasks required to include the operator/applicant's equipment in the contractor's programme. The programme also must show additional tasks required to address specific differences in equipment.
- B. **Utilization.** If the operator/applicant's projected annual utilization differs significantly from the contractor's, consideration should be given to imposing calendar limits for inspection intervals in place of or in addition to flight hours.
- C. **Flight Cycle Length.** If the operator/applicant's ratio of flight hours per cycle differs significantly from the contractor's ratio, the operator/applicant's maintenance programme may need adjustment to compensate for the differences.
- D. **Environment.** The operator/applicant's maintenance programme may also need to be adjusted if the operating environments of the operator/applicant and contractor differ significantly. The operator/applicant may need to change existing maintenance tasks, adjust intervals, and/or add new maintenance tasks.



## 5.0 RELIABILITY PROGRAMME DOCUMENT

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When an air operator develops reliability programmes for use by other air carriers, the reliability programme document must define the responsibilities of the participating air operators and include procedures for interface between the two. The document must be based on the premise that the operator/applicant adopts appropriate portions of the contractor's approved aircraft maintenance programme.

The reliability programme must meet the requirements of Chapter 4, Section 6, Approve Reliability Programme.

## 6.0 DATA ANALYSIS

---

The contractor's reliability programme must describe the data analysis system. The contractor should consolidate all data collected, analyze the data, and return it to the operator/applicant in a usable form. This analysis should compare the mechanical performance of the operator/applicant's aircraft to an acceptable level and to the performance of the contractor's fleet.

## 7.0 PROGRAMME DISPLAYS AND STATUS OF CORRECTIVE ACTION PROGRAMMES

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Displays and reports must highlight the systems that have exceeded the established performance standard. "Over alert" conditions should be carried over from previous reports and status of ongoing corrective action should be provided.

- A. The contractor's programme must describe the reports, charts, and graphs used to document operating experience. Responsibilities for these reports must be established and the reporting elements must be clearly identified and described.
- B. A programme display, containing the essential information for each aircraft, aircraft system, and component controlled by the programme described. Each system and component must be identified by the appropriate Air Transportation Association Specification 100-system code number.
- C. The following must be displayed:
  - Performance trends
  - The current month's performance (graphical or tabular presentations may be used)
  - A minimum of 12 months' experience
  - The reliability performance standards (alert values)



- D. The status of corrective action programmes must include all corrective action programmes implemented since the last reporting period.
- E. The contractor must have manual procedures or a contractual requirement to provide the operator/applicant with reports that reflect performance experience and status of corrective action.

## 8.0 CONTRACTUAL AGREEMENT

---

The requirements imposed on the contractor by the operator/applicant's maintenance programme, reliability programme, and operations specifications must be supported by the contractual agreement. The operations issued to the operator/applicant are not binding on the contractor. It is the operator/applicant's responsibility to ensure that all requirements of the specifications, programme, and manual are met.

## 9.0 APPROVAL

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The assigned Airworthiness Inspectors assigned to the operator/applicant will approve the use of the reliability programme by issuing operations specifications. Programme changes must be approved by the Airworthiness Inspectors either on an individual basis or by procedures approved as part of the reliability programme.

## 10.0 PROCEDURES

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- A. Coordination
  - This task requires coordination between Airworthiness Inspectors and assistance from ICAO, the US-FAA, the UK-CAA or other JAA States.
  - NCAA if the assigned inspectors have not received reliability programme training.
- B. Meet With the Operator/applicant. Provide the operator/applicant with the appropriate information.
  - (1) Upon request for reliability programme information, provide FAA Advisory Circular 120-17, as amended.
  - (2) Advise the operator/applicant that the application for authorization to use a contractor's reliability programme consists of at least the following documents:
    - Contractor's approved reliability programme
    - Operator/applicant's manual procedures to support the reliability programme



- Operations specifications checklist/worksheet
  - The contractual agreement between the operator/applicant and the contractor
- (3) Advise the operator/applicant that the reliability programme must include the following:
- (a) For the operator/applicant and contractor:
    - Adequate organizational structure
    - Data collection and analysis
    - Programme revisions
    - Details of contractual arrangements
  - (b) For the contractor only:
    - Adjustment of time limits and process changes
    - Definition of significant terms
    - Procedures for revising performance standards
  - (c) Provisions for compatibility between the operator/applicant and the contractor regarding types of equipment, operational environment, flight length, and aircraft utilization.
- C. Contact the Contractor's Regulatory Authority. Accomplish the following:
- (1) Ensure that the contractor has a valid certificate, an approved continuous airworthiness maintenance programme, and approved reliability programme (if applicable) for the type of the equipment operated by the operator/applicant.
  - (2) Review the content of the contractor's reliability programme (if applicable)
  - (3) Determine the types of equipment the operator/applicant has in operation



- D. Determine if the Operator/Applicant and the Contractor's Equipment, Utilization, Flight Cycle Length, and Environment are Compatible.
- E. Evaluate the Programme Application Procedures. Ensure that the contractor's reliability programme includes the following:
  - (1) Components, systems, or complete aircraft controlled by the programme. Individual systems and/or components are identified by Air Transportation Association Specification 100. A list of all components controlled by the programme must be included.
  - (2) A complete aircraft inspection programme, including the portion of the maintenance controlled by the reliability programme (overhaul and/or inspection, check periods, etc.)
  - (3) Evaluation of conditions and trends found during the inspection of the aircraft that will result in corrective action.
- F. Evaluate the Operator/Applicant's and the Contractor's Organizational Structures. The organizational charts must show the following:
  - (1) The relationship between the participants responsible for administering the programme
  - (2) The authority delegated to each organizational element.
- G. Evaluate the Organizational Responsibilities.
  - (1) Ensure that the contractor's reliability programme document and the operator/applicant's procedures describe how information is to be exchanged between organizational elements. This may be displayed in a diagram.
  - (2) Ensure that the reliability programme document and the operator/applicant's procedures define the activities and responsibilities of each organizational element (Engineering, Quality Control, Flight Operations, etc.) and/or reliability control committee for enforcing policy and ensuring corrective action.
  - (3) Compare the operator/applicant's organizational structure and personnel duties and responsibilities with the requirements in the contractual agreement and the reliability programme.



## H. Evaluate the Data Collection System

- (1) Ensure that the contractor's programme fully describes the data collection system as it relates to the aircraft, components, and/or systems to be controlled. The programme must.
  - Address the flow of information
  - Identify any sources of information
  - Specify the steps of data development from source to analysis
  - Describe the organizational responsibilities for each step of data development.
- (2) Ensure that the programme includes samples of data to be collected, such as reports for the following:
  - Powerplant disassembly and inspection
  - Component condition
  - Mechanical delay and cancellation
  - Flight log
  - Premature removal
  - In-flight
  - Confirmed failure
  - Internal leakage
  - Engine shutdown
- (3) Verify that the operator/applicant's manual includes procedures for collecting the required data and sending it to the contractor in accordance with the contractual arrangement. The required data should include corrective actions as well as shop repair records for work performed away from the contractor's facility.





- I. Evaluate the Methods of Data Analysis and the Application of Maintenance Controls. Ensure that the data analysis system included the following:
- (1) One or more of the types of action appropriate to the trend or level of reliability experienced, such as:
    - Actuarial or engineering studies employed to determine a need for maintenance programme changes
    - Maintenance programme changes involving inspection frequency and content, functional checks, overhaul procedures, and time limits
    - Aircraft, aircraft system, or component modification or repair
    - Changes in operating procedures and techniques.
  - (2) Effects on maintenance controls, such as overhaul time, inspection and check periods, and overhaul and/or inspection procedures
  - (3) Procedures for evaluating critical failures as they occur
  - (4) Documentation required for maintenance programme changes, modifications, special inspections, or fleet campaigns. The contractor's manual must provide procedures for retaining these documents.
  - (5) A corrective action programme that shows the results of corrective actions in a reasonable period of time. Depending on the effect on safety, a "reasonable" period of time can vary from immediate to the time period of an overhaul cycle.
  - (6) A description of statistical techniques used to determine operating reliability levels.
  - (7) Procedures to inform the operator/applicant of changes to maintenance controls.
  - (8) Data analysis that considers the past experience of both the contractor and the operator/applicant.
  - (9) An adequate timely flow of information between the contractor and the operator/applicant.



- I. Evaluate the Operator/Applicant's Manual. Ensure that the operator/applicant has manual procedures to accomplish the following:
- (1) Performing corrective action through the person responsible
  - (2) Notifying persons responsible for taking corrective action
  - (3) Informing the contractor when corrective action changes were made and the extent of those changes
  - (4) Follow-up to ensure corrective actions taken is effective.

**NOTE: A corrective action is effective if the out-of-limit condition is brought back to an acceptable level of performance.**

- K. Evaluate the Procedures for Revising the Reliability Programme. Ensure that there are procedures for the contractor to obtain regulatory approval before changing any of the following elements of the reliability programme:
- Performance standards
  - Data Collection
  - Data analysis system
  - Procedures/task
  - Procedures/organization concerning programme administration. Changes from alert-type programmes to non-alert-type programmes or vice versa.
  - Adding or deleting aircraft, components, or systems.

**NOTE: Changes to these aspects of the reliability programme must be coordinated between the assigned Airworthiness Inspectors assigned to the operator/applicant and the contractor.**

- L. Evaluate the Procedures for Revising Performance Standards
- (1) Ensure that the contractor's procedures specify the organizational elements responsible for monitoring and revising the performance standard and the content of those revisions. Performance standards should be revised when they are not responsive or sensitive enough to reflect changes in actual performance.



- (2) If the operator/applicant submits a programme which does not incorporate statistical performance standards or which deviates significantly from Advisory Circular 120-17, as amended, contact the contractor's assigned Regulatory Authority.
  - (a) Examine the basis for deviations and the integrity of the programme and determine if any restrictions apply.
  - (b) If unresolved issues about the contractor's programme remain, coordinate refusal of the programme with the Director, Airworthiness and Operations Standards.
- M. Evaluate Definitions. Verify that the reliability programme clearly defines unique terms, acronyms, and abbreviations as applied to the programme.
- N. Evaluate the Programme Displays and the Status of Corrective Action Programmes. Ensure that the contractual agreement or the contractor's manual requires the contractor to provide the operator/applicant with reports that reflect performance experience and corrective action status.
- O. Evaluate the Procedures for Maintenance Control Changes. Verify that the contractor's reliability programme document:
  - (1) Describes the procedures for maintenance control changes to the reliability programme.
  - (2) Identifies the organizational elements responsible for preparing reports that justify maintenance control changes. At least two separate organizational elements are required, one of which exercises inspection or quality control responsibility for the operator/applicant.
  - (3) Specifies the processes used to determine maintenance control changes, such as sampling, functional checks, bench checks, decision tree analysis, and unscheduled removal.
  - (4) Provides procedures to cover all maintenance programme activities controlled by the programme.
  - (5) Recognizes critical failures and contains procedures for taking corrective actions.
  - (6) Provides procedures to ensure that any maintenance interval adjustments will not interfere with ongoing corrective actions.



- (7) Contains procedures for notifying the NCAA when time limitation adjustments or other programme changes occur.
  - P. Review the Contractual Arrangement. Ensure that the contract accomplishes the following:
    - (1) Identifies the participating parties
    - (2) Identifies all applicable equipment
    - (3) Defines the responsibilities of the contractor specified in the reliability programme
  - Q. Inspect the Contract Maintenance Facility. Determine if the contractor is capable of meeting its contractual obligations.
  - R. Analyze the Findings
    - (1) Record all deficiencies noted.
- NOTE: If discrepancies are found in the approved reliability programme, contact the contractor's Regulatory Authority to resolve the discrepancies.**
- (2) Determine the appropriate corrective action(s) to be taken.
  - (2) Advise the operator/applicant of discrepancies. Agree on the corrective actions to be taken.

## 11.0 TASK OUTCOMES

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- A. Completion of this task results in one of the following:
  - (1) Operations specifications authorizing the use of the contractor's reliability programme.
  - (2) A letter to the operator/applicant denying the authorization
- B. Document Task. File all supporting paperwork in the operator/applicant's office file.

## 12.0 FUTURE ACTIVITIES.

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Normal surveillance.



## CHAPTER 51

### APPROVE PARTS/PARTS POOL/PARTS BORROWING

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#### 1.0 OBJECTIVE

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This section provides guidance in evaluating and approving aircraft parts, a parts pool, and parts borrowing authorization for air carriers operations. Reference: ICAO Document 9389 - AN/919, Attachment 7-A.

#### 2.0 GENERAL

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##### A. Definitions

- (1) Articles: Materials, parts, or appliances
- (2) Operator Manufactured Parts: Parts manufactured and documented by the operator for use only on that operator's aircraft. The parts must comply with the original type design and cannot be part of a pool or borrowing agreement.
- (3) Parts: Any engine, propeller, component, accessory, material, or hardware used on an air carrier aircraft.
- (4) Parts Manufacturer Approval (PMA): PMA parts are parts produced by manufacturers other than the type certificate holder. These parts must be identical to parts covered under a type certificate, and they must be marked as such. A manufacturer with parts manufacturer approval authority may approve these parts for use. Authorized aviation safety Inspectors in the country where the part was manufactured also may approve these parts.
- (5) Supplemental Type Certificate (STC): When a major change in type design does not require a new application for a type certificate, a supplemental type certificate is issued. Parts manufactured under the supplemental type certificate.
- (6) Technical Standard Order (TSO): A technical standard order is a minimum performance standard for specified articles used on civil aircraft, and is issued by the regulatory authority where the article was manufactured.



- (7) Type Certificate (TC): A type certificate includes the type design, operating limitations, type certificate data sheet, applicable regulations, and any other conditions or limitations prescribed by the regulatory authority in the country of manufacturer.
  
- B. An operator must ensure that all replacement parts meet or exceed original certification standards. Standard hardware and materials can be used and exchanged without special procedures. When special requirements must be met, accurate documentation must be maintained. Purchased, used, and exchanged parts require special procedures that must be part of the operator's manual, and in certain circumstances, part of the operator's operations specifications.

### 3.0 PARTS POOL AGREEMENT AUTHORIZATIONS

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These authorizations apply only to air carriers operating outside Nigeria.

- A. When operating under this authorization, all other provisions of the CARs remain applicable. In addition, surveillance of the foreign facilities and their procedures to ensure that all work on pooled parts is performed according to the operator's manuals is required by the air operator.
  
- B. These authorizations are approved by issuance of operations specifications. The operations specifications are required only to list those participants (and their locations) inspected by the operator and acceptable to the NCAA.
  - (1) In instances where several ICAO countries certificated operators use a foreign facility, the NCAA does not object to a participating operator accepting another participating operator's initial or renewal inspection report, provided the operator's manual reflects the arrangement.
  
  - (2) The air carrier's operations specifications must be amended to reflect a new participants or location, of a parts pool.
  
  - (3) The Nigerian CARs permit deviation allowing the return to service and use of airframe components, powerplants, appliances, and spare parts thereof that have been maintained, altered, or inspected by persons employed outside Nigeria who do not hold a Nigerian Aircraft Maintenance License. The operator's operations specifications authorize this deviation.



C. Foreign Facility Inspections

- (1) The assigned airworthiness inspector with responsibility for the foreign facility conducts the parts pool inspection. Foreign facilities that do not have an appropriate repair station rating should be inspected annually.
- (2) The operator must have in its manual procedures to inspect the parts pooling facilities. The manual also must include procedures to ensure the maintenance of parts according to the operator's maintenance management exposition.

#### 4.0 PARTS BORROWING AUTHORIZATION

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- A. A certificate holder operating under the NIG. CARs may be issued OPS SPEC. to allow it to borrow a part with a higher time since overhaul than authorized, subject to certain conditions and limitations. Since no regulations govern this activity, the operations specifications must specify that the operator can borrow a part from another operator when the time in service of the available part exceeds the operator's approved overhaul time limit. The parts, however, cannot exceed the lender's approved time limits.
- B. If the number of landings controls the part's service or overhaul time limit, an operator may borrow and use a part for a maximum of 100 hours or 50 landings when the time in service of the parts exceeds the borrower's approved time limits. The following limitations must be met:
  - (1) The part must have a minimum time of 200 hours or 100 landings (if approved time is controlled by landings) remaining before service or overhaul in the lender's programme
  - (2) If the part is life limited, the part may not be operated beyond its approved life limit.

#### 5.0 PARTS APPROVAL

---

- A. Although it is the operator's responsibility to be aware of the possible consequences of using questionable parts on certificated aircraft, the inspector should offer guidance to help prevent possible problems. An operator using a part of unknown quality, condition, or origin must be able to prove conclusively that such parts conform to the original or properly altered type design and are airworthy.



- B. The operator is responsible for maintaining parts in a condition that ensures the parts continue to meet the original type design. Procedures to ensure this proper maintenance must be part of the operator's manual.
- C. The US-FAA has a parts manufacturing approval system in effect that allows the FAA to control the sale of reproduction parts. Parts manufactured under this system must display evidence of FAA approval, verifying the origin and serviceability.
- D. Repair stations or air carriers may manufacture replacement parts as part of their maintenance programme. These parts are acceptable, provided they are manufactured according to acceptable CAA/FAA approved data.
- E. Parts, appliances, and components from aircraft that have been involved in accidents or crashed are available to the industry as replacements. The operator must ensure the serviceability and airworthiness of these items before use.
- F. Ex-military aircraft now under civilian type certificates create parts problems, particularly when the original manufacturer has ceased production. Certain parts of original manufacture are available for a given aircraft for a number of years after its departure from military status. If original manufacturer fabrication can be substantiated for such parts, they are acceptable providing they comply with all applicable airworthiness directives.
- G. Certain parts for ex-military or concurrently manufactured aircraft are and have been scarce. Occasionally, parts other than the original or approved manufacturer produce these parts illegally and offer them for sale. These illegal parts constitute a hazard to flight safety.
- H. Parts manufactured in foreign countries and supplied to Nigerian certificated operators for use on their aircraft must have foreign regulatory authority approval for export, and meet original certificated type design.

## 6.0 PROCEDURES

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- A. Coordination. This task requires coordination between the involved airworthiness inspectors and the operator.





B. References

- US-FAA Advisory Circular 20-62, Eligibility, Quality, and Identification of Approved Aeronautical Replacement Parts, as amended
- US-FAA Advisory Circular 43.13-1, Acceptable Methods, Techniques and Practices - Aircraft Inspection and Repair, as amended.

C. Review Operator's Manual for Parts Pool Authorization. Ensure the manual includes:

- (1) Procedures to ensure qualified personnel of the operator's organization perform an initial inspection of the involved foreign facilities. This inspection should ensure that facilities meet the certificate holder's manual requirements, have properly qualified and trained personnel, and can furnish the parts intended.
- (2) Procedures to provide for biennial inspection of the foreign facilities to ensure continued conformity to the operator's manual in supplying the required parts.
- (3) Inclusion of, or reference to, the foreign facilities' maintenance programmes in the operator's manual, if possible.

D. Inspect the Parts Pool Authorization Facility. The inspector must inspect the facility according to guidance for inspecting maintenance facilities.

E. Review Operator's Manual For Parts Borrowing Authorization Procedures.

- (1) Ensure the manual includes the following procedures:
  - (a) Procedures that restrict the overhaul time limits to those authorized by operations specifications
  - (b) Procedures that restrict a remaining minimum time to overhaul to that authorized by operations specifications
- (2) Ensure the operator has an approved list of authorized vendors, repair stations, and air carriers from which it may borrow parts.



- F. Analyze Results. Advise the operator of any deficiencies discovered during the inspection. Schedule a meeting with the operator to discuss and/or resolve the problem area(s).

## 7.0 TASK OUTCOMES

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- A. Successful completion of this task will result in issuance of the following operations specifications:
- Parts Pooling Authorization, Operation Specifications Paragraph D-59
  - Parts Borrowing Authorization, Operations Specifications Paragraph D-54
- B. Document Task. File all supporting paperwork in the operator's office file.

## 8.0 FUTURE ACTIVITIES

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Normal surveillance.



## CHAPTER 52

### MAINTENANCE TIME LIMITATIONS SECTION PARTIAL RELIABILITY PROGRAMME OR NO RELIABILITY PROGRAMME.

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#### 1.0 MAINTENANCE TIME LIMITATIONS

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- A. General. A Maintenance Time Limitations Section is prepared by the certificate holder for each type of aircraft operated and maintained in accordance with the requirements of a Continuous Airworthiness Maintenance Programme. Reference: ICAO Document 9389 - AN/919, Chapter 7, Attachment 7-A.
- (1) The Maintenance Time Limitations Section shall consist of the following:
    - Index
    - Abbreviations and definitions
    - Checks and Inspections
    - Inspection frequency and overhaul
  - (2) A certificate holder requiring a Maintenance Time Limitations Section may reference, in Paragraph D-55 a document containing that information.
    - (a) The referenced document must include at least the information required to be in the Maintenance Time Limitations Section and shall be approved by the Director, Airworthiness Standards.
    - (b) The document must have procedures for effecting revisions and revision control acceptable to the assigned inspector.

**NOTE: Each change to a time interval for an item not controlled by a reliability programme must be NCAA approved.**

- B. Index. The index is the revision and page control for the Time Limitations Sections. Each time a certificate holder revises an operations specifications page in this section, the index must be revised accordingly. See figure 04-01, Maintenance Time Limitations.



- (1) When pages of a Maintenance Time Limitations Section are deleted, they shall be retained on the amendment of the index page for control purposes. Superseded or deleted pages shall be kept in a separate file and retained for at least 5 years.
- (2) The effective date indicates the date the information was entered on the page. The certificate holder shall enter the effective date for the original or amended page in the lower right hand corner of the page. The effective date and amendment number must also be entered in the Table of Contents signature block.

C. Definitions. This page defines each abbreviation and term used in the Maintenance Time Limitations Section that is not self-explanatory. See Figure 04-02, Maintenance Time Limitations Abbreviations and Definitions.

**NOTE: Definitions may vary from operator to operator**

D. Checks and Inspections. These pages show the time limits and intervals for aircraft check and inspections approved for the operator. See Figures 04-03 and 04-04.

**NOTE: The “Checks and Inspections” are the basic pages for approving the certificate holder’s Continuous Airworthiness Maintenance Programme.**

- (1) Limits expressed in terms other than time-in-service such as clock or calendar time, must be identified on the definition page.
- (2) Time-in-service and/or calendar times for checks and inspections shall be the maximum allowable increment for that item.
- (3) Instruments and electrical systems
  - (a) Major components or ATA Systems 22 auto pilot, 23 communications, 24 electrical, 31 instrument, 33 lighting, 34 navigational, and 77 engine instruments must be identified by the following:
    - Name
    - Manufacturer
    - Model number, part number, or other specific designator used by the carrier



- (b) The component identifications must be listed, under the applicable ATA chapter, on the appropriate inspection frequency and overhaul page or document that is referenced and identified on a checks inspections page.
- (4) Parts that have specified life limits imposed by the manufacturer must be listed on either of the following:
  - The inspection frequency and overhaul pages under the applicable ATA Chapters for those parts
  - A separate document that is referenced and identified on the checks and inspections page
    - (a) For example, reference documents may be the approved limitations section of the Airplane Flight Manual (AFM) or Type Certification Data Sheet.
    - (b) The certificate holder’s manual shall contain procedures for controlling life-limited parts.

E. Inspection Frequency and Overhaul. See figure 04-04, Maintenance Time Limitations. These pages shall contain at least the following type of information using the format headings as follows:

<u>Primary Maintenance Process</u>	<u>Inspection Check Period</u>	<u>Other</u>
Chapter (ATA number VIS/OC and identification)	A or B or C	O

- (1) The letter designation (i.e. A, B, or C) and abbreviations (OC, VIS) in the above example must be identified on the definitions page.
- (2) The letter designator in the “Inspection Check Period” column may be preceded by a 2,3, or 4. This number serves as a multiple of the checks and inspection intervals. For example, if check “B” is required to be performed at 350 hours and the symbol in the “Inspection and Check Period” column is 2B, the limit for the task would be 700 hours.
- (3) The aircraft make and model shall be entered at the top of each page.



## 2. INCREASES TO MAINTENANCE TIME LIMITATIONS (OPERATORS ISSUED PARAGRAPHS D55 AND D56)

- A. General. Inspection and overhaul time limitations applicable to airframes, powerplants, propellers, and appliances normally are based on service experience. See Chapter 4 Section 8, for additional information.
- (1) Time limitations may be established in terms of time-in-service based on hours, cycles, calendar months, or the number of inspection or overhaul intervals.
  - (2) Time limitations for appliances, where deterioration is not necessarily a result of operation hours (electronic units, emergency equipment, etc.) may be established in terms of calendar months.
- B. Increasing Time Limitations
- (1) An increase in time limitations may be made if the certificate holder can properly justify and substantiate the time increase.
    - (a) The justification should indicate that the increase would not adversely affect airworthiness of the aircraft.
    - (b) Submitted service records should show that a component or subcomponent does not require maintenance or adjustment because of damage, wear, or deterioration.
  - (2) Before applying for amended operations specifications, a certificate holder should give the assigned inspector an informal indication of intent. Every effort should be made to coordinate with the certificate holder in an effort to detect and informally resolve any problem area or item that might result in a delay or disapproval of the operations specifications submitted at the time of formal application.
- C. Time Limitation Increase - Physical Inspection. During preliminary discussions, the certificate holder must be advised of the number of engines, components, appliances, etc., to be inspected. The items inspected should have been operated to within five percent of the currently approved time limitations. Physical inspection need not be conducted by an Airworthiness ASI if, in the judgment of the assigned Airworthiness Inspector, the certificate holder has a capable and qualified person to perform the inspection and properly documents the work. However, the assigned Airworthiness ASI must coordinate the inspection process with the certificate holder.



- D. Airframes. Increases in time limitations for inspection, overhaul, or structural inspections of airframes are based on evaluation of all pertinent service records and/or examination of at least one aircraft of the model involved that has been operated to within five percent of the currently approved time limitation.
- (1) Other methods of justifying time increase may be used when sufficient justification (such as industry experience) can be furnished by the certificate holder.
  - (2) When a phase inspection, modular, or block overhaul type of maintenance system is used, individual items may be rescheduled in another phase inspection, modular, or block interval (increase or decrease) if the performance and condition of the specific item warrants the change.
- E. Powerplant/Propeller and Associated Appliances. Increases in engine or propeller inspection/overhaul periods may be approved in increments mutually agreed upon by the certificate holder and the assigned Airworthiness Inspector.
- (1) Increases in time limitations normally are based on satisfactory service experience and/or at least one teardown examination. The engine/propeller should have operated to within five percent of the currently approved time limitations.
  - (2) Alternate methods acceptable to the assigned Airworthiness Inspector may be used for determining time interval increases to the established intervals for the inspection, overhaul of powerplants or propellers when sufficient justification is furnished by the certificate holder.
  - (3) Engine appliances may have time interval increases in multiples of the approved engine inspection/ overhaul time if it can be shown that satisfactory in-service history and inspection/overhaul experience justifies the increase and will not adversely affect the airworthiness of the appliance involved.
- F. Aircraft Appliances
- (1) Increase in the established time intervals for appliance inspection, bench test, or overhaul may be granted if sufficient justification is furnished by the certificate holder and the justification meets the criteria in Paragraphs 2.2, and 3D of this section.



- (2) When electrical/electronic appliances are maintained as “on condition,” special consideration should be given to the continued airworthiness of the mechanical components of such equipment.
- G. Data Review. Data submitted by the certificate holder as justification for the time increase shall be thoroughly researched and evaluated. If observations made during the physical inspection or record review indicate that deterioration of reliability will result if the requested time limitation increase is approved, the certificate holder shall be required to continue at limitations currently approved.







## FIGURE 04-1

### COMPANY LETTER HEAD

#### MAINTENANCE TIME LIMITATIONS – PART D INDEX (AIRCRAFT MAKE AND MODEL)

<u>SUBJECT</u>	<u>PAGE</u>	<u>AMENDMENT</u>	<u>CONTROL DATE</u>
Index	1	2	02/11/00
Abbreviations and Definitions	2	original	02/11/00
Checks and inspections	3	original	02/11/00
Checks and inspections	4	original	02/11/00
Checks and inspections	5	original	02/11/00
Checks and inspections	6	original	02/11/00
Checks and inspections	7	original	02/11/00
Checks and inspections	8	original	02/11/00
Checks and inspections	9	original	02/11/00
Checks and inspections	10	original	02/11/00
Chapter 53. Fuselage	11	deleted	02/11/00
Checks and inspections	12	original	02/11/00
Chapter 57. Wings	13	deleted	02/11/00
Checks and inspections	14	original	02/11/00
Chapter 72. Engine Turbine	15	original	02/11/00
Chapter 72. Engine Turbine	15-1	original	02/11/00
Chapter 73. Engine Fuel	16	original	02/11/00

Additional pages added to the Time Limitations Sections are to be numbered as illustrated and continue in sequence i.e. 15-2, 15-3, etc. for all chapters which have pages added.

**NOTE:** Numerical sequence must be retained as indicated for all deleted pages in order to maintain the page control system.



**FIGURE 04-02**

**COMPANY LETTER HEAD**

**MAINTENANCE TIME LIMITATIONS – PART D  
ABBREVIATIONS & DEFINITIONS  
(AIRCRAFT MAKE AND MODEL)**

1. All reference to days and months are considered Calendar days and as applicable months

BET: Bench Test	RAR: Remove and Replace
CLN: Clean	ROC: Readout
CM: Condition Monitoring	RPL: Replenish
DIS: Detailed Inspection	SC: Service Check
DRN: Drain	SI: Structural EC: Inspection
EC: Engine Change	STS: Self Test
EO: Engine Overhaul	SVC: Service
FCK: Functional Check	TAA: Test and Adjust
HMV: Heavy Maintenance Visit	ULT: Ultimate Finite
HT: Hard Time	VCK: Visual Check
LUB: Lube	VIS: Visual Inspection
M: Calendar Months	VSW: Voltage Standing Wave Ratio
OC: On Condition	
OCK: Operational Check	
OVH: Overhaul	

**NOTE: Some deficiencies need an explanation, such as bench check, functional check, visual check, visual inspection, detailed inspection, overhaul, etc.**



**FIGURE 04-03**

**COMPANY LETTER HEAD**

**MAINTENANCE TIME LIMITATIONS – PART D  
CHECKS AND INSPECTIONS  
(AIRCRAFT MAKE AND MODEL)**

**INSPECTION/CHECK REQUIREMENTS:**

Check shall be accomplished in accordance with applicable procedures as listed in the Maintenance Manual.

**“SC” Service Check:**

A service check shall be performed at intervals not exceeding \_\_\_\_\_ hour’s time in service.

**“A” INSPECTION/CHECK:**

The “A” Inspection/Check shall be performed at intervals not exceeding \_\_\_\_\_ hours aircraft time in service or \_\_\_\_\_ months whichever occurs first since the last “A”, “B”, “C”, “D” or “E” check in accordance with applicable procedures in Maintenance Manual Section \_\_\_\_\_.

**“B” INSPECTION/CHECK:**

The “B” Inspection/Check shall be performed at intervals not exceeding \_\_\_\_\_ hours aircraft time in service or \_\_\_\_\_ months whichever occurs first since the last “B”, “C”, “D”, or “E” check in accordance with applicable procedures in Maintenance Manual Section \_\_\_\_\_.

**“C” INSPECTION/CHECK:**

The “C” Inspection/Check shall be performed at intervals not exceeding \_\_\_\_\_ hours aircraft time in service or \_\_\_\_\_ months whichever occurs first since the last “C”, “D”, or “E” check in accordance with applicable procedures in Maintenance Manual Section \_\_\_\_\_.

**“D” INSPECTION/CHECK:**

The “D” Inspection/Check shall be performed at intervals not exceeding \_\_\_\_\_ hours time in service or \_\_\_\_\_ months whichever occurs first since the last “D” or “E” check in accordance with applicable procedures in Maintenance Manual Section \_\_\_\_\_.

**“E” INSPECTION/CHECK:**



**FIGURE 04-03 (cont.)**

**COMPANY LETTER HEAD**

**MAINTENANCE TIME LIMITATIONS – PART D  
CHECK AND INSPECTIONS  
(AIRCRAFT MAKE AND MODEL)**

The “E” Inspection/Check shall be performed at intervals not exceeding \_\_\_\_\_ hours aircraft time in service or \_\_\_\_\_ months whichever occurs first since the last “E” check in accordance with applicable procedures in Maintenance Manual Section \_\_\_\_\_.

**STRUCTURAL INSPECTIONS**

5000 FLIGHT STRUCTURAL INSPECTION shall be performed at intervals not exceeding 5000 flights until 20,000 flights and thereafter at 3000 flights.

1200 HOUR STRUCTURAL INSPECTION shall be performed at intervals not exceeding 1200 hours time in service or 6 months, whichever occurs first, since the last 1200 Hour Structural Inspection.

2400 HOUR STRUCTURAL INSPECTION shall be performed at intervals not exceeding 2400 hours time in service or 12 months, whichever occurs first, since the last 2400 Hour Structural Inspection.

3600 HOUR STRUCTURAL INSPECTION shall be performed at intervals not exceeding 3600 hours time in service or 18 months, whichever occurs first, since the last 3600 Hour Structural Inspection.

4800 HOUR STRUCTURAL INSPECTION shall be performed at intervals not exceeding 4800 hours time in service or 24 months, whichever occurs first, since the last 4800 Hour Structural Inspection.

9600 HOUR STRUCTURAL INSPECTION shall be performed at intervals not exceeding 9600 hours time in service or 48 months, whichever occurs first, since the last 9600 Hour Structural Inspection.

The structural inspections identified above shall be performed in accordance with \_\_\_\_\_.



**FIGURE 04-03 (cont.)**

**COMPANY LETTER HEAD**

MAINTENANCE TIME LIMITATIONS – PART D  
CHECK AND INSPECTIONS  
(AIRCRAFT MAKE AND MODEL)

Service life limits contained in the Maintenance Manual Document \_\_\_\_\_ Chapter \_\_\_\_\_ as revised will be adhered to.

Service life limits contained in \_\_\_\_\_ Service Letter No. \_\_\_\_\_ as revised will be adhered to.

Service life limits contained in Pratt and Whitney Service Bulletin \_\_\_\_\_ as revised (Engine Turbine/Turboprop Rotor Component-Service Life) will be adhered to.

All condition monitored (CM) items will be maintained in accordance with the Maintenance Evaluation Programme as outlined in Section \_\_\_\_\_ of \_\_\_\_\_ Airlines, Inc. General Maintenance Manual.

Major Components of ATA Systems 22 auto pilot, 23 communications, 24 electrical, 31 instrument, 33 lighting, 34 navigational, and 77 engine instruments shall be identified by name, manufacturer, and either a model number, part number, or other specific designator used by the carrier on the appropriate inspection frequency and overhaul page.



**FIGURE 04-04**

**COMPANY LETTER HEAD**

**MAINTENANCE TIME LIMITATIONS- PART D  
INSPECTION FREQUENCY AND OVERHAUL  
(AIRCRAFT MAKE AND MODEL)**

<u>PROCESS</u>	<u>PRIMARY MAINTENANCE</u>	<u>INSPECTION &amp; CHECK PERIOD</u>	<u>OTHER</u>
<u>Chapter 21 Air Conditioning</u>	OC	ABCDE	VIS
Air Bleed Compressor to Air Cycling Machine Ducting	CM		
Flight Deck and Passenger Cabin Temperature Control	CM		
Shut off Valve	CM		
Low Pressure Switch	OC	E	FCK
High Pressure Switch	OC	E	FCK
Check Valve	OC	E	FCK
Shut Off Valve	CM		
Dual By Pass Valve (cabin)	CM		
Bypass Valve (flight deck)	CM		
Main Fan	CM		
Over Temperature	OC	E	FCK
Spar box Overheat Thermistor	OC	E	FCK
Heat Exchanger	CM		



**FIGURE 04-04 (cont.)**

**COMPANY LETTER HEAD**

MAINTENANCE TIME LIMITATIONS - PART D  
INSPECTION FREQUENCY AND OVERHAUL  
(AIRCRAFT MAKE AND MODEL)

	PRIMARY	INSPECTION &	OTHER
	MAINTENANCE	PROCESS	CHECK PERIOD
<u>Chapter 21 Air Conditioning (Cont.)</u>	OC	ABCDE	VIS
Air Cycling Machine	OC	2B and replenish	SVC-drain
with new oil			
Over Temperature Switch (Cabin)	OC	E	KK
Over Temperature Switch (Flight deck)	OC	E	KK
Duct Temperature Sensor	CM		
Temperature Sensor	CM		
Temperature Sensor	CM		
Temperature Controller (cabin)	CM		
Temperature Controller (Flight deck)	CM		
Water Separator	CM	See note 1	
<u>Chapter 23 COMMUNICATIONS</u>	OC	A,B,C	Fixed
Radio Installation	OC	C	BET 2000
Isolation Amplifier Telephonics AI-27	OC	C	
Transceiver HF Collins 618T-2	OC	C	
Control VHF Comm Gables G-4817	OC	C	
Cockpit Voice Recorder Fairchild A-100	OC	C	



**FIGURE 04-04 (cont.)  
COMPANY LETTER HEAD**

MAINTENANCE TIME LIMITATIONS – PART D  
INSPECTION FREQUENCY AND OVERHAUL  
(AIRCRAFT MAKE AND MODEL)

	<u>PRIMARY MAINTENANCE PROCESS</u>	<u>INSPECTION &amp; CHECK PERIOD</u>	<u>OTHER</u>
<b><u>Chapter 31 INSTRUMENTS</u></b>			
Flight Data Recorder (Fairchild P/N 15630-601) Clock (Elgin A-3)	OC	A,B,C	BET
	OC	A	
<b><u>Chapter 26 Fire Protection</u></b>			
<b><u>Smoke Detection</u></b>	OC	ABCDE	VIS
Smoke Sensor	OC	C	CLN
Smoke Detector Amplifier	OC	SC	STS
<b><u>Fire Detection (Engine)</u></b>	OC	E	FCK-Note 1
		D	FCK-Note 2
Sensor	OC	E	FCK-Note 1
	OC	D	FCK-Note 2
Wire Fire Detection	OC	E	FCK-Note 1
		D	FCK-Note 2
Fire Warning Bell	CM		
Automatic Integrity Monitor	OC	D	FCK-Note 2
		B	FCK
<b><u>Fire Extinguishing</u></b>			
Extinguisher	HT	* Check	SVC-Weight
		OVH- Include hydrostatic pressure test	
Unit Cartridge	HT	Note	RAR
Pressure Relief Indicator	OC	SC	VCK
Directional Flow Valve	OC	E	FCK
Hand Type Extinguisher	HT	*	SVC-Weight
Check	OVH-Include		hydrostatic pressure test





**FIGURE 04-04 (cont.)  
COMPANY LETTER HEAD**

**MAINTENANCE TIME LIMITATIONS – PART D  
INSPECTION FREQUENCY AND OVERHAUL  
(AIRCRAFT MAKE AND MODEL)**

Inspections, hydrostatic test, and life limits will be accomplished as set forth in the United States 49 FAR part 173 currently in effect. If the fire extinguisher were manufactured and approved in another foreign country, the inspections, test and life-limits established by the country of manufacture would apply.

- NOTE 1: Heat test detector wire  
 2: Electrical Check  
 3: A cartridge must be removed from service two years after removal from its sealed package or five years from date of manufacture whichever expires first.

	<u>PRIMARY MAINTENANCE PROCESS</u>	<u>INSPECTION &amp; CHECK PERIOD</u>	<u>OTHER</u>
<u>Chapter 55 Stabilizers</u>	OC	ABCDE	VIS
Horizontal	OC	4800 HRS.	VIS
	OC	9600 HRS.	VIS
Elevator	OC	4800 HRS.	VIS
Vertical	OC	4800 HRS.	VIS
		9600 HRS.	VIS
Rudder	OC	4800 HRS.	VIS
		9600 HRS	VIS
Attach Fittings	OC	4800 HRS.	VIS

**FIGURE 04-04 (cont.)  
COMPANY LETTER HEAD**

MAINTENANCE TIME LIMITATIONS – PART D  
INSPECTION FREQUENCY AND OVERHAUL  
(AIRCRAFT MAKE AND MODEL)

	<u>PRIMARY MAINTENANCE PROCESS</u>	<u>INSPECTION &amp; CHECK PERIOD</u>	<u>OTHER</u>
<u>Chapter 72 Engine</u>	OC	ABC	VIS
Engine Turbo Prop (Type)	HT	ABC	OVH 4000 HRS
Hot Section	HT	ABC	HSI 1250 HRS



## CHAPTER 53

### PRORATED TIME AUTHORIZATIONS

---

#### 1.0 OBJECTIVE

---

**This section provides guidance in determining the prorated time for an item. Reference: ICAO Document 9389 - AN/919, Chapter 7 and Attachment 7-A.**

#### 2.0 GENERAL

---

- A. Proration is a procedure to determine the time consumed under one maintenance system and to establish the remaining time under a new system.
- B. Operators often sell or lease their equipment to other operators. This “used” equipment will have accumulated a certain amount of time in service. This time is transferred to the new operator and may be phased in or prorated to the new operator’s approved time limitations.
- C. When an operator’s approved time limitations are not the same as those of the previous operator(s), the buyer has two options: direct inclusion or proration.
  - (1) When the operator chooses direct inclusion, the difference between the operator’s approved time limit and the previous operator’s actual time will determine the time limitation.
  - (2) When the previous operator’s approved time limitations are different from that of the current operator; proration may be used to adjust the time limitations.
- D. Scope and Limitations.
  - (1) Proration in no way lessens an operator’s responsibility to maintain the aircraft in an airworthy condition.
  - (2) Proration is optional.
  - (3) Life limited components may not be prorated
  - (4) Proration may not be applied to times specified in Airworthiness Directives.



- (5) Operators who have been operating large aircraft under the CARs
  - (6) Both adjusted and actual times must be shown on the proration document and the aircraft records.
  - (7) When an item is inspected or overhauled as appropriate, the applicable prorated time limits will be cancelled. Thereafter, the item will be handled according to the operator's approved programme.
  - (8) Partial proration is not acceptable. An operator electing proration must prorate the airframe and all of its installed powerplants, propellers, and appliances. Spare engines and propellers acquired at the time of sale or at a later date with "time in service" may be prorated.
  - (9) If an increase in a time limitation is approved for a certificate holder operating on prorated times, that increase will be credited to the prorated item(s).
  - (10) Amendments to certificate holder's operations specifications that increase time limits are applicable to all aircraft of the same type and model operated by an operator. Such time increases apply to aircraft operating on a prorated time basis, as well as to the other aircraft in the fleet.
- E. Foreign Air Operator's Aircraft. Foreign air operator's aircraft for which there is a type certificate may be phased into an air operator's programme via proration. However, the operator must first present satisfactory evidence that the programme under which the aircraft was maintained is at least equivalent to the new operator's programme for a similar type of aircraft.

### 3.0 DATA AND COMMUNICATION

- A. Prorated time remaining can be determined by using the following mathematical procedures.
- (1) Divide the actual time used by the previous operator's approved time limit under which the aircraft has been operated. The result, carried to three places of decimal, will represent the percentage of approved time already used.
  - (2) Multiply the new operator's time limit by the percentage of time used. This will result in the prorated time to be used under the new programme.
  - (3) Subtract the prorated time from the time limit approved in the new programme. The result will represent the number of hours remaining under the new programme. (See Figure 14-1)



B. Block/Pattern time Limitation

- (1) When block/pattern time is to be prorated each block/pattern shall be treated as though a complete aircraft were being prorated.
- (2) When the previous operator used a block/pattern system, a document must be submitted showing the following:
  - Time limitation for each block or pattern, together with a list of items that are part of the block or pattern.
  - Time since accomplishment for each individual item on the aircraft.

#### 4.0 PROCEDURES

---

- A. Coordination. This task requires coordination between the inspector and the operator.
- B. References
  - US-FAA Advisory Circular 120-17, Maintenance Control by Reliability Methods as amended.
  - US-FAA Advisory Circular 121-1, Standard Operations Specifications, as amended.
  - Operator's documentation, including operations specifications, for previous and new operator
  - ICAO Document 9389, Chapter 7, Page 7-A-3.
- C. Receive Data from Applicant. The operator must submit required information to the NCAA.
  - (1) The operator must submit all operations specifications containing the time limits utilized for the particular aircraft by the previous operator.
    - (a) If the operations specifications do not show hours, the operator must submit other documentation that will establish the time limits.



- (b) If conversion to hours is necessary, the computations used for the conversion should be included.
  - (2) The operator must provide operations specifications pertinent to the particular aircraft.
  - (3) The operator must submit documents itemizing the following:
    - Engines, propellers, and appliances that have different time limitations than the previous operator and are to be prorated. These will be listed by Air Transportation Association chapter numbering system, showing the name, part number, serial number, and position.
    - The approved time under which the aircraft has been operated
    - The actual time since last accomplishment
    - Percent of time used by previous operator
    - The approved time limitation for the new operator
  - (4) When the previous operator used a block/pattern system, a document must be submitted showing the following:
    - Time limitation for each block or pattern, together with a list of items that are part of the block or pattern.
    - Time since accomplishment for each individual item on the aircraft
- D. Determine That the Aircraft and/or Components Are Eligible for Proration
- E. Check the Prorated Time Computation. Times obtained via proration may be rounded to the nearest 10-hour figure. (See Figure 14-1)

## 5.0 TASK OUTCOMES

---

- A. Approve Operations Specifications
- B. Document Task. File all supporting paperwork in the operator's office file.

## 6.0 FUTURE ACTIVITIES

---

Normal surveillance.



**FIGURE 14-1**

**PRORATION FORMULA EXAMPLE**

The example below demonstrates the simple steps involved in determining a buyer's time remaining to overhaul.

**Known**

Previous operator's approved overhaul time limit = 8,000 hours

Previous operator's time since overhaul (TSO) = 2,000 hours

Buyer's approved overhaul time limit = 12,000 hours

**Step One**

Divide the previous operator's TSO figure by the previous operator's approved overhaul time limit. Carry this out to three decimal places. The result represents the percentage of approved overhaul time already used.

$2000/800 = .250$       In this example, 25 percent is the result

**.Step Two**

Multiply the buyer's approved overhaul time limit figure by the decimal arrived at in Step One. The result is the prorated TSO to be used by the buyer.

12,000  
x .250  
3,000

In this example, 3000 is the prorated TSO to be used by the buyer.

**Step Three**

Subtract the prorated TSO arrived at in Step Two from the buyer's approved overhaul time limit. The resulting figure will be the number of hours remaining to overhaul for the buyer.

12,000  
-3,000  
9,000

In this example, the buyer's prorated time remaining to overhaul is 9000 hours.



## CHAPTER 54

### EVALUATE OPERATOR'S MASS AND BALANCE CONTROL PROGRAMME

---

#### 1.0 OBJECTIVE

---

This section provides guidance for evaluating an operator/applicant's mass and balance control programme. Section 12 provides guidance for aircraft certificated with 9 or less passenger seats. Reference: ICAO Document 9389 - AN/919 Chapter 6, Attachment 6 - C.

#### 2.0 GENERAL

---

- A. Approved mass and balance control procedures are the only means for an operator/applicant to authorize the use of other than known masses for crew, passengers, baggage, or cargo. The mass and balance control programme, including loading schedules and charts, is approved on operations specifications by the assigned Maintenance Inspector. This programme must be included in the operator/applicant's policies and procedures manual.
- B. The operator/applicant may develop and submit for approval any method or procedure by which it can show that an aircraft:
- Is properly loaded according to approved configuration (loading schedules or charts).
  - Will not exceed authorized mass and balance limitations during all ground and flight operations.
  - Will be periodically re-weighed and its data reevaluated.
  - Will have its data recalculated, if changes necessitate.
- C. The operator/applicant's mass and balance control procedures may either be an independently controlled document which includes all the instructions and procedures for maintenance, operations, and baggage/cargo control, or it may be included in the manual.





### 3.0 ESTABLISHED MASS AND CENTRE OF GRAVITY (CG) LIMITS

---

- A. During type certification, the aircraft manufacturer must flight test mass and balance under all conditions and establish center of gravity limits. These limits are approved by the regulatory authority of the country where the aircraft is manufactured.
- B. If an operator/applicant proposes an unusual or complex mass and balance programme, or a programme substantially different from Approved Aircraft Flight Manual (AFM) or Pilot Operating Handbook. The operator/applicant must be able to substantiate that the proposed programme provides an equivalent level of safety to that of the AFM or Pilot Operation Handbook.

### 4.0 LOADING PROCEDURES

---

- A. Use of Average Passenger Masses. For aircraft operated under the CARs, average passenger and baggage masses may be authorized.
  - (1) Average masses may be determined by actually weighing passengers and baggage and documenting the mass. Average masses must be based on acceptable data collection during actual operations.
  - (2) Generally, average masses for operations in warm climates are lighter than those in colder climates. In establishing average passenger and baggage masses, operating environment must be considered. For example, clothing worn or carried in colder climates may affect the established weight.

**NOTE:** The average passenger and baggage masses in US-FAA Advisory Circular 120-27 “Aircraft Weight and Balance Control” as amended, do not comprise a regulatory requirement or authorization. This information is guidance only and must be evaluated for applicability to individual operators.

- B. Non-Standard Mass Groups. Average masses are not suitable or groups that tend to be heavier or lighter than the average. The operator/applicant must use actual masses for loading non-standard mass groups and their baggage (such as athletic squads, military personnel, and children’s groups).
- C. Carry-on Baggage. Procedures must be provided for controlling carry-on baggage.



- (1) Carry-on baggage must be limited to articles that may be placed in overhead compartment that causes the mass limit of the compartment to be exceeded.
- (2) Carry-on baggage mass must either be accounted for in the same manner as checked baggage or be added to the passenger mass.
- (3) Operators using average masses for computing mass and balance should re-evaluate carry-on baggage mass at least once per year.

## 5.0 AIRCRAFT WEIGHTS

---

### A. Weighing of Aircraft

- (1) Aircraft must be weighed to determine their basic weight and the corresponding Centre of Gravity (C of G) position when all manufacturing processes have been completed. Aircraft exceeding 5700 kg (12500 lb) MTMA must be re-weighed 2 years after the date of manufacture and their after at intervals not exceeding 5 years and at such times as the Authority may require. Aircraft not exceeding 5700 kg (12500 lb) shall be weighed at intervals not exceeding 5 years and at such times as the Authority may require.
- (2) In making the decision on weighing the aircraft the inspector should consider the history of the aircraft, its flying performance, and the probable effects on the weight after a major overhaul, or embodiment of a modification, repair, or replacement.
- (3) Certain types of aircraft may be weighed on a sampling basis i.e. a representative aircraft as weighed would be acceptable for the others of the same standard in the operators fleet. However, such an arrangement requires prior Authority approval as in B below.
- (4) When an aircraft is weighed, the equipment and other item of load such as fluids in the tanks must be recorded. This recorded load should not differ significantly from the standard Basic Equipment List associated with the Centre of Gravity Schedule.

- B Use of Fleet Masses. A fleet generally is considered to be three or more aircraft of the same model and configuration. This allows realistic averages to be determined.



- (1) Aircraft operating under fleet masses must be weighed in accordance with the operator/applicant's instructions. The operating masses and centre of gravity position must be within established limits. The use of fleet masses is authorized by operations specifications.
- (2) An operator's empty fleet mass is determined by averaging aircraft masses as follows:

Fleet Size	Weighing Policy
3 aircraft	Weigh all aircraft
4 - 9 aircraft	Weigh 3 aircraft plus at least 50 percent of over 3
Over 9 aircraft	Weigh 6 aircraft plus at least 10 percent of the number over 9

- C. Scales used to weigh passengers, aircraft, cargo, and baggage must be calibrated and traceable to a national standard. Calibration must be performed in accordance with the civil authority for weights and measures having jurisdiction over the area in which the scales are used. The frequency of testing depends on use and handling.

## 6.0 CONTRACTORS

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An operator/applicant may use a contractor to weigh items required to be weighed. However, the operator/applicant is responsible for ensuring the contractor complies with the operator/applicant's approved mass and balance control programme. This includes ensuring scales are calibrated and tested in accordance with the operator/applicant's Maintenance Manual.

## 7.0 COORDINATION

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This task requires close coordination between maintenance and operation inspectors.



## 8.0 REFERENCES

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- FAA Advisory Circular 91-23, Pilot's Weight and Balance Handbook, as amended
- FAA Advisory Circular 120-27, Aircraft Weight and Balance Control, as amended
- Approved Flight Manuals
- Approved Mass and Balance Manuals
- Type Data Sheets and Aircraft Specifications
- Supplemental type Certificates
- Aircraft Equipment Lists
- Aircraft Maintenance Records (Mass and Balance Records)

## 9.0 PROCEDURES

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- A. Coordinate with the Operator/Applicant. Operator/applicant must submit the following for review:
- Manual or revision
  - Mass and Balance Programme document (if not part of a manual)
  - Pertinent company procedures
  - Instructions for completing forms used in aircraft mass control and aircraft loading
  - Mathematical justification for loading provisions or schedules
- B. Review the Operator/Applicant's Manual/Programme Document. The manual must include procedures, levels of authority, and information appropriate to the CARs. In addition, the following must be included:
- (1) Manual introduction, to include:
- Description of the philosophy and the goals of the manual
  - Description of division of contents between volumes, if more than one volume



- List of effective pages, including dates
- (2) Manual revision and distribution procedures, to ensure:
  - Current information is provided to all manual holders
  - Manuals are available to maintenance, operations, and ground personnel and are furnished to the NCAA.
- (3) Definitions of all significant terms used in the programme. The definitions must reflect their intended use and include any acronyms or abbreviations unique to the manual.
- (4) Description of the organizational unit responsible for the control and maintenance of the mass and balance programme, to include:
  - Definitions of lines of authority
  - Description of the support structure
- (5) Job descriptions for all elements
- (6) Training programme that include the following:
  - Maintenance personnel
  - Operations and dispatch personnel
  - Ground handling personnel
- (7) A means of documenting and retaining individual training records
- (8) Procedures for:
  - Determining standards and schedules for calibration of aircraft scales
  - Pre-weighing instruction and requirements
  - Determining which aircraft are to be weighed
  - Establishing and maintaining equipment lists for each aircraft
  - Recording the type and serial number for each scale used, aeroplane's , mass, residual fluids, and scale tare masses.



- Initial weighing of aircraft
  - Monitoring and adjusting individual aircraft or fleet, empty weight and center of gravity
  - Periodic re-weighing of aircraft
  - Ensuring aircraft are configured in accordance with approved data.
- (9) A loading schedule consisting of graphs/tables or a special loading schedule for a calculator or computerized programme. These schedules must ensure that pertinent data is available concerning all probable mass and balance conditions of the aircraft.
- (10) A load manifest on which all required loading information shall be entered by personnel responsible for mass and balance control, including procedures for:
- Completing the load manifest
  - Ensuring load manifest is carried on the aircraft
  - Retaining the load manifest for the time periods specified in the CARs
  - Distribution of the load manifest in accordance with the operator's manual and the CARs.
- (11) Procedures to be used by crewmembers, cargo handlers, and other personnel concerned with aircraft loading, for the following:
- Distribution of passengers
  - Distribution of fuel
  - Distribution of cargo
  - Verification and acceptance of actual cargo mass as listed on a bill of lading
  - Restriction of passenger movement during flight, if applicable
  - Hazardous material requirements, if applicable



- (12) A drawing of each cargo and/or passenger configuration to include emergency equipment locations
- (13) Mathematical justification for loading provisions or schedules. This may be included under separate cover and not as part of the company manual.
- (14) An alternate procedure for allowing manual computations, if a computerized mass and balance programme is utilized.
- (15) Procedures for a mass range system, if applicable, that ensures:
  - (a) The range is typical of passengers carried on similar operations.
  - (b) Computations for critical load considerations support the ranges.
  - (c) Personnel responsible for loading the aircraft are required to prepare appropriate loading records.
  - (d) The system included methods for loading passengers whose mass are outside the range.
  - (e) Loading records indicate the number of passengers within the stated range and account for passengers that do not fall within the range.
- (16) A system of loading nonstandard mass groups such as athletic squads or military groups and their baggage, which must utilize actual mass for both passengers and baggage.
- (17) Procedures to verify actual mass of cargo.
- (18) Standards and schedules for calibration of commercial scales used to determine baggage/cargo masses.
- (19) Procedures to ensure that carry on baggage is limited to articles which may be placed in overhead compartments or under seats. Carry-on baggage mass must be accounted for in the same manner as checked baggage or added to the average passenger mass.



- C. Review the Operator/Applicant's Operations Specifications. Review the draft operations specifications to ensure that operations specifications Paragraph E included the following:
- (1) Aircraft make/model/series
  - (2) Type of loading schedule
  - (3) Loading schedule instructions for:
    - Passenger and crew (average or actual mass)
    - Baggage (average or actual mass) and cargo (actual)
    - Nonstandard mass groups
  - (4) Mass and balance control procedures

**NOTE: The above items must be referenced by indicating the locations in the operator/applicant's manuals, e.g., volume, chapter, etc.**

- D. Analyze the Results. Upon completion of review, analyze the results and determine whether the operator/applicant's manual and operations specifications meet all requirements.
- E. Meet With Operator/Applicant. Discuss any discrepancies with the operator/applicant and advise what areas need corrective action.

## 10. TASK OUTCOMES

- A. Approve operations specifications in accordance with Operations Specifications Chapter 2, Part E.

## 11. FUTURE ACTIVITIES

Normal surveillance.

## 12. AIRCRAFT WITH NINE PASSENGERS OR LESS

### A. GENERAL

1. The Nig. CARs require nine or less operator/applicants to develop their own mass and balance procedures. The operator/ applicant has the option of using the procedures developed by the manufacturer, available in the approved Aircraft Flight Manual or Pilot Operating Handbook. Under these circumstances, the Aviation Safety Inspector's (ASIs) responsibilities are to ensure that the aircraft continue to be operated in accordance with these procedures.





2. It is the operator /applicant's privilege to revise these procedures or develop procedures tailored to the specific needs of the operation. Under these circumstances, it is the ASI's responsibility to evaluate the procedures to ensure regulatory compliance and suitability to the operation.

## **B. MANUFACTURER-DEVELOPED PROGRAMME**

1. If an operator/applicant decides to use the manufacturer's mass and balance programme, it is the operator/applicant's responsibility to ensure that the programme will meet the need of the proposed/current operation.
2. To ensure an operator/applicant's compliance with a manufacturer's mass and balance programme, an ASI will have to verify that the operation or proposed operation will not conflict with the programme.

## **C. OPERATOR/APPLICANT-DEVELOPED PROGRAMME**

1. The operator/applicant can submit any method or procedure by which it can show that all aircraft are properly loaded and will not exceed authorized mass and balance limitations during all operations.
  - (a) These procedures can be provided in the operator's manual or they may be an independently controlled document that includes all instructions and procedures for maintenance, operations, and baggage handling personnel.
  - (b) The mass and balance document must include company procedures and instructions for completing aircraft mass control and aircraft loading forms. Mathematical justification for loading provisions or schedules should be included in the submitted information.
2. Programme Acceptance. The mass and balance procedures, including loading schedules and charts, must be accepted by the Maintenance Inspector.
3. Unusual or Complex Programmes. If the operator/applicant proposes an unusual or complex mass and balance programme, or that programme is substantially different from the Approved Airplane Flight Manual or Pilot Operating Handbook the operator/applicant must be able to substantiate that the proposed programme provides an equivalent level of safety to that of the AFM or Pilot Operating Handbook.

**NOTE: The use of actual mass is mandatory for reciprocating powered aircraft of nine or less passengers seats.**



4. Load Schedules. The load schedule must include a manageable system for aircraft loading under all loading situations, including alternate procedures for nonstandard mass persons or groups. The operator's procedures must provide all necessary information (charts, graphs, tables, etc.), with related instructions for the loading.
5. Approval Requirements. There may be instances when an operator/applicant request approval to operate an aircraft with an increase in gross mass and/or change in center of gravity range. This constitutes a major design change, and requires data and approval from the manufacturer or other approved engineering source.

#### D. COORDINATION

This task requires close coordination between Maintenance and Operation Aviation Safety Inspectors (ASIs).

#### E. PROCEDURES

1. Review Operator/Applicant's Data. Review the following:
  - (a) Type of equipment
  - (b) Data to ensure that multiengine aircraft were weighed within the preceding 36 calendar months.
  - (c) Operator/applicant's proposed/current method of record keeping
  - (d) Specific mass and balance information pertaining to operator's/applicant's aircraft to include:
    - (i) Type certificate data sheets for basic mass and balance data for individual aircraft.
    - (ii) Existing alteration records that could affect the accuracy of approved mass and balance data
    - (iii) Equipment list, to confirm that list matches installed equipment. Verify that list correlates with actual location on aircraft.
    - (iv) Past records in sufficient detail to determine the validity of current mass and balance information, if applicable.

**NOTE: If aircraft mass and balance records are unavailable or inaccurate, the only acceptable method of determining the actual mass and balance is to weigh the aircraft.**



- (e) Previous inspection reports, correspondence, and other documents in the office files are determine if there are any open items or if any areas were identified that require special attention.

## 2. Review Manufacturer's Programme

- (a) Verify that the mass and balance information in the Aircraft Flight Manual/Rotorcraft Flight Manual includes current mass and balance information such as:
  - Empty mass and centre of gravity
  - Loading graphs
  - Center of gravity envelopes
  - Loading schedules
  - Index tables

**NOTE: The manual may refer to a mass and balance plotter, If so, ensure that this device is available**

- (b) Ensure that the manufacturer's procedures cover all aspects of the operator/applicant's intended operation.
- (c) Review load manifest requirements for multiengine aircraft

## 3. Review Mass and Balance Revisions

- (a) Determine who is responsible for updating mass and balance information

**NOTE: The operator/applicant is ultimately responsible for the current status of mass and balance after any major repair or alteration, or equipment change.**

- (b) Ensure that revised mass and balance information has been entered in the Aircraft Flight Manual/Rotorcraft Flight Manual, or applicable aircraft mass and balance record, following any major change that may affect the mass and balance.

## 4. Inspect Equipment and Facilities

- (a) If the operator/applicant has aircraft weighing equipment available, inspect calibration records to ensure that scale(s) calibration is traceable to the national standards.



- (b) Ensure that operator/applicant has a draft free area or hangar in which the aircraft can be weighed.
  - (c) Ensure that loaded aircraft are still within manufacturer specified centre of gravity limits.
- 5. Evaluate Mass and Balance Training. Ensure that operator/applicant's flight training curriculum reflects the basic mass and balance procedures. The curriculum must also include any special mass and balance considerations for special use aircraft, e.g., all cargo.
  - 6. Analyze Results. Upon completion of the evaluation, analyze the results and determine whether the aircraft and/or programme meet all requirements.
  - 7. Meet With Operator/Applicant. Discuss discrepancies with the operator/applicant and advise what need corrective action.

**F. TASK OUTCOMES**

- 1. Successful completion of this task will result in accepting the mass and balance manual procedures or revision.
- 2. Document the Task. File all supporting paperwork in the operator/applicant's office file.

**G. FUTURE ACTIVITIES**

Normal surveillance.



## CHAPTER 55

### PROCEDURES FOR EVALUATION AND APPROVAL SPECIALISED ACTIVITIES SUCH AS NDT, WELDING ETC.

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#### 1.0 OBJECTIVE

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The chapter provides guidance and information for inspectors for evaluation and approval of organizations for Specialised Services like Non-Destructive Testing and Inspections., Welding etc.

#### 2.0 GENERAL

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##### GENERAL INFORMATION

Internationally, NDT standards generated by other regulatory agencies and national certification programs have been, and are considered, acceptable to the NCAA. For example, individuals considered NDT qualified/certified under EN 4179 Aerospace Series – “Qualification and Approval of Personnel for Nondestructive Testing”, (EN 4179, as published, is technically equivalent to AIA NAS-410) are considered qualified by the NCAA. The following information discusses the generic elements of the standards considered acceptable to the NCAA and can be utilized as the basic requirements to determine that only qualified individuals perform NDT inspections. Any organization developing its own procedures to determine that only qualified personnel perform NDT, should minimally address the generic elements.

1. **Vision Examinations:** NDT personnel shall receive documented vision and color blindness testing at reasonable intervals (one year preferred). The NDT inspector shall have documented evidence of satisfactory vision in accordance with accepted medical standards to be considered a qualified NDT inspector. Vision examinations can either precede or accompany the initial determination of qualification to perform NDT. Vision examinations shall be administered by personnel in accordance with the standard to determine qualification.

(a) **Near Distance Vision Requirements:** The NDT inspector shall have natural or corrected near distance acuity in at least one eye capable of 20/25 (Snellen) at 14" to 18" or equivalent. Near vision acuity shall permit reading a minimum of Jaeger number 1 or Times Roman N 4.5 or equivalent letters (having a height of 1,6 mm) at not less than 30 cm with one or both eyes, either corrected or uncorrected;

(b) **Color Vision Requirements:** The NDT inspector shall be capable of adequately distinguishing and differentiating colors used in the process involved. Colour vision shall be sufficient that the candidate can distinguish and differentiate contrast between the colours or shades of grey used in the NDT method concerned as specified by the employer



(c) Vision Examination Documentation Requirements: Following initial qualification, the documented near distance and color vision examinations shall be administered as required above, and records will be retained by the employer.

**2. Levels of Qualification:** NDT personnel can be categorized at different levels of competence (e.g., Trainee, Limited, Level 1, 2, or 3). They can also be categorized for different functional areas, such as inspector, trainer, or auditor. NDT personnel should perform only at the level(s) or function(s) to which they have been qualified.

- (a) An NDT Level I individual should be qualified to properly perform specific calibrations, specific NDT and specific evaluations for acceptance or rejection determinations according to written instructions and to record results. The NDT Level I should receive the necessary instruction and supervision from a certified NDT Level II or III individual.
- (b) An NDT Level II individual should be qualified to set up and calibrate equipment and to interpret and evaluate results with respect to applicable codes, standards and specifications. The NDT Level II should be thoroughly familiar with the scope and limitations of the methods for which he is qualified and should exercise assigned responsibility for on-the-job training and guidance of trainees and NDT Level I personnel. The NDT Level II should be able to organize and report the results of NDT tests.
- (c) An NDT Level III individual should be capable of developing, qualifying and approving procedures, establishing and approving techniques, interpreting codes, standards, specifications and procedures, as well as designating the particular NDT methods, techniques and procedures to be used. The NDT Level III should be responsible for the NDT operations for which he is qualified and assigned and should be capable of interpreting and evaluating results in terms of existing codes, standards and specifications. The NDT Level III should have sufficient practical background in applicable materials, fabrication and product technology to establish techniques and to assist in establishing acceptance criteria when none are otherwise available. The NDT Level III should have general familiarity with other appropriate NDT methods, as demonstrated by an ASNT Level III Basic examination or other means. The NDT Level III, in the methods in which he is certified, should be capable of training and examining NDT Level I and II personnel for certification in those methods.
- (d) Trainee: Though not a certification level, a trainee is a person who is in the process of being initially trained, qualified and certified, and should work with a certified individual. A trainee may not independently conduct, interpret, evaluate or report the results of any NDT test.
- (e) NDT Instructor: The term “NDT Instructor” is used in the ANSI/ASNT standard CP-189, ASNT Standard for Qualification and Certification of Nondestructive Testing Personnel, to describe an individual with the skills and knowledge to plan, organize and present classroom, laboratory, demonstration, and/or on-the-job NDT instruction, training and/or education programs.



3. **Training:** NDT personnel should receive documented initial and recurrent training in the standards, methods, and levels they utilize. This should be a mix of classroom, practical, and on-the-job training. The frequency and content of recurrent training will be specified by the standard under which the NDT personnel have been qualified.

The minimum duration of training undertaken by the candidate for certification may be as defined in Table 1 (below)

NDT Methods	Level 1 hours	Level 2 hours	Level 3 hours
ET	40	48	48
PT	16	24	24
MT	16	24	32
RT	40	80	40
UT	40	80	40
Basic knowledge	(direct access to Level 3 examination parts A, B and C)		80

4. **Testing:** NDT personnel should demonstrate documented proficiency, both in classroom knowledge and practical application of test method(s). NDT personnel shall have a combination of 3 education, training, and experience as determined by the specific standard under which they are determined qualified. NDT inspectors must understand the principles and procedures of applicable NDT methods. Personal information including education, training, and experience must be documented and validated against the standard under which the NDT inspector is considered qualified.

5. **Experience:** NDT personnel require experience in a test method to be considered qualified to perform that test method. Recent (within the last 6-12 months, shorter period preferred) utilization of the inspection method being performed is necessary in order to maintain a qualified NDT inspector status. Inspectors not meeting this recent experience level would need to be requalified.

6. **Disqualification:** A procedure needs to be in place to allow an organization to disqualify a NDT individual from performing inspections when the inspector doesn't meet current standards.

7. **Documentation:** Sufficient documentation must be available and retained to demonstrate that only qualified personnel are engaged in the NDT process. Records shall be maintained for each qualified individual, and for each individual who has been disqualified to perform NDT. Records shall include all education, experience, vision examination, and training documentation.



**8. Recertification Requirements:** Level I-limited personnel shall be re-certified at intervals not to exceed one year for each certification held;  
Levels II and III personnel must recertify at intervals not to exceed five years and must successfully complete practical and specific examinations equivalent to those required for initial certification.  
The period of validity of the certification is five years from the date of certification indicated on the certificate.

Any maintenance organisation approved under Nig. CARs Part 6 that carries out NDT should establish NDT specialist qualification procedures detailed in the MPM and accepted by the NCAA.

Boroscopy and other techniques such as delamination coin tapping are nondestructive inspections rather than non-destructive testing. Notwithstanding such differentiation, the maintenance organisation should establish an exposition procedure accepted by the NCAA to ensure that personnel who carry out and interpret such inspections are properly trained and assessed for their competence with the process. Non-destructive inspections, not being considered as NDT by Nig. CARs Part 6.

The referenced standards, methods, training and procedures should be specified in the maintenance organisation MPM.

**A. PROCEDURES FOR APPROVAL OF ORGANISATIONS CONCERNED WITH RADIOGRAPHIC INSPECTION OF AIRCRAFT DURING MAINTENANCE AND OVERHAUL**

1. **INTRODUCTION:** Organisation engaged in inspection of Radiographic inspection of aircraft during overhauls, repairs, replacements, modifications and inspection may be approved to provide reports and certify compliance in respect of this work on aircraft structure, structural components, and welded structural components, subject to compliance with the procedures set down in this Chapter 62 and the supplement.

**NOTE:** Safety and protection procedures are not included in this Chapter and Supplement. It is incumbent on the operator to comply with the Radioactive Substance Act and other relevant Regulations.

2. **APPLICATION:** Organisations seeking approval, or the extension of an existing approval, for the radiographic work described in paragraph 1, shall make written application to the NCAA Directorate of Airworthiness Standards.

**3. REQUIREMENTS FOR GRANT OF APPROVAL**

3.1 The radiographic department shall be organised under the direction of a radiographer who has satisfied the appropriate requirements of the Supplement to this Chapter.





- 3.2 All radiographic inspections shall be directly supervised and the final certification made by a Radiographer who has satisfied the appropriate requirements of the Supplement. Certification shall be in a form agreed by the NCAA.
- 3.3. Radiographic inspection concerned with the inspection required in approved Manuals, approved Maintenance schedules, the NCAA Mandatory Aircraft Modifications and Inspection procedures summary and the Foreign Airworthiness Directives Volumes, shall be in accordance with techniques approved by the manufacturer, or an appropriately approved Organisation unless an alternative technique has been accepted by the NCAA.

#### **4. REQUIREMENTS FOR THE RADIOGRAPHER**

- 4.1 The following shall be satisfied by the person(s) required under paragraph 3.1. and 3.2. above:-

4.1.1 For aircraft structure and structural components (other than welds)

- (a) Be able to read, write and converse in the English language.
- (b) Have experience, acceptable to the NCAA of a minimum of one year dealing with practical inspection of aircraft structure, or alternative training experience acceptable to the NCAA.
- (c) Have satisfactorily completed a course for instruction in radiography acceptable to the NCAA.
- (d) Produce evidence, satisfactory standard, acceptable to the NCAA, of at least six months recent work in the radiographic inspection of the aircraft structures and structural components, including processing and interpretation of radiographs.
- (e) Have achieved a satisfactory standard, acceptable to the NCAA in the appropriate parts of the examination in accordance with paragraph 2 of the Supplement.

4.1.2 For flight alloy and dense metal welded structural component

- (a) Be able to read, write and converse in English Language
- (b) Have satisfactorily completed a course of instruction in radiography acceptable to the NCAA.



- (c) Produce evidence, satisfactory standard, acceptable to the NCAA, of at least six months recent work in the radiographic inspection of both ( or either if required separately) light alloy and dense metal welded aircraft structural components.
- (d) Have achieved a satisfactory standard, acceptable to the NCAA, in the examination detail in paragraph 2 of this Supplement.

## 5. EXAMINATION SYLLABUS

5.1 **Written Examination:** The written examination will include questions on the following:

- (a) The elementary principles of Radiographic theory and how these principles are related to the practical techniques of radiography.
- (b) The photographic aspects of radiography
- (c) Safety and protection against radiation hazards.

5.2 **Practical Test:** The practical test will consist of the following:

- (a) The development and recording of techniques for the inspection of typical aircraft structures including structural components.
- (b) The development and recording techniques for the inspection of welded structure components.
- (c) The practical application of the technique
- (d) Processing of Radiographs

5.3 **Interpretation Test:** The interpretation test will consist of the following:

- (a) The co-relation of the radiographs with the report
- (b) Identification of the various features in the radiographs

5.4 **Appropriate parts of the Examination:** The following parts are appropriate to the approval sought:

- (a) The written examination (paragraph 2.1) shall be undertaken by all radiographers.



- (b) Practical Test: Paragraphs 2.2 (a), (c) and (d) are applicable where approval is sought for inspection of aircraft structures and structural component. Paragraph 2.2 (b), (c) and (d) and applicable where approval is sought for inspection of welded structural components.
  - (c) An interpretation test (paragraph 2.3) shall be undertaken by all radiographers.
6. **RE-EXAMINATION:** The NCAA may require re-examination of a radiographer at times which will be notified in writing to the approved Organisation .

## **B. PROCEDURES FOR APPROVAL OF ORGANISATIONS CONCERNED WITH ULTRASONIC INSPECTION OF AIRCRAFT DURING MAINTENANCE AND OVERHAUL**

1. **Introduction:** Organisations engaged in ultrasonic inspection of aircraft during overhauls, repairs, replacement, modifications and inspection may be approved to be approved to provide reports and certify compliance in respect of this works, subject to compliance with the procedures set down in this Chapter 62 and the supplement.
2. **Application:** Organisation seeking approval, or the extension of an existing approval, for the ultrasonic work described in paragraph 1, shall make written application to the NCAA Directorate of Airworthiness Standards.
3. **Requirements for Grant of Approval**
  - 3.1 The Ultrasonic Inspection Department shall be organised under the direction of a person who has satisfied the requirements of the Supplement to this Chapter.
  - 3.2 All ultrasonic inspections shall be directly supervised, and the final certification made by a person who has satisfied the requirements of the supplement to this Chapter. Certification shall be in a form agreed by the NCAA.

Ultrasonic inspections concerned with the inspections required in approved Manuals, approved Maintenance Schedules, the NCAA Mandatory Aircraft Modifications and Inspections procedures and the Foreign Airworthiness Directives Volumes, shall be made in accordance with techniques approved by the manufacturers, or an appropriately approved Organisation unless an alternatives techniques has been accepted by the NCAA.

### **4. REQUIREMENTS FOR THE ULTRASONIC TECHNICIAN**

1. The following shall be satisfied by the person(s) required under paragraph 3.1 and 3.2 above.



- (a) Be able to read, write and converse in the English language.
- (b) Have experience, acceptable to the NCAA, of a minimum of one year dealing with practical inspection or aircraft, or alternative training or experience acceptable to the NCAA.
- (c) Have satisfactory completed a course of instruction in ultrasonic flaw detection acceptable to the NCAA.
- (d) Produce evidence, satisfactory to the NCAA, of at least six months recent work in ultrasonic inspection 2 of this supplement.
- (e) Have achieved a satisfactory standards, acceptable to the NCAA in the examination detailed in paragraph 2 of this supplement.

## 5. EXAMINATION SYLLABUS

5.1 **Written Examination:** The written examination will include questions on the following:

- (a) Modes of ultrasonic propagation in solids and liquids
- (b) Reflection, refraction, absorption and scattering of ultrasonic waves.
- (c) Piezo-electric crystals: basic essential of the construction and mode of operation of ultrasonic probes.
- (d) Methods of coupling ultrasonic probes to the work piece
- (e) Functions of the externally accessible controls normally fitted to ultrasonic flaw detection equipment.
- (f) Scope and limitations of ultrasonic flaw detection
- (g) Application of the reflection and transmission method of testing aluminium alloy and steel work piece, including welds.
- (h) The use of standards reference blocks for checking sensitivity of equipment and estimation of defect size and depth.
- (i) The recognition of defect indications and the interpretation of these.
- (j) Definition of the term “decibel” as applied to a unit of voltage (or amplitude) difference: the use of attenuators.
- (k) Recognition of false indications.

**Note:** The approach to the above subject should be practical rather than mathematical.



5.2 **Practical Test:** Ultrasonic flaw detection shall be carried out on a given number of specimens using contact scan techniques. The test on one specimen will include the estimation of defect size by means of standard reference blocks (flat bottom hole type) and suitable attenuators.

5.3 **Technical Preparations:** Ultrasonic flaw detection contact scan techniques, shall be prepared in respect of a number of specimens as follows:

- (a) Comprehensive inspection of one specimen
- (b) Inspection for a particular defect in the remaining specimens including the design of suitable test pieces.

6. **RE-EXAMINATION:** The NCAA may require re-examination of an ultrasonic technician at times which will be notified in writing to the approved Organisation.

### **C. PROCEDURES FOR APPROVAL OF ORGANISATION CONCERNED WITH MAGNETIC PARTICLE**

1. Inspection of aircraft during overhauls, repairs, replacements, modification and inspections may be approved to provide reports and certify compliance in respect of this work subject to compliance with the procedures set down in this Chapter 62.

2. Application organisations seeking approval or the extension of an existing approval, for the magnetic particle work described in paragraph 1, shall make written application to the NCAA Directorate of Airworthiness Standards.

#### **3. Requirement for Grant of approval.**

3.1 The magnetic particle inspection Department shall be organized under the direction of a person who has satisfied the requirement of the supplement to this Chapter.

3.2 All magnetic particle inspections shall be directly supervised and the final certification made by a person who has satisfied the requirements of the supplement to this Chapter. Certification shall be in a form agreed by the NCAA.

3.3 Magnetic particle inspections concerned with the inspection required in approved manuals, approved maintenance programme, the NCAA Mandatory Aircraft Modification and inspections summary and the Foreign Airworthiness Directives volumes, shall be made in accordance with techniques approved by the manufacturer or an appropriately approved organization unless an alternative technique has been accepted by the NCAA.



#### **4 Requirement for the magnetic particle technician.**

- 4.1 The following shall be satisfied by the persons required under paragraph 3.1 and 3.2 above.
- (a) Be able to read, write and converse in the English language.
  - (b) Have experience acceptable to the NCAA of a minimum of one year dealing with practical inspection of aircraft, or alternative training or experience acceptable to NCAA.
  - (c) Have satisfactorily completed a course of instruction in magnetic particle flaw Detection acceptable to the NCAA.
  - (d) Produce Evidence, satisfactory to the NCAA of at least six months recent work in magnetic particle inspection of aircraft.
  - (e) Have achieved a satisfactory standard equivalent (BINDT) to the British Institute of Non-destructive Testing (BINDT) or the American Standard of Non-destructive Testing (AMSNDT) in the examination detailed in paragraph 2 to this supplement.

#### **5. EXAMINATION SYLLABUS**

- 5.1 Written Examination. The written examination will included question on the following:
- (a) Characteristics of Aircraft materials
  - (b) Heat treatment
  - (c) Material Hardness
  - (d) Magnetic field/strength/Flux Density
  - (e) Electrics
  - (f) Magnetic INDUCTION
  - (g) Magnetic Particle machine
  - (h) Blade Light
  - (i) Optional Particle method/materials
  - (j) The recognition of defect indications and the interpretation of these.
  - (k) Recognition of false indications.
- 5.2 Practical Test magnetic particle flaw detection technique shall be prepared in respect of a number of specimens as follows.
- (a) Comprehensive inspection of one specimen
  - (b) Inspection for a particular defect in the remaining specimens including the design of suitable test pieces.
6. Examination: The NCAA may require re-examination of a magnetic particle technician at times which will be notified in writing to the approved organization.



## D. PROCEDURES FOR APPROVAL OF ORGANISATIONS CONCERNED WITH EDDY CURRENT INSPECTION OF AIRCRAFT DURING MAINTENANCE AND OVERHAUL.

1. **Introduction:** Organisations engaged in Eddy current inspection of aircraft during overhauls, repairs, replacement modifications and I inspections may be approved to provide reports and certify compliance in respect of this work, subject to compliance with the procedures set down in this chapter 62.
2. **Application:** Organisation seeking approval, or extension of an existing approval, for the Eddy current work described in paragraph 1, shall make written application to the NCAA Directorate of Airworthiness Standards.
3. **Requirements for Grant of Approval**
  - 3.1 The Eddy current department shall be organized wide the direction of a person who satisfied the requirements of the supplement to this chapter.
  - 3.2 All Eddy current inspection shall be directly supervised, and the final certification made by a person who has satisfied the requirement of the supplement to this chapter. Certification shall be in a form agreed by the NCAA.
  - 3.3 Eddy current inspections concerted with the inspection required in approved manuals, approved maintenance programme the NCAA Mandatory Aircraft Modifications and inspections Summary and Foreign Airworthiness Directives volumes, shall be made in accordance with techniques approved by the manufacturer or an appropriately approved organization unless an alternative technique has been accepted by the NCAA.
4. **Requirement for Eddy current technician.**
  - 4.1 (a) Be able to read, write and converse in the English Language.
  - (b) Have experience, acceptable to the NCAA of a minimum of 1 year dealing with practical inspection of aircraft, or alternative training or experience acceptable to the NCAA.
  - (c) Have satisfactorily completed a course of instruction in Eddy current flow detection to any level of the British institute of Non destructive testing standard or any level of the American standard of Non destructive testing standards or any other requirement standards acceptable to the NCAA.
  - (d) Produce evidence, satisfactory to the NCAA of at least six months recent work in Eddy current inspection of aircraft.
  - (e) Have achieved a satisfaction standard, acceptable to the CAA, in the examination detailed in paragraph 2 to this supplement.



