

Regulations of Airworthiness and Maintenance Management for Aviation Products, Appliances and Parts

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Amendment to Articles 19, 21, 28 and Attachment 3, promulgated on March 15, 2024.

Chapter 1 General Principles

Article 1 This regulation is established in accordance with Paragraph 2 of Article 9-1 of the Civil Aviation Act of the Republic of China.

Article 2 Definitions:

1. Maintenance means inspection, overhaul, repair, preservation, and the replacement of part in order to maintain the airworthiness of an aircraft, but excludes preventive maintenance.
2. Preventive maintenance means simple or minor inspection, assembly, preservation operations and the replacement of small standard part not involving complex assembly operations.
3. Repair means the restoration of an aircraft, its powerplant, propeller, components and part to an airworthy condition as defined by the appropriate airworthiness standards and requirements. It is classified as following:
 - (1) Major repair means a repair that if improperly done, might appreciably affect weight, balance, structural strength, performance, powerplant operation, flight characteristics, or other qualities affecting airworthiness; or that is not done according to accepted practices or cannot be done by elementary operations.
 - (2) Minor repair means a repair other than a major repair.
4. Alteration means a modification work which is not listed in the original design standard to add or subtract component and part, or change its original performance or function to an aircraft, its powerplant, or propeller. It is classified as following:
 - (1) Major alteration means an alteration not listed in the aircraft, aircraft engine, or propeller specifications that might appreciably affect weight, balance, structural strength, performance, powerplant operation, flight characteristics, or other qualities affecting

airworthiness; or that is not done according to accepted practices or cannot be done by elementary operations.

(2) Minor alteration means an alteration other than a major alteration.

5. Rebuilding means to restore the aircraft, its powerplant, propeller, component or part to the applicable airworthiness standards by disassembly, cleaning, inspection, repair, reassembly, and test to the same tolerances and limits as a new item in accordance with methods, techniques, and practices acceptable to the CAA.
6. Operating limitation means the necessary limitations with concerning weight, balance, structural strength, performance, powerplant operation, flight characteristics, and quality of maneuver and equipment operation to comply with applicable airworthiness standards and maintain continued airworthiness during flight.
7. Aircraft powerplant means aircraft engine, its attachments and accessories. Aircraft engine means an engine that is used for propelling aircraft. It includes superchargers and turbines.
8. Instructions for Continued Airworthiness means the necessary airworthiness information which describe methods, techniques, and practices to perform maintenance, preventive maintenance or rebuilding to an aircraft, its powerplant, propeller, component or part.
9. Life-limited part means any part for which a mandatory replacement limit is specified in the type design, the Instructions for Continued Airworthiness, or the maintenance manual.
10. Life status means the accumulated cycles, hours, or any other mandatory replacement limit of a life-limited part.
11. Airframe means the fuselage, booms, nacelles, cowlings, fairings, airfoil surfaces (including rotors but excluding propellers and rotating airfoils of engines), and landing gear of an aircraft and their accessories and controls.

Chapter 2 Maintenance Management

Section 1 Rules concerning certification and recording for maintenance, preventive maintenance, rebuilding or alteration

Article 3 Persons authorized to perform or approval for return to service after maintenance, preventive maintenance, rebuilding, or alteration shall comply with provisions in Attachment 1.

Those items, the performance of which is a major alteration, a major repair, or preventive maintenance, as listed in Attachment 2.

Article 4 No person may describe in any required maintenance entry or form an aircraft, its powerplant, propeller, component or part as being overhauled unless:

1. Using methods, techniques, and practices acceptable to the CAA, it has been disassembled, cleaned, inspected, repaired as necessary, and reassembled; and
2. It has been tested in accordance with technical standards approved by CAA, or technical

standards approved by Authorities of State of Design, or current standards and technical data developed by certificate holder which acceptable to the CAA.

Article 5 No person may describe in any required maintenance entry or form an aircraft, its powerplant, propeller, component or part as being rebuilt unless:

1. Use either new part or used part that either conform to new part tolerances and limits or to approved oversized or undersized dimensions; and
2. It has been disassembled, cleaned, inspected, repaired as necessary, reassembled, and tested to the same tolerances and limits as a new item.

Article 6 Each person who performs maintenance, preventive maintenance, rebuilding, or alteration of an aircraft, its powerplant, propeller, component or part shall make an entry in the maintenance record of that equipment containing the following information:

1. A description of work performed and reference to data acceptable to CAA.
2. The date of completion of the work performed.
3. The name of the person performing the work.
4. If the work performed satisfactorily, the signature, certificate number, and kind of certificate held by the person approving the work.

Upon completing major repair or major alteration, signature of authorized person shall be entered on a form (as Attachment 3) , and the form disposed of, in the manner prescribed in Attachment 4.

Each holder of Civil Air Transport Enterprise and General Aviation that is required by its approved operations specifications and maintenance program shall make a record of the maintenance, preventive maintenance, rebuilding, or alteration on aircraft, its powerplant, propeller, component or part which it operates in accordance with the applicable provisions of Aircraft Flight Operation Regulations, as appropriate.

Article 7 Except as provided in Paragraph 3 of Article 6, each holder of General Aviation by whom using aircraft that are type certificated for a passenger seating configuration, excluding any pilot seat, of nine seats or less, shall be inspected in accordance with approved progressive inspection program and make an entry in the maintenance record of that equipment containing the following information:

1. The type of inspection and a brief description of the extent of the inspection.
2. The date of the inspection and aircraft total time in service.
3. The signature, the certificate number, and kind of certificate held by the person.
4. If the aircraft is found airworthy and approved for return to service, or is not found airworthy and disapproved for return to service, the statement in Attachment 5 shall be addressed.
5. If an inspection is conducted under an approved maintenance program, the entry must identify name of that program and part of the program accomplished.

