RWANDA CIVIL AVIATION REGULATION

PART 4: AIRWORTHINESS OF AIRCRAFT

Consolidated to include Special Regulations issued since last amendment of Ministerial Order Nº01/CAB.M/019 OF 06/02/2019 Establishing Civil Aviation Regulations.

Part 4

Airworthiness of Aircraft

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4.001 CITATION & APPLICABILITY

(a) These Regulations may be cited as Civil Aviation (Continuing Airworthiness of Aircraft) Regulations.

(b) This Part is applicable to all persons operating or maintaining the following—

(1) Rwanda registered aircraft, wherever operated;

(2) aircraft registered in another Contracting State that are operated by a person licenced by the Authority, and which shall be maintained in accordance with the standards of the aircraft State of Registry, wherever that maintenance is performed; and

(3) aircraft of other Contracting States operating in Rwanda.

(c) This Part is applicable to the owners and operators of aircraft registered in Rwanda and the persons and organisations that provide maintenance services for these aircraft.

(d) Civil Aviation Technical Standards (Airworthiness) published by the Authority shall also be applicable to the issuance of aircraft-related certificates and continuing airworthiness of aircraft registered in Rwanda.

(e) For the purpose of this Part, the word "aircraft" or related words, such as "aeroplane" and "helicopter, includes engines, propellers, power transmissions, rotors components, accessories, instruments, equipment and apparatus including emergency equipment.

4.003 SUMMARY OF AMENDMENTS AND REVISION HIGHLIGHTS

(a) The summary of amendments and revision highlights to this Part are contained in Appendix 1 to 4.003.

New: Internal: Special Regulation RSR/01/2020: Effective 15 November 2020

4.005 DEFINITIONS

(a) When the following terms are used in this Part, they have the following meanings—

Note; Terms not listed in this Part, may be found in Part 1 of these Regulations;

Aeronautical product. Any aircraft, aircraft engine, propeller or subassembly, appliance, material, part, or component to be installed thereon.

Aeroplane. A power-driven heavier-than-air aircraft, deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight.

Acceptable. The Authority has reviewed the method, procedure, or policy and has neither objected to nor approved its proposed use or implementation.

Afterburning. A mode of engine operation wherein a combustion system fed (in whole or part) by vitiated air is used.

Aircraft. Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

Aircraft component. Any component part of an aircraft up to and including a complete engine or any operational or emergency equipment.

Aircraft type. All aircraft of the same basic design including all modifications thereto except those modifications which result in change in handling or flight characteristics.

Airframe. The fuselage, booms, nacelles, cowlings, fairings, airfoil surfaces including rotors (but excluding propellers and rotating airfoils of a power-plant), and landing gear of an aircraft and their accessories and controls.

Airworthy. The status of an aircraft, engine, propeller or part when it confirms to its approved design and is in condition for safe operation.

Anticipated operating conditions. Those conditions which are known from experience or which can be reasonably envisaged to occur during the operational life of the aircraft taking into account the operations for which the aircraft is made eligible, the conditions so considered being relative to the meteorological state of the atmosphere, to the configuration of terrain, to the functioning of the aircraft, to the efficiency of personnel and to all the factors affecting safety in flight. Anticipated operating conditions do not include—

(i) those extremes which can be effectively avoided by means of operating procedures; and

(ii) those extremes which occur so infrequently that to require the Standards to be met in such extremes would give a higher level of airworthiness than experience has shown to be necessary and practical.

Appliance. Any instrument, mechanism, equipment, part, apparatus, appurtenance, or accessory, including communications equipment, that is used or intended to be used in operating or controlling an aircraft in flight, is installed in or attached to the aircraft, and is not part of an airframe, engine or propeller.

Approach phase. The operating phase defined by the time during which the engine is operated in the approach operating mode.

Appropriate airworthiness requirements. The comprehensive and detailed airworthiness codes established, adopted or accepted by a Contracting State for the class of aircraft, engine or propeller under consideration.

Approved. Accepted by the Contracting State as suitable for a particular purpose.

A**pproved by the Authority.** Approved by the Authority directly or in accordance with a procedure approved by the Authority.

Approved maintenance programme. A maintenance programme approved by the State of Registry.

Approved data. Technical information approved by the Authority.

Approved maintenance organisation (AMO). An organisation approved by the Authority and operating under supervision approved by the Authority in accordance with Part 5 to perform aircraft maintenance activities including the inspection, overhaul, maintenance, repair or modification and release to service of aircraft or aircraft component.

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.

Associated aircraft systems. Those aircraft systems drawing electrical/pneumatic power from an auxiliary power unit during ground operations.

Authority. The Rwanda Civil Aviation Authority established under the Laws of Rwanda.

Auxiliary power-unit (APU). A self-contained power-unit on an aircraft providing electrical/pneumatic power to aircraft systems during ground operations.

Balloon. A non-power-driven lighter-than-air aircraft.

Bypass ratio. The ratio of the air mass flow through the bypass ducts of a gas turbine engine to the air mass flow through the combustion chambers calculated at maximum thrust when the engine is stationary in an international standard atmosphere at sea level.

Calendar day. The period of elapsed time using Co-Ordinated Universal Time or local time, that begins at midnight and ends 24 hours later in the next midnight.

Category A. With respect to helicopters, means a multi-engine helicopter designed with engine and system isolation features specified in Part IVB of ICAO Annex 8 to the Chicago convention and capable of operations using take-off and landing data scheduled under a critical engine failure concept which assures adequate designated surface area and adequate performance capability for continued safe flight or safe rejected take-off.

Category B. With respect to helicopters, means a single-engine or multi-engine helicopter which does not meet Category A standards. Category B helicopters have no guaranteed capability to continue safe flight in the event of an engine failure, and a forced landing

is assumed.

Certificate of release to service. A document containing a certification that inspection and maintenance work has been performed satisfactorily in accordance with the methods prescribed by the Authority.

Climb phase. The operating phase defined by the time during which the engine is operated in the climb operating mode.

Configuration (as applied to an aeroplane). A particular combination of the positions of the moveable elements, such as wing flaps and landing gear, etc., that affect the aerodynamic characteristics of the aeroplane.

Continuing airworthiness. The set of processes by which an aircraft, engine, propeller or part complies with the applicable airworthiness requirements and remains in a condition for safe operation throughout its operating life.

Critical engine(s). Any engine whose failure gives the most adverse effect on the aircraft characteristics relative to the case under consideration.

Note: On some aircraft there may be more than one equally critical engine. In this case, the expression "the critical engine" means one of those critical engines.

Date of manufacture. The date of issue of the document attesting that the individual aircraft or engine as appropriate conforms to the requirements of the type or the date of an analogous document.

Derivative version. An aircraft gas turbine engine of the same generic family as an originally type- certificated engine and having features which retain the basic core engine and combustor design of the original model and for which other factors, as judged by the certificating authority, have not changed.

Note. Attention is drawn to the difference between the definition of a derived version of an aeroplane and the definition of a derivative version in these Regulations.

Design landing mass. The maximum mass at which the aircraft, for structural design purposes, it will be planned to land.

Design take-off mass. The maximum mass at which the aircraft, for structural design purposes, is assumed to be planned to be at the start of the take-off run.

Design taxing mass. The maximum mass of the aircraft at which structural provision is made for load liable to occur during use of the aircraft on the ground prior to the start of take-off.

Discrete source damage. Structural damage of the aeroplane that is likely to result from: impact with a bird, uncontained fan blade failure, uncontained engine failure, uncontained high-energy rotating machinery failure or similar causes.

Derived version of a helicopter. A helicopter which, from the point of view of airworthiness, is similar to the noise certificated prototype but incorporates changes in type design which may affect its noise characteristics adversely.

Note 1. — In applying the Standards of these Regulations, a helicopter that is based on an existing prototype but which is considered by the certificating authority to be a new type design for airworthiness purposes shall nevertheless be considered as a derived version if the noise source characteristics are judged by the certificating authority to be the same as the prototype.

Note 2. — "Adversely" refers to an increase of more than 0.30 EPNdB in any one of the noise certification levels for helicopters certificated according to Part VI and 0.30 dB(A) in the certification level for helicopters.

Derived version of an aeroplane. An aeroplane which, from the point of view of airworthiness, is similar to the noise certificated prototype but incorporates changes in type design which may affect its noise characteristics adversely.

Note 1. — Where the certificating authority finds that the proposed change in design, configuration, power or mass is so extensive that a substantially new investigation of compliance with the applicable airworthiness regulations is required, the aeroplane

should be considered to be a new type design rather than a derived version.

Note 2. — "Adversely" refers to an increase of more than 0.10 dB in any one of the noise certification levels unless the cumulative effects of changes in type design are tracked by an approved procedure in which case "adversely" refers to a cumulative increase in the noise level in any one of the noise certification levels of more than 0.30 dB or the margin of compliance, whichever is smaller. "

Dry lease. A lease of an aircraft without crew.

Engine. A unit used or intended to be used for aircraft propulsion. It consists of at least those components and equipment necessary for functioning and control, but excludes the propeller/rotors (if applicable).

Exhaust nozzle. In the exhaust emissions sampling of gas turbine engines where the jet effluxes are not mixed (as in some turbofan engines for example) the nozzle considered is that for the gas generator (core) flow only. Where, however, the jet efflux is mixed the nozzle considered is the total exit nozzle.

External equipment (helicopter). Any instrument, mechanism, part, apparatus, appurtenance, or accessory that is attached to or extends from the helicopter exterior but is not used nor is intended to be used for operating or controlling a helicopter in flight and is not part of an airframe or engine. "**facility**" means a physical plant, including land, buildings, and equipment, which provide the means for the performance of maintenance, preventive maintenance, or modifications of any article.

Factor of safety. A design factor used to provide for the possibility of loads greater than those assumed, and for uncertainties in design and fabrication.

Final approach and take-off area (FATO). A defined area over which the final phase of the approach manoeuvre to hover or landing is completed and from which the take-off manoeuvre is commenced. Where the FATO is to be used by performance Class 1 helicopters, the defined area includes the rejected take-off area available.

Fireproof. The capability to withstand the application of heat by a flame for a period of 15 minutes.

Note: The characteristics of an acceptable flame can be found in ISO 2685.

Fire resistant. The capability to withstand the application of heat by a flame for a period of 5 minutes.

Note: The characteristics of an acceptable flame can be found in ISO 2685.

Flight time—

(i) for aeroplanes, the total time from the moment an aeroplane moves for the purpose of taking off until the moment it finally comes to rest at the end of the flight.

(ii) for helicopter, the total time from the moment a helicopter's rotor blades start turning until the moment a helicopter finally comes to rest at the end of the flight and the rotor blades are stopped.

(iii) for gliders, the total time occupied in flight, whether being towed or not, from the moment the glider first moves for the purpose of taking off until the moment it comes to rest at the end of the flight.

(iv) for airships or free balloon, the total time from the moment an airship or free balloon first becomes detached from the surface until the moment when it next becomes attached thereto or comes to rest thereon.

