

GHANA CIVIL AVIATION (FLIGHT STANDARDS) DIRECTIVES



PART 6 –APPROVED MAINTENANCE ORGANISATION

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DRAFT

INTRODUCTION

Part 6 provides Directives for the registration and monitoring of Approved Maintenance Organisations (AMO) using the Standards and Recommended Practices contained in Annex 6, Parts I, II, III and Annex 8. The proper maintenance of aircraft is fundamental to aviation safety, and requires meticulous record keeping.

Modern practice among Contracting States varies. Maintenance requirements for AOC holders with integral maintenance organisations with no AMO certificate and approval of AMO contracted by Ghana AOC holders for the maintenance of Ghana registered aircraft is addressed in Part 9.

Section 6.2.1(1)(d) requires an AMO applicant to disclose all AMO certificates the applicant holds from any Contracting State other than Ghana. Many regional airline consortia use common maintenance facilities in one Contracting State. This practice does not relieve Ghana from approving the AMO that its AOC holders use. Knowledge of the other Contracting State's AMO licensing and regulating practices will allow the Authority both to communicate with the Authority overseeing the AMO certificate, and to weigh the AMO requirements of the other Contracting State for satisfaction of Ghana's own Directives.

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| TABLE OF CONTENTS | PAGE |
|--|-----------|
| INRODUCTION..... | 3 |
| 6.1 GENERAL..... | 7 |
| 6.1.1..... APPLICABILITY..... | 7 |
| 6.1.2..... DEFINITIONS..... | 7 |
| 6.1.3..... ABBREVIATIONS..... | 9 |
| 6.1.4..... CERTIFICATE AND OPERATIONS SPECIFICATIONS..... | 10 |
| 6.1.5..... ADVERTISING..... | 11 |
| 6.1.6..... DEVIATION AUTHORITY..... | 11 |
| 6.2 CERTIFICATION..... | 11 |
| 6.2.1..... APPLICATION FOR AN AMO CERTIFICATE..... | 11 |
| 6.2.2..... ISSUANCE OF AN AMO CERTIFICATE..... | 12 |
| 6.2.3..... DURATION AND RENEWAL OF CERTIFICATE..... | 13 |
| 6.2.4..... CONTINUED VALIDITY OF APPROVAL..... | 13 |
| 6.2.5..... CHANGES TO THE AMO AND CERTIFICATE AMENDMENTS..... | 13 |
| 6.2.6..... RATINGS OF THE AMO..... | 15 |
| 6.2.7..... AMO LIMITED RATINGS..... | 17 |
| 6.3 HOUSING, FACILITIES, EQUIPMENT & MATERIALS..... | 18 |
| 6.3.1..... GENERAL..... | 18 |
| 6.3.2..... HOUSING AND FACILITY REQUIREMENTS..... | 18 |
| 6.3.3..... EQUIPMENT, TOOLS, AND MATERIAL..... | 19 |
| 6.4 ADMINISTRATION..... | 19 |
| 6.4.1..... PERSONNEL AND TRAINING REQUIREMENTS..... | 19 |
| 6.4.2 REST AND DUTY LIMITATIONS FOR PERSONS PERFORMING MAINTENANCE FUNCTIONS IN AN AMO..... | 20 |
| 6.4.3..... RECORD OF CERTIFYING STAFF..... | 21 |

| | |
|--|-------------------------------------|
| 6.5 AMO OPERATING RULES | 21 |
| 6.5.1.....MAINTENANCE ORGANISATION PROCEDURES MANUAL | 21 |
| 6.5.2..... MAINTENANCE PROCEDURES AND INDEPENDENT QUALITY ASSURANCE SYSTEM | 23 |
| 6.5.3.....CAPABILITY LIST | 24 |
| 6.5.4.....PRIVILEGES OF THE APPROVED MAINTENANCE ORGANISATION | 25 |
| 6.5.5.....LIMITATIONS ON THE AMO | 26 |
| 6.5.6.....MAINTENANCE RELEASE | Error! Bookmark not defined. |
| 6.5.7.....MAINTENANCE RECORDS | 26 |
| 6.5.8.....AIRWORTHINESS DATA | 29 |
| 6.5.9.....REPORTING OF UNAIRWORTHY CONDITIONS | 29 |
| 6.5.10.....CONDUCT OF INSPECTIONS AND AUDITS | 29 |
| 6.5.11.....PERFORMANCE STANDARDS | 31 |
| 6.5.12.....SAFETY MANAGEMENT | 31 |
| PART 6- IMPLEMENTING STANDARDS | IS:6-1 |

| | |
|--|-------------------|
| IS: 6.1.4(4) SAMPLE AMO CERTIFICATE..... | 3 |
| IS: 6.2.1 SAMPLE FORMAL APPLICATION FOR AN AMO CERTIFICATE..... | 5 |
| IS: 6.2.1(3) APPLICATION FOR AN AMO CERTIFICATE (AMO VALIDATION)..... | 8 |
| IS: 6.2.6 RATING OF THE AMO..... | 8 |
| IS: 6.3.2 HOUSING AND FACILITY REQUIREMENTS..... | 16 |
| IS: 6.3.3 EQUIPMENT, TOOLS, AND MATERIAL..... | 18 |
| IS: 6.4.1 PERSONNEL REQUIREMENTS..... | 19 |
| IS: 6.4.3 RECORDS OF CERTIFYING STAFF..... | 22 |
| IS: 6.5.1 MAINTENANCE ORGANISATION PROCEDURES MANUAL..... | 23 |
| IS: 6.5.1(1) SAMPLE PROCEDURES MANUAL FORMAT..... | 24 |
| IS: 6.5.2 MAINTENANCE PROCEDURES AND INDEPENDENT QUALITY ASSURANCE SYSTEM..... | 26 |
| IS: 6.5.6 CERTIFICATION OF RELEASE TO SERVICE..... | 42 |
| IS: 6.5.8 AIRWORTHINESS DATA..... | 47 |

6.1 GENERAL

6.1.1 APPLICABILITY

Part 6 prescribes the requirements for issuing approvals to organisations for the maintenance, preventive maintenance, and modifications of aircraft and aeronautical products and prescribes the general operating rules for an Approved Maintenance Organisation (AMO). The approval, when granted, shall apply to the whole organisation and shall be headed by the accountable manager.

6.1.2 DEFINITIONS

For the purpose of Part 6, the following definitions shall apply-

Accountable Manager (Maintenance). The manager who has corporate authority for ensuring that all maintenance, preventive maintenance, and modification required by the aircraft owner/operator can be financed and carried out to the standard required by the Authority. The accountable manager may delegate to another person in the organisation, in writing, to become the accountable manager, when authorised by the Authority.

Note: The ‘accountable manager’ is either the CEO or a high-level corporate official who has financial responsibility for carrying out the maintenance functions for the entire organisation. This person is either the owner of the AMO or the corporate official who signs the initial application for the AMO certification or is either the CEO, President, Managing Director, General Director, General Manager etc.

Approval for return to service. A certification by an approved maintenance organisation representative that the maintenance, preventive maintenance, or modification performed on an aircraft, airframe, aircraft engine, propeller, appliance, or component part thereof was accomplished using the methods, techniques, and practices, prescribed in the current manufacturer’s maintenance manual or instructions for continued airworthiness prepared by its manufacturer, or by using other methods, techniques, and practices acceptable to the Authority.

Approved data. Technical information approved by the State of design or the Authority.

Article. Any item, including but not limited to, an aircraft, airframe, aircraft engine, propeller, appliance, accessory, assembly, subassembly, system, subsystem, component, unit, product, or part.

Calibration. A set of operations, performed in accordance with a definite documented procedure that compares the measurement performed by a measurement device or working standard for the purpose of detecting and reporting or eliminating by adjustment errors in the measurement device, working standard, or aeronautical product tested.

Approved Maintenance Organisation. Means a Maintenance Organisation approved by the CAA of the state of jurisdiction.

Certificated Approved Maintenance Organisation. Means a Maintenance Organisation approved by the Authority.

Composite. Structural materials made of substances, including, but not limited to, wood, metal, ceramic, plastic, fibre-reinforced materials, graphite, boron, or epoxy, with built-in strengthening agents that may be in the form of filaments, foils, powders, or flakes, of a different material.

Computer system. Any electronic or automated system capable of receiving, storing and processing external data, and transmitting and presenting such data in a usable form for the accomplishment of a specific function.

Facility. A physical plant, including land, buildings, and equipment, which provide the means for the performance of maintenance, preventive maintenance, or modifications of any article.

Housing. Buildings, hangers, and other structures to accommodate the necessary equipment and materials of a maintenance organisation that-

- (a) Provide working space for the performance of maintenance, preventive maintenance, or modifications for which the maintenance organisation is certificated and rated;
- (b) Provide structures for the proper protection of aircraft, airframes, aircraft engines, propellers, appliances, components, parts, and subassemblies thereof during disassembly, cleaning, inspection, repair, modification, assembly, and testing; and
- (c) Provide for the proper storage, segregation, and protection of materials, parts, and supplies.

Maintenance release. A document which contains a certification confirming that the maintenance work to which it relates has been completed in a satisfactory manner in accordance with appropriate airworthiness requirements.

Measurement Device. A calibrated calibrator, standard equipment and test equipment that is intended to be used to test, measure, or calibrate other measurement devices. It is not to be used to test, measure, or calibrate an aeronautical product.

Primary Standard. A standard defined and maintained by a State Authority and used to calibrate secondary standards.

Reference Standard. A standard that is used to maintain working standards.

Secondary Standard. A standard maintained by comparison with a primary standard.

Signature. An individual's unique identification used as a means of authenticating a maintenance record entry or maintenance record. A signature may be hand-written, electronic, or any other form acceptable to the Authority.

Specialised maintenance. Any maintenance not normally performed by an AMO (e.g., tire retreating, plating etc).

Specific Operating Provisions. Also identified as “Operations Specifications”, the Specific Operating Provisions describe the ratings (Class and or Limited) in detail and will contain or reference material and process specifications used in performing repair work, along with any limitations applied to the maintenance organisation. The accountable manager and the Authority sign this document.

Standard. An object, artifact, tool, test equipment, or system that stores, embodies, or otherwise provides a physical quantity, which serves as the basis for measurement of the quantity. It also includes a document describing the operations and process that must be performed in order for a particular end to be achieved.

State of Design of Modification. The State having jurisdiction over the individual or organization responsible for the design of the modification or repair of an aircraft, engine or propeller.

Tools, Equipment and Test Equipment. Used by an AMO for the performance of maintenance or calibration on an aircraft or aeronautical product. See also working standard.

Traceability. A characteristic of a calibration, analogous to a pedigree. A traceable calibration is achieved when each Measurement Device and Working Standard, in a hierarchy stretching back to the National Standard, was itself properly calibrated, and the results properly documented. The documentation provides the information needed to show that all calibrations in the chain of calibrations were properly performed.

Transfer Standard. Any standard that is used to compare a measurement process, system, or device at one location or level with another measurement process, system or device at another location or level.

Working Standard. A calibrated standard that is used in the performance of maintenance and or calibrations in any work area for the purpose of forming the basis for product acceptance or making a finding of airworthiness (approval for return to service) to an aircraft or aeronautical product. A working standard may be maintained by comparison with primary standards, secondary standards, and reference standards or transfer standards, as appropriate. A working standard is not to be used to test, measure, or calibrate other working standards or measurement devices.

6.1.3 ABBREVIATIONS

The following acronyms are used in this Part:

AMO - Approved Maintenance Organisation
AN - American National
MS - Military Specification

PMA - Parts Manufacturing Authorisation
TC- Type Certificate
TSO - Technical Standard Order.

6.1.4 CERTIFICATE AND OPERATIONS SPECIFICATIONS

- (1) The AMO certificate will consist of two documents-
 - (a) A one page certificate signed by the Authority, and
 - (b) A multi-page operations specifications signed by the Authority containing the terms, conditions, and authorisations.
- (2) No person may operate as a certificated maintenance organisation without, or in violation of, a maintenance organisation certificate issued under this Part.
- (3) A certificated maintenance organisation may perform maintenance, preventive maintenance, or modifications on an aircraft, airframe, aircraft engine, propeller, appliance, component, or part thereof only for which it is rated and within the limitations placed in its specific operating limitations.
- (4) The AMO certificate will contain-
 - (a) The certificate number specifically assigned to the AMO;
 - (b) The name and location (main place of business) of the AMO;
 - (c) The date of issue and period of validity;
 - (d) The ratings issued to the AMO; and
 - (e) Authority signature.

Note - Implementing Standard: See IS: 6.1.4(4) for a sample AMO certificate
- (5) The AMO Specific Operating Provisions will contain-
 - (a) The certificate number specifically assigned to the AMO;
 - (b) The class or limited ratings issued in detail, including special approvals and limitations issued;
 - (c) The date issued or revised;
 - (d) Accountable manager and Authority signatures; and
 - (e) Delegated authorisations.
- (6) The certificate issued to each certified maintenance organisation must be available in the premises for inspection by the public and the Authority.

6.1.5 ADVERTISING

- (1) No approved maintenance organisation may advertise as a certificated maintenance organisation until an approved maintenance organisation certificate has been issued to that facility.
- (2) No certificated approved maintenance organisation may make any statement, either in writing or orally, about itself that is false or is designed to mislead any person.
- (3) Whenever the advertising of an approved maintenance organisation indicates that it is certificated, the advertisement must clearly state the approved maintenance organisation's certificate number.

6.1.6 DEVIATION AUTHORITY

- (1) The Authority may, upon consideration of the circumstances of a particular approved maintenance organisation, issue a deviation providing relief from specified sections of this Part, provided that the Authority finds that the circumstances presented warrant the deviation and that a level of safety will be maintained equal to that provided by the rule from which the deviation is sought. This deviation authority will be issued as a Letter of Deviation Authority.
- (2) A letter of Deviation Authority may be terminated or amended at any time by the Authority.
- (3) A request for deviation authority must be made in a form and manner acceptable to the Authority and submitted to the Authority at least 60 days before the date the deviation from specified sections in this part is necessary for the intended maintenance, preventive maintenance, or modification. A request for deviation authority must contain complete statement of the circumstances and justifications for the deviation requested, and show that a level of safety will be maintained equal to that provided by the rule from which the deviation is sought.
- (4) Each certificated approved maintenance organisation that receives a Letter of Deviation Authority must have a means of notifying the appropriate management, certifying staff, and personnel of the deviation, including the extent of the deviation and when the deviation is terminated or amended.

6.2 CERTIFICATION**6.2.1 APPLICATION FOR AN AMO CERTIFICATE**

- (1) The Authority will require an applicant for an AMO certificate to submit the following:
 - (a) An application in a form and manner prescribed by the Authority;
 - (b) Its maintenance procedures manual in duplicate;

- (c) A list of the maintenance functions to be performed for it, under contract, by another AMO;

Note: ICAO Doc. 9642, Part 4, 2.9 states that it is accepted practice to permit AMOs to subcontract work to non-approved maintenance organisations if the contracting AMO is (1) approved for the work to be subcontracted and has the ability to assess the competency of the subcontractor, (2) retains the responsibility for the quality control and release of subcontracted activities, and (3) there exist procedures to control subcontracted activities together with terms of reference for the personnel responsible for their management. However, for these Directives, subcontracting is limited to only approved AMOs.

- (d) A list of all AMO certificates and ratings pertinent to those certificates issued by any contracting State other than Ghana; and
- (e) Any additional information the Authority requires the applicant to submit.

Note - Implementing Standard See IS: 6.2.1 for sample of an application identified in sub-paragraph (1) (a).

- (2) An application for the amendment of an existing AMO certificate shall be made on a form and in a manner prescribed by the Authority. If applicable, the AMO shall submit the required amendment to the maintenance procedure manual to the Authority for approval.
- (3) In the case of a Foreign AMO being used for a Ghanaian registered aircraft, GCAA shall validate the AMO's original Certificate issued by the host State and the validation shall be dependent upon the validity and scope of the original certificate.
- (4) When approving a maintenance organisation or validating the approval of a maintenance organization issued by another Contracting State, the Authority shall ensure compliance with the requirements of this Part.
- (5) An AMO Approval, or any portion thereof, issued by the Authority is effective for a period of 12 months until-
 - (a) The Authority amends, suspends, revokes or otherwise terminates the approval;
 - (b) The AMO surrenders the approval to the Authority; or
 - (c) The AMO suspends operations.
- (6) An AMO shall make application for renewal of its approval at least 30 days before the end of the existing period of validity.

Note: See IS:6.2.1(3)

6.2.2 ISSUANCE OF AN AMO CERTIFICATE

An applicant may be issued an AMO certificate if, after Certification, the Authority finds that the applicant-

- (1) Meets the applicable Directives and standards for the holder of an AMO; and

- (2) Is properly and adequately equipped for the performance of maintenance of aircraft or aeronautical product for which it seeks approval.