Except holder of Civil Air Transport Enterprise and General Aviation, each aircraft owner or operator shall make a record of inspection on aircraft, its powerplant, propeller, component or part as described in accordance with previous paragraph.

If the person performing any inspection required by previously 2 paragraph of this Article finds the aircraft unairworthy, that person must give the owner or operator a signed and dated list of those discrepancies. Owner or operator shall place a placard on each inoperative instrument and the cockpit control of each item of inoperative equipment, marking it "Inoperative," and shall add the items to the signed and dated list of discrepancies given to the owner or operator.

- Article 8 No person may approve for return to service of any aircraft, its powerplant, propeller, component or part that has undergone maintenance, preventive maintenance, rebuilding or alteration unless:
- 1.The maintenance record entry required by Article 6 and 7, as appropriate, has been made; The identity of the approved maintenance organization, responsible for the authorization for signing a return to service, shall be included in the record entry.
 - 2.The major repair or major alteration form furnished by CAA has been executed in a manner prescribed by the CAA;
 - 3.If a repair or an alteration results in any change in the aircraft operating limitations or flight data contained in the aircraft flight manual, those operating limitations or flight data are appropriately revised and approved or accepted by CAA.

When the Powerplant, propeller, component or part has undergone maintenance, preventive maintenance, rebuilding, or alteration, an Authorized Release Certificate or a form accepted by CAA shall be filed out by authorized person as an evidence of airworthiness approval for return to service.

- Article 9 No person shall, either by his own will or intentionally by his employee or contracted person, group or repair station make any fraudulent or intentionally false entry in any record when performing maintenance, preventive maintenance, rebuilding or alteration work.

If an error was found in Maintenance record, authorized personnel shall make a correction in accordance with procedure accepted by CAA.

Aircraft owner or operator may establish managing procedures, upon being granted by CAA, to use electronic recording/signature system for signing and recording the maintenance record required by Article 6 to 8.

- Article 10 Each person performing maintenance, preventive maintenance, rebuilding or alteration on an aircraft, its powerplant, propeller, component or part shall use the methods, techniques, and practices prescribed in the current manufacturer's maintenance manual or Instructions for Continued Airworthiness prepared by its manufacturer, or other methods, techniques, and practices acceptable to the CAA.

Each person shall use the tools, equipment, and test apparatus necessary to assure

completion of the work in accordance with accepted industry practices. If special equipment or test apparatus is recommended by the manufacturer involved, he must use that equipment or apparatus or its equivalent acceptable to the CAA.

Article 11 Each person performing maintenance, preventive maintenance, rebuilding or alteration shall do that work in such a manner and use materials of such a quality, that the condition of the aircraft, its powerplant, propeller, component or part worked on will be at least equal to its original or properly altered condition.

The aforementioned 'equal to its original or properly altered condition' means with regard to aerodynamic function, structural strength, resistance to vibration and deterioration, and other qualities affecting airworthiness.

Article 12 Each person performing an inspection or maintenance specified in a manufacturer's maintenance manual, Airworthiness Limitations section of Instructions for Continued Airworthiness, shall perform the inspection or maintenance in accordance with operations specifications or maintenance program approved by CAA.

Section 2 Except to holder of Civil Air Transport Enterprise, provisions of maintenance and inspection for other aircraft owner or operator

Article 13 Except to holder of Civil Air Transport Enterprise, each person performing an inspection required by approved maintenance program shall perform the inspection so as to determine whether the aircraft, or portion(s) thereof under inspection, meets all applicable airworthiness requirements. Each person performing an inspection on a rotorcraft shall inspect the following systems in accordance with the maintenance manual or Instructions for Continued Airworthiness of the manufacturer concerned:

- 1.The drive shafts or similar systems.
- 2.The main rotor transmission gear box for obvious defects.
- 3.The main rotor and center section (or the equivalent area).
- 4.The auxiliary rotor on helicopters.

Article 14 Except to holder of Civil Air Transport Enterprise, each person performing an annual or 100-hour inspection shall follow the provisions:

- 1.Use a checklist while performing the inspection. The checklist may be of the person's own design, one provided by the manufacturer of the equipment being inspected or one obtained from another source.
- 2.Each person approving a reciprocating-engine-powered aircraft for return to service after an annual or 100-hour inspection shall, before that approval, run the aircraft engine or engines to determine satisfactory performance in accordance with the manufacturer's recommendations

of:

- (1) Power output (static and idle r.p.m.);
- (2) Magnetos;
- (3) Fuel and oil pressure; and
- (4) Cylinder and oil temperature.

Detail of the annual or 100-hour inspection items contained are listed in Attachment 6.

Each person performing a progressive inspection shall, at the start of a progressive inspection system, inspect the aircraft completely. After this initial inspection:

1. Routine and detailed inspections must be conducted as prescribed in the progressive inspection schedule. Routine inspections consist of visual examination or check of the aircraft, its powerplant, propeller, component or part, insofar as practicable without disassembly. Detailed inspections consist of a thorough examination of the aircraft, its powerplant, propeller, component or part, with such disassembly as necessary.
2. If the aircraft is away from the station where inspections are normally conducted, an appropriately rated aircraft maintenance engineer, a certificated repair station, or the manufacturer whom is also certificated as repair station of the aircraft may perform inspections in accordance with the procedures and using the forms of the person who would otherwise perform the inspection.

