澳門特別行政區
REGIÃO ADMINISTRATIVA ESPECIAL DE MACAU
民航局
AUTORIDADE DE AVIAÇÃO CIVIL
CIVIL AVIATION AUTHORITY

AC	
No:	AC/AW/004R22
Date:	15 Jun 2026

AERONAUTICAL CIRCULAR
CIVIL AVIATION AUTHORITY – MACAO, CHINA

SUBJECT:

Macao Aviation Requirements
MAR-1 Airworthiness Procedures

EFFECTIVE DATE:

15 June 2026

CANCELLATION:

This Aeronautical Circular (AC) supersedes AC No. AC/AW/004R22 dated 15 Aug 2025.

GENERAL:

The President of the Civil Aviation Authority – Macao, China, pursuant to number 1 of article 7 and in exercise of the competence conferred by item 1) of article 10, both of Law no. 4/2025 (Civil aviation activity law), issues this Aeronautical Circular to update and make effective the latest Macao Aviation Requirements MAR-1, Airworthiness Procedures.

1. Introduction

1.1. The MAR-1 Airworthiness Procedures set out the minimum requirements and constitute the basis for the issue of airworthiness related certificates, approvals, licences, authorisations and permits required by the ANRM.

1.2. It is also to provide further information regarding the various Macao aviation requirements. It contains concise general information and addresses the procedures on those aspects of certification of aircraft, maintenance, licensing and training.

1.3. It also contains concise general information and addresses administrative procedures so that any applicant can use this document for the application to the AACM.

1.4. The latest Contents and the complete set of the MAR-1 Airworthiness Procedures are herein attached to this AC.

1.5. Major changes in this MAR-1 Airworthiness Procedures amendment include:

1.5.1. The AP1 *Foreword* has been updated to Issue 6. The changes include:

(a) Added information on online applications via the Business & Association Platform.

(b) Editorial update reflecting the revised AACM website.

– END –

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Macao Aviation Requirements

MAR-1

Airworthiness Procedures

MAR-1
Airworthiness Procedures

Issue : 01/26

Date : 15 Jun 2026

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No.:	AP1
Issue:	6
Date:	15 Jun 2026

SUBJECT: ***Foreword***

1. Purpose

1.1 The MAR-1 Airworthiness Procedures set out the minimum requirements and constitute the basis for the issue of airworthiness related certificates, approvals, licences, authorisations, and permits required by the Air Navigation Regulation of Macao (hereinafter referred to as "ANRM").

1.2 This document is also to provide further information regarding the various Macao aviation requirements. It contains concise general information and addresses the procedures on those aspects of certification of aircraft, maintenance, licensing and training.

1.3 It also contains concise general information and addresses administrative procedures so that any applicant can use this document for the application to the AACM.

2. Arrangement

2.1 Each procedure is identified by a number, followed by an issue number and an issue date. This information is listed in sequence in the contents list.

2.2 When a procedure is changed, the particular procedure is re-issued under the same number but bearing a new issue number and issue date.

2.3 The contents list is re-issued with each batch of procedures and gives particulars of all current procedures. Cancellation of a procedure will be indicated in the contents list by the deletion of all details except for the number. The word "Cancelled" will be indicated as the subject.

3. Publication and Distribution

Airworthiness Procedures are published on the Civil Aviation Authority (AACM) website (www.aacm.gov.mo) at the location : Home > Laws & Regulations > Aeronautical Circular > Airworthiness (AW) > AC/AW/004.

4. Definitions

Unless the context otherwise specified, definitions in ANRM and aeronautical circulars are applied to MAR-1.

5. Application

5.1 All application shall be made in a form and manner established by the AACM.

5.2 Application and relevant document shall be submitted to the President of the AACM:

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Centro Comercial Cheng Feng, 18º andar
Macau, CHINA
Fax : (853) 2833 8089
Email : aacm@aacm.gov.mo

5.3 The following applications and the required supporting documents may be submitted electronically via the 'Business & Association Platform' as an alternative to hard-copy submission:

- Renewal of Certificate of Airworthiness
- Renewal of Aircraft Station Licence
- Renewal of MAR-145 approval certificate

The corresponding application forms (AW/APP/007, AW/APP/010 and AW/APP/016) are embedded within the platform. Separate submission of these forms is not required when an application is submitted through the platform.

Prior to submission, final authorisation shall be made within the platform by the eligible applicant, or by their delegated representative, as defined in the applicable Airworthiness Procedure.

For further information, please refer to the AACM website (www.aacm.gov.mo) at the location: Home > Aviation Industry > E-Services > AACM E-Services Provided on Business & Association Platform.

5.4 Latest version of application forms shall be used to make application. Latest version of application forms are available for download from the AACM website (www.aacm.gov.mo) at the location: Home > Aviation Industry > E-Services > Application Forms > Airworthiness.

6. Fees

6.1 The applicant will be charged in accordance with the Executive Order no. 45/2012.

6.2 Payment of fees must be made at the time of the application. Where it is not possible to determine the final amount of fees payable for the concerned application, payment of the amount estimated by the AACM must be paid at the time of application, and the necessary adjustment of the payable fees will be made at the end of the application process.

7. Cancellation

This AP supersedes Airworthiness Procedure No. AP1 Issue 5 dated 07 Nov 2022.

– END –

Airworthiness Procedure

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No.: AP2
Issue: 13
Date: 01 Jun 2025

SUBJECT: ***Type Acceptance of Aircraft***

1. Introduction

1.1 This Airworthiness Procedure (AP) establishes the procedure for issuing type acceptance approval for aircraft.

1.2 Type acceptance approvals are granted by accepting the type certificates issued by the certification authority of the State of Design in accordance with ICAO Annex 8 as far as possible.

1.3 For those aircraft types certificated by the Civil Aviation Administration of China (CAAC), the Joint Aviation Authorities (JAA), the European Union Safety Agency (EASA), or the United States Federal Aviation Administration (FAA), the AACM accepts that they are in compliance with the basic requirements of the Macao airworthiness standards.

1.4 An aircraft engine or propeller that is part of the aircraft is accepted by the AACM and requires no further approval when listed on the aircraft's type certificate data sheet issued by the primary certification authority.

2. Definitions

Operational Suitability Data means data consisting of all of the following:

(a) the minimum syllabus of pilot type rating training, including determination of type rating;

(b) the definition of scope of the aircraft validation source data to support the objective qualification of simulators or the provisional data to support their interim qualification;

(c) the minimum syllabus of maintenance certifying staff type rating training, including determination of type rating;

(d) determination of type or variant for cabin crew and type specific data for cabin crew;

(e) the master minimum equipment list.

Product means an aircraft, an engine or a propeller.

Part means any element of a product, as defined by that product's type design.

Primary certification authority means the authority of the State of Design which delivers the primary certification of the product.

3. Eligibility

3.1 Any natural or legal person that responsible for the type design shall be eligible as an applicant for a type acceptance approval under the conditions laid down in this AP.

3.2 An aircraft type is eligible for type acceptance approval only if:

(a) there exists a need to import aircraft of the concerned type into Macao; and

(b) it is type certificated by one of the following authorities:

(i) Civil Aviation Administration of China (CAAC);

(ii) European Joint Aviation Authorities (JAA);

(iii) European Aviation Safety Agency (EASA);

(iv) Federal Aviation Administration (FAA).

4. Application

4.1 An application for a type acceptance approval shall be made in a form and manner established by the AACM.

4.2 Before submitting formal application to the AACM, for the purpose of paragraph 3.2 (a) above, the applicant shall provide evidence that a natural or legal person who is qualified to be a registered owner of an aircraft in Macao according to paragraph 4 of the ANRM is committed to import aircraft of the concerned type into Macao.

4.3 Application for a type acceptance approval shall be made in writing to the President of the AACM, and shall include, or be supplemented after the initial application by:

(a) A cover letter;

(b) a reference letter issued by the primary certification authority;

(c) a three-view drawing of that aircraft and preliminary basic data, including the proposed operating characteristics and limitations;

(d) declaration made by the applicant, that:

(i) the applicable certification basis and environmental protection requirements in accordance with paragraph 7 and 8 have been complied;

(ii) no feature or characteristic has been identified that may make the product unsafe for the uses for which certification is requested.

(e) supporting documents relating to paragraph 10, including:

(i) compliance documents previously used to demonstrate compliance for the issuance of type certificate issued by the primary certification authority;

(ii) compliance documents showing the means by which compliance with the special condition prescribed by the AACM in accordance with paragraph 6 is demonstrated;

(iii) documents showing how compliance with paragraph 5, 12, 13, 16, 37, 38, 43, 47, 50, 115, 175, Part B of the First Schedule, the Fifth Schedule and the Sixth Schedule, and paragraph 7 (2) of the Eleventh Schedule of the Air Navigation Regulation of Macao (ANRM) can be achieved;

(iv) a copy of the type certificate and the associated type certificate data sheet;

(v) a copy of the flight manual approved under the type certificate issued by the primary certification authority;

(f) one set of complete instructions for continued airworthiness;

(g) one set of complete operational suitability data;

(h) a statement that the applicant is prepared to comply with paragraph 16;

(i) a programme showing how the instructions for continued airworthiness and operational suitability data are distributed specified in paragraph 24 and 25.

4.4 After receiving the application and payment of applicable fees, a meeting will be held between the applicant and AACM for the following:

(a) Familiarisation of the aircraft design, systems, structure and operational characteristics in sufficient detail that any unusual or new features can be identified;

(b) Review of the design standards, including any exemption, special conditions and findings of equivalent level of safety ;

(c) Review of the type design for the compliance with the type certification basis as specified in paragraph 7;

(d) Review of in service experience, including major defects currently under investigation and any corrective action;

(e) Initial maintenance requirements;

(f) Continued airworthiness review.

4.5 If the AACM finds necessary, special conditions for Macao type acceptance approval will be established and notified to the applicant.

5. Airworthiness codes

The AACM adopts the following airworthiness codes as standard means to show compliance of products:

(a) Civil Aviation Regulations of China (CCAR) of CAAC;

(b) Certification Specifications (CS) of EASA;

(c) Joint Aviation Requirements (JAR) of JAA; and

(d) Federal Aviation Requirements (FAR) of FAA.

6. Special conditions

6.1 The AACM shall prescribe special detailed technical specifications, named special conditions, for a product, if the related airworthiness code do not contain adequate or appropriate safety standards for the product because:

(a) the product has novel or unusual design features relative to the design practices on which the applicable airworthiness code is based; or

(b) the intended use of the product is unconventional; or

(c) experience from other similar products in service or products having similar design features, has shown that unsafe conditions may develop.

6.2 Special conditions contain such safety standards as the AACM finds necessary in order to establish a level of safety equivalent to that established in the applicable airworthiness code.

7. Type certification basis for a type acceptance approval

The type certification basis shall consist of:

(a) the certification specifications for airworthiness designated by the primary certification authority for issuance of the type certificate;

(b) any special condition prescribed by the AACM in accordance with paragraph 6.

8. Environmental protection requirements for a type acceptance approval

8.1 The aircraft noise requirements are prescribed in:

(a) paragraph 50 of the ANRM;

(b) Annex 16 to the Convention on International Civil Aviation, Volume I, Part II, Chapter 1, and:

(i) for subsonic jet aeroplanes, in Chapters 2, 3, 4 and 14;

(ii) for propeller-driven aeroplanes, in Chapters 3, 4, 5, 6, 10, and 14;

(iii) for helicopters, in Chapters 8 and 11;

(iv) for supersonic aeroplanes, in Chapter 12; and

(v) for tilt rotors, in Chapter 13.

(c) Annex 16 to the Convention on International Civil Aviation, Volume I:

(i) Appendix 1 for aeroplanes for which Chapters 2 and 12 of Annex 16 to the Convention on International Civil Aviation, Volume I, Part II are applicable;

(ii) Appendix 2 for aeroplanes for which Chapters 3, 4, 5, 8, 13 and 14 of Annex 16 to the Convention on International Civil Aviation, Volume I, Part II are applicable;

(iii) Appendix 3 for aeroplanes for which Chapter 6 of Annex 16 to the Convention on International Civil Aviation, Volume I, Part II is applicable;

(iv) Appendix 4 for aeroplanes for which Chapter 11 of Annex 16 to the Convention on International Civil Aviation, Volume I, Part II is applicable; and

(v) Appendix 6 for aeroplanes for which Chapter 10 of Annex 16 to the Convention on International Civil Aviation, Volume I, Part II is applicable;

8.2 The emissions requirements for preventions of intentional fuel venting for aircraft are prescribed in Annex 16 to the Convention on International Civil Aviation, Volume II, Part II, Chapters 1 and 2.

8.3 The smoke, gaseous and particulate matter engine emissions requirements are prescribed in:

(a) Annex 16 to the Convention on International Civil Aviation, Volume II, Part III, Chapter 1, and:

(i) for smoke and gaseous emissions of turbojet and turbofan engines intended for propulsion only at subsonic speeds, in Chapter 2;

(ii) for smoke and gaseous emissions of turbojet and turbofan engines intended for propulsion at supersonic speeds, in Chapter 3; and

(iii) for particulate matter emissions of turbojet and turbofan engines intended for propulsion only at subsonic speeds, in Chapter 4;

(b) Annex 16 to the Convention on International Civil Aviation, Volume II:

(i) Appendix 1 for the measurement of reference pressure ratio;

(ii) Appendix 2 for smoke emissions evaluation;

(iii) Appendix 3 for instrumentation and measurement techniques for gaseous emissions;

(iv) Appendix 4 for specifications for fuel to be used in aircraft turbine engine emissions testing;

(v) Appendix 5 for instrumentation and measurement techniques for gaseous emissions from afterburning gas turbine engines;

(vi) Appendix 6 for compliance procedure for gaseous, smoke and particulate matter emissions; and

(vii) Appendix 7 for instrumentation and measurement techniques for non-volatile particulate matter.

8.4 The aeroplane CO_2 emissions requirements are prescribed in:

(a) Annex 16 to the Convention on International Civil Aviation, Volume III, Part II, Chapter 1, and:

(i) for subsonic jet aeroplanes, in Chapter 2; and

(ii) for subsonic propeller-driven aeroplanes, in Chapter 2;.

(b) Annex 16 to the Convention on International Civil Aviation, Volume III, Appendices 1 and 2, for aeroplanes for which Chapter 2 of Annex 16 to the Convention on International Civil Aviation, Volume III, Part II is applicable;

9. Changes requiring a new type acceptance approval

Any natural or legal person proposing to change a product shall apply for a new type acceptance approval if the AACM finds that the change in design, power, thrust, or mass is so extensive that a substantially complete investigation of compliance with the applicable type certification basis is required.

10. Compliance with the type certification basis and environmental protection requirements for a type acceptance approval

10.1 The applicant shall show compliance with the type certification basis and environmental protection requirements referred to in paragraphs 7 and 8 and shall provide the AACM with the means by which such compliance has been shown.

10.2 The applicant shall declare that:

(a) it has shown compliance with all applicable type certification basis and environmental protection requirements; and

(b) no feature or characteristic has been identified that may make the product unsafe for the uses for which certification is requested.

11. Requirements for the issuance of a type acceptance approval

A type acceptance approval shall only be issued:

(a) when declaration referred to in paragraph 10.2 has been submitted by the applicant;

(b) when it is shown that:

(i) the product to be accepted meets the applicable type certification basis and environmental protection requirements designated in accordance with paragraph 6 and 7;

(ii) any airworthiness provisions not complied with are compensated for by factors that provide an equivalent level of safety;

(iii) no feature or characteristic makes it unsafe for the uses for which certification is requested; and

(c) when the applicant has expressly stated that it is prepared to comply with paragraph 16.

12. Type design

12.1 The type design shall consist of:

(a) the drawings and specifications, and a listing of those drawings and specifications, necessary to define the configuration and the design features of the product shown to comply with the applicable type certification basis and environmental protection requirements;

(b) information on materials and processes and on methods of manufacture and assembly of the product necessary to ensure the conformity of the product;

(c) an approved airworthiness limitations section of the instructions for continued airworthiness as defined by the applicable airworthiness code; and

(d) any other data necessary to allow by comparison, the determination of the airworthiness, the characteristics of noise, fuel venting, and exhaust emissions (where applicable) of later products of the same type.

12.2 Each type design shall be adequately identified.

13. Investigation and tests

The applicant shall allow the AACM to:

(a) review any data and information related to the demonstration of compliance; and

(b) witness or carry out any test or inspection conducted for the purpose of the demonstration of compliance.

14. Flight tests

14.1 Upon AACM's request, flight testing for the purpose of obtaining a type acceptance approval shall be conducted in accordance with conditions for such flight testing specified by the AACM.

14.2 The applicant shall make all flight tests that the AACM finds necessary:

(a) to determine compliance with the applicable type certification basis and environmental protection requirements, and

(b) to determine whether there is reasonable assurance that the aircraft, its parts and appliances are reliable and function properly for aircraft to be type-accepted under this AP, except for,

(i) sailplanes and powered sailplanes,

(ii) aeroplanes of 2,722 kg or less maximum take-off mass (MTOM).

14.3 The flight tests prescribed in paragraph 14.2 (b) shall include:

(a) for aircraft incorporating turbine engines of a type not previously used in a type-accepted aircraft, at least 300 hours of operation with a full complement of engines that conform to a type acceptance approval; and

(b) for all other aircraft, at least 150 hours of operation.

15. Type acceptance approval

The type acceptance approval is issued based on the type certificate issued by the primary certification authority.

16. Obligations of the holder

Each holder of a type acceptance approval shall under take the undertake the obligations laid down in paragraphs 19, 20, 21, 22, 23, 24 and 25.

17. Transferability

A type acceptance approval is not transferable.

18. Duration and continued validity

18.1 A type acceptance approval shall be issued for unlimited duration. They shall remain valid subject to:

(a) the type certificate issued by the primary certification authority remains valid;

(b) the approval not being surrendered or revoked under the applicable administrative procedures established by the AACM.

18.2 Upon surrender or revocation, the type acceptance approval shall be returned to the AACM.

19. Failures, malfunctions and defects

19.1 System for collection, investigation and analysis of data

The holder of a type acceptance approval shall collect, investigate and analysis reports of and information related to failures, malfunctions, defects or other occurrences which cause or might cause adverse effects on the continuing airworthiness of the product covered by the type acceptance approval. Information about this system shall be made available to all known operators of the product, part or appliance.

19.2 Reporting to the AACM

(a) The holder of a type acceptance approval shall report to the AACM any failure, malfunction, defect or other occurrence of which it is aware related to a product, registered in Macao, covered by the type acceptance approval, and which has resulted in or may result in an unsafe condition.

(b) These reports shall be made in accordance with Aeronautical Circular no. AC/GEN/003.

19.3 Investigation of reported occurrences

(a) When an occurrence reported under paragraph 19.2 results from a deficiency in the design, or a manufacturing deficiency, the holder of the type acceptance approval shall investigate the reason for the deficiency and report to the AACM the results of its investigation and any action it is taking or proposes to take to correct that deficiency.

(b) If the AACM finds that an action is required to correct the deficiency, the holder of the type acceptance approval shall submit the relevant data to the AACM.

20. Airworthiness directives

20.1 An airworthiness directive means a document issued or adopted by the AACM which mandates actions to be performed on an aircraft to restore an acceptable level of safety, when evidence shows that the safety level of this aircraft may otherwise be compromised.

20.2 The AACM will issue an airworthiness directive when:

(a) an unsafe condition has been determined by the AACM to exist in an aircraft, as a result of a deficiency in the aircraft, or an engine, propeller, part or appliance installed on this aircraft; and

(b) that condition is likely to exist or develop in other aircraft.

20.3 When an airworthiness directive has to be issued by the AACM to correct the unsafe condition referred to in paragraph 20.2, or to require the performance of an inspection, the holder of the type acceptance approval shall:

(a) propose the appropriate corrective action or required inspections, or both, and submit details of these proposals to the AACM for approval;

(b) following the approval by the AACM of the proposals referred to under paragraph 20.3 (a), make available to all known operators or owners of the product, part or appliance and, on request, to any person required to comply with the airworthiness directive, appropriate descriptive data and accomplishment instructions.

20.4 An airworthiness directive contains at least the following information:

(a) An identification of the unsafe condition;

(b) An identification of the affected aircraft;

(c) The action(s) required;

(d) The compliance time for the required action(s);

(e) The date of entry into force.

21. Coordination between design and production

21.1 Each holder of a type acceptance approval shall collaborate with the production organisation as necessary to ensure:

(a) the satisfactory coordination of design and production; and

(b) the proper support of the continued airworthiness of the product, part or appliance.

22. Record-keeping

All relevant design information, drawings and test reports, including inspection records for the product or article tested for the purpose of certification, shall be held by the holder of a type acceptance approval at the disposal of the AACM and shall be retained in order to provide the information necessary to ensure the continued airworthiness, continued validity of the operational suitability data and the compliance with the applicable environmental protection requirements of the product.

23. Manuals

The holder of a type acceptance approval shall produce, maintain and update master copies of all manuals or variations in the manuals required by the applicable type certification basis and the environmental protection requirements for the product and provide copies, on request, to the AACM.

24. Instructions for continued airworthiness

24.1 The holder of a type acceptance approval shall develop or reference the instructions which are necessary for ensuring that the airworthiness standard related to the aircraft type and any associated part is maintained throughout the operational life of the aircraft, when demonstrating compliance with the applicable type certification basis.

24.2 At least one set of complete instructions for continued airworthiness shall be provided by the holder of a type acceptance approval to each known owner of one or more products upon its delivery or upon the issuance of the first certificate of airworthiness for the affected aircraft, whichever occurs later. Thereafter, a type acceptance approval shall make those instructions available on request to any other person required to comply with those instructions.

24.3 The type acceptance approval holder, who is required to provide instructions for continued airworthiness in accordance with paragraph 24.2, shall also make available changes to those instructions to the AACM, all known operators of the product affected by the change and, on request, to any other person required to comply with those changes. That type acceptance approval holder shall submit to the AACM a programme showing how changes to the instructions for continued airworthiness are distributed in accordance with this paragraph.

25. Availability of operational suitability data

The holder of the type acceptance approval shall make available:

(a) at least one set of complete operational suitability data to all known operators of the aircraft, before the operational suitability data must be used by a training organisation or an operator; and

(b) any change to the operational suitability data to the AACM and all known operators of the aircraft; and

(c) on request, the relevant data referred to in points (a) and (b) above, to any person required to comply with one or more elements of this set of operational suitability data.

26. Cancellation

This AP supersedes Airworthiness Procedure No. AP2 Issue 12 dated 07 November 2022.

– END –

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No.:	AP3
Issue:	9
Date:	15 Dec 2020

SUBJECT: ***Registration of Aircraft***

1. Introduction

1.1 Pursuant to Paragraph 4 of the Air Navigation Regulation of Macao (ANRM), this document prescribes the requirements and procedures for registration of aircraft in Macao, China.

1.2 Registration of an aircraft does not permit an aircraft to fly without a valid Certificate of Airworthiness.

1.3 The fees payable will be in accordance with Executive Order 45/2012. The fees shall be paid at the time when the application is submitted. If the final amount of fees could not be determined at the time of application, an amount estimated by the AACM shall be paid. Any outstanding balance shall be settled right after the application has been processed.

2. Eligible applicant

2.1 Only the following person is eligible to make application for the issue, variation or cancellation of Certificate of Registration:

(a) the person in whose name the aircraft is/will be registered; or

(b) the accountable executive such as the Chief Executive Officer of the company in which name the aircraft is/will be registered; or

(c) the competent authority in the case of an aircraft is/will be registered by the Government of Macao.

2.2 Should the eligible applicant wish to delegate to another person who is not eligible to make application as specified in 2.1 above, proper delegation document such as power of attorney or delegation letter shall be enclosed with the application to authorise his/her delegate to act on behalf of the eligible applicant in relation to the subject application.

3. Requirements for registration of aircraft

3.1 Application shall be made by the eligible applicant in a form and manner acceptable to the AACM, and shall contain any information the AACM requires the applicant to submit.