6.2.3 DURATION AND RENEWAL OF CERTIFICATE

- (1) A certificate or rating issued to an approved maintenance organisation is valid for a period of one year from the date of issue, unless the approved maintenance organisation surrenders it or the Authority suspends or revokes it.
- (2) The holder of a certificate that expires or is surrendered, suspended, or revoked by the Authority must return the certificate and specific operating provisions to the Authority.
- (3) A certificated approved maintenance organisation in Ghana that applies for a renewal of its approved maintenance organisation certificate must submit its request for renewal not later than 30 days before the approved maintenance organisation's current certificate expires. If a request for renewal is not made within this period, the approved maintenance organisation must follow the application procedure prescribed by the Authority.
- (4) A certificated maintenance organisation located outside Ghana that applies for a renewal of its maintenance organisation certificate for aircraft registered in Ghana must:
 - (a) Submit its request for renewal not later than 30 days before the approved maintenance organisation's current certificate expires. If a request for renewal is not made within this period, the approved maintenance organisation must follow the application procedure prescribed by the Authority.
 - (b) Have a valid AMO certificate issued by the Authority that has jurisdiction over the maintenance organisation.

6.2.4 CONTINUED VALIDITY OF APPROVAL

- (1) Unless the approval has previously been surrendered, superseded, suspended, revoked or expired by virtue of exceeding any expiration date that may be specified in the approval certificate, the continued validity of approval is dependent upon-
 - (a) The AMO remaining in compliance with this Part;
 - (b) The Authority being granted access to the organisation's facilities to determine continued compliance with this directive; and
 - (c) The payment of any charges prescribed by the Authority.
- (2) The holder of an AMO certificate that is surrendered, suspended, or revoked, shall return it to the Authority.

6.2.5 CHANGES TO THE AMO AND CERTIFICATE AMENDMENTS

- (1) To enable the Authority to determine continued compliance with this Part, the AMO shall provide written notification to the Authority either prior to, or within a time period determined by the Authority to be as soon as practicable after any of the following changes-

- (a) The name of the organisation;
- (b) The location of the organisation;
- (c) The housing, facilities, equipment, tools, material, procedures, work scope and certifying staff that could affect the AMO rating or ratings;
- (d) The ratings held by the AMO, whether granted by the Authority or held through an AMO certification issued by another Contracting State;

Note: See Subsection 6.2.1(1)

- (e) Additional locations of the organisation;
 - (f) The accountable manager; or
 - (g) The list of management personnel identified as described in the maintenance procedure manual.
- (2) The Authority will amend the AMO certificate if the AMO notifies the Authority of a change in-
- (a) Location or housing and facilities;
 - (b) Additional locations of the organisation;
 - (c) Rating, including deletions;
 - (d) Name of the organisation with same ownership; or
 - (e) Ownership.
- (3) The Authority may amend the AMO certificate if the AMO notifies the Authority of a change in-
- (a) The accountable manager; or
 - (b) The list of management personnel identified as described in the maintenance procedure manual.
- (4) When the Authority issues an amendment to an AMO certificate because of new ownership of the AMO, the Authority will assign a new certificate number to the amended AMO certificate.
- (5) The Authority may-
- (a) Prescribe, in writing, the conditions under which the AMO may continue to operate during any period of implementation of the changes noted in subparagraph (1); and

- (b) Hold the AMO certificate in abeyance if the Authority determines that approval of the AMO certificate should be delayed; the Authority will notify the AMO certificate holder, in writing, of the reasons for any such delay.
- (6) If changes are made by the AMO to the items listed in subparagraph (1) without notification to the Authority and amendment of the AMO certificate by the Authority, the AMO certificate may be suspended by the Authority.

6.2.6 RATINGS OF THE AMO

The following ratings are issued under this Subpart:

- (a) **Airframe ratings.** An aircraft rating on a maintenance organisation certificate permits that maintenance organisation to perform maintenance, preventive maintenance, or modifications on an aircraft, including work on the powerplant(s) of that aircraft up to, but not including, overhaul as that term defined in 5.1.2 under the following classes:
 - i. **Class 1:** Aircraft (other than rotorcraft and aircraft composed primarily of composite material) of 5,700kg maximum certified takeoff weight or less.
 - ii. **Class 2:** Aircraft (other than rotorcraft and aircraft composed primarily of composite material) over 5,700 kg maximum certificated takeoff weight and up to, and including, 34,200kg maximum certificated takeoff weight.
 - iii. **Class 3:** Aircraft, by make and model, (other than rotorcraft and aircraft composed primarily of composite material) over 34,200 kg maximum certificated takeoff weight.
 - iv. **Class 4:** Rotorcraft (other than rotorcraft composed primarily of composite material) of 2,736kg maximum certificated takeoff weight or less.
 - v. **Class 5:** Rotorcraft (other than rotorcraft composed primarily of composite material) over 2,736kg maximum certificated takeoff weight.
 - vi. **Class 6:** Aircraft composed primarily of composite material, of 5,700kg maximum certificated takeoff weight or less.
 - vii. **Class 7:** Aircraft composed primarily of composite material, over 5,700 kg maximum certificated takeoff weight.
- (b) **Powerplant ratings.** A powerplant rating on a maintenance organisation certificate permits that maintenance organisation to perform maintenance, preventive maintenance, or modifications of powerplants under the following classes:
 - i. **Class 1:** Reciprocating engines
 - ii. **Class 2:** Turbopropeller and turboshaft engines
 - iii. **Class 3:** Turbojet and Turbofan engines.

- (c) **Propeller ratings.** A propeller rating on a maintenance organisation certificate permits that maintenance organisation to perform maintenance, preventive maintenance, or modifications of propellers under the following classes:
- i. **Class 1:** Fixed-pitch and ground-adjustable propellers.
 - ii. **Class 2:** Variable-pitch propellers.
- (d) **Avionics ratings.** An avionics rating on a maintenance organisation certificate permits that maintenance organisation to perform maintenance, preventive maintenance, or modifications of avionics equipment under the following ratings:
- i. **Class 1:** Communication equipment: Any radio transmitting equipment or receiving equipment, or both, used in aircraft to send or receive communications, regardless of carrier frequency or type of modulation used; including auxiliary and related aircraft interphone systems, amplifier systems, electrical or electronic inter-crew signalling devices, and similar equipment, but not including equipment used for navigation of the aircraft or as an aid to navigation, equipment for measuring altitude or terrain clearance, other measuring equipment operated on radio or radar principles, or mechanical, electrical, gyroscopic, or electronic instruments that are a part of communication avionics equipment.
 - ii. **Class 2:** Navigational equipment: Any avionics system used in aircraft for en-route or approach navigation, except equipment operated on radar or pulsed radio frequency principles, but not including equipment for measuring altitude or terrain clearance or other distance equipment operated on pulsed radio frequency principles.
 - iii. **Class 3:** Pulsed equipment: Any aircraft electronic system operated on pulsed radio frequency principles.
- (e) **Computer systems ratings.** A computer systems rating on a maintenance organisation certificate permits that maintenance organisation to perform maintenance, preventive maintenance, or modifications of digital computer systems and components thereof, that have the function of receiving external data, processing such data, and transmitting and presenting the processed data under the following classes:
- i. **Class 1:** Aircraft computer systems.
 - ii. **Class 2:** Powerplant computer systems.
 - iii. **Class 3:** Avionics computer systems.
- (f) **Instrument ratings.** An instrument rating on a maintenance organisation certificate permits that maintenance organisation to perform maintenance, preventive maintenance, or modifications of instruments under the following classes:
- i. **Class 1:** Mechanical: Any diaphragm, bourbon tube, aneroid, optical, or mechanically driven centrifugal instrument that is used on aircraft or to operate aircraft, including tachometers, airspeed indicators, pressure gauges, drift sights, magnetic compasses, altimeters, or similar mechanical instruments.

- ii. **Class 2:** Electrical: Any self-synchronous and electrical indicating instruments and systems, including remote indicating instruments, cylinder head temperature gauges, or similar electrical instruments.
 - iii. **Class 3:** Gyroscopic: Any instrument or system using gyroscopic principles and motivated by air pressure or electrical energy, including automatic pilot control units, turn and bank indicators, directional gyros, and their parts, and flux gate and gyrosyn compasses.
 - iv. **Class 4:** Electronic: Any instruments whose operation depends on electron tubes, transistors, or similar devices including capacitance type quantity gauges, system amplifiers, and engine analysers.
- (g) **Accessory ratings.** An accessory rating on a maintenance organisation certificate permits that maintenance organisation to perform maintenance, preventive maintenance, or modifications of accessory equipment under the following classes:
- i. **Class 1:** Mechanical. The accessories that depend on friction, hydraulics, mechanical linkage, or pneumatic pressure for operation.
 - ii. **Class 2:** Electrical. The accessories that depend on electrical energy.
 - iii. **Class 3:** Electronic. The accessories that depend on the use of an electron tube transistors, lasers, fibre optics, solid-state, integrated circuits, vacuum tubes, or similar electronic controls.
 - iv. **Class 4:** Auxiliary power units (APU's) that may be installed on aircraft as self-contained units to supplement the aircraft's engines as a source of hydraulic, pneumatic, or electrical power.

6.2.7 AMO LIMITED RATINGS

- (1) Whenever the Authority finds it appropriate, it may issue a limited rating to an AMO that maintains or alters only a particular type of airframe, powerplant, propeller, radio, instruments, or accessory, or parts thereof, or performs only specialised maintenance requiring equipment and skills not ordinarily found in an AMO. Such a rating may be limited to a specific model aircraft, engine, or constituent part, or to any number of parts made by a particular manufacturer.
- (2) Limited ratings are issued for-
 - (a) Aircraft;
 - (b) Airframe;
 - (c) Powerplants;
 - (d) Propellers;
 - (e) Avionics equipment;
 - (f) Computer systems;

- (g) Instruments;
 - (h) Accessories; and
 - (i) Any other purpose for which the authority finds the applicant's request appropriate.
- (3) **Specialised service ratings.** A specialised service rating may be issued to an approved maintenance organisation to perform specific maintenance or processes. The specific operating provisions of the approved maintenance organisation must identify the specification used in performing that specialised service. The specification may be-
- (a) A civil or military specification that is currently used by industry and approved by the Authority; or
 - (b) A specification developed by the approved maintenance organisation and approved by the authority.

6.3 HOUSING, FACILITIES, EQUIPMENT & MATERIALS

6.3.1 GENERAL

A certificated approved maintenance organisation must provide personnel, facilities, equipment, and materials in quantity and quality that meet the standards required for the issuance of the certificate and ratings that the maintenance organisation holds.

6.3.2 HOUSING AND FACILITY REQUIREMENTS

- (1) Housing and facilities shall be provided appropriate for all planned work, ensuring in particular, protection from weather.
- (2) All work environments shall be appropriate for the task carried out and shall not impair the effectiveness of personnel.
- (3) Office accommodation shall be appropriate for the management of planned work including, in particular, the management of quality, planning, and technical records.
- (4) Specialised workshops and bays shall be segregated, as appropriate, to ensure that environmental and work area contamination is unlikely to occur.
- (5) Storage facilities shall be provided for parts, equipment, tools and material.
- (6) Storage conditions and security shall be provided for serviceable parts, segregation of serviceable from unserviceable parts, and prevent deterioration of and damage to stored items.

Note - Implementing Standard See IS: 6.3.2 for detailed requirements pertaining to housing and facilities.

6.3.3 EQUIPMENT, TOOLS, AND MATERIAL

- (1) The AMO shall have available the necessary technical data, equipment, tools and material to perform the approved scope of work and these items shall be under full control of the AMO. The availability of equipment and tools means permanent availability except in the case of any tool or equipment that is so rarely needed that its permanent availability is not necessary.
- (2) The Authority may exempt an AMO from possessing specific tools and equipment for maintenance or repair of an aircraft or aeronautical product specified in the AMO's approval, if these items can be acquired temporarily, by prior arrangements, and be under full control of the AMO when needed to perform required maintenance or repairs.

Note: The Authority need not amend the approval to delete the aircraft or aeronautical product on the basis that it is temporary situation and there is a formal agreement from the AMO to re-acquire tools, equipment, etc, before performing any maintenance or repair.

- (3) The AMO shall control all applicable tools, equipment, and test equipment used for product acceptance and or for making a finding of airworthiness.
- (4) The AMO shall ensure that all applicable tools, equipment, and test equipment used for product acceptance and or for making a finding of airworthiness are calibrated to ensure correct calibration to a standard acceptable to the Authority and traceable to the State National Standards.
- (5) The AMO shall keep all records of calibrations and the standards used for calibration.

Note - Implementing Standard: See IS: 6.3.3 for detailed requirements pertaining to tools, equipment, and test equipment.

6.4 ADMINISTRATION

6.4.1 PERSONNEL AND TRAINING REQUIREMENTS

- (1) The maintenance organization shall nominate an accountable executive who, irrespective of other functions, is accountable on behalf of the organization.
- (2) The maintenance organization's accountable executive shall nominate a management person or group of persons acceptable to the Authority, whose responsibilities include ensuring that the AMO is in compliance with this Part , shall be nominated.
- (3) The person or persons nominated as manager(s) shall represent the maintenance management structure of the AMO, and be responsible for all functions specified in this Part.

- (4) Nominated managers shall be directly responsible to an accountable manager who shall be acceptable to the Authority.
- (5) The AMO shall employ sufficient personnel to plan, perform, supervise and inspect and release the work in accordance with the approval.
- (6) The competence of personnel involved in maintenance shall be established in accordance with a procedure and to a standard acceptable to the Authority.
- (7) The person signing maintenance release or an approval for return to service shall be qualified in accordance with Part 2 Subpart 2.5.2.7 as appropriate to the work performed and is acceptable to the Authority.
- (8) The maintenance personnel and the certifying staff shall meet the qualification requirements and receive initial and continuation training to their assigned tasks and responsibilities in accordance with a program acceptable to the Authority. The training program established by the AMO shall include training in knowledge and skills related to human performance, including co-ordination with other maintenance personnel and flight crew.
- (9) The maintenance organisation shall ensure that all maintenance personnel receive initial and continuation training appropriate to their assigned tasks and responsibilities. The training programme established by the maintenance organisation shall include training in knowledge and skills related to human performance, including coordination with other maintenance personnel and flight crew.

Note - Implementing Standard: See IS: 6.4.1 for detailed personnel requirements.

6.4.2 REST AND DUTY LIMITATIONS FOR PERSONS PERFORMING MAINTENANCE FUNCTIONS IN AN AMO

- (1) No person may assign, nor shall any person perform maintenance functions for aircraft, unless that person has had a minimum rest period of 8 hours prior to the beginning of duty.
- (2) No person may schedule a person performing maintenance functions for aircraft for more than 12 consecutive hours of duty.
- (3) In situations involving unscheduled aircraft unserviceability, persons performing maintenance functions for aircraft may be continued on duty for:
 - (a) Up to 16 consecutive hours; or
 - (b) 20 hours in 24 consecutive hours
- (4) Following unscheduled duty periods, the person performing maintenance functions for aircraft shall have a mandatory rest period of 10 hours.
- (5) The AMO shall relieve the person performing maintenance functions from all duties for 24 consecutive hours during any 7 consecutive day period.

6.4.3 RECORD OF CERTIFYING STAFF

- (1) The AMO shall maintain a roster of all certifying staff, which includes details of the scope of their authorisation.
- (2) Certifying staff shall be notified in writing of the scope of their authorisation.

Note- Implementing Standard: See IS: 6.4.3 for detailed requirements pertaining to records of certifying staff.

6.5 AMO OPERATING RULES**6.5.1 MAINTENANCE ORGANISATION PROCEDURES MANUAL**

- (1) An AMO Maintenance Procedure Manual and any subsequent amendments thereto shall be approved by the Authority prior to use. **In the case of Foreign AMOs, an AMO Procedures Manual and any subsequent amendments thereto shall be accepted by the Authority prior to use on Ghana registered aircraft.**

Note: The purpose of the Maintenance Organisation Procedures Manual is to set forth the procedures, the means, and methods of the AMO. Compliance with its contents will assure compliance with the Part 6 requirements, which is a pre-requisite to obtaining and retaining an AMO certificate.

- (2) The AMO Maintenance Procedures Manual shall specify the scope of work required of the AMO in order to satisfy the relevant requirements needed for an approval of an aircraft or aeronautical product for return to service.
- (3) The procedures manual and any other manual it identifies shall:
 - (a) Include instructions and information necessary to allow the personnel concerned to perform their duties and responsibilities with a high degree of safety;
 - (b) **be amended as necessary and** kept up to date at all times and be in a form that is easy to revise and contains a system which allows personnel to determine current revision status;
 - (c) Have the date of the last revision printed on each page containing the revision;
 - (d) Not be contrary to any applicable Ghana Civil Aviation Directives or the AMO's specific operating provisions; and
 - (e) Include a reference to appropriate Ghana Civil Aviation Directives.
- (4) The AMO shall provide a Maintenance Procedures Manual for use by the organisation, containing the following information-
 - (a) A statement signed by the accountable manager confirming that the maintenance organisation Procedures Manual and any associated manuals define the AMO's compliance with this Directive and will be complied with at all times;
 - (b) A procedure to establish and maintain a current list of the titles and names of the management personnel accepted by the Authority. The list of personnel

may be separate from the Procedures Manual but must be kept current and available for review by the Authority when requested;

(c) Names and duties of the person or persons required in 6.4.1;

- (d) A list which describes the duties and responsibilities of the management personnel and which matters on which they may deal directly with the Authority on behalf of the AMO;
- (e) An organisation chart showing associated chains of responsibility of the management personnel;
- (f) A procedure to establish and maintain a current roster of certifying personnel;

Note - The list of certifying personnel may be separate from the procedures manual but must be kept current and available for review by the Authority when requested.