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

Section 3 Life-Limited Part

Article 15 Aircraft owner or operator shall submit a life-limited part control program which refers to recommendations from manufacture for CAA acceptance.

Article 16 Each person who removes a life-limited part from an aircraft, its powerplant, propeller, component or part, must ensure that the part is controlled using one of the methods in Attachment 7. The method must deter the installation of the part after it has reached its life limit.

Article 17 When a life-limited part is temporarily removed and reinstalled for the purpose of performing maintenance, no disposition under Article 16 is required if—

1. The life status of the part has not changed;
2. The removal and reinstallation is performed on the same serial numbered product; and
3. That product does not accumulate time in service while the part is removed.

Article 18 Each person who removes a life-limited part from a aircraft, its powerplant, propeller, component

or part, and later sells or otherwise transfers that part must transfer with the part the mark, tag, or other record used to comply with this section, unless the part is mutilated before it is sold or transferred.

Section 4 Provisions for management of maintenance of airworthiness

Article 19 Aircraft's owner or the operator who hold the Certificate of Airworthiness is vested with the responsibility of the proper maintenance of the aircraft and must comply with the requirements in performing checks and inspections before putting the aircraft into operation and maintain it in airworthy and safe operating conditions.

The aircraft is considered to be unairworthy and not safe to operate when one of the following conditions occurs:

1. Aircraft is found not to meet the initial airworthiness standards after the inspections by the CAA or its designated organization or agency.
2. Aircraft is unable to be operated safely due to the revelations that owner or the operator do not comply with the requirements to perform proper maintenance.
3. Aircraft is unable to be operated safely due to the revelations that owner or the operator do not comply with Airworthiness Directives published by the CAA, the Civil Aviation Authorities of State of Design or the State of Design of Modification.
4. Purpose of usage, performance, characteristics of aircraft is changed by owner or the operator without the approval from the CAA.
5. Aircraft is, except for maintenance purposes, grounded for more than 90 consecutive days.

Owner or operator shall prevent the aircraft from operation when it is considered to be unairworthy and not safe to operate.

For those who violate aforementioned provision, CAA shall revoke its Certificate of Airworthiness.

Article 20 Except for the free balloons, It is required that aircraft must be weighed for basic empty weight and balance once every three years, the weighing schedule may be extended with the approval from the CAA under special circumstances, but the extension can not exceed 1 year.

Upon changes to the accumulation of basic empty weight of the aeroplane more than 0.5 percent of maximum landing weight or shifting of center of gravity more than 0.5 percent of mean aerodynamic chord, the aircraft shall be weighted. Upon changes to the basic empty weight of the helicopter more than 0.5 percent of maximum landing weight, the aircraft shall be weighted.

In the case when the center of gravity or weight of the aircraft is changed after the completion of the above-mentioned weighing process, owner or operator is required to have their relevant weight and balance manuals revised to be in accordance with Aircraft Flight Operation Regulations.

Article 21 Aircraft major repair or major alteration must be performed in accordance with data approved by CAA. This requirement does not apply to any of these works done in compliance with the Airworthiness Directive issued by the CAA, the aviation authorities of State of Design or the State of Design of Modification.

Owner or operator who intends to fabricate the part for maintaining his own aircraft shall submit the fabrication procedures to CAA for approval.

Unless the part is fabricated in accordance with CAA accepted data, no person can install that part onto aircraft.

Article 22 When performing maintenance, preventive maintenance, rebuilding, alteration or configuration to aircraft, its powerplant, propeller, component or part, Aircraft owner or operator shall not use the part which might not properly maintained, un-repairable or bogus part announced by manufacturer or the aviation authorities.

Article 23 Inspections of aircraft should follow the following procedure:

1. Aircraft should be clean and unloaded, screw loose all inspection bulkheads and covers.
2. Complete all maintenance, preventive maintenance and history records and work reports.

For certifying airworthiness, the CAA may consider it necessary to demand a function check flight. The report and record of such flight should be forwarded to the CAA.

Article 24 When an aircraft has sustained damage, the owner or operator shall judge whether the damage is of a nature such that the aircraft is still airworthiness as defined by the appropriate airworthiness requirements. The aircraft shall be allowed to resume its flight upon granted by CAA. When CAA considers that the damage sustained is of a nature such that the aircraft is no longer airworthy, owner or operator may apply a special flight permit from CAA to fly without fare-paying passengers to an aerodrome at which it will be restored to an airworthy condition.

If the damage is sustained or ascertained when the aircraft is in the territory of another State, owner or operator shall advise the local aviation authority and CAA.

Article 25 Aircraft must have complete aircraft, structure, powerplant, and propeller historic record and log book.

All entries should be completed within 30 days of the completion of the jobs.

The up-keeping and replacement of the record books and log referred to the paragraph 1 of this Article should follow the following procedure:

1. When using a new book to replace the used one, the used book should be kept and its conclusive data and a summary of major events be transferred to the new book.
2. Aircraft, aircraft engine or propeller, in the event of destroyed beyond repair, salvaged or permanently grounded, its record book should be kept for 2 years by the owner or operator

after the date of the happening.

