Foreign Part 145 approvals

Aircraft Line Maintenance

UG.CAO.00134-001

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<th>Name</th>
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DOCUMENT CONTROL SHEET

Process Area: Organisation approval
Main Process: Continuing Airworthiness Organisation Approval
Scenario: Foreign Part 145 approval
Process: All
Main Process Owner: Karl SPECHT

Reference documents

a) Contextual documents


EASA/FAA Maintenance Annex Guidance (MAG)

EASA/TCCA Maintenance Annex Guidance (MAG)


MB decision 01-2011 - On guidelines for allocation of certification tasks to national aviation authorities and qualified entities.


b) Internal documents

Applicable document are listed in the form "FO.CAO.00136-XXX - Foreign Part 145 approvals – Documentation Index".

Log of issues

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<tr>
<td>001</td>
<td>13/11/2013</td>
<td>First issue. This document is aimed to provide the applicant with guidance material supporting the application/approval, and as such has been reviewed by Rulemaking Product Support Continuing Airworthiness Section (R.4.2).</td>
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0.3. Scope and applicability

This user guide is applicable to EASA Part 145 organisations having their principal place of business located outside the EU Member States, the USA and Canada (hereinafter referred to as “Foreign Part 145 organisations”).

EASA is the Competent Authority for the maintenance organisations as established by Part 145.1 “General” and therefore responsible for the final approval of those Organisations. EASA has also established procedures detailing how EASA Part 145 application and approval are managed.

This user guide is complementary to the requirements of Implementing Rule - Regulation EU 2042/2003 Annex II, Part-145 “as amended” and does not supersede or replace the information defined within that document.

This User Guide comes into effect 90 days after publication on the EASA website.

0.4. Purpose

This user guide is designed to be used by EASA Part 145 Maintenance Organisations and the Assigned inspector when implementing and checking:

- the privileges and limitations to be associated to a line maintenance scope of approval;
- the aircraft maintenance level that can be performed under its line maintenance scope of approval;
- maintenance away from the approved location(s) as per 145.A.75.(c);
- Availability of the B2 certifying staff.

0.5. Associated instructions

EASA has developed associated instructions (user guides, Forms, templates and work instructions), that detail specific matters, which have to be considered as an integral part of this procedure.

A complete listing of these documents, together with their applicability to the applicant/approval holder or NAA / QE / EASA, is addressed in the current revision of the “Foreign Part 145 approvals – documentation Index”, FO.CAO.00136-XXX (XXX identifies the revision number). Documents which are applicable to both NAA/QE/EASA and Applicant/Approval holder are made available on the EASA Web site:

Each time a cross reference is provided to another document or another chapter / paragraph of the same document, this reference is identified with grey text.

0.6. Communication.

All documents and correspondences between the Applicant, the overseeing authority and EASA shall be in the English language unless otherwise agreed by EASA.
1. Privileges and Limitations of Line Maintenance.
1.1. Definition of Aircraft Line Maintenance Scope of Work.

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.

The word “may” is used because it is not possible to establish a provision giving a border line between line and base maintenance, having general applicability to all cases.

1.2. Organisation responsibilities.

Based on the above the organisation shall ensure before any intended maintenance event\(^1\) 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 chapter 1.5 of this user guide.

This assessment may need not to take place each time, but be based on already established MOE procedures (i.e. the fact that a daily check is a line maintenance task is obvious and do not need to be assessed each time).

Even if this assessment confirms that the activity is line maintenance, the organisation shall also verify if this activity requires other means than the ones already in use in a Line station (e.g.: use of a hangar, platforms, stands, etc..)

The following chapters provide a guidance on when and how to assess the maintenance activity.

1.3. When to Assess the Maintenance Activity.

The 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 Organisation is applying for;
- for an already approved Part 145 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.

\(^1\) Maintenance event is intended to be the condition/period when an aircraft is under the responsibility of a Part 145 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.
1.4. Assessment of the intended scope of work (initial/change of approval)

It is the responsibility of the Organisation to demonstrate to the competent authority that the intended scope of work may be carried out in a line maintenance environment, under their line maintenance scope of approval.

