



REPUBLIC of SAN MARINO CIVIL AVIATION AUTHORITY

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Information Circular No. 11 Issue 01

AIRCRAFT AIRWORTHINESS REVIEW

GENERAL

San Marino CAA Information Circulars are issued to provide advice, guidance and information on standards, practices and procedures necessary to support the San Marino Aviation Regulations.

This Information Circular relates to CAR 21.175

A Microsoft Word version of this Information Circular is available from the San Marino Aircraft Registry upon request.

Yours truly,



Eng. Marco Conti
Director General

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1 Introduction

- 3.1 In order to certify that an aircraft conforms to an acceptable standard it may be necessary for an organisation to investigate the aircraft's build, operational fit, configuration, design and repair standard and provide a report to the CAA. This report is referred to as the 'Aircraft Airworthiness Review' report. Organisations may be accepted by the CAA to supply reports under an appropriate continuing airworthiness management approval or an organisation having an appropriate design approval granted by a National Aviation Authority identified in CAR 21.25(a)(1) or (2).
- 1.2 The Airworthiness Review Report shall reflect the guidance material contained in this Circular and include information on compliance with the approved standard. Deviations and exceptions to the approved standard shall also be stated.
- 1.3 The Airworthiness Review Report is a collection of data on the status of the build standard and continued airworthiness of an aircraft that will assist organisations, applicants and the CAA in their assessment of the aircraft. The report will also outline any applicable operational requirements.
- 1.4 An AAR would typically be requested by the CAA where the history of a particular aircraft is complicated and the airworthiness or certification standard cannot be readily determined without research by a competent organisation.

2 Arrangements for making an Aircraft Airworthiness Review (AAR)

- 2.1 In all cases, the CAA is required to review for acceptance the arrangements made for the development of an AAR. The reasons for the CAA prescribing the need for an AAR are varied therefore the scope of the review may also be varied to suit the circumstance on a case by case basis.
- 2.2 Typically, an appropriate organisation being qualified to make this review would be appropriately approved by an NAA and can demonstrate to the CAA, either generally, or in a specific circumstance that competent personnel, procedures and resources are available to conduct the review and report.

3 Aircraft Airworthiness Review Report

- 3.1 Material evidence of the status of the aircraft and records must be reflected in the report. The CAA does not require the regeneration of aircraft records for the purpose of this report. Cross reference to, and where appropriate, copies of records will be acceptable. It is important to recognise that the objective of the report is to establish the airworthiness and certification status



of the subject aircraft. The AAR process should not be designed to rectify adverse findings. It should be designed to provide sufficient data and reports to facilitate the approval or issuance of certificates by the CAA and to allow the owner/operator to effectively manage the airworthiness and operational approvals it is seeking.

- 3.2 Any adverse findings referred in the report will be required to be addressed in a manner acceptable to the CAA.
- 3.3 The scope of the report may be varied by agreement with the CAA. In some circumstances, a reduced or specific scope of report may be acceptable thereby reducing workload and making the report meet the primary objectives. Where it is seen that a varied scope of report would be appropriate, discussions should be made with the CAA supported with a technical justification.
- 3.4 The following provides guidance regarding the content and layout of the Aircraft Airworthiness Review report. This should not be considered as an exhaustive checklist of the issues to be addressed during the investigation.



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1. Introduction

Write a short introduction including:

- The introduction should discuss the reason for the AAR, the environment for the review, disposition of the aircraft and records, key personnel and parties involved. The scope and objective of the review should also be discussed.
- For a used aircraft coming onto the San Marino aircraft register and/or upgrading from private operations to commercial operations, this section should explain the history of previous regulatory jurisdictions, explanation of operational history and details of Export C of As.
- The assessment is carried out against the TCDS Standard for the type listed on the applicable CAA Type Acceptance Certificate.
- The aircraft currently has (hours) hours and cycles total time. (NAA) Export C of A No. Dated.....refers.
- The Type Certificate Holder for the aircraft is:
- The aircraft conforms to Type Certificate Data Sheet No. Issue/Rev.....
- Applicable CAA Type Acceptance Certificate No.....
- Aircraft Manufacturer:
- The aircraft has operated as follows:

2. Basic Aircraft Data

Aircraft Type: Manufacturer's Serial No:

Engine Type: Manufacturer's Serial No(s):

APU Type:

Propeller Type:

The aircraft is proposed for certification and operation under *CAR OPS 1 / CAR OPS 2/ CAR OPS 3/ CAR OPS 4 (*delete as applicable)

3. List of source documents reviewed

Provide here a list, together with their revision status, of all the high level source documents used in the review of the aircraft and its build standard, e.g. Design Reports, Flight Manual, Damage/Repair Reports, Technical Records, Survey Reports, modification reports, Log Books, Worksheets etc.