## 5. Examination Syllabus

5.1 Written Examination: The written examination will include questions on the following:

- (a) Different types of cracks found on A/C
- (b) Alternating Current
- (c) Magnetic Fields
- (d) Rejection Criteria
- (e) Low Frequency Eddy Current Inspection
- (f) Medium Frequency Eddy Current Inspection
- (g) Heat Treatment
- (h) Heat Damage
- (i) Electrical Conductivity
- (j) Eddy Current Flaw Detection Equipments/Set up
- (k) High frequency Eddy Current inspection
- (l) The recognition of defect indications and the interpretation of these.
- (m) Recognition of false indications.

5.2 Practical Test. Eddy Current flaw detection shall be carried out on a given number of specimens. The tests on the specimen will include the estimation of defect size.

5.3 Technical preparation. Eddy Current flaw detection technique shall be prepared in respect of a number of specimens as follows:

- (a) Comprehensive inspection of one specimen
- (b) Inspection for a particular defect in the remaining specimens including the design of suitable test pieces.

6. Re-examination. The NCAA may require re-examination of an Eddy Current technician at times which will be notified in writing to the approved organization.

## E. APPROVAL OF WELDERS

1. **INTRODUCTION** This Chapter is applicable to persons who weld metallic parts which are essential to the airworthiness of an aircraft where the making of a sound joint by oxy-acetylene or arc-fusion welding techniques depends largely on the competency of the operator. Welders will be approved in accordance with the requirements of this Chapter and its Supplement.

NOTE: For the purposes of this Chapter 62, the term arc-fusion welding includes:

- (a) Manual metal-arc (MMA) welding,
- (b) Metal inert gas (MIG) welding, and
- (c) Tungsten inert gas (TIG) welding.





2. **GRANT OF APPROVAL** The procedures for the issue and control of welding approval are dependent upon the circumstances of employment of the welder. For welders not employed by an NCAA approved Organisation the provisions of paragraph 2.1 (c) shall apply. Where a welder is in the employ of an Organisation approved by the NCAA, the NCAA will not undertake direct approval of the welder. The Organisation is required to establish its own effective system for the control. They system shall, as a minimum, include records of all sample tests (and results) and a ready means of establishing the current qualification status of all welders employed. All records shall be available to the NCAA upon request, including details relating to welders who have since left the employ of the Organisation. No essential records, e.g Approval Cards and Test Reports shall be destroyed without the permission of the NCAA. A description of the control system shall be included in the Company Exposition required by the relevant NCAR Chapter and NCAA approval of the system will be indicated by inclusion of the control of welders in the Schedule of Approval.
- 2.1 The procedures for obtaining welder's approval are as follows:
- (a) Where the welder is employed by NCAA approved Organisation, that Organisation shall make arrangements for the welder to prepare and weld an appropriate test sample(s). The Organisation shall submit the test sample(s) to NCAA approved Test House for examination together with full particulars of the welder concerned, materials used, details of any post-welding treatment (e.g. heat treatment for stress relief) and identification marks on the test sample(s). Upon receipt of an Approved Test Certificate from the test house, indicating successful test results for the sample(s), the Organisation may grant approval to the welder. Only then may the welder be employed on work of significance to airworthiness.
  - (b) In the event of a welder leaving the employ of an Organisation approved by the NCAA, the welder may request the NCAA to grant a Welder's Approval Certificate for the welding approvals held while in the employ of that Organisation. It should be noted that grant of such an approval, is conditional upon the availability of evidence of prior qualification status, the NCAA can not accept responsibility for a previous employer's failure or inability to provide evidence.
  - (c) Welders not employed by NCAA approved organisation shall, under the supervision of a responsible person acceptable to the NCAA (see Notes 1 and 2), prepare and weld appropriate test sample(s) in accordance with these requirements and also complete NCAA relevant form. The test sample(s) shall be submitted to NCAA approved Test House for examination together with full particulars of the welder concerned, materials used , details of any post welding treatment (e.g. heat treatment for stress relief) and identification marks on the test sample(s). Upon receiving from the Test House an Approved Test Certificate indicating successful test results on the sample(s) the welder shall forward the original copy of the Approved Test Certificate and the complete



NCAA relevant forms. Grant of approval will be notified by issue of an NCAA Welder's Approval Certificate and Check Test Record Card to the welder. Both documents must be maintained in a legible condition by the welder and produced or surrendered to the NCAA upon request. Test House charges and any other costs associated with the process of meeting these requirements are the responsibility of the welder.

- NOTES:** (1) An Approved welder is not permitted to certify welded parts unless separately qualified as a person competent to issue a Certificate of Release to service e.g. holder of an appropriate Maintenance Engineer's Licence or equivalent approval.
- (2) A responsible person in the context of paragraph 2.1 (c) is either:
- (a) A person who holds an Aircraft Maintenance Engineer's Licence with a Type Rating.
  - or
  - (b) A person who is currently authorised as a Signatory within the NCAA approved Organisation. (The consent of the Approved Organisation responsible for granting such authorisation should be obtained by the Signatory before agreeing to supervise the preparation of weld test sample)
  - or
  - (c) Such other person specifically authorised in writing by the NCAA.
- (3) Welders' Approval Certificate issued prior to the May 1988 Revision of Chapter 4 may make reference to Sketches 3 and/or 4. All such references shall be interpreted as being equivalent to Figure 3 of the Supplement to this issue of Chapter 4.
- (4) Paragraphs 2.1 (a) and 2.1 (c) refer to identification marks on test samples. These shall be made permanent i.e. stamp, vibro-etch, or indelible marking medium and they shall identify the welder and material specification. When preparing and welding the sample, care should be taken not to obliterate any markings thereon.

### 3. MAINTENANCE OF APPROVAL

- 3.1 The validity of a welder's approval may be maintained by the procedures detailed in paragraphs 3.1.1. or 3.1.2 as appropriate. Should approval be sought in a different combination (see Supplement) than that shown on the Welder's Approval Certificate or documents, the procedure for the grant of approval as prescribed in paragraph 2.1. must be followed.



- 3.1.1 Where the welder is employed by an Organisation approved by the NCA, the approved Organisation shall arrange for periodic check examinations of the welder's competency. At each periodic check examination an appropriate standard test sample (see Supplement) or such other test samples to be decided by the approved Organisation shall be completed by the welder using techniques and materials detailed in the Supplement, or by using techniques and material used in standard work practices appropriate to the maintenance of approval. For welders holding approval for more than one configuration (i.e. sheet to sheet, sheet to tube or tube to tube) it will normally only be necessary to provide a single test sample provided that the NCAA is satisfied it is representative of the welder's main day-to-day work. However, a separate initial test sample will be required for each technique and material group specified in the welder's approval.

Test samples shall be sent to NCAA approved Test House under arrangements made by the approved Organisation. If the test results of this examination are satisfactory the Welder's Approval document shall be endorsed by the approved Organisation. Complete records of the periodical check examinations shall be kept at the Organisation. The check test records for each welder must indicate the date for the next check test in advance so that the test can be completed and the results known within the period of approval of the welder. All records shall be held available to the NCAA.

- 3.1.2 The maximum period between check examinations shall be 12 months. Organisations shall arrange for the relevant test within the period of validity of the previous test period to ensure continuity of approval.
- 3.1.3 If the test results are unsatisfactory, the approved Organisation shall arrange for the check examinations to be repeated immediately and the samples sent to an approved Test House for examination. During the period between any check test which proved unsatisfactory and the result of the next check test, the welder shall not weld parts which are essential to the airworthiness of an aircraft. If the test results are again unsatisfactory, the welder's approval shall be suspended until further training and/or experience has been gained to the satisfaction of the approved Organisation and a further test has been satisfactorily completed.
- 3.1.4 Welders who are not employed in accordance with the conditions of paragraph 3.1.1 shall arrange for a check examination to be carried out



at periods not exceeding 12 months. The same procedure as for the issue of Welder's Approval Certificate in paragraph 2.1 (c) shall apply except that, for welders holding approval for more than one configuration (i.e. sheet to sheet, sheet to tube, tube to tube) it will normally only be necessary to provide a single test sample, provided that the NCAA is satisfied it is representative of the welder's main day-to-day work. However, a separate initial test sample will be required for each technique and material group specified in the welder's approval.

- 3.1.5 If the test results are unsatisfactory the applicant shall prepare new test samples and arrange for the check examination to be repeated immediately at NCAA approved Test House. During the period between any check which proves unsatisfactory and the result of the next check test, the welder shall not weld parts which are essential to the airworthiness of an aircraft. If the result of the re-test is again unsatisfactory, the welder shall notify the NCAA. The approval will be suspended from the date of the first unsatisfactory examination and remain so until further training and/or experience has been gained and a further test has been satisfactorily completed.
- 3.1.6 A check test record must be kept to indicate the date for the next check test in advance so that the test can be completed and the result known within the period of approval of the welder. All records shall be made available to the CAA.
- 3.2 The NCAA may select samples of an approved welder's work at any time for additional check examination purpose.



## SUPPLEMENT TO CHAPTER 62

### APPROVAL OF WELDERS

1. **INTRODUCTION** Welders shall be approved in accordance with the technical requirements of this Supplement to Chapter 62.
  
2. **MATERIAL GROUPS** Approval may be granted in any of the following groups:
  - Group 1 - Aluminium Alloys
  - Group 2 - Magnesium Alloys
  - Group 3 - Carbon Steels
  - Group 4 - Corrosion and Heat-Resisting Steels
  - Group 5 - Nickel Alloys
  - Group 6 - Copper Base Alloys
  - Group 7 - Titanium Alloys
  - 2.1 For the purpose of this Supplement to Chapter 62 the following Definitions shall apply:

Combination	-	Material group, configuration and technique
Configuration	-	A sample produced to Figure 1, 2 or 3
Technique	-	The welding method e.g. oxy-acetylene or arc-fusion
Test Sample (Standard)	-	As detailed in Figure 1, 2 and 3
Test Sample (Special)	-	As dictated by the nature of work being undertaken (e.g. repair or rebuild fan blades e.t.c.)
  
  - 2.2 Approval, when granted to the welder, shall be restricted to the combinations for which satisfactory examination reports from an approved Test House are available to the NCAA or the Approved Organisation, in accordance with the procedure under which the welder is to be approved, Nig. CARs Part 6 refers.

Alternatively, special test sample, agreed by the CAA or the Approved Organisation, should be prepared if required for a specific application and the approval, when granted will be restricted accordingly.
  
3. **TEST SAMPLES AND SPECIMENS** Standard test samples for oxy-acetylene and arc-fusion welding shall be prepared by the welder using the techniques and materials appropriate to the approval sought. The specifications of the material used for test samples must meet the requirements of the material groups defined in paragraph 2 and be representative of materials likely to be encountered by the welder in the course of his normal work. NCAA approved certificates are not necessary and material of good commercial quality may be appropriate. However, if the material used is not a British Standards or other generally recognised aerospace specification a typical aircraft application must be quoted to the NCAA approved Test House as part of the material specification. The NCAA or the Approved Organisation may decide that special test samples are required appropriate to the work to be undertaken by the welder. The preparation of test samples shall be supervised as defined in Chapter 4(E) paragraph 3.1.



3.1 **Standard Test Samples.** The standard test samples for oxy-acetylene and arc-fusion welding shall be prepared to Figure 1, 2 and 3 as appropriate.

3.1.1 The welds of test samples shall not be hammered or dressed unless specifically required.

3.1.2 The test samples shall be submitted complete and suitably identified (see Chapter 4 paragraph 2.1 Note (4) to NCAA approved Test House.

3.1.3 Where appropriate, e.g. for light aircraft structural applications, tube wall thickness may be reduced. In certain cases, where the nature of a welder's activities regularly involve welding thin wall tube, the controlling organisation or authority may require test specimen to be prepared from material of reduced wall thickness.

3.2 **Cutting Test Specimens.** Test specimens shall be cut by the approved Test House.

3.2.2 Test specimens in magnesium must be sawn from samples and filed to final shape to prevent the possibility of cracking.

#### 4. MECHANICAL TESTING

4.1 **Tensile Test Specimens.** Tensile test specimens shall be tested to destruction in direct tension. The minimum acceptable tensile strength of the weld test specimen shall be determined by reference to public-domain DEF STAN 00-932 or by reference to NCAA recognised Design Authority who can judge the acceptable levels of weld strength required for typical applications of the weld technique in question.

4.1.1 **Sheet to Sheet Butt Weld (Figure 1)** If a tensile specimen prepared in accordance with Figure 1 should break through the weld, it is considered satisfactory only if the ultimate stress is found to be equal to, or greater than, the minimum value given in the appropriate specification.

4.1.2 **Tube to Tube Weld.** Tensile specimens prepared in accordance with Figure 3 shall be broken in a tensile test machine fitted with suitable shackles and pins, the pins being passed through the top and bottom cross tubes of the specimen so that the end load may be applied without bending.

4.2 **Bend Test Specimens (Figure 1).** Bend specimens shall be tested in bending so that the weld lies along the centre line of the bend and the base of weld 'V' is on the inner side (unless otherwise stated) over the radius of bend appropriate to the test.



4.2.1 To ensure close contact of the specimen to the bar about which it is bent, the side of the specimen remote from the weld face must be dressed by filling or grinding until the weld is level with the parent metal. It may also be necessary to dress the other face to facilitate bending. The edge of the specimen in the vicinity of the weld must be given reasonable radii.

4.2.2 Bend test specimens of austenitic steel must be given the 'weld decay' pickling test prescribed with in the relevant specification or in accordance with British Standard 5903, and must be bent through  $90^{\circ}$  over a radius equal to three times the normal thickness of the parent metal.

4.2.3 Magnesium alloy specimens must be bent through  $180^{\circ}$  over a radius equal to ten times the nominal thickness of the parent metal.

4.2.4 Aluminium alloy specimens must be bent through  $180^{\circ}$  over a radius equal to five times the nominal thickness of the parent metal.

4.2.5 Boron-containing steels must be bent through  $180^{\circ}$  over a radius equal to three times the nominal thickness of the parent metal.

4.2.6 Titanium alloy specimens must be bent through  $180^{\circ}$  over a radius equal to five times the nominal thickness of the parent metal.

4.2.7 Specimens of all other materials must be bent through  $180^{\circ}$  over a radius equal to twice the nominal thickness of the parent metal.

4.2.8 the bend tests may be considered satisfactory if the test specimen withstands the bending without showing cracks which are apparent to nominal vision.

NOTE: If interpretation of the bend results in doubt, comparison may be made with the bend test performance of a separate sample of the parent material from which the test specimens were fabricated.

## 5. SPECIMEN EXAMINATION

5.1 Final assessment of the weld shall be based on consideration of the sample weld as a whole, including the result obtained by visual, microscopical and where applicable, mechanical testing. If any doubt exists regarding the quality of the weld, or any defect revealed is thought to be of a local character, further sections may, if available, be examined and final assessment shall be based on all the specimens examined.



- 5.2 The micro specimen shall be examined at suitable magnification in the unetched and the etched condition.
- 5.3 the presence of intergranular oxide film is considered to be detrimental to the weld due to the embrittling effect, but the extent of these film is very difficult to determine in etched specimens. If the area of intergranular oxide is only very slight and satisfactory results are obtained by mechanical testing, further sections of the weld shall be examined before a decision is reached.
- 5.4 Where fillet welds are concerned, unless complete fusion is required by the drawing, a certain degree of lack of fusion is permissible at the roots:
- (a) For fillet welds of  $45^{\circ}$  or more, the maximum lack of fusion which can normally be accepted is that revealed by a line of oxide extending from the root of the weld for a distance not greater than one-third of that between the root and the toes of the weld. Provided the amount of weld material used has been adequate, this method of assessment should ensure that the effective throat thickness of the weld is not less than the thickness of the sheets or tubes used for the specimens.
  - (b) For fillet welds at acute angle, full root in tubular sections can be difficult to achieve and there is a danger of collapse of the tube walls if excessive penetration is attempted. The presence of a fairly large cavity, or corresponding lack of fusion, is permissible at the root of such welds but there should be a bridge of weld metal of a reasonable throat depth, showing satisfactory fusion to the basic metal.
- 5.5. **Sheet to Sheet But Welds.** The section must be free from excess oxidation, burning, cracks, cavitations, porosity, scale and slag. The specimen must show adequate penetration and with specimens welded from one side only, there should be evidence of adequate penetration when underside of the weld is examined. If excessive penetration has occurred along the majority of the weld the specimen must be rejected, but isolation excrescence on the underside are permissible, provided the weld itself is free from cavities, oxide films and other defects.

**F. PROCEDURE FOR APPROVAL OF ORGANISATION CONCERNED WITH DYE PENETRANT INSPECTION OF AIRCRAFT DURING MAINTENANCE AND OVERHAUL**





**1. INTRODUCTION**

Organisation engaged in dye penetrant inspection of aircraft during overhaul, repairs, replacement modifications and inspections may be approved to provide reports and certify compliance in respect of this work, subject to compliance with the procedures set down in this Chapter 62 and the Supplement.

**2. APPLICATION:** Organisation seeking approval or extension of existing approval for the dye penetrant work described in paragraph 1 shall make written application to NCAA Directorate of Airworthiness Standards.

**3. Requirement for Grant of Approval**

3.1 The dye penetrant inspection Department shall be organised under the direction of a person who has satisfied the requirements of the Supplement to this Chapter.

3.2 All dye penetrant inspection shall be directly supervised and final certification made by a person who has satisfied the requirements of the Supplement to this Chapter. Certification shall be in a form agreed by the NCAA.

3.3 Dye penetrant inspections concerned with the inspection required in approval manuals, approved maintenance programme, the NCAA Mandatory Aircraft Modifications and inspections summary and Foreign Airworthiness Directives volumes shall be made in accordance to techniques approved by the manufacturer or on appropriately approved organisation unless an alternative technique has been accepted by the NCAA.



## SUPPLEMENT TO CHAPTER 62 (F)

### **PROCEDURE FOR APPROVAL OF ORGANISATION CONCERNED WITH DYE PENETRANT INSPECTION OF AIRCRAFT DURING MAINTENANCE AND OVERHAUL**

#### **Requirement for the Dye Penetrant Technician**

The following shall be satisfied by the person(s) required under paragraph 3.1 and 3.2 of Chapter 62 (F) above.

- (a) Be able to read, write and converse in the English Language
- (b) Have experience, acceptable to NCAA of a minimum of 6 months dealing with practical inspection of aircraft or alternative training or experience acceptable to the NCAA.
- (c) Have satisfactorily completed a course of instruction in Dye Penetrant Inspection acceptable to the NCAA.
- (d) Produce evidence, satisfactory to the NCAA of at least six months recent work in Dye penetrant inspection of aircraft.
- (f) Having achieved a satisfactory standard, acceptable to the NCAA in the examination detailed in paragraph 2 of this Supplement.

#### **2. EXAMINATION SYLLABUS**

- 2.1
  - (a) Types of dye penetrant
  - (b) Types of penetrant indications and the interpretation of those
  - (c) Capillary actions
  - (d) A/C Materials
  - (e) Dye penetrant Equipments/set-up[
  - (f) Scope and limitations of dye penetrant inspection
  - (g) Methods of administering dye penetrant inspection on aircraft surfaces.
  - (h) Recognition of false indications.

NOTE: Approach to the above subject should be practical

2.2 **Practical Test:** Dye penetrant flaw detection shall be carried out on a given number of specimens.

2.3 **Technical Preparation:** Dye penetrant inspection techniques shall be prepared in respect of a number of specimens as follows:

- (a) Comprehensive inspection of one specimen
- (b) Inspection for a particular defect in the remaining specimens including the design of suitable test pieces.

3. **Re-Examination:** The NCAA may require re-examination of an dye penetrant technician at times which will be notified in writing to the approved organisation.



## CHAPTER 56

### PROCEDURES FOR REPORTING SUSPECTED UNAPPROVED PARTS ( SUP)

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#### 1.0 OBJECTIVE

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This chapter provides guidance for reporting Suspected Unapproved Parts (SUP)

#### 2.0 GENERAL

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Systems used by end users to report to the Type Certificate Holder and regulatory agencies are intended to provide widespread warning of the detection of unapproved parts so that operators of similar equipment can be made aware as soon as possible. The inspector should ensure that the AMO has established a process for reporting SUP's.

#### INITIAL NOTIFICATION

A SUP can be detected and/or reported through various means such as submission of an NCAA form AC-AWS035, reports or notifications generated by the Safety hotline, complaints, accidents, incident investigations, surveillance activities or Service Difficulty Reports. When NCAA personnel discover or are made aware of SUP, they shall ensure it is reported on NCAA form AC-AWS035 (SUP Notification Form). Form AC-AWS035A (SUP Status Report Form)

#### 3.0 PROCEDURES

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- a. Solicit Necessary Information
- b. Receipt of Parts (to include photograph pictures)
- c. NCAA form AC-AWS035 processing - Action office will evaluate information and determine the next course of action.
- d. NCAA Form AC-AWS035A Processing – Data from NCAA form AC-AWS035 will serve as the preliminary information to be entered onto NCAA form AC-AWS035A and used for the investigation. It is used by the action office to maintain on-going data on the case.

#### INVESTIGATION ACTION/OUTCOMES

Upon receipt of NCAA form AC-AWS035A, the action office should review the notification and determine if additional information is required.



- a. Conduct preliminary research – Inspector should conduct a preliminary review of the information and query other references which may be of assistance such as Service Difficulty Reports or Program Tracking
- b. Develop an Investigation Plan – Before initiating an investigation, the Inspector should consider the circumstances and nature of the allegation and determine if technical assistance is required.
- c. Initiate the Investigation – Action office shall investigate reports to the extent necessary to determine if the SUP notification can be substantiated.
- d. Determine Priority of Investigation –
- e. Verify SUP Allegation – Confirm the identity, quantity and location of the part(s), where they were manufactured and by whom, who participated in the production and/or distribution, what other parts were produced which may also be affected and update NCAA form AC-AWS035A accordingly.
- f. Determine if criminal activity is suspected
- g. Conduct Investigation – Ensure that the following are observed, Scope, Timeliness, Securing evidence, Investigative Depth, Enforcement action, resistance/conflict.
- h. Determine Status of Parts – If part is determined to be unapproved, specific action may be taken to make a determination that the part meets the requirements to be acceptable for installation on a TC product.
- i. Removal of Unapproved Part. – SUP program objectives necessitate the requirement to inform the aviation industry of the existence of unapproved parts and the removal of these parts from the aircraft as soon as practicable. Operation of an aircraft with unapproved parts installed may result in a violation of the applicable parts of the Nigerian CARs

## **REPORTING UNAPPROVED PARTS DISCOVERED DURING CERTIFICATION OR SURVEILLANCE**

Unapproved parts referred to in this paragraph are those discovered during the course of routine work functions (by Aviation Safety Inspectors) which are confirmed to be unapproved, and do not require further investigation.

- a. **New Parts Contained Within A Quality Control System.** – New parts which are contained within a certificate holders quality control system (not yet released) and are either confirmed to be unapproved, or SUP, are not required to be reported unless other parts produced in that same 'batch' or 'lot' have been shipped (escaped).



- b. **New Parts Which have been Shipped/Other Parts Approved for Return to Service.**  
– Parts which are confirmed to be approved, which have been maintained, repaired, rebuilt, overhauled, or altered and are represented as having been 'approved for return to service', or new parts which are discovered outside the quality system of the certificate holder, must be reported through the SUP reporting process.

### **FIELD NOTIFICATIONS**

Field Notifications cover a broad range of mediums through which information regarding SUPS may be disseminated. FN may take the form of an AD, direct mailing, Flight Standards Information Bulletin, an entry into a General Aviation Airworthiness Alerts publication, an entry into an issue of the Service Difficulty Reporting Summary, a Special Airworthiness Information Notice, a display on an Internet site, or computer bulletin board, or any combination thereof. With the exception of AD's, the content of FNs is basically the same.

- a. Airworthiness Directives – Based on the information discovered by the SUP investigation and/or any other relevant information, the Action Office shall contact the appropriate ACO for determination if an AD is warranted.
- b. Field Notifications other than AD's – If an AD is not warranted and it is determined that the aviation community should be advised of the SUP, an FN should be published. The information contained in the FN must be factual and contain the following information as a minimum.
- i. The specific aircraft and parts affected, including quality
  - ii. A brief narrative describing who, what, when, where, and how to include the name of the party responsible and/or accountable for introducing the unapproved part into the system.
  - iii. Description of how the part can be traced.
  - iv. A recommendation for part removal or segregation.
  - v. The address, telephone, fax number of the Action Office which will respond to public enquiries/responses.

### **REPORT PROCESSING/CASE CLOSURE**

- a. **Investigation Completed** – NCAA form AC-AWS035A and supporting documents are forwarded to the SUP coordinator when all parties are satisfied that the investigation is completed.
- b. **Verify Conditions (Unapproved Parts)** – Action Office shall ensure unapproved parts have been reported, quarantined, removed from service (or scheduled) and an FN has been initiated.
- c. **Substantiate Findings for Approved Parts** – If the investigation discloses confirmation that the SUP meets the criteria of an 'approved part' the narrative block of NCAA form AC-AWS035A should clearly outline the action taken which led to this determination.



- d. Forward NCAA Form AC-AWS035A – All relevant portions of the form must be completed and contain accurate information when the case is recommended for closure. Attachments to Form AC-AWS035A should include copies of all pertinent documents which were created or copied during the course of the investigation such as photographs, notes, documented interviews, records of telephone conversations and meetings formal letters, Ads or draft FN is issued and the procedures implemented to remove the unapproved parts from the system. Action office shall review form AC-AWS035A and attachments presented for closure and notify the SUP coordinator with a status determination.



**NIGERIAN CIVIL AVIATION AUTHORITY  
SUSPECTED UNAPPROVED PARTS REPORT**

Refer to page 2 for instructions on how to complete this form.

1. Date the Part Was Discovered:		2. Part Name:	
3. Part Number:		4. Part Serial Number:	
5. Quantity:	6. Assembly Name:	7. Aircraft Make & Model:	
	Assembly Number:		
8. Name, Address, and Description of the Company or Person Who Supplied or Repaired the Part:			
Name:		Street Address:	
City:	State:	Postal Code:	
Country:		Phone Number:	
Check One of the Following Applicable to the Company or Person Who Supplied or Repaired the Part:			
<input type="checkbox"/> Air Operator Certificate #		<input type="checkbox"/> Supplier	
<input type="checkbox"/> AMEL – Licence #		<input type="checkbox"/> Production Approval Holder	
<input type="checkbox"/> AMO Certificate #		<input type="checkbox"/> Manufacturer	
<input type="checkbox"/> Distributor		<input type="checkbox"/> Other	
<input type="checkbox"/> Owner/Operator		<input type="checkbox"/> Unknown	
9. Description of the Issue:			
10. Name and Address of (the Company or Person) Where the Part Was Discovered:			
Name:		Street Address:	
City:	State:	Postal Code:	
Country:		Phone Number:	
Check One of the Following Applicable to the Company or Person Who Discovered the Part:			
<input type="checkbox"/> Air Operator Certificate #		<input type="checkbox"/> NCAA Inspector	
<input type="checkbox"/> AMEL - Licence #		<input type="checkbox"/> Accident Investigation Bureau (AIB)	
<input type="checkbox"/> AMO - Certificate #		<input type="checkbox"/>	
<input type="checkbox"/> Distributor		<input type="checkbox"/> Other Government Agency	
<input type="checkbox"/> Supplier		<input type="checkbox"/> Foreign Civil Aviation Authority	
<input type="checkbox"/> Production Approval Holder		<input type="checkbox"/> Owner/Operator	
<input type="checkbox"/> Unknown		<input type="checkbox"/> Other	
11. Date of This Report:			
12. <input type="checkbox"/> Check this box if you request anonymity - <i>Do not complete blocks 13-15.</i>			
13. Name and Address of the Reporter:			
Name:		Street Address:	
City:	State:	Postal Code:	
Country:		Phone Number:	
14. <input type="checkbox"/> Check this box if you request confidentiality.			
15. <input type="checkbox"/> Check this box if you <u>do not</u> wish to receive an acknowledgment letter.			
16. <input type="checkbox"/> Check this box if you have attached additional information.			

**Instructions for Completing NCAA Form AC-AWS035, Suspected Unapproved Parts Report**

1. Record the date the part was discovered.
2. Record the part name (or a description of the part).
3. Record the part number or identification number of the part.
4. Record the serial number on the part, if applicable.
5. Record the quantity of parts.
6. Record the assembly name and assembly number (where the part was or could be installed).

Example: Part Name: Strut Part Number: PN 12345 Serial Number: 678  
 Quantity: 1 Assembly Name: Main Landing Gear Assembly Number: PN 90101112

**Note: Record additional part numbers on page 3 or a blank sheet of paper with the following column headers:**

Part Name — Part Number — Serial Number — Quantity — Assembly Name —  
 Assembly Number

7. Record the type of aircraft the part was (or could be) installed on.
8. Record the complete name and address of the company or person who produced, repaired, and/or sold the part. Do not list a P.O. Box address unless a street address is not available.

Check the box that describes the company or person. Provide the certificate number, if known.

<b>Air Operator Certificate Holder</b> - An NCAA-certificated company or person who undertakes directly by lease, or other arrangement, to engage in air transportation.	<b>Supplier</b> - A company or person who furnishes aircraft parts or related services, at any tier, to the producer of a product or part thereof.
<b>Certifying Staff</b> - A person holding an NCAA Aircraft Maintenance Engineer Licence with airframe and/or powerplant ratings or avionic.	<b>Production Approval Holder</b> - A company or person holding one of the following four types of production approvals: production certificate, approved production inspection system, parts manufacturer approval, or technical standard order authorization issued by NCAA, the State of Design or Manufacture.
<b>AMO</b> - An NCAA-certificated Approved Maintenance Organisation.	<b>Manufacturer</b> - The original equipment manufacturer (OEM.)
<b>Distributor</b> - A broker, dealer, reseller or other person or agency engaged in the sale of parts.	<b>Other</b> -Record other type of business.
<b>Owner/Operator</b> - The owner or operator of an aircraft.	<b>Unknown</b>

9. Record a brief narrative stating why you believe the part is not approved. Include a description of the part (improper configuration, suspect marking, different material, etc.), where it was obtained, and what type of documentation was supplied with it.



10. Record the complete name and address of the location where the part was found. Check the appropriate block to reflect the affiliation of the company or person who discovered the part.
11. Record the date the NCAA Form AC-AWS035 is being submitted.
12. Check this box if you request anonymity (do not wish to provide your identity), and do not complete 13, 14 or 15.
13. Record your name, address and phone number, if desired. This information will enable the NCAA to contact you for additional information, if necessary.
14. Check this box if you request confidentiality of your personal information recorded in block 13.
15. Check this box if you do not wish to receive a letter acknowledging the NCAA's receipt of NCAA Form AC-AWS035.
16. Check this box if you have provided additional information (photos, invoices, certification statements, etc.)

**Forward the completed NCAA Form AC-AWS035, Suspected Unapproved Parts Report, to:**

**NCAA DIRECTORATE OF AIRWORTHINESS STANDARDS Office,  
HEADQUARTERS ANNEX  
MURTALA MUHAMMED AIRPORT, IKEJA**

**Email: [airworthiness.standards@ncaa.gov.ng](mailto:airworthiness.standards@ncaa.gov.ng)**

**An electronic copy of NCAA Form AC-AWS035, Suspected Unapproved Parts Report, is available on the Directorate of Airworthiness Standards Office's NCAA website at [www.ncaa.gov.ng](http://www.ncaa.gov.ng). You may complete the electronic NCAA Form AC-AWS035 and send it the SUP Program Office e-mail address via this website.**



**NIGERIAN CIVIL AVIATION AUTHORITY  
SUSPECTED UNAPPROVED PARTS (SUP) STATUS REPORT**

NCAA

Refer to page 2 for instructions on how to complete this form.

<b>1. SUP Case Number:</b>		<b>Case Start Date:</b>	<b>2. Part Name:</b>	
<b>3. Part Number:</b>			<b>4. Part Serial Number:</b>	
<b>5. Part Model/ Manufacturer:</b>	<b>6. Next Higher Assembly:</b>		<b>7. Next Higher Assembly Pin:</b>	
<b>8 Application:</b>			<b>9. Quantity:</b>	
<b>10. Case Status:</b>		<b>11. Part Critically Category:</b>		
<b>12. Action Office:</b>			<b>13. Law Enforcement Involvement:</b>	
<b>14. Aircraft Group:</b>			<b>15. Aircraft Make/Model/Series</b>	
<b>16. Name &amp; Address of Person/CO under Investigation:</b>				
<b>17. Name &amp; Address of the Physical Location where the Part was Found</b>				
<b>18. SUP Reported by:</b>			<b>19. Date SUP Discovered</b>	
<b>20. NCAA Hotline Case:</b>			<b>21. Reporter Anonymous:</b>	
<b>22. Reporter confidential:</b>			<b>23. FOIA Number:</b>	
<b>24. Connecting Cases:</b>		<b>25. Description of SUP event/ Complaint (Narrative):</b>		
<b>26. Status of Investigation:</b>			<b>27. Investigation Result (Narrative):</b>	

<b>28. Case Result:</b>	<b>29. Unapproved Part Issue:</b>
<b>30. Field Notification:</b>	<b>31. Enforcement Activities:</b>
<b>32. Investigation Completed by:</b>	<b>33. Directorate/Regional Approval:</b>
<b>34. Active Office Review:</b>	<b>35. Total Hours for Investigation:</b>

## APPENDIX 2. NCAA FORM AC-AWS035A INSTRUCTION

- |     |                                      |  |
|-----|--------------------------------------|--|
| 1.  | SUP Case number:<br>Case Start Date: | Assigned by Action Office<br>The case date generated by Action office                    |
| 2.  | Part Name:<br>multiple               | Identify the name of the part. When parts are involved, add them to the second page.     |
| 3.  | Part Number:<br>part. When           | Part number or any other number on multiple parts are involved, and them to second page. |
| 4.  | Part serial number:                  | Serial number on part.   |
| 5.  | Part Model/Manufacturer:             | Manufacturer(s) part i.e. GE, Raytheon, etc  |
| 6.  | Next Higher Assembly:                | The assembly the part is installed on.   |
| 7.  | Next Higher Ass'y PN:                | Part number of the assembly.   |
| 8.  | Application:                         | Choose one application for the part.   |
| 10. | Case status:                         | Reflect open/closed investigation  |
| 11. | Part Criticality Category:           | As defined in FAA Order #8120.10   |
| 12. | Action Office:                       | Reflect the investigating office   |

- |     |   |  |
|-----|---|--|
| 13. | Law Enforcement Involvement:                                      | Indicate LEA involvement   |
| 14. | Aircraft Group:   | Choose the one that is most applicable for the part(s)   |
| 15. | Aircraft Make/Model/Series:                                       | List all aircraft on which the unapproved part may be installed.   |
| 16. | Name & Address of person/Co. investigation.                       | This reflects the current focus of the The SUP Under Investigation: investigation is to update/change as necessary |
| 17. | Name & Address of the physical Location Where the Part was Found: | Location where the SUP was found   |
| 18. | SUP Reported by:  | To be completed by Action Office   |
| 19. | Date SUP discovered:  | Reference block #10 on the NCAA form 8120.11. to be completed by Action Office.                                    |
| 20. | NCAA Hotline Case#:   | Provide hotline number if applicable   |
| 21. | Reporter Anonymous: completed by Action                           | Reflect reporter is anonymous. To be Office.   |
| 22. | Reporter confidential: confidential. Reference AWS035.            | Reflects reporter desired to remain block #13 on the NCAA Form AC-   |
| 23. | FOIA Number:  | Provide FOIA request number if applicable.   |
| 24. | Connecting Cases:   | Reflect common/connected cases. To be completed by Action Office Updated by investigator as necessary.             |
| 25. | Description of SUP Event/ Complaint (Narrative)                   | Describe SUP allegation.   |
| 26. | Status of Investigation:  | Reflects status of investigation   |

- |     |   |   |
|-----|---|---|
| 27. | Investigation Results findings etc, (Narrative) sheets as | Write a short narrative to include results, continue on back of form and additional necessary.  |
| 28. | Case Result:  | Applies to the case. If an unapproved part is confirmed during investigation the case closure will be reflected as unapproved part case.      |
| 29. | Unapproved Part Issue:                                    | If it is unapproved part case choose one that best fits the investigation outcome.  |
| 30. | Field Notifications:                                      | Check all that apply to the case.   |
| 31. | Enforcement Activities:                                   | Insert the enforcement investigation report number.   |
| 32. | Investigation Completed by:                               | Reflects the investigating Aviation Safety Inspector  |
| 33. | Directorate/Regional Approval:                            | Signature of Manager or SUP Coordinator   |
| 34. | AVR-20 Review:  | Three AVR-20 staff personnel will sign. this reflects case closure.   |
| 35. | Total Hours for Investigation:                            | Record the current total number of hours used for the investigation (update as necessary) investigators, support staff, SUP Coordinator, etc. |



## CHAPTER 57

### PROCEDURES FOR ISSUANCE OF AIRCRAFT CERTIFICATE OF REGISTRATION, RESERVATION OF REGISTRATION MARKS AND DEREGISTRATION AIRCRAFT

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#### 1.0 OBJECTIVE

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This chapter provides guidance for registration, reservation of registration marks and deregistration of aircraft. Reference: ICAO, Annex 7, ICAO Document 9760 Vol. I Chapter 5, Nig. CARs Part 4.

#### 2.0 GENERAL

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The proper registration of aircraft is fundamental to the safety of international air operations and is therefore accorded considerable attention in Chapter III of the Convention on International Civil Aviation. Further, details on the registration and marking of aircraft are contained in Annex 7 to the Convention. 5.1.2 In accordance with international provisions, each aircraft must be registered in a State and each State must maintain a registry of aircraft. An aircraft cannot be validly registered in more than one State, but its registration may be changed from one State to another. The Convention does not provide for an aircraft to be registered by an international organization such as an agency of the United Nations; however, Article 77 of the Convention does provide for two or more Contracting States to establish joint air transport operating agencies subject to ICAO Council determination as to how the provisions of the Convention will apply concerning the registration and nationality of the aircraft operated by such agencies. To date no such agencies have been formed. Subject to any future action the Council might take in respect of joint operating agencies, each aircraft must have only one State of Registry and that State has, among a number of responsibilities in respect of each aircraft on its register, a fundamental responsibility to ensure that the aircraft is operated in an airworthy condition.

Under Article 19 of the Convention, the registration or transfer of registration of aircraft in any Contracting State shall be made in accordance with its laws and regulations. Accordingly, the Director, CAA will need to ensure that the State adopts detailed regulations covering all aspects of registration including such matters as the basic requirement for aircraft to be registered with the State's application procedures, data required, display of the registration certificate and fees (if any). The Director-General has put administrative instructions in place on the maintenance of the register within the NCAA.

Annex 7 requires that the register of each State shall show, for each aircraft registered, the information recorded in the certificate of registration. The NCAA's certificate of registration shall be carried in the aircraft at all times and shall in wording and arrangement conform with ICAO standards.



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### 3.0 PREREQUISITES

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- A. Knowledge of the NCAA regulatory requirements (Nig. CARs Part 4).

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### 4.0 PROCESSES

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#### 4.1 AIRCRAFT REGISTRATION PROCEDURE

Follow the flow – chart in the CL: O-AWS016 and do the following at each of the stages specified:

1. A qualified applicant is as in the Nigeria Civil Aviation Regulations Part 4
2. Applicant submits application package for C of R
3. DG minutes application to DAWS
4. DAWS minutes application to officers in – charge of registration
5. Vet application for completeness as per list of requirements for C of R using form AC-AWS001A (**NOTE: THERE MUST BE AN EVIDENCE OF DE-REGISTRATION FROM PREVIOUS STATE OF REGISTRY**)
6. If items are not complete, acknowledge receipt of application using form AC-AWS003F. Check “Unsatisfactory” and attach list of requirements with a mark “X” against unacceptable or documents not submitted.
7. Indicate on this form if type certificate acceptance is required in accordance with Nigeria Civil Aviation Regulations Part 5.
8. Inform applicant of outstanding requirements.
9. If application is satisfactory, carry out a detail review of the package as follows:
10. Verify the aircraft specification (use the aircraft type data sheet)
11. Send the application package to NCAA legal department to evaluate.
12. The legal department reviews the application package and returns it. If there are observations, applicant is notified with reasons why the application cannot be processed further.
13. If it is satisfactory the final process of issuance of the C of R is initiated, by verifying if all regulatory requirements as on list of requirements have been complied with.
14. Open a C of R file
15. Assign a C of R file # CA05/XXXX from the aircraft register sequentially
16. Assign the next registration marks sequentially from the aircraft register
17. Assign a registration number next on the list of available marks or special registration marks reserved by the applicant.
18. Print out 3 copies of the C of R (ref. to C of R sample form)





19. Submit C of R for to the Director, Airworthiness Standards for signature
20. Update aircraft register with the information specified there-in, which contains all information on the C of R.
21. Complete the C of R data form
22. Send data form to computer operator for update of aircraft registration data base
23. Dispatch C of R copies to
  1. Applicant (must acknowledge receipt)
  2. Aircraft file
  3. C of R file
18. Notify CAA of state of design and manufacturer of aircraft registration

#### 4.2 RESERVATION OF AIRCRAFT REGISTRATION MARKS

Follow the flow – chart figure A

1. Evaluate application using requirements for reservation (Form. AC-AWS003D).
2. If evaluation is satisfactory, assign the next available registration marks on the register. If the application requested for special registration marks verify availability and assign if special marks are not available inform applicant.
3. Note reserved mark on register.
4. Notify applicant of reserved registration marks (Form AC-AWS003D)

#### 4.3 PROCEDURES FOR DEREGISTRATION OF AIRCRAFT

1. Review formal application form in accordance with requirements for deregistration (form **AC-AWS003G**)
2. Check the register of mortgages/liens for any lien holder liability.
3. If there is/are lien holder(s), obtain lien holders consent
4. If no lien holders prepare a notice of deregistration (in triplicate) form **AC-AWS003B**.



5. Obtain DAWS endorsement on the notice of deregistration stamp the notice with NCAA official stamp
6. Update aircraft register (Hard & Soft copies)
7. Distribute the notice of deregistration as follows:
  - 1 copy to C of R file
  - 1 copy to applicant
  - 1 copy to proposed next state of registry (if applicable)

NB: In case of dispute obtain input from NCAA Company Secretary/Legal Adviser.

## 5.0 CERTIFICATE OF REGISTRATION ISSUE: INFORMATION AND GUIDANCE

**5.1 ELIGIBILITY REQUIREMENTS** – An applicant for aircraft registration shall meet in full the eligibility requirements stated in Regulation 2.1.2 of Part 4 of the Nigerian Civil Aviation Regulations(see below).

An aircraft is eligible for registration if it is—

- (1) Owned by:
  - (i) A citizen of Nigeria,
  - (ii) An individual citizen of another State who is lawfully admitted for permanent residence in Nigeria,
  - (iii) A corporation lawfully organised and doing business under the laws of Nigeria and the aircraft is based and primarily used in Nigeria,
  - (iv) A government entity of Nigeria or political subdivision thereof; or
  - (v) A foreign person who has leased the aircraft to one of the persons described in paragraphs (i) – (iv) above, provided that:
    - (a) The aircraft may remain on the Nigerian registry only for as long as the lease remains in effect; and
    - (b) The certificate of registration includes the names and addresses of the lessee and, if different, the operator of the aircraft; and
- (2) Not registered under the laws of any other State; and
- (3) The aircraft is not more than 22 years old, unless the aircraft is used exclusively for general aviation purposes.

**Registration Requirements** – After the aircraft has been evaluated and found acceptable for issue of a certificate of registration it is required that the applicant complies with the following technical and legal requirements:

**5.2 TECHNICAL REQUIREMENTS** - After the aircraft has been evaluated and found acceptable for issue of a certificate of registration it is required to submit the following documents to the Authority:

1. Aircraft Technical Specification;



2. A Certificate or notice of de-registration from the previous state of registry or a letter from the state of manufacture, if the aircraft is new and has never been registered in any other state, confirming non-registration. The de-registration certificate must be received by the Authority directly from the state of registry and should never be presented by the applicant - should be State to State;
3. A certified copy of an aircraft current Insurance Certificate;
4. a copy of Air Transport Licence (ATL), Air Operating Permit (AOP) or Permit For Non-Commercial Flight (PNCF);
5. Proof of payment of the prescribed fees (see Fees Schedule in the Nig. CARs);
6. A certified copy of the Certificate of incorporation if owned by a company; or
7. A copy of a government issued Identity Card (ID) or Passport if owned by an individual or any other identification card approved by the Authority; and
8. Honourable Minister of Aviation Permit to import and operate the aircraft.

**5.4 LEGAL REQUIREMENTS** - After the aircraft has been evaluated and found acceptable for issue of a certificate of registration it is required to submit the following documents to the Authority:

1. Document(s) to prove the aircraft ownership, Nig. CARs Part 4.2.1.4(a)(2) (e.g. Purchase Agreement e.t.c.) with stamp duties paid;
2. Names of the directors of the company owning or leasing the aircraft and their specimen signatures giving authority to register and/or operate the aircraft in Nigeria and indicating who among them has the mandate to transact on their behalf on matters relating to the aircraft registration and/or operation;
3. A certified copy of the lease agreement if the aircraft is on lease with stamp duties paid;
4. A certified copy of the power of attorney from the owner/lessor and the lessee, (both of them);
5. An indemnity in accordance with Nig. CARs Part 4.2.1.7 (a) & (b) (sample attached).
6. Irrevocable Deregistration and Export Request Authorisation (IDERA). IF APPLICABLE

**5.5 Allocation of Registration Marks**

The applicant will be allocated registration marks which are in sequence with prefix (5N-). Registration marks can be reserved after payment of reservation fee but the reservation is valid for six (6) months.

**5.6 Allocation of Special Registration Marks**

These are registration marks with prefix (5N-) and three (3) alphabets of the applicant's choice. They are allocated on request in writing, when available and they will attract special fee different from the normal Aircraft registration fee.



### 5.7 Allocation of Mode 'S' Codes

The aircraft will be allocated Mode 'S' Code upon confirmation that ATC Transponder is installed on the aircraft and a notice of deregistration or letter of non-registration has been received from the previous State of Registry.

### 5.8 Emergency Locator Transmitter (ELT)

The aircraft Emergency Locator Transmitter (ELT) hexadecimal code must be submitted to the Authority with the ELT form completed. The COSPAS-SARSAT is the international satellite system for search and rescue in aviation. Emergency Locator Transmitter (ELT) can be registered with them directly by visiting their website [www.406registration.com](http://www.406registration.com). The ELT beacon's identification, which is a hexadecimal character string (composed of the characters 0-9 and A-F) is found on a label attached to every ELT beacon.

## 6.0 TASK OUTCOMES

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- A. Completion of the tasks in 5.1, 5.2 and 5.3 can result in the following:
- Aircraft Registration or non registration
  - Reservation of registration marks or non –reservation
  - Deregistration or non – deregistration.
- B. *Document Task.* File all supporting paper work in the applicant's office file.
- C. The information entered into the database by the computer operator shall be verified by the desk officer (inspector) before it is finally saved into the database server.

## 7.0 FUTURE ACTIVITIES:

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Ensure conditions under which the aircraft was registered remain valid while the aircraft is still on the register.



## CHAPTER 58

### PROCEDURES FOR MAINTENANCE SPOT (WORK IN PROGRESS) INSPECTIONS

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#### 1.0 OBJECTIVE

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This chapter provides guidance for observing and analyzing in-progress maintenance operations for compliance with specific methods, techniques, and practices in the operator's inspection and maintenance program.

#### 2.0 GENERAL

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APPLICABLE CHECKLIST: CL-O-AWS023

- A. Definition: Work package Job task control units developed by the operator for performing maintenance/inspections.
- B. A typical work package may include the following—
- Component change sheets
  - Inspection workcards
  - Nonroutine workcards
  - Appropriate sections of the maintenance procedures manual
  - Engineering Orders (EOs)
- C. It is important that Airworthiness Aviation Safety Inspectors (ASIs) are familiar with the type of aircraft to be inspected before performing the inspection. This can be accomplished through formal and on-the-job training.

#### INITIATION AND PLANNING

##### Initiation

Work in Progress inspections can be scheduled as part of the work program, but may be initiated whenever a problem is noted, including deficiencies noted during other types of inspections.

##### Planning

- A. Work in Progress inspections are derived from the planned work program.
- B. The number of spot inspections in the work program depends on the type and number of operator aircraft. After determining the type of aircraft to be inspected, confirm the aircraft availability and scheduled maintenance functions with operator personnel.
- C. If the maintenance to be observed is known, review the operator's maintenance procedures manual to become more familiar with the maintenance task. The following should be reviewed—



- 1) Required Inspection Items (RII), if applicable
  - 2) Forms used to document maintenance task
  - 3) Latest manual revision and date
  - 4) Special tools and equipment used to perform the maintenance task
  - 5) Any other manual requirements relating to the maintenance task
- D. Examining previous inspection findings provides the ASI with background information regarding problem areas found during other inspections. This information can give an indication of how effective past corrective actions were in resolving previously identified problem areas.
- E. Information such as Airworthiness Directives (ADs), Service Difficulty Report Summaries, Maintenance Bulletins, and Action entries should be reviewed, when available, to become familiar with current service difficulty information. While performing the work in progress inspection, ensure that these conditions do not exist on the aircraft.

### GENERAL GUIDELINES

- A. Work-in-progress inspections are not normally conducted on a prior-notice basis.
- B. There are many situations while performing other surveillance activities that afford the opportunity to perform spot inspections.
- For example, if a discrepancy is found during a ramp inspection that requires maintenance, a spot inspection of that maintenance function could be performed.
- C. During performance of the maintenance in progress inspection, special attention should be paid to the following areas, as applicable—
- AD's current status, including the method of compliance;
  - Overhaul records, including documentation containing the overhaul details and replacement time;
  - Major repair/alteration classifications and the use of approved data; and
  - Replacement time of life-limited parts.

### SELECTING A MAINTENANCE TASK

- A. Discuss with the maintenance supervisor what maintenance is currently being performed to determine what portions of that current maintenance/inspection should be observed.
- B. Special emphasis should be placed on observing maintenance tasks that involve RII items.
- Problem areas to look at include—
- Persons performing inspections outside of authorizations or limitations
  - RII items not being properly identified or accomplished



## PERFORMANCE STANDARDS

- A. Each operator has a maintenance/inspection program for its individual maintenance operations. For maintenance to be performed on the operator's aircraft, there must be corresponding provisions and procedures in the operator's maintenance manual.
- B. Each operator should have special procedures in the manual that ensures persons outside of the organization perform maintenance in accordance with the operator's maintenance manual.
- C. When deviations from accepted procedures are noted, it must be brought to the attention of maintenance management so that corrective action must be taken immediately.

## HEAVY INSPECTIONS

- A. Special emphasis should be given to increased surveillance of transport category aircraft undergoing "C," "D," or similar "heavy inspections." This increased surveillance is due to the "aging" fleets of many air operators and reflects concern over structural fatigue and corrosion.
- B. During the observance of a "heavy inspection," ASI's must pick an inspection area where maintenance has been started and where there could be possible fatigue or corrosion problems (especially an area that is not usually open to inspection, such as under the galley or lavatories).
- C. If inspecting an area where maintenance is in progress, the following should be evaluated— If any noted deviation requires follow-up action basis on risk analysis, process through the safety issue resolution process.
  - 1) While performing their job functions, are personnel accomplishing their job task per the work package.
  - 2) Does the Aging Aircraft/Corrosion Control program provide the necessary guidance to evaluate and respond in a timely manner to structural fatigue and corrosion.
- D. If inspecting an area where maintenance has already been accomplished, the following should be evaluated:
  - Are there any structural fatigue or corrosion problems evident?
  - If there are, were they identified by the person(s) responsible for that area?
  - If they were identified, was corrective action initiated and completed?
- E. While inspecting these areas that are not normally accessible, look for evidence of structural major repairs.
  - If a major repair was accomplished, review the approved data for that repair.



## PROCEDURES

### SELECT APPROPRIATE AIRCRAFT FOR INSPECTION

Determine the following from the operator's maintenance schedules—

- Aircraft availability;
- Aircraft type; and
- Type of maintenance being performed.

### PREPARE FOR THE INSPECTION

Review the following—

- 1) Maintenance manual procedures for maintenance being performed (if available)
- 2) Operations specifications time limitations, when applicable to the maintenance task
- 3) Previous inspection findings
- 4) Applicable maintenance alert bulletins
- 5) Service difficulty information
- 6) Any new regulation and/or AD requirements affecting the aircraft to be inspected

### PERFORM THE MAINTENANCE IN PROGRESS INSPECTION

- 1) Identify yourself to the maintenance supervisor and discuss the nature of your inspection.
- 2) Discuss with the maintenance supervisor/person in charge the status of the selected maintenance task.
- 3) Select a particular maintenance task within the work package.
- 4) Ensure that current maintenance procedures are available to the person(s) performing the work by accomplishing the following— If there are applicable ADs, the status of those AD must be determined. If possible, include a maintenance task that has been designated by the operator as an RII item(s).
  - (a) Asking maintenance personnel for the maintenance procedures used to accomplish the work
  - (b) Recording the date of the maintenance procedures being used to perform the maintenance task for future comparison with the maintenance manual master copy
- 5) Ensure that the maintenance is performed according to established procedures by comparing actual performance to the operator's approved maintenance/inspection manual procedures.
- 6) Ensure that the proper tools are being used by accomplishing the following—
  - (a) Observing that special tools referenced in the maintenance manual are being used
  - (b) Checking calibration due dates on precision tools, measuring devices, and testing equipment requiring calibration





- 7) Ensure that the operator has the facilities to properly perform the maintenance task.
- 8) Ensure that systems being maintained are not exposed to environmental conditions that could contaminate or damage components.
- 9) Ensure that maintenance recording is accomplished according to the operator's record keeping system.
- 10) Note any maintenance task deficiencies and include any copies of the documents that revealed the deficiencies.
- 11) For those maintenance tasks involving RII functions, determine that the persons observed performing these functions are appropriately certificated, authorized, and qualified.

### 3.0 CLOSE-OUT OF INSPECTION

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- 1) Evaluate inspection findings to determine if safety issues exist.
- 2) Discuss the results with the organization's management representative.



## CHAPTER 59

### PROCEDURES FOR THE ACCEPTANCE AND ISSUANCE OF AIRCRAFT NOISE CERTIFICATES.

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#### 1.0 OBJECTIVE

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The Nigerian Civil Aviation Authority has developed regulations requiring airplanes to comply with noise certification standards as set out in Nig. CARs Part 16.

#### 2.0 REFERENCES

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Reference Checklist: [CL:O-AWS030](#), Forms: [AC-AWS025](#), [AC-AWS025A](#), [AC-AWS025B](#)

#### 3.0 REQUIREMENTS

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1. Annex 6, part 1, Section 6.13 states that "An aeroplane shall carry a document attesting noise certificate." The attestation may be contained in any document carried on board, approved by the State of Registry.
2. Noise certification may be accepted by the State of Registry of an aircraft on the basis of satisfactory evidence that the aircraft complies with requirements which are at least equal to the applicable standards specified in the ICAO annex 16, Vol.1, (1.2).
3. Annex 16 Vol.1 chapter 1 par.1.5 states that Contracting State shall recognise as valid a noise certification granted by another Contracting State provided that the requirements under which such certification was granted are at least equal to the applicable standards specified in the Annex.
4. Annex 16 Vol. I chapter 1 par. 1.6 states that a contracting state shall suspend or revoke the noise certification of an aircraft on its Register of the aircraft ceases to comply with the applicable noise standards. The State of Registry shall not remove the suspension of a noise certification or grant a new noise certification unless the aircraft is found, on re-assessment, to comply with the applicable noise standards.

It is further required that NCAA shall ensure that:

- (i) The State of Registry of aircraft is an ICAO member
- (ii) A noise certificate, in respect of the said aircraft, is in force.
- (iii) The data on the aircraft noise certificate/statement are not at variance with those contained in the flight manual of the respective aircraft.
- (i) The certificate is properly issued and endorsed by the issuing authority.

Above conditions having been met, a NOISE CERTIFICATE/STATEMENT shall be caused to be issued to the aircraft provided the aircraft is duly registered in Nigeria.

The proposed formats of the certificate are hereby attached.



#### 4.0 INSTRUCTIONS AND INFORMATION FOR ISSUANCE OF NOISE CERTIFICATE

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*Item 1. Name of State*

The name of the State issuing the noise certification documentation. This item should correspond with the information on the certificate of registration and the certificate of airworthiness. FEDERAL REPUBLIC OF NIGERIA

*Item 2. Title of the noise document*

NOISE CERTIFICATE.

*Item 3. Number of the document*

A unique number, issued by the State of Registry, that identifies this particular document in its administration. Such a number will facilitate any enquiries with respect to the document and must be the same number on the certificate of registration and the certificate of airworthiness.

*Item 4. Nationality or common mark and registration marks*

The nationality or common mark and registration marks issued by the State of Registry in accordance with Nig. CARs Part 4. This item should correspond with the information on the certificate of registration and the certificate of airworthiness.

*Item 5. Manufacturer and manufacturer's designation of aircraft*

The type and model of the subject aircraft. This item should correspond with the information on the certificate of registration and the certificate of airworthiness.

*Item 6. Aircraft serial number*

The aircraft serial number as given by the manufacturer of the aircraft. This item should correspond with the information on the certificate of registration and the certificate of airworthiness.

*Item 7. Engine manufacturer, type and model*

The designation of the installed engine(s) for identification and verification of the aircraft configuration. It should contain the type and model of the subject engine(s). The designation should be in accordance with the type certificate or supplemental type certificate for the subject engine(s).

*Item 8. Propeller type and model for propeller-driven aeroplanes*

The designation of the installed propeller(s) for identification and verification of the aircraft configuration. It should contain the type and model of the subject propeller(s). The designation should be in accordance with the type certificate or supplemental type certificate for the subject propeller(s). This item is included only in the noise certification documentation for propeller-driven aeroplanes.

*Item 9. Maximum take-off mass and unit*

The maximum take-off mass, in kilograms, associated with the certificated noise levels of the aircraft. The unit (kg) should be specified explicitly in order to avoid misunderstanding. If the primary unit of mass of the State of Design of the aircraft is different from kilograms, the conversion factor used should be in accordance with Annex 5.

*Item 10. Maximum landing mass and unit for certificates issued under Chapters 2, 3, 4, 5 and 12*

The maximum landing mass, in kilograms, associated with the certificated noise levels of the aircraft. The unit (kg) should be specified explicitly in order to avoid misunderstanding. If the primary unit of mass of the State of Design of the aircraft is different from kilograms, the conversion factor used should be in accordance with Annex 5. This item is included only in the noise certification documentation for documents issued under Chapters 2, 3, 4, 5 and 12.



*Item 11. Statement of compliance, including reference to Annex 16, Volume I*

A statement that the subject aircraft complies with the applicable noise requirements. Reference should be made to Annex 16, Volume I. In addition to this, reference may be made to national noise requirements.

*Item 12. Additional modifications incorporated for the purpose of compliance with the applicable noise certification Standards*

This item should contain, as a minimum, all additional modifications to the basic aircraft as defined by Items 5, 7 and 8 that are essential in order to meet the requirements of the chapter of Annex 16, Volume I, to which the aircraft is noise certificated as given under Item 11. Other modifications that are not essential to meet the stated chapter but are needed to attain the certificated noise levels as given may also be included at the discretion of the certifying authority. The additional modifications should be given using unambiguous references, such as supplemental type certificate (STC) numbers, unique part numbers or type/model designators given by the manufacturer of the modification.

*Item 13. The lateral/full-power noise level in the corresponding unit for documents issued under Chapters 2, 3, 4, 5 and 12*

The lateral/full-power noise level as defined in the relevant chapter. It should specify the unit (e.g. EPNdB) of the noise level, and the noise level should be stated to the nearest tenth of a dB. This item is included only in the noise certification documentation for aircraft certificated to Chapters 2, 3, 4, 5 and 12.

*Item 14. The approach noise level in the corresponding unit for documents issued under Chapters 2, 3, 4, 5, 8 and 12*

The approach noise level as defined in the relevant chapter. It should specify the unit (e.g. EPNdB) of the noise level, and the noise level should be stated to the nearest tenth of a dB. This item is included only in the noise certification documentation for aircraft certificated to Chapters 2, 3, 4, 5, 8 and 12.

*Item 15. The flyover noise level in the corresponding unit for documents issued under Chapters 2, 3, 4, 5 and 12*

The flyover noise level as defined in the relevant chapter. It should specify the unit (e.g. EPNdB) of the noise level, and the noise level should be stated to the nearest tenth of a dB. This item is included only in the noise certification documentation for aircraft certificated to Chapters 2, 3, 4, 5 and 12.

*Item 16. The overflight noise level in the corresponding unit for documents issued under Chapters 6, 8 and 11*

The overflight noise level as defined in the relevant chapter. It should specify the unit (e.g. EPNdB or dB(A)) of the noise level, and the noise level should be stated to the nearest tenth of a dB. This item is included only in the noise certification documentation for aircraft certificated to Chapters 6, 8 and 11.

*Item 17. The take-off noise level in the corresponding unit for documents issued under Chapters 8 and 10*

The take-off noise level as defined in the relevant chapter. It should specify the unit (e.g. EPNdB or dB(A)) of the noise level, and the noise level should be stated to the nearest tenth of a dB. This item is included only in the noise certification documentation for aircraft certificated to Chapters 8 and 10.

*Item 18. Remarks*

A statement that the subject aircraft complies with the applicable noise requirements. Reference should be made to Annex 16, Volume I. In addition to this, reference may be made to national noise requirements.



*Item 19. The chapter and section of Annex 16, Volume I, according to which the aircraft is certificated*

The chapter of Annex 16, Volume I, to which the subject aircraft is noise certificated. For Chapters 2, 8, 10 and 11, the section specifying the noise limits should also be included.

*Item 20. Date of issuance of the noise certification document*

Date of issuance of the noise certificate

*Item 21. Name of Issuing Officer*

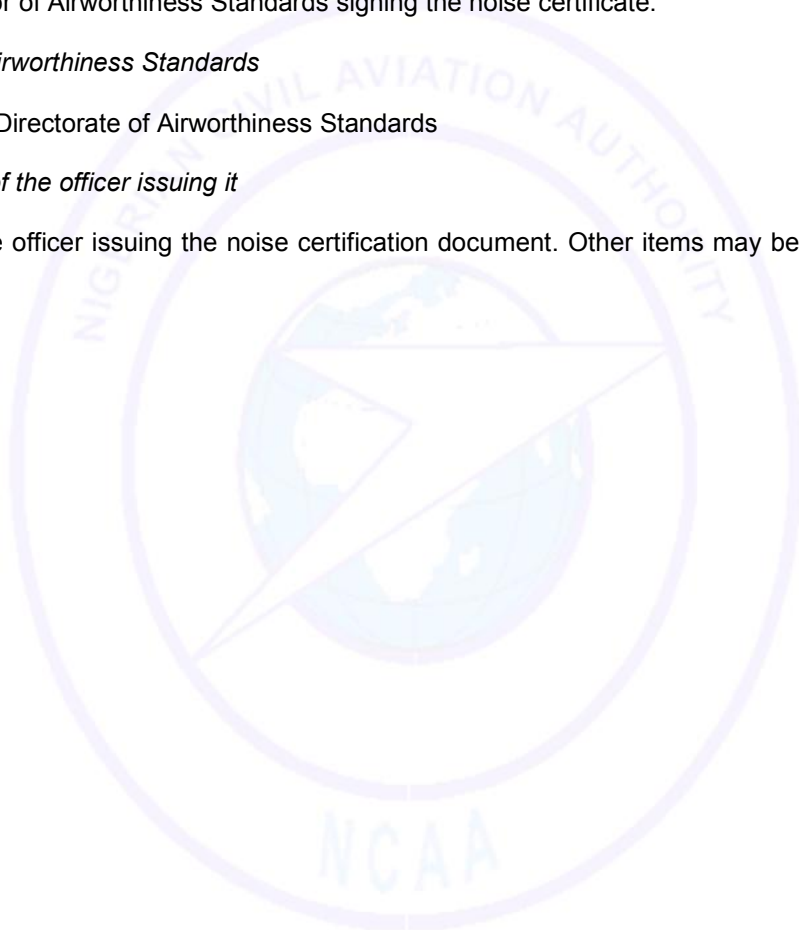
Name of the Director of Airworthiness Standards signing the noise certificate.

*Item 22. Director, Airworthiness Standards*

Title of the Head of Directorate of Airworthiness Standards

*Item 23. Signature of the officer issuing it*

The signature of the officer issuing the noise certification document. Other items may be added such as a seal or a stamp.



# 1. FEDERAL REPUBLIC OF NIGERIA



## 2. NOISE CERTIFICATE

3. CERT NO.				
4. NATIONALITY AND REGISTRATION MARKS	5. MANUFACTURER AND MANUFACTURER'S DESIGNATION OF AIRCRAFT	6. AIRCRAFT SERIAL NUMBER		
7. ENGINE MANUFACTURER, TYPE AND MODEL		8. PROPELLER MANUFACTURER, TYPE AND MODEL		
9. MAXIMUM TAKEOFF MASS (KG)		10. MAXIMUM LANDING MASS (KG)		
11. NOISE CERTIFICATION STANDARD.				
12. ADDITIONAL MODIFICATIONS INCORPORATED FOR THE PURPOSE OF COMPLIANCE WITH THE APPLICABLE NOISE CERTIFICATION STANDARDS:				
13. LATERAL / FULL POWER NOISE LEVEL	14. APPROACH NOISE LEVEL	15. FLYOVER NOISE LEVEL	16. OVERFLIGHT NOISE LEVEL	17. TAKEOFF NOISE LEVEL
18. THIS NOISE CERTIFICATE IS ISSUED PURSUANT TO VOLUME I OF ANNEX 16 TO THE CONVENTION ON INTERNATIONAL CIVIL AVIATION AND PART 16 OF THE NIGERIA CIVIL AVIATION REGULATIONS, IN RESPECT OF THE ABOVE-MENTIONED AIRCRAFT, WHICH IS CONSIDERED TO COMPLY WITH THE INDICATED NOISE STANDARD WHEN MAINTAINED AND OPERATED IN ACCORDANCE WITH THE RELEVANT REQUIREMENTS AND OPERATING LIMITATIONS.				
REMARKS				
19. DATE OF ISSUE	20. SIGNATURE:			

1. This Certificate must be carried on board the aircraft
2. This Certificate is not transferable



**NIGERIAN CIVIL AVIATION AUTHORITY**  
AVIATION HOUSE  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**APPLICATION FOR AIRCRAFT NOISE CERTIFICATE**

I. **NAME AND ADDRESS OF OPERATOR**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

II. **BASE(S) OF OPERATION**

1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_  
4. \_\_\_\_\_

III. **AIRCRAFT TECHNICAL DATA**

1. Type/Model \_\_\_\_\_  
2. Manufacturer \_\_\_\_\_  
3. Registration Number \_\_\_\_\_  
4. C of A Validity \_\_\_\_\_  
5. Date of Manufacture \_\_\_\_\_  
6. Maximum Take-Off-Mass (KG) \_\_\_\_\_  
7. Maximum Land Mass (Kg) \_\_\_\_\_

IV. **ENGINE DATA**

1. Type/Model \_\_\_\_\_  
2. Manufacturer \_\_\_\_\_

V. **PROPELLER DATA**

1. Type/Model \_\_\_\_\_  
2. Manufacturer \_\_\_\_\_

VI. **NOISE DATA**

1. Lateral /Full Power Noise Level (EPNdB) \_\_\_\_\_
2. Fly-over Noise Level (EPNdB) \_\_\_\_\_
3. Approach Noise Level (EPNdB) \_\_\_\_\_
4. Takeoff Noise Level (EPNdB) \_\_\_\_\_
5. Overflight Noise Level (EPNdB ) \_\_\_\_\_

VII. The above information is in fulfillment of the requirement of ICAO Annex 16 Vol. 1 / Nig. CARs Part 16

NAME \_\_\_\_\_

DESIGNATION \_\_\_\_\_

SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

**FOR DAWS USE ONLY**

RECEIVED BY \_\_\_\_\_

DATE RECEIVED \_\_\_\_\_

CHECKED BY \_\_\_\_\_

SATISFACTORY

UNSATISFACTORY

Inspectors Comments (if unsatisfactory): \_\_\_\_\_

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ISSUE

REFUSE

Inspector's Signature: \_\_\_\_\_

**Documents to be submitted alongside this application**

1. Copy of current Noise Certificate
2. Copy of Certificate of Registration of Aircraft
3. Copy of Certificate of Airworthiness (If available)
4. Copy of Type Certification Data sheet or Equivalent Approved Document (e.g. Approved Flight Manual)
5. Copy of payment receipt for statutory fee(s)





## CHAPTER 60

### GUIDANCE AND PROCEDURES FOR REVIEW OF FLIGHT CLEARANCE

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#### 1.0 PURPOSE

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This Chapter is issued to provide guidance and information for the airworthiness inspectors for review of flight clearance for non-scheduled flights into, within and out of Nigeria including technical stops.

#### 2.0 REFERENCES

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- 2.1 Part 8 of the Nigeria Civil Aviation Regulations.
- 2.2 Part 18 of the Nigeria Civil Aviation Regulations

#### 3.0 GUIDANCE AND PROCEDURES

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##### 3.1 General

Article 33 of the Convention on International Civil Aviation requires Contracting States to recognize certificates issued by another Contracting State provided that the requirements under which such certificates or licences were issued or rendered valid are equal to or above the minimum standards which may be established from time to time pursuant to the Convention.

Article 39 and 40 permit endorsement on airworthiness certificate that does not meet the international standards of airworthiness and requires the holder of such certificate to obtain permission from the State when passing through their territory.

Applications for flight clearance are submitted to Directorate of Air Transport Regulations (DATR) and are then forwarded to the Directorate of Airworthiness Standards (DAWS) for review of the attached technical documents.

Airworthiness Inspector reviewing application for flight clearance shall be guided by the following

##### 3.2 What to CHECK for:

- 1. A valid Standard Certificate or Airworthiness (C of A) Special Airworthiness Certificate
- 2. Aircraft Certificate of Registration (C of R)
- 3. A valid Insurance Certificate



**Note:**

1. For private category foreign registered aircraft operating in Nigeria for more than seven (7) days, a copy of valid Maintenance Clearance Certificate (MCC) and Flight Operations Clearance Certificate (FOCC) must be attached in addition to the State of Registry issued C of R and standard C of A.
2. For EASA States registered aircraft, a copy of valid Airworthiness Review Certificate (ARC) must be attached to the Standard Certificate of Airworthiness (C of A).
3. Certificate of Aircraft Registration for Aircraft registered in the United States of America with Federal Aviation Administration (FAA) should have expiry dates of three (3) years from the date of issue/reissue.
4. Russian/Ukraine made aircraft not registered and operated by an operator registered in Russia and Ukraine should be brought to the attention of DG and DAWS.
5. Air carriers from States with Significant Safety Concerns (SSCs) from ICAO USOAP Audit Report may not be granted flight clearance and should be brought to the attention of the DAWS. The list of States with SSCs can be obtained from ICAO FSIX website or the General Manager, ASA.

#### **4.0 FLIGHT CLEARANCE FOR FOREIGN REGISTERED AIRCRAFT WITH SPECIAL AIRWORTHINESS CERTIFICATE**

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Flight Clearances to Foreign registered aircraft with Special Airworthiness Certificate such as Special Flight Permit, Experimental or Restricted will be granted in similar manner to the normal flight clearance. The holder of the Special Flight Permit must submit a Certificate of Fitness for Flight or a similar maintenance attestation.



## CHAPTER 61

### INSPECTION OF AVIATION FUEL SUPPLIERS FACILITIES AND EQUIPMENT.

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#### 1.0 OBJECTIVE

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This chapter provides guidance for inspection of an aviation fuel suppliers equipment and facilities. Reference: ICAO Document 9977. ASTM D2276/IP 216 Standard

#### 2.0 GENERAL

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Regulations do not establish standards for fuelling facilities, but this does not relieve the aviation fuel supplier of overall responsibility for conducting those operations within established industry standards.

- A. *Geographic Considerations.* Inspections of aviation fuelling facilities and equipment outside Nigeria by the Airframe / Engine Aviation Safety Inspector (ASI) must be coordinated with the Director, Airworthiness Standards.
- B. The primary responsibility of this ASI is to ensure that the operator's facility for the storage and dispensing of aviation fuels is operated in accordance with the Supplier's Operations Procedures Manual and Quality Control Manual. Additionally, the supplier's manual must be in accordance with current industry standards.

#### 3.0 COORDINATION REQUIREMENTS

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- A. This task requires coordination with the Aviation Fuel Supplier.

#### 4.0 REFERENCES

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- NCAA Advisory Circular AC-AWS023, Aircraft Fuel Storage, Handling and Dispensing on Airports, as amended.
- Checklist: CL: O-AWS019 and O-AWS019A



## 5.0 PROCEDURES

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### A. *Inspect the Facility and Equipment*

- (1) Ensure the following:
  - Personnel training requirements are documented and current.
  - Training is conducted according to the manual curriculum.
  - Piping is marked and color-coded to identify fuel type and grade.
  - Control/cutoff valves are clearly marked with instructions for emergency use, e.g., on/off.
- (2) Ensure that the fuel farm/storage area provides for the following:
  - Proper security (fenced and posted)
  - Proper display of “Flammable” and “No Smoking” signs.
  - Proper provisions to ensure electrostatic protection.
  - Proper markings that identifies the type/grade of fuel.
  - Proper lighting for night operations.
- (3) Ensure that the equipment includes the following:
  - A positive low point sump.
  - Adequate fire extinguishers.
- (4) Ensure that fuel filters/filter separators contain at least the following:
  - An inlet strainer
  - Inflow and outflow filters/separators sized to match maximum pump flow capacity.
  - A differential pressure check system.



- A positive water defence system.
  - A sump drain with outlet located to facilitate capture of outflow.
  - Fuel sampling (millipore or equivalent) fittings downstream of all filters and filter separators.
- (5) Ensure that hoses, nozzles and outflow connectors are:
- Specifically designed and tested for delivery of aviation fuels.
  - Controlled by spring-loaded, non-by-passable automatic (dead man) fuel flow cutoff valves.
  - Equipped with a dust cap or other feature that will minimize contaminant introduction into the fuel system.
  - Equipped with non-by-passable 100 mesh nozzle/connector screens.
  - Color-coded to identify fuel type.
- (6) Ensure that electrical equipment, switches, and wiring are of a type or design approved for use in hazardous locations (explosion proof, e.g., free of exposed conductors, contacts, switches, connectors, motors, etc.).
- (7) Verify that grounding and bonding equipment ensure that piping, filters, tanks, and electrical components are electrically bonded together and interconnected to an adequate electrical ground. The system should have ground wires, bonding wires, and clamps adequate to facilitate prompt, definite electrical ground connection between fueller/cabinet, grounding system, and aircraft being fuelled.
- (8) Ensure that fuel tenders and fuelling pits have the following:
- Appropriate markings display, e.g., “DANGER,” “FLAMMABLE”, “NO SMOKING”, fuel grade, standard hazardous material placard, filter due dates, and emergency fuel shutoff.
  - Appropriately placed fire extinguishers.
  - An air filter/spark arrestor and leak free exhaust system terminating in a standard baffled original equipment type muffler, if equipped with internal combustion engine.



- B. *Observe Aircraft Fuelling Operation.* Ensure compliance with operator's procedures and determine if procedures are adequate.
- C. *Analyze Findings.* Evaluate any deficiencies to determine what corrections will be required. If any deficiencies are noted, discuss possible corrective actions with the operator.

## 6.0 TASK OUTCOMES

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- A. Completion of this task will result in a letter informing the operator of the results of the inspection.
- B. *Document the Task.* File all supporting paperwork in the operator's office file.

## 7.0 FUTURE ACTIVITIES.

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Normal surveillance.



## CHAPTER 62

### PROCEDURES FOR SPECIALISED ACTIVITIES SUCH AS NDT, WELDING ETC.

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#### 1.0 PURPOSE

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The chapter provides guidance and information for inspectors for approval of organizations for Non-Destructive Testing and Inspections.

#### A. PROCEDURES FOR APPROVAL OF ORGANISATIONS CONCERNED WITH RADIOGRAPHIC INSPECTION OF AIRCRAFT DURING MAINTENANCE AND OVERHAUL

1. **INTRODUCTION:** Organisation engaged in inspection of Radiographic inspection of aircraft during overhauls, repairs, replacements, modifications and inspection may be approved to provide reports and certify compliance in respect of this work on aircraft structure, structural components, and welded structural components, subject to compliance with the procedures set down in this Chapter 62 and the supplement.

**NOTE:** Safety and protection procedures are not included in this Chapter and Supplement. It is incumbent on the operator to comply with the Radioactive Substance Act and other relevant Regulations.

2. **APPLICATION:** Organisations seeking approval, or the extension of an existing approval, for the radiographic work described in paragraph 1, shall make written application to the NCAA Directorate of Airworthiness Standards.

#### 3. **REQUIREMENTS FOR GRANT OF APPROVAL**

3.1 The radiographic department shall be organised under the direction of a radiographer who has satisfied the appropriate requirements of the Supplement to this Chapter.

3.2 All radiographic inspections shall be directly supervised and the final certification made by a Radiographer who has satisfied the appropriate requirements of the Supplement. Certification shall be in a form agreed by the NCAA.

3.3. Radiographic inspection concerned with the inspection required in approved Manuals, approved Maintenance schedules, the NCAA Mandatory Aircraft Modifications and Inspection procedures summary and the Foreign Airworthiness Directives Volumes, shall be in accordance with techniques approved by the manufacturer, or an appropriately approved Organisation unless an alternative technique has been accepted by the NCAA.



#### 4. REQUIREMENTS FOR THE RADIOGRAPHER

4.1 The following shall be satisfied by the person(s) required under paragraph 3.1. and 3.2. above:-

4.1.1 For aircraft structure and structural components (other than welds)

- (a) Be able to read, write and converse in the English language.
- (b) Have experience, acceptable to the NCAA of a minimum of one year dealing with practical inspection of aircraft structure, or alternative training experience acceptable to the NCAA.
- (c) Have satisfactorily completed a course for instruction in radiography acceptable to the NCAA.
- (d) Produce evidence, satisfactory standard, acceptable to the NCAA, of at least six months recent work in the radiographic inspection of the aircraft structures and structural components, including processing and interpretation of radiographs.
- (e) Have achieved a satisfactory standard, acceptable to the NCAA in the appropriate parts of the examination in accordance with paragraph 2 of the Supplement.

4.1.2 For flight alloy and dense metal welded structural component

- (a) Be able to read, write and converse in English Language
- (b) Have satisfactorily completed a course of instruction in radiography acceptable to the NCAA.
- (c) Produce evidence, satisfactory standard, acceptable to the NCAA, of at least six months recent work in the radiographic inspection of both ( or either if required separately) light alloy and dense metal welded aircraft structural components.
- (d) Have achieved a satisfactory standard, acceptable to the NCAA, in the examination detail in paragraph 2 of this Supplement.





## 5. EXAMINATION SYLLABUS

- 5.1 **Written Examination:** The written examination will include questions on the following:
- (a) The elementary principles of Radiographic theory and how these principles are related to the practical techniques of radiography.
  - (b) The photographic aspects of radiography
  - (c) Safety and protection against radiation hazards.
- 5.2 **Practical Test:** The practical test will consist of the following:
- (a) The development and recording of techniques for the inspection of typical aircraft structures including structural components.
  - (b) The development and recording techniques for the inspection of welded structure components.
  - (c) The practical application of the technique
  - (d) Processing of Radiographs
- 5.3 **Interpretation Test:** The interpretation test will consist of the following:
- (a) The co-relation of the radiographs with the report
  - (b) Identification of the various features in the radiographs
- 5.4 **Appropriate parts of the Examination:** The following parts are appropriate to the approval sought:
- (a) The written examination (paragraph 2.1) shall be undertaken by all radiographers.
  - (b) **Practical Test:** Paragraphs 2.2 (a), (c) and (d) are applicable where approval is sought for inspection of aircraft structures and structural component. Paragraph 2.2 (b), (c) and (d) and applicable where approval is sought for inspection of welded structural components.



- (c) An interpretation test (paragraph 2.3) shall be undertaken by all radiographers.
6. **RE-EXAMINATION:** The NCAA may require re-examination of a radiographer at times which will be notified in writing to the approved Organisation .