3.2 An aircraft is eligible for registration in Macao only if it satisfies the conditions set forth in Paragraph 4 (2) of the ANRM.

3.3 An aircraft can only be registered in the name of person or entity qualified as per Paragraph 4 (3), (4) or (5) of the ANRM.

3.4 The person or entity in whose name the aircraft is registered is referred as the "registered owner" of the aircraft.

3.5 The registered owner of the aircraft shall inform the AACM in writing when there is change in the particulars which were furnished to the AACM upon application being made for the registration of the aircraft.

3.6 Registration mark of aircraft is assigned by the AACM in sequence. For aircraft which had been de-registered and later returned to be registered in Macao, the previous registration mark may be used. In no case registration mark of a Macao registered aircraft be changed or transferred.

3.7 For First-of-type aircraft, aircraft must have been type accepted by AACM before the issuance of the Certificate of Registration.

4. Issue of Certificate of Registration

4.1 Pre-application meeting

The applicant shall schedule a meeting with the AACM to discuss, in general terms, all aspects of the concerned aircraft. This meeting may be held in conjunction with the pre-application meeting for application of Certificate of Airworthiness and issuance/variation of Air Operator Certificate, if applicable. The AACM will take this opportunity to make the applicant aware of the legislation and regulatory requirements which must be met before the Certificate of Registration is issued.

4.2 Application

Application shall be made by an eligible applicant on form AW/APP/001 accompanied by the required document, after the pre-application meeting but at least 30 working days prior to the anticipated date of issuing the Certificate of Registration to the President of the AACM. Should the applicant cannot submit all required document together with form AW/APP/001, the applicant shall submit all outstanding document within a period specified by the AACM, failing which will result in rejection of application.

4.3 Registration mark

Upon receiving application and applicable fees for issue of Certificate of Registration, the AACM will reserve a registration mark for the aircraft according to 3.6 above.

4.4 Aircraft photograph

4.4.1 The registered owner shall submit three digital photos of the aircraft taken from various view to the AACM by email to airworthiness@aacm.gov.mo within 10 working days upon completion of registration of the aircraft.

4.4.2 The digital photos shall be taken from three various views:

(a) One taken from forward;

(b) One taken from the left hand side; and

(c) One taken from the right hand side.

4.4.3 The digital photos shall meet the following requirements:

(a) In colour;

(b) Image resolution not less than 1280 x 960 pixels;

(c) In jpg, jpeg or png format;

(d) Taken outdoors in good day light conditions against an uncharacteristic background;

(e) Aircraft, engine(s) and propeller(s) or rotor(s), as applicable, fully stopped; and

(f) The marks of nationality and registration clearly shown.

4.5 For aircraft registered in pursuance of ANRM paragraph 4 (5), in some case the expiry date of the demise charter cannot be determined at the time the application of Certificate of Registration is made. In this case, as soon as the expiry date of the demise charter is known, but no later than 3 working days upon completion of registration of the aircraft, the registered owner shall notify the AACM about the expiry date of the demise charter by official letter, enclosed with appropriate supporting document.

5. Change in the registration particulars and variation of Certificate of Registration

5.1 Change in the registration particulars includes change of the following:

(a) aircraft registered owner;

(b) aircraft ownership;

(c) name and/or address of the aircraft registered owner;

(d) name and/or address of the aircraft owner, and/or

(e) expiry date of the demise charter in the case of an aircraft registered in pursuance of ANRM paragraph 4 (5).

Note: A change to the external livery (e.g. painting or adhesive films) of an aircraft is considered a modification (design change). Airworthiness Procedure no. AP5 shall be followed. It is not a change of registration particulars.

5.2 A new Certificate of Registration will be issued for changes specified in 5.1 (a), (b), (c), and (d) above. For change specified in 5.1 (e), a new Certificate of Registration is not required.

5.3 Change of aircraft registered owner

5.3.1 Pre-application meeting

The prospective new registered owner shall schedule a meeting with the AACM to discuss, in general terms, all aspects of the concerned aircraft. This meeting may be held in conjunction with the pre-application meeting for application of Certificate of Airworthiness and issuance/variation of Air Operator Certificate, if applicable. The AACM will take this opportunity to make the applicant aware of the legislation and regulatory requirements which must be met before the Certificate of Registration is issued.

5.3.2 Application

Application shall be made by an eligible applicant in relation to the prospective new registered owner on form AW/APP/008, accompanied by all required document, after the pre-application meeting but at least 10 working days prior to the effective date of the change to the President of the AACM. Should the applicant cannot submit all required document together with form AW/APP/008, the applicant shall submit all outstanding document within a period specified by the AACM, failing which will result in rejection of application.

5.4 Change other than change of aircraft registered owner

5.4.1 Pre-application meeting

Pre-application meeting is not required for change other than change of aircraft registered owner.

5.4.2 Application

Application for variation of Certificate of Registration shall be made by an eligible applicant in relation to the registered owner on form AW/APP/009 to the President of the AACM within 10 working days after the change becomes effective.

For change specified in 5.1 (e) above, although a new Certificate of Registration is not required, notification shall be made by an eligible applicant in relation to the registered owner on form AW/APP/009 to the President of the AACM at least 10 working days before the change becomes effective.

5.5 The previously issued Certificate of Registration shall be returned to the AACM Office in due course.

6. Application for cancellation of Certificate of Registration

6.1 Situations eligible for a cancellation of Certificate of Registration include:

(a) Aircraft was destructed;

(b) Aircraft was permanently withdrawal from use;

(c) Aircraft was exported to another country upon sale or charter;

(d) The demise charter was expired in the case of an aircraft registered in pursuance of ANRM paragraph 4 (5).

6.2 Application

Application for cancellation of Certificate of Registration shall be made by an eligible applicant on form AW/APP/013 to the President of the AACM.

6.3 The aircraft logbook shall be underlined, signed and dated at the point of the last entry by the applicant, to indicate the aircraft hours and cycles at the time of de-registration.

6.4 The registered owner of the aircraft shall return the Certificate of Registration to the AACM in due course.

7. Processing time

7.1 Processing time depends on the quality of documents and completeness of information submitted to the AACM. The Certificate of Registration will normally be issued within 30 working days following the day of submission of all required documents.

8. Validity

8.1 The Certificate of Registration is issued without expiry date. It remains valid:

(a) as long as the owner is qualified as per Paragraph 4 (3) or (4) of the ANRM;

(b) during the term of demise charter if the aircraft is registered in pursuance of ANRM paragraph 4 (5); or

(c) unless being cancelled, revoked or suspended.

9. Cancellation

This AP supersedes Airworthiness Procedure No. AP3 Issue 8 dated 1 January 2018.

- END -

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澳門特別行政區
REGIÃO ADMINISTRATIVA ESPECIAL DE MACAU
民航局
AUTORIDADE DE AVIAÇÃO CIVIL
CIVIL AVIATION AUTHORITY

No.:	AP4
Issue:	10
Date:	13 Feb 2023

SUBJECT: ***Certificate of Airworthiness***

1. Introduction

Pursuant to paragraph 7 of the Air Navigation Regulation of Macao (ANRM), this Airworthiness Procedure (AP) establishes the procedures for issue and renewal of certificates of airworthiness.

2. Eligibility

Any natural or legal person under whose name an aircraft is registered or will be registered in Macao, or its representative, shall be eligible as an applicant for issue or renewal of certificate of airworthiness for that aircraft under this AP.

3. Qualification

Before issuing a certificate of airworthiness, the aircraft shall:

(a) conform to a type accepted by the AACM;

(b) comply with the requirements prescribed by the AACM pursuant to paragraph 89 of ANRM;

(c) have been properly registered in Macao.

4. Application

4.1 Pursuant to paragraph 2 of this AP, an application for issue or renewal of a certificate of airworthiness shall be in a form and manner established by the AACM.

4.2 Each application for a certificate of airworthiness shall include:

(a) For issue of a certificate of airworthiness,

(i) form AW/APP/003 and required document specified therein;

(ii) form AW/APP/004 and required document specified therein, completed pursuant to a technical assessment of the aircraft in accordance with Appendix 1 to this AP and signed by a technical assessment personnel accepted by the AACM;

(iii) all instructions for continued airworthiness and other maintenance instructions applicable to the current configuration of the aircraft, including amendment services, as referred to in paragraph 13.

(b) For renewal of a certificate of airworthiness

(i) form AW/APP/007 and required document specified therein;

(ii) form AW/APP/004 and required document specified therein, completed pursuant to a maintenance review in accordance with Aeronautical Circular no. AC/AW/029, signed by a certificate of maintenance review signatory authorised by the applicant.

(c) such other evidence, information or document in support of the application as the AACM may reasonably require for the consideration of the application.

4.3 All required documents for application of issue and renewal of certificate of airworthiness shall meet the standards specified in Appendix 4 to this AP.

4.4 For application for issue of a certificate of airworthiness:

4.4.1 Before submitting application, the applicant shall contact AACM for a pre-application meeting. The pre-application meeting shall cover at least the following:

(a) Description of the type and configuration of the aircraft;

(b) The intended use of the aircraft and the kind of operations for which the aircraft will be operated;

(c) For used aircraft, brief operating history and major modification/repair status;

(d) Proposed aircraft delivery schedule, location and arrangement;

(e) Preliminary work plan or schedule of events;

(f) Nomination of technical assessment personnel;

(g) An overview of the whole aircraft technical assessment process;

(h) Air operator certificate (AOC) related matters as applicable.

4.4.2 After the pre-application meeting, the applicant shall submit a work plan with feasible timeline showing the key milestones of the aircraft technical assessment and schedule of submitting applicable document to the AACM. Such work plan shall be updated from time to time to reflect the actual progress. Updated work plan shall be submitted to the AACM in a timely manner.

Note: The applicant may integrate this work plan into the schedule of events for AOC application or variation, as applicable.

4.4.3 The applicant shall submit a completed application form AW/APP/003 and make payment of applicable fees at least 3 months prior to the anticipated date of issuing the certificate of airworthiness for a new aircraft. Additional 3 months shall be allowed for an application for used aircraft. Additional time shall be allowed for aircraft equipped with peculiar interior such as VIP for business jets or major changes in cabin jetliners.

4.4.4 The applicant shall submit form AW/APP/004, all substantiation documents and reports specified in paragraph 4.2 (a) (ii) according to the work plan referred to in paragraph 4.3.2 of this AP.

4.4.5 The applicant shall carry out any work on the aircraft which the AACM may decide is necessary.

4.5 For application of renewal of certificate of airworthiness, the applicant shall submit completed application and make payment of applicable fees at least 1 month, but no earlier than 45 days, before the expiry date of the certificate of airworthiness.

4.6 Any deficiency revealed by the AACM during the assessment of application for the issue or renewal of Certificate of Airworthiness will be brought to the attention of the applicant for remedial actions. The applicant shall remedy such deficiencies within a period specified by the AACM, failing which no further action will be taken by the AACM to process the application.

5. Technical assessment of the aircraft in support of issue of a certificate of airworthiness

5.1 The applicant of issue of a certificate of airworthiness shall:

(a) apply to the AACM for the issuance of a new certificate of airworthiness in accordance with this AP;

(b) have a technical assessment of the aircraft carried out in accordance with Appendix 1 to this AP;

(c) have all maintenance carried out to comply with the aircraft maintenance programme approved in accordance with OPSM.910 of the Nineteenth Schedule of the ANRM.

5.2 When satisfied that the aircraft is in compliance with the relevant requirements, the personnel performing the technical assessment of the aircraft shall made a recommendation for the issuance of certificate of airworthiness on form AW/APP/004.

5.3 The applicant shall prepare access to the aircraft for inspection by the AACM.

5.4 The AACM shall issue a certificate of airworthiness when it is satisfied that the aircraft complies with the applicable airworthiness requirements.

6. Language

The manuals, placards, listings, instrument markings and other necessary information, required by applicable certification specifications and Macao regulations and requirements, shall be presented in the English language and supplemented by the Chinese language as applicable.

7. Changes

A change affecting the content of the certificate of airworthiness requires variation of the certificate of airworthiness. Procedures for issuance of certificate of airworthiness in accordance with this AP shall be followed as applicable.

8. Amendment or modification

A certificate of airworthiness may be amended or modified only by the AACM.

9. Transferability within Macao

Where there is change of registered owner of an aircraft, if it remains on Macao register, the certificate of airworthiness shall be transferred together with the aircraft.

10. Inspections

10.1 Each applicant for, or the holder of a certificate of airworthiness, shall provide access to the aircraft for which that certificate of airworthiness has been applied for or issued respectively upon request by the AACM.

10.2 With regard to issue of a certificate of airworthiness, the aircraft shall be inspected by the AACM inspector before issuance of certificate of airworthiness:

10.2.1 When the aircraft is ready for AACM inspection, the applicant shall inform the AACM of the time and location of the inspection in writing, at least:

(a) 5 working days prior to the proposed date of AACM inspection if the inspection is conducted in Macao; or

(b) 15 working days prior to the proposed dispatch date of AACM inspectors if the inspection is conducted outside Macao.

10.2.2 For inspection to be taken place in Macao,

(a) The applicant shall inform and coordinate with the Health Bureau, as necessary, and the operator of Macau International Airport (CAM) about all necessary arrangement related to the position flight and aircraft inspection;

(b) Due to public health consideration, the applicant may be requested to arrange disinfection of the aircraft when the aircraft arrives in Macao. AACM will notify the applicant if disinfection is required.

11. Duration and continued validity

11.1 Certificate of airworthiness is normally issued and renewed with a validity of 12 months. It shall remain valid subject to:

(a) compliance with the applicable type-design environmental protection and continued airworthiness requirements;

(b) the aircraft remaining on Macao register;

(c) the type acceptance approval under which it is issued not being previously invalidated under Airworthiness Procedure No. AP2;

(d) the certificate not being surrendered or revoked.

11.2 Upon surrender or revocation, the certificate shall be returned to the AACM.

11.3 Upon renewal or re-issue, the previously issued certificate shall be returned to the AACM.

12. Aircraft identification

Each applicant for a certificate of airworthiness under this AP shall demonstrate that its aircraft is identified as follows:

12.1 The identification of aircraft shall include the following information:

(a) Manufacturer's name.

(b) Product designation.

(c) Manufacturer's serial number.

(d) Any other information the AACM finds appropriate.

12.2 Aircraft registered in Macao shall bear marks in accordance with Part B of the First Schedule of the ANRM.

13. Instructions for continued airworthiness and maintenance instructions

13.1 The applicant or holder of a certificate of airworthiness shall provide AACM with all applicable current instructions for continued airworthiness and other maintenance instructions applicable to the configuration of the aircraft.

13.2 For the purpose of this AP, applicable instructions for continued airworthiness and other maintenance instructions is any of the following:

(a) the applicable instructions for continued airworthiness and other maintenance instructions, issued by the holders of the type certificate, supplemental type certificate, design change approval, repair design approval or any other approvals related to the airworthiness and environment certification of the aircraft, including any component for installation thereto;

(b) for components approved for installation by the design approval holder, the applicable maintenance instructions published by the component manufacturers and acceptable to the design approval holder.

13.3 Instructions for continued airworthiness includes but not limited to:

(a) aircraft maintenance manuals (AMMs);

(b) scheduled maintenance requirements (e.g. MRBRs);

(c) off-wing component maintenance or overhaul manuals;

(d) parts catalogues;

(e) tooling manuals;

(f) wiring diagram manuals;

(g) weight and balance manuals;

(h) electrical loads analyses;

(i) extended range operations (ETOPS) configuration maintenance programs/plans;

(j) supplemental structural inspection documentation;

(k) certification maintenance requirements;

(l) Airworthiness Limitations items;

(m) ageing aircraft maintenance requirements;

(n) fuel tank safety related limitations (e.g. critical design configuration control limitation (CDCCL));

(o) electrical wiring interconnection system instructions;

(p) corrosion prevention and control programmes;

(q) troubleshooting manuals.

Note: The above list is not exhaustive, nor does it represent a minimum list of instructions for continued airworthiness.

13.4 The holder of a certificate of airworthiness shall also make available changes to those instructions for continued airworthiness and other maintenance instructions to the AACM.

14. Cancellation

This AP supersedes Airworthiness Procedure No. AP4 Issue 9 dated 01 September 2018.

– END –

Appendix 1 to AP4

Technical Assessment of the Aircraft

1. General

1.1 The purpose of technical assessment to the aircraft is to determine the airworthiness standard of the aircraft and to ensure the aircraft conforms to its type design, complies with the appropriate airworthiness requirements and is in a condition for safe operation, in order to make a recommendation for the issuance of a certificate of airworthiness to the AACM.

1.2 For the purpose of this AP, technical assessment personnel means the person nominated by the applicant to carry out technical assessment of the aircraft and, upon satisfactory assessment results, make a recommendation for the issuance of a certificate of airworthiness. In the case that the technical assessment is carried out by a group of persons, only one of them shall be nominated as technical assessment personnel.

1.3 The technical assessment to the aircraft and the relevant document shall be performed by technical assessment personnel according to a procedures manual accepted by the AACM.

1.4 The result of assessment to the aircraft shall be documented in an Aircraft Assessment Report. The format of the Aircraft Assessment Report in Appendix 2 to this AP should be followed.

1.5 The applicant shall ensure the all technical assessment personnel and associated support staff, as applicable, have sufficient facilities and resources to perform the all technical assessment activities described in the procedure manual referred to in paragraph 3 of this Appendix.

2. Application for technical assessment personnel acceptance

2.1 Application shall be submitted at the same time of or after application for issuance of a certificate of airworthiness.

2.2 Application shall be made on form AW/APP/002 together with a proposed procedure manual referred to in paragraph 3 of this Appendix and other supporting document specified in form AW/APP/002 to the President of the AACM.

3. Procedures manual

3.1 All technical assessment personnel and associated support staff, as applicable, shall perform their duties in accordance with a procedures manual accepted by the AACM.

3.2 The purpose of the procedures manual is to:

(a) specify the scope of work;

(b) provides all the necessary information and procedures for the technical assessment personnel and associated support staff, as applicable, to perform their duties.

3.3 A procedures manual shall contain the following information:

(a) the scope of work;

(b) the duties and responsibilities of the technical assessment personnel and associated support staff, as applicable;

(c) an organisation chart showing associated chains of responsibilities among the applicant, the technical assessment personnel and associated support staff, as applicable;

(d) a general description and location of the facilities;

(e) detail procedures specifying how to establish airworthiness, including in particular:

(i) technical assessment procedures, including the depth of samplings for document review and physical survey;

(ii) procedures to confirm that all applicable documents have been reviewed;

(iii) procedures to confirm that the physical survey has been carried out and found satisfactory;

(iv) procedures outlining actions required based on the assessment results, including documentation of all rectification action;

(f) the procedures manual amendment procedures;

(g) the aircraft maintenance programmes for the aircraft to be reviewed;

(h) pilot acceptance criteria and procedures for conducting check flights.

3.4 Procedures must make very clear that the final word about the depth of the inspections (both documental and physical) belongs to the technical assessment personnel, who can go beyond the depth contained in the procedure manual if they find it necessary.

3.5 The procedures manual and its amendment shall be accepted by the AACM.

3.6 In the case that the applicant is an air operator certificate (AOC) holder, the procedures manual shall be endorsed by the post-holder for aircraft maintenance.

3.7 The procedures manual shall include a reference number, revision number and a list of effective pages.

3.8 The procedures manual, after it is accepted by the AACM, shall be available to the technical assessment personnel and associated support staff, as applicable.

4. Facilities

4.1 The applicant shall provide suitable office accommodation at appropriate locations for technical assessment personnel and associated support staff, as applicable, to carry out the activities described in the procedure manual referred to in paragraph 3 of this Appendix.

5. Technical assessment personnel qualifications

5.1 Technical assessment personnel issuing recommendations for the issuance of a certificate of airworthiness shall have:

(a) at least 5 years' experience in continuing airworthiness;

(b) acquired an appropriate licence in compliance with MAR-66 with rating of the type of aircraft to be assessed or an aeronautical degree or a national equivalent;

(c) received formal aeronautical maintenance training;

(d) demonstrated knowledge of the latest applicable Macao regulations;

(e) completed the following AACM recognised training course:

(i) *Macao Airworthiness Course*;

(ii) *Macao Aircraft Acceptance and Introduction Course*.

Note: While the abovementioned training courses are unavailable, subject to AACM's agreement, alternative course covering the same subject matters may be acceptable.

5.2 Notwithstanding sub-paragraph (a) and (c) above, the requirement laid down in sub-paragraph (b) above may be replaced by 5 years of experience in continuing airworthiness additional to those already required by sub-paragraph (a) above.

5.3 For the purpose of this Appendix,

(a) 'Experience in continuing airworthiness' means any appropriate combination of experience in tasks related to aircraft maintenance and/or continuing airworthiness management/review (engineering) and/or surveillance of such tasks.

(b) The equivalent to an aeronautical degree means a relevant engineering degree or an aircraft maintenance technician qualification with additional education acceptable to the AACM. 'Relevant engineering degree' means an engineering degree from aeronautical, mechanical, electrical, electronic, avionic or other studies that are relevant to the maintenance and/or continuing airworthiness of aircraft/aircraft components.

(c) An appropriate licence in compliance with MAR-66 is any one of the following:

(i) a category B1 licence in the subcategory of the aircraft reviewed;

(ii) a category B2 or C licence; or

(iii) in the case of piston-engine non-pressurised aeroplanes with a maximum take-off mass of 2,000 kg and below, a category B3 licence.

(d) Formal aeronautical maintenance training means training supported by evidence on the following subjects:

(i) relevant parts of initial and continuing airworthiness regulations;

(ii) relevant parts of company procedures;

(iii) knowledge of a relevant sample of the type(s) of aircraft gained through a formalised training course. These courses shall be at least at a level equivalent to MAR-66 Level

1 General Familiarisation and could be imparted by a MAR-147 organisation, by the manufacturer, or by any other organisation acceptable to the AACM; and

Note: 'Relevant sample' means that these courses should cover typical systems.

(iv) maintenance standard.

5.4 Dependent on previous experience and background and the scope of assessment, the nominee may be required to undergo an interview with the AACM to determine whether the nominees satisfies the abovementioned qualification requirement.

6. Documentation

6.1 The technical assessment personnel shall have access to and use applicable current technical data for the performance of technical assessment. That data shall be provided by the applicant of certificate of airworthiness.

6.2 The applicant of certificate of airworthiness shall make available to the technical assessment personnel the necessary technical data, such as instructions of continued airworthiness of the aircraft, AACM publications, approved manuals and aircraft maintenance schedule, specifications, data sheets and related literature appropriate to the scope of work.

6.3 The technical data shall consist of that issued from the manufacturers by way of maintenance manuals, service bulletins and other forms of continuing airworthiness information.

6.4 It shall be the responsibility of the user to ensure that the documents and technical data concerned are amended and up to date.

7. Technical assessment of the aircraft

7.1 The technical assessment of the aircraft shall include a full documented review of the aircraft records establishing that the following requirements have been met:

(a) airframe, engine and propeller flying hours and associated flight cycles have been properly recorded;

(b) the flight manual, maintenance, overhaul and repair manuals, including their supplements, are applicable to the aircraft configuration and reflect the latest revision status;

(c) all the maintenance due on the aircraft according to the approved maintenance programme has been carried out and properly recorded;

(d) all known defects have been corrected or, when applicable, deferred, in accordance with ANRM;

(e) all applicable airworthiness directives have been applied and properly registered;

(f) all applicable Macao regulations and requirements including Aeronautical Circulars have been complied with and recorded;

(g) all modifications and repairs applied to the aircraft have been registered and are in compliance with paragraph 7 (9A) of ANRM;

(h) all life-limited parts and time-controlled components installed on the aircraft are properly identified, registered and have not exceeded their limitation;

(i) all maintenance has been properly released;

(j) the current weight and balance report, which include the weight determination record, the weight and centre-of-gravity schedule and a list of the basic equipment, reflects the configuration of the aircraft and is valid;

(k) the aircraft complies with the latest revision of its type design accepted by the AACM;

(l) the aircraft is in compliance with paragraph 50 of ARNM and the applicable noise requirements prescribed in ICAO Annex 16 Volume I.

