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**THURSDAY 16TH MAY, 2024**

THE OFFICIAL GAZETTE 16TH MAY, 2024
LEGAL SUPPLEMENT — B

GUYANA No. 20 of 2024

GUYANA CIVIL AVIATION AUTHORITY

# REQUIREMENTS FOR AIRWORTHINESS 2024

Made Under

THE CIVIL AVIATION ACT 2018

(Act No. 21 of 2018)

In exercise of the powers conferred upon the Guyana Civil Aviation Authority by section 142 of the Civil Aviation Act 2018, the Guyana Civil Aviation Authority prescribe the following Requirements which may be cited as the Civil Aviation Requirements for Airworthiness 2024.

These Requirements are prescribed in respect of the Civil Aviation (Airworthiness) Regulations 2024 and contain –

(a) applicable standards;

(b) rules and recommended practices of international aviation organisations; and

(c) other requirements of the Authority.

These Requirements are numbered 5.1 to IS 5.6.1.1.

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## 5.1 GENERAL

### 5.1.1 APPLICABILITY

(a) This Part prescribes the requirements for:

(1) Original certification of aircraft and aeronautical products

(2) Supplemental type certificates;

(3) Issuance of a Certificate of Airworthiness;

(4) Continued airworthiness of aircraft and aeronautical components;

(5) Aircraft maintenance and inspection requirements; and

(6) Maintenance records and entries.

### 5.1.2 DEFINITIONS

a. For the purpose of these Requirements, the following definitions shall apply—

2) **Major modification**. Described in IS: 5.1.1.2(B) (1).

3) **Major repair**. Described in IS: 5.1.1.2(B)(5).

4) **Modification**. The alteration of an aircraft/aeronautical product in conformity with an approved standard.

5) **Preventative maintenance**. Described in IS: 5.1.2(a)(5).

6) **Overhaul**. The restoration of an aircraft/aeronautical product using methods, techniques, and practices acceptable to the Authority, including disassembly, cleaning, and inspection as permitted, repair as necessary, and reassembly; and 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 State of Design, holder of the type certificate, supplemental type certificate, or a material, part, process, or appliance

approval under Parts Manufacturing Authorisation (PMA) or Technical Standard Order (TSO).

7) **Rebuild**. The restoration of an aircraft/aeronautical product by using methods, techniques, and practices acceptable to the Authority, when it has been disassembled, cleaned, inspected as permitted, repaired as necessary, reassembled, and tested to the same tolerances and limits as a new item, using either new parts or used parts that conform to new part tolerances and limits. This work will be performed by only the manufacturer or an organisation approved by the manufacturer, and authorised by the State of Registry.

8) **Required inspection items**. Maintenance items and/or alterations that must be inspected by a person other than the one performing the work and include at least those that could result in a failure, malfunction, or defect endangering the safe operation of the aircraft, if not properly performed or if improper parts or materials are used.

9) **State of Design**. The Contracting State which approved the original type certificate and any subsequent supplemental type certificates for an aircraft, or which approved the design of an aeronautical product or appliance.

10) **State of Manufacture**. The Contracting State, under whose authority an aircraft was assembled, approved for compliance with the type certificate and all extant supplemental type certificates, test flown and approved for operation. The state of manufacture may or may not also be the state of design.

11) **State of Registry**. The Contracting State on whose register the aircraft is entered.

### 5.1.3 ABBREVIATIONS

1) The following abbreviations are used in this part:

(1) **AC** – Advisory Circular

(2) **AD** – Airworthiness Directive

(3) **AOC** – air operator certificate

(4) **AMO** – approved maintenance organisation

(5) **ICAO** – International Civil Aviation Organization

(6) **IS** – Implementing Standards

(7) **STC** – supplemental type certificate

(8) **TC** – type certificate

(9) **TSO** – technical standard order

## 5.2 ORIGINAL CERTIFICATION OF AIRCRAFT AND AERONAUTICAL PRODUCTS

### 5.2.1 APPLICABILITY

a) This Subpart describes the procedures and designation of applicable rules for original certification of aircraft and related aeronautical products.

b) The Authority will hold this Subpart reserved until such time as it has received an application for Type Certificates, Production Certificates or other related approvals.

c) Any applicant for a production certificate for any aircraft or aeronautical product thereof for manufacture in Guyana shall comply with the type certificate as required by the State of Design for approval.

d) At such time as the application for production is presented the Authority will make available suitable regulations or provisions for the issuance of an airworthiness certificate, or airworthiness document as appropriate for the product concerned.

## 5.3 TYPE CERTIFICATE ACCEPTANCE

### 5.3.1 APPLICABILITY

(a) This Subpart prescribes the requirements for acceptance of Type Certificates Aircraft and Aeronautical Products.

**APPLICATION**

a) An operator who intends to register an aircraft which is a First of Type Aircraft or Variant and Aeronautical Products, shall ensure the TC holder makes an application in writing to the GCAA through the CAA of the State of Design for Type Acceptance.

b) The Type Certificate holder shall submit the following documents/information:

1. Type Certificate;
2.Type Certificate Data Sheet;
3. Compliance Document/Compliance Matrix and certification summary
4. Supplemental Type Certificate, if applicable.
5. Approved Aircraft Flight Manual/Engine Operating Manual/Propeller Operating Manual/ Rotorcraft Flight Manual (RFM);
6. Approved Airworthiness Limitations.
7. Structural Repair Manual.
8. Compliance with special conditions such as novel or unusual design features in the aeronautical product and substantiation reports;
9. Compliance documents related to high-intensity radiation field (HIRF) effects;
10. Noise and engine emission certificates as applicable.
13. Substantiation reports in case of EDTO capable aircraft/engine.
14. Electrical Load Analysis
15. Modifications approved at the time of application.

16. Certificate from GCAA stating that their Airworthiness Requirements/Standards are harmonised with those of FAA/ UKCAA/ DOT Canada & EASA as applicable.

17. Substantiation documents providing the basis for 'Equivalent Level of Safety Findings' and 'Exemptions'.

18. Access to all necessary documents for continued airworthiness support.

19. Any other documents required by the Authority.

C). Upon an applicant meeting all requirements, an official letter of type acceptance will be issued by the Authority.

**5.3.2 SUPPLEMENTAL TYPE CERTIFICATES**

5.3.2.1 Applicability

This Subpart prescribes procedural requirements for the issue of supplemental type certificates.

5.3.2.2 Issuance and Acceptance of a Supplemental Type Certificate

(a) Any person who alters a product by introducing a major change in type design, not great enough to require a new application for a type certificate, shall apply for a Supplemental Type Certificate to the regulatory agency of the State of Design that approved the type certificate for that product, or to the State of Registry of the aircraft.

(b) The applicant shall apply in accordance with the procedures prescribed by that State for acceptance of an STC

## 5.4 ISSUANCE OF CERTIFICATES OF AIRWORTHINESS

### 5.4.1 APPLICABILITY

(a) This Subpart prescribes procedures required for the issue of airworthiness certificates for aircraft registered in Guyana.

(b) The Authority shall issue a certificate of airworthiness based on satisfactory evidence that the aircraft complies with the design aspects of the appropriate airworthiness requirements (type certificate).

### 5.4.2 ELIGIBILITY

(a) Any registered owner of a Guyana Registered Aircraft, or agent of the owner, may apply for an airworthiness certificate for that aircraft.

(b) Each applicant for an airworthiness certificate shall apply in a form and manner acceptable to the Authority.

### 5.4.3 AIRCRAFT IDENTIFICATION

(a) Each applicant for a certificate of airworthiness shall show that the aircraft has the prescribed identification plates.

### 5.4.4 OPERATIONAL CATEGORIES OF AIRWORTHINESS CERTIFICATES

(a) A standard certificate of airworthiness will be issued for aircraft in the Specific Operational category and model designated by the State of Design in the type certificate.

(b) The Operational Categories of Standard Certificates of Airworthiness includes:

(a) "transport category (passenger)", for any purpose;

(b) "transport category (cargo)", for any purpose other than the public transport of passengers;

(c) "aerial work category", for any purpose other than public transport;

(d) "private category", for any purpose other than public transport, aerial work or special category;

(e) "special category", for any purpose, other than public transport, which the certificate of airworthiness may specify, but not including the carriage of passengers unless expressly permitted.