**B. PROCEDURES FOR APPROVAL OF ORGANISATIONS CONCERNED WITH ULTRASONIC INSPECTION OF AIRCRAFT DURING MAINTENANCE AND OVERHAUL**

1. **Introduction:** Organisations engaged in ultrasonic inspection of aircraft during overhauls, repairs, replacement, modifications and inspection may be approved to provide reports and certify compliance in respect of this works, subject to compliance with the procedures set down in this Chapter 62 and the supplement.
2. **Application:** Organisation seeking approval, or the extension of an existing approval, for the ultrasonic work described in paragraph 1, shall make written application to the NCAA Directorate of Airworthiness Standards.
3. **Requirements for Grant of Approval**
  - 3.1 The Ultrasonic Inspection Department shall be organised under the direction of a person who has satisfied the requirements of the Supplement to this Chapter.
  - 3.2 All ultrasonic inspections shall be directly supervised, and the final certification made by a person who has satisfied the requirements of the supplement to this Chapter. Certification shall be in a form agreed by the NCAA.

Ultrasonic inspections concerned with the inspections required in approved Manuals, approved Maintenance Schedules, the NCAA Mandatory Aircraft Modifications and Inspections procedures and the Foreign Airworthiness Directives Volumes, shall be made in accordance with techniques approved by the manufacturers, or an appropriately approved Organisation unless an alternatives techniques has been accepted by the NCAA.

**4. REQUIREMENTS FOR THE ULTRASONIC TECHNICIAN**

1. The following shall be satisfied by the person(s) required under paragraph 3.1 and 3.2 above.
  - (a) Be able to read, write and converse in the English language.
  - (b) Have experience, acceptable to the NCAA, of a minimum of one year dealing with practical inspection or aircraft, or alternative training or experience acceptable to the NCAA.
  - (c) Have satisfactory completed a course of instruction in ultrasonic flaw detection acceptable to the NCAA.



- (d) Produce evidence, satisfactory to the NCAA, of at least six months recent work in ultrasonic inspection 2 of this supplement.
- (e) Have achieved a satisfactory standards, acceptable to the NCAA in the examination detailed in paragraph 2 of this supplement.

## 5. EXAMINATION SYLLABUS

5.1 **Written Examination:** The written examination will include questions on the following:

- (a) Modes of ultrasonic propagation in solids and liquids
- (b) Reflection, refraction, absorption and scattering of ultrasonic waves.
- (c) Piezo-electric crystals: basic essential of the construction and mode of operation of ultrasonic probes.
- (d) Methods of coupling ultrasonic probes to the work piece
- (e) Functions of the externally accessible controls normally fitted to ultrasonic flaw detection equipment.
- (f) Scope and limitations of ultrasonic flaw detection
- (g) Application of the reflection and transmission method of testing aluminium alloy and steel work piece, including welds.
- (h) The use of standards reference blocks for checking sensitivity of equipment and estimation of defect size and depth.
- (i) The recognition of defect indications and the interpretation of these.
- (j) Definition of the term “decibel” as applied to a unit of voltage (or amplitude) difference: the use of attenuators.
- (k) Recognition of false indications.

**Note:** The approach to the above subject should be practical rather than mathematical.

5.2 **Practical Test:** Ultrasonic flaw detection shall be carried out on a given number of specimens using contact scan techniques. The test on one specimen will include the estimation of defect size by means of standard reference blocks (flat bottom hole type) and suitable attenuators.



- 5.3 **Technical Preparations:** Ultrasonic flaw detection contact scan techniques, shall be prepared in respect of a number of specimens as follows:
- (a) Comprehensive inspection of one specimen
  - (b) Inspection for a particular defect in the remaining specimens including the design of suitable test pieces.
6. **RE-EXAMINATION:** The NCAA may require re-examination of an ultrasonic technician at times which will be notified in writing to the approved Organisation.
- C. PROCEDURES FOR APPROVAL OF ORGANISATION CONCERNED WITH MAGNETIC PARTICLE**
1. Inspection of aircraft during overhauls, repairs, replacements, modification and inspections may be approved to provide reports and certify compliance in respect of this work subject to compliance with the procedures set down in this Chapter 62.
  2. Application organisations seeking approval or the extension of an existing approval, for the magnetic particle work described in paragraph 1, shall make written application to the NCAA Directorate of Airworthiness Standards.
  3. **Requirement for Grant of approval.**
    - 3.1 The magnetic particle inspection Department shall be organized under the direction of a person who has satisfied the requirement of the supplement to this Chapter.
    - 3.2 All magnetic particle inspections shall be directly supervised and the final certification made by a person who has satisfied the requirements of the supplement to this Chapter. Certification shall be in a form agreed by the NCAA.
    - 3.3 Magnetic particle inspections concerned with the inspection required in approved manuals, approved maintenance programme, the NCAA Mandatory Aircraft Modification and inspections summary and the Foreign Airworthiness Directives volumes, shall be made in accordance with techniques approved by the manufacturer or an appropriately approved organization unless an alternative technique has been accepted by the NCAA.



#### **4 Requirement for the magnetic particle technician.**

- 4.1 The following shall be satisfied by the persons required under paragraph 3.1 and 3.2 above.
- (a) Be able to read, write and converse in the English language.
  - (b) Have experience acceptable to the NCAA of a minimum of one year dealing with practical inspection of aircraft, or alternative training or experience acceptable to NCAA.
  - (c) Have satisfactorily completed a course of instruction in magnetic particle flaw Detection acceptable to the NCAA.
  - (d) Produce Evidence, satisfactory to the NCAA of at least six months recent work in magnetic particle inspection of aircraft.
  - (e) Have achieved a satisfactory standard equivalent (BINDT) to the British Institute of Non-destructive Testing (BINDT) or the American Standard of Non-destructive Testing (AMSNDT) in the examination detailed in paragraph 2 to this supplement.

#### **5. EXAMINATION SYLLABUS**

- 5.1 Written Examination. The written examination will included question on the following:
- (a) Characteristics of Aircraft materials
  - (b) Heat treatment
  - (c) Material Hardness
  - (d) Magnetic field/strength/Flux Density
  - (e) Electrics
  - (f) Magnetic INDUCTION
  - (g) Magnetic Particle machine
  - (h) Blade Light
  - (i) Optional Particle method/materials
  - (j) The recognition of defect indications and the interpretation of these.
  - (k) Recognition of false indications.
- 5.2 Practical Test magnetic particle flaw detection technique shall be prepared in respect of a number of specimens as follows.
- (a) Comprehensive inspection of one specimen
  - (b) Inspection for a particular defect in the remaining specimens including the design of suitable test pieces.
6. Examination: The NCAA may require re-examination of a magnetic particle technician at times which will be notified in writing to the approved organization.



## **D. PROCEDURES FOR APPROVAL OF ORGANISATIONS CONCERNED WITH EDDY CURRENT INSPECTION OF AIRCRAFT DURING MAINTENANCE AND OVERHAUL.**

1. **Introduction:** Organisations engaged in Eddy current inspection of aircraft during overhauls, repairs, replacement modifications and I inspections may be approved to provide reports and certify compliance in respect of this work, subject to compliance with the procedures set down in this chapter 62.

2. **Application:** Organisation seeking approval, or extension of an existing approval, for the Eddy current work described in paragraph 1, shall make written application to the NCAA Directorate of Airworthiness Standards.

### **3. Requirements for Grant of Approval**

3.1 The Eddy current department shall be organized wide the direction of a person who satisfied the requirements of the supplement to this chapter.

3.2 All Eddy current inspection shall be directly supervised, and the final certification made by a person who has satisfied the requirement of the supplement to this chapter. Certification shall be in a form agreed by the NCAA.

3.3 Eddy current inspections concerted with the inspection required in approved manuals, approved maintenance programme the NCAA Mandatory Aircraft Modifications and inspections Summary and Foreign Airworthiness Directives volumes, shall be made in accordance with techniques approved by the manufacturer or an appropriately approved organization unless an alternative technique has been accepted by the NCAA.

### **4. Requirement for Eddy current technician.**

4.1 (a) Be able to read, write and converse in the English Language.

(b) Have experience, acceptable to the NCAA of a minimum of 1 year dealing with practical inspection of aircraft, or alternative training or experience acceptable to the NCAA.

(c) Have satisfactorily completed a course of instruction in Eddy current flow detection to any level of the British institute of Non destructive testing standard or any level of the American standard of Non destructive testing standards or any other requirement standards acceptable to the NCAA.

(d) Produce evidence, satisfactory to the NCAA of at least six months recent work in Eddy current inspection of aircraft.



- (e) Have achieved a satisfaction standard, acceptable to the CAA, in the examination detailed in paragraph 2 to this supplement.

## 5. Examination Syllabus

5.1 Written Examination: The written examination will include questions on the following:

- (a) Different types of cracks found on A/C
- (b) Alternating Current
- (c) Magnetic Fields
- (d) Rejection Criteria
- (e) Low Frequency Eddy Current Inspection
- (f) Medium Frequency Eddy Current Inspection
- (g) Heat Treatment
- (h) Heat Damage
- (i) Electrical Conductivity
- (j) Eddy Current Flaw Detection Equipments/Set up
- (k) High frequency Eddy Current inspection
- (l) The recognition of defect indications and the interpretation of these.
- (m) Recognition of false indications.

5.2 Practical Test. Eddy Current flaw detection shall be carried out on a given number of specimens. The tests on the specimen will include the estimation of defect size.

5.3 Technical preparation. Eddy Current flaw detection technique shall be prepared in respect of a number of specimens as follows:

- (a) Comprehensive inspection of one specimen
- (b) Inspection for a particular defect in the remaining specimens including the design of suitable test pieces.

6. Re-examination. The NCAA may require re-examination of an Eddy Current technician at times which will be notified in writing to the approved organization.





## E. APPROVAL OF WELDERS

1. **INTRODUCTION** This Chapter is applicable to persons who weld metallic parts which are essential to the airworthiness of an aircraft where the making of a sound joint by oxy-acetylene or arc-fusion welding techniques depends largely on the competency of the operator. Welders will be approved in accordance with the requirements of this Chapter and its Supplement.

NOTE: For the purposes of this Chapter 62, the term arc-fusion welding includes:

- (a) Manual metal-arc (MMA) welding,
  - (b) Metal inert gas (MIG) welding, and
  - (c) Tungsten inert gas (TIG) welding.
2. **GRANT OF APPROVAL** The procedures for the issue and control of welding approval are dependent upon the circumstances of employment of the welder. For welders not employed by an NCAA approved Organisation the provisions of paragraph 2.1 (c) shall apply. Where a welder is in the employ of an Organisation approved by the NCAA, the NCAA will not undertake direct approval of the welder. The Organisation is required to establish its own effective system for the control. The system shall, as a minimum, include records of all sample tests (and results) and a ready means of establishing the current qualification status of all welders employed. All records shall be available to the NCAA upon request, including details relating to welders who have since left the employ of the Organisation. No essential records, e.g Approval Cards and Test Reports shall be destroyed without the permission of the NCAA. A description of the control system shall be included in the Company Exposition required by the relevant NCAR Chapter and NCAA approval of the system will be indicated by inclusion of the control of welders in the Schedule of Approval.
    - 2.1 The procedures for obtaining welder's approval are as follows:
      - (a) Where the welder is employed by NCAA approved Organisation, that Organisation shall make arrangements for the welder to prepare and weld an appropriate test sample(s). The Organisation shall submit the test sample(s) to NCAA approved Test House for examination together with full particulars of the welder concerned, materials used, details of any post-welding treatment (e.g. heat treatment for stress relief) and identification marks on the test sample(s). Upon receipt of an Approved Test Certificate from the test house, indicating successful test results for the sample(s), the Organisation may grant approval to the welder. Only then may the welder be employed on work of significance to airworthiness.
      - (b) In the event of a welder leaving the employ of an Organisation approved by the NCAA, the welder may request the NCAA to grant a Welder's Approval Certificate for the welding approvals held while in the employ of that Organisation. It should be noted that grant of such an approval, is



conditional upon the availability of evidence of prior qualification status, the NCAA can not accept responsibility for a previous employer's failure or inability to provide evidence.

- (c) Welders not employed by NCAA approved organisation shall, under the supervision of a responsible person acceptable to the NCAA (see Notes 1 and 2), prepare and weld appropriate test sample(s) in accordance with these requirements and also complete NCAA relevant form. The test sample(s) shall be submitted to NCAA approved Test House for examination together with full particulars of the welder concerned, materials used, details of any post welding treatment (e.g. heat treatment for stress relief) and identification marks on the test sample(s). Upon receiving from the Test House an Approved Test Certificate indicating successful test results on the sample(s) the welder shall forward the original copy of the Approved Test Certificate and the complete NCAA relevant forms. Grant of approval will be notified by issue of an NCAA Welder's Approval Certificate and Check Test Record Card to the welder. Both documents must be maintained in a legible condition by the welder and produced or surrendered to the NCAA upon request. Test House charges and any other costs associated with the process of meeting these requirements are the responsibility of the welder.

- NOTES:** (1) An Approved welder is not permitted to certify welded parts unless separately qualified as a person competent to issue a Certificate of Release to service e.g. holder of an appropriate Maintenance Engineer's Licence or equivalent approval.
- (2) A responsible person in the context of paragraph 2.1 (c) is either:
- (a) A person who holds an Aircraft Maintenance Engineer's Licence with a Type Rating.
  - or
  - (b) A person who is currently authorised as a Signatory within the NCAA approved Organisation. (The consent of the Approved Organisation responsible for granting such authorisation should be obtained by the Signatory before agreeing to supervise the preparation of weld test sample)
  - or
  - (c) Such other person specifically authorised in writing by the NCAA.
- (3) Welders' Approval Certificate issued prior to the May 1988 Revision of Chapter 4 may make reference to Sketches 3 and/or 4. All such references shall be interpreted as being



equivalent to Figure 3 of the Supplement to this issue of Chapter 4.

- (4) Paragraphs 2.1 (a) and 2.1 (c) refer to identification marks on test samples. These shall be made permanent i.e. stamp, vibro-etch, or indelible marking medium and they shall identify the welder and material specification. When preparing and welding the sample, care should be taken not to obliterate any markings thereon.

### 3. **MAINTENANCE OF APPROVAL**

3.1 The validity of a welder's approval may be maintained by the procedures detailed in paragraphs 3.1.1. or 3.1.2 as appropriate. Should approval be sought in a different combination (see Supplement) than that shown on the Welder's Approval Certificate or documents, the procedure for the grant of approval as prescribed in paragraph 2.1. must be followed.

3.1.1 Where the welder is employed by an Organisation approved by the NCA, the approved Organisation shall arrange for periodic check examinations of the welder's competency. At each periodic check examination an appropriate standard test sample (see Supplement) or such other test samples to be decided by the approved Organisation shall be completed by the welder using techniques and materials detailed in the Supplement, or by using techniques and material used in standard work practices appropriate to the maintenance of approval. For welders holding approval for more than one configuration (i.e. sheet to sheet, sheet to tube or tube to tube) it will normally only be necessary to provide a single test sample provided that the NCAA is satisfied it is representative of the welder's main day-to-day work. However, a separate initial test sample will be required for each technique and material group specified in the welder's approval.

Test samples shall be sent to NCAA approved Test House under arrangements made by the approved Organisation. If the test results of this examination are satisfactory the Welder's Approval document shall be endorsed by the approved Organisation. Complete records of the periodical check examinations shall be kept at the Organisation. The check test records for each welder must indicate the date for the next check test in advance so that the test can be completed and the results known within the period of approval of the welder. All records shall be held available to the NCAA.



- 3.1.2 The maximum period between check examinations shall be 12 months. Organisations shall arrange for the relevant test within the period of validity of the previous test period to ensure continuity of approval.
- 3.1.3 If the test results are unsatisfactory, the approved Organisation shall arrange for the check examinations to be repeated immediately and the samples sent to an approved Test House for examination. During the period between any check test which proved unsatisfactory and the result of the next check test, the welder shall not weld parts which are essential to the airworthiness of an aircraft. If the test results are again unsatisfactory, the welder's approval shall be suspended until further training and/or experience has been gained to the satisfaction of the approved Organisation and a further test has been satisfactorily completed.
- 3.1.4 Welders who are not employed in accordance with the conditions of paragraph 3.1.1 shall arrange for a check examination to be carried out at periods not exceeding 12 months. The same procedure as for the issue of Welder's Approval Certificate in paragraph 2.1 (c) shall apply except that, for welders holding approval for more than one configuration (i.e. sheet to sheet, sheet to tube, tube to tube) it will normally only be necessary to provide a single test sample, provided that the NCAA is satisfied it is representative of the welder's main day-to-day work. However, a separate initial test sample will be required for each technique and material group specified in the welder's approval.
- 3.1.5 If the test results are unsatisfactory the applicant shall prepare new test samples and arrange for the check examination to be repeated immediately at NCAA approved Test House. During the period between any check which proves unsatisfactory and the result of the next check test, the welder shall not weld parts which are essential to the airworthiness of an aircraft. If the result of the re-test is again unsatisfactory, the welder shall notify the NCAA. The approval will be suspended from the date of the first unsatisfactory examination and remain so until further training and/or experience has been gained and a further test has been satisfactorily completed.
- 3.1.6 A check test record must be kept to indicate the date for the next check test in advance so that the test can be completed and the result known within the period of approval of the welder. All records shall be made available to the CAA.
- 3.2 The NCAA may select samples of an approved welder's work at any time for additional check examination purpose.



## SUPPLEMENT TO CHAPTER 62

### APPROVAL OF WELDERS

1. **INTRODUCTION** Welders shall be approved in accordance with the technical requirements of this Supplement to Chapter 62.
2. **MATERIAL GROUPS** Approval may be granted in any of the following groups:
  - Group 1 - Aluminium Alloys
  - Group 2 - Magnesium Alloys
  - Group 3 - Carbon Steels
  - Group 4 - Corrosion and Heat-Resisting Steels
  - Group 5 - Nickel Alloys
  - Group 6 - Copper Base Alloys
  - Group 7 - Titanium Alloys
  - 2.1 For the purpose of this Supplement to Chapter 62 the following Definitions shall apply:
    - Combination technique - Material group, configuration and
    - Configuration - A sample produced to Figure 1, 2 or 3
    - Technique or arc-fusion - The welding method e.g. oxy-acetylene
    - Test Sample (Standard) - As detailed in Figure 1, 2 and 3
    - Test Sample (Special) - As dictated by the nature of work being undertaken (e.g. repair or rebuild fan blades e.t.c.)
  - 2.2 Approval, when granted to the welder, shall be restricted to the combinations for which satisfactory examination reports from an approved Test House are available to the NCAA or the Approved Organisation, in accordance with the procedure under which the welder is to be approved, Nig. CARs Part 6 refers.

Alternatively, special test sample, agreed by the CAA or the Approved Organisation, should be prepared if required for a specific application and the approval, when granted will be restricted accordingly.
3. **TEST SAMPLES AND SPECIMENS** Standard test samples for oxy-acetylene and arc-fusion welding shall be prepared by the welder using the techniques and materials appropriate to the approval sought. The specifications of the material used for test samples must meet the requirements of the material groups defined in paragraph 2 and be representative of materials likely to be encountered by the



welder in the course of his normal work. NCAA approved certificates are not necessary and material of good commercial quality may be appropriate. However, if the material used is not a British Standards or other generally recognised aerospace specification a typical aircraft application must be quoted to the NCAA approved Test House as part of the material specification. The NCAA or the Approved Organisation may decide that special test samples are required appropriate to the work to be undertaken by the welder. The preparation of test samples shall be supervised as defined in Chapter 4(E) paragraph 3.1.

3.1 **Standard Test Samples.** The standard test samples for oxy-acetylene and arc-fusion welding shall be prepared to Figure 1, 2 and 3 as appropriate.

3.1.1 The welds of test samples shall not be hammered or dressed unless specifically required.

3.1.2 The test samples shall be submitted complete and suitably identified (see Chapter 4 paragraph 2.1 Note (4) to NCAA approved Test House.

3.1.3 Where appropriate, e.g. for light aircraft structural applications, tube wall thickness may be reduced. In certain cases, where the nature of a welder's activities regularly involve welding thin wall tube, the controlling organisation or authority may require test specimen to be prepared from material of reduced wall thickness.

3.2 **Cutting Test Specimens.** Test specimens shall be cut by the approved Test House.

3.2.2 Test specimens in magnesium must be sawn from samples and filed to final shape to prevent the possibility of cracking.

#### 4. MECHANICAL TESTING

4.1 **Tensile Test Specimens.** Tensile test specimens shall be tested to destruction in direct tension. The minimum acceptable tensile strength of the weld test specimen shall be determined by reference to public-domain DEF STAN 00-932 or by reference to NCAA recognised Design Authority who can judge the acceptable levels of weld strength required for typical applications of the weld technique in question.

4.1.1 **Sheet to Sheet Butt Weld (Figure 1)** If a tensile specimen prepared in accordance with Figure 1 should break through the weld, it is considered satisfactory only if the ultimate stress is found to be equal to, or greater than, the minimum value given in the appropriate specification.



**4.1.2 Tube to Tube Weld.** Tensile specimens prepared in accordance with Figure 3 shall be broken in a tensile test machine fitted with suitable shackles and pins, the pins being passed through the top and bottom cross tubes of the specimen so that the end load may be applied without bending.

**4.2 Bend Test Specimens (Figure 1).** Bend specimens shall be tested in bending so that the weld lies along the centre line of the bend and the base of weld 'V' is on the inner side (unless otherwise stated) over the radius of bend appropriate to the test.

**4.2.1** To ensure close contact of the specimen to the bar about which it is bent, the side of the specimen remote from the weld face must be dressed by filing or grinding until the weld is level with the parent metal. It may also be necessary to dress the other face to facilitate bending. The edge of the specimen in the vicinity of the weld must be given reasonable radii.

**4.2.2** Bend test specimens of austenitic steel must be given the 'weld decay' pickling test prescribed with in the relevant specification or in accordance with British Standard 5903, and must be bent through  $90^{\circ}$  over a radius equal to three times the normal thickness of the parent metal.

**4.2.3** Magnesium alloy specimens must be bent through  $180^{\circ}$  over a radius equal to ten times the nominal thickness of the parent metal.

**4.2.4** Aluminium alloy specimens must be bent through  $180^{\circ}$  over a radius equal to five times the nominal thickness of the parent metal.

**4.2.5** Boron-containing steels must be bent through  $180^{\circ}$  over a radius equal to three times the nominal thickness of the parent metal.

**4.2.6** Titanium alloy specimens must be bent through  $180^{\circ}$  over a radius equal to five times the nominal thickness of the parent metal.

**4.2.7** Specimens of all other materials must be bent through  $180^{\circ}$  over a radius equal to twice the nominal thickness of the parent metal.

**4.2.8** the bend tests may be considered satisfactory if the test specimen withstands the bending without showing cracks which are apparent to nominal vision.

**NOTE:** If interpretation of the bend results in doubt, comparison may be made with the bend test performance of a separate sample of the parent material from which the test specimens were fabricated.



## 5. SPECIMEN EXAMINATION

- 5.1 Final assessment of the weld shall be based on consideration of the sample weld as a whole, including the result obtained by visual, microscopical and where applicable, mechanical testing. If any doubt exists regarding the quality of the weld, or any defect revealed is thought to be of a local character, further sections may, if available, be examined and final assessment shall be based on all the specimens examined.
- 5.2 The micro specimen shall be examined at suitable magnification in the unetched and the etched condition.
- 5.3 the presence of intergranular oxide film is considered to be detrimental to the weld due to the embrittling effect, but the extent of these film is very difficult to determine in etched specimens. If the area of intergranular oxide is only very slight and satisfactory results are obtained by mechanical testing, further sections of the weld shall be examined before a decision is reached.
- 5.4 Where fillet welds are concerned, unless complete fusion is required by the drawing, a certain degree of lack of fusion is permissible at the roots:
- (a) For fillet welds of  $45^{\circ}$  or more, the maximum lack of fusion which can normally be accepted is that revealed by a line of oxide extending from the root of the weld for a distance not greater than one-third of that between the root and the toes of the weld. Provided the amount of weld material used has been adequate, this method of assessment should ensure that the effective throat thickness of the weld is not less than the thickness of the sheets or tubes used for the specimens.
  - (b) For fillet welds at acute angle, full root in tubular sections can be difficult to achieve and there is a danger of collapse of the tube walls if excessive penetration is attempted. The presence of a fairly large cavity, or corresponding lack of fusion, is permissible at the root of such welds but there should be a bridge of weld metal of a reasonable throat depth, showing satisfactory fusion to the basic metal.
- 5.5. **Sheet to Sheet But Welds.** The section must be free from excess oxidation, burning, cracks, cavitations, porosity, scale and slag. The specimen must show adequate penetration and with specimens welded from one side only, there should be evidence of adequate penetration when underside of the weld is examined. If excessive penetration has occurred along the majority of the weld the specimen must be rejected, but isolation excrescence on the underside are permissible, provided the weld itself is free from cavities, oxide films and other defects.





**F. PROCEDURE FOR APPROVAL OF ORGANISATION CONCERNED WITH DYE PENETRANT INSPECTION OF AIRCRAFT DURING MAINTENANCE AND OVERHAUL**

**1. INTRODUCTION**

Organisation engaged in dye penetrant inspection of aircraft during overhaul, repairs, replacement modifications and inspections may be approved to provide reports and certify compliance in respect of this work, subject to compliance with the procedures set down in this Chapter 62 and the Supplement.

2. **APPLICATION:** Organisation seeking approval or extension of existing approval for the dye penetrant work described in paragraph 1 shall make written application to NCAA Directorate of Airworthiness Standards.

**3. Requirement for Grant of Approval**

3.1 The dye penetrant inspection Department shall be organised under the direction of a person who has satisfied the requirements of the Supplement to this Chapter.

3.2 All dye penetrant inspection shall be directly supervised and final certification made by a person who has satisfied the requirements of the Supplement to this Chapter. Certification shall be in a form agreed by the NCAA.

3.3 Dye penetrant inspections concerned with the inspection required in approval manuals, approved maintenance programme, the NCAA Mandatory Aircraft Modifications and inspections summary and Foreign Airworthiness Directives volumes shall be made in accordance to techniques approved by the manufacturer or on appropriately approved organisation unless an alternative technique has been accepted by the NCAA.



## SUPPLEMENT TO CHAPTER 62 (F)

### **PROCEDURE FOR APPROVAL OF ORGANISATION CONCERNED WITH DYE PENETRANT INSPECTION OF AIRCRAFT DURING MAINTENANCE AND OVERHAUL**

#### **Requirement for the Dye Penetrant Technician**

The following shall be satisfied by the person(s) required under paragraph 3.1 and 3.2 of Chapter 62 (F) above.

- (a) Be able to read, write and converse in the English Language
- (b) Have experience, acceptable to NCAA of a minimum of 6 months dealing with practical inspection of aircraft or alternative training or experience acceptable to the NCAA.
- (c) Have satisfactorily completed a course of instruction in Dye Penetrant Inspection acceptable to the NCAA.
- (d) Produce evidence, satisfactory to the NCAA of at least six months recent work in Dye penetrant inspection of aircraft.
- (f) Having achieved a satisfactory standard, acceptable to the NCAA in the examination detailed in paragraph 2 of this Supplement.

#### **2. EXAMINATION SYLLABUS**

- 2.1
  - (a) Types of dye penetrant
  - (b) Types of penetrant indications and the interpretation of those
  - (c) Capillary actions
  - (d) A/C Materials
  - (e) Dye penetrant Equipments/set-up[
  - (f) Scope and limitations of dye penetrant inspection
  - (g) Methods of administering dye penetrant inspection on aircraft surfaces.
  - (h) Recognition of false indications.

NOTE: Approach to the above subject should be practical

2.2 **Practical Test:** Dye penetrant flaw detection shall be carried out on a given number of specimens.

2.3 **Technical Preparation:** Dye penetrant inspection techniques shall be prepared in respect of a number of specimens as follows:

- (a) Comprehensive inspection of one specimen
- (b) Inspection for a particular defect in the remaining specimens including the design of suitable test pieces.

3. **Re-Examination:** The NCAA may require re-examination of an dye penetrant technician at times which will be notified in writing to the approved organisation.



## CHAPTER 63

### **CERTIFICATION AND APPROVAL OF CONTINUING AIRWORTHINESS MANAGEMENT ORGANISATION**

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#### 1.0 PURPOSE

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This chapter is issued to provide guidance to airworthiness inspectors in the process of evaluating Continuing Airworthiness Management Organisations (CAMO) for purposes of certification and approval in accordance with the Civil Aviation Regulations. The Order is applicable to certification and approval of domestic continuing airworthiness management organisations.

#### 2.0 REFERENCES

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- 2.1 Part 5 of the Nig. Civil Aviation Regulations (Airworthiness)
- 2.2 Checklist: CL: O-AWS041
- 2.3 NCAA-O-GEN003 - Five Phase Certification Process

#### 3.0 GUIDANCE AND PROCEDURES

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- 3.1 General Information
  - 3.1.1 In general the regulatory requirements for application approval, management and administration of an approved continuing airworthiness management organisation are given in Part 5 of the Nigeria Civil Aviation Regulations.
  - 3.1.2 The approval authorises the CAMO to carry out management of aircraft continuing airworthiness for organisations operating aircraft registered in Nigeria.
  - 3.1.3 Recommendation to approve a continuing airworthiness management organisation must be based on the organisation's demonstration of adequate organisation structure, methods of control, supervision and training programs consistent with the nature and extent of the scope of work specified.
  - 3.1.4 The certification process is designed to ensure that the prospective CAMO approval holder understands and is capable of fulfilling its duty. When satisfactorily completed, the certification process ensures that the applicant is able to comply with the Civil Aviation Regulations.
  - 3.1.5 The CAMO Certification is carried out in accordance with the Five Phase Certification and Approval Process which is explained in Order Number NCAA-O-GEN003



3.1.6 The five (5) Phases are:

- a) Pre-application
- b) Formal Application
- c) Document Evaluation
- d) Demonstration and Inspection
- e) Certification

3.1.7 Each phase states the required inspection and evaluation activities to ensure compliance with the Regulations.

3.1.8 The approval process may be flexible where the required sequence of events in this Order is not entirely applicable, and the applicant may be allowed to proceed in a manner that is discretionary to the Authority. However, it must be clearly understood that approval should not be recommended until the Civil Aviation Regulation has been satisfactorily complied with and there is evidence that they will be maintained in an appropriate and continuing manner.

3.1.9 The designated Certification Project Manager (CPM) is the official Authority spokesperson throughout the certification project.

3.2 The Approval Procedure - General

The evaluation and approval process focusses on establishing that the CAMO satisfies the requirements of Part 5 of the Nigeria Civil Aviation Regulations. The five phase process provides for interaction between the applicant and the Authority from the initial enquiry to the issue or denial of a certificate. It ensures that programmes, systems, and intended methods of compliance are thoroughly reviewed, evaluated and tested.

3.2.1 There are two routes to obtaining a CAMO approval:

- a. CAMO approval for AOC organisations
- b. CAMO approval for non AOC organisations (Standalone)

3.2.2 For any AOC organisation seeking for a CAMO approval, such will be done during the AOC Certification process. An AOC organisation already in operation seeking for a CAMO approval will need to vary its OpSpecs to include the CAMO approval and revise its MCM to include relevant sections relating to CAMO operations.

3.3 The Approval Procedure – Five Phase Process

### 3.3.1 Pre-Application Phase

In response to an initial enquiry, furnish the prospective applicant with the Pre-Application Statement of Intent (PASI) Form (Form AWS006H) and discuss with the prospective applicant the following subjects:

- a. The necessary technical expertise required by the applicant's proposed organisation, to include the following:
  - i. Aviation related experience
  - ii. Proposed organisational structure
  - iii. Knowledge of the specific functions to be performed
- b. The qualifications and ratings required for the type of privileges being sought
- c. Management requirements and sufficient personnel to meet the demands of the proposed Continuing Airworthiness Management Organisation.
- d. Facility and Tools requirements which should include:
  - i. Suitable office with space for records
  - ii. Fire and flood protection
  - iii. Appropriate IT platform
  - iv. Connectivity
  - v. Reliability monitoring
  - vi. Offsite records storage
- e. The necessity of having current technical data available prior to approval. Technical data will include the following:
  - i. The Nigeria Civil Aviation Regulations
  - ii. Airworthiness Directives
  - iii. Advisory Circulars
  - iv. Modifications and repairs requirements
- f. Contract agreements with AOC operators and NCAA approved AMO operators.

#### 3.3.1.1 The Pre-Application Meeting

The Authority contacts the applicant to arrange a pre-application meeting to receive the Pre-Application Statement of Intent (PASI) Form AC-AWS006H and to furnish the applicant with the Formal Application AC-AWS006I to complete and submit to the Authority and to discuss questions, if any, concerning the certification process, regulatory requirements, the formal application and attachments.

In this meeting, it is important to accomplish the following:

- a. Discuss the regulations applicable to the proposed continuing airworthiness management operations
- b. Provide the applicant with the following information/material:
  - i. Guidance for developing a Continuing Airworthiness Management Exposition (CAME) or an 'Anybody's CAME'
  - ii. An application for the CAMO Approval



- c. Inform the applicant that a formal application package for a Continuing Airworthiness Management Organisation approval must contain the following:
  - i. A completed formal application form
  - ii. Management Bio Data forms
  - iii. One hard copy and one soft copy of the Continuing Airworthiness Management Exposition (CAME)
  - iv. A letter indicating when facility will be ready for formal inspection
  - v. A statement of compliance
- d. The CAMO certification team is assigned with a Project Manager (CPM) as the official Authority spokesperson throughout the certification project.

### 3.3.2 Formal Application Phase

The applicant submits the formal application package as enumerated in paragraph 3.3.1.1 (c) to the certification team. The certification team will evaluate the formal application package and decide whether or not to continue with the certification process.

The CPM will schedule a formal application meeting with the applicant to discuss any open questions concerning the package before proceeding to the next phase.

Ensure all issues concerning the proposed operation, the formal application and attachments are resolved at this time. The meeting should consist of the certification team members and key management personnel from the applicant's organisation.

Individuals assigned to the required management positions should have knowledge of the CAME, the Regulations currently in force and the planned continuing airworthiness activities. The resumes of the qualifications, licences, ratings, and aviation experience should be submitted with the application.

The key management positions (or their equivalent) include:

- i. Accountable Manager
- ii. Quality Manager
- iii. Continuing Airworthiness Manager
- iv. Airworthiness Review Personnel

If a deviation from the management requirements is anticipated, it should be indicated in the formal application letter. The actual request for deviation must be made to the Authority with specific justification.

### 3.3.3 Document Evaluation Phase

Thoroughly review the application package for acceptance or rejection.

Review the contents of each submitted document for regulatory compliance. The documents to be reviewed include:



- a. Completed PASI, Formal Application Form, and Management Personnel Bio Data Forms
- b. The Continuing Airworthiness Management Exposition (CAME) which should include the Scope of Work
- c. The Statement of Compliance
- d. Contractual Agreements with AOC and NCAA Approved AMO (if available)

If deficiencies are found in any document, return it to the applicant with a letter outlining the deficient areas. Inform the applicant that the certification process will not continue until all deficiencies are resolved.

#### 3.3.4 Demonstration and Inspection Phase

The certification team carries out site verification and inspection to ensure that the applicant's proposed procedures are effective and that the facilities and tools are in place and meet regulatory requirements. The CPM identifies those activities where demonstration will be required.

A housing and facility inspection to ensure that work is done in a suitable location and that records are protected from weather and fire. In addition, inspect and evaluate the following:

- a. Employees are familiar with and are capable of performing their assigned duties
- b. Maintenance record-keeping system satisfies the CAME procedures
- c. The system for reporting un-airworthy condition to ensure compliance with the CAME procedures.
- d. Evaluate the CAMO structure and management team to ensure that the following requirements are satisfied:
  - i. The number of personnel is sufficient to satisfy the type of work to be performed
  - ii. Individuals directly in charge of Continuing Airworthiness Management functions are appropriately qualified and competent

Carry out a post inspection de-brief meeting with the application to point out the observed deficiencies. It is also required to notify the applicant in writing. If appropriate, meet with the applicant to review deficiencies in detail.

*Note: Corrective action must be taken and the project manager notified in writing by the applicant, in order for the certification process to continue. Each deficiency and corrective action must be fully documented and recorded in the certification file.*

#### 3.3.5 Certification Phase

Once the applicant satisfies the regulatory requirements of Part 5 of the Nigeria Civil Aviation Regulations, the certification team will recommend the Continuing Airworthiness Management Organisation for issue of the Approval Certificate and an accompanying Schedule of Approval.



The certification process summary report including the approval recommendation should be prepared, signed by the project manager (CPM) and submitted to the Director Airworthiness Standards for review and subsequent approval.

The Continuing Airworthiness Management Organisation Approval Certificate is prepared for the authorized signatory on behalf of the Authority.

### 3.4 Records

3.4.1 It is required to open up a file for the Continuing Airworthiness Management Organisation (CAMO) to keep record of the documents generated during the certification process. The records are as follows:

- a) The completed Pre-Application Statement of Intent (PASI) Form
- b) The Formal Application Form for CAMO
- c) A completed Statement of Compliance
- d) The Certification checklist
- e) All correspondence between the applicant and the Authority
- f) Minutes of the meetings held with the applicant
- g) A summary of all discrepancies encountered during the certification process, and corrective actions taken by the applicant
- h) Copies of the Contract Agreements with AOC operators and NCAA Approved AMO (as applicable)
- i) Copy of the certification process summary report
- j) Copy of Schedule of Approval
- k) Copy of Approval Certificate
- l) Proof of payment of the approval fee





## CHAPTER 64

### CONTINUING AIRWORTHINESS MANAGEMENT EXPOSITION (CAME)

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#### 1.0 PURPOSE

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This chapter provides guidance and information on evaluation and approval of Continuing Airworthiness Management Exposition (CAME).

#### 2.0 REFERENCES

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- 2.1 Part 5.8.1.4 of the Nigerian Civil Aviation Regulations
- 2.2 Checklist: CL:O-AWS042

#### 3.0 GUIDANCE AND PROCEDURES

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##### 3.1 General Information

The CAME is a CAMO manual for use and guidance by personnel of a CAMO for managing continuing airworthiness of aircraft. It states the organization management team and the organization commitment to comply with the regulatory requirement and to maintain the standards established during the approval certification process.

It explains in detail the CAMO responsibilities, functions and obligations. It further explains the regulatory processes, methods, procedures and capabilities the holder employs to satisfy these regulatory requirements.

The CAME defines the CAMO's structure, quality system management, continuing airworthiness activity coordination, duties, responsibilities, qualification and training requirements of technical personnel. An AOC holder who manages the continuing airworthiness of its aircraft may include the CAME in its MCM while an AOC holder who wish to manage the continuing airworthiness of third party aircraft shall have a separate CAME.

The continuing airworthiness management exposition and its amendments are required to be approved by the Authority. However, minor amendments to the exposition may be approved through an exposition procedure which is called indirect approval.



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## **PART 0 — GENERAL ORGANISATION**

### **0.1 Corporate commitment by the accountable manager**

(The accountable manager's exposition statement should embrace the intent of the following paragraph, and in fact this statement may be used without amendment. Any amendment to the statement should not alter its intent.) 'This exposition defines the organisation and procedures upon which the CAMO approval of Ben Musa under Nig. CARs Part 5.8 is based. These procedures are approved by the undersigned and must be complied with, as applicable, in order to ensure that all continuing airworthiness activities, including maintenance of aircraft managed by Ben Musa, are carried out on time to an approved standard.

It is accepted that these procedures do not override the necessity of complying with any new or amended regulation published by the Agency or the Authority from time to time where these new or amended regulations are in conflict with these procedures.

The Authority will approve this organisation whilst it is satisfied that the procedures are followed. It is understood that the Authority reserves the right to suspend, limit or revoke the continuing airworthiness management approval of the organisation, as applicable, if the Authority has evidence that the procedures are not followed and the standards not upheld.

In the case of AOC Holders certificated in accordance with Nig. CARs Part 9 suspension or revocation of the approval of the continuing airworthiness management organisation would invalidate the AOC.'

### **0.2 General Information**

#### a) Brief description of the organisation

(This paragraph should describe broadly how the whole organisation (i.e. including the whole operator in the case of AOC Holders certificated in accordance with Nig. CARs Part 9 or the whole organisation when other approvals are held) is organised under the management of the accountable manager, and should refer to the organisation charts of paragraph 0.4.)

#### b) Relationship with other organisations

(This paragraph may not be applicable to every organisation.)

##### **(1) Subsidiaries/mother company**

(For clarity purposes, where the organisation belongs to a group, this paragraph should explain the specific relationship the organisation may have with other members of that group, e.g. links between Ben Musa Airlines, Ben Musa Finance, Ben Musa Leasing, Ben Musa Maintenance, etc.)



**(2) Consortia**

(Where the organisation belongs to a consortium, it should be indicated here. The other members of the consortium should be specified, as well as the scope of organisation of the consortium (e.g. operations, maintenance, design (modifications and repairs), production etc.). The reason for specifying this is that consortium maintenance may be controlled through specific contracts and through consortium’s policy and/or procedures manuals that might unintentionally override the maintenance contracts. In addition, in respect of international consortia, the respective competent authorities should be consulted and their agreement to the arrangement should be clearly stated.

c) Scope of work — Aircraft managed

<p>(This paragraph should specify the scope of the work for which the CAMO is approved. This paragraph may include aircraft type/series, aircraft registrations, owner/operator, contract references, etc. The following is given as an example.) Aircraft type/series</p>	<p>Date included in the scope of work</p>	<p>Aircraft maintenance programme or ‘generic/baseline’ maintenance programme</p>	<p>Aircraft registration(s)</p>	<p>Owner/operator</p>	<p>CAMO contract reference</p>
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For AOC Holders certificated in accordance with Nig. CARs Part 9, this paragraph can make reference to the operations specifications or operations manual where the aircraft registrations are listed.

(Depending on the number of aircraft, this paragraph may be updated as follows:

- 1) the paragraph is revised each time an aircraft is removed from or added in the list;
- 2) the paragraph is revised each time a type of aircraft or a significant number of aircraft is removed from or added to the list; in that case, the paragraph should explain where the current list of aircraft managed is available for consultation.)

d) Type of operation

(This paragraph should give broad information on the type of operations such as: commercial air transport operations, (commercial) specialised operations, training organisation, NCC, NCO, long haul/short haul/regional, scheduled/charter, regions/countries/continents flown, etc.)



### 0.3 Management personnel

#### a) Accountable manager

(This paragraph should address the duties and responsibilities of the accountable manager as regards CAMO approvals and should demonstrate that he/she has corporate authority for ensuring that all continuing airworthiness activities can be financed and carried out to the required standard.)

#### b) Nominated postholder for continuing airworthiness referred to in Nig. CARs Part 5.8.1.6

(This paragraph should:

— emphasise that the nominated postholder for continuing airworthiness is responsible to ensure that all maintenance is carried out on time and to an approved standard; and

— describe the extent of his/her authority as regards his/her Nig. CARs Part 5.8 responsibility for continuing airworthiness.

#### c) Continuing airworthiness coordination

(This paragraph should list in sufficient detail the job functions that constitute the 'group of persons' as required by Nig. CARs Part 5.8.1.6 so as to show that all the continuing airworthiness responsibilities as described in Part-M are covered by the persons that constitute that group. In the case of small operators where the 'nominated postholder' for continuing airworthiness constitutes himself/herself the 'group of persons', this paragraph may be merged with the previous one.)

#### d) Duties and responsibilities

(This paragraph should further elaborate the duties and responsibilities of all the nominated persons and of any other management personnel.)

#### e) Manpower resources and training policy

##### (1) Manpower resources

(This paragraph should give broad figures to show that the number of people assigned to the performance of the approved continuing airworthiness activity is adequate. It is not necessary to give the detailed number of employees of the whole company, but only the number of those involved in continuing airworthiness. This could be presented as follows:)

The number of employees assigned to the performance of the continuing airworthiness management system is the following:

	Full-time	Part-time in equivalent full-time
Quality monitoring	AA	aa = AA'
Continuing airworthiness management	BB	bb = BB'
(Detailed information about the management of group of persons)	BB1	bb1 = BB1'
	BB2	bb2 = BB2'
Other...	CC	cc = CC'
Total	TT	tt = TT'
Total man-hours		TT + TT'

### 0.4 Management organisation charts

#### a) General organisation chart



The applicant should provide the organization charts for the general management personnel showing names and reporting lines.

#### **b) Continuing airworthiness management organisation chart**

The applicant should provide the organization charts for the continuing airworthiness management personnel showing names and reporting lines.

### **0.5 Procedure to notify the Authority of changes to the organisation's activities/approval/location/personnel**

(This paragraph should explain the cases where the company should inform the Authority prior to incorporating proposed changes, for instance:

The accountable manager (or any nominated person such as the nominated postholder or the quality manager) will notify the Authority of any change concerning:

- (1) the company's name and location(s);
- (2) the group of persons as specified in paragraph 0.3.c); and
- (3) operations, procedures and technical arrangements, as far as they may affect the approval.

Ben Musa will not incorporate such changes until they have been assessed and approved by the Authority.)

### **0.6 Exposition amendment procedure**

(This paragraph should explain who is responsible for the amendment of the exposition and its submission to the Authority for approval. This may include, if agreed by the Authority, the possibility for the approved organisation to approve internally minor amendments that have no impact on the approval held. The paragraph should then specify what types of amendments are considered minor and major, and what the approval procedures for both cases are. A statement be included to mandate any new Accountable Manager to sign the Corporate commitment statement in his signature as part of his acceptance in the position otherwise the CAMO along with the AOC is invalidated.)

## **PART 1 — CONTINUING AIRWORTHINESS MANAGEMENT PROCEDURES**

### **1.1 Aircraft technical log utilisation and MEL application**

or

#### **1.1 Aircraft continuing airworthiness record system utilisation**

##### **a) Aircraft technical log and/or continuing airworthiness record system**

###### **(1) General**

(It may be useful to recall, in this introductory paragraph, the purpose of the aircraft technical log system and/or the continuing airworthiness record system

###### **(2) Instructions for use**

(This paragraph should provide instructions for using the aircraft technical log and/or continuing airworthiness record system. It should emphasise the respective responsibilities of the maintenance personnel and operating crew. Samples of the technical log and/or continuing airworthiness record system should be included in Part 5 'Appendices' in order to provide enough detailed instructions.)

###### **(3) Aircraft technical log approval**

(This paragraph should explain who is responsible for submitting the aircraft technical log, and any subsequent amendment thereto, to the Authority for approval and what is the procedure to be followed.)

##### **b) MEL application**

(The MEL is a document not controlled by the CAMO and the decision of whether accepting or not the operation with a defect deferred in accordance with the MEL is normally the responsibility of the operating crew. This paragraph should explain in sufficient detail the MEL application procedure,



because the MEL is a tool that the personnel involved in continuing airworthiness and maintenance have to be familiar with in order to ensure proper and efficient communication with the crew in case of a defect rectification to be deferred.)

(This paragraph does not apply to those types of aircraft that do not have an MEL.)

(1) General

(This paragraph should explain broadly what an MEL document is. The information could be extracted from the aircraft flight manual.)

(2) MEL categories

(Where an owner/operator uses a classification system placing a time constraint on the rectification of defects, it should be explained here what are the general principles of such a system. It is essential for the personnel involved in continuing airworthiness and maintenance to be familiar with it for the management of the MEL's deferred defect rectification.)

(3) Application

(This paragraph should explain how the continuing airworthiness and maintenance personnel make the flight crew aware of an MEL limitation. This should refer to the technical log procedures.)

(4) Acceptance by the crew

(This paragraph should explain how the crew notifies their acceptance or non-acceptance of the MEL deferment in the technical log.)

(5) Management of the MEL time limits

(Once a technical limitation is accepted by the crew, the defect must be rectified within the time limit specified in the MEL. There should be a system to ensure that the defect will actually be rectified before that

time limit. This system could be the aircraft technical log for those (small) operators that use it as a planning document, or a specific follow-up system where control of the maintenance time limit is ensured by other means such as data processed planning systems.)

(6) MEL time limitation overrun

(The Authority may allow the owner/operator to overrun the MEL time limitation under specific conditions. Where applicable, this paragraph should describe the specific duties and responsibilities with regard to controlling these extensions.)

## 1.2 Aircraft maintenance programme — development and amendment

### a) General

(This introductory paragraph should recall that the purpose of a maintenance programme is to provide maintenance planning instructions necessary for the safe operation of the aircraft.)

### b) Content

(This paragraph should explain what is (are) the format(s) of the aircraft maintenance programme(s).

### c) Development

#### (1) Sources

(This paragraph should explain what are the sources (MRB, MPD, maintenance manual, etc.) used for the development of an aircraft maintenance programme.)

#### (2) Responsibilities

(This paragraph should explain who is responsible for the development of an aircraft maintenance programme.)

#### (3) Manual amendments

(This paragraph should demonstrate that there is a system for ensuring the continuing validity of the aircraft maintenance programme. Particularly, it should show how any relevant information is used to update the aircraft maintenance programme. This should include, as applicable, MRB report



revisions, consequences of modifications, manufacturer and Authority recommendations, in-service experience, and reliability reports.)

(4) Acceptance by the authority

(This paragraph should explain who is responsible for the submission of the maintenance programme to the Authority and what the procedure to follow is. This should in particular address the issue of the approval for variation to maintenance periods either by the Authority or by a procedure in the maintenance programme for the organisation to approve internally certain changes.)

### **1.3 Time and continuing airworthiness records, responsibilities, retention and access**

a) Hours and cycles recording

(The recording of flight hours and cycles is essential for the planning of maintenance tasks. This paragraph should explain how the continuing airworthiness management organisation has access to the current flight

hours and cycles information and how it is processed through the organisation.)

b) Records

(This paragraph should give in detail the type of company documents that are required to be recorded and what are the recording period requirements for each of them. This can be provided by a table or series of tables that would include the following:

- family of document (if necessary),
- name of document,
- retention period,
- responsible person for retention,
- place of retention.)

c) Preservation of records

(This paragraph should set out the means provided to protect the records from fire, flood, etc., as well as the specific procedures in place to ensure that the records will not be altered during the retention period (especially computer records).)

d) Transfer of continuing airworthiness records

(This paragraph should set out the procedure for the transfer of records in case of purchase/lease-in, sale/lease-out and transfer of an aircraft to another organisation. In particular, it should specify which records have to be transferred and who is responsible for the coordination (if necessary) of the transfer.)

### **1.4 Accomplishment and control of airworthiness directives**

(This paragraph should demonstrate that there is a comprehensive system in place for the management of airworthiness directives. This paragraph may, for instance, include the following subparagraphs:)

a) Airworthiness directive information

(This paragraph should explain what the AD information sources are and who receives them in the company. Where available, multiple sources (e.g. Agency + Authority + manufacturer or association) may be useful.)

b) Airworthiness directive decision

(This paragraph should explain how and by whom the AD information is analysed and what kind of information is provided to the contracted maintenance organisations in order to plan and perform the





airworthiness directive. This should include as necessary a specific procedure for the management of emergency airworthiness directives.)

c) Airworthiness directive control

(This paragraph should specify how the organisation manages to ensure that all the applicable airworthiness directives are accomplished and that they are accomplished on time. This should include a closed-loop system that allows verifying that for each new or revised airworthiness directive and for each aircraft:

- the AD is not applicable, or
- if the AD is applicable:
  - the AD is not yet accomplished but the time limit is not overdue,
  - the AD is accomplished and any repetitive inspection is identified and performed.

This may be a continuous process or may be based on scheduled reviews.)

### **1.5 Analysis of the effectiveness of the maintenance programme**

(This paragraph should show what tools are used in order to analyse the efficiency of the maintenance programme, such as:

- pilot reports (PIREPS),
- air turnbacks,
- spare consumption,
- repetitive technical occurrence and defect,
- technical delays analysis (through statistics, if relevant),
- technical incidents analysis (through statistics, if relevant),
- etc.

This paragraph should also indicate by whom and how this data is analysed, what the decision process to take action is and what kind of action could be taken. This may include:

- amendment of the maintenance programme,
- amendment of maintenance or operational procedures,
- etc.)

### **1.6 Non-mandatory modification embodiment policy**

(This paragraph should specify how non-mandatory modification information is processed through the organisation, who is responsible for its assessment against the operator's/owner's own needs and operational experience, what are the main criteria for decision and who takes the decision of implementing (or not) a non-mandatory modification.)

### **1.7 Major repair and modification standards**

(This paragraph should set out a procedure for the assessment of the approval status of any major repair or modification before embodiment. This will include the assessment of the need of an Authority's approval. It should also identify the type of approval required, and the procedure to follow to have a repair or modification approved by the Authority.

### **1.8 Defect reports**

a) Analysis

(This paragraph should explain how the defect reports provided by the contracted maintenance organisations are processed by the continuing airworthiness management organisation. Analysis should be conducted in order to give elements to activities such as maintenance programme evolution and non-mandatory modification policy.)

b) Liaison with manufacturers and regulatory authorities



(Where a defect report shows that such defect is likely to occur to other aircraft, a liaison should be established with the manufacturer and the certification Authority so that they may take all the necessary action.)

c) Deferred defect policy

(Defects such as cracks and structural defects are not addressed in the MEL and CDL. However, it may be necessary in certain cases to defer the rectification of a defect. This paragraph should establish the procedure to be followed in order to be sure that the deferment of any defect will not lead to any safety concern. This will include appropriate liaison with the manufacturer.)

**1.9 Engineering activity**

(Where applicable, this paragraph should present the scope of the organisation's engineering activity in terms of approval of modifications and repairs. It should set out a procedure for developing and submitting a modification/repair design for approval to the Agency and include reference to the supporting documentation and forms used. It should identify the person in charge of accepting the design before submission to the Authority.

**1.10 Reliability programmes**

(This paragraph should explain appropriately the management of a reliability programme. It should at least address the following:

- extent and scope of the reliability programme,
- specific organisational structure, duties and responsibilities,
- establishment of reliability data,
- analysis of reliability data,
- corrective action system (maintenance programme amendment),
- scheduled reviews (reliability meetings and when the participation of the Authority is needed.)

(This paragraph may, where necessary, be subdivided as follows:)

- a) Airframe
- b) Propulsion
- c) Component

**1.11 Pre-flight inspections**

(This paragraph should show how the scope and definition of pre-flight inspection that is usually performed by the operating crew are kept consistent with the scope of the maintenance performed by the contracted maintenance organisations. It should show how the evolution of the content of the pre-flight inspection and of the maintenance programme is concurrent.)

(The following paragraphs are self-explanatory. Although these activities are normally not performed by continuing airworthiness personnel, these paragraphs have been placed here in order to ensure that the related procedures are consistent with the continuing airworthiness activity procedures.)

- a) Preparation of aircraft for flight
- b) Subcontracted ground-handling function
- c) Security of cargo and baggage loading
- d) Control of refueling, quantity/quality

e) Control of snow, ice, residues from de-icing or anti-icing operations, dust and sand contamination to an approved standard

**1.12 Aircraft weighing**

(This paragraph should state the cases where an aircraft has to be weighed (for instance, after a major modification because of weight and balance operational requirements, etc.), who performs it, according to which procedure, who calculates the new weight and balance, and how the result is processed in the organisation.)

**1.13 Check flight procedures**



(The criteria for performing a check flight are normally included in the aircraft maintenance programme. This paragraph should explain how the check flight procedure is established in order to meet its intended purpose (for instance, after a heavy maintenance check, after engine or flight control removal installation, etc.), and the release procedures to authorise such a check flight.)

## **PART 2 — QUALITY SYSTEM**

### **2.1 Continuing airworthiness quality policy, plan and audit procedure**

#### a) Continuing airworthiness quality policy

(This paragraph should include a formal quality policy statement — that is a commitment to what the quality system is intended to achieve. It should include as a minimum the monitoring compliance with Part-M and with any additional standards specified by the organisation.)

#### b) Continuing airworthiness quality plan

(This paragraph should show how the quality plan is established. The quality plan will consist of a quality audit and sampling schedule that should cover all the areas specific to Nig. CARs Part 5.8 in a definite period of time. However, the scheduling process should also be dynamic and allow for special evaluations when trends or concerns are identified. In case of subcontracting, this paragraph should also address the planning of the auditing of subcontractors at the same frequency with the rest of the organisation.)

#### c) Continuing airworthiness quality audit procedure

(Quality audit is a key element of the quality system. Therefore, the quality audit procedure should be sufficiently detailed to address all the steps of an audit from preparation to conclusion; it should show the audit report format (e.g. by reference to paragraph 5.1 'Sample of document'), and should explain the rules for the distribution of audit reports in the organisation (e.g. involvement of the quality manager, accountable manager, nominated postholder, etc.).)

#### d) Continuing airworthiness quality audit remedial action procedure

(This paragraph should explain what system is put in place in order to ensure that the corrective actions are implemented on time and that the result of the corrective actions meets the intended purpose. For instance, where this system consists in periodical corrective actions review, instructions should be given on how such reviews should be conducted and what should be evaluated.)

### **2.2 Monitoring of continuing airworthiness management activities**

(This paragraph should set out a procedure to periodically review the activities of the continuing airworthiness management personnel and how they fulfil their responsibilities, as defined in Part 0.)

### **2.3 Monitoring of the effectiveness of the maintenance programme(s)**

(This paragraph should set out a procedure to periodically review that the effectiveness of the maintenance programme(s) is actually analysed as defined in Part 1.)

### **2.4 Monitoring that all maintenance is carried out by an appropriate maintenance organisation**

(This paragraph should set out a procedure to periodically review that the approval of the contracted maintenance organisations is relevant for the maintenance of the operator's fleet. This may include feedback information from any contracted organisation on any actual or contemplated amendment in order to ensure that the maintenance system remains valid and to anticipate any necessary change in the maintenance agreements.

If necessary, the procedure may be subdivided as follows:

- a) Aircraft maintenance
- b) Engines
- c) Components)

### **2.5 Monitoring that all contracted maintenance is carried out in accordance with the contract, including subcontractors used by the maintenance contractor**



(This paragraph should set out a procedure to periodically review that the continuing airworthiness management personnel are satisfied that all contracted maintenance is carried out in accordance with the contract. This may include a procedure to ensure that the system allows all the personnel involved in the contract (including the contractors and their subcontractors) to familiarise themselves with its terms and that, for any contract amendment, relevant information is distributed in the organisation and to the contractor.)

### **2.6 Quality audit personnel**

(This paragraph should establish the required training and qualification standards for auditors. Where persons act as part-time auditors, it should be emphasised that they must not be directly involved in the activity they are auditing.)

## **PART 3 — CONTRACTED MAINTENANCE**

### **3.1 Procedures for contracted maintenance**

#### **a) Procedures for the development of maintenance contracts**

(This paragraph should explain the procedures that the organisation follows to develop the maintenance contract. In particular, it should cover responsibilities, tasks and interaction with the maintenance organisation and with the owner/operator.

This paragraph should also describe, when necessary, the use of work orders for unscheduled line maintenance and component maintenance.

#### **b) Maintenance contractor selection procedure**

(This paragraph should explain how a maintenance contractor is selected by the CAMO. Selection should not be limited to the verification that the contractor is appropriately approved for the specific type of aircraft, but also that the contractor has the industrial capacity to undertake the required maintenance. The selection procedure should preferably include a contract review process in order to ensure that:

- the contract is comprehensive and that it has no gaps or unclear areas,
- everyone involved in the contract (both at the continuing airworthiness management organisation and at the maintenance contractor) agrees with the terms of the contract and fully understands their responsibilities.
- that functional responsibilities of all parties are clearly identified.

The CAMO should agree with the operator on the process to select a maintenance organisation before concluding any contract with a maintenance organisation.)

### **3.2 Quality audit of aircraft**

(This paragraph should set out the procedure when performing a quality audit of an aircraft. It should set out the differences between a maintenance review and a quality audit. This procedure may include:

- compliance with approved procedures;
- contracted maintenance is carried out in accordance with the contract;
- continued compliance with Nig. CARs Part 5.)

## **PART 4 — MAINTENANCE REVIEW PROCEDURES**

### **4.1 Certificate of Maintenance Review staff**

(This paragraph should establish the working procedures for the assessment of the maintenance review staff. The assessment addresses experience, qualification, training, etc. A description should be given regarding the issue of authorisations for the certificate of maintenance review staff and how records are kept and maintained. Validity/currency of the Certificate of Maintenance Review staff i.e for CMR staff to remain current, he/she must be involved in Continuing Airworthiness management



activities for at least six months in every two year period or conduct at least one Airworthiness review in the last 12 months. To restore the validity of the Authorisation of a CMR staff, he/she must conduct an Airworthiness Review Activity satisfactorily under the supervision of the Civil Aviation Authority or another currently valid Authorised CMR staff of the CAMO)

For Maintenance Review Staff, formal aeronautical maintenance training means training (internal or external) supported by evidence on the following subjects:

- Relevant parts of initial and continuing airworthiness regulations.
- Relevant parts of operational requirements and procedures, if applicable.
- The organisation's continuing airworthiness management exposition.
- Knowledge of a relevant sample of the type(s) of aircraft gained through a formalised training course. These courses should be at least at a level equivalent to ATA104 Level 1 General Familiarisation and could be imparted by an ATO, by the manufacturer, or by any other organisation accepted by the Authority.

'Relevant sample' means that these courses should cover typical systems embodied in those aircraft being within the scope of approval

- Maintenance methods.'

The record of CMR staff content should be as enumerated below:

- (a) Name
- (b) Basic Education
- (c) Experience
- (d) Aeronautical Degree and /or Licence
- (e) Initial Training
- (f) Type Training
- (g) Continuation Training
- (h) Experience in CAW and within the Organisation
- (i) Responsibilities of current role in the Organisation
- (j) Copy of the Authorisation.

Information on how the CAMO complies with the Critical Design Configuration Control Limitation (CDCCL) and Fuel Tank Safety training should be included in the CAME.

## 4.2 Review of aircraft records

(This paragraph should describe in detail the aircraft records that are required to be reviewed during the maintenance review. The level of detail that needs to be reviewed as well as the number of records that needs to be reviewed during a sample check should be described.)

### 4.3 Physical survey

(This paragraph should describe how the physical survey needs to be performed. It should list the topics that need to be reviewed; the physical areas of the aircraft to be inspected, which documents on board the aircraft need to be reviewed, etc.)

### 4.4 Additional procedures for recommendations to competent authorities for the import of aircraft

(This paragraph should describe the additional tasks regarding the recommendation for the issue of a certificate of maintenance review in the case of import of aircraft. This should include: communication



with the Authority of registry, additional items to be reviewed during the maintenance review of the aircraft, specification of maintenance required to be carried out, etc.)

#### **4.5 Recommendations to the Authority for the issue of Certificate of Airworthiness and Maintenance Clearance Certificate**

(This paragraph should stipulate the communication procedures with the Authority in case of a recommendation for the issue of a Certificate of Airworthiness or Maintenance Clearance Certificate. In addition, the content of the recommendation should be described.)

#### **4.6 Issue of certificate of maintenance review (CMRs)**

(This paragraph should set out the procedure for the issue of CMRs. It should address record-keeping, distribution of CMR copies, etc. The procedure should ensure that a CMR is issued only after a maintenance review has been properly carried out.)

#### **4.7 Maintenance review records, responsibilities, retention and access**

(This paragraph should describe how records are kept, duration of record-keeping, location where records are stored, access to records, and responsibilities.)

### **PART 4B — RECOMMENDATION FOR SPECIAL FLIGHT PERMIT PROCEDURES**

#### **4B.1 Conformity with approved flight conditions**

(The procedure should indicate how conformity with approved flight conditions is established, documented and attested by an authorised person.)

#### **4B.2 Recommendation for Special Flight Permit under the CAMO privilege**

(The procedure should describe the process to complete the NCAA form AC-AWS004 and make recommendation to the Authority for issue of Special Flight Permit

#### **4B.3 Application for Special Flight Permit authorised signatories**

(The person(s) authorised to sign off the application for special flight permit should be identified (name, signature and scope of authority) in the procedure, or in an appropriate document linked to the CAME.)

#### **4B.4 Interface with the local authority for the flight.**

(The procedure should include provisions describing the communication with the local authority for flight clearance and compliance with the local requirements.

#### **4B.5 Special Flight Permit records, responsibilities, retention and access**

(This paragraph should describe how records are kept, duration of record-keeping, location where records are stored, access to records, and responsibilities.)

### **PART 5 — APPENDICES**

#### **5.1 Sample documents**

(A self-explanatory paragraph.)

#### **5.2 List of maintenance review staff**

(A self-explanatory paragraph.)

#### **5.3 List of subcontractors**

(A self-explanatory paragraph; in addition, it should set out that the list should be periodically reviewed.)

#### **5.4 List of approved maintenance organisations contracted**

(This paragraph should include the list of contracted maintenance organisations, detailing the scope of the contracted work. In addition, it should set out that the list should be periodically reviewed.)

#### **5.5 Copy of contracts for subcontracted work**



**CERTIFICATE OF MAINTENANCE REVIEW (CMR) SAMPLE FORMAT**

**COMPANY NAME, LOGO AND ADDRESS**

**GENERAL INFORMATION:**

1. Date of Review :	2. Place of Review :
3. Registration Marks :	4. C of A Category :
5. Aircraft Manufacturer :	6. Date of Manufacture :
7. Type of Aircraft :	8. Manufacturer Serial No :
9. Total Aircraft Hours :	10. Total Aircraft Cycles:
11. Date of Last Maintenance Review:	

12. Engine Manufacturer / Model :

13. Propeller / Rotor Manufacturer & Model :

14. APU Manufacturer / Model:

<b>DOCUMENT REVIEW</b>		<b>ASSESSMENT</b>		
<b>S/N</b>		<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
1	Airframe, engine and propeller flying hours and associated flight cycles have been properly recorded.			
2	The flight manual is applicable to the aircraft configuration and reflects the latest revision status.			
3	All the maintenance due on the aircraft according to the approved maintenance programme has been carried out.			
4	All known defects have been corrected or, when applicable, carried forward in a controlled manner.			
5	All applicable airworthiness directives and mandatory bulletins have been applied and properly registered.			
6	All modifications and repairs applied to the aircraft have been registered and are approved according to Nig. CARs Part 5.7.1.2.			
7	All service life limited components installed on the aircraft are properly identified, registered and have not exceeded their approved service life limit.			
8	All maintenance has been released in accordance with this Nig. CARs Part 6.5.1.7 and maintenance release kept.			
9	The current mass and balance statement reflects the configuration of the aircraft and is valid.			
10	The aircraft complies with the latest revision of its type design approved by the state of design.			
11	If required, the aircraft holds a noise certificate corresponding to the			



	current configuration of the aircraft in compliance with Nig. CARs Part 16.			
12.	The maintenance data is current revision and kept with relevant work packages.			
	<b>PHYSICAL SURVEY</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
1	All required markings and placards are properly installed.			
2	The aircraft complies with its approved flight manual.			
3	The aircraft configuration complies with the approved documentation.			
4	No evident defect can be found that has not been addressed.			
5	No inconsistencies can be found between the aircraft and the documented review of records.			

Certified that a maintenance review of this aircraft and such of its equipment as is necessary for its airworthiness has been carried out in accordance with the requirements of the Nigeria Civil Aviation Regulations for the time being in force. The next maintenance review is due .....

(a) Name of Maintenance Review Staff.....

(b) Signature/Authorisation No.....

(c) Name of Certifying Staff (If different from above).....

(d) Signature.....

(e) Licenced No.:.....

**NB**

1. A copy of the certificate of maintenance review shall be issued for an aircraft every six months and submitted to the Authority within five (5) days.
2. Maintenance review tasks shall not be sub-contracted.
3. Should the outcome of the maintenance review be inconclusive, the Authority shall be informed.

**3.2 Evaluation Procedure.**

The inspector should be evaluated to ensure that the CAME contains information specified above and satisfies the requirements of the regulations.

The CAME is reviewed to ensure that:

- (i) It is in a format that is easy to revise;
- (ii) There is a manual distribution list.
- (iii) It has a document number, issue number and date of issue
- (iv) It has a list of effective pages.
- (v) Has an Index and all the pages are numbered and reflect the date of issue
- (vi) Contains all items required by Regulation 5.8.1.4 of the Nigeria Civil Aviation Regulations.





- (vii) All systems outlined in the CAME are in place and operational;
- (viii) Each section contains a reference to the applicable regulation.
- (ix) All proposed systems, processes, charts and procedures are in accordance with applicable Regulations;
- (x) Any referenced documents named in the manual are available and adequate for the proposed use. The manual should be checked for completeness and correctness of contents and that it adequately describes all of the procedures necessary for airworthiness and maintenance control of the aircraft and or equipment involved. It is important to ensure that any material copied from the aircraft manufactures or regulations documents to the CAME is in agreement with the information in the current relevant parent document.

### **Results**

If discrepancies are found:

- a) The CAMO is notified in writing listing the specific discrepancies found;
- b) Re-submissions are treated as revisions;

When satisfied that the CAME meets all requirements, the document shall be issued with an Approval Note, and the List of Effective Pages shall be stamped by the Authority. One copy will be returned to the CAMO and the other will be retained at the Authority.

### **Amendments to the Approved CAME**

Amendments to the approved CAME are subjected to the same approval procedures. The amendment approval evaluation however includes the impact of the amendment to any other CAMO manuals.

# **AIRWORTHINESS CHECKLISTS**



**NIGERIAN CIVIL AVIATION AUTHORITY**  
 AVIATION HOUSE  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**DIRECTORATE OF AIRWORTHINESS STANDARDS  
 CHECKLISTS INDEX**

<b>ITEMS</b>	<b>CHECKLIST (CL) NO.</b>	<b>SUBJECT</b>
1.	CL:O-AWS001A	RAMP INSPECTION
2.	CL:O-AWS001B	AIRCRAFT RAMP INSPECTION NOTICE
3.	CL:O-AWS001D	AOC MAINTENANCE SUPPORT CERTIFICATION AND RENEWAL EVALUATION CHECKLIST
4.	CL:O-AWS001E	FOREIGN RAMP INSPECTION
5.	CL:O-AWS002	AMO FACILITIES AND EQUIPMENT AUDIT CHECKLIST
6.	CL:O-AWS004	EVALUATING A MAINTENANCE PROGRAMME
7.	CL:O-AWS005	MAINTENANCE PROCEDURES MANUAL (MPM) EVALUATION CHECKLIST
8.	CL:O-AWS006	MAINTENANCE CONTROL MANUAL (MCM) EVALUATION CHECKLIST
9.	CL:O-AWS008	EVALUATE MAINTENANCE PROGRAMME SHORT TERM ESCALATION
10.	CL:O-AWS009	MAINTENANCE CONTRACT AGREEMENT EVALUATION
11.	CL:O-AWS010	AMO MODULAR AUDIT RECORD AND REPORTING SYSTEM
12.	CL:O-AWS011	MAINTENANCE ORGANISATION CERTIFICATION AND APPROVAL RENEWAL INSPECTION CHECKLIST
13.	CL:O-AWS012A	AIRCRAFT CERTIFICATION (FIXED WING) ISSUE/RENEWAL INSPECTION REPORT CHECKLIST
14.	CL:O-AWS012B	AIRCRAFT INSPECTION ( ROTARY WING) ISSUE/RENEWAL INSPECTION REPORT CHECKLIST
15.	CL:O-AWS012C	AIRCRAFT PRE-IMPORTATION INSPECTION REPORT CHECKLIST
16.	CL:O-AWS014	RELIABILITY PROGRAMME APPROVAL
17.	CL:O-AWS015	MAJOR ALTERATION AND MAJOR REPAIRS APPROVAL CHECKLIST
18.	CL:O-AWS016	PROCEDURES FOR AIRCRAFT REGISTRATION (C OF R ISSUANCE AND RESERVATION ) FLOWCHART
19.	CL:O-AWS017	MANDATORY OCCURRENCE/SERVICE DIFFICULTY CLOSURE NOTE
20.	CL:O-AWS018	AIRCRAFT TYPE CERTIFICATE ACCEPTANCE DATA FORM
21.	CL:O-AWS018A	TYPE CERTIFICATE EVALUATION/ACCEPTANCE PROGRAMME
22.	CL:O-AWS018B	AIRCRAFT TYPE CERTIFICATE ACCEPTANCE DOCUMENTS REQUIRED
23.	CL:O-AWS019	AVIATION FUEL FACILITIES INSPECTION CHECKLIST
24.	CL:O-AWS019A	AVIATION FUELING EQUIPMENTS INSPECTION CHECKLIST
25.	CL:O-AWS020	WORK PROGRAMME

26.	CL:O-AWS021	EXTENDED RANGE OPERATIONS WITH TWIN ENGINE AEROPLANE(ETOPS) CHECKLIST
27.	CL:O-AWS023	MAINTENANCE SPOT CHECK INSPECTION CHECKLIST
28.	CL:O-AWS023A	LETTER OF CORRECTION (FIRST STAGE)
29.	CL:O-AWS023B	LETTER OF CORRECTION (SECOND STAGE)
30.	CL:O-AWS023C	LETTER OF CORRECTION (CLOSURE)
31.	CL:O-AWS024	CHECKLIST FOR REQUIREMENT FOR OPERATION OF FOREIGN REGISTERED AIRCRAFT IN NIGERIA COMMERCIAL AIR TRANSPORT
32.	CL:O-AWS025	CHECKLIST FOR REQUIREMENT FOR OPERATION OF FOREIGN REGISTERED AIRCRAFT IN NIGERIA PRIVATE AIR TRANSPORT
33.	CL:O-AWS026	REQUIREMENTS FOR OPERATION OF FOREIGN REGISTERED AIRCRAFT IN NIGERIA
34.	CL:O-AWS027	HAJJ FLIGHT INSPECTION REPORT FORM
35.	CL:O-AWS028	AIRCRAFT GROUNDING
36.	CL:O-AWS029	NON-CONFORMANCE FINDING FORM
37.	CL:O-AWS030	PROCEDURES/CHECKLIST FOR THE ISSUANCE/ACCEPTANCE OF A NOISE CERTIFICATE
38.	CL:O-AWS036	REDUCED VERTICAL SEPARATION MINIMA (RVSM) AIRSPACE CHECKLIST
39.	CL:O-AWS037	MAINTENANCE TRAINING PROGRAMME APPROVAL PROCESS CHECKLIST
40.	CL:O-AWS038	AIRCRAFT SURVEY REPORT
41.	CL:O-AWS039	QUALITY ASSURANCE AUDIT CHECKLIST
42.	CL:O-AWS040	AIR OPERATOR CERTIFICATE-LINE MAINTENANCE STATION AUDIT.
43.	CL:O-AWS041	CAMO FACILITY AUDIT CHECKLIST
44.	CL:O AWS042	CAME EVALUATION CHECKLIST



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## RAMP INSPECTION

### Instructions for Use:

- 1) Check 'S' column if you reviewed the record, procedure or event and it is 'Satisfactory'.
- 2) Check 'U' column if you reviewed the record, procedure or event and it is 'Unsatisfactory'.
- 3) Check NS (not seen) column if you did not review the record, procedure or event or you do not have adequate information to make a valid comment.
- 4) Check NA (not applicable) column, if the line item is not required in this particular situation.
- 5) Any 'U' answer requires a comment.
- 6) Precede any comment with the appropriate question number.

- a. Airline..... Location.....
- b. Aircraft Type: ..... S/N..... Aircraft Registration .....
- c. Flight No. .... Route: ..... Date: .....
- d. Captain:..... Lic. No. ....  
Medical Exp.....
- e. First Officer:..... Lic. No.....  
Medical Exp.....
- f. Flight Engineer:..... Lic No. ....  
Medical Exp.....
- g. Purser ..... Lic. No. ....
- h. Maintenance Personnel..... Lic. No.....Exp.....

S	U	NS	NA	1	GENERAL
				1.1	Check Data Plate
				1.2	Check for proper Registration Markings
				1.3	Is the Airworthiness Certificate up-to-date and properly located?
				1.4	Is the Registration Certificate up-to-date and properly located?
				1.5	Are other required certificates up-to-date and properly located?
S	U	NS	NA	2	JOURNEY / TECHNICAL LOG
				2.1	Are all Maintenance Items cleared?
				2.2	Is the Airworthiness Release signed by authorized personnel?
				2.3	Are there an adequate number of back pages available?
				2.4	Are deferred items in accordance with approved MEL/CDL?
				2.5	Are deferred item's "M" and "Os" carried out?
				2.6	Are deferred items properly placarded?
S	U	NS	NA	3	FLIGHT DECK
				3.1	Is the general condition of the area clean?
				3.2	Are all placards in place and legible?
				3.3	Are instruments clear?
				3.4	Rudder pedals not blocked?-
				3.5	All control panels legible?
				3.6	Wire bundles properly tied back?
				3.7	CB's properly marked and legible?
				3.8	Are access doors on the floor clearly marked and easy to open?
				3.9	If for emergency landing gear release, is handle available?
				3.10	If for viewing nose gear lock mechanism is viewer clean and usable?



				<b>3.11</b>	Is Emergency Equipment in place? (Smoke mask, O2 Mask, Crash axe)
				<b>3.12</b>	Is PBE in place?
				<b>3.13</b>	Are required manuals in place? (MEL/CDL, AFM, AOM, MM)
				<b>3.14</b>	Reserved
<b>S</b>	<b>U</b>	<b>NS</b>	<b>NA</b>	<b>4</b>	<b>LAVATORIES</b>
				<b>4.1</b>	Is there an ashtray on outside of door?
				<b>4.2</b>	Is there a No Smoking sign outside of door?
				<b>4.3</b>	Is there a No Smoking Sign inside of door?
				<b>4.4</b>	Is there a No Trash placard on toilet seat?
				<b>4.5</b>	Is a Smoke detector installed/checked?
				<b>4.6</b>	Is there an Automatic fire extinguisher over trash bin with seal in place?
				<b>4.7</b>	Are all under counter bins clean and sealed with fire resistant tape?
<b>S</b>	<b>U</b>	<b>NS</b>	<b>NA</b>	<b>5</b>	<b>GALLEYS</b>
				<b>5.1</b>	On doors with girt bars, Is each Galley Door girt bar area clean and girt bar holder free to move?
				<b>5.2</b>	Is the Slide Raft condition acceptable? (Proper Pressure/within overhaul date)
				<b>5.3</b>	Are the door opening instructions properly marked?
				<b>5.4</b>	Are all storage bins marked for weight limit?
				<b>5.5</b>	Are all storage bins/coffee maker lock mechanisms working?
				<b>5.6</b>	Are all placards in place and legible?
				<b>5.7</b>	Are floor level storage areas clean and free of food particles and paper trash that can burn?
<b>S</b>	<b>U</b>	<b>NS</b>	<b>NA</b>	<b>6</b>	<b>EMERGENCY EXITS</b>
				<b>6.1</b>	Are emergency exit signs working and properly placed?
				<b>6.2</b>	Is a floor level emergency exit system installed and working?
				<b>6.3</b>	On doors with girt bar Floor level exits are girt bars clean and free to move?
				<b>6.4</b>	Are door operations instructions clearly marked?
				<b>6.5</b>	Is the slide-raft condition acceptable? (proper pressure/within overhaul date)
				<b>6.6</b>	Are over-wing emergency exit seats properly spaced for type exit?
				<b>6.7</b>	Are over-wing emergency exit opening instructions legible?
				<b>6.8</b>	Is the over-wing emergency exit exterior path non-slip and direction indicated?
				<b>6.9</b>	Are passenger signs working and in view of each seated passenger?
<b>S</b>	<b>U</b>	<b>NS</b>	<b>NA</b>	<b>7</b>	<b>PASSENGER SEATS</b>
				<b>7.1</b>	Do the passenger seats have side restraints in place?
				<b>7.2</b>	Do passenger seat break-over proper for area located?
				<b>7.3</b>	Are passenger seats, seat belts properly rated and certified?
				<b>7.4</b>	Is the seat configuration within operator-approved programme?
<b>S</b>	<b>U</b>	<b>NS</b>	<b>NA</b>	<b>8</b>	<b>CABIN CREW DUTY STATIONS</b>
				<b>8.1</b>	Does each flight attendant seat have a seat belt and shoulder harness?



				<b>8.2</b>	Is each flight attendant seat spring loaded to the upright position?
				<b>8.3</b>	Is there a flashlight/flashlight holder within reach of each flight attendant seat?
<b>S</b>	<b>U</b>	<b>NS</b>	<b>NA</b>	<b>9</b>	<b>CABIN EMERGENCY EQUIPMENT</b>
				<b>9.1</b>	Are portable oxygen bottles installed within test period and location properly marked?
				<b>9.2</b>	Are the proper type and size fire extinguishers installed within test period and their location properly marked?
				<b>9.3</b>	Are first aid kits installed and their location properly marked?
				<b>9.4</b>	Are the landing gear viewer access doors accessible and marked as to location?
				<b>9.5</b>	Are landing gear viewers clear and usable?
				<b>9.6</b>	Is there a crash axe in the cabin?
				<b>9.7</b>	Is PBE in place?
				<b>9.8</b>	Is there a Medical kit on board and sealed?
				<b>9.9</b>	Additional items – refer to attached sheets.
<b>S</b>	<b>U</b>	<b>NS</b>	<b>NA</b>	<b>10</b>	<b>EXTERIOR FUSELAGE</b>
				<b>10.1</b>	Is the radome free of damage, cracking or bubbles?
				<b>10.2</b>	Are the pitot tubes damage free?
				<b>10.3</b>	Is the angle of attack sensor damage free?
				<b>10.4</b>	Are the antennas damage free?
				<b>10.5</b>	Are the static port areas clear and marked?
				<b>10.6</b>	Are all panels properly secured, with none missing?
				<b>10.7</b>	Are wastewater heaters free of damage?
				<b>10.8</b>	Are Air Conditioning/Ram air inlets clear?
				<b>10.9</b>	No obvious corrosion, or dents?
				<b>10.10</b>	Visible repairs? (Note for future records check)
<b>S</b>	<b>U</b>	<b>NS</b>	<b>NA</b>	<b>11</b>	<b>EXTERIOR EMERGENCY LIGHTS</b>
				<b>11.1</b>	Are exterior emergency Exit markings properly painted? (Contrasting color stripping, proper width)
				<b>11.2</b>	Are Exterior Emergency Exit placards clear and legible?
				<b>11.3</b>	Are Exterior Lights working? (Landing, taxi, position)
				<b>11.4</b>	Are the Strobe/Beacon lights working?
<b>S</b>	<b>U</b>	<b>NS</b>	<b>NA</b>	<b>12</b>	<b>WINGS</b>
				<b>12.1</b>	Are leading edges damage free?
				<b>12.2</b>	Are trailing edges and under surfaces damage free?
				<b>12.3</b>	Are trailing edge devices drive assemblies greased and covers secure?
				<b>12.4</b>	Are static discharge devices securely in place?
				<b>12.5</b>	No visible signs of leaks?
<b>S</b>	<b>U</b>	<b>NS</b>	<b>NA</b>	<b>13</b>	<b>CARGO COMPARTMENTS</b>
				<b>13.1</b>	Are cargo areas clean and walls/sealing free of tears and/or dents?
				<b>13.2</b>	Have all repairs been made with fire resistant tape?
				<b>13.3</b>	Is a fire detection system installed?