7.2 The technical assessment of the aircraft shall include a physical survey of the aircraft.

7.3 Through the physical survey of the aircraft, it shall be ensured that:

(a) all required markings and placards are properly installed;

Note: All bilingual placards installed shall comply with the operator's Bilingual Placard List.

(b) the aircraft complies with its approved flight manual and flight manual supplement as applicable;

(c) the aircraft configuration complies with the approved documentation;

(d) no evident defect can be found that has not been addressed in accordance with ANRM;

(e) no inconsistencies can be found between the aircraft and the documented review of records referred to in paragraph 7.1 of this Appendix.

7.4 The recommendation for issuance of the certificate of airworthiness (form AW/APP/004) can only be issued:

(a) by the technical assessment personnel accepted by the AACM;

(b) when satisfied that the technical assessment has been completely carried out and that there is no non-compliance which is known to endanger flight safety.

8. Work to be undertaken to establish airworthiness of aircraft

8.1 When performing a technical assessment of aircraft, the aircraft and the relevant records shall be reviewed to determine the work to be undertaken to establish the airworthiness of the aircraft.

8.2 In determining the work to be undertaken during the technical assessment on the aircraft, the following shall be taken into consideration:

(a) the information from the authorities of the exporting state or region such as export certificates, primary authority information;

(b) the information on aircraft maintenance history such as continuing airworthiness records, aircraft, engine, propeller, rotor and life limited part log books or cards as appropriate, tech log/flight log/cabin log, list of deferred defects, total flight times and cycles, times and cycles since last maintenance, accident history, former maintenance schedule, former AD compliance status;

(c) the information on aircraft such as aircraft, engine and propeller type certificate data sheets, noise and emission certificate data sheets, flight manual and supplements;

(d) the aircraft continuing airworthiness status such as the aircraft and component AD status, the SB status, the maintenance status, the status of life-limited parts and time-controlled components, weight and centre of gravity schedule including equipment list;

(e) the modification and repair status of the aircraft detailing elements such as owner/operator designed modifications and repairs, STCs;

(f) the aircraft cabin configuration such as emergency equipment fitted, cockpit configuration, placards, instrument limitations, cabin layout;

(g) the maintenance needed for import, such as embodiment of modifications needed to comply with the Macao airworthiness requirements, bridging check to comply with the new maintenance programme;

(h) the avionics such as, but not limited to, radio and navigation equipment, instrument flight rules (IFR) equipment, digital flight data recorder (DFDR)/cockpit voice recorder (CVR) test, emergency locator transmitter (ELT) 406 MHz code and identification;

(i) the compass compensation;

(j) special operating rules such as extended range operations (EDTO)/extended twin-engine operations (ETOPS)/long range operations (LROPS), reduced vertical separation minima (RVSM), minimum navigation performance specifications (MNPS), all weather operations (AWOPS), area navigation (RNAV);

(k) the aircraft survey including verification of conformity with the flight manual and the data sheet, presence of fire proof identification plates, conformity of markings including registration, presence and serviceability of emergency equipment, internal and external lighting systems, and

(l) check flight as detailed in Appendix 3 to this AP, and checks of control system/cockpit ground check/engine run up.

9. Changes

If any change occurs that may affect the technical assessment personnel's qualifications or ability to perform a function (such as a change in the location of facilities, resources, personnel or the organisational structure), no person may perform that function until the AACM is notified of the change, and the change is accepted and appropriately documented as required by the procedures manual referred to in paragraph 3 of this Appendix.

Appendix 2 to AP4

Aircraft Assessment Report

This appendix identifies the content and arrangement of an aircraft assessment report in support of issuance of a certificate of airworthiness. The report shall have proper document and page control, such as showing the document holder, document number, revision status, effective pages, names/signatures of the author and verifier as applicable.

All documents referenced in the report shall also have proper document control as above and be attached in appropriate appendices.

The aircraft report shall contain at least the items described below:

1. Introduction

This section shall state clearly the objectives of this aircraft report. It shall also explain any kind of interpretation applied for this report. It shall also detail out the process for deriving the aircraft build standard, initial and continuing airworthiness.

This section shall contain general information, such as the purpose for which the aircraft report is being issued; the scope and coverage of the aircraft report; related aircraft report(s) and previously issued aircraft report or airworthiness review certificate, if any.

It shall also provide the basic information of the aircraft:

(a) aircraft reserved registration;

(b) state of manufacturer;

(c) manufacturer of aircraft, engine, propeller or rotor, APU

(d) type/model of aircraft, engine, propeller or rotor, APU

(e) serial number of aircraft, engine, propeller or rotor, APU

(f) year of manufacturing of aircraft, engine, propeller or rotor, APU

(g) total flight hour and flight cycle of aircraft, engine, propeller or rotor, APU

(h) time and cycle since overhaul, of engine, propeller or rotor, APU

(i) certificate of airworthiness at the time of review

For used aircraft, the aircraft history shall be described in sufficient detail.

If the aircraft had experienced any accident or serious incident, description of the accident/serious incident and investigation results, and how the aircraft was returned to service shall be detailed.

Example:

An application has been made by ABC Airlines for issuance of certificate of airworthiness in commercial air transport category (cargo) for a Boeing 767-200 aircraft with serial number 99999. This is the first aircraft of the type registered in Macao.

This aircraft was manufactured in 19 August 1993 and first delivered to XYZ Airlines Limited. It was registered in the People's Republic of China with registration number B-1234, and issued with a Standard Airworthiness Certificate in the Public Transport (Passenger) Category.

Before being registered in Macao, a cargo conversion modification has been carried out on this aircraft by Taikoo (Shandong) Aircraft Engineering Company Limited (STAECO). The Civil Aviation Authority of China (CAAC) issued a Standard Airworthiness Certificate in Transport (Cargo) Category on 29 June 2020. This aircraft, in full cargo configuration, was then delivered to ABC Airlines.

The Technical Assessment Team compiled the aircraft report, ref. ABC/AAR/001 Issue 3 dated 1 July 2020, to support the application.

The purpose of this report is to record the build standard, certification basis and its compliance status in support of the application of issuance of certificate of airworthiness in commercial air transport category (cargo) in Macao.

2. Aircraft configuration identification

This section describes the build standard or configuration of the aircraft (technical description) and precise description of the configuration control.

Aircraft build standard shall be defined clearly with all the relevant information and approval granted. It shall include technical description, type certificate data sheet (TCDS) production definition, production deviation list, optional mods incorporated by type certificate holder, STC's, modifications and repair, etc.

If there is any temporary variation been granted against a certification requirement, details shall be in this section.

2.1 Technical description

This section briefly describes the basic aircraft configuration with highlights on important design features.

Example:

The Bombardier CL600-2B16 (604 Variant) is commercially named as Challenger 604.

It is a low wing business jet with a T-tail. The principal features of the Challenger 604 are as follows:

Maximum Ramp Weight	*21,909 kg*
Maximum Take-off Weight	*21,863 kg*
Maximum Landing Weight	*17,237 kg*
Maximum Zero Fuel Weight	*14,515 kg*

Minimum Crew	*2*
Maximum Passenger	*19*

The aircraft is powered by two GE CF34-3B turbo-fan jet engines mounted on the rear fuselage. In addition, a Honeywell GTCP-36-100E Auxiliary Power Unit is fitted.

2.2 TCDS production definition

This section describes the build standard for the basic aircraft traceable to the type certificate data sheet. Information can be found in the TC holder report, such as Letter of Definition.

Example:

The aircraft definition presented for Type Certification is the unfurnished "green" aircraft as delivered by Bombardier Inc. to authorised completion centres. The Transport Canada approved build standard of the Challenger 604, including manufacturer's options, is defined by Bombardier Drawing List RAL-604-001 Revision B, dated September 1995, supplemented by Bombardier Service Bulletin Index Drawing No. 6040000015, Revision G, dated 02 December 2005.

2.3 Production deviation list

This section describes all the production deviations (also referred to as 'unintended deviations' or 'concessions'). Any continuing airworthiness actions and/or airworthiness limitations arising from the production deviations shall be reported here.

2.4 Optional type certificate holder modifications

This section shall include all optional type certificate holder (TCH) modifications that have been incorporated on the aircraft but are not included in the TCDS production definition referred to in section 2.2. It may include SB, mod number, mod kit, etc. Details may be provided in an appendix.

It shall be established that all modifications been incorporated properly according to approved data disseminated by the TCH.

2.5 Non-type certificate holder modifications

This section shall cover all non-TCH modifications, including major modifications (STC) and minor modifications.

It shall be verified that all modifications have been incorporated properly according to approved design change data.

All non-TCH modifications not meeting the requirements prescribed in paragraph 7 (9A) of ANRM shall have been accepted by the AACM.

A summary of review of all non-TCH modifications shall be provided in this section, while details may be provided in an appendix.

2.6 Repairs

It shall be established that all repair have been incorporated properly according to approved repair design data or approved maintenance data.

All non-TCH repair design shall have been approved or accepted by the AACM. A summary of review of all repair design embodied shall be provided in this section, while details may be provided in an appendix to the report.

2.7 Components and equipment installed

It shall be verified that all components and equipment installed on the aircraft meet the requirements prescribed in AC/AW/002.

3. Basis of certification

3.1 Basic design

This section details, or makes reference to documents detailing the top-level certification basis with applicable amendment level. (*e.g. FAA TCDS Certification Basis FAR 25 at amendment 25-77 for B737-800*). Exceptions, voluntary compliance, equivalent safety findings, special conditions, exemptions are to be stated or made reference to the TCDS, certification review items (CRI) or issue paper as applicable. Macao special conditions for type acceptance, if applicable, are to be stated.

3.2 Environmental requirements

This section defines the applicable aircraft noise, and engine emission and aeroplane carbon dioxide (CO_2) emission requirements.

Example:

	Requirements
Aircraft noise	*ICAO Annex 16 Volume I Chapter 3*
Engine emission	*ICAO Annex 16 Volume II Part II, Chapter 2 (fuel venting)*
Aeroplane CO_2 emission	*ICAO Annex 16, Volume III*

3.3 AACM design requirements

This section details the applicable AACM design requirements.

3.3.1 ANRM

ANRM paragraphs 5, 12, 13, 16, 37, 38, 43, 47, 50, 115, 175, Part B of the First Schedule, the Fifth Schedule, the Sixth Schedule, and paragraph 7 (2) of the Eleventh Schedule shall be referred to.

The scales of equipment required depend on the description of the aircraft and the circumstance of flight. Analysis for determination of the scales of equipment required in accordance with the Fifth Schedule and the Sixth Schedule of the ANRM shall be shown in an appendix.

3.3.2 Aeronautical Circulars

All Aeronautical Circulars related to acceptance of type design and issuance of certificate of airworthiness shall be referred to.

3.3.3 AACM certification review items

If there is any AACM certification review items, details shall be mentioned.

3.4 Design requirements associated with operations requiring specific approvals

This section defines the applicable equipment design requirements which must be complied with in order that requirements for operations requiring specific approvals can be satisfied. The intent of this section is to define the aircraft capability. Even the applicant does not intend to apply for the corresponding operations requiring specific approval(s), the design requirements shall be addressed if the equipment is installed.

Example:

Specific operations	*Design requirements*
Reduced Vertical Separation Minima (RVSM)	*AC/OPS/020R01*
Low Visibility Operations (LVO)	*AC/OPS/031R01*
Electronic Flight Bag (EFB)	*AC/OPS/029R01*
Extended Range Operations (ETOPS)	*AC/OPS/018R00*
Performance Based Navigation (PBN)	*AC/OPS/022R03*
Automatic Dependent Surveillance Broadcast (ADS-B) Out	*AC/OPS/023R01*

3.5 Exemptions

This section shall contain a summary list of deviations from the design certification requirements, if any, applicable to the aircraft being investigated. The list shall detail out, or make reference to instruments detailing the applicable exemptions granted by the AACM.

(a) Brief description of the exemption.

(b) The requirements/regulations being exempted.

(c) Reference number and issue date of the exemption.

(d) Expiry date of the exemption.

4. Compliance with basis of certification

This section shall demonstrate the compliance with basis of certification identified in section 3 of the aircraft report. Joint effort between the TC holder and applicant may be required.

4.1 Compliance with basic design

This section shall show evidence (or references to evidence) demonstrates compliance with the requirements of section 3.1 above. It may include the TCDS issued by the State of Design, certification plan, compliance/test Reports, CRI, issue papers, as applicable.

4.2 Compliance with environmental requirements

This section shall show evidence (or references to evidence) demonstrates compliance with the requirements of section 3.2 above, such as specific paragraphs in AFM, airframe TCDS and/or noise TCDS, for each of the following subsections:

(a) Aircraft noise

(b) Engine emission

(c) Aeroplane CO_2 emission, if applicable

4.3 Compliance with AACM design requirements

This section shall show evidence (or references to evidence) demonstrates compliance with the requirements of section 3.3.

4.3.1 ANRM

The results of required scales of equipment per the Fifth Schedule and the Sixth Schedule of the ANRM shall be summarised in this section. The detail substantiation is to be provided in an appendix to the aircraft report.

The summary of scales of equipment required depends on the description of the aircraft and the circumstance of flight. The circumstance of flight shall be declared and specified in accordance with the operations specifications. Once the description of aircraft and circumstance of flight have been confirmed, the summary of scales of equipment required can be short listed.

Compliance matrix for ANRM shall be prepared in an appendix to the report showing sufficient detail compliance of each paragraph as listed in Section 3.3.1.

For the demonstration of the required equipment, a list of equipment installed as per Fifth Schedule of the ANRM and a list of radio equipment installed as per Sixth Schedule of the ANRM shall be included in appendices.

4.3.2 Aeronautical Circulars

Compliance matrix for each Aeronautical Circulars mentioned in Section 3.3.2 shall be prepared in an appendix to the report. The compliance matrix shall show sufficient detail compliance of each applicable requirement.

4.3.3 AACM certification review items

If there is any AACM certification review items, compliance shall be demonstrated.

4.4 Compliance with design requirements associated with operations requiring specific approvals

The intent of this section is to define the aircraft capability. Even the operator does not intend to apply for the corresponding operations requiring specific approval(s), the design requirements shall be addressed if the equipment is installed.

This section shall show evidence (or references to evidence) demonstrates compliance with the requirements of section 3.4 above, such as specific paragraphs in TCDS, AFM or OEM Letter of Compliance.

Note 1: The aircraft report must state that "Airworthiness Approval does not constitute Operational Approval which shall be applied for separately."

Note 2: Aircraft model may be type certified under TCDS but individual aircraft may not be equipped with the required operational equipment (options not purchased / installed).

5. Check flight for certificate of airworthiness

5.1 Check flight schedule

This section shall identify the production flight tests schedule or AACM accepted check flight schedule, as applicable, with documents reference number and revision status.

5.2 Check flight personnel

The identification and qualification of the pilot and flight test engineer involved in the production flight tests or check flight shall be mentioned here.

5.3 Check flight report

The production flight tests report or check flight report including the check flight statement and the completed schedule shall be identified. Review of the check flight result shall be included. It shall be verified that the check flight statement is in compliance with Appendix 3 to this AP.

6. Aircraft manuals and reports

This section shall identify the document reference number, revision status, form of submission and AACM approval status, if applicable. Methods for access to future amendments, if applicable, shall be identified.

It shall be established that all the aircraft manual/data are compatible with the aircraft configuration. The result of review shall be indicated in this section.

6.1 Aircraft Flight Manual (AFM)

(a) Basic AFM and its approval status

(b) Aircraft flight manual supplement (AFMS) and its approval status

(c) Aircraft interior configuration document that includes, but is not limited to, locations of passenger and flight attendant seats, emergency equipment, exits, lavatories, and galleys.

(d) Other AFMS approved by other state of design

(e) AFMS index for the control all required AFMS based on the aircraft configuration

6.2 Placards/markings

(a) State where the placards are located in the approved manuals (such as AMM Chapter 11, IPC Section xxx, CMM)

(b) Bilingual Placard List (reference AC/AW/034)

(c) Safety cards (reference ANRM paragraph 12 (5))

6.3 Aircraft interior configuration document

6.4 Electrical load analysis (ELA)

(a) For new aircraft, state the ELA provided by the TCH

(b) For used aircraft, state the consolidated ELA traceable to the original ELA provided by the TCH and all subsequent ELA changes due to modifications

6.5 Weight and balance

(a) Weight and balance report

(b) Weight schedule

It shall established the aircraft has been weighed as required by AC/AW/028.

6.6 Type certificate (TC) and type certificate data sheet(s) (TCDS)

(a) TC and TCDS for the aircraft model

(b) Macao type acceptance approval reference

6.7 MMEL and MEL

6.8 Instructions for continued airworthiness (ICA)

It shall be established that all current ICA and maintenance instructions applicable to the aircraft as referred to in paragraph 13 of AP4 are available and had been provided to the AACM.

7. Continuing airworthiness

7.1 Airworthiness directives

It shall be established that all applicable airworthiness directives (AD) promulgated by the State of Design and AACM, with respect to the aircraft, engines and equipment, as required under Aeronautical Circular no. AC/AW/013 have been complied.

Conformation and method of compliance shall be stated in each case. If an airworthiness directive has not been complied with, a justification for acceptance shall be provided (e.g. short term compensating factors). Where an airworthiness directive has been complied with by using an alternative means of compliance, the approval of such methods must be referenced. Where appropriate, the periodicity for initial and repetitive inspections, with respect to the applicable calendar day/flight hours/cycle limits shall also be stated.

A declaration of compliance with all applicable Airworthiness Directives promulgated by the State of Design and AACM, with respect to the aircraft, engines and equipment, as required under Aeronautical Circular no. AC/AW/013 shall be included in this section.

A list of all applicable airworthiness directives (AD) shall be provided in an appendix.

7.2 Maintenance programme

It shall have been established that all inspections or other actions required to maintain airworthiness in-service, have been incorporated into the proposed new maintenance programme. AD and ICA for modifications (STC and minor modifications) and repair must be included. In addition to the AACM approval status, review details, including evidence of incorporating all the ICA and airworthiness limitations, shall be provided.

Comparison of prior maintenance programme with the proposed new maintenance programme shall have been made. Maintenance programme bridging check to ensure all the necessary maintenance shall have been carried out.

If the aircraft has aging aircraft maintenance programme, details and status shall be provided.

7.3 Components/parts with time limitations

All components with time limitations must be identified and cross referenced to the source document. The overhaul/service life remaining for each component or out of phase inspection, including certified maintenance requirements (CMR one star* or two stars** items) must also be established. It shall be verified that all service life limited components installed on the aircraft are properly identified and not exceeded their approved service life limit.

7.4 Additional maintenance tasks due to modifications and repair

All additional maintenance tasks due to modifications and repair shall have been identified. It shall be verified that all supplemental maintenance tasks and inspections raised from modification/repair been performed accordingly.

7.5 Airworthiness limitations

Compliance must be established with the airworthiness limitations that are specified or referenced by the aircraft, engine, or propeller TCDS. Airworthiness limitations may include specific inspections and maximum retirement lives.

7.6 Contacts for continuing airworthiness

A formal declaration for the contacts for continuing airworthiness shall be provided. It shall include the holder and primary certification authority for the airframe TC, Engine TC, and STC.

Name, position, telephone number, fax number, e-mail address and mailing address shall be provided for each contact.

(a) Airframe TC holder and primary certification authority

(b) Engine TC holder and primary certification authority

(c) STC holder and primary certification authority

8. Aircraft physical survey

It shall be established that:

(a) all required markings and placards are properly installed;

(b) the aircraft complies with its approved flight manual;

(c) the aircraft configuration complies with the approved documentation;

(d) no evident defect can be found that has not been addressed;

(e) no inconsistencies can be found between the aircraft and the documented review of records.

Reference to the report(s) and checklist for inspection shall be incorporated here. Rectification and closure report(s) to defects or findings shall also be referenced.

9. Conclusion

This section shall provide the conclusion of the technical assessment.

Upon a satisfactory review, a statement shall be made to confirm that the aircraft in its current configuration complies with the following:

(a) airworthiness directives up to the latest published issue, and;

(b) type certificate data sheet;

(c) maintenance programme;

(d) limitation for life-limited parts and time-controlled components;

(e) the valid weight and centre of gravity schedule reflecting the current configuration of the aircraft;

(f) paragraph 7 (9A) of ANRM for all modifications and repairs;

(g) the current flight manual including supplements, and;

(h) operational requirements.

The above items shall clearly state the exact reference of the data used in establishing compliance; for instance the number and issue of the type certificate data sheet used shall be stated.

10. Recommendation for the issuance of certificate of airworthiness

This section shall provide a recommendation for the issuance of certificate of airworthiness signed by the Team Leader of the Technical Assessment Team. The identification of the aircraft and the signatory shall be mentioned.

Example:

The undersign hereby confirms that the following aircraft:

Aircraft manufacturer:.....

Manufacturer's designation: .....

Aircraft assigned Macao registration:.....

Aircraft serial number: .....

is considered airworthy at the time of the review.

A recommendation is hereby made for issuance of certificate of airworthiness.

Signed: .....

Name:.....

Date of issue: .....

Technical Assessment Team acceptance ref.: .....

Appendix F – Reference document

This appendix shall contain a copy of all document/data referenced in the report.

Appendix 3 to AP4

Check Flight

1. General

1.1 The purpose of check flights is to determine that the individual aircraft conforms to its type certification standard and is airworthy, as well as to ensure that its flight characteristics and functioning in flight do not differ significantly from the normal characteristics for the type and to check the flight performance against the appropriate sections of the flight manual.

1.2 Check flight of aircraft under investigation for the issue of certificate of airworthiness shall comply with the procedures set out in this Appendix.

1.3 The *Check Flight Handbook* published by the Civil Aviation Authority of the United Kingdom has been selected to provide where appropriate the content of this Appendix.

2. Applicability

2.1 New aircraft

2.1.1 In the case where the organisation responsible for the final assembly of the aircraft approved by the State of Manufacture has completed production flight tests for establishing conformity with the type design of the aircraft and a statement of conformity (e.g. EASA Form 52) is issued afterwards, normally no additional check flight is subsequently required for new aircraft.

2.1.2 The date of production flight tests shall be indicated in the work plan referred to in paragraph 4.3.2 of this AP.

2.1.3 Notwithstanding paragraph 2.1.1 above, in the case that the aircraft was parked or stored for a period of time after production, AACM may require additional check flight to be performed in accordance with this Appendix. Applicant will be notified if check flight is required.

2.2 Used aircraft

Except for situations in which Aeronautical Circular no. AC/AW/021 applies, the applicant of issuance of certificate of airworthiness for a used aircraft is required to arrange check flight to be carried out in accordance with this Appendix.

3. Insurance

3.1 The applicant of certificate of airworthiness is required to arrange adequate insurance for the check flight to cover damage to the aircraft and to third parties.

4. Scope of check flight

4.1 Aircraft performance

The aircraft's performance must meet the scheduled performance contained within the aircraft flight manual. The performance should not have significantly degraded since the last check flight and any measured degradation should be accounted for. For example one-engine-

inoperative climb performance should meet scheduled figures; stall speeds should match AFM figures; helicopter autorevs should be within limits etc.

4.2 Handling qualities

The aircraft should handle and fly as intended. Stall characteristics should be benign or normal for the type. The aircraft should fly in balance and within designed trim conditions. In the case of rotorcraft the low speed handling should be benign in addition to that of forward flight, etc.

4.3 Systems

All aircraft systems should be serviceable and fit for purpose or, if permissible, clearly labelled as inoperative. Systems used in the resolution of emergencies should also be operated, e.g. emergency lowering of undercarriage. Autopilots and flight control systems, particularly on helicopters, should be comprehensively tested to ensure they perform as intended with degraded modes assessed where possible.

5. Check flight schedules

5.1 The purpose of airworthiness check flights is to ensure that the aircraft's flight characteristics and its functioning in flight do not differ significantly from the normal characteristics for the type and to check the flight performance against the appropriate sections of the flight manual.