### 5.4.5 ISSUANCE OF AN AIRWORTHINESS CERTIFICATE

(a) The Authority will issue a certificate of airworthiness if:

(1) the applicant presents evidence to the Authority that the aircraft conforms to a type design approved under a type certificate or a supplemental type certificate and to the applicable airworthiness directives of the State of Manufacture;

(2) the aircraft has been inspected in accordance with the performance rules of Subpart 5.6 for inspections and found airworthy by persons authorised by the Authority to make such determinations within the last 30 calendar days; and

(3) the Authority finds after an inspection that the aircraft conforms to type design and is in condition for safe operation.

(b) The standard airworthiness certificate shall contain the information as stated in IS: 5.4.1.5

(c) The standard airworthiness certificate shall be issued in the English language.

**5.4.6 Issue of Special Airworthiness Certificates**

(a) The Authority may issue a Special Airworthiness Certificate to the aircraft that does not qualify for a Standard Certificate.

(b) Aircraft holding Special Airworthiness Certificates shall be subject to operating limitations within Guyana and may not make international flights. The Authority shall issue specific operating limitations for each Special Airworthiness Certificate.

**5.4.7 ISSUANCE OF FLIGHT PERMITS**

(a) The Authority may issue a Flight Permit to an aircraft that is capable of safe flight, but unable to meet applicable airworthiness requirements, for the purpose of:

(1) Flying the aircraft to a base where repairs, alterations, or maintenance are to be performed, or to a point of salvage.

(2) Testing after repairs, alterations, or maintenance have been performed.

(3) Flying an aircraft whose inspection has expired to a base where an inspection can be accomplished.

**5.4.7 ISSUANCE OF FLIGHT PERMITS, CONT'D**

(2) Delivering or exporting the aircraft.

(3) Evacuating aircraft from areas of impending danger.

(b) The Authority may issue a Flight Permit with continuing authorisation issued to an aircraft that may not meet applicable airworthiness requirements but are capable of safe flight, for the purpose of flying aircraft to a base where maintenance or alterations are to be performed. The permit issued under this paragraph is an authorisation, including

conditions and limitations for flight, which is set forth in the AOC Holder's specific operating provisions. This permit under this paragraph may be issued to an AOC Holder certificated by the Authority.

(c) In the case of flight permits, the Authority shall require a properly executed maintenance endorsement in the aircraft permanent record by a person or organisation, authorised in accordance these Requirements, stating that the subject aircraft has been inspected and found to be safe for the intended flight, with the endorsement of a Fitness for Flight Certificate.

(d) The operator shall obtain all required overflight authorisations from countries to be overflown on flights outside Guyana.

(e) A Flight Permit, is valid for the period of time specified in the permit.

**5.4.8 DURATION OF CERTIFICATES OF AIRWORTHINESS**

(a) A certificate of airworthiness is effective as follows: unless sooner surrendered, suspended or revoked, or a special termination date is otherwise established by the Authority:

(b) A certificate of airworthiness shall be renewed or shall remain in effect, subject to the Guyana Civil Aviation Act and the associated regulations and/or requirements. The dates of issue, renewal and expiration are stated on the certificate of airworthiness. The period of validity of a standard certificate of airworthiness shall be 12 calendar months effective from the date of issue or renewal (as the case may be) up to the expiry date.

(c) The continuing airworthiness of the aircraft shall be determined by a periodical inspection at appropriate intervals having regard to lapse of time and type of service.

(d) Failure to maintain an aircraft in an airworthy condition as defined by the appropriate airworthiness requirements of the State of Registry, shall render the aircraft ineligible for operations until the aircraft is restored to an airworthy condition.

### 5.4.9 AMENDMENT OF AIRWORTHINESS CERTIFICATE

(a) The Authority may amend or modify a certificate of airworthiness:

(1) Upon application from an owner or operator.

(2) On its own initiative.

(b) Amendment may be made under the following conditions:

(1) Alteration; (STC or amended TC);

(2) A change to the authority and basis for issue;

(3) A change in the aircraft model; and/or

(4) A change in the operating limitations for an aircraft with a special airworthiness certificate.

### 5.4.10 TRANSFER OR SURRENDER OF A CERTIFICATE OF AIRWORTHINESS

(a) An owner shall transfer a certificate of airworthiness:

(1) To the lessee upon lease of an aircraft within or outside Guyana.

(2) To the buyer upon sale of the aircraft within Guyana.

(b) An owner shall surrender the certificate of airworthiness for the aircraft to the issuing Authority upon sale of that aircraft outside of Guyana.

### 5.4.11 COMMERCIAL AIR TRANSPORT

(a) The Authority will consider an airworthiness certificate valid for commercial air transport only when accompanied by operations specifications issued by the Authority which identifies the specific types of commercial air transport authorised.

## 5.5 CONTINUED AIRWORTHINESS OF AIRCRAFT AND COMPONENTS

### *5.5.1 Applicability*

This Subpart prescribes rules governing the continued airworthiness of civil aircraft registered in Guyana whether operating inside or outside the borders of Guyana.

### *5.5.2 Responsibility*

The owner of an aircraft or, in the case of a leased aircraft, the lessee, shall be responsible for maintaining the aircraft in an airworthy condition by ensuring that—

1) All maintenance which affect airworthiness are performed as prescribed by the Authority;
2) Maintenance personnel make appropriate entries in the aircraft maintenance records certifying that the aircraft is airworthy;
3) The approval for return to service (maintenance release) is completed to the effect that the maintenance work performed has been completed satisfactorily and in accordance with the prescribed methods; and
4) In the event there are open discrepancies, the maintenance release includes a list of the uncorrected maintenance items and these items are made a part of the aircraft's permanent record.

### *5.5.3 Reporting of Failures, Malfunctions, and Defects (Mandatory Occurrence Report)*

**a) Owners, operators or maintenance organisations/person of aircraft shall report to the Authority any failures, malfunctions, or defects that result in at least the following—**

1) Fires during flight and whether the related fire-warning system properly operated.
2) Fires during flight not protected by a related fire-warning system.
3) False fire warning during flight.
4) An engine exhaust system that causes damage during flight to the engine, adjacent structure, equipment, or components.
5) An aircraft component that causes accumulation or circulation of smoke, vapour, or toxic or noxious fumes in the crew compartment or passenger cabin during flight.
6) Engine shutdown during flight because of flameout.

7) Engine shutdown during flight when external damage to the engine or aircraft structure occurs.
8) Engine shutdown during flight due to foreign object ingestion or icing.
9) Shutdown during flight of more than one engine.
10) A propeller feathering system or the ability of the system to control overspeed during flight.
11) A fuel or fuel-dumping system that affects fuel flow or causes hazardous leakage during flight.
12) An unintended landing gear extension or retraction, or opening or closing of landing gear doors during flight.
13) Brake system components that result in loss of brake actuating force when the aircraft is in motion on the ground;
14) Aircraft structure that requires major repair;
15) Cracks, permanent deformation, or corrosion of aircraft structure, if more than the maximum acceptable to the manufacturer or the Authority;
16) Aircraft components or systems malfunctions that result in taking emergency actions during flight (except action to shut down an engine);
17) Each interruption to a flight, unscheduled change of aircraft en route, or unscheduled stop or diversion from a route, caused by known or suspected technical difficulties or malfunctions;
18) Any abnormal vibration or buffeting caused by a structural or system malfunction, defect, or failure;
19) A failure or malfunction of more than one attitude, airspeed, or altitude instrument during a given operation of the aircraft.
20) The number of engines removed prematurely because of malfunction, failure or defect, listed by make and model and the aircraft type in which it was installed; or
21) The number of propeller featherings in flight, listed by type of propeller and engine and aircraft on which it was installed.

**b) Owners, operators or maintenance organisations/persons of aircraft of aeroplanes weighing over 5,700kg maximum certificated take-off mass; and in the case of helicopters, weighing over 3,175 kg maximum certificated take-off mass, shall**

**report to the Authority and the organization responsible for the type design in the case any failures malfunctions, or defects that result in at least of the above list.**

**c) Each report required by this Subsection shall—**

1) Be made within 3 days (72 hours) after determining that the failure, malfunction, or defect required to be reported has occurred; and
2) Include as much of the following information as is available and applicable—
3) Aircraft serial number;
4) When the failure, malfunction, or defect is associated with an article approved under a TSO authorisation, the article serial number and model designation, as appropriate;
5) When the failure, malfunction or defect is associated with an engine or propeller, the engine or propeller serial number, as appropriate;
6) Product model;
7) Identification of the part, component, or system involved, including the part number; and
8) Nature of the failure, malfunction, or defect.