Glide. A non-power-driven heavier-than-air aircraft, deriving its lift in flight chiefly from aerodynamic reactions on surfaces, which remain fixed under given conditions of flight.

Heavier-than-air aircraft. Any aircraft deriving its lift in flight chiefly from aerodynamic forces.

Helicopter. A heavier-than-air aircraft supported in flight chiefly by the reactions of the air on one or more power-driven rotors on substantially vertical axes.

Human factors principles. Principles which apply to aeronautical design, certification, training, operations and maintenance and which seek safe interface between the human and other system components by proper consideration to human performance.

Human performance. Human capabilities and limitations which have an impact on the safety

and efficiency of aeronautical operations.

I**nspection**. The examination of an aircraft or aircraft component to establish conformity with a standard approved by the Authority.

Landing surface. That part of the surface of an aerodrome which the aerodrome authority has declared available for the normal ground or water run of aircraft landing in a particular direction.

Limit loads. The maximum loads assumed to occur in the anticipated operating conditions.

Load factor. The ratio of a specified load to the weight of the aircraft, the former being expressed in terms of aerodynamic forces, inertia forces, or ground reactions.

Maintenance. The performance of tasks required to ensure the continuing airworthiness of an aircraft, including any one or combination of overhaul, inspection, replacement, defect rectification, and embodiment of a modification or repair.

Maintenance control manual. A manual containing procedures, instructions and guidance for use by maintenance and concerned operational personnel in the execution of their duties.

Maintenance programme. A document which describes the specific scheduled maintenance tasks and their frequency of completion and related procedures, such as a reliability programme, necessary for the safe operation of those aircraft to which it applies.

Major modification. In respect of an aeronautical product for which a Type Certificate has been issued, a change in the type design that has an appreciable effect, or other than a negligible effect, on the mass and balance limits, structural strength, power plant operation, flight characteristics, reliability, operational characteristics, or other characteristics or qualities affecting the airworthiness or environmental characteristic of an aeronautical product.

Refer to Appendix 1 to 4.005 for example major modifications.

Major repair. A repair of an aeronautical product that might appreciably affect the structural strength, performance, power plant, operation flight characteristics or other qualities affecting airworthiness or environmental characteristics or that will be embodied in the product using non-standard practices.

Refer to Appendix 2 to 4.005 for example major repairs.

Modification. A change to the type design of an aircraft or aeronautical product which is not a repair.

Overhaul. The restoration of an aircraft or aircraft component using methods, techniques and practices acceptable to the Authority, including disassembly, cleaning and inspection as permitted, repair as necessary, and reassembly; and testing 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 Authorization (PMA) or Technical Standard Order (TSO).

Oxides of nitrogen. The sum of the amounts of the nitric oxide and nitrogen dioxide contained in a gas sample calculated as if the nitric oxide were in the form of nitrogen dioxide.

Performance class 1 helicopter. A helicopter with performance such that, in case of engine failure, it is able to land on the rejected take off area or safely continue the flight to an appropriate landing area.

Performance class 2 helicopter. A helicopter with performance such that, in case of engine failure, it is able to safely continue the flight, except when the failure occurs prior to a defined point after take-off or after a defined point before landing, in which cases a forced landing may be required.

Performance class 3 helicopter. A helicopter with performance such that, in case of engine failure at any point in the flight profile, a forced landing must be performed.

Power-plant. The system consisting of all the engines, drive system components (if applicable), and propellers (if installed), their accessories, ancillary parts, and fuel and oil systems installed on an aircraft but excluding the rotors for a helicopter.

Pressure-altitude. An atmospheric pressure expressed in terms of altitude which corresponds to that pressure in the Standard Atmosphere.

Prescribed. The Authority has issued written policy or methodology which imposes either a mandatory requirement, if the written policy or methodology states "shall," or a discretionary requirement if the written policy or methodology states "may".

Preventive maintenance. Simple or minor preservation operations and the replacement of small standard parts not involving complex assembly operations.

Propeller. A device for propelling an aircraft that has blades on an engine driven shaft and that when rotated, produces by its action on the air, a thrust approximately perpendicular to its plane of rotation; it includes control components normally supplied by its manufacturer, but does not include main and auxiliary rotors or rotating airfoils of power-plants.

Rating. An authorization entered on or associated with a license or certificate and forming part thereof, stating special conditions, privileges or limitations pertaining to such license or certificate.

Rated thrust. For engine emissions purposes, the maximum take-off thrust approved by the certificating authority for use under normal operating conditions at ISA sea level static conditions, and without the use of water injection. Thrust is expressed in Kilonewtons.

Rebuild. The restoration of an aircraft or aircraft component 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.

Recertification. Certification of an aircraft with or without a revision to its certification noise levels, to a Standard different to that to which it was originally certificated.

Reference pressure ratio. The ratio of the mean total pressure at the last compressor discharge plane of the compressor to the mean total pressure at the compressor entry plane when the engine is developing take-off thrust rating in ISA sea level static conditions.

Rendering (a certificate of airworthiness) valid. The action taken by a Contracting State, as an alternative to issuing its own Certificate of Airworthiness, in accepting a Certificate of Airworthiness issued by any other Contracting State as the equivalent of its own Certificate of Airworthiness.

Repair. Restoration of an aeronautical product to an airworthy condition to ensure that the aircraft continues to comply with the design aspects of the appropriate airworthiness requirements used for the issuance of a type certificate for respective aircraft type, after it has been damaged or subjected to wear.

Safety management system (SMS). A systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures.

Satisfactory evidence. A set of documents or activities that a Contracting State accepts as sufficient to show compliance with an airworthiness requirement.

Self-sustaining powered sailplane. A powered aeroplane with available engine power which allows it to maintain level flight but not to take off under its own power.

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

Smoke. The carbonaceous materials in exhaust emissions which obscure the transmission of light.

Smoke number. The dimensionless term quantifying smoke emissions.

Specific operating provisions. A document describing the ratings, Class and or Limited, in

detail and containing or referencing material and process specifications used in performing repair work, along with any limitations applied to an approved maintenance organisation.

Standard. An object, artefact, tool, test equipment, system or experiment 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 processes that must be performed in order for a particular end to be achieved.

Standard atmosphere. An atmosphere defined as follows—

(i) the air is a perfect dry gas;

(ii) the physical constants are—

(A) Sea level mean molar mass: $M_o = 28.964420 \times 10 Kgmol^{-1}$

(B) Sea level atmospheric pressure: $P_o = 1013.250 hPa$

(C) Sea level temperature: t_o = 15°C, T_o = 288.15 K

(D) Sea level atmospheric density: P_o = 1.225 0 kg m–3

(E) Temperature of the ice point: Ti = 273.15 K

(F) Universal gas constant: R* = 8.314 32 JK–1mol–1

(iii) the temperature gradients are—

Geopotential altitude (km)		*Temperature gradient (Kelvin per standard geopotential kilometre)*
From	To	
-5.0	11.0	-6.5
11.0	20.0	0.0
20.0	32.0	+1.0
32.0	47.0	+2.8
47.0	51.0	0.0
51.0	71.0	-2.8
71.0	80.0	-2.0

(iv) The standard geopotential metre has the value 9.80665 m2 s-2.

(v) See ICAO Doc 7488 for the relationship between the variable and for tables giving the corresponding values of temperature, pressure, density and geopotential.

(vi) ICAO Doc 7488 also gives the specific weight, dynamic viscosity, kinematic viscosity and speed of sound at various altitude.

State of Design. A Contracting State having jurisdiction over the organization responsible for the type design.

State of Manufacture. A State having jurisdiction over the organization responsible for the final assembly of the aircraft.

State of Registry. A Contracting State on whose registry an aircraft is entered.

Note- In the case of the registration of aircraft of an international operating agency on other than a national basis, the States constituting the agency are jointly and severally bound to assume the obligations which, under the Chicago Convention, attach to a State of Registry. See, in this regard, the Council Resolution of 14 December 1967 on Nationality and Registration of Aircraft Operated by International Operating Agencies which can be found in Policy and Guidance Material on the Economic Regulation of International Air Transport (Doc 9587).

Subsonic aeroplane. An aeroplane incapable of sustaining level flight at speeds exceeding flight Mach number of 1.

State safety programme. An integrated set of regulations and activities aimed at improving safety.

Take-off phase. The operating phase defined by the time during which the engine is operated at

the rated thrust.

Take-off surface. That part of the surface of an aerodrome which the aerodrome authority has declared available for the normal ground or water run of aircraft taking off in a particular direction.

Taxi/ground idle. The operating phases involving taxi and idle between the initial starting of the propulsion engine(s) and the initiation of the take-off roll and between the time of runway turn-off and final shutdown of all propulsion engine(s).

Type certificate. A document issued by a Contracting State to define the design of an aircraft type and to certify that this design meets the appropriate airworthiness requirements of that State.

Unburned hydrocarbons. The total of hydrocarbon compounds of all classes and molecular weights contained in a gas sample, calculated as if they were in the form of methane.

Ultimate load. The limit load multiplied by the appropriate factor of safety.

4.010 ACRONYMS & SYMBOLS

(a) The following acronyms are used in this Part—

AOC = Air Operator Certificate

AME = Aircraft Maintenance Engineer

AMO = Approved Maintenance Organisation

MEL = Minimum Equipment List

PIC = Pilot in command

TSO = Technical Standard Order

(b) Where the following symbols are used in this Part and associated documents, they have the meanings ascribed to them below—

CO = Carbon monoxide

Dp = The mass of any gaseous pollutant emitted during the reference emissions landing and take-off cycle

Fn =Thrust in International Standard Atmosphere (ISA), sea level conditions, for the given operating mode

Foo = Rated thrust

F*oo = Rated thrust with afterburning applied

HC = Unburned hydrocarbons

NO = Nitric oxide

NO2 = Nitrogen dioxide

NOx = Oxides of nitrogen

SN = Smoke Number

n:oo = Reference pressure ratio

4.015 REQUIREMENTS FOR CARBON OFFSETTING AND REDUCTION SCHEME FOR INTERNATIONAL AVIATION

(a) The Authority shall prescribe in Rwanda Civil Aviation Technical standard regulatory requirements for Carbon Offsetting and Reduction Scheme for International Aviation.

SUBPART B: CERTIFICATE OF AIRWORTHINESS

4.020 APPLICATION OF CERTIFICATE OF AIRWORTHINESS

(a) An owner or his representative of an aircraft registered in Rwanda may apply to the Authority for issue of a certificate of airworthiness for that aircraft.

(b) An applicant for a certificate of airworthiness shall apply on a form and in a manner prescribed by the Authority.

4.025 CERTIFICATE OF AIRWORTHINESS TO BE IN FORCE

(a) A person shall not fly an aircraft unless there is in force in respect of that aircraft a certificate of airworthiness or restricted certificate of airworthiness or a special flight permit duly issued or rendered valid under the law of the State of registry and any conditions subject to which the certificate was issued or rendered valid are complied with.