				<b>13.4</b>	Is a fire suppression system installed?
				<b>13.5</b>	Are door nets free and operable?
				<b>13.6</b>	Are door-locking mechanisms free and clean?
				<b>13.7</b>	Are safety devices/nets clean and properly installed?
<b>S</b>	<b>U</b>	<b>NS</b>	<b>NA</b>	<b>14</b>	<b>WHEEL WELLS</b>
				<b>14.1</b>	Is tire wear within limits?
				<b>14.2</b>	Is brake wear within limits?
				<b>14.3</b>	Is strut clean & properly inflated?
				<b>14.4</b>	Is linkage clean with no obvious defects?
				<b>14.5</b>	Are placards installed and legible?
				<b>14.6</b>	Is the general area clean with no fluid leaks?
				<b>14.7</b>	Are grease fittings clean and have they been recently greased?
				<b>14.8</b>	Is the truck area clean no fluid leaks?
				<b>14.9</b>	Are accumulators properly charged?
				<b>14.10</b>	Are safety devices/nets clean and properly installed?
<b>S</b>	<b>U</b>	<b>NS</b>	<b>NA</b>	<b>15</b>	<b>PYLONS</b>
				<b>15.1</b>	Are pylons free of damage & leaks?
				<b>15.2</b>	Are all panels in place and secure?
				<b>15.3</b>	Are squibs properly marked and set?
<b>S</b>	<b>U</b>	<b>NS</b>	<b>NA</b>	<b>16</b>	<b>POWERPLANTS</b>
				<b>16.1</b>	Are inlets clean, debris free, no blade damage?
				<b>16.2</b>	Is the inlet free of pools of fluid?
				<b>16.3</b>	Are all cowl latches secured?
				<b>16.4</b>	Are reverser's properly stowed?
				<b>16.5</b>	Is the exhaust outlet clean, debris free, no blade damage?
				<b>16.6</b>	Is the exhaust outlet free of fluid?
				<b>16.7</b>	Is the ground under engine free of fluid?

Comments.....  
 .....  
 .....  
 .....

Inspector Name/s:.....Signature.....

Date:







Maintenance Organisation Approval Expiry Date:	
Line maintenance and Route Stations:	

Sub-contracted Maintenance Support		
	Type of Maintenance:	Contracted Maintenance Organisation:
1	Engine off Wing Maintenance	
2		
3		
4		
5		
6		

	Item	Assessment			
		Yes	No	N/C	N/A
<b>1</b>	<b>AOC Part 9: Maintenance Control Manual (MCM)</b>				
	(a) MCM document format and satisfactory adequacy of procedures				
	(b) Definition of Operators Administration Structure.				
	(c) Required Management Personnel (AOC Part 9 and AMO Part 6)				
	(e) Qualification of Management Personnel (AOC Part 9 and AMO Part 6).				
	(f) Duties and responsibilities of technical personnel				
	(g) MCM Approved and all copies appropriately amended				
	(h) If MCM references the MPM is MPM approved and available				

<b>2</b>	<b>AOC Part 9: Maintenance Management</b>				
	(a) Aircraft maintenance release to service in compliance with AOC Part 9, AMO Part 6, and PEL Part 2.				
	(b) Aircraft maintenance carried out by Approved Maintenance Organisations (AMO).				
	(c) Maintenance contracts for all contracted maintenance with appropriately authorized maintenance organizations				
	(d) Maintenance Quality System				
	(e) Aircraft technical records: Technical Log-book sheets, Aircraft Log-books, Lifer components records management,				
	(f) Scheduled Maintenance Planning and Maintenance work package control				
	<b>AOC Part 9: Maintenance Responsibility</b>				
(a)	Aircraft airworthiness documents records keeping (C of R, C of A, Insurance, Certificate of Release to Service, Radio Station Licence, Mass and Balance Schedule, Noise Certificate, MEL.				

(b)	Airworthiness Data:				
	• CAA Regulations				
	• CAA Advisory Circulars (ACs)				
	• Airworthiness Directives (Ads)				
	• Service Bulletins (SBs)				
(a)	Aircraft Service Documents and Technical Library				
	• Approved Maintenance Programme				
	• Certification Control and Task Itemisation				
	• Line Maintenance inspection Management				
	• ADD Management and Control				
	• Aircraft Maintenance Manual (MM)				
	• Illustrated Parts Catalogue (IPC)				
	• Components Service Manuals (e.g. Engine Manual)				
	• Maintenance Control Manual (MCM)				
	• Maintenance Procedure's Manual				
	• Currency and Amendment Status of Technical Literature				

<b>4</b>	<b>AMO Part 6. Part III FACILITY REQUIREMENTS</b>				
(a)	Office Accommodation (including quality, planning, technical records)				
(b)	Facilities for planned work: hanger and workshops appropriate work environment				
(c)	Tools and equipment (and special tools) availability, calibration and storage				
(d)	Storage facilities and conditions (restricted access, manufacturer's instructions, segregation compliance)				
(e)	Technical Stores Shelf life management				
(f)	Technical Spares Records management				
(g)	Procedure for requisition of Technical spares				
(h)	Technical spares scrap procedure				
(i)	Waste management and environment protection procedures				
(j)	Route stations maintenance support equipment				
<b>5</b>	<b>AOC Part 9: Continuous Validity of AOC Maintenance Support Assessment</b>				
(a)	Personnel Adequacy / competent & qualified				
(b)	Adequacy of Organisation Maint. Facilities & Equipment				
(c)	Effective Management of the Maintenance Quality System (AOC )				
(d)	Maintaining current Fleet Maintenance Programmes (AOC )				
(e)	Training and assessment of Technical Staff (AMO ).				
(f)	Keeping and Maintenance of Up-dated Technical Records				
(g)	Effective Management of Contracted Maintenance				
(h)	Continued Compliance with relevant Airworthiness, AOC & AMO Regulations				
(i)	Granting Authority Inspectors Access to Inspect (AOC)				
(j)	Payment of Prescribed Charges to the Authority				

<b>Inspectors Remarks</b>



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## RAMP INSPECTION

### AIRWORTHINESS WORKSHEET

NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE P.M.B. 21029, 21038, IKEJA, LAGOS, NIGERIA

Date:	Aircraft make and model:	Handling Agent:
Operator:	Airframe serial no:	Maintenance Support:
State of the Operator:	Nationality and Reg. marks:	Station:
Route from:	Inbound flight no:	
Route to:		

Check

Remarks

(S/U/N)

A	Flight Deck		
1	General condition		
2	Emergency exits		
3	Equipment (GPWS, ACAS, FMC, ELT, Cockpit door)		
7	Minimum Equipment List and deferred defect rectification		
8 a) *	Certificate of Registration		
8 b)	Identification plate		
8 c) *	Certificate of Airworthiness		
8 f) *	Radio station license		
8 g) *	Noise certification or equivalent (where applicable)		
8 h) *	Air Operator Certificate		
16	Portable Fire Extinguishers		
17	Life Jackets/flotation devices		
18	Safety Harness		
19	Oxygen equipment		

20	Emergency flashlight		
<b>C Aircraft External Condition</b>			
1 *	General external condition		
2	Doors and hatches		
3 *	Wings and Tail		
4 *	Wheels, brakes and tires		
5 *	Undercarriage		
6 *	Wheel well		
7 *	Intake and exhaust nozzle		
8 *	Fan blades (if applicable)		
9 *	Propellers (if applicable)		
10	Previous structural repairs		
11 *	Obvious un-repaired damage		
12 *	Leakage		
<b>D Cargo</b>			
1	General condition of cargo compartment and containers		
2 *	Dangerous goods		
3	Stowage of cargo on board		
<b>E General</b>			
1	Additional remarks		
2	Refuelling		

Inspected by:

Report No:

Note 1: The elements of the list that are marked with an asterisk (\*) are minimum items that should be addressed in a ramp inspection of an aircraft of an operator from another State. Time permitting, the remaining items should also be addressed to constitute a complete ramp inspection.

Note 2: If inspection is carried out as a team (airworthiness, cabin safety and flight operations), coordination between the inspectors is required to avoid duplication.

Note 3: If a cabin safety inspector is not available during the ramp inspection, the Cabin Safety checklist for cabin items is to be used by either the airworthiness inspector or the flight operations inspector as appropriate.



**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

CL:O-AWS002

**AMO Facilities and Equipment Audit Checklist**

<b>INSPECTION RECORD</b>	
Name of Maintenance Organisation	
Physical Address (Location)	
Postal Address	
Date of Inspection	
Operator's Representative:	
Inspector(s)	/
<b>Assessment Code: YES = Satisfactory NO = Not Satisfactory N/C = Not Checked N/A = Not Applicable</b>	

Item	Assessment			
	YES	NO	N/C	N/A
1. Were the following facilities adequate as indicated below:				
(a) Housing for maintenance functions to be accomplished?				
(b) Where the AMO has aircraft class rating, does housing include –				
(i) Suitable permanent housing for at least the heaviest aircraft within the mass class or rating being sought?				
(ii) Permanent work dock where applicable?				
(c) Proper storage, security and protection of materials, parts and supplies to prevent deterioration and damage?				
(d) Proper ventilation and environmental control of storage facilities?				
(e) Proper identification and storage of parts and subassemblies during disassembly, cleaning, inspection, repair, alteration and assembly?				
(f) Segregation of incompatible work areas such as metal shop, battery charging shop, painting area, assembly area, electronic and radio shops and unpartitioned parts cleaning areas?				
(g) Proper ventilation, lighting and temperature and humidity for complexity of work to be accomplished?				
(h) Instrument maintenance perform in a dust free environment?				
2. Are technical documents in compliance with the regulations, appropriate for the maintenance to be performed, easily accessible to shop personnel and include a method to ensure revision are made?				
3. Review equipment and tools:				
(a) Are the equipment tools and test equipment for each rating appropriate and satisfactory?				
(b) Are the required types and quantities of equipment and tools available and under control of the AMO?				
(c) Are all required items serviceable and within calibration criteria, traceable to				



the standards established by the manufacturer of the item and a record keeping system for calibration results?				
4. Review personnel roster–				
(a) Are personnel directly in charge of maintenance certified in accordance with the CARs?				
(b) Does the AMO have a roster of supervisory and inspection personnel on a list with at least one appropriately qualified Aircraft Maintenance Engineer in a supervisory position?				
(c) Does the roster include inspectors and certifying staff authorized to make final airworthiness determination?				
(d) Does the roster include supervisory personnel to cover the AMO approved ratings activities?				

***Inspectors Remarks***

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***Recommendations***

The maintenance organization facilities have been evaluated in accordance with the Civil Aviation (Approved Maintenance Organisation) Regulations currently in force and the checklist above I DO / NOT / RECOMMEND APPROVAL of the facility

For a period of ..... w.e.f .....

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Name of Inspector \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

***Manager Airworthiness - Remarks and Recommendation***

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Remarks:





**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

CL: O-AWS004

**EVALUATING A MAINTENANCE PROGRAMME**

<b>INSPECTION RECORD</b>	
Name of Maintenance Organisation	
Physical Address (Location)	
Postal Address	
Date of Evaluation	
Type and / or Series of Aircraft:	
Inspector(s) /	
Assessment Code: YES = Satisfactory NO = Not Satisfactory N/C = Not Checked N/A = Not Applicable	

Item	Assessment			
	YES	NO	N/C	N/A
1. Is the certificate holder required to have an approved reliability programme? If certificate holder is required to have an approved reliability programme use the Order No. CL-O-AWS014 for its approval?				
(b) If the certificate holder does not have an approved reliability programme does the maintenance programme contain instructions that the certificate holder is authorized to use time limitations specified for the aircraft listed in his OpSpecs?				
2. Does the aircraft maintenance programme include the following elements:				
(a) A maintenance manual?				
(b) Airworthiness limitations?				
(c) Mandatory replacement times?				
(d) Fatigue life limits?				
(e) Maintenance tasks and the intervals in which these are to be performed, taking into account the anticipated utilization of the aircraft?				
(f) Inspection intervals?				
(g) Procedures for changing or deviating from maintenance intervals?				
(h) Corrosion prevention and control?				
(i) Supplemental structural inspection programmes or structural integrity programmes?				
(j) Aging aircraft programmes?				
(k) Reliability programmes and maintenance review board report as applicable?				
(l) Where applicable the following-				
(i) Condition monitoring?				
(ii) Descriptions for aircraft systems, components, and power plants?				
3. Does the structural procedures section include-				
(a) Corrosion Control procedures?				
(b) Detailed inspection of areas where maintenance is being performed to detect defects and determine condition of the area?				
(c) MRB and manufacturer's routine structural inspection requirements?				
4. Is the aircraft maintenance programme reviewed and updated in accordance with the reliability programme and take into consideration-				

(a) Continuing airworthiness information promulgated by the manufacturer?				
(b) The utilization of the aircraft?				
(c) The operator's particular maintenance and operating environment?				
(d) Operator experience?				
5. Are copies of all amendments to the maintenance programme distributed promptly to all organizations or persons who hold copies of the programme?				
6. Does the air operator have an inspection programme and a programme covering other maintenance, preventive maintenance and modifications to ensure that-				
(a) Maintenance, preventive maintenance and modifications are performed in accordance with the maintenance control manual?				
(b) Each aircraft released to service is airworthy and has been properly maintained for operation?				
7. Where the operator has approval to allow return to service and use of components that have been maintained by organisations not directly approved by the Authority, does the operator provide for surveillance of facilities and practices to ensure that all work performed is accomplished in accordance with his Maintenance Control Manual requirements?				

**Inspectors Remarks**


**Recommendations**

This maintenance programme has been evaluated and found SATISFACTORY / UNSATISFACTORY. I recommend that it is **APPROVED / NOT APPROVED** for application.


Name of Inspector \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

**Manager Airworthiness - Remarks and Recommendation**

Remarks:


I hereby **Recommend** the Approval of the Maintenance Programme

Signature .....  
Manager Airworthiness



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

CL: O-AWS005

## MAINTENANCE PROEDURES MANUAL (MPM) EVALUATION CHECKLIST

MPM EVALUATION RECORD	
Name of Air Operator	
Physical Address (Location)	
Type of Operation	
Date of Evaluation	
MPM Document No. Issue and date	
Inspector(s)	/
Assessment Code: YES = Requirements met NO* = Requirements not met N/C = Not Checked N/A = Not Applicable	

Item	Assessment			
	YES	NO	N/C	N/A
1. Is the MPM in a format that is easy to revise?				
2. Does the MPM contain-				
(a) A list of effective pages?				
(b) An index?				
(c) All items required by AMO Part 6 are covered?				
(d) References to the applicable Regulations and Schedule?				
3. Are all systems, checks and procedures in accordance with applicable Regulations?				
4. Are all systems described in the MPM in place and operational?				
5. Are referenced manuals available and adequate for the proposed use?				
6. Does the statement compliance address all regulatory requirements?				
7. Are all references given in the statement compliance adequately addressed in the MPM and adequately describe the means of compliance with the particular CAR?				
8. Does the manual contain the following sections in accordance with AMO Part 6 with policy guidance and instructions presented in a clear and concise manner?				
9. Does the MPM meet the following minimum standards:				
(a) Is the Quality Manager responsible for—				
(i) Monitoring the amendment of the MPM, including associated procedures manuals?				
(ii) Submitting proposed amendments to the Authority?				
(b) Does the MPM include the following areas:				
(i) The management procedures covering the management and administration of the MPM?				
(ii) The maintenance procedures covering all aspects of how aircraft components may be accepted from outside sources and how aircraft shall be maintained to the required standard?				
(iii) The quality system procedures, including the methods of qualifying mechanics, inspection, certifying staff and quality audit personnel?				

(iv) Contracted air operator procedures and paperwork?				
10 Does the MPM contain the following subjects:				
(a) Part 1 – Management:				
(i) Corporate commitment by the Accountable manager?				
(ii) Management personnel?				
(iii) Duties and responsibilities of the management personnel?				
(iv) Management Organization Chart?				
(v) List of certifying staff?				

Item	Assessment			
	YES	NO	N/C	N/A
(vi) Manpower resources?				
(vii) General description of the facilities at each address intended to be approved?				
(viii) Organization's intended scope of work?				
(ix) Notification procedure to the CAA regarding changes to the activities, approval, location and personnel of the organization?				
(x) Manual amendment procedures?				
(b) Part 2 – Maintenance Procedures:				
(i) Supplier evaluation procedure?				
(ii) Acceptance and inspection of aeronautical products and material from outside contractors?				
(iii) Storage, tagging and release of aeronautical products and material to aircraft maintenance?				
(iv) Acceptance of tools and equipment?				
(v) Calibration of tools and equipment?				
(vi) Use of tooling and equipment including alternate tools by staff?				
(vii) Cleanliness standards of maintenance facilities?				
(viii) Maintenance instructions and relationship to the aeronautical product instructions of the manufacturer including updating and availability to staff?				
(ix) Repair procedure?				
(x) Aircraft maintenance programme compliance?				
(xi) Airworthiness Directives procedure?				
(xii) Optional modification procedure?				
(xiii) Maintenance documentation in use and completion of same?				
(xiv) Technical record control?				
(xv) Rectification of defects arising during base maintenance?				
(xvi) Release to service procedure?				
(xvii) Records for the air operator?				
(xviii) Reporting of defects to the Authority, Operator and the Manufacturer?				
(xix) Return of defective aircraft components to store?				
(xx) Defective components to outside contractors?				
(xxi) Control of computer maintenance record systems?				
(xxii) Reference to specific maintenance procedures such as-				
(A) Engine running procedures?				
(B) Aircraft pressure run procedures?				
(C) Aircraft towing procedures?				
(D) Aircraft taxiing procedures?				
(c) Part L2 – Additional Line Maintenance Procedures:				
(i) Line maintenance control of aircraft components, tools, equipment,				

etc.?				
(ii) Line maintenance procedures related to servicing/fuelling/de-icing, etc.?				
(iii) Line maintenance control of defects and repetitive defects?				
(iv) Line procedure for completion of technical log?				
(v) Line procedure for pooled parts and loan parts?				
(vi) Line procedure for return of defective parts removed from aircraft?				
(d) Part 3 – Quality System Procedures:				
(i) Quality audit of organization procedures?				
(ii) Quality audit of aircraft?				
(iii) Quality audit remedial action procedure?				

Item	Assessment			
	YES	NO	N/C	N/A
(iv) Authorized Engineer qualification and training procedures?(see Nig CARs IS6.4.1.2)				
(v) Authorized Engineer records?				
(vi) Quality audit personnel?				
(vii) Qualifying inspectors?				
(viii) Qualifying mechanics?				
(ix) Exemption process control?				
(x) Concession control for deviation from organizations' procedures?				
(xi) Qualification procedure for specialized activities such as non-destructive testing and welding?				
(xii) Control of working teams of the manufacturer?				
(e) Part 4 – Documentation:				
(i) Contracted air operators?				
(ii) Air operator procedures and paperwork?				
(iii) Air operator record completion?				
(f) Part 5 – Appendices:				
(i) Sample of documents?				
(ii) List of subcontractors?				
(iii) List of line maintenance locations?				
11 Does the system of inspection under AMO Part 6 adequately express in respect to the following:				
(a) Maintenance System and Certifying Staff?				
(b) Maintenance Continuity?				
(c) Incoming Materials?				
(d) Work Order?				
(e) Record of Work?				
(f) Preliminary Inspection?				
(g) Hidden damage inspection?				
(h) Inspection for hidden damage?				
(i) Handling of parts?				
(j) Record of test and calibration?				
(k) Record of precision test equipment calibration?				
(l) Final inspection and release to service?				
(m) Malfunction or defect and mechanical reliability report?				
(n) Subcontracted maintenance procedures?				
(o) Performance of maintenance and required inspection under the continuous airworthiness requirements of an air operator?				
(p) Performance of work at a location other than a maintenance organization?				







**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

CL: O-AWS006

**MAINTENANCE CONTROL MANUAL (MCM) EVALUATION CHECKLIST**

<b>MCM EVALUATION RECORD</b>	
Name of Air Operator	
Physical Address (Location)	
Type of Operation	
Date of Evaluation	
MCM Document No. Issue and date	
Inspector(s) /	
Assessment Code: YES = Satisfactory NO = Not Satisfactory N/C = Not Checked N/A = Not Applicable	

Item	Assessment			
	YES	NO	N/C	N/A
<b>FOR INITIAL REVIEW AND REVISION OF MCM (as applicable)</b>				
1. Is the MCM in a format that is easy to revise?				
2. Does the MCM contain-				
(a) A list of effective pages?				
(b) An index?				
(c) All items required by part 9 Nig CAR's				
(d) References to the applicable Nig CAR's				
3. Are all systems, checks and procedures in accordance with applicable Nig CAR's				
4. Are all systems described in the MCM in place and operational?				
5. Are referenced manuals available and adequate for the proposed use?				
6. Does the compliance statement address all regulatory requirements?				
7. Are all references given in the compliance statement adequately addressed in the MCM and adequately describe the means of compliance with the particular Nig CAR's				
8. If any item in the MCM has been copied from the AFM-				
(a) Is it in agreement with the information in the AFM?				
(b) Is there a system in place to ensure amendment of the MCM when the AFM is amended?				
9. Does the manual contain the following sections with clear and concise policy guidance and instructions in accordance with part Nig CARs.				
(a) General Organization				
(i) Corporate commitment by air operator?				
(b) General Information:				
(i) Brief description of the organization?				
(ii) Relationships with other organizations?				
(iii) Fleet composition?				
(iv) Line stations locations?				

(c) Maintenance Management Personnel:				
(i) Accountable manager?				
(ii) Nominated post holders?				
(iii) Maintenance co-coordinator?				
(iv) Duties and responsibilities of personnel?				
(v) Organization chart?				
(vi) Manpower resources and training policy?				
(d) Procedures for notifying the Authority regarding changes to maintenance arrangements?				
(e) Manual amendment procedures?				
(f) Aircraft logbook utilization and MEL application?				
(g) Aircraft Maintenance – development and amendments?				
(h) Time and maintenance records, responsibilities and retention?				

Item	Assessment			
	YES	NO	N/C	N/A
(i) Accomplishment and control of Airworthiness Directives?				
(j) Analysis of effectiveness of maintenance?				
(k) Non-mandatory modification embodiment policy?				
(l) Major modification standards?				
(m) Deferred defects?				
(n) Engine ring activities?				
(o) Pre-flight inspections?				
(p) Aircraft weighing?				
(q) Flight test procedures?				
(r) Appropriate portions of the air operator's operating manual?				
(s) Procedures for Certificate of Release to Service part 9 Nig CARs				
(t) Procedure for use of an aircraft after its release from an AMO part 9 Nig CAR's				
(u) Retention of substantiating data supporting compliance with airworthiness requirements part 9 Nig CAR's				
(v) If a reliability programme is required are procedures and information included part 9 Nig CAR's				
10. Does the distribution list allow the accepted manual to be available for the guidance of maintenance and operational personnel?				
11. Does the MCM include the following organization and structure details:				
(a) The accountable manager and designated person responsible for the maintenance system?				
(b) Procedures to be followed to satisfy the maintenance requirements under part 9 Nig CAR's				
<b>Note:</b> Where the air operator is an AMO, the quality functions of part 9 Nig CAR's may be included in the MPM of the AMO				
(c) Procedures for the reporting of failures, malfunctions, and defects to the Authority, the aircraft manufacturer and the State of Design within seventy-two hours of discovery?				
(d) A description of the administrative arrangements between the national air operator and the AMO, or a description of the maintenance procedures and the procedures for completing and signing a CRS when maintenance is based on a system other than that of an AMO?				
(e) A description of the procedures to ensure that each aircraft operated is in an airworthy condition?				
(f) A description of the procedures to ensure that the operational				

emergency equipment for each flight is serviceable?				
(g) The names, duties, qualifications and training of the person or persons required to ensure that all maintenance is carried out in accordance with the MCM?				
(h) A reference to the maintenance programme required in part 9 Nig CAR's				
(i) A description of the methods for completion and retention of the maintenance records required by part 9 Nig CAR's				
(j) A description of the procedures for monitoring, assessing and reporting maintenance and operational experience for all aero planes over 5700kg maximum certified take-off mass and helicopters over 3180kg certified take-off mass?				
(k) A description of the procedures for obtaining and assessing continued airworthiness information from the Organization responsible for the type design and implementing any resulting actions for all aero plane over 5700kg maximum certified take-off mass and helicopter over 3180kg certified take-off mass?				

Item	Assessment			
	YES	NO	N/C	N/A
(l) A description of the procedures for implementing mandatory continuing airworthiness information as required in part 5 Nig CAR's?				
(m) A description of how a system of analysis shall be established and maintained for the continued monitoring of the performance and efficiency of the maintenance programme in order to correct any deficiency in that programme?				
(n) A description of aircraft types and models to which the manual applies?				
(o) A description of procedures for ensuring-				
(i) Un serviceability affecting airworthiness are recorded and rectified?				
(ii) Deferred defect procedures are properly defined?				
(p) A description of the procedures for advising the Authority of significant in-service occurrences?				
12. Does the MCM define the circumstances under which reports of failures, malfunctions and defects will be issued?				
<b>Note:</b> A report under 11 (c) is required in following circumstances:				
(a) Primary structural failure				
(b) Control system failure				
(c) Fire in the aircraft				
(d) Engine structure failure				
(e) Any other condition considered an imminent hazard to safety, Refer also to part 9 Nig CAR's and part 5 Nig CAR's				
13. Does the operator have a system to ensure that-				
(a) The MCM is amended as necessary to keep the information up to date and to incorporate such mandatory material as the Authority may require?				
(b) Copies of all amendments are furnished promptly to all Organizations or persons to whom the manual has been issued?				





**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

CL: O-AWS008

**EVALUATE MAINTENANCE PROGRAMME SHORT TERM ESCALATION**

<b>INSPECTION RECORD</b>	
Name of Maintenance Organisation	
Physical Address (Location)	
Aircraft Type	
Date of Inspection	
Maintenance Program Document No. Issue and date	
Inspector(s) /	
<b>Assessment Code: YES = Satisfactory NO = Not Satisfactory N/C = Not Checked N/A = Not Applicable</b>	

Item	Assessment			
	YES	NO	N/C	N/A
1. Do the operator's short term escalation procedures accomplish the following:				
(a) List operator's management personnel authorized to approve short term escalation for-				
(i) Operations specifications time increase?				
(ii) Maintenance interval adjustment controlled by a reliability programme?				
(b) Define maximum limitations of short term escalation?				
(c) Contain criteria for data used to justify short term escalation?				
(d) Correspond with the overall programme to ensure that-				
(i) Repetitive AD, life limited parts and certification maintenance requirements are not escalated?				
(ii) Occurrences of repetitive short term escalation that indicate a need for a change in the maintenance programme are restricted?				
(iii) A method is provided for recording all escalation with provision for submitting and reporting escalations to the Authority?				
<b>YES = Requirements met NO* = Requirements not met N/C = Not Checked N/A = Not Applicable</b>				





**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

CL: O-AWS009

**MAINTENANCE CONTRACT AGREEMENT EVALUATION**

<b>INSPECTION RECORD</b>
Name of Maintenance Organisation
Physical Address (Location)
Postal Address
Date of Evaluation
Rating of Maintenance:
Inspector(s) /
<b>Assessment Code: YES =Satisfactory NO = Not Satisfactory N/C = Not Checked N/A = Not Applicable</b>

Item	Assessment			
	YES	NO	N/C	N/A
1. Review the air operator's MCM to determine -				
(a) Does the air operator's MCM show the need for the air operator to have a maintenance contractor?				
(b) Do the air operator's procedures adequately address all aspects of contracted maintenance?				
2. Does the air operator have a system in place that ensures that the maintenance provider would perform work in accordance with the air operator's manual and maintenance programme?				
3. Is the information necessary to ensure compliance with the programme made available to the maintenance provider?				
4. Does the air operator have a system to ensure that the maintenance provider follows the information provided?				
5. Is the air operator able to show that the maintenance provider has competent personnel and adequate equipment and facilities to perform the work?				
6. Are the following specific areas included or referenced in the air operator's programme-				
Adequate Organization				
7. Does the air operator ensure that -				
(a) The person with whom he arranges to perform maintenance has an organization capable of handling the work?				
(b) If required inspection items (RII) will be maintained or altered by the maintenance provider, are the inspection functions separated within the organization?				
(c) Where his maintenance programme or procedures require specific compliance aspects, he is able to show that the maintenance provider is equally capable of following the manual and procedures?				
Manual Requirements				

8. Does the air operator's manual covering the administration of his maintenance programme include specific methods for complying with the applicable sections of NCARS				
9. If a maintenance provider must know these requirements, does the air operator ensure that the information is provided?				
10. Has the air operator listed in his manual the persons with whom he contracts for maintenance?				
11. Does the manual include a description of the contracted work?				
12. Where the air operator chooses to adopt the maintenance provider's maintenance manuals or portions thereof that are to be used for the performance of maintenance are the adoption details stated in the operator's manual system?				

Item	Assessment			
	YES	NO	N/C	N/A
14. Does the operator ensure that the maintenance provider's personnel are trained in accordance with his manual and the operator's procedures?				
15. Does the air operator maintain, or determines that each person with whom he arranges to perform his required inspections maintains, a current listing of persons who have been trained, qualified, and authorized to conduct required inspections?				
16. Are the persons identified by name, occupational title, and the inspection that they are authorized to perform?				
17. Does the air operator (or person with whom he arranges to perform his required inspections) give written information to each person so authorized, describing the extent of the person's responsibilities, authorities, and inspection limitations?				
18. Does the air operator provide this list for inspection when requested by the NCAA				
<b>Continuing Analysis</b>				
19. Does the air operator continually survey his maintenance programme and all persons acting under that programme to ensure continuous compliance with the programme and the NCARS				
20. Does the operator ensure that corrective action is taken on any deficiencies or inadequacies found in his maintenance programme (by performing audits of the maintenance providers)?				
Training Programmes				
21. Does the air operator ensure that the maintenance provider's personnel are trained in a manner equivalent to the requirements of the operator's manual (eg, By the maintenance provider's personnel to attend specific courses or maintain specific levels of proficiency)?				
Duty Time				
22. Does the air operator ensure that his maintenance providers follow the duty time requirements? (If the air operator's maintenance manual and procedures indicate that the maintenance provider provides specific assurances, then the contractor must provide those assurances.)				
Certificate Requirements				
23. Does the air operator ensure that only certified persons are directly in charge of maintenance and/or perform required inspections?				
Authority to perform				



24. Is the air operator able to establish compliance with his own procedures, either through direct supervision, surveillance, and/or auditing, or through appropriate controls such as contractual relationships?				
Records				
25. If the operator's maintenance manual(s) and/or procedure(s) indicate that the responsibility for making regulatory records available is delegated to maintenance providers, does the manual(s) and/or procedure(s) clearly delineate the records required to be maintained, the length of time the records should be maintained, and the form and manner of maintaining such records?				
<b>Other Areas of Consideration.</b>				
26. Is the source of major repair and major modification data developed by or for the air operator accomplished in accordance with the air operator's manuals?				
27. Does the air operator ensure that all organizations with whom he has maintenance arrangements will adequately and promptly report to the air operator per the requirements of part 9 NCARs				
28. Does the air operator update the list of authorized signatories?				
Evaluate the Written Contract				
29. Is it confirmed that no contractual clauses contradict the air operator's manual policy and procedures and current regulations?				

Item	Assessment			
	YES	NO	N/C	N/A
30. If adherence to the operator's maintenance manual and procedures make clear that regulatory requirements are guaranteed through business transactions with maintenance providers, does the contract reflect that obligation?				
Qualification to Perform Substantial Maintenance				
31. Has the air operator conducted an on-site audit of the maintenance provider to assess that the maintenance provider has the required -				
(a) Capability?				
(b) Organization Structure?				
(c) Competent and trained personnel?				
(d) Relevant and current technical and administrative material from the air operator manual for the work to be performed?				
(e) Adequate facilities and equipment to do the work arranged for in accordance with the air operator's programme?				
(f) The ability to transfer and receive data and information necessary to support the continuing analysis and surveillance programme, reliability programme, or other programmes required by the air operator's manual?				
32. Does the air operator have a system in place that detects, identifies and provides timely corrective action on a continuing basis for all deficiencies and deviations in those portions of the continuing airworthiness maintenance programme accomplished by the substantial maintenance provider, including maintenance record keeping?				
33. Does the air operator have a system in place that tracks and evaluates, on a continuing basis, the standards of performance (quality) of the substantial maintenance work accomplished by the individual maintenance provider?				
34. Does the system also include provisions for timely corrective action if the quality of work becomes unsatisfactory and deficiencies are noted?				

35. Where an air operator elects to obtain the services of a substantial maintenance provider on an unscheduled and/or short notice basis does his manual include specific procedures for doing so?				

<b><i>Inspectors Remarks</i></b>

***Recommendations***

This maintenance contract agreement has been evaluated and found SATISFACTORY / UNSATISFACTORY. I recommend that it is APPROVED / NOT APPROVED for application.

Name of Inspector \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

<b><i>Manager Airworthiness - Remarks and Recommendation</i></b>
Remarks:
I hereby <b>Approval / do not Approve</b> the Maintenance Contract Agreement
Signature ..... <i>Manager Airworthiness</i>



AMO MODULAR AUDIT RECORD AND REPORTING SYSTEM

Local Office

**Part 1 : Nig. CARs Part 6 Surveillance Planning and Review**

Approval reference

Name of Organisation

Modules (1-16)		1 FACILITIES								9 DETAILED PROCEDURES									
Audit Cycle		2 PERSONNEL								10 QUALITY SYSTEM : CENTRAL									
From :		3 CERTIFYING STAFF								11 QUALITY SYSTEM AUDITS									
To :		4 TOOLS 1 EQUIP & MATERIALS								12 PRIVILEGES									
		5 AIRWORTHINESS DATA								13 LIMITATIONS									
		6 CERT OF MAINTENANCE								14 CHANGES									
Audit Number		7 MAINTENANCE RECORDS								OTHER REQUIREMENTS									
		8 MOR								AUDITOR/INSPECTOR									
Audit Subject / Location		15 PRODUCT (type of)		Target Date		Visit Date		Closure Date											

<sup>1</sup> Complete the boxes with one of three indicators :

- A slash (/) indicates a planned module (for a Nig. CAR Part 6 set of requirements, the audits shall cover all the relevant procedures/products/sites of the approval schedule each year)
- A cross (X) indicates that the points checked during are permitting to consider that the conformity of the module is sufficient.
- A number indicates the number of level 1 or 2 remarks recorded in the module.

<sup>2</sup> The box "closure date" can only be filled when all the level 1 & 2 remarks raised in Part 3 of this document, are closed.



AMO MODULAR AUDIT RECORD AND REPORTING SYSTEM

**Part 2 : Nig.CAR Part 6 Audit Modules - Guidance & Report**

<b>Name of Organisation</b>		<b>Approval ref</b>	
<b>MPM Reference</b>	<b>Audit number</b>	<b>MPM review date</b>	

0 MPM conformity		Regulation 6.5.1.1 & IS 6.5.1.1					
<b>Part 1 Management</b>		2.6-Use of tooling		<b>Part L2 Additional Line Maintenance Procedures</b>	3.10- Concession control for Deviation from procedures		
1.1 Corporate commitment by the accountable manager	<sup>3</sup>	2.7-Cleanliness standard		L2.1-Line Maintenance Control of :Comp. Tools etc.	3.11-Qualifications for specialised activities		
1.2 Management Personnel		2.8- Maintenance Instruction and ....		L2.2- Line Maintenance Servicing, Fuelling, De-icing	3.12-Control of manufacturer's teams		
1.3 Duties & responsibilities of management personnel		2.9-Repair procedure		L2.3- Line Maintenance Control of Defect			
1.4-Management Organisational - .Chart -		2.10- Aircraft Maintenance Program Compliance		L2.4- Line procedures for completion of Technical logs	<b>Part 4 Documentation</b>		
1.5-List of Certifying Staff -		2.11-Airworthiness Directives Procedures		L2.5- Line procedures Pooled and Loaned Parts	4.1-Contracted Air Operators		
1.6-Manpower Resource -		2.12- Optional Alteration Procedures		L2.6-Line procedures Return of defective parts	4.2- Air Operators procedures and paperwork		
1.7-General Description of Facilities -		2.13 Maintenance Documentation in use & Completion..		<b>Part 3 Quality System Procedures</b>		4.3- Air Operators record completion	
1.8-Organisation Intended Scope of Work-		2.14-Technical Records Control		3.1-Quality Audit of Org. procedures			
1.9- Notification procedure to the Authority regarding changes to the organisation's activities/approval/location/personnel		2.15-Rectification of Defects/Defect Control		3.2- Quality Audit of aircraft	<b>Part 5 Examples of Documents: Lists</b>		
1.10-Manual Amendment.		2.16- Release to Service Procedures		3.3- Quality Audit remedial actions	5.1-Sample of documents		
<b>Part 2 Maintenance Procedures</b>		2.17-Records for the operators		3.4-Certifying staff qualifications & training	5.2-Listed sub-contractors		
2.1-Supplier Evaluation Procedures		2.18-Reporting of defects		3.5-Certifying staff records	5.3-List of line maintenance locations		
2.2-Acceptance /Inspection of components etc.		2.19-Return of Defective aircraft components		3.6-Quality audit personnel	5.4-List of contracted Organisation		
2.3-Storage & tagging and release of aircraft component		2.20-Defective components Shipped to contractors		3.7-Qualifying inspectors			
2.4-Acceptance of tools and equipment		2.21-Control of computer maintenance record systems		3.8-Qualifying mechanics			
2.5-Calibration of tools		2.22 Reference to Specific procedures		3.9-Exemption process control	DAWS Inspector Signature		

<sup>3</sup> Complete the right part of each box with one of two indicators :

- A cross (X) which means in compliance
- N/A which means the requirement is Not Relevant according to the MOE

AMO MODULAR AUDIT RECORD AND REPORTING SYSTEM

**Part 2 : Nig.CAR Part 6 Audit Modules - Guidance & Report**

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<b>Location &amp; Participants</b>			

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1 Housing and Facilities Requirements		Regulations 6.3.1.1 & 6.3.1.2 (MPM § 1.7, 2.3, 2.7)					
Accommodation	Environment	Inspection Aids	General lighting	Storage Facilities			
For Management and Administration	Office and working Areas	Assembly Facilities	Specific lighting	Tools and Equipment			
For Records-Planning - Quality	Work tables and equipment	Function and Test	Power Air Vacuum	Parts and Materials			
Working Area, adequate	Cleaning Facilities	Access Equipment (platforms, etc)		Racking, Binning			
Location and Security	Special Requirement (Battery loading)	Docking Equipment	No contamination hazard	Labeling			
Hangar Space	ESD Protection			Bonded Area			
Shops Spaces	Noise Protection			OEM Specifications			
Tenancy of Hangar, Shops, etc.	Area to Study Approved Data			ESD Protection			
Maintenance-visits Plan	Weather Protection			Access Control			
Overall Cleanliness	Dust Protection			Segregation			
				<b>DAWS Inspector                      Signature</b>			

2 Personnel & Training		Regulation 6.4.1.1 (MPM § 1.2, 1.3, 1.4, 1.6, 2.10, 2.15, 2.16, L2.2, L2.3, section 3)					
Management	Other Personnel Sufficient to:-	Other Personnel	Qualifications of Personnel appropriate to function	Compliance with CAR Part 2			
Responsibilities defined & understood at all levels	...plan the tasks at all levels	Appropriate certification of the tasks	Experience of personnel. appropriate. to function	(Or interim NCAA requirement)			
Accountable Manager responsibilities understood, interview	certify Maintenance						
Control of activities Effective communications.	...carry out the tasks at all levels	Job or task description defined	Competence established in accordance with MOE	Names of Operatives checked			
Supervision of activities	...supervise the tasks at all levels	Initial/continuation training carried out	Competence of temporary personnel				
Maintenance. man-hour plan, job descriptions	...audit all maintenance related activities		Knowledge of AMO procedures by personnel				
Organisation-chart (reporting chains)							
				<b>DAWS Inspector                      Signature</b>			

**AMO MODULAR AUDIT RECORD AND REPORTING SYSTEM**

***Part 2 : Nig.CAR Part 6 Audit Modules – Guidance & Report***

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3 Certifying Staff		Regulation 6.4 (MPM § 3.5)						
Central Record information		Authorization document				Names of certifying persons checked	Authorisation references	Result
Complete		Provided to and held by staff		Valid & covers activities certified				
Accurate		Available in the Department		Signed by holder				
Up to date		Scope of authorization defined		Control of inspection stamps				
Control of records/ data		Training: basic, type, comp.-proc., continuous.						
Retention of records		Human Factors training						
						<b>DAWS Inspector</b>	<b>Signature</b>	

4 Tools Test Equipment & Materials		Regulation 6.3.1.3 (MPM § 1.7, 2.4, 2.5, 2.6)						
Tools & Test Equipment Sufficient to Perform				Materials and Components				
...approved Scope of Work		Availability Satisfactory		Calibration of in use tools		Supplier Evaluation		Line procedures
...agreed Capability List		Line Procedures		Calibration Control		Acceptance/Goods In		Pool parts/spares
...departmental Tasks		Equipment Recall System		Calibration Records		Storage & identification		Shelf life control
Rarely used tools/equipment		Control of Personnel tools		Traceable standard of calibration		Provisioning of spare parts		
Alternative tool/equipm.						Manufactured repair parts		
						<b>DAWS Inspector</b>	<b>Signature</b>	

5 Airworthiness Data		Regulation 6.5.1.9 (MPM § 2.8, 2.9, 2.11, 2.12, 2.13, 2.17)			
Provision of Data for:-	Regulatory & Advisory Information	Publications Available	Condition of Manuals.	Reader / Printer / Terminal	
Approved Scope of Work	Available	Aircraft Manufacturers	Aircraft Manufacturers	Availability	
Departmental activities	Up to Date	Component Manufacturer	Engine Manufacturers	Serviceability	
Customer request. Maintenance activity	Subscription of	Subscription of	Components	Location, number	
AMO own-developed data	TC-holder's CAA AD-notes	Customized Maintenance Program.	Manual Amendments		
	Adoption of Nig. CARs	Control of current status			
			<b>DAWS Inspector</b>	<b>Signature</b>	

**AMO MODULAR AUDIT RECORD AND REPORTING SYSTEM**

***Part 2 : Nig.CAR Part 6 Audit Modules - Guidance & Report***

<b>Name of Organisation →</b>		<b>Approval ref</b>	
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<b>Location &amp; Participants →</b>			

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<b>6 Certification of Maintenance</b>		<b>Regulation 6.5.1.7 (MPM § 2.2, 2.14, 2.16, 2.21)</b>			<b>Airworthiness Release Forms sampled:</b>			
<b>C.R.S. issued</b>		<b>C.R.S. contains details of</b>		<b>Shift Work Handovers inc Base to Line</b>		<b>Work Order Checked:-</b>	<b>Airworthiness Tag Ref.</b>	<b>Result</b>
By properly authorized staff		Maintenance carried out, (ref to approved data)		Task Itemization				
Inspection stamp legibility		Date of Maintenance Recorded		Handover Recording				
Duplicate Inspections		Staff Authorization Ref & signature.		Certification Control				
Completion details, adequacy		Organization Approval Reference		Worksheet Task Breakdown				
At time & place of maintenance		CRS statement						
Internal release		Reference to enclosures						
Electronic originated CRS		Special approval Data enclosed						
on Customer work package						<b>DAWS Inspector Signature</b>		

<b>7 Maintenance Records</b>		<b>Regulation 6.5.1.8 (MPM § 2.14, 2.16, 2.17, 2.21, L2.3)</b>						
<b>Detailed record of work :</b>		<b>Work Cards</b>		<b>All Work Details Recorded</b>		<b>Work Order Checked</b>	<b>Aircraft/Compon't</b>	<b>Result</b>
Carried out retained		Fully completed and signed		In an acceptable manner				
(for 2 yrs. from CRS or as required by		CRS / Airworthiness Approval Tag raised		Copies retained for 2 years				
AOC Records		Updated to latest schedule		Retained in safe place				
Legible during archiving		Revision status		Storage environment				
Records Provided to Operator		Approved data reference documented		Computer back up and storage satisfactory.				
Approved data used retained						<b>DAWS Inspector Signature</b>		



**AMO MODULAR AUDIT RECORD AND REPORTING SYSTEM**

***Part 2 : Nig.CAR Part 6 Audit Modules - Guidance & Report***

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<b>8 Occurrence Reporting Procedures</b>		<b>Regulation 6.5.1.10 (MPM § 2.18)</b>				<b>MOR Reference Checked</b>	<b>Result</b>
<b>Reports made</b>							
To the NCAA		Within the prescribed period		Follow up/tracking effective			
To the Operator		Standard of Completion		Dissemination of findings			
To the Manufacturer		Reporting Form Used		Review meetings/bodies			
Sample reports							
						<b>DAWS Inspector</b>	<b>Signature</b>

<b>9 Detailed Procedures</b>		<b>Regulation 6.5.1.1 &amp; 6.5.1.2 (MPM sections 2, L2, 3 and QM)</b>				<b>Procedures Audited Subject</b>	<b>Reference</b>	<b>Result</b>
<b>MPM &amp; MPM Procedures relevant to the Department</b>			<b>Do they fully cover:-</b>					
MPM Readily available to all staff		Review/Control Procedure		Departmental Practices				
Approval of MPM		Approval of procedures		Method of Work Control.				
MPM edition controlled		Amendments / changes		Certification Procedures.				
MPM Supplements		Adequately Descriptive		Variations or Concessions				
Procedures readily available to all staff		Procedure Ownership						
Being followed in practice		Standardised Structure						
Reflects QA Policy Statements		All aspects covered adequate						
						<b>DAWS Inspector</b>	<b>Signature</b>	

**AMO MODULAR AUDIT RECORD AND REPORTING SYSTEM**

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<b>10 Quality System Central</b>		<b>Regulation 6.2.1.12 (MPM sections 2, L2, 3 and QM sections 3.0)</b>				
<b>QA System Includes:</b>		<b>Certifying Staff</b>		<b>Non Certifying Staff</b>		<b>Name Non cert. Staff Checked</b>
Audit Plan	Remedial Actions	Qualification Procedures	Job Description			
Procedures Audits	Follow up /closing	Training	Training			
Product Audits (aircraft/ component)	Feedback to Account. Manager	Records	Competency Testing			
Monitoring Shift Work	Review outstanding Non-Compliances	Job Description	Records			
Logic of audit sequence						
Line stations						
Satellite facility						
Subcontractors						
				<b>DAWS Inspector Signature</b>		

<b>11 Quality Audits Departmental</b>		<b>Regulation 6.2.1.12 MPM sections 2, L2, 3 and QM sections 3.0)</b>				
<b>Internal Company Audits of the Department Covers</b>		<b>Internal Audits carried out</b>		<b>QA Dept.</b>		<b>Date of Last Audit</b>
Audits of all Products	Maintenance Requirements Variations	To an Audit Plan	Findings Notified			
Audit of Workshop Activities	Process Exemptions	Audit Finding Identified	Follow up Appropriate			
Personnel Qualifications (competence)	Special Process Control	Audit Closed	Senior Manager Involvement			
Work Card/Technical Log Completion	Audits of operators	Feed Back System Working	Training of Auditors			
Responsibility / reporting to	Equipment / tooling					
Variation of normal proceeding	Instructions, Verbal/written					
				<b>DAWS Inspector Signature</b>		

**AMO MODULAR AUDIT RECORD AND REPORTING SYSTEM**

***Part 2 : Nig.CAR Part 6 Audit Modules - Guidance & Report***

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<b>12 Privileges of the Approval</b>		<b>Regulation 6.5.1.5 (MPM § 1.8, 2.1, 2.16, 2.20, L2.2, section 5)</b>					
Work Scope Description		Work Sharing of Satellites		Subcontracting (Activity, list)			Other Privileges
Approval Schedule/work Scope		Work at Line Stations				Location(s) of Occasional Maintenance	
				Manufacture of repair-parts			
Location(s)							
		Working parties away from Org. facility				Minor maintenance at line station	
CRS in accordance with approval schedule							
						<b>DAWS Inspector</b>	<b>Signature</b>

<b>13 Limitations on the AMO</b>		<b>Regulation 6.5.1.6 (MPM § 1.8)</b>							
Maintenance activities versus Approval Operations Specifications (Opspecs) including Work Scope definition in relation to:									
<b>Airframe Ratings Checked:-</b>		<b>Powerplant and Propeller Ratings Checked</b>		<b>Avionics/Radio, Instruments and Accessories Ratings Checked</b>		<b>NDT, Emergency Equipment and Other Ratings Checked</b>		<b>For the Provision of:-</b>	
								Facilities	
								Equipment	
								Tooling	
								Materials	
								Technical Data	
								Certifying Staff	
								Competence of Personnel (NDI, etc)	
				Capability List					
						<b>DAWS Inspector</b>	<b>Signature</b>		

AMO MODULAR AUDIT RECORD AND REPORTING SYSTEM

**Part 2 : Nig.CAR Part 6 Audit Modules - Guidance & Report**

<b>Name of Organisation</b>		<b>Approval ref</b>	
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<b>14 Changes To The Approval</b>		<b>Regulation 6.2.1.9 (MPM §1.9)</b>					
<b>A. Confirm No Changes Have Occurred to the Following</b>							
1	The name of the organisation.		7	Company procedures			
2	The location of the organisation.		8	Approved scope of work.			
3	Additional locations of the organisation.		9	Certifying staff.			
4	The accountable manager		10	Adherence to Amendment Procedures			
5	Any of the senior/nominated persons		11	Notification to the Authority			
6	The facilities, equipment, tools, material, etc.		12	Changes to Capability Lists Controlled and recorded			
				<b>DAWS Inspector</b> <span style="float: right;"><b>Signature</b></span>			
<b>B. If changes proposed, will these influence (Audit Module)</b>							
Management (2)		Equipment, Tooling (4)		Certif. Staff (3)		Procedures Departmental (9)	MOE (12)
Accountable Manager (2)		AMO Procedures (9)		Competence of Personnel (2)		Audit System (10,11)	Facility
Organisation Chart (2)		Approved Data (5)		Worksharing of Facilities		Approval Certif. (14)	Occurrence rep. Procedure (8)
Location Facility (1,13)						<b>DAWS Inspector</b> <span style="float: right;"><b>Signature</b></span>	
<b>C. Approval Conditions (special defined)</b>							
Additional							
Time Limited							
				<b>DAWS Inspector</b> <span style="float: right;"><b>Signature</b></span>			

AMO MODULAR AUDIT RECORD AND REPORTING SYSTEM

**Part 2 : Nig.CAR Part 6 Audit Modules - Guidance & Report**

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15	Product Audit of (Description)	P/N	S/N	Work Order #	
	Final Inspection		Worksheet Package	Subcontract	
Transfer to Customer					
	Approved Data		Routing Card		
Packing					
Release to Service	Customer Order		Changes to Work Order Sheet / Routing		
Authority of Certifying Staff	Order Review				
	Internal Order			History of parts assembled	
Completion of CRS			Work accomplished	"Local manufactured parts"	
			Competence of mech.		
Information to customer					
	Incomplete Inspection results transferred into W/O			History of furnished parts	
	Test				
				<b>DAWS Inspector</b>	<b>Signature</b>

<b>AMO MODULAR AUDIT RECORD AND REPORTING SYSTEM</b>		
<b><i>Part 3 : Nig. CAR Part 6 Approval - Findings &amp; Recommendations</i></b>		<i>Approval reference</i>
<b><i>Name of Organisation</i></b> →		

Note : - Each finding or recommendation must be identified by a number cross-related to the same number in Form 6 part 2 audit modules. The first column of the array must contain that number. The second column must contain the associated Nig. CAR Part 6 reference and/or MPM §.  
 - Any finding or recommendation recorded in this part must be copied or the content made known to the organisation surveyed. Greyed column is reserved for the organisation comments and answer.

<b>Item</b>	<b>Nig. CAR Part 6 / MPM§</b>	<b>Findings / recommendations</b>	<b>Level</b>	<b>Delay</b>	<b>Clearance</b>	<b>Closure</b>
Part 2					Answer / Comments / ref rep.	Date

Item	Nig. CAR Part 6 / MPM §	Findings / recommendations	Level	Delay	Clearance  Answer / Comments / ref rep.	Closure  Date

Item Part 2	Nig. CAR Part 6 / MPM §	Findings / recommendations	Level	Delay	Clearance Answer / Comments / ref rep.	Closure Date
<b>Level 1 &amp; 2 Findings acceptance. Corrective actions &amp; schedule proposal :</b> (date, name and signature of the surveyed organisation representative or acceptance letter reference)						
<b>Level 1 &amp; 2 Proposed corrective actions and schedule acceptance :</b> (date, name and signature of the Inspector)						
<b>RECOMMENDATION REPORT TO SUPPORT NIG. CAR PART 6 APPROVAL ISSUE / RENEWAL / CONTINUATION / VARIATION</b> <u>Comments:</u>  Date, name and signature of the DAWS Inspector:						



**DEFICIENCIES:**

(Note: Have as many deficiencies rectified before you depart the AMO and have the Quality Manager transfer the remainder into his audit report procedure).

**Level 1 Finding**

Means any significant non-compliance with Nig. CAR Part 6, which would lower the maintenance standards and probably hazard an aircraft. It includes non-compliance on aircraft components that the AMO may have on their scope of approval.

***Action for level 1 finding***

In the case of an initial application for approval, no approval shall be issued until all level 1 findings are corrected.

In the case of a re-issue or surveillance, the AMO approval should be provisionally suspended in whole or in part depending upon the extent of the level 1 finding until corrective action has been taken. A follow up visit to the AMO may be necessary to verify corrective action depending on the nature of the level 1 finding.

**Level 2 Finding**

Means any non-compliance with Nig. CAR Part 6 which could lower the maintenance standard and possibly hazard an aircraft. It also includes non-compliance on aircraft components.

***Action for level 2 finding***

In the case of an initial application for approval a provisional approval valid for a maximum 3-month period may be given to allow time for the level 2 findings to be corrected.

In the case of a re-issue or surveillance, the AMO should be given a maximum of 3 months extension to their approval to complete the corrective action and written notice to that effect should be given to the AMO. Failure to comply with the 3-month time scale will cause the approval to expire. A follow up visit to the AMO may be necessary depending on the nature of the level 2 finding.

**Level 3 finding**

An observation intended to give background information. A level 3 must not include any information suggesting non-compliance with Nig. CAR Part 6

***Action for level 3 findings***

Inform the company

AMO MODULAR AUDIT RECORD AND REPORTING SYSTEM		
<b><i>Part 4 Supplement Additional Requirements</i></b>		<i>Approval reference</i>
<i>Name of Organisation</i>		

Note A:

This questionnaire follows the numbering system of the “ Maintenance Implementation Procedures ” .

*Check the box if in compliance or put a number in the box and make a comment in the Part 3.*

### **Additional Special Conditions:**

#### **1. FAA Suspected Unapproved Parts Program (FAA Order 8120.10 and AC No. 21-29).**

Is the maintenance organization in compliance with or has the AMO submitted reports to the FAA in accordance with the FAA suspected unapproved parts program as detailed in FAA order 8120-10 “ suspected unapproved parts program ” and advisory circular AC:No. 21-29 detecting and reporting of suspected unapproved parts (Check compliance with the procedure)?

**Note: Reference Part 3 of this document for all comments!**

## **Recommendation for AMO Approval**

-----  
Station was found to comply with requirements of Nig. CAR Part 6

Station was found to comply with requirements of Nig. CAR Part 6 except for deficiencies listed in Part 3 of this Document. AMO must forward a letter to the NCAA addressing corrective action to inspection findings and/or submit a corrective action plan before an AMO Certificate is issued.

-----  
Recommend certificate with rating applied for on application be issued

Recommend certificate with rating applied for on application (except those listed in Form CL: O-AWS010 Part 3) be issued

-----  
**The NCAA hereby accepts the AMO corrective action and/or corrective action plan.**

**Name of NCAA Inspector making Recommendation:** \_\_\_\_\_

**Signature of Inspector making Recommendation:** \_\_\_\_\_

**DAWS Office:** \_\_\_\_\_ **Date:** \_\_\_\_\_



**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

CL: O-AWS011

**MAINTENANCE ORGANISATION CERTIFICATION AND APPROVAL  
 RENEWAL INSPECTION CHECK LIST**

<b>INSPECTION RECORD</b>				
Name of Maintenance Organisation				
Physical Address (Location)				
Postal Address				
Date of Inspection				
Operator's Representative:				
Inspector(s) /				
Assessment Code: YES = Satisfactory NO = Not Satisfactory N/C = Not Checked N/A = Not Applicable				
Item	Assessment			
	YES	NO	N/C	N/A
<b>FACILITY REQUIREMENTS</b>				
1. Are the following satisfactory:				
(a) Facilities for planned work (protection from weather, segregation of work areas)?				
(b) Office Accommodation (including quality, planning, technical records)?				
(c) Appropriate work environment (special requirements observed, not impair effectiveness)?				
(d) Storage facilities and conditions (restricted access, manufacturer's instructions, segregation)				
<b>AMO ADMINISTRATION</b>				
2. Are the following satisfactory:				
(a) Trained and experienced maintenance personnel, authorized engineers and authorized aviation repair specialists where required?				
(b) Nominated management persons have a responsibility to ensure that the compliance with AMO Regulations?				
(c) Nominated senior person responsible for quality system?				
(d) Man-hour plan/sufficient personnel/procedure to reassess work?				
(e) Personnel competence procedure for maintenance, quality audits?				
(f) NDT staff qualified.				
(g) Is certification authorization issued in writing to appropriately qualified engineers for issue of CRS?				
(h) Does the authorization clearly specify the scope and limits of such certification authorization and contain a unique certification authorization number for each certifying staff?				
(i) Are components workshop personnel appropriately trained and qualified?				
(j) Are certifying staff trained and qualified as required by Part 6 NCAR's?				
<b>REQUIREMENTS FOR CERTIFYING STAFF</b>				
3. Do certifying staff have adequate understanding of relevant aircraft/component and organization procedures?				
4. Do certifying staff have at least 6 months actual maintenance experience in any 2 year period?				

5.	Do certifying staff have continuation training each 2 years in relevant technology, organization procedures, human factors?				
6.	Is the programme for continuation training, and procedure for compliance satisfactory?				
7.	Are certifying staff assessed for competence, qualification, and capability prior to issue or re-issue of authorization.				

Item	Assessment				
	YES	NO	N/C	N/A	
8.	Does the authorization document specify scope/limit of authorization?				
9.	Is the procedure for authorizing certifying staff documented and satisfactory?				
10.	Is the person responsible for the quality system also responsible for the issue of certification authorization?				
11.	Is the record of certifying staff, including licence/training/scope of authorization satisfactory?				
12.	Are certifying staff provided with copy of authorization document?				
13.	Are certifying staff required to produce authorization document in reasonable time?				
<b>EQUIPMENT, TOOLS AND MATERIAL</b>					
14.	Are the following satisfactory:				
	(a) Necessary equipment, tools and material?				
	(b) Control and calibration?				
	(c) Records of calibration and standard used?				
<b>AIRWORTHINESS DATA</b>					
15.	Hold and use applicable current approved data				
16.	Minimum data to hold and use include maintenance related CARs, Advisory Circulars, Approved Maintenance Programme, MM, SRM, IPC, CPCP, SSID, NDI Manuals, Process Specifications, service Letters & Instructions, Vendor Maintenance and Repair manuals				
17.	Maintenance instructions prepared in accordance with approved MPM				
18.	Procedure for appropriate action of damage assessment and use of only approved repair data				
19.	Common work card or worksheet system for organization or procedures to complete ones provided by operator				
20.	Is applicable maintenance data readily available				
21.	Is controlled data up to date?				
22.	Is there written confirmation of amendment status?				
<b>MAINTENANCE CERTIFICATION</b>					
23.	Is issue of certificate of maintenance done by authorized certifying staff when all maintenance has been carried out?				
24.	Does the Certificate of Release to service(CRS) contain:				
	(a) Date maintenance was completed?				
	(b) Details of maintenance carried out?				
	(c) Name and unique authorization number of the certifying staff and his signature?				
	(d) Name and certificate number of the Repair Station/AMO?				
	(e) An airworthiness compliance statement?				
25.	Procedure for re-certifying Used aircraft component?				
26.	Is incomplete maintenance entered on CRS?				
27.	Prohibiting fitment of component without appropriate release to service documents?				
28.	Is it clear that a CRS must not be issued in cases of non-compliance and which could hazard flight safety?				
<b>MAINTENANCE RECORDS</b>					
29.	Do the maintenance records contain a detailed record of work?				
30.	Is a copy of the CRS and repair/modification data provided to the Operator?				

31. Are records retained for 2 years from date of release?				
<b>REPORTING OF UNAIRWORTHY CONDITIONS</b>				
32. Report to CAA and type certificate holder conditions hazardous to aircraft?				
33. Un airworthy report forms ?				
34. Report to Operator?				
35. Report within 3 days?				

Item	Assessment			
	YES	NO	N/C	N/A
<b>MAINTENANCE PROCEDURES AND QUALITY SYSTEM</b>				
36. Is Quality policy included in MPM?				
37. Do maintenance procedures to ensure good maintenance practices comply with ? AMO				
38. Quality system with independent audits with feedback system which ensures proper and timely corrective action?				
<b>MAINTENANCE PROCEDURES MANUAL (MPM)</b>				
<b>PRIVILEGES OF THE AMO</b>				
39. Maintain aircraft and components per approval?				
40. Other organizations doing maintenance under the quality system?				
41. Other location maintenance subject to need due un serviceability or occasional line per MPM procedures?				
42. Line maintenance per MPM permission and listing?				
43. CRS issued i.a.w. Part 6 – AMO requirements .				
<b>LIMITATIONS OF THE APPROVED MAINTENANCE ORGANIZATION</b>				
44. Is maintenance done only when all necessary facilities, equipment, tooling, material, approved data and certifying staff are available?				
<b>CHANGES TO THE APPROVED MAINTENANCE ORGANIZATION</b>				
45. Is the CAA notified of changes of name, location, additional locations, accountable manager, senior persons, facilities, equipment, tools, material, procedures, work scope and certifying staff that could affect the approval?				
46. Has the CAA prescribed operating conditions during changes				
<b>CONTINUED VALIDITY OF APPROVAL</b>				
47. Remaining in compliance with AMO Regulations?				
48. The CAA being granted access to the AMO ?				
49. The payment of any changes prescribed by the CAA?				

<i>Inspectors Remarks</i>



I hereby <b>Recommend</b> that the Approval Certificate of the subject Maintenance Organisation <b>is / not - Issued / Renewed</b> for a period of ..... with effect from .....
Signature ..... <i>Manager Airworthiness</i>

**Director Airworthiness Standards**

I hereby **Approve** the Issue / Renewal of the subject Maintenance Organisation Approval Certificate for a period of ..... with effect from .....

Signature .....  
***Director Airworthiness Standards***





**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

CL:O-AWS012A

**AIRCRAFT CERTIFICATION (FIXED WING) ISSUE/RENEWAL  
 INSPECTION REPORT – CHECK LIST**

**General Information:**

1. Name of Applicant /Operator :
2. Address of Applicant /Operator :

3. Type of Inspection :	
4. Date of Inspection :	5. Place of Inspection :
6. Registration Marks :	7. C of A Category :
8. Aircraft Manufacturer :	9. Date of Manufacture :
10. Type of Aircraft :	11. Manufacturer Serial No. :
12. Total Aircraft Hours :	13. Total Aircraft Cycles:
14. Hrs/Cycs. Since Last C of A Renewal:	

15. Engine Manufacturer :
16. Engine Designation :
17. Propeller Manufacturer :
18. Propeller Designation :

**Engines, APU and Propeller Details:**

Engine TBO \_\_\_\_\_ Propeller TBO \_\_\_\_\_

	No: 1	No: 2	No: 3	No: 4	APU
<b>Engines</b>					
Serial Numbers:					
Total Engine Hours:					
Total Engine Cycles:					
Hrs. to Overhaul:					
Cycles to Shop Visit					
<b>Propellers</b>					
Serial Numbers:					
Total Propeller hours:					
Hours since Overhaul:					
Date Fitted:					

## DOCUMENT EVALUATION:

	Document	Validity/ Status	Folio No.
1.	Last Major Maint. Certificate of Release to Service		
2.	Current C of R S (if different from 1 above)		
3.	Certificate of Insurance		
4.	Radio Station Licence		
5.	Weight and Balance Schedule		
6.	AD's and SB's Compliance		
7.	Airborne Nav. Equip Approval for Int. Operation		
8.	Minimum Equipment List (MEL)		
9.	Technical Records – Complete and Updated		
10.	Log-Books Entries Update and Certification		
11.	Flight Manual / Pilot Operating Hand Book		
12.	Approved Maintenance Programme		
13.	Maintenance Manual		
14.	Test Flight Report (where) Applicable		
15.	Technical Log-Book		
16.	Allowable Deferred Defects Clearance		
17.	Corrosion Control Program Compliance		
18.	Aircraft Instruments and Avionics Equipment Form		
19.	Aircraft C of A Issue / Renewal Status Report		
20.	Standby Compass Swing Status		

## PHYSICAL INSPECTION INTERIOR INSPECTION

Check 'Yes' column if you reviewed the record, procedure or event and it is 'Satisfactory' Check 'No' column if you reviewed the record, procedure or event and it is 'Unsatisfactory'. Check N/C (not checked) column if you did not review the record, procedure or event or you do not have adequate information to make a valid comment. Check N/A (not applicable) column, if the line item is not required in this particular situation.	Assessment			
	YES	NO	N/C	N/A
<b>A. EXAMINE AIRWORTHINESS AND REGISTRATION CERTIFICATES TO ENSURE THE FOLLOWING:</b>				
1. Airworthiness and Registration certificates are current and valid				
2. Both certificates contain the same model, serial number, and registration markings				
3. (If temporary registration, is it current)				
4. Signatures are in permanent ink				
<b>B. FLIGHT DECK INSPECTION. INSPECT THE FOLLOWING:</b>				
1. Aircraft Technical Log for a journey record section and maintenance record section				
2. Instrument security and range markings				
3. Windshields/windows for delamination, scratches, crazing, and general visibility				
4. Seat belts and shoulder harnesses (TSO markings, metal to metal latching and general condition)				
5. Medical Kit (passenger flights only) (if installed in the flight deck)				

6. Emergency Equipment as a minimum should consist of:				
i. First Aid Kit (FAK)				
ii. Crash Axe (AX)				
iii. Portable Oxygen Bottle (POB)				
iv. Halon Fire Extinguisher (HL)				
v. Emergency Flashlights (ELS)				
vi. Protective Breathing Equipment (PBE)				
vii. Crew Life Vests (CLV)				
viii. Emergency Escape Ropes				
<b>C. If jump seat use is intended check the following:</b>				
1. Turn on and check oxygen regulator, set to 100% oxygen				
2. Interphone system. Select Comm 1 and Comm 2 to ensure system is operating				
3. Ensure the jump seat is serviceable and that the seat belt and shoulder harness are available and serviceable				
4. If the forward most seat is in the cabin, coordinate with the crew for connecting the cables and headset				
	<b>YES</b>	<b>NO</b>	<b>N/C</b>	<b>N/A</b>
<b>Inspect the cabin to include the following:</b>				
<b>D. Lavatory. Ensure the following:</b>				
1. Fire extinguisher system installed in sealed trash containers				
2. Smoke detection system is installed				
<b>Note: The following items are normally required by Airworthiness Directives</b>				
3. Trash containers are sealed according to the AD				
4. "No Smoking" placards are posted				
5. Smoke detector placards installed				
6. Ashtrays are available outside the lavatory				
<b>E. Flight attendant seats</b>				
1. Pull the jump seat down to the sitting position and ensure it will retract automatically (if in aisle way path to exit)				
2. Seat belts and shoulder harnesses (TSO markings, metal to metal latching and general condition)				
3. Flight attendant emergency flashlights				
<b>F. Cabin emergency equipment.</b> All equipment requiring periodic inspections should have an inspection date marked on it. Inspect				
1. Slide raft containers to ensure containers are marked for content. Check pressure of slide raft inflation bottle				
2. Medical kit (if not checked on flight deck)				
3. First aid kit(s)				
4. Emergency oxygen bottles and masks (proper pressure, security and conditions)				
5. Megaphone(s) (security and general condition)				
6. Fire extinguishers (security, pressure, seal, and type)				
7. Protective Breathing Equipment (PBE)				
8. Emergency briefing cards (random sample)				
9. Emergency floor path lighting system (general condition)				
10. Placement of all "Emergency Exit" signs				
11. Presence and legibility of "Emergency Exit" operating instructions				
12. Location of all emergency equipment identified by placards				

13. Life preservers (vests) crew and passengers				
14. Life raft(s) (if required)				
<b>G. Passenger seats. Ensure the following:</b>				
1. Seats that are adjacent to emergency exits do not block exit path				
2. Seats are secure in seat tracks (random sample)				
3. Seat "breakover" pressure in accordance with operator's				
4. maintenance program (random sample)				
5. "Fasten Seat Belt While Seated" placards/signs are visible from all seats				
6. Seat belts have metal-to metal latches and are in good general				
7. condition				
<b>H. Galleys/Service centers. Inspect the following:</b>				
1. Storage compartment restraints in place and secure, weight				
2. restriction placards				
3. Trash bin lids for proper fit				
4. Lower lobe equipment/restraints in place/secure (if applicable)				
5. Lift operation (if applicable)				
6. Galley supply stowage in serviceable condition				
	<b>YES</b>	<b>NO</b>	<b>N/C</b>	<b>N/A</b>
<b>I. Overhead baggage compartments. Check for weight restriction placards and the doors for proper latching (when</b>				
<b>Inspect cargo compartments (cargo operation)</b>				
1. Cargo compartment fire protection is appropriate for the				
2. classification				
3. Cargo liner is free from tears and/or punctures. If these are noted,				
4. inspect structure behind liner for damage, e.g., stringers, circumferentials, etc. Ensure sealing tape is proper type and in good condition.				
5. Cargo door is free of fluid leaks and structural damage				
6. Fuselage door structure and sill is free from damage				
7. Smoke detectors are in operable condition				
8. Lighting is operable and protective grills are installed				
9. Cargo floor is free from structural damage				
10. Pallet positions/compartments are placarded for position				
11. identification and weight limitations				
<b>J. Inspect pallet system, if applicable. Ensure the following:</b>				
1. Ball mats are serviceable, no broken or missing balls				
2. Forward, aft, and side restraints are serviceable				
3. Roller assemblies are secure and have no missing or broken rollers				
4. Ensure that cargo restraint/net is serviceable				
5. Inspect fire extinguishers for inspection due dates and pressure				
6. Inspect cabin-mounted equipment				
<b>K. Hazardous Material, if present. Inspect load manifest for hazardous material</b>				
1. Determine crew knowledge of the following:				
2. Location and labelling of hazardous material				
3. Special requirements if any				
4. If proper paperwork is on board				

## EXTERIOR INSPECTION

	YES	NO	N/C	N/A
<b>Accompany a flight crewmember during the exterior inspection, if possible, and inspect the following items, as applicable.</b>				
<b>L. Landing gear and wheel well areas.</b> Check for the following:				
1. Any indication of wear, chaffing lines, chaffing wires, cracks, dents, or other damage				
2. Structural integrity of gear doors (cracks, dents, or other damage)				
3. Hydraulic leaks (gear struts, actuators, steering valves, etc.)				
4. Tire condition and pressure (if pressure indicators installed)				
5. Wheel installation and safety locking devices				
6. Wear, line security, leaks, and installation of brakes				
7. Corrosion				
<b>M. Fuselage and Pylons.</b> Inspect the following:				
1. Structure for cracks, corrosion, dents, or other damage				
2. Fasteners (loose, improper, missing)				
3. Condition of radome				
4. Condition of pitot tubes				
5. Static ports (cleanliness and free from obstructions)				
6. Stall warning devices and other sensors				
7. Antennas (security, and indication of corrosion)				
8. Stains of other indications of leaks				
9. Lavatory servicing areas (evidence of "Blue Water" streaks)				
10. Cargo compartments for integrity of fire protective liners (no holes, or duct tape used for repairs) Blow-out panels not taped closed				
11. Emergency exit identification/markings (Two inch contrasting borders out lining exits)				
12. Registration markings (match airworthiness and registration certificates)				
13. certificates				
14. All lights (general condition, broken lenses, etc.)				
<b>N. Wings and Pylons.</b> Inspect the following:				
1. Structure for cracks, corrosion, dents or other damage				
2. Leading edge (dents and/or damage in line with engine inlets)				
3. Leading edge devices (when open for actuator leaks, general condition of line, wires, and plumbing)				
4. Evidence of fuel leaks (if found, maintenance must prove leak is within limits)				
5. All lights (general condition, broken lenses, etc.)				
6. Flaps (cracks, corrosion, dents, and delamination)				
7. Flap wells (general condition of lines, wires, and plumbing)				
8. Static eliminators (number missing in accordance with MEL/CDL)				
9. Ailerons and aileron tabs (cracks, corrosion, dents, delamination)				
10. Missing, loose, or improperly secured access door/inspection panels and blow-out panels				
11. Missing, loose, or improperly secured access door/inspection panels and blow-out panels				
12. panels and blow-out panels				
<b>O. Propellers.</b> Inspect the following:				
1. Leading edge of propeller for cracks, dents, and other damage				
2. De-Icer boots for signs of deterioration and security				
3. Spinners for security, cracks, and evidence of fluid leaks				







# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

CL:O-AWS012B

## AIRCRAFT INSPECTION ( ROTARY WING) ISSUE/RENEWAL INSPECTION REPORT – CHECK LIST

### General Information:

1. Name of Applicant :	
2. Address of Applicant :	

3. Date of Inspection :	4. Place of Inspection :
5. Registration Marks :	6. C of A Category :
7. Helicopter Manufacturer :	8. Date of Manufacture :
9. Type of Helicopter :	10. Helicopter Serial No. :
11. Total Airframe Hours :	12. Total Airframe Cycles:
13.Hrs/Cycs. Since Last C of A Renewal	

14. Engine Manufacturer :	
15. Engine Designation :	
16. Main Rotor Blades Manufacturer :	
17. Main Rotor Blades Designation :	
18. Tail Rotor Blades Manufacturer :	
19. Tail Rotor Blades Designation :	

### Engines, Rotor Details:

Engine TBO/TBI \_\_\_\_\_ Rotor TBO/TBI \_\_\_\_\_

Rotor Scrap Life/ Time to Life limit: \_\_\_\_\_

	No: 1	No: 2	No: 3	No: 4	No: 5
<b>Engines</b>					
Serial Numbers:					
Total Engine Hours:					
Total Engine Cycles:					
Hrs. to Overhaul:					
Cycles to Shop Visit					
<b>Main Rotors</b>					
Serial Numbers:					
Total Rotor hours:					
Hours since Overhaul:					
Date Fitted:					
<b>Tail Rotors</b>					



Serial Numbers:					
Date Fitted:					
Total Rotor hours:					

## AIRCRAFT DOCUMENTS:

	Document	Validity/ Status	Folio No.
1.	Last Major Maint. Certificate of Release to Service		
2.	Current C R S (if different from 1 above)		
3.	Certificate of Insurance		
4.	Radio Station Licence		
5.	Weight and Balance Schedule		
6.	AD's and SB's Compliance Status		
7.	Compliance Status with Aircraft Maintenance Programme		
8.	Minimum Equipment List (MEL) & MMEL Rev. Status		
9.	Technical Records – Complete and Updated		
10.	Log-Books Entries Update and Certification		
11.	Rotorcraft Flight Manual Revision Status		
12.	Approval of Aircraft Maintenance Programme		
13.	Maintenance Manual		
14.	Test Flight Report (where) Applicable		
15.	Technical Log-Book		
16.	Allowable Deferred Defects Clearance		
17.	Corrosion Control Program Compliance		
18.	Aircraft Instruments and Avionics Equipment Form		
19.	Aircraft C of A Issue / Renewal Status Report		
20.	Standby Compass Swing Status		
21.	Helicopter life limited component status		

## PHYSICAL INSPECTION

Check 'Yes' column if you reviewed the record, procedure or event and it is 'Satisfactory' Check 'No' column if you reviewed the record, procedure or event and it is 'Unsatisfactory'. Check N/C (not checked) column if you did not review the record, procedure or event or you do not have adequate information to make a valid comment. Check N/A (not applicable) column, if the line item is not required in this particular situation.	Assessment			
	YES	NO	N/C	N/A
<b>A. FLIGHT DECK</b>				
1. Cockpit Placards – (e.g. Flight Manual Helicopter airspeed and power plant limitations, MEL Placards) - Check presence and legibility				
2. First Aid Equipment – Check presence of and adequacy of contents. (Note: Do not open if sealed).				
3. Sliding Window (Push out Window)				
4. Safety belt and shoulder harnesses – check condition, type approval, proper operation, expiry date, etc.				
5. Life jackets (if applicable):- condition, expiry date etc.				
6. Crew compartment lights.				
7. Blackout curtains / sun visors.				
8. Fire extinguishers – expiration date.				
9. Torch Light				

10. Radio Altimeter – date of last functional check (as per requirements)				
11. Check completeness and currency of Helicopter documents aboard, viz;				
(i) Certificate of Registration.				
(ii) Certificate of Airworthiness				
(iii) Helicopter technical log.				
(iv) MEL and Configuration Deviation List (CDL).				
(v) Air Operator Certificate (AOC) and Opspecs, if required				
(vi) Noise certificate				
(vii) Rotorcraft Flight Manual (RFM)				
(viii) Category II or III Manual, as applicable				
(ix) NOTAMs briefing documentation				
(x) Mass and balance documentation				
(xi) Radio station licence				
(xii) Insurance certificate				
(xiii) Maintenance Release				
(xiv) Forms for reporting of MOR to the Authority.				
12. Function Check Mandatory equipment visible:				
(i) FDR (must be digital )				
(ii) CVR				
(iii) GPS				
(iv) Radio Altimeter				
(v) GPWS				
(vi) ELT 406Mhz (Check battery validity, that ELT is registered, copy hexadecimal Code)				
<b>B. PASSENGER CABIN</b>				
1. Passenger Door and other exits – Check for proper markings and operation.				
2. Emergency and other exit lights (including floor lights) – check proper for functioning.				
3. Access to emergency exits – Check seat reclines with emergency exit door clearance.				
4. Cabin crew and passenger safety seat belts – Check for type approval, condition, proper operation, expiration date, etc.				
5. First Aid equipment – Content, expiry date and locations.				
6. “No Smoking” and “Fasten Seat Belts” signs available and legible.				
7. Fire extinguishers – numbers and expiry dates.				
8. Life jackets and Life rafts (if applicable) – Check for proper location, expiry dates etc.				
9. Door Safety Straps (if available).				