Aircraft owner or operator, upon approved by CAA, may use electronic record keeping system or other more precise and effective means for record management in place of record books or log required by this Article.

Article 26 (Deleted)

Article 27 The owner or operator shall ensure that in respect of aircraft, its powerplant, propeller, component or part, 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 CAA within 72 hours and organization responsible for the type design of that aircraft. If necessary, inform the authority of State of design.

Article 28 The aircraft owner or operator shall comply with Airworthiness Directives issued by the CAA , the aeronautics authority of the State of design or the State of Design of Modification of the aviation products, appliances and parts, and take all necessary action thereto.

The aircraft owner or operator may use an alternate mean to comply with requirements of Airworthiness Directives when it is approved by CAA.

Chapter 3 Supplementary Provisions

Article 29 (Deleted)

Article 30 This regulation becomes effective on the date of its publication.

Attachment 1

Persons authorized to perform and return to service an aircraft, its powerplant, propellers, component or part after maintenance, preventive maintenance, rebuilding or alteration

1. Person may perform maintenance, preventive maintenance, rebuilding or alteration on an aircraft, its powerplant, propellers, component or part is as listed below:
 - (1) The holder of a aircraft maintenance engineer certificate may perform maintenance, preventive maintenance, and alteration as provided in 05-01A.
 - (2) The holder of a repairman certificate may perform maintenance, preventive maintenance, and alteration as provided in 05-01A.
 - (3) A person working under the supervision of a holder of a mechanic or repairman certificate may perform the maintenance, preventive maintenance, and alteration that his supervisor is authorized to perform, if the supervisor personally observes the work being done to the extent necessary to ensure that it is being done properly and if the supervisor is readily available, in person, for consultation. However, this paragraph does not authorize the performance of any inspection required by maintenance program of holder of non-Civil Air Transport Enterprise or non-general aviation enterprise, or any inspection performed after a major repair or alteration.
 - (4) The holder of a repair station certificate may perform maintenance, preventive maintenance, and alteration as provided in the operation specifications concerning maintenance capacity approved by the CAA.
 - (5) The holder of a Civil Air Transport Enterprise or General Aviation may perform maintenance, preventive maintenance, and alteration as provided in the operation specifications concerning maintenance capacity approved by the CAA.
 - (6) The holder of a pilot certificate issued under 05-01A may perform preventive maintenance on any aircraft owned or operated by that pilot which is not used under Civil Air Transport Enterprise or General Aviation.
 - (7) The CAA may approve a owner or operator holder under 07-02A, operating aircraft in a remote area, to allow a pilot to perform specific preventive maintenance items provided -
 - I. The items of preventive maintenance are a result of a known or suspected mechanical difficulty or malfunction that occurred en route to or in a remote area;
 - II. The pilot has satisfactorily completed an approved training program and is authorized in writing by the certificate holder for each item of preventive maintenance that the pilot is authorized to perform;
 - III. There is no certificated aircraft maintenance engineer available to perform preventive maintenance;

IV. The certificate holder has procedures to evaluate the accomplishment of a preventive maintenance item that requires a decision concerning the airworthiness of the rotorcraft; and

(8) In accordance with an approval issued to the holder of a certificate issued under 03-03A, a pilot of an aircraft type-certificated for 9 or fewer passenger seats, excluding any pilot seat, may perform the removal and reinstallation of approved aircraft cabin seats, approved cabin-mounted stretchers, and when no tools are required, approved cabin-mounted medical oxygen bottles, provided—

I. The pilot has satisfactorily completed an approved training program and is authorized in writing by the certificate holder to perform each task; and

II. The certificate holder has written procedures available to the pilot to evaluate the accomplishment of the task.

(9) A manufacturer whom hold a repair station certificate may -

I. Rebuilding or alter any aircraft, its powerplant, propellers, component or part manufactured by him under a type or production certificate;

II. Rebuilding or alter any product or part of aircraft, its powerplant, propellers, component or part manufactured by him under a Technical Standard Order Authorization, an CAA-Part Manufacturer Approval, or Product and Process Specification issued by the CAA; and

III. In accordance with the type certificate or manufacture certificate issued by the CAA, perform inspection on its manufactured aircrafts which are engaged in flight operations as established in Chapter 4 – Supplement Provisions of the Aircraft Flight Operation Regulations.

(10) Aircraft owner or operator may contract the aircraft, its powerplant, propellers, component or part out to a foreign repair station which certificated by CAA, approved or acceptable to CAA to perform maintenance, preventive maintenance, and alterations.

(11) Updates of databases in installed avionics are not considered maintenance and may be performed by aircraft pilots provided that the aircraft operator complies with the manufacturer's technical information by establishing written procedures and the below:

(i) The database upload is performed within the flight deck, without disassembling the avionics unit or without the use of tools or special equipment.

(ii) The aircraft pilot, in accordance with the established written procedures, performs the database update and can confirm the correctness of the uploaded data.

2. Persons authorized to approve aircraft, its powerplant, propellers, component or part for return to service after maintenance, preventive maintenance, rebuilding or alteration.

(1) The holder of a aircraft maintenance engineer certificate may approve an aircraft, its powerplant, propellers, component or part for return to service in accordance with the rules established in the Regulations Governing Licences and Ratings for Airmen.