4.030 CLASSIFICATIONS OF CERTIFICATES OF AIRWORTHINESS

(a) The certificates of airworthiness shall be classified as follows—

(1) a certificate of airworthiness;

(2) a restricted certificate of airworthiness in the form of a restricted certificate;

(3) a special flight permits; and

(4) export certificate of airworthiness.

4.035 AMENDMENT OF CERTIFICATES OF AIRWORTHINESS

(a) The Authority may amend or modify any type of certificate of airworthiness issued under these Regulations upon application by an operator or on the Authority's own initiative.

4.040 SURRENDER OF CERTIFICATE OF AIRWORTHINESS

(a) An owner of an aircraft who sells the aircraft shall surrender the certificate of airworthiness or restricted certificate of airworthiness or special flight permit, as applicable—

(1) to the buyer upon sale of the aircraft within Rwanda; or

(2) to the Authority in the case of an aircraft sold outside Rwanda.

4.045 VALIDITY OF A CERTIFICATE OF AIRWORTHINESS

(a) A certificate of airworthiness or restricted certificate of airworthiness issued or renewed under these Regulations remains in force during the period of twelve months or for the number of flights specified in it or, where no limit is specified, indefinitely, if the aircraft continues to meet the conditions subject to which the certificate of airworthiness or restricted certificate of airworthiness was issued unless—

(1) a shorter period is specified by the Authority;

(2) the Authority amends, extends, suspends, revokes or otherwise terminates the certificate;

(3) the aircraft owner or operator surrenders the certificate to the Authority in which cases the Authority shall be entitled to prevent the aircraft from flying.

(b) A special flight permit shall be valid for a period of time specified in the permit.

(c) A certificate of airworthiness or restricted certificate of airworthiness issued or renewed in respect of an aircraft shall cease to be in force, and the Authority shall be entitled to prevent the aircraft from flying, if—

(1) the aircraft or such of its equipment as is necessary for the airworthiness of the aircraft is maintained or if any part of the aircraft or such equipment is removed or is replaced, otherwise than in a manner and with material of a type approved by the Authority either generally or in relation to a class of aircraft or to the particular aircraft;

(2) the aircraft or any of its equipment is not maintained as required by the maintenance programme or schedule approved by the Authority in relation to that aircraft;

(3) an inspection or modification classified as mandatory by the Authority applicable to the aircraft or of any such equipment as aforesaid, has not, been completed to the

satisfaction of the Authority; or

(4) subject to paragraph (d), the aircraft or any such equipment as aforementioned sustains damage and the damage is ascertained during inspection which affects the airworthiness of the aircraft.

(d) An application for issue or renewal of certificate of airworthiness shall be made in a form prescribed by the Authority not later than sixty days before the certificate expires.

4.050 AIRCRAFT IDENTIFICATION

(a) An applicant for a certificate of airworthiness or a restricted certificate of airworthiness or special flight permit shall show that the aircraft is properly registered and marked and has identification plates affixed to the aircraft.

4.055 ISSUE OF CERTIFICATES OF AIRWORTHINESS

(a) A certificate of airworthiness shall be issued or renewed for aircraft in the specific category and model designated by the State of design in the type certificate.

(b) The Authority shall issue or renew 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 and requirements of the State of manufacture or designer;

(2) the aircraft has been inspected in accordance with these Regulations for inspections and found airworthy by persons authorized by the Authority to make such determinations within the last thirty days;

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

(4) the aircraft when operated in accordance with the requirements specified in the flight manual or equivalent document for the aircraft conforms to the approved type specifications specified in the approved type certificate or equivalent document;

(5) the maintenance determined by the Authority as a prerequisite for issue or renewal of a standard certificate of airworthiness has been carried out and certified by a person acceptable to the Authority in accordance with these Regulations; and

(6) the results of flying trials, and such other tests of the aircraft as the Authority may require, are complied with.

(c) The Authority may issue a certificate of airworthiness subject to such other conditions relating to the airworthiness of the aircraft as the Authority thinks fit.

(d) A certificate of airworthiness shall specify one of the following categories as are, in the opinion of the Authority, appropriate to the aircraft operation—

(1) commercial air transport (passenger);

(2) commercial air transport (cargo);

(3) aerial work;

(4) general aviation; or

(5) special.

(e) A certificate of airworthiness shall be issued subject to the condition that the aircraft shall be flown only for the following purposes—

(1) commercial air transport (passenger): any purpose;

(2) commercial air transport (cargo): any purpose other than commercial air transport of passengers;

(3) aerial work: any purpose other than commercial air transport or general aviation;

(4) general aviation: any purpose other than commercial air transport or aerial work; and

(5) special: any purpose, other than commercial air transport, specified in the certificate of airworthiness but not including the carriage of passengers unless expressly permitted.

(f) The Authority may in the process of issuing a certificate of airworthiness demand that reports be furnished by a person qualified to furnish such reports.

(g) The Authority shall issue a certificate of airworthiness that contains the information shown in Appendix 1 to 3.105, and if issued in a language other than English, it shall contain an English translation.

4.060. AIRWORTHINESS DIRECTIVES & SERVICE BULLETINS

(a) A person shall not operate an aircraft or aircraft components to which an airworthiness directive applies except in accordance with the requirements of airworthiness directive.

(b) During Type Acceptance or first entry of an aircraft of a particular type on Rwanda Register, the Authority shall coordinate with the State of design and Manufacturer and request that the Authority receive all Airworthiness Directives, Service Bulletins and any other Airworthiness Data addressing that aircraft, airframe, aircraft engine, propeller, appliance or component and, afterwards, shall—

(1) ensure the transmission to the State of design of all mandatory continuing airworthiness information which it originated of that aircraft; and

(2) ensure that, in respect of aeroplanes over 5,700 kg and helicopters over 3,175 kg maximum certificated take-off mass, there exists a system whereby information on faults, malfunctions, defects and other occurrences that cause or might cause adverse effects on the continuing airworthiness of the aircraft is transmitted to the organization responsible for the type design of that aircraft.

(c) Where the State of design considers that a condition in an aircraft, airframe, engine, propeller, appliance or component is unsafe as shown by the issue of an airworthiness directive by that State, such directives shall apply to Rwanda registered aircraft of the type identified in that airworthiness directive.

(d) Where a manufacturer identifies a service bulletin as mandatory, such bulletin shall apply to Rwanda registered aircraft of the type identified in that bulletin.

(e) The Authority may identify manufacturer's service bulletins and other sources of data or develop and prescribe inspections, procedures and limitations for mandatory compliance pertaining to affected aircraft in Rwanda and shall establish, in respect of aeroplanes over 5,700 kg and helicopters over 3,175 kg maximum certificated take-off mass, the type of service information and procedures for reporting this information to the Authority, operators, organization responsible for type design and maintenance organizations.

(f) A person shall not operate any Rwanda registered aircraft to which the measures of this Part apply, except in accordance with the applicable directives and bulletins.

(g) The Authority shall notify the State of design of a modification, where it is different from the State of Design of the product being modified, the State of Design of the modification, and request that the Authority receive all the mandatory continuing airworthiness information.

Amendment: Annex 8: Special Regulation RSR/01/2021: Effective 06 August 2021

4.065 ISSUE OF RESTRICTED CERTIFICATES OF AIRWORTHINESS

(a) The Authority may issue a restricted certificate of airworthiness to the aircraft that does not qualify for a certificate of airworthiness including micro lite, experimental amateur and kit built aircraft, an aircraft used for air races, aircraft flying for exhibition purpose and a kite.

(b) An aircraft holding a restricted airworthiness certificate shall be subject to

operating limitations within Rwanda and shall not make international flights.

(c) The Authority shall issue specific operating limitations for each restricted airworthiness certificate.

4.070 ISSUE OF SPECIAL FLIGHT PERMITS

(a) The Authority may issue a special flight permit with operating limitations for an aircraft that is capable of safe flight but unable to meet applicable airworthiness requirements for the purpose of—

(1) flying to a base where weighing, painting, repairs, modifications, maintenance, or inspections are to be performed or to a point of storage;

(2) flying for the purpose of experimenting with or testing the aircraft including its engines and equipment;

(3) flying for the purpose of qualifying for the issue, renewal or validation of certificate of airworthiness or restricted certificate of airworthiness and the approval of a modification of the aircraft;

(4) delivering or exporting the aircraft;

(5) evacuating aircraft from areas of impending danger; and

(6) operating at mass in excess of the aircraft's maximum certified take- off mass for flight beyond normal range over water or land areas where adequate landing facilities or appropriate fuel are unavailable with the excess mass limited to additional fuel, fuel-carrying facilities, and navigation equipment necessary for the flight.

4.075 EXPORT CERTIFICATE OF AIRWORTHINESS

(a) An owner of an aircraft registered in Rwanda may apply to the Authority for issue of an export certificate of airworthiness for that aircraft.

(b) An application for an export certificate of airworthiness shall be made on a form prescribed by the Authority at least 14 days before the intended date of export of the aircraft out of Rwanda.

(c) The Authority shall issue an export certificate of airworthiness if—

(1) the applicant submits a statement of compliance with the full intents of the approved maintenance programme or schedule;

(2) the applicant submits a statement of compliance with the mandatory airworthiness directives and service bulletins applicable to the aircraft and its equipment;

(3) the aircraft has been inspected in accordance with these regulations and found airworthy by persons authorized by the Authority to make such determination within the last 14 days;

(4) the maintenance determined by the Authority as a prerequisite for issue of the export certificate of airworthiness has been carried out and certified by a person acceptable to the Authority in accordance with these regulations;

(5) the result of test flight, and such other tests as the Authority may determine are complied with;

(6) historical records establish the production, modification and maintenance standard of the aircraft; and

(7) a weight and balance report with a loading schedule, where applicable, for each aircraft in accordance with the applicable regulations is furnished to the Authority.

(d) Export certificate of airworthiness shall not be used for the purpose of flight but for confirmation of recent satisfactory review of the airworthiness status of the aircraft.

(e) Any extension or variations granted to an aircraft in accordance to an approved maintenance programme or schedule shall be automatically revoked before issue of

the export certificate of airworthiness.

(f) For the purpose of these regulations, the item being exported may be placed within a particular "Class" as provided for—

(1) ***Class I product*** – a complete aircraft, engine or propeller which has been type certificated in accordance with the appropriate airworthiness requirements and for which the necessary type certificate data sheets or equivalent have been issued.

(2) ***Class II product*** – a major component of a Class I product such as a wing, fuselage, empennage surface, etc. the failure of which would jeopardize the safety of a Class I product or any part, material or system thereof.

(3) ***Class III product*** – any part or component which is not a Class I or Class II product or a standard part.

(g) For products other than a Class I product, the export airworthiness certification may be issued in the form of certificates or identification tags, which will confirm that the product in question meets the approved design data, is in a condition for safe operation and complies with any special requirements as notified by the importing State.

4.080 CONDITIONS ON THE SPECIAL FLIGHT PERMIT

(a) A person shall not fly an aircraft on a special flight permit unless that person has complied with conditions of this regulation.

