

CIAC | **Aircraft Airworthiness Review (AAR)**
Issue | **1**
Date | **August 2013**

GENERAL

Cayman Islands Aviation Circulars are issued to provide advice, guidance and information on standards, practices and procedures necessary to support Overseas Territory Aviation Requirements. They are not in themselves law but may amplify a provision of the Air Navigation (Overseas Territories) Order or provide practical guidance on meeting a requirement contained in the Overseas Territories Aviation Requirements.

RELATED REQUIREMENTS

This Circular relates to OTAR Parts 21.175

CHANGE INFORMATION

First Issue.

ENQUIRIES

Enquiries regarding the content of this Circular should be addressed to Manager Airworthiness civil.aviation@caacayman.com

Cayman Islands Aviation Circular

CIAC: 06-12 Aircraft Airworthiness Review

Table of Contents

- 1 Introduction
- 2 Arrangements for making an Aircraft Airworthiness Review
- 3 Aircraft Airworthiness Review report

Cayman Islands Aviation Circular

1 Introduction

- 1.1 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 Authority. This report is referred to as the 'Aircraft Airworthiness Review' report. Organisations may be approved to supply reports under an OTAR Part 39 Approval or by holding an appropriate design approval granted by an acceptable NAA.
- 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 and regulators in their assessment of the aircraft. The report will also outline any applicable operational requirements. The report is to be used in conjunction with other documents, particularly the Survey Report CAACI CAY-037, in the assessment of the aircraft for the issue of a Certificate of Airworthiness.
- 1.4 It is not the intention that the Airworthiness Review Report will provide all of the information necessary for the Certificate of Airworthiness process, nor is it suggested that an Airworthiness Review report will be necessary for every Certificate of Airworthiness issued, it is merely one of the tools used. It would typically be requested by the CAACI where the history of a particular aircraft is complicated, where an aircraft has not been in service for an extended period for CAACI acceptance of an Export C of A from an NAA not listed in OTARs.
- 1.5 OTAR Part 21 provides details of the Type Approvals and Design Changes Approvals acceptable under OTARs.

2 Arrangements for making an Aircraft Airworthiness Review

- 2.1 In all cases, the CAACI is required to review for acceptance the arrangements made for the development of an AAR. As there are varied reasons for the CAACI prescribing the need for an AAR, it follows that the scope of the review may also be varied to suit the circumstance. This scope will also feature in the CAACI acceptance of arrangements.
- 2.2 Typically an appropriate organisation being qualified to make this review would be appropriately approved to the requirements of EASA Part M Subpart G and I. It is however recognised that other capable organisations are able to undertake such an exercise. For such organisations it would be necessary to demonstrate to the CAACI either generically or in a specific circumstance that competent personnel, procedures and resources are available.

Cayman Islands Aviation Circular

- 2.3 OTAR Part 39.59(m) refers to an approval capability to undertake AARs. Existing OTAR Part 39 approved organisations wishing to be approved to undertake AARs should provide a suitable amendment to their MCM or OTAR Part 39 Supplement as appropriate along with a completed application Form (OTAR Part 39 Renewal Form) identifying the variation of approval request.

3 Aircraft Airworthiness Review report

- 3.1 The AAR and EASA Airworthiness Review, whilst similar they are different. An EASA approved organisation primarily utilising the EASA review format will need to amend their report, and where necessary procedures, to take account of the additional elements required of the AAR.
- 3.2 Material evidence of acceptable or otherwise statements must be reflected in the report. The CAACI 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 assigned Continued Airworthiness Management Organisation to be able to effectively manage the airworthiness of the subject aircraft. Any adverse findings referred in the report will be required to be addressed in a manner acceptable to the CAACI.
- 3.3 The scope of the report may be varied by agreement with the CAACI. 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 CAACI supported with 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.

Cayman Islands Aviation Circular

Aircraft Airworthiness Review

Front sheet

Organisation:	
Approval Reference:	
Aircraft Report Reference:	
Issue:	
Type Acceptance Certificate No:	
Aircraft Registration:	
Applicant:	
Application Form dated:	

Report Title

e.g. Transfer of Pre-Owned [aircraft type] from [Country] to [CAACI] Register

Report summary

Write a summary statement of the report contents and conclusion

Compiled By:		Checked By:	
Date:		Date:	
		Approved By:	
		Date:	

Cayman Islands Aviation Circular

Contents index

Front Sheet
Report Title
Report Summary

1. Introduction

2. Basic Aircraft Data

3. List of source documents reviewed

4. Aircraft Build Standard Status

- Build Standard
- Modification History
- Manufactures Service Bulletins (or equivalent) Embodiment
- Repair History
- Environmental Standards Compliance
- Equipment Fit / Configuration
- Flight Manual
- List of Deviations

5. Continued Airworthiness

- Maintenance Schedule/Programme
- Airworthiness Limitations
- Instructions for Continued Airworthiness
- Repairs Modifications

6. Certification Requirements

- Air Navigation (OT) Order Compliance
- Overseas Territories Aviation Requirements Compliance Airworthiness Directives
- Alternative Methods of Compliance (AMOC)
- Aircraft Inspection
- Lifer Items
- Post Type Design Generic Regulation Changes

7. Conclusion

Cayman Islands Aviation Circular

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 Cayman Islands aircraft register, this section should explain the history of previous regulatory jurisdictions, explanation of operational history and details of Export CofAs.
- The assessment is carried out against the TCDS Standard for the type listed on the applicable CAACI Type Acceptance Certificate.
- The aircraft currently has (hours) hours total time. (NAA) Export C of A No. refers.
- The Type Certificate Holder for the aircraft is:
- The aircraft conforms to Type Certificate Data Sheet No.
- Applicable CAACI 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:

APU Type:

Propeller Type:

The aircraft is proposed for certification in Certificate of Airworthiness Category:
.....