- (2) The holder of a repair station certificate may approve an aircraft, its powerplant, propellers, component or part for return to service as provided in the operation specifications concerning maintenance capacity approved by the CAA.
- (3) A manufacturer may approve for return to service any aircraft, its powerplant, propellers, component or part which that manufacturer has worked on under paragraph 1. (9) of this Attachment. Major alteration work must be performed in accordance with technical data as approved by the CAA.
- (4) The holder of a Civil Air Transport Enterprise or General Aviation certificate, may approve an aircraft, airframe, aircraft engine, propeller, appliance, or component part for return to service as provided in the operation specifications concerning maintenance capacity approved by the CAA. The aircraft maintenance engineers it employs may issue aircraft release to service certificates only after completing appropriate certification under the Regulations Governing Licences and Ratings for Airmen and Aircraft Flight Operations Regulations.
- (5) A person holding at least a private pilot certificate may approve an aircraft for return to service after performing preventive maintenance under paragraph 1. (6) of this Attachment.
- (6) Owner or operator holder under 07-02A, operating aircraft in a remote area, to allow a pilot to perform specific preventive maintenance as provided under paragraph 1. (7) of this Attachment may approve the aircraft for return to service by the pilot.
- (7) A foreign repair station as provided under paragraph 1. (10) of this Attachment may approve the aircraft, its powerplant, propellers, component or part for return to service in accordance with his certificate and operation specifications. Any aircraft line maintenance work commissioned by aircraft owner or operator shall be submitted by themselves to CAA for approval.

Attachment 2

Items for Major Alterations, Major Repairs, and Preventive Maintenance

1. Major repairs

(1) Airframe major repairs. Repairs to the following part of an airframe and repairs of the following types, involving the strengthening, reinforcing, splicing, and manufacturing of primary structural members or their replacement, when replacement is by fabrication such as riveting or welding, are airframe major repairs.

- I. Box beams.
- II. Monocoque or semimonocoque wings or control surfaces.
- III. Wing stringers or chord members.
- IV. Spars.
- V. Spar flanges.
- VI. Members of truss-type beams.
- VII. Thin sheet webs of beams.
- VIII. Keel and chine members of boat hulls or floats.
- IX. Corrugated sheet compression members which act as flange material of wings or tail surfaces.
- X. Wing main ribs and compression members.
- XI. Wing or tail surface brace struts.
- XII. Engine mounts.
- XIII. Fuselage longerons.
- XIV. Members of the side truss, horizontal truss, or bulkheads.
- XV. Main seat support braces and brackets.
- XVI. Landing gear brace struts.
- XVII. Axles.
- XVIII. Wheels.
- XIX. Skis, and ski pedestals.
- XX. Part of the control system such as control columns, pedals, shafts, brackets, or horns.
- XXI. Repairs involving the substitution of material.
- XXII. The repair of damaged areas in metal or plywood stressed covering exceeding six inches in any direction.
- XXIII. The repair of portions of skin sheets by making additional seams.

XXIV. The splicing of skin sheets.

XXV. 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.

XXVI. Repair of fabric covering involving an area greater than that required to repair two adjacent ribs.

XXVII. Replacement of fabric on fabric covered part such as wings, fuselages, stabilizers, and control surfaces.

XXVIII. Repairing, including rebottoming, of removable or integral fuel tanks and oil tanks.

(2) Powerplant major repairs. Repairs of the following part of an engine and repairs of the following types are powerplant major repairs:

I. Separation or disassembly of a crankcase or crankshaft of a reciprocating engine equipped with an integral supercharger.

II. Separation or disassembly of a crankcase or crankshaft of a reciprocating engine equipped with other than spur-type propeller reduction gearing.

III. Special repairs to structural engine part by welding, plating, metalizing, or other methods.

(3) Propeller major repairs. Repairs of the following types to a propeller are propeller major repairs:

I. Any repairs to, or straightening of steel blades.

II. Repairing or machining of steel hubs.

III. Shortening of blades.

IV. Retipping of wood propellers.

V. Replacement of outer laminations on fixed pitch wood propellers.

VI. Repairing elongated bolt holes in the hub of fixed pitch wood propellers.

VII. Inlay work on wood blades.

VIII. Repairs to composition blades.

IX. Replacement of tip fabric.

X. Replacement of plastic covering.

XI. Repair of propeller governors.

XII. Overhaul of controllable pitch propellers.

XIII. Repairs to deep dents, cuts, scars, nicks, etc., and straightening of aluminum blades.

XIV. The repair or replacement of internal elements of blades.

(4) Appliance major repairs. Repairs of the following types to appliances are appliance major repairs:

I. Calibration and repair of instruments.

- II. Calibration of radio equipment.
- III. Rewinding the field coil of an electrical accessory.
- IV. Complete disassembly of complex hydraulic power valves.
- V. Overhaul of pressure type carburetors, and pressure type fuel, oil and hydraulic pumps.

2. Major alterations

- (1) Airframe major alterations. Alterations of the following part and alterations of the following types, when not listed in the aircraft specifications issued by the CAA or the type certification or type-approved certification regulation chart of the civil aeronautics authority of the State of original design, are airframe major alterations:
 - I. Wings.
 - II. Tail surfaces.
 - III. Fuselage.
 - IV. Engine mounts.
 - V. Control system.
 - VI. Landing gear.
 - VII. Hull or floats.
 - VIII. Elements of an airframe including spars, ribs, fittings, shock absorbers, bracing, cowling, fairings, and balance weights.
 - IX. Hydraulic and electrical actuating system of components.
 - X. Rotor blades.
 - XI. Changes to the empty weight or empty balance which result in an increase in the maximum certificated weight or center of gravity limits of the aircraft.
 - XII. Changes to the basic design of the fuel, oil, cooling, heating, cabin pressurization, electrical, hydraulic, de-icing, or exhaust systems.
 - XIII. Changes to the wing or to fixed or movable control surfaces which affect flutter and vibration characteristics.
- (2) Powerplant major alterations. The following alterations of a powerplant when not listed in the engine specifications issued by the CAA are powerplant major alterations.
 - I. Conversion of an aircraft engine from one approved model to another, involving any changes in compression ratio, propeller reduction gear, impeller gear ratios or the substitution of major engine part which requires extensive rework and testing of the engine.