The main criteria for this assessment is to consider the level of maintenance to be carried out under the line maintenance scope of approval, where the following general criteria apply:

A. **Trouble shooting, Defect Rectification**, are those unscheduled tasks required for the daily operation of an Aircraft and not falling in chapter 1.5 below;

B. **Minor scheduled line maintenance**, are those scheduled tasks not exceeding the weekly check as specified in the aircraft maintenance programme;

C. **Scheduled checks**, are those scheduled tasks which exceed the weekly check (or equivalent as determined by the competent authority). In this case, the organization needs to analyze each of the routine tasks intended to be included in the line maintenance scope of work and identify a clear limit. This assessment needs to be performed having as reference the TCH data such as the aircraft maintenance planning document (MPD) and/or the Maintenance programme of a potential/reference Customer operator. 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 aircraft maintenance programme logic (i.e. MSG 2, MSG 3, etc.) a clear limitation to the line maintenance scope of work may be normally expressed in one of the following ways:
   - “up to and excluding X check” (i.e. X= 2A, 3A, etc.) for a maintenance programme/MPD, where letter checks are identified;
   - “up to and excluding “X FH /Y FC / Z calendar time”, for a maintenance programme/MDP, where progressive task intervals are defined in terms of FH/FC/calendar time (i.e. X=3000FH, Y=750 FC, Z=12 months, etc.);

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 Chapter 1.5 below;

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 of 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 need to be taken into account and estimated in advance);

Example of “decision making process”

A 2A maintenance check on a B737 classic aircraft type is normally considered “line maintenance” when the routine tasks are assessed as per the manufacturer MPD/ operator MP. Therefore a Part 145 AMO may be approved to perform this check under a line maintenance scope if work. However a work order to perform the “2A check”, where the customer operator would request the performance of works in addition to the “2A” routine tasks, such as the addition of ADs, SBs, deferred tasks, will need to be carefully assessed by the Part 145 AMO with the use of the “decision making process”.

This type of maintenance check may easily fall within the examples given in the following chapter 1.5 having the result to be considered as Base maintenance and being outside the organisation scope of work.

In such 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 Part 145 AMO, or;

- to agree with the customer operator a revised work order, to remove the works which have been identified to be base maintenance tasks (e.g. removal of a S.B. which was requiring extensive disassembly and modification of flight controls, etc.).

1.5. Example of maintenance activity considered to be Base Maintenance.

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 to accomplish the following:

- 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 (i.e. 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;

- Replacement of any major component 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 change, change of two engines, etc.;
• Any scheduled maintenance task (i.e. 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 (i.e. an A/C down time above 72 hours and/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, ....) 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 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.

1.6. **Assessment of maintenance task by an already Approved Organisation**

For an approved Part 145 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 chapter 1.4 (paragraph C.3).
2. Maintenance Away from the Approved Location(s) as per 145.A.75.(c).
2.1. **Definition and Applicability.**

145.A.75.(c) allows a Part 145 AMO to “maintain any aircraft or any component for which it is approved at any location subject to the need for such maintenance arising either from the unserviceability of the aircraft or from the necessity of supporting occasional line maintenance, subject to the conditions specified in the exposition”.

The privilege to perform maintenance in a non-approved location is limited to the following cases:

1. **To support an unserviceable aircraft:** It shall be understood that this privilege is intended to be used only for the final need of aircraft line maintenance in the case of an unexpected event (AOG requiring defect rectification). Therefore, any maintenance task performed in a non-approved location under Cx-components, B1-engines, B3-APUs, D1-specialised services ratings, are only acceptable if intended to return the aircraft back to service. With regards to Cx rating, this privilege is limited to those components that are not readily transportable (thrust reverser, radome, LDG strut, ...).

2. **Occasional Line maintenance** due to the need of supporting the A/C operation in a non-approved location for maintenance (i.e. one-time flight, short term or seasonal contract, flight schedule change, etc). The use of this privilege is limited to those cases where the Part 145 AMO has a maintenance contract with the EU customer operator requesting such maintenance outside the approved location.

When the EASA Part 145 AMO (or applicant) wishes to use this privilege, the MOE 1.9 (scope of work) shall make reference to the fact that the Organisation may perform works away from the approved locations, subject to the condition specified in MOE 2.24 (specific maintenance procedure).

The MOE 2.24 shall detail the applicability and conditions, based on the minimum requirements identified below.

Note: any aircraft maintenance performed within the EU territories must be exclusively released by Certifying Staff holding a valid EASA Part 66 license.
2.2. Condition to be Specified in the Exposition.

2.2.1. Support an unserviceable aircraft.

The procedure, shall be based on the following criteria:

a) The Scope of work shall be limited to:

- aircraft type or components or engines or NDT methods listed in the MOE 1.9 scope of work and;

- maintenance activities strictly necessary to recover the aircraft unserviceability condition as limited by the MOE 1.9 maintenance level;

b) A process shall be in place, under the responsibility of the Quality Manager, to show:

- how the Maintenance Manager ensures that the necessary facilities, certifying staff, tools, equipment, material, maintenance data will be made available as necessary and how the maintenance records will be managed;

- the involvement of the Quality system and its approval for the work away from the approved location, based on a desktop review;

- that the assigned inspector is notified of any such approval within 7 days. In addition, that a list of all the CRS issued under this procedure will be made available to EASA upon request;

c) The notification shall be formalized using a Form, to be enclosed in the MOE Part 5, including the following minimum information:

- Aircraft type and registration number;
- Location;
- Description of the unserviceability of the aircraft and expected scope of maintenance;
- Composition of the working Team (number and category of licenses);
- Quality Manager signature.