5.2 The applicant shall show that check flight flown in accordance with the check flight schedule would establish whether:

(a) the handling characteristics are satisfactory and typical of the type;

(b) the climb performance equals or exceeds the scheduled data;

Note: Data is necessary in order to assess any future deterioration of performance in service.

(c) the aircraft and its equipment function satisfactorily and the aircraft continues to comply with its type design standard.

5.2.2 The check flight schedule should cover the following:

(a) Handling checks, which combine checks on various flight characteristics:

(i) a qualitative assessment of the take-off;

(ii) an assessment of the trim of the aircraft and the effectiveness of primary flight controls and trimmers in steady flight;

(iii) hover manoeuvres for helicopters;

(iv) flight at maximum speed;

(v) stalls in the take-off and landing configurations;

(vi) a qualitative assessment of the landing.

(b) Performance checks – simple, free air pressure rate-of-climb measurements under known and predicted configurations and conditions;

(c) Tests to check functioning of the aircraft equipment in flight and safe, recoverable functioning of back-up systems e.g. emergency gear lowering, use of alternate braking systems. Controls, systems and equipment, which are used regularly, may be considered, for the purpose of the schedule, to have been checked on the basis of normal usage.

(d) Such other tests as requested by the AACM.

5.3 When preparing the check flight schedule, the applicant should consulting with the aircraft manufacturer or with an accredited flight test organisation to ensure that the check flight schedule and procedures are developed in accordance with current best practices.

6. Personnel involved in check flight

6.1 The applicant shall designate competent person(s) to conduct the check flight.

6.2 To ensure that appropriate levels of safety are maintained, check flight should only be conducted by pilot(s) who have satisfactory qualification and experience with the appropriate check flight schedule, and have received adequate familiarisation of check flight techniques and safety precautions.

Note 1: It is unlikely that pilots who are not either current flying instructors or in regular aerobatic practice meet this requirement.

Note 2: Pilot meeting the qualification and experience requirements prescribed in the Check Flight Handbook published by the Civil Aviation Authority of the United Kingdom is considered acceptable.

6.3 It is necessary that the pilot concerned fully understands the significance and intent of the flight tests as well as the techniques used to minimise the risk associated with some tests.

6.4 Pilot acceptance criteria for conducting check flight shall be described in detail in the procedures manual of technical assessment referred to in paragraph 3 of Appendix 1 to AP4.

6.5 The applicant shall provide adequate facilities and equipment for the effective performance of duties for check flight personnel.

7. Check flight results

7.1 After check flight, the pilot who conducted the flight should complete the check flight statement which lists all the defects found during the flight.

7.2 The check flight statement, in the following form, together with the completed schedule comprises the check flight report. Each defect should be classified according to its impact on safety:

(a) Items requiring rectification before making the recommendation for the issuance of a certificate of airworthiness; and

(b) Items that require re-checking in-flight following rectification (such as inadequate climb performance).

Check Flight Statement

Aircraft Type/model: .....

Registration: .....

Manufacturer serial no.: .....

I CERTIFY that I have tested the above aircraft to the Check flight Schedule with

reference no. ..... on ..... (date of check flight)

The following deficiencies and unsatisfactory features were revealed by the check flight or noted at other times during the flight(s):

1. .....
2. .....
3. .....
4. .....

I CONSIDER that:

Defect no. ..... should be rectified before making the recommendation for issuance of a certificate of airworthiness.

Defect no. ..... should be re-assessed in flight, following remedial action, before the defect can be considered to be rectified.

The above have been transcribed to..... for rectification and clearance.

Pilot's name ..... Signed .....

Appendix 4 to AP4

Documentation Standards

All required documents for application of issue and renewal of certificate of airworthiness shall meet the standards specified in this Appendix.

1. Aircraft report

As prescribed in Appendix 2 to AP4.

2. Export certificate of airworthiness

The export certificate of airworthiness shall be issued no more than 60 days before presentation of the aircraft to the AACM, by the Authority of the State/Region where the aircraft is registered, or was last registered, reflecting the airworthiness status of the aircraft in its register at the time of transfer.

3. Statement of conformity

The statement of conformity shall be issued no more than 60 days before presentation of the aircraft to the AACM, by the Authority of the State of Manufacture, or by the organisation responsible for the final assembly of the aircraft approved by the State of Manufacture, that the aircraft conforms to a type design accepted by the AACM.

4. List of incorporated TCH modifications

Application	Review Period	
	Start	End
Issue of certificate of airworthiness	Date of aircraft manufacture or the issue date of the statement of conformity, whichever occurs first	Date of current review
Renewal of certificate of airworthiness	Date of last review	Date of current review

The list shall include at least the following information:

(a) Start date and end date of current review period

(b) SB or modification number

(c) A brief description of the modification

(d) The modification installation organisation

(e) The date of modification installation

(f) The flight manual reference(s)

(g) Additional limitations introduced \

(h) Instructions for continued airworthiness or additional maintenance actions required for the modification

(i) Effect on weight and balance

(j) Effect on electrical load

5. List of incorporated non-TCH modifications

Application	Review Period	
	Start	End
Issue of certificate of airworthiness	Date of aircraft manufacture or the issue date of the statement of conformity, whichever occurs first	Date of current review
Renewal of certificate of airworthiness	Date of last review	Date of current review

The list shall include at least the following information:

(a) Start date and end date of current review period

(b) The modification title

(c) A brief description of the modification

(d) The modification classification as agreed by the AACM

(e) The modification design organisation

(f) The original modification design approval reference

(g) The reference of the AACM document under which the modification was accepted

(h) The foreign national airworthiness authority that approved the modification, and their approval reference, e.g. EASA/FAA supplemental type certificate number

(i) The modification installation organisation

(j) The date of modification installation

(k) The flight manual supplement reference(s)

(l) Additional limitations introduced which compensate for a partial non-compliance with a requirement

(m) Instructions for continued airworthiness or additional maintenance actions required for the modification

(n) Effect on weight and balance

(o) Effect on electric load

6. List of incorporated repair designs

Application	Review Period	
	Start	End
Issue of certificate of airworthiness	Date of aircraft manufacture or the issue date of the statement of conformity, whichever occurs first	Date of current review

Application	Review Period	
	Start	End
Renewal of certificate of airworthiness	Date of last review	Date of current review

The list shall include at least the following information:

(a) Start date and end date of current review period

(b) The repair title

(c) The repair design organisation

(d) The repair installation organisation

(e) The date of repair installation

(f) The original repair design approval reference

(g) The AACM repair design approval reference, if applicable

(h) Any instructions for continued airworthiness or additional maintenance actions required for the repair

(i) Effect on any life limitations

(j) Effect on inspection method

(k) Effect on inspection threshold and frequency

7. List of incorporated service bulletins

Application	Review Period	
	Start	End
Issue of certificate of airworthiness	Date of aircraft manufacture or the issue date of the statement of conformity, whichever occurs first	Date of current review
Renewal of certificate of airworthiness	Date of last review	Date of current review

The list shall include at least the following information:

(a) Start date and end date of current review period

(b) The SB title

(c) The SB incorporation organisation

(d) The date of SB incorporation

Note: Modifications incorporated based on Service bulletins issued by TCH should be listed in the "List of incorporated TCH modifications" referred to in paragraph 4 of this Appendix only.

8. Summary of aircraft noise levels

The document shall provide the following information:

(a) Date of review

(b) Noise certification standard

(c) Additional modification incorporated for the purpose of compliance with the applicable noise certification standard

(d) Noise level *(in EPNdB)* (Noise level data determined by reading from chart is not acceptable):

- Lateral/full-power
- Approach
- Flyover
- Overflight
- Take-off

(e) Evidence or supporting document

Example:

Date of review: 01 January 2022		
Noise certification standard: ICAO Annex 16 Volume I, Chapter 8 (8.4.1)		
Additional modification incorporated for the purpose of compliance with the applicable noise certification standard: None		
	Noise level (in EPNdB)	*Evidence or supporting document*
Lateral/full-power	*Not applicable*	*Not applicable*
Approach	*94.1*	*EASA TCDSN No. EASA.R.006 Page 4*
Flyover	*Not applicable*	*Not applicable*
Overflight	*90.7*	*EASA TCDSN No. EASA.R.006 Page 4*
Take-off	*90.3*	*EASA TCDSN No. EASA.R.006 Page 4*

9. Analysis of scales of equipment

This document can be cross-referenced with section 3 of the aircraft report but it shall provide the information in details in terms of the scales required. This document can demonstrate the scale of equipment required due to the specific aircraft type and the circumstance of flight.

Every aircraft of a description specified in the first column of the Table set forth in paragraph 4 of the Fifth Schedule of ANRM and which is registered in Macao shall be provided, when flying in the circumstances specified in the second column of the said Table, with adequate equipment, and for the purpose of this paragraph the expression "adequate equipment" shall mean the scales of equipment respectively indicated in that Table: Provided that, if the aircraft is flying in a combination of such circumstances, the scales of equipment shall not on that account be required to be duplicated.

The current version of ANRM shall be used and declared.

Example:

The purpose of this Appendix is to demonstrate compliance with ANRM approved by Executive Order No. 43/2021. Based on the build standard of the aircraft and taking into consideration the most severe circumstances from an operational point of view, the circumstances of flight that have been used for determination of equipment requirements are summarised as follows:

(1) Description of Aircraft

Each description of aircraft specified in the first column of the said table shall be considered and declared.

Example:

Description of aircraft		*Notes*
Aircraft type	*Turbo-jet aeroplane*	
Maximum total weight authorized	*360,000 kg*	*SB 12345 incorporated. Refer to AFM Section 1.2.2*
Pressurised	*Yes*	
Certificate of airworthiness Category	*Transport Category (Passenger)*	
Maximum approved passengers seating configuration	*142*	*Refer to LOPA*

(2) Circumstances of flight

Each Circumstances of Flight specified in the second column of the said Table shall be considered and declared. Refer to applicable section of Ops Manual or Ops Spec as appropriate.

Example:

Circumstances of flight		*Notes*
Flying for purposes of	*commercial air transport*	
Day/night	*Both*	*AFM Section 2.3.1.*
VFR/IFR	*Both*	*AFM Section 2.3.5.*
Over water/gliding Distance	*2 km*	*AFM Section 3.1.1.*
Gradient of climb		
Manoeuvres on water	*No*	
Maximum altitude	*45,000 ft*	*AFM Section 5.3.1.*
Icing conditions	*Yes*	*Ops Manual Section 3.4.1(a)*
Tropical conditions	*Yes*	*Ops Manual Section 3.4.1(b)*
Polar conditions	*No*	*Ops Manual Section 3.5.2*

(3) Analysis of scales of equipment

Example:

Reg. Ref.	*Aircraft and Circumstances of Flight*	*Scale of Equipment Required*	*Remarks*
Fifth Sch. Para. 4			
(1)	*Aircraft flying for the purpose other than commercial air transport category:*		*Not applicable*
(a)	*Minimum requirements on all flights*	*A, B (i) to (vii), B(ix), B(xiv), C, D, N andDD*	*Not applicable*
(b)	*when flying under visual flight rules (VFR) within controlled airspace*	*E*	*Not applicable*
……	…….	…….	…
(2)	*Aircraft flying for the purpose of commercial air transport category:*		
(a)	*Minimum requirements:*		
(i)	*all aircraft of maximum certificated take-off mass less than 1, 150 kg on all flights*	*A, B (i) to (vii), B (ix), B (xi), B(xii), B (xiv), C, D, N and DD*	*Not applicable*
(ii)	*all aircraft of maximum certificated take-off mass over 1,150 kg up to and including 5,700 kg on all flights*	*A, B (i) to (vii), B (ix), B (xi), B (xii), B (xiv), C, D, N, V and DD*	*Not applicable*
(iii)	*all aircraft of maximum certificated take-off mass over 5,700 kg on all flights*	*A, B, C, D, N, V and DD*	
(iv)	*all aircraft required to carry cabin crew as part of the operating crew after 18 November 2010*	*FF (i), (ii), (iii) and (iv) and DD*	
(b)	*when flying under visual flight rules (VFR) within controlled airspace*	*E*	
(c)	*when flying under instrument flight rules (IFR)*	*E*	
(d)	*when flying at night*	*E +G + BB*	
(e)	*when on flights over water*		
	(i) For aeroplanes	*H + GG*	
(f)	*when flying over designated land areas*	*T*	
(g)	*flying in icing conditions*	*F*	

(4) Summary of scales of equipment

A summary statement of the applicable scale shall be included.

Example:

Based on the declaration of the description of aircraft and circumstances of flight above, according to ANRM, the following Scales of equipment are required:

Fifth Schedule

Scale A (i), (ii), (iii), (iv)

Scale B (i) (a), (c), (d), (e), (f), (ii), (iii)

Scale C (i), (ii), (iii)

Sixth Schedule

Scale……

10. List of airworthiness equipment

The list shall include all equipment installed as per ANRM 5th Schedule with the following information:

(a) Date of review

(b) ANRM version

(c) ATA chapter

(d) Description of the equipment

(e) Quantity

(f) Manufacturer/vendor

(g) Type/model

(h) Part number

(i) The corresponding ANRM reference

(j) Approval type such as TSO/ETSO/JTSO or reference to approved design data

Example:

Date of review: 01 January 2022								
ANRM version: ANRM approved by Executive Order No. 43/2021								
No.	*ATA Chapter*	*Description*	*Vendor*	*Type/ Model*	*P/N*	*Qty*	*ANRM 5th Schedule Scale*	*Approval Type (TSO/ETSO/ JTSO)*
1	*xx-xx*	*Safety Harness*	*xxxxxx*	*xxxxxxxx*	*xxxx*	*xx*	*Scale M*	*JTSO C114*
2	*xx-xx*	*Life Jacket – Crew*	*xxxxxx*	*xxxxxxxx*	*xxxx*	*xx*	*Scale H*	*ETSO C13f*
3	*xx-xx*	*Life Jacket – Pax*	*xxxxxx*	*xxxxxxxx*	*xxxx*	*xx*	*Scale H*	*TSO C13f*

11. List of radio equipment

The list shall include all radio equipment installed as per ANRM 6th Schedule with the following information:

(a) Date of review

(b) ANRM version

(c) ATA chapter

(d) Description of the equipment

(e) Manufacturer/vendor

(f) Type/model

(g) Part number

(h) Quantity

(i) The corresponding ANRM reference

(j) Approval type such as TSO/ETSO/JTSO or reference to approved data

Example:

Date of review: 01 January 2022								
ANRM version: ANRM approved by Executive Order No. 43/2021								
No.	*ATA Chapter*	*Description*	*Vendor*	*Type/ Model*	*P/N*	*Qty*	*ANRM 6th Schedule Scale*	*Approval Type (TSO/ETSO/ JTSO)*
1	*xx-xx*	*VHF Antenna*	*DMC50-17*	*Dorne & Morgolin*	*xxx-xxx-xxxx*	*3*	*Scale A*	*TSO C37d TSO C38d*

12. List of major components changed

Application	Review Period	
	Start	End
Renewal of certificate of airworthiness	Date of last review	Date of current review

The list shall cover all change of major components including engine, propeller or rotor, APU, landing gear, as applicable according to the approved configuration of the aircraft.

The list shall include at least the following information:

(a) Start date and end date of current review period

(b) Description of the component changed

(c) Reason of changing

(d) Part number of the component removed

(e) Serial number of the component removed

(f) Part number of the component installed

(g) Serial number of the component removed

(h) FH/CY/date of component installed

13. List of major check or heavy check performed

Application	Review Period	
	Start	End
Renewal of certificate of airworthiness	Date of last review	Date of current review

The list shall cover all major checks or heavy checks according to the approved maintenance programme performed.

The list shall include at least the following information:

(i) Start date and end date of current review period

(j) Maintenance programme reference

(k) Description of the check

(l) Work pack or job number, if applicable

(m) Name and approval number of the maintenance organisation performed the check

(n) Deadline (Flight hour/cycle/date as applicable) of the check

(o) Flight hour/cycle/date of release to service

Example:

Review period: 01 January 2022 – 31 December 2022									
Maintenance programme reference: AMS-B767-ABC Revision 3 Issue 1									
Description	*Job number*	*AMO*	*AMO approval no.*	*Deadline*			*Release to Service*		
				FH	*CY*	*Date*	*FH*	*CY*	*Date*
1C check	*999999*	*HAECO*	*DAI/1/853*	*6000*	*3000*	*22-Nov-22*	*4459*	*892*	*03-Oct-22*

14. Compliance matrix of ANRM

This document is for detail showing compliance with ANRM paragraphs 5, 12, 13, 16, 37, 38, 43, 47, 50, 115, 175, Part B of the First Schedule, the scales of equipment of Fifth Schedule and the Sixth Schedule and paragraph 7 (2) of the Eleventh Schedule. The compliance matrix shall be of sufficient detail to show compliance with each individual point in the paragraphs and schedules.

The current version of ANRM shall be used and declared.

The compliance matrix shall be at least including the following information:

(a) Date of review

(b) ANRM version

(c) Regulation reference

(d) Content of the regulation

(e) Applicability (Yes/No)

(f) Compliance (Yes/No)

(g) Means of compliance

(h) Document reference and remarks

Example:

Date of review: 01 January 2022					
ANRM version: ANRM approved by Executive Order No. 43/2021					
Regulation Reference	*Content of regulations*	*Applicable (Yes/No)*	*Compliance (Yes/No)*	*Means of Compliance*	*Document references and remarks*
Part II Registration and marking of aircraft					
Para. 5	*Nationality and registration marks*				
(1)	*An aircraft (other than an aircraft permitted by or under this Regulation to fly without being registered) shall not fly unless it bears painted thereon or affixed thereto, in the manner required by the law of the State or Region in which it is registered, the nationality and registration marks required by that law.*	*Yes*	*Yes*	*Nationality and registration marks are painted on the aircraft*	*Airbus drawing no. E02EDD192404*
Fifth Schedule – Aircraft equipment					
Para. 5	*Scales*				
Scale GG	*From 1 January 2018, all aeroplanes of a maximum certificated take-off mass of over 27,000 kg shall be equipped with a securely attached underwater locating device operating at a frequency of 8.8 kHz. This automatically*	*Yes*	*Yes*	*An underwater locator beacon with P/N 2143500, with a minimum transmission time of 90 days is installed in the Aft Cargo compartment, RH side*	*Mods 160156 and 162066; IPC 25-65-09*

Date of review: 01 January 2022					
ANRM version: ANRM approved by Executive Order No. 43/2021					
Regulation Reference	*Content of regulations*	*Applicable (Yes/No)*	*Compliance (Yes/No)*	*Means of Compliance*	*Document references and remarks*
	activated underwater locating device shall operate for a minimum of 30 days and shall not be installed in wings or empennage.				

15. Compliance matrix of aeronautical circulars

This document is for detail showing compliance with all aeronautical circulars (AC) relative to the airworthiness of the aircraft. All applicable AC in AW and OPS category shall be included.

The current revisions of aeronautical circulars shall be used and declared.

The compliance matrix shall be at least including the following information:

(a) Date of review

(b) Regulation reference

- AC no. including revision no.
- Paragraph no.

(c) Content of the regulation

(d) Applicability

(e) Compliance

(f) Means of compliance

(g) Document reference and remarks

Example:

Date of review: 01 January 2022					
Regulation Reference	*Content of regulations*	*Applicable (Yes/No)*	*Compliance (Yes/No)*	*Means of Compliance*	*Document references and remarks*
AC/AW/034R00					
3	*Definition*				
	Bilingual placard means placard which utilises English narrative with Chinese translation. Pictorial placard				*Noted.*

Date of review: 01 January 2022					
Regulation Reference	*Content of regulations*	*Applicable (Yes/No)*	*Compliance (Yes/No)*	*Means of Compliance*	*Document references and remarks*
	means placard which utilises pictogram or symbol representing a concept, object, activity, place or event by illustration.				
5	*Bilingual placard*				
5.1	*Principles of Chinese translation*				
5.1.1	*For any English narrative, there shall only be one set of Chinese translation on each aircraft*	*Yes*	*Yes*	*Only one set of Chinese translation is used on the aircraft*	*Placard manual 2.3.4; Bilingual Placard List for B-MXX Rev. 0 dated 01-Jan-2022*

16. Compliance matrix of requirements for operations requiring specific approvals

The current revisions of ANRM and aeronautical circulars shall be used and declared.

The compliance matrix shall be at least including the following information:

(a) Date of review

(b) Regulation reference

- ANRM para.
- AC no. including revision no.
- Paragraph no.

(c) Content of the regulation

(d) Applicability

(e) Compliance

(f) Means of compliance

(g) Document reference and remarks

17. Check flight report

As prescribed in Appendix 3 to AP4

18. Bilingual placard list

Bilingual placard list corresponding to the current aircraft configuration as prescribed in Aeronautical Circular no. AC/AW/034

19. Weight and balance report

Weight and balance report corresponding to the current aircraft configuration as prescribed in Aeronautical Circular no. AC/AW/028

20. Basic weight schedule

Basic weight schedule corresponding to the current aircraft configuration as prescribed in Aeronautical Circular no. AC/AW/028

21. List of applicable airworthiness directives

The list shall cover all applicable airworthiness directives (AD) up to the latest published issue promulgated by the State of Design and AACM, with respect to the aircraft, engines and equipment, as required under Aeronautical Circular no. AC/AW/013 and include at least the following:

(a) Date of review

(b) Issuing authority

(c) AD number and revision

(d) Subject

(e) Effective date

(f) Compliance status (open/closed)

(g) Compliance date, flight hour and flight cycle

(h) Optional means of compliance

(i) Repetitive compliance requirements (yes/no)

(j) Next compliance due date, flight hour and flight cycle

22. Life-limited parts and time-controlled components summary list

The list shall cover all parts or components with service life limits corresponding to the current aircraft configuration and shall include at least the following information:

(a) Date of review

(b) ATA chapter

(c) Description of the equipment

(d) Part number

(e) Serial number

(f) Life remaining

23. Checklist for Transfer of Aircraft Registration Among the Three Regions

As prescribed in Aeronautical Circular no. AC/AW/021

24. List of all the findings made during the technical assessment/maintenance review

The list shall include at least the following information:

(a) Date of finding

(b) Description of finding

(c) Corrective action carried out

(d) Status of finding (open/closed)

Address: Civil Aviation Authority
Alameda Dr. Carlos D'Assumpção, 336-342
Centro Comercial Cheng Feng, 18º andar
Macau, CHINA
PHONE: (853) 2851 1213
FAX: (853) 2833 8089
AFTN: VMMCYAYI

澳門特別行政區
REGIÃO ADMINISTRATIVA ESPECIAL DE MACAU
民航局
AUTORIDADE DE AVIAÇÃO CIVIL
CIVIL AVIATION AUTHORITY

No. : AP5
Issue : 6
Date : 01 July 2015

SUBJECT: ***Modification and Repair of Aircraft***

1. General

1.1 Pursuant to Paragraph 7 of the Air Navigation Regulation of Macao (ANRM), this Chapter prescribes the requirements for approval of modifications and repairs to aircraft, components and equipment.

1.2 All modifications and repairs on Macao registered aircraft shall comply with airworthiness requirements acceptable to the AACM.

1.3 Definitions

Major modification – A type design change not listed in the aircraft, aircraft engine or propeller specifications that might appreciably affect the mass and balance limits, structural strength, performance, powerplant, operation flight characteristics or other qualities affecting airworthiness or environmental characteristics, or that will be embodied in the product using non-standard practices.

Minor modification – A modification other than a major modification.

Major repair – Any repair of an aeronautical product that might appreciably affect the structural strength, performance, powerplant, operation, flight characteristics or other qualities affecting airworthiness or environmental characteristics, or that will be embodied in the product using non-standard practices.

Minor repair – A repair other than a major repair.

1.4 The fees payable will be based on the cost of conducting relevant assessment and calculated in accordance with the Executive Order 45/2012. The fees shall be paid at the time when the application is submitted. If the final amount of fees could not be determined at the time of application, an amount estimated by AACM shall be paid. Any outstanding balance shall be settled right after the application has been processed.