(b) A person who flies an aircraft on a special flight permit referred to under Regulation 4.070 of these regulations shall ensure that—

(1) the flight is made under the supervision of a person approved by the Authority for such flight, subject to any additional conditions which may be specified in the permit;

(2) a copy of the permit is carried on board the aircraft at all times when the aircraft is operating under the conditions of the permit;

(3) the aircraft registration markings assigned to the aircraft are displayed;

(4) no person or property is carried on board for hire or reward;

(5) only persons essential for the safe operation of the aircraft are carried on the aircraft and these persons shall be advised of the contents of the permit;

(6) the aircraft is operated only by flight crew holding appropriate type ratings or validations with sufficient experience to appreciate the reasons for the aircraft non-compliance to the prescribed airworthiness standards;

(7) the flight is conducted in accordance with applicable flight operating rules and procedures of the States of the intended routing;

(8) the routing is such that areas of heavy air traffic, areas of heavy human concentration of a city town or settlement or any other areas where the flight might create hazardous exposure to persons or property are avoided;

(i) the flight is performed in accordance to the performance limitations prescribed in the aircraft flight manual and any other limitation that the Authority may impose on such flight;

(ii) all flights are conducted prior to the expiry date of the special flight permit or at any other time the Authority declares so in writing; and

(9) the aircraft shall not depart for the flight on a special flight permit unless the aircraft has on board authorizations from the State(s) of intended routing.

(c) Aircraft involved in an accident or incident may not be ferried prior to notifying the CAA accident coordinator

(d) The operator shall inform the State(s) of intended routing on the conditions of the aircraft and intended flight and the operator must obtain its (their) consent(s).

(e) The Authority shall require a properly executed maintenance endorsement statement in the aircraft permanent record by an authorized person stating that the subject aircraft has been inspected and found to be safe for the intended flight.

4.085 CERTIFICATE OF FITNESS FOR FLIGHT

(a) A person shall not fly an aircraft for the purpose of flight testing after repair, modification or maintenance unless that aircraft has been issued with a maintenance endorsement statement stating that the subject aircraft has been inspected and found to be safe for the intended flight.

(b) The maintenance endorsement statement referred to in paragraph (a) shall constitute a certificate of fitness for flight.

(c) A certificate of fitness for flight shall be issued by a person authorized by the Authority.

(d) A certificate of fitness for flight is the basis under which the Authority may issue a special flight permit under Regulation 4.070 for the purpose of allowing the aircraft to be ferried.

(e) The certificate of fitness for flight may be used as a basis to flight test an aircraft after repair, modifications or maintenance as long as the aircraft does not make an international flight.

(f) A certificate of fitness for flight is not, for purposes of these Regulations, an airworthiness certificate.

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4.090 GENERAL

(a) The registered owner or operator of an aircraft is primarily responsible for maintaining that aircraft in an airworthy condition, including compliance with all airworthiness directives and mandatory service bulletins issued by the State of Design or Manufacture.

(b) No person may perform maintenance, preventive maintenance, or modifications on an aircraft other than as prescribed in this Part and other applicable Parts.

(c) No person may operate an aircraft for which a manufacturer's maintenance manual or instructions for continued airworthiness has been issued that contains an airworthiness limitations section unless the mandatory replacement times, inspection intervals and related procedures set forth in specific operating provisions approved by the Authority under Part 12 or in accordance with an inspection program approved under this Part.

4.095 RESPONSIBILITY FOR MAINTENANCE

(a) An owner or operator of an aircraft 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 State of registry in compliance with requirements which are at least equal to the applicable standards specified in these regulations, Part 5 and Part 10;

(2) maintenance personnel make appropriate entries in the aircraft maintenance records certifying that the aircraft is airworthy;

(3) the certificate of release to service is completed to the effect that the maintenance work performed has been completed satisfactorily and in accordance with the prescribed methods including an approved maintenance schedule for air operator certificate holders as approved by the Authority; and

(4) in the event there are open discrepancies, the certificate of release to service includes a list of the uncorrected maintenance items which are made a part of the aircraft permanent records.

(b) In the event that an aircraft registered in Rwanda is continuously operated outside Rwanda for a period exceeding thirty days, the owner or operator of the aircraft shall be responsible for maintaining the aircraft in an airworthy condition and ensuring that—

(1) notice in a form that may be prescribed by the Authority, is given to the Authority prior to the aircraft undertaking such operations;

(2) arrangements acceptable to the Authority for ongoing inspection and oversight of the airworthiness of that aircraft are made.

4.100 CONTINUING AIRWORTHINESS INFORMATION

(a) An operator of an aircraft shall—

(1) monitor and assess maintenance and operational experience with respect to continuing airworthiness and provide the information in a form that may be prescribed by the Authority and report through a specified system;

(2) obtain and assess continuing airworthiness information and recommendations available from the organization responsible for the type design and implement resulting actions considered necessary in accordance with a procedure acceptable to the Authority.

4.105 COMPLIANCE WITH THE MANUFACTURER'S INSTRUCTIONS

(a) An aircraft registered in Rwanda shall not engage in commercial air transport operations, and an aircraft registered in another Contracting State shall not engage in commercial air transport operations to or from Rwanda, unless—

(1) the aircraft, including its engines, equipment and radios has been maintained in accordance with the approved maintenance programme and the maintenance procedures, recommended by the aircraft manufacturer and in compliance with the requirements which are at least equal to the applicable standards specified in these regulations, Part 5 and Part 10;

(b) A certificate of release to service has been completed and signed by a licenced aircraft maintenance engineer to certify that all maintenance work has been completed satisfactorily and in accordance with the approved maintenance programme and procedures; and

(c) There is an accepted flight manual available in the aircraft for the use of the flight crew, containing the limitations within which the aircraft is considered airworthy, together with such additional instructions and information as may be necessary to show compliance with the specified regulations relating to performance and for the safe operation of the aircraft, except that if the aircraft has a maximum take-off certificated mass of 5,700 kg or less, the limitations may be made available by means of placards or other documents approved by the Authority.

(d) The flight manual referred to in paragraph (1)(c) shall be updated by implementing changes made mandatory by the State of registry.

4.110 INSPECTIONS

(a) **Annual Inspection:** Except as provided in paragraph (c), no person may operate an aircraft unless, within the preceding 12 calendar months, the aircraft has had—

(1) An annual inspection in accordance with this Part and has been issued a maintenance release by a person authorized under this Part; or

(2) An inspection for the issuance of a Certificate of Airworthiness in accordance with this Part.

Note: No inspection performed under paragraph (b) of this Regulation may be substituted for any inspection required by this paragraph unless it is performed by a person authorised to perform annual inspections and is entered as an "annual" inspection in the required maintenance record.

(b) **100-Hour Inspection:** Except as provided in paragraph (c), no person may operate an aircraft carrying any person (other than a crew member) for hire, and no person may give flight instruction for hire in an aircraft which that person provides, unless within the preceding 100 hours of time in service—

(1) The aircraft has received an annual or 100-hour inspection and been issued a maintenance release in accordance with this Part or has received an inspection for the issuance of a n Certificate of Airworthiness in accordance with this Part.

Note: The 100-hour limitation may be exceeded by not more than 10 hours while en route to reach a place where the inspection can be done. The excess time used to reach a place where the inspection can be done must be included in computing the next 100 hours of time in service.

(c) **Special Exceptions:** Paragraphs (a) and (b) of this regulation do not apply to—

(1) An aircraft that carries a special flight permit, a current experimental certificate, or a provisional Certificate of Airworthiness;

(2) An aircraft subject to the requirements of regulation 4.115 of this Part; or

(3) Turbine-powered rotorcraft when the operator elects to inspect that rotorcraft in accordance with Regulation 4.120 of this Subpart.

(d) **Other Inspections:** The altimeter, altimeter system, transponder and VOR inspections required by Part 10 should accomplished as prescribed by the Authority.

See RCATS-4.110 for tests and checks of the altimeter system, ATC transponder and VOR receiver.

4.115 PROGRESSIVE INSPECTION

(a) Each registered owner or operator of an aircraft desiring to use a progressive inspection program shall submit a written request to the Authority, and shall provide—

(1) A licensed mechanic holding an inspection authorisation in accordance with Part 7, an AMO appropriately rated in accordance with Part 5, or the manufacturer of the aircraft to supervise or conduct the progressive inspection;

(2) A current inspection procedures manual available and readily understandable to pilot and maintenance personnel containing, in detail—

(i) An explanation of the progressive inspection, including the continuity of inspection responsibility, the making of reports, and the keeping of records and technical reference material;

(ii) An inspection schedule, specifying the intervals in hours or days when routine and detailed inspections will be performed and including instructions for exceeding an inspection interval by not more than 10 hours while en-route and for changing an inspection interval because of service experience;

(iii) Sample routine and detailed inspection forms and instructions for their use; and

(iv) Sample reports and records and instructions for their use;

(3) Enough housing and equipment for necessary disassembly and proper inspection of the aircraft; and

(4) Appropriate current technical information for the aircraft.

(b) The frequency and detail of the progressive inspection shall provide for the complete inspection of the aircraft within each 12 calendar months and be consistent with the current manufacturer's recommendations, field service experience, and the kind of operation in which the aircraft is engaged.

(c) The progressive inspection schedule shall ensure that the aircraft, at all times, will be airworthy and will conform to all applicable aircraft specifications, type certificate data sheets, airworthiness directives, and other approved data acceptable to the Authority.

(d) If the progressive inspection is discontinued, the owner or operator shall immediately notify the Authority, in writing, of the discontinuance.

(e) After the discontinuance, the first annual inspection under Part 10 is due within 12 calendar months after the last complete inspection of the aircraft under the progressive inspection.

(1) The 100-hour inspection under this Subpart is due within 100 hours after that complete inspection.

(2) A complete inspection of the aircraft, for the purpose of determining when the annual and 100 hour inspections are due, requires a detailed inspection of the aircraft and all its components in accordance with the progressive inspection.

(3) A routine inspection of the aircraft and a detailed inspection of several components is not considered to be a complete inspection.

4.120 INSPECTION PROGRAMMES FOR LARGE & TURBINE AIRCRAFT

(a) Except for aircraft operated under an AOC, the registered owner or operator of each large aeroplane, turbojet multi-engine aeroplane, turbo propeller-powered multi-engine aeroplane, and turbine-powered rotorcraft shall select, identify in the aircraft maintenance records, and use one of the following programs for the inspection of the aircraft—

(1) A current inspection program recommended by the manufacturer;

(2) An inspection program that is part of a continuous maintenance program for that make and model of aircraft currently approved by the Authority for use by an AOC holder; or

(3) Any other inspection program established by the registered owner or operator of that aircraft and approved by the Authority.

(b) Each owner/operator shall include in the selected program the name and address of the

person responsible for the scheduling of the inspections required by the program and provide a copy of the program to the person performing inspection on the aircraft.

(c) No aircraft shall be issued a maintenance release unless the replacement times for life-limited parts specified in the aircraft specification-type data sheets are complied with and the aeroplane, including airframe, engines, propellers, rotors, appliances, and survival and emergency equipment, is inspected in accordance with the inspection program selected.