## 5.6 AIRCRAFT MAINTENANCE

### *5.6.1 Applicability*

This Subpart prescribes rules governing the maintenance of any aircraft having a Guyana Airworthiness Certificate or associated aeronautical products.

### *5.6.2 Persons Authorised to Perform Maintenance*

a) The persons authorised to perform maintenance subject to this Subpart include—

1) A person performing maintenance under the supervision of a Licenced Aircraft Maintenance Engineer;
2) An Licenced Aircraft Engineer;
3) An AOC holder, approved to perform maintenance under an equivalent system; and
4) An AMO.

b) This Subpart outlines the privileges and limitations of these entities with respect to the extent and type of work they may perform regarding—

1) Overhauls
2) Repairs
3) Modification,
4) Defect Rectifications
5) Inspection, and
6) Approvals for return to service.

### *5.6.3 Persons Authorised to Perform Maintenance*

a) No person may perform any task defined as maintenance on an aircraft or aeronautical products, except as provided in the following—.

a) A person working under the supervision of a Licenced Aircraft Maintenance Engineer(LAME), may perform the maintenance, that the a Licenced Aircraft Maintenance Engineer is authorised to perform—

I. If the LAME personally observes the work being done to the extent necessary to ensure that it is being done properly, and

II. If the LAME is readily available, in person, for consultation.

b) A licensed Licenced Aircraft Maintenance Engineer may perform or supervise the maintenance of an aircraft or aeronautical product for which he or she is rated subject to the limitation of License or Authorisation.

c) An AMO may perform aircraft maintenance within the limits specified by the Authority.

d) The AOC holder may perform aircraft maintenance as specified by the Authority.

e) A manufacturer holding an AMO may—

I. Rebuild or alter any aeronautical product manufactured by that manufacturer under a type or production certificate;

II. Rebuild or alter any aeronautical product manufactured by that manufacturer under a TSO Authorisation, a Parts Manufacturer Approval by the State of Design, or Product and Process Specification issued by the State of Design; and

III. Perform any inspection required by the Civil Aviation Requirements for Operations 2024 on aircraft it manufacturers, while currently operating under a production certificate or under a currently approved production inspection system for such aircraft.

### *5.6.4 Authorised Personnel to Approve for Return to Service*

a) No person or entity, other than Authority, may approve an aircraft, airframe, aircraft engine, propeller, appliance, or component part for return to service after it has undergone maintenance, rebuilding, or modification, except as provided in the following:

1) A licensed Licenced Aircraft Maintenance Engineer may approve aircraft and aeronautical products for return to service after he or she has performed, supervised, or inspected its maintenance subject to the limitation of the licensed.

2) An AMO may approve aircraft and aeronautical products for return to service as provided in the specifications approved by the Authority.

3) An AOC holder may approve aircraft and aeronautical products for return to service as specified by the Authority.

### *5.6.5 Persons Authorised to Perform Inspections*

a) No person, other than the Authority, may perform the inspections required by 8.2.1.7 for aircraft and aeronautical products prior to or after it has undergone maintenance, preventive maintenance, rebuilding, or modification, except as provided in the following:

1) An Licenced Aircraft Maintenance Engineer may conduct the required inspections of aircraft and aeronautical products for which he or she is rated and current.

2) An AMO may perform the required inspections of aircraft and aeronautical products as provided in the specifications approved by the Authority.

3) An AOC holder may perform the required inspections of aircraft and aeronautical products in accordance with specifications issued by the Authority.

### *5.6.6 Performance Rules: Maintenance*

a) Each person performing maintenance on an aeronautical product shall use the methods, techniques, and practices prescribed in—

1) The current manufacturer's maintenance manual or instructions for Continued Airworthiness prepared by its manufacturer; and

2) Additional methods, techniques and practices required by the Authority; or methods, techniques and practices designated by the Authority where the manufacturer's documents were not available.

b) Each person shall use the tools, equipment, and test apparatus necessary to assure completion of the work in accordance with accepted industry practices. If the manufacturer involved recommends special equipment or test apparatus, the person performing maintenance shall use that equipment or apparatus or its equivalent acceptable to the Authority.

c) Each person performing maintenance on an aeronautical product shall do that work in such a manner, and use materials of such a quality, that the condition of the aeronautical product worked on will be at least equal to its original or properly altered condition with regard to aerodynamic function, structural strength, resistance to vibration and deterioration, and other qualities affecting airworthiness.

d) The methods, techniques, and practices contained in an AOC holder's maintenance control manual and continuous maintenance program, as approved by the Authority,

will constitute an acceptable means of compliance with the requirements of this subsection.

### *5.6.7 Performance Rules: Inspections*

a) General. Each person performing an inspection required by the Authority shall—

1) Perform the inspection so as to determine whether the aircraft, or portion(s) thereof under inspection, meets all applicable airworthiness requirements; and

2) If there is an inspection program required or accepted for the specific aircraft being inspected perform the inspection in accordance with the instructions and procedures set forth in the inspection program.

b) Rotorcraft. Each person performing an inspection required on a rotorcraft shall inspect the following systems in accordance with the maintenance manual or Instructions for Continued Airworthiness of the manufacturer concerned—

1) The drive shafts or similar systems,

2) The main rotor transmission gear box for obvious defects,

3) The main rotor and centre section (or the equivalent area), and

4) The auxiliary rotor on helicopters.

c) Annual and 100-hour inspections.

1) Each person performing an annual or 100-hour inspection shall use a checklist while performing the inspection. The checklist may be of the person's own design, one provided by the manufacturer of the equipment being inspected, or one obtained from another source. This checklist shall include the scope and detail of the items prescribed by the Authority.

2) Each person approving a reciprocating-engine-powered aircraft for return to service after an annual or 100-hour inspection shall, before that approval, run the aircraft engine or engines to determine satisfactory performance in accordance with the current manufacturer's recommendations of—

Power output (static and idle rpm);

Magnetos;

Fuel and oil pressure; and

Cylinder and oil temperature.

3) Each person approving a turbine-engine-powered aircraft for return to service after an annual or 100-hour inspection shall, before that approval, run the aircraft engine or engines to determine satisfactory performance in accordance with the current manufacturer's recommendations.

### *5.6.8 Performance Rules: Airworthiness Limitations*

Each person performing an inspection or other maintenance specified in an airworthiness limitations section of a current manufacturer's maintenance manual, or Instructions for Continued Airworthiness, shall perform the inspection or other maintenance in accordance with that section, or in accordance with specifications approved by the Authority.

## 5.7 MAINTENANCE RECORDS AND ENTRIES

***5.7.1*** *Content, Form, and Disposition of Maintenance and Rebuilding Records*

a) Each person who maintains, performs maintenances or rebuilds an aircraft or aeronautical product shall, when the work is performed satisfactorily, make an entry in the maintenance record of that equipment as follows—

A description (or reference to data acceptable to the Authority) of work performed;

Completion date of the work performed;

Name, signature, certificate number, and kind of license held by the person approving the work.

*Note: The signature constitutes the approval for return to service only for the work performed.*

1) The person performing the work shall enter records of major repairs and major modifications, and dispose of that form in the manner prescribed by the Authority.

*a. Implementing Standard: See IS: 5.6.1.1(B) for the maintenance form requirements and a sample major repair and modification form.*

2) A person working under supervision of a Licenced Aircraft Maintenance Engineer may not perform any inspection required by the Civil Aviation Requirements for Operations 2024, or any inspection performed after a major repair or modification.

***5.7.2 Records of Overhaul and Rebuilding***

a) No person may describe in any required maintenance entry or form, an aeronautical product as being overhauled unless—

1) It has been disassembled, cleaned, inspected as permitted, repaired as necessary, and reassembled using methods, techniques, and practices acceptable to the Authority; and

2) 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 manufacturing approval.

b) No person may describe in any required maintenance entry or form an aircraft or other aeronautical product as being rebuilt unless it has been disassembled, cleaned, inspected as permitted, repaired as necessary, reassembled, and tested to the same tolerances and limits as a new item, using either new parts or used parts that conform to new part tolerances and limits.