10. Emergency instructions on all seats and “life jacket under your seat” sign displayed (if applicable).				
<b>C. HELICOPTER EXTERIOR</b>				
1. Registration Markings: (i) <b>Tail boom:</b> must be on both sides. (ii) <b>Fuselage:</b> (or equivalent structure): must be on either side of the structure.				
2. Helicopter Data Plate (location and condition is legible)				
3. Engines:- check security and condition of cowlings, nacelles, air intakes, fire access panels, main gear box etc. i. check for leaks (fuel, oil, etc.) ii. check for presence of fuel and oil specification markings.				
4. Swashplate, pitch change rods, Main rotor blades, scissors links etc. check for condition, physical damages				
5. Check for evidence of leakage of hydraulic and other fluids				
6. Passenger Door Markings.				
7. Windshield/ Canopy – Check for proper installation and cracks, evidence of delamination etc.				
8. Nose cone/ radome – Check condition, evidence of paint stripping, delamination, pitting etc.				
9. Fuel and hydraulic fluid specification markings.				
10. Towing angles markings.				
11. Floats – “NO STEP” etc. condition and location.				
12. Nose/Flood Lights (serviceability)				
13. Nitrogen – Cylinder replenishing points and instructions, expiry date and quantity.				
14. Markings for static vents.				
15. Condition of the landing gear/skid gear				
16. Condition of: (i) Main rotor blades. (ii) Tail rotor blades (including check of static discharge wicks)				
17. Horizontal stabilizer – Check condition and stabilizer datum and range markings (if any).				
18. Condition of the fuselage and tail planes/tail boom/tail guard.				
19. Baggage hold loading instruction labels: Check for presence of and the compartment door for security.				
20. Tail rotor drive shaft fairings – for safety and condition. Check tail rotor gear box for leaks				

21. External lights – Navigation. Landing Check for proper functioning of Anti-collision				
22. Markings and Placards in accordance with AMM/AFM (check for presence and legibility)				

<b><i>Inspectors Remarks</i></b>

<b><i>Inspectors Recommendation</i></b>
---

<p>The Aircraft Registration ..... , Serial No. .... , and its documents have been inspected and evaluated in accordance with the Civil Aviation (Airworthiness) Regulations currently in force and I hereby Certify that this Aircraft <b>is / not</b> approved for <b>Issue / Renewal</b> of Aircraft Certification for a period of ..... ( ) months with effect from .....</p>
---

<p>Name of Inspector ..... Signature ..... Date .....</p>
---

<b><i>Manager Airworthiness Remarks</i></b>
---

Remarks:

I have <b>Reviewed</b> that the Aircraft Certification Inspection Report of this aircraft and found it satisfactory.
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<p>Signature ..... <i>Manager Airworthiness</i></p>
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**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**CL: O-AWS012c**

**AIRCRAFT PRE-IMPORTATION INSPECTION REPORT – CHECK LIST**

**General Information:**

1. Name of Applicant :
2. Address of Applicant :
3. Name of Operator:
4. Address of Operator:

5. Date of Inspection :	6.. Place of Inspection :
7. Registration Marks :	8. Proposed Registration Marks :
9. Aircraft Manufacturer :	10. Date of Manufacture :
11. Type of Aircraft :	12. Constructors Serial No. :
13. Total Aircraft Hours :	14. Total Aircraft Cycles :

15. Engine Manufacturer :
16. Engine Designation :
17. Propeller Manufacturer :
18. Propeller Designation :

**Engines, APU and Propeller Status:**

Engine TBO \_\_\_\_\_ Propeller TBO (if applicable) \_\_\_\_\_

	No: 1	No: 2	No: 3	No: 4	APU
<b>Engines</b>					
Serial Numbers:					
Total Engine Hours:					
Total Engine Cycles:					
Hrs. to Overhaul:					
Cycles to Shop Visit					
<b>Propellers</b>					
Serial Numbers:					
Total Propeller hours:					
Hours to Overhaul:					
Date Fitted:					

**Aircraft Documents:**

	<b>Document</b>	<b>Validity/ Remarks</b>	<b>Folio No.</b>
1.	Certificate of Airworthiness (or Export C of A)		
2.	Certificate of Registration (Validity if applicable)		
3.	Certificate of Insurance		
4.	Radio Station Licence		
5.	Weight and Balance Schedule		
6.	AD's and SB's Compliance Status		
7.	Compliance Status with Maintenance Programme		
8.	Airborne Nav. Equip Approval for Int. Operation (RVSM, RNP, ETOPs, MNPS, PBN etc.)		
9.	Minimum Equipment List (MEL)		
10.	Technical Records – Complete and Updated		
11.	Log-Books Entries Update and Certification		
12.	Flight Manual / Pilot Operating Hand Book		
13.	Approved Maintenance Programme Approval Page		
14.	Last Major Scheduled Maintenance CRS		
15.	Current Scheduled Maintenance CRS		
16.	Technical Log-Book		
18.	Allowable Deferred Defects Clearance		
19.	Hard Time Component Records		
20.	List of Avionics Equipment		
21.	Standby Compass Swing Status		
20.	Engine Life Limited Parts		
21.	Manufacturer's Documents (AMM, SRM, WDM, etc.)		
22.	Aircraft Type Certificate Data Sheet (TCDS)		
23.	History of Accidents/Reportable Incidents Statement		
24.	Dent and Buckle Mapping (If available)		
25.	Last Flight Data Recorder Data Download		
26.	Noise Certificate		
27.	Production or Flight Test Report (For First of its type) on Nigerian Register		
28.	Manufacturer Delivery Documents (If New)		
29.	Electrical Load Analysis (If Available)		
30.	Approved LOPA and Safety Equipment Layout		
31.	Modification and Repairs Record		

<b><i>Inspectors Remarks</i></b>


**Inspectors Recommendation**

The Aircraft Registration Marks....., Serial No. ...., and its documents have been inspected and evaluated in accordance with the Nig. CARs and TGM procedures currently in force and I hereby Certify that this Aircraft is found satisfactory.

Name of Inspector ..... Signature ..... Date .....

**Manager, Airworthiness Remarks**

Remarks:

I have reviewed the Pre-importation Inspection Report of this aircraft and found it satisfactory

Signature .....  
 Manager, Airworthiness



**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

CL:O-AWS014

**RELIABILITY PROGRAMME APPROVAL**

<b>INSPECTION RECORD</b>	
Name of Maintenance Organisation	
Physical Address (Location)	
Aircraft Type	
Date of Inspection	
Reliability Program Document No. Issue and date	
Inspector(s)	/
<b>Assessment Code: YES = Satisfactory NO = Not Satisfactory N/C = Not Checked N/A = Not Applicable</b>	

Item	Assessment			
	YES	NO	N/C	N/A
1. Has the applicant been informed of the following programme requirements:				
(a) Programme application?				
(b) Organizational structure?				
(c) Data collection system?				
(d) Methods of data analysis and application to maintenance control?				
(e) Procedures for establishing and revising performance standards?				
(f) Definition of significant terms?				
(g) Programme displays and status of corrective action programmes?				
(h) Procedures for programme revision?				
(i) Procedures for maintenance control changes?				
<b>EVALUATE THE PROGRAMME APPLICATION PROCEDURES.</b>				
2. When the applicant submits a formal programme, does the programme document-				
(a) Define the components, systems, or complete aircraft controlled by the programme?				
(b) Have a list of all components controlled by the programme included as an Appendix to the programme document or included by reference (e.g., time limits, manuals, or computer report)?				
(c) Identify individual systems and/or components by Air Transport Association (ATA) Specification 100?				
<b>EVALUATE ORGANIZATIONAL STRUCTURE</b>				
3. Is the structure adequately described and does it address committee membership, if appropriate, and meeting frequency?				
4. Does the reliability programme include an organizational chart that shows the following:				
(a) The relationships among organizational elements responsible for administering the programme?				
(b) The two organizational elements responsible for approving changes to				



maintenance controls and specifying the duties and responsibilities for initiating maintenance programme revisions?				
<b>Note:</b> One of the two organizations must have inspection or quality control responsibility or have overall programme responsibility.				
<b>EVALUATE THE ORGANIZATIONAL RESPONSIBILITIES.</b>				
5. Does the reliability programme document address the following:				
(a) The method of exchanging information among organizational elements?(This may be displayed in a diagram)				
(b) Activities and responsibilities of each organizational element and/or reliability control committee for enforcing policy and ensuring corrective action?				

Item	Assessment			
	YES	NO	N/C	N/A
6. Is CAA delegated to each organizational element to enforce policy?				
<b>EVALUATE THE DATA COLLECTION SYSTEM.</b>				
7. Does the reliability document fully describe the data collection system for the aircraft, component, and/or systems to be controlled?				
8. Does it address the following:				
(a) Flow of information?				
(b) Identification of sources of information?				
(c) Steps of data development from source to analysis?				
(d) Organizational responsibilities for each step of data development?				
9. Does the document include samples of data to be collected, such as -				
(a) Power plant disassembly and inspection reports?				
(b) Component condition reports?				
(c) Mechanical delay and cancellation reports?				
(d) Flight record reports?				
(e) Premature removal reports?				
(f) In-flight shutdowns?				
(g) Confirmed failure reports?				
(h) Internal leakage reports?				
(i) Engine shutdown reports?				
10. Does the reliability document include a graphic portrayal of programme operations with a closed loop showing source data, data collection, and analysis?				
<b>EVALUATE THE METHODS OF DATA ANALYSIS AND APPLICATION TO MAINTENANCE CONTROLS.</b>				
11. Does the data analysis system include the following:				
(a) One or more of the types of action appropriate to the trend or level of reliability experienced, including -				
(i) Actuarial or engineering studies employed to determine a need for maintenance programme changes?				
(ii) Maintenance programme changes involving inspection frequency and content, functional checks, overhaul procedures, and time limits?				
(iii) Aircraft, aircraft system, or component modification or repair?				
(iv) Changes in operating procedures and techniques?				
(b) The effects on maintenance controls such as overhaul time, inspection and check periods, and overhaul and/or inspection procedures?				
(c) Procedures for evaluating critical failures as they occur?				

(d) Documentation used to support and initiate changes to the maintenance programme, including modifications, special inspections, or fleet campaigns?				
(e) Reference to the operator's manual procedures for handling these documents?				
(f) A corrective action programme that shows the results of corrective actions in a reasonable period of time? (Depending on the effect on safety, a "reasonable" period of time can vary from immediate to an overhaul cycle period.)?				
(g) Samples of forms used to implement corrective actions?				
(h) A description of statistical techniques used to determine operating reliability levels?				

Item	Assessment			
	YES	NO	N/C	N/A
<b>EVALUATE THE PROCEDURES FOR ESTABLISHING AND REVISING PERFORMANCE STANDARDS.</b>				
12. Does each programme include one of the following for each aircraft system and/or component controlled by the programme:				
(a) Initial performance standards defining the area of acceptable reliability?				
(b) Methods, data, and a schedule to establish the performance standard?				
13. Is the performance standard responsive and sensitive to the level of reliability experienced and is stable without being fixed? (The standard should not be so high that abnormal variations would not cause an alert or so low that it is constantly exceeded in spite of the best known corrective action measures)				
14. Do the procedures specify the organizational elements responsible for monitoring and revising the performance standard, as well as when and how to revise the standard?				
<b>EVALUATE DEFINITIONS.</b>				
15. Does each programme clearly define all significant terms used in the programme?				
16. Do Definitions reflect their intended use in the programme? (They may vary from programme to programme)				
17. Are acronyms and abbreviations unique to the programme defined?				
<b>EVALUATE PROGRAMME DISPLAYS AND STATUS OF CORRECTIVE ACTION PROGRAMMES AND REPORTING.</b>				
18. Does the programme describe reports, charts, and graphs used to document operating experience?				
19. Are responsibilities for these reports established and the reporting elements clearly identified and described?				
20. Are the programme displays containing the essential information for each aircraft, aircraft system, and component controlled by the programme addressed?				
21. Is each system and component identified by the appropriate ATA Specification 100 system code number?				
22. Does the programme include displays showing:				
(a) Performance trends?				
(b) The current month's performance?				
(c) A minimum of 12 months' experience?				
(d) Reliability performance standards ("alert" values)?				
23. Does the programme include the status of corrective action programmes?				
24. Does this include all corrective action programmes implemented since the last reporting period?				

EVALUATE THE INTERVAL ADJUSTMENTS AND PROCESS AND/OR TASK CHANGES SYSTEM.				
25. Does a review of the change system confirm that -				
(a) There are special procedures for escalating systems or components whose current performance exceed control limits?				
(b) The programme does <b>not</b> allow for the maintenance interval adjustment of any Certification Maintenance Requirements (CMR) items? <i>(CMRs are part of the certification basis. No CMR item may be escalated through the operator maintenance/reliability programme. CMRs are the responsibility of State of Design engineering as far as approval and escalation)?</i>				

Item	Assessment			
	YES	NO	N/C	N/A
<b>Note:</b> <i>The operator shall not use his reliability programme as a basis for adjusting the repeat interval for its corrosion prevention and control programme; however, the operator may use the reliability programme for recording data for later submission to the NCAA to help substantiate repeat interval changes.</i>				
(c) Provisions are included for notifying the NCAA when changes are made?				
<b>EVALUATE THE PROCEDURES FOR PROGRAMME REVISIONS.</b>				
26. Does the reliability document accomplish the following:				
(a) Identify and isolate areas which require NCAA approval for programme revision, including the following:				
(i) Reliability measurement?				
(ii) Changes involving performance standards, including instructions relating to the development of these standards?				
(iii) Data collection system?				
(iv) Data analysis methods and application to maintenance programme?				
(v) Any procedural or organizational change concerning programme administration?				
(b) If the operator proposes that the NCAA approve all revisions, does the document contain procedures for adequately administering and implementing changes required by these actions? <i>(It is not necessary to isolate those areas requiring NCAA approval)?</i>				
(c) Identify the organizational element responsible for approving amendments to the programme?				
(d) Provide a periodic review to determine that the established performance standard is still realistic?				
(e) Provide procedures for distributing approved revisions?				
(f) Reference the operator's manual and provide the overhaul and inspection periods, work content, and other maintenance programme activities controlled by the programme?				
<b>EVALUATE THE PROCEDURES FOR MAINTENANCE CONTROL CHANGES.</b>				
27. Does the reliability programme document address the following:				
(a) Procedures for maintenance control changes to the reliability programme?				
(b) The organizational elements responsible for preparing substantiation reports to justify maintenance control changes? <b>Note:</b> <i>At least two separate organizational elements are required, one of which exercises inspection or quality control responsibility for the operator;</i>				
(c) Processes used to specify maintenance control changes? <i>(e.g., sampling, functional checks, bench checks, decision tree analysis, and unscheduled removal)</i>				
(d) Procedures covering all maintenance programme activities controlled by the				





# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

CL:O-AWS015

## MAJOR ALTERATION AND MAJOR REPAIRS APPROVAL CHECKLIST

INSPECTION RECORD	
Name of Maintenance Organisation	
Physical Address (Location)	
Postal Address	
Date of Evaluation	
Type and / or Series of Aircraft:	
Inspector(s)	/
Assessment Code: YES = Satisfactory NO = Not Satisfactory N/C = Not Checked N/A = Not Applicable	

Items	Assessment			
	YES	NO	N/C	N/A
1 Have the applicant provided the following-				
(a) Detailed description of the proposed alteration or repair?				
(b) A master documentation list detailing the individual drawings and specifications which define the alteration or repair?				
(c) Drawings and instructions necessary for the installation of the alteration or repair?				
(d) Testing procedures or methods to meet certification and operating rules, such as flammability, carbon monoxide, and noise requirements?				
(e) Test procedures, to ensure that they include all tests necessary to substantiate that the alteration or repair meets applicable certification requirements and are appropriate to the alteration or repair?				
(f) Detailed design standards, to ensure that the operator has considered all applicable design standards and has engineering reports which contain the analyses, calculations and test results used to determine that the modified product complies with the approval basis?				
(g) A record of the change in mass and moment arm when the alteration or repair is installed in the aeronautical product?				
(h) A record of the change in electrical load when the alteration or repair is installed in an aircraft?				
(i) A supplement to the approved flight manual?				
(j) Supplements to:				
(i) Maintenance instructions?				
(ii) Instructions for continuing airworthiness?				
(iii) Repair instructions?				
(k) Any other factors affecting safety or airworthiness?				
2 Are all documents provided by the applicant complete?				
3 Does the description of the alteration or repair correctly and accurately describe the alteration or repair?				
4 Has the applicant conducted conformity evaluation to ensure that the alteration				

	or repair will not impact the Airworthiness of the aircraft?				
5	Has the applicant verified that he has inspected the aircraft and reviewed records to ensure compatibility of the alteration or repair with previously approved alterations and repairs?				
6	Has the applicant employed a qualified aircraft engineer specialist?				
7	Is the specialist authorized by the Authority to provide supporting data approved by the State of Design for acceptance by the Authority?				

**DATA APPROVED** If the Inspector is satisfied that the proposed alteration or repair has no unsafe features, and the applicant has met the requirements, and is properly authorized to perform the alteration or repair in accordance with the approved data and the conditions of his operations specifications then the A WI will tick the 'DATA APPROVED' box on Page 1 of the application, sign the form and return one copy to the applicant.

**DATA NOT APPROVED** If the applicant does not provide all the alteration or repair documentation required for the alteration or repair, the inspector should terminate the process and tick the 'DATA NOT APPROVED' box. The DAWS should be briefed through the MFSG and a letter of notification shall be sent to the applicant including the reason for denial. The applicant should be given the opportunity to make corrections as necessary.

<b><i>Inspectors Remarks</i></b>

**Recommendations**

This major ALTERATION / REPAIR has been evaluated and found SATISFACTORY / UNSATISFACTORY. I recommend that it is APPROVED / NOT APPROVED.

Name of Inspector \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

<b><i>Manager Airworthiness - Remarks and Recommendation</i></b>
Remarks:
I hereby <b>Approval / do not Approve</b> the Major Alteration / Repair
Signature .....
<i>Manager Airworthiness</i>

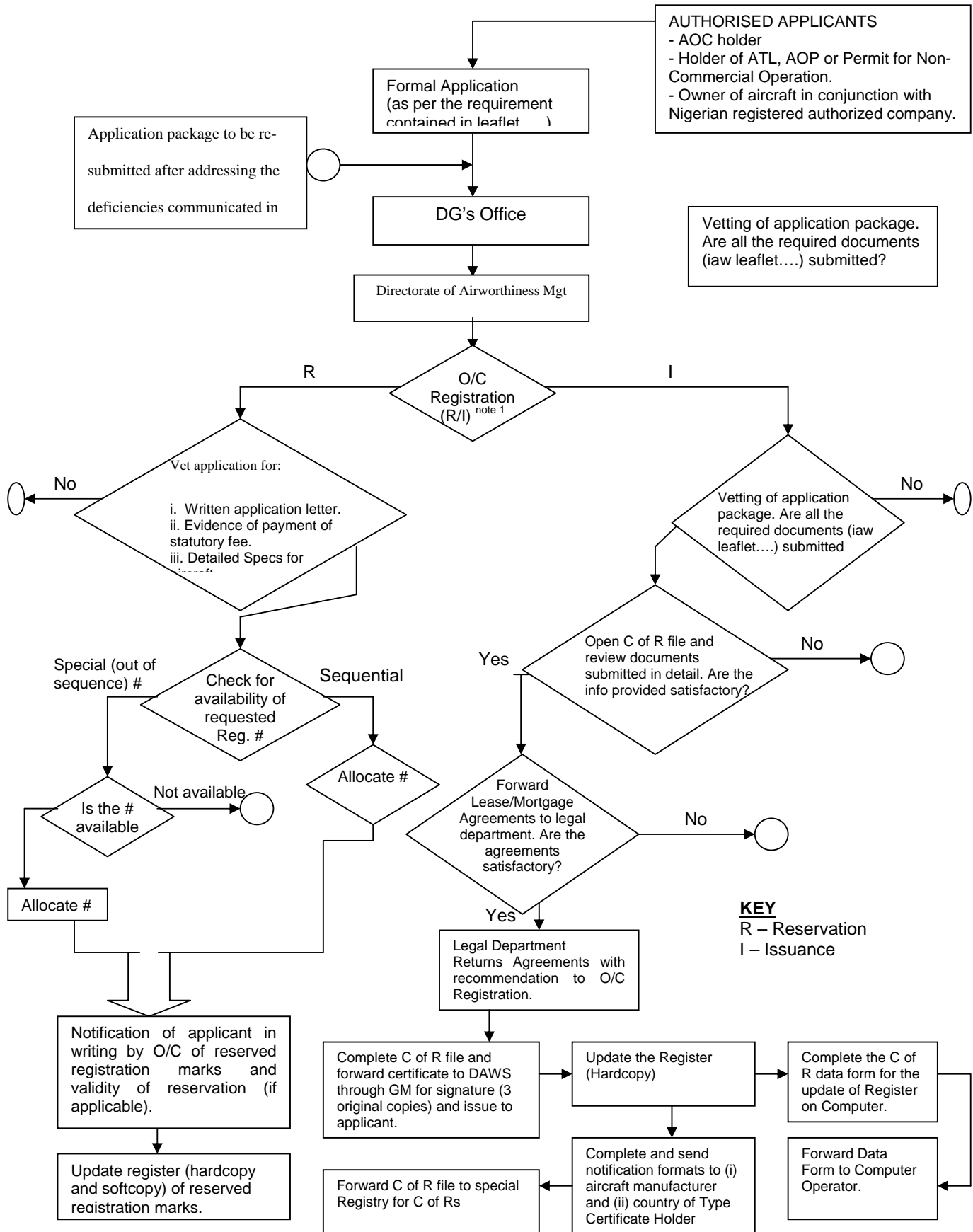


# NIGERIAN CIVIL AVIATION AUTHORITY

MURTALA MUHAMMED AIRPORT

P.M.B 21029, 21038, IKEJA

## PROCEDURE FOR AIRCRAFT REGISTRATION (C OF R ISSUANCE AND RESERVATION) FLOWCHART





**MANDATORY OCCURRENCE / SERVICE DIFFICULTY CLOSURE NOTE**

**OPERATOR/a/c REG#:**

**NATURE OF INCIDENT :**

**GM-AIRWORTHINESS ENGINEERING:**

***Name/Signature/date***

**DGM-AIRWORTHINESS ENGINEERING:**

***Name/Signature/date***

**INVESTIGATING ASI:**

***Name/Signature/date***

**MOR OFFICER:**

***Name/Signature/date***

REMARK (IF ANY):





# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## **AIRCRAFT TYPE CERTIFICATE ACCEPTANCE DATA FORM**

1. **AIRCRAFT MANUFACTURER**

- (1) Name: .....
- (2) Address: .....

2. **PARTICULARS OF AIRCRAFT**

- (i) Type of Aircraft .....
- (ii) Type of approval held/sought: .....
- (iii) Category .....
- (iv) Flight Manual Approval (Ref/Date/  
Authority) .....
- (v) Designated Max. No. of Crew: .....
- (vi) Empty Weight: .....
- (vii) Max. Ramp Weight: .....
- (viii) Max. Take-off mass ( MTO ) .....
- (ix) Max. Payload: .....
- (x) No. of Passengers: .....
- (xi) Designed Calendar Life span: .....
- (xii) Designed Life span (fit hours/cycles) .....

3. **PARTICULARS OF POWERPLANT**

- (i) No. & Type of Engines .....
- (ii) Model No. ....
- (iii) Manufacturer: .....
- (iv) Take Off Thrust/HP: .....
- (v) Thrust to Weight Ratio: .....
- (vi) Time Between Overhaul: .....
- (vii) Propeller (if any) .....
- (i) No. and Type .....
- (ii) Model .....
- (iii) Manufacturer .....
- (viii) Specific Fuel Consumption: .....
- (ix) Engine Oil Capacity .....

**NB: THIS FORM IS FOR OFFICIAL ONLY**

4. NO. FUEL TANKS AND CONFIGURATION: -----

	LEFT		RIGHT		CENTRE	TOTAL
	MAIN	AUXILIARY	MAIN	AUXILIARY		
AMOUNT (IB/KG)						
DRAINABLE						
TRAPPED FUEL						
TOTAL						
TOTAL CAPACITY						

5. SPECIAL AVIONICS (MODEL,P/N, S/N)

1. Cockpit Voice Recorder: -----
2. Digital Flight Data Recorder: -----
3. HF Radio: -----
4. Ground Positioning System (GPS) -----
5. Ground Proximity Warning System (GPWS ) -----
6. TCAS -----
7. Radio Altimeter: -----
8. ATC Transponder -----
9. Auto throttle: (Attach list ) -----

**6. PERFORMANCE DATA**

- 1. Maximum Operating Speed Sea Level -----  
20,000 ft. -----  
25,000 ft. -----
  
- 2. Initial Cruise Altitude (I.S.A condition ): -----
  
- 3. Final Cruise Altitude: -----
  
- 4. Maximum Operating Altitude: -----
  
- 5. Long Range Cruise Speed Mach No. -----
  
- 6. Normal Cruise Speed Mach No. -----
  
- 7. Take-off Distance -----
  
- 8. Landing Distance: -----
  
- 9. All Engines Rate of climb (max T/O Weight) -----
  
- 10. Endurance (@ Max. payload ) -----

**REMARK:**-----  
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-----  
-----

Signature:----- Date:-----

Officer's Name -----



# **NIGERIAN CIVIL AVIATION AUTHORITY**

**AVIATION HOUSE**

**P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria**

## **TYPE CERTIFICATE EVALUATION/ACCEPTANCE PROGRAMME**

1. Introductions
2. Visit to Plant (s)
3. Review of:
  - (i) Methods of Production and Assembly.
  - (ii) Materials and Manufacturing Processes.
  - (iii) Quality Assurance:
    - Design
    - Manufacture
    - Product Support
  - (iv) Development History and Certification Standards
  - (v) Service Experience
    - Areas of Concern
    - Design improvement
  - (vi) Certification Records
  - (vii) Structures and System with emphasis on:
    - Design Criteria/Structural Design Philosophy
    - Corrosion Protection
    - Performance Scheduling and Flight Manual
    - Crashworthiness
    - Maintenance Programme

(viii) Product Support:

- Engineering Support Service
- Training
- Technical Publications

4. AWD Special requirements

5. Aircraft Survey



**NIGERIAN CIVIL AVIATION AUTHORITY**  
AVIATION HOUSE  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**AIRCRAFT TYPE CERTIFICATION**  
**DOCUMENTS REQUIRED**

1. Formal Application-by manufacturer or proposed operator .
2. Aircraft Type Specification-build standard forming basis for design, construction and , delivery of the standard aircraft.
3. Type Certificate, Type Certificate Data Sheets and Supplemental Type Certificate (if any).
4. Summary of Reports on the principal Structural elements regarding stress level substantiation (i.e Static, fatigue and failsafe/damage tolerance).
5. Complete index of reports and notes prepared for Type Certification (compliance checklist) or production certificate.
6. Inspection Report, including procedures and tolerances (Production Test Flight Report).
7. Complete sets of CURRENT manufacturers' Manuals for Aircraft, Engines, propellers (if any) and Principal accessories, i.e. Maintenance and Overhaul Manuals; Maintenance Schedule/Planning Guide/Planning Data; Wiring Diagram; illustrated Parts Catalogue; Structural Repair Manual; (Master) Minimum Equipment List; Electronic equipment manuals; Flight Manual; Weight and Balance Handbook; Inspection Requirements Manual; Engine Specifications and Operating Instructions; etc.
8. Full set of production Wiring Diagram including all optional fits.
9. Service Information: Service Letters (SLs ), Service Bulletins (SBs ), Airworthiness Directives (ADs), Vendor SBs not covered by aircraft manufacturer's SBs.
10. Significant in-service problems summary ,
11. Electrical Load Analyses
12. MRB Programme -where applicable

**FOR INDIVIDUAL AIRCRAFT**

1. Statement of Build Standard, including any differences from previously accepted aircraft (on Nigerian register)
2. Modification Standard including customer Options Incorporated

3. Equipment Incorporated, including items of equipment not necessarily installed by the manufacturer.
4. SB Compliance -List of SBs incorporated during production.
5. Declaration of Compliance with all ADs issued by the appropriate Airworthiness Authorities. Where optional means of compliance are offered the means chosen shall be stated.
6. Export Certificate of Airworthiness to be issued within a period of 60 days immediately preceding the date of application for Nigerian Certification or Validation, as appropriate except as otherwise acceptable to Nigeria in a particular case.
7. Technical Log Books as required by the Air Navigation Regulations (ANRs)
8. Statement of Compliance with relevant Airworthiness Notices / ANRs
9. List of Serial Numbers of Significant Component Parts.
10. Time/Life Limitations.
11. Record of Compass System and Magnetic Compass Swings
12. Detailed list of radio equipment constituting the radio station
13. Weight Schedule and Weighing Report.
14. Acceptable Air Test Report.
15. Aircraft to be surveyed to ensure that it conforms to the standard originally accepted.
16. Equipment must include HF Comms, GPWS, **digital** FDR, and independent GPS (if INS or similar equipment not installed).



**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**AVIATION FUEL FACILITIES INSPECTION CHECKLIST**

<b>Operating Company:</b>		<b>Facility Supervision:</b>	
<b>Region/Airport facility</b>			
<b>Inspected by:</b>			
<b>Date:</b>	<b>Time:</b>		
Note: "/" Satisfactory (Use C if wish to comment) – "N" Needs improvement – "U" Unsatisfactory "N/A" Not Applicable – "N" Not observed. List all recommendations for items marked "N" and "U" in the inspection follow up report and indicate estimated date of completion. List comments ("C") as appropriate on a separate sheet			

<b>1 OFFICE</b>		<b>COMMENTS</b>	<b>COMMENTS</b>
a.	General Condition		q. Spare parts stock
b.	Bulletin board		r. Repair shop and tools
c.	AOS manual current		s. Hydrokit/SWD storage
d.	Technical Newsletters		t. Critical Alarms / Deactivation Records
e.	Fuelling guide available		u. Operating, Safety & Emer. Procs up to date
f.	Facilities inspection reports current		v. Exceptions to Stds & Procs. Documented
g.	Facilities inspection reports		w. Facility/Equip't drawings & Info. Up to date
h.	Receipt documents in order		x. Test Equipment Calibration Records
i.	Delay and accident reports		y. Control of manuals
j.	Water check records		z. Dispatch Documentations
k.	Filter delta 'P' and change-out records		aa Static Stock retest records
l.	Equipment maintenance/testing records		
m.	Tanks cleaning/inspection records		
n.	Filter membrane records Colour/weight)		
o.	Hose pressure test and age profile records		
p.	Fuel conductivity records		

<b>2 AIRPORT OPERATING STORAGE AND PLANT</b>		<b>COMMENTS</b>
a.	Overall Appearance	r. Overspill protections
b.	Fire-fighting equipments	s. Bund Operating capacity / effectiveness
c.	Tanks fire walls or dike conditions	t. Interceptor Operation/performance
d.	Grade ID markings	u. Switchroom condition
e.	Stairs and platforms	v. Cast Iron components (Valves/Strainers)
f.	Pump suction strainers checked	w. Small bore piping adequately braced
g.	Fueller Loading/Offload Facilities/Procs.	x. Preventative maintenance programme
h.	Dust covers in place	y. Third Party interface Procedures
i.	Bonding wires and ground connections	z. Retained samples
j.	Pump condition	aa Sealing of access points
k.	Storage tanks condition / cleaning	bb Sampling and test procedures
l.	Manholes/vents/pressure relief	
m.	Floating suction – moving/bonded	
n.	Water sumps/drain procedures	
o.	Filter operations	
p.	Filter element change and inspection dates	



q.	Fuel conductivity				
<b>3 HYDRANT SYSTEM</b>		COMMENTS		COMMENTS	
a.	Pump sequence control			g.	Hydrant valve assembly condition
b.	Pressure Control			h.	Grade ID marking
c.	Low point drains			i.	Surge suppressor pressure
d.	Emergency Shutdown			j.	Hydrant Valve closure time
e.	Hydrant pit-clean/cover/leaks			k.	Leak detection system
f.	Hydrant valve lanyards			l.	Cathodic Protection
Comments:					

<b>4. SPECIAL EQUIPMENT</b>		COMMENTS
a.	Overall Appearance	
b.	Grade identification	
c.	Pumping system	
d.	Filters	
e.	Hoses	
f.	Nozzles and screens	
g.	Meter	

<b>5. PERSONNEL</b>		COMMENTS	COMMENTS	
a.	Attire		e.	Training programme
b.	Job knowledge		f.	Training log for all personnel
c.	Equipment knowledge		g.	Job description
d.	Job performance		h.	Organization chart

<b>6. SAFETY</b>		COMMENTS	COMMENTS	
a.	Periodic fire fighting practices		i.	Emergency plans issued to staff
b.	No smoking signs posted		j.	Oil spill response plan/equipment
c.	First aid provision		k.	Training exercises held
d.	Emergency phone number displayed		l.	Operating procedures
e.	Safety programme		m.	Permit to work systems
f.	Samples properly discarded		n.	Handling labelling and waste disposal
g.	Fuel relaxation time		o.	Fire Alarm system
h.	Plant security and lighting		p.	Material Safety Data Sheets for all products

Comments:

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**Inspection Follow-up Report**

<b>Item No.</b>	<b>N/U</b>	<b>Brief Recommendation</b>	<b>Status</b>	<b>Comment</b>

---

**ASI Name**

---

**Signature**

---

**Date**



**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**AVIATION FUELLING EQUIPMENT INSPECTION**  
**CHECK LIST**

Operating Company:	Name of ASI:
Region/Airport facility	Date of Inspection:
Vehicle Registration no.	Time:
Name of Fuelling Operator:	STATIONARY / AIRCRAFT FUELLING:
Note: "/" Satisfactory (Use C if wish to comment) – "N" Needs improvement – "U" Unsatisfactory "N/A" Not Applicable – "N" Not observed. List all recommendations for items marked "N" and "U" in the inspection follow up report and indication estimated date of completion. List comments ("C") as appropriate on a separate sheet	

1. PERSONNEL		COMMENTS
a.	Attire	
b.	Job knowledge	
c.	Equipment knowledge	

2. FUELLING EQUIPMENT				COMMENTS	
a.	Appearance		n.	Lights working	
b.	Logo/grade ID marking		o.	Meter operation	
c.	General condition		p.	Spark arrestor	
d.	Tank manhole covers and vents		q.	Drain samples from tanker	
e.	Tank Valves and drains		r.	Operating Panel Gauges	
f.	Filter operation		s.	Dust covers in place	
g.	Hose condition (Inlet/Outlet)		t.	Fire extinguishers	
h.	Condition of nozzles/screens		u.	Filter membrane – colour / weight	
i.	Pressure control operation		v.	Vehicle log sheets	
j.	Driveaway interlocks working		w.	Vehicle filter delta Ps	
k.	Surge suppressor Setting		x.	Sealing of access points	
l.	Deadman operation				
m.	Bonding of grounding cable				

3. FUELLING PROCEDURES		COMMENTS
a.	Positioning of equipments	
b.	Hook-up disconnection procedures	
c.	Hydrokit test performed	
d.	Safety	

4. SAFETY				COMMENTS	
a.	Periodic fire fighting practices		i.	Fuel spill response plan/equipments	
b.	No smoking signs posted		j.	Personnel protective equipments	
c.	First aid provision		k.	Operating procedures	
d.	Safety procedures status		l.	Fire Alarm system	
e.	Samples properly discarded				
f.	Fuelling pressure rate				
g.	Equipment security and lighting				
h.	Emergency plans issued to staff				

Note: Personnel protective equipment shall include the following:

		COMMENTS
i.	Ear protector	
ii.	Safety glasses / goggles	
iii.	Safety foot wear (Fuel/oil resistant)	
iv.	Fuel resistant gloves	
v.	Overalls. (Non static)	

Comments:-

### Inspection Follow-up Report

Item No.	N/U	Brief Recommendation	Status	Comment

Comments.

\_\_\_\_\_  
ASI Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B 21029, 21038, Ikeja, Lagos - Nigeria

## WORK PROGRAMME FOR YEAR .....

Name: .....

Dept: .....

WORK DESCRIPTION	JANUARY				FEBRUARY				MARCH				
	WK1	WK2	WK3	W K4	WK 5	WK6	WK7	WK8	WK9	WK10	WK11	WK12	WK13
Ramp Inspection													
C of A													
AOC/AMO Audit Inspection													
En-Route Inspection (Cockpit /Cabin													
Maintenance Spot Inspection Surveillance of Operators													
AMO Approval / Renewal													
AOC Issue / Variation													
Fuel Inspection (Farm & Ramp)													
Aircraft Training Organisation (ATO Inspection)													
Examination Questions (Written, Oral formulate)													
Review / Approvals of Manual (Mtce, Sch. MEL, Exposition etc.)													
Training (Courses)													
Internal Audit													
Approval of Technical Handling Organisation and Service													
Leave													

## WORK PROGRAMME FOR YEAR .....

Name: .....

Dept: .....

WORK DESCRIPTION	APRIL				MAY				JUNE				
	WK1	WK2	WK3	W K4	WK 5	WK6	WK7	WK8	WK9	WK10	WK11	WK12	WK13
Ramp Inspection													
C of A													
AOC/AMO Audit Inspection													
En-Route Inspection (Cockpit /Cabin													
Maintenance Spot Inspection Surveillance of Operators													
AMO Approval / Renewal													
AOC Issue / Variation													
Fuel Inspection (Farm & Ramp)													
Aircraft Training Organisation (ATO Inspection)													
Examination Questions (Written, Oral formulate)													
Review / Approvals of Manual (Mtce, Sch. MEL, Exposition etc.)													
Training (Courses)													
Internal Audit													
Approval of Technical Handling Organisation and Service													
Leave													

## WORK PROGRAMME FOR YEAR .....

Name: .....

Dept: .....

WORK DESCRIPTION	JULY				AUGUST				SEPTEMBER				
	WK1	WK2	WK3	W K4	WK 5	WK6	WK7	WK8	WK9	WK10	WK11	WK12	WK13
Ramp Inspection													
C of A													
AOC/AMO Audit Inspection													
En-Route Inspection (Cockpit /Cabin													
Maintenance Spot Inspection Surveillance of Operators													
AMO Approval / Renewal													
AOC Issue / Variation													
Fuel Inspection (Farm & Ramp)													
Aircraft Training Organisation (ATO Inspection)													
Examination Questions (Written, Oral formulate)													
Review / Approvals of Manual (Mtce, Sch. MEL, Exposition etc.)													
Training (Courses)													
Internal Audit													
Approval of Technical Handling Organisation and Service													
Leave													



## WORK PROGRAMME FOR YEAR .....

Name: .....

Dept: .....

WORK DESCRIPTION	OCTOBER				NOVEMBER				DECEMBER				
	WK1	WK2	WK3	W K4	WK 5	WK6	WK7	WK8	WK9	WK10	WK11	WK12	WK13
Ramp Inspection													
C of A													
AOC/AMO Audit Inspection													
En-Route Inspection (Cockpit /Cabin													
Maintenance Spot Inspection Surveillance of Operators													
AMO Approval / Renewal													
AOC Issue / Variation													
Fuel Inspection (Farm & Ramp)													
Aircraft Training Organisation (ATO Inspection)													
Examination Questions (Written, Oral formulate)													
Review / Approvals of Manual (Mtce, Sch. MEL, Exposition etc.)													
Training (Courses)													
Internal Audit													
Approval of Technical Handling Organisation and Service													
Leave													



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## EXTENDED RANGE OPERATIONS WITH TWIN-ENGINE AEROPLANE (ETOPS) CHECKLIST

The purpose of the Extended Range Operations with Twin-Engine aeroplane (ETOPS) Checklist is to assist owners / operators with a view to ensuring that application submitted to the NCAA for ETOPS approval are standardised and include all items that are required by Nig CARs 8.6.2.10 and 8.62.11 and also other additional NCAA nationally required items. This checklist, when completed, should be submitted with the supporting programmes or reference made to appropriate documents.

In all cases the checklist should clearly show either compliance (yes) & location of the compliance in the notes section or not applicable (no) & the reason in the notes section.

AOC Number: Operator's Name:

OMME Ref: Amendment Status:

AMP Ref: Amendment Status:

Details of the previous approvals (MNPS, RVSM Cat II /III):

REQUIREMENTS		COMPLIANCE		NOTES	NCAA REMARKS	
		YES	NO		SAT	UNSAT
1.0 ETOPS Type Design Approval						
1.1	Substantiate by a statement that the type design reliability and the performance of the proposed aeroplane/engine combination have been evaluated per the guidance in the U. S. FAA Advisory Circular 120-42, Extended-Range Operation with Two-Engine Airplanes as amended, and found suitable for extended range operations					
1.2	Type Design approval reflected in AFM, TC Data sheets, STC with pertinent information as applicable:					
	a. Special limitations (if necessary) including any limitations associated with a maximum diversion time established.					
	b. Markings or placards (if required);					
	c. Revision to the performance section					

	d. The airborne equipment, installation, and flightcrew procedures					
	e. Description or reference to a document containing the approved airplane configuration CMP standard:					
2.0	<b>Supplemental maintenance programme</b>					
	a. that allow for safe operations under an ETOPS authorization.					
	b. inclusion of specific ETOPS maintenance requirements as defined in the CMP document for the airframe/engine combination.					
	c. These shall include procedures to ensure that aircraft are not dispatched for an ETOPS flight following maintenance actions that affect multiple similar elements in any ETOPS critical system (e.g. fuel control change on both engines).					
	d. ETOPS related tasks must be identified on the air operator's routine work forms and related instructions					
	e. ETOPS related procedures, such as involvement of centralized maintenance control or technical dispatch, must be clearly defined in the air operator's maintenance program					
	f. An ETOPS service check must be developed and used to verify that the status of the aeroplane and certain critical items are acceptable					
2.1	<b>Verification programme</b>					
2.1.1	A list of primary systems					
2.1.2	Conditions that require verification actions before flights					
2.1.3	Procedures for initiating verification actions					
2.1.4	Procedures that monitor and evaluate corrective actions					
2.1.5	Procedures that verify the implementation of corrective action					
2.1.6	Procedures that identify and reverse the adverse trends					

2.2	<b>Engine condition monitoring programme.</b>					
2.2.1	This program will describe the parameters to be monitored, method of data collection and corrective action process.					
2.2.2	The program should reflect the type certificate holder's instructions and industry practice					
2.2.3	Notification procedures for deterioration					
2.2.4	This monitoring will be used to detect deterioration at an early stage to allow for corrective action before safe operation is affected.					
2.2.5	The program must ensure that engine limit margins are maintained so that a prolonged single-engine diversion may be conducted without exceeding approved engine limits (i.e. rotor speeds, exhaust gas temperatures) at all approved power levels and expected environmental conditions.					
2.2.6	Engine margins preserved through this program must also account for the effects of additional engine loading demands (e.g. anti-icing, electrical, etc.) which may be required during the single-engine flight phase associated with the diversion.					
2.3	<b>Reliability programme</b>					
2.3.1	Reporting programme must include:					
	<ul style="list-style-type: none"> <li>a. in-flight shutdowns or flameouts;</li> <li>b. diversion or turn-back;</li> <li>c. uncommanded power changes or surges;</li> <li>d. inability to control the engine or obtain desired power;</li> <li>e. problems with systems critical to ETOPS (engine bleed air, pressurization, electrical</li> </ul>					

	power, etc.).					
2.3.2	The report will also identify the following:					
	<ul style="list-style-type: none"> <li>a. aircraft identification;</li> <li>b. engine identification (make and serial number);</li> <li>c. total time, cycles and time since last shop visit;</li> <li>d. for systems, time since overhaul or last inspection of the defective unit;</li> <li>e. phase of flight; and</li> <li>f. corrective action.</li> </ul>					
2.3.2	Procedures to ensure reporting of significant individual events (engine shutdowns, flight diversions, etc.)					
2.4	<b>Engine/APU oil consumption monitoring programme</b>					
2.4.1	Established limits of consumption as recommended by TC holder					
2.4.2	Procedures for use and verification prior to the departing ETOPS stations					
2.5	<b>ETOPS parts control programme</b>					
2.5.1	Methods of verification of proper parts					
2.5.2	Control procedures during parts pooling and borrowing.					
2.6	<b>Maintenance training programme</b>					
2.6.1	Personnel are aware that an ETOPS authorization is in place.					
2.6.2	Personnel, including contract personnel, are adequately trained on the special programmes required by an ETOPS authorization.					

2.7	<b>Airframe/Engine Condition monitoring programme</b>					
2.7.1	Ensuring the continued integrity of the ETOPS maintenance programmes					
2.7.2	Ensuring that adjustments are made, as required, to the ETOPS programmes					
2.8	<b>Maintenance Management Exposition</b>					
2.8.1	The air operator Maintenance Management Exposition shall be amended to address ETOPS operations. The manual must include, either directly or by reference to incorporated documents					
2.8.2	All ETOPS requirements, including supportive program procedures, duties and responsibilities, must be identified as being ETOPS sensitive					
2.9	<b>Other Procedures that accomplish the following</b>					
2.9.1	Preclude simultaneous actions from being applied to multiple similar elements in any ETOPS-critical system					
2.9.2	Identify ETOPS-related tasks on routine work forms and related instructions					
2.9.3	Develop an ETOPS over-water service check to verify the status of the aeroplane and ensure certain critical items are acceptable					

**COMPLIANCE STATEMENT**

It is understood that compliance with this programme alone does not discharge the operator from ensuring that the programme reflects the maintenance needs of the aircraft, such that continuing safe ETOPs operation can be assured. It is further understood that the NCAA reserves the right to suspend, vary or cancel ETOPs approval if the NCAA has evidence that the requirements of the Programme are not being followed or that the required standards of airworthiness are not being maintained.

Name.....

Position. ....

Signed .. .. .

For and on behalf of operator:.....

Date:.....

**NCAA USE ONLY**

The above requirements have been evaluated and the operator is hereby recommended/not recommended for ETOPs authorization (reasons for not recommending should be stated on a separate sheet)

Signed: .....  
for the NCAA (Name of Inspector):

Date.....

Recommended / Not Recommended.  
GM, Airworthiness

Signature/Date: .....

**Director Airworthiness Standards**

The above requirements have been evaluated against the operator submissions and is hereby approved for ETOPs authorization (D51 Opspecs) and recommended to be issued paragraph B17 Opspecs.

Signature/Date: .....



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**CL: O-AWS023**

## MAINTENANCE SPOT CHECK INSPECTION CHECKLIST

Name of Operator:		
Name of Approved Maintenance Organisation:		
Address:		
Approval No. and Validity:		
Place of Inspection:		
Date of Inspection :		
Aircraft Registration Marks:		Aircraft Serial No:
Aircraft Type:	Total Aircraft Time:	Total Aircraft Cycles:
Approved Maintenance Programme Ref:		
Last Major Mtce (hrs/cyc/date)		
Last Minor Mtce (hrs/cyc/date)		
<b>Assessment Code: YES = Satisfactory NO = Not Satisfactory N/C = Not Checked N/A = Not Applicable</b>		

Item	Assessment			
	YES	NO	N/C	N/A
<b>1) DOCUMENTATION:</b>				
a) Is the Maintenance Manual current?				
b) Are the Work Packages complete (in accordance with the approved MP)?				
c) Are all Airworthiness Directives complied with and Life-Limited Parts still within their service life?				
d) Are all completed tasks certified and CRS issued?				
e) Is the Check within the AMO Operational Specifications (OpSpecs)?				
<b>2) MAINTENANCE PERSONNEL:</b>				
a) Is the number of Certifying Staff appropriate (with adequate ratings)?				
b) Is the number of experienced Non-Certifying Maintenance Staff appropriate (with adequate On-the-Job practical training)?				
<b>3) SPARES AND MATERIALS:</b>				
a) Are approved parts available (with serviceable labels)?				
b) Are consumable materials available and adequate?				
c) Are Storage Procedures adequately followed?				
<b>4) TOOLS, EQUIPMENT &amp; FACILITIES:</b>				
a) Are special tools & equipment available?				
b) Are the calibration status Ok?				
c) Is the Hangarage adequate				



d) Are there adequate Support Equipment (Jacks, Trestles, Mobile Steps Lifting Cranes/Slings, Pneumatic Source, etc)?				
e) Are workshops (capability, documentation, equipment and Personnel) adequate and within the scope of approval?				
<b>5) MAINTENANCE PERFORMANCE</b>				
a) Are the Certifying Engineers/Technical Personnel following approved procedures contained in the Mtce Manuals, Task Cards, etc?				
b) Do the Certifying Engineers/ Technical Personnel demonstrate appropriate competence?				
<b>6) QUALITY CONTROL:</b>				
a) Is the Quality Control adequate?				

<b>REMARKS/FINDINGS</b>

<b>RECOMMENDATIONS:</b>

<b>Name of Inspector(s):</b>	
<b>Signature/Date:</b>	



**NIGERIAN CIVIL AVIATION AUTHORITY**  
AVIATION HOUSE  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**LETTER OF CORRECTION (FIRST STAGE)**

CASE No: \_\_\_\_\_ OPERATOR: \_\_\_\_\_

ACCOUNTABLE MANAGER: \_\_\_\_\_

Dear Sir/Madam:

Your \_\_\_\_\_ was examined for compliance with the applicable Civil Aviation Regulations and/or Operations Specifications during the period: \_\_\_\_\_ . At the end of that inspection, you were advised of our findings as follows: \_\_\_\_\_

---

You were found not to be in compliance with the following regulation(s)/directive(s):

\_\_\_\_\_  
\_\_\_\_\_

We also provided the following suggested action:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

This letter is to inform you that this/these discrepancy(s) must be corrected. Please respond to this office within 10 days of your proposed corrective action, which will include the action necessary to prevent recurrence.

Sincerely,

\_\_\_\_\_

NCAA – Director, Airworthiness Standards



**NIGERIAN CIVIL AVIATION AUTHORITY**  
AVIATION HOUSE  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**LETTER OF CORRECTION (Second Stage)**

CASE No: \_\_\_\_\_ OPERATOR: \_\_\_\_\_

ACCOUNTABLE MANAGER: \_\_\_\_\_

Dear Sir/Madam:

We have reviewed your proposed corrective action and find that it is acceptable/unacceptable.

If Acceptable:

Please notify this office as soon as the discrepancy(s) is corrected or by the date specified in your letter so that we can conduct a follow-up inspection.

If Unacceptable:

Your proposed corrective action is unacceptable for the following reason(s):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The affected pilots are still operating without Nigerian validation on their licences.

If the necessary corrective action is not accomplished by: \_\_\_\_\_, we will pursue further enforcement action.

Sincerely,

\_\_\_\_\_  
NCAA – Director, Airworthiness and Operations Standards



**NIGERIAN CIVIL AVIATION AUTHORITY**  
AVIATION HOUSE  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**LETTER OF CORRECTION (Closure)**

CASE No: \_\_\_\_\_ OPERATOR: \_\_\_\_\_

ACCOUNTABLE MANAGER: \_\_\_\_\_

Dear Sir/Madam:

We have given consideration to all of the available facts pertaining to your corrective action, completed our follow-up inspection, and concluded that this matter does/does not warrant further enforcement action.

If Corrective Action is Satisfactory:

In lieu of such action, we are making this letter a matter of record. We will expect your future compliance with the Regulations and/or Operations Specifications.

If Corrective Action is Not Satisfactory:

Therefore, we are forwarding this case to the Director-General for whatever action he deems appropriate. If you wish to add any information in explanation or mitigation, please write to him at the address shown above.

Sincerely,

---

NCAA – Director, Airworthiness and Operations Standards



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE  
 DIRECTORATE OF AIRWORTHINESS STANDARDS  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## CHECKLIST OF REQUIREMENTS FOR OPERATION OF FOREIGN-REGISTERED AIRCRAFT IN NIGERIA – COMMERCIAL AIR TRANSPORT

S/N	ITEM	COMPLIANCE STATUS *(action completed in progress, no compliance)	REMARKS (Date of submission etc)
1	Application for utilization of foreign registered aircraft (this must be made in respect of each aircraft to be operated *)		
2	Lessee must hold AOC which authorizes the operation of the particular aircraft type.		
3	Application for variation of Air Operator Certificate to include aircraft type and/or the particulars of aircraft *		
4	Lessor must hold AOC which authorizes the operation of the particular aircraft type (wet-lease aircraft)		
5	Requirement for the CAA of country of registration to be an ICAO member state		
6	Requirements for the CAA of country of registration to have been audited by the ICAO and found satisfactory		
7	NCAA to notify the CAA of the country of registration about the aircraft's operation in Nigeria.		
8	NCAA and the CAA of the country of registration to meet and sign an agreement for the safety oversight of the aircraft. (This should be facilitated by the Operator)		

\* For AOC Holders only

\* ac = action completed, ip = in progress  
 nc = non compliant, s = Satisfactory, us = unsatisfactory

9	Confirmation by CAA of the design standard of the leased aircraft (must be to JAR, or equivalent Standards)		
10	Aircraft Equipment must be adequate for its intended operation and should include Digital FDR, CVR, GPWS, INS or GPS and HF radio (see Nig CARs Part 7)		
11	Certificate of Airworthiness in force in respect of the aircraft		
12	Qualification of the line maintenance certifying staff and validity of their licences issued by the said CAA		
13	Qualification and Validity of flight crew licences issued by the CAA of the country of registration		
14	Current simulator reports on flight crew		
15	Approval of simulator facility.		
16	Medical report in respect of each pilot.		
17	Submission of engineering records (SB, ADs, CPCP etc)		
18	Documentary evidence that the CAA has advised lessor of Nigerian regulations		
19	Lessor agreement on Regular and/or surprise Flight operations and Airworthiness inspections.		
20	Lessor's agreement on mandatory on occurrence reporting to the NCAA		

\* For AOC Holders only

\* ac = action completed, ip = in progress

nc = non compliant, s = Satisfactory, us = unsatisfactory

20	Evidence of attendance by crew (foreign) of NCAT, Zaria or other approval institution, for course in aviation law, radio-telephony and local met conditions as applicable.		
21	Sitting for NCAA examination (crew)		
22	25 hours flying under supervision and check-out		
23	All documents in English Language		
24	All markings, labels decals in English Language.		
25	Authorization to operate the aircraft in the Nigerian airspace		

\* For AOC Holders only

\* ac = action completed, ip = in progress  
nc = non compliant, s = Satisfactory, us = unsatisfactory



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

DIRECTORATE OF AIRWORTHINESS STANDARDS

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## **CHECKLIST OF REQUIREMENTS FOR OPERATION OF FOREIGN-REGISTERED AIRCRAFT IN NIGERIA – PRIVATE AIR TRANSPORT**

<b>S/N</b>	<b>ITEM</b>	<b>COMPLIANCE STATUS</b> *(action completed in progress, no compliance)	<b>REMARKS</b> (Date of submission etc)
1	Application for utilization of foreign registered aircraft (this must be made in respect of each aircraft to be operated *)		
2	Requirement for the CAA of country of registration to be an ICAO member state		
3	Requirements for the CAA of country of registration to have been audited by the ICAO and found satisfactory		
4	NCAA to notify the CAA of the country of registration about the aircraft's operation in Nigeria.		
5	NCAA and the CAA of the country of registration to meet and sign an agreement for the safety oversight of the aircraft. (This should be facilitated by the Operator)		
6	Confirmation by CAA of the design standard of the leased aircraft (must be to Nig CARs, or equivalent Standards)		
7	Aircraft Equipment must be adequate for its intended operation and should include Digital FDR, CVR, GPWS, INS or GPS and HF radio (see Nig CARs Part 7)		
8	Application for Maintenance Clearance Certificate (MCC)		

\* For AOC Holders only

\* ac = action completed, ip = in progress

nc = non complaint, s = Satisfactory, us = unsatisfactory



9	Current Certificate of Airworthiness in force in respect of the aircraft		
10	Qualification of the line maintenance certifying staff and validity of their licences issued by the said CAA		
11	Qualification and Validity of flight crew licences issued by the CAA of the country of registration		
12	Current simulator reports on flight crew		
13	Approval of simulator facility		
14	Medical report in respect of each pilot.		
15	Submission of engineering records (SB, ADs, CPCP etc)		
16	Documentary evidence that the CAA has advised lessor of Nigerian regulations		
17	Lessor's agreement on Regular and/or surprise Flight operations and Airworthiness inspections.		
18	Lessor's agreement on mandatory occurrence reporting to the NCAA		
19	Evidence of attendance by crew (foreign) of NCAT, Zaria or other approved institution for course in aviation law, radio-telephony and local met conditions, as applicable.		
20	Sitting for NCAA examination (crew)		

\* For AOC Holders only

\* ac = action completed, ip = in progress

nc = non complaint, s = Satisfactory, us = unsatisfactory

21	At least supervisory flight (and checkout) by NCAA inspector		
22	All documents in English Language		
23	All markings, labels decals in English Language.		
24	Authorization to operate the aircraft in the Nigerian airspace		

\* For AOC Holders only

\* ac = action completed, ip = in progress  
nc = non complaint, s = Satisfactory, us = unsatisfactory



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

DIRECTORATE OF AIRWORTHINESS STANDARDS

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## **REQUIREMENTS FOR OPERATION OF FOREIGN-REGISTERED AIRCRAFT IN NIGERIA**

1. In the case of aircraft to be used for private air transport, application by the operator for Maintenance Clearance Certificate. This is issued after the operator has demonstrated to the satisfaction of the Airworthiness Department (AWD) of DAWS\*, that there is in force, an acceptable maintenance arrangement for the aircraft and that the said aircraft is airworthy and is applicable **only** to aircraft to be used for private purposes.
2. For aircraft to be used in commercial air transport, application by the operator for variation of the applicant's Air Operator Certificate. (This is issued after the operator has demonstrated to the satisfaction of the AWD, that there is in force an acceptable maintenance arrangement for the aircraft and that the aircraft is airworthy, and to the Flight Operations Department of DOT, that it is competent to secure safe operation of the said aircraft.)
3. Notification (by the NCAA) of the Civil Aviation Authority of the country of registration of the aircraft, of the operation of the aircraft in Nigeria and for confirmation of the Authority's intention on the control of the airworthiness and operation of the aircraft while in Nigeria and whether it intends delegating any of these functions to the NCAA.
4. The aircraft shall be equipped for the conditions under which they are intended to be operated. These equipments must include DFDR, CVR, GPWS, INS or GPS and HF radio as necessary (see Nig CARs, Part 7).

### **IMPORTANT NOTES:**

1. Approval must be sought in respect of each aircraft to be so operated.
2. For commercial transport aircraft, both lessor and lessee are required to be holders of Air Operator Certificates (AOCs) which authorize operation of the particular aircraft. (Application for variation of AOC must be made at least 30 days prior to the date of intended operation).
3. Foreign registered aircraft operating in commercial transport in Nigeria on wet-lease must be placed on the Nigerian register of aircraft within 12 months as the CARs require that a Nigerian airline operator shall not utilize a wet lease in aircraft for its operations for more than a total period of 12-month period. Additionally, such aircraft shall not be allowed for commencement of operators.
4. The country of registration must be verified to be an ICAO member state.

5. Evidence must be produced that the CAA of that state has been audited by the ICAO and found satisfactory.
6. Maintenance Clearance Certificate (MCC) and AOC covering the subject aircraft shall not be granted or remain valid unless the following requirements are fulfilled:
  - (a) Responsibility for civil aviation safety requirements covering personnel licensing in respect of flight crew and maintenance engineers is agreed upon between the Civil Aviation Authority (CAA) of the country of registration of the aircraft and the NCAA. However, currency and continued competence of the crew will be closely monitored by NCAA.
  - (b) Valid flight crew licence issued by the CAA of the country of registration of the aircraft with current simulator report and medical certificate in respect of each pilot are submitted to NCAA for vetting. Thereafter, the crew will proceed to the Nigerian College of Aviation Technology, Zaria (NCAT) or any other appointed training institution, where they will undergo a course in aviation law, radio-telephony and local meteorological conditions as applicable. At the completion of the course, the candidates will sit for NCAA examination. Only successful candidates will be allowed to commence flying the aircraft locally but under supervision for 25 hours before check-out in the case of commercial aircraft of 1 supervisory flight and check out by NCAA for private aircraft. Once checked-out, the crew will be issued authorization to operate the aircraft in the Nigerian airspace.
  - (c) Valid maintenance engineer's licence issued by the said CAA in respect of each of these engineers will be submitted to NCAA for vetting before commencement of maintenance work and certification of the aircraft in Nigeria.
  - (d) Responsibility for general supervision of the aircraft flight safety shall be agreed upon by the CAA and the NCAA. However, operation of the aircraft is subject to compliance with NCAA requirements as stated in this document.
  - (e) Line maintenance certification will be done by appropriately qualified CAA licence holder while NCAA (Airworthiness Department) will monitor this for maintenance of internationally acceptable standards and compliance with approved check intervals.
  - (f) The CAA's Flight Operations and Airworthiness inspectors will carry out at the lessor's expense, flight operations inspections and audit of maintenance work performed on the said aircraft by the lessor according to its own requirements.
  - (g) NCAA flight operations inspectors will carry out (at lessor's expense), flight operations inspections as necessary.

- (h) NCAA airworthiness inspectors will perform at lessor's expense, survey of the aircraft during annual and/or major checks. Audit of the documents pertaining to the following shall also be carried out. These are:
- approval of modifications and repairs on the aircraft,
  - status of compliance with ageing programme (Corrosion Prevention and Control, Supplemental Structural Inspection or equivalent, Service Bulletins, other Airworthiness Directives, etc. as applicable).
- (i) Engineering records especially as they concern but not limited to item no. (h) above, must be furnished to both the lessee and NCAA by the lessor.
- (j) All documents submitted to NCAA must be in the English Language.
- (k) Confirmation must be provided by the NCAA that the design standard of the leased aircraft comply with the standards prescribed in ICAO Annexes 6 and 8 and Airworthiness Technical Manual Doc. 9051 – AN/896, and according to airworthiness standards of the state of design.
- (l) Certificate of Airworthiness in force in respect of the aircraft, shall be submitted to NCAA Airworthiness Department (AWD).
- (m) Documentary evidence shall be provided that the CAA shall advise the lessor that:
- (i) Surprise checks by NCAA Flight Operations Inspectors and Airworthiness Surveyors may be carried out on the leased aircraft, flight crew, and maintenance engineers as per ICAO rules.
  - (ii) It must comply with Civil Aviation Regulations in force in Nigeria or any Flight Safety Circular and Airworthiness Directive issued by NCAA which will therefore supply both the lessor and its CAA with these documents and shall also ensure that the designated head of the lessor's personnel in Nigeria is supplied with the same documents. This shall be done at the lessee's cost where applicable.
  - (iii) All reportable defects shall be intimated to NCAA and the CAA in the English Language and the language of the country of the CAA respectively. In addition, details of a failure or incident and the maintenance action taken must be sent immediately to the AWD in case of component or system failure, or any incident (including foreign body ingestion into the engine), which requires unscheduled maintenance action.
  - (iv) In case of incidents or accidents occurring which require investigation while the aircraft is/are operating in Nigeria, the state shall participate with its representatives on the investigation committee, in accordance with the provisions of ICAO Annex 13.

- (n) The CAA will be responsible for furnishing NCAA's AWD with information received from manufacturers/designer of the aircraft in a timely manner.
- (o) In case of the leased aircraft shall be deleted from the register of civil aircraft of the country of current registration and is to be registered in Nigeria, this shall be executed in accordance with procedures in ICAO Annex 7.

*DAWS = Directorate of Airworthiness Standards*



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE  
 DIRECTORATE OF AIRWORTHINESS STANDARDS  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## HAJJ FLIGHT INSPECTION REPORT FORM

		AIRLIFT 1	AIRLIFT 2
AIRCRAFT REG. NO.....	.....	.....	.....
OPERATOR.....	.....	.....	.....
AOC No & Validity.....	.....	.....	.....
DATE: .....	.....	.....	.....
<b>1.</b>	<b>GENERAL DATA</b>		
a.	Station		
b.	Time		
c.	Route/Flight No.		
d.	No. of souls on board		
e.	Aircraft Type		
f.	Pre-arrival inspection date TAT/TAC		
g.	Captain (Name, Nationality, Lic. No., Validity)		
h.	First Officer (Name, Nationality, Lic. No., Validity)		
i.	Flight Engineer (Name, Nationality, Lic. No., Validity)		
J	Loadmaster		
k	Aircraft Maintenance Engineer		
	i. Name		
	ii. Nationality		
	iii. Licence No. & ratings		
	iv. Licence Validity		
<b>2</b>	<b>DOCUMENTS</b>		
a.	Approved Flight Manual		
b.	Operations Manual		
c.	Crew Checklists		
d.	Minimum Equipment List		
e.	Configuration Deviation List		

f.	C of A Expiry date		
g.	C of R (availability)		
h.	<u>C. of M / CRS</u> i. No.		
	ii. Date and Place of Issue		
	iii. Expiry date/hrs		
	iv. Time Left to expiry		
	v. Next Check due/at		
i.	Fuel on Board		
j	Radio Licence.		
k	i. Insurance certificate (Availability)		
	ii. Insurance Company		
	ii. Insurance Certificate Expiry date		
	iii. Coverage		
l	Noise Certificate (availability)		
m	Aircraft Tech. Log & DDL (Availability)		
n	Deferred Defects (Check against MEL)		
<b>3.</b>	<b>AIRCRAFT EXTERIOR/INTERIOR</b>		
a.	External Condition Of Aircraft		
b	GPS, GPWS, TCAS/Cockpit Instruments (operation, validity, condition)		
c	Seats, Seat belt/Harnesses (Check Safety/Operation of)		
d	Life Vest (Availability and Validity)		
e.	Trays (Check Security)		



f.	Normal & Emergency Exits (accessibility, markings/lightning)		
g	Escape slide / Life Raft (Validity, Pressure Gauge)		
h.	Oxygen bottles (Pressure and Due date)		
i.	First aid kit, Medical kit (adequacy of Contents, Validity)		
j.	Fire extinguishers (expiry date)		
<b>4.</b>	<b>TECHNICAL/OPERATIONAL PROCEDURES</b>		
a.	Pre-flight/transit checks		
b.	Baggage check in		
c.	Refuelling Procedures/ Fire cover		
d.	<u>Cabin Attendants:</u>		
i.	Adequacy of no.		
ii.	Adequacy of pax briefing		
iii	Appropriateness of language Used		
Iv.	Licence No. & Ratings		
v	Licence Validity		
f.	Adequacy of loadsheet		
	<b>Instant Corrective Action Taken (by Inspector if any)</b>		
	<b>Inspectors Comment / Recommendation(s)</b>		

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**INSPECTOR(S) NAME.....**

**DESIGNATION.....**

**SIGNATURE.....**

**DATE.....**



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## AIRCRAFT GROUNDING

CL:O-AWS028

THIS IS TO INFORM YOU THAT AIRCRAFT MAKE/MODEL \_\_\_\_\_,  
\_\_\_\_\_, SERIAL # \_\_\_\_\_, \_\_\_\_\_ IS FOUND TO  
BE UNSAFE FOR OPERATIONS DUE TO THE FOLLOWING  
COND \_\_\_\_\_ AS RESULT OF  
THIS UNSAFE CONDITION AND DUE TO THE FACT THAT  
\_\_\_\_\_ INTEND TO OPERATE \_\_\_\_\_ IN REVENUE  
SERVICE, THE NCAA HEREBY EXERCISES THE GROUNDING  
AUTHORITY OF Nig CARs 1.3.3.4 \_\_\_\_ AMENDED.

VERBAL NOTIFICATION OF THE GROUNDING OF \_\_\_\_\_ HAS  
BEEN GIVEN TO (NAME) \_\_\_\_\_ ON (DATE) \_\_\_\_\_ AT (TIME)  
\_\_\_\_\_ UNDER THE PROVISIONS OF Nig CARs PART \_\_\_\_ AS AMENDED,  
AIRCRAFT, \_\_\_\_\_ IS GROUNDED FOR A PERIOD OF \_\_\_\_\_  
DAYS AND CANNOT BE USED IN AIR TRANSPORTATION UNLESS  
FOUND BY THE NCAA TO BE IN A SAFE CONDITION FOR FLIGHT  
OPERATION. THE GROUNDING STARTED AT THE TIME OF VERBAL  
NOTIFICATION BEING GIVEN.

AVIATION SAFETY INSPECTOR \_\_\_\_\_

DIRECTOR AIRWORTHINESS  
STANDARDS, NCAA \_\_\_\_\_

RECEIVED BY (NAME) \_\_\_\_\_

OPERATOR NAME \_\_\_\_\_

DATE \_\_\_\_\_



**NIGERIAN CIVIL AVIATION AUTHORITY**  
AVIATION HOUSE  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**NON-CONFORMANCE FINDING FORM**

FILE:	COMPANY:
LOCATION/BASE:	AREA OF AUDIT:
INSPECTOR:	DATE:
<b>NON-CONFORMANCE WITH:</b>	
<b>EXAMPLE/S:</b>	

=====

**COMPANY CORRECTIVE ACTION**

Short and Long Term Correction:

Signature: \_\_\_\_\_ Title: \_\_\_\_\_  
Date: \_\_\_\_\_

**NCAA RESPONSE**

Action Taken Considered Acceptable/ Finding Closed:

.Requires Further Corrective Action:

Inspector: \_\_\_\_\_ Date: \_\_\_\_\_

DAWS Review: \_\_\_\_\_ Date: \_\_\_\_\_



**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**PROCEDURES/CHECKLIST FOR THE**  
**ISSUANCE/ACCEPTANCE OF A NOISE CERTIFICATE**

**Applicant:** \_\_\_\_\_  
**Aircraft Manufacturer:** \_\_\_\_\_  
**Type/Model & Serial No.:** \_\_\_\_\_  
**Registration Marks:** \_\_\_\_\_  
**Date:** \_\_\_\_\_

<b>S/N</b>	<b>CHECKLIST PROCEDURE</b>		
I	Individual/organisation/operator requests for issuance/acceptance of a noise certificate		
II	Applicant is issued relevant NCAA application form number AW021, alongside completed payment slip specifying the statutory fee(s)		
III	Applicant submits formal application		
<b>1</b>	<b>EVALUATION OF APPLICATION FORM</b>	<b>STATUS</b>	
		<b>Unsatisfactory (U/S)</b>	<b>Satisfactory (S)</b>
1.1	Has the application form been properly completed, and are the accompanying documents as listed therein available?		
1.2	Is the State of Design of the aircraft an ICAO contracting state?		
1.3	If granting noise certification based on approved documentation - does the noise certificate data contained in the approved document (e.g. approved flight manual, type certificate data sheet, etc.) conform to ICAO Annex 16, Vol. 1?		
1.4	If validating noise certification - is the noise certificate properly issued and endorsed by the issuing authority?		
1.5	<i>If all the items in step '1' above are satisfactory, proceed to step '3'; otherwise go to step '2'</i>		
<b>2</b>	<b>REJECTION OF APPLICATION</b>	<b>STATUS</b>	
		<b>Pending (P)</b>	<b>Completed (C)</b>
2.1	Recommend as appropriate, in the space provided below, the denial of issuance/acceptance of noise certification. Give reason(s) as to recommendation. Then, forward the recommendation to Director, Airworthiness Standards		
2.2	Inform operator of the discrepancies observed in their application		
<b>3</b>	<b>NOISE CERTIFICATE – ISSUANCE/ACCEPTANCE</b>	<b>STATUS</b>	
		<b>Pending (P)</b>	<b>Completed (C)</b>
3.1	Obtain the aircraft file and, on a clean copy of the NCAA noise certificate, fill out the following information:		
(i)	Noise certificate number (i.e. C of R number)		
(ii)	Registration marks		
(iii)	Aircraft serial number		

(iv)	Year of manufacture		
(v)	Maximum Take-Off Weight		
(vi)	Engine manufacturer (e.g. Rolls Royce)		
(vii)	Engine model (e.g. JT8D-15A)		
(viii)	Type of engine (e.g. turbofan, turboprop)		
3.2	<p>Insert the noise level values as specified on the previous State of Registry noise certificate, including the certification standard. Ensure that standards are not less than requirements of Annex 16, Vol. I</p> <p><b>NB:</b> Where previous noise certificate is not available, operator should make available the relevant copy of the page from the aircraft flight manual</p>		
3.3	Cross-check your entries into the draft copy of the noise certificate		
(i)	Once draft copy is adjudged to have been satisfactorily completed, prepare three original typed/computer printed copies on the actual NCAA Noise Certificate card		
3.4	Attach both original NCAA noise certificates to:		
	- the operator's application letter		
	- the copy of the payment receipt		
(i)	Recommend as appropriate, in the space provided below, the issuance/validation of the noise certificate		
(ii)	Forward to the Director, Airworthiness Standards for endorsement		
3.5	Once endorsed by DAWS, dispatch one of the original copies, along with a covering letter, to the applicant and then file the second original copy in the respective aircraft file		
3.6	Insert (i) the operator's application letter/form and all related correspondence, (ii) copy of payment receipt and (iii) signed acknowledgment copy of the noise certificate and the dispatch covering letter, into AD.29 latest volume (Noise Certificate Issues file)		
3.7	File this Checklist Procedure, along with the third original copy of the Noise Certificate, in the Noise Certificates folder.		
<b>RECOMMENDATION:</b>			

**INSPECTOR(S) NAME(S) & SIGNATURE:** \_\_\_\_\_  
 \_\_\_\_\_

**DIRECTOR, AIRWORTHINESS STANDARDS APPROVAL:** \_\_\_\_\_



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## REDUCED VERTICAL SEPARATION MINIMA (RVSM) AIRSPACE CHECKLIST

This checklist contains criteria to be used by Aviation Safety Inspector for the approval of an operator's request for North Atlantic Reduced Vertical Separation Minima airspace. This checklist is developed from ICAO guidance material and the authority for RVSM airspace approval is contained in the Nigeria CARs Part 8 section 8.8.1.22. Procedures is in the handbook.

Operator: .....

Aircraft Type: .....

Serial No. ....

	REQUIREMENTS	COMPLIANCE STATUS		COMMENTS / ACTION REQUIRED
		SAT	UNSAT	
1.0	Airworthiness documents to show that the aircraft has Minimum Aircraft System Performance Specification (MASPS)			
1.1	MEL requirements for items pertinent to operating in RVSM airspace			
1.2	Configuration list defaulting all components and equipment relevant to RVSM operations			
1.3	Airworthiness documents and maintenance programme to show that the aircraft met the requirement in accordance with Nig CARs Part 8.			
1.4	Evidence of past performance and operating history in RVSM airspace			
1.5	Flight crew training programmes and requirements			
1.6	Operating practices and procedures fro RVSM operation			
1.7	Adequate maintenance facilities available to ensure continued compliance with the RVSM			

	maintenance requirements			
1.8	Maintenance documents requirements available for RVSM operations  1. Maintenance manual 2. Structural repairs manual 3. Standard practices manuals 4. Illustrated parts catalogue 5. MEL			
1.9	Maintenance training requirements for RVSM operations			
2.0	Test equipment that has the capacity to demonstrate continuing compliance with the parameters established for RVSM approval.			

Recommendation/observation : .....

.....  
 .....  
 .....

Name of Inspector: .....

Date: .....

Signature: .....

GM's Remarks:      The above requirements have been evaluated against the operator submissions and is hereby **approved / not approved** for RVSM authorization and **recommended / not recommended** to be issued the appropriate Opspecs.

Signature / Date: .....





# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

CL:O-AWS037

## MAINTENANCE TRAINING PROGRAMME APPROVAL CHECKLIST

MTP EVALUATION RECORD	
Name of Air Operator/AMO	
Physical Address (Location)	
Type of Operation	
Date of Evaluation	
MTP Document No. Issue and date	
Inspector(s) /	
Assessment Code: YES = Satisfactory NO = Not Satisfactory N/C = Not Checked N/A = Not Applicable	

Item	Assessment			
	YES	NO	N/C	N/A
<b>FOR INITIAL REVIEW AND REVISION OF MTP (as applicable)</b>				
1. Is the MTP in a format that is easy to revise?				
2. Does the MTP contain-				
(a) A list of effective pages?				
(b) An index?				
(c) Contents list				
(d) Revision status				
(e) Curriculum segment				
(f) All items required by Nig. CARs Nig. CARs Part 6.4.1.2 & IS6.4.1.2				
(g) Additional relevant supporting information as required by Nig. CARs 6.2.1.5(a)(6)				
(h) References to the applicable Nig. CARs?				
(i) Check for completeness, general content & overall quality.				
3. Are all curriculum outlines in line with the applicable regulations, guidance materials and adequate for ratings the AMO is requesting.? (see Chapter 37, section 1F of Airworthiness Handbook).				
4. Review courseware to ensure material is capable of producing effective training.? Sample the following:-				
a. training modules,?				
b. lesson plans.?				
c. Audio-visual programs ?				
d. Procedure document and student handouts?				
5. Does the manual contain whether the training of certifying staff will be performed by the AMO or by an ATO selected by the AMO?				

6. Does the manual contain the following sections with clear and concise policy guidance and instructions in accordance with Nig. CARs Nig. CARs Part 6.4.1.2 & IS6.4.1.2 .				
(a) General Organization				
(i) Corporate commitment by air operator/AMO?				
(b) General Information:				
(i) Brief description of the organization?				
(ii) Relationships with other organizations?				
(iii) Fleet composition?				
(iv) Line stations locations?				
(c) <b>Indoctrination Training</b> (At least 40hours of instruction) covering at least the following subjects:				
(i) Nig. CARs, particularly those associated with AMO maintenance functions?				
(ii) Company Manuals, policies, procedures and practices.?				
(iii) Dangerous Goods requirements of Nig. CARs 6.4.1.3?				
(iv) Maintenance Human factors?				
(v) Computer systems and software?				
(vi) Facility security?				
(d) <b>Initial Training</b> (At least 80 hours of instruction) covering at least the following subjects?				
(i) General review				
(ii) Specific job or task training				
(iii) Shop safety				
(iv) Records & Recordkeeping				
(v) Materials and parts				
(vi) Test equipment, including ground support equipment				
(vii) Tools				
(viii) Maintenance human factors				
(ix) Any other items as required by the Authority				
(x) Initial Training (Certifying Staff) shall cover:				
(a) Basic engineering theory relevant to the airframe structure and systems fitted to the class of aircraft the AMO intends to maintain;				
(b) Specific information on the actual aircraft type on which the person is intended to become a certifying staff;				
(c) Company procedures relevant to the certifying staff's task.				
(d) The details of the number of personnel who shall receive initial training to qualify as certifying staff over specified time periods.				
(e) Pre-qualification standards for personnel intended for training.				
(e) <b>Recurrent Training</b> (At least 8 hours of instruction) covering at least the following subjects.?				
(i) Refresher of subjects covered in initial training				
(ii) New items introduced in the AMO since completion of initial training				
(iii) Any other items required by the Authority				
(f) <b>Specialised Training</b> ?				
(i) Flame and/or plasma spray operations				
(ii) Special inspection or test techniques				
(iii) Special machining operations				
(iv) Complex welding operations				
(v) Aircraft inspection techniques or complex assembly operations				
(g) <b>Remedial Training</b> ?				
(i) On-the-job training				

(h) Has the air operator/AMO taken into account the various training, experience and skills levels of its employees as follows:?				
(i) Employees that hold an AME licence				
(ii) Employees with experience performing similar tasks at another AMO				
(iii) Employees with applicable military aviation maintenance experience				
(iv) Employees with no prior skills, experience, or knowledge.				
(i) Does the document contain procedures to determine the frequency of recurrent training and the need for specialized and remedial training.				
(j) Does the document contain methods of assessment of employee competency?				
(k) Which of the following methods are utilised				
(i) Written test				
(ii) Completion of a training course				
(iii) Skill test				
(iv) Group exercise				
(v) On-the-job assessment				
(vi) Oral examination in the working environment				

<b><i>Inspectors Remarks</i></b>

<b><i>Recommendations</i></b>
The Maintenance Training Manual (MTP) has been evaluated in accordance with the Nigeria Civil Aviation Regulations Part 6 (Approved Maintenance Organisation) currently in force, and the checklist above.
I DO / NOT / RECOMMEND the MTP to be APPROVED.
<b><i>General Manager Airworthiness - Remarks and Recommendation</i></b>
Remarks:

I hereby <b>Approve / do not Approve</b> the Maintenance Training Manual		
<i>Signature .....</i> <i>General Manager Airworthiness</i>		
Name of Inspector _____	Signature _____	Date _____



**NIGERIAN CIVIL AVIATION AUTHORITY**  
AVIATION HOUSE  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**CL: O-AWS038**

**AIRCRAFT SURVEY REPORT**  
(SPOT CHECK)

REGISTRATION:	TYPE:	SERIAL NO:
DATE OF SURVEY:	AIRCRAFT LOCATION:	
OPERATOR'S AOC NO:	OPERATOR'S NAME:	
MAINTENANCE ORG. APP NO:	MAINTENANCE ORG. NAME:	
Status During Survey:	Issue / Renewal / Export / In-Service / Accident Survey*	
Documents sampled:	C of A <input type="checkbox"/>	C of R <input type="checkbox"/> AFM <input type="checkbox"/> Tech. Log <input type="checkbox"/> ADD <input type="checkbox"/>
Areas sampled Enter as appropriate: $\surd$ = Satisfactory X = Action Required O = Not Assessed/Not Applicable		
External Fuselage <input type="checkbox"/>	Wings/Tail <input type="checkbox"/>	Landing Gear <input type="checkbox"/> Cargo Hold <input type="checkbox"/>
Power Plant <input type="checkbox"/>	Transmission <input type="checkbox"/>	Flight Deck <input type="checkbox"/> Galley <input type="checkbox"/>
Toilets <input type="checkbox"/>	Cabin <input type="checkbox"/>	Int. Structure <input type="checkbox"/> Avionics Bay <input type="checkbox"/>
ACTION - Only comment on significant points requiring attention.		
Suitability of facilities for work in progress:	Person(s) to contact	Copied with report:
Survey carried out by: (Name)	Signature:	Office Code:



**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**CL: O-AWS039**

**QUALITY ASSURANCE AUDIT CHECKLIST**

**Instructions for Use:**

- 1) Check 'S' column if you have reviewed the record, procedure or event and it is 'Satisfactory'.
  - 2) Check 'U' column if you have reviewed the record, procedure or event and it is 'Unsatisfactory'.
  - 3) Check NS (Not Seen) column if you did not review the record, procedure or event or you do not have adequate information to make a valid comment.
  - 4) Check NA (Not Applicable) column if the item under consideration is not required in the particular situation.
  - 5) Any 'U' requires a comment.
  - 6) Precede any comment with the appropriate question number.
- A. File/Manual Audited..... Date.....
- B. Operator ..... Type of Approval .....
- C. Who carried out the job ..... Stamp Number .....

Job Description
-----------------

NO	ITEM	S	U	NS	NA
1(a)	Are the procedures or manuals being followed?				
1(b)	Was the correct checklist and form used and signed properly?				
2.	Is the copy of the checklist used to evaluate the manual kept in the manual?				
3.	Is the report prepared in an appropriate folder?				
4.	Is the report arranged as per the TGM?				

5.	Is the staff given the required training to do the assigned job?				
6.	Is the staff qualified to do the job?				
7	How do individuals follow the job to the final conclusion?				
8	Is there follow up system is in place?				
9	Is the follow up system achieving the desired aim?				
10	Were the findings discovered closed prior to final closure?				
11	How are suggestions and recommendations treated?				
12	Was there Management evaluations prior to final closure?				
13	Is the staff qualified to do the job?				
14	Is the yearly work programme herein relevant				
	<u>If yes</u> Is the work programme followed				
	Is the percentage compliance with the work programme acceptable				
15	Do the Inspector have all necessary tools to do the job?				

**AUDITOR'S COMMENTS**

Auditor's Name.....

Rank/Designation ..... Signature..... Date .....