(d) Each person wishing to establish or change an approved inspection program shall submit the program for approval by the Authority and shall include in writing—

(1) Instructions and procedures for the conduct of inspection for the particular make and model aircraft, including necessary tests and checks;

(2) The instructions shall set forth in detail the parts and areas of the aeronautical products, including survival and emergency equipment required to be inspected; and

(3) A schedule for the inspections that shall be performed expressed in terms of time in service, calendar time, number of system operations or any combination of these.

(e) When an operator changes from one inspection program to another, the operator shall apply the time in service, calendar times, or cycles of operation accumulated under the previous program, in determining time the inspection is due under the new program.

4.125 CHANGES TO AIRCRAFT MAINTENANCE PROGRAMS

(a) Whenever the Authority finds that revisions to an approved inspection program are necessary for the continued adequacy of the program, the owner or operator shall, after notification by the Authority, make any changes in the program found to be necessary.

(b) The owner or operator may petition the Authority to reconsider the notice, within 30 days after receiving that notice.

(c) Except in the case of an emergency requiring immediate action in the interest of safety, the filing of the petition stays the notice pending a decision by the Authority.

4.130 REPORTING OF FAILURES, MALFUNCTIONS & DEFECTS

(a) An owner or operator of an aircraft shall report to the Authority any failures, malfunctions, or defects that may result in at least one of 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 malfunction or inability of the system to control over speed during flight;

(11) a fuel or fuel-dumping system malfunction that affects fuel flow or causes hazardous leakage during flight;

(12) an uncommanded landing gear extension or retraction, or opening or closing of landing gear doors during flight;

(13) brake system components malfunction that result in loss of brake actuating force when the aircraft is in motion on the ground;

(14) aircraft structure damage that requires major repair;

(15) failure or malfunction of any flight control system, flap, slat or spoiler;

(16) any excessive unscheduled removals of essential equipment on account of defects;

(17) cracks, permanent deformation, or corrosion of aircraft structure, if more than the maximum acceptable to the manufacturer or the Authority;

(18) aircraft components or systems malfunctions that result in taking emergency actions during flight (except action to shut down an engine);

(19) emergency evacuation systems or components including all exit doors, passenger emergency evacuating lighting systems, or evacuation equipment that are found defective, or that fail to perform the intended functions during an actual emergency or during training, testing, maintenance, demonstration, or inadvertent deployments;

(20) each interruption to a flight, unscheduled change of aircraft enroute, or unscheduled stop or diversion from a route, caused by known or suspected technical difficulties or malfunctions;

(21) any abnormal vibration or buffeting caused by a structural or system malfunction, defect, or failure;

(22) a failure or malfunction of more than one attitude, airspeed, or altitude instrument during a given operation of the aircraft;

(23) 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

(24) the number of propeller featherings in flight, listed by type of propeller and engine and aircraft on which it was installed.

(b) A report required under this regulation shall—

(1) be made within three days 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—

(i) type and registration mark of the aircraft;

(ii) name of the operator;

(iii) aircraft serial number;

(iv) where the failure, malfunction, or defect is associated with an article approved under a technical standard order authorization, the article serial number and model designation, as appropriate;

(v) where the failure, malfunction or defect is associated with an engine or propeller, the engine or propeller serial number, as appropriate;

(vi) product model;

(vii) identification of the part, component, or system involved, including the part number; and

(viii) the nature of the failure, malfunction, or defect.

(c) The Authority, upon receipt of the report specified in paragraph (b) for aircraft registered in Rwanda, shall submit the reports to the State of design.

(d) The Authority, upon receipt of the report specified in paragraph (b) for foreign registered aircraft operating in Rwanda, shall submit all such reports to the State of registry and the State of design.

4.135 PERSONS AUTHORIZED TO PERFORM MAINTENANCE, PREVENTIVE MAINTENANCE & MODIFICATION

(a) A person shall not perform any task defined as maintenance on an aircraft or aircraft components, except as provided in this regulation.

(b) The following are the persons authorized to perform maintenance, preventive maintenance and modification—

(1) a pilot licenced by the Authority;

(2) a person performing maintenance under the supervision of a licenced aircraft maintenance engineer;

(3) a licenced aircraft maintenance engineer; and

(4) an approved maintenance organization.

(c) A pilot licenced by the Authority may perform preventive maintenance on an aircraft of certificated maximum take-off mass of 5,700 kg or less owned or operated by that pilot so long as the aircraft is not listed for use by an air operator certificate holder and the pilot has attended maintenance course on the type of aircraft.

(d) A pilot licenced by the Authority operating a balloon listed for use by an air operator certificate holder may perform maintenance, preventive maintenance and modification on balloons, provided that pilot has been trained on the appropriate balloon maintenance.

(e) A person working under the supervision of a licenced aircraft maintenance engineer may perform the maintenance, preventive maintenance, or modifications that the licenced aircraft maintenance engineer is authorized to perform if the supervising licenced aircraft maintenance engineer—

(1) personally observes the work being done to the extent necessary to ensure that it is being done properly; and

(2) is readily available, in person, for consultation.

(f) A licenced aircraft maintenance engineer may perform or supervise the maintenance or modification of an aircraft or aircraft component for which he or she is rated in accordance with Part 7.

(g) An approved maintenance organization may perform aircraft maintenance within the limits specified by the Authority.

(h) A manufacturer holding an approved maintenance organization certificate may—

(1) rebuild or alter any aircraft component manufactured by that manufacturer under a type or production certificate;

(2) rebuild or alter any aircraft component manufactured by that manufacturer under a technical standard order authorization, a parts manufacturer approval by the State of design, or product and process specification issued by the State of design; and

(3) perform any inspection required by Part 10 on aircraft that the manufacturer manufactures, while currently operating under a production certificate or under a currently approved production inspection system for such aircraft.

4.140 PERSONNEL AUTHORIZED TO APPROVE FOR RETURN TO SERVICE

(a) Except as authorized by the Authority, a person shall not approve an aircraft, airframe, engine, propeller, appliance, or component for return to service after it has undergone maintenance, preventive maintenance, rebuilding, or modification.

(b) The following persons are authorized to approve return to service-

(1) a pilot licenced by the Authority who may return his aircraft to service after performing authorized preventive maintenance provided he has successfully completed an approved maintenance course on the type of aircraft;

(2) a licenced aircraft maintenance engineer who may approve aircraft and aircraft components for return to service after he or she has performed, supervised, or inspected its maintenance subject to the limitations specified in Part 7; and

(3) an approved maintenance organization that may approve aircraft and aircraft components for return to service as provided in the operations specific operating provisions approved by the Authority.

4.145 PERSONS AUTHORIZED TO PERFORM INSPECTIONS

(a) Except as authorized by the Authority, a person shall not perform the inspections required by Part 4 and Part 10 for aircraft and aircraft components prior to or after the aircraft has undergone maintenance, preventive maintenance, rebuilding, or modification.

(b) The following persons are authorized to carry out inspections—

(1) a licenced aircraft maintenance engineer who may conduct the required inspections of aircraft and aircraft components for which the licenced aircraft maintenance engineer is rated and current; or

(2) an approved maintenance organization that may perform the required inspections of aircraft and aircraft components as provided in the specific operating provisions approved by the Authority.

4.150 PREVENTIVE MAINTENANCE: LIMITATIONS

(a) Preventive maintenance is limited to the work mentioned in Appendix 1 to 4.150, provided it does not involve complex assembly operations.

4.155 PERFORMANCE RULES: MAINTENANCE

(a) A person performing maintenance, preventive maintenance, or modification on an aircraft or aircraft component shall use the methods, techniques, and practices prescribed in—

(1) the current manufacturer's maintenance manual or instructions for continued airworthiness issued by its manufacturer; and

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

(b) A person shall use the tools, equipment, and test apparatus necessary to assure completion of the work in accordance with accepted industry practices.

(c) If the involved manufacturer recommends special equipment or test apparatus, the person performing maintenance shall use that equipment or apparatus, or its equivalent acceptable to the Authority.

(d) A person performing maintenance, preventive maintenance, or modification on an aircraft or aircraft component shall do that work in such a manner, and use materials of such a quality, that the condition of the aircraft or aircraft component 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.

(e) The methods, techniques, and practices contained in an air operator certificate holder's maintenance control manual and, maintenance programme, as approved by the Authority, will constitute an acceptable means of compliance with the requirements of this regulation.

(f) The methods, techniques, and practices contained in an approved maintenance organization maintenance procedures manual as approved by the Authority, will constitute an acceptable means of compliance with the requirements of this regulation.

4.160 PERFORMANCE RULES: INSPECTION

(a) A person performing an inspection required by the Authority shall—

(1) perform the inspection so as to determine whether the aircraft or portion of the aircraft 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 specified in the inspection program.

(b) A person performing an inspection required on a rotorcraft shall inspect, in accordance with the maintenance manual or instructions for continued airworthiness, the systems which shall include, but not limited to—

(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) A person performing an inspection shall use a checklist while performing the inspection, which—

(1) may be of the person's own design, one provided by the manufacturer of the equipment being inspected, or one obtained from another source; and

(2) shall include the scope and detail of the items prescribed or approved by the Authority.

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

(1) Power output (static and idle revolutions per minute);

(2) Magnetos;

(3) Fuel and oil pressure; and

(4) Cylinder and oil temperature.

(e) A person approving a turbine-engine-powered aircraft for return to service shall, before that approval, run the aircraft engine or engines to determine satisfactory performance in accordance with the current manufacturer's recommendations.

(f) A person performing an inspection shall, before that inspection, thoroughly clean the aircraft and aircraft engine and remove or open all necessary inspection plates, access doors, fairings, and cowlings.

(g) A person performing an inspection shall inspect, where applicable, the components mentioned in Appendix 1 to 4.175(g).

4.165 AIRWORTHINESS LIMITATION PERFORMANCE RULES

(a) A 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 specific operating provisions approved by the Authority.

4.170 AIRCRAFT MASS SCHEDULE

(a) An aircraft in respect of which a certificate of airworthiness is issued under these regulations shall be weighed, and the position of the aircraft's centre of gravity determined, at such times specified in the Sixth Schedule and in such manner as the Authority may require or approve in the case of that aircraft.

(b) Upon the aircraft being weighed, the owner or operator of the aircraft shall prepare a

mass schedule showing—

(1) the basic mass of the aircraft, namely the mass of the empty aircraft together with the mass of unusable fuel and unusable oil in the aircraft and of such items of equipment as are indicated in the mass schedule, or such other mass as may be approved by the Authority in the case of that aircraft; or

(2) the position of the centre of gravity of the aircraft when the aircraft contains only the items included in the basic mass or such other position of the centre of gravity as may be approved by the Authority in the case of that aircraft.

(c) The mass schedule shall be preserved by the operator of the aircraft until the expiration of a period of six months following the next occasion on which the aircraft is weighed for the purpose of this Part.

4.175 COMPASS SWING REQUIREMENTS

(a) All compasses fitted to Rwandan registered aircraft shall be swung as follows—

(1) On installation.