*Note: Part 5.7.2(a) reflects the required maintenance entry for rebuilt. As identified in Part 5.6.1.3(a)(6) only a manufacturer holding an AMO can rebuild an aeronautical product.*

***5.7.3 Approval for Return to Service After Maintenance or Rebuilding***

a) No person may approve for return to service any aeronautical product that has undergone maintenance, preventive maintenance, rebuilding, or modification unless—

1) The appropriate maintenance record entry has been made;

2) The repair or modification form authorised by or furnished by the Authority has been executed in a manner prescribed by the Authority;

b) 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 are appropriately revised and set forth as prescribed.

*Implementing Standard: See IS: 5.6.1.1(B) for the repair or modification form requirements.*

***Certificate of Release to Service***

*(a) A certificate of release to service shall be issued by appropriately authorised certifying staff/LAME when satisfied that all required maintenance of the aircraft or aeronautical product has been properly carried.*

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

*(b) A certificate of release to service shall contain—*

*(1) Basic details of the maintenance carried out;*

*(2) The date such maintenance was completed; and*

*(3) The identity, including the authorisation reference, of the AMO and certifying staff issuing the certificate;*

(c) If the aircraft or aeronautical product is found to be airworthy and approved for return to service, the following worded statement shall be affixed— **"I hereby certify that the work recorded above has been carried out in accordance with the regulations and requirements issued by the Authority and that the aircraft/equipment is considered fit for release to service" .**

***Certificate of Maintenance Review***

(a) A certificate of maintenance review shall be issued appropriately authorised certifying staff/LAME when satisfied that all maintenance tasks have been accomplished as per the maintenance program and procedures for the aircraft and equipment approved by the Authority and compliance with all ADs and manufactures mandatory service bulletins.

***Note:*** *CMR shall be issued at intervals not exceeding six calendar months for aircraft below 5700 Kg and not exceeding four calendar months for aircraft above 5700 Kg.*

*(b) A certificate of Maintenance review to shall contain—*

(1); Name of Operator/AMO,Location,Aircraft type ,National & Registration Mark and The next maintenance review is due

*(2) The date the review was completed; and*

*(3) The identity, including the authorisation reference, of the AMO and certifying staff issuing the certificate;*

(c) If the maintenance review aircraft is found to be accomplished in accordance with the regulations and requirements issued by the Authority, the following worded statement shall be affixed—" I hereby certify that the Maintenance Review of this aircraft and its equipment as is

necessary for its Continued airworthiness has been carried out in accordance with the regulations and requirements issued by the Authority".

**Duplicate Inspection**

(a) Duplicate Inspection shall be accomplished for all vital points before a Certificate of Release to Service is issued;

1. After any change or adjustment to a control system by which the flight path, attitude or propulsive force of an aircraft is changed, or a defect in the operation of the system.
2. Whenever any major repair or major modification is performed on any part of the structure of the aircraft, the failure of which may result in the aircraft's inability to continue in safe flight.
3. Components or controls (excluding wheels and brakes), which affect the retraction, extension or steering system of the undercarriage.

(b) The duplicate inspection Shall be carried out by a qualified person and subsequently by another qualified person.

(c) Persons qualified to make the first and second part of a duplicate inspection shall be as follows:

**i.** License Aircraft Maintenance Engineers appropriately licenced in the appropriate categories.

**ii**. An authorized certifying staff by the AMO.

*(d) The duplicate inspection shall contain—*

*(a) the systems*

*(b) the date*

*(c ) First inspector Signature and time of inspection*

*(d) Second inspector and time of inspection*

(e) If the duplicate inspection is found to be satisfactory in accordance with the regulations and requirements issued by the Authority, the following worded statement shall be affixed—" ***We hereby certify that the vital point identified below has been inspected for condition, correct installation, security and in accordance with the regulations and requirements issued by the Authority and found to be serviceable. In that respect, the aircraft is considered fit for release to service***".

(f) The list of vital points shall include:

The following list identifies those systems and vital points that shall be subject to a Duplicate Inspection:

1. **Flight control surfaces and systems** - the installation, reconnection or rigging of the flight control surfaces and their actuating systems to include mechanical and hydraulic components.
2. If disturbed, the installation and security of wire bundles and connectors of fly-by-wire control systems.
3. Ailerons systems
4. Elevators systems
5. Flight control tabs Control
6. Rudders systems
7. Slats systems
8. Spoilers and speed brakes
9. Stabilizers, horizontal and vertical
10. Flaps, leading edge and trailing edge
11. Leading Slat Bypass Valve deactivation/reactivation or removal/installation.
12. Landing gear and landing gear systems - the installation, reconnection or rigging of the landing gear and all hydraulic or mechanical components of the normal and alternate extension/retraction control systems.
13. Brake Rod – Installation
14. Ram air turbine - installation and/or stowage Θ Engine and APU installation
15. Engine strut/pylon inspection after engine removal prior engine reinstallation.
16. Engine control - installation of main fuel control/metering system, engine main fuel

pump or Electronic Engine Control (EEC) on an engine. Any installation, reconnection, or rigging/adjustment of engine fuel control (throttle system), variable stator vane, variable bleed valve or engine fuel shut-off (HP cock).

17. Thrust reversers - installation of complete reverser or reverser half, including the rigging of reverser controls and the deactivation or reactivation of any reverser system.
18. Pitot/static systems – disturbance of any connection in the systems(supplying Air data Computer).
19. Door damping percussion device - any work, which disturbs the striker mechanism from its normal operating position.
20. Door power assist - disturbance of any connection in the system.
21. Door Counterbalance - disturbance of any connection in the system.
22. Door Slide/raft – removal of transportation pin.
23. Door Slide bottle – removal of lock pin
24. Door Slide – Disturbance of overwing arming lever and connection of battery packs.
25. Repair of RVSM critical areas as specified in the aircraft SRM.

**5.7.4 Major Modification and Repair**

(a) All operators shall submit an application for Modification or Repair to the GCAA for approval prior to enbodiement.

(b) All modifications and repairs to an aeronautical product shall comply with airworthiness requirements acceptable to the GCAA.

(c) The operator shall establish procedures to ensure that the substantiating data which supports compliance with the airworthiness requirements are retained for the purpose of inspection by the GCAA.

(d) The operator shall ensure that it has a comprehensive knowledge ,experience and capabilities in the applicable technologies to ensure in-depth analyse can be performed for the required Modification or Repair.

(e) All major modification or major repair to an aeronautical product shall be completed in accordance with technical data approved or accepted by the GCAA. Technical data acceptable to the GCAA are:

(1) The aircraft, component or equipment manufacturer's data;

(2) Data or design documents issued by the approved signatories and within the scope of a design organisation approved by the Authority of a State of Desgin.

(3) Modification design data prepared by a person other than the manufacturer of the aircraft, component or equipment, including modification approved by a supplemental type certificate or similar document shall be submitted to the GCAA for approval of its application to each individual aircraft.

(f) A major modification or repair to an aeronautical product shall be performed by:

(1) An approved maintenance organisation with the required capability approved by the GCAA for an AOC;

(2) A privately registered aircraft operator with the required capability approved by the GCAA.

(g) Where a major modification or a major repair results in a change in the aircraft operating limitations or flight data, the aircraft flight manual shall be appropriately revised and submitted to the GCAA for acceptance.

*Implementing Standard: See IS: 5.6.1(b) for the repair or modification form requirements.*

### *5.7.5 Content, Form, and Disposition of Records for Inspections*

Maintenance record entries. The person approving or disapproving the return to service of an aeronautical product after any inspection performed in accordance with the Civil Aviation Requirements for Operations 2024 shall make an entry in the maintenance record of that equipment containing the following information—

Type of inspection and a brief description of the extent of the inspection;

Date of the inspection and aircraft total time in service;

Signature, the license number, and kind of license held by the person approving or disapproving for return to service the aeronautical product;

If the aircraft is found to be airworthy and approved for return to service, the following or a similarly worded statement— **""I hereby certify that the work recorded above has been carried out in accordance with the regulations and requirements issued by the Authority and that the aircraft/equipment is considered fit for release to service".**

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;* and

If an inspection is conducted under an inspection program provided for by the Civil Aviation Requirements for Operations 2024, the person performing the inspection shall make an entry identifying the inspection program accomplished, and containing a statement that the inspection was performed in accordance with the inspections and procedures for that particular program.

(b) Reserved Listing of discrepancies. The person performing any inspection required by the Civil Aviation Requirements for Operations 2024 who 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, shall give the owner/operator a signed and dated list of those discrepancies.

### 5.7.6 Damage to Aircraft

(a) When an aircraft has sustained damage, the Authority shall judge whether the damage is of a nature such that the aircraft is no longer airworthy as defined by the appropriate airworthiness requirements.