4. Aircraft Build Status

Build Standard; the aircraft was built in [date] to [NAA] Type Certificate Data Sheet: [number] Rev. [number]

Top drawing (*quote the number*) defines the basic build standard for the aircraft.
(List as applicable)

4.1 Modification History

The following modifications have been embodied since manufacture:

Item No.	Date Installed	Modification Details	Modification No.	Installer	Modification Approval	Comments

Comments arising from the modification history above:

Item No.	Comments	Closure
1.		
2.		
3.		
4.		

4.2 Manufacturers, TC Holder or STC Holder Service Bulletins (or equivalent) Embodiment History

The following Service Bulletins have been embodied:

Item No.	Date Embodied	Modification Details	SB No.	Installer	Comments
1.					
2.					
3.					
4.					
5.					

4.3 Repair History

The following major repairs have been carried out since manufacture:



Item	Date	A/F Hours	Cycles	Damage Details	Repair	Installer	Approval Reference	Comments
1.								
2.								
3.								

Notes:

1. Review and assess the aircraft damage chart (if applicable) and/or Technical Log for repaired and unrepaired damage and also record these.
2. Any airworthiness limitations or inspections associated with a repair should be listed in the Continued Airworthiness section of this report and a comment made in the table above.

4.4 Environmental Standards Compliance

Provide statements on the noise and engine emission compliance with the requirements detailed in CAR 21 Subpart I. Assess the history of the aircraft for any modifications that could affect the noise or emission compliance statements/certificates.

4.5 Equipment fit / Configuration

This section should include a list of the original and replacement equipment fitted along with the associated equipment approval/modification references. Equipment fitted with no evidence of an acceptable approval will have to be assessed as a design change to the aircraft, ref CAR 21 Subpart C.

The avionic equipment fitted must be listed by part number, or type along with the equipment or design change (modification) approval reference number for each system.

The VHF FM Immunity status, if any, shall be declared. The Mode S address code shall also be specified.

A statement must be provided to declare the equipment fitted meets, or does not meet the requirements in CAR OPS 1, CAR OPS 2 or CAR OPS 3 as declared as the operating approval to be operated under.

4.6 Flight Manual

This section should specify the reference and revision status of the Aircraft Flight Manual (AFM). The Temporary Revisions, applicable Supplement(s) and Change Sheet(s) must also be referenced. The AFM, revisions, supplements and changes should be approved by an appropriate NAA or Design Organisation. The AFM must reflect the current configuration of the aircraft and its modification embodiment history.



4.7 Minimum Equipment List

If the embodiment of any modifications include any required amendments to the Minimum Equipment List (MEML) not covered by the Master Minimum Equipment List (MMEL), these should be recorded and the document reference quoted.

4.8 Summary List of Deviation and Variations to the Approved Build Standard

This section should contain a summary list of deviations from the design certification requirements, if any. Discussions with the authority will be necessary to determine the actions required for the eventual acceptance of these deviations and variations.

5. Continued Airworthiness

5.1 Maintenance Programme

The **Airframe** has been maintained to (manufacturer's) recommendations: (Detail past maintenance programme/schedule history sufficient to determine continued airworthiness)

List any Airworthiness Limitations and Utilisation (hours/cycles/calendar time)

The **Engines** have been maintained in accordance with (manufacturer) Maintenance Schedule/Manual [number]

The aircraft will be maintained to a CAA approved/accepted Maintenance Programme and will be based upon (reference the documents the programme will be based upon). State whether a maintenance bridging check would be required to bring the aircraft into compliance with the manufacturer's recommendations, MRB report etc.