(2) At 12 monthly intervals thereafter, provided that where other independent direction-indicating systems are in use, the interval may be extended to 24 months. In such a case, the compass(es) shall be checked during each flight against such directing-indicating system. Should deviation exceed 5º, the compass shall be swung.

Note: Whilst under the most favorable conditions an annual check is sufficient; it is recommended that owners of aircraft carry out a check swing every six months.

(3) Before a newly registered aircraft is placed into service in the country.

(4) Immediately after material or equipment that may affect the compass is installed, removed or replaced.

(5) After an aircraft has been struck by lightning.

(6) After each engine change, except where it has been established that non-compliance with this requirement will not affect the compass readings. The Commissioner must be advised accordingly.

(7) In the case of "cargo only" aircraft, whenever cargo which is likely to affect the compass reading is carried. In such cases a check must be made on the cardinal headings and headings to be flown and a temporary deviation card installed. The temporary card must be replaced when such cargo is unloaded.

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4.180 KEEPING CERTIFICATE OF RELEASE TO SERVICE RECORDS

(a) Pursuant to the terms and conditions set forth in these regulations, a certificate of release to service shall be maintained by an air operator certificate holder in duplicate.

(b) A certificate of release to service issued shall—

(1) be effective from the date of issue;

(2) cease to be effective upon expiration of the period of its validity in calendar days or flying time, whichever is earlier as specified in the maintenance schedule; and

(3) be kept on board the aircraft and the original be kept by the operator elsewhere as approved by the Authority.

4.185 TECHNICAL LOGBOOK

(a) (1) A technical logbook shall be kept in respect of every aircraft registered in Rwanda in respect of which a certificate in either commercial air transport or aerial work category is in force.

(b) Technical logbook entries on defects which affect the airworthiness and safe operation of the aircraft shall be made as specified in Regulation 4.190 of these Regulations.

(c) Upon rectification of any defect which has been entered in the technical logbook in accordance with paragraph (b) of this Regulation, an authorized person issuing a certificate of release to service under the Part 5 in respect of that defect shall enter that certificate in the technical logbook.

4.190 AIRCRAFT, ENGINE & PROPELLER L O G B O O K S

(a) In addition to any other log books required by or under these Regulations, the following log books shall be kept in respect of aircraft registered in Rwanda—

(1) an aircraft log book;

(2) a separate log book in respect of each engine fitted in the aircraft; and

(3) a separate log book in respect of each variable pitch propeller fitted to the aircraft;

(b) The log books shall include the particulars respectively specified in Appendix 1 of 4.190 to these Regulations and in the case of an aircraft having a maximum total weight authorized not exceeding 2,730 kg, shall be of a type approved by the Authority.

(c) An entry in a log book other than such an entry as is referred to in Appendix 1 to 4.190 to these Regulations shall be made—

(1) as soon as practicable after the occurrence to which it relates, but not more than 7 days after the expiration of the certificate of release to service, in force in respect of the aircraft at the time of the occurrence.

(2) upon each occasion that any maintenance, overhaul, repair, replacement, modification or inspection is undertaken on the engine or propeller as the case may be.

(d) Entries in the log book may refer to other documents which shall be clearly identified, and any other documents so referred to shall be deemed, for the purposes of this regulation to be part of the log book.

(e) It shall be the duty of the operator of every aircraft in respect of which log books are required to be kept to keep the log books or cause them to be kept in accordance with this regulation.

(f) Subject to this regulation, every log book shall be preserved by the operator of the aircraft until a date 2 years after the aircraft, the engine or the variable pitch propeller as the case may be, has been destroyed or has been permanently from use.

4.195 RECORDS OF MAINTENANCE

(a) A person who performs maintenance on an aircraft or aircraft component shall, when the work is performed satisfactorily, make an entry in the maintenance record of that equipment as follows—

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

(2) completion date of the work performed; and

(3) name, signature and licence number of the person approving the work.

(b) The signature required by paragraph (a)(3) of this Regulation shall constitute the approval for return to service only for the work performed.

(c) A person working under the supervision of a licenced aircraft maintenance engineer shall not perform any inspection required in the Part 4, Part 10 or any inspection performed after a major repair or modification.

(d) A person performing the work referred to in paragraph (a) shall enter records of major repairs and major modifications in a form and manner prescribed by the Authority.

(e) A person performing a major repair or major modification shall—

(1) execute the appropriate form prescribed by the Authority at least in duplicate;

(2) give a signed copy of that form to the aircraft owner or operator; and

(3) forward a copy of that form to the Authority, in accordance with Authority instructions, within forty-eight hours after the aircraft or aircraft component is approved for return to service.

(f) An approved maintenance organization which performs a major repair or modification shall—

(1) use the aircraft owner or operator's work order upon which the repair is recorded;

(2) give the aircraft owner or operator's a signed copy of the work order and retain a duplicate copy for at least one year from the date of approval for return to service of the aircraft or aircraft component;

(3) give the aircraft owner or operator a certificate of release to service signed by an authorized representative of the approved maintenance organization and incorporating the following information—

(i) identity of the aircraft or aircraft component—

(A) the make, model, serial number, nationality and registration marks, and location of the repaired area of an aircraft;

(B) the manufacturer's name, name of the part, model, and serial numbers (if any) of an aircraft component; and

(ii) a statement that the aircraft or aircraft component was repaired, overhauled and inspected in accordance with this Part and is approved for the return to service.

(iii) a statement that pertinent details of repair are on file at the approved maintenance organization; and

(iv) the order number and date of the order number; and

(4) signature of the authorized representative, the name and address of the approved maintenance organization and approved maintenance organization certificate number.

4.200 RECORDS OF OVERHAUL & REBUILDING

(a) A person shall not record in any required maintenance entry or form, an aircraft or aircraft component as being overhauled unless the aircraft or aircraft component has been—

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

(2) 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) A person shall not record in any required maintenance entry or form an aircraft or aircraft component as being rebuilt unless aircraft or aircraft component 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.

4.205 APPROVAL FOR RETURN TO SERVICE

(a) A person shall not approve for return to service any aircraft or aircraft component that has undergone maintenance, preventive maintenance, rebuilding, or modification unless—

(1) the appropriate maintenance record entry has been made in accordance with this Part;

(2) the prescribed major repair or major modification form has been executed in the form and manner acceptable to the Authority; and

(3) if a major repair or major 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 out as prescribed.

(b) Parts to be installed on aircraft, engines and propellers must meet the appropriate airworthiness requirements and the standards of continuing airworthiness (maintenance) applicable to the installation of the part. The part must demonstrate to hold a certification or authorized release certificate document accompanying the part.

New: Annex 8: Special Regulation RSR/01/2021: Effective 06 August 2021

4.210 CONTENT, FORM & DISPOSITION OF RECORDS FOR INSPECTIONS

(a) A person approving the return to service of an aircraft or aircraft component after any inspection performed in accordance with Part 5 and Part 10, shall make an entry in the maintenance record of that equipment containing the following information—

(1) type of inspection and a brief description of the extent of the inspection;

(2) date of inspection;

(3) aircraft total time and cycles in service;

(4) signature, the licence number held by the person approving return to service the aircraft or aircraft component;

(5) if the aircraft is found to be airworthy and approved for return to service, the person shall include a statement certifying that the aircraft has been inspected in accordance with the type of work and was determined to be in an airworthy condition;

(6) if the aircraft is not approved for return to service because the aircraft needs maintenance, non- compliance with the applicable specifications, airworthiness directives, or other approved data, a statement that the aircraft has been inspected in accordance with inspection and a dated list of discrepancies and unairworthy items has been provided to the aircraft owner or operator; and

(7) if an inspection is conducted under an inspection program provided for in Part 4 and Part 10, 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 type of inspections and procedures for that particular program.

(b) A person performing any inspection required in this Part or Part 10 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 the aircraft's airworthiness depends, shall give the owner or operator a signed and dated list of those discrepancies.

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4.215 REST & DUTY LIMITATIONS FOR PERSONS PERFORMING MAINTENANCE FUNCTIONS

(a) 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.

(b) No person may schedule a person performing maintenance functions for aircraft for more than 12 consecutive hours of duty.

(c) In situations involving unscheduled aircraft unserviceability, persons performing maintenance functions for aircraft may be continued on duty for—

(1) Up to 16 consecutive hours; or

(2) 20 hours in 24 consecutive hours.

(d) Following unscheduled duty periods, the person performing maintenance functions for aircraft shall have a mandatory rest period of 10 hours.

(e) An AMO or AOC holder shall relieve the person performing maintenance functions from all duties for 24 consecutive hours during any 7 consecutive day period.

4.220 AME PRIVILEGES & LIMITATIONS

(a) Subject to compliance with the requirements specified in (b) and (c), the privileges of the holder of an aircraft maintenance engineer licence shall be to certify the aircraft or parts of the aircraft as airworthy after an authorised repair, modification or installation of an engine, accessory, instrument, and/or item of equipment, and to sign a maintenance release following inspection, maintenance operations and/or routine servicing.

Refer to Appendix 1 to 4.220 for specific AME privileges and limitations.

(b) The privileges of the holder of an aircraft maintenance licence shall be exercised only—

(1) In respect of such—

(i) Aircraft as are entered on the licence in their entirety either under broad categories and/or specifically; or

(ii) Airframes and engines and aircraft systems or components as are entered on the licence either under broad categories and/or specifically; and/or

(iii) Aircraft avionic systems or components as are entered on the licence either under broad categories or specifically;

(2) Provided that the licence holder is familiar with all the relevant information relating to the maintenance and airworthiness of the particular aircraft for which the licence holder is signing a Maintenance Release, or such airframe, engine, aircraft system or component and aircraft avionic system or component which the licence holder is certifying as being airworthy; and

(3) On condition that, within the preceding 24 months, the licence holder has either had experience in the inspection, servicing or maintenance of an aircraft or components in accordance with the privileges granted by the licence held for not less than six months, or has met the provision for the issue of a licence with the appropriate privileges, to the satisfaction of the Authority.

(c) Except as specified in paragraph (f) of this Regulation, a licensed AME may perform or supervise the maintenance, preventive maintenance, or modification of, or after inspection, execute a maintenance release for any aircraft, airframe, aircraft engine, propeller, appliance, component, or part thereof, for which he or she is rated, provided the licensed AME has—

(1) Satisfactorily performed the work at an earlier date;

(2) Demonstrated the ability to perform the work to the satisfaction of the Authority;

(3) Received training acceptable to the Authority on the tasks to be performed; or

(4) Performed the work while working under the direct supervision of a licensed AME or a licensed aviation repair specialist (ARS) who is appropriately rated and has—

(i) Had previous experience in the specific operation concerned; or

(ii) Received training acceptable to the Authority on the task to be performed.

(d) Except as specified in paragraph (f) of this Regulation, a licensed AME with an airframe rating may after he/ she has performed the 100-hour inspection required by this Part on an airframe, or any related part or appliance, and approve and return it to service.

