



GOVERNMENT OF INDIA

**OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION**  
TECHNICAL CENTER, OPPOSITE SAFDARJUNG AIRPORT, NEW DELHI

**CIVIL AVIATION REQUIREMENTS**  
**SECTION 2 – AIRWORTHINESS**  
**SERIES ‘F’ PART VIII**  
**5<sup>TH</sup> MARCH 1998**

**EFFECTIVE: 1<sup>ST</sup> SEPTEMBER 2010**

Subject: **Maintenance and Certification of Aircraft**

**1. INTRODUCTION :**

1.1 Rule 15 of the Aircraft Rules, 1937 stipulates that all Indian registered aircraft are required to possess a current Certificate of Airworthiness before undertaking flight. Further, in accordance with sub-rule 2 (a) of Rule 60 the Director General may in respect of any aircraft, aircraft component and item of equipment, specify standards and conditions for its maintenance. It is, therefore, obligatory that the aircraft are maintained as per approved Maintenance Programme, system components are replaced when due, modifications are effected when required, special inspections are carried out when called for, defects are attended to as and when they occur, and no unapproved modification or repair is carried out.

1.2 On completion of any maintenance work, overhaul, repair, modification, replacement, process treatment, tests etc., items of maintenance / inspection are required to be certified by appropriately licensed AMEs, approved or authorized persons. This CAR details the requirements for certification of the maintenance work and the issuance of Certificate of Release to service some of which are not spelt out in CAR M or CAR 145.

This CAR is issued in accordance with rule 133A of the Aircraft Rules 1937.

1.3 In accordance with international regulations pre-flight inspection is not necessarily required to be carried out by licensed persons and does not come under the purview of a maintenance organisation. Such an inspection is carried out before the flight to ensure that the aircraft is fit for the intended flight and may be carried out by pilots or another qualified persons. Inspection so carried does not require issuance of Certificate of Release to service (CRS). This CAR also lays down the requirements and conditions for approval of pilots and other qualified persons approved/ authorized to carry out such an inspection.

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- (a) **Authorised Pilot:** A pilot authorised by an approved organisation to carry out pre-flight inspection without the privilege of snag rectification.
- (b) **Certificate of Release to Service:** A certificate issued in respect of an aircraft or aircraft system or component or equipment by appropriately licensed AME, authorised or approved person, certifying that the same has been maintained, inspected and tested as per maintenance data and is airworthy in all respect and fit for release to service.

Note 1: The term Certificate of Release to service referred herein is synonymous to Certificate of Maintenance and Flight Release Certificate specified in Indian Aircraft Rules 1937 and in other sections / series / parts of Civil Aviation Requirements.

Note 2: The term AME used in this CAR refers to an appropriately qualified AME holding valid endorsement on the type of aircraft / engine/ systems to be certified by him.

Note 3: The term preflight inspection used in this CAR is synonymous to transit inspection.

- (c) **Maintenance:** Maintenance means performance of all work necessary for the purpose of ensuring that the aircraft is airworthy and safe for flight including servicing of aircraft and all modifications, repairs, replacements, overhaul, process, treatment, tests, operations and inspections of aircraft, aircraft component and item of equipment required for that purpose.
- (d) **Maintenance Programme:** A document prepared by the operator/approved organisation based on the maintenance programme information made available by the state of design or by the organisation responsible for the type design describing the Airworthiness limitation, specific scheduled maintenance tasks and their frequency (in terms of flying hours, cycles, landings or elapsed period or combination of two or more elements of inspection criteria) and related procedures, necessary for the safe operation of those aircraft to which it applies.

### 3 MAINTENANCE ORGANISATION

- 3.1 All aircraft including private category aircraft shall be maintained by organisation approved under CAR 145 or sub part F of CAR M.
- 3.2 Operators who do not have their own facility for maintenance and certification of aircraft, aircraft components or items of equipment can outsource these functions to other appropriately approved organizations.

Note 1 - An operator may outsource maintenance / inspection of an aircraft to another AMO approved by DGCA / FAA / CAA of UK/ EASA without seeking specific approval from DGCA, provided the Maintenance Organisation Exposition/Quality Manual details the procedure of implementation of operator's aircraft maintenance programme, rectification of snags and responsibilities of supervisory staff. In such case a copy of the agreement made between the operator and Maintenance Organisation detailing the responsibilities of each shall be included in the manuals after DGCA approval.