2.2.2. Occasional Line Maintenance.

The procedure, shall be based on the following criteria:

a) Scope of work shall be limited to:

- aircraft type listed in the MOE 1.9 scope of work and;
- routine tasks up to and including weekly check (or MOE 1.9 maintenance level whichever is less);
- trouble shooting & Defect rectification.

b) a process shall be in place, under the responsibility of the Quality Manager, to show:
• how the Maintenance Manager ensures that the necessary facilities, certifying staff, tools, equipment, material, maintenance data will be made available as necessary and how the maintenance records will be managed;

• The involvement of the Quality system and its approval for the occasional line maintenance, based on the following criteria:

<table>
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<tr>
<th>Use of the non-approved location (consecutive calendar days)</th>
<th>Approval</th>
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<td>equal or less than 10</td>
<td>issued by the Quality manager based either on an on-site audit or a desktop review.</td>
</tr>
<tr>
<td>between 10 and 40</td>
<td>issued by the Quality manager based on an on-site audit.</td>
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Note: When the duration expected for the maintenance is more than 40 days, the approval of a new line station shall be requested to EASA, to be listed in the MOE 5.3 (list of line maintenance locations as per 145.A.75.(d)).

• that a list of all the CRS issued under this procedure shall be made available to EASA upon request;

c) that, when the privilege is used for more than 10 days (second case in the table above), the assigned inspector is notified of such approval within 7 days from the date of the beginning of the operation; the notification shall be formalized using a Form, to be enclosed in the MOE Part 5, including the following minimum information:

• Customer (s) operator requesting the occasional line maintenance;
• Aircraft type(s);
• Scope of the requested line maintenance;
• Location;
• Number and category of certifying staff assigned to support this activity;
• Quality Manager signature.

d) The repetitive use of the privilege for the same customer at the same location is not permitted. In this case the approval of a new line station shall be requested to EASA.

The above mentioned procedure(s) related to the "Occasional Maintenance" are approved by the competent authority based upon the ability of the Quality System to deal adequately with the Part 145 requirements. This ability cannot be therefore demonstrated at the time of the initial approval. In any case this procedure cannot be detailed in the MOE and therefore approved by the competent before the first 2 year period has been completed.
### 3. Line station without a permanent cat. B2 staff

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Part 145.A.30.(g) requires that any Part 145 Organisation maintaining aircraft, have, in the case of aircraft line maintenance, appropriate aircraft rated certifying staff qualified as category B1, B2, B3 as appropriate....”.

As a consequence, Foreign Part 145 AMOs shall demonstrate that appropriate aircraft rated **B1 and B2** certifying staff are available, for each aircraft type intended to be included in the approved scope of work.

In general such staff shall be permanently available. However, when the organization is operating various line stations the following options could be accepted, provided the above requirement is at any time satisfied:

**Option a)** The line maintenance contract(s) in place (i.e. IATA SGHA-standard ground handling agreement), clearly specify that the contract(s) is/are limited to defect rectification not requiring B2 privileges to allow the aircraft release to service.

_In this case the Part 145 Organisation does not need to provide any evidence that B2 certifying staff is permanently available at the line station for such a contract._

**Option b)** The line maintenance contract(s) in place do(es) not have limitations.

_In this case, the situation needs to be evaluated depending on the volume of work performed at the Line Station (i.e. number and type of contracts in place, flight schedules, on-call maintenance, etc.), taking into account the probability of having a defect which can be only solved exercising the privileges of cat. B2 certifying staff. As a general criteria, it may be considered acceptable not to have a cat. B2 certifying staff permanently on site provided that he can be made available in case of need within a reasonable timeframe to support the operation (maximum travel time 2 hours)_

_Such B2 certifying staff can be either one of the AMO B2 certifying staff or a contracted “on call” B2 certifying staff from another Organisation. This B2 certifying staff could be sufficient to support more than one line station within the limits of AMC 145.A.30 (d) 1._

_In this case, since the B2 certifying staff is going to sign on behalf of the contracting Part-145 organisation, he/she must be appropriately assessed and authorized (issued a certifying staff authorization). This is not necessary if the defect is rectified by the contracted Part-145 organisation under their own privileges._

The MOE shall have a procedure on how to deal with defects requiring **B2 certifying staff**.
4. Records

The organisation shall review and archive in an exhaustive manner the relevant files resulting from the implementation of this procedure.