United Kingdom Overseas Territories Aviation Circular

OTAC 21-2
36-2

Approval of Design Changes

Issue 2.00
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Effective on issue

GENERAL

Overseas Territories 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.

PURPOSE

This Circular provides guidance, to applicants for the preparation of the data required to support applications for the approval of design changes (modifications) to aircraft in compliance with the Air Navigation (Overseas Territories) Order and OTAR Part 21.

RELATED REQUIREMENTS

This Circular relates to OTAR Part 21 and, insofar as a design change may affect noise certification, OTAR Part 36.

CHANGE INFORMATION

Second issue. New Part 7 added to provide guidance notes on design changes approved by FAA/EASA/TCCA and the restrictions of FAA delegated engineering representatives when approving data on foreign registered aircraft. Appendix 1 example OTAA design change approval form updated to improve applicant usability and checklist updated.

ENQUIRIES

Enquiries regarding the content of this Circular should be addressed to Air Safety Support International at the address on the OTAA website www.airsafety.aero, or to the appropriate Overseas Territory Aviation Authority.

CONTENTS

1 Introduction

Design changes cannot be incorporated into an aircraft registered in a Territory unless the change is approved in compliance with the AN(OT)O and OTAR Part 21 Subpart C. This OTAC provides guidance to the applicant on the processes required to achieve the acceptance and approval of the design change on a Territory-registered aircraft.

2 Terminology

2.1 Some regulatory bodies describe changes to an aircraft design as ‘modifications’; other regulatory bodies use the term ‘alteration’ to describe an aircraft design change.

2.2 The OTARs and this OTAC use the term ‘design change’, ie there are aircraft Type Designs and there are changes to the Type Design, hence ‘Design Changes’.

3 Classification of changes

3.1 Generally there are two classifications of design change: Minor and Major. The OTARs accept the Minor/Major classifications used by the applicable NAA specified in OTAR Part 21.25(a) for the design change. There is therefore no classification in the OTARs. This avoids any confusion that may arise with potentially different classifications between the OTARs and the applicable NAA.

3.2 Applicants should discuss the classification of design changes with their OTAA. The OTAA is responsible for the agreeing the classification of the design change and hence the method of acceptance of the design change.

Note: Since the principle of acceptance and approval of a design change by an OTAA is essentially the same for a minor or major classification, a common approval process is acceptable.

4 Certification basis

The design change process generally involves acceptance and approval of the change against the Type Design certification standards identified in the Type Acceptance Certificate. The acceptable certification standards are outlined in OTAR Part 21.25(a).

5 Principles of acceptance

5.1 OTAAs do not have the engineering capability to carry out a technical assessment of the details of design changes or to verify the compliance with aircraft certification design standards to directly approve data. Reliance is therefore placed on the acceptance of data approved directly or indirectly by a State of Design NAA as listed in OTAR 21.25.

5.2 Examples of acceptable design changes are:

(a) An EASA/FAA STC to be embodied on an aircraft where the Type Acceptance Certificate basis is the applicable EASA/FAA Type Certificate.

(b) An FAA STC to be embodied on an aircraft where the Type Acceptance Certificate basis is an EASA Type Certificate where there is acceptable justification from a suitably approved DOA or ODA organisation that the certification basis is equivalent.

(c) An EASA STC to be embodied on an aircraft where the Type Acceptance Certificate basis is an FAA Type Certificate where there is acceptable justification from a suitably approved DOA or ODA organisation that the certification basis is equivalent.

(d) An EASA minor design change, which is either approved directly by EASA or approved by a suitably approved EASA Part 21J DOA, to be embodied on an aircraft where the Type Acceptance Certificate basis is the applicable EASA Type Certificate.

(e) For EASA, Standard Changes or Standard Repairs accomplished in accordance with CS-STAN, these may be accepted when accompanied by an EASA Form 123, at import of the aircraft to an OT. The EASA Form 123 may not be accepted to install a change or repair retrospectively once the aircraft is on the OT register.

(f) An FAA or Transport Canada Alteration or EASA standard design change (Minor) that is embodied on an aircraft to data containing acceptable methods, techniques and practices for carrying out and identifying such changes, including the associated instructions for continuing airworthiness and that are not in conflict with TC holder's data. Standard Changes and Alterations are changes to a type-certificate only in relation to aeroplanes of 5700 kg Maximum Take-Off Mass (MTOM) or less, rotorcraft of 3175 kg MTOM or less that follow design data included in specifications issued by the relevant Agency eg FAA AC 43.13-1B, 43.13-2B and EASA CS-STAN. See Appendix 2 for guidelines.