- (g) A description of the procedures used to establish the competence of maintenance personnel required in 6.4.1(5);
- (h) A general description of manpower resources;

Note- Subparagraphs (4)(a) to (g) constitutes the management part of the maintenance organisation Procedures Manual and therefore could be produced as one document and made available to person(s) who should be reasonably familiar with its contents.

- (i) A description of the method used for the completion and retention of the maintenance records required in 6.5.7;
- (j) A description of the procedure for preparing the maintenance release and the circumstances under which the release is to be signed.

(k) The personnel authorized to sign the maintenance release and the scope of their authorization;

(l) A description, when applicable, of contracted activities;

- (m) A description, when applicable, of additional procedures for complying with an Operator's maintenance procedures and requirements;

(n) a description of the procedures for complying with the information reporting requirements of 6.5.9 of this part;

- (o) A description of the procedure for receiving, amending and distributing within the maintenance organisation all necessary airworthiness data from the type certificate holder or the type design organisation;

- (p) A general description of the facilities located at each address specified in the AMO's approval certificate;

- (q) A general description of the AMO's scope of work relevant to the extent of approval;

- (r) A description of the procedures for implementing changes affecting the approval of the maintenance organization;
 - (s) The notification procedure for AMO to use when requesting the approval of changes to the AMO from the Authority.
 - (t) The amendment procedure for the AMO procedures manual, including the submission to the Authority;
 - (u) The AMO's procedures, acceptable to the Authority, to ensure good maintenance practices and compliance with all relevant requirements in this subsection;
 - (v) A description of the organization's procedures and quality or inspection system in accordance with 6.5.2;
 - (w) The AMO's procedures to establish and maintain an independent quality system to monitor compliance with the adequacy of the procedures to ensure good quality maintenance practices and airworthy aircraft and aeronautical products. Compliance monitoring must include a feedback system to the person or group of persons specified in 6.4.1 and ultimately to the accountable manager to ensure, as necessary, corrective action. Such a system shall be acceptable to the Authority;
 - (x) The AMO procedures for self-evaluations, including methods and frequency of such evaluations and procedures for reporting results to the accountable manager for review and action;
 - (y) A list of operators, if appropriate, to which the AMO provides an aircraft maintenance service;
 - (z) A list of organisations performing maintenance on behalf of the AMO; and
 - (aa) A list of the AMO's line maintenance locations and procedures, if applicable.
- (5) Copies of all amendments to the procedures manual shall be furnished promptly to all persons to whom the manual has been issued.

Note - Implementing Standard: See IS:6.5.1 for detailed requirements concerning the Procedures Manual and a sample Maintenance Procedures Manual format.

6.5.2 MAINTENANCE PROCEDURES AND INDEPENDENT QUALITY ASSURANCE SYSTEM

- (1) The AMO shall establish procedures acceptable to the Authority to ensure good maintenance practices and compliance with all relevant requirements in these Directives such that aircraft and aeronautical products may be properly released to service.
- (2) The AMO shall establish an independent quality assurance system, acceptable to the Authority, to monitor compliance with the adequacy of the procedures or by providing a system of inspection to ensure that all maintenance is properly performed.

Note: The quality assurance system may be an independent system under the control of the quality manager that evaluates the maintenance procedures and the correctness of the Equivalent Safety Case process.

- (3) The quality assurance system shall include a procedure to initially qualify and periodically perform audits on persons performing work on behalf of the AMO.
- (4) Compliance monitoring shall include a feedback system to the designated management person or group of persons directly responsible for the quality system and ultimately to the accountable manager to ensure, as necessary, corrective action.
- (5) The maintenance procedures shall cover all aspects of maintenance activity and describe standards to which the AMO intends to work. The aircraft or aircraft component design standards and aircraft operator standards must be taken into account.
- (6) The maintenance procedures should address the provisions and limitations of Part 6.
- (7) The AMO's quality system shall be sufficient to review all maintenance procedures as described in the Procedures Manual in accordance with an approved program once a year for each aircraft type maintained.
- (8) The AMO's quality system shall indicate when audits are due, when completed, and establish a system of audit reports, which can be seen by visiting Authority staff on request. The audit system shall clearly establish a means by which audit reports containing observations about non-compliance or poor standards are communicated to the accountable manager.

Note - Implementing Standard See IS: 6.5.2 for detailed requirements pertaining to the quality system, including a sample of inspection items.

6.5.3 CAPABILITY LIST

- (1) Each certificated approved maintenance organisation must prepare and retain a current capability list approved by the Authority. The maintenance organisation may not perform maintenance, preventive maintenance, or modifications on an article until the article has been listed on the capability list in accordance with this part and 6.5.1(4)(s).
- (2) The capability list must identify each article by make and model, part number, or other nomenclature designated by the article's manufacturer.
- (3) An article may be listed on the capability list only if the article is within the scope of the ratings and classes of the approved maintenance organisation's certificate, and only after the approved maintenance organisation has performed a self-evaluation in accordance with 6.5.1(4)(s). The approved maintenance organisation must perform the self-evaluation described in this paragraph to determine that the maintenance organisation has all of the facilities, equipment, material, technical data, processes, housing, and trained personnel in place to perform the work on the article as required by this part. If the maintenance organisation makes that determination, it may list the article on the capability list.

- (4) The document of the evaluation described in paragraph (3) of this section must be signed by the accountable manager and must be retained on file by the approved maintenance organisation.
- (5) Upon listing an additional article on its capability list, the approved maintenance organisation must send a copy of the list to the Authority having jurisdiction over the approved maintenance organisation.
- (6) The capability list(s) must be available in the premises for inspection by the public and the Authority.
- (7) The self-evaluations must be available in the premises for inspection by the Authority.
- (8) The AMO shall retain the capability list(s) and self-evaluation(s) for two years from the date accepted by the accountable manager.

6.5.4 PRIVILEGES OF THE APPROVED MAINTENANCE ORGANISATION

- (1) The AMO shall carry out the following tasks as permitted by and in accordance with the AMO maintenance procedures manual:
 - (a) Maintain any aircraft or aeronautical product for which it is rated at the location identified in the approval certificate;
 - (b) Maintain any aircraft for which it is rated at any location subject to the need for such maintenance arising from unserviceability of the aircraft;
 - (c) Describe the activities in support of a specific AOC holder where that AOC has requested the services of the AMO at locations other than the location identified on the AMO certificate and the AMO has been rated to maintain the aircraft of that specific AOC holder at the requested location in the AMO's specific operating provisions approved by the Authority; and
 - (d) Issue an approval for return to service or a maintenance release in respect of subparagraphs (1)(a),(b), and (c) of this subsection upon completion of maintenance in accordance with limitations applicable to the AMO.
- (2) An AMO may not contract out the maintenance, preventive maintenance, modification or alteration of a complete type-certificated product, and it may not provide only approval for return to service of a product following contract maintenance.
- (3) The AMO may maintain or alter any article for which it is rated at a place other than the AMO if-
 - (a) The function would be performed in the same manner as when performed at the AMO and in accordance with this Subpart;
 - (b) All necessary personnel, equipment, material, and technical and or approved standards are available at the place where the work is to be done; and
 - (c) The maintenance procedure manual of the station sets forth approved procedures governing work to be performed at a place other than the AMO.

6.5.5 LIMITATIONS ON THE AMO

The AMO shall maintain an aircraft or aeronautical product for which it is approved only when all necessary housing, facilities, equipment, tools, material, approved technical data and certifying staff are available.

6.5.6 MAINTENANCE RELEASE

- (1) A **maintenance release** shall be issued by appropriately authorised certifying staff when satisfied that all required maintenance of the aircraft or aeronautical product has been properly carried out by the AMO in accordance **with approved data and** the maintenance procedure manual.

*Note: An aeronautical product which has been maintained off the aircraft requires the issue of a **maintenance release** for such maintenance and another **maintenance release** in regard to being installed properly on the aircraft, when such action occurs.*

- (2) A **maintenance release** shall contain-
 - (a) Basic details of the maintenance carried out **including detailed reference to the data used**;
 - (b) The date such maintenance was completed;
 - (c) The identity, including the authorisation reference, of the AMO; and
 - (d) **The** certifying staff issuing the certificate.

*Note - Implementing Standard: See IS: 6.5.6 for detailed requirements concerning a **maintenance release**.*

6.5.7 MAINTENANCE RECORDS

- (1) The AMO shall record, in a form acceptable to the Authority, all details for maintenance work performed.
- (2) The AMO shall provide a copy of each **maintenance release** to the aircraft operator, together with a copy of any specific airworthiness data used for repairs or modifications performed.
- (3) **The AMO shall retain detailed maintenance records to show that all requirements for the signing of a maintenance release have been met.**
- (4) The AMO shall retain a copy of all detailed maintenance records and any associated airworthiness data for **one** year from the date the aircraft or aeronautical product to which the work relates was released from the AMO.
- (5) **If an AOC holder contracts an AMO to keep the aircraft operator's certificates of release to service and any associated airworthiness data, the retention period shall be two (2) years after the aircraft or aeronautical product is permanently withdrawn from service.**

- (6) Records kept in accordance with 6.5.7 shall be maintained in a form and format that ensures readability, security and integrity of the records at all times.
- (7) Each person who maintains, performs preventive maintenance, rebuilds, or modifies an aircraft or aeronautical product shall make an entry in the maintenance record of that equipment:
- (a) A description and reference to data acceptable to the Authority of the work performed.
 - (b) The date of completion of the work performed.
 - (c) The name of the person performing the work if other than the person specified in this subsection.
 - (d) If the work performed on the aircraft or aeronautical product has been performed satisfactorily, the signature, certificate number, and kind of certificate held by the person approving the work.
 - (e) The authorised signature, the AMO certificate number, and kind of certificate held by the person approving or disapproving for return to service the aircraft, airframe, aircraft engine, propeller, appliance, component part, or portions thereof.
 - (f) The signature constitutes the approval for return to service only for the work performed.
 - (g) In addition to the entry required by this paragraph, major repairs and major modifications shall be entered on a form, and the form disposed of by the person performing the work, in the manner prescribed by the Authority.
- (8) No person shall describe in any required maintenance entry or form an aircraft or aeronautical component as being overhauled unless:
- (a) Using methods, techniques, and practices acceptable to the Authority, it has been disassembled, cleaned, inspected as permitted, repaired as necessary, and reassembled; and
 - (b) It has been tested in accordance with approved standards and technical data, or in accordance with current standards and technical data acceptable to the Authority, which have been developed and documented by the holder of the type certificate, supplemental type certificate, or a material, part, process, or appliance approval under a TSO.

Note: For definitions of overhaul see 5.1.2 in Part 5 of the Flight Standards Directives

- (9) No person may describe in any required maintenance entry or form, an aircraft or other aeronautical product as being rebuilt unless it has been –
- (a) Disassembled, cleaned, inspected as permitted;
 - (b) Repaired as necessary; and

- (c) Reassembled and tested to the same tolerances and limits as a new item, using either new parts or used parts that either conforms to new part tolerances and limits, or to approved oversized or undersized dimension.

Note- For definitions of rebuild see 5.1.2 in Part 5 of the Flight Standards Directives.

- (10) No person may approve for return to service any aircraft or aeronautical product that has undergone maintenance, preventive maintenance, rebuilding, or modification unless:
 - (a) The appropriate maintenance record entry has been made;
 - (b) The repair or modification form authorised by or furnished by the Authority has been executed in a manner prescribed by the Authority; and
 - (c) If a repair or modification results in any change in the aircraft operating limitations or flight data contained in the approved aircraft flight manual, those operating limitations or flight data shall be appropriately revised and set forth as prescribed by the Authority.
- (11) **Maintenance record entries for inspections.** The person approving or disapproving for return to service an aircraft or aeronautical product, after any inspection performed in accordance with this Directive, shall make an entry in the maintenance record of that equipment containing the following information:
 - (a) The type of inspection and a brief description of the extent of the inspection; and
 - (b) The date of the inspection and aircraft total time in service;
 - (c) The authorised signature, the AMO certificate number, and kind of certificate held by the person approving or disapproving for return to service the aircraft, airframe, aircraft engine, propeller, appliance, component part, or portions thereof.
 - (d) If the aircraft is found to be airworthy and approved for return to service, the following or a similarly worded statement – **“I certify that this aircraft has been inspected in accordance with (insert type) inspection and was determined to be in airworthy condition”.**
 - (e) If the aircraft is not approved for return to service because of needed maintenance, non-compliance with the applicable specifications, airworthiness directives, or other approved data, the following or a similarly worded statement – **“I certify that this aircraft has been inspected in accordance with (insert type) inspection and a list of discrepancies and unairworthy items dated (date) has been provided for the aircraft owner or operator”.**
 - (f) If an inspection is conducted under an inspection program provided for in this Directive, the entry shall identify the inspection program accomplished, and contains a statement that the inspection was performed in accordance with the inspections and procedures for that particular program.
- (12) **Listing of discrepancies.** If the person performing any inspection required by this Directive finds that the aircraft is not airworthy or does not meet

the applicable type certificate data sheet, airworthiness directives, or other approved data upon which its airworthiness depends, that person shall give the owner or lessee a signed and dated list of those discrepancies.

6.5.8 AIRWORTHINESS DATA

- (1) The AMO shall be in receipt of all airworthiness data appropriate to support the work performed from the Authority, the aircraft aeronautical product design organisation, and any other approved design organisation in the State of Manufacture or State of Design, as appropriate.

Note: The Authority may classify data from another authority or organisation as mandatory and may require the AMO to hold such data.

- (2) Where the AMO modifies airworthiness data specified in paragraph (1) to a format or presentation more useful for its maintenance activities, the AMO shall submit to the Authority an amendment to the maintenance procedure manual for any such proposed modifications for acceptance.
- (3) All airworthiness data used by the AMO shall be kept current and made available to all personnel who require access to that data to perform their duties.

Note - Implementing Standard: See IS 6.5.8 for detailed requirements concerning airworthiness data

6.5.9 REPORTING OF UNAIRWORTHY CONDITIONS

- (1) The AMO shall report to the Authority and the aircraft design organisation of the State of Design any identified condition that could present a serious hazard to the aircraft.
- (2) Reports shall be made on a form and in a manner prescribed by the Authority and contain all pertinent information about the condition known to the AMO.
- (3) Where the AMO is contracted by an AOC holder to carry out maintenance, that AMO shall report to the AOC holder any condition affecting the aircraft or aeronautical product.
- (4) Reports shall be made as soon as practicable, but in any case within three days of the AMO identifying the condition to which the report relates.

6.5.10 CONDUCT OF INSPECTIONS AND AUDITS

- (1) The Authority may, at any time, inspect an AMO holder on the AMO holder's premises to determine the AMO compliance with this Part.
- (2) Each certificated approved maintenance organisation shall grant the Authority unlimited, unimpeded and unrestricted access to inspect that maintenance organisation and any of its contract maintenance facilities and documentation at any time to determine compliance with this part. Arrangements for maintenance, preventive maintenance, or modifications by a contractor shall include provision for inspections of the contractor by the Authority.

- (3) Inspections will also be performed on the applicant for, or the holder of an AMO certificate held outside Ghana. This inspection may be delegated to the Authority of the State where the AMO is located, provided an arrangement exists.
- (4) Inspections will be conducted at least annually.
- (5) After an inspection is made, the certificate holder will be notified, in writing, of any deficiencies found during the inspection.
- (6) The findings shall be classified as follow:
 - (a) A level 1 finding is any significant non-compliance applicable requirements of this Directive, with organisation procedure manuals or with the term of an approval, certificate or with the content of a declaration which lowers the safety and hazards seriously the safety.
 - (b) A level 2 finding is any non-compliance with applicable requirements of this Directive, with organisation procedure manuals or with the term of an approval, certificate or with the content of a declaration which could lower the safety and possibly hazard the safety.
 - (c) A level 3 finding (Observation) is a minor irregularity which is considered to be an observation and warrants attention.
- (7) After receipt of notification of findings according to paragraph (5), the holder of the maintenance organisation approval shall, within a period prescribed by the Authority:
 - (a) identify the root cause of the non-compliance; and
 - (b) define a corrective action plan.
- (8) Following measures taken in paragraph (7) the holder of the maintenance organisation approval shall demonstrate corrective action to the satisfaction of the authority within a period agreed with the Authority.
- (9) When during oversight or by other means, evidence is found showing non-compliance with the requirements of Part 6, the Authority shall take the following actions:
 - (a) For level 1 findings, immediate action shall be taken by the Authority to revoke, limit or suspend in whole or in part, depending upon the extent of the level 1 finding, the maintenance organisation approval, until successful corrective action has been taken by the organisation.
 - (b) For level 2 findings, the corrective action period granted by the Authority must be appropriate to the nature of the finding but in any case initially must not be more than three months. In certain circumstances and subject to the nature of the finding the Authority may extend the three month period subject to a satisfactory corrective action plan agreed by the Authority.
 - (c) For level 3 findings, the AMO should consider this issue and advise the Authority in writing of its thoughts and intentions with respect to corrective action.