(b) If the damage is sustained or ascertained when the aircraft is on the territory of other Contracting State, the authorities of the other Contracting State shall be entitled to prevent the aircraft from resuming its flight on the condition that they advise the State of registry immediately, communicating to it all details necessary to facilitate the judgement referred to in the introductory Standard of 6.2.

(c) When the State of Registry considers that the damage sustained is of a nature such as the aircraft is no longer airworthy, it shall prohibit the aircraft from resuming flight until it is restored to an airworthy condition; the State of Registry may, however, in exceptional circumstances, prescribe particular limiting conditions to permit the aircraft to fly without fare-paying passengers to an aerodrome at which it can be restored to an airworthy condition, and the Contracting State that has originally, in accordance with 6.2.1., prevented the aircraft from resuming flights, shall permit such flight.

(d) When the State of Registry considers that the damage sustained is of a nature such that the aircraft is still airworthy; the aircraft shall be allowed to resume its flight.

## 5.8 WEIGHT CONTROL OF AIRCRAFT

### 5.8.1 GENERAL

This subsection prescribes the requirements for weighing of aircraft registered in Guyana, including helicopters, the determination of the corresponding Centre-of-Gravity position and the provision of information from which the loading for flight (Basic Weight Schedules) can be correctly determined.

### 5.8.2 DEFINITIONS

(a) **Basic Weight**. Basic Weight is the weight of the aircraft and all its basic equipment and that of the declared quantity of unusable fuel and unusable oil. In the case of turbine-engined aircraft and aircraft of 5700kg Maximum Total Weight Authorised (MTWA) or less, it may also include the weight of usable oil.

**Basic Equipment**. Basic Equipment is the unconsumable fluids, and equipment which is common to all roles for which the operator intends to use the aircraft.

(c) **Variable Load**. Variable Load is the weight of the crew and of items such as the crew's baggage, removal units and other equipment the carriage of which depends upon the role for which the operator intends to use the aircraft for the particular flight.

(d) **Aircraft Prepared for Service (APS), or Operating Weight**. The sum of the Basic Weight and the total Variable Load required for the particular role in which the operator intends to use the aircraft.

(e) **Disposable Load**. Disposable Load is the weight of all persons and items of load including fuel and other consumable fluids, carried in the aircraft other than the Basic Equipment and Variable Load.

**Note:** *To obtain the total loaded weight it is necessary to add to the Basic Weight, and the weights of the Variable and Disposable Load items to be carried for the particular role in which the aircraft is to be used.*

### 5.8.3 WEIGHING REQUIREMENTS

(a) All aircraft shall be weighed in Guyana prior to the initial issue of a Guyana Airworthiness Certificate. Exemption for weighing may be granted for aircraft which were weighed overseas prior to their importation and for which any subsequent changes in weight have been computed and recorded, provided all the necessary weight and balance data for the aircraft are furnished to the Authority and such data are found to be accurate and adequate.

(b) Aircraft exceeding 5700 kg shall be re-weighed within two (2) years after the date of manufacture and thereafter at intervals not exceeding four (4) years, and at such other times as the Authority may require. Other aircraft shall be weighed at such times as the Authority may require. Aircraft weighing shall be conducted in accordance with procedures acceptable to the Authority.

(c) When an aircraft is weighed, the condition of the aircraft (i.e. the equipment, the position of movable items and other items of load such as fluids in tanks) shall be recorded. The equipment installed at the time of weighing should not differ from that in the declared Basic Equipment list associated with the Basic Weight Schedule, otherwise, in determining the Basic Weight and the corresponding centre-of-gravity position, corrections will have to be made for items that have been weighed but which are Basic Equipment items, and for Basic Equipment items not installed in the aircraft during the weighing.

(d) Weighing results and related calculations shall be recorded in a weighing report which shall be retained by the operator. When the aircraft is again weighed the previous weighing records must be retained with the aircraft records.

(e) The operator shall maintain records of all known weight and centre-of-gravity changes which occur after the aircraft has been weighed and such records shall be retained by the operator.

### 5.8.4 BASIC WEIGHT SCHEDULE

(a) A Basic Weight Schedule shall be provided for each aircraft. Each Schedule shall be identified by the aircraft type and model number, the nationality and registration marks and the aircraft serial number. The date of issue and the reference number of the Schedule shall be given and the Schedule shall be signed by a person suitably qualified and acceptable to the Authority. A statement shall be included stating that the Schedule supersedes all earlier issues.

(b) The Schedule shall present the derivation of the Basic Weight and the centre of gravity from most recent weighing report or Basic weight schedule or other acceptable information. The Schedule shall indicate the landing gear positions (retracted or extended) to which the derived centre of gravity position is related. The Schedule shall also include the current Basic Equipment list showing the weight and lever arm of each item or make reference to the document in which such a list is included.

(c) The date and reference number of the most recent weighing report, Basic weight Schedule or other acceptable information, upon which the Schedule is based, shall be given.

(d) The Basic Weight Schedule may be in the form given in Appendix 2 to this Chapter. Variations in presentation are permitted, but must be acceptable to the Authority. In the

case of helicopters, it may be necessary to present lever arms and moments about more than one axis, depending on the centre of gravity limits specified in the Flight Manual.

(e) The datum which is defined in the Basic Weight Schedule may be different from the datum defined in the Certificate of Airworthiness or Flight Manual to which the centre of gravity limits relate. When a different datum is used it shall be adequately defined, its precise relationship to the datum in the Certificate of Airworthiness or Flight Manual shall be given, and any lever arms and moments which appear in any part of the Schedule shall be consistent with the datum so declared.

(f) The Schedule shall be retained by the operator and where the Schedule has been revised the previous issue must be retained with the aircraft records.

(g) Operators shall revise the Basic Weight Schedule when the weight and centre of gravity are known to have undergone changes in excess of a maximum figure, which has been agreed by the Authority as applicable to a particular aircraft type.

Note: The following changes in basic weight or centre of gravity position are considered significant and must be reported to the Authority:

(a) Aeroplanes whose empty weight has changed by more than 0.5% of the maximum total weight authorised or whose basic centre of gravity position has changed by more than 0.5% of the mean aerodynamic chord.

(b) Helicopters whose empty weight has changed by more than 1% of the maximum total weight authorised or whose basic centre of gravity position has changed by more than 0.5 inch or 10% of the maximum permissible centre of gravity range whichever is the lesser.

### 5.8.5 WEIGHT AND BALANCE REPORT

(a) A weight and Balance Report shall be produced for each Guyana aircraft. A copy of each report shall be supplied to the Authority.

(b) The Weight and Balance Report is intended to record the essential loading data to enable the particular aircraft to be correctly loaded and to include sufficient information for an operator to produce written loading instructions in accordance with the requirements of the Authority.

(c) The Weight and Balance Report shall include the following items:

(1) **Reference**. Reference number and date of issue.

(2) **Type**. Type and model number of the aircraft and its nationality and registration mark.

(3) **Basic weight**. The Basic Weight and centre of gravity of the aircraft as derived from the Basic Weight Schedule shall be presented. A copy of the Basic Weight Schedule, including the Basic Equipment list, and any referenced weighing report, shall be attached to the Report.

(4) **Datum definition**. A diagram or a description of the datum (e.g. in relation to the fuselage frame numbering system or other identifiable points) shall be included.

(5) **Variable load**. Information on the weight and lever arms appropriate to Variable Load items may be detailed for as many roles as the operator wishes and for every role the total weight and moment change shall be given. Weights of crew members may be assumed at not less than the weight shown in the approved Aircraft Flight Manual weight and centre-of-gravity specimen.

(6) **Loading information**. This shall include all relevant information so that, knowing the disposable load which is intended to be carried, the weight and the position of

the centre of gravity of the aircraft can be calculated. At least the following shall be given:

*(i)* The lever arm of the centre of gravity of an occupant of each seat.

*(ii)* The lever arm of each compartment or area in the aircraft where disposable load, such as luggage or freight, may be placed.

*(iii)* Any significant change in the centre of gravity of the aircraft (change in moment) which will result from a change in configuration, such as the retraction of the landing gear.

*(iv)* The lever arm of the centre of gravity of fuel and oil in each tank including the variation of the lever arm with the quantity loaded if this variation is significant.

*(v)* The maximum total usable capacities of the fuel and oil tanks and the weight of fuel and oil when the tanks are filled to their capacities assuming typical densities of these fluids.

