



Circular Técnica

CT-330-03

SUBJECT: CONTINUOUS AIRWORTHINESS MAINTENANCE PROGRAMME

DATE: 25/06/2025

1. PURPOSE

This Technical Circular (TC) is issued to provide information and guidance to aircraft operators and owners on Continuous Airworthiness Maintenance Programme.

2. REFERENCES

- STPCAR Part 119

3. INTRODUCTION

A. A continuous maintenance programme combines the maintenance and inspection functions used to fulfill an air operator/applicant's total maintenance needs. The STPCAR Part 119 specify that each operator/applicant must have a maintenance programme adequate to perform the work and a separate inspection programme adequate to perform the inspections.

B. Definitions

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

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

- (1) Inspection and when applicable, a continuing structural programme
- (2) Scheduled Maintenance tasks and intervals



- (3) Unscheduled Maintenance
 - (4) Overhaul and Repair
 - (5) Required Inspection Items
 - (6) Reliability Programme and condition monitoring if determined by the INAC
- D. **Manuals.** Instructions and standards for unscheduled maintenance should be in the operator's technical manuals. The manuals must contain procedures to be followed when using these manuals and recording scheduled and unscheduled maintenance.
- E. **Air Operator's Organisation.** The operator/applicant must have an organisation adequate to carry out the provisions of the continuous maintenance programme. If the work is to be performed by an Approved Organisation, that organisation must meet the same requirements. In determining the adequacy of the organisation, the following must be considered:
- (1) The complexity of the organisation
 - (2) The type aircraft
 - (3) The experience of the personnel
 - (4) The number of personnel
- F. The maintenance programme shall be based on the maintenance program information made available by the state of design or by the organization responsible for the type design, and any additional applicable experience.

4. INSPECTIONS

- A. **Applicability.** During the original certification process of the air operator, the INAC Inspector should ensure that the continuous maintenance programme is applicable to the operation in question. In order to do so, the INAC Inspector will inform the operator of the pertinent policies, procedures, and requirements of the STP-CARs.
- B. **Scheduling.** The operator and the inspector should develop a schedule for the submission of required documents.
- (1) **Scheduled Maintenance.** Maintenance tasks performed at prescribed intervals are considered scheduled maintenance. Some of these tasks are performed concurrently with inspection tasks and may be included on the same work form. Work forms that include maintenance instructions must be provided for a record of the accomplishment of these tasks.
 - (a) Scheduled tasks include replacement of life-limited items and components requiring periodic overhaul, special non-destructive inspections (such as X-rays), checks or test for on-condition items, lubrications, and weighing of aircraft.
 - (b) Prime factors considered for inspection intervals are aircraft utilisation, environmental conditions, and type of operation. Examples include changes in temperature, frequency of landings and takeoffs, operation in areas of high industrial pollutants, and passenger or cargo operations.
 - (c) To ensure proper maintenance, each inspection interval must be stated in terms of calendar times, cycles, and hours, as required.
 - (2) **Unscheduled Maintenance.** Unscheduled maintenance takes place when mechanical irregularities occur.
 - (a) Mechanical Irregularities Occurring During Flight Time (Block to Block). These include operational failures and malfunctions and abnormal flight operations, such as hard

landings or overweight landings. The Aircraft Technical Log, required by STP-CAR 119.B.240, must be used to record each irregularity and its corrective action.

- (b) Mechanical Irregularities Not Occurring During Flight Time. These include all other failures, malfunctions and discrepancies, including, but not limited to, inspection findings. A discrepancy form or equivalent system must be used to record each irregularity and its corrective action.

C. Types of Maintenance

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

- (2) Structural Inspection.

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

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

- E. **Return to Service.** Through the provisions of STPCAR Part 119 an air operator who uses an equivalent system of maintenance, the return to service shall be signed by a person or persons licensed in accordance with STPCAR Part 66.2. The aircraft may be returned to service by an Approved Maintenance Organisation if approved by the State of Registry. As such, they are authorised to approve aircraft and/or equipment for return to service and are responsible for meeting the requirements of STPCAR Part 43, 43.C.