- (10) If a maintenance organisation fails to submit an acceptable corrective action plan or fails to apply the corrective measures within the time limit agreed or extended by the authority, the degree of seriousness of non-compliance increases to level 1 and the measures provided for in paragraph (9) (a).

6.5.11 PERFORMANCE STANDARDS

- (1) Each certificated approved maintenance organisation that performs any maintenance, preventive maintenance, modifications for an air operator certificated under Part 9 having an approved maintenance program under Part 9.4.11 and approved continuous maintenance program under Part 9.4.12 shall perform that work in accordance with the air operator's manuals.
- (2) Except as provided in paragraph (1), each certificated approved maintenance organisation shall perform its maintenance and modification operations in accordance with the applicable standards in Part 5. It shall maintain, in current condition, all that relate to the articles that it maintains or modifies.
- (3) In addition, each certificated approved maintenance organisation with an avionics rating shall comply with those sections in Part 5 that apply to electronic systems, and shall use materials that conform to approved specifications for equipment appropriate to its rating. It shall use test apparatus, shop equipment, performance standards, test methods, modifications, and calibrations that conform to the manufacturer's specifications or instructions, approved specification, and if not otherwise specified, to accept good practices of the aircraft avionics industry.

6.5.12 SAFETY MANAGEMENT

- (1) The Maintenance organisation shall establish a safety program in order to achieve an acceptable level of safety in the maintenance of aircraft.
- (2) A maintenance organisation shall implement an acceptable safety management system that as a minimum;
 - (a) Identify safety hazards;
 - (b) Ensures that remedial action necessary to maintain an acceptable level of safety is implemented;
 - (c) Provides for continuous monitoring and regular assessment of the safety level achieved; and
 - (d) Aims to make continuous improvement to the overall level of safety.
- (3) A safety management system shall clearly define lines of safety accountability throughout the operator's organisation including a direct accountability for safety on the part of senior management.

DRAFT

GHANA CIVIL AVIATION (FLIGHT STANDARDS) DIRECTIVES

PART 6 – IMPLEMENTING STANDARDS

NOVEMBER 2018

For ease of reference, the number assigned to each implementing standard corresponds to its associated directive. For example, IS 6.1.4(4) reflects the standard required in subsection 6.1.4(4)

DRAFT

GHANA CIVIL AVIATION AUTHORITY

SAFETY REGULATION DEPARTMENT
(Airworthiness)**AIRCRAFT MAINTENANCE ORGANIZATION****APPROVAL CERTIFICATE****NUMBER** _____

PURSUANT TO Ghana Civil Aviation Directives (GCADs) and subject to the conditions specified below, Ghana Civil Aviation hereby certifies;

whose business location is;

as a Maintenance Organization approved to maintain Ghana Registered Aircraft and issue related Certificates of Maintenance Review/Release and Certificates of Fitness for flight all in accordance with the above mentioned Directives being in force.

CONDITIONS:

1. This approval is applicable only to Ghana Registered aircraft.
2. This approval requires compliance with the standing procedures specified in GCAA approved Maintenance Control Manual or Maintenance Procedures Manual.
3. This approval is dependent on the _____
being valid.

4. This approval shall remain in force up to: _____

Effective Date: _____

Date of Issue: _____

SIGNED: _____

APPROVAL SCHEDULE

Organization Name: _____

Approval Number: _____

| CLASS | RATING | LIMITATION | BASE | LINE |
|--|--------|--|------|------|
| AIRCRAFT | | | | |
| ENGINES | | | | |
| COMPONENTS INSTRUMENTS ACCESSORIES AND AVIONICS | | IN ACCORDANCE WITH CAPABILITY LIST DEFINED IN THE MAINTENANCE CONTROL MANUAL OR MAINTENANCE PROCEDURES MANUAL | | |
| SPECIALISED SERVICES | | | | |

This approval schedule is limited to those products and activities specified in the scope of work section contained in the GCAA approved maintenance Control Manual or Maintenance Procedures Manual.

Signature and Stamp

Date of Issue: _____

For: Ghana Civil Aviation Authority

Date of Expiry: _____



GHANA CIVIL AVIATION AUTHORITY

| | | | |
|---|--|--|--|
| Ghana Civil Aviation Authority | | Application for Approved Maintenance Organisation Certificate and/or Ratings | |
| 1. Approved Maintenance Organisation Name, Number, Location and Address a. Official Name of Approved Maintenance Organisation : _____ Number: _____ b. Location where business is conducted: _____ c. Official Mailing Address of Approved Maintenance Organisation (Number, Street, City, State, & Zip) _____ d. Doing Business As: _____ | | 2. Reasons for Submission <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) _____ _____ _____ | |
| 3. Ratings Applied for: | | | |
| <input type="checkbox"/> Airframe <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 4 | <input type="checkbox"/> Powerplant <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 3 | <input type="checkbox"/> Propeller <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 2 | <input type="checkbox"/> Avionics <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 3 |
| <input type="checkbox"/> Computer <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 3 | <input type="checkbox"/> Instrument <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 4 | <input type="checkbox"/> Accessories <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 4 | |
| <input type="checkbox"/> Limited <input type="checkbox"/> Airframe <input type="checkbox"/> Powerplant <input type="checkbox"/> Propeller <input type="checkbox"/> Instruments | | <input type="checkbox"/> Accessories <input type="checkbox"/> Landing Gear <input type="checkbox"/> Floats <input type="checkbox"/> Avionics <input type="checkbox"/> Computer <input type="checkbox"/> Rotor Blades <input type="checkbox"/> Fabric <input type="checkbox"/> Emergency Equip. <input type="checkbox"/> Non-Dest. Test | |
| <input type="checkbox"/> Specialised Service (List Process Specification(s)) _____ _____ | | | |
| 4. List of Maintenance Functions contracted to an outside Maintenance Organisation _____ _____ | | | |
| 5. Details of approval granted by Applicants National Airworthiness Authority (Please attach photo-copies) _____ _____ | | | |
| 6. Details of approval granted by Applicants National Airworthiness Authority (Please attach photo-copies) _____ _____ | | | |
| 7. Applicants Certification 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 authorised by the approved maintenance organisation 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: | Authorised Signature: | Print Name of Authorised Signature: | Title: |

| | | | | | |
|--|-------------|--|--|-----------------------------|-----------------------|
| For GCAA Use Only | | Record of Action Approved Maintenance Organisation Inspection | | For CAA Use Only | |
| 8. Remarks (Identify by item number. Include deficiencies found ratings denied) | | | | | |
| <div style="position: relative; height: 200px;"> <div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%) rotate(-45deg); opacity: 0.1; font-size: 100px; pointer-events: none;">DRAFT</div> </div> | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| 9. Findings - Recommendations | | | | | 8. Date of Inspection |
| <input type="checkbox"/> A. AMO was found to comply with requirements of Part 6. <input type="checkbox"/> B. AMO was found to comply with requirements of Part 6, except for deficiencies listed in Item 6. <input type="checkbox"/> C. Recommend Certificate with rating applied for on application be issued. <input type="checkbox"/> D. Recommend Certificate with rating applied for on application (EXCEPT those listed in Item 6) be issued. | | | | | |
| 10. | GCAA Office | Signature(s) of Inspector(s) | | Printed Names of Inspectors | |
| | | | | | |
| | | | | | |
| | | | | | |
| 11. Supervising or Assigned Inspector | | | | | |
| ACTION TAKEN <input type="checkbox"/> APPROVED As shown on certificate issued on date shown <input type="checkbox"/> DISAPPROVED | | CERTIFICATE ISSUED Number | | Inspector's Signature | |
| | | | | | |
| | | Date | | Inspector's Printed Name | |
| | | | | Title | |

TABLE 1

| CLASS | RATING | LIMITATION | BASE | LINE |
|---|--|---|------|------|
| AIRCRAFT | A1 Aeroplanes/airships Above 5700 kg | Quote aeroplane/airship type and/or the maintenance task(s) | | |
| | A2 Aeroplanes/airships 5700 kg and below | Quote aeroplane/airship manufacturer or group or type and/or the maintenance task(s) | | |
| | A3 Helicopters | Quote aeroplane/airship type and/or the maintenance task(s) | | |
| ENGINES | B1 Turbine | Quote engine type | | |
| | B2 Piston | Quote engine manufacturer or group or type | | |
| | B3 APU | Quote engine manufacturer or type | | |
| COMPONENTS OTHER THAN COMPLETE ENGINES OR APUs Cries Anderson MD race cargo | C1 Air Cond & Press | Quote aircraft type or aircraft manufacturer or component manufacturer or the particular component and or cross-refer to a capability list in the exposition. | | |
| | C2 Auto Flight | | | |
| | C3 Comms and Nav | | | |
| | C4 Doors – Hatches | | | |
| | C5 Electrical Power | | | |
| | C6 Equipment | | | |
| | C7 Engine – APU | | | |
| | C8 Flight Controls | | | |
| | C9 Fuel – Airframe | | | |
| | C10 Helicopter – Rotors | | | |
| | C11 Helicopter – Trans | | | |
| | C12 Hydraulic | | | |
| | C13 Instruments | | | |
| | C14 Landing Gear | | | |
| | C15 Oxygen | | | |
| | C16 Propellers | | | |
| | C17 Pneumatic | | | |
| | C18 Protection ice/rain/fire | | | |
| | C19 Windows | | | |
| SPECIALIZED SERVICES | D1 Non Destructive Insp. | Quote particular or group of services | | |

IS: 6.2.1(3) APPLICATION FOR AN AMO CERTIFICATE (FOREIGN AMO VALIDATION)

- (1) The individual or organisation desiring to use a foreign AMO, its equipment or its personnel shall submit a letter of intent to the Authority outlining —
 - (a) The intention;
 - (b) The proposed dates; and
 - (c) The justification for using a foreign entity.
- (2) The GCAA shall review the request and contact the foreign AMO to validate the approval documents.
- (3) A formal approval document shall be issued when the GCAA is satisfied that the maintenance organisation, its equipment and its personnel—
 - (a) Hold valid approvals from their civil aviation authorities for the tasks that are proposed;
 - (b) Have demonstrated their proficiency and competency for such tasks through an internationally accepted process; and
 - (c) All necessary on-site evaluations have been conducted and found compliant.
- (4) That formal approval document shall comprise—
 - (a) A Ghana AMO Certificate; and
 - (b) Operation specifications or approval schedule.

IS: 6.2.6 RATING OF THE AMO

- (1) Except for job functions that are contracted out, each certificated approved maintenance organisation must provide equipment and material so that the job functions listed in this IS, as appropriate to the class or limited rating held or applied for, can be performed as required. The job functions are as follows:
 - (a) For an aircraft rating
 - (i) Classes 1,2,3,4 and 5
 - (i) Metal skin and structural components:
 - (A) Repair and replace steel tubes and fittings using the proper welding techniques, when appropriate.
 - (B) Apply anticorrosion treatment to the interior and exterior of parts.
 - (C) Perform simple machine operations.
 - (D) Fabricate steel fittings.
 - (E) Repair and replace metal skin.
 - (F) Repair and replace alloy members and components.
 - (G) Assemble and align components using jigs or fixtures.
 - (H) Make up forming blocks or dices.
 - (I) Repair or replace ribs.
 - (ii) Wood Structure:

- (A) Splice wood spars.
 - (B) Repair ribs and spars.
 - (C) Align interior of wings.
 - (D) Repair or replace plywood skin.
 - (E) Apply treatment against wood decay.
- (iii) Fabric covering:
- (A) Repair fabric surfaces.
- (iv) Aircraft control systems:
- (A) Repair and replace control cables.
 - (B) Rig complete control system.
 - (C) Replace and repair all control system components.
 - (D) Remove and install control system units and components.
- (v) Aircraft systems:
- (A) Replace and repair landing gear hinge-point components and attachments.
 - (B) Maintain elastic shock absorber units.
 - (C) Conduct landing gear retraction cycle tests.
 - (D) Maintain electrical position indicating and wiring systems.
 - (E) Repair and fabricate fuel, pneumatic, hydraulic, and oil lines.
 - (F) Diagnose electrical and electronic malfunctions.
 - (G) Repair and replace electrical wiring and electronic data transmission lines.
 - (H) Install electrical and electronic equipment.
 - (I) Perform bench check of electrical and electronic components. (This check is not to be confused with the more complex function test after repair or overhaul).
- (vi) Assembly operations:
- (A) Assemble aircraft components or parts, such as landing gear, wings, and controls.
 - (B) Rig and align aircraft components, including the complete aircraft and control system.
 - (C) Install powerplants.
 - (D) Install instruments and accessories.
 - (E) Assemble and install cowlings, fairings, and panels.
 - (F) Maintain and install windshields, and windows.
 - (G) Jack or hoist complete aircraft.
 - (H) Balance flight control surfaces.
- (vii) Non-destructive inspection and testing using dye penetrants and magnetic, ultrasonic, radiographic, fluorescent, or holographic inspection techniques.

- (viii) Inspection of metal structures:
 - (A) Inspect metal structures, using appropriate inspection equipment to perform the inspections required on an aircraft.

(2) Classes 6 and 7:

- (a) In addition to having the capability to perform the appropriate functions set for the class 1,2,3,4, or 5 aircraft ratings, an approved maintenance organisation holding a class 6 or 7 aircraft rating for composite aircraft must have the following equipment:
 - i. Autoclave capable of providing positive pressure and temperature consistent with materials used.
 - ii. Air circulating oven with vacuum capability.
 - iii. Storage equipment, such as freezer, refrigerator, and temperature-control cabinets or other definitive storage areas
 - iv. Honeycomb core cutters.
 - v. Non-destructive inspection equipment such as x-ray, ultrasonic, or other type of acoustic test equipment as recommended by the manufacturer.
 - vi. Cutting tools, such as diamond or carbide saws or router bits, suitable for cutting and trimming composite structures.
 - vii. Scales adequate to ensure proper proportioning by weight of epoxy adhesive and resins.
 - viii. Mechanical pressure equipment such as vacuum bagging or sand bags, as appropriate.
 - ix. Thermocouple probes necessary to monitor cure temperatures.
 - x. Hardness testing equipment using heat guns that are thermostatically controlled for curing repairs.
- (b) Appropriate inspection equipment to perform inspection of composite structures as recommended by the manufacturer and as required for inspection of an aircraft under this section.

(3) List maintenance functions that may be contracted out:

- (a) For all classes of airframe ratings:
 - i. Metal plating or anodizing.
 - ii. Complex machine operation involving the use of planners, shapers, milling machines, etc.
 - iii. Abrasive air blasting and chemical cleaning operations.
 - iv. Heat treatment.
 - v. Magnetic inspection.
 - vi. Repair or rebuilt metal tanks
 - vii. Fabricate alloy members and components such as tubes, channels, cowlings, fittings, attach angles etc.
 - viii. Fabricate wood spars.
 - ix. Overhaul and repair hydraulic-pneumatic shock absorber units.
 - x. Overhaul and repair brake system components.
 - xi. Overhaul and repair hydraulic system components.

- xii. Conduct aircraft weight and balance operation (this function will be conducted in a draft free area).
- xiii. Fluorescent inspection of alloy components.
- xiv. Recovering and refinishing of components and entire aircraft.

(b) Powerplant rating:

i. Class 1:

A. Maintain and alter powerplants, including replacement of parts:

Perform chemical and mechanical cleaning.

Perform disassembly operations.

Replace bushings, bearings, pins, and inserts.

Perform heating operations that may involve the use of recommended techniques that require controlled heating facilities.

Perform chilling or shrinking operations.

Remove and replace studs.

Inscribed or affix identification information.

Paint powerplants and components.

Apply anticorrosion treatment for parts.

(ii) Inspect all parts, using appropriate inspection aids:

(A) Determine precise clearances and tolerances of all parts.

(B) Inspect alignment of connecting rods, crankshafts, and impeller shafts.

(iii) Accomplish routine machine work:

(A) Ream inserts, bushings, bearings, and other similar components.

(B) Reface valves.

(iv) Accomplish assembly operations:

(A) Perform valve and ignition-timing operations.

(B) Fabricate and test ignition harnesses.

(C) Fabricate and test rigid and flexible fluid lines.

(D) Prepare engines for long or short term storage.