- II. Changes to the engine by replacing aircraft engine structural part with part not supplied by the original manufacturer or part not specifically approved by the CAA or Authority of State of Design.
- III. Installation of an accessory which is not approved for the engine.
- IV. Removal of accessories that are listed as required equipment on the aircraft or engine specification.
- V. Installation of structural part other than the type of part approved for the installation.
- VI. Conversions of any sort for the purpose of using fuel of a rating or grade other than that listed in the engine specifications.

(3) Propeller major alterations. The following alterations of a propeller, when not authorized in the propeller specifications issued by the CAA or the type certification or type-approved certification regulation chart of the civil aeronautics authority of the State of original design, are propeller major alterations:

- I. Changes in blade design.
- II. Changes in hub design.
- III. Changes in the governor or control design.
- IV. Installation of a propeller governor or feathering system.
- V. Installation of propeller de-icing system.
- VI. Installation of part not approved for the propeller.

(4) Appliance major alterations. Alterations of the basic design not made in accordance with recommendations of the appliance manufacturer or in accordance with a CAA Airworthiness Directive are appliance major alterations. In addition, changes in the basic design of radio communication and navigation equipment approved under type certification or a Technical Standard Order 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 alterations.

3. Preventive maintenance. Preventive maintenance is limited to the following work, provided it does not involve complex assembly operations:

- (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 nonstructural items such as cover plates, cowlings, and fairings.
- (7) Making simple fabric patches not requiring rib stitching or the removal of structural part 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, cowlings, 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 the primary structure of the aircraft.
- (12) Making small simple repairs to fairings, nonstructural cover plates, cowlings, and small patches and reinforcements not changing the contour so as to interfere with proper air flow.
- (13) Replacing side windows where that work does not interfere with the structure or any operating system such as controls, electrical equipment, etc.
- (14) Replacing safety belts.
- (15) Replacing seats or seat part with replacement part approved for the aircraft, not involving disassembly of any primary structure or operating system.
- (16) Trouble shooting 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 weight 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 nonstructural 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 installations 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 aircraft manufacturer has provided CAA-approved instructions for installation of the specific device, and installation does not involve the disassembly of the existing tank filler opening.
- (29) Removing, checking, and replacing magnetic chip detectors.
- (30) 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, radar echo devices, and microwave frequency distance measuring equipment (DME)). The approved unit must be designed to be readily and repeatedly removed and replaced, and pertinent instructions must be provided. Prior to the unit's intended use, an operational check must be performed in accordance with the applicable instructions.

Attachment 3 CAA Form 337

 航空器與其發動機、螺旋槳、各項裝備及零組件大修理、大改裝妥適報告表 (機體/發動機/螺旋槳/裝備) 交通部民用航空局. Civil Aviation Administration M.O.T.C Major Repair and Alteration (Airframe, Powerplant, Propeller, or Appliance)					
1. 航空器 Aircraft		製造廠 Make 序號 Serial No.		型別 Model 國籍標誌及登記號碼 Nationality and Registration Mark	
2. 航空器所有人 Owner		名稱 Name		地址 Address	
3. 民航局使用欄位 For CAA Use Only					
4. 識別資訊 Unit Identification				5. 形式 Type	
機體/發動機/螺旋槳/裝備	製造廠 Make	型別 Model	序號 Serial No.	修理 Repair	改裝 Alteration
機體 Airframe	(如項目1.所述)(As described in Item 1 above)			<input type="checkbox"/>	<input type="checkbox"/>
發動機 Powerplant				<input type="checkbox"/>	<input type="checkbox"/>
螺旋槳 Propeller				<input type="checkbox"/>	<input type="checkbox"/>
裝備 Appliance	型式 Type			<input type="checkbox"/>	<input type="checkbox"/>
	製造廠 Manufacturer				
6. 符合陳述 Conformity Statement					
A. 機構名稱及地址 Agency's Name and Address		B. 機構類型 Kind of Agency		C. 檢定證號 Certificate No.	
		<input type="checkbox"/> 中華民國航空器維修工程師 R.O.C. Certificated Aircraft maintenance engineer			
		<input type="checkbox"/> 合格維修廠 Certificated Repair Station			
		<input type="checkbox"/> 製造廠 Manufacturer			
D. 本人謹證明前述第4項所執行之大修理及/或大改裝，以及本表及所附之附件資料均為正確，並且依航空器適航檢定維修管理規則之規定辦理完畢。 I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of CAA Regulation 06-01A and that the information furnished herein is true and correct to the best of my knowledge.					
日期 Date			授權人員簽名 Signature of Authorized Individual		
7. 簽證恢復可用 Approval for Return To Service					
前述第4項已由合格之人員或機構依民航局規定之程序完成檢查，並且評定為 <input type="checkbox"/> 恢復可用 <input type="checkbox"/> 不可恢復可用 Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the CAA and is <input type="checkbox"/> APPROVED <input type="checkbox"/> REJECT					
機構名稱 By:	<input type="checkbox"/>	民航局委託檢查之機關、團體或人員 CAA Designee	<input type="checkbox"/>	製造廠 Manufacturer	<input type="checkbox"/> 其他(Others)
	<input type="checkbox"/>	民用航空運輸業/普通航空業許可證持有人 Certificate Holder of Civil Air Transport Enterprise / General Aviation	<input type="checkbox"/>	維修廠 Repair Station	
簽證人員 Individual:		檢定證或授權證號 Certificate or Designation No.		授權簽證人員簽名 Signature of Authorized Individual	