**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**CL:O-AWS040**

**AIR OPERATOR CERTIFICATE - LINE MAINTENANCE STATION AUDIT**

Name of Operator/Organisation: \_\_\_\_\_  
 Approval Reference/AOC No: \_\_\_\_\_  
 Location Visited: \_\_\_\_\_ Date \_\_\_\_\_

Maintenance Support Provided for:				Subcontracted Support: (Company)	
Operator	Aircraft Type	Level of Support	Number of Movements		
				Ramp Handling: _____	
				Refuelling: _____	
				Pushback: _____	
				Line Mtce: _____	
				Is accommodation adequate? YES/NO	
				(If NO, give details) _____	
Senior Person/Accountable Manager contacted:				_____	
Telephone No. _____				_____	
Details of Scheduled Maintenance Performed:				_____	
_____				Is staffing adequate? YES/NO	
_____				(If NO, give details) _____	
_____				_____	
_____				_____	
Date of last QA Audit by Operator: _____					
Date of last NCAA Audit: _____				Was station found satisfactory? YES/NO	

General Comments:(Use other side if Necessary)

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Is this station satisfactory?    YES     NO     CONDITIONAL

NCAA Inspector's Signature \_\_\_\_\_ Date: \_\_\_\_\_





# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**CL:O-AWS041**

## CAMO Facility Audit Checklist

INSPECTION RECORD	
Name of CAMO	
Physical Address (Location)	
Postal Address	
Date of Inspection	
CAMO's Representative:	
Inspector(s) /	
CAME Reference/Revision Status:	
Assessment Code: YES = Satisfactory NO = Not Satisfactory N/C = Not Checked N/A = Not Applicable	

Nig. CARs	ITEM	ASSESSMENT			
		YES	NO	N/C	N/A
5.8.1.3	Extent of approval				
5.8.1.4	Continuing airworthiness management exposition				
5.8.1.5	Facilities				
5.8.1.6	Personnel requirements				
5.8.1.7	Certificate of Maintenance Review staff				
5.8.1.8	Continuing airworthiness management				
5.8.1.8	Responsibilities				
5.8.1.8(b)(7)	Occurrence reporting				
5.8.1.8(b)(1), (2),(3)	Aircraft maintenance programme				
5.8.1.8(b)(6)	Airworthiness directives				
5.8.1.8(b)(4)	Data for modifications and repairs				
5.8.1.8(b)(9)	Aircraft continuing airworthiness record system				
5.8.1.8(b)(9)	Operator's Aircraft technical log system				
5.8.1.9	Documentation				
5.8.1.10	Maintenance review				
5.8.1.11	Privileges of the organisation				
5.8.1.12	Quality system				
5.8.1.13	Changes to the approved continuing airworthiness organisation				
5.8.1.14	Record-keeping				
5.8.1.14(a)	Details of work carried out				
5.8.1.14(b)	Copy of CMR/Recommendation for CofA retained				
5.8.1.14(c)	Continuing airworthiness records retained for (2) years				
5.8.1.14(d)	Stored records protected from damage, alteration and theft				
5.8.1.14(f)	Transfer of aircraft continuing airworthiness records				





# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**CL:O-AWS042**

## CAME Evaluation Checklist

<b>CAME EVALUATION</b>
Name of CAMO
Physical Address (Location)
Postal Address
Date of Evaluation:
Inspector(s) /
CAME Reference/Revision Status:
Assessment Code: YES = Satisfactory NO = Not Satisfactory N/C = Not Checked N/A = Not Applicable

S/N	ITEM	ASSESSMENT			
		YES	NO	N/C	N/A
<b>PART 0</b>	<b>GENERAL ORGANISATION</b>				
0.1	Corporate commitment by the accountable manager				
0.2	General information				
0.3	Management personnel				
0.4	Management organisation chart				
0.5	Procedure to notify the Authority of changes to the organisation's activities/approval/location/personnel				
0.6	Exposition amendment procedures				
<b>PART 1</b>	<b>CONTINUING AIRWORTHINESS MANAGEMENT PROCEDURES</b>				
1.1	Aircraft technical log utilisation and MEL application Aircraft continuing airworthiness record system utilisation				
1.2	Aircraft maintenance programmes — development amendment and approval				
1.3	Time and continuing airworthiness records, responsibilities, retention and access				
1.4	Accomplishment and control of airworthiness directives				
1.5	Analysis of the effectiveness of the maintenance programme(s)				
1.6	Non-mandatory modification embodiment policy				
1.7	Major repair and modification standards				
1.8	Defect reports				
1.9	Engineering activity				
1.10	Reliability programmes				
1.11	Pre-flight inspections				
1.12	Aircraft weighing				
1.13	Check flight procedures				
<b>PART 2</b>	<b>QUALITY SYSTEM</b>				
2.1	Continuing airworthiness quality policy, plan and audit procedure				
2.2	Monitoring of continuing airworthiness management activities				
2.3	Monitoring of the effectiveness of the maintenance programme(s)				
2.4	Monitoring that all maintenance is carried out by an appropriate maintenance				



**RECOMMENDATIONS**

The Continuing Airworthiness Management Exposition has been evaluated in accordance with the Nigeria Civil Aviation Regulations and found SATISFACTORY / UNSATISFACTORY  
I recommend that it is APPROVED / NOT APPROVED.

Name of Inspector \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

**MANAGER AIRWORTHINESS REMARKS AND RECOMMENDATION**

Remarks:

I hereby **Approve / do not Approve** the Continuing Airworthiness Management Exposition

Signature .....  
Manager Airworthiness

# **AIRWORTHINESS FORMS**



**NIGERIAN CIVIL AVIATION AUTHORITY**  
 AVIATION HOUSE  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**DIRECTORATE OF AIRWORTHINESS STANDARDS  
 FORMS INDEX**

<b>ITEMS</b>	<b>CHECKLIST (CL) NO.</b>	<b>SUBJECT</b>
1.	FORM:AC-AWS001	CERTIFICATE OF REGISTRATION OF AIRCRAFT
2.	FORM:AC-AWS001A	APPLICATION FOR CERTIFICATE OF REGISTRATION OR RE-REGISTRATION OF AIRCRAFT
3.	FORM:AC-AWS001B	NOTICE OF DE-REGISTRATION
4.	FORM:AC-AWS001C	REQUIREMENT FOR DE-REGISTRATION OF AIRCRAFT
5.	FORM:AC-AWS001D	NOTICE OF RESERVATION OF REGISTRATION MARKS
6.	FORM:AC-AWS001E	FOREIGN AIR OPERATOR APPLICATION
7.	FORM:AC-AWS001F	ACKNOWLEDGEMENT OF APPLICATION FOR CERTIFICATE OF REGISTRATION
8.	FORM:AC-AWS001G	APPLICATION FOR AIRCRAFT DE-REGISTRATION
9.	FORM:AC-AWS001H	NOTIFICATION OF REGISTRATION OF AIRCRAFT AND REQUEST FOR CONTINUING AIRWORTHINESS INFORMATION
10.	FORM:AC-AWS001I	ELT REGISTRATION
11.	FORM:AC-AWS001J	GUIDELINES AND REQUIREMENTS FOR REGISTRATION OF AIRCRAFT IN NIGERIA
12.	FORM:AC-AWS002	CERTIFICATE OF AIRWORTHINESS
13.	FORM:AC-AWS002A	APPLICATION FOR ISSUE/RENEWAL OF A CERTIFICATE AIRWORTHINESS
14.	FORM:AC-AWS002B	CERTIFICATE OF AIRWORTHINESS ISSUE/RENEWAL AIRCRAFT STATUS REPORT
15.	FORM:AC-AWS002C	AIRCRAFT SYSTEMS AND EQUIPMENT, INSTALLATIONS
16.	FORM:AC-AWS004	APPLICATION FOR SPECIAL FLIGHT PERMIT FORM
17.	FORM:AC-AWS004A	SPECIAL FLIGHT PERMIT
18.	FORM:AC-AWS004B	ISSUANCE OF A SPECIAL CERTIFICATE OF AIRWORTHINESS
19.	FORM:AC-AWS006	APPROVED MAINTENANCE ORGANISATION CERTIFICATE
20.	FORM:AC-AWS006A	AMO SPECIFIC OPERATING PROVISIONS (SOPS)
21.	FORM:AC-AWS006B	APPLICATION FOR APPROVED MAINTENANCE ORGANISATION CERTIFICATE AND RATINGS AND RENEWAL
22.	FORM:AC-AWS006C	ORGANISATION ASSESSMENT STATEMENT (OAS)
23.	FORM:AC-AWS006D	MAINTENANCE ORGANIZATION CERTIFICATION JOB AID AND SCHEDULE OF EVENTS
24.	FORM:AC-AWS006E	MAINTENANCE ORGANIZATION PROPOSED CERTIFICATION SCHEDULE OF EVENTS
25.	FORM:AC-AWS006F	MANAGEMENT PERSONNEL BIOGRAPHICAL DATA
26.	FORM:AC-AWS006G	PARTICULARS OF AIRCRAFT MAINTENANCE PERSONNEL

27.	FORM:AC-AWS006H	PRE-APPLICATION STATEMENT OF INTENT (PASI)/ APPLICATION FORM
28.	FORM:AC-AWS007	APPLICATION FOR APPROVED MAINTENANCE ORGANISATION CERTIFICATE AND RATINGS
29.	FORM:AC-AWS007A	SPECIAL CONDITIONS SUPPLEMENT (SCS) TO A FOREIGN AMO MAINTENANCE PROCEDURES MANUAL (MPM)-FORMAT
30.	FORM:AC-AWS007B	SPECIAL CONDITIONS SUPPLEMENT (SCS) TO A FOREIGN AMO MAINTENANCE PROCEDURES MANUAL (MPM)
31.	FORM:AC-AWS014	REQUEST FOR MAJOR MODIFICATION AND REPAIR DATA APPROVAL
32.	FORM:AC-AWS014A	MAJOR REPAIR AND MODIFICATION RECORD
33.	FORM:AC-AWS017	AVIATION SAFETY INSPECTOR OJT PROGRESS CHART
34.	FORM:AC-AWS020	OPERATOR'S ASSESSMENT STATEMENT (OAS)-RE-CERTIFICATION
35.	FORM:AC-AWS021	SERVICE DELIVERY ACKNOWLEDGEMENT FORM
36.	FORM:AC-AWS022	AIRCRAFT CERTIFICATE OF RELEASE TO SERVICE AND MAINTENANCE STATEMENT
37.	FORM:AC-AWS023	APPROVAL STAGE
38.	FORM:AC-AWS024	REPORT OF SEARCH/TECHNICAL INFORMATION CONDUCTED ON AIRCRAFT WITH REGISTRATION MARK 5N-
39.	FORM:AC-AWS025	APPLICATION FOR THE ISSUE/VALIDATION OF AIRCRAFT NOISE CERTIFICATE
40.	FORM:AC-AWS025A	PROCEDURES/CHECKLIST FOR THE ISSUANCE/ACCEPTANCE OF NOISE CERTIFICATE
41.	FORM:AC-AWS025B	NOISE CERTIFICATE
42.	FORM:AC-AWS026	ENGINE GROUND RUN PARAMETERS
43.	FORM:AC-AWS026A	ENGINE GROUND RUN PARAMETERS TURBO-PROP
44.	FORM:AC-AWS027	TYPE ACCEPTANCE CERTIFICATE
45.	FORM:AC-AWS027A	TYPE ACCEPTANCE CERTIFICATE DATA SHEET
46.	FORM:AC-AWS027B	APPLICATION FORM FOR TYPE ACCEPTANCE CERTIFICATE FOR IMPORTED AIRCRAFT
47.	FORM:AC-AWS027C	AIRCRAFT TYPE CERTIFICATION DOCUMENTS REQUIRED
48.	FORM:AC-AWS027D	GUIDELINE AND REQUIREMENTS FOR AIRCRAFT TYPE CERTIFICATE ACCEPTANCE IN NIGERIA
49.	FORM:AC-AWS028	AIRCRAFT MONTHLY STATUS
50.	FORM:AC-AWS029	APPLICATION FOR EXPORT CERTIFICATE OF AIRWORTHINESS
51.	FORM:AC-AWS030	APPLICATION FOR UTILIZATION OF FOREIGN-REGISTERED AIRCRAFT FOR PRIVATE PURPOSES



52.	FORM:AC-AWS031	APPLICATION FOR UTILIZATION OF FOREIGN-REGISTERED AIRCRAFT FOR COMMERCIAL AIR TRANSPORT PURPOSES
53.	FORM:AC-AWS032	GUIDELINES AND REQUIREMENTS FOR OPERATION OF FOREIGN REGISTERED AIRCRAFT IN NIGERIA
54.	FORM:AC-AWS033	NOTIFICATION OF ACCESS TO AIRCRAFT
55.	FORM:AC-AWS035	SUSPECTED UNAPPROVED PARTS REPORT
56.	FORM:AC-AWS035A	SUSPECTED UNAPPROVED PARTS (SUP) STATUS REPORT
57.	FORM:AC-AWS036	MAINTENANCE CLEARANCE CERTIFICATE
58.	FORM:AC-AWS037	INDEMNITY
59.	FORM:AC-AWS038	OCCURRENCE INVESTIGATION REPORT FORM
60.	FORM:AC-AWS039	GUIDELINES AND REQUIREMENT FOR OPERATION OF FOREIGN REGISTERED AIRCRAFT FOR AERIAL WORK IN NIGERIA
61.	FORM:AC-AWS040	EVALUATION OF MAINTENANCE TRAINING REPORTS
62.	FORM:AC-AWS041	CONTENTS OF AOC ( AIRWORTHINESS CERTIFICATION ) FOLDER
63.	FORM:AC-AWS042	C OF A FOLDER CONTENTS
64.	FORM:AC-AWS043	TYPE CERTIFICATE ACCEPTANCE FILE CONTENT
65.	FORM:AC-AWS044	EXPORT CERTIFICATION OF AIRWORTHINESS
66.	FORM:AC-AWS045	ENGINE GROUND RUN PARAMETERS
67.	FORM:AC-AWS045A	ENGINE GROUND RUN PARAMETERS(TURBNIN PROP)
68.	FORM:AC-AWS046	SCOPE OF AUTHORISATION
69.	FORM:AC-AWS047	APPLICATION FOR CONTINUING AIRWORTHINESS MANAGEMENT ORGANISATION APPROVAL, VARIATION AND RENEWAL.
70.	FORM:AC-AWS048	CONTINUING AIRWORTHINESS MANAGEMENT ORGANIZATION (CAMO) CERTIFICATION JOB-AID

**NOTE: TO VIEW EACH FORM CLICK ATTACHMENT (FILLABLE AND NON- FILLABLE)**

# NIGERIAN CIVIL AVIATION AUTHORITY



**Certificate Number**

## CERTIFICATE OF REGISTRATION OF AIRCRAFT

1. Nationality and Registration Marks	2. Manufacturer and Manufacturer's Designation of aircraft	3. Aircraft Serial Number
		4. Date of Manufacture
5. Name of Registered Operator		
6. Address of Operator		
7. Name and Address of Owner		

8. It is hereby certified that the above described aircraft has been duly entered on the register of the Federal Republic of Nigeria in accordance with the Convention on International Civil Aviation dated 7th December, 1944, and with the Civil Aviation Act 2006 and the Regulations issued thereunder.

9. Date of Issue \_\_\_\_\_

by authority of the Nigerian Civil Aviation Authority

- NOTE:**
1. No entries or endorsements may be made in the foregoing certificate except in the manner and by the persons authorised for that purpose.
  2. This certificate must be displayed aboard the aircraft.
  3. This certificate is not transferable.

P. T. O

**IMPORTANT**

**PLEASE READ CAREFULLY**

On any change in the ownership of aircraft, **the aircraft, the registration and certificate become void** from the date of the change and the documents must be returned **IMMEDIATELY** to the issuing authority with the appropriate section duly completed. This certificate must not be handed over to the new owner. Similar action is also required if the aircraft is destroyed or permanently withdrawn from use.

**When the registration has become void, the aircraft may not again be flown until a new Certificate of Registration has been obtained.** Any application for re-registration of the aircraft shall be made on the prescribed form, copies of which may be obtained from issuing authority.

**SECTION I:- NOTICE OF CHANGE OF OWNERSHIP**

I hereby notify that, with effect from the ..... Day of ..... 20..... the ownership of the aircraft described overleaf was transferred to: .....

(Fill in name and address of new owner)

Name: \_\_\_\_\_ Designation: \_\_\_\_\_

\* Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**SECTION II:- NOTICE THAT AIRCRAFT HAS BEEN DESTROYED OR PERMANENTLY WITHDRAWN FROM USE**

I hereby notify that the registration of the aircraft described overleaf should be cancelled by reason of:

- +(a) the aircraft having been destroyed;
- +(b) the aircraft having been permanently withdrawn from use.

Name: \_\_\_\_\_ Designation: \_\_\_\_\_

\* Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**SECTION III: NOTICE OF ANY OTHER CHANGE AFFECTING THE REGISTRATION OF THE AIRCRAFT (CHANGE OF OPERATOR. ETC)**

I hereby notify that the registration of the aircraft described overleaf should be cancelled by reason of .....

Name: \_\_\_\_\_ Designation: \_\_\_\_\_

\* Signature: \_\_\_\_\_ Date: \_\_\_\_\_

\* The signature required is that of the owner(s) as shown in this Certificate of Registration. If the owner is a body corporate, the signature shall be that of the Managing Director, Secretary, or other official duly authorised to sign under the seal of the Company.

+ Delete if not applicable



**NIGERIAN CIVIL AVIATION AUTHORITY**  
AVIATION HOUSE  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**FORM: AC-AWS001A**

<b>For Authority Official Use:</b>			
<b>Application No.</b>	<b>Fee received</b>	<b>Rgn. No.</b>	<b>Cert. No.</b>

**APPLICATION FOR CERTIFICATE OF REGISTRATION OR RE-REGISTRATION  
OF AIRCRAFT**

This form when completed, should be forwarded to the Director, Airworthiness Standards, together with proof of payment of the appropriate Registration fee.

1	Type and description of Aircraft (including seating accommodation)	
2	Overall Dimensions	Height.....Span (open) ..... Length .....Span (Folded) ..... Weight ..... kgs. .... lbs
3	Number/Type of Engines:	
4	Name of Aircraft Manufacturer	
5	Aircraft Manufacturer's Serial Number	
6	Year of Manufacture	
7	Has the aircraft been previously registered in Nigeria? If so, state registration marks	
8	Is the aircraft registered in another State? If so, give full particular	
9	Name of Owner (in full)	
10	Address of owner	
11	Is the aircraft owned wholly either by: (i) The Government (ii) A citizen of Nigeria, (iii) An individual citizen of another State who is lawfully admitted for	

	<p>permanent residence in Nigeria,</p> <p>(iv) A corporation lawfully organized and doing business under the laws of Nigeria and the aircraft is based and primarily used in Nigeria,</p> <p>(v) A foreign person who has leased the aircraft to one of the persons described in paragraphs (i) – (iv) above.</p>	
12	Usual Station of Aircraft	
13	<p>Are the aircraft instruments and equipment installations in compliance with Requirements of The Nigeria Civil Aviation Regulations Part 7 (Instruments and Equipment) currently in force?</p> <p>Attach: Form AC-AWS 002C (Aircraft Systems and Equipment Installations).</p>	
14	Name of Operator	
15	Address of Operator	
16	Type of Lease and Lease Period	

I HEREBY DECLARE that the above particulars are true in every respect.

Date: .....

.....  
Name and Signature of Owner /Operator/Agent



# NIGERIAN CIVIL AVIATION AUTHORITY

P. M. B 21029, 21038, Ikeja, Lagos, WEBSITE: [www.nigeriacaa.org](http://www.nigeriacaa.org).  
Tel: 234-1-4930029, 4963489, Fax: 234-1-4963305

## NOTICE OF DE-REGISTRATION

NAME OF ISSUING OFFICER:	PRECEDENCE  ACTION:  INFO:	SECURITY CLASSIFICATION
ACCOUNTING CLASSIFICATION:	DATE PREPARED	FILE REFERENCE
FOR INFORMATION CALL		
NAME:	PHONE NUMBER	TYPE MESSAGE <input type="checkbox"/> SINGLE <input type="checkbox"/> BOOK <input type="checkbox"/> MULTIPLE ADDRESS
<i>THIS SPACE FOR USE OF COMMUNICATION UNIT</i>		
MESSAGE TO BE TRANSMITTED (Use double spacing and all capital letters)		
TO:  .....  .....  .....		
Effective:.....		
This is to confirm the De-registration of Aircraft ..... Reg. Marking ..... serial number ..... operated by ..... from the Civil Aircraft Register of Nigeria.		
Our records show no recorded liens against aircraft.		
Reason for cancellation:		
Consent to Export received from Lien holder/Lessor/Owner		
.....		
Director, Airworthiness Standards	PAGE NO <b>01</b>	NO. OF PGS <b>01</b>
		SECURITY CLASSIFICATION <b>UNCLASSIFIED</b>



**NIGERIAN CIVIL AVIATION AUTHORITY**  
AVIATION HOUSE  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**REQUIREMENTS FOR DE-REGISTRATION OF AIRCRAFT**

For an aircraft registered in Nigeria to be de-registered, submission of the following items must be made:

1. A formal application letter and the official application form (AC-AWS001G) for de registration.
2. Operator's/owner's copy of the current Certificate of Registration (C of R), duly endorsed on the reverse side.
3. Evidence of payment of statutory charges.
4. If the applicant is not the owner or authorized operator, he/she shall produce evidence in the manner of a notarized power of attorney duly executed by the owner

NB: It is advised that should there be an intention to eventually export the subject aircraft, arrangements should be made for the aircraft and its records to be inspected for determination of its Airworthiness status as at the time of de-registration.

*Ref. No* .....

*Date:*.....

**NOTICE OF RESERVATION OF REGISTRATION MARKS**

1. Applicant: .....

.....

.....

2. Following documents submitted (Tick box as appropriate)

- i. Formal Letter of application
- ii. Aircraft Specifications
- iii. Statutory fee payment receipt.

3. The Registration Marks: ..... reserved / \* not reserved for the aircraft type: .....

4. This reservation is valid till .....  
(six (6) months from date of payment)

5. Type Certification validation required/not required

.....  
*Name & Signature of Authorizing Officer*

\* If documents submitted are incomplete or the requested registration marks are not available.



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P.M.B. 21029, 21038, IKEJA, LAGOS, NIGERIA

## FOREIGN AIR OPERATOR APPLICATION

FOREIGN AIR OPERATOR APPLICATION PAGE 1 of 2

Application for Air Transport Operations by a Foreign Operator To be completed by a foreign air operator for an approval to conduct operations in Nigeria		
Section 1A. To be completed by the air operator		
Company registered name and trading name if different. Address of company: mailing address; telephone; fax; and e-mail.		Address of the principal place of business including: telephone; fax; and e-mail.
3. Proposed Start Date of Operations: (dd/mm/yyyy):		4. ICAO 3-letter Designator for aircraft operating agency:
5. Operational Management Personnel (Chief Executive Officer, Chief Pilot, Director Maintenance, Safety Officer etc.)		
Name	Title	Telephone, fax and e-mail
Section 1B. Type of approval requested - To be completed by the air operator, checking applicable boxes		
6 1. <input type="checkbox"/> Air operator intends to conduct commercial flights to and from aerodromes in Nigeria 2. <input type="checkbox"/> Air operator intends to only conduct overflights and technical stops in Nigeria		
7. Air Operator proposed types of operation:		8. Geographic areas of intended operations and proposed route structure:
<input type="checkbox"/> Passengers and Cargo <input type="checkbox"/> Cargo Only <input type="checkbox"/> Scheduled Operations <input type="checkbox"/> Charter Flight Operations <input type="checkbox"/> Dangerous Goods		
Section 1C on Page 2 to be completed by the air operator		

Signature:	Date (dd/mm/yyyy) :	Name and Title:
Section 2. To be completed by the NCAA		
Evaluated by (Name and Office):	NCAA Decision: <input type="checkbox"/> Approval granted <input type="checkbox"/> Not approved	
Remarks:		
Signature of NCAA representative:	Date (dd/mmm/yyyy):	

**FOREIGN AIR OPERATOR APPLICATION PAGE 2 of 2**

Section 1C. To be completed by the air operator					
9. Provide location on board or provide separate documentation where individual aircraft nationality and registration marks are listed as part of the aircraft fleet operated within Nigerian territory under the air operator certificate:					
Provide following information:					
Aircraft (make, model and series, or master series)	Type	RVSM Approval	ETOP S	Noise Certification (Annex 16 Ch.)	Remarks
[Aircraft type 1]		<input type="checkbox"/>	<input type="checkbox"/>		
[Aircraft type 2]		<input type="checkbox"/>	<input type="checkbox"/>		
[Aircraft type 3]		<input type="checkbox"/>	<input type="checkbox"/>		
[Aircraft type 4]		<input type="checkbox"/>	<input type="checkbox"/>		
Etc.		<input type="checkbox"/>	<input type="checkbox"/>		
<p>Attach copies of:</p> <p>Air Operator Certificate and associated operations specifications;</p> <p>Insurance certificate;</p> <p>In case of wet-lease of aircraft: approval of CAA of the State of the Operator, with identification of the operator that exercises operational control on the aircraft; and</p> <p>Document authorizing the specific traffic rights, issued by [appropriate department] or resulting from a bilateral air transport agreement (if required by the State to which the operator is flying to).</p>					

NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P.M.B. 21029,21038, IKEJA, LAGOS, NIGERIA

**AUTHORIZATIONS, CONDITIONS AND LIMITATIONS FOR OPERATIONS INTO, WITHIN,  
OR FROM NIGERIAN TERRITORY**

Company Registered name as Stated in the approval document:	
Address of Principal Place of Business	
Mailing address:	Telephone number:  Fax number:  E-mail:
Trading name(s) if different than the Registered name stated on the Authorization, under which the operator may operate:	
The types of operations authorized:  <input type="checkbox"/> Passenger and Cargo <input type="checkbox"/> Scheduled Operations <input type="checkbox"/> Cargo only <input type="checkbox"/> Dangerous Goods <input type="checkbox"/> Charter Operations	
Destination airport(s) in Nigeria to be served/Area(s) of operation or routes:	

Aircraft types authorized for use (If Nigeria limits the authorization to specified aircraft, the registration and serial number of each aircraft authorized):

Frequency of flights:

	<p align="center"><b>NIGERIAN CIVIL AVIATION AUTHORITY</b>  <b>AVIATION HOUSE</b>  P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria</p>
---	---

.....

.....

.....

ACKNOWLEDGEMENT OF APPLICATION FOR CERTIFICATE OF REGISTRATION FOR ..... AIRCRAFT TYPE WITH SERIAL NUMBER .....

1. REVIEW OF DOCUMENTS SUBMITTED:

SATISFACTORY  NOT SATISFACTORY

(NOTE: See attached "Requirements for Registration of Aircraft" for the deficient documents)

2. TYPE CERTIFICATION REQUIRED / NOT REQUIRED

3. REMARKS

NAME: ..... SIGNATURE/DATE.....

**APPLICATION FOR AIRCRAFT DE-REGISTRATION**

(Complete in block capitals, using black or dark blue indelible ink)

**1. APPLICANT**

- (a) Name:.....
- (b) Address:.....  
.....

**2. AIRCRAFT**

- (a) Registration Marks & Serial Number: .....
- (b) Aircraft Type & Model: .....
- (c) Year of Manufacture: .....

**3. REGISTERED OWNER**

- (a) Name:.....
- (b) Address:.....
- (c) Telephone/Fax:.....
- (d) Are the liens on the aircraft discharged? (Attach evidence or consent of lien holder(s) to de-register.)

- 4. REGISTERED OPERATOR:**.....  
Name:.....  
Address:.....  
Telephone/Fax:.....

**OTHER HOLDERS OF LIEN ON AIRCRAFT**

- (i) Name:.....  
Address:.....
- (ii) Name:.....  
Address:.....

**5. NAME & ADDRESS OF THE STATE/CAA WHERE THE AIRCRAFT IS TO BE REGISTERED (IF APPLICABLE)**

- Name:.....
- Address:.....
- Telephone/Fax:.....

- 6. SPECIFY PURPOSE OF DE-REGISTRATION:**.....  
.....  
.....

7. I hereby declare that, to the best of my knowledge, the particulars entered herein in this application form are the truth and nothing but the truth.

SIGNATURE:.....

FULL NAME:.....  
(IN CAPITAL LETTERS)

DESIGNATION:.....

DATE:.....

**NOTE: REQUIREMENTS FOR DE-REGISTRATION OF AIRCRAFT IS AS PER DAWS FORM # xxx**

===== NCAA USE ONLY =====		
<u>DOCUMENT REVIEW</u>		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Satisfactory	Not Satisfactory	Follow-up required
Name of Reviewing Officer: .....		
Designation: .....		Sign & Date: .....
<u>RECOMMENDATION</u>		
<input type="checkbox"/>	<input type="checkbox"/>	
Recommended	Not Recommended	
Name: .....		Designation:..... Sign & Date: .....
<u>APPROVAL</u>		
<input type="checkbox"/>	<input type="checkbox"/>	
Approved	Not Approved	
DAWS Name: .....		Sign:..... Date:.....

Ref. No:

Date:

Address of Manufacturer/CAA of State Design

-----  
-----  
-----

**NOTIFICATION OF REGISTRATION OF AIRCRAFT AND REQUEST FOR CONTINUING AIRWORTHINESS INFORMATION**

Please, be informed that the aircraft with particulars stated below has just been entered in the Nigerian Register of Civil Aircraft.

Nigerian Civil Aviation Authority (NCAA) is hereby requesting that you send to it on a regular basis, all mandatory continuing airworthiness information in respect of this aircraft.

Particulars of Aircraft:

- (i) Aircraft Type:.....
- (ii) Aircraft Serial No: .....
- (iii) Aircraft Reg: .....
- (iv) Engine Type: .....
- (v) Propeller: .....
- (vi) Name and address of registered operator:

.....  
.....  
.....

All enquiries on this matter should please be directed to:

Director, Airworthiness Standards  
Directorate of Airworthiness Standards  
P.M.B. 21029, Ikeja  
Murtala Muhammed Airport  
Lagos, Nigeria.

Sign:  
Engr NCAA





# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

FORM:AC-AWS001I

### Reason for registration

- New registration
- Updated information (e.g. change of address)
- Replacement of Beacon

Give reasons

### Distress beacon details

15 character unique identification (hexadecimal ident.)

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Make

Model

Type Approval Certificate (TAC) Number if known

### Type of beacon

- ELT
- Manually activated
- Automatically activated

How many other beacons are fitted to the aircraft

### Battery Expiry Date

### Aircraft details

Aircraft registration/tail number

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Make/Type (Use ICAO abbreviation, if known)

Satellite and/or mobile phone number used in aircraft

Type of radio fitted/carried

### Owner/Operator details

Name

Postal address

Home Telephone

Work Telephone No

Fax No.

Mobile and other phone No

Email address

### Supplier detail

Name

Business address

Telephone No

Fax No

Email Address

### 24 Hour Contact

if possible, please supply 3 names; one of who must be contactable at all times; these people will be contacted if the beacon is activated

#### Name 1

Home telephone No.

Work telephone No.

Mobile No.

#### Name 2

Home telephone No.

Work telephone No.

Mobile No.

#### Name 3

Home telephone No.

Work telephone No.

Mobile No.

Signature

Date



# NIGERIAN CIVIL AVIATION AUTHORITY (NCAA)

Form: AC-AWS001J

## **GUIDELINES AND REQUIREMENTS FOR REGISTRATION OF AIRCRAFT IN NIGERIA**

A person who wishes to register an aircraft in Nigeria shall apply to the Authority for aircraft registration by submitting a duly completed prescribed application Form: AC-AWS 001A to the Authority.

### **Registration Acceptance**

Application for aircraft registration is accepted only for aircraft of a type that is acceptable to the Authority. On completion of a successful documents evaluation, the airworthiness inspector issues the aircraft acceptance for registration note.

***No aircraft shall be registered without a registration acceptance note issued by the Authority.***

### **CERTIFICATE OF REGISTRATION ISSUE: INFORMATION AND GUIDANCE**

***ELIGIBILITY REQUIREMENTS*** – An applicant for aircraft registration shall meet in full the eligibility requirements stated in Regulation 2.1.2 of Part 4 of the Nigerian Civil Aviation Regulations(see below).

An aircraft is eligible for registration if it is—

- (1) Owned by:
  - (i) A citizen of Nigeria,
  - (ii) An individual citizen of another State who is lawfully admitted for permanent residence in Nigeria,
  - (iii) A corporation lawfully organised and doing business under the laws of Nigeria and the aircraft is based and primarily used in Nigeria,
  - (iv) A government entity of Nigeria or political subdivision thereof; or
  - (v) A foreign person who has leased the aircraft to one of the persons described in paragraphs (i) – (iv) above, provided that:
    - (a) The aircraft may remain on the Nigerian registry only for as long as the lease remains in effect; and
    - (b) The certificate of registration includes the names and addresses of the lessee and, if different, the operator of the aircraft; and
- (2) Not registered under the laws of any other State; and
- (3) The aircraft is not more than 22 years old, unless the aircraft is used exclusively for general aviation purposes.

**Registration Requirements** – After the aircraft has been evaluated and found acceptable for issue of a certificate of registration it is required that the applicant complies with the following technical and legal requirements:

**TECHNICAL REQUIREMENTS** - After the aircraft has been evaluated and found acceptable for issue of a certificate of registration it is required to submit the following documents to the Authority:

1. Aircraft Technical Specification;
2. A Certificate or notice of de-registration from the previous state of registry or a letter from the state of manufacture , if the aircraft is new and has never been registered in any other state, confirming non- registration. The de-registration certificate must be received by the Authority directly from the state of registry and should never be presented by the applicant - should be State to State;
3. A certified copy of an aircraft current Insurance Certificate;
4. a copy of Air Transport Licence (ATL), Air Operating Permit (AOP) or Permit For Non-Commercial Flight (PNCF);
5. Proof of payment of the prescribed fees (see Fees Schedule in the Nig. CARs);
6. A certified copy of the Certificate of incorporation if owned by a company; or
7. A copy of a government issued Identity Card (ID) or Passport if owned by an individual or any other identification card approved by the Authority; and
8. Honourable Minister of Aviation Permit to import and operate the aircraft.

**LEGAL REQUIREMENTS** - After the aircraft has been evaluated and found acceptable for issue of a certificate of registration it is required to submit the following documents to the Authority:

1. Document(s) to prove the aircraft ownership, Nig. CARs Part 4.2.1.4(a)(2) (e.g. Purchase Agreement e.t.c.) with stamp duties paid;
2. Names of the directors of the company owning or leasing the aircraft and their specimen signatures giving authority to register and/or operate the aircraft in Nigeria and indicating who among them has the mandate to transact on their behalf on matters relating to the aircraft registration and/or operation;
3. A certified copy of the lease agreement if the aircraft is on lease with stamp duties paid;
4. A certified copy of the power of attorney from the owner/lessor and the lessee, (both of them);
5. An indemnity in accordance with Nig. CARs Part 4.2.1.7 (a) & (b) (sample attached).

### **Allocation of Registration Marks**

The applicant will be allocated registration marks which are in sequence with prefix (5N-). Registration marks can be reserved after payment of reservation fee but the reservation is valid for six (6) months.

### **Allocation of Special Registration Marks**

These are registration marks with prefix (5N-) and three (3) alphabets of the applicant's choice. They are allocated on request in writing, when available and they will attract special fee different from the normal Aircraft registration fee.

### **Allocation of Mode 'S' Codes**

The aircraft will be allocated Mode 'S' Code upon confirmation that ATC Transponder is installed on the aircraft and a notice of deregistration or letter of non-registration has been received from the previous State of Registry.

**FOR MORE INFORMATION, PLEASE REFER TO THE NCAA ADVISORY CIRCULAR NCAA-AC-AWS001A**

Should you require further information do not hesitate to contact:

**The Director General**

**Nigerian Civil Aviation Authority**

**Aviation House, P.M.B. 21029, 21038**

**Ikeja, Lagos.**

**INDEMNITY**

Pursuant to Part 4.2.1.7 of Nigeria Civil Aviation Regulations 2009 (Nig. CARs),

I/We..... do hereby unconditionally  
(State name of owner)

undertake to defend the Nigerian Civil Aviation Authority (NCAA) or any of its Directors or Officers against any suit or action howsoever arising out of the registration or deregistration of the aircraft.....

(State type and description of aircraft)

I/We further covenant and agree to hold the NCAA, its Directors or Officers harmless against any claims, demands and charges by ..... or any third persons for damages arising out of the registration or deregistration of this said aircraft.  
(State name of owner)

Given this.....day of.....2010

Signed and sealed by:

-----  
(Signature & Seal)

Name:-----  
(State name of person signing)

Position:-----  
(State position of person signing)

In the presence of :-

Signature:-----

Name:-----

# NIGERIAN CIVIL AVIATION AUTHORITY



## CERTIFICATE OF AIRWORTHINESS

**NO.** \_\_\_\_\_

NATIONALITY AND REGISTRATION MARKS	MANUFACTURER AND MANUFACTURER'S DESIGNATION OF AIRCRAFT	AIRCRAFT SERIAL No.
		Date of Manufacture

### CATEGORY:

This Certificate of Airworthiness is issued pursuant to the Convention on International Civil Aviation dated 7<sup>th</sup> December, 1944 and the Civil Aviation Act, 2006 and the Order and Regulations issued thereunder, in respect of the above-mentioned aircraft, which is considered to be airworthy when equipped, maintained and operated in accordance with the foregoing and the pertinent operating limitations. A Flight Manual forms part of this Certificate.

Designation: \_\_\_\_\_

Signature: \_\_\_\_\_  
for the Nigerian Civil Aviation Authority

Date of First Issue: \_\_\_\_\_

This certificate is valid for the period(s) indicated below Stamp	Signature, Official and Date
From _____ to _____	

### NOTES:

1. No entries or endorsements may be made on this Certificate except in the manner and by the persons authorized for the purpose
2. If this Certificate is lost, the issuing authority should be informed at once, the Certificate Number being quoted.
3. Any person finding this certificate should forward it immediately to the issuing authority
4. This Certificate must be displayed aboard the aircraft.





**NIGERIAN CIVIL AVIATION AUTHORITY**  
AVIATION HOUSE  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

FORM: AC-AWS002B

**CERTIFICATE OF AIRWORTHINESS ISSUE/ RENEWAL  
AIRCRAFT STATUS REPORT**

*To be completed by the operator and submitted with the application for C of A issue and renewal*

Aircraft Registration		Report Date	
Aircraft Type	Constructors No	Date of Manufacture	
Category Required of Airworthiness Certificate		Present Expiry Date of Airworthiness Certificate	
Aircraft Total Time	Landings	at Date	
Hours Flown since last renewal of Airworthiness Certificate	Aircraft last weighed on date	Mass/ C.G. Schedule dated	
Compass Swing carried out on		Check Swing carried out on	
Details of Significant Repairs, Defects, and Modifications since Manufacture / last Renewal of Airworthiness Certificate (use additional pages if required):			








Certified that the above mentioned Bulletins and Directives have been complied with on this aircraft in accordance with the requirements contained therein.

**Note: (Use additional pages as required).**

**CERTIFICATE OF AIRWORTHINESS ISSUE / RENEWAL  
REPORT CERTIFICATION**

It is hereby certified that all Inspections and Work necessary to ensure the continued airworthiness of this aircraft have been carried out, recorded and certified and the aircraft is in an airworthy condition and fit for Issue / Renewal of the Certificate of Airworthiness.

Due regard has been taken of the age, condition, utilisation and/or storage conditions; Compliance with the Approved Maintenance Schedule; Manufacturers' Service bulletins or equivalent; Prescribed periods between Overhaul, Test or Calibration; Work previously certified in the relevant records; Mandatory Requirements and the applicable Regulations.

Authorised Person:

Title \_\_\_\_\_

Name \_\_\_\_\_

Signature & Stamp \_\_\_\_\_



**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**FORM: AC-AWS002C**

AIRCRAFT SYSTEMS AND EQUIPMENT, INSTALLATIONS			
When applying for the initial issue of a Airworthiness certificate, the applicant shall be required to complete the items listed in this Appendix.			
<i>All items must be completed as appropriate: in cases where items are not relevant the words "Not applicable" should be entered.</i>			
1. NAME OF APPLICANT		2. AIRCRAFT TYPE	3. SERIES
5. REGN. MARKS – CURRENT OR ALLOTTED		4. PREVIOUS MARKS (if any)	6. MANUFACTURER'S SERIAL NUMBER
SYSTEM, INSTALLATION OR EQUIPMENT DETAILS			
(1) Pressurization system		(2) Automatic flight control and guidance systems	(3) Special Operations (specify) <input type="checkbox"/>
(4) Electric power generators:	(a) Engine-driven:		(b) Helicopter transmission-driven:
	(i) DC only (including alternators with built-in rectification)		(i) DC only (including alternators with built-in rectification)
	(ii) DC and AC		(ii) DC and AC
	(iii) AC only, frequency range		(iii) AC only, frequency range
(5) Main batteries	(a) Nickel/Cadmium	(b) Lead/acid	(c) Number fitted
(6) Oxygen	(a) Installed		(b) Portable
(7) Engine fire detection system		(8) Portable fire extinguishers	
(9) Stall detection and warning system		(10) Fuel quantity indicating system	
(11) Ice and rain protection systems		(12) Flight data recording systems	
(13) Emergency lighting system			
(14) Anti-collision lighting system		(a) Rotating beacons	(b) Strobe lights
(15) Compasses		(a) Remote reading	(b) Direct reading
(16) Communication		(a) VHF	(b) HF
(17) Automatic navigation system		(18) Rotor low rpm warning system (helicopters only)	
(19) Emergency Locator Transmitter (ELT)			
(20) GPWS / EGPWS			
(21) TCAS I / TCAS II			
(22) Systems installed for agricultural purposes			
OTHER INFORMATION			
(23) Are there provisions for installation of safety harnesses at:		(a) Flight crew seat positions? Yes <input type="checkbox"/> No <input type="checkbox"/>	(b) Cabin crew seat positions? Yes <input type="checkbox"/> No <input type="checkbox"/>
			(c) Passenger seat positions? Yes <input type="checkbox"/> No <input type="checkbox"/>
(24) Are there provisions for carrying external loads? Yes <input type="checkbox"/> No <input type="checkbox"/>		(25) Are there provisions for glider towing? Yes <input type="checkbox"/> No <input type="checkbox"/>	(26) State total fuel capacity (in kg)
(27) Give details of equipment, other than that listed in 1 to 18, which has been introduced by modification action (state manufacturer and type)			
(27) Give details of changes, if any, introduced in the flight manual, as a result of modification action			



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## APPLICATION FOR SPECIAL FLIGHT PERMIT FORM

FORM: AC-AWS004

APPLICATION FOR SPECIAL FLIGHT PERMIT			
Details Of Aircraft Owner			
Name of Owner:		Address of Owner:	
Details of Aircraft			
Make	Model	Serial Number	Registration Marks
Details of Proposed Flight			
Purpose Of The Flight		Proposed Itinerary	
Details Of Crew Required To Operate The Aircraft			
Pilot In Command	Co-Pilot	Other Crew	
Details Of Non-Compliance With Applicable Airworthiness Requirements			
Any Restriction The Applicant Considers Necessary For Safe Operation Of The Aircraft <i>(continue overleaf if required)</i>			
Any Other Information Relevant For The Purpose CAA Prescribing Operating Limitations.			
Name of Authorised Person: _____		Signature: _____	Date: _____





**NIGERIAN CIVIL AVIATION AUTHORITY**  
AVIATION HOUSE  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**CERTIFICATE NUMBER**

**SPECIAL FLIGHT PERMIT**

OPERATOR:

DATE:

AIRCRAFT TYPE:

REGISTRATION:

POINT OF DEPARTURE:

DESTINATION:

The above referenced aircraft is permitted to fly, as indicated above, under the following operating limitations which must be made available to any person operating the aircraft:-

1. Operational information pertinent to control of the aircraft and systems shall be on board the aircraft and available to the flight crew.
2. This flight shall be conducted in accordance with appropriate current approved aircraft flight manual, appropriate markings and placards, or any combination thereof as applicable.
3. Flight crew shall hold current and appropriate ratings for this aircraft.
4. The carriage of cargo or persons other than the crew required for the flight is prohibited.
5. The Nigerian CARs General Operating and Flight Rules shall be strictly adhered to and the following conditions will apply:

**Nig CARs Part 5.4.1.7**

6. Flight over congested areas is prohibited. This permission is not valid until the aircraft has been inspected by an appropriately rated Certifying Staff Aircraft Maintenance or an approved maintenance organisation and the following statement is signed and a similar notation has been made in the maintenance records:- *“It is hereby certified that the aircraft defined hereon has been inspected and is fit for flight provided it is properly loaded.”*
7. This permission, of which these operating limitations are a part, expires upon arrival at the destination or  (date), whichever comes first.
8. This permission does not authorise operations over foreign countries, therefore, it is the responsibility of the aircraft’s owner or operator to secure permission to fly over, land in, and take-off from, foreign countries which are on the route of flight.
9. This aircraft may not be operated if there are any outstanding Airworthiness Directives.

FOR \_\_\_\_\_

Director, Airworthiness Standards



**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**FORM: AC-AWS004B**

**ISSUANCE OF A SPECIAL CERTIFICATE OF AIRWORTHINESS**

The Special Certificate of Airworthiness issued by Nigeria shall be as follows.

<i>[Nigeria]</i>	
<i>Nigerian Civil Aviation Authority</i>	
<b>SPECIAL AIRWORTHINESS CERTIFICATE</b>	
<b>A</b>	Category/Designation
	Purpose
<b>B</b>	Manufacturer
	Name
	Address
<b>C</b>	Flight
	From
	To
<b>D</b>	Registration No.
	Serial No.
	Builder
	Model
<b>E</b>	Date of Issuance
	Expiry
	Operating limitations date [dd/mm/yyyy] are part of this certificate
	Signature of NCAA Representative
	Designation or office number
Any alteration, reproduction, or misuse of this certificate may be punishable as specified in Nig.CARs Part 1. This certificate must be displayed in the aircraft in accordance with Nig.CARs Part 8	
CAA Form No. [ ]	See Reverse Side
<i>Front of form</i>	



<b>A</b>	This special airworthiness certificate is issued under the authority of the Nigerian Law and Nig.CARs Part 5.
<b>B</b>	This special airworthiness certificate authorised the manufacturer named on the reverse side to conduct production flight tests, and only production flight tests, of aircraft registered in his name. No person may conduct production flight tests (1) carrying persons or property for remuneration or hire and/or (2) carrying persons not essential for the purpose of the flight.
<b>C</b>	This special airworthiness certificate authorised the flight specified for the flight listed on the reverse side for the sole purpose shown in Block A.
<b>D</b>	This special airworthiness certifies that, as of the date of issuance, the aircraft to which issued has been inspected and found to meet the requirements of the applicable Nig.CARs. The aircraft does not meet the requirements of the applicable and comprehensive detailed airworthiness code as provided by Annex 8 of the Convention on International Civil Aviation. No person may operate the aircraft described on the reverse side (1) except in accordance with the applicable Nig.CARs and in accordance with conditions and limitations which may be prescribed by the Authority as part of this certificate, or (2) over any foreign country without the permission of that country
<b>E</b>	Unless sooner surrendered, suspended or revoked, this special airworthiness certificate is effective for the duration and under the conditions prescribed in the Nig.CARs.

*Back of form*

**[NIGERIAN CIVIL AVIATION AUTHORITY]**

**APPROVED MAINTENANCE ORGANISATION CERTIFICATE**

**Number**

**This certificate is issued to**

**Whose business address is**

**Upon finding that its organisation complies in all respects with the requirements of the Civil Aviation Regulations Part 6, relating to the establishment of an Approved Maintenance Organisation and is empowered to operate an Approved Maintenance Organisation.**

**With the following ratings:**

**This certificate shall continue in effect until [DATE] unless cancelled, suspended, or revoked**

**Date Issued**

**Designation**

**NCAA**

**FOR: Nigerian Civil Aviation Authority**

**This certificate is not transferable and must be displayed to the public in the principal business office of the Organisation**

**NCAA AMO Form AC-AWS006**





# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## APPLICATION FOR APPROVED MAINTENANCE ORGANISATION CERTIFICATE AND RATINGS AND RENEWAL

FORM: AC-AWS006B

1. Maintenance Organisation Name, Number, Location and Address		2. Reasons for Submission	
a. Official Name of Maintenance Organisation:	Number:	<input type="checkbox"/> Application for AMO Certificate and Rating Issue <input type="checkbox"/> Change in Rating <input type="checkbox"/> Change in Location or Housing and Facilities <input type="checkbox"/> Change in Ownership <input type="checkbox"/> Re-Certification / Renewal	
b. Location where business is conducted:			
c. Official Mailing Address of <b>Maintenance Organisation</b> .			
d. Line Maintenance Location			
<b>3. Ratings Applied for: Ref: AMO Regs 6.2.10 &amp; 6.2.11</b>			
<b>Aircraft</b> <input type="checkbox"/> Class 1 Composite Small Aircraft <input type="checkbox"/> Class 2 Composite Large Aircraft <input type="checkbox"/> Class 3 Metal Small Aircraft <input type="checkbox"/> Class 4 Metal Large Aircraft	<b>Engine – Propellers</b> <input type="checkbox"/> Class1Piston <400hp <input type="checkbox"/> Class2 Piston>400hp <input type="checkbox"/> Class3Turbine Engine <input type="checkbox"/> Class1Fix Pitch Props <input type="checkbox"/> Class2All other Props	<b>Equipment &amp; Instruments</b> <input type="checkbox"/> Class1Comm Equip. <input type="checkbox"/> Class2 Nav. Equip <input type="checkbox"/> Class3 Rader Equip. <input type="checkbox"/> Class1 Instr. Mech. <input type="checkbox"/> Class2 Electrical <input type="checkbox"/> Class3 Gyroscopic <input type="checkbox"/> Class4 Electronic	<b>Accessories</b> <input type="checkbox"/> Class1 Mech. Acc. <input type="checkbox"/> Class2 Electrical Acc. <input type="checkbox"/> Class3 Electronic Acc. <input type="checkbox"/> Class4 APU.
<input type="checkbox"/> Specialised Service {List Process Specification(s)}			
<b>Scope of Ratings Applied for:</b>			
<b>4. List of Maintenance Functions contracted to other AMO's:</b>			

<b>5. AMO Ownership and Incorporation Confirmation</b>			
Name of AMO Owner, {Include name(s) of all Owners, partners, or corporation name. State date of AMO incorporation}			
I hereby certify that I have been authorised by the maintenance organisation named in Item 1 above to make this application and that the information given and the statements in the attachments hereto are true and correct to the best of my knowledge.			
Date:	Authorised Signature:	Print Name of Authorised Signature:	Title:



**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**ORGANISATION ASSESSMENT STATEMENT (OAS)**  
**FORM: AC-AWS006C**

To be completed by an applicant for **CERTIFICATION, CERTIFICATE RENEWAL** of Maintenance Organisation (To be Submitted with the Application)

**Section 1A. To be completed by all applicants.**

1. Name and mailing address of company (include business name if different from company name).	2. Address of the principal (main) base where operations will be conducted.
--	---

3. Certificate Expiry Date if Application is for Re-certification or Renewal:

4. Management and Key Staff Personnel. (Attach Personnel Data Form: AC-AWS006F if application is for Certification and Re-Certification).

Name (Surname/First/Middle).	Title.	Telephone & address

**Section 1B. .**

5.  Air Operators Maintenance Support - AMO.

Maintenance Organisation.

6. Type of operation if AMO is Air Operators Maintenance Support

Passengers and Cargo.  Cargo Only.  Scheduled Operations.  Charter Flight Operations

7. Approved Maintenance Organisation Rating(s). Ref: AMO Regs. 6.2.10 & 6.2.11

Aircraft	Engine	Components	Accessories
<input type="checkbox"/> Class 1 Composite Small Aircraft <input type="checkbox"/> Class 2 Composite Large Aircraft <input type="checkbox"/> Class 3 Metal Small Aircraft <input type="checkbox"/> Class 4 Metal Large Aircraft	<input type="checkbox"/> Class1Piston <400hp <input type="checkbox"/> Class2 Piston>400hp <input type="checkbox"/> Class3Turbine Engine <input type="checkbox"/> Class1Fix Pitch Props <input type="checkbox"/> Class2All other Props	<input type="checkbox"/> Class1Comm Equip. <input type="checkbox"/> Class2 Nav. Equip <input type="checkbox"/> Class3 Rader Equip. <input type="checkbox"/> Class1 Instr. Mech. <input type="checkbox"/> Class2 Electrical <input type="checkbox"/> Class3 Gyroscopic <input type="checkbox"/> Class4 Electronic	<input type="checkbox"/> Class1 Mech. Acc. <input type="checkbox"/> Class2 Electrical Acc. <input type="checkbox"/> Class3 Electronic Acc. <input type="checkbox"/> Class4 APU.

**Scope and Limitation of Rating Applied for:**


**Specialised Services Applied for (State Scope and Limitation):**

--

Section 1C. <b>Blocks 8 &amp; 9 to be completed if AMO is AOC Maintenance Support.</b>		
<b>8. AOC Aircraft Data</b>		<b>9 Geographic areas of operations and route structure.</b>
Numbers and types of aircraft (By make, model, and series).	Passenger, Training or Cargo Operation.	

<b>Section 1D. To be completed by all applicants.</b>		
<b>10. Additional information that provides a better understanding of the operation or business – Indicate attachments:</b> (i) Statement of Compliance (ii) Maintenance Procedures Manual (MPM). (iii) Maintenance Control Manual (MCM). (iv) Contracted Maintenance Agreements. (v) Other States Authority Approval (vi) AMO Training Programme		
<b>11. Declaration by AMO authorized person</b>		
Signature.	Date (day/month/year).	Name and Title (Block Letters).
<b>Section 2. For Official Use Authority: To be completed by the DATRS Office.</b>		
Received by (Name and Office):		Date received (day/month/year).
Date forwarded to Manager Flight Safety Standards (MFSS) (day/month/year):	For: <input type="checkbox"/> Action <input type="checkbox"/> Information only.	
DATRS - Remarks:		
<b>Section 3. To be completed by the Manager FSS Office.</b>		
Date Received by MFSS:		
Assigned Task Number and Team Leader (TL):		/
Date Received by Assigned Team Leader:		
MFSS - Remarks:		



**NIGERIAN CIVIL AVIATION AUTHORITY**  
AVIATION HOUSE  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**"Approved Maintenance Organization (AMO) Certification Job-Aid"**

**I. Purpose**

**FORM: AC-AWS06D**

The Approved Maintenance Organization Job-Aid (JA-AMO) is inspector guidance intended for use throughout the Approved Maintenance Organization certification process. The JA-AMO is a project management, record-keeping and communications tool used to -

1. Track the certification progress of an AMO applicant,
2. Provide references for the activities, participation, contribution and observations of NCAA inspectors,
3. Help assure that action required to bestow an AMO upon an applicant is accomplished in a timely manner,
4. Provide a reference to corresponding documentation in the file, thus ensuring complete and appropriate records are maintained, and
5. Inform the AMO Applicant and NCAA leadership upon the accomplishment of key phases of the certification process.

Instructions in the JA-AMO are not a replacement for requirements described in the Nigeria Civil Aviation Regulations (Nig. CARs). Should there be an apparent conflict between information contained in the JA-AMO and Nig. CARs, the Nig. CARs take precedence. Nig. CARs supersede instructions contained in the JA-AMO and any other guidance material that may apply.

**II. Contents**

1. Five (5) Phase Completion-Validation and Communication pages.
2. Five (5) AMO Application-Tracking Lists

Phase 1	Pre-Application
Phase 2	Formal Application
Phase 3	Document Evaluation
Phase 4	Demonstration and Inspection
Phase 5	Certification



### III. Description

1. The JA-AMO is comprised of five (5) "Completion-Validation and Communication" (CVC) cover pages at the beginning of each phase followed by a series of lists corresponding to each of five phases comprising the Nigerian Civil Aviation Authority Approved Maintenance Organization Certification process.

A. CVC cover pages provide space for-

- a. Validating each phase of the AMO process,
- b. Entry of information corresponding to completion of each phase of the certification process, as well as a
- c. Standard format for communicating the accomplishment of each phase internally-hierarchically, within the NCAA, as well as externally - with the AMO applicant.

B. Job-Aid (JA) pages are comprised of tables as described below.

- a. The first row of each JA-AMO page contains a list of headers describing information contained in the columns below; for example -
  - i. Nig. CARs related to each task
  - ii. A condensed textual description of each activity
  - iii. Date information received and/or date accomplished
  - iv. Rating: "Satisfactory" (S), or "Unsatisfactory" (U).
- b. The left side of each table contains titles describing the contents of each row. Rows contain information related to the completion of specific tasks required by Nig. CARs; for example -
  - i. Space for the initials of the AMO team-inspector responsible for particular JA-AMO activity.
  - ii. Dates received, accomplished, and/or returned for changes.
  - iii. Explanatory "Remarks."

#### **IV. Instructions**

In consultation with the Director, Airworthiness Standards the CPM assigns NCAA inspectors to AMO tasks in accordance with their specific discipline in the art and practice of aviation, and the corresponding level of skill, experience, knowledge and ability they bring to the project. Depending on the needs of the NCAA, the complexity of the application, and the qualifications of the personnel involved, there may be more than one inspector assigned to each discipline. When there is more than one inspector assigned to each discipline, then one inspector will be designated as the "Lead" inspector for that discipline and thereby assumes accountability to the CPM for all related tasks in that phase.

The CPM uses the first pages of each phase of the JA-AMO to recount applicant-specific information and to record the names of Inspectors assigned to tasks within the corresponding phase of the AMO certification process.

When assigning the allocation of AMO tasks to specific NCAA personnel, the following abbreviations apply -

- CPM - Certification Project Manager
- PMI - Avionics Inspector
- PAI - Maintenance Inspector
- ASI - Aviation Safety Inspector

As columns and rows comprising the JA-AMO depict specific action steps corresponding to the evaluation of an application for AMO, each must contain information corresponding to the particular operator.

After completing assigned tasks, inspectors shall identify it as Satisfactory (S) or Unsatisfactory (U).

The "Remarks" section should be used to record relevant details. For example, when discrepancies are noted, a "U" is assigned, and the reasons recorded in the remarks section of the JA-AMO.

Thereafter, the CPM must obtain a corrective action plan from the AMO Applicant and revise the schedule of events accordingly. Each discrepancy and corrective action must be fully documented and recorded in the certification file (see TGM GEN 3.3.6.6).

Each item in each phase must be addressed satisfactorily for the AMO application to proceed and to culminate in certification.

## **V. Other Coordination Required**

The CPM is responsible for coordination of NCAA personnel, departments and procedures necessary to confer an AMO; for example, Flight Operations (if applicable), Airworthiness, Licensing and the Document Tracking System. The CPM is responsible to ensure that information pertaining to tasks described in the JA-AMO have been completed by the designated members of the Certification Team.

## **VI. Renewal or Variation of AMOs**

The identical process applies to AMO Renewal or Variation.



**NIGERIAN CIVIL AVIATION AUTHORITY**  
 AVIATION HOUSE  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**PHASE ONE (1)**

**Approved Maintenance Organization (AMO) Certification Job-Aid**

NAME AND MAILING ADDRESS OF COMPANY (including business name if different from company name)	ADDRESS OF THE PRINCIPAL (Main) Base where Maintenance will be conducted
MAILING ADDRESS (If different from the principal (Main) base of Maintenance)	NCAA Reference Number
TYPE OF INSPECTION <input type="checkbox"/> Initial Certification <input type="checkbox"/> Re-Certification <input type="checkbox"/> Variation	CERTIFICATION PROJECT MANAGER
AIRWORTHINESS SAFETY INSPECTOR(s)	(Specify Discipline and name) SAFETY INSPECTOR(s)

**\* Assignments:**

CPM - Certification Project Manager  
 PMI – Principal Maintenance Inspector  
 PAI – Principal Avionics Inspector  
 ASI – Aviation Safety Inspector

**\*\* Legend:**

S – Satisfactory  
 U – Unsatisfactory  
 NA – Not Applicable

As the applicant for Approved Maintenance Organization (AMO) Certification has not provided the required documents and/or conducted the activities necessary to complete this phase of the AMO certification process within the time-frames depicted in the schedule of events, further NCAA action corresponding to this AMO application is hereby suspended for a minimum period of thirty (30) days.

During the period of suspension, the AMO is not authorized to conduct any maintenance corresponding to Part 6 of the Nig. CARs.

After thirty (30) days have passed \_\_\_\_\_(enter date), depending upon the resources of the NCAA, activities associated with this AMO application may resume with applicant submission of required documents and/or accomplishment of activities necessary to complete the tasks remaining in this phase of the AMO process. Thereafter, depending on the resources of the NCAA, the process must adhere to the schedule of events.

If the AMO applicant does not provide the necessary documents and/or conduct the activities necessary to complete this phase within the succeeding thirty (30) calendar days by \_\_\_\_\_ (enter date), or should the applicant/AMO miss another due-date depicted on the schedule of events, then this AMO process will be deemed terminated and the file closed. In that event, the AMO applicant must re-apply to commence AMO certification at the beginning of Phase 1 of the process.

I have reviewed the completion of tasks corresponding to this phase of the AMO certification process, confirmed conformity to the appropriate Nig. CARs as well as associated guidance material, and, by my signature below, declare Phase 1 of the AMO certification process complete.

CPM's Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

AMO Number: \_\_\_\_\_

**Document Distribution:** DG, DAWS, AMO Team, AMO Rep

**PHASE ONE**

Ref #	RESP. POS.	Pre-Application Phase	Insp. Initials	Date Received/ Accomplished	S/U/NA (if U, action must be taken)	Date Returned for Changes	Remarks
1	DAWS DAWS	1) Applicant Initial enquiry (verbal or written) 2) Provide applicant with PASI form (AC-OPS 001), procedures and other guidance materials for application of AMO. <b>TGM-AWS 10.3.3</b>					
2 Nig. CARs 6.2.1.5	DAWS	Applicant submits Pre-Application Statement of Intent (PASI) and required attachments to DAWS 1) PASI forwarded to DAWS(CPM)					
3	DAWS	Appoint CPM 1) CPM collaborates with DAWS to appoint Certification Team: <b>TGM-AWS 10.3.4.2(d), TGM-GEN 3.3.2</b>					
4	CPM	Conduct Pre-application Meeting with the AMO Applicant <b>TGM-AWS 10.3.4</b>					
5	CPM	1) Clarify PASI (Form AC-OPS 001) <b>TGM-AWS 10.3.4</b>					

Ref #	RESP. POS.	Pre-Application Phase	Insp. Initials	Date Received/ Accomplished	S/U/NA (if U, action must be taken)	Date Returned for Changes	Remarks
6	CPM	2) Discuss Certification process with AMO applicant. <b>TGM-AWS 10.3.4.2</b>					
7	CPM	3) Provide the applicant with AMO Certification Package:					
8 Nig. CARs 6.2.1.5	CPM	a) Provide Model Operations Specifications. <b>Form: AC-AWS006A</b> <b>TGM-AWS 10.3.4.2(b)</b>					
9	CPM	b) Provide Schedule of Events Form describing all elements of the Certification process: <b>Form AC-AWS006E,</b> <b>TGM-AWS 10.3.4</b>					
10 Nig. CARs 6.2.1.5	CPM	c) Discuss other applicable publications and documents. <b>TGM-AWS 10.3.4.2</b>					
11 Nig. CARs 6.2.1.5	CPM	d) Discuss Form, contents and documents required for formal application (Formal Application Package). <b>Form: AC-AWS006B</b> <b>TGM-AWS 10.3.4.2(c)</b>					
<b>END</b>							



**NIGERIAN CIVIL AVIATION AUTHORITY**  
 AVIATION HOUSE  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**PHASE TWO (2)**

**Approved Maintenance Organization (AMO) Certification Job-Aid**

NAME AND MAILING ADDRESS OF COMPANY (including business name if different from company name)	ADDRESS OF THE PRINCIPAL (Main) Base where Maintenance will be conducted
MAILING ADDRESS (If different from the principal (Main) base of Maintenance)	NCAA Reference Number
TYPE OF INSPECTION ___ Initial Certification ___ Re-Certification ___ Variation	CERTIFICATION PROJECT MANAGER
AIRWORTHINESS SAFETY INSPECTOR(s)	(Specify Discipline and name) SAFETY INSPECTOR(s)

**\* Assignments:**

CPM - Certification Project Manager  
 PMI – Principal Maintenance Inspector  
 PAI – Principal Avionics Inspector  
 ASI – Aviation Safety Inspector

**\*\* Legend:**

S – Satisfactory  
 U – Unsatisfactory  
 NA – Not Applicable



As the applicant for Approved Maintenance Organization (AMO) Certification has not provided the required documents and/or conducted the activities necessary to complete this phase of the AMO certification process within the time-frames depicted in the schedule of events, further NCAA action corresponding to this AMO application is hereby suspended for a minimum period of thirty (30) days.

During the period of suspension, the AMO is not authorized to conduct any maintenance corresponding to Part 6 of the Nig. CARs.

After thirty (30) days have passed \_\_\_\_\_(enter date), depending upon the resources of the NCAA, activities associated with this AMO application may resume with applicant submission of required documents and/or accomplishment of activities necessary to complete the tasks remaining in this phase of the AMO process. Thereafter, depending on the resources of the NCAA, the process must adhere to the schedule of events.

If the AMO applicant does not provide the necessary documents and/or conduct the activities necessary to complete this phase within the succeeding thirty (30) calendar days by \_\_\_\_\_(enter date), or should the applicant/AMO miss another due-date depicted on the schedule of events, then this AMO process will be deemed terminated and the file closed. In that event, the AMO applicant must re-apply to commence AMO certification at the beginning of Phase 2 of the process.

I have reviewed the completion of tasks corresponding to this phase of the AMO certification process, confirmed conformity to the appropriate Nig. CARs as well as associated guidance material, and, by my signature below, declare Phase 2 of the AMO certification process complete.

CPM's Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

AMO Number: \_\_\_\_\_

**Document Distribution:** DG, DAWS, AMO Team, AMO Rep

## Phase Two

Ref #	RESP. POS.	Formal Application Phase	Insp. Initials	Date Received/ Accomplished	S/U/NA (if U, action must be taken)	Date Returned for Changes	Remarks
12 Nig CARs 6.2.1.5	CPM	Receive Formal application package <b>TGM-GEN 3.3.4.1</b> <b>Form: AWS006B and Attachments</b>					
13 Nig CARs 6.2.1.5	CPM, A & M	Evaluate the application package <b>TGM-GEN 3.3.4.2</b> <b>TGM-AWS 10.3.5.3</b>					
14 Nig CARs 6.2.1.5	CPM, A & M	Conduct an application meeting – Initial table top exercise <b>TGM-GEN 3.3.4.3</b> <b>TGM-AWS 10.3.5.5 &amp; 10.3.6.2</b>					
<b>END</b>							





**NIGERIAN CIVIL AVIATION AUTHORITY**  
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**PHASE THREE (3)**

**Approved Maintenance Organization (AMO) Certification Job-Aid**

NAME AND MAILING ADDRESS OF COMPANY (including business name if different from company name)	ADDRESS OF THE PRINCIPAL (Main) Base where Maintenance will be conducted
MAILING ADDRESS (If different from the principal (Main) base of maintenance)	NCAA Reference Number
TYPE OF INSPECTION <input type="checkbox"/> Initial Certification <input type="checkbox"/> Re-Certification <input type="checkbox"/> Variation	CERTIFICATION PROJECT MANAGER
AIRWORTHINESS SAFETY INSPECTOR(s)	(Specify Discipline and name) SAFETY INSPECTOR(s)

**\* Assignments:**

CPM - Certification Project Manager  
 PMI – Principal Maintenance Inspector  
 PAI – Principal Avionics Inspector  
 ASI – Aviation Safety Inspector

**\*\* Legend:**

S – Satisfactory  
 U – Unsatisfactory  
 NA – Not Applicable

As the applicant for Approved Maintenance Organization (AMO) Certification has not provided the required documents and/or conducted the activities necessary to complete this phase of the AMO certification process within the time-frames depicted in the schedule of events, further NCAA action corresponding to this AMO application is hereby suspended for a minimum period of thirty (30) days.

During the period of suspension, the AMO is not authorized to conduct any maintenance corresponding to Part 6 of the Nig. CARs.

After thirty (30) days have passed \_\_\_\_\_(enter date), depending upon the resources of the NCAA, activities associated with this AMO application may resume with applicant submission of required documents and/or accomplishment of activities necessary to complete the tasks remaining in this phase of the AMO process. Thereafter, depending on the resources of the NCAA, the process must adhere to the schedule of events.

If the AMO applicant does not provide the necessary documents and/or conduct the activities necessary to complete this phase within the succeeding thirty (30) calendar days by \_\_\_\_\_ (enter date), or should the applicant/AMO miss another due-date depicted on the schedule of events, then this AMO process will be deemed terminated and the file closed. In that event, the AMO applicant must re-apply to commence AMO certification at the beginning of Phase 3 of the process.

I have reviewed the completion of tasks corresponding to this phase of the AMO certification process, confirmed conformity to the appropriate Nig. CARs as well as associated guidance material, and, by my signature below, declare Phase 3 of the AMO certification process complete.

CPM's Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

AMO Number: \_\_\_\_\_

**Document Distribution:** DG, DAWS, AMO Team, AMO Rep

### Phase Three

Ref #	RESP. POS.	Document Compliance and Evaluation Phase	Insp. Initials	Date Received/ Accomplished	S/U/NA (if U, action must be taken)	Date Returned for Changes	Remarks
15 Nig. CARs IS 6.4.1.1	CPM, A & M	Review and accept/ approve/reject manuals and other documents.  A) Evaluate Management Qualifications <b>TGM-OPS 24</b>					
16 Nig. CARs IS6.4.1.1(c)	CPM	1) Accountable Manager					
17 Nig. CARs IS6.4.1.1(d)	A & M	2) Base Maintenance Manager. <b>TGM-OPS 24.5.2.6 Appx 6</b>					
18 Nig. CARs IS6.4.1.1(e)	A & M	3) Line Maintenance Manager. <b>TGM-OPS 24.5.2.8 Appx 8</b>					
19 Nig. CARs IS6.4.1.1(f)	A & M	4) Workshop Manager. <b>TGM-OPS 24.5.2.7 Appx 7</b>					
20 Nig. CARs IS6.4.1.1(g)	A & M	5) Quality Manager. <b>TGM-OPS 24.5.2.5 Appx 5</b>					
21 Nig. CARs IS6.4.1.1(h)	A & M	6) Other Management positions as applicable <b>TGM-OPS 24.5.2</b>					
22 Nig. CARs IS6.4.1.1	A & M	7) Deviation letter (if a deviation from required management position is anticipated) <b>TGM-AWS 10.3.5.8</b>					

Phase Three Cont'd

Ref #	RESP. POS.	Document Compliance and Evaluation Phase	Insp. Initials	Date Received/ Accomplished	S/U/NA (if U, action must be taken)	Date Returned for Changes	Remarks
23 Nig. CARs 6.5.1.1. (d)	CPM, A & M	B) Statement of Compliance with the Nig. CARs <b>TGM-AWS 10.3.6.2</b> <b>TGM-GEN 3.3.5.1 (c), TGM-OPS 3</b>					
24 Nig. CARs 6.5.1.3.	CPM	C) Capability List					
25 Nig. CARs 6.5.1.1 IS 6.5.1.1	A & M	D) Maintenance Procedures Manual <b>CL: O-AWS005,</b> <b>TGM-AWS 5</b>					
26 Nig. CARs 6.4.1.2 IS 6.4.1.2	A & M	E) Evaluate Training Programme Manual Training Curricula to include: <b>TGM-OPS 5,</b> <b>CL: O-AWS 005, CL: O-AWS011</b>					
27 Nig. CARs 6.4.1.2 IS 6.4.1.2(a)(2)	A & M	1) Company procedures indoctrination <b>CL: O-AWS 005, CL: O-AWS011</b>					
28 Nig. CARs 6.4.1.2 IS 6.4.1.2(a)(1)	A & M	2) Nig. CARs Part 6 <b>CL: O-AWS 005, CL: O-AWS011</b>					
29 Nig. CARs 6.4.1.2 IS 6.4.1.2(a)(4)	A & M	3) Maintenance Human Factors. <b>CL: O-AWS 005, CL: O-AWS011</b>					
30 Nig. CARs 6.4.1.2 IS 6.4.1.2(b)(d)	A & M	4) Initial/Type Training <b>CL: O-AWS 005, CL: O-AWS011</b>					

31 Nig. CARs 6.4.1.2 IS6.4.1.2(c)	A & M	5) Recurrent training <b>CL:O-AWS 005, CL: O-AWS011</b>					
32 Nig. CARs 6.4.1.2 IS 6.4.1.2(a)(5)	A & M	6) Computer System and Software as applicable to AMO <b>CL:O-AWS 005, CL: O-AWS011</b>					



**Phase Three Cont'd**

Ref #	RESP. POS.	Document Compliance and Evaluation Phase	Insp. Initials	Date Received/ Accomplished	S/U/NA (if U, action must be taken)	Date Returned for Changes	Remarks
33 Nig. CARs 6.4.1.2 IS 6.4.1.2(d)	A & M	7) Specialized training <b>CL:O-AWS 005, CL: O-AWS011</b>					
34 Nig. CARs 6.4.1.2 IS 6.4.1.2(h)	A & M	8) Records of progress <b>CL:O-AWS 005, CL: O-AWS011</b>					
35 Nig. CARs 6.4.1.2 IS 6.4.1.2	A & M	9) Difference Training <b>CL:O-AWS 005, CL: O-AWS011</b>					
36 Nig. CARs 6.4.1.3 IS 6.4.1.3	A & M	10) Dangerous Goods <b>CL:O-AWS 005, CL: O-AWS011</b> <b>TGM-OPS 21</b>					
<b>END</b>							







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**PHASE FOUR (4)**

**Approved Maintenance Organization (AMO) Certification Job-Aid**

NAME AND MAILING ADDRESS OF COMPANY (including business name if different from company name)	ADDRESS OF THE PRINCIPAL (Main) Base where Maintenance will be conducted
MAILING ADDRESS (If different from the principal (Main) base of )	NCAA Reference Number
TYPE OF INSPECTION ___ Initial Certification ___ Re-Certification ___ Variation	CERTIFICATION PROJECT MANAGER
AIRWORTHINESS SAFETY INSPECTOR(s)	(Specify Discipline and name) SAFETY INSPECTOR(s)

**\* Assignments:**

CPM - Certification Project Manager  
 PMI – Principal Maintenance Inspector  
 PAI – Principal Avionics Inspector  
 ASI – Aviation Safety Inspector

**\*\* Legend:**

S – Satisfactory  
 U – Unsatisfactory  
 NA – Not Applicable

As the applicant for Approved Maintenance Organization (AMO) Certification has not provided the required documents and/or conducted the activities necessary to complete this phase of the AMO certification process within the time-frames depicted in the schedule of events, further NCAA action corresponding to this AMO application is hereby suspended for a minimum period of thirty (30) days.

During the period of suspension, the AMO is not authorized to conduct any maintenance corresponding to Part 6 of the Nig. CARs.

After thirty (30) days have passed \_\_\_\_\_(enter date), depending upon the resources of the NCAA, activities associated with this AMO application may resume with applicant submission of required documents and/or accomplishment of activities necessary to complete the tasks remaining in this phase of the AMO process. Thereafter, depending on the resources of the NCAA, the process must adhere to the schedule of events.

If the AMO applicant does not provide the necessary documents and/or conduct the activities necessary to complete this phase within the succeeding thirty (30) calendar days by \_\_\_\_\_ (enter date), or should the applicant/AMO miss another due-date depicted on the schedule of events, then this AMO process will be deemed terminated and the file closed. In that event, the AMO applicant must re-apply to commence AMO certification at the beginning of Phase 4 of the process.

I have reviewed the completion of tasks corresponding to this phase of the AMO certification process, confirmed conformity to the appropriate Nig. CARs as well as associated guidance material, and, by my signature below, declare Phase 4 of the AMO certification process complete.

CPM's Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

AMO Number: \_\_\_\_\_

**Document Distribution:** DG, DAWS, AMO Team, AMO Rep

### Phase Four

Ref #	RESP. POS.	Demonstration and Inspection Phase	Insp. Initials	S/U/NA (if U, action must be taken)	Date Received/ Accomplished	Date Returned for Changes	Remarks
37 Nig CARs 6.3.1.1, 6.3.1.2, 6.3.1.3.	A & M	A) Evaluate Organization, Base Facilities, Equipment, Materials and Data <b>CL: O-AWS 011 (AMO Certification and Approval Renewal Inspection.)</b>					
38 Nig. CARs 6.4.1.2,IS 6.4.1.2	A & M	B) Evaluate Organization Conducting Training					
39 Nig. CARs 6.4.1.2,IS 6.4.1.2	A & M	1. Training Facilities					
40 Nig. CARs 6.4.1.2,IS 6.4.1.2	A & M	2. Training Schedules					
41 Nig. CARs 6.4.1.2,IS 6.4.1.2	A & M	3. Instructor Qualification/Training					
42 Nig. CARs 6.4.1.2,IS 6.4.1.2	A & M	4. Management Personnel					
43 Nig. CARs 6.4.1.2,IS 6.4.1.2	A & M	5. Training Evaluation					
44 Nig. CARs 6.4.1.2,IS 6.4.1.2	A & M	6. Certifying Staff Training Evaluation					
45 Nig. CARs 6.4.1.2,IS 6.4.1.2	A & M	a. Basic engineering relevant to type of aircraft structure and systems Approved Maintenance Organization intends to maintain					

46 Nig. CARs 6.4.1.2, IS 6.4.1.2	A & M	b. Aircraft specific to each certifying staff related to impact of repairs and system/structural defects					
47 Nig. CARs 6.4.1.2, IS 6.4.1.2	A & M	c. Approved Maintenance Organization procedures related to the task (MPM)					



Ref #	RESP. POS.	Demonstration and Inspection Phase	Insp. Initials	S/U/NA (if U, action must be taken)	Date Received/ Accomplished	Date Returned for Changes	Remarks
48 Nig. CARs 6.4.1.2 IS 6.4.1.2	A & M	d. Assigned tasks and responsibilities					
49 Nig. CARs 6.4.1.2 IS 6.4.1.2	A & M	e. Knowledge and skills related to human performance					
50 Nig. CARs 6.4.1.2 IS 6.4.1.2	A & M	f. Co-ordination with other maintenance personnel and flight crew					
51 Nig. CARs 6.4.1.2 IS 6.4.1.2	A & M	g. Curriculum and standards for training					
52 Nig. CARs 6.4.1.2 IS 6.4.1.2	A & M	h. Pre-qualification Evaluation for Certifying Staff					
53 Nig. CARs 6.4.1.2 IS 6.4.1.2	A & M	i. Initial Training					
54 Nig. CARs 6.4.1.2 IS 6.4.1.2	A & M	j. Continuation Training					
55 Nig. CARs 6.4.1.2 IS 6.4.1.2	A & M	k. Other					

56 Nig. CARs 6.4.1.2 IS 6.4.1.2	A & M	C) Maintenance Personnel Training Evaluation					
57 Nig. CARs 6.4.1.2 IS 6.4.1.2	A & M	a. Assigned tasks and responsibilities					
58 Nig. CARs 6.4.1.2 IS 6.4.1.2	A & M	b. Knowledge and skills related to human performance					
<b>END</b>							





**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
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**PHASE FIVE (5)**

**Approved Maintenance Organization (AMO) Certification Job-Aid**

NAME AND MAILING ADDRESS OF COMPANY (including business name if different from company name)	ADDRESS OF THE PRINCIPAL (Main) Base where operations will be conducted
MAILING ADDRESS (If different from the principal (Main) base of operation)	NCAA Reference Number
TYPE OF INSPECTION <input type="checkbox"/> Initial Certification <input type="checkbox"/> Re-Certification <input type="checkbox"/> Variation	CERTIFICATION PROJECT MANAGER
AIRWORTHINESS SAFETY INSPECTOR(s)	(Specify Discipline and name) SAFETY INSPECTOR(s)

**\* Assignments:**

CPM - Certification Project Manager  
 PMI – Principal Maintenance Inspector  
 PAI – Principal Avionics Inspector  
 ASI – Aviation Safety Inspector

**\*\* Legend:**

S – Satisfactory  
 U – Unsatisfactory  
 NA – Not Applicable

As the applicant for Approved Maintenance Organization (AMO) Certification has not provided the required documents and/or conducted the activities necessary to complete this phase of the AMO certification process within the time-frames depicted in the schedule of events, further NCAA action corresponding to this AMO application is hereby suspended for a minimum period of thirty (30) days.

During the period of suspension, the AMO is not authorized to conduct any maintenance corresponding to Part 6 of the Nig. CARs.

After thirty (30) days have passed \_\_\_\_\_(enter date), depending upon the resources of the NCAA, activities associated with this AMO application may resume with applicant submission of required documents and/or accomplishment of activities necessary to complete the tasks remaining in this phase of the AMO process. Thereafter, depending on the resources of the NCAA, the process must adhere to the schedule of events.

If the AMO applicant does not provide the necessary documents and/or conduct the activities necessary to complete this phase within the succeeding thirty (30) calendar days by \_\_\_\_\_ (enter date), or should the applicant/AMO miss another due-date depicted on the schedule of events, then this AMO process will be deemed terminated and the file closed. In that event, the AMO applicant must re-apply to commence AMO certification at the beginning of Phase 5 of the process.

I have reviewed the completion of tasks corresponding to this phase of the AMO certification process, confirmed conformity to the appropriate Nig. CARs as well as associated guidance material, and, by my signature below, declare Phase 5 of the AMO certification process complete.