*(vi)* A statement shall be given in the Schedule to the effect that the commander shall satisfy himself/herself before take-off that the load is of such weight, and is so distributed and secured that it may safely be carried on the intended flight.

*(vii)* A statement that the report supersedes all earlier issues.

(d) The weights, distances, moments and quantities may be given in any units provided that these are used consistently and agree with the markings and placards on the aircraft.

(e) A copy of the report shall be included in the Flight Manual of all aircraft not exceeding 5700 kg MTWA. If a Flight Manual is not applicable, the Report shall be displayed or retained in the aircraft in a suitably identified stowage.

(f) Operators shall revise the Weight and Balance Report/Schedule when there is a change to any of the items in paragraph 5.9.5. (c). Variations in presentation are permitted, but must be acceptable to the Authority.

## 5.9 EXTENDED DIVERSION TIME OPERATIONS (EDTO)MAINTENANCE REQUIREMENTS

### 5.9.1 MAINTENANCE TRAINING

(a) The operator shall have a Training Programme that focuses on the special nature of EDTO. This programme shall be included in the normal maintenance training for the operator's maintenance personnel. The goal of this programme is to ensure that all personnel involved in EDTO are provided with the necessary training so that the EDTO maintenance tasks are properly accomplished and to emphasise the special nature of EDTO maintenance requirements. Human factors principle shall be included in the Training Programme.

(b) The Training Programme shall be conducted by competent and appropriately qualified person(s) and or training organisation, meet the maintenance requirements for EDTO, and acceptable to the Authority.

(c) EDTO qualified maintenance personnel are those that have completed the operators extended range Training Programme and have satisfactorily performed extended range tasks under supervision, within the framework of the operator's approved procedures for Personnel Authorisation.

### 5.9.2 EDTO PARTS CONTROL

The operator shall develop a parts control programme with support from the manufacturer, that ensures the proper parts and configuration are maintained for EDTO. The programme includes verification that parts placed on an EDTO aircraft during parts borrowing or pooling arrangements, as well as those parts used after repair or overhaul, maintain the necessary EDTO configuration for that aircraft.

### 5.9.3 MAINTENANCE PROGRAMME AND PROCEDURES

(a) The operator shall ensure that the Maintenance Programme for its EDTO fleet contains the standards, guidance and direction necessary to support the intended operations. Maintenance personnel and other personnel involved shall be made aware of the special nature of EDTO and have the knowledge, skills and ability to accomplish the requirements of the programme.

(b) The Maintenance Programme for the aircraft being considered for EDTO is the continuous airworthiness maintenance schedule currently approved for the operator. The operator shall review the schedule to ensure that it provides an adequate basis for development of EDTO maintenance requirements. The programme shall incorporate human factors principles.

(c) The operator shall have in place procedures to preclude identical action being applied to multiple similar elements in any EDTO significant system (e.g. fuel control change on both engines). If this is not possible, the identical actions shall be done by different maintenance personnel/teams.

(d) The operator shall include in the maintenance procedures the following:

(1) EDTO related tasks shall be identified on the operator's routine work forms and related instructions.

(2) EDTO related procedures, such as involvement of centralised maintenance control, shall be clearly defined in the operator's Maintenance Programme.

(3) An EDTO service check shall be developed to verify that the status of the aircraft and certain critical items are acceptable. This check shall be accomplished and signed off by an EDTO qualified authorised person immediately prior to an EDTO flight.

(4) Log books shall be reviewed and documented, as appropriate, to ensure proper MEL procedures, deferred items, maintenance checks and system verification procedures have been properly performed.

(e) When the maintenance is contracted to a maintenance organisation, the operator shall ensure that the maintenance organisation is approved to carry out EDTO maintenance and complies with the EDTO requirements and procedures. The operator shall establish control procedures to ensure that:

(1) The maintenance personnel of the contracted maintenance organisation are qualified for EDTO.

(2) All flight dispatch procedures and additional maintenance requirements as identified in the operator's Maintenance Control Manual are complied with.

### 5.9.4 EDTO MANUAL

(a) The operator shall develop a manual for use by personnel involved in EDTO. This manual need not include, but shall at least reference, the Maintenance Programme and other requirements described in this part of these Requirements and clearly indicate where they are located in the operators manual system.

(b) All EDTO requirements, including supportive programmes, procedures, duties, and responsibilities, shall be identified and be subject to revision control. This manual shall be submitted to the Authority for approval before the implementation of EDTO by the operator.

### 5.9.5 OIL CONSUMPTION PROGRAMME

The operator shall have in place an oil consumption programme. The programme shall reflect the manufacturer's recommendations and be sensitive to oil consumption trends. It shall consider the amount of oil added at the departing EDTO stations with reference

to the running average consumption; i.e. the monitoring must be continuous up to, and including, oil added at the EDTO departure station. If oil analysis is meaningful to this make and model, it shall be included in the programme. The APU oil consumption shall also be part of the oil consumption programme.

### 5.9.6 ENGINE CONDITION MONITORING

(a) The operator shall have an engine condition monitoring programme that describes the parameters to be monitored, method of data collection and corrective action process. The programme shall also incorporate the manufacturer's instructions and industry practice. This monitoring shall be used to detect deterioration at an early stage to allow for corrective action before safe operation is affected. The programme shall ensure that engine limit margins are maintained such that a prolonged single-engine diversion may be conducted without exceeding approved engine limits (i.e., rotor speeds, exhaust gas temperature) at all approved power levels and expected environmental conditions.

(b) The monitoring programme shall include assessment of in-flight shut-down (IFSD) rate of the operator's EDTO fleet. The assessment shall include, as a minimum, engine hours flown in the period, in flight shut-down rate for all causes and engine removal rate, both on a 12 month moving average basis. When the IFSD rate exceeds 0.05/1000 engine hours for 120 minutes diversion time or exceeds 0.03/1000 engine hours for 180 minutes diversion time, the operator must notify the Authority as soon as possible.

(c) The assessment of the operator's EDTO fleet propulsion system reliability and IFSD rate shall be made available to the Authority on a monthly basis.

(d) When any adverse sustained trend is noted, the operator shall in consultation with the Authority, conduct an immediate evaluation to ascertain the causes. The evaluation may result in corrective action or operational restrictions being applied.

### 5.9.7 VERIFICATION PROGRAMME AFTER MAINTENANCE

The operator shall develop a verification programme or establish procedures to ensure corrective action following an engine shut-down, primary system failure or adverse trends, any prescribed events which require a verification flight or other action. The operator shall establish the means to assure the accomplishment of the verification programme or the corrective action procedures. A clear description of who must initiate verification actions and the section or group responsible for the determination of what action is necessary shall be identified in the programme. Primary systems or conditions requiring verification actions shall be described in the operator's EDTO manual.

### 5.9.8 RELIABILITY PROGRAMME

(a) An EDTO reliability programme shall be developed by the operator or the operator's existing reliability programme supplemented. This programme shall be designed with early identification and prevention of EDTO related problems as the primary goal. The programme shall be event-orientated and incorporate reporting procedures for significant events detrimental to EDTO flights. This information shall be readily available for use by the Authority to help establish that the reliability level is adequate, and to assess the operators competence and capability to safely continue EDTO. The Authority shall be notified within 72 hours of events reportable through this programme.

(b) In addition to the items required to be reported as per Guyana Civil Aviation Authority (GCAA) Advisory Circular AC No. 8, the following items shall be included:

(1) In-flight shut-downs.

(2) Un-commanded power changes or surges.

(3) Inability to control the engine or obtain desired power.

(4) Unscheduled removal of engines.

(5) Problems with systems critical to EDTO.

(6) Any other events detrimental to EDTO.

(c) The report shall identify the following:

1) Aircraft Registration.

2) Engine identification (position, make and serial number).

3) Total time, cycles and time since last shop visit.

4) systems, time since overhaul or last inspection of the defective unit.

5) Phase of flight.

6) Corrective action.

### 5.9.9 APU IN-FLIGHT START CAPABILITIES

(a) If any work is performed on the Auxiliary Power Unit (APU) that may affect the starting and operation of the APU, an in-flight start shall be performed on the next flight. The result of the in-flight start shall be annotated in the Technical Log of the aircraft.

(b) To ensure that the APU maintains its in-flight start capabilities, the operator shall have a programme to schedule an APU in-flight start once every three months for each aircraft of its EDTO fleet. The result of the in-flight start shall be annotated in the Technical Log of the aircraft.