(e) Except as specified in paragraph (f) of this Regulation, a licensed AME with a powerplant rating may perform the 100-hour inspection required by this Part on a powerplant or propeller or any related part or appliance, and approve and return it to service.

(f) An AME with an airframe and/or powerplant rating may not—

(1) Supervise the maintenance, preventive maintenance, or modification of, or approve and return to service, any aircraft, airframe, aircraft engine, propeller, appliance, component, or part thereof, for which he/she is rated unless he/she has satisfactory performed the work concerned at an earlier date.

(2) Perform or supervise (unless under the direct supervision and control of an AOC holder that is authorised to perform maintenance, preventative maintenance, or modifications under an equivalent system in accordance with Part 12—

(i) A major repair or major modification of a propeller; or

(ii) Any repair or modification of instruments;

(3) Execute a maintenance release for—

(i) Any aircraft, airframe, aircraft engine, propeller, appliance, component, or part thereof after completion of a major modification or major repair; or

(ii) Any instrument after completion of any repair or modification;

(4) Exercise the privileges of the license unless the licensed AME understands the current instructions for continued airworthiness and the maintenance instructions for the specific operation concerned.

4.225 AME RECENT EXPERIENCE REQUIREMENTS

(a) A licensed AME may not exercise the privileges of his/her license or rating unless, within the preceding 24 months—

(1) The Authority has found that he/she is able to do that work; or

(2) For at least 6 months within the preceding 24 months—

(i) Served as an AME under his/her license and rating;

(ii) Technically supervised other AMEs;

(iii) Provided aviation maintenance instruction or served as the direct supervisor of persons providing aviation maintenance instruction for an AME course or program acceptable to the Authority;

(iv) Supervised the maintenance, preventive maintenance, or modification of any aircraft, airframe, aircraft engine, propeller, appliance, component, or part thereof; or

(v) Been engaged in any combination of paragraphs (a)(1)(i) through (a)(1)(iv) of this Regulation.

4.230 [DELETED]

Deleted: Internal: Special Regulation RSR/02/2021: Effective 03 November 2021

4.235 [DELETED]

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APPENDICES

APPENDIX 1 TO 4.003.- SUMMARY OF AMENDMENTS AND REVISION HIGHLIGHTS

This attachment contains a summary of all amendments and revision highlights to this Part since the issuance of the original regulation.

Amended Regulation	Source of Amendment	Revision	Description of Revision
4.003	Internal	Special Regulation RSR/01/2020 Effective 15 November 2020	Inserted a new summary of Amendments and Highlight of Revisions.
4.060(b)	Annex 8	Special Regulation RSR/01/2021: Effective 06 August 2021	Amended to clearly state the requirements for notifying state of design upon type Acceptance or first entry of an aircraft of a particular type on Rwanda Register.
4.205	Annex 8	Special Regulation RSR/01/2021: Effective 06 August 2021	Amended to introduce airworthiness requirements for parts to be installed on aircraft, engines and propellers.
4.230	Internal	Special Regulation RSR/02/2021: Effective 03 November 202	Deleted the inapplicable Inspection Authorization requirements
4.235	Internal	Special Regulation RSR/02/2021: Effective 03 November 202	Deleted the inapplicable Aviation Repair Specialist requirements
Appendix 1 to 4.003	Internal	Special Regulation RSR/01/2020 Effective 15 November 2020	Added a new Appendix providing details to the summary of Amendments and Highlight of Revisions..

Revised: Internal: Special Regulation RSR/02/2021: Effective 03 November 2021

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APPENDIX 1 TO 4.005: MAJOR MODIFICATIONS (DEFINITION)

(a) **Airframe Major Modifications.** Major modifications include modifications to the listed aircraft parts, or the listed types of modifications (when not included in the applicable aircraft specifications)—

(1) Wings.
(2) Tail surfaces.
(3) Fuselage.
(4) Engine mounts.
(5) Control system.
(6) Landing gear.
(7) Hull or floats
(8) Elements of an airframe including spars, ribs, fittings, shock absorbers, bracing, cowlings, fairings, and balance weights.
(9) Hydraulic and electrical actuating system of components.
(10) Rotor blades.
(11) Changes to the empty weight or empty balance which result in an increase in the maximum Certified weight or centre of gravity limits of the aircraft.
(12) Changes to the basic design of the fuel, oil, cooling, heating, cabin pressurisation, electrical, hydraulic, de-icing, or exhaust systems.
(13) Changes to the wing or to fixed or movable control surfaces which affect flutter and vibration characteristics.

(b) **Powerplant Major Modifications.** Major powerplant modifications, even when not listed in the applicable engine specifications, include—

(1) 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 which requires extensive rework and testing of the engine.
(2) 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 Authority.
(3) Installation of an accessory which is not approved for the engine.
(4) Removal of accessories that are listed as required equipment on the aircraft or engine specification.
(5) Installation of structural parts other than the type of parts approved for the installation.
(6) Conversions of any sort for the purpose of using fuel of a rating or grace other than that listed in the engine specifications.

(c) **Propeller Major Modifications.** Major propeller modifications, when not authorised in the applicable propeller specifications, include—

(7) Changes in blade design.
(8) Changes in hub design.
(9) Changes in the governor or control design.
(10) Installation of a propeller governor or feathering system.
(11) Installation of propeller de-icing system.
(12) Installation of parts not approved for the propeller.

(d) **Appliance Major Modifications.** Modifications of the basic design not made in accordance

with recommendations of the appliance manufacturer or in accordance with applicable Airworthiness Directive are appliance major modifications. In addition, 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, AVC characteristics, or ability to meet environmental test conditions and other changes that have an effect on the performance of the equipment are also major modifications.

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APPENDIX 2 TO 4.005: MAJOR REPAIRS (DEFINITION)

(a) **Airframe Major Repairs.** 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 of their replacement, when replacement is by fabrication such as riveting or welding, are airframe major repairs.

(1) Box beams.
(2) Monocoque or semimonocoque wings or control surfaces
(3) Wing stringers or chord members
(4) Spars.
(5) Spar flanges.
(6) Members of truss-type beams.
(7) Thin sheet webs of beams.
(8) Keel and chine members of boat hulls or floats.
(9) Corrugated sheet compression members which act as flange material of wings or tail surfaces.
(10) Wing main ribs and compression members.
(11) Wing or tail surface brace struts.
(12) Engine mounts.
(13) Fuselage longerons.
(14) Members of the side truss, horizontal truss, or bulkheads.
(15) Main seat support braces and brackets.
(16) Landing gear brace struts.
(17) Axles.
(18) Wheels.
(19) Parts of the control system such as control columns, pedals, shafts, brackets, or horns.
(20) Repairs involving the substitution of material.
(21) The repair of damaged areas in metal or plywood stressed covering exceeding six inches in any direction.
(22) The repair of portions of skin sheets by making additional seams.
(23) The splicing of skin sheets
(24) The repair of three or more adjacent wing or control surface ribs or the leading edge of wings and control surfaces, between such adjacent ribs.
(25) Repair of fabric covering involving an area greater than that required to repair two adjacent ribs.
(26) Replacement of fabric on fabric covered parts such as wings, fuselages, stabilizers, and control surfaces.
(27) Repairing, including rebottoming, of removable or integral fuel tanks and oil tanks.

(b) **Powerplant Major Repairs.** Repairs of the following parts of an engine and repairs of the following types, are powerplant major repairs—

(1) Separation or disassembly of a crankcase or crankshaft of a reciprocating engine equipped with an integral supercharger.
(2) Separation or disassembly of a crankcase or crankshaft of a reciprocating engine equipped with other than spur-type propeller reduction gearing.
(3) Special repairs to structural engine parts by welding, plating, metalising, or other methods.

(c) **Propeller Major Repairs.** Repairs of the following types to a propeller are propeller major

repairs—

(4) Any repairs to or straightening of steel blades.
(5) Repairing or machining of steel hubs.
(6) Shortening of blades.
(7) Retipping of wood propellers.
(8) Replacement of outer laminations on fixed pitch wood propellers.
(9) Repairing elongated bolt holes in the hub of fixed pitch wood propellers.
(10) Inlay work on wood blades.
(11) Repairs to composition blades.
(12) Replacement of tip fabric.
(13) Replacement of plastic covering.
(14) Repair of propeller governors.
(15) Overhaul of controllable pitch propellers.
(16) Repairs to deep dents, cuts, scars, nicks, etc., and straightening of aluminium blades.
(17) The repair or replacement of internal elements of blades.

(d) **Appliance Major Repairs.** Repairs of the following types to appliances are appliance major repairs—

(18) Calibration and repair of instruments.
(19) Calibration of avionics or computer equipment.
(20) Rewinding the field coil of an electrical accessory.
(21) Complete disassembly of complex hydraulic power valves.
(22) Overhaul of pressure type carburettors, and pressure type fuel, oil, and hydraulic pumps.

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APPENDIX 1 TO 4.150: PREVENTIVE MAINTENANCE

(a) The following maintenance shall be considered preventive maintenance—

(1) removal, installation and repair of landing gear tires;
(2) replacing elastic shock absorber cords on landing gear;
(3) servicing landing gear shock struts by adding oil, air, or both;
(4) servicing landing gear wheel bearings, such as cleaning and greasing;
(5) replacing defective safety wiring or cotter keys;
(6) lubrication not requiring disassembly other than removal of non-structural items such as cover plates, cowlings, and airings;
(7) making simple fabric patches not requiring rib stitching or the removal of structural parts or control surfaces in the case of balloons, the making of small fabric repairs to envelopes (as defined in, and in accordance with, the balloon manufacturers' instructions) not requiring load tape repair or replacement.;
(8) replenishing hydraulic fluid in the hydraulic reservoir;
(9) refinishing decorative coating of fuselage, balloon baskets, wings tail group surfaces (excluding balanced control surfaces), fairings, cowling, landing gear, cabin, or cockpit interior when removal or disassembly of any primary structure or operating system is not required;
(10) applying preservative or protective material to components where no disassembly of any primary structure or operating system is involved and where such coating is not prohibited or is not contrary to good practices;
(11) repairing upholstery and decorative furnishings of the cabin, cockpit or balloon basket interior when the repairing does not require disassembly of any primary structure or operating system or interfere with an operating system or affect primary structure of the aircraft;
(12) making small simple repairs to fairings, non-structural cover plates, cowlings, and small patches and reinforcements not changing the contour so as to interfere with proper airflow;
(13) replacing side windows where that work does not interfere with the structure of any operating system such as controls, electrical equipment; etc.
(14) replacing safety belts;
(15) replacing seats or seat parts with replacement parts approved for the aircraft, not involving disassembly of any primary structure or operating system;
(16) troubleshooting and repairing broken circuits in landing light wiring circuits;
(17) replacing bulbs, reflectors, and lenses of position and landing lights;
(18) replacing wheels and skis where no mass and balance computation is involved;
(19) replacing any cowling not requiring removal of the propeller or disconnection of flight controls;
(20) replacing or cleaning spark plugs and setting of spark plug gap clearance;
(21) replacing any hose connection except hydraulic connections;
(22) replacing prefabricated fuel lines;
(23) cleaning or replacing fuel and oil strainers or filter elements;
(24) replacing and servicing batteries;
(25) cleaning of balloon burner pilot and main nozzles in accordance with the balloon manufacturer's instructions.
(26) replacement or adjustment of non-structural standard fasteners incidental to operations;
(27) the interchange of balloon baskets and burners on envelopes when the basket or burner is designated as interchangeable in the balloon type certificate data and the baskets and burners are specifically designed for quick removal and installation.
(28) the installation of anti-misfueling devices to reduce the diameter of fuel tank filler openings provided the specific device has been made a part of the aircraft type certificate data by

the aircraft manufacturer, the manufacturer has provided instructions acceptable to the Authority for the installation of the specific device, and installation does not involve the disassembly of the existing filler opening.