CPM's Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

AMO Number: \_\_\_\_\_

**Document Distribution:** DG, DAWS, AMO Team, AMO Rep



**Phase Five**

Ref #	RESP. POS.	Certification Phase	Insp. Initials	S/U/NA (if U, action must be taken)	Date Received/Accomplished	Date Returned for Changes	Remarks
59 Nig. CARs 6.2.1.6	CPM	A) Prepare Certification Report <b>TGM-GEN 3.3.7.1(d)</b> <b>TGM-AWS 10.3.9.1</b>					
60 Nig. CARs 6.2.1.6	CPM	a) PASI Form, Formal application Form and attachments <b>TGM-GEN 3.3.7.1(d)(i)</b> <b>TGM-AWS 10.3.9.1</b>					
61 Nig. CARs 6.2.1.6	CPM	b) Final compliance statement <b>TGM-GEN 3.3.7.1(d)(ii)</b> <b>TGM-AWS 10.3.9.1(c)</b>					
62 Nig. CARs 6.2.1.3 (a)(2)	CPM	c) Copy of operations specifications <b>Form: AC-AWS006A</b> <b>TGM-GEN 3.3.7.1(d)(v)</b> <b>TGM-AWS 10.3.8.1</b>					
63 Nig. CARs 6.2.1.3 IS: 6.2.1.3.	CPM	d) Copy of Certificates <b>Form: AC-AWS006</b> <b>TGM-GEN 3.3.7.1(d)(iv)</b>					
64	CPM	B) Submit Report to DAWS <b>TGM-AWS 10.3.8.2</b>					
65 Nig. CARs 6.2.1.3 6.2.1.6	CPM	C) Present Certificate & Operations Specifications to applicant <b>TGM-AWS 10.3.8.1 &amp; 10.3.8.3</b>					

Ref #	RESP. POS.	Certification Phase	Insp. Initials	S/U/NA (if U, action must be taken)	Date Received/Accomplished	Date Returned for Changes	Remarks
66	CPM	D) Develop Post Certification Surveillance Programme <b>TGM-AWS 10.3.9.1</b>					
67		1) Within Nigeria <b>TGM-AWS 10.3.9.1(m)</b>					
68		2) Outside Nigeria <b>TGM-AWS 10.3.9.1(m)</b>					
<b>END</b>							





# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## MAINTENANCE ORGANIZATION PROPOSED CERTIFICATION SCHEDULE OF EVENTS

*This form should be submitted in duplicate to the Authority as part of the AMO Certification Package. After Evaluation one of the copies is returned to the applicant advising Approval or a need to amend and re-submit.*

FORM: AC-AWS006E

<b>Office Name of Company</b>	<b>Location Address</b>
<b>Mailing Address (if different from location)</b>	

Reg. Reference	I. Pre-application Phase	Scheduled Date
	<b>A. Initial inquiry: Inspector Contacted: _____</b> 1. Certification Advisory Circular provided. 2. Pre-application Meeting Scheduled date	

	<b>B. Pre-application Meeting</b> 1. <input type="checkbox"/> Focus on OAS Form Information 2. <input type="checkbox"/> Overview of Certification Process and need to submit a proposed certification schedule of events. 3. The Certification Package: <input type="checkbox"/> Application Form: AWS 006B <input type="checkbox"/> OAS Form: AWS 006C <input type="checkbox"/> Proposed Schedule of Events Form: AWS 006E 3. Formal Application Submission Requirements and The Certification Process	
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<b>CAA Remarks on the Pre-application Phase</b>	   
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<b>Reg. Reference</b>	<b>II. Formal Application Phase</b>	<b>Scheduled Date</b>
	<b>A. Review Applicant's Submission</b>	
	1. <b>Formal Application Form: AWS 011B</b>	
	a. <b>Application Form (Approved Maintenance Organization)</b>	
	2. <b>Formal Application Attachments</b>	
	a. <b>Two completed maintenance procedure manuals</b>	
	b. <b>Completed Quality Assurance Programme</b>	
	c. <b>Completed initial training programme</b>	
	d. <b>Completed compliance statement</b>	
	e. <b>Completed schedule of events two copies (Form: AWS 011G)</b>	
	f. <b>Roster, records and qualifications of certifying staff</b>	
	g. <b>Qualifications of management personnel (and Form: GEN 005)</b>	
	h. <b>Completed capability list</b>	
	i. <b>Completed training programme</b>	
	j. <b>Purchase, Lease, and/or contract agreement</b>	
	<b>B. Evaluate CAA Resources Needs Based on Required Approval Process.</b>	

	<b>C. Formal Application Meeting</b>	
	1. <b>Schedule of Events</b>	
	Date: _____ Time _____	
	2. <b>Discuss each Submission</b>	
	3. <b>Resolve Discrepancies/ open Items</b>	
	4. <b>Review Certification Process</b>	
	5. <b>Review impact if Schedule of Events are not met</b>	
	<b>D. Issue letter accepting/rejecting Formal Application</b>	

CAA Remarks on the Proposed Scheduled Dates for the Formal Application Phase	
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<b>Reg. Reference</b>	<b>III. Document Evaluation Phase</b>	<b>Scheduled Date</b>
	<b>A. Evaluate Applicable Training Programmes</b>	
	<b>1. Training Maintenance Personnel</b>	
	<b>a. Initial, appropriate to assigned tasks</b>	
	<b>b. Knowledge and skills related in human performance</b>	
	<b>2. Training Certifying Staff</b>	
	<b>a. Pre-qualification standards identified</b>	
	<b>b. Basic engineering theory relevant to the airframe structure and systems to the class of aircraft</b>	
	<b>c. Specific aircraft type on which the person is intended to become the certifying individual including the impact of repairs and system/ structural defects</b>	
	<b>d. Company procedures relevant to the tasks</b>	
	<b>e. Knowledge and skills related in human performance</b>	
	<b>3. Continuation Training</b>	
	<b>a. Changes in Approved Maintenance Organization procedures</b>	
	<b>b. Changes to aircraft types</b>	
	<b>c. Changes to aeronautical product types</b>	

	<b>B. Evaluate Personnel Qualifications</b>	
	<b>1. Management Personnel</b>	
	<b>a. Base Maintenance Manager</b>	
	<b>b. Line Maintenance Manager</b>	
	<b>c. Workshop manager</b>	
	<b>d. Quality Manager</b>	
	<b>e. Other management personnel as assigned</b>	
	<b>2. Certifying Staff</b>	
	<b>3. Maintenance Personnel</b>	
	<b>4. Instructor(s)</b>	

	<b>C. Evaluate Applicable Training Programmes</b>	
	<b>4. Training Maintenance Personnel</b>	
	<b>c. Initial, appropriate to assigned tasks</b>	
	<b>d. Knowledge and skills related in human performance</b>	

	<b>5. Training Certifying Staff</b>	
	<b>f. Pre-qualification standards identified</b>	
	<b>g. Basic engineering theory relevant to the airframe structure and systems to the class of aircraft</b>	
	<b>h. Specific aircraft type on which the person is intended to become the certifying individual including the impact of repairs and system/ structural defects</b>	
	<b>i. Company procedures relevant to the tasks (MPM)</b>	
	<b>j. Knowledge and skills related in human performance</b>	
	<b>6. Continuation Training</b>	
	<b>d. Changes in Approved Maintenance Organization procedures</b>	
	<b>e. Changes to aircraft types</b>	
	<b>f. Changes to aeronautical product types</b>	

	<b>D. Evaluate Personnel Qualifications</b>	
	<b>5. Management Personnel</b>	
	<b>f. Base Maintenance Manager</b>	
	<b>g. Line Maintenance Manager</b>	
	<b>h. Workshop manager</b>	
	<b>i. Quality Manager</b>	
	<b>j. Other management personnel as assigned</b>	
	<b>6. Certifying Staff</b>	
	<b>7. Maintenance Personnel</b>	
	<b>8. Instructor(s)</b>	

CAA Remarks on the Proposed Scheduled Dates for the Documents Evaluation Phase	
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Reg. Reference	IV. Demonstration and Inspection Phase	Scheduled Date
	<b>A. Evaluate Organization Conducting Training</b> <b>1. Training Facilities</b>	
	<b>2. Training Schedules</b>	
	<b>3. Instructor Qualification/Training</b>	
	<b>4. Management Personnel</b>	
	<b>5. Training Evaluation</b>	
	<b>6. Certifying Staff Training</b>	
	<b>7. Evaluation</b> <b>a. Basic engineering relevant to type of aircraft structure and systems Approved Maintenance Organization intends to maintain</b>	
	<b>b. Aircraft specific to each certifying staff related to impact of repairs and system/structural defects</b>	
	<b>c. Approved Maintenance</b>	
	<b>d. Organization procedures related to the task (MPM)</b>	
	<b>e. Assigned tasks and responsibilities</b>	
	<b>f. Knowledge and skills related to human performance</b>	
	<b>g. Co-ordination with other maintenance personnel and flight crew</b>	
	<b>h. Curriculum and standards for training</b>	
	<b>i. Pre-qualification Evaluation for Certifying Staff</b>	
	<b>j. Initial Training</b>	
	<b>k. Continuation Training</b>	
	<b>l. Other</b>	
	<b>8. Maintenance Personnel Training Evaluation</b>	
	<b>a. Assigned tasks and responsibilities</b>	
	<b>b. Knowledge and skills related to human performance</b>	

	<b>B. Evaluate Organization Conducting Training</b>	
	<b>9. Training Facilities</b>	
	<b>10. Training Schedules</b>	
	<b>11. Instructor Qualification/Training</b>	
	<b>12. Management Personnel</b>	
	<b>13. Training Evaluation</b>	
	<b>14. Certifying Staff Training</b>	

	<ul style="list-style-type: none"> <li>a. Evaluation</li> <li>b. Basic engineering relevant to type of aircraft structure and systems Approved Maintenance Organization intends to maintain</li> </ul>	
	<ul style="list-style-type: none"> <li>c. Aircraft specific to each certifying staff related to impact of repairs and system/structural defects</li> </ul>	
	<ul style="list-style-type: none"> <li>d. Approved Maintenance</li> </ul>	
	<ul style="list-style-type: none"> <li>e. Organization procedures related to the task (MPM)</li> </ul>	
	<ul style="list-style-type: none"> <li>f. Assigned tasks and responsibilities</li> </ul>	
	<ul style="list-style-type: none"> <li>g. Knowledge and skills related to human performance</li> </ul>	
	<ul style="list-style-type: none"> <li>h. Co-ordination with other maintenance personnel and flight crew</li> </ul>	
	<ul style="list-style-type: none"> <li>i. Curriculum and standards for training</li> </ul>	
	<ul style="list-style-type: none"> <li>j. Pre-qualification Evaluation for Certifying Staff</li> </ul>	
	<ul style="list-style-type: none"> <li>k. Initial Training</li> </ul>	
	<ul style="list-style-type: none"> <li>l. Continuation Training</li> </ul>	
	<ul style="list-style-type: none"> <li>m. Other</li> </ul>	
	<ul style="list-style-type: none"> <li>15. Maintenance Personnel Training Evaluation</li> <li>c. Assigned tasks and responsibilities</li> </ul>	
	<ul style="list-style-type: none"> <li>d. Knowledge and skills related to human performance</li> </ul>	

<p>CAA Remarks on the Proposed Scheduled Dates for the Demonstration and Inspection Phase</p>	
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<b>Reg. Reference</b>	<b>V. Certification Phase</b>	<b>Scheduled Date</b>
	<b>A. Complete Form (Approved Maintenance Organization)</b>	
	<b>B. Prepare Approved Maintenance Organization Certificate</b>	
	<b>C. Prepare Approved Maintenance Organization Operations Specifications</b>	
	<b>D. Present signed Approved Maintenance Organization Certificate and Operations Specifications to Approved Maintenance Organization</b>	

	<b>E. Prepare Certification Report</b>	
	<b>1. Assemble Report/Attachments</b>	
	<b>a. Completed POPS</b>	
	<b>b. Completed Formal Application Form (Approved Maintenance Organization)</b>	
	<b>c. Completed Compliance Statement</b>	
	<b>d. Copy lease/contract agreement(s)</b>	
	<b>e. Copy of signed Approved Maintenance Organization Certificate</b>	
	<b>f. Copy of signed Approved Maintenance Organization Operations Specifications</b>	
	<b>g. Copy of completed Capability List</b>	
	<b>h. Copy of other Contracting States Certificate(s) and Operations Specifications</b>	
	<b>i. Copy of maintenance functions under contract</b>	
	<b>j. Copy of approved specification(s) if issued a Specialized Service Rating</b>	
	<b>k. Certification Checklist/Schedule of Events</b>	
	<b>l. Certification report (Summary of difficulties)</b>	
	<b>m. All correspondence between the applicant and Authority.</b>	
	<b>n. Suggestions to improve certification process</b>	
	<b>o. Distribute Report</b>	

	<b>F. Complete Form (Approved Maintenance Organization)</b>	
	<b>G. Prepare Approved Maintenance Organization Certificate</b>	
	<b>H. Prepare Approved Maintenance Organization Operations Specifications</b>	

	<b>I. Present signed Approved Maintenance Organization Certificate and Operations Specifications to Approved Maintenance Organization</b>	
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	<b>J. Prepare Certification Report</b>	
	<b>2. Assemble Report/Attachments</b>	
	<b>a. Completed POPS</b>	
	<b>b. Completed Formal Application Form (Approved Maintenance Organization)</b>	
	<b>c. Completed Compliance Statement</b>	
	<b>d. Copy lease/contract agreement(s)</b>	
	<b>e. Copy of signed Approved Maintenance Organization Certificate</b>	
	<b>f. Copy of signed Approved Maintenance Organization Operation Specifications</b>	
	<b>g. Copy of completed Capability List</b>	
	<b>h. Copy of other Contracting States Certificate(s) and Operations Specifications</b>	

CAA Remarks on the Proposed Scheduled Dates for the Certification Phase	
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<b>Recommendations</b>
The Certification schedule of events has been evaluated and found acceptable / not as noted in the Remark columns
Name of Inspector _____ Signature _____ Date _____

<b>Manager FSG Remarks and Recommendation</b>
Remarks:
I hereby <b>Approval / do not Approve</b> the Certification Schedule of Events.
Date _____ Signature ..... Manager Flight Standards Group



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## MANAGEMENT PERSONNEL BIOGRAPHICAL DATA

FORM: AC-AWS006F

MANAGEMENT PERSONNEL BIOGRAPHICAL DATA (To be completed by the Nominee)		
1. Company name:	1. Comp any address:	
3. Name of nominee:	4. Position:	
5. Address of Nominee:		
6. Status: <input type="checkbox"/> Permanent <input type="checkbox"/> Contracted - Full Time <input type="checkbox"/> Contracted - Part Time		
7. Qualifications relevant to item (4) position (Tick here <input type="checkbox"/> if information is continued on reverse side of this form)	Date From	Date to
(1)		Present
(2)		
(3)		
(4)		
(5)		
(6)		
(7)		
(8)		
8. Work experience relevant to item (4) position:	Date From	Date to
(1)		Present
(2)		
(3)		
(4)		
(5)		
(6)		
(7)		
(8)		
9. I, ..... hereby confirm that <div style="text-align: center; font-size: small;">(Print Name in full)</div> <p>(a) I have not</p> <p style="margin-left: 20px;">(i) held a certificate or aviation document issued by a civil aviation authority that was revoked or terminated within the previous five years by reason of criminal, fraudulent, improper action or insanity on my part; nor</p> <p style="margin-left: 20px;">(ii) contributed materially to the revocation or suspension of an aviation document issued by a civil aviation authority</p> <p>(b) The information provided on this form is true and correct to the best of my knowledge.</p>		
Signature:.....		Date:.....

10.

**For NCAA Official Use Only**

Received by:

Name: .....

Position: .....

Signature:..... Date:.....

Attach copies of certificates/proof of experience to this form in support of information supplied.



**NIGERIAN CIVIL AVIATION AUTHORITY**  
AVIATION HOUSE  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**PARTICULARS OF AIRCRAFT MAINTENANCE PERSONNEL**

NAME OF OPERATOR: .....

/NO	NAME	QUALIFICATION (TYPE OF LICENCE, A/C RATING, ETC)	AUTHORISATIONS AND EXPIRY DATES	EXPERIENCE (TYPE & YEARS, ETC)	DATE OF 1 <sup>ST</sup> ISSUE OF LICENCE)	EXPIRY DATE OF LICENCE	REMARKS

NAME: .....

SIGNATURE: ..... DATE: .....



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## FORM: AC-AWS006H

### PRE-APPLICATION STATEMENT OF INTENT (PASI)/ APPLICATION FORM

To be completed by an applicant for an Approved Maintenance Organisation /  
Continuing Airworthiness Management Organisation

**Section 1: To be completed by applicant.**

1. Name and mailing address of company (include business name if different from company name).	2. Address of the principal (main) base where operations will be conducted.
--	---

3. Proposed Start-up Date: \_\_\_\_\_

4. Management and Key Staff Personnel.

Name (Surname/First/Middle).	Title.	Telephone (include mobile) & address (if different from company) include country code.

5. Proposed type of Approved Maintenance Organisation **Class Rating(s)**. Nig. CAR 6.2.1.10  
(Tick as many as applicable)

Airframe	Power-plant	Components			Specialized Services
<input type="checkbox"/> (a) (i) <input type="checkbox"/> (a) (ii) <input type="checkbox"/> (a) (iii) <input type="checkbox"/> (a) (iv)	<input type="checkbox"/> (b) (i) <input type="checkbox"/> (b) (ii) <input type="checkbox"/> (b) (iii)	<input type="checkbox"/> (c) (i) <input type="checkbox"/> (c) (ii) <input type="checkbox"/> (d) (i) <input type="checkbox"/> (d) (ii) <input type="checkbox"/> (d) (iii)	<input type="checkbox"/> (e) (i) <input type="checkbox"/> (e) (ii) <input type="checkbox"/> (e) (iii) <input type="checkbox"/> (e) (iv) <input type="checkbox"/> (f) (i)	<input type="checkbox"/> (f) (ii) <input type="checkbox"/> (f) (iii) <input type="checkbox"/> (g) (i) <input type="checkbox"/> (g) (ii) <input type="checkbox"/> (c) (iii)	<input type="checkbox"/> (g) (iv) <input type="checkbox"/> (3) (a) <input type="checkbox"/> (3) (b)

6. Proposed type of **Limited Rating(s)**. Nig. CAR 6.2.1.11 (CAMO applicants should tick 'Airframe' and give manufacturer and model details below)  
(Tick as many as applicable)

- |  |  |   |   |
|--|--|---|---|
| <input type="checkbox"/> Airframe.     | <input type="checkbox"/> Accessories     | <input type="checkbox"/> Rotor                  | <input type="checkbox"/> Other  |
| <input type="checkbox"/> Power plant . | <input type="checkbox"/> Landing gear    | <input type="checkbox"/> Fabric                 | <input type="checkbox"/> Specialised Services (List Process Specifications) |
| <input type="checkbox"/> Propeller.    | <input type="checkbox"/> Floats          | <input type="checkbox"/> Emergency Equipment    |   |
| <input type="checkbox"/> Instruments.  | <input type="checkbox"/> Avionics/ radio | <input type="checkbox"/> Non- Destructive Test. |   |

Scope and Limitation of Ratings applied for:

.....

.....

.....

.....

.....

.....

.....

Scope and Limitation of Specialised Services applied for:

.....

.....

.....

7. Additional information that provides a better understanding of the proposed operation or business (Attach additional sheets, if necessary).

**8. The statement and information contained on this form denotes an intention to apply for an AMO / CAMO Approval Certificate.**

Signature.	Date (day/month/year).	Name and Title (Block Letters).
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**Section 2. To be completed by the Director, Airworthiness Standards.**

Received by (Name and Office):	Date received (day/month/year).
--------------------------------	---------------------------------

Remarks:

**Section 3. To be completed by the Assigned Certification, Project Manager (CPM).**

Received by:	Date (day/month/year):
--------------	------------------------

Assigned Certification Number:

Assigned ASI(s):	Date:
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Remarks:



**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**APPLICATION FOR APPROVED MAINTENANCE  
 ORGANISATION CERTIFICATE AND RATINGS**

**FORM: AC-AWS007**

<b>Nigerian Civil Aviation Authority</b>		<b>Application for Approved Maintenance Organization Certificate and Ratings</b>	
<b>1. Approved Maintenance Organization Name, Number, Location and Address</b>		<b>2. Reasons for Submission</b>	
a. Official Name of Maintenance Organization:	Number:	<input type="checkbox"/> Original Application for Certificate and Rating <input type="checkbox"/> Change in Rating <input type="checkbox"/> Change in Location or Housing and Facilities <input type="checkbox"/> Change in Ownership <input type="checkbox"/> Other (Specify)	
b. Location where business is conducted:			
c. Official Mailing Address of Approved Maintenance Organization (Number, Street, City, State, & Zip)			
d. Doing Business As:			
e. Line Maintenance Location			
<b>3. Ratings Applied for: Ref: AMO CAR Reg. No.</b>			
<b>Aircraft</b> <input type="checkbox"/> Class 1 Composite Small Aircraft <input type="checkbox"/> Class 2 Composite Large Aircraft <input type="checkbox"/> Class 3 Metal Small Aircraft <input type="checkbox"/> Class 4 Metal Large Aircraft	<b>Engine – Propellers</b> <input type="checkbox"/> Class 1 Piston <400hp <input type="checkbox"/> Class 2 Piston >400hp <input type="checkbox"/> Class 3 Turbine Engine <input type="checkbox"/> Class 1 Fix Pitch Props <input type="checkbox"/> Class 2 All other Props	<b>Equipment &amp; Instruments</b> <input type="checkbox"/> Class 1 Comm Equip. <input type="checkbox"/> Class 2 Nav. Equip. <input type="checkbox"/> Class 3 Rader Equip. <input type="checkbox"/> Class 1 Instr. Mech. <input type="checkbox"/> Class 2 Electrical <input type="checkbox"/> Class 3 Gyroscopic <input type="checkbox"/> Class 4 Electronic	<b>Accessories</b> <input type="checkbox"/> Class1 Mech. Acc. <input type="checkbox"/> Class2 Electrical Acc. <input type="checkbox"/> Class3 Electronic Acc. <input type="checkbox"/> Class4 APU.
<input type="checkbox"/> Specialized Service (List Process Specification(s))			
<b>4. List of Maintenance Functions contracted to an outside Organization:</b>			
<b>5. Applicants Certification</b>			
Name of Owner (Include name(s) of individual Owner, all partners, or corporation name given the state, province, or country and date of incorporation)			



I hereby certify that I have been authorized by the approved maintenance organization identified in Item 1 above to make this application and that statements attached hereto are true and correct to the best of my knowledge.			
Date:	Authorized Signature:	Print Name of Authorized Signature:	Title:



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**FORM: AC-AWS 007A**

**SPECIAL CONDITIONS SUPPLEMENT (SCS) TO A FOREIGN AMO  
MAINTENANCE PROCEDURES MANUAL (MPM) - Format**

Approved SCS Ref. No. ....

Foreign AMO MCM Ref. No. ....

Company Name and Facility Address:

.....  
.....  
.....  
.....

Foreign AMO Local Authority Approval No.....

**The Authority AMO Approval No. ....**

This approved Special Conditions Supplement (SCS) forms part of the foreign AMO Maintenance Organization Exposition.

This SCS together with the foreign AMO local Authority approved MPM form the basis of approval of a foreign AMO to carry out maintenance on aircraft and or components in accordance with The Civil Aviation (Approved Maintenance Organization) Regulations part 6.

## **CONTENTS**

### **1. LIST OF EFFECTIVE PAGES**

### **2. STATEMENT OF COMPLIANCE**

### **3. AMENDMENT PROCEDURE**

Identify the position within the AMO that is responsible for amendment action and coordinating the approval process of the SCS.

### **4. INTRODUCTION**

This paragraph should address why the supplement is necessary.

The Civil Aviation( Air Operator Certification and Administration) Regulations part 9 provides for Authority approval of a foreign

based maintenance organization or repair station to carry out maintenance on Authority approved AOC holders aircraft

The SCS is meant to cater for the specific Authority requirements and differences that might be there between Civil Aviation(Approved Maintenance Organization) Regulations part 6. and the foreign Authority Regulations. The foreign AMO shall be approved when the Authority is satisfied that the AMO complies with maintenance Special Conditions specified in this AC.

## 5. ACCOUNTABLE MANAGER'S COMMITMENT STATEMENT

This paragraph represents the statement by the Accountable Manager that the organization will comply with the conditions specified in the SCS and operate in accordance with the Civil Aviation(Approved Maintenance Organization) Regulations part 6.

An acceptable statement for this paragraph would be:

"This Supplement in conjunction with the foreign AMO approved MPM Ref. .... defines the organization and procedures upon which the Authority approval has been granted.

These procedures are approved by the undersigned, and must be adhered to, as applicable, when maintenance work orders are being progressed under the conditions of the Civil Aviation(Approved Maintenance Organization) Regulations part 6.

It is accepted that the AMO's procedures do not override the necessity of complying with any additional requirements formally published by the Authority and notified to this organization from time to time.

It is understood that the Authority Approval Certificate will be valid whilst the Authority is satisfied that the procedures are being followed and work standards maintained. It is further understood that the Authority reserves the right to revoke the Approval Certificate if it considers that procedures are not followed or standards not upheld.

.....  
Signed by the Accountable Manager  
For and on behalf of the AMO."

**Note:** *Whenever the accountable manager is replaced, the new Accountable Manager must sign the statement to ensure continuous Authority Acceptance.*

## **6. APPROVAL BASIS AND LIMITATION**

The Authority approval is based upon the AMO compliance with local Authority Regulations and Requirements except where varied by the conditions specified in this AC.

The Authority approval is limited the work scope listed below, and as indicated in the approval document Specific Operating Provisions (SOP). In any case whatsoever it must not exceed the scope of work permitted by the foreign local Authority or another recognised Authority as indicated on the approval documents.

## **7. ACCESS BY THE AUTHORITY**

It should be stated that the Authority inspectors will be allowed access to the AMO for the purpose of ascertaining compliance with procedures and standards and to investigate specific problems as required by Civil Aviation(Air Operator Certification And Administration) Regulations part 9, Regulations 6.5.1.11. and Regulations part 9.1.1.10 of The Civil Aviation(Approved Maintenance Organisation) Regulations part 6.

## **8. WORK ORDERS**

It is the responsibility of the operator to raise the maintenance work orders and scheduled maintenance inspection check list or work package task cards specifying the inspections, repairs, modifications, overhaul, airworthiness directives and parts replacements that should be carried out and to make sure that the AMO receives them in time for the work to be accomplished within the required time frame.

The operator remains responsible for correctly informing the AMO by work order of all required mandatory maintenance inspections and modifications.

## **9. APPROPRIATE MAINTENANCE AND ENGINEERING REFERENCE MANUALS.**

It is the responsibility of the Operator to ensure that the AMO is furnished with all relevant, current maintenance and engineering technical documents (e.g. Manuals, ADs, SBs) appropriate for the type aircraft, ref: the Civil Aviation(Operation of Aircraft) Regulations part 8, Regulation part 5, the Civil Aviation(Airworthiness) Regulations 5.5.1.3

## **10. MAJOR REPAIRS / MODIFICATIONS**

The procedure for the AMO to ensure that of the Authority approves major repairs and major modifications when necessary, or has confirmed that the AMO local Authority approved data is acceptable.

The AMO should request the operator to provide such written proof from the Authority.

*Note: The Authority accepts repairs and modifications issued by the Manufacturer and approved by the Authority of the state of manufacture through the Type Certificate holder.*

## **11. RELEASE OF COMPONENTS AFTER MAINTENANCE**

Release to service of components up to and including complete power plants should be carried out in accordance with the AMO local Authority Regulations. At the completion of maintenance appropriate release to service documents and certificates should be issued by the AMO. The AMO release to service certificates must indicate the Authority approval number in addition to the local Authority approval. Ref: Nig CARs 6.5.1.7, & 6.5.1.8 of The Civil Aviation Approved Maintenance Organization) Regulations part 6.

The release to service certifying statement shall specify any overhaul, repairs, modifications, Airworthiness Directives, replacement parts and quote the reference and issue/revision of the approved data used, (EASA Form One is a typical acceptable component release to service document after maintenance).

## **12. VALIDITY OF AIRWORTHINESS CERTIFICATE**

The Operator or owner is responsible for ensuring that the Airworthiness Certificate remains valid. The AMO however, should ensure that the Airworthiness Certificate is valid before it issues the aircraft release to service certificate after maintenance.

## **13. RELEASE OF AIRCRAFT AFTER MAINTENANCE**

Release to service of aircraft shall be performed as approved in the Special Conditions Supplement unless stated otherwise, in any case however, it must satisfy the requirements of the Civil Aviation (Approved Maintenance Organization) Regulations part 6, Regulation 6.5.1.7.

The release to service document shall specify the aircraft maintenance check carried out, plus any repairs, modifications, Airworthiness Directives, replacement parts together with the issue of approved data used.

Any work not carried out shall be clearly indicated and the operator informed. This should be work within the permitted deviations of the approved maintenance program and it could be when:

- a) Some of the maintenance work requested by the operator has not been carried out.
- b) Or a case where the particular maintenance work requirement is not approved by the AMO local Authority.

Otherwise the AMO must issue the certification when all required maintenance has been carried and appropriately certified.

The AMO Authority approval Certificate Number and the local Authority approval Certificate Number must be quoted on the release to service documents

#### **14. REPORTING OF UN AIRWORTHY CONDITIONS**

The procedure that will be followed to report found un-airworthy conditions be stated indicating the time frame within which the report must be made and to who.

Regulations 6.5.1.10 of The Civil Aviation(Approved Maintenance Organization) Regulations part 6 requires the report to be made to the Authority as soon as possible but in any case not later than three days (72 hours).

#### **15. QUALITY SYSTEM (QS)**

Regulations 6.2.1.12 of The Civil Aviation (Approved Maintenance Organization) Regulations part 6 requires an independent AMO quality system.

The QS system procedures shall explain the independent audit system, the management / control and follow up system, and the annual audit schedule program.

A report should be raised for each audit carried out describing what was checked and any resulting findings/discrepancies.

## **16. PROVISION OF HANGAR SPACE FOR AIRCRAFT MAINTENANCE**

A statement that appropriate housing, facilities and equipment are available and shall be provided for aircraft who's maintenance is being contracted. Ref: Regulations 6.3.1.2 of The Civil Aviation(Approved Maintenance Organization) Regulations part 6.

## **17. COMPONENTS AUTHORISED FOR USE DURING MAINTENANCE & MODIFICATION**

1. Component means any component part of an aircraft up to and including a complete power plant and any operational or emergency equipment. They should be traceable to the Type Certificate (TC) holders Parts Catalogue and MUST be in a satisfactory condition for fitment.
2. New components should be accompanied by appropriate release document issued by the approved Production Certificate holder
3. Used components should be traceable to an approved maintenance organizations or repair stations which certified the previous maintenance and in case of life limited parts certified the cycles and life used.

## **18. SUB-CONTRACTED MAINTENANCE**

A statement on how sub-contracted maintenance work shall be managed.

Regulations 6.5.1.4 provides for AMO sub-contracting maintenance work to another AMO, (approved or not approved by the authority). In any case, it is required that there exist a maintenance contract agreement between the two AMOs stating what specific work activity has been contracted.

The contracting AMO must have proof that the sub-contracted AMO holds the required local Authority approval and capability for the contracted maintenance work.

Whatever the case, the sub-contracting AMO remains responsible for the quality and safety of maintenance released to service by the sub-contracted AMO.

Notes:

- (i) The AMO shall not be contracted to perform any work which is not within its scope of approval unless it has an acceptable maintenance sub

contract agreement with an other AMO that is appropriately rated and approved to perform such maintenance work.

(ii) In such a case the sub-contracted AMO may not need to be approved by the Authority, however, the maintenance sub-contract agreement must clearly indicate that the approved AMO still remains responsible for the quality of the released to service of the sub-contracted maintenance work.





**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**FORM: AC-AWS007B**

**SPECIAL CONDITIONS SUPPLEMENT (SCS) TO A FOREIGN AMO  
MAINTENANCE PROCEDURES MANUAL (MPM)**

Approved SCS Ref. No. ....

Foreign AMO MPM Ref. No. ....

Foreign AMO Name and Address:

.....  
.....  
.....  
.....

Foreign AMO Local Authority Approval No.....

The Authority AMO Approval No. ....

This approved Special Conditions Supplement (SCS) forms part of the foreign AMO Maintenance Procedures Manual (MPM).

This SCS together with the foreign AMO local Authority approved MPM form the basis of approval of a foreign AMO to carry out maintenance on aircraft and or components in accordance with The Civil Aviation (Approved Maintenance Organization) Regulations.

**CONTENTS**

**1.0 LIST OF EFFECTIVE PAGES**

**2.0 STATEMENT OF COMPLIANCE**

**3.0 AMENDMENT PROCEDURE**

Identify the position within the AMO that is responsible for amendment action and coordinating the approval process of the SCS.

**4.0 INTRODUCTION**

- 4.1 This paragraph should address why the supplement is necessary.
- 4.2 Regulation part 9 of the Civil Aviation (Air Operator Certification and Administration) Regulations provides for Authority approval of maintenance organization or repair station selected by the air operators to carry out maintenance on Authority approved AOC holder's aircraft. The organisation can be a foreign based

- 4.3 The SCS is meant to cater for the specific Authority requirements and differences that might be there between Civil Aviation (Approved Maintenance Organisation) Regulations and the foreign Authority Regulations. The foreign AMO shall be approved when the Authority is satisfied that the AMO complies with maintenance Special Conditions specified in this AC.

## **5.0 ACCOUNTABLE MANAGER'S COMMITMENT STATEMENT**

- 5.1 This paragraph represents the statement by the Accountable Manager that the organization will comply with the conditions specified in the SCS and operate in accordance with Regulation part 6 of the Civil Aviation (Approved Maintenance Organisation) Regulations.
- 5.2 An acceptable statement for this paragraph would be:
- 5.2.1 This Supplement in conjunction with the foreign AMO approved MPM Ref. .... defines the organization and procedures upon which the Authority approval has been granted.
- 5.2.2 These procedures are approved by the undersigned, and must be adhered to, as applicable, when maintenance work orders are being progressed under the conditions of the Civil Aviation (Approved Maintenance Organisation) Regulations.
- 5.2.3 It is accepted that the AMO's procedures do not override the necessity of complying with any additional requirements formally published by the Authority and notified to this organization from time to time.
- 5.2.4 It is understood that the Authority Approval Certificate will be valid whilst the Authority is satisfied that the procedures are being followed and work standards maintained. It is further understood that the Authority reserves the right to revoke the Approval Certificate if it considers that procedures are not followed or standards not upheld.

.....  
Signed by the Accountable Manager  
For and on behalf of the AMO

*Note: Whenever the Accountable Manager is replaced, the new Accountable Manager must sign the statement to ensure continuous Authority Acceptance.*

## **6.0 APPROVAL BASIS AND LIMITATION**

- 6.1 The Authority approval is based upon the AMO compliance with local Authority Regulations and Requirements except where varied by the conditions specified in this AC.
- 6.2 The Authority approval is limited to the work scope listed below, and as indicated in the approval document Specific Operating Provisions (SOP). In any case whatsoever it must

not exceed the scope of work permitted by the foreign local Authority as indicated on the approval document.

## **7.0 ACCESS BY THE AUTHORITY**

It should be stated that the Authority inspectors will be allowed access to the AMO for the purpose of ascertaining compliance with procedures and standards and to investigate specific problems as required by Part 9, 9.1.1.10 of the Nigeria Civil Aviation Regulations and part 6, 6.5.1.11 of the Nigeria Civil Aviation Regulations

## **8.0 WORK ORDERS**

- 8.1** It is the responsibility of the operator to raise the maintenance work orders and scheduled maintenance inspection check list or work package task cards specifying the inspections, repairs, modifications, overhaul, airworthiness directives and parts replacements that should be carried out and to make sure that the AMO receives them in time for the work to be accomplished within the required time frame.
- 8.2** The operator remains responsible for correctly informing the AMO by work order of all required mandatory maintenance inspections and modifications.

## **9.0 APPROPRIATE MAINTENANCE AND ENGINEERING REFERENCE MANUALS.**

It is the responsibility of the Operator to ensure that the AMO is furnished with all relevant, current maintenance and engineering technical documents (e.g. Manuals, ADs and SBs) appropriate for the type aircraft, reference may be made to Regulation part 9 of the Civil Aviation (Operation of Aircraft) Regulations and Regulation part 6 of the Civil Aviation (Airworthiness) Regulations.

## **10.0 MAJOR REPAIRS / MODIFICATIONS**

The procedure for the AMO to ensure that the Authority approves major repairs and major modifications when necessary or has confirmed that the AMO local Authority approved data is acceptable. The AMO should request the operator to provide such written proof from the Authority.

*Note: The Authority accepts repairs and modifications issued by the Manufacturer and approved by the Authority of the state of manufacture through the Type Certificate holder.*

## **11.0 RELEASE OF COMPONENTS AFTER MAINTENANCE**

- 11.1** Release to service of components up to and including complete power plants should be carried out in accordance with the AMO local Authority Regulations. At the completion of maintenance appropriate release to service documents and certificates should be issued by the AMO. The AMO release to service certificates must indicate the Authority approval number in addition to the local Authority approval. Reference be made to Regulations part 6 of the Civil Aviation (Approved Maintenance Organisation) Regulations.
- 11.2** The release to service certifying statement shall specify any overhaul, repairs, modifications, Airworthiness Directives, replacement parts and quote the reference and

issue/revision of the approved data used, (EASA Form One is a typical acceptable component release to service document after maintenance).

## **12.0 VALIDITY OF AIRWORTHINESS CERTIFICATE**

The Operator or owner is responsible for ensuring that the Certificate of Airworthiness (C of A) remains valid. The AMO however, should ensure that the C of A is valid before it issues the aircraft release to service certificate after maintenance.

## **13.0 RELEASE OF AIRCRAFT AFTER MAINTENANCE**

- 13.1 Release to service of aircraft shall be carried out in accordance with the AMO local Regulations Requirements except where when stated otherwise in this paragraph.
- 13.2 Where the Authority, or operator requires to use his own release to service documents, this shall be done in accordance with Regulations part 6 of the Civil Aviation (Approved Maintenance Organisation) Regulations.
- 13.3 The release to service document shall specify the aircraft maintenance check carried out, plus any repairs, modifications, Airworthiness Directives, replacement parts together with the issue of approved data used.
- 13.4 Any work not carried out shall be clearly indicated and the operator informed. This should be work within the permitted deviations of the approved maintenance program and it could be when:
  - 13.4.1 Some of the maintenance work requested by the operator has not been carried out.
  - 13.4.2 Or a case where the particular maintenance work requirement is not approved by the AMO local Authority.
- 13.5 Otherwise the AMO must issue the certification when all required maintenance has been carried out and appropriately certified.
- 13.6 The AMO Authority approval Certificate Number and the local Authority approval Certificate Number must be quoted on the release to service documents

## **14.0 REPORTING OF UN AIRWORTHY CONDITIONS**

- 14.1 The procedure that will be followed to report found un-airworthy conditions be stated indicating the time frame within which the report must be made and to who.
- 14.2 Regulation part 6 of the Civil Aviation (Approved Maintenance Organization) Regulations requires that the report be made to the Authority as soon as possible but in any case not later than three days (72 hours).

## **15.0 QUALITY MONITORING (QM) SYSTEM**

- 15.1 Regulation 27 of The Civil Aviation (Approved Maintenance Organisation) Regulations requires an independent AMO quality system.
- 15.2 The QM system procedures shall explain the independent audit system, the management control and follow up system, and the annual audit schedule program.
- 15.3 A report should be raised for each audit carried out describing what was checked and any resulting findings/discrepancies.

## **16.0 PROVISION OF HANGAR SPACE FOR AIRCRAFT MAINTENANCE**

A statement that appropriate housing, facilities and equipment are available and shall be provided for aircraft whose maintenance is being contracted. Reference may be made to Regulation part 6 of the Civil Aviation (Approved Maintenance Organization) Regulations.

## **17.0 COMPONENTS AUTHORISED FOR USE DURING MAINTENANCE & MODIFICATION**

- 17.1 Component means any component part of an aircraft up to and including a complete power plant and any operational or emergency equipment. They should be traceable to the Type Certificate (TC) holders Parts Catalogue and MUST be in a satisfactory condition for fitment.
- 17.2 New components should be accompanied by appropriate release document issued by the approved Production Certificate holder
- 17.3 Used components should be traceable to an approved maintenance organizations or repair stations which certified the previous maintenance and in case of life limited parts certified the cycles and life used.

## **18.0 SUB-CONTRACTED MAINTENANCE**

- 18.1 A statement on how sub-contracted maintenance work shall be managed.
- 18.2 Regulation part 6 of the Civil Aviation (Approved Maintenance Organisation) Regulations provides for AMO sub-contracting maintenance work to another AMO, (approved or not approved by the Authority). In any case, it is required that there exist a maintenance contract agreement between the two AMOs stating what specific work activity has been contracted.
- 18.3 The contracting AMO must have proof that the sub-contracted AMO holds the required local Authority approval and capability for the contracted maintenance work.
- 18.4 Whatever the case, the contracting AMO remains responsible for the quality of the maintenance being carried out by the sub-contracted AMO.

*Notes:*

- (i) *The AMO shall not be contracted to perform any work which is not within its scope of approval unless it has an acceptable maintenance sub contract agreement with another AMO that is appropriately rated and approved to perform such maintenance work.*
- (ii) *In such a case the sub-contracted AMO may not need to be approved by the Authority, however, the maintenance sub-contract agreement must clearly indicate that the approved AMO still remains responsible for the quality of the released to service of the sub-contracted maintenance work.*



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**FORM:AC-AWS014**

## REQUEST FOR MAJOR MODIFICATION AND REPAIR DATA APPROVAL

1. COMPANY NAME AND ADDRESS:		2. COMPANY APPROVAL NO:	
		3. <input type="checkbox"/> MODIFICATION or <input type="checkbox"/> REPAIR (Tick applicable box)	
		4. ENGINEERING ORDER NUMBER:	
5. A/C TYPE:		6. REGISTRATION NO.:	
7. Reason For <input type="checkbox"/> MODIFICATION or <input type="checkbox"/> REPAIR:			
8.Details of <input type="checkbox"/> MODIFICATION or <input type="checkbox"/> REPAIR			
9. Master Drawing Reference		10. All Drawings Attached <input type="checkbox"/> Yes <input type="checkbox"/> No	
11. Is Flight Manual Affected? <input type="checkbox"/> Yes <input type="checkbox"/> No		If Yes, is Supplement Attached? <input type="checkbox"/> Yes <input type="checkbox"/> No	
12. Design Authority Responsible: (Major Aircraft Manufacturer) e.g. FAA, EASA, UKCAA.			
13. List Manuals Affected:			
14. Page 2 Completed? <input type="checkbox"/> Yes <input type="checkbox"/> No		Are all supporting Documents attached? <input type="checkbox"/> Yes <input type="checkbox"/> No	
15. FOR AND ON BEHALF OF (Company Name) _____			
Name: _____ Signature: _____ Date: _____			
<b>FOR AUTHORITY USE ONLY</b>			
16. DATA ACCEPTED <input type="checkbox"/> Authority Approval Number:		DATA NOT ACCEPTED <input type="checkbox"/>	
<b>LIMITATIONS</b>		<b>Reasons for non-acceptance:</b>	

NAME: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

17. Additional sheets attached NO  YES  Number of additional sheets \_\_\_\_\_

*In making this application the applicability of items on this table has been assessed and appropriately addressed.*

18. Detailed Description:

19. Instructions Necessary For Installation:

20. Stress Analysis:

21. Power Supplies:

22. Cooling Requirements:

23. Aerial Position:

24. Fuses:

25. Component Listing:

26. Equipment Lighting:

27. Effects on other System:

28. Interface:

29. Crew Notices/Placards:

30. Modification Procedure:

31. Compatibility With Other Mods/Repairs:

32. The Maintenance Schedule is affected: Yes,

33. Tests:

34. Flight Tests:

35. Other Details:



The following are instructions for completing the application Form. The numbers correspond to the numbers on the form:

1. Enter the company Name and Address
2. Enter the company Approval Number or Certificate Number
3. Tick appropriate box
4. Record the engineering order number.
5. Record the aircraft type.
6. Enter aircraft registration number.
7. Enter the reason for the Modification or repair.
8. Provide a detailed description of the repair or Mod.
9. Give the Master drawing reference.
10. List all relevant controlling drawing .
11. Indicate the effect on the Flight Manual.
12. Indicate the State of design which has provided approval for the design change or repair, such as FAA, JAA etc.
13. List the other manuals that are affected, and may required supplements or amendments, and indicate when these changes are to be implemented.
14. Indicate that Page 2. is properly addressed.
15. Designated company representative shall record name, sign and date.
16. For use by Authority only.
17. Number of sheets used.
18. Items 18-35 have been filled in as an example to indicate an acceptable method when a submission is made to the Authority. Each operator must address each item to indicate that all the listed factors have been considered as a minimum, and are included as appropriate.



**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**FORM: AC-AWS0014A**

<b>MAJOR REPAIR AND ALTERATION RECORD</b>					
<b>(Airframe, Engine, Propeller or Appliance)</b>					
Print or type all entries.					
<b>1. Aircraft</b>					Nationality and Registration Mark
<b>2. Owner</b>	Name (As shown on registration certificate)			Address (As shown on registration certificate)	
<b>3. Unit Identification</b>				<b>4. Type</b>	
Unit	Make	Model	Serial Number	Repair	Modification
<b>Airframe</b>					
<b>Engine</b>					
<b>Propeller</b>					
<b>Appliance</b>					
<b>5. Conformity Statement</b>					
A. Organisation Name and Address		B. Kind of License/Organisation		C. Certificate/License Number	
		<input type="checkbox"/> Approved Maintenance Organisation		(For an AMO include the appropriate ratings issued for the major repair or modification)	
		<input type="checkbox"/> Manufacturer			
D. I certify that the repair and/or modification made to the unit(s) identified in item 3 above and described on the reverse or attachments hereto have been made in accordance with the requirements of the Civil Aviation (Airworthiness) Regulations and that the information furnished herein is true and correct to the best of my knowledge.					
Date			Signature of Authorised Individual		
<b>6. Approval for Return To Service</b>					
Pursuant to the authority given persons specified below, the unit(s) identified in item 4 was inspected in the manner prescribed by the Nigerian Civil Aviation Authority and is APPROVED <input type="checkbox"/> REJECTED <input type="checkbox"/>					
BY	<input type="checkbox"/> NCAA Inspector		<input type="checkbox"/> Inspection Authorisation		Other (Specify)
	<input type="checkbox"/> Maintenance Organisation		<input type="checkbox"/> Other		
Date of Approval or Rejection			Certificate or Designation Number		Signature of Authorised Individual





**NIGERIAN CIVIL AVIATION AUTHORITY**  
AVIATION HOUSE  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

FORM: AC-AWS0017

**AVIATION SAFETY INSPECTOR OJT PROGRESS CHART**

<b>1. Name of Inspector</b>	<b>2. Check Inspector Speciality:</b>  <b>AIRWORTHINESS</b> <input type="checkbox"/>	<b>3. Position Description</b>
-----------------------------	--	--------------------------------

<b>4. OJT Job Task</b>	<b>5. Order Number</b>	<b>6. Level 1 Discuss</b>	<b>7. Level 2 Observe/Assist</b>	<b>8. Level 3 Perform</b>	<b>9. Confirmed By: Sign &amp; Date</b>
Ex. Ramp Inspection	CAA-OGEN006				



**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

FORM: AC-AWS020

**OPERATOR'S ASSESSMENT STATEMENT (OAS) - RECERTIFICATION**

<b>Operator's Assessment Statement (OAS) - Recertification</b>			
(To be completed by an applicant for Approved Maintenance Organisation certificate Renewal).			
<b>Section 1A: To be completed by all applicants.</b>			
1. Name and mailing address of company (include business name if different from company name).		2. Address of the principal (main) base where operations will be conducted.	
3. Proposed Start-up Date:	4. Requested company identifier in order of preference. (1).                      (2).                      (3).		
5. Management and Key Staff Personnel.			
Name (Surname/First/Middle).	Title.	Telephone & address (if different from company include country code).	
<b>Section 1B: To be completed by Air Operator and/or Approved Maintenance Organisation.</b>			
6. Air Operators Maintenance Support AMO.  Approved Maintenance Organisation.			
7. Proposed type of operation if AMO is Air Operators Maintenance Support Passengers and Cargo.      Cargo Only.      Scheduled Operations.      Charter Flight Operations			
8. Proposed type of Approved Maintenance Organisation Rating(s). Ref: AMO Regs Part 6.6.2.1.10.			
Aircraft	Engine - Propellers	Equipment & Instruments	Accessories
<input type="checkbox"/> Class 1 Composite Small Aircraft <input type="checkbox"/> Class 2 Composite Large Aircraft <input type="checkbox"/> Class 3 Metal Small Aircraft <input type="checkbox"/> Class 4 Metal Large Aircraft	<input type="checkbox"/> Class1Piston <400hp <input type="checkbox"/> Class2 Piston>400hp <input type="checkbox"/> Class3Turbine Engine <input type="checkbox"/> Class1Fix Pitch Props <input type="checkbox"/> Class2All other Props	<input type="checkbox"/> Class1Comm Equip. <input type="checkbox"/> Class2 Nav. Equip <input type="checkbox"/> Class3 Rader Equip. <input type="checkbox"/> Class1 Instr. Mech. <input type="checkbox"/> Class2 Electrical <input type="checkbox"/> Class3 Gyroscopic <input type="checkbox"/> Class4 Electronic	<input type="checkbox"/> Class1 Mech. Acc. <input type="checkbox"/> Class2 Electrical Acc. <input type="checkbox"/> Class3 Electronic Acc. <input type="checkbox"/> Class4 APU.

<b>Section 1C. Blocks 9 and 10 to be completed by Air Operator if AMO is AOC Maintenance. Support</b>		
9. Aircraft Data (For foreign registered aircraft, please provide a copy of the lease agreement).		10. Geographic areas of operations.
Types of aircraft (By make, model, and series)	Numbers	

<b>SECTION 1D. TO BE COMPLETED BY ALL APPLICANTS.</b>		
11. Additional information that provides a better understanding of the proposed maintenance functions (Attach additional sheets, if necessary).		
12. Training functions if any.		
13. Organisation Authorised Person :		
Signature.	Date (day/month/year).	Name and Title (Block Letters).

<b>SECTION 2. TO BE COMPLETED BY THE DAWS OFFICE.</b>		
Received by (Name and Office):		Date received (day/month/year).
Date forwarded to Manager FSS (day/month/year):	For: <input type="checkbox"/> Action <input type="checkbox"/> Information only.	
Remarks:		

<b>Section 3. To be completed by the Manager FSS Office.</b>	
Received by:	Date (day/month/year):
Pre-application Number:	Assigned Certification Number:
Assigned Team Leader:	Date:
Remarks:	



**NIGERIAN CIVIL AVIATION AUTHORITY**

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**SERVICE DELIVERY ACKNOWLEDGEMENT FORM**

Form: AC-AWS021

Name of Applicant: .....

Address of Applicant: .....  
.....

Title of Application: .....

Date of Receipt of Application: .....

Department handling Application:.....

**Preliminary Review of Application:**

i. Compare submitted application with requirements and circle d as applicable IN COMPLIANCE / NOT IN COMPLIANCE (i.e all required information submitted).

ii. List of requirements not complied with (may attached list).  
.....  
.  
.....  
...

iii. If IN COMPLIANCE tick the number of days / months the service is deliverable.

- 3 working days  5 working days  7 working days  10 working days
- 30 working days  60 working days  90 working days  120 working days

iv. Name & Signature of ASI handling the application: .....  
.....

v. Name & Signature of GM of Department handling the application: .....  
.....  
.

*(copy of form must be deposited in DAWS office)*



**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

Form: AC-AWS022

**AIRCRAFT CERTIFICATE OF RELEASE TO  
 SERVICE AND MAINTENANCE STATEMENT**

AIRCRAFT TYPE: ..... REG. MARK: .....

WORK ORDER #/REF: .....

SCHEDULED MAINTENANCE /INSPECTION CHECK ..... WAS COMPLETED ON.

AT..... AIRFRAME TOTAL FLIGHT HOURS ..... AND ..... TOTAL  
 FLIGHT CYCLES.

MAINTENANCE PROGRAMME REF:.....REVISION #/ DATE.....

LOCATION WHERE CHECK WAS COMPLETED .....

It is hereby certified that the work specified above except as otherwise noted, has been carried out in accordance with requirements as specified in the Nig. CARs and the appropriate Aircraft Maintenance Programme and in respect to that work, the Aircraft/Aircraft Component is considered approved for "Release to Service".

REMARK (IF ANY) .....

SIGNED: .....

(APPROVED CERTIFYING STAFF)

(PRINT NAME OF CERTIFYING STAFF)

LICENCE NO/STAMP: ..... DATE: .....

NAME OF THE ORGANIZATION: .....

NCAA APPROVAL REFERENCE NO: .....

The next Schedule Maintenance Inspection (----) is due after midnight of ..... or upon completion by the aircraft of .....Flying Hours, whichever is sooner.

The following 'out of phase' Inspections/components changes are due before the next scheduled Maintenance Inspection specified above.

ITEMS			DUE	
PART NO	S/NO	DESCRIPTION	HOURS	DATE

PREPARED BY (NAME) .....

SIGNATURE : .....



**OPERATOR / ORGANISATION / AIRLINE'S LOGO**  
**{NAME OF OPERATOR / ORGANISATION / AIRLINE}**

**Form: AC-AWS023**

**APPROVAL PAGE**

=====  
**Title of Manual** : { e.g Maintenance Management Exposition }

**Manual Reference** : { Operator Manual Reference }

**Manual Issue**

**No. & Date** : { Issue No. } { Date }

**Last Rev. No. & Date** : { Rev. No. } { Date }

=====  
**Prepared By:** { Name }  
{ Designation }  
{ Signature } { Date }

=====  
**Checked and Recommended  
for Approval by**

{ Name }  
{ Quality Manager }  
{ Signature } {Date }

=====  
**ORGANISATION APPROVAL**

**Approved by :** { Name }  
{ CEO/MD as applicable }  
{ Signature } {& Date }

=====  
**AUTHORITY'S APPROVAL**

**Approved by NCA:**  
{ Name }  
{ Designation }  
{Signature & Stamp } { Date }

**REPORT OF SEARCH / TECHNICAL INFORMATION**  
**CONDUCTED ON AIRCRAFT WITH REGISTRATION MARKS 5N.....**

- A. i. Certificate of Registration (C of R) Number: .....
- ii. Date of Issue of C of R: .....
- iii. Aircraft Type: .....
- iv. Aircraft Serial No: .....
  
- B. i. Name of Operator: .....
- ii. Address of Operator: .....
  
- C. i. Name of Owner: .....
- ii. Address of Owner: .....
  
- .....
- D. Type of Lease/Period: .....
  
- E. Lien Holder(s)
- i. ....
- .....
- .....
- Nature of Lien:
- ii. ....
- .....
- .....
- Nature of Lien:
  
- F. Aircraft Registration Status: .....

Name and Signature: ..... Date: .....  
For: Director General/CEO



**NIGERIAN CIVIL AVIATION AUTHORITY**  
AVIATION HOUSE  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**APPLICATION FOR AIRCRAFT NOISE CERTIFICATE**

**Form: AC-AWS025**

I. **NAME AND ADDRESS OF OPERATOR**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

II. **BASE(S) OF OPERATION**

1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_  
4. \_\_\_\_\_

III. **AIRCRAFT TECHNICAL DATA**

Type/Model \_\_\_\_\_

Manufacturer \_\_\_\_\_

Registration Number \_\_\_\_\_

C of A Validity \_\_\_\_\_

Date of Manufacture \_\_\_\_\_

Maximum Take-Off-Mass (KG) \_\_\_\_\_

Maximum Land Mass (Kg) \_\_\_\_\_

IV. **ENGINE DATA**

1. Type/Model \_\_\_\_\_

2. Manufacturer \_\_\_\_\_

V. **PROPELLER DATA**

1. Type/Model \_\_\_\_\_

2. Manufacturer \_\_\_\_\_

VI. **NOISE DATA**

1. Lateral /Full Power Noise Level (EPNdB) \_\_\_\_\_
2. Fly-over Noise Level (EPNdB) \_\_\_\_\_
3. Approach Noise Level (EPNdB) \_\_\_\_\_
4. Takeoff Noise Level (EPNdB) \_\_\_\_\_
5. Overflight Noise Level (EPNdB) ) \_\_\_\_\_

VII. The above information is in fulfillment of the requirement of ICAO Annex 16 Vol. 1 / Nig. CARs Part 16

NAME \_\_\_\_\_

DESIGNATION \_\_\_\_\_

SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

**FOR DAWS USE ONLY**

RECEIVED BY \_\_\_\_\_

DATE RECEIVED \_\_\_\_\_

CHECKED BY \_\_\_\_\_

SATISFACTORY

UNSATISFACTORY

Inspectors Comments (if unsatisfactory): \_\_\_\_\_

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ISSUE

REFUSE

Inspector's Signature: \_\_\_\_\_

**Documents to be submitted alongside this application**

1. Copy of current Noise Certificate
2. Copy of Certificate of Registration of Aircraft
3. Copy of Certificate of Airworthiness (If available)
4. Copy of Type Certification Data sheet or Equivalent Approved Document (e.g. Approved Flight Manual)
5. Copy of payment receipt for statutory fee(s)



**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**PROCEDURES/CHECKLIST FOR THE**  
**ISSUANCE/ACCEPTANCE OF A NOISE CERTIFICATE**

**Applicant:** \_\_\_\_\_  
**Aircraft Manufacturer:** \_\_\_\_\_  
**Type/Model & Serial No.:** \_\_\_\_\_  
**Registration Marks:** \_\_\_\_\_  
**Date:** \_\_\_\_\_

<b>S/N</b>	<b>CHECKLIST PROCEDURE</b>		
I	Individual/organisation/operator requests for issuance/acceptance of a noise certificate		
II	Applicant is issued relevant NCAA application form number AW021, alongside completed payment slip specifying the statutory fee(s)		
III	Applicant submits formal application		
<b>1</b>	<b>EVALUATION OF APPLICATION FORM</b>	<b>STATUS</b>	
		<b>Unsatisfactory (U/S)</b>	<b>Satisfactory (S)</b>
1.1	Has the application form been properly completed, and are the accompanying documents as listed therein available?		
1.2	Is the State of Design of the aircraft an ICAO contracting state?		
1.3	If granting noise certification based on approved documentation - does the noise certificate data contained in the approved document (e.g. approved flight manual, type certificate data sheet, etc.) conform to ICAO Annex 16, Vol. 1?		
1.4	If validating noise certification - is the noise certificate properly issued and endorsed by the issuing authority?		
1.5	<i>If all the items in step '1' above are satisfactory, proceed to step '3'; otherwise go to step '2'</i>		
<b>2</b>	<b>REJECTION OF APPLICATION</b>	<b>STATUS</b>	
		<b>Pending (P)</b>	<b>Completed (C)</b>
2.1	Recommend as appropriate, in the space provided below, the denial of issuance/acceptance of noise certification. Give reason(s) as to recommendation. Then, forward the recommendation to Director, Airworthiness Standards		
2.2	Inform operator of the discrepancies observed in their application		
<b>3</b>	<b>NOISE CERTIFICATE – ISSUANCE/ACCEPTANCE</b>	<b>STATUS</b>	
		<b>Pending (P)</b>	<b>Completed (C)</b>
3.1	Obtain the aircraft file and, on a clean copy of the NCAA noise certificate, fill out the following information:		
(i)	Noise certificate number (i.e. C of R number)		
(ii)	Registration marks		
(iii)	Aircraft serial number		

(iv)	Ygar of manufacture		
(v)	Maximwm Take-Off Weight		
(vi)	Engine manufacturer (e.g. Rolls Royce)		
(vii)	Engine model (e.g. JT8D-15A)		
(viii)	Type of engine (e.g. turbofan, turboprop)		
3.2	<p>Insert the noise level values as specified on the previous State of Registry noise certificate, including the certification standard.</p> <p>Ensure that standards are not less than requirements of Annex 16, Vol. I</p> <p><b>NB:</b> Where previous noise certificate is not available, operator should make available the relevant copy of the page from the aircraft flight manual</p>		
3.3	Cross-check your entries into the draft copy of the noise certificate		
(i)	Once draft copy is adjudged to have been satisfactorily completed, prepare three original typed/computer printed copies on the actual NCAA Noise Certificate card		
3.4	Attach both original NCAA noise certificates to:		
	- the operator's application letter		
	- the copy of the payment receipt		
(i)	Recommend as appropriate, in the space provided below, the issuance/validation of the noise certificate		
(ii)	Forward to the Director, Airworthiness Standards for endorsement		
3.5	Once endorsed by DAWS, dispatch one of the original copies, along with a covering letter, to the applicant and then file the second original copy in the respective aircraft file		
3.6	Insert (i) the operator's application letter/form and all related correspondence, (ii) copy of payment receipt and (iii) signed acknowledgment copy of the noise certificate and the dispatch covering letter, into AD.29 latest volume (Noise Certificate Issues file)		
3.7	File this Checklist Procedure, along with the third original copy of the Noise Certificate, in the Noise Certificates folder.		
<b>RECOMMENDATION:</b>			

**INSPECTOR(S) NAME(S) & SIGNATURE:** \_\_\_\_\_  
 \_\_\_\_\_

**DIRECTOR, AIRWORTHINESS STANDARDS APPROVAL:** \_\_\_\_\_

<b>1. FEDERAL REPUBLIC OF NIGERIA</b>				
		<b>2. NOISE CERTIFICATE</b>		
		3. CERT NO.		
4. NATIONALITY AND REGISTRATION MARKS		5. MANUFACTURER AND MANUFACTURER'S DESIGNATION OF AIRCRAFT		6. AIRCRAFT SERIAL NUMBER
7. ENGINE MANUFACTURER, TYPE AND MODEL		8. PROPELLER MANUFACTURER, TYPE AND MODEL		
9. MAXIMUM TAKEOFF MASS (KG)		10. MAXIMUM LANDING MASS (KG)		
11. AUTHORITY AND BASIS FOR ISSUANCE:  THIS NOISE CERTIFICATE IS ISSUED PURSUANT TO VOLUME I OF ANNEX 16 TO THE CONVENTION ON INTERNATIONAL CIVIL AVIATION AND PART 16 OF THE NIGERIA CIVIL AVIATION REGULATIONS, IN RESPECT OF THE ABOVE-MENTIONED AIRCRAFT, WHICH IS CONSIDERED TO COMPLY WITH THE INDICATED NOISE STANDARD WHEN MAINTAINED AND OPERATED IN ACCORDANCE WITH THE RELEVANT REQUIREMENTS AND OPERATING LIMITATIONS.				
12. ADDITIONAL MODIFICATIONS INCORPORATED FOR THE PURPOSE OF COMPLIANCE WITH THE APPLICABLE NOISE CERTIFICATION STANDARDS:				
13. LATERAL / FULL POWER NOISE LEVEL	14. APPROACH NOISE LEVEL	15. FLYOVER NOISE LEVEL	16. OVERFLIGHT NOISE LEVEL	17. TAKEOFF NOISE LEVEL
18. REMARKS			19. NOISE CERTIFICATION STANDARD	
20. DATE OF ISSUE	21. NAME:			
	22. SIGNATURE			

1. This Certificate must be carried on board the aircraft
2. This Certificate is not transferable



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## ENGINE GROUND RUN PARAMETERS

AOC/AMO NUMBER:

OPERATOR:

PLACE:

ENGINE #1 ENGINE #2 ENGINE #3 ENGINE #4

ENGINE TYPE:

SERIAL NUMBER:

DATE:

IDLE RUN				
PARAMETER	ENGINE NO. 1	ENGINE NO. 2	ENGINE NO. 3	ENGINE NO. 4
EPR				
N <sub>1</sub>				
N <sub>2</sub>				
EGT				
FF				
OIL TEMPERATURE				
OIL PRESSURE				

DATA PLATE SPEED CHECK				
PARAMETER	ENGINE NO. 1	ENGINE NO. 2	ENGINE NO. 3	ENGINE NO. 4
EPR				
N <sub>1</sub>				
N <sub>2</sub>				
EGT				
FF				
OIL TEMPERATURE				
OIL PRESSURE				



PART POWER				
PARAMETER	ENGINE NO. 1	ENGINE NO. 2	ENGINE NO. 3	ENGINE NO. 4
EPR				
N <sub>1</sub>				
N <sub>2</sub>				
EGT				
FF				
OIL TEMPERATURE				
OIL PRESSURE				

TAKE-OFF POWER				
PARAMETER	ENGINE NO. 1	ENGINE NO. 2	ENGINE NO. 3	ENGINE NO. 4
EPR				
N <sub>1</sub>				
N <sub>2</sub>				
EGT				
FF				
OIL TEMPERATURE				
OIL PRESSURE				

Throttle Cushioning:

Acceleration Check:

No. 1      No. 2      No. 3      No. 4

"H<G<GHC 79FH≠ MH<5H'H<9'9B; ß9; FCI B8'FI B'<5G'699B'75FF=98'CI H'  
 ß577CF85B79'K #<'H<9'A 5BI : 57HI F9FGF97CAA 9B85H-ÇB'5B8': CI B8'G5H-G 57HCFM'  
 H<I G'H<9'9B; ß9'G<9F96MF9@95G98'HC'G9FJ =9'5GD9F'B][ '75FgdUfh\*i'

**MAINTENANCE ENGINEER:**

NAME:

SIGNATURE/DATE:

**QUALITY ASSURANCE INSPECTOR/ MANAGER:**

NAME:

SIGNATURE/DATE:



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## ENGINE GROUND RUN PARAMETERS (TURBINE PROP)

AOC/AMO NUMBER:

OPERATOR:

PLACE:                                      OUTSIDE AIR TEMP:

ENGINE #1   ENGINE #2   ENGINE #3   ENGINE #4

ENGINE TYPE:

PROPELLER TYPE:

SERIAL NUMBER:

DATE:

IDLE RUN				
PARAMETER	ENGINE NO. 1	ENGINE NO. 2	ENGINE NO. 3	ENGINE NO. 4
EPR				
Torque				
$N_p$				
$N_g$				
ITT				
FF				
OIL TEMPERATURE				
OIL PRESSURE				

DATA PLATE SPEED CHECK				
PARAMETER	ENGINE NO. 1	ENGINE NO. 2	ENGINE NO. 3	ENGINE NO. 4
EPR				
Torque				
$N_p$				
$N_g$				
ITT				
FF				
OIL TEMPERATURE				
OIL PRESSURE				

PART POWER				
PARAMETER	ENGINE NO. 1	ENGINE NO. 2	ENGINE NO. 3	ENGINE NO. 4
EPR				
Torque				
$N_p$				
$N_g$				
ITT				
FF				
OIL TEMPERATURE				
OIL PRESSURE				

TAKE-OFF POWER				
PARAMETER	ENGINE NO. 1	ENGINE NO. 2	ENGINE NO. 3	ENGINE NO. 4
EPR				
Torque				
$N_p$				
$N_g$				
ITT				
FF				
OIL TEMPERATURE				
OIL PRESSURE				

Throttle Cushioning:

Shaft Horse Power:

Acceleration Check:

No. 1      No. 2      No. 3      No. 4

*“THIS IS TO CERTIFY THAT THE ENGINE GROUND RUN HAS BEEN CARRIED OUT IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION AND FOUND SATISFACTORY, THUS, THE ENGINE IS HEREBY RELEASED TO SERVICE AS PER Nig CARs part 6”*

**MAINTENANCE ENGINEER:**

NAME:

SIGNATURE/DATE:

**QUALITY ASSURANCE INSPECTOR/ MANAGER:**

NAME:

SIGNATURE/DATE:



# NIGERIAN CIVIL AVIATION AUTHORITY

## Type Acceptance Certificate

Number: TAC/1095/XXX

Pursuant to Part 5 of the Nigerian Civil Aviation Regulations 2009 this certifies acceptance of *[Type Certificate Holder] [Aircraft Type]* with Type Certificate Number XXXXX.

Aircraft of the type and models covered by this certificate are eligible for Nigerian certificates of airworthiness in the transport, aerial work, private and special categories.

The certificate is valid until suspended or cancelled by the Nigerian Civil Aviation Authority. The basis of certification is as prescribed in the Type Certificate Data Sheet No. XXXX issued by the *[CAA issuing original TC]*

Signed by: *[Director, Airworthiness Standards / NCAA Authorised Official]*

Date of Issue:



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

Number: *TAC/1095/XXX*

Revision: 0

Aircraft: *[Manufacturer & Model]*

Date: *1 March 2000*

## Type Acceptance Certificate Data Sheet

This data sheet is part of Type Acceptance Certificate No. XXXX which is issued under regulation 5.XXXX of the Nigerian Civil Aviation Regulations 2009.

### Nigerian Special Conditions

An example of aircraft type and model shown on this data sheet must have been issued with a certificate of airworthiness for export, or certifying statement, endorsed by the exporting civil airworthiness authority, containing the following statement: "The aircraft covered by this Certificate has been examined, tested and found to conform to the type design approved under Type Certificate No. XXXXX and is in a condition for safe operation".

Any conditions or restrictions placed on this aircraft by the *[CAA issuing original TC]* will automatically apply to Nigerian registered aircraft.

*END*





**NIGERIAN CIVIL AVIATION AUTHORITY**  
AVIATION HOUSE  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**AIRCRAFT TYPE CERTIFICATION**  
**DOCUMENTS REQUIRED**

1. Formal Application-by manufacturer or proposed operator .
2. Aircraft Type Specification-build standard forming basis for design, construction and , delivery of the standard aircraft.
3. Type Certificate, Type Certificate Data Sheets and Supplemental Type Certificate (if any).
4. Summary of Reports on the principal Structural elements regarding stress level substantiation (i.e Static, fatigue and failsafe/damage tolerance).
5. Complete index of reports and notes prepared for Type Certification (compliance checklist) or production certificate.
6. Inspection Report, including procedures and tolerances (Production Test Flight Report).
7. Complete sets of CURRENT manufacturers' Manuals for Aircraft, Engines, propellers (if any) and Principal accessories, i.e. Maintenance and Overhaul Manuals; Maintenance Schedule/Planning Guide/Planning Data; Wiring Diagram; illustrated Parts Catalogue; Structural Repair Manual; (Master) Minimum Equipment List; Electronic equipment manuals; Flight Manual; Weight and Balance Handbook; Inspection Requirements Manual ; Engine Specifications and operating Instructions; etc.
8. Full set of production Wiring Diagram including all optional fits.
9. Service Information: Service Letters (SLs ), Service Bulletins ( SBs ), Airworthiness Directives (ADs), Vendor SBs not covered by aircraft manufacturer's SBs.
10. Significant in-service problems summary ,
11. Electrical Load Analyses
12. MRB Programme -where applicable

**FOR INDIVIDUAL AIRCRAFT**

1. Statement of Build Standard, including any differences from previously accepted aircraft (on Nigerian register)
2. Modification Standard including customer Options Incorporated

3. Equipment Incorporated, including items of equipment not necessarily installed by the manufacturer.
4. SB Compliance -List of SBs incorporated during production.
5. Declaration of Compliance with all ADs issued by the appropriate Airworthiness Authorities. Where optional means of compliance are offered the means chosen shall be stated.
6. Export Certificate of Airworthiness to be issued within a period of 60 days immediately preceding the date of application for Nigerian Certification or Validation, as appropriate except as otherwise acceptable to Nigeria in a particular case.
7. Technical Log Books as required by the Nigeria civil Aviation Regulations
8. Statement of Compliance with relevant Airworthiness Notices / Nig CARs.
9. List of Serial Numbers of Significant Component Parts.
10. Time/Life limitations.
11. Record of Compass System and Magnetic Compass Swings
12. Detailed list of radio equipment constituting the radio station
13. Weight Schedule and Weighing Report.
14. Acceptable Air Test Report.
15. Aircraft to be surveyed to ensure that it conforms to the standard originally accepted.
16. Equipment must include HF Comms, GP WS, **digital** FDR, and independent GPS (if INS or similar equipment not installed).





**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**GUIDELINES AND REQUIREMENTS FOR AIRCRAFT TYPE CERTIFICATE ACCEPTANCE IN NIGERIA**

This document prescribes the guidelines and requirements for aircraft type certificate acceptance in Nigeria.

**ACCEPTANCE OF TYPE CERTIFICATES**

- (1) The authority may accept an aircraft type certificate or equivalent document issued by a State of Design in respect of an aircraft or aircraft component provided that:
  - (a) The type certificate or equivalent document was issued on, or is based on contracting state airworthiness code recognized by the Authority.
  - (b) The design, materials, construction, equipment, evaluation against a recognized airworthiness code has been carried out by the authority and has been found to meet the required standards.
- (2) Acceptance of an aircraft type certificate or equivalent document issued by a State of Design in this respect means that; the type certificate or equivalent document in relation to design, materials, construction, equipment, was issued on, or is based on contracting state airworthiness code recognized by the Authority.
- (3) A 'recognized airworthiness code' – means Civil Aviation Regulations and Standards of the contracting State of design relating to the design, materials, construction, equipment, performance and maintenance of aircraft or aircraft components acceptable to the Authority.
- (4) To facilitate effective aircraft safety oversight, the State of design or State of manufacture acceptable Aircraft Type Certificate must have provisions:
  - (a) To publish aircraft technical documents and literature (e.g. flight manual, maintenance manuals etc) in English.
  - (b) To mail to the authority and the operator the current amendments of all relevant aircraft technical and operation literature.
  - (c) To manufacture aircraft equipment, instruments with indication markings and placards in English and Arabic numerals.
  - (d) To deliver aircraft type design incorporating the minimum recommended emergency features (e.g. emergency windows), and emergency equipment with clear operating instructions in English.

## **TYPE CERTIFICATE EVALUATION/ACCEPTANCE PROGRAMME**

The Authority's Airworthiness Aviation Safety Inspector(s) will carry out type certificate evaluation/acceptance programme as stated below at a cost to be borne by the applicant (Operator or Manufacturer). The applicant shall pay statutory fees as contained in the Fees Schedule in the Nigeria CARs.

1. Introductions
2. Visit to Plant (s)
3. Review of:
  - (i) Methods of Production and Assembly.
  - (ii) Materials and Manufacturing Processes.
  - (iii) Quality Assurance:
    - Design
    - Manufacture
    - Product Support
  - (iv) Development History and Certification Standards
  - (v) Service Experience
    - Areas of Concern
    - Design improvement
  - (vi) Certification Records
  - (vii) Structures and System with emphasis on:
    - Design Criteria/Structural Design Philosophy
    - Corrosion Protection
    - Performance Scheduling and Flight Manual
    - Crashworthiness
    - Maintenance Programme
  - (viii) Product Support:
    - Engineering Support Service
    - Training
    - Technical Publications
4. AWD Special requirements
5. Aircraft Survey

## **ACCEPTANCE OF TYPE CERTIFICATE**

The Authority will issue a type certificate acceptance certificate to the manufacturer after successful completion of the type acceptance programme and the operator will be issued aircraft acceptance for registration note

### **Ineligibility**

The aircraft that do not satisfy the acceptable Type Certificate requirements are classified **Non Compliant** and cannot be accepted for registration in Nigeria.

## **AIRCRAFT SAFETY OVERSIGHT REQUIREMENTS**

### **Training requirements to Ensure Effective Safety Oversight:**

For a new aircraft type on the Nigeria Aircraft Civil Register, the applicant (operator or manufacturer) will be required to provide training to Authority's inspectors on the type.

- (a) The number of inspectors to be trained will depend on the size and complexity of the aircraft. This will include Airworthiness and Flight Operations inspectors;
- (b) For a series type of an aircraft, a refresher or difference course may be required to keep abreast to the technological advancement or differences.

### **NOTE**

**ALL AIRCRAFT TO BE REGISTERED AND OPERATED IN NIGERIA MUST COMPLY WITH ALL THE REQUIRED INSTRUMENTS AND EQUIPMENT AS CONTAINED IN PART 7 OF THE NIGERIA CIVIL AVIATION REGULATIONS**

**FOR MORE INFORMATION, PLEASE REFER TO THE NCAA ADVISORY CIRCULAR NCAA-AC-AWS001A**

Should you require further information do not hesitate to contact:

**The Director General**

**Nigerian Civil Aviation Authority**

**Aviation House, P.M.B. 21029, 21038**

**Ikeja, Lagos.**



**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**AIRCRAFT MONTHLY STATUS**

**REPORT DATE: DAY/MONTH/YEAR:** \_\_\_\_\_

**OPERATOR:** \_\_\_\_\_

NO	ITEM	A/C#1	A/C#2	A/C#3	A/C#4	A/C#5
i	Registration #					
ii	Aircraft Type					
iii	Aircraft Serial #					
iv	Year of Manufacture					
v	Year of registration in Nigeria (as applicable)					
vi	Airframe TSN/CSN					
vii	Engine type and Number					
Viii	* TAT/ *TAC					
ix	*TET: #1 # 2 # 3 # 4					
x	Engine OH/HSI/Limiter due at *TET: #1 # 2 # 3 # 4					
xi	Propeller O/H time left: #1 # 2 # 3 # 4					
xii	Propeller Type					
xiii	C of A expiry date					
xiv	CRS expiry date					
xv	Maintenance Check last Performed (date/*TSN/*CSN)					
xvi	Maintenance check next due (date *TSN/*CSN)					
xvii	AD Status (as at date and state Last AD issued on type)					
xviii	Date aircraft last flown					
xix	Serviceability status					
xx	State if Aircraft is in storage					
xxi	State last storage check and date performed					
xxii	Insurance expiry date					
xxiii	Aircraft location					
xxiv	AOC – Status					
xxv	Other pertinent remarks					

\* TAT/TAC = Total aircraft Time / Total aircraft cycle  
 \* TSN/CSN = Cycles since New  
 \* TET/TEC = Total engine Time/cycles



# NIGERIAN CIVIL AVIATION AUTHORITY

AIRWORTHINESS DIVISION

## APPLICATION FOR EXPORT CERTIFICATE OF AIRWORTHINESS

EXPORT CERTIFICATE No.

INSTRUCTIONS: This application is to be submitted to the NCAA (one copy) when the product(s) to be exported is (are) presented for inspection. **Use Part I for Class I Products and Part II for Class II.** For complete aircraft execute items I through II as applicable. For engines and propellers, omit items 5a) and 6. Part III is for NCAA use only.

### PART I (For Class I Products)

1. Application is made for an Export Certificate of Airworthiness to cover the product(s) described below, which is (are):  
 New                       Used (Aircraft)                       Newly Overhauled

2. Name and Address of Exporter	3. Name and Address of Foreign Purchaser	4. Country of Destination
---------------------------------	--	---------------------------

5. Description of Product(s):		
-------------------------------	--	--

Type	Make and Model	Identification No.	Serial Numbers	Specification No.	Operating Time (Hours)	
					Since Overhaul	Total
a) Aircraft						
b) Engines						
c) Propellers						

6. The aircraft was given a satisfactory flight test On \_\_\_\_\_  
(Date)

7. Does the product comply with all applicable NCAA regulations, Airworthiness Directives and other Airworthiness requirements? Yes No  
(explain in "Remarks")

8. List all applicable special requirements of the importing country (if any). Attach evidence of compliance.

9. Has proper preventive treatment been applied to products susceptible to rapid corrosion when being shipped? Yes No (explain in "Remarks")

10. Remarks

11. Exporter's Certification  
The undersigned certified that the above statements are true and that, the product(s) described here is (are) airworthy and in condition for safe operation except as may be noted under item 10 "Remark", above.

\_\_\_\_\_  
(Signature of Applicant or Authorized Representative)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(date)

**PART II**  
(For class II Products)

12. Application is made for approval of aeronautical parts for export as indicated below:

13. Name and address of exporter

14. Name and address of Foreign purchaser

15. Country of destination

16. Parts are eligible for installation on:

\_\_\_\_\_ (Make and Model Class 1 Product)

\_\_\_\_\_ (Spec No. \_)

17. The parts are: (check one)

New

Newly Overhauled

18. The parts are described (check one):

By Name, Part Number, and Quantity  
On the attached Invoice or Packing  
Sheet No. \_\_\_\_\_

Below by name, Part Number,  
and Quantity.

**Name**

**Part Number**

**Quantity**

19. Exporter's Certification

I certify that the foregoing statements are true and that parts described herein are airworthy and conform to AID approved design data.

\_\_\_\_\_  
(Signature of Applicant or Authorized Representative)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(date)

**PART III – Approval (for NCAA use only)**

20. It is considered that the product(s) described in \_\_\_\_\_ is (are) airworthy and conform(s) to pertinent requirements except as noted in Item 10. (Part I or II)

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

21. \_\_\_\_\_ Approval tags, forms were issued for the parts described in Part II.  
(Quantity)

22. Export file spot-checked by:

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
(Date)



**APPLICATION FOR UTILISATION OF FOREIGN – REGISTERED  
 AIRCRAFT FOR PRIVATE PURPOSES**

1. Name [ f Applicant: .....
2. Address È.....  
 .....
3. Ministerial Approval to Import & Operate aircraft (Quote ref no. date and  
 attach copy) .....
4. Applicant’s current fleet (type(s) and reg. no(s)) .....
5. Type and reg. no of aircraft for which approval is sought .....
6. ~~WMP~~ Proposed commencement date of aircraft operation. ....
7. Name of owner / lessor .....
8. Address of owner / lessor .....
9. Type of Operation (Wet-lease, dry lease, damp lease) .....
10. Particulars of flight crew (attach form no .....
11. Particulars of cabin crew (attach form no .....
12. Particulars of maintenance personnel (attach form no.....)
13. State level of maintenance to be provided by applicant, lessor and/or other  
 .....  
 .....  
 .....

