

AERONAUTICAL CIRCULAR CIVIL AVIATION AUTHORITY – MACAO, CHINA

SUBJECT:

**The Process For Acceptance Of Used
Engines, Engine Modules, Auxiliary Power Units (APUs) And Propellers For Use On
Aircraft Requiring a MACAO Certificate Of Airworthiness**

EFFECTIVE DATE:

15 December 2015.

CANCELLATION:

This Aeronautical Circular (AC) supersedes AC No. AC/AW/001R02 dated 13 July 2010.

GENERAL:

The President of Civil Aviation Authority – Macao, China, in exercise of his power under Article 35 of the Statutes of Civil Aviation Authority approved by the Decree-Law 10/91/M and paragraph 89 of the Air Navigation Regulation of Macao (ANRM) establishes this AC.

1 Introduction

- 1.1 For the purposes of this AC, engines, engine modules, APUs, and propellers are hereafter referred to as Powerplants.
- 1.2 Paragraph 7(9) of the ANRM states that a Certificate of Airworthiness shall cease to be in force if the aircraft is overhauled, repaired or modified otherwise than in a manner and with material of a type approved by the Civil Aviation Authority – Macao, China (AACM).

Similarly, for non Commercial Air Transport, Paragraph 10(3) requires that a Certificate of Release to Service (CRS) be issued when an aircraft has been overhauled, repaired, modified or maintained in a manner and with material of a type approved by the AACM.

For Commercial Air Transport, MAR 145.50 (a) requires that a CRS be issued when all the required maintenance has been carried out by the MAR-145 approved maintenance organisation in accordance with a MAR 145.70 Maintenance Organisation Exposition.

- 1.3 For Powerplants obtained from sources not under the direct airworthiness control of the AACM, this AC defines a procedure which owners/ operators shall follow in order to meet the requirements of Paragraph 7(9) and 10(3) of the ANRM and MAR 145.50(a).
- 1.4 Instructions are also included regarding both pool and lease/ loan/ power-by-the-hour arrangements and the alignment of maintenance programmes.

2 Definitions

For the purpose of this AC, the terms are defined as follows:

- (a) **Maintenance organisations** means persons and organisations who are carrying out the business of maintenance.

3 General Requirements

It shall be established by the owner's / operator's MAR-145 approved maintenance organisation or an appropriately type rated AACM Licensed Aircraft Maintenance Engineer, as appropriate, that:

- (a) The Powerplant is of a type approved or accepted by the AACM.
- (b) Civil identification plates are fitted.
- (c) Log books or their equivalent, as appropriate, are issued.
- (d) Original or certified true copies of any relevant documents (e.g. confirming modification standard, test results, etc.) arising from construction or previous Hot Section Inspection (H.S.I.) / Refurbishment / Overhaul / Performance Restoration are provided with the CRS.
- (e) The Powerplant is in compliance with all applicable Airworthiness Directives / Additional Airworthiness Directives of the State of Design and the AACM.

Note: In the case of a Pool Powerplant only the Airworthiness Directives of the State of Design are required as a minimum (see paragraph 9).

- (f) Any period of storage has been in accordance with the manufacturer's recommendations and that the Powerplant has not become unserviceable due to operational abuse, damage or the removal of components.
- (g) The hours and cycles accrued of any life limited parts are clearly defined.

All modifications and repairs embodied in the Powerplant have been approved by the Type Certifying Authority of the Powerplant or the AACM.

4 Alignment of Maintenance Programmes

Powerplant types which, in the Macao operator's maintenance programme are subject to fixed H.S.I / Refurbishment / Overhaul / Performance Restoration intervals, shall have the time remaining to these intervals agreed by the AACM when the previous operator's maintenance programme does not specify the same shop visit requirements or intervals.