(g) An FAA Form 8110-3, approved by a FAA Designated Engineering Representative with a Statement of Compliance to Airworthiness Standards. Note: FAA Designees may need FAA approval to approve data for non-N Registered aircraft.

(h) Design changes that are accepted through an agreed Bi-Lateral Agreement and the associated Technical Implementation Procedures (TIP) or any applicable Working Arrangement between the relevant aircraft State of Design and an approving authority as listed in OTAR 21.25.

(i) For minor design changes only, it is possible to accept the processes of an NAA as specified in OTAR Part 21.25(a) that is not the NAA of the Type Acceptance Certificate basis. Note: This approach may require the subsequent recertification of the design change, during any export process to a non-OTAA State.

5.3 Operational Data and Certification

(a) The design change acceptance process requires that the applicable Overseas Territories Airworthiness Authority be supplied with the details of any associated instructions for continued airworthiness and any changes required to the Flight Manual. Updates to the applicable Aircraft Maintenance Programme and Operational Manuals must therefore also be submitted to the Authority for approval or acceptance as appropriate.

(b) Any alterations to the aircraft weight and balance must be supported by a weight and balance schedule of change report. It may be necessary to reweigh the aircraft to determine the actual change.

(c) Updates to all other aircraft manuals must also be identified following the introduction of the design change, eg AMM, IPC, Wiring Manual etc.

(d) Where OTAR Part 36 requirements are altered, the applicable Type Acceptance Certificate or Noise Certificate will require to be updated.

6 Approval process

6.1 The Air Navigation (Overseas Territories) Order Article 27 states 'an aircraft C of A ceases to be in force if any part of the aircraft is modified otherwise than in a manner approved by the Governor'. OTAR Part 21 also requires all design changes to be approved by the applicant's OTAA.

6.2 Two approaches are possible, direct approval by the OTAA or indirect approval via a process and associated Company OTAR 39 MCM procedure approved by the OTAA. The approach to be taken by an applicant will be determined by the applicable OTAA.

6.3 Direct Approval: each OTAA will have its own application forms for use by applicants. Each applicant for approval of a design change must supply the basic information related to the design change and all other applicable information associated with the change, as outlined in the above paragraphs. The OTAA will review the acceptance criteria and the associated information and if acceptable will issue an approval of the design change and ensure that any manuals or certificates are updated as necessary. The method of recording the approval of the design changes will be determined by the applicable OTAA.

6.4 Indirect Approval: operators of large aircraft typically have established relationships with suitably approved design organisations who are able, through their Organisation privileges, to approve minor design changes and design and obtain regulatory approval of major design changes. Compliance with the AN(OT)O and OTAR Part 21 design change approval requirements can therefore utilise the processes employed by the design organisation. The OTAR Part 39 approved organisation responsible for the continued airworthiness management of the aircraft should document the design change approval process in a procedure in the Operators Maintenance Control Manual (MCM). The OTAA approval of the MCM which includes the design change approval procedure therefore means that the design change will be approved by the OTAA, indirectly.

6.5 The design change details, operational data and effects on any certification must be notified, by the continued airworthiness organisation, to their applicable OTAA. A declaration form should be used for this purpose. Appendix 1 gives a possible example of an optional declaration form and what information should be included.

6.6 If in accordance with OTAR 21.73(a)(2) a design change has been certified in accordance with a certification standard that is not the issuing state of Type Certification, as listed in the Type Acceptance Certificate, against which the C of A for the aircraft has been issued, an additional statement by a suitably approved design organisation shall be given to confirm that the design change is compliant with the TAC certification standards insofar as they are affected by the design change.

6.7 The method of recording the approval of the design changes will be determined by the applicable OTAA.

7 Notes on aircraft Modifications & Repairs authorised by FAA/TCCA/EASA

7.1 Federal Aviation Administration (FAA) FARs (Title 14 of the Code of Federal Regulations) define a “major alteration” as “an alteration not listed in the aircraft, aircraft engine, or propeller specifications:

(a) that might appreciably affect weight, balance, structural strength, performance, powerplant operation, flight characteristics, or other qualities affecting airworthiness; or

(b) that is not done according to accepted practices or cannot be done by elementary operations.” Appendix A to Part 43 of the FARs provides further guidance on what constitutes a major alteration.

7.2 Transport Canada Civil Aviation (TCCA). In Canada, a “major modification” is defined in similar terms in Standard 571 of the Canadian Aviation Regulations (CARs).