**FOR OFFICIAL USE ONLY**

1. Operation of this aircraft is APPROVED  / NOT APPROVED
2. Aircraft MAY  / MAY NOT  be inspected
3. Other Comments .....
- .....
- .....

Name: ..... Designation: .....

Signature: ..... Date: .....



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

DIRECTORATE OF AIRWORTHINESS STANDARDS

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## **APPLICATION FOR UTILISATION OF FOREIGN – REGISTERED AIRCRAFT FOR COMMERCIAL AIR TRANSPORT PURPOSES**

1. Name of Applicant: .....
2. Address.....  
.....
3. AOC No (attach copy) .....
4. Aircraft type(s) approved on AOC .....
5. Applicant's current fleet (type(s) & reg. no(s)) .....
6. (a) Type and registration no. of aircraft for which approval is sought: .....
- (b) Type Certification Standards of aircraft in (a)
- (c) Does applicant's ATL / AOP allow utilization of the aircraft .....
7. Aircraft type(s) (attach copy) previously operated (if not in 5)
8. Proposed commencement date of operation of aircraft for which approval is sought
9. Name of owner / lessor : .....
10. Address of owner / lessor .....
11. Type of operation (Wet-Lease, Dry-Lease, Damp-Lease)
12. AOC Held by Lessor (attach copy)
  - Certificate No. ....
  - Validity date .....
  - Approved Aircraft type(s)
13. Location of aircraft .....
14. Particulars of Flight Crew (attach form no .....) )
15. Particulars of Cabin Crew (attach form no.....) )
16. Particulars of Maintenance personnel (Form AC-AWS006G)
17. Person in charge of crew training programme .....
18. Person in charge of maintenance personnel training programme .....



19. For the training programmes in (17) and (18), state
  - Availability .....
  - approval no and date .....
  - approval by (state authority, name and designation .....
20. Person in charge of flight supervision / following .....
21. State level of maintenance to be provided by:
  - (a) applicant,
  - (b) lessor
  - (c) others
22. State all foreign-registered aircraft in fleet by reg. no.  
(for each, indicate date since in current service)
23. If there is no foreign –registered aircraft currently in fleet, when last was a foreign – registered aircraft utilized by applicant (indicate date and registration no. of aircraft .....
24. State date of submission of application for variation of AOC. ....
25. State stage of application in (24)

NB. Pertinent AOC requirements must be met prior to commencement of operation with the aircraft.

**FOR OFFICIAL USE ONLY**

1. Operation of this aircraft is APPROVED / NOT APPROVED
2. Aircraft MAY / MAY NOT be inspected
3. Other comments: .....
- .....
- .....

Name: ..... Designation: .....

Signature: ..... Date: .....



**NIGERIAN CIVIL AVIATION AUTHORITY**  
AVIATION HOUSE  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**GUIDELINES AND REQUIREMENTS FOR OPERATION OF FOREIGN REGISTERED AIRCRAFT IN  
GENERAL AVIATION IN NIGERIA**

This document prescribes guidelines and requirements for operation of foreign registered aircraft in general aviation in Nigeria.

**1.0 General Guidelines and Requirements**

- 1.1 Application for utilization of foreign registered aircraft (this must be made in respect of each aircraft to be operated) must be addressed to the Authority. The applicant must also obtain Ministerial permit to import the aircraft from the Honourable Minister of Aviation.
- 1.2 The operator must have a valid Air Transport Licence (ATL) or Air Operating Permit (AOP) or Permit for Non-Commercial Flight (PNCF) which can be obtained from the Authority.
- 1.3 It is required that the CAA of country of registration must be an ICAO member state and CAA of that state must have been audited by the ICAO and found satisfactory.
- 1.4 NCAA inspector(s) must carry out a pre-importation inspection of the aircraft at a cost to be borne by the applicant (operator) before the aircraft will be given clearance to operate into the country.

**2.0 Application for Maintenance Clearance Certificate (MCC)**

- 2.1 In the case of aircraft to be used for private air transport, application must be made by the operator for Maintenance Clearance Certificate (MCC). This is issued after the operator has demonstrated to the satisfaction of the Directorate of Airworthiness Standards (DAWS), that there is in force, an acceptable maintenance arrangement for the aircraft and that the said aircraft is airworthy.
- 2.2 Aircraft Equipment must be adequate for its intended operation and should include Digital FDR, CVR, GPWS, INS or GPS and HF radio (see Nigeria CARs Part 7)
- 2.3 There must be a Current Certificate of Airworthiness in force in respect of the aircraft

- 2.4 Qualification of the line maintenance certifying staff and validity of their licences issued by the said CAA of country of registration shall be verified.
- 2.5 NCAA airworthiness inspectors will perform at operator's expense, survey of the aircraft during annual and/or major checks and for the purpose of MCC renewal. Audit of the documents pertaining to the following shall also be carried out. These are:
  - 2.5.1 status of compliance with ageing programme (Corrosion Prevention and Control, Supplemental Structural Inspection or equivalent, Service Bulletins, other Airworthiness Directives, etc. as applicable).
  - 2.5.2 status of compliance with approved maintenance programme or manufacturer's maintenance manual.
  - 2.5.3 approval of modifications and repairs on the aircraft,
  - 2.5.4 maintenance records of the aircraft.
  - 2.5.5 All documents submitted to NCAA must be in the English Language.

### **3.0 Application for Flight Operations Clearance Certificate (FOCC)**

- 3.1 In the case of aircraft to be used for private air transport, application must be made by the operator for Flight Operations Clearance Certificate (FOCC). This is issued to the operator by the Directorate of Operations & Training (DOT) after examining the following.
  - 3.1.1 Qualification and Validity of flight crew licences issued by the CAA of the country of registration
  - 3.1.2 Current simulator reports on flight crew. Approval of simulator facility
  - 3.1.3 Medical report in respect of each pilot.
  - 3.1.4 All required documents for operation of the aircraft among others.

### **4.0 Safety Oversight**

- 4.1 NCAA shall notify the CAA of the country of registration about the aircraft's operation in Nigeria.
- 4.2 NCAA and the CAA of the country of registration to meet and sign an agreement for the safety oversight of the aircraft. (This should be facilitated by the Operator).

- 4.3 All reportable defects shall be intimated to NCAA and the CAA in the English Language and the language of the country of the CAA respectively. In addition, details of a failure or incident and the maintenance action taken must be sent immediately to the DAWS in case of component or system failure, or any incident (including foreign body ingestion into the engine), which requires unscheduled maintenance action.
- 4.4 In case of incidents or accidents occurring which require investigation while the aircraft is/are operating in Nigeria, the state shall participate with its representatives on the investigation committee, in accordance with the provisions of ICAO Annex 13.

Should you require further information do not hesitate to contact:

**The Director General**

**Nigerian Civil Aviation Authority**

**Aviation House, P.M.B. 21029, 21038**

**Ikeja, Lagos.**



**NIGERIAN CIVIL AVIATION AUTHORITY  
AVIATION HOUSE**

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**NOTIFICATION OF ACCESS TO AIRCRAFT**

Notification No.

Pursuant to the Nigeria Civil Aviation Regulations, access to aircraft is being notified for the person herein named. Please issue a ticket on <input type="checkbox"/> must fly <input type="checkbox"/> space available basis			INSPECTOR'S NAME-PRINT
NAME OF OPERATOR			INSPECTOR'S TITLE
DATE TIME		FLIGHT No.	HEADQUARTERS (city and State)
ROUTE(s)			CREDENTIAL No.
FROM TO			INSPECTOR'S SIGNATURE
PURPOSE	<b>COCKPIT / CABIN – EN-ROUTE INSPECTION</b>		
APPROVED BY:			DG/ DAWS / GM



# NIGERIAN CIVIL AVIATION AUTHORITY

## SUSPECTED UNAPPROVED PARTS REPORT

Refer to page 2 for instructions on how to complete this form.

1. Date the Part Was Discovered:		2. Part Name:	
3. Part Number:		4. Part Serial Number:	
5. Quantity:	6. Assembly Name:	7. Aircraft Make & Model:	
	Assembly Number:		
8. Name, Address, and Description of the Company or Person Who Supplied or Repaired the Part:			
Name:		Street Address:	
City:	State:	ZIP Code:	
Country:	Phone Number:		
Check One of the Following Applicable to the Company or Person Who Supplied or Repaired the Part:			
<input type="checkbox"/> Air Carrier – Certificate #		<input type="checkbox"/> Supplier	
<input type="checkbox"/> Mechanic – Certificate #		<input type="checkbox"/> Production Approval Holder	
<input type="checkbox"/> Repair Station – Certificate #		<input type="checkbox"/> Manufacturer	
<input type="checkbox"/> Distributor		<input type="checkbox"/> Other	
<input type="checkbox"/> Owner/Operator		<input type="checkbox"/> Unknown	
9. Description of the Issue:			
10. Name and Address of (the Company or Person) Where the Part Was Discovered:			
Name:		Street Address:	
City:	State:	ZIP Code:	
Country:	Phone Number:		
Check One of the Following Applicable to the Company or Person Who Discovered the Part:			
<input type="checkbox"/> Air Carrier - Certificate #		<input type="checkbox"/> NCAA Inspector	
<input type="checkbox"/> Mechanic - Certificate #		<input type="checkbox"/> DOT/Office of Inspector General	
<input type="checkbox"/> Repair Station - Certificate #		<input type="checkbox"/> Defense Criminal Investigation Service	
<input type="checkbox"/> Distributor		<input type="checkbox"/> Other Government Agency	
<input type="checkbox"/> Supplier		<input type="checkbox"/> Foreign Civil Aviation Authority	
<input type="checkbox"/> Production Approval Holder		<input type="checkbox"/> Owner/Operator	
<input type="checkbox"/> Unknown		<input type="checkbox"/> Other	
11. Date of This Report:			
12. <input type="checkbox"/> Check this box if you request anonymity - <i>Do not complete blocks 13-15.</i>			
13. Name and Address of the Reporter:			
Name:		Street Address:	
City:	State:	ZIP Code:	
Country:	Phone Number:		
14. <input type="checkbox"/> Check this box if you request confidentiality.			
15. <input type="checkbox"/> Check this box if you <u>do not</u> wish to receive an acknowledgment letter.			
16. <input type="checkbox"/> Check this box if you have attached additional information.			

## Instructions for Completing NCAA Form AWS035, Suspected Unapproved Parts Report

1. Record the date the part was discovered.
2. Record the part name (or a description of the part).
3. Record the part number or identification number of the part.
4. Record the serial number on the part, if applicable.
5. Record the quantity of parts.
6. Record the assembly name and assembly number (where the part was or could be installed).

Example: Part Name: Strut      Part Number: PN 12345      Serial Number: 678      Quantity: 1  
 Assembly Name: Main Landing Gear      Assembly Number: PN 90101112

**Note: Record additional part numbers on page 3 or a blank sheet of paper with the following column headers:**

Part Name — Part Number — Serial Number — Quantity — Assembly Name — Assembly Number

7. Record the type of aircraft the part was (or could be) installed on.
8. Record the complete name and address of the company or person who produced, repaired, and/or sold the part. Do not list a P.O. Box address unless a street address is not available.

Check the box that describes the company or person. Provide the certificate number, if known.

<b>Air Carrier</b> - An NCAA-certificated company or person who undertakes directly by lease, or other arrangement, to engage in air transportation.	<b>Supplier</b> - A company or person who furnishes aircraft parts or related services, at any tier, to the producer of a product or part thereof.
<b>Mechanic</b> - A person holding an NCAA mechanic certificate with airframe and/or powerplant ratings.	<b>Production Approval Holder</b> - A company or person holding one of the following four types of NCAA production approvals: production certificate, approved production inspection system, parts manufacturer approval, or technical standard order authorization.
<b>Repair Station</b> - An NCAA-certificated repair station. <b>Manufacturer</b> - The original equipment manufacturer (OEM.)	
<b>Distributor</b> - A broker, dealer, reseller or other person or agency engaged in the sale of parts.	<b>Other</b> -Record other type of business.
<b>Owner/Operator</b> - The owner or operator of an aircraft.	<b>Unknown</b>

9. Record a brief narrative stating why you believe the part is not approved. Include a description of the part (improper configuration, suspect marking, different material, etc.), where it was obtained, and what type of documentation was supplied with it.
10. Record the complete name and address of the location where the part was found. Check the appropriate block to reflect the affiliation of the company or person who discovered the part.
11. Record the date the NCAA Form AWS035 is being submitted.
12. Check this box if you request anonymity (do not wish to provide your identity), and do not complete 13, 14 or 15.
13. Record your name, address and phone number, if desired. This information will enable the NCAA to contact you for additional information, if necessary.
14. Check this box if you request confidentiality of your personal information recorded in block 13.
15. Check this box if you do not wish to receive a letter acknowledging the NCAA's receipt of NCAA Form AWS035.
16. Check this box if you have provided additional information (photos, invoices, certification statements, etc.)

**Forward the completed NCAA Form AWS035, Suspected Unapproved Parts Report, to:**

**NCAA Suspected Unapproved Parts (SUP) Program Office,  
 AVIATION HOUSE  
 MURTALA MUHAMMED AIRPORT, IKEJA**

Phone: (234) 01 4963489      Fax: (234) 01 4963305

An electronic copy of NCAA Form AC-AWS035, Suspected Unapproved Parts Report, is available on the SUP Program Office's website at <http://www.ncaa.gov.ng>. You may complete the electronic NCAA Form AWS035 and send it the SUP Program Office e-mail address via this website.







NCAA

# NIGERIAN CIVIL AVIATION AUTHORITY SUSPECTED UNAPPROVED PARTS (SUP) STATUS REPORT

Refer to page 2 for instructions on how to complete this form.

1. SUP Case Number:		Case Start Date:		2. Part Name:	
3. Part Number:			4. Part Serial Number:		
5. Part Model/ Manufacturer:		6. Next Higher Assembly:		7. Next Higher Assembly Pin:	
8 Application:			9. Quantity:		
10. Case Status:		11. Part Critically Category:			
12. Action Office:			13. Law Enforcement Involvement:		
14. Aircraft Group:			15. Aircraft Make/Model/Series		
16. Name & Address of Person/CO under Investigation:					
17. Name & Address of the Physical Location where the Part was Found					
18. SUP Reported by:			19. Date SUP Discovered		
20. NCAA Hotline Case:			21. Reporter Anonymous:		
22. Reporter confidential:			23. FOIA Number:		
24. Connecting Cases:		25. Description of SUP event/ Complaint (Narrative):			
26. Status of Investigation:			27. Investigation Result (Narrative):		
28. Case Result:			29. Unapproved Part Issue:		
30. Field Notification:			31. Enforcement Activities:		
32. Investigation Completed by:			33. Directorate/Regional Approval:		
34. Active Office Review:			35. Total Hours for Investigation:		

## APPENDIX 2. NCAA FORM AWSO35A INSTRUCTION

1. SUP Case number: Assigned by AVR-20  
Case Start Date: The case date generated by AVR-20
2. Part Name: Identify the name of the part. When multiple parts are involved, add them to the second page.
3. Part Number: Part number or any other number on part. When multiple parts are involved, and them to second page.
4. Part serial number: Serial number on part.
5. Part mode/Manufacturer: Manufacturer(s) part i.e. GE, Raytheon, etc
6. Next Higher Assembly: The assembly the part is installed on.
7. Next Higher Ass'y PN: Part number of the assembly.
8. Application: Choose one application for the part.
10. Case status: Reflect open/closed investigation
11. Part Criticality Category: As defined in FAA Order #8120.10
12. Action Office: Reflect the investigating office
13. Law Enforcement Involvement: Indicate LEA involvement
14. Aircraft Group: Choose the one that is most applicable for the part(s)
15. Aircraft Make/Model/Series: List all aircraft on which the unapproved part may be installed.
16. Name & Address of person/Co. Under Investigation: This reflects the current focus of the investigation. The SUP investigation is to update/change as necessary
17. Name & Address of the physical Location Where the Part was Found: Location where the SUP was found
18. SUP Reported by: To be completed by AVR-20
19. Date SUP discovered: Reference block #10 on the NCAA form AWSO35. to be completed by AVR-20.
20. NCAA Hotline Case#: Provide hotline number if applicable
21. Reporter Anonymous: Reflect reporter is anonymous. To be completed by

AVR-20

22. Reporter confidential: Reflects reporter desired to remain confidential. Reference block #13 on the NCAA Form AWS035.
23. FOIA Number: Provide FOIA request number if applicable.
24. Connecting Cases: Reflect common/connected cases. To be completed by AVR-20 Updated by investigator as necessary.
25. Description of SUP Event/  
Complaint (Narrative) Describe SUP allegation.
26. Status of Investigation: Reflects status of investigation
27. Investigation Results  
(Narrative) Write a short narrative to include results, findings etc,continue on back of form and additional sheets as necessary.
28. Case Result: Applies to the case. If an unapproved part is confirmed during investigation the case closure will be reflected as unapproved part case.
29. Unapproved Part Issue: If it is unapproved part case choose one that best fits the investigation outcome.
30. Field Notifications: Check all that apply to the case.
31. Enforcement Activities: Insert the enforcement investigation report number.
32. Investigation Completed by: Reflects the investigating Aviation Safety Inspector
33. Directorate/Regional Approval: Signature of Manager or SUP Coordinator
34. AVR-20 Review: Three AVR-20 staff personnel will sign. This reflects case closure.
35. Total Houses for Investigation: Record the current total number of hours used for the investigation (update as necessary) investigators, support staff, SUP Coordinator, etc.

# NIGERIAN CIVIL AVIATION AUTHORITY



## MAINTENANCE CLEARANCE CERTIFICATE

No. \_\_\_\_\_

NATIONALITY AND REGISTRATION MARKS	MANUFACTURER AND MANUFACTURER'S DESIGNATION OF AIRCRAFT	AIRCRAFT SERIAL No.

**CATEGORY**

PRIVATE

**MAINTENANCE ARRANGEMENTS:**

This Maintenance Clearance Certificate is issued pursuant to the Nigeria Civil Aviation Regulations of the Federal Republic of Nigeria Part 8.2.1.9 dated 2009.

Designation: \_\_\_\_\_

Signature \_\_\_\_\_  
for the Nigerian Civil Aviation Authority

Date of issue: \_\_\_\_\_

This certificate is valide for the period(s) indicated below	Signature, Official Stamp & Date
From _____ to _____	

**NOTES:**

1. No entries or endorsements may be made on this Certificate except in the manner and by the persons authorised for the purpose.
2. If this Certificate is lost, the issuing authority should be informed at once, the Certificate Number being quoted.
3. Any person finding this certificate should forward it immediately to the issuing authority .
4. This certificate is NOT VALID without a valid CERTIFICATE OF AIRWORTHINESS issued

**INDEMNITY**

Pursuant to Part 4.2.1.7 Nigeria Civil Aviation Regulations 2015  
(Nig CARs), I/We..... do  
(State name of owner)

hereby unconditionally undertake to defend the Nigerian Civil Aviation  
Authority (NCAA) or any of its Directors or Officers against any suit or  
action howsoever arising out of the registration or deregistration of the

aircraft.....  
(State type and description of aircraft)

I/We further covenant and agree to hold the NCAA, its Directors or Officers  
harmless against any claim, demands and charges by .....  
(State name of owner)  
..... or any third persons for damages arising out of the registration  
or deregistration of this said aircraft.

Given this.....day of .....20....

Signed and sealed by:

.....  
(Signature & seal)

Name:.....  
(State name of person signing)

Position:.....  
(State position of person signing)

In the Presence of:-

Signature:-----

Name:-----



## OCCURRENCE INVESTIGATION REPORT FORM

*Please fill in this form in CAPITAL LETTERS only. The information you provide will be electronically scanned and stored. Use the reverse of the form as a continuation sheet if necessary. Please complete as much information as possible.*

Part 1

**OCCURRENCE DETAILS**

Occurrence Description: .....(Indicate Occurrence Type - Incident or Accident)

Date: ..... Time: ..... Local/UTC (delete as appropriate)

Location: .....

Lat/Long or OS Grid (if not on airfield): .....

NCAA File Reference: .....

Notes:	<p><b>1 AIRCRAFT</b></p> <p><i>1.1 AIRCRAFT DETAILS</i></p> <p>Registration: ..... Manufacturer: .....</p> <p>Generic Name: ..... Type and Series: .....</p> <p>Engine Model: ..... Number of Engines: .....</p> <p>Year of Manufacture: .....</p> <p>C of A Category: .....C of A Issue Date: .....</p> <p>C of A Expiry Date: .....</p> <p><i>1.2 CHECKS/ INSPECTIONS</i></p> <p>Total Airframe hours: ..... Total Cycles: .....</p> <p>Last Check/ Inspection carried out: ..... Date: .....</p> <p>Name and Address/Location of Maintenance Organisation:</p> <p>.....</p> <p>.....</p>
	<p><b>2 OPERATOR DETAILS</b></p> <p>Name: .....</p> <p>Address/ Location/ Contacts:</p> <p>.....</p> <p>.....</p> <p>.....</p>

	<b>3 ORGANISATION FLIGHT SAFETY OFFICER</b> Name: ..... Organisation Address: ..... Contacts: .....																																							
Tick boxes as appropriate  Delete local/ UTC as appropriate	<b>4 FLIGHT</b> <b>4.1 FLIGHT DETAILS</b> Purpose of flight: <input type="checkbox"/> Passenger <input type="checkbox"/> Cargo <input type="checkbox"/> Aerial Work <input type="checkbox"/> Training <input type="checkbox"/> Agricultural <input type="checkbox"/> Non Revenue Departure airfield: .....Departure time: .....Local/ UTC Planned destination: ..... <b>4.2 WEIGHTS AND LOAD DETAILS (Attach load sheet if available)</b> Basic: ..... (kg) C of G: ..... Max take-off weight: ..... (kg) Max landing weight: ..... (kg) No. of Crew: ..... Weight: ..... (kg) No of Passengers: ..... Weight: .....(kg) Fuel type: ..... Weight: ..... (kg) Baggage/ Freight: ..... Weight: ..... (kg)																																							
Tick boxes as appropriate	<b>5 WEATHER</b> Issue time: ..... <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:60%;"></th> <th style="width:20%; text-align:center;"><u>Forecast</u></th> <th style="width:20%; text-align:center;"><u>Actual</u></th> </tr> </thead> <tbody> <tr> <td>Wind direction/ Speed: .....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>Visibility (km): .....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>Weather: .....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>Cloud: .....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>Temperature/ Dew point: .....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>TEMPO Information: .....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>Light conditions: <input type="checkbox"/> Day <input type="checkbox"/> Twilight <input type="checkbox"/> Night</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>QNH: .....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>Information obtained from.....</td> <td>.....</td> <td>.....</td> </tr> </tbody> </table>		<u>Forecast</u>	<u>Actual</u>	Wind direction/ Speed: .....	.....	.....	Visibility (km): .....	.....	.....	Weather: .....	.....	.....	Cloud: .....	.....	.....	Temperature/ Dew point: .....	.....	.....	TEMPO Information: .....	.....	.....	Light conditions: <input type="checkbox"/> Day <input type="checkbox"/> Twilight <input type="checkbox"/> Night	.....	.....	QNH: .....	.....	.....	Information obtained from.....	.....	.....									
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QNH: .....	.....	.....																																						
Information obtained from.....	.....	.....																																						
Tick boxes as appropriate stating other if relevant	<b>6 AIRFIELD DETAILS (complete only if relevant)</b> Airfield name: .....Runway used: ..... ICAO Designation: .....Runway slope:..... Type of: <input type="checkbox"/> Departure <input type="checkbox"/> Approach LVPs in force: <input type="checkbox"/> Yes <input type="checkbox"/> No Navigation aids used: ..... Runway surface: <input type="checkbox"/> Grass <input type="checkbox"/> Asphalt <input type="checkbox"/> Concrete <input type="checkbox"/> Other Surface condition: <input type="checkbox"/> Wet <input type="checkbox"/> Damp <input type="checkbox"/> Dry <input type="checkbox"/> Contaminated <input type="checkbox"/> Firm <input type="checkbox"/> Soft																																							
Enter as applicable         Describe "Other" if	<b>7 FLIGHT CREW DETAILS</b> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:25%; text-align:center;"><u>Commander</u></th> <th style="width:25%; text-align:center;"><u>Co-Pilot</u></th> </tr> </thead> <tbody> <tr> <td>Name (including title): .....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>Date of birth: .....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>Pilot flying (PF)/ Pilot non-flying (PNF): .....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>LICENCE: Type: .....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>Number: .....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>Issuing Authority: .....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>Valid until: .....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>MEDICAL: Class: .....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>Valid until: .....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>Limitations: .....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>RATINGS: Instrument Rating: .....</td> <td>Valid until.....</td> <td>Valid until.....</td> </tr> <tr> <td>Type/ Ratings: .....</td> <td>.....</td> <td>.....</td> </tr> </tbody> </table>		<u>Commander</u>	<u>Co-Pilot</u>	Name (including title): .....	.....	.....	Date of birth: .....	.....	.....	Pilot flying (PF)/ Pilot non-flying (PNF): .....	.....	.....	LICENCE: Type: .....	.....	.....	Number: .....	.....	.....	Issuing Authority: .....	.....	.....	Valid until: .....	.....	.....	MEDICAL: Class: .....	.....	.....	Valid until: .....	.....	.....	Limitations: .....	.....	.....	RATINGS: Instrument Rating: .....	Valid until.....	Valid until.....	Type/ Ratings: .....	.....	.....
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Type/ Ratings: .....	.....	.....																																						

appropriate		Other: .....		
Enter valid until date	REGENCY:	Licence Prof. Check: .....		
		Operator Prof. Check: .....		
		Annual Line Check: .....		
		SEP/ CRM: .....		
Enter the Hours in hrs and min		Company Qualifications: .....		
		Hours: All types: .....		
		All types PIC: .....		
		On type: .....		
		On type PIC: .....		
		Last 90 days: .....		
		Last 28 days: .....		
		Last 24 hours: .....		
	DUTY:	Start of duty period (UTC): .....		
		Length of preceding rest period: .....		

<b>8 MAINTENANCE PERSONNEL DETAILS</b>				
<i>8.1 Airframe and Powerplant</i>				
	Name (including title):	.....		
	Date of birth:	.....		
	LICENCE: Type:	.....		
	Number:	.....		
	Issuing Authority:	.....		
	Valid until:	.....		
	RATINGS: Aircraft Type/ Rating:	.....		
	Other:	.....		
	TRAINING: Initial training date:	.....		
	Last refresher date:	.....		
<i>8.2 Avionics</i>				
	Name (including title):	.....		
	Date of birth:	.....		
	LICENCE: Type:	.....		
	Number:	.....		
	Issuing Authority:	.....		
	Valid until:	.....		
	RATINGS: Aircraft Type/ Rating:	.....		
	Other:	.....		
	TRAINING: Initial training date:	.....		
	Last refresher date:	.....		

<b>IMPORTANT</b> Please enter numbers of all persons on board (including those not injured)	<b>9 INJURIES TO PERSONNEL</b>			
	TOTAL PERSONS ON BOARD: .....			
		<u>None</u>	<u>Minor</u>	<u>Serious</u>
	Pilot in Command:	.....	.....	.....
	Second Pilot:	.....	.....	.....
	Cabin Crew:	.....	.....	.....
Passengers:	.....	.....	.....	
Others:	.....	.....	.....	

	<b>10 SURVIVABILITY</b>			
Tick damage	9.1 Damage to cockpit area:			



<p>type</p> <p>Tick damage type and describe 'Other' if appropriate</p>	<p><input type="checkbox"/> Severe <input type="checkbox"/> Moderate <input type="checkbox"/> Minor <input type="checkbox"/> None</p> <p>Details (if relevant):</p> <p>.....</p> <p>.....</p> <p>9.2 Damage to flight deck area:</p> <p><input type="checkbox"/> Severe <input type="checkbox"/> Moderate <input type="checkbox"/> Minor <input type="checkbox"/> None</p> <p>Details (if relevant):</p> <p>.....</p> <p>.....</p> <p>9.3 Evacuation:</p> <p>Exit (s) used by crew: <input type="checkbox"/> Normal Exit <input type="checkbox"/> Slide <input type="checkbox"/> Other .....</p> <p>Exits used by passengers: <input type="checkbox"/> Normal Exit <input type="checkbox"/> Slide <input type="checkbox"/> Other .....</p> <p>Which emergency services attended: <input type="checkbox"/> Police <input type="checkbox"/> Fire <input type="checkbox"/> Ambulance <input type="checkbox"/> Air Ambulance</p> <p>Other assistance provided by: .....</p> <p>9.4 Emergency Equipment:</p> <p>Details of any items which failed: .....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>9.5 Additional Comments: .....</p> <p>.....</p> <p>.....</p> <p>.....</p>
<p>List all airplane/ engine damage</p>	<p><b>11 DAMAGE TO AIRCRAFT</b></p> <p>.....</p> <p>.....</p> <p>.....</p>
	<p><b>12 DAMAGE TO OTHER PROPERTY</b></p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>

Completed Part 1 of this form, extracts will entered into the Occurrence Database and copy included in applicable Operators file

In Part 2 please provide a sketch of the site and a narrative description of the occurrence. Attach any accompanying photographs and or documents.

Show North and site elevation (amsl). If occurrence occurred on an airfield for which there is no published information, please provide as much detail as possible.

Any photographs of the site and / or aircraft would greatly assist the investigation.

### **13 SKETCH OCCURRENCE SITE**





**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**GUIDELINES AND REQUIREMENTS FOR OPERATION OF FOREIGN REGISTERED AIRCRAFT FOR AERIAL WORK IN NIGERIA**

This document prescribes guidelines and requirements for operation of foreign registered aircraft for aerial work in Nigeria.

**1.0 General Guidelines and Requirements**

- 1.1 Application for utilization of foreign registered aircraft for aerial work (this must be made in respect of each aircraft to be operated) must be addressed to the Authority. The applicant must also obtain Ministerial permit to import the aircraft for aerial work from the Honourable Minister of Aviation.
- 1.2 The applicant should obtain permit for aerial work security clearance from the office of the National Security Adviser;
- 1.3 The applicant should obtain letter of appointment of a military observer from the Nigerian Air Force;
- 1.4 The applicant must ensure their counterpart foreign company in holds an Aerial Work Certificate from the State of Registry or Operator and
- 1.5 It is required that the CAA of country of registration must be an ICAO member state and CAA of that state must have been audited by the ICAO and found satisfactory.
- 1.4 NCAA inspector(s) must carry out a pre-importation inspection of the aircraft and the base of the foreign aerial work company at a cost to be borne by the applicant (operator) before the aircraft will be given clearance to operate into the country.

**2.0 Application for Maintenance Clearance Certificate (MCC)**

- 2.1 Application must be made by the applicant (operator) for Maintenance Clearance Certificate (MCC). This is issued after the operator has demonstrated to the satisfaction of the Directorate of Airworthiness Standards (DAWS), that there is in force, an acceptable maintenance arrangement for the aircraft and that the said aircraft is airworthy.
- 2.2 Aircraft Equipment must be adequate for its intended operation (see Nigeria CARs Part 7)

- 2.3 There must be a Current Certificate of Airworthiness in force in respect of the aircraft
- 2.4 Qualification of the line maintenance certifying staff and validity of their licences issued by the said CAA of country of registration shall be verified.
- 2.5 NCAA airworthiness inspectors will perform at operator's expense, survey of the aircraft during annual and/or major checks and for the purpose of MCC renewal. Audit of the documents pertaining to the following shall also be carried out. These are:
  - 2.5.1 Status of compliance with ageing programme (Corrosion Prevention and Control, Supplemental Structural Inspection or equivalent, Service Bulletins, other Airworthiness Directives, etc. as applicable).
  - 2.5.2 Status of compliance with approved maintenance programme or manufacturer's maintenance manual.
  - 2.5.3 approval of modifications and repairs on the aircraft,
  - 2.5.4 Maintenance records of the aircraft.
  - 2.5.5 All documents submitted to NCAA must be in the English Language.

### **3.0 Application for Flight Operations Clearance Certificate (FOCC)**

- 3.1 Application must be made by the applicant (operator) for aerial work Flight Operations Clearance Certificate (FOCC). This is issued to the operator by the Directorate of Operations & Training (DOT) after examining the following.
  - 3.1.1 Qualification and Validity of flight crew licences issued by the CAA of the country of registration
  - 3.1.2 Current simulator reports on flight crew. Approval of simulator facility
  - 3.1.3 Medical report in respect of each pilot.
  - 3.1.4 All required documents for operation of the aircraft among others.

### **4.0 Safety Oversight**

- 4.1 NCAA shall notify the CAA of the country of registration about the aircraft's operation in Nigeria (if the aerial work operation is to exceed six (6) months for each operation).
- 4.2 NCAA and the CAA of the country of registration to meet and sign an agreement for the safety oversight of the aircraft (if the aerial work operation is to exceed six (6) months for each operation). This should be facilitated by the Operator.

- 4.3 All reportable defects shall be intimated to NCAA and the CAA in the English Language and the language of the country of the CAA respectively. In addition, details of a failure or incident and the maintenance action taken must be sent immediately to the DAWS in case of component or system failure, or any incident (including foreign body ingestion into the engine), which requires unscheduled maintenance action.
- 4.4 In case of incidents or accidents occurring which require investigation while the aircraft is/are operating in Nigeria, the state shall participate with its representatives on the investigation committee, in accordance with the provisions of ICAO Annex 13.

Should you require further information do not hesitate to contact:

**The Director General**

**Nigerian Civil Aviation Authority**

**Aviation House, P.M.B. 21029, 21038**

**Ikeja, Lagos.**

**EVALUATION OF MAINTENANCE TRAINING REPORTS**

1. Name and Address of Applicant: .....  
.....  
.....  
.....
2. Telephone Number: .....
3. Fax Number: .....
4. Approval held: .....
5. Address of Training School (if different from above)
6. Nominated Head of Training: (Please attach CV)
7. Course Title:
8. Venue of Course (if different from address above)
9. Type of Application:
10. Instructor(s) Name(s) and CV(s) (these can form an attachment)
11. Person(s) responsible for co-ordination of training functions (theoretical and practical etc.) and for the production of training programme  
Name(s) and CV(s) (these can form an attachment)

12. Accommodation: State number and size of the following
  - i. Classroom(s)
  - ii. Administrative Officer(s)
  - iii. Demonstration Room(s)
  - iv. Projection Room
  - v. Common Room
  - vi. Library
  - vii. Other
  - viii. Office Accommodation for Instructors:
  - ix. Size of class (ref..... ICAO)
  
13. Maximum Number of Student per class
  
14. Student/Tutor ratio:
  
15. Entry Standards/Qualifications
  
16. Course Duration
  
17. Syllabus/Course Programme (this can be attached)
  
18. Time Table (this can be attached)
  
19. Attendance and Course Record (this can be attached)



20. Training Aids

- i. Permanent fixture (e.g black board etc.)
- ii. Visual and other aids
- iii. Course notes (state if provided and frequency of amendment)
- iv. Other course materials used (e.g. books and other publications)

21. Examinations/Tests (State the following)

- i. Scope
- ii. Interval(s)
- iii. Type – (Essay, multiple choice, oral, practical etc)
- iv. If multiple choice – mode of scoring (Any penalty for wrong answers)
- v. Pass mark
- vi. Supervision of exams/tests
- vii. Procedure for Analysis of results
- viii. Failure rate
- ix. No. of attempts at final examination

22. Other information (State internal procedures adopted for the following)

- i. Revision of Syllabus
- ii. Amendment of Training/Course notes
- iii. Control and monitoring of Standards
- iv. Control of Library
- v. Production and allocation of international examinations
- vi. Control of course records

- vii. Security of examinations papers
- viii. Training and Retraining of Instructors

23. Comments

24. Recommendation

-----  
Inspectors Name                      Designation                      Sign                      Date

-----  
Inspectors Name                      Designation                      Sign                      Date



# **NIGERIAN CIVIL AVIATION AUTHORITY**

**AVIATION HOUSE**

**P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria**

**Form: AC-AWS041**

## **CONTENTS OF AOC (AIRWORTHINESS CERTIFICATION) FOLDER**

- 1. COPY OF CORRESPONDENCES:**
- 2. INSPECTORS REPORTS**
  - i) CERTIFICATION REPORT **CL: O-AWS001D**
  - ii) MCM CHECKLIST **CL: O-AWS006**
  - iii) QUALITY MANUAL **CL: O-OPS038**
  - iv) MANAGEMENT PERSONNEL CHECKLIST **CL: O-OPS026; APPENDICES 4 & 5 OF TGM vol 3, CH. 24; FORM: AC-AWS006F**
  - v) MAINTENANCE PROGRAMME CHECKLIST **CL: O-AWS004**
  - vi) MEL CHECKLIST **CL: O-OPS008**
  - vii) ETOPS CHECKLIST (If applicable) **CL: O-AWS0021**
  - viii) RVSM CHECKLIST (If applicable) **CL: O-AWS0036**
  - ix) MAINTENANCE CONTRACT AGREEMENT CHECKLIST (If applicable) **CL: O-AWS009**
  - x) LEASE AGREEMENT EVALUATION (If applicable)
- 3. APPROVALS**

OPSPECS PART (D & E)  
MCM APPROVAL PAGE  
MAINTENANCE PROGRAMME APPROVAL PAGE  
MEL APPROVAL PAGE  
ETOPS APPROVAL PAGE (If applicable)  
RVSM APPROVAL PAGE (If applicable)
- 4. COPIES OF LEASE AGREEMENT / MAINTENANCE CONTRACT AGREEMENT**



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## AIRCRAFT FILE CONTENTS

Form: AC-AWS042

AIRLINE:	A/C TYPE/REG.:	FOLIO
TYPE OF INSPECTION:		
DATE:		
SECTION 1: COPY OF CORRESPONDENCES		
SECTION 2: APPLICATION FOR AIRCRAFT CERTIFICATION ISSUE /RENEWAL FORM: AC-AWS002A		
SECTION 3: REPORTS (A) AIRCRAFT INSPECTION REPORT CL:O-AWS012A OR CL:O-AWS012B (b) A/C STATUS REPORT FORM: AC-AWS002B		
SECTION 4: AIRFRAME (a) A/C SYSTEMS & EQUIPMENT INSTALLATIONS FORM: AC-AWS002C (b) STATUS OF LIFE LIMITED (c) ALL MAINTENANCE DONE WITHIN THE LAST 12 MONTHS (d) AD'S & SB'S COMPLIANCE STATUS (e) COMPONENTS RECORDS (f) LIST OF AVIONICS EQUIPMENT (g) A/C MASS & BALANCE SCHEDULE (h) A/C AGEING PROGRAMMES; CORROSION CONTROL PROGRAM COMPLIANCE (i) STANDBY COMPASS SWING (j) TEST FLIGHT REPORT (IF APPLICABLE) (k) LAST MAJOR MAINTENANCE CRS (l) CURRENT CRS (IF DIFFERENT FROM ABOVE) (m) ALLOWABLE DEFERRED DEFECTS (n) ELECTRICAL LOAD ANALYSIS (o) FDR READOUT (p) LAST FDR SENSOR CALIBRATION REPORT		
SECTION 5: ENGINES (a) STATEMENT OF ENGINE MAINTENANCE PROGRAMME (b) REPORT OF ENGINE LAST SHOP VISIT (c) ENGINE DISK SHEET OR LIFE LIMITED PARTS (d) ENGINE SHOP VISIT RELEASE E.G. FORM 8130-30, JAR FORM 1		
SECTION 6: CERTIFICATES & APPROVALS (a) CERTIFICATE OF INSURANCE (b) RADIO STATION LICENCE (c) COPY OF MTCE PROGRAM APPROVAL (d) COPY OF MEL APPROVAL (e) COPY OF ELT REGISTRATION FORM (f) LOGBOOKS ENTRIES UPDATE AND CERTIFICATION		
SECTION 7: LIST OF INCIDENTS/ACCIDENTS & COPIES OF MOR'S/ASR'S		
SECTION 8: TYPE CERTIFICATE DATA SHEET, STC'S, MODS & REPAIRS		
SECTION 9: SURVEILLANCE		
SECTION 10: DOCUMENTS IN POUCH (a) C OF R (b) C OF A (c) NOISE CERTIFICATE (d) ANY OTHER DOCUMENTS/CERTIFICATES		

## NOTES

- (1) Documents in sections 7, 8 & 10 shall remain in the a/c file for the entire life of the a/c on our register
- (2) Documents in sections 1, 2, 3, 4, 5, 6 & 9 are subject to periodic review and replacement (as applicable) at least every 12 months

Outdated documents removed from sections 1, 2, 3, 4, 5, 6 & 9 shall be put in a closed file for archiving



**NIGERIAN CIVIL AVIATION AUTHORITY**  
AVIATION HOUSE  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**TYPE CERTIFICATE ACCEPTANCE FILE CONTENTS**

**Form: AC-AWS043**

**MANUFACTURER:**..... **A/C TYPE:**..... **DATE:**.....

**Section 1:** Correspondence between manufacturer and/or operator with NCAA

**Section 2:**

- (a) Formal Application by Manufacturer. **(Form:AC-AWS027B)**
- (b) Aircraft Type Certification, Documents Required **(Form:AC-AWS027C)**
- (c) Guidelines and Requirements for Aircraft Type Certificate Acceptance in Nigeria **(Form:AC-AWS027D)**
- (d) Aircraft Type Certificate Acceptance Data Form. **(CL:O-AWS018)**
- (e) Type Certificate Evaluation/Acceptance Programme **(CL:O-AWS018A)**

**Section 3:** Aircraft Type Specification, Build Standard forming basis for design, construction and delivery of Standard Aircraft.

**Section 4:** Summary of Reports on the Principal Structural Elements (PSE) regarding stress level substantiation, (i.e. Static, fatigue & failsafe/damage tolerance limits)

**Section 5:** Inspection Report

- (a) Statement of Build
- (b) Modification Standard
- (c) Standard Equipment Incorporated
- (d) AD's & SB's Incorporated
- (e) Production Test Flight Report

**Section 6:** Listing of complete set of CURRENT Manufacturers Manuals for NCAA Technical Library to include access codes to manufacturers website:

**Section 7:** Service Information: Service Letters, Service Bulletins, Airworthiness Directives, Vendor SB's etc.

**Section 8:** Significant in-service problems summary.

**Section 9:** Electrical Load Analysis

**Section 10:** MRB Programme (where applicable)

**Section 11:** DOCUMENTS IN POUCH

- (a) Type Acceptance Certificate
- (b) Type Acceptance Certificate Data Sheet
- (c) Any other additional Type Certificates from other states.



# NIGERIAN CIVIL AVIATION AUTHORITY

AIRWORTHINESS DIVISION

## EXPORT CERTIFICATE OF AIRWORTHINESS ( For Class 1 Products)

Number: .....

**Form: AC-AWS044**

This certifies that the product identified below and more particularly described in Specification(s) of the state of Design's type Certificate Number \_\_\_\_\_, has been examined and as of the date of this certificate, is considered airworthy in accordance with a comprehensive and detailed airworthiness code of Nigeria, ( Nig CARs part 5.1) and is in compliance with those special requirements of the importing state filed with Nigeria, except as noted below. **This certificate in no way attests to compliance with any agreements or contracts between the vendor and purchaser, nor does it constitute authority to operate an aircraft**

Product:  Engine model:

Manufacturer:  Propeller model:

Serial No:.....

New  Newly overhauled

Used Aircraft

State to which exported:

Execeptions:

.....  
(Date )

.....  
(signature)

For complete aircraft, list applicable specification or type Certificate Data Sheet numbers for the aircraft, engine, and propeller. Applicable specifications or Type Certificate Data Sheet, if not attached to this EXPORT CERITICATE, will have been forwarded to the appropriate governmental office of the Importing country.

NOTE: THE EXPORT C OF A IS VAILID FOR A PERIOD OF 60 DAYS FROM THE DATE OF THIS CERTIFICATE.



**NIGERIAN CIVIL AVIATION AUTHORITY**  
AVIATION HOUSE  
P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**ENGINE GROUND RUN PARAMETERS**

AOC/AMO NUMBER:

Form: AC-AWS045

OPERATOR:

PLACE:

OUTSIDE AIR TEMP

ENGINE #1 ENGINE #2 ENGINE #3 ENGINE #4

ENGINE TYPE:

SERIAL NUMBER:

DATE:

IDLE RUN				
PARAMETER	ENGINE NO. 1	ENGINE NO. 2	ENGINE NO. 3	ENGINE NO. 4
EPR				
N <sub>1</sub>				
N <sub>2</sub>				
EGT				
FF				
OIL TEMPERATURE				
OIL PRESSURE				

DATA PLATE SPEED CHECK				
PARAMETER	ENGINE NO. 1	ENGINE NO. 2	ENGINE NO. 3	ENGINE NO. 4
EPR				
N <sub>1</sub>				
N <sub>2</sub>				
EGT				
FF				
OIL TEMPERATURE				
OIL PRESSURE				



PART POWER				
PARAMETER	ENGINE NO. 1	ENGINE NO. 2	ENGINE NO. 3	ENGINE NO. 4
EPR				
N <sub>1</sub>				
N <sub>2</sub>				
EGT				
FF				
OIL TEMPERATURE				
OIL PRESSURE				

TAKE-OFF POWER				
PARAMETER	ENGINE NO. 1	ENGINE NO. 2	ENGINE NO. 3	ENGINE NO. 4
EPR				
N <sub>1</sub>				
N <sub>2</sub>				
EGT				
FF				
OIL TEMPERATURE				
OIL PRESSURE				

Throttle Cushioning:

Acceleration Check:

No. 1      No. 2      No. 3      No. 4

*" THIS IS TO CERTIFY THAT THE ENGINE GROUND RUN HAS BEEN CARRIED OUT INACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION AND FOUND SATISFACTORY, THUS, THE ENGINE IS HEREBY RELEASED TO SERVICE AS PER NCAR 145"*

**MAINTENANCE ENGINEER:**

NAME:

SIGNATURE/DATE:

**QUALITY ASSURANCE INSPECTOR/ MANAGER:**

NAME:

SIGNATURE/DATE:



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## ENGINE GROUND RUN PARAMETERS (TURBNIN PROP)

AOC/AMO NUMBER:

Form: AC-AWS045A

OPERATOR:

PLACE:

OUTSIDE AIR TEMP:

ENGINE #1 ENGINE #2 ENGINE #3 ENGINE #4

ENGINE TYPE:

PROPELLER TYPE:

SERIAL NUMBER:

DATE:

IDLE RUN				
PARAMETER	ENGINE NO. 1	ENGINE NO. 2	ENGINE NO. 3	ENGINE NO. 4
EPR				
Torque				
$N_p$				
$N_g$				
ITT				
FF				
OIL TEMPERATURE				
OIL PRESSURE				

DATA PLATE SPEED CHECK				
PARAMETER	ENGINE NO. 1	ENGINE NO. 2	ENGINE NO. 3	ENGINE NO. 4
EPR				
Torque				
$N_p$				
$N_g$				
ITT				
FF				
OIL TEMPERATURE				
OIL PRESSURE				

PART POWER				
PARAMETER	ENGINE NO. 1	ENGINE NO. 2	ENGINE NO. 3	ENGINE NO. 4
EPR Torque N <sub>p</sub> N <sub>g</sub> ITT FF OIL TEMPERATURE OIL PRESSURE				

TAKE-OFF POWER				
PARAMETER	ENGINE NO. 1	ENGINE NO. 2	ENGINE NO. 3	ENGINE NO. 4
EPR Torque N <sub>p</sub> N <sub>g</sub> ITT FF OIL TEMPERATURE OIL PRESSURE				

Throttle Cushioning:

Shaft Horse Power:

Acceleration Check:

No. 1      No. 2      No. 3      No. 4

*" THIS IS TO CERTIFY THAT THE ENGINE GROUND RUN HAS BEEN CARRIED OUT INACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION AND FOUND SATISFACTORY, THUS, THE ENGINE IS HEREBY RELEASED TO SERVICE AS PER NCAR 145"*

**MAINTENANCE ENGINEER:**

NAME:

SIGNATURE/DATE:

**QUALITY ASSURANCE INSPECTOR/ MANAGER:**

NAME:

SIGNATURE/DATE:



**NIGERIAN CIVIL AVIATION AUTHORITY**  
DIRECTORATE OF AIRWORTHINESS STANDARDS

Authorisation No.  
DAWS/ASI/

**SCOPE OF AUTHORISATION**

The basis of issuing this authorisation to officer named below is that, he has been satisfactorily trained and certified to carry out the functions within the scope of the authorization matrix. X in column 5 indicates that the officer is authorized to carry out the function.

NAME OF AVIATION SAFETY INSPECTOR:

TITLE: AVIATION SAFETY INSPECTOR

Serial No.	Task Category	Task Number	Task Category	Mark X as appropriate	Remarks
2.0	Air Operator Certification	2.007	Conduct Administrative Activities for an Air Carrier Operator Applicant		
		2.008	Evaluate a Compliance Statement		
		2.009	Evaluate a Maintenance Control Manual or Revision		
		2.010	Evaluate/Approve a Maintenance or Inspection Training Program		
		2.011	Add an Aircraft to an Existing Air Operator Certificate		
		2.012	Conduct an Aircraft Conformity Inspection		
		2.013	Evaluate Control of Calibrated Tools and Equipment		
		2.019	Evaluate Management Personnel Qualifications		
		2.022	Evaluate a Minimum Equipment List (MEL) or Configuration Deviation List (CDL)		
		2.023	Evaluate a Weight and Balance Control Program		
		2.024	Approve a Hazardous Materials Program		
		2.025	Evaluate an Aircraft Lease Agreement		
		2.026	Evaluate an Exemption, Deviation, or Waiver Request		
		2.027	Evaluate/Approve a Deicing Program		
		2.028	Evaluate a Line Station Facility		
		2.029	Evaluate a Maintenance Record-keeping System		
		2.032	Evaluate Refueling Procedures and Facilities		
		2.033	Evaluate a Maintenance Facility		
		2.034	Conduct an Emergency Evac or Ditching Demonstration		
		2.037	Conduct an Aircraft Demonstration flights		
2.038	Recommend issuance or amendment of Operations Specifications				
2.039	Evaluate and/or approve an Airplane Inspection and Maintenance Program				
2.040	Evaluate and/or approve a Continuous Airworthiness Maintenance Program				
2.042	Evaluate and/or approve a Continuing Analysis and Surveillance Program (CASP)				

\*\*\* This Scope of Authorisation is not to be altered without the approval of the Director, Airworthiness Standards

15<sup>th</sup> DEC, 2015

FORM: AC-AWS046 Page 1

Serial No.	Task Category	Task Number	Task Category	Mark X as appropriate	Remarks
2.0	Air Operator Certification	2.043	Evaluate and/or approve a Reliability Program		
		2.048	Evaluate an Operator's Service Contractual Arrangement		
		2.051	Aerial works certification		
		2.058	Evaluate an Extended Range Operations With Two-Engine Airplanes (ETOPS)		
		2.059	Evaluate a Reduced Vertical Separation Minimums (RVSM) Program		
		2.061	Evaluate a Category II and Category III Program		
		2.062	Evaluate an Avionics Equipment Approval		
		2.063	Conduct a Validation Test		
2.3	Aircraft Maintenance Organisation	2.301	Certification and renewal of an AMO		
		2.303	Evaluate AMO Maintenance Procedures Manual		
		2.304	Evaluate/Approve an AMO Training Program		
		2.305	Evaluate AMO Quality Manual		
		2.307	Inspect a Foreign AMO		
3.0	Surveillance	3.001	Plan a Surveillance Work Program		
		3.003	Conduct Aircraft Ramp Inspection		
		3.004	Conduct a Cabin En Route Inspection		
		3.005	Conduct a Cockpit En Route Inspection		
		3.006	Inspect an Operator's Refueling Procedures		
		3.007	Inspect Aircraft Maintenance Records		
		3.008	Inspect Aircraft used as an Air Ambulance		
		3.009	Issue an Aircraft Ramp Inspection Notice		
		3.010	Inspect a Maintenance Facility		
		3.011	Inspection During Bankruptcy, Strike, or Merger		
		3.012	Inspect a Deicing Program		
		3.020	Continued surveillance of AOC Holders		
		3.032	Conduct Surveillance of a Special Event		
		3.033	Conduct a Ramp Inspection of Foreign Registered Aircraft		

\*\*\* This Scope of Authorisation is not to be altered without the approval of the Director, Airworthiness Standards

15<sup>th</sup> DEC, 2015

FORM: AC-AWS046 Page 2

Serial No.	Task Category	Task Number	Task Category	Mark X as appropriate	Remarks
4.5	Personnel Licensing (Training Organisation)	4.501	Conduct Certification or Renewal of a Training Center		
		4.502	Inspect Training Personnel, Facilities, Equipment, and Records of an Aviation Maintenance Technician School		
		4.512	Approve a Training Center Training Program Curriculum		
		4.514	Evaluate a Training Center Lease or Contract		
5.0	Investigations (Enforcement)	5.001	Conduct an Enforcement Investigation		
		5.002	Investigate Non-Compliance in Accordance with Self-Disclosure		
		5.003	Provide Technical Assistance to Legal Counsel		
		5.004	Investigate a Complaint		
		5.005	Ground an Operator's Aircraft		
		5.006	Recommendation for Withdrawal, Suspension, Revocation, Denial, or Amendment of Operations Specifications		
		5.501	Participate in Aircraft Accident Investigation		
		5.502	Investigate an Aircraft Incident		
		5.503	Investigate an Aircraft Occurrence		
		5.504	Investigate a Foreign Air Operator Incident		
6.0	Job Skills (Aircraft Certification)	6.001	Issue/Renewal of an Airworthiness Certificate for an Aircraft		
		6.003	Issue a Special Airworthiness Certificate		
		6.004	Evaluate a Foreign-Registered Aircraft (Maintenance Clearance Certificate/Ops Specs)		
		6.006	Process a Mandatory Occurrence Report (MOR)/Service Difficulty Report (SDR)		
		6.008	Evaluate an Engineering Change Authorization		
		6.009	Approve a Foreign Aircraft, Product or Part		
		6.010	Issue an Export Airworthiness Approval		
6.2	Job Skills (Major Repairs & Alteration)	6.201	Approval of Major Repairs and Major Alterations		
6.5	Job Skills ( Aviation	6.501	Develop Aviation Safety Program Plan		

	Safety Program Manager)	6.505	Evaluate Accident or Incident Reports for Trends		
Serial No.	Task Category	Task Number	Task Category	Mark X as appropriate	Remarks
6.7	Job Skills (Safety Management Systems)	6.701	Evaluate a Safety Management System		
6.8	Job Skills (Foreign Air Carriers)	6.802	Recommend for the issuance of Operations Specifications to a Foreign Air Operator		

Authorisation Holder's Signature Specimen:

Inspector's Stamp Specimen

Recommended by:  
Name:

Signature:

Approved by:  
Director, Airworthiness Standards

Date Issued:

Revision No.:





**NIGERIAN CIVIL AVIATION AUTHORITY**  
**AVIATION HOUSE**  
 P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

**APPLICATION FOR CONTINUING AIRWORTHINESS MANAGEMENT ORGANISATION  
 APPROVAL, VARIATION AND RENEWAL**

**FORM: AC-AWS047**

<b>1. Continuing Airworthiness Organisation Name, Number, Location and Address</b>		<b>2. Reasons for Submission</b>	
a. Official Name of Organisation:	Three Letter ID:	<input type="checkbox"/> Application for CAMO Approval <input type="checkbox"/> Issue of change in Scope of Approval <input type="checkbox"/> Change in Location or Housing and Facilities <input type="checkbox"/> Change in Ownership/Key Personnel <input type="checkbox"/> Re-Certification / Renewal of CAMO Approval	
b. Location where business is conducted:			
c. Official Mailing Address of Continuing Airworthiness Organisation:			
<b>3. Management and Key Staff Personnel</b>			
<b>NAME</b> (Surname/First Name/ Middle Name)	<b>POSITION / TITLE</b>	<b>TELEPHONE (including mobile) and ADDRESS (if different from company)</b>	



4. Scope of requested Continuing Airworthiness Management Organisation Approval				
Rating	Manufacturer	Model (Quote the aircraft model and the engine type fitted)	Registration Mark (If available)	AMP Reference (if applicable)
A1 Aeroplanes above 5700Kg				
A2 Aeroplanes/airships 5700Kg and below				
A3 Helicopters				
A4 Aircraft other than A1, A2, A3				
a. Additional Privileges of a Continuing Airworthiness Management Organisation Approval (Optional)				
<input type="checkbox"/> Approval to carry out and Issue a Certificate of Maintenance Review of an Aircraft ( <i>if ticked, maintenance review personnel i.a.w Nig. CARs 5.8.1.7 should be included in list of personnel required by Item 3</i> )				
<input type="checkbox"/> Approval to make a recommendation for the Issuance and Renewal of a Certificate of Airworthiness				
<input type="checkbox"/> Approval to make a recommendation for the Issuance of a Special Airworthiness Certificate				
5. Sub-contracted Maintenance Organisation (if applicable)				
6. CAMO Ownership and Corporate Affairs Commission(CAC) Incorporation Confirmation (Attach Certificate)				
Name of CAMO Owner, {Include name(s) of all owners, partners, or corporation name. State date and number of CAMO Incorporation}				

I hereby certify that I have been authorized by the Continuing Airworthiness Management Organisation names in Item 1 above to make this application and that the information given and the statements hereto are true and correct to the best of my knowledge.			
<b>Date:</b>	<b>Authorised Signature:</b>	<b>Print Name of Authorised Signature:</b>	<b>Title:</b>
<b>Section 2. To be completed by the Director, Airworthiness Standards.</b>			
<b>Received by (Name and Office):</b>			
<b>Remarks:</b>			
<b>Signature:</b>		<b>Date received (day/month/year).</b>	



# NIGERIAN CIVIL AVIATION AUTHORITY

AVIATION HOUSE

P. M. B. 21029, 21038, Ikeja, Lagos, Nigeria

## Continuing Airworthiness Management Organization (CAMO) Certification Job-Aid"

### I. Purpose

**FORM: AC-AWS048**

The Continuing Airworthiness Management Organization Job-Aid (JA-CAMO) is inspector guidance intended for use throughout the Continuing Airworthiness Management Organization certification process. The JA-CAMO is a project management, record-keeping and communications tool used to -

1. Track the certification progress of an CAMO applicant,
2. Provide references for the activities, participation, contribution and observations of NCAA inspectors,
3. Help assure that action required to bestow an CAMO upon an applicant is accomplished in a timely manner,
4. Provide a reference to corresponding documentation in the file, thus ensuring complete and appropriate records are maintained, and
5. Inform the CAMO Applicant and NCAA leadership upon the accomplishment of key phases of the certification process.

Instructions in the JA-CAMO are not a replacement for requirements described in the Nigeria Civil Aviation Regulations (Nig. CARs). Should there be an apparent conflict between information contained in the JA-CAMO and Nig. CARs, the Nig. CARs take precedence. Nig. CARs supersede instructions contained in the JA-CAMO and any other guidance material that may apply.

### II. Contents

1. Five (5) Phase Completion-Validation and Communication pages.
2. Five (5) CAMO Application-Tracking Lists

Phase 1	Pre-Application
Phase 2	Formal Application
Phase 3	Document Evaluation
Phase 4	Demonstration and Inspection
Phase 5	Certification

### III. Description

1. The JA-CAMO is comprised of five (5) "Completion-Validation and Communication" (CVC) cover pages at the beginning of each phase followed by a series of lists corresponding to each of five phases comprising the Nigerian Civil Aviation Authority Continuing Airworthiness Management Organization Certification process.

A. CVC cover pages provide space for-

- a. Validating each phase of the CAMO process,
- b. Entry of information corresponding to completion of each phase of the certification process, as well as a
- c. Standard format for communicating the accomplishment of each phase internally-hierarchically, within the NCAA, as well as externally - with the CAMO applicant.

B. Job-Aid (JA) pages are comprised of tables as described below.

- a. The first row of each JA-CAMO page contains a list of headers describing information contained in the columns below; for example -
  - i. Nig. CARs related to each task
  - ii. A condensed textual description of each activity
  - iii. Date information received and/or date accomplished
  - iv. Rating: "Satisfactory" (S), or "Unsatisfactory" (U).
- b. The left side of each table contains titles describing the contents of each row. Rows contain information related to the completion of specific tasks required by Nig. CARs; for example -
  - i. Space for the initials of the CAMO team-inspector responsible for particular JA-CAMO activity.
  - ii. Dates received, accomplished, and/or returned for changes.
  - iii. Explanatory "Remarks."

#### **IV. Instructions**

In consultation with the Director, Airworthiness Standards the CPM assigns NCAA inspectors to CAMO tasks in accordance with their specific discipline in the art and practice of aviation, and the corresponding level of skill, experience, knowledge and ability they bring to the project. Depending on the needs of the NCAA, the complexity of the application, and the qualifications of the personnel involved, there may be more than one inspector assigned to each discipline. When there is more than one inspector assigned to each discipline, then one inspector will be designated as the "Lead" inspector for that discipline and thereby assumes accountability to the CPM for all related tasks in that phase.

The CPM uses the first pages of each phase of the JA-CAMO to recount applicant- specific information and to record the names of Inspectors assigned to tasks within the corresponding phase of the CAMO certification process.

When assigning the allocation of CAMO tasks to specific NCAA personnel, the following abbreviations apply -

- CPM - Certification Project Manager
- PMI - Avionics Inspector
- PAI - Maintenance Inspector
- ASI - Aviation Safety Inspector

As columns and rows comprising the JA-CAMO depict specific action steps corresponding to the evaluation of an application for CAMO, each must contain information corresponding to the particular operator.

After completing assigned tasks, inspectors shall identify it as Satisfactory (S) or Unsatisfactory (U).

The "Remarks" section should be used to record relevant details. For example, when discrepancies are noted, a "U" is assigned, and the reasons recorded in the remarks section of the JA-CAMO.

Thereafter, the CPM must obtain a corrective action plan from the CAMO Applicant and revise the schedule of events accordingly. Each discrepancy and corrective action must be fully documented and recorded in the certification file.

Each item in each phase must be addressed satisfactorily for the CAMO application to proceed and to culminate in certification.

## **V. Other Coordination Required**

The CPM is responsible for coordination of NCAA personnel, departments and procedures necessary to confer a CAMO; for example, Flight Operations (if applicable), Airworthiness, Licensing and the Document Tracking System. The CPM is responsible to ensure that information pertaining to tasks described in the JA-CAMO have been completed by the designated members of the Certification Team.

## **VI. Renewal or Variation of CAMOs**

The identical process applies to CAMO Renewal or Variation.



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**PHASE ONE (1)**

**Continuing Airworthiness Management Organization (CAMO) Certification Job-Aid**

NAME AND MAILING ADDRESS OF COMPANY (including business name if different from company name)	ADDRESS OF THE PRINCIPAL (Main) Base where continuing airworthiness management activities will be conducted
MAILING ADDRESS (If different from the principal (Main) base)	NCAA Reference Number CAMO/5N/
TYPE OF INSPECTION <input type="checkbox"/> Initial Certification <input type="checkbox"/> Renewal <input type="checkbox"/> Re-Certification <input type="checkbox"/> Variation	CERTIFICATION PROJECT MANAGER
AIRWORTHINESS SAFETY INSPECTOR(s) 1.	(Specify Discipline and name) SAFETY INSPECTOR(s)

**\* Assignments:**

CPM - Certification Project Manager  
 PMI – Principal Maintenance Inspector  
 PAI – Principal Avionics Inspector

ASI – Aviation Safety Inspector

**\*\* Legend:**

S – Satisfactory  
 U – Unsatisfactory  
 NA – Not Applicable

As the applicant for Continuing Airworthiness Management Organization (CAMO) Certification has not provided the required documents and/or conducted the activities necessary to complete this phase of the CAMO certification process within the time-frames depicted in the schedule of events, further NCAA action corresponding to this CAMO application is hereby suspended for a minimum period of thirty (30) days.

During the period of suspension, the CAMO is not authorized to conduct any maintenance corresponding to Part 5 of the Nig. CARs. After thirty (30) days have passed \_\_\_\_\_(enter date), depending upon the resources of the NCAA, activities associated with this CAMO application may resume with applicant submission of required documents and/or accomplishment of activities necessary to complete the tasks remaining in this phase of the CAMO process. Thereafter, depending on the resources of the NCAA, the process must adhere to the schedule of events.

If the CAMO applicant does not provide the necessary documents and/or conduct the activities necessary to complete this phase within the succeeding thirty (30) calendar days by \_\_\_\_\_(enter date), or should the applicant/AMO miss another due-date depicted on the schedule of events, then this CAMO process will be deemed terminated and the file closed. In that event, the CAMO applicant must re-apply to commence CAMO certification at the beginning of Phase 1 of the process.

I have reviewed the completion of tasks corresponding to this phase of the CAMO certification process, confirmed conformity to the appropriate Nig. CARs as well as associated guidance material, and, by my signature below, declare Phase 1 of the CAMO certification process complete.

CPM's Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

CAMO Number: \_\_\_\_\_

**Document Distribution:** DG, DAWS, CAMO Team, CAMO Rep



**PHASE ONE**

Ref #	RESP	Pre-Application Phase	Insp. Initials	Date Received/ Accomplished	S/U/NA (if U, action must be taken)	Date Returned for Changes	Remarks
1	DAWS DAWS	1) Applicant Initial enquiry (verbal or written) 2) Provide applicant with PASI form (AC-AWS 006H), procedures and other guidance materials for application of CAMO. <b>TGM-AWS</b>					
2 Nig. CARs 5.8.1.2	DAWS	Applicant submits Pre-Application Statement of Intent (PASI) and required attachments to DAWS 1) PASI forwarded to DAWS(CPM)					
3	DAWS	Appoint CPM 1) CPM collaborates with DAWS to appoint Certification Team:					
4	CPM	Conduct Pre-application Meeting with the CAMO Applicant					
5	CPM	1) Clarify PASI (Form AC-AWS006H)					

Ref #	RESP	Pre-Application Phase	Insp. Initials	Date Received/ Accomplished	S/U/NA (if U, action must be taken)	Date Returned for Changes	Remarks
6	CPM	2) Discuss Certification process with CAMO applicant. <b>TGM-AWS XX</b>					
7	CPM	3) Provide the applicant with CAMO Certification Package:					
8 Nig. CARs 5.8.1.3	CPM	a) Provide Model Scope of Approval <b>Form: AC-AWS006A</b> <b>TGM-AWS XX</b>					
9	CPM	b) Provide Schedule of Events Form describing all elements of the Certification process: <b>Form AC-AWS006E,</b> <b>TGM-AWS XX</b>					
10 Nig. CARs 5.8.1.2	CPM	c) Discuss other applicable publications and documents. <b>TGM-AWS XX</b>					
11 Nig. CARs 5.8.1.2	CPM	d) Discuss Form, contents and documents required for formal application (Formal Application Package). <b>Form: AC-AWS06I</b> <b>TGM-AWS XX</b>					
<b>END</b>							



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**PHASE TWO (2)**

**Continuing Airworthiness Management Organization (CAMO) Certification Job-Aid**

NAME AND MAILING ADDRESS OF COMPANY (including business name if different from company name)	ADDRESS OF THE PRINCIPAL (Main) Base where continuing airworthiness management activities will be conducted
MAILING ADDRESS (If different from the principal (Main) base of Maintenance)	NCAA Reference Number CAMO/5N/
TYPE OF INSPECTION <input type="checkbox"/> Initial Certification <input type="checkbox"/> Renewal <input type="checkbox"/> Re-Certification <input type="checkbox"/> Variation	CERTIFICATION PROJECT MANAGER
AIRWORTHINESS SAFETY INSPECTOR(s)	(Specify Discipline and name) SAFETY INSPECTOR(s)

**\* Assignments:**

CPM - Certification Project Manager  
 PMI – Principal Maintenance Inspector  
 PAI – Principal Avionics Inspector  
 ASI – Aviation Safety Inspector

**\*\* Legend:**

S – Satisfactory  
 U – Unsatisfactory  
 NA – Not Applicable

As the applicant for Continuing Airworthiness Management Organization (CAMO) Certification has not provided the required documents and/or conducted the activities necessary to complete this phase of the CAMO certification process within the time-frames depicted in the schedule of events, further NCAA action corresponding to this CAMO application is hereby suspended for a minimum period of thirty (30) days.

During the period of suspension, the CAMO is not authorized to conduct any maintenance corresponding to Part 5.8 of the Nig. CARs. After thirty (30) days have passed \_\_\_\_\_(enter date), depending upon the resources of the NCAA, activities associated with this CAMO application may resume with applicant submission of required documents and/or accomplishment of activities necessary to complete the tasks remaining in this phase of the CAMO process. Thereafter, depending on the resources of the NCAA, the process must adhere to the schedule of events.

If the CAMO applicant does not provide the necessary documents and/or conduct the activities necessary to complete this phase within the succeeding thirty (30) calendar days by \_\_\_\_\_(enter date), or should the applicant/CAMO miss another due-date depicted on the schedule of events, then this CAMO process will be deemed terminated and the file closed. In that event, the CAMO applicant must re-apply to commence CAMO certification at the beginning of Phase 2 of the process.

I have reviewed the completion of tasks corresponding to this phase of the CAMO certification process, confirmed conformity to the appropriate Nig. CARs as well as associated guidance material, and, by my signature below, declare Phase 2 of the CAMO certification process complete.

CPM's Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

CAMO Number: \_\_\_\_\_

**Document Distribution:** DG, DAWS, CAMO Team, CAMO Rep

**Phase Two**

Ref #	RESP. POS.	Formal Application Phase	Insp. Initials	Date Received/ Accomplished	S/U/NA (if U, action must be taken)	Date Returned for Changes	Remarks
12 Nig CARs 5.8.1.2	CPM	Receive Formal application package <b>TGM-GEN 3.3.4.1</b> <b>Form: AWS06I and Attachments</b>					
13 Nig CARs 5.8.1.2	CPM, A & M	Evaluate the application package <b>TGM-GEN 3.3.4.2</b> <b>TGM-AWS XXX</b>					
14 Nig CARs 5.8.1.2	CPM, A & M	Conduct an application meeting – Initial table top exercise <b>TGM-GEN 3.3.4.3</b> <b>TGM-AWS XX</b>					
<b>END</b>							





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**PHASE THREE (3)**

## Continuing Airworthiness Management Organization (CAMO) Certification Job-Aid

NAME AND MAILING ADDRESS OF COMPANY (including business name if different from company name)	ADDRESS OF THE PRINCIPAL (Main) Base where continuing airworthiness management activities will be conducted
MAILING ADDRESS (If different from the principal (Main) base of maintenance)	NCAA Reference Number:  CAMO/5N/
TYPE OF INSPECTION <input type="checkbox"/> Initial Certification <input type="checkbox"/> Renewal <input type="checkbox"/> Re-Certification <input type="checkbox"/> Variation	CERTIFICATION PROJECT MANAGER
AIRWORTHINESS SAFETY INSPECTOR(s)	(Specify Discipline and name) SAFETY INSPECTOR(s)

**\* Assignments:**

CPM - Certification Project Manager  
 PMI – Principal Maintenance Inspector  
 PAI – Principal Avionics Inspector  
 ASI – Aviation Safety Inspector

**\*\* Legend:**

S – Satisfactory  
 U – Unsatisfactory  
 NA – Not Applicable

As the applicant for Continuing Airworthiness Management Organization (CAMO) Certification has not provided the required documents and/or conducted the activities necessary to complete this phase of the CAMO certification process within the time-frames depicted in the schedule of events, further NCAA action corresponding to this CAMO application is hereby suspended for a minimum period of thirty (30) days.

During the period of suspension, the CAMO is not authorized to conduct any maintenance corresponding to Part 5.8 of the Nig. CARs. After thirty (30) days have passed \_\_\_\_\_(enter date), depending upon the resources of the NCAA, activities associated with this CAMO application may resume with applicant submission of required documents and/or accomplishment of activities necessary to complete the tasks remaining in this phase of the CAMO process. Thereafter, depending on the resources of the NCAA, the process must adhere to the schedule of events.

If the CAMO applicant does not provide the necessary documents and/or conduct the activities necessary to complete this phase within the succeeding thirty (30) calendar days by \_\_\_\_\_(enter date), or should the applicant/CAMO miss another due-date depicted on the schedule of events, then this CAMO process will be deemed terminated and the file closed. In that event, the CAMO applicant must re-apply to commence CAMO certification at the beginning of Phase 3 of the process.

I have reviewed the completion of tasks corresponding to this phase of the CAMO certification process, confirmed conformity to the appropriate Nig. CARs as well as associated guidance material, and, by my signature below, declare Phase 3 of the CAMO certification process complete.

CPM's Name:

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

CAMO Number: \_\_\_\_\_

**Document Distribution:** DG, DAWS, CAMO Team, CAMO Rep

**Phase Three**

Ref #	RESP	Document Compliance and Evaluation Phase	Insp. Initials	Date Received/ Accomplished	S/U/NA (if U, action must be taken)	Date Returned for Changes	Remarks
15 Nig. CARs IS 6.4.1.1	CPM, A & M	Review and accept/ approve/reject manuals and other documents.  A) Evaluate Management Qualifications <b>TGM-AWS</b>					
16 Nig. CARs 5.8.1.6(a)	CPM	1) Accountable Manager					
17 Nig. CARs 5.8.1.6(c)	A & M	2) Continuing Airworthiness Manager.					
18 Nig. CARs 5.8.1.6(d)	A & M	3) Airworthiness Review Personnel.					
19 Nig. CARs 5.8.1.6(d)	A & M	4) Airworthiness Review Personnel					
20 Nig. CARs 5.8.1.6(d)	A & M	5) Airworthiness Review Personnel.					
21 Nig. CARs 5.8.1.12(a)	A & M	6) Quality Manager.					
22	A & M	7) Deviation letter (if a deviation from required management position is anticipated)					



**Phase Three Cont'd**

Ref #	RESP. POS.	Document Compliance and Evaluation Phase	Insp. Initials	Date Received/ Accomplished	S/U/NA (if U, action must be taken)	Date Returned for Changes	Remarks
23 Nig. CARs 5.8	CPM, A & M	B) Statement of Compliance with the Nig. CARs					
24 Nig. CARs 5.8.1.4	A & M	C) Continuing Airworthiness Management Exposition (CAME) <b>CL: O-AWS042 TGM-AWS 5</b>					
25 Nig. CARs	A & M	D) Evaluate Contractual Agreement: <b>TGM-AWS XX, CL:O-AWS XX</b>					
<b>END</b>							





**PHASE FOUR (4)**

**Continuing Airworthiness Management Organization (CAMO) Certification Job-Aid**

NAME AND MAILING ADDRESS OF COMPANY (including business name if different from company name)	ADDRESS OF THE PRINCIPAL (Main) Base where continuing airworthiness management activities will be conducted:
MAILING ADDRESS (If different from the principal (Main) base of )	NCAA Reference Number: CAMO/5N/
TYPE OF INSPECTION <input type="checkbox"/> Initial Certification <input type="checkbox"/> Renewal <input type="checkbox"/> Re-Certification <input type="checkbox"/> Variation	CERTIFICATION PROJECT MANAGER
AIRWORTHINESS SAFETY INSPECTOR(s)	(Specify Discipline and name) SAFETY INSPECTOR(s)

**\* Assignments:**  
 CPM - Certification Project Manager  
 PMI – Principal Maintenance Inspector  
 PAI – Principal Avionics Inspector  
 ASI – Aviation Safety Inspector

**\*\* Legend:**  
 S – Satisfactory  
 U – Unsatisfactory  
 NA – Not Applicable

As the applicant for Continuing Airworthiness Management Organization (CAMO) Certification has not provided the required documents and/or conducted the activities necessary to complete this phase of the CAMO certification process within the time-frames depicted in the schedule of events, further NCAA action corresponding to this CAMO application is hereby suspended for a minimum period of thirty (30) days.

During the period of suspension, the CAMO is not authorized to conduct any maintenance corresponding to Part 5.8 of the Nig. CARs. After thirty (30) days have passed \_\_\_\_\_(enter date), depending upon the resources of the NCAA, activities associated with this CAMO application may resume with applicant submission of required documents and/or accomplishment of activities necessary to complete the tasks remaining in this phase of the CAMO process. Thereafter, depending on the resources of the NCAA, the process must adhere to the schedule of events.

If the CAMO applicant does not provide the necessary documents and/or conduct the activities necessary to complete this phase within the succeeding thirty (30) calendar days by \_\_\_\_\_(enter date), or should the applicant/CAMO miss another due-date depicted on the schedule of events, then this CAMO process will be deemed terminated and the file closed. In that event, the CAMO applicant must re-apply to commence CAMO certification at the beginning of Phase 4 of the process.

I have reviewed the completion of tasks corresponding to this phase of the CAMO certification process, confirmed conformity to the appropriate Nig. CARs as well as associated guidance material, and, by my signature below, declare Phase 4 of the CAMO certification process complete.

CPM's Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

CAMO Number: \_\_\_\_\_

**Document Distribution:** DG, DAWS, CAMO Team, CAMO Rep

**Phase Four**

Ref #	RESP. POS.	Demonstration and Inspection Phase	Insp. Initials	S/U/NA (if U, action must be taken)	Date Received/ Accomplished	Date Returned for Changes	Remarks
26 Nig CARs 5.8.1.5	A & M	A) Evaluate Organization, <b>CL: O-AWS XX</b>					
27 Nig. CARs 5.8.1.5	A & M	1. Organization Facilities					
28 Nig. CARs 5.8.1.6	A & M	2. Personnel Requirements					
29 Nig. CARs 5.8.1.7	A & M	3. Maintenance Review Staff					
30 Nig. CARs 5.8.1.8	A & M	4. Continuing Airworthiness Management					
31 Nig. CARs 5.8.1.9	A & M	5. Continuing Airworthiness Documentation					
32 Nig. CARs 5.8.1.12	A & M	6. Quality System					
33 Nig. CARs 5.8.1.14	A & M	7. Record Keeping					
<b>END</b>							



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**PHASE FIVE (5)**

**Continuing Airworthiness Management Organization (CAMO) Certification Job-Aid**

NAME AND MAILING ADDRESS OF COMPANY (including business name if different from company name)	ADDRESS OF THE PRINCIPAL (Main) Base where operations will be conducted:
MAILING ADDRESS (If different from the principal (Main) base of operation)	NCAA Reference Number:  CAMO/5N/
TYPE OF INSPECTION <input type="checkbox"/> Initial Certification <input type="checkbox"/> Re-Certification <input type="checkbox"/> Variation	CERTIFICATION PROJECT MANAGER:
AIRWORTHINESS SAFETY INSPECTOR(s)	(Specify Discipline and name) SAFETY INSPECTOR(s)

**\* Assignments:**

CPM - Certification Project Manager  
 PMI – Principal Maintenance Inspector  
 PAI – Principal Avionics Inspector  
 ASI – Aviation Safety Inspector

**\*\* Legend:**

S – Satisfactory  
 U – Unsatisfactory  
 NA – Not Applicable

As the applicant for Continuing Airworthiness Management Organization (CAMO) Certification has not provided the required documents and/or conducted the activities necessary to complete this phase of the CAMO certification process within the time-frames depicted in the schedule of events, further NCAA action corresponding to this CAMO application is hereby suspended for a minimum period of thirty (30) days.

During the period of suspension, the CAMO is not authorized to conduct any maintenance corresponding to Part 5.8 of the Nig. CARs. After thirty (30) days have passed \_\_\_\_\_(enter date), depending upon the resources of the NCAA, activities associated with this CAMO application may resume with applicant submission of required documents and/or accomplishment of activities necessary to complete the tasks remaining in this phase of the CAMO process. Thereafter, depending on the resources of the NCAA, the process must adhere to the schedule of events.

If the CAMO applicant does not provide the necessary documents and/or conduct the activities necessary to complete this phase within the succeeding thirty (30) calendar days by \_\_\_\_\_(enter date), or should the applicant/CAMO miss another due-date depicted on the schedule of events, then this CAMO process will be deemed terminated and the file closed. In that event, the CAMO applicant must re-apply to commence CAMO certification at the beginning of Phase 5 of the process.

I have reviewed the completion of tasks corresponding to this phase of the CAMO certification process, confirmed conformity to the appropriate Nig. CARs as well as associated guidance material, and, by my signature below, declare Phase 5 of the CAMO certification process complete.

CPM's Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

CAMO Number: \_\_\_\_\_

**Document Distribution:** DG, DAWS, CAMO Team, CAMO Rep

**Phase Five**

Ref #	RESP. POS.	Certification Phase	Insp. Initials	S/U/NA (if U, action must be taken)	Date Received/Accomplished	Date Returned for Changes	Remarks
34 Nig. CARs	CPM	A) Prepare Certification Report <b>TGM-AWS XXX</b>					
35 Nig. CARs	CPM	a) PASI Form, Formal application Form and attachments <b>TGM-AWS XX</b>					
36 Nig. CARs	CPM	b) Final compliance statement <b>TGM-AWS XX</b>					
37 Nig. CARs	CPM	c) Copy of Schedule of Approval <b>Form: AC-AWSXX</b> <b>TGM-AWS XX</b>					
38 Nig. CARs	CPM	d) Copy of Certificates <b>Form: AC-AWSXX</b> <b>TGM-GEN XX</b>					
39	CPM	B) Submit Report to DAWS <b>TGM-AWS XX</b>					
40 Nig. CARs	CPM	C) Present Certificate & Schedule of Approval to applicant <b>TGM-AWS XX</b>					

Ref #	RESP. POS.	Certification Phase	Insp. Initials	S/U/NA (if U, action must be taken)	Date Received/ Accomplished	Date Returned for Changes	Remarks
41	CPM	D) Develop Post Certification Surveillance Programme <b>TGM-AWS XX</b>					
42		1) Within Nigeria <b>TGM-AWS XX</b>					
43		2) Outside Nigeria <b>TGM-AWS XX</b>					
<b>END</b>							

