



GOVERNMENT OF INDIA

DIRECTORATE GENERAL OF CIVIL AVIATION

AAC No. 2 of 2023

Dated 27<sup>th</sup> February 2023

## **AIRWORTHINESS ADVISORY CIRCULAR**

F. No. DGCA-25012(07)/3/2023

Subject: **Privileges and limitations of line maintenance**

### **1. Introduction**

- 1.1 Rule 133B of the Aircraft Rules, 1937 stipulates that organizations engaged in the maintenance of aircraft and aircraft components shall be approved. Further, CAR 145 specifies the requirements to be met by organizations seeking approval under Rule 133B to conduct aircraft maintenance.
- 1.2 Specifically, CAR 145.A.10 establishes the requirements to be met by an organization to qualify for the issue or continuation of an approval for the maintenance of aircraft and components.
- 1.3 Further, the definition of aircraft line maintenance is provided in AMC 145.A.10, together with a list of activities which “may” be considered as line maintenance.
- 1.4 The word “may” is used because it is not possible to establish a provision giving a strict border line between line and base maintenance, having general applicability to all cases.
- 1.5 This circular provides the guidance to be followed by organization for clearly defining the line maintenance capability in MOE Chapter 1.9.
- 1.1 The provisions of this AAC are complementary to the requirements of CAR 145 regulation “as amended” and does not supersede or replace the associated regulatory requirements.

### **2. Regulatory References**

Rule 133B of the Aircraft Rules, 1937  
CAR 145

## **2. Organisation responsibilities.**

- 2.1 Based on the above, the maintenance organisation shall ensure prior to any intended maintenance event<sup>1</sup> that the activity can be carried out under its line maintenance scope of approval (refers to AMC 145.A.10) and does not fall under Para 5 “Example of maintenance activity considered to be base maintenance” of this AAC.
- 2.2 This assessment may not need to take place each time, but be based on already established MOE procedures (e.g. the fact that a daily check is a line maintenance task is obvious and does not need to be assessed each time).
- 2.3 Even if this assessment confirms that the activity is line maintenance, the maintenance organisation shall also verify if this activity requires other means than the ones already in use at a Line station (e.g.: use of a hangar, platforms, stands, etc.).
- 2.4 The following paras provide a guidance on when and how to assess the maintenance activity.

## **3. When to assess the maintenance activity.**

- 3.1 The maintenance organisation’s assessment to decide if any maintenance event falls within the definition of line or base maintenance, may be needed in two different moments/ situations:
  - for an initial/ change of approval, when evaluating the scope of work the maintenance organisation is applying for;
  - for an already approved maintenance organisation, when evaluating if a maintenance requested by the customer (e.g.: a new SB requested by the customer, a defect rectification, a work package requested by the customer, etc.) falls within the approved line maintenance scope of work.

## **4. Assessment of the intended scope of work (initial/change of approval)**

- 4.1 It is the responsibility of the maintenance organisation to demonstrate to DGCA that the intended scope of work may be carried out in a line maintenance environment, under its line maintenance scope of approval<sup>2</sup>.
- 4.2 Line Maintenance should be understood as any maintenance that is carried out before flight to ensure that the aircraft is fit for the intended flight, and to be limited as follows:

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<sup>1</sup> Maintenance event is intended to be the condition/ period when an aircraft is under the responsibility of a maintenance organisation for the purpose of undergoing one or a series of maintenance tasks which is/ are identified in a “clear work order” formally issued by the Customer/ Operator.

<sup>2</sup> Similar considerations may apply for a base maintenance scope of approval.

- A. Maintenance tasks falling in Para 5 “Example of maintenance activity considered to be base maintenance” are not permitted; Such limitation shall be assessed, as applicable, to any of the following points;
- B. Trouble shooting and/or Defect Rectification not requiring special ground support usually relevant to base maintenance (e.g.: special equipment, structured production planning, complex and lengthy maintenance);
- C. Component replacement including:
- scheduled component replacements included in the scheduled maintenance activity identified in the MOE 1.9 (as part of the minor scheduled line maintenance or scheduled checks identified below);
  - unscheduled component replacement in relation to a defect rectification (e.g. AOG, MEL closure, etc.)
- D. Minor repairs and modifications which do not require extensive disassembly and can be accomplished by simple means;
- E. Scheduled Maintenance: may be subdivided into the following cases
- i) Minor scheduled line maintenance: are those scheduled tasks not exceeding the weekly check or equivalent as acceptable to DGCA. This is the maximum level of scheduled tasks that should be considered in case the hangar facility is not available at the intended line maintenance location.
  - ii) Scheduled checks, are those scheduled tasks which exceed the weekly check (or equivalent as determined by DGCA) and do not fall within the definition of base maintenance given in para 5 “Example of maintenance activity considered to be base maintenance”.

Scheduled checks under a line maintenance approval may be considered in case the organisation has access to hangar facilities at the intended line maintenance location. This does not mean all scheduled checks have to be carried out in the hangar and the effective need to use the hangar has to be individually assessed for each particular check as part of the “decision making process” described below.