2. Approval of Modifications

2.1 Modifications other than those made mandatory by the Authority and not traceable to any approved continuing airworthiness information disseminated by type certificate holders or supplementary type certificate holders, such as Service Bulletin, shall be approved by the Authority.

2.2 In order for the AACM to determine the approval route, all modifications must be classified as major or minor prior to submission for approval. Assessment of modification classification shall be referred to the guidelines in EASA GM 21A.91

2.3 For major modification, application has to be substantiated by approved modification design data such as Supplement Type Certificate (STC) traceable to the standard of State of Design or any other States considered having equivalent safety standards. The AACM has the final decision on the modification classification.

2.4 Applications for approval by the Authority shall be made on AACM Form AACM-AW-39 (refer to Appendix No. 2) supported with a completed "Modification and Repair Approval Application Report" (shown in Appendix No. 1 as guideline) and submitted to the Authority together with the modification design and supporting documents.

2.5 For modification approval application, it is acceptable for the applicant to submit only one AACM Form AACM-AW-39 for more than one aircraft or the entire fleet as long as it is a combination of one aircraft family type and with similar configuration. Refer to MAR-1 AP2 Appendix No. 1 for aircraft type accepted by the AACM.

2.6 The person responsible for the modification design must have sound knowledge of aircraft certification and design principles embodied in the aircraft type being modified and shall state any particular requirements to be observed when the modification is completed and before an aircraft, component or equipment is released for service. The following aspects shall be considered:

(a) Whether tests or inspections during the progress or after the completion of the modification are necessary to ensure it complies with the specified requirements.

(b) The qualifications of persons who may be required to assess completed work and certify that it complies with the approved design.

(c) Whether significant changes in the weight and centre of gravity position of the aircraft will occur and if re-weighing or preparation of a new weight and balance report is necessary.

(d) Whether the flight or operating characteristics of an aircraft may have been affected by the work and the necessity to have the aircraft inspected and certified as fit for flight and flight tested.

(e) Whether amendments of particulars in the Certificate of Airworthiness or associated documents are required.

(f) Whether amendments are necessary to the aircraft flight manual, maintenance programme, minimum equipment list or any other documents approved for maintenance or operation of the aircraft.

Note: All such amendments must be approved prior to the first flight after the modification is embodied. Such approvals must be applied separately but could be applied simultaneously with the modification approval.

(g) Whether there are any amendments of instruction to continuing airworthiness and operational requirements in relation to the modification.

2.7 Compliance with each proposed certification basis of the type design and environmental protection requirements affected by modification must be clearly demonstrated.

2.8 A *Modification Approval Certificate* (Form AACM-AW-36 shown in Appendix No. 3) shall only be granted by the Authority after it is shown that:

(a) The modification meets the applicable certification basis and environmental protection requirements.

(b) Any airworthiness provisions not complied with are compensated for by factors that provide an equivalent level of safety; and

(c) No feature or characteristic makes the product unsafe for the uses for which certification is requested.

2.9 The Authority may require compliance checks after the completion of the modification and before an aircraft, component or equipment is released for service. The modification approval applicant shall arrange for such checks to be carried out by the Authority.

2.10 All changes to an approved drawing or document will require re-approval of the original. The issue or revision number shall be raised following re-approval.

3. Approval of Repair

3.1 Where a repair falls outside the scope of maintenance data as specified in MAR 145.45, unless the repair data is issued by type certificate holders or supplementary type certificate holders, and approved by the original type certificating authority, such repair will require the approval of the AACM.

3.2 The design approval holder must classify the repair as major or minor. Assessment of repair classification shall be referred to the guidelines in EASA 21A.435(a). All repair design should have been classified prior to submission to the AACM.

3.3 The Authority will only approve repair design data traceable to approval from States considered having equivalent safety standards to the State of Design. Applications for repair approval by the Authority shall be made on AACM Form AACM-AW-39 supported with a completed "Modification and Repair Approval Application Report" (shown in Appendix No. 1 as guideline) and submitted to the Authority together with the repair scheme and supporting documents.

3.4 For repair approval application, it is reminded that one application form is effective for one aircraft only.

3.5 The person responsible for the repair design must have sound knowledge of aircraft certification and design principles embodied in the aircraft type being repaired.

3.6 Where the repair has been a matter of urgency, work may commence on production of a suitable sketch but aircraft release may not be granted until the repair scheme is

appropriately approved with a *Repair Design Approval Certificate* (Form AACM-AW-37 shown in Appendix No. 3).

4. Compatibility of Modifications and Repairs

4.1 Consideration should be given during the design process to compatibility between the proposed design change and other existing design changes, such as modifications, repairs and airworthiness directives (AD).

4.2 The operator has responsibility to inform the design approval holder for any airworthiness deficiencies discovered in service which relate to the design change. The design approval holder has responsibility to assist the operator and the approving airworthiness authority to correct such deficiencies being informed.

4.3 The installer of the modifications or repairs on the aircraft has responsibility to verify compatibility with other existing modifications and repairs before installing any design change.

4.4 The operator has the overall responsibility to ensure the compatibility of all design changes incorporated in their aircraft. The operator should report any design change incompatibilities detected during installation or in service to the design approval holder, to the installer and to the approving airworthiness authority.

5. Records

5.1 Records of incorporation of all repairs and modifications affecting the airworthiness of an aircraft, its components or equipment shall be maintained in the appropriate log book or in a separate record by the owner or operator of the aircraft.

5.2 For all modifications and repairs, the design approval holder should retain the records of the analyses and tests performed to demonstrate compliance until the aircraft is permanently withdrawn from service.

5.3 All relevant modification and repair design information, drawings, test reports and records shall be held at the disposal of the Authority.

5.4 No such records shall be destroyed without authorisation from the Authority.

6. Request for Application Form

The application forms are available for download from the AACM website www.aacm.gov.mo.

7. Cancellation

This AP supersedes Airworthiness Procedure No. AP5 Issue 5 dated 10 December 2014.

- END -

Modification and Repair Approval Application Report

Submission format

The application report must be structured to cover the required information under at least the suggested subject headings listed in the "Application Report Paragraphs" listed below. If any particular item is not applicable to the application then a brief statement to indicate why this is so must be recorded. This listing as a whole should not be considered to be exhaustive, it is conceivable that some additional information may be requested in order to substantiate, investigate and review any unusual design features of the modification or repair.

The application report and all documents referenced in the application report shall have proper document control, such as by means of the document holder, document reference number, revision status/date and etc

Application Report Paragraphs

COVER PAGE

Application Report Number:
Company Name:
Aircraft Type/Model:
Aircraft Registration:
Aircraft Serial Number:

Name of applicant:
Position of applicant:
Date:
Signature:

PARAGRAPHS & CONTENTS

1. **Description of Modification/Repair.**
   This paragraph describes how the modification/repair will be performed.

2. **Reason/Purpose for Modification/Repair.**
   This paragraph explains why the modification/repair is required.

3. **Existing Modification/Repair Approval**
   This paragraph shall contain any previously approved proprietary items such as STC, DOA approval reference, Airbus RAS, FAA Form 337, etc.

4. **Classification of Modification/Repair**
   This paragraph shall contain a written assessment of the classification. Assessment of the modification classification shall be documented using the guidelines given in EASA GM 21A.91.

Assessment of the repair classification shall be documented using the guidelines given in EASA GM 21A.435(a)

5. Certification Basis

Original Product Type Certificate (TC)

This paragraph contains the State of Design and its TC and TCDS number.

Original Certification Basis

This paragraph shall state the original certification basis when the aircraft was type accepted in Macao. It shall include at least the top level certification basis with applicable amendment level.

Example for Airbus A320-231(referenced in EASA TCDS EASA.A.064 paragraph 1.3.1.2):

- JAR 25 Change 11 (except paragraph 25.207 which remains at Change 10) as elected by the Manufacturer

- A320 Special Conditions, Experience Related Conditions and Harmonization Conditions.

Proposed Certification Basis

This paragraph shall state the proposed certification basis for the modification/repair design. The proposed certification basis shall include all applicable paragraphs of the following requirements:

- *Basic design (CS 25-29, CS-E, CS-P, etc)*
- *ANRM Article and Schedule*
- *Macao Aeronautical Circular (AC)*
- *Environmental Requirements:*
  ICAO Annex 16 Volume I Aircraft Noise and ICAO Annex 16 Volume II Aircraft Engine Emissions
- *Design Requirements Associated with Operational Approvals*
  ETOPS, RNP/MNPS, RVSM, AWO, etc.

6. Compliance with the Certification Basis

Compliance with each proposed certification basis must be clearly demonstrated in this paragraph.

Examples of acceptable means of compliance are:

- *TC holder's support along with approval issued by the State of Design, e.g. Airbus RAS or RDAS, Boeing FAA Form 8110-9, etc.*
- *Stress analysis report*
- *Electrical load analysis*
- *Substantiation report*
- *Compliance statement*
- *Test report*

7. Modification/Repair Procedures and Accomplishment Instructions

This paragraph shall list out the document reference for the procedures and accomplishment instructions such as Service Bulletin, Engineering Order, Technical Disposition, Master Drawing List, etc.

8. Equipment Approval/Component listing

Equipment and components to be installed must be approved. This paragraph shall contain a list of the equipments and components with their associated approval reference (such as EASA Form ONE, FAA Form 8130-3, FAATSO/ EASATSO & Class, Flammability compliance, etc).

9. Environmental Issues

Consideration of environmental issues such as noise, engine emissions, cooling, vibration, contamination risks, etc. must be addressed in this paragraph.

10. Aircraft Flight Manual Supplement (AFMS)

As a result of the modification/repair embodiment, if any AFMS is introduced, it must be stated in this paragraph.

11. Electrical Load Analysis (ELA)

This paragraph shall contain the assessment of the ELA for each aircraft. An updated ELA draft shall be provided.

12. Weight and Balance Schedule (W&B) Amendment

Assessment on W&B schedule amendment must be addressed in this paragraph.

13. MMEL/MEL Amendment

This paragraph shall list out the proposed MMEL/MEL amendment.

14. Instruction to Continued Airworthiness (ICA) and Operational Requirements

This paragraph shall detail the ICA and operational requirements with its associated supporting document/drawings amendment as follows:

- *Aircraft Maintenance Manual (AMM)*
- *Illustrated Parts Catalogue (IPC)*
- *Aircraft Wiring Manual (AWM)*
- *Component Maintenance Manual (CMM)*
- *Layout of Passenger Accommodation (LOPA)*
- *Emergency Equipment Layout*
- *Maintenance Programme (MP)*
- *Airworthiness Limitations*
- *Special Inspection Technique*
- *Protective Treatment after inspection*
- *Provisioned parts, toolings and equipments*
- *Reliability Assessment*
- *Operations manuals*
- *Etc*

15. Crew Notices, Labels, Placards, Ground Service Instructions and Passenger Information

This paragraph shall contain a list of information to fulfill operational requirements. This information includes but not limited to notice to flight crew and cabin crew, additional labels and placards, instructions for ground service, information for passenger, etc.

16. Interface Considerations

Effects on other systems, previous modifications/repairs, operating procedures, must be stated in this paragraph.

17. Limitations

This paragraph shall detail out any limitations affecting the approval, such as limited cycles, flight hours, calendar time, operating limitation (airspeed, flight rule and etc.), Airworthiness Limitations (mandatory inspections), required equipment, number of crew/passenger, etc.

18. Post Installation Ground Checks

For design verification, any conformity inspection, operational and functional ground checks must be stated in this paragraph.

19. Flight Test Requirements

This paragraph shall consist of an approved flight test schedule in order to verify the design with regard to performance and system functions.

20. Attachments

All referenced documents shall be listed and attached to the report in order of reference in the report.

Below is an example of the listing reference documents:

#	Document Description	Issuer	Doc #	Issue Date	Rev
1	Modification approval	ABC Design	DOA-1234	01-Feb-2012	B
2	Modification classification assessment	ABC Design	DOA-1234	01-Feb-2012	B
3	Modification Instruction Sheet	ABC Design	MIS-456	15-Jan -2012	A
4	Engineering Order	XYZ Airline	EO 25-05	15-Mar-2012	1
5	Engineering Order	XYZ Airline	EO 23-08	15-Apr-2012	2
6	EASA Form ONE	PPP Ltd	D.1234-56	01-Aug-2011	--
7	Flammability Report	TT Fabric Ltd	FR-9876	10-July-2011	A
8	ELA report	XYZ Airline	ELA-0001	01-Apr-2012	00
9	IPC Supplement	ABC Design	IPCS-8888	20-Jan-2012	C
10	MP amendment	XYZ Airline	MP TR-15	15-Apr-2012	1
11	Notice to cabin crew	XYZ Airline	CC-3456	20-Apr-2012	00
…	…	…	…	…	…

Modification and Repair Approval Application Form

澳門特別行政區
REGIÃO ADMINISTRATIVA ESPECIAL DE MACAU
民航局
AUTORIDADE DE AVIAÇÃO CIVIL
CIVIL AVIATION AUTHORITY

To: Alameda Dr. Carlos D'Assumpção, 336-342 Centro Comercial Cheng Feng, 18º Andar Macau

Tel: (853) 2851 1213
Fax: (853) 2833 8089
Email: aacm@aacm.gov.mo

Official Use Only

Task No.

Modification and Repair Approval Application Form

Note: Instructions for filling this application form could be found in page 4 of this form

1.	**Applicant Details**	
1.1	Applicant's reference (*if applicable*)	
1.2	Company name	
1.3	Company address	
1.4	Contact person	
1.5	Telephone	
1.6	Fax	
1.7	Email	
2.	**Classification**	
☐ Minor Modification	☐ Major Modification	☐ Minor Repair ☐ Major Repair
3.	**Applicability**	
3.1	TC holder	
3.2	Aircraft model(s)	
3.3	Registration Mark(s) / Serial Number(s)	
3.4	Foreign Approval reference *(if applicable)*	

4.	**Description**	
4.1	Title	
4.2	Description	
5.	**Certification Basis**	
5.1	Original Certification Basis	
5.2	Proposed Certification Basis	
5.3	Affected Manuals	

6.	**Eligibility justification (*if applicable*)**
7.	**Additional Information**
8.	**Applicant's Declaration** I declare that the information contained herein is correct and complete.
8.1	Name of applicant
8.2	Position of applicant
8.3	Signature
8.4	Date of application *(dd-mmm-yyyy)*

IMPORTANT:

This application form must be submitted with "Modification and Repair Approval Application Report" described in MAR-1 AP5 Appendix No. 1

Instructions for filling Form AACM-AW-39
"Modification and Repair Approval Application Form"

Field 1.1	Enter your own reference number (e.g. letter ref) for application project (optional).
Field 1.2-1.3	Enter the registered company name and address in whole.
Field 1.4-1.7	Enter the name, telephone, fax and email of the contact person for this application.
Field 2	Classify the application in accordance with EASA GM 21A.91 for modification or EASA GM 21A.435 for repair. Tick only ONE box.
Field 3.1	Enter the name of the Type Certificate holder.
Field 3.2	Enter the full aircraft type model(s) (e.g. A321-231)
Field 3.3	Enter the aircraft registration mark(s) and the corresponding manufacturer serial number(s). *Note: For repair approval, one form is effective for one aircraft only*
Field 3.4	If this modification or repair has previously been approved by the State of Design, DOA, etc. then enter the approval reference here.
Field 4.1	Enter the title of the modification or repair. *Note: The exact title will appear in the approval certificate. A long title is therefore not recommended*
Field 4.2	Provide a brief description of the modification or repair
Field 5.1	Enter the original certification basis
Field 5.2	Propose the certification basis of the type design affected by the modification or repair
Field 5.3	Identify all the manuals affected by the modification or repair
Field 6	Provide justification for the design organisation's eligibility (e.g. demonstration of its capability such as EASA DOA approval reference, etc.)
Field 7	Provide any additional information such as master data list (list of supporting documents), application revision, previous AACM approval reference, etc.
Field 8.1-8.4	Enter the name, position, signature of the applicant with the date of application in dd-mmm-yyyy format.

Modification Approval Certificate

澳門特別行政區
REGIÃO ADMINISTRATIVA ESPECIAL DE MACAU

民航局
AUTORIDADE DE AVIAÇÃO CIVIL
CIVIL AVIATION AUTHORITY

MODIFICATION APPROVAL CERTIFICATE

REFERENCE : _____

Pursuant to the paragraph 7 of Air Navigation Regulation of Macao, the Civil Aviation Authority hereby issues this

MINOR/MAJOR Modification Approval

to

Name of Organisation

Address of Organisation

and certifies that this modification titled as

"XXX YYY Modification"

based on the associated technical documentations together with the limitations and conditions specified below meet the applicable certification basis and environmental protection requirements:

1. *Associated Technical Documentations*
   - 1.1 *ABC Company EO 12-34 Rev. 0 dated dd-mm-yyyy*
   - 1.2 *ABC AFMS-456 Rev. 1 dated dd-mm-yyyy*
   - 1.3 *XYZ ICA-789 Rev. 2 dated dd-mm-yyyy*

2. *Limitations*
   - 2.1 *This approval is only suitable for installation on aircraft with Macao registration B-MXX (MSN 0000), B-MYY (MSN 0001) and B-MZZ (MSN 0002)*

3. *Conditions*
   - 3.1 *Prior to installation, it must be determined that the interrelationship between this modification and any other previously installed modification and/or repair will introduce no adverse effect upon the airworthiness of the product.*

Macao, ***(Date of Issue)***

(Signature)
CHAN Weng Hong
President

AACM-AW-36, Issue 1

Repair Design Approval Certificate

澳門特別行政區
REGIÃO ADMINISTRATIVA ESPECIAL DE MACAU

民航局
AUTORIDADE DE AVIAÇÃO CIVIL
CIVIL AVIATION AUTHORITY

REPAIR DESIGN APPROVAL CERTIFICATE

REFERENCE : _____

Pursuant to the paragraph 7 of Air Navigation Regulation of Macao, the Civil Aviation Authority hereby issues this

MINOR/MAJOR Repair Design Approval

to

Name of Organisation

Address of Organisation

and certifies that this repair design titled as

"XXX YYY Repair"

based on the associated technical documentations together with the limitations and conditions specified below meet the applicable certification basis and environmental protection requirements:

1. *Associated Technical Documentations*
   - 1.1 *ABC Company EO 12-34 Rev. 0 dated dd-mm-yyyy*
   - 1.2 *ABC AFMS-456 Rev. 1 dated dd-mm-yyyy*
   - 1.3 *XYZ ICA-789 Rev. 2 dated dd-mm-yyyy*

2. *Limitations*
   - 2.1 *This approval is only suitable for installation on aircraft with Macao registration B-MXX (MSN 0000)*

3. *Conditions*
   - 3.1 *Prior to installation, it must be determined that the interrelationship between this repair and any other previously installed modification and/or repair will introduce no adverse effect upon the airworthiness of the product.*

Macao, ***(Date of Issue)***

(Signature)
CHAN Weng Hong
President

AACM-AW-37, Issue 1

Airworthiness Procedure

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澳門特別行政區
REGIÃO ADMINISTRATIVA ESPECIAL DE MACAU
民航局
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CIVIL AVIATION AUTHORITY

No. : AP6
Issue : 8
Date : 01 Sep 2025

SUBJECT: ***Procedures for Initial Issue / Variation / Renewal / Replacement of MAR-66 Aircraft Maintenance Engineer Licences (AMEL)***

1. General

1.1 Paragraph 11(1) of the Air Navigation Regulation of Macao (ANRM) establishes that the Civil Aviation Authority (AACM) may grant aircraft maintenance engineer licences (AMEL), subject to such conditions as it thinks fit, upon it being satisfied that the applicant is a fit person to hold the licence and has furnished such evidence and passed such examinations and tests as required by the AACM.

1.2 The requirements for the initial issue, variation, or renewal of a MAR-66 AMEL are specified in the Macao Airworthiness Requirements MAR-66 'Licensing of Aircraft Maintenance Engineer', as published in the latest revision of Aeronautical Circular (AC) No. AC/PEL/013.

1.3 The purpose of this Airworthiness Procedure (AP) is to establish the procedures governing the initial issue, variation, renewal, or replacement of a MAR-66 AMEL. Supplemental information is provided in the Appendices to this AP.

1.4 Application shall be submitted to the AACM through one of the following methods:

(a) Online via the Aeronautical License Management System (ALMS) at https://licensing.aacm.gov.mo/alms-pub, or

(b) In person at the AACM office using the application form PEL/APP/024, available on the AACM website at https://www.aacm.gov.mo/.

along with all relevant supporting documents as required.

2. Initial grant of a MAR-66 AMEL

2.1 Application for the initial grant of a licence, with or without type rating endorsement, shall complete the application as per paragraph 1.4.

2.2 The applicant shall list all the relevant MAR-66 examination modules (for the applied lisense category) that were passed within ten (10) years prior to the date of application. Unless the examinations were conducted at the AACM, copies of all relevant MAR-147 Certificates of Recognition with the examination result (or other equivalent proof of result acceptable to the AACM) shall be provided.

2.3 The applicant's maintenance experience shall be clearly detailed in the relevant section of the application, specifying where, when and what type of maintenance work was performed to constitute the required experience. It is acceptable to cross-refer to the applicant's personal logbook, and such experience shall be countersigned by a person acceptable to the AACM. A task-by-task account is preferred; general statements such as 'X years maintenance experience completed' are not acceptable. An example logbook page is provided in Appendix No. 3 to this AP.

2.4 The required length of the maintenance experience (referring to MAR 66.30(a)) shall be counted in weeks and recorded in the Basic Experience Matrix in Appendix 1 of the application form. If the applicant fails to provide evidence to support the claimed experience, additional documentation may be requested by the AACM for evaluation on a case-by-case basis.

2.5 Applicants claiming the maximum reduction in total experience under MAR 66.30(a), based on successful completion of MAR 147.200 approved basic training, shall submit the corresponding MAR-147 certificate of recognition.

2.6 If applicable, for the inclusion of an aircraft type rating endorsement, the applicant shall complete the relevant sections of the application and provide the required supporting documents (refer to GM 66.45).

2.7 When the AACM is satisfied that the applicant meets the required standards of knowledge and experience as specified in MAR-66, and, if applicable, is qualified on the particular aircraft type, the AACM will issue the relevant MAR-66 AMEL.

3. Variation of the MAR-66 AMEL

3.1 Applicants applying for:

(a) removal of limitation(s) of the basic category or the endorsed type rating;

(b) addition of a basic category; or

(c) endorsement of an aircraft type,

shall complete the application as per paragraph 1.4, and in accordance with the procedures outlined in paragraph 2, as applicable.

Upon successful completion of the application, the AACM will reissue the MAR-66 AMEL accordingly.

4. Renewal or Replacement of the MAR-66 AMEL

4.1 Applicants for renewal or replacement of a MAR-66 AMEL shall complete the application in accordance with paragraph 1.4. Upon successful completion of the application, the AACM will renew or replace the licence as appropriate.

4.2 The MAR-66 AMEL may be renewed subject to confirmation that the requirements of MAR 66.40 are met, and the licence information held by AACM matches the endorsements on the licence, and that the licence holder is not under investigation for possible revocation, suspension, or variation of the licence in accordance with MAR 66.65, and relating ACs and APs.

4.3 Application for renewal shall be submitted to the AACM approximately one month (but no earlier than two months) prior to the licence expiry date.

4.4 For renewal of a lapsed licence, refer to AMC 66.40 of MAR-66.

4.5 In the event that a license is lost or damaged, the holder may apply for a replacement by submitting the necessary supporting evidence.

4.6 Changes to personal details (e.g. address, telephone, employer information, etc.) may also be reported to the AACM. No fee is required if the change does not necessitate reissuance of the licence.

5. Return of the MAR-66 AMEL

5.1 Once the MAR-66 AMEL is reissued, the applicant shall returned the superseded licence to the AACM upon collection the new licence.