Note 2 - Guidance for procedures of outsourcing of transit inspection to other organisation is given in AAC 2 of 2007

#### **4. CERTIFICATION OF AIRCRAFT MAINTENANCE:**

- 4.1 While carrying out inspection as per established inspection schedules or maintenance tasks the items of the inspection should be signed off simultaneously as the job progresses at each stage of inspection during maintenance, overhaul or repair. However, during pre-flight inspections, an AME/ authorized person/ pilot as in para 6 may be in possession of "inspection cards" to ensure that no items of inspection are missed, and a certificate to this effect will be made in the appropriate technical log book. The AME/ authorized person/ pilot shall explicitly certify on the satisfactory accomplishment of the pre-flight inspection giving reference to the inspection card. All entries made in the schedule/task card or any additional sheet shall be in indelible ink. The inspection schedules/ task cards should highlight the applicability of items of inspection, which may vary in different aircraft of the same type. Organisation using work order system to carryout and certify maintenance task may do so but maintain records of test values, physical parameters measured during maintenance with cross reference to the work order and vice versa.
- 4.2 All maintenance work other than routine, performed on the aircraft shall be entered in the additional off-job sheets and should be attached to the routine maintenance schedule / Technical log book, for the sake of preservation. Additional off-job sheets so raised for recording additional work done should be serially numbered with cross reference to the maintenance task and vice versa to provide traceability.
- 4.3 Maintenance work carried out on the aircraft shall be certified in the relevant log books by appropriately licensed AMEs, approved or authorized persons who have issued Certificate of Release to Service for the work performed. However, DGCA may approve key persons for certification in the log books for the work done at outstations by others after satisfying that the work has been completed in accordance with the prescribed procedures.
- 4.4 Maintenance work on aircraft shall be recorded, signed and dated in the relevant log books as soon as practicable but in no event more than 30 days after the day of maintenance action. If log books are not readily available

because of aircraft being away from the base, then one copy of the log book entry should be kept with the Aircraft Technical log book. In such a case, a copy should be faxed / mailed to the main base so as to reach the person concerned within the next calendar day for prompt entry in the log book.

- 4.5 Aircraft operated in an area where radio navigation / communication equipment on board the aircraft is not required due to the absence of corresponding facilities on ground, need not be certified by an AME, provided the pilot is satisfied with the operation of the equipment. However, the onboard radio equipment shall be maintained and certified by an appropriately qualified AME or approved/ authorised person immediately upon the aircraft returning to an area where corresponding ground facilities are available.

## **5. ISSUANCE OF CERTIFICATE OF RELEASE TO SERVICE:**

- 5.1 After satisfactory completion of each scheduled / unscheduled maintenance work in accordance with applicable maintenance data, a CRS in respect of the aircraft shall be issued by appropriately licensed AMEs, or approved/authorized persons. The issuance of CRS implies that maintenance of the aircraft including that of its components and equipment has been carried out in accordance with applicable maintenance data and it is airworthy in all respects.
- 5.2 When extensive maintenance is carried out on the aircraft, single certificate of release to service may be issued with a unique cross reference to the work package containing full details of maintenance carried out. Details of test values, physical measurements made while carrying out maintenance should be retained in the work package record.
- 5.3 An aircraft component, which has been maintained whilst off the aircraft, shall require the issuance of a certificate of release to service for such maintenance. On installation of the component on an aircraft, a CRS in respect of the aircraft shall be required certifying its proper installation.
- 5.4 A CRS is necessary before flight, at the completion of any defect rectification, whilst the aircraft operates flight services between scheduled maintenance. A format of CRS is at Annexure I.
- 5.5 A Certificate of Release to Service is not required to be issued after pre-flight inspection.

Note: A CRS shall not be issued in the case of any non-compliance, known to the approved maintenance organization, which could seriously hazard flight safety.

## **6. CERTIFICATION OF PRE-FLIGHT INSPECTION**

- 6.1 The pilot-in-command or, in the case of commercial air transport, the operator shall be responsible for the satisfactory accomplishment of the pre-flight inspection.