(29) (removing and replacing self-contained, front instrument panel-mounted navigation and communication devices that employ tray-mounted connectors that connect the unit when the unit is installed into the instrument panel, (excluding automatic flight control systems, transponders, and microwave frequency distance measuring equipment (DME)), provided that the approved unit is designed to be readily and repeatedly removed and replaced, and pertinent instructions must be provided and that, prior to the unit's intended use, an operational check was performed in accordance with a procedure acceptable to the Authority; and.

(30) updating self-contained, front instrument panel-mounted Air Traffic Control navigational software data bases (excluding those of automatic flight control systems, transponders, and microwave frequency distance measuring equipment (DME)) provided no disassembly of the unit is required and pertinent instructions are provided, and prior to the unit's intended use, an operational check was performed in accordance with a procedure acceptable to the Authority.

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APPENDIX 1 TO 4.170: AIRCRAFT MASS SCHEDULE

1) General

(a) The applicant for the issuance or the renewal of a Certificate of Airworthiness shall provide to the Authority the current mass and balance report for the aircraft.

(b) The mass and balance report is normally obtained by weighing. Nevertheless, if the changes in mass and balance have been duly computed and recorded and if the resulting change is minor, the accurate mass may be obtained by calculation from the previous weighing.

(c) A complete, current, and continuous record of changes in empty mass and empty centre of gravity position should be maintained for each aircraft. This record should contain details of all alterations affecting either the mass or balance of the aircraft.

2) Periodic Determination of Mass

(a) Aircraft exceeding 5700 kg (12500 lb) Maximum Total Mass Authorized must be re- weighed 2 years after the date of manufacture and their after at intervals not exceeding 5 years and at such times as the Authority may require. Aircraft not exceeding 5700 kg (12500 lb) shall be weighed at intervals not exceeding 5 years and at such times as the Authority may require.

(b) Notwithstanding 2(a) above, it should be the responsibility of the operator of an aircraft to renew the load data sheet if a modification results in a significant change in the empty mass or empty centre of gravity position.

(c) Further to the provisions of 2(b), above if the CAA or the operator is of the opinion that adequate mass control has not been exercised over an aircraft during the modification, the CAA or the operator may require that a new empty mass and empty centre of gravity position should be determined.

(d) For a fleet or group of aeroplanes of the same model and configuration, an average gross mass and CG position may be used as the fleet mass and CG position, provided that the gross masses and CG positions
of the individual aeroplanes are within a tolerance specified by the CAA. The average gross mass and CG position may be determined on a sampling basis. This method allows longer intervals between the weighing of aircrafts dependent on the fleet size of the operator.

3) Procedures for Determining Mass

(a) Aircraft mass determination shall be supervised by either an airworthiness officer of the CAA or a person duly trained and nominated by an operator or an owner to sign on its behalf. Aircraft shall be presented for mass determination in a condition acceptable to the person authorized to supervise the measurements.

(b) Two independent determinations should be made and the aircraft longitudinal datum line should be horizontal. The load should be completely removed from the weighing equipment between determinations. The aircraft gross masses as determined by the two measurements should be consistent. If not, the measurements should be repeated until the gross masses, as determined by two consecutive and independent measurements are consistent.

(c) Prior to the initial issue of a Certificate of Airworthiness for each aeroplane and helicopters, a list of equipment included in the empty mass should be established. If an operating mass is used, a similar list of removable equipment and disposable load included in the operating mass should also be established. Where a change occurs in the items included in either the empty mass or, if applicable, the operating mass of an aircraft, the appropriate list should be amended by the operator.

(d) Normal precautions, consistent with good practices in the mass determination procedures, shall be taken, such as—

(1) aircraft and equipment should be checked for completeness in accordance with 3(c) above;
(2) fluids should be properly accounted for;
(3) mass determination should be carried out in an enclosed building, to avoid the effect of wind; and

(4) the scales used should be properly calibrated and used in accordance with the manufacturer's instructions.

(e) An aircraft mass summary should be completed and a certified by the person supervising the measurement. Data recorded should be sufficient to enable the empty mass and empty mass centre of gravity position to be accurately determined.

The empty mass and empty centre of gravity position should be determined by the owner or operator of the aircraft in accordance with the recorded results of the measurements.

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APPENDIX 1 TO 4.190: AIRCRAFT, ENGINE & PROPELLER LOG BOOKS

1) Aircraft log book

(a) The following entries shall be included in the aircraft log book-

(1) the name of the constructor, the type of the aircraft, the number assigned to it by the constructor and the date of construction of the aircraft;

(2) the nationality and registration marks of the aircraft;

(3) the name and address of the operator of the aircraft;

(4) the date of each flight and the duration of the period between take-off and landing, or, if more than one flight was made on that day, the number of flights and the total duration of the periods between take-off and landings on that day;

(5) particulars of all maintenance work carried out on the aircraft or its equipment;

(6) particulars of any defects occurring in the aircraft or in any equipment required to be carried in it by or under these Regulations, and of the action taken to rectify such defects.

(7) particulars of any overhauls, repairs, replacements and modifications relating to the aircraft or any such equipment as aforesaid.

(b) With respect to any engine or variable pitch propeller, entries are not required to be made for the information specified in paragraph (a)(5), (6) or (7).

2) Engine log book

(a) The following entries shall be included in the engine log book-

(1) the name of the constructor, type of engine, the number assigned to it by the constructor and the date of the construction of the engine;

(2) the nationality and registration marks of each aircraft in which the engine is fitted;

(3) the name and address of the operator of each such aircraft;

(4) either-

(i) the date of each flight and the duration of the period between take-off and landing or, if more than one flight was made on that day, the number of flights and the total duration of the periods between take-off and landings on that day; or

(ii) the aggregate duration of periods between take-off and landing for all flights made by that aircraft since, the immediately preceding occasion that any maintenance, overhaul, repair, replacement, modification or inspection was undertaken on the engine.

(5) particulars of all maintenance work done on the engine;

(6) particulars of any defects occurring in the engine, and of the rectification of such defects;

(7) particulars of all overhauls, repairs, replacement and modifications relating to the engine or any of its accessories.

3) Propeller logbooks

(a) The following entries shall be included in the variable pitch propeller log book-

(1) the name of the constructor, the type of the propeller, the number assigned to it by the constructor and the date of the construction of the propeller;

(2) the nationality and registration marks of each aircraft, and the type and number of each engine, to which the propeller is fitted;

(3) the name and address of the operator of each such aircraft;

(4) either-

(i) the date of each flight and the duration of the period between take-off and landing or, if more than one flight was made on that day, the number of flights and the total duration of the periods between take-off and landings on that day; or

(ii) the aggregated duration of periods between take-off and landing for all flights made by that aircraft since the immediately preceding occasion that any maintenance, overhaul, repair, replacement, modification or inspection was undertaken on the propeller;

(5) particulars of all maintenance work done on the propeller;
(6) particulars of any defects occurring in the propeller, and of the rectification of such defects;
(7) particulars of any overhauls, repairs, replacements and modifications relating to the propeller.

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APPENDIX 1 TO 4.220: ADDITIONAL AME PRIVILEGES (RATINGS & TASKS)

(a) The person who has the license AME rating A is only allowed to perform the work under the authority approved on a specific type of aircraft after completion of specific training in accordance with rating A by a maintenance organization in accordance with Part 5 or Part 12. The training will include both theory and practice in accordance with the work will be approved. Completion of the course must be demonstrated by test results / or direct assessment practices implemented by approved organizations in accordance with Part 5 or Part 12.

(b) Unless otherwise stated in paragraph (g), licensed technical staff AME with rating B1, B2 and C only to perform his particular aircraft type rating on the type aircraft that is approved.

(c) Unless otherwise stated in paragraph (h), rating may only be granted after the applicant has completed training course approved by Authority or conducted by maintenance training organization is Authority approved in accordance with Part 9.

(d) The training to upgrade aircraft type for technical staff with rating of B1 or B2 must include the theory and practice and includes courses related to the functions specified in paragraph (c) of 7.353. Theory and practice training must have complied with the specific requirements prescribed by the Authority.

(e) Training program for AME licensed staff with rating C type must comply with the specific requirements prescribed by the Authority. In the case of AME with rating C has a degree in aerospace engineering, training of the first aircraft to be equivalent to level B1 or B2, practical training is not required.

(f) The completion of the training specified in paragraph (b) to (e) must be demonstrated by test results. The test results must meet the training requirements prescribed by the Authority. Testing for AME licensed staff with rating B1, B2 and C must be performed by an approved training organization in accordance with Part 8 or approved by training organizations conducted the approved aircraft type upgrade training.

(g) Contrary to the provisions of paragraph (b), for the type of aircraft is not large aircraft (takeoff weight greater than 5700 kg), the licensed with rating B1 and B2 can perform discretion if the license has the record for the group of aircraft suitable or group of manufacturers unless the Authority determines the complexity of the aircraft involved must be approved separately.

  (1) Rating of the aircraft by manufacturer may be granted upon compliance with the rating type of aircraft class 2 representing a group of manufacturers.

  (2) Full group rating will be issued upon full compliance with the requirements of the rating type of 3 aircraft types' representative of a group of manufacturers. However, the full group rating is not granted for B1 personnel on the aircraft with 2 jet turbine engine and more.

  (3) Groups will include:

    (i) For a license for rating type B1 or C: Engine piston helicopter or turbine engine helicopters; single-engine piston aircraft with a metal structure; aircraft many engine piston-metal structure; single-engine piston aircraft with a wooden structure; aircraft many piston engines - wooden structure; single-engine piston aircraft – have body structure made of composite materials; aircraft many piston engines - composite structure; aircraft turbine engine; aircraft and turbine engine

    (ii) For the rating type B2 and C licenses: aircraft; helicopter

(h) In contrast to the provisions of paragraph (c), rating for the aircraft is not large aircraft may also be granted on the basis of the complete test on the rating type of aircraft involved B1, B2 and C, and has sufficient evidence of actual experience on the aircraft type, unless Authority determines that the aircraft is too complex and request to participate the training as in following point 3. For the rating C aircraft is not a large aircraft of a person who holds an aircraft engineer degree, the first aircraft in test must be equivalent to level B1 or B2.

END OF RCAR PART 4