(E) Hoist engines by mechanical means.

ii. Classes 2 and 3

(i) In addition to having the capability to perform the appropriate functions as required for class 1 powerplant rating, an approved maintenance organisation holding a class 2 or a class 3 powerplant rating must have the following equipment:

(A) Testing equipment.

(B) Surface treatment antigallant equipment.

(ii) Functional and equipment requirements recommended by the manufacturer, and

(iii) Appropriate inspection equipment.

iii. List of maintenance functions that may be contracted out:

(i) Class 1 and 2 Powerplant (Reciprocating).

(ii) Replacement of valve guides and seats.

(iii) Plating operations (copper, silver, cadmium etc).

(iv) Replacement and repair of powerplant alloy sheet metal and steel components such as air baffles, etc)

- (v) Magnetic, fluorescent and other acceptable inspection aids.
- (vi) Balancing of parts, including crankshafts, impeller shafts, etc.
- (vii) Precision grinding, honing and lapping operations (including crankshaft, cylinder barrels, etc).
- (viii) Precision drilling, tapping, boring, milling, and cutting operations.
- (ix) Functional check powerplant accessories (this check is not to be confused with the more complex performance test of overhaul).
- (x) Install engines in aircraft.
- (xi) Align and adjust engine controls.

(c) Propeller Rating

(1) Class 1:

- (i) Remove and install propellers
- (ii) Maintain and alter propellers, including installation and replacement of parts:
 - (A) Replace bladed tipping.
 - (B) Refinish wood propellers
 - (C) Make wood inlays.
 - (D) Refinish plastic blades.
 - (E) Straighten bent blades within repairable tolerances.
 - (F) Modify blade diameter and profile.
 - (G) Polish and buff.
 - (H) Perform painting operations.
- (iii) Inspect components using appropriate inspection aids:
 - (A) Inspect propellers for conformity with manufacturer's drawings and specifications.
 - (B) Inspect hubs and blades for failures and defects using all visual aids, including the etching of parts.
 - (C) Inspect hubs for wear of splines or keyways or any other defect.
- (iv) Balance propeller:
 - (A) Test for proper track on aircraft.
 - (B) Test for horizontal and vertical unbalance using precision equipment.

(2) Class 2

- (i) Remove and install aircraft propellers, which may include installation and replacement of parts.
 - (A) Perform all functions listed under Class 1 propellers when applicable to the make and model propeller in this class.
 - (B) Properly lubricate moving parts.
 - (C) Assemble complete propeller and subassemblies using special tools when required.
- (ii) Inspect components using appropriate inspection aids for those functions listed for class 1 propellers under paragraph (c)(1)(ii) of this Implementing Standard when applicable to the make and model of the propeller being worked on.
- (iii) Repair or replace components or parts:
 - (A) Replace blades, hubs, or any of their components.

- (B) Repair or replace anti-icing devices.
 - (C) Remove nicks or scratches from metal blades.
 - (D) Repair or replace electrical propeller components.
 - (iv) Balance propellers, including those functions listed for class 1 propellers under paragraph (c)(1)(iv) of this Implementing Standard when applicable to the make and model of the propeller being worked on.
 - (v) Test propeller pitch-changing mechanism:
 - (A) Test hydraulically operated propellers and components.
 - (B) Test electrically operated propellers and components.
- (3) List of maintenance functions that may be contracted out:
 - (i) Class 1 Propeller:
 - (A) Inspect hubs and blades for failures and defects, using magnetic or fluorescent inspection devices.
 - (ii) Class 2 Propeller:
 - (A) Test of constant speed devices.
- (d) Avionics rating:
 - (1) Class 1,2, and 3:
 - (A) Perform physical inspection of avionics systems and components by visual and mechanical inspection.
 - (B) Perform electrical inspection of avionics systems and components by means of appropriate electrical and/or electronic test equipment.
 - (C) Check aircraft wiring, antennas, connectors, relays, and other associated avionics components to detect installation faults.
 - (D) Check engine ignition systems and aircraft accessories to determine sources of electrical interference.
 - (E) Check aircraft power supplies for adequacy and proper functioning.
 - (F) Remove, repair, and replace aircraft antennas.
 - (G) Measure transmission line attenuation.
 - (H) Measure avionics component values such as inductance, capacitance, and resistance.
 - (I) Determine waveforms and phase in avionics equipment when applicable.
 - (J) Determine proper aircraft avionics antenna, lead-in, and transmission-line characteristics and determine proper locations for type of avionics equipment to which the antenna is connected.
 - (K) Determine the operational condition of avionics equipment installed in aircraft by using appropriate portable test apparatus.
 - (L) Test all types of transistors: solid-state, integrated circuits, or similar devices in equipment appropriate to the class rating.
 - (M) Test avionics indicators.
 - (2) Class 1:

- (i) In addition to having the capability to perform the job functions listed in paragraph (d)(1):
 - (A) Test and repair headsets, speakers, and microphones.
 - (B) Measure radio transmitter power output.
 - (C) Measure modulation values, noise, and distortion in communication equipment.
- (3) Class 2:
 - (i) In addition to having the capability to perform the job functions listed in paragraph (d)(1):
 - (A) Test and repair headsets.
 - (B) Test speakers
 - (C) Measure loop antenna sensitivity by appropriate methods.
 - (D) Calibrate to approved performance standards any radio navigational equipment, en route and approach aids, or similar equipment, as appropriate to this rating.
- (4) Class 3:
 - (i) In addition to having the capability to perform the job function listed in paragraph (d)(1):
 - (A) Measure transmitter power output.
- (5) List of maintenance functions that may be contracted out.
 - (i) Class 2 Avionics;
 - (A) Repair of speakers.
 - (ii) Class 3 Avionics:
 - (A) Metal plating of transmission lines, wave guides, and similar equipment in accordance with appropriate specifications.
 - (iii) For all Class of Avionics ratings:
 - (A) Test avionics indicators.
 - (B) Overhaul, test and check dynamotors, inverters, and other radio electrical apparatus.
 - (C) Paint and refinish equipment containers.
 - (D) Accomplish appropriate methods of marking calibrations, or other information on avionics control panels and other components, as required.
 - (E) Make and reproduce drawings, wiring diagrams, and other similar material required to record alteration and/or modifications to avionics (photographs may be used in lieu of drawing when they will serve as an equivalent or better means of recording).
 - (F) Fabricate tuning shaft assemblies, brackets, cable assemblies, and other similar components used in avionics or aircraft avionics installations.
 - (G) Install complete avionics systems in aircraft and prepare weight and balance reports (that phase of avionics installation requiring modifications to the aircraft structure must be performed, supervised, and inspected by appropriately qualified and authorised person).

(e) Computer systems rating:

(1) Class 1,2, and 3:

- (A) Maintain computer systems in accordance with manufacturer's specifications, test requirements, and recommendations.
- (B) Remove, maintain, and replace computer systems in aircraft.
- (C) Inspect, test, and calibrate computer system equipment, including software.

(f) Instrument rating:

(1) Class 1:

(i) Diagnose instrument malfunctions on the following instruments:

- (A) Rate-of-climb indicators.
- (B) Altimeters.
- (C) Airspeed indicators.
- (D) Vacuum indicators.
- (E) Oil pressure gauges.
- (F) Hydraulic pressure gauges
- (G) De-icing pressure gauges.
- (H) Pilot-static tube.
- (I) Direct indicating compasses.
- (J) Accelerometer.
- (K) Direct indicating tachometers.
- (L) Direct reading fuel quantity gauges.

(ii) Inspect, test, and calibrate the instruments listed under paragraph (f)(1)(i) of this IS on and off the aircraft, as appropriate.

(2) Class 2:

(i) Diagnose instrument malfunctions of the following instruments:

- (A) Tachometers.
- (B) Synchroscope.
- (C) Electric temperature indicators.
- (D) Electric resistance-type indicators
- (E) Moving magnet-type indicators.
- (F) Warning units (oil and fuel).
- (G) Selsyn systems and indicators.
- (H) Self-synchronous systems and indicators.
- (I) Remote indicating compasses.
- (J) Quantity indicators.
- (K) Avionics indicators.
- (L) Ammeters.
- (M) Voltmeters.
- (N) Frequency meters.

(ii) Inspect, test and calibrate instruments listed under paragraph(f)(2)(i) of this IS on and off the aircraft, as appropriate.

(3) Class 3:

- (i) Diagnose instrument malfunctions of the following instruments:
 - (A) Turn and bank indicators.
 - (B) Directional gyros.
 - (C) Horizontal gyros.
 - (D) Auto pilot control units and components.
 - (ii) Inspect, test, and calibrate instruments listed under paragraph (f)(3)(i) of this IS on and off the aircraft, as appropriate.
- (4) Class 4:
 - (i) Diagnose instrument malfunctions of the following instruments.
 - (A) Capacitance-type quantity gauge.
 - (B) Laser gyros.
 - (C) Other electronic instruments.
 - (ii) Inspect, test, and calibrate instruments listed under paragraph (f)(4)(i) of this IS on and off the aircraft, as appropriate.
- (g) Accessory rating;
 - (1) Class 1,2,3,and 4
 - (i) Perform the following functions in accordance with the manufacturer's specifications and recommendations:
 - (A) Diagnose accessory malfunctions.
 - (B) Maintain and alter accessories, including installing and replacing parts.
 - (C) Inspect, test, and calibrate accessories on and off the aircraft as appropriate.

IS: 6.3.2 HOUSING AND FACILITY REQUIREMENTS

- (1) For ongoing maintenance of aircraft, aircraft hangars shall be available and large enough to accommodate aircraft during maintenance activities.
- (2) Where the hangar is not owned by the AMO, it is recommended to:
 - (a) Establish proof of tenancy;
 - (b) Demonstrate sufficiency of hangar space to carry out planned base maintenance by preparing a projected aircraft hangar visit plan relative to the maintenance program;
 - (c) Update the aircraft hangar visit plan on a regular basis;
 - (d) Ensure, for aircraft component maintenance, aircraft component workshops are large enough to accommodate the components on planned maintenance;
 - (e) Ensure aircraft hangar and aircraft component workshop structures prevent the ingress of rain, hail, ice, snow, wind and dust, etc;
 - (f) Ensure workshop floors are sealed to minimise dust generation; and

- (g) Demonstrate access to hangar accommodation for usage during inclement weather for minor scheduled work and/or lengthy defect rectification.
- (h) Aircraft maintenance staff shall be provided with an area where they may study maintenance instructions and complete maintenance records in a proper manner.

Note: *It is acceptable to combine any or all of the above requirements into one office subject to the staff having sufficient room to carry out assigned tasks*

- (i) Hangars used to house aircraft together with office accommodation shall be such as to ensure a clean, effective and comfortable working environment.
 - (j) Temperatures should be maintained at a comfortable level.
 - (k) Dust and any other airborne contamination should be kept to a minimum and not permitted to reach a level in the work task area where visible aircraft or component surface contamination is evident.
 - (l) Lighting should be such as to ensure each inspection and maintenance task can be carried out.
 - (m) Noise levels should not be permitted to rise to the point of distracting personnel from carrying out inspection tasks. Where it is impractical to control the noise source, such personnel should be provided with the necessary personal equipment to stop excessive noise causing distraction during inspection tasks.
- (3) Where a particular maintenance task requires the application of specific environmental conditions different to the foregoing, then such conditions shall be observed. (Specific conditions are identified in the approved maintenance instructions.)
 - (4) Where the working environment for line maintenance deteriorates to an unacceptable level with respect to temperature, moisture, hail, ice, snow, wind, light, dust or other airborne contamination; the particular maintenance or inspection tasks shall be suspended until satisfactory conditions are re-established.
 - (5) For both base and line maintenance where dust or other airborne contamination results in visible surface contamination, all susceptible systems shall be sealed until acceptable conditions are re-established.
 - (6) Storage facilities for serviceable aircraft components shall be clean, well ventilated and maintained at an even dry temperature to minimise the effects of condensation.
 - (7) Manufacturers' standard recommendations shall be followed for specific aircraft components.
 - (8) Storage racks shall provide sufficient support for the large aircraft components such that the components are not distorted.

- (9) All aircraft components, wherever practicable, shall remain packaged in protective material to minimise damage and corrosion during storage.

IS: 6.3.3 EQUIPMENT, TOOLS AND MATERIAL

- (1) All applicable tools, equipment, and test equipment used for product acceptance and or for making a finding of airworthiness shall be traceable to the Ghana National Standards.
- (2) Except as provided in paragraph (1), in the case of foreign manufactured tools, equipment, and test equipment, the standard provided by the country of manufacture may be used if approved by the Authority.
- (3) Where the manufacturer specifies a particular tool, equipment, or test equipment then that tool, equipment, or test equipment shall be used unless the manufacturer has identified the use of an equivalent.
- (4) Except as provided in paragraph (3), tools, equipment, or test equipment other than that recommended by the manufacturer will be acceptable based on at least the following:
 - (a) The AMO shall have a procedure in the Maintenance Procedure Manual if it intends to use equivalent tools, equipment, or test equipment other than that recommended by the manufacturer.
 - (b) The AMO shall have a program to include:
 - (i) A description of the procedures used to establish the competence of personnel that make the determination of equivalency to tools, equipment, or test equipment.
 - (ii) Conducting and documenting the comparison made between the specification of the tool, equipment or test equipment recommended by the manufacturer and the equivalent tool, equipment, or test equipment proposed.
 - (iii) Ensuring that the limitations, parameters, and reliability of the proposed tool, equipment, or test equipment are equivalent to the manufacturer's recommended tools, equipment, or test equipment.
 - (iv) Ensuring that the equivalent tool, equipment, or test equipment is capable of performing the appropriate maintenance function, all normal tests, or calibrations, and checking all parameters of the aircraft or aeronautical product undergoing maintenance or calibration.
 - (c) The AMO shall have full control of the equivalent tool, equipment, or test equipment (i.e. ownership, lease, etc)

- (5) An AMO approved for base maintenance shall have sufficient aircraft access equipment and inspection platforms or docking such that the aircraft may be properly inspected.
- (6) The AMO shall have a procedure to inspect or service and, where appropriate, calibrate tools, equipment, and test equipment on a regular basis and indicate to users that an item is within any inspection or service or calibration time limit.
- (7) The AMO shall have a procedure if it uses a standard (primary, secondary or transfer standards) for performing calibration, that standard cannot be used to perform maintenance.
- (8) A clear system of labelling tools, equipment and test equipment shall be used to give information on when the next inspection or service or calibration is due, and if the item is unserviceable for any other reason where it may be obvious.
- (9) A clear system of labelling all tools, equipment and test equipment shall be used to give information on when such tools, equipment, and test equipment is not used for product acceptance and or for making a finding of airworthiness.
- (10) A register shall be maintained for all calibrated tools, equipment and test equipment together with a record of calibrations and standards used.
- (11) Inspection, service, or calibration on a regular basis shall be in accordance with the equipment manufacturers' instructions except where the AMO can show by results that a different time period is appropriate in a particular case and is acceptable to the Authority.

IS: 6.4.1 PERSONNEL REQUIREMENTS

- (1) The AMO functions shall be subdivided under individual managers or combined in any number of ways, dependent upon the size of the AMO.
- (2) The AMO shall have, dependent upon the extent of approval, the following:
 - (a) A base maintenance manager;
 - (b) A line maintenance manager;
 - (c) A workshop manager;
 - (d) A quality manager, all of whom should report to the accountable manager; and
 - (e) A safety manager.

Note: In small AMOs, one or more of the above positions may be combined subject to approval by the Authority.

- (3) The Accountable Manager shall be responsible for ensuring that all necessary resources are available to accomplish maintenance required to support the AMO's approval.

- (4) The Base Maintenance Manager shall be responsible for:
- (a) Ensuring that all maintenance required to be carried out in the hangar, plus any defect rectification carried out during base maintenance, is carried out to specified design and quality standards; and
 - (b) Any corrective action resulting from quality compliance monitoring.
- (5) The Line Maintenance Manager shall be responsible for:
- (a) Ensuring that all maintenance required to be carried out on the line, including line defect rectification, is performed to the required standards; and
 - (b) Any corrective action resulting from quality compliance monitoring.
- (6) The Workshop Manager shall be responsible for:
- (a) Ensuring that all work on aircraft components is performed to required standards; and
 - (b) Any corrective action resulting from quality compliance monitoring.
- (7) The Quality Manager shall be responsible for:
- (a) Monitoring the AMO's compliance with Part 6; and
 - (b) Requesting remedial action as necessary by the base maintenance manager or line maintenance manager or workshop manager, or the accountable manager as appropriate.
- (8) The Safety Manager shall be responsible for:
- a. Identify safety hazards;
 - b. Ensure the implementation of remedial action necessary to maintain agreed safety performance;
 - c. Provide for continuous monitoring and regular assessment of the safety performance; and
 - d. Aim at continuous improvement of the overall performance of the safety management system.
- (9) The AMO may adopt any title for managerial positions, but shall identify to the Authority the titles and persons chosen to carry out these functions.
- (10) Where an AMO chooses to appoint managers for all or any combination of the identified functions because of the size of the undertaking, these managers shall report ultimately through either the Base Maintenance Manager or Line

Maintenance Manager or Workshop Manager or Quality Manager, as appropriate, to the accountable manager.