附記說明 Notice

載重平衡或操作限制應登錄於航空器經歷紀錄中，本次所執行之改裝應與過去執行之改裝相容，以確保持續符合適用之適航規定。

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. 描述所執行之工作內容 Description of Work Accomplished

(如本欄位不敷使用時得使用附頁，加註國籍標誌與登記號碼及完工日期。)

(If more space is required, attach additional sheet. Identify with aircraft nationality and registration mark and data completed)

Attachment 4

Recording of Major Repairs and Major Alterations

1. Except as provided in paragraphs 2 and 3 of this Attachment, each person performing a major repair or major alteration shall -

- (1) Execute CAA Form 337 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 CAA, within 48 hours after the aircraft, its powerplant, propellers, component or part is approved for return to service.

2. For major repairs made in accordance with a manual or specifications acceptable to the CAA, a certificated repair station may, in place of the requirements of paragraph 1:

- (1) Use the customer's work order upon which the repair is recorded;
- (2) Give the aircraft owner a signed copy of the work order and retain a duplicate copy for at least two years from the date of approval for return to service of the aircraft, airframe, aircraft engine, propeller, or appliance;
- (3) Give the aircraft owner or operator one copy of the "aircraft release to service certificate" signed by an authorized representative of the repair station and incorporating the following information:
 - I. Identity of the aircraft, airframe, aircraft engine, propeller or appliance.
 - II. If an aircraft, the make, model, serial number, nationality and registration marks, and location of the repaired area.
 - III. If an airframe, aircraft engine, propeller, or appliance, give the manufacturer's name, name of the part, model, and serial numbers (if any); and
- (4) Include the following or a similarly worded statement:

"The aircraft, airframe, aircraft engine, propeller, or appliance identified above was repaired and inspected in accordance with current Regulations of the CAA and is approved for return to service.

Pertinent details of the repair are on file at this repair station under Order No. ____,

Date_____

Signed_____

For signature of authorized representative

(Repair station name) (Repair station Certificate No.)

(Repair station address)"

3. For extended-range fuel tanks installed within the passenger compartment or a baggage compartment, the person who performs the work and the person authorized to approve the work by Article 3 shall execute a

CAA Form 337 in at least triplicate. A completed copy of that form shall be placed on board the aircraft. The other 2 copies shall follow the instructions as under paragraph 1. (2) and (3).

Attachment 5

Statements for approval or disapproval the aircraft to return to service

1. Except for progressive inspections:

- (1) If the aircraft is found to be airworthy and approved for return to service, the following or a similarly worded statement:

“I certify that this aircraft has been inspected in accordance with (insert type) inspection and was determined to be in airworthy condition.”

- (2) If the aircraft is not approved for return to service, the following or a similarly worded statement:

“I certify that this aircraft has been inspected in accordance with (insert type) inspection and a list of discrepancies and unairworthy items dated (date) has been provided for the aircraft owner or operator.”

2. For progressive inspections:

- (1) If the aircraft is found to be airworthy and approved for return to service, the following or a similarly worded statement:

“I certify that in accordance with a progressive inspection program, a routine inspection of (identify whether aircraft or components) and a detailed inspection of (identify components) were performed and the (aircraft or components) are (approved or disapproved) for return to service.”

- (2) If the aircraft is not approved for return to service, the following or a similarly worded statement:

“I certify that in accordance with a progressive inspection program, a routine inspection of (identify whether aircraft or components) and a detailed inspection of (identify components) were performed and the (aircraft or components) are disapproved for return to service and a list of discrepancies and unairworthy items dated (date) has been provided to the aircraft owner or operator.”

Attachment 6

Scope and Detail of Items (as Applicable to the Particular Aircraft) To Be Included in Annual and 100-Hour Inspections for holder of non-Civil Air Transport Enterprise

1. Each person performing an annual or 100-hour inspection shall, before that inspection, remove or open all necessary inspection plates, access doors, fairing, and cowling. He shall thoroughly clean the aircraft and aircraft engine.
2. Each person performing an annual or 100-hour inspection shall inspect (where applicable) the following components of the fuselage and hull group:
 - (1) Fabric and skin: for deterioration, distortion, other evidence of failure, and defective or insecure attachment of fittings.
 - (2) Systems and components: for improper installation, apparent defects, and unsatisfactory operation.
 - (3) Envelope, gas bags, ballast tanks, and related part: for poor condition.
3. Each person performing an annual or 100-hour inspection shall inspect (where applicable) the following components of the cabin and cockpit group:
 - (1) Generally: for uncleanness and loose equipment that might foul the controls.
 - (2) Seats and safety belts: for poor condition and apparent defects.
 - (3) Windows and windshields: for deterioration and breakage.
 - (4) Instruments: for poor condition, mounting, marking, and (where practicable) improper operation.
 - (5) Flight and engine controls: for improper installation and improper operation.
 - (6) Batteries: for improper installation and improper charge.
 - (7) All systems: for improper installation, poor general condition, apparent and obvious defects, and insecurity of attachment.
4. Each person performing an annual or 100-hour inspection shall inspect (where applicable) components of the engine and nacelle group as follows:
 - (1) Engine section: for visual evidence of excessive oil, fuel, or hydraulic leaks, and sources of such leaks.
 - (2) Studs and nuts: for improper torquing and obvious defects.
 - (3) Internal engine: for cylinder compression and for metal particles or foreign matter on screens and sump drain plugs. If there is weak cylinder compression, for improper internal condition and improper internal tolerances.
 - (4) Engine mount: for cracks, looseness of mounting, and looseness of engine to mount.
 - (5) Flexible vibration dampeners: for poor condition and deterioration.
 - (6) Engine controls: for defects, improper travel, and improper safetying.