5.2 Airworthiness Limitations

Compliance must be established with the airworthiness limitations that are specified or referenced by the Aircraft, Engine or Propeller Type Certificate/Type Acceptance Certificate Data Sheet/STC(s).

5.3 Instructions for Continued Airworthiness (ICA)

ICAs should be identified and incorporated in maintenance planning/Maintenance programme. Supporting data should be available including details of responsible organisation, standards, specifications, implementation, tasking and reporting.

List the sources of Continued Airworthiness (MRB, Maintenance Manual Chapter 4/5, documents referenced on STCs for example).

5.4 Repairs and Modifications

List additional Continued Airworthiness tasks resulting from modifications or repairs since build.



6. Certification Requirements

All the certification requirements applicable to the issue of the Certificate of Airworthiness and the operating requirements of CAR OPS 1, CAR OPS 2 or CAR OPS 3 as applicable must be complied with. The following forms should be completed, as applicable to the intended operation of the aircraft.

CAR OPS 1	Form SM 76
CAR OPS 2	Form SM 76A
CAR OPS 3	Form SM 76B

Some aircraft either during manufacture, or through an STC are restricted to non-commercial operations. If the subject aircraft is intended to be operated commercially under CAR OPS 1 or CAR OPS 3, the records and history must be researched and any certification standards not met for commercial operations must be listed along with any waivers/exemptions issued for the aircraft against the airworthiness codes contained in the applicable, accepted, Type Certificate Data Sheet.

7. Airworthiness Directives

The applicable airworthiness directives are those airworthiness directives or equivalent mandatory continued airworthiness requirements:

- (1) prescribed for that aircraft or product by the State of type certification on which Type Acceptance Certification rests; and
- (2) any prescribed by the state of certification of an applicable approved design change.

A current status of airworthiness directives (AD) should be produced that identifies the applicable airworthiness directives including revision or amendment numbers. Where an airworthiness directive is generally applicable to the aeroplane or component type but is not applicable to the particular aeroplane or component, then this should be identified. The airworthiness directive status includes the date when the airworthiness directive was accomplished, and where the airworthiness directive is controlled by flight hours or flight cycles it should include the aeroplane or engine or component total flight hours or cycles, as appropriate. For repetitive airworthiness directives, only the last application should be recorded in the airworthiness directive status. The status should also specify which part of a multi-part directive has been accomplished and the method, where a choice is available in the AD.

8. Alternative Methods of Compliance

An Alternative Method of Compliance (AMOC) is an approved deviation to an Airworthiness Directive (AD). It is a different way, (other than the one specified in an AD), to address an unsafe condition on products, parts and appliances.

An AMOC must provide a level of safety equivalent to the level of safety to be restored by compliance with the original AD, and may be issued in respect of, but are not necessarily limited to the following:

- Alternative modifications,
- Alternative inspection procedures,
- Alternative maintenance intervals and/or procedures,



- Specific operating procedures or limitations, etc.

An alternative method of compliance (AMOC) to an Airworthiness Directive is automatically considered approved by the Civil Aviation Authority, provided the AMOC has been approved by the regulatory Authority of the State of Design, which issued the original mandatory continued airworthiness requirement. Accordingly, once the State of Design has issued approval, no further AMOC application to the Civil Aviation Authority is necessary for San Marino registered aircraft.

The report should list any AMOCs to Airworthiness Directives and identify whether they are approved by the regulatory Authority of the State of Design, which issued the original mandatory continued airworthiness requirement.

9. Service Life and Ultimate Life Limited Parts

A status list should be produced that provides information on the current status of all service life-limited and finite life limited aeroplane components. It should indicate the component life limitation, total number of hours, accumulated cycles or calendar time and the number of hours/cycles/time remaining before the required overhaul or retirement time of the component is reached.

10. Post Type Design Generic Regulation Changes

The report should show the applicability, compliance and impact on the aircraft modification standard and continued airworthiness instructions of any generic post type approval design changes, e.g. Fuel Tank Safety, Ageing Aircraft, EWIS etc.

11. Conclusion

The report should summarise the contents of the report above and make a statement that the aircraft meets the San Marino CAA requirements and where there are deviations these should be listed or state what further data or action is required.