5 Powerplants with a Joint Aviation Authorities (JAA), European Aviation Agency (EASA), Federation Aviation Administration (FAA), Joint Maintenance Management (JMM) or Transport Canada (TC) Authorised Release Document

Note: Pursuant to the Cooperation Arrangement signed between AACM, Civil Aviation Administration of China (CAAC) and Civil Aviation Department, Hong Kong, China (HKCAD), Authorised Release Document under JMM means the Authorised Release Certificate issued by the aforementioned civil aviation authorities. Details can be referred to the AC No. AC/AW/003.

5.1 Powerplants which meet the requirements of Paragraph 3 of this AC and have not been operated since the last H.S.I / Refurbishment / Overhaul / Performance Restoration are acceptable for use if received with an Authorised Release Document as defined in paragraphs 3.6 (b) to (h) of the AC No. AC/AW/002.

5.2 If the Powerplant satisfies all of the requirements of paragraphs 3 and 5.1 of this AC, then the following statement, signed by the person issuing the CRS shall be entered into the appropriate log book:

'Part..... S/N..... has been accepted under procedures complying with AACM Aeronautical Circular No. AC/AW/001, paragraphs 3 and 5.'

6 Powerplants Operated under the Airworthiness Control of the JAA, EASA, FAA, JMM or TC since Last H.S.I./ Refurbishment/ Overhaul/ Performance Restoration

6.1 Powerplants which meet the requirements of paragraph 3 and the Authorised Release Document requirements of paragraph 5 of this AC, but which have been operated since last H.S.I. / Refurbishment / Overhaul / Performance Restoration, will be acceptable for use provided that:

- (a) A serviceability statement is obtained from the previous operator declaring any restrictions in hours or cycles relating to inspection, lubrication, replacement or overhaul as necessary to maintain the airworthiness of the Powerplant.
- (b) All defects have been rectified, or recorded.

- (c) The Powerplant has been maintained to a JAA, EASA, FAA, JMM or TC approved maintenance programme.

Note: Approved maintenance programme under JMM means the maintenance programmes approved by AACM, CAAC or HKCAD.

- 6.2 If the Powerplant satisfies all of the requirements in paragraphs 3 and 6.1 of this AC, then the following statement, signed by the person issuing the CRS, shall be entered into the appropriate log book:

‘Part..... S/N..... has been accepted under procedures complying with AACM Aeronautical Circular No. AC/AW/001, paragraphs 3 and 6.’

7 Powerplants from Other Sources or those Requiring Further Substantiation

- 7.1 This paragraph applies when any of the following circumstances exists:

- (a) It is not possible to satisfactorily confirm the origin, traceability or serviceability of the Powerplant.
- (b) The Powerplant is obtained without a JAA, EASA, FAA, JMM or TC Authorised Release Document (as described in paragraph 5 of this AC).
- (c) The Powerplant has not been under the airworthiness control of the JAA, EASA, FAA, JMM or TC operator since the last H.S.I. / Refurbishment / Overhaul / Performance Restoration.
- (d) The Powerplant does not meet all of the requirements of paragraph 3.

Note: Owners and operators are advised to review the requirements of paragraphs 7.2 and 7.4 of this AC prior to entering into a commercial agreement to purchase a Powerplant.

- 7.2 The owner's or operator's MAR-145 approved maintenance organisation or an appropriately type rated AACM Licensed Aircraft Maintenance Engineer, as appropriate, shall demonstrate to the satisfaction of the AACM the Powerplant's acceptability, taking into account the following:

- (a) the details of any un-approved modifications and repairs which have been embodied in the Powerplant.
- (b) confirmation that military Powerplants which are similar to a civil equivalent have been modified to comply with civil requirements in conjunction with the manufacturer in each particular case, unless agreed otherwise with the AACM.
- (c) confirmation that the last H.S.I./ Refurbishment/ Overhaul/ Performance Restoration was undertaken to a specification, and by an organisation or person, acceptable to the AACM.
- (d) a statement certifying serviceability (i.e. an Authorised Release Document or equivalent), issued by either the last H.S.I. / Refurbishment / Overhaul /

Performance Restoration organisation or the previous operator's maintenance organisation, as appropriate. This organisation shall be appropriately authorised by its national airworthiness authority to make such a statement. Alternatively, a statement certifying serviceability issued by the appropriate national airworthiness authority may be acceptable.