- (11) The Managers specified in this subsection shall be identified and their credentials submitted to the Authority. To be accepted, such managers shall have relevant knowledge and satisfactory experience related to aircraft or aircraft component maintenance as appropriate in accordance with these Directives.

Note: *Certifying staff may report to any of the managers specified depending upon which type of control the AMO uses (for example-licensed engineers, independent inspection/dual function supervisors, etc.) so long as the quality compliance monitoring staff remain independent*

- (12) The AMO shall have a production man-hours plan showing that it has sufficient man-hours for the intended work.
- (13) If an AMO is approved for base maintenance, the plan shall relate to the aircraft hangar visit plan.
- (14) Man-hour plans shall regularly be updated.

Note: *Work performed on any aircraft registered outside Ghana should be taken into account where it impacts upon the production man-hours plan.*

- (15) Quality monitoring compliance function man-hours shall be sufficient to meet the requirement of 6.5.2(2).
- (16) Planners, mechanics, supervisors and certifying staff shall be assessed for competence by “on the job” evaluation or by examination relevant to their particular role within the AMO before unsupervised work is permitted.
- (17) To assist the assessment of competence, job descriptions are recommended for each position. The assessment shall establish that:
- (a) Planners are able to interpret maintenance requirements into maintenance task, and have an appreciation that they have no authority to deviate from the aircraft maintenance program.
 - (b) Mechanics are able to carry out maintenance tasks to any standard specified in the maintenance instructions and will notify supervisors of mistakes requiring rectification to re-establish required maintenance standards.
 - (c) Supervisors are able to ensure that all required maintenance tasks are carried out and where not done or where it is evident that a particular maintenance task cannot be carried out to the maintenance instructions, then such problems will be reported to and agreed by the quality organisation.
 - (d) Certifying staff are able to determine when the aircraft or aircraft component is and is not ready to be released to service.
- (18) In the case of planners, supervisors, and certifying staff, knowledge of AMO procedures relevant to their particular role shall be demonstrated.

- (19) Training of certifying staff shall be performed by the AMO or by an institute selected by the AMO. In either case, the AMO 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.
- (20) Examinations shall be set at the end of each training course.
- (21) Initial training 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 person including the impact of repairs and system/structural defects; and
 - (c) Company procedures relevant to the certifying staff's tasks.
- (22) Continuation training should cover changes in AMO procedures and changes in the standard of aircraft and or aeronautical products maintained.
- (23) The training program shall include details of the number of personnel who will receive initial training to qualify as certifying staff over specified time periods.
- (24) The training program established for maintenance personnel and certifying staff by the AMO shall include training in knowledge and skills related to human performance including co-ordination with other maintenance personnel and flight crew.

IS: 6.4.3 RECORDS OF CERTIFYING STAFF

- (1) The following minimum information shall be kept on record in respect of each certifying person:
 - (a) Name;
 - (b) Date of birth;
 - (c) Basic training;
 - (d) Type training;
 - (e) Continuation training;
 - (f) Experience;
 - (g) Qualifications relevant to the approval;
 - (h) Scope of the authorisation;
 - (i) Date of first issue of the authorisation;
 - (j) Expiration date of the authorisation (if appropriate); and
 - (k) Identification number of the authorisation.
- (2) Records of certifying staff shall be controlled, but not necessarily run by the AMO's quality department.
- (3) The number of persons authorised to access the system shall be limited to minimise the possibility of records being altered in an unauthorised manner and to limit confidential records from becoming accessible to unauthorised persons.

- (4) A certifying person shall be given reasonable access on request to his or her records.
- (5) The Authority is authorised to and may investigate the records system for initial and continued approval or when the Authority has cause to doubt the competence of a particular certifying person.
- (6) The AMO shall keep the record of a certifying person for at least two years after that person has ceased employment with the AMO or upon withdrawal of his or her authorisation. Upon request, the certifying staff shall be furnished with a copy of their record on leaving the AMO.
- (7) The authorisation document shall be in a style that makes its scope clear to certifying staff and any authorised person that may be required to examine the document. Where codes are used to define scope, an interpretation document shall be readily available.
- (8) Certifying staff are not required to carry the authorisation document at all times, but shall produce it within a reasonable time of a request from an authorised person.

Note: *Authorised persons, apart from the AMO's quality department or maintenance supervisors or managers, include the Authority.*

IS: 6.5.1 MAINTENANCE ORGANISATION PROCEDURES MANUAL

- (1) AMO personnel shall be familiar with those parts of the manuals that are relevant to the maintenance work they perform.
- (2) The AMO shall specify in the Procedures Manuals who should amend the manual, particularly in the case where the manual consists of several parts.
- (3) The Quality Manager shall be responsible for-
 - (a) Monitoring the amendment of the Procedures Manual, including associated procedures manuals.
 - (b) Submitting proposed amendments to the Authority, unless the Authority has agreed, via a procedure stated in the amendment section of the Procedures Manual, that some defined class of amendments may be incorporated without approval by the Authority.
- (4) The Procedures Manual shall address four main areas-
 - (a) **The management Procedures Manual** covering the parts previously specified;
 - (b) **The maintenance procedures** covering all aspects of how aircraft components may be accepted from outside sources and how aircraft will be maintained to the required standard;
 - (c) **The quality system procedures**, including the methods of qualifying mechanics, inspection, certifying staff and quality audit personnel; and
 - (d) **Contracted AOC holder procedures and paperwork.**

IS: 6.5.1(1) SAMPLE MAINTENANCE PROCEDURES MANUAL FORMAT

The manual may be put together in any subject order so long as all applicable subjects are covered.

Part 1 – Management

- 1.1 Corporate commitment by the accountable manager
- 1.2 Management personnel
- 1.3 Duties and responsibilities of the management personnel
- 1.4 Management Organisation Chart
- 1.5 List of certifying staff
***Note:** A separate document may be referenced*
- 1.6 Manpower resources
- 1.7 General description of the facilities at each address intended to be approved.
- 1.8 Organisation's intended scope of work
- 1.9 Notification procedure to the Authority regarding changes to the organisation's activities/approval/location/personnel
- 1.10 Manual amendment procedures

Part 2 – Maintenance Procedures

- 2.1 Supplier evaluation procedure
- 2.2 Acceptance/inspection of aircraft components and material from outside contractors
- 2.3 Storage, tagging and release of aircraft components and material to aircraft maintenance
- 2.4 Acceptance of tools and equipment
- 2.5 Calibration of tools and equipment
- 2.6 Use of tooling and equipment by staff (including alternate tools)
- 2.7 Cleanliness standards of maintenance facilities
- 2.8 Maintenance instructions and relationship to aircraft/aircraft component manufacturers' instructions including updating and availability to staff
- 2.9 Repair procedure
- 2.10 Aircraft maintenance program compliance
- 2.11 Airworthiness Directives procedure
- 2.12 Optional modification procedure
- 2.13 Maintenance documentation in use and completion of same
- 2.14 Technical record control
- 2.15 Rectification of defects arising during base maintenance
- 2.16 Release to service procedure
- 2.17 Records for the air carrier operator
- 2.18 Reporting of defects to the Authority/Operator/Manufacturer
- 2.19 Return of defective aircraft components to store
- 2.20 Defective components to outside contractors
- 2.21 Control of computer maintenance record systems
- 2.22 Reference to specific maintenance procedures such as:
 - Engine running procedures
 - Aircraft pressure run procedures
 - Aircraft towing procedures
 - Aircraft taxiing procedures

Part 2 – Additional Maintenance Procedures

- L2.1 Line maintenance control of aircraft components, tools, equipment, etc.
- L2.2 Line maintenance procedures related to servicing/fuelling/de-icing, etc.
- L2.3 Line maintenance control of defects and repetitive defects
- L2.4 Line procedure for completion of technical log
- L2.5 Line procedure for pooled parts and loan parts
- L2.6 Line procedure for return of defective parts removed from aircraft

Part 3 – Quality System Procedures

- 3.1 Quality audit of organisation procedures
- 3.2 Quality audit of aircraft
- 3.3 Quality audit remedial action procedure
- 3.4 Certifying Staff qualification and training procedures
- 3.5 Certifying staff records
- 3.6 Quality audit personnel
- 3.7 Qualifying inspectors
- 3.8 Qualifying mechanics
- 3.9 Exemption process control
- 3.10 Concession control for deviation from organisations' procedures
- 3.11 Qualification procedure for specialized activities such as non-destructive testing, welding, etc.
- 3.12 Control of manufacturers' working teams

Parts 4 – Documentation

- 4.1 Contracted air operators
- 4.2 Air operator procedures and paperwork
- 4.3 Air operator record completion

Part 5 – Appendices

- 5.1 Sample of documents
- 5.2 List of subcontractors
- 5.3 List of line maintenance locations

IS: 6.5.2 MAINTENANCE PROCEDURES AND INDEPENDENT QUALITY ASSURANCE SYSTEM

The following are sample inspection items-

(1) MAINTENANCE SYSTEM AND CERTIFYING STAFF

(a) GENERAL

The chief certifying staff manager is responsible to the accountable manager for full compliance with all procedures outlined in this system as appropriate to any item being inspected, repaired, overhauled or altered by the maintenance organisation. The airworthiness of those items and compliance with record requirements of the operators of those items and of the maintenance organisation depends upon conformity to the procedures of this system.

(b) CERTIFYING STAFF

Certifying staff are required to be thoroughly familiar with all inspection methods, techniques and equipment used in their area of responsibility to determine the quality of airworthiness of an article undergoing maintenance, repair or alterations. All personnel must also maintain proficiency in the use of the various types of inspection aids to be used for inspection of the particular items undergoing inspection. Available to all certifying staff are current specifications involving inspection tolerances, limits, and procedures as set forth by manufacturer of the product undergoing inspection and other forms of inspection information such as airworthiness directives, manufacturers' bulletins, etc. A file of maintenance manuals, engineering letters, service letters, Ghana Civil Aviation Directives (GCADs), etc. are maintained in the inspection office.

Certifying staff assigned to maintenance organisation operations are required to familiarize themselves with the GCADs applicable to such operations with particular emphasis on Parts 4, 5, 6, 7, 8 and 9.

(c) SUPERVISORS, CERTIFYING STAFF AND MECHANICS

All supervisors, certifying staff, and mechanics are required to be thoroughly familiar with the requirements of the AMO Procedures Manual, GCAA Directives, airworthiness directives and advisory circulars, manufacturer's service letters and bulletins and engineering orders. The basic maintenance system requires mechanics to sign their last name or initials for work performed by them prior to submitting the item to certifying staff for final acceptance. Certifying staff will indicate their acceptance of work performed with the application of the certifying staff acceptance stamp and signature next to the item on the work forms.

(2) MAINTENANCE CONTINUITY

(a) GENERAL

Reference: Part 6, 6.4.1, IS 6.4.1. This section should show by title, who performs the maintenance continuity, the forms to be used, and disposition of the records. The maintenance continuity should encompass incoming materials, preliminary hidden damage and final inspection where applicable. It should include items as they progress through various stages of repair,

overhaul or modification, including other inspections, test and calibrations (Rockwell Hardness Test, Magnaflux, Ultrasonic, X-ray, etc.) adjusting or calibrating VOR, DME or ILS equipment. It should establish a system for passing along the continuity of inspection and other maintenance from one shift or person to another. It should reference manufacturer's inspection standards for the maintenance of the particular items.

(b) CONTINUITY OF MAINTENANCE RESPONSIBILITY

Through a "Line of Succession" list maintained by the chief certifying staff manager, his duties are assured of performance as "Acting Chief certifying staff manager".

A status book will be provided in the hangar and each shop in which a status report will be left by each of the certifying staff leaving the job before completion of a project, for information to the succeeding certifying staff. Its purpose is to assure a continuing inspection responsibility for in progress work inspections.

All forms upon which work performs is listed have been designed to show the name of the mechanic who performs the work (or supervises it) and the names of the certifying staff inspecting that work.

(3) INCOMING MATERIALS

(a) GENERAL

Reference: Part 6, 6.4.1. This section should explain how compliance is shown, how the inspections are recorded, classification of incoming materials, including checks for damage, preservation and shelf life, identification of parts by part number, and the person responsible to perform the inspection (by title). In addition, it should describe the action to be taken when materials received do not meet specifications.

(b) PARTS RECEIVING POLICY

The chief certifying staff manager of the maintenance organisation (or designee) is responsible to see that all incoming materials, AN or MS and other hardware, parts, components, equipment and other products procured for use by the maintenance organisation are subject to receiving inspection to assure conformance to part number, purchase order and/or other applicable specifications. A record of such inspections will be recorded on maintenance organisation Form No. XXXX, Receiving Inspection. Any products that fail to meet applicable specifications will be red tagged as unserviceable, listing the discrepancy and be returned to the stockroom manager for return to vendor. To preclude those parts from being used, the stockroom manager will place such items in the locked holding area until they are repacked for shipping back to the vendor.

(4) TEST REQUIREMENTS

- (a) New components manufactured under a type or production certificate, or in accordance with a Technical Standard Order (or similar CAA approved technical data), or components which have been rebuilt by the manufacturer to production specifications, require a visual receiving inspection.
- (b) Any repaired or overhauled components received from a certificated approved maintenance organisation do not normally require more than a visual receiving inspection before being returned to service. Repaired or overhauled components that are received from sources other than an AMO, in addition to the normal receiving inspection, will be functionally checked before being returned to service.
- (c) All components requiring a functional check are routed to the proper maintenance organisation shop for the accomplishment of this check.

Note - Functional checks are performed in accordance with instructions contained in the appropriate manufacturer's publication. However, if such specific instructions are not available, functional check requirements will be determined by the chief certifying staff manager, and issued on a form to provide a means of recording compliance therewith. If suitable test facilities are not available in maintenance organisation, components may be functionally checked in the aircraft. In any case, all functional checks must be monitored and recorded by the chief certifying staff manager or designee.

- (d) The Supervisor – Quality Assurance Control or certifying staff may request a functional check of any component overhauled or repaired by any agency, when he/she is of the opinion that such a check is required in order to return the component to service.
- (e) All adhesives, sealers, primers, finishing and other materials having limited shelf life are identified by material control labels showing the expiration date of the shelf life as established by applicable specifications. Inspectors and mechanics will dispose of any materials found in the shop or storerooms without such identification or with expired shelf life.
- (f) The detailed functions of material inspection are covered by the manufacturer's quality assurance directive and inspection bulletins which will be used to implement the operation of the maintenance organisation with respect to the control and identification of materials, part and equipment received for direct use in the maintenance organisation. All parts new or overhauled, purchased from vendors will be checked for proper approval documentation prior to release for installation by the maintenance organisation.

(5) WORK ORDER

Upon receipt of a work request for maintenance for alteration on an airframe, engine, accessory, propeller, instrument, radio or a product requiring a specialized service covered by the maintenance organisation certificate, the maintenance department will issue a (name of company) Maintenance organisation Work Order Form XXXX to authorize that work to be accomplished. The form is pre-numbered and that number will be the basic reference for the product's maintenance record. The work order will specify the work to be accomplished. The work order will be supplemented as necessary with detailed inspection instructions along with applicable forms; to assure proper inspection and repair of the unit involved. The number of additional forms used will be identified on the work order. The original of the printed and numbered work order form will be retained in the base maintenance manager's office. A logbook will be maintained in the base maintenance manager's office for recording each work order in numerical order, identifying the customer, the product for which it was

issued along with the manufacturer serial number, special instructions and the work accomplished.

It will be the responsibility of the respective shop manager and chief certifying staff manager to assure that proper supplemental instructions are furnished to assure proper progressive servicing, inspection and testing of the product involved.

Mechanics will enter work accomplished and use last names or initials to sign off that work on the form, certifying staff will use their inspection stamp to sign off inspections. A list of inspectors and stamp numbers should be contained in the Maintenance Procedures Manual.

A copy of the work order with all attachments should be on file as a permanent record of all work accomplished. The record should reflect the signature of each mechanic and certifying staff that performed maintenance on each unit. It should reflect exactly what work was accomplished. It should show all of the parts used. The records should be maintained for a period of not less than two years.

(6) RECORD OF WORK

A detailed record shall be kept of all work performed by the maintenance organisation. A copy of each Work Order Form with all attached supplementary form(s) will be maintained in the maintenance organisation records section. A separate file area is provided for all paper work associated with the maintenance organisation's work activities. Each work record is checked by an inspector for work accomplished, parts used, signature of mechanic and inspectors who performed maintenance. Records are maintained in active file for two (2) years then transferred to dead storage for 5 additional years.

(7) PRELIMINARY INSPECTION

(a) GENERAL

This information should indicate who is to perform the inspection, the method of inspection and any special testing requirements. Inspections should include the type of form to be used, how defects noted are recorded and the requirements to make them part of the work order.