3. List of source documents reviewed

Provide a list here, 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.

Cayman Islands Aviation Circular

4. Aircraft Build Standard Status

Build Standard; the aircraft was built in [date] to [NAA] Type Certificate Data Sheet: [number] Rev. [number]
Top drawing (1234-789) defines the basic build standard for the aircraft.

(List as applicable)

Modification History

The following modifications have been embodied since manufacture:

Item	Date Installed	Modification Details	Modification No.	Installer	Modification Approval	Comments
1						
2						
3						
4						

Comments arising from modification history above:

Item	Comments	Closure
1		
2		
3		
4		

Notes:

- Include details of any repainting since new.
- The embodiment of a design change where the aircraft serial number applicability is different from the subject aircraft will require a design investigation as per OTAR Part 21 Subpart C.
- Any instructions for continued airworthiness associated with design changes embodied should be listed in the Continued Airworthiness section of the report.

Manufactures Service Bulletins (or equivalent) Embodiment

The following Manufactures Service Bulletins have been embodied:

NB. * ensure that for Post Type Certification SB's any applicable SB by classification (Typically Major –significant) is approved under applicable post TC arrangements.

Item	Date Installed	Modification Details	SB No.	Installer	*Post Type Certification Approved	Comments
1						
2						
3						
4						

Cayman Islands Aviation Circular

Repair History

The following repairs have been carried out since manufacture:

Item	Date	Airframe Hours	Damage Details	Repair	Installer	Approval Reference	Comments
1							
2							
3							
4							

Notes:

- 1 Quote references to the Structural Repair Manual, Manufacturer type certificated drawings, repairs certified against AC43 and aircraft Maintenance Manuals as appropriate.
- 2 Review and assess the aircraft damage chart (if applicable) and/or Technical Log for repaired and unrepaired damage.
- 3 Detail any repaint work and the certification basis.
- 4 Record the date of the last compass swing.
- 5 Check the last weighing report and variable load schedule (Ref 39 Subpart D).
- 6 Any airworthiness limitations or inspections associated with a repair should be listed in the Continued Airworthiness section of this report.

Environmental standards compliance

Provide statements on the noise and engine emission compliance with the requirements detailed in OTAR Part 36. Assess the history of the aircraft for any modifications that could affect the noise or emission compliance statements/certificates. See also CIAC 08-12 for guidance on the application for a noise certificate.

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 OTAR Part 21 Subpart C. The avionics 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.

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

Cayman Islands Aviation Circular

appropriate NAA or Design Organisation. The AFM must reflect the current configuration of the aircraft and its modification embodiment history.

Summary List of Deviations and Variations to 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

Maintenance Schedule/Programme

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

List any Airworthiness Limitations and Utilisation (hours/year)

The **Engines** have been maintained IAW (manufacturer) Maintenance Schedule/Manual [number] The aircraft will be maintained to Maintenance Programme Reference: [number]

CAACI approval reference: [number]

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 Sheets.

Instructions for Continued Airworthiness

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 for example).

Repairs Modifications

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

Cayman Islands Aviation Circular

6. Certification Requirements

All the certification requirements applicable to the issue of the Certificate of Airworthiness must be complied with. The following tables should be used to document compliance to the pertinent requirements.

Air Navigation (Overseas Territories) Order Compliance:

Article	Description	Method of Compliance

Overseas Territories Aviation Requirements Compliance:

Paragraph	Description	Method of Compliance

Examples:

- The aircraft must be weighed and a weight schedule produced. (OTAR Part 39 Subpart D)
- Placards and Markings required by the AN(OT)O must be affixed and displayed in appropriate locations.
- Compliance with the appropriate equipment requirements and radio requirements in the Operational OTARS must be declared.

Airworthiness Directives

FAA, Transport Canada, EASA

(List all airframe, engine and equipment Airworthiness Directives including means of compliance and date since build).

Alternative Methods of Compliance (AMOC)

An AMOC is defined as a different approach or technique not specified in an Airworthiness Directive or mandatory requirement that can assure a level of safety equivalent to that offered by direct compliance with the subject AD or requirement. AMOCs are normally supported by the State of Design or AD issuing Authority.

Cayman Islands Aviation Circular

If upon the review of the aircraft and its records it is discovered that there are a number of AMOCs applied to the aircraft they should be listed in this section together with the particular approval process route used. The CAACI shall be consulted on the acceptance or otherwise of the AMOCs.

Aircraft Inspection

Make a statement about the physical condition of the aircraft, engines and equipment. See also CIAC 03-12.

Lifed Items

Provide evidence that the remaining hours and cycles of components that are subject to a hard time life or overhaul are acceptable.

Post Type Design Generic Regulation Changes

Investigate 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.

7. Conclusion

Summarise the contents of the report above and make a statement that the aircraft either meets the requirements of the CAACI for the initial issue of a Certificate of Airworthiness or list the deviations or further data that is required.