## 5.10 FLIGHT RECORDING SYSTEM - MAINTENANCE REQUIREMENTS

### 5.10.1 MAINTENANCE TRAINING

(a) The Training Programme shall include Flight Recording System's maintenance training for the operator's maintenance personnel. The goal of this programme is to ensure that all personnel involved in the maintenance of Flight Recording Systems are provided with the necessary training so that the maintenance tasks are properly accomplished. Human factors principle shall be included in the Training Programme.

(b) The Training Programme shall be conducted by competent and appropriately qualified person(s) and or training organisation, meet the maintenance requirements for such systems, and acceptable to the Authority.

### 5.10.2 INSPECTION OF FLIGHT RECORDING SYSTEMS

(a) Prior to the first flight of the day, the built-in test features on the flight deck for the CVR, FDR and Flight Data Acquisition Unit, when installed, should be monitored.

(b) Annual inspections should be carried out as follows:

(1) The readout of the recorded data from the FDR and CVR should ensure that the recorder operates correctly for the nominal duration of the recording.

(2) An annual examination of the recorded signal on the CVR should be carried out by re-play of the CVR recording. While installed in the aircraft, the CVR should record test signals from each aircraft source and from relevant external sources to ensure that all required signals meet intelligibility standards.

(3) Where practicable, during the annual examination, a sample of in-flight recordings of the CVR should be examined for evidence that the intelligibility of the signal is acceptable.

(4) The analysis of the FDR should evaluate the quality of the recorded data to determine if the bit error rate is within acceptable limits and to determine the nature and distribution of the errors.

(5) A complete flight from the FDR should be examined in engineering units to evaluate the validity of all recorded parameters. Particular attention should be given to parameters from sensors dedicated to the FDR. Parameters taken from the aircraft's electrical bus system need not be checked if their serviceability can be detected by other aircraft systems.

(6) The readout facility should have the necessary software to accurately convert the recorded values to engineering units and to determine the status of discrete signals.

(c) Flight Recorder Systems should be considered unserviceable if there is a significant period of poor quality data, unintelligible signals, or if one or more of the mandatory parameters is not recorded correctly.

(d) A report of the annual inspection shall be made available to the Authority for monitoring purposes.

(e) Calibration of the FDR systems:

(1) The FDR system should be re-calibrated at least every five years to determine any discrepancies in the engineering conversion routines for the mandatory parameters, and to ensure that parameters are being recorded within the calibration tolerances.

(2) When sensors that are dedicated to the FDR system provide the parameters of altitude and airspeed, there should be a re-calibration performed as recommended by the sensor manufacture, or at least every two years.

(a) The Authority will consider an airworthiness certificate valid for commercial air transport only when accompanied by operations specifications issued by the Authority which identifies the specific types of commercial air transport authorised.

## PART 5 – IMPLEMENTING STANDARDS

### Part 5 – Implementing Standards

***IS 5.1.1.2(B) Definitions***

1) Major Modifications

(1) AIRFRAME MAJOR MODIFICATIONS. Major airframe modifications include modifications to the following aircraft parts, or modifications of the following types, when not included in the applicable manufacturer specifications or type certificate data sheet:

(i) Wings

(ii) Tail surfaces

(iii) Fuselage

(iv) Engine mounts

(v) Control system

(vi) Landing gear

(vii) Hull or floats

(viii) Elements of an airframe, including spars, ribs, fittings, shock absorbers, bracing, cowlings, fairings, and balance weights

(ix) Hydraulic and electrical actuating system of components

(x) Rotor blades

(xi) Changes to the empty mass or empty balance that would result in an increase in the maximum certificated take-off mass or centre of gravity limits of the aircraft

(xii) Changes to the basic design of the fuel, oil, cooling, heating, cabin pressurisation, electrical, hydraulic, de-icing, or exhaust systems

(xiii) Changes to the wing, or to fixed or movable control surfaces, that would affect flutter and vibration characteristics

(2) POWERPLANT MAJOR MODIFICATIONS. Major powerplant modifications, even when not listed in the applicable engine specifications, include:

(i) Conversion of an aircraft engine from one approved model to another, involving any changes in compression ratio, propeller reduction gear, impeller gear ratios, or the substitution of major engine parts that requires extensive rework and testing of the engine

(ii) Changes to the engine by replacing aircraft engine structural parts with parts not supplied by the original manufacturer or parts not specifically approved by the GCAA

(iii) Installing an accessory that is not approved for the engine

(iv) Removing accessories that are listed as required equipment on the aircraft or engine specification

(v) Installing structural parts other than the type of parts approved for the installation

(vi) Conversions of any sort for the purpose of using fuel of a rating or grade other than that listed in the engine specifications

(3) PROPELLER MAJOR MODIFICATIONS. Major propeller modifications, when not authorised in the applicable propeller specifications, include:

(i) Changing the blade design

(ii) Changing the hub design

(iii) Changing the governor or control design

(iv) Installing a propeller governor or feathering system

(v) Installing a propeller de-icing system

(vi) Installing parts not approved for the propeller

(4) APPLIANCE MAJOR MODIFICATIONS. Major appliance modifications are modifications of the basic design not made in accordance with the recommendations of the appliance manufacturer or in accordance with applicable ADs. In addition, major appliance modifications include changes in the basic design of radio communication and navigation equipment approved under type certification or other authorisation that have an effect on frequency stability, noise level, sensitivity, selectivity, distortion, spurious radiation, automatic volume control characteristics, or the ability to meet environmental test conditions and other changes that have an effect on the performance of the equipment.

(5) Major Repairs

(1) AIRFRAME MAJOR REPAIRS. Major airframe repairs include repairs to the following parts of an airframe and repairs of the following types, involving the strengthening, reinforcing, splicing, and manufacturing of primary structural members, or their replacement, when replacement is by fabrication such as riveting or welding:

(i) Box beams

(ii) Monocoque or semi-monocoque wings or control surfaces

(iii) Wing stringers or chord members

(iv) Spars

(v) Spar flanges

(vi) Members of truss-type beams

(vii) Thin sheet webs of beams

(viii) Keel and chine members of boat hulls or floats

(ix) Corrugated sheet compression members that act as flange material of wings or tail surfaces

(x) Wing main ribs and compression members

(xi) Wing or tail surface brace struts

(xii) Engine mounts

(xiii) Fuselage longerons

(xiv) Members of the side truss, horizontal truss, or bulkheads

(xv) Main seat support braces and brackets

(xvi) Landing gear brace struts

(xvii) Axles

(xviii) Wheels

(xix) Parts of the control system such as control columns, pedals, shafts, brackets, or horns

(xx) Repairs involving the substitution of material

(xxi) Repairs to damaged areas in a metal- or plywood-stressed covering exceeding 15 cm in any direction

(xxii) Repairs to portions of skin sheets by making additional seams

(xxiii) Splicing of skin sheets

(xxiv) Repairs to three or more adjacent wing or control surface ribs or to the leading edge of wings and control surfaces between such adjacent ribs

(xxv) Repairs to fabric covering involving an area greater than that required to repair two adjacent ribs

(xxvi) Replacement of fabric on fabric-covered parts such as wings, fuselages, stabilisers, and control surfaces

(xxvii) Repairs, including rebottoming, to removable or integral fuel tanks and oil tanks

(2) POWERPLANT MAJOR REPAIRS. Major powerplant repairs include the following:

(i) Separation of or disassembly of a crankcase or crankshaft of a reciprocating engine equipped with an integral supercharger

(ii) Separation or disassembly of a crankcase or crankshaft of a reciprocating engine equipped with other than spur-type propeller reduction gearing

(iii) Special repairs to structural engine parts by welding, plating, metallising, or other methods

(3) PROPELLER MAJOR REPAIRS. Major propeller repairs include the following:

(i) Repairing or straightening steel blades

(ii) Repairing or machining steel hubs

(iii) Shortening blades

(iv) Retipping wood propellers

(v) Replacing outer laminations on fixed-pitch wood propellers

(vi) Repairing elongated bolt holes in the hub of fixed-pitch wood propellers

(vii) Inlay work on wood blades

(viii) Repairing composition blades

(ix) Replacing tip fabric

(x) Replacing plastic covering

(xi) Repairing propeller governors

(xii) Overhauling controllable pitch propellers

(xiii) Repairing deep dents, cuts, scars, nicks, etc., and straightening aluminum blades

(xiv) Repairing or replacing internal elements of blades

(4) APPLIANCE MAJOR REPAIRS. Major appliance repairs include the following:

(i) Calibrating and repairing instruments

(ii) Calibrating avionics or computer equipment

(iii) Rewinding the field coil of an electrical accessory

(iv) Completely disassembling complex hydraulic power valves

(v) Overhauling pressure-type carburetors and pressure-type fuel, oil, and hydraulic pumps.