- (1) The persons exercising certificate privileges have always had the responsibility to show compliance with regulatory requirements and to make a determination of conformance and safety. The need to ensure that a replacement part was produced by a AAC approved source is therefore critical.
- (2) Assigned inspectors, during the process of certification and surveillance, must ensure that the operator fully understands STPCAR Part 43, 43.C and the resulting responsibility to show that any/all part and/or materials used, from any source, are airworthy (i.e., conform to the type design), are equal to the original or properly altered condition, and have been maintained properly.
- (3) Additionally, the inspector must ensure that the operator's manual contains adequate procedures at the incoming inspection to determine the compliance with STP-CAR 43, 43.C, prior to the material being stocked or used.

5. MAINTENANCE PROGRAMME

- A. The maintenance program must incorporate a set of procedures that ensures the following:
- (1) Maintenance, preventive maintenance, inspection, and alterations are performed according to the operator's manual;
 - (2) Competent personnel, adequate facilities and equipment are provided for the proper performance of maintenance, preventive maintenance, and alterations;
 - (3) Each aircraft released to service is airworthy;
 - (4) Airworthiness inspections and required inspections are performed per the operator's manual, and by qualified personnel;
 - (5) That a system is in place that addresses how specific required inspections are developed, controlled, and reviewed to ensure the continued airworthiness of aircraft.
- B. **Airworthiness Inspections.** STPCAR 119.D.160 stipulates that each operator's manual must discuss airworthiness inspections, including instructions covering procedures, standards responsibilities, and authority of inspection personnel. The methods and procedures established by the operator's manual must be followed as prescribed in STPCAR 119. Items not designated as required inspections will also be inspected according to the manual's instructions.
- (1) The manual must contain a designation of the items of maintenance and alteration that must be inspected. These will include, at a minimum, those items that could result in failure, malfunction, or defect, endangering the safe operation of the aircraft if maintenance is not performed properly or if improper parts or materials are used. Each operator must evaluate its work program to identify required inspections. Such items may be identified as "RII," an asterisk, or any similar method.
 - (2) In determining the work items that are to be categorised as required inspections, the operator should consider the importance of the following:
 - i) Installation, rigging, and adjustments of flight controls
 - ii) Installation and repair of major structural components
 - iii) Installation of aircraft engines, propellers, and rotors
 - iv) Overhaul, calibration, or rigging of components such as engines, propellers, transmissions, gearboxes, and navigation equipment

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

6. INSPECTION ORGANISATION

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

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

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

- *A 300B4 aircraft only; B 777 landing gear only; General Electric CF6-50 series engines only*

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

7. MAINTENANCE TOLERANCES

- A. The registered operator may vary the periods prescribed by the AMP within the limits of C. provided that such variations are within the criteria defined in paragraph B. and appropriate procedures to describe the process are contained in the MCM. Where a variation to a maintenance task(s) is extended, the next scheduled completion for the task(s) is derived from the time the late operation was originally scheduled.
- B. Variations shall be permitted only when the periods prescribed by the AMP cannot be complied with due to circumstances that could not have been foreseen by the operator
The variations permitted in C. do not apply to:
- (1) Those components for which an ultimate (scrap) life has been prescribed (e.g. primary structure, components with limited fatigue life, and high energy rotating parts for which containment is not prescribed).
 - (2) Certification Maintenance Requirements (CMR) unless specifically approved by the manufacturer and agreed by INAC
 - (3) Intervals specified by an Airworthiness Directive
 - (4) Limitations specified by Minimum Equipment lists (MEL) or Configuration Deviation Lists (CDL).
 - (5) Structural sampling periods imposed by the MRB.
 - (6) Special Structural Inspection Program or damage tolerance requirements.
- C. Permitted variations to maintenance intervals

Period involved	Maximum variation of the prescribed period
Items controlled by flying hours	
5000 flying hours or less	10%
More than 5000 flying hours	500 flying hours
Items controlled by calendar time.	
1 year or less	10% or 1 month, whichever is the lesser
More than 1 year but less than 3 years	2 months
More than 3 years	3 months
Items controlled by landings/cycles	
500 landings/cycles or less	10% or 25 landings/cycles, whichever is the lesser.
More than 500 landings/cycles	500 landings/cycles
Items controlled by more than one limit.	For items controlled by more than one limit, e.g. items controlled by flying hour and calendar time or flying hours and landings/cycles, the more restrictive limit shall be applied.

Aprovado pelo Presidente do Conselho de Administração do INAC	
Data: <u>25 / 07 / 25</u>	 António dos Santos Lima (Jurista)