6. Request for a Reference Letter from the AACM

6.1 Holders of a MAR-66 AMEL or aircraft maintenance engineers employed by a MAR-145 organisation may request a reference letter from the AACM.

6.2 The applicant shall either be a current MAR-66 AMEL holder or be currently employed by a MAR-145 organisation.

6.3 The application for a reference letter shall be submitted in writing to the AACM and include the following items:

(a) A valid identification document (passport, Exit-Entry Permits for travelling to and from Hong Kong and Macao (EEP) or Mainland Travel Permit for Hong Kong and Macau Residents (MTP))
(b) BIR (for Macao resident)
(c) Information regarding the intended use of the reference letter and any relevant supporting documents.
(d) (If applicable) A statement from the MAR-145 organisation currently employing the applicant, verifying the applicant's employment status, including their position and period of employment.

6.4 The AACM will review the submitted information and issue the reference letter if the application is verified to be complete and accurate.

- END -

(Reserved)

Supporting Documents for the Application

1. The applicant shall provide the required documents, as well as any additional documents requested by the AACM, to support their application.
2. Either a passport, Exit-Entry Permit for Travelling to and from Hong Kong and Macau (EEP) or Mainland Travel Permit for Hong Kong and Macao Resident (MTP) can be provided as identification document. The Macao SAR Resident Identity Card (BIR) shall also be provided if the applicant is a Macao resident.
3. All certificates or record of experience (eg. personal logbook) shall be referenced in the application.
4. If applying for the aircraft type rating endorsement by the means of type training(s), the information shall be detailed in the application, and the certificates confirming the successful completion of the training(s) shall be provided. Also attach the AACM approval letter of the type training if it is not provided by a CCAR-147, MAR-147 or HKAR-147 training organisation.
5. For the OJT requirement for the first aircraft type rating endorsement, the completed worksheets or logbook (in the approved format) and the compliance report shall be provided. Also attach the AACM OJT approval letter.
6. Copy of the required documents may be submitted as supporting document. Presentation of the original documents may be requested if necessary.

- END -

SAMPLE OF A PERSONAL LOG BOOK PAGE

Name:_____ ATA Chapter No. _____Page No. _____

Aircraft Registration & Type	Item	Details of Work Undertaken	Date(s) & Place Work Undertaken	Signature, position & name of Person in charge. Name of organisation and company stamp

- END -

Airworthiness Procedure

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CIVIL AVIATION AUTHORITY

No. : AP7
Issue : 4
Date : 01 Jun 20

SUBJECT: ***MAR-145 Aircraft Maintenance Organisation Approval***

1. Introduction

1.1 Pursuant to Paragraph 8 of the Air Navigation Regulation of Macao (ANRM), this document prescribes the requirements and procedures for the initial issue, variation or renewal of the MAR-145 approval.

1.2 According to MAR-145.1(b), an organisation can certify for release to service an aircraft with either a Commercial Air Transport Category (Passenger) or Commercial Air Transport Category (Cargo) Certificate of Airworthiness when approved in accordance with MAR-145.

1.3 Also, according to MAR-145.1(c), an organisation can certify for release to service an aircraft component intended for fitment to an aircraft with either a Commercial Air Transport Category (Passenger) or Commercial Air Transport Category (Cargo) Certificate of Airworthiness when approved in accordance with MAR-145.

1.4 The fees payable will be in accordance with Executive Order 45/2012. The fees shall be paid at the time when the application is submitted. If the final amount of fees could not be determined at the time of application, an amount estimated by AACM shall be paid. Any outstanding balance shall be settled right after the application has been processed.

2. Grant of MAR-145 Approval

2.1 Application

(a) Application for the MAR-145 Approval shall be made to the President of the AACM with an application package including the materials as required by 2.2 (a) ii of this AP.

(b) For first time application for MAR-145 approval with category A class rating, the concerned aircraft type must be accepted by the AACM as prescribed in Airworthiness Procedure No. AP2.

2.2 Procedure

(a) The MAR-145 certification process consists of five phases:

- Pre-application Phase;
- Formal Application Phase;
- Document Compliance Phase;

- Demonstration and Inspection Phase; and
- Certification Phase.

i. Pre-application Phase

The organisation seeking a MAR-145 approval should contact AACM for a pre-application meeting. During the pre-application meeting the following will be discussed:

- The intended scope of work;
- Aviation-related experience;
- Proposed organisational structure;
- Potential customers;
- Regulations and requirement applicable to the proposed maintenance operation; and
- An overview of the whole certification process.

ii. Formal Application Phase

The applicant shall submit the application package including the following material to the AACM:

- A completed MAR-145 Maintenance Organisation Approval Application Form *AW/APP/016*;
- Completed application form(s) *AW/APP/015* for each management personnel of the organisation specified in MAR 145.30 (b) and (c);
- 1 copy of the proposed Maintenance Organisation Exposition (MOE).
  - If the MOE is presented using a format different from the one highlighted in MAR-145 AMC 145.70(a), a cross reference Annex shall be contained in the MOE.
- Compliance report detailing how each requirements of the latest MAR-145 and any other applicable requirements are met. The compliance report shall include at least the following information:

MAR-145 Reference	Applicable (Yes/No)	Compliance (Yes/No)	MOE Chapter(s)	Means of Compliance	Remarks
MAR 145.25 (c)	Yes	Yes	…	Hangar is fully covered and ventilated to protect from dust, temperature and enough lighting is present, controlled noise.	

- Safety Management Manual (SMM) as required by Aeronautical Circular No. AC/GEN/005 (For organisation located outside Macao holding a maintenance organisation approval granted by the National Aviation Authority (NAA), the AACM may consider to accept the existing approved / accepted SMM);
- Any applicable contracts/agreements/letter of intent;
- Other supplementary information as required by the AACM.

If necessary, AACM will meet the applicant after receiving the formal application package. All questions about the proposed scope of work, the formal application or any additional supporting documents should be resolved at this time.

iii. Document Compliance Phase

In this phase, the maintenance organisation exposition and related supporting documents are reviewed in order to ensure compliance to the MAR-145 and safe operating practices. If the exposition fails to comply with MAR-145 or deficiencies are found in any document, the exposition will be returned to the applicant with a letter outlining the deficient areas. Note that the certification process will not be continued until all the non-compliance areas are resolved.

iv. Demonstration and Inspection Phase

In this phase, the AACM surveyor team may conduct an audit to the applicant's facilities to ensure that the applicant's procedures are in practice and all MAR-145 requirements are complied with. If there is any finding about non-compliance with MAR-145, finding report stating all the non-compliance areas will be issued to the organisation within one week after the audit visit. Upon receipt of the notification of findings, the organisation should review the non-compliance thoroughly and take appropriate actions. Note that the certification process will not be continued until all the non-compliance areas are resolved. If the applicant cannot resolve the finding within a reasonable period acceptable to the AACM, the application will be rejected and all payment made by the applicant will not be returned pursuant to Executive Order No. 45/2012.

v. Certification Phase

Once the applicant meets the requirements of MAR-145, the AACM will issue the MAR-145 Approval Certificate with the associated Approval Schedule indicating the approved ratings to the organisation.

3. Renewal of MAR-145 Approval

3.1 Application

(a) MAR-145 Approved Maintenance Organisation should apply for renewal of the approval at least two months prior to the expiry date specified on the Approval Certificate.

(b) Application for renewal of MAR-145 approval shall be made to the President of the AACM with an application package including the materials as required by 3.2 (a) of this AP.

(c) The application fees will be subjected to the cost of completing the certification process with reference to Para. 1.4. A quotation estimating the total cost will be provided to the applicant upon request. The actual charge may vary depending on the time and expenses of the certification process regardless of the result of applications.

3.2 Procedure

(a) The applicant shall submit the application package including the following material to the AACM:

- A completed MAR-145 Maintenance Organisation Approval Application Form *AW/APP/016*;
- Compliance report (Detail can be referred to 2.2 (a) ii of this AP);
- Other supplementary information as required by the AACM.

(b) The AACM surveyor team will conduct audit(s) as per the annual audit plan to the applicant's facilities to ensure that the applicant's procedures are in practice and all MAR-145 requirements are complied with.

(c) If there is no finding about non-compliance with MAR-145, the AACM will issue the MAR-145 Approval Certificate in associated with the Approval Schedule indicating the approved ratings to the organisation.

(d) If there is any finding about non-compliance with MAR-145, finding report stating all the non-compliance areas will be issued to the applicant within one week after the audit visit. Upon reception of the notification of findings, the applicant shall review the non-compliance thoroughly and propose corrective action plan to the AACM within a reasonable period acceptable to the AACM. The corrective action plan will be reviewed by the AACM surveyors. When all findings are taken necessary actions by the applicant to the satisfactory of the AACM and there is no outstanding level 1 finding, the AACM will renew the MAR-145 Approval Certificate in associated with the Approval Schedule indicating the approved ratings to the organisation.

(e) If corrective action plan is unacceptable, AACM will consider suspending the MAR-145 Approval of the applicant depending on the severity of the situation.

4. Variation of MAR-145 Approval

4.1 Application

(a) Application for variation of MAR-145 approval shall be made to the President of the AACM with an application package including the materials as required by 4.2 (a) ii of this AP.

4.2 Procedure

(a) The applicant shall submit the application package including the following material to the AACM:

- A completed MAR-145 Maintenance Organisation Approval Application Form *AW/APP/016*;
- Compliance report (Detail can be referred to 2.2 (a) ii of this AP);
- Other supplementary information as required by the AACM.

(b) The procedure for variation of MAR-145 approval will follow the procedure for grant of MAR-145 approval. Some phases may be eliminated depending on the nature of variation.

5. Maintenance Organisation Exposition (MOE) Amendments

(a) Application for MOE amendment shall be made to the President with the following documents:

- A copy of the proposed MOE and a mean to indicate the related amendment since the last revision of the MOE;
- Compliance report (Detail can be referred to 2.2 (a) ii of this AP);
- Other supplementary information as required by the AACM.

(b) The personnel appointed with responsibility for monitoring the quality system is responsible for reviewing the MOE on a regular basis and amending if necessary.

(c) The method of exposition amendment approval is to require an approval status page at the front of the exposition which lists each amendment and states against each amendment when it was approved by the AACM and the document reference of that approval.

(d) Amendments to the exposition cannot be approved unless they have been received by the AACM even where the approval is delegated to the MAR-145 approved maintenance organisation for the simple reason that unless such amendments are received there is no control.

(e) The MAR-145 approved maintenance organisation must submit each exposition amendment to the AACM whether it can be an amendment for AACM's approval or a delegated approval amendment. Where the amendment requires AACM's approval, the AACM, when satisfied, will indicate the approval in writing and the MAR-145 approved maintenance organisation must make reference to the approval in the approval status page. Where the amendment has been submitted under the delegated approval procedure the AACM will acknowledge receipt in writing and the MAR-145 approved maintenance organisation must then make reference to the AACM's acknowledgement in the approval status page.

6. Changes in management personnel specified in MAR 145.30 (a), (b) and (c)

(a) Application for changes personnel specified in MAR 145.30 (a), (b) and (c) shall be submitted to the AACM with the following documents:

- Completed application form(s) *AW/APP/015* for each management personnel of the organisation specified in MAR 145.30 (b) and (c);
- The evidences of the training and / or experience in relation to the proposed position; and
- Other supplementary information as required by the AACM.

(b) The person nominated may be required to undergo an interview with the AACM to determine whether he/she satisfies the qualification requirements. If satisfied, the

AACM will indicate acceptance in writing to the MAR-145 approved maintenance organisation.

(c) Changes of any personnel specified in MAR 145.30 (a), (b) and (c) will also require an amendment to the exposition.

7. Non-compliance Findings

(a) Findings are categorised into the following 3 groups as follows of which Level 1 represents major non-compliance, Level 2 represents minor non-compliance and Level 3 represents in-compliance information observation rather than findings.

(b) Level 1 finding means any non-compliance with the MAR-145 or other regulation which would lower the maintenance standard and probably hazard an aircraft. It includes non-compliance on aircraft components.

(c) Level 2 finding means any non-compliance with the Maintenance Regulation which could lower the maintenance standard and possibly hazard an aircraft. It also includes non-compliance on aircraft components.

(d) Level 3 finding means an observation intended to give background information. Level 3 must not include information suggesting non-compliance with the Maintenance Regulation. No regulatory action is required to be taken in the case of Level 3.

8. Cancellation

This AP supersedes Airworthiness Procedure No. AP7 Issue 3 dated 15 March 2013.

- END -

Airworthiness Procedure

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CIVIL AVIATION AUTHORITY

No. : AP9
Issue : 7
Date : 01 Sep 2025

SUBJECT: ***Procedures and Basis for MAR-66 Aircraft Maintenance Engineer Licence Examinations***

1. General

1.1 Paragraph 11(1) of the Air Navigation Regulation of Macao (ANRM) establishes that the Civil Aviation Authority (AACM) may grant an aircraft maintenance engineer licence (AMEL), subject to such conditions as it thinks fit, upon being satisfied that the applicant is a fit person to hold the licence and has furnished such evidence and passed such examinations and tests as required by the AACM.

1.2 The MAR-66, published under the latest revision of Aeronautical Circular No. AC/PEL/013, specifies the examination standard used by the AACM when conducting the basic knowledge examinations for AMEL applications.

1.3 The purpose of this Airworthiness Procedure (AP) is to specify the basis and procedures for conducting MAR-66 Examinations.

2. Application for MAR-66 Basic Examinations

2.1 The MAR-66 examination schedule is published in the Macao Aeronautical Information Circular (AIC) B Series. Under normal circumstances, examinations are held once per week, typically on Wednesdays. The first examination date of each month is generally reserved for examinations with a duration exceeding 75 minutes.

2.2 Application for examination shall be made to the AACM no later than five (5) working days prior to the intended examination date. Application may be submitted either:

(a) Online via the Aeronautical License Management System (ALMS) at https://licensing.aacm.gov.mo/alms-pub, or

(b) In person (or by a delegate) at the AACM office using the application form PEL/APP/023, available on the AACM website at https://www.aacm.gov.mo/.

2.3 A valid travel document (passport, Exit-Entry Permits for travelling to and from Hong Kong and Macao (EEP) or Mainland Travel Permit for Hong Kong and Maca Residents (MTP)) or BIR (for Macao residents) is required for the application. Upon confirmation of the booking, a Confirmation of the Examination Booking will be issued to the applicant or made available for download via ALMS (for online applications). Candidates shall report to the AACM Licencing Office at least thirty (30) minutes prior to the scheduled examination time and present both a valid travel document (or BIR) and the Confirmation of the Examination Booking Form to the AACM invigilator on the date of examination.

2.4 Requests to reschedule a confirmed examination shall be made to the AACM Licencing Office, at least five (5) working days prior to the original examination date. Failure to attend or late arrival may result in disqualification from the examination. Such

disqualification will be recorded as a 'Fail' result and will count as one examination attempt. The examination fee will also be forfeited in these cases.

2.5 Examination results are assessed as either 'Pass' or 'Fail' and are typically released within ten (10) working days following the examination. Results may be collected in person from the AACM or dispatched by post upon request. Examination results will not be disclosed via telephone or email.

2.6 Examinations for the B3 licence and conversion examinations for limitations removal are currently unavailable until further notice.

3. Exemptions from MAR-66 AMEL examinations

3.1 The holder of a MAR-66 AMEL in one or more Categories or Sub-categories who applies for an extension to include additional Categories or Sub-categories, will be granted exemptions from those modules which form part of the examinations for the Categories/Sub-categories already held. The specific examinations requirements for such extensions are detailed in Appendix No. 2 of this AP.

4. Basis of examinations

4.1 Basic examinations shall follow the requirement specified in Appendix 1 and 2 to MAR-66.

4.2 All questions are presented in aviation English.

4.3 For the purposes of both examination application and pass mark determination, the essay examination is considered separate from the multiple-choice examination for the same module. If a candidate fails either the multiple-choice examination or the essay examination of a module, only the failed examination needs to be retaken.

4.4 Multiple-Choice Examinations

(a) All the questions will be of the multiple-choice type, with three alternative answers, only one of which is correct.

(b) Questions requiring specialised knowledge of specific aircraft types will not be included in basic examinations.

4.5 Essay Examinations

(a) The primary purpose of essay questions is to determine that the candidates can express themselves in a clear and concise manner in the form of a written response, in a technical report format using the technical language of the aviation industry. The essay examinations will also assess, in part, the technical knowledge retained by the individual, and with a practical application relevant to a maintenance scenario.

(b) Because of the difficulty in marking an essay answer using key points only, there is a need for the way in which the report was written to be assessed and taken into consideration.

(c) The total points for each question will add up to 100 and reflects both the combination of the technical (key point) element and the report style element.

(d) Each key point will be graded upon its importance and have point weighting allocated to it. The total weight will represent 60% of the mark.

(e) Key points are the 'important elements' that may be knowledge or experience-based and will include other maintenance orientated factors such as relevant safety precautions or legislative practices if applicable.

(f) The answer will be analysed for the clarity and manner in which the essay report is presented and have a weighting allocated to it which will represent 40% of the mark.

(g) The candidate shall show in his/her answer the ability to express himself in technical language. This includes readability of the language, basic grammar and use of terminology.

(h) The report starts in the beginning and has a logical process to reach a conclusion.

(i) The report should not be indexed, itemised or listed.

(j) Within reason the candidate will not be penalised for incorrect spelling.

5. Number of multiple-choice / essay questions and time allowed for the Basic Knowledge Modules (Appendix 1 to MAR-66)

5.1 Information is provided in Appendix 2 to MAR-66 'Basic Examination Standard'.

6. Conduct of examinations

6.1 All examinations shall be conducted under the control of the AACM.

6.2 AACM will appoint examiners or invigilators who will be present throughout all examinations to ensure the integrity of the examination process. Candidates who fail to comply with the instruction of the examiners or invigilators will be required to leave the examination room. In such cases, the examination results will be recorded as 'Fail' and the examination fee forfeited.

6.3 All basic examinations, including both multiple-choice and essay examinations, will be delivered through the computer system.

6.4 All rough work papers and, in the case of essay examinations, answer sheets provided at the start of the examination shall be returned to the examiner or invigilator at the end of the allotted examination time. No papers are allowed to be removed from the examination room during or after the examination.

6.5 No reference material will be provided during any examination.

6.6 Candidates will be seated in a manner that prevents them from viewing each other's examination materials. Communication with any person other than the examiner or invigilator during the examination is strictly prohibited.

6.7 Candidates found to be cheating or violating examination rules shall be disqualified and prohibited from taking any AACM examination for a minimum period of twelve (12) months from the date of the infraction. The examination result will be recorded as a 'Fail', and the examination fee will be forfeited. Further disciplinary action may be taken at the discretion of the AACM.

6.8 The use of calculator, mobile phone, camera and any other electronic devices is prohibited during all examinations.

- END -

(RESERVED)

MAR-66 EXAMINATIONS FOR EXTENSIONS

TO BASIC LICENCE CATEGORIES

1. Introduction

Because the modular syllabus of MAR-66 often requires different levels of knowledge for the different licence categories (A, B1, B2 and B3) within a module, there are examinations applicable to certain modules for licence holders wishing to extend a MAR-66 licence to include another category.

2. Extension of Category B1 to include Category B2

Note 1: Because of the impracticability of setting an examination for the single topic (avionic general test equipment) that has to be covered in Module 7, questions for that subject will be included in the Module 5 extension examination.

Category Held	MAR-66 Modules and/or Topics required for Extension Examination	Number of Questions
B1.1	Partial Module 4 - Topics 4.1.1 b) all, 4.1.2 all, 4.1.3 b) all, 4.2 all, 4.3 b) all. Partial Modules 5 and 7 - Topics 5.1 to 5.3 all, 5.6 b) all, 5.7 to 5.10 all, 7.4 all. (see Note 1) Partial Module 13 - Topics 13.1 c) all, 13.3 & 13.4 all, 13.6 all, 13.8 all.	20 40 100
B1.2	Partial Module 4 - Topics 4.1.1 b) all, 4.1.2 all, 4.1.3 b) all, 4.2 all, 4.3 b) all. Partial Modules 5 and 7 - Topics 5.1 to 5.3 all, 5.6 b) all, 5.7 to 5.10 all, 7.4 all. (see Note 1) Partial Module 13 - Topics 13.1 c) all, 13.3 & 13.4 all, 13.6 all, 13.8 all. Module 14 all	20 40 100 25
B1.3	Partial Module 4 - Topics 4.1.1 b) all, 4.1.2 all, 4.1.3 b) all, 4.2 all, 4.3 b) all. Partial Modules 5 and 7 - Topics 5.1 to 5.3 all, 5.6 b) all, 5.7 to 5.10 all, 7.4 all. (see Note 1) Partial Module 13 - Topics 13.1 all, 13.3 & 13.4 all, 13.6 to 13.8 all	20 40 100
B1.4	Partial Module 4 - Topics 4.1.1 b) all, 4.1.2 all, 4.1.3 b) all, 4.2 all, 4.3 b) all. Partial Modules 5 and 7 - Topics 5.1 to 5.3 all, 5.6 b) all, 5.7 to 5.10 all, 7.4 all. (see Note 1) Partial Module 13 - Topics 13.1 all, 13.3 & 13.4 all, 13.6 to 13.8 all. Module 14 all.	20 40 100 25

3. Extension of Category B2 to include Category B1

To Category	MAR-66 Modules and/or Topics required for Extension Examination	Number of Questions
B1.1	Partial Module 6 - Topics 6.1 a) all, 6.2 a) all, 6.3.1 b) all, 6.4 b) all, 6.5.4 all, 6.6 b) all, 6.7 all, 6.10 all. Partial Module 7 - Topics 7.6 all, 7.8 to 7.14 all, 7.15 b) all, 7.16 b) all, 7.18 b) & c) all, 7.19 b) all. Partial Module 11 - Topics 11.1 to 11.4 all, 11.7 to 11.13 all, 11.15 to 11.17 all. Partial Module 15 - Topics 15.1 to 15.13 all, 15.15 to 15.22 all. Module 17 all.	20 40 90 70 30
B1.2	Partial Module 6 - Topics 6.1 a) all, 6.2 a) all, 6.3.1 b) all, 6.4 b) all, 6.5.4 all, 6.6 b) all, 6.7 all, 6.10 all. Partial Module 7 - Topics 7.6 all, 7.8 to 7.14 all, 7.15 b) all, 7.16 b) all, 7.18 b) & c) all, 7.19 b) all. Partial Module 11 - Topics 11.1 to 11.4 all, 11.7 to 11.13 all, 11.15 to 11.17 all. Partial Module 16 - Topics 16.1 to 16.9 all, 16.11 to 16.13 all Module 17 all.	20 40 90 55 30
B1.3	Partial Module 6 - Topics 6.1 a) all, 6.2 a) all, 6.3.1 b) all, 6.4 b) all, 6.5.4 all, 6.6 b) all, 6.7 all, 6.10 all. Partial Module 7 - Topics 7.6 all, 7.8 to 7.14 all, 7.15 b) all, 7.16 b) all, 7.18 b) & c) all, 7.19 b) all. Partial Module 12 - Topics 12.1 to 12.6 all, 12.9 to 12.14 all, 12.16 all. Partial Module 15 - Topics 15.1 to 15.13 all, 15.15 to 15.22 all	20 40 80 70
B1.4	Partial Module 6 - Topics 6.1 a) all, 6.2 a) all, 6.3.1 b) all, 6.4 b) all, 6.5.4 all, 6.6 b) all, 6.7 all, 6.10 all. Partial Module 7 - Topics 7.6 all, 7.8 to 7.14 all, 7.15 b) all, 7.16 b) all, 7.18 b) & c) all, 7.19 b) all. Partial Module 12 - Topics 12.1 to 12.6 all, 12.9 to 12.14 all, 12.16 all. Partial Module 16 - Topics 16.1 to 16.9 all, 16.11 to 16.13 all.	20 40 80 55

4. Extension of Category A1 to include Category B1.1

Category Held	MAR-66 Modules and/or Topics required for Extension Examination	Number of Questions
A1	Module 1 all	30
	Module 2 all	50
	Module 3 all	50
	Module 4 all	20
	Module 5 all	40
	Module 6 all	70
	Partial Module 7, topics 7.4 to 7.16, 7.18 & 7.20.	60
	Module 8 all	20
	Module 11 all	130
	Module 15 all	90
	Module 17 all	30

5. Requirements for other extensions to Basic Licence Categories

Applicants wishing to apply for extensions to Basic Licence Categories other than those listed should approach the Civil Aviation Authority for details of the examination requirements.