***IS 5.4.1.5 Issuance of a Standard Certificate of Airworthiness***

1) The standard certificate of airworthiness issued by the Authority will be as follows:

**GCAA/AIR/ 2663 - SAMPLE OF CERTIFICATE OF AIRWORTHINESS**

| | | |
|---|---|---|
| File Ref. Number:<br>**XXX** | | Certificate Number:<br>**XXX** |
| | **GUYANA CIVIL AVIATION AUTHORITY** | |
| **AIRCRAFT CERTIFICATE OF AIRWORTHINESS** | | |
| **1.** Nationality and Registration Marks<br>**8R – XXX** | **2.** Manufacturer and Manufacturer's Designation of Aircraft<br>**XXX** | **3.** Aircraft Serial Number<br>XXX |
| **4.** Category: | | |
| **5.** This Certificate of Airworthiness is issued pursuant to the Convention of International Civil Aviation Organization dated 7, December 1944 and in accordance with Type Certificate **XXX** the regulations made under the Civil Aviation Act in respect of the above-mentioned aircraft which is considered to be airworthy when maintained and operated in accordance with the foregoing and the pertinent operating limitations. | | |

| | | |
|---|---|---|
| **6.** | This aircraft is to be operated in accordance with the Approved Flight Manual and its subsequent amendments issued in respect of this aircraft. This flight manual shall form part of this Certificate of Airworthiness and shall be carried on board the aircraft.<br>Flight Manual Ref: _____ | |
| **7.** | Date of Issue: _____<br>Date of Expiration: _____ | _____<br>Director General of Civil Aviation |
| Form | | GCAA/AIR/2663 |
| Effective Date; March 2024 | | |

*1*

*IS 5.4.1.6 Issuance of a Special Certificate of Airworthiness*

1) The special certificate of airworthiness issued by the Authority will be as follows:

**GCAA/ AIR/2700 - SAMPLE OF SPECIAL CERTIFICATE OF AIRWORTHINESS**

| | |
|---|---|
| **GUYANA**<br>**CIVIL AVIATION AUTHORITY** | |
| **SPECIAL CERTIFICATE OF AIRWORTHINESS** | |
| Category/Designation: | |
| Purpose: | |
| Manufacturer: | Name: |
| | Address: |
| Flight: | From: |
| | To: |
| Registration number: | Serial number: |
| Builder: | Model: |
| Date of issuance: | Date of expiry: |

| | |
|---|---|
| Operating limitations dated [dd/mm/yyyy] are part of this certificate | |
| Signature of GCAA representative: | Designation or office number: |
| Any alteration, reproduction, or misuse of this certificate may be punishable as specified in any regulations or requirements issued by the Authority. This certificate shall be displayed in the aircraft in accordance with Civil Aviation Act and regulations and requirements issued under the Act. | |
| CAA form number: | *See Reverse Side* |
| *Front of form* | |

| |
|---|
| This special certificate of airworthiness is issued under the authority of the Civil Aviation (Airworthiness) Regulations 6(2)(e), and the Civil Aviation Requirement for Airworthiness 2024. |
| The Authority may issue a Special Airworthiness Certificate to the aircraft that does not qualify for a Standard Certificate.<br>No person may conduct flight: (1) carrying persons or property for remuneration or hire, and/or (2) carrying persons not essential for the purpose of the flight. |
| This special certificate of airworthiness authorises the flight specified on the reverse side for the sole purpose shown in the purpose block. |
| This special certificate of airworthiness certifies that as of the date of issuance, the aircraft to which it is issued has been inspected and found to meet the applicable aviation regulations. The aircraft does not meet the requirements of the applicable and comprehensive detailed airworthiness code as provided by Annex 8 of the Convention on International Civil Aviation. No person may operate the aircraft described on the reverse side (1) except in accordance with the applicable aviation regulations and in accordance with terms, conditions, and limitations that may be prescribed by the GCAA as part of this certificate or (2) over any foreign country without the permission of that country. |

| |
|---|
| Unless sooner surrendered, suspended, or revoked, this special certificate of airworthiness is effective for the duration and under the conditions prescribed in the regulatory requirements. |
| *Back of form* |

Form Number :GCAA/AIR/2700 Effective Date; March 2024

***IS 5.6.1.1(B) Recording of Major Modifications and Repairs***

1) Each person performing a major repair or major modification shall:

(1) Apply to the GCAA on Form **AIR 2667** GCAA in duplicate;

(2) Records of analyses and test to demonstrate compliance with design standards are required to be maintained until the aircraft or component with the modification or repair is permanently withdrawn from service.

(3) The retained records are to be available for review upon request.

(4) No record retained under the above provisions may be disposed of without prior permission of the Director General.

## FORM AIR 2667 – APPLICATION FOR MODIFICATION / REPAIR

| MODIFICATION/ REPAIR NUMBER: | ☐ MODIFICATION | ☐ REPAIR |
|---|---|---|

| AIRCRAFT TYPE | AIRCRAFT REGISTRATION | AIRCRAFT SERIAL NO. |
|---|---|---|
| | | |

| APPLICANT'S NAME | LICENSE /AMO Approval NUMBER | DATE |
|---|---|---|
| | | |

**CONFORMITY EVALUATION STATEMENT:**

**a.** The applicant MUST conduct and submit an acceptable conformity evaluation report that ensures the proposed modification or repair will not impact the airworthiness of the aircraft or does not interfere with previous modification or repair.

**b.** The applicant MUST conduct and submit a conformity evaluation report that the modification or repair is **STILL** in compliance with the certification basis of the aircraft.

| REASON FOR MODIFICATION/ REPAIR |
|---|

| |
|---|
| |
| **2. DESCRIPTION OF MODIFICATION/ REPAIR** |
| |

| RAWINGS REQUIRED | |
|---|---|
| | |
| ER SUPPLIES | BUSBAR |
| | |

| 5. COOLING REQUIREMENTS | | | |
|---|---|---|---|
| | | | |
| 6. EQUIPMENT | SERIAL NUMBER | TYPE APPROVAL | CLASS |
| | | | |
| | | | |
| | | | |
| | | | |

| 7. WEIGHT SCHEDULE AMENDMENT | | |
|---|---|---|
| EQUIPMENT REMOVED | | |
| ITEM | WEIGHT | LOCATION / STATION |

| | | |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| **EQUIPMENT INSTALLED** | | |
| **ITEM** | **WEIGHT** | **LOCATION / STATION** |
| | | |
| | | |
| | | |

**ECTRICAL LOAD ANALYSIS**

| EQUIPMENT REMOVED | SYSTEM | CONSUMPTION (A) | BUS BAR |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

**AL POSITION**

**AIRCRAFT DATUM**

| SYSTEM | FEET / INCHES | PORT / STB'D / CL | POSITION |
|---|---|---|---|
| | | | |
| | | | |

**10. CIRCUIT BREAKERS**

| SYSTEM | AMPS | LOCATION | BUSBAR |
|---|---|---|---|
| | | | |
| | | | |

| EQUIPMENT | SERIAL NUMBER | TYPE APPROVAL | CLASS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| 11. EQUIPMENT LIGHTING |
| --- |
| |
| **12. POST INSTALLATION GROUND CHECKS** |
| |

| IGHT TEST |
| --- |
| |
| **CT ON OTHER SYSTEM** |
| |
| **15. INTERFERENCE** |
| |
| **16. PLACARDS** |
| |
| **17. DOCUMENTS AFFECTED** |
| Flight Manual ☐ **YES** ☐ **NO** |

| | | |
|---|---|---|
| Wiring Diagram | ☐ YES | ☐ NO |
| Weight and Balance | ☐ YES | ☐ NO |
| Electrical Load Analysis | ☐ YES | ☐ NO |
| Parts Catalogue | ☐ YES | ☐ NO |
| Maintenance Schedule | ☐ YES | ☐ NO |

**18. MODIFICATION / REPAIR PROCEDURE**

Made this 16th day of May 2024.

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**Director-General**
**For the Guyana Civil Aviation Authority**