Each operator is customizing the aircraft maintenance programme and grouping its maintenance intervals as necessary. The maintenance organisation should review the intended maintenance from the customer operator and identify in the TCH data (e.g. MPD) the maintenance level which allows to carry out that intended maintenance. The outcome of this exercise is to identify the intended limitation of the line maintenance scope of approval, in terms of scheduled maintenance checks. In particular, the following is expected:

1. Depending on the manufacturer policy, the maintenance level limitation may be expressed in one of the following ways:

- “up to and excluding X check” (e.g. X= 2A, 3A, etc.) for a MPD, where maintenance check packages and letter checks are used;
- “up to and excluding “X FH /Y FC / Z calendar time” for a MPD, where task intervals are given in the appropriate usage parameters (e.g. flight hours, flight cycles, calendar time, APU hours) for example up to and excluding 3000FH, 750 FC, 12 months);

A line maintenance level limitation means that all tasks within the identified interval fall within the definition of line maintenance and that the organisation has demonstrated to capable of performing all those tasks.

As a consequence, starting from the weekly check and assessing growing intervals of tasks, the standard approach should be to limit the maintenance level to the first task which is outside the capability of the organisation or to the first task which falls in the definition of a base maintenance whichever is the lower task (e.g. in case the organisation is not capable to perform a task at 2500 FH and the first task which falls in the definition of base maintenance is at 12000 FH, the maintenance level limitation for line maintenance shall be “up to and excluding 2500 FH”).

2. the identified limit, to be indicated in the MOE 1.9, shall be such that all the related routine/scheduled tasks are excluding any of the tasks listed in para 5 “Example of maintenance activity considered to be base maintenance”;
3. a “decision making process” needs to be established in the MOE (normally chapter 2.28 production planning procedure) in order to assess:
  - the need to access the hangar (even if the activity is permitted under a line maintenance scope of approval), considering in particular the type of aircraft, the maintenance event type/ complexity, the environmental and weather conditions;
  - any work order / work package received from the customer operator to ensure it may be fully performed under a line maintenance scope of approval, taking into account additional works to the original work package that may be added, leading out to the line maintenance scope of work, such as:
    - addition of previously deferred maintenance tasks;

- defects raising from the routine tasks (these defects are not known in advance, however, the related risk in terms of number and level of defects needs to be taken into account and estimated in advance);

#### Example of “decision making process”

In such a case, the outcome of the “decision making process”, may be for example:

- the impossibility to accept such work order from the customer operator, being outside the scope of work of the maintenance organisation, or;
- to agree with the customer operator a revised work order, to remove the works which have been identified as base maintenance tasks (e.g. removal of a SB which was requiring extensive disassembly and modification of flight controls, etc.).

### **5. Example of maintenance activity considered to be base maintenance.**

5.1 When any of the following task is required to be carried out (regardless if contained in a scheduled maintenance check or arising from a defect rectification/AOG situation), a base maintenance scope of approval is needed:

- High number of different type of tasks to be carried out, even if taken singularly those tasks may still fall under the definition of line maintenance (e.g. a combination of routine task cards, non-routine task cards issued following defects discovered during the check, out of phase tasks, deferred items from previous maintenance, minor repairs, minor modifications, component replacement, etc.). Such case is clearly requiring a base maintenance production planning support and/or base maintenance release to service process (category C C/S supported by B1/B2 support staff) in order to ensure that all the maintenance ordered has been carried out before issuing the CRS;
- Maintenance tasks or replacement of any major component, either scheduled or unscheduled, where the related maintenance procedures clearly address the need of an hangar environment requiring special ground support equipment and/or structured production planning and/or complex and lengthy maintenance, such as for example a full landing gear replacement , simultaneous replacement of two engines, etc.;
- Any scheduled maintenance task (e.g. routine task from the MP) which requires extensive disassembly of the aircraft and/or extensive in depth inspection;
- Major repairs and/or major modifications;

- Trouble shooting and/or Defect Rectification requiring special ground support usually relevant to base maintenance (e.g.: special equipment, structured production planning, complex and lengthy maintenance).
- A scheduled maintenance event, which in the planning phase has been already identified as significant in terms of duration and/or man-hours (e.g. an A/C down time above 72 hours or four shifts whichever is less).
- A work package requiring a complex team composition in terms of high Number & Categories (avionic, structure, cabin, NDT qualification and skills, etc.) of staff involved per shift.
- The management of the event by B1 and B2 support staff and the release by a C certifying staff.

Note: The maintenance organisation remains responsible to ensure that even if each individual work order is falling under the line maintenance activity, a maintenance event which is cumulating several of these work orders remains within the line maintenance scope of activity.

**6. Assessment of maintenance task by an already approved maintenance organisation**

For an approved maintenance organisation, it remains its responsibility to assess if any maintenance requested by the customer falls within the approved line maintenance scope of work. This assessment is expected to be performed based on the “decision making process” described in the Para 4 “Assessment of the intended scope of work (initial/change of approval)”, paragraph E.3.

Sd/-  
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