- END -

Airworthiness Procedure

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REGIÃO ADMINISTRATIVA ESPECIAL DE MACAU
民航局
AUTORIDADE DE AVIAÇÃO CIVIL
CIVIL AVIATION AUTHORITY

No.:	AP10
Issue:	4
Date:	01 Oct 2022

SUBJECT: ***MAR-147 Maintenance Training Organisation Approval***

1. Introduction

1.1 Pursuant to paragraph 11 (7) of the Air Navigation Regulation of Macao (ANRM), this Airworthiness Procedure (AP) prescribes the procedures for issue, variation or renewal of the approval certificate for maintenance training organisation approved under MAR-147(hereinafter referred as "MAR-147 approval".

2. Issue of a MAR-147 approval

2.1 The latest amendment of MAR-147 requirements will be used as the basis for the investigation and issue of approval.

2.2 An application for issuing an approval certificate for maintenance training organisation approved under MAR-147 shall be in a form and manner established by the AACM.

2.3 The MAR-147 certification process consists of five phases:

(a) Pre-application Phase;

(b) Formal Application Phase;

(c) Document Compliance Phase;

(d) Demonstration and Inspection Phase; and

(e) Certification Phase.

2.4 Pre-application Phase

2.4.1 The applicant should contact and arrange with the AACM a pre-application meeting to determine if the organisation's training activities justify the investigation for issue of MAR-147 approval and to ensure that the potential applicant understands the application procedures.

2.4.2 During the pre-application meeting, the following will be discussed:

(a) The intended scope of work;

(b) Aviation training relating experience;

(c) Proposed organisational structure;

(d) Potential customers;

(e) Regulations and requirement applicable to the proposed maintenance training operation; and

(f) An overview of the whole approval process.

2.5 Formal Application Phase

2.5.1 The applicant shall submit a completed application as required by paragraph 2.5.2 at least 70 working days prior to the anticipated date of issuing the approval certificate.

2.5.2 Each application for issuing an approval certificate shall include:

(a) Completed application form;

(b) A Schedule of Event (SOE);

(c) Document attesting the applicant is an organisation or part of an organisation registered as a legal entity, such as Certificate of Incorporation or Commercial Registration Certificate issued by its competent authority;

(d) Completed form(s) (AACM Form 4) for each person nominated to hold a position required by MAR-147.105 (b), accompanied with supporting document such as resumes and relevant academic and training certificates;

(e) One copy of the proposed Maintenance Training Organisation Exposition (MTOE). If the MTOE is presented using a format different from the one highlighted in MAR-147 Section 4, a cross reference Annex shall be contained in the MTOE;

(f) Compliance report detailing how each requirements of MAR-147 and any other applicable requirements are met. The compliance report shall include at least the following information:

Requirement Paragraph No.	Description of Requirement	Means of Compliance	Cross Reference in MTOE

(g) Any applicable course program, syllabus, curriculum and training course analysis, practical worksheets/logbook/record for the course to be conducted;

(h) Evaluation report of the proposed training courses establishing compliance to the latest MAR-66. For type training, also the compliance to the applicable training requirement (such as operational suitability data or other equivalent document) established by the Type Certificate holder; and

(i) If the applicant holds maintenance training organisation approval(s) other than a MAR-147 maintenance training organisation approval, the relevant certificate and approval schedule should be provided.

2.5.3 Additional documents may be required upon the request of AACM. If necessary, AACM will meet the applicant after receiving the formal application package. All questions about the

proposed scope of work, the formal application or any additional supporting documents should be resolved within a timeframe prescribed by the AACM.

2.6 Document Compliance Phase

2.6.1 The submitted draft MTOE and related supporting documents are reviewed to ensure compliance with the MAR-147. Apart from needing to ensure that the exposition addresses the subject headings listed in Appendix 1 to AMC to MAR-147, the organisation should be encouraged to write the exposition to reflect the actual procedures of the organisation and not to please the AACM.

2.6.2 If the exposition fails to comply with MAR-147 or deficiencies are found in any document, the applicant shall be notified to amend the draft MTOE. Note that the certification process will not be continued until all the non-compliance areas are resolved.

2.6.3 Interview and acceptance to persons nominated to hold positions required by MAR-147.105 (b) will be performed either in this phase or during the on-site audit in the demonstration or inspection phase.

2.6.4 All the proposed training course (basic or type) will also be assessed in accordance with the requirement of the MAR-66. Where the organisation intends to conduct basic training and examination, a sample of MAR-66 examination questions in English shall be submitted in accordance with Appendix No. 2 to this AP. The purpose of this submission is that the AACM can check that the MAR-66 examination standard is met. Where the sample of questions does not comply with the above standards, amended questions must be submitted.

2.6.5 Demonstration and Inspection Phase

2.6.6 The AACM shall conduct an audit of the applicant's facilities to ensure that the applicant's MTOE are in practice and all MAR-147 requirements are complied with.

2.6.7 Audit scopes may also include interview with the senior personnel (if not performing during the document compliance phase) and sit-in of any relevant training course(s).

2.6.8 Where it is intended that the organisation may conduct training and examinations away from the organisation address in accordance with MAR 147.145 (c), then a sample audit may be carried out to ensure that procedures are followed. For practical reasons such sample audits will need to be carried out when training is being conducted away from the organisation address.

2.6.9 The examination standards shall be audited to ensure compliance with MAR-66. The AACM may not necessarily sample all basic and type training courses that have to be approved, but will sample at least one basic and one type training course, as applicable, to establish that training is conducted in an acceptable manner under the approval. Where no training course is being conducted during the audit, arrangements will be made to return at a later date to sample the conduct of a training course.

2.6.10 The procedures for the control of examinations will be reviewed to ensure that candidates are not aware of the examination questions beforehand and that the examination is conducted in an acceptable manner. The AACM may not necessarily sample all examinations associated

with a training course, but it will be necessary to sample at least one basic and one type training course examination, as applicable, to a depth necessary to establish that examinations are conducted in an acceptable manner. The audit may include sampling of examination preparation, candidate seating, invigilation and collection of examination paper as applicable. Where no examination is being conducted during the audit, arrangements will be made to return at a later date to sample the conduct of an examination.

2.6.11 The AACM should always be accompanied throughout the audit by a senior member of the organisation. Normally this should be the proposed quality manager. The reason for being accompanied is to ensure that the organisation is fully aware of any findings during the audit. In any case, the proposed quality manager/senior member of the organisation will be debriefed at the end of the audit on the findings and as well the observations made during the audit.

2.6.12 All findings shall be closed in accordance MAR-147.160 (d) before the approval certificate is issued.

2.7 Certification Phase

The AACM will formally approve the maintenance training organisation exposition and issue to the applicant an approval certificate with (usually) 2 years of validity, which includes the approval schedule, when it is satisfied that the organisation is in compliance with MAR-147.

3. Renewal of the MAR-147 approval

3.1 An application for renewing an approval certificate for maintenance training organisation approved under MAR-147 shall be in a form and manner established by the AACM.

3.2 The applicant shall submit completed application as required by paragraph 3.3 below at least 24 working days, but no earlier than 6 months, before the expiry date of the approval certificate.

3.3 Each application for renewing an approval certificate shall include:

(a) Completed application form;

(b) Compliance report to the latest requirement of the MAR-147 in the format required by paragraph 2.5.2 (e) of this AP, if there is change since the last submission;

(c) Evaluation report of the approved training courses establishing compliance to the latest MAR-66 requirement, if there is change since the last submission;

(d) If the applicant holds maintenance training organisation approval(s) other than a MAR-147 maintenance training organisation approval, the relevant certificate and approval schedule should be provided, if there is change since last submission.

(e) Other supporting documents required by the AACM.

3.4 Procedure

3.4.1 After receiving the application for renewal from the organisation, the AACM shall review the submitted documents and the past performance of the applicant based on the result from the AACM continued-surveillance to the applicant since the issue or last renewal of the approval. AACM may conduct additional audit of the applicant's facilities to ensure that the applicant's procedures are in practice and all MAR-147 requirements are complied with.

3.4.2 If there is no open level 1 or unaccepted level 2 finding of non-compliance with the MAR-147 requirements, the AACM will renew the MAR-147 Approval and issue the Certificate in associated with the Approval Schedule indicating the approved ratings to the organisation with (usually) 2 years of validity.

4. Variation of the MAR-147 approval

4.1 Variation of the MAR-147 approval means either the need to amend the schedule of approved training courses or the need to approve or accept MAR-147.150 changes.

4.1.1 A change of name of the MAR-147 approved maintenance training organisation requires the organisation to submit a new application as a matter of urgency stating that only the name of the organisation has changed including a copy of the organisation exposition with the new name. Upon receipt of the application and the organisation exposition, the AACM shall reissue the approval certificate valid only up to the current expiry date.

4.1.2 A name change alone does not require the AACM to audit the organisation unless there is evidence that other aspects of the MAR-147 approved maintenance training organisation have changed.

4.1.3 A change of Accountable Manager requires the MAR-147 approved maintenance training organisation to submit such fact to the AACM as a matter of urgency together with the amendment to the accountable manger exposition statement.

4.1.4 A change of any of the senior personnel specified in MAR-147.105(b) requires the MAR-147 approved maintenance training organisation to submit an AACM Form Four in respect of the particular person to the AACM.

4.1.5 A change in the maintenance training organisation exposition requires the AACM to establish that the procedures specified in the exposition are in compliance with the MAR-147 and then to establish if these are the same procedures intended for use within the training facility.

4.1.6 Any change of location of the MAR-147 approved maintenance training organisation requires the organisation to make a new application to the AACM together with the submission of an amended exposition.

4.1.7 The complete or partial re-organisation of the MAR-147 approved training organisation shall require the re-audit of those elements that have changed.

4.1.8 Any additional basic or aircraft type training courses require the MAR-147 approved maintenance training organisation to make a new application to the AACM together with the submission of an amended exposition. For basic training extensions, an additional sample of new examination questions relevant to the modules associated with the extension being sought

will be required to be submitted. The AACM shall follow the procedure of granting of MAR-147 approval in so far as the change affects such procedures unless the AACM is satisfied that the MAR-147 approved maintenance training organisation has a well-controlled procedure to qualify such change when it is not necessary to conduct the audit elements of the approval granting procedure.

– END –

MAR-147 SCOPE OF APPROVAL

CLASS	LICENCE CATEGORY	LIMITATIONS	
BASIC	B1	TB1.1	AEROPLANES TURBINE
		TB1.2	AEROPLANES PISTON
		TB1.3	HELICOPTERS TURBINE
		TB1.4	HELICOPTERS PISTON
	B2	TB2	AVIONICS
	B3	TB3	PISTON-ENGINE NON-PRESSURISED AEROPLANES OF 2000 KG MTOM AND BELOW
	A	TA.1	AEROPLANES TURBINE
		TA.2	AEROPLANES PISTON
		TA.3	HELICOPTERS TURBINE
		TA.4	HELICOPTERS PISTON
TYPE/TASK	B1	T1	[QUOTE AIRCRAFT TYPE]
	B2	T2	[QUOTE AIRCRAFT TYPE]
	A	T3	[QUOTE AIRCRAFT TYPE]
	C	T4	[QUOTE AIRCRAFT TYPE]

Number of MAR-66 examination questions to be submitted under paragraphs 3.5.4 and 5.3 (h) to AP10

Title	A	B1	B2	Total
Module 1	2	3	3	8
Module 2	3	5	5	13
Module 3	2	5	5	12
Module 4	-	2	4	6
Module 5	2	4	7	13
Module 6	5	7	6	18
Module 7	7	8	6	21
Module 8	2	2	2	6
Module 9	2	2	2	6
Module 10	4	4	4	12
Module 11	10	13	-	23
Module 12	9	12	-	21
Module 13	-	-	18	18
Module 14	-	-	3	3
Module 15	6	9	-	15
Module 16	5	7	-	12
Module 17	2	3	-	5
Total	**61**	**86**	**65**	**212**

In each MAR-66 Module, the questions submitted should represent an appropriate selection of examination subjects and examination levels. This means that questions should be spread equally across the respective subjects and topics within the Module as far as possible and at the relevant knowledge levels. The AACM may require additional questions to be submitted where necessary.

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CIVIL AVIATION AUTHORITY

No. : AP11
Issue : 3
Date : 01 Oct 2022

SUBJECT: ***MAR-147 Training Course Standards***

1. Introduction

1.1 MAR-66 specifies the level of knowledge required to be demonstrated by examination and therefore this Aeronautical Procedure (AP) provides guidance on the associated basic training standards.

1.2 In respect to basic training, the student should, upon satisfactory completion of such a training course, be able to use and apply his/her knowledge of the theory and basic principles of the various subjects in the manner indicated. It should be noted that the detailed knowledge objectives are defined in respect of the various basic levels of knowledge required and are indicative of the different levels of knowledge expected to be achieved for each MAR-66 basic category or sub-category. Some basic levels have been omitted because they are not required by MAR-66. Nothing prevents a MAR-147 approved maintenance training organisation from carrying out training to a higher standard than that required to achieve the MAR-66 examination standards.

1.3 The MAR-147 approved maintenance training organisation will need to prepare an objective analysis of how, in terms of time and content, it intends to deliver the various training courses that it is approved or intended to be approved to conduct such that both Appendix 1 to MAR-66 and MAR 147.200 are satisfied. The information contained in this chapter is intended to assist organisations in this process. As a general guidance, examples are given in Paragraph 2 to show the minimum knowledge and practical training hours for category B1, B2 and A1.1.

1.4 This AP should be read in conjunction with Appendix 1 to MAR-66 and MAR 147.200.

2. Minimum Training Hours

2.1. The minimum hours for knowledge training of each MAR-66 subject modules for category B1, B2 and A1.1 are as follows:

SUBJECTS/ MODULES	B1 AEROPLANES		B1 HELICOPTERS		B2	A1.1
	TURBINE	PISTON	TURBINE	PISTON	AVIONICS	
1	60	60	60	60	60	10
2	60	60	60	60	60	15
3	150	150	150	150	150	10
4	40	40	40	40	90	X
5	80	80	80	80	140	10
6	90	90	90	90	90	30
7	180	180	180	180	120	40
8	30	30	30	30	30	10
9	18	18	18	18	18	10
10	30	30	30	30	30	30
11	250	250	X	X	X	50
12	X	X	300	300	X	X
13	X	X	X	X	420	X
14	X	X	X	X	45	X
15	170	X	170	X	X	30
16	X	170	X	170	X	X
17	45	45	X	X	X	10
Total	**1203 hr**	**1203 hr**	**1208 hr**	**1208 hr**	**1253 hr**	**255 hr**

2.2. The minimum hours for practical training of category B1, B2 or A, in accordance with the Appendix 1 to MAR-147, are as follows:

Category	Minimum Practical Training	Minimum Practical Training in actual maintenance environment
A1, A3 or A4	520 hours	156 hours
A2	423 hours	127 hours
B1.1, B1.3, B1.4 or B2	960 hours	288 hours
B1.2	800 hours	240 hours
B1 and B2 combined	1200 hours	360 hours

2.3. The summation of knowledge and practical training hours shall be in accordance with Appendix 1 to MAR-147.

- END -

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No.:	AP13
Issue:	3
Date:	07 Nov 2022

SUBJECT: ***Aircraft Station Licence***

1. Introduction

1.1 Pursuant to paragraph 13 of the Air Navigation Regulation of Macao (ANRM), this Airworthiness Procedure (AP) establishes the procedures for issuing aircraft station licence.

2. Eligibility

2.1 Any natural or legal person under whose name an aircraft is registered or will be registered in Macao, or its representative, shall be eligible as an applicant for an aircraft station licence for that aircraft under this AP.

3. Application

3.1 Pursuant to paragraph 2 of this AP, an application for an aircraft station licence shall be in a form and manner established by the AACM.

3.2 Each application shall include:

(a) for initial issuance of an aircraft station licence,

(i) form AW/APP/003 and required document specified therein;

(ii) form AW/APP/004 and required document specified therein;

(b) for renewal of an aircraft station licence,

(i) form AW/APP/010 and required document specified therein;

(c) for variation of aircraft station licence

(i) form AW/APP/011 and required document specified therein;

(d) such other evidence in support of the application as the AACM may reasonably require for the consideration of the application.

3.3 For application of initial issuance and variation of an aircraft station licence. the applicant shall provide evidence showing that the aircraft complies with the requirements specified in paragraph 13 and the Sixth Schedule of ANRM.

4. Changes

4.1 No change to radio equipment or its mode of installation may be made without the approval of the AACM.

4.2 A change affecting the content of the aircraft station licence requires variation of the aircraft station licence in accordance with paragraph 3.

5. Amendment or modification

An aircraft station licence may be amended or modified only by the AACM.

6. Transferability within Macao

Where there is change of registered owner of an aircraft registered in Macao, the aircraft station licence shall be transferred together with the aircraft.

7. Inspections

7.1 Each applicant for, or the holder of the aircraft station licence shall provide access to the aircraft for which that aircraft station licence has been applied for or issued respectively upon request by the AACM.

7.2 An air test of the radio station may be necessary before aircraft station licence is granted and the requirements for this will be detailed to the applicant.

8. Duration and continued validity

8.1 Aircraft station licence is normally issued and renewed with a validity of 24 months. It shall remain valid subject to:

(a) compliance with the applicable radio installation requirements;

(b) the aircraft remaining on Macao register;

(c) the type acceptance approval under which it is issued not being previously invalidated under Airworthiness Procedure No. AP2;

(d) the certificate not being surrendered or revoked.

8.2 Upon surrender or revocation, the certificate shall be returned to the AACM.

8.3 Upon renewal, variation or re-issue, the previously issued aircraft station licence shall be returned to the AACM.

9. Cancellation

This AP supersedes Airworthiness Procedure No. AP13 Issue 2 dated 15 March 2013.

– END –

Airworthiness Procedure

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No. : AP14
Issue : 1
Date : 01 Jul 15

SUBJECT: ***Permit to Fly***

1. Introduction

1.1 Pursuant to Paragraph 6(1) of the Air Navigation Regulation of Macao (ANRM), an aircraft shall not fly unless there is a valid Certificate of Airworthiness, issued or rendered valid under the law of the country in which the aircraft is registered or under the law of the State of the operator, and any conditions subject to which the certificate was issued or rendered valid are complied with. It should be noted that Paragraph 7(9) of the ANRM stipulates the conditions of which a Certificate of Airworthiness of an aircraft shall cease to be in force. Any failure to maintain an aircraft in an airworthy condition as defined by appropriate airworthiness requirements shall render the aircraft unairworthy for flight until the aircraft is restored to an airworthy condition.

1.2 Pursuant to ANRM Paragraph 6(1)(b), the Civil Aviation Authority may issue a permit to fly, subject to applicable conditions and limitations, to allow the aircraft to fly without fare-paying passengers for restoration to an airworthy condition. The circumstances under which a permit may be issued are set out in Paragraph 1.3 below.

1.3 A Permit to Fly may be issued under the following circumstances:

(a) structural damage – damage occurring to a primary or principle structure and/or any structure that affects the normal operation of the aircraft;

(b) system failure – failure in aircraft systems that affects the normal operation of aircraft;

(c) non-compliance with approved maintenance program and/or airworthiness requirements of Macau;

(d) any other circumstances determined by the Civil Aviation Authority;

provided that the aircraft is capable of safe flight.

1.4 The requirements stipulated in this Airworthiness Procedure (AP) apply to all Macao registered aircraft when the Certificate of Airworthiness has ceased to be in force.

1.5 The permit to fly does not constitute an authorisation to operate in the airspace of other States. The operator shall seek the permission and/or clearances from the appropriate authorities of the respective States over which the flight will take place prior undertaking such flights.

1.6 The fees payable will be in accordance with Executive Order 45/2012. The fees shall be paid at the time when the application is submitted. If the final amount of fees could not be determined at the time of application, an amount estimated by the Civil

Aviation Authority shall be paid. Any outstanding balance shall be settled right after the application has been processed.

2. Application for Permit to Fly

2.1 An application for a permit to fly must be submitted in writing and shall include at least the following:

(a) the name and address of registered owner and its operator;

(b) the make, model, serial number and registration marks of the aircraft;

(c) the purpose of the flight;

(d) the proposed itinerary;

(e) the crew required for the flight;

(f) details of the aircraft damage and/or defects;

(g) details of non-compliance with applicable airworthiness requirements;

(h) the reasons for the inability to effect a proper permanent rectification;

(i) details of and justification for any purposed temporary repair;

(j) in the case of structural damage requiring temporary repair (before the flight is undertaken), details of the appropriate approved manufacturer's recommendation, operator's recommendation and confirmation that the temporary repair has been made;

(k) any restriction the applicant considers necessary for safe operation of the aircraft;

(l) Certificate of Fitness for Flight (CoFF) when appropriate;

(m) any other information as required by the Civil Aviation Authority for the purpose of prescribing operating limitations.

2.2 In evaluating the application for a permit to fly, the Civil Aviation Authority may inspect the aircraft to make a determination as to the conditions and limitations to be imposed for the issuance of permit to fly.

2.3 Issuance of a permit to fly is subjected to the Civil Aviation Authority's satisfaction that the aircraft is in an acceptable condition to make the flight and/or that the aircraft is capable of safe flight.

2.4 The aircraft operator shall fulfil the conditions and limitations specified in the permit to fly before the aircraft is permitted to fly.

2.5 A copy of the permit to fly shall be carried on board the aircraft at all times when flown under the terms of the permit and be produced upon request.

- END -

Airworthiness Procedure

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AUTORIDADE DE AVIAÇÃO CIVIL
CIVIL AVIATION AUTHORITY

No. : AP15
Issue : 1
Date : 01 Sep 2018

SUBJECT: ***Approval of Flight Manual***

1. Introduction

1.1. A flight manual is a document prescribed by the International Civil Aviation Organisation (ICAO) and is intended primarily for use by the flight crew. The manual contains limitations, recommended procedures and information of a nature such that adherence to it will enable the level of safety which is intended by the airworthiness requirements and the air navigation legislation to be regularly achieved. The flight manual, by definition in the Air Navigation Regulation of Macao (ANRM), forms part of the Certificate of Airworthiness.

1.2. Flight manual for each individual aircraft registered in Macao shall be approved by the AACM and the amendments thereto shall be controlled in accordance with the requirements set out in this Airworthiness Procedure (AP).

2. General requirement

2.1. Flight manuals shall be subject to approval by the AACM.

2.2. Flight manuals provided in compliance with this AP shall have been approved in accordance with procedures acceptable to the responsible authority of the State of Origin of the aircraft (hereinafter referred to as the "Responsible Authority"), and in addition shall comply with any Special Conditions prescribed by the AACM.

Note: It is the usual practice for flight manuals to be prepared and published by the manufacturer, but a manual prepared and published by some other body* will be acceptable provided that it complies with paragraph 2.1.2. (*Hereinafter referred to as the originator of the manual.)*

2.3. Procedures shall be established by the applicant to ensure that the flight manual is updated by incorporating the amendments, including changes classified as mandatory by AACM; or in case of an aircraft leased to a Macao operator, classified as mandatory by the State of Registry.

2.4. For flight manuals provided in compliance with this paragraph 2, the applicant shall be responsible for, and shall make the necessary arrangements to ensure, the supply of any amendments which are necessary to keep the flight manual up to date for as long as an aircraft of the type remains registered in Macao.

3. Approval of initial manual

3.1. The flight manual requiring AACM approval shall have been approved by the responsible authority of the State of Design.