6.2 For aircraft engaged in scheduled airline operation, the pre-flight inspection shall be carried out and certified by type rated licenced AMEs.

6.3 For aircraft not covered in para 6.2, this inspection may be carried out by a type rated AME. Alternatively the pre-flight inspection may be carried out by the type rated pilot or another qualified person who meets the following requirements.

- (i) Training for seven days covering topics given in Annexure "II", and task training for seven preflight inspections under the supervision of an AME/certification authorisation holder employed by the approved organization.
- (ii) Skill test conducted by quality manager/engineering post holder.

On successful completion of (i) & (ii) the person may be issued an authorization to perform the preflight inspection of the aircraft in accordance with approved schedule.

Note:- For the purpose of this CAR, the term "another qualified person" means a person who has passed Papers I, II & III of DGCA AME licence examination in the relevant category and meets the requirement of para 6.3 above.

6.4 The procedure to carry out and certify pre-flight inspection shall be detailed in the operators Continuing Airworthiness Management Exposition.

( R.P. Sahi )  
Joint Director General of Civil Aviation  
For Director General of Civil Aviation

**CERTIFICATE OF RELEASE TO SERVICE**

**ANNEXURE I**

1. DGCA, India		2. AUTHORISED RELEASE CERTIFICATE CA-FORM ONE				3. Form Tracking Number	
4. Approved Organisation Name, Address and Approval Reference:					5. Work Order/ Contract/ Invoice		
6. Item	7. Description	8. Part No	9. Eligibility (*)	10. Quantity	11. Serial/ Batch No	12. Status / Work	
13. Remarks							
14. Certifies that the items identified above were manufactured in conformity:  <input type="checkbox"/> approved design data are in condition for safe operation <input type="checkbox"/> non-approved design data specified in Block 13				19. <input type="checkbox"/> CAR 145.50 Release to Service <input type="checkbox"/> Sub Part F of CAR "M" Certifies that unless otherwise specified in block 13, the work identified in block 12 and described in block 13, was accomplished in accordance with CAR-145/Sub Part F of CAR M and in respect to that work the items are considered ready to release to service.			
15. Authorised Signature		16. Certificate/ Approval Ref No.		20. Authorised Signature		21. Certificate/ Approval Ref No	
17. Name		18. Date (d/m/y)		22. Name		23. Date (d/m/y)	
(Strike off which ever is not applicable)				* Installer must cross-check eligibility with applicable technical data			

**List of tasks**  
**(Supplement to para 6.3)**

1. With regard to the pre-flight inspection it is intended to mean all of the actions necessary to ensure that the aircraft is fit to make the intended flight. These should typically include but are not necessarily limited to:
  - a) a walk-around type inspection of the aircraft and its emergency equipment for condition including, in particular, any obvious signs of wear, damage or leakage. In addition, the presence of all required equipment including emergency equipment should be established.
  - b) an inspection of the aircraft continuing airworthiness record system or the operators technical log as applicable to ensure that the intended flight is not adversely affected by any outstanding deferred defects and that no required maintenance action shown in the maintenance statement is overdue or will become due during the flight.
  - c) a control that consumable fluids, gases etc. uplifted prior to flight are of the correct specification, free from contamination, and correctly recorded.
  - d) a control that all doors are securely fastened.
  - e) a control that control surface and landing gear locks, pitot/static covers, restraint devices and engine/aperture blanks have been removed.
  - f) a control that all the aircraft's external surfaces and engines are free from ice, snow, sand, dust etc.
2. Tasks such as oil and hydraulic fluid uplift and tyre inflation may be considered as part of the pre-flight inspection. The related pre-flight inspection instructions should address the procedures to determine where the necessary uplift or inflation results from an abnormal consumption and possibly requires additional maintenance action by the approved maintenance organisation or certifying staff as appropriate.
3. An operator should publish guidance to maintenance and flight personnel and any other personnel performing pre-flight inspection tasks, as appropriate, defining responsibilities for these actions and, where tasks are contracted to other organisations, how their accomplishment is subject to the quality system of M.A.712 of CAR M. It should be demonstrated to DGCA that pre-flight inspection personnel have received appropriate training for the relevant pre-flight inspection tasks. The training standard for personnel performing the pre-flight inspection should be described in the operator's continuing airworthiness management exposition.