(b) PRELIMINARY INSPECTION

The Chief certifying staff manager of the maintenance organisation is responsible for the performance of appropriate inspections including functional and non-destructive tests to assure that all units delivered to the maintenance organisation for maintenance, alteration or repair under the privileges of the maintenance organisation certificate are subjected to a preliminary inspection to determine the state of preservation and any defects on the items involved. This inspection will be recorded on the Preliminary inspection Form with any discrepancies noted and the form must be attached to the work order identified with the unit involved. It

will remain with the applicable inspection records until the unit is released for functional and non-destructive test. Those forms will show the work order number and will be routed attached to the work order.

Before any work is begun, the Chief certifying staff manager will, in the case of work to be performed for an air operator under the continuous airworthiness requirements of Part 6, make sure that all necessary current information and specifications are included or referred to in the work instructions that are to accompany the article through the maintenance organisation, and that the work is done in accordance with the air operator's manual.

(8) HIDDEN DAMAGE INSPECTION

(a) GENERAL

This section should describe who is to perform the inspection (by title) (the depth should include areas adjacent to obviously damaged members or components), how the inspection will be recorded, the recording and handling of any defects noted and the requirement to make the inspection a part of the work order.

(9) INSPECTION FOR HIDDEN DAMAGE

The preliminary inspection is not limited to the area of obvious damage or deterioration but includes a thorough and searching inspection for hidden damage in areas adjacent to the damaged area and or in the case of deterioration, a thorough review of all similar materials or equipment in a given system or structural area. The scope of this inspection will be governed by the type of unit involved with special consideration accorded to previous operating history, malfunction or defect reports, service bulletins and AD notes applicable to the unit involved. The inspector is responsible for listing all discrepancies noted during inspection on the work order prior to release for return to service.

The section should explain how the results of required inspections are recorded and made part of the applicable work order.

(10) PROGRESSIVE INSPECTION

Certifying staff will be assigned to make inspections at various stages teardown, overhaul, and repair of all units or components received by the maintenance organisation for service. Progressive inspections are accomplished with a frequency determined by applicable manual recommendations and/or maintenance organisation originated work forms.

(11) MAJOR REPAIR AND ALTERATION OF AIRCRAFT AND COMPONENTS

Following the preliminary inspection, additional records may be prepared by the inspection department to provide comprehensive historical record of the work performed. These records will contain work orders, service bulletins, AD notes,

service letters, type of inspection, detailed figures related to functional tests and special non-destructive tests to be accomplished. The approved engineering or other approved technical data authorising the repair or alteration will be clearly indicated. Where special drawings are made to cover specific repair conditions, a copy of the drawing will be included in the aircraft records.

Units removed from the aircraft will be tagged with the appropriate inspection identification tag listing the aircraft serial number, unit serial number and reason for removal.

No item removed and tagged as described above will be reinstalled unless the unit is cleared as “serviceable” by inspection.

(12) REPAIR, ALTERATION AND OVERHAUL OF ACCESSORIES AND APPLIANCES

Self-contained accessory and appliance units such as actuators, pumps, valves, generators, etc. which, after preliminary inspection, have been established as eligible for overhaul or repair, will be identified with a repairable part tag with appropriate repair instructions entered on the face of the tag, as authorized by the work order. No such unit shall be approved for return to service without a maintenance release tag authorizing its return to service.

(13) INSPECTION PROCEDURES

The chief certifying staff manager is responsible for the complete and efficient performance of inspections assigned to the maintenance organisation to assure inspection acceptance in accordance with manual specifications or other approved technical data.

Shop supervisors are responsible for the accomplishment of all work in accordance with manual specifications or other approved technical data. The work done under the maintenance organisation's Limited Rating – Specialized Service Non-destructive Inspection by X-ray, magnetic particle, eddy current or ultrasonic must be accomplished in accordance with the company's CAA approved process specification.

Alterations and repair will be subject to progressive inspection by the certifying staff department. Discrepancies generated during the process of accomplishing the work involved will be recorded on the appropriate work forms. Discrepancies so recorded will be corrected before the unit is submitted for final inspection. Upon completion of this progressive inspection, the area affected is given a shakedown inspection and after all rework is accomplished and accepted, the inspection will clear the unit for final acceptance.

Upon completion of a specific operation, the mechanic will sign off the records using his signature indicating that the item is complete and ready for inspection. The action accomplished to correct a specific discrepancy will be noted under each item on the work order. The certifying staff will then inspect the item to assure conformance to specifications and established workmanship standards. Functional checks of any system affected by the work involved will be accomplished before final acceptance. Inspection acceptance will be indicated by the inspector's stamp or signature.

(14) MAINTENANCE INSPECTION

100-hour and progressive inspections, inspections of amateur built aircraft and aircraft on Part 8, 8.3.3 programs will be accomplished in accordance with the inspection cards or inspection schedule provided for each specific model aircraft. The inspection paperwork will be supplemented as necessary to cover items to be replaced for time, special inspection items, discrepancies and airworthiness directives. All 100-hour and annual inspection paperwork will comply with 5.6.7.

No aircraft will be returned to service following an inspection as outlined above until all discrepancies affecting airworthiness have been corrected.

Maintenance supervisors are responsible for screening complete work orders covering work performed in their assigned area to assure that all items on the work order have been cleared, that there are no open discrepancies and that all major work accomplished is covered by approved data. Certifying staff will recheck to assure compliance with this section.

After work orders have been screened for completeness and accuracy, they are routed to the base maintenance manager's office. Such inspection and work records will be retained in active file for a period of not less than two years (as required by Part 6) and then transferred to dead storage for 5 additional years.

(15) CONTINUITY OF MAINTENANCE RESPONSIBILITY

A status book will be provided in the hangar and each shop in which a status report will be entered by each of the lead mechanics informing the next shift of the status of each job not completed. Its purpose is to assure a continuing maintenance responsibility for work in progress.

(16) HANDLING OF PARTS

(a) GENERAL

This section should explain compliance with the rules: Processing of parts, identification, tag, segregation, and protection from damage and or contamination, parts finishing, preservation, stock control and shelf life.

(b) HANDLING OF PARTS

All items or components undergoing maintenance repairs and or alterations in the maintenance organisations shall have the component parts segregated and in containers in order to assure that all parts of the same unit(s) are kept together. Suitable trays, racks, stands and protective coverings (as required) are to be provided in shop areas to ensure maximum protection of all parts. Rejected parts will be identified by the use of a red reject tag and final disposition will be the responsibility of the Chief Certifying Staff Manager.

(c) TAGGING AND IDENTIFICATION OF PARTS

The following is the (name of company) four-tag system:

White tags-used for identification of unit and customer only. To be completed by shop supervisor or designated employee.

Green tag- will be attached to units or parts requiring repairs or test and will include work to be performed. To be executed and signed by certifying staff only.

Yellow tag – to be attached to completed units which have received final inspection and are approved for return to service. The maintenance release is printed or stamped on the reverse side of this tag. (See Maintenance Release Statement, example in the appropriate section of this manual). This release will be signed by a designated certifying staff person only.

Red tag – Will be attached to rejected parts, pending final disposition. If rejected parts are in large quantities, they can be placed in a special container marked “rejected parts”. This tag is to be completed by a certifying staff. All tags contain the following information:

Manufacturer, model, part number, serial number and name of part owner.

The yellow tag will remain attached to the parts returned to the customer.

The red, white and green tags will be made a part of work order file. If the rejected part is returned to the customer, the red tag will remain attached and a record will be made on the work order showing the part was returned to the customer.

(d) PART FINISHING

Painting and spraying is accomplished in an area segregated from assembly area.

(e) PRESERVATION OF PARTS

Components are preserved in accordance with manufacturer's recommendations or other acceptable industry standards. To afford protection against humidity, extreme temperatures, dust, rough handling or other damage, the component will be preserved by wrapping in suitable containers, plastic bags, and or rigid boxes containing suitable shock absorption material.

Storage of “Maintenance organisation” preserved components will be accomplished by storing in a separate “Maintenance organisation” location maintained by the “Stores” department. The location should provide maximum protection from physical damage. (Expand as necessary the preservation and storage requirements to suite the products worked on under the maintenance organisation ratings).

(f) SHELF LIFE

For those items having a specific shelf life, Approved Maintenance Organisation Form XXXX is completed by the receiving certifying staff during the first ten (10) calendar days of each month. Components of parts that have exceeded allowable shelf limits will be red tagged (Condemned) and will be forwarded to the Chief Certifying Staff Manager for final disposition.

(g) INCOMING MATERIAL

All incoming material shall be inspected for quantity, quality, conformity to dimensions or specifications and state of preservation. At this time the cure date of material having shelf life shall be noted, and the older stock shall be used first provided it is not beyond manufacturer's specifications.

(h) HARDWARE AND EQUIPMENT STORAGE

The Stockroom Manager is responsible to the Base Maintenance Manager for the operation of the stockroom and is responsible for controlling, segregating and maintaining all stock and tools as to a serviceable or unserviceable category approved by the Chief certifying staff manager.

In addition the stockroom manager is required to:

- Properly store, segregate and protect materials, parts and supplies
- Provide suitable storage facilities for storing standard parts, spare parts and assure that raw materials are separated from shop and working space.
- Provide for the preservation of all articles or parts, while in inventory, that is subject to deterioration and shelf life specifications.

Only acceptable parts and supplies will be issued for any job. Acceptable industry practices shall be followed for the proper protection and storage of materials. (The standards for use by the maintenance organisation should be detailed here).

(17) RECORD OF TEST AND/OR CALIBRATION

(a) GENERAL

This section should include in house tests applicable to the maintenance organisation ratings and those contracted to outside agencies. It should include a requirement for the signature of the mechanic and or certifying staff as appropriate. The record should identify the article by serial number or company assigned number.

(b) RECORD OF SPECIALIZED INSPECTION, TEST AND OR CALIBRATION

Specific notations, attesting accomplishment will be made on either Form XXXX and/or appropriate printed work forms for recording specialized inspection, testing and/or calibration of a component or aircraft.

(c) RECORD OF INSPECTIONS

Where a record of the inspection by dimensions, tests or calibration is required by the manufacturer's technical data such record shall be made on an appropriate form properly identified with the Work Order; it must

also be dated and signed by the mechanic performing the inspection, tests or calibration and or the certifying staff as appropriate.

(d) RECORD OF TESTS AND CALIBRATION OF PRECISION EQUIPMENT

A system is maintained on all precision test equipment that will properly identify each piece of equipment. A file system is maintained to properly identify the equipment and record the date and person testing or calibrating each individual piece of precision equipment. (Give details of system here, or state where it can be obtained).

(e) WORK BY OUTSIDE CONTRACTORS

When test and or calibrations are performed by the following outside contractors they will be required to provide the records as outlined above. (List here the outside agencies and the work for which they are contracted to do for the maintenance organisation).

(18) RECORD OF PRECISION TEST EQUIPMENT CALIBRATION

(a) GENERAL

Identify the person (by title) responsible for the calibration and test records. The records should include the manufacturer, model and serial or company assigned number, date of check, the method used to calibrate and the frequency, the person or company who performs checks, and the result and/or corrections made, when the next inspection is due, and requirements to tag equipment as appropriate.

(b) CONTROL OF PRECISION TOOLS AND TEST EQUIPMENT

Precision tools, gauges, scales, pressure gauges, ammeters, ohmmeters, voltmeters, radio, electronic, X-ray, eddy current and ultrasonic test equipment used in the maintenance organisation operations are subject to periodic checks and calibration in accordance with appropriate maintenance organisation procedures. (List equipment here and outline procedures as appropriate).

All maintenance organisation personnel, before using test equipment, are responsible to check that the testing unit has a current calibration label attached. Any piece of test equipment found in the maintenance organisation without a current calibration label attached shall be given to the certifying staff department for re-calibration.

(c) TEST EQUIPMENT CALIBRATION REQUIREMENTS

Test equipment shall be calibrated at periodic intervals established on the basis of stability, purpose and degree of usage. One year shall be the maximum calibration interval, (List calibration periods on equipment list). Each piece of test equipment will be labelled. The label will identify the unit by manufacturer, model and serial number. The attached label must indicate the last calibration date and next calibration due date. During the first week of each month the chief certifying staff manager will review

the test equipment calibration history card file and give cards for test equipment requiring calibration to the maintenance manager and each shop foreman as appropriate. It will be the responsibility of those persons to issue work orders to maintenance organisation shops or outside contractors as necessary for the calibration of the units and attachment of updated calibration labels. After calibration, the test unit will be checked for proper labelling and the equipment calibration history card will be updated and returned to the inspection department active file.

At no time will any person be permitted to perform work on aircraft or components using test equipment which is out of calibration. The test equipment labels will be checked by supervisors at random to assure that equipment in use is in calibration. If at any time a piece of test equipment inadvertently exceeds its calibration due date, it will immediately be removed from service until a calibration check has been performed.

Standards used to calibrate test equipment must be traceable to the Ghana National Standards or an approved foreign country's standard by certificate from the testing facility. Frequency for calibration standards may vary for different units but must never exceed a 12-month interval.

(d) RECORD OF SELF-EVALUATIONS

Identify the person(s) (by title) responsible to perform the self-evaluations and the individual that ensures that the capability list is kept current. The record(s) of self-evaluation shall include the person (by title) date, and the results and or corrections made as appropriate.

The self-evaluation along with the capability list shall be reviewed and signed by the accountable manager. Procedures identifying that the maintenance organisation shall not perform such maintenance on any article until such time the accountable manager has accepted and signed the self-evaluation sheet(s) and capability list.

(19) FINAL INSPECTION AND RELEASE TO SERVICE

(a) GENERAL

This should explain compliance with the rules, who performs the inspection (by title), how it is recorded, and requires a check of maintenance work package for completion.

(b) FINAL INSPECTION AND RELEASE TO SERVICE

Prior to approval for return to service, irrespective of the method to be used to indicate such approval, the Chief certifying staff manager will audit the records "package" as identified by the work order, to determine that all work has been inspected as required for compliance with this inspection

system and Part 6. He will indicate affirmative findings approving the form per Section XXXX of this manual.

When approval has been given to the above audit, either the Chief certifying staff manager or the individual authorized in the official roster and individual summary of employment, will approve the article for return to service. This approval will be accomplished as appropriate to the work done, the article involved, the records available with the article, and the instructions of the customer. Care will be exercised to comply with Part 5 in every case. Whenever the aircraft records (log) are available, record of work accomplished is expected to be made therein. This does not waive any records requirements of Part 6. Neither will Part 5 or Part 9 be considered waived by the records requirements of Part 6.

Articles such as appliances, accessories, and individual parts or components will not have an individual record to which an entry may be added. However, the installation of these items on an aircraft constitutes an aircraft maintenance or alteration, and records must be made accordingly.

Routinely, major repair approvals will be handled in accordance with 5.7.1 and paragraph (2) of IS: 5.7.1.

A maintenance release is completed as a part of the work order form at the time of approval for return to service. A separate maintenance release card will be completed and shipped on an article that is shipped to a customer. At the request of the customer (to be indicated on the work order when originated), GCAA Form SRD/AIR/039 will be completed instead of the maintenance release approval for return to service in accordance with the procedure in paragraph (1) IS 5.7.1.

In all cases where major alteration is involved, GCAA Form SRD/AIR/039 will be completed per 5.7.1 and IS 5.7.1. The authorized supervisor is whose area the repair or alteration is accomplished will be responsible for establishing that the repair or alteration was made in accordance with the requirements of Part 5 and will sign the conformity statement on GCAA Form SRD/AIR/039.

Certifying Staff responsible for the approval for return to service of aircraft will indicate such approval by signing the approval for return to service on GCAA Form SRD/AIR/039. Appropriate entries will be made in the aircraft record pertinent to the repairs and alterations accomplished by the maintenance organisation. Specific reference will be made by calendar date to the applicable GCAA Form SRD/AIR/039. The original GCAA Form SRD/AIR/039 will be inserted in the aircraft record with a copy forwarded to the Authority and one copy retained with the copy of the aircraft work order. It is the responsibility of the certifying staff authorizing return to service to assure that the aircraft flight manual is properly revised following any alteration or modification to the aircraft and that the weight and balance record has been amended as necessary.

Aircraft components, appliances, and other items, other than completed aircraft repaired or overhauled as authorized by the maintenance organisation specifications, will be returned to service through the use of a maintenance release pre-printed on the serviceable parts tag. The

authorized supervisor under whose jurisdiction the work is accomplished will be responsible for the release of units in the category.

No aircraft or unit may be released for return to service until the work order and other records have been reviewed for completeness and final acceptance cleared by inspection. Particular attention shall be accorded the status of applicable airworthiness directives.

(c) MAINTENANCE RELEASE STATEMENT

A maintenance release statement stamp and/or pre-printed tag, prepared in accordance with IS: 5.7.1 will be used to release to service major repairs which have been accomplished by this station in accordance with Part 5. Other records required by 5.7.1 will be executed, as required, regardless of whether GCAA Form SRD/AIR/039 or maintenance release has been used to return the article to service. In any event, the station will indicate on their copy of the work order, whether or not a maintenance release was used, including the signature of the authorized certifying staff representative.