3.2. The flight manual shall be identified either by a unique reference number, or by the exact designation of all the aircraft to which the manual is to apply.

3.3. One copy of the flight manual or an electronic submission shall be supplied to AACM for review and approval.

3.4. The review by the AACM will normally be limited to the extent necessary to ensure that the amendments are consistent with:

(a) The basis upon which the type of aircraft was certificated.

(b) ANRM and Aeronautical Circulars.

3.5. When AACM has completed the review of the flight manual, the applicant will be notified of the approval or of any alterations to it which are considered necessary prior to such approval.

3.6. When the flight manual is approved by AACM, one copy, in the final form, shall be sent to AACM for retention. This maybe in electronic format.

4. Approval of amendment

4.1. Amendments which are initiated by the originator of the manual and are already approved by the responsible authority of the State of Design will be normally accepted by AACM without the needs of review and approval.

4.2. Mandatory amendments promulgated as an airworthiness directives does not required AACM approval.

4.3. The operator of the aircraft shall in accordance with the instructions provided, embody the amendments, and shall make available to the AACM such amendments.

4.4. Changes other than those mentioned in 4.1 and 4.2 shall be approved by AACM. Following AACM approval, the operator shall incorporate the changes into the flight manual by means of change sheet or by a supplement. A list of effective change sheets and the supplements shall be maintained by the operator.

Note (1): A Change Sheet, which consists of an additional page or pages, is normally used to cover simple changes to existing data. It is embodied in the flight manual adjacent to the basic page to which the change relates.

Note (2): A Supplement is normally used to introduce a new role for the aircraft or the installation of major items of equipment.

4.5. One copy of the amendment together with the instruction of embodiment shall be supplied to AACM for retention without delay (or in the case of 4.4, following the AACM amendment approval). This maybe in electronic format if the full latest updated flight manual is supplied.

- END -

Airworthiness Procedure

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No.:	AP16
Issue:	2
Date:	13 Feb 2023

SUBJECT: ***Export Certificate of Airworthiness***

1. Introduction

1.1 Pursuant to paragraph 7B of the Air Navigation Regulation of Macao (ANRM), this Airworthiness Procedure (AP) establishes the procedures for issuing export certificates of airworthiness.

1.2 Export certificate of airworthiness is issued to facilitate the transfer of aircraft onto the register of another state or region. It is not a certificate of airworthiness and it does not permit an aircraft to fly without a valid certificate of airworthiness.

1.3 While not valid for the purpose of flight, an export certificate of airworthiness provides confirmation by the AACM of a recent satisfactory review of the airworthiness status of the aircraft, such that a Macao certificate of airworthiness could be renewed.

2. Eligibility

Any natural or legal person under whose name an aircraft is registered, or its representative, shall be eligible as an applicant for export certificate of airworthiness for that aircraft under this AP.

3. Application

3.1 Pursuant to paragraph 2 of this AP, an application for an export certificate of airworthiness shall be in a form and manner established by the AACM.

3.2 Each application for an export certificate of airworthiness shall include:

(a) form AW/APP/014 and required document specified therein;

(b) form AW/APP/004 and required document specified therein, completed pursuant to a maintenance review in accordance with Aeronautical Circular no. AC/AW/029, signed by certificate of maintenance review signatory.

3.3 The applicant shall submit completed application and make payment of applicable fees at least 20 working days before the anticipated date of issuing the export certificate of airworthiness.

4. Technical assessment of the aircraft

4.1 A maintenance review shall be carried out in accordance with Aeronautical Circular no. AC/AW/029 to to determine the airworthiness status of the aircraft and to ensure the aircraft conforms to its type design, complies with the appropriate airworthiness requirements and is in a condition for safe operation.

4.2 The applicant shall prepare access to the aircraft for inspection by the AACM upon request by the AACM.

4.3 The AACM shall issue an export certificate of airworthiness when it is confirmed that the aircraft meets the requirements under paragraph 7 (1) of ANRM, such that a Macao certificate of airworthiness could be renewed.

5. Amendment or modification

An export certificate of airworthiness may be amended or modified only by the AACM.

6. Inspections

Each applicant for an export certificate of airworthiness shall provide access to the aircraft for which that export certificate of airworthiness has been applied for upon request by the AACM.

7. Duration and continued validity

7.1 Export certificate of airworthiness shall be issued for an unlimited duration. It shall remain valid subject to:

(a) compliance with the applicable type-design environmental protection and continuing airworthiness requirements;

(b) the aircraft remaining on Macao register;

(c) the type acceptance approval under which it is issued not being previously invalidated under Airworthiness Procedure No. AP2;

(d) the certificate not being surrendered or revoked.

7.2 Upon surrender or revocation, the certificate shall be returned to the AACM.

8. Cancellation

This AP supersedes Airworthiness Procedure No. AP16 Issue 1 dated15 December 2020.

– END –

Airworthiness Procedure

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No.:	AP17
Issue:	1
Date:	07 Nov 2022

SUBJECT: ***Noise Certificate***

1. Introduction

1.1 Pursuant to paragraph 50 of the Air Navigation Regulation of Macao (ANRM), this Airworthiness Procedure (AP) establishes the procedures for issuing noise certificate.

2. Eligibility

2.1 Any natural or legal person under whose name an aircraft is registered or will be registered in Macao, or its representative, shall be eligible as an applicant for a noise certificate for that aircraft under this AP.

3. Application

3.1 Pursuant to paragraph 2 of this AP, an application for a noise certificate shall be in a form and manner established by the AACM.

3.2 Each application shall include:

(a) for initial issuance of a noise certificate,

(i) form AW/APP/003 and required document specified therein;

(ii) form AW/APP/004 and required document specified therein;

(b) for variation of a noise certificate,

(i) form AW/APP/012 and required document specified therein;

(c) such other evidence in support of the application as the AACM may reasonably require for the consideration of the application.

3.2.2 Each application for the initial issuance of a noise certificate shall be verified by the Technical Assessment Team accepted under AP4.

3.3 The applicant shall provide evidence showing that the aircraft complies with the noise requirements specified in paragraph 50 of ANRM and AP2. Noise date with numerical values approved by the certificating authority of the State of Design is acceptable to the AACM.

3.4 Noise data determined by reading from chart is not acceptable.

4. Changes

4.1 A change affecting the content of the noise certificate requires variation of the noise certificate in accordance with paragraph 3.

5. Amendment or modification

5.1 A noise certificate may be amended or modified only by the AACM.

6. Transferability within Macao

6.1 Where there is change of registered owner of an aircraft, if it remains on Macao register, the noise certificate shall be transferred together with the aircraft.

7. Inspections

7.1 Each applicant for, or the holder of the noise certificate shall provide access to the aircraft for which that noise certificate has been applied for or issued respectively upon request by the AACM.

8. Duration and continued validity

8.1 A noise certificate shall be issued for an unlimited duration. It shall remain valid subject to:

(a) compliance with the applicable aircraft noise requirements; and

(b) the aircraft remaining on Macao register; and

(c) the type acceptance approval under which it is issued not being previously invalidated under Airworthiness Procedure No. AP2;

(d) the certificate not being surrendered or revoked.

8.2 Upon surrender or revocation, the noise certificate shall be returned to the AACM.

8.3 Upon variation or re-issue, the previously issued noise certificate shall be returned to the AACM.

9. Cancellation

Nil.

– END –

Airworthiness Procedure

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No.: AP18
Issue: 1
Date: 01 Sep 2025

SUBJECT: ***Recognition of Courses***

1. Introduction

1.1 Certain personnel involved in airworthiness management and maintenance are required to meet specified qualification requirements and have received appropriate training courses recognised by the AACM. The following courses have to be recognised by AACM:

(a) Macao Airworthiness Course;

(b) Macao Aircraft Acceptance and Introduction Course.

Note: "Certain personnel" refers to the technical assessment personnel and quality manager prescribed in AC/AW/004 AP4 and AC/AW/011.

1.2 This Airworthiness Procedure (AP) establishes the requirements and procedures for recognising the aforesaid courses.

1.3 AACM will recognise the training certificates issued upon the completion of the recognised training courses as a means of compliance with the relevant training requirements.

2. Eligibility

Any organisation providing the training course shall be eligible as an applicant for recognition of that course under the conditions laid down in this AP.

3. Application

3.1 Pursuant to paragraph 2 of this AP, an application for recognition of a training course shall be made in a form and manner established by the AACM.

3.2 Each application shall include:

(a) A covering letter

(b) Quality manual of the organisation;

(c) Course syllabus;

(d) Curriculum vitae of trainer(s) delivering the course.

3.3 Organisations wishing to have their training courses recognised shall submit completed application at least 30 days before the anticipated starting date of the training course.

4. Experience and quality system of the organisation

4.1 The organisation's experience in delivering similar course, the structure and quality system of the organisation will be assessed. A quality manual shall be submitted to AACM for assessment.

4.2 The organisation shall demonstrate, through its quality manual, the procedures for delivering the course including but not limited to the following:

(a) procedures for preparing and conducting the course;

(b) qualifications, roles and responsibilities, and teaching capability of the trainer(s);

(c) controlling process of the course;

(d) course title and delivered subjects;

(e) post-course follow-up; and

(f) handling of feedback from participants.

5. Trainer qualification and arrangement

5.1 The organisation shall specify the minimum qualification requirements of their trainers in the quality manual.

5.2 The trainer shall possess:

(a) At least 10 years of working experience on the related area of presented subjects, or

(b) at least 5 years of teaching experience on presenting similar subjects.

Their qualification and teaching capability shall be reflected in the quality manual or trainer's curriculum vitae.

6. Course subjects

6.1 The training course shall cover the subject matters and follow the specifications shown in the appendixes to this AP.

6.2 The organisation shall deliver the subjects in accordance with the sequence of the subject numbers specified in the appendices. Minor alteration to the sequence of the delivery is acceptable, provided that the alteration will not affect the learning of a participant on a particular subject.

6.3 The organisation shall regularly review the latest relevant AACM regulations, requirements, and airworthiness publications for the amendment of the content of the course subjects accordingly.

6.4 Optional subjects related to airworthiness could be added as supplements to the course by the organisation, provided that all the subjects specified are delivered.

7. Training venue

The training venue shall be suitable for the training with sufficient lighting, training aids such as visual and audio equipment, and appropriate furniture.

8. Duration

8.1 The minimum training duration of each subject shall follow that provided in relevant sections in the appendices of this AP.

8.2 In order to follow pedagogical and human factors principles, the maximum number of training hours per day shall not be more than 7 hours. On each training day, breaks and lunch break should be provided as appropriate.

9. Number of participants

Maximum number of participants shall be limited to 30.

10. Attendance

A minimum of 90% attendance of course duration shall be achieved before the participant is issued with a training certificate.

11. Course recognition

11.1 The course recognition is indicated on an official letter issued by the AACM.

11.2 The AACM recognition reference shall be indicated on the training certificates.

12. Course oversight

12.1 AACM monitors the performance of the training by having inspectors attend training sessions as observers and reviewing the feedback from the participants to ensure compliance with the standards established in the quality manual and maintain training effectiveness.

12.2 To facilitate oversight, the organisation shall notify AACM and provide the related information at least 10 working days before the course start date, allowing sufficient time for scheduling oversight activities. AACM inspectors shall be given access to the training venue for this purpose.

12.3 Evaluation forms shall be provided to participants for feedbacks after the completion of course. AACM shall be given access to examine the evaluation forms and review the actions taken by the organisation in response to the comments from the participants. If AACM considers the actions taken not satisfactory, the organisation shall take further appropriate actions. The recognition of the course may be revoked if actions are not taken to AACM's satisfaction.

13. Course report

13.1 No later than 30 calendar days after conducting a recognised course, a course report shall be submitted to AACM. The course report shall include copies of, but not limited to the following:

(a) training materials;

(b) attendance records;

(c) training certificates;

(d) participants' feedback; and

(e) documents showing actions taken by the organisation.

14. Validity

14.1 Training course recognition issued in accordance with this AP shall remain valid providing the requirements prescribed in this AP is complied with, and:

(a) the quality manual and course materials remain up-to-date;

(b) the recognition not being revoked by the AACM.

14.2 Should there be any changes made to the quality manual, the organisation shall re-apply for course recognition in accordance with paragraph 3 of this AP.

14.3 The course recognition will be indicated on an official letter issued by the AACM. The course title, corresponding quality manual revision will be indicated.

– END –

Appendix 1 to AP18

Macao Airworthiness Course

The minimum duration of the course is 35 hours with the following subjects:

Subject	Duration (hour)
1. Airworthiness concept and legal framework 1.1. Airworthiness concept (a) Initial airworthiness requirements (b) Design and production (c) Continuing airworthiness (d) Air operator operations (e) Human factors and safety management 1.2. International and Macao Civil Aviation (a) ICAO – history, annexes, safety oversight concept, safety oversight system (b) Macao legislation system (c) Organisational structure of AACM (d) Safe operating environment 1.3. Macao aviation legislations and airworthiness requirements (a) Basic Law (b) Aviation legislations, regulations and requirements (i) Legal framework of civil aviation activities, (ii) Air Navigation Regulation of Macao (ANRM) (iii) Aeronautical circulars (c) Safety notices	3
2. Initial Airworthiness 2.1. Type certification (a) Initial airworthiness requirements (b) Responsibilities of AACM, State of Design and applicant (c) Application procedures (d) Presentation by applicant (e) Presentation scope and documentation (f) Basis of certification (g) Compliance documents (h) Approvals 2.2. Design and production (a) Legal framework (b) Design Organisation Approval (DOA) (c) Production Organisation Approval (POA) (d) Parts Manufacturer Approval (PMA)	7.5

Subject	Duration (hour)
2.3. Design change and repair design (a) Legal framework (b) Criteria for classification of design change and repair design (c) Design change approval (d) Repair design approval 2.4. MAR-1 Airworthiness Procedures 2.5. Technical assessment of the aircraft (a) Aircraft technical assessment (b) Aircraft Assessment Report (c) Sections of the Aircraft Assessment Report (d) Aircraft physical inspection (e) Process and administration of report 2.6. Issue of certificate of airworthiness (a) Legislations and requirements (b) Procedures on issue of certificate of airworthiness (c) Usual problems associated with certificate of airworthiness issue 2.7. Certification arrangements with other authorities (a) Joint certification management (JCM) (b) Cooperative arrangements with CAAC and HKCAD	
3. Continuing airworthiness 3.1. Renewal of certificate of airworthiness (a) Legislations and requirements (b) Procedures on the certificate of airworthiness renewal (c) Technical assessment to support certificate of airworthiness renewal (d) Usual problems associated with certificate of airworthiness renewal 3.2. Aircraft maintenance programme/schedule (a) Continuing airworthiness (CA) (b) ICAO standards and recommended practices on CA (c) Macao airworthiness requirement (d) Persons involved in CA and their responsibilities (e) Basis for approval of approved maintenance schedule (f) Evolution, development, optimisation and bridging of maintenance programme 3.3. Maintenance and reliability programme (a) Purpose of fleet reliability (b) Applicability of the reliability programme (c) Operator's responsibilities	6

Subject	Duration (hour)
(d) Programme control committee (e) Programme control document (f) Type of information collected (g) Display and reporting of information (h) Analysis, interpretation of the information (i) Corrective actions (j) Quality management (k) Maintenance and reliability summary exercise 3.4. Engine maintenance programme (EMP) (a) Objective of EMP (b) Operational advantages (c) Engine critical parts (d) Critical part failure consequence (e) Data collection, analysis and interpretation for EMP (f) Corrective actions (g) Operator's responsibilities (h) Authority requirements on EMP 3.5. Airworthiness Directive (AD) (a) Responsibility for continuing airworthiness (b) Definition of AD (c) Type of AD (d) Applicability (e) Compliance (f) Alternative means of compliance (g) Experience sharing on handling an AD	
4. MAR-145 Approved Maintenance Organisation 4.1. MAR-145 Approved Maintenance Organisation (a) Approval and class rating of MAR-145 (b) Application procedures (c) Extent of approval (d) Privileges and limitation of MAR-145 organisation (e) MAR-145 requirements 4.2. Quality control and assurance (a) Quality assurance (QA) in maintenance organisation (b) Quality control and assurance in air operator maintenance support (c) Audit findings in maintenance organisation (d) Ineffective quality assurance in maintenance organisation (e) QA supply chain	4.5

Subject	Duration (hour)
4.3. Joint Maintenance Management (JMM) (a) Joint maintenance management (b) AC/AW/035 (c) Interface between air operator and maintenance organisation (d) Benefits (e) Safety oversight	
5. Maintenance personnel licensing 5.1. MAR-66 Licensing of maintenance personnel (a) Legal framework on licensing of maintenance personnel (b) Categories and privileges (c) Knowledge (d) Experience (e) Type ratings (f) Roles in maintenance 5.2. MAR-147 Approved Maintenance Training/Examinations (a) Interface among MAR-66, MAR-147 and MAR-145 (b) MAR-147 requirements (c) Approved basic/type training	1.5
6. Operator's continuing airworthiness responsibility 6.1. Operator's continuing airworthiness responsibility; maintenance management exposition (MME) and maintenance management procedures (a) Legal requirement (b) AOC Requirements (c) Key persons of AOC holders (d) Arrangement for maintenance support 6.2. Maintenance support arrangement and contract-out maintenance (a) Different type of contracting out maintenance (b) Maintenance agreement/contract (c) Responsibility on contractor (d) Schedule maintenance inspections (e) Staff requirement (f) Training requirement (g) Temporary maintenance base (h) Quality assurance and compliance monitoring on maintenance support and contract-out maintenance 6.3. Operations requiring specific approvals (a) Type of specific approvals (b) Process to obtain specific approvals	4.5

Subject	Duration (hour)
(c) Responsibilities of operator and examples of approvals granted	
7. Occurrence and accident reporting (a) International requirements and Macao legislations on occurrence reporting (b) Discussion on common cases of occurrence (c) Mandatory occurrence reporting (MOR) investigation and closure (d) International requirements and Macao legislations on accident reporting (e) Accident reporting and lessons learnt from previous accidents	1
8. Human factors and safety management 8.1. Human factors (HF) (a) Abbreviated history (b) Definitions (c) Models of HF (d) Basic element/components of MEMS (e) Error chain (f) Basic principles of error management (g) Common features of organisational incidents/accidents (h) Performance influence factors (i) Relationships among company culture, data analysis, HF incident investigation, feedback and HF training 8.2. Safety management system (SMS) (a) ICAO definition of Safety Management (b) What is SMS (c) Key features of SMS (d) Policy statement (e) Typical SMS management principles (f) Hazard identification (g) Determination and analysis of risk (h) Risk tolerability matrix (i) Risk control action plan (j) Document and record (k) Audit (l) Performance standards (m) Benefits of SMS (n) Safety Culture (o) Aeronautical Circular no. AC/GEN/005	2
9. Airworthiness Requirements of the European Union Aviation Safety Agency (EASA) (a) European legislation (b) Regulation structure of Part-21 (c) Regulation structure of Part-M (d) Regulation structure of Part-CAMO (e) Regulation structure of Part-145 (f) Regulation structure of Part-66 (g) Regulation structure of Part-147	1

Subject	Duration (hour)
10. Group exercise In form of group presentations or exercises in an interactive role, candidates are requested to demonstrate the concept of Airworthiness. *Note: the 2 hours duration can be allocated to different subjects throughout the course.*	2
11. Panel discussion Sharing of experience in Macao airworthiness by industry partners.	2

Appendix 2 to AP18

Macao Aircraft Acceptance and Introduction Course

The minimum duration of the course is 35 hours with the following subjects:

Subject	Duration (hour)
1. Airworthiness concept, legal framework, concept of aircraft airworthiness assessment (a) Initial airworthiness requirements (b) Design and production (c) Continuing airworthiness (d) Air operator operations (e) Human factors and safety management	1
2. Aircraft type certification and type acceptance (a) Initial airworthiness requirements (b) Responsibilities of AACM, state of design and the applicant (c) Application procedures (d) Presentation scope and documentation (e) Basic of certification (f) Compliance reports (g) Approval	1
3. Schedule of events	0.5
4. Application for aircraft registration (a) Application procedures and documentation requirements (b) Changes to the certificate	0.5
5. Application for aircraft certificate of airworthiness, aircraft station licence, noise certificate (a) The aircraft assessment report (b) Technical assessment personnel (c) Procedures manual (d) Aircraft station license and noise certificate (e) Flight manual approval	1
6. Review of aircraft build standard and TCDS production definition	0.5
7. Review of modification and repair (a) Regulatory requirements related to modification and repair (b) Review of type certificate holder (TCH) modifications (c) Review of non-TCH modifications (d) Review of repair (e) AACM acceptance of non-TCH modification and repair embodied on used aircraft	1
8. Review of dispensation, variation, limitation and life time limited	1
9. Review of compliance with airworthiness directives	1
10. Review of embodiment of service bulletins	1

Subject	Duration (hour)
11. Acceptance of engine and review of engine records	0.5
12. Acceptance of components and review of components records (a) Acceptance requirements of newly manufactured/used/PMA components (b) Acceptance requirements of parts without ARC (c) Review of all on-wing component record/ARC for acceptability (d) Record/confirm major component part number and serial no (e) Review of remaining life of hard time and LLP, use of PMA parts, and their modification standard for used Aircraft	1
13. Review of maintenance check records (a) Review of maintenance check records for new aircraft (b) Review of maintenance check records for used aircraft	1
14. Review of cabin configuration and safety equipment (a) Review of cabin configuration for new aircraft (b) Review of cabin configuration for used aircraft (c) Review of safety equipment	1
15. Review of mandatory markings and placards (a) Aircraft mandatory markings and placards requirements (b) Placards for emergency equipment (c) Bilingual placards requirements	1
16. Review of aircraft painting scheme (a) Airworthiness requirements (b) Paint scheme as major modification (c) Practical considerations when applying painting	1
17. Review of aircraft log books, engine log books and technical Log book	1
18. Review of production flight test for new aircraft	0.5
19. Review of check flight for used aircraft (a) Check flight schedule (b) Check flight personnel (c) Check flight report	0.5
20. Aircraft physical inspection (a) Verification of compliance and conformance (b) Verification of contractual requirements	1
21. Review of maintenance programme and bridging check (a) Maintenance programme development and its approval (b) Bridging check package development	1
22. Aircraft Assessment Report (a) Why require assessment (b) The different types of assessment reports (c) Mandatory and business requirements of reporting (d) Aircraft report to support certificate of airworthiness application	2
23. AOC application/variation – airworthiness aspects (a) Airworthiness requirements	2

Subject	Duration (hour)
(b) MEL development (c) Operations requiring specific approvals (d) Assurance of maintenance support, selection of maintenance service providers (e) Maintenance data responsibility and availability (f) Arrangement of aircraft type training for operator, maintenance service providers	
24. MAR-145 Review (Tooling, Facilities, Publications, Certifying Staff and Training Support) (a) The MAR-145 requirements (b) Application for MAR-145 (c) Preparing for new aircraft type maintenance (d) Aircraft type training (e) Working with operator and aircraft manufacturer	2
25. Introduction to selection process of new and used aircraft (a) Overview of the aircraft selection processes (b) Key contractual terms for new aircraft (c) Key contractual terms for used aircraft	0.5
26. Preparation of spares before aircraft enter-into-service (a) Inventory support models (b) Initial provisioning (c) Selection of component maintenance service provider	0.5
27. Aircraft acceptance project management (a) Gantt chart and critical path (b) Communication and coordination	1
28. Leased aircraft and engine (a) Aircraft finance and leasing contract (b) Maintenance reserve (c) Repossession and delivery of aircraft	1
29. Aircraft fleet standardization (a) The objective of standardization (b) Pros and cons of standardization (c) From standard to non-standard – fleet development (d) The effect to operations and service partners	2
30. Group Exercises In form of group presentations or exercises in an interactive role, participants are requested to practice and refresh their knowledge learned during the course. *Note: the 5 hours duration can be allocated to different subjects throughout the course.*	5
31. Panel Discussion Sharing of experience in aircraft acceptance projects by industry partners	1