- 7.3 If the AACM accepts the Powerplant, the following statement, signed by a AACM Surveyor, shall be entered into the appropriate log book:

'Part..... S/N..... has been accepted by the AACM in accordance with AACM Aeronautical Circular No. AC/AW/001, paragraphs 3 and 7.2.

- 7.4 If the serviceability cannot be adequately established then the Powerplant shall be dismantled and inspected.

A suitably approved or accepted Maintenance Organisation or an appropriately type rated AACM Licensed Aircraft Maintenance Engineer, shall dismantle and inspect the Powerplant. The manufacturer's recommendations shall be used as the basis of the work scope for this activity, which shall be sufficient to determine if either of the declarations below can be made. Rectification action shall be taken where necessary.

If it cannot be established that the records are accurate and complete, all life limited parts shall be scrapped. In addition, the applicant shall make reference to the AACM for a decision on whether any other parts should be scrapped in the absence of satisfactory records.

- 7.5 If serviceability is established one of the following statements, signed by the approved or accepted Maintenance Organisation or the appropriately type rated AACM Licensed Aircraft Maintenance Engineer, as applicable, shall be entered into the appropriate log book, either:

'Part..... S/N..... has been examined in accordance with AACM Aeronautical Circular No. AC/AW/001, paragraph 7.4, and no evidence of operational abuse, inadequate maintenance or unsuitable storage has been revealed.'

or

'Part..... S/N..... has been examined in accordance with AACM Aeronautical Circular No. AC/AW/001, paragraph 7.4, and appropriate action has been taken to restore serviceability.'

8 Lease / Loan / Power-By-The-Hour Powerplants

- 8.1 When a Powerplant is obtained on a long-term lease, loan or 'power-by-the-hour' arrangement from a supplier who is either (a) the original manufacturer,

or (b) a JAA, EASA, FAA, JMM or TC approved maintenance organisation or repair station defined in paragraph 5 of this AC, then the operator shall confirm that:

- (a) The Powerplant complies with the requirements of paragraph 3.
- (b) The supplier has issued a serviceability statement declaring any restrictions in hours or cycles relating to inspection, lubrication, replacement or overhaul as necessary to maintain the airworthiness of the Powerplant.
- (c) The Powerplant has been maintained to either the manufacturer's maintenance programme, or a JAA, EASA, FAA, JMM or TC approved maintenance programme.
- (d) All defects have been rectified or recorded.

8.2 The following statement, signed by the person issuing the CRS for the Powerplant, shall be entered into the appropriate logbook:

'Part..... S/N..... has been accepted under procedures complying with AACM Aeronautical Circular No. AC/AW/001, paragraph 8.'

9 Pool Powerplant

9.1 A 'Pool' Powerplant, interchanged between certain participating airlines on a temporary basis (limited to a maximum of 200 hours), is permitted provided:

- (a) The conditions relating to airworthiness which apply to the pooling agreement are laid down in advance by the operator, agreed by AACM and lodged permanently in the operator's Maintenance Management Exposition. These conditions require consideration of not only the history of the Powerplant but also the acceptability of the source of the H.S.I. / Refurbishment / Repair / Overhaul / Performance Restoration where this is other than by the pool partner.
- (b) The Powerplant is in compliance with all applicable Airworthiness Directives of the State of Design.
- (c) The Macao operator obtains from the previous operator a signed statement certifying the Powerplant is airworthy when released on loan, declaring any restrictions in cycles or hours, etc., relating to inspection, lubrication, replacement, or overhaul as necessary to maintain the airworthiness of the Powerplant during the period of loan.

9.2 The following statement, signed by the person issuing the CRS for the Powerplant, shall be entered into the appropriate logbook:

'Part..... S/N..... has been accepted under procedures complying with AACM Aeronautical Circular No. AC/AW/001, paragraph 9.'

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