- (7) Lines, hoses, and clamps: for leaks, improper condition and looseness.
 - (8) Exhaust stacks: for cracks, defects, and improper attachment.
 - (9) Accessories: for apparent defects in security of mounting.
 - (10) All systems: for improper installation, poor general condition, defects, and insecure attachment.
 - (11) Cowling: for cracks, and defects.
5. Each person performing an annual or 100-hour inspection shall inspect (where applicable) the following components of the landing gear group:
- (1) All units: for poor condition and insecurity of attachment.
 - (2) Shock absorbing devices: for improper oleo fluid level.
 - (3) Linkages, trusses, and members: for undue or excessive wear fatigue, and distortion.
 - (4) Retracting and locking mechanism: for improper operation.
 - (5) Hydraulic lines: for leakage.
 - (6) Electrical system: for chafing and improper operation of switches.
 - (7) Wheels: for cracks, defects, and condition of bearings.
 - (8) Tires: for wear and cuts.
 - (9) Brakes: for improper adjustment.
 - (10) Floats and skis: for insecure attachment and obvious or apparent defects.
6. Each person performing an annual or 100-hour inspection shall inspect (where applicable) all components of the wing and center section assembly for poor general condition, fabric or skin deterioration, distortion, evidence of failure, and insecurity of attachment.
7. Each person performing an annual or 100-hour inspection shall inspect (where applicable) all components and systems that make up the complete empennage assembly for poor general condition, fabric or skin deterioration, distortion, evidence of failure, insecure attachment, improper component installation, and improper component operation.
8. Each person performing an annual or 100-hour inspection shall inspect (where applicable) the following components of the propeller group:
- (1) Propeller assembly: for cracks, nicks, binds, and oil leakage.
 - (2) Bolts: for improper torquing and lack of safetying.
 - (3) Anti-icing devices: for improper operations and obvious defects.
 - (4) Control mechanisms: for improper operation, insecure mounting, and restricted travel.
9. Each person performing an annual or 100-hour inspection shall inspect (where applicable) the following components of the radio group:

- (1) Radio and electronic equipment: for improper installation and insecure mounting.
 - (2) Wiring and conduits: for improper routing, insecure mounting, and obvious defects.
 - (3) Bonding and shielding: for improper installation and poor condition.
 - (4) Antenna including trailing antenna: for poor condition, insecure mounting, and improper operation.
10. Each person performing an annual or 100-hour inspection shall inspect (where applicable) each installed miscellaneous item that is not otherwise covered by this listing for improper installation and improper operation.

Attachment 7

Management provisions of Life-limited part for aircraft, its powerplant, propellers, component or part

1. Each person who removes a life-limited part from an aircraft, its powerplant, propellers, component or part must ensure that the part is controlled using one of the methods in this paragraph. The method must deter the installation of the part after it has reached its life limit. Acceptable methods include:
 - (1) Record keeping system: The part may be controlled using a record keeping system that substantiates the part number, serial number, and current life status of the part. Each time the part is removed from a type certificated product, the record must be updated with the current life status. This system may include electronic, paper, or other means of record keeping.
 - (2) Tag or record attached to part: A tag or other record may be attached to the part. The tag or record must include the part number, serial number, and current life status of the part. Each time the part is removed from a type certificated product, either a new tag or record must be created, or the existing tag or record must be updated with the current life status.
 - (3) Non-permanent marking: The part may be legibly marked using a non-permanent method showing its current life status. The life status must be updated each time the part is removed from a type certificated product, or if the mark is removed, another method in this section may be used. The mark must be accomplished in accordance with the instructions in manufacturer's maintenance manual or the Instructions for Continued Airworthiness in order to maintain the integrity of the part.
 - (4) Permanent marking: The part may be legibly marked using a permanent method showing its current life status. The life status must be updated each time the part is removed from a type certificated product. Unless the part is permanently removed from use on type certificated products, this permanent mark must be accomplished in accordance with the instructions in manufacturer's maintenance manual or the Instructions for Continued Airworthiness in order to maintain the integrity of the part.
 - (5) Segregation. The part may be segregated using methods that deter its installation on a type-certificated product. These methods must include, at least:
 - I. Maintaining a record of the part number, serial number, and current life status, and
 - II. Ensuring the part is physically stored separately from part that is currently eligible for installation.
 - (6) Mutilation: The part may be mutilated to deter its installation in a type certificated produce. The mutilation must render the part beyond repair and incapable of being reworked to appear to be airworthy.
 - (7) Other methods. Any other method accepted by the CAA.