The (use only applicable rating or ratings) aircraft, airframe, aircraft engine, propeller or appliance identified above was repaired and inspected in accordance with current maintenance rules of the Ghana Civil Aviation Directives and is approved for return to service.

“Pertinent details of the repair are on file at this maintenance organisation under Work

Order Number _____ Date _____”

Signed _____
(Signature of authorized representative)

For _____
(Maintenance organisation name and certificate number)

(Address)

NOTE 1: Inspection stamp/symbol will not be used on the maintenance release.

SAMPLE OF MAINTENANCE RELEASE FOR AIR OPERATOR WORK

(20) MALFUCTION OR DEFECT AND MECHANICAL RELIABILITY REPORT

(a) GENERAL

This section should explain in detail how compliance with rules and reporting requirements are to be met, and prescribe the responsibility (by title) of persons who prepare and submit reports.

(b) MALFUNCTION OR DEFECT REPORT

This maintenance organisation will report to the Authority within 72 hours after it discovers any serious defect in, or other recurring unairworthy condition of, an aircraft, power plant, or propeller or any component of any of them. The report will be made on a GCAA Form XXX, Malfunction or Defect report, describing the defect or malfunction completely without withholding any pertinent information. In any case where the filing of a report under the preceding paragraph might prejudice the maintenance organisation, it will be referred to the Authority for a determination as to whether it must be reported. If the defect or malfunction could result in an imminent hazard to flight, the maintenance organisation will use the most expeditious methods it can to inform the Authority.

(c) MECHANICAL RELIABILITY REPORTS

When work is being accomplished for an air operator and a defect as described under the Malfunction or Defect report is found, the air operator will be notified in order that a Mechanical Reliability Report may be issued by the air operator.

(d) RESPONSIBILITY FOR SUBMITTING REPORTS

The Accountable Manager and Chief Certifying staff Manager are responsible for preparing and submitting a Malfunction or Defect Report to the Authority.

(21) SUBCONTRACTED MAINTENANCE PROCEDURES

(a) SUBCONTRACTED MAINTENANCE

Any work performed by another maintenance organisation for this maintenance organisation will be inspected by the Chief Certifying Staff Manager or certifying staff personnel delegated for such inspection. This inspection will be to verify that the work was performed in an airworthy manner, that parts and materials used were of such a quality to be airworthy, and that the paperwork received with the material verifies the authenticity of the part and work performed. At no time shall the stockroom manager release any parts made by, or parts having had work performed on them by a subcontractor until the Chief Certifying Staff Manager or certifying staff personnel delegated has approved the materials as being airworthy.

All subcontracted work shall be kept separate from regular stock until this inspection has been performed and the material accepted for use.

If for any reason subcontracted material is rejected as being unairworthy, it will immediately be identified as unairworthy and the proper disposition made, such as scrap or return to vendor.

(b) LIST OF SUBCONTRACTED MAINTENANCE

- (i) Metal plating or anodizing
- (ii) Complex machine operations involving the use of planers, shapers, milling machines, etc.
- (iii) Abrasive air blasting and chemical cleaning operations
- (iv) Heat treatment
- (v) Magnetic inspection
- (vi) Fabricate wood spars
- (vii) Overhaul and repair hydraulic-pneumatic shock absorber units
- (viii) Overhaul and repair hydraulic system components
- (ix) Fluorescent inspection of alloy parts
- (x) Recovering and refinishing of components and entire aircraft.

(22) PERFORMANCE OF MAINTENANCE, PREVENTIVE MAINTENANCE, ALTERATIONS AND REQUIRED INSPECTION UNDER THE CONTINUOUS AIRWORTHINESS REQUIREMENTS OF PART 9

(a) GENERAL

This section should show how the rules is to be complied with, that the work is to be accomplished with the operator's manual and a current copy of the manual is available.

(b) PERFORMANCE OF MAINTENANCE, PREVENTIVE MAINTENANCE, ALTERATIONS AND REQUIRED INSPECTION UNDER THE CONTINUOUS AIRWORTHINESS REQUIREMENTS OF PART 9

This maintenance organisation will perform this work in accordance with the operator's manual. The maintenance organisation will have a current copy of the applicable section of each operator's manual which contracts with the maintenance organisation for the performance of that operator's maintenance. The Chief Certifying staff manager will be responsible for keeping each operator's manual revised and determining that the operator's manual is current before a work order is issued.

(23) PERFORMANCE OF WORK AT A LOCATION OTHER THAN THE MAINTENANCE ORGANISATION

(a) GENERAL

In accordance with part 6, 6.2.6., a maintenance organisation may maintain or alter any article for which it is rated at a place other than the maintenance organisation provided certain preparations are made and certain conditions are met as required by part 6, 6.2.6(3). Performance standards are required to remain acceptable at such places of work. Part 6, 6.2.6(3)(c) requires the maintenance procedure manual to contain the approved procedures governing the work to be performed at a place other than the maintenance organisation. This is a frequently overlooked manual requirement. In order for a procedure to be valid for approval it should:

- (i) Be described in terms understandable to those persons who are governed by it in the performance of the work.

- (ii) Be monitored regularly so as to ensure that it covers the nature of the work that may be needed outside that maintenance organisation. This is necessary as it is difficult to predict the nature of work to be done outside the station.
- (iii) Be tailored for the particular station, the nature of work and the frequency expected. The following are items recommended for consideration:
 - (A) Who will authorize the work, organize the project, direct it, and who will perform the work?
 - (B) What type of work tasks will be required (supply, repairs, inspections, and communications)?
 - (C) Where some of the work is to be done. It may be advantageous to perform support work on components or parts at the base maintenance organisation as a standard procedure.
 - (D) How will the work projects be monitored and reviewed to assure procedures are adequate and that records identify the projects for accountability?
 - (E) Occasional explanations within the system description of why certain requirements, controls or reports are necessary and will help employees to understand and accept the system.
- (iv) The privilege to perform work at a location other than the maintenance organisation is to be done on a temporary basis. If a permanent station is established at the location, it will be necessary for the maintenance organisation to make application for a maintenance organisation at the location.

(b) PERFORMANCE OF MAINTENANCE AT A LOCATION OTHER THAN THE MAINTENANCE ORGANISATION

(Name of Company) will provide maintenance service for its customers on an emergency on-call basis at a place away from the maintenance organisation. (Name of Company) can only provide this service for work for which the maintenance organisation is rated. Only the Accountable Manager or the Chief Certifying Staff Manager is authorised to initiate a work order for such work.

The base maintenance manager will be responsible for assigning the personnel necessary to perform the work and appoint a person to be in charge of the work force. The Chief Certifying Staff Manager will assign the certifying staff responsible to inspect the work and assure that all required forms and work are completed as necessary. The Chief Certifying Staff Manager will assign one certifying staff personnel with the responsibility for returning the article to service.

The base maintenance manager will ensure that the article to undergo maintenance and the work force will be in an area safe for the work to be performed and that they will be protected from the elements. The base maintenance manager will be responsible for providing all the necessary manpower, work forms, technical data, tools, and equipment necessary for the accomplishment of the maintenance. The base maintenance manager will establish a system of communications between the field force and the maintenance organisation.

The stockroom manager will be responsible for assigning a stockperson who will provide parts and supply support between the maintenance organisation and the field force. All articles removed by the field force from a product undergoing maintenance at a location away from the maintenance organisation will be routed through the stockroom parts receiving department. The article(s) will be inspected in accordance with the maintenance organisation inspection procedures and either routed to the maintenance organisation shops or to contract maintenance organisations, as appropriate.

All personnel assigned to accomplish work away from the maintenance organisation shall accomplish the specific function of work in the same manner as when performed at the maintenance organisation and in accordance with Part 6.

IS: 6.5.6 MAINTENANCE RELEASE

- (1) A **maintenance release** is required for the following:
 - (a) Before flight at the completion of any package of maintenance scheduled by the approved aircraft maintenance program on the aircraft, whether such maintenance took place as base or line maintenance.
 - (b) Before flight at the completion of any defect rectification, while the aircraft operates between scheduled maintenance.
 - (c) At the completion of any maintenance on an aircraft component when off the aircraft.
- (2) The **maintenance release** shall contain the following statement: “certifies that the work specified except as otherwise specified was carried out in accordance with current civil aviation directives and in respect to that work the aircraft/aircraft component is considered ready for release to service.”
- (3) The **maintenance release** shall reference the data specified in the manufacturer’s or air operator’s instructions or the aircraft maintenance program which itself may cross- reference to a manufacturer’s instruction in a maintenance manual, services bulletin, etc.
- (4) Where instructions include a requirement to ensure that a dimension or test figure is within a specific tolerance as opposed to a general tolerance, the dimension or test figure shall be recorded unless the instruction permits the use of GO/NO GO gauges. It is not normally sufficient to state that the dimension or the test figure is within tolerance.
- (5) The date such maintenance was carried out shall include when the maintenance took place relative to any life or overhaul limitation in terms of date/flying hours/cycles/landings etc. as appropriate.
- (6) When extensive maintenance has been carried out, it is acceptable for the **maintenance release** to summarize the maintenance as long as there is a cross-

reference to the work-pack containing full details of maintenance carried out. Dimensional information shall be retained in the work-pack record.

- (7) The person issuing the release to service shall use a full signature and preferably a certification stamp except in the case where a computer release to service system is used. In this latter case, the Authority will need to be satisfied that only the particular person can electronically issue the release to service.

Note: *One such method of compliance is the use of the magnetic or optical personal card in conjunction with a personal identity number (PIN) which is keyed into the computer and known only to the individual.*

Note 2: *An example of a **maintenance release** is shown below not intended to be used as an import or export tag.*

LINE BY- LINE INSTRUCTIONS FOR COMPLETION OF MAINTENANCE RELEASE FORM AAT:

- (1) Block 1: Ghana
- (2) Block 2: (Pre-printed)
- (3) Block 3: System Tracking Reference Number.
 - (a) Fill in the unique number established by the GCAA approved numbering system.
 - (b) If the form is computer-generated, it may be produced as programmed by the computer.
 - (c) Shippers must establish a numbering system for traceability in order to fill out block 3 of the form. The system must also provide a means of cross-referencing the number(s) and products(s) being shipped.
- (4) Block 4: Organisation.
 - (a) Fill in the full name and address of the GCAA-approved organisation or individual shipping the product(s)/part(s) as applicable:
 - (i) Company name and address
 - (ii) Production Approval Holder (PAH) approval or certificate numbers, when applicable (e.g. production certificate number, approved maintenance organisation certificate numbers, air operator certificate number).

- (b) When a supplier has direct ship authorisation from PAH, the following information should be entered:
 - (i) PAH name and address
 - (ii) PAH approval or certificate number
 - (iii) ^{c/o} Supplier name and address

Note: *If an individual product/parts is produced as a spare by a supplier, the supplier must have either direct ship authority or hold a production approval (PMA/TSO authorization) for all products/parts shipped. If the supplier holds its own production approval, and the products/parts were manufactured and are being shipped under that approval, the information required in paragraph (1) above should be listed.*

(5) Block 5: Work Order, Contract, or Invoice Number.

- (a) Fill in the contract, work order, or invoice number related to the shipment list, or maintenance release, and state the number of pages attached to the form, including dates, if applicable. If the shipment list contains the information required in Blocks 6 through 12, the respective blocks may be left blank if an original, or true copy, of the list is attached to the form. In this case, the following statement should be entered in Block 13: "This is the certification statement for the products/parts listed on the attached document dated _____ containing pages _____ through _____".
- (b) In addition, the shipment list must cross-reference the number located in Block 3. The shipment list may contain more than one item; but it is the responsibility of the shipper to determine if the CAA of the importing jurisdiction will accept bulk shipments under a single Maintenance Release Form. If the CAA does not permit bulk shipment under a single form, Block 6 through 12 of each form must be filled in for each product shipped.

(6) Block 6:

When this Maintenance Release Form is issued, a single item number or multiple item numbers may be used for the same part number. Multiple items should be numbered in sequence. If a separate listing is used, enter "List Attached".

Note: *The blank form can be computer-generated. However, the format cannot be changed nor can any words be added or deleted. Pre-printing of some information is permissible, i.e.; the information in blocks 1,2,3,4 and 14. The size of blocks may be varied slightly, but the form must remain readily recognizable.*

(7) Block 7:

Enter the name or description of the product/parts as shown on the design data. For products/parts that do not have design data available, the name as referenced in a part catalogue, overhaul manual, etc. can be used.

(8) Block 8:

Enter each part number of the product.

(9) Block 9:

State the aircraft, aircraft engine, or propeller make and model on which the PMA part is eligible for installation. If a part is eligible for installation on more than one model, enter the words “to be verified by installer or TBV by installer”. Where parts are TSO articles, state “TSO Article N/A” since eligibility for installation for TSO articles is determined at the time of installation.

Note: For TSO articles, the Maintenance Release Form does not constitute authority to install a product on a particular aircraft, aircraft engine, or propeller. The user or installer is responsible for confirming that the product is eligible for installation by reference to overhaul manuals, service bulletins, etc., as applicable. While the information in Block 9 is optional, it should be filled out whenever possible. When using the CRS Form for CONFORMITY of certification program products enter N/A.

(10) Block 10:

State the quantity of each product/part shipped.

(11) Block 11.

State the serial number or equivalent (identified on the part) on the form for each product/part shipped. If a serial number or equivalent is not required on the part, enter “N/A”.

(12) Block 12.

Enter “Newly Overhauled” for those products that have not been operated or placed in service since overhaul. Enter “PROTOTYPE” for products/parts submitted to support type certification programs. Other permissible or appropriate terms to describe the status of the product/part are: “INSPECTED”, “REPAIRED”, “REBUILT” or “ALTERED”.

(13) Block 13:

Enter any information or references to support documentation necessary for the user or installer to make a final determination of airworthiness of the products/parts listed in Block 7. Each statement must specify which item identified in Block 6 is related. Examples of information to be supplied are as follows:

- (a) Any restrictions (e.g., prototype only)
- (b) Alternative approved part number.
- (c) Compliance or non-compliance with airworthiness directives or service bulletins.

- (d) Information on life-limited parts.
- (e) Manufacturing, cure, or shelf-life data.
- (f) Drawing and revision level.
- (g) When used for conformity the word "CONFORMITY" must be entered in capital letters. In addition, an explanation of the products/ parts use, e.g., pending approved data, TC pending, for test only, etc., should be provided. Information concerning a conformity inspection such as design data, revision level, date, project number.
- (h) When used for spare parts identify whether the parts are PMA, TSO authorized. In addition, if the Maintenance Release Form is for spare parts or sub components of CAA approved modification or replacement part, the PMA or TSO authorization should be listed in Block 13.
- (i) When used for return to service, this block should contain the data required by 5.7.1.

(14) Block 14:

Pre-printed

(15) Block 15:

Signature of the individual authorized by the air agency, air operator, or the manufacturer in accordance with 5.6.5. The approval signature shall be manually applied at the time and place of issuance.

(16) Block 16:

Enter the air agency or air operator certificate number. For manufacturers returning to service after rebuilding products/parts the production approval number should be entered.

(17) Block 17:

The typed or printed name of the individual identified in Block 15.

(18) Block 18.

The date the Maintenance Release Form is signed and the product is returned to service. This does not need to be the same as the shipping date, which may occur at a later date.

IS: 6.5.8 AIRWORTHINESS DATA

- (1) The AMO shall be in receipt of all airworthiness data appropriate to support the work performed from the Authority, the aircraft or aeronautical product design organisation, and any other approved design organisation in the State of Manufacture or State of Design, as appropriate. Some examples of maintenance-related documents are:
 - (a) Ghana Civil Aviation Directives.
 - (b) Associated Advisory material.
 - (c) Airworthiness directives.
 - (d) Manufacturer's maintenance manuals.
 - (e) Repair manuals.
 - (f) Supplementary structural inspection documents.
 - (g) Service bulletins.
 - (h) Service letters.
 - (i) Service instructions.
 - (j) Modification leaflets.
 - (k) Aircraft maintenance program.
 - (l) NDT Manual, etc.

Note: Paragraph (1) primarily refers to maintenance data that has been transcribed from the Authority and all Type Certificate (TC) holders into the AMO's format, such as customized maintenance cards or computer base data.

Note: To obtain acceptance from the Authority, it is important that accuracy of transcription is assured.

- (2) A procedure shall be established to monitor the amendment status of all data and maintain a check that all amendments are being received by being a subscriber to any document amendment scheme.
- (3) Airworthiness data shall be made available in the work area in close proximity to the aircraft or aeronautical product being maintained, for supervisors, mechanics, and certifying staff to study.
- (4) Where computer systems are used to maintain airworthiness data, the number of computer terminals shall be sufficient in relation to the size of the work program to enable easy access, unless the computer system can produce paper copies. Where microfilm or microfiche readers/printers are used, a similar requirement is applicable.

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