7.3 European Aviation Safety Agency (EASA). Under EASA regulations it is, not permitted to modify an aircraft without proper approvals. Even minor modifications for example seat covers, replacement of stickers, or the installation of a magazine holder requires appropriate approved maintenance data. Within the European Union EASA mandates all Major Modifications (or STCs) for Commercial Air Transport (CAT) & Large Aircraft – are managed through an EASA Part 21 Design Organisation Process. For Minor modifications they may be approved through a Part 21 Design Organisation or by EASA themselves.

7.4 EASA note, UK withdrawal from the European Union. UK CAA Type Certificates, Supplemental Type Certificates, approvals for changes and repairs, licences and Organisation approvals (issued when the UK was an EASA member or issued by the CAA independently after EU withdrawal) will continue to have validity under UK Overseas Territory law as defined in the OTARs. Therefore, modifications and repairs, approved by the UK CAA after 31 December 2020 may be accepted.

7.5 Major/Minor Considerations. According to the FAA Federal Aviation Regulations (FARs) an alteration other than a major alteration is considered minor. In both the US and Canada, minor alterations require only “acceptable data” which can include drawings and methods recommended by the manufacturer, or relevant advisory circulars.

A major alteration requires “approved data,” which is essentially technical data that has been approved by the regulatory authority.

This may include data associated with a type certificate or supplemental Type Certificate (STC).

Note: That within the FAA system, there are alternative sources of approved data:

(a) technical standard order authorisations (TSO),
(b) parts manufacturer approvals (PMA),
(c) airworthiness directives, and
(d) maintenance instructions approved by an FAA designated engineering representative (DER, see 7.5 & 7.6).

FAA Determination of Major/Minor - It is the installer’s responsibility to determine whether an installation is minor or major. (with FAA oversight).

EASA Determination Major/Minor - Must be performed by EASA Approved Design Organisation or by EASA themselves.

7.6 FAA DER Data Approval on Foreign Registered Aircraft of US Design:

Normally, FAA DERs with the special authorisation of major repair and/or major alteration data approval, are only permitted to approve data specifically intended for use on foreign-registered aircraft, that have the US as the state of design and to support US STC designs on all aircraft. The term "US State of Design" means the Type Certificate holder/STC holder is located in the United States. In these cases, the DER must use a disclaimer in the "purpose of data" block on the FAA Form 8110-3; “This FAA approval is provided for a foreign-registered aircraft. Acceptance is at the discretion of the civil aviation authority of the State of Registry. The installer must determine compatibility of this data with the aircraft configuration.”

7.7 FAA DER Data Approval on Foreign Registered Aircraft of Non-US Design:

FAA DER Data approval is not normally permitted for foreign-registered, foreign state of design aircraft (Airbus, Embraer etc) unless the approval is related to an FAA STC. When engaging the services of an FAA DER for the approval of modification data on an OTAA Registered non-US Aircraft, applicants are advised to establish with the OTAA, in advance, that the DER has appropriate authority from the relevant FAA Aircraft Certification Office.

7.8 If an alteration introduces a major change in type design, it requires a type certificate (TC) amendment or an STC. FAA Form 337 may be used to record major alterations as well as DER field approvals not requiring an STC.

Note 1. FAA Major alterations made with an STC may require a Form 337.

Note 2. FAA Form 337 should not be used for minor alterations.

Note 3. FAA Form 337 is not authorised for use with aircraft not registered in the United States. However, the form may be provided to a foreign civil air authority if it is requested, as a record of work performed and should be completed following FAR Part 43 and AC 43.9-1 guidance. A note on the form should inform that the form is not an official record and that the FAA aircraft registry will not record it.

7.9 The Use of FAA Field Approvals – A field approval is one of the means used by the FAA to approve technical data used to accomplish a major repair or major alteration. It is an approval, by the Administrator, through an authorised Aviation Safety Inspector (Airworthiness), of technical data and/or installations used to accomplish a major repair or major alteration. This Technical data when approved becomes “technical data approved by the Administrator”. This type of approval may be accomplished for one-time approval.

Note, the FAA is showing some reluctance to perform field approvals to avoid inconsistencies and to promote more effective harmonised international standards.

7.10 Supplemental Type Certificates under EASA Regulation - Modifications requiring an STC are also designed by a Part 21 DOA. However, an STC needs to be separately approved by EASA itself. As part of Bi-Lateral Obligations with the FAA, EASA manages a full list of all approved STCs (available on their website).

The STC becomes a significant part of the aircraft’s compliance with design requirements and may introduce a Flight Manual change (supplement).

7.11 Service Bulletins issued by the Aircraft Manufacturer in the Alert, and non-mandatory categories.

Alert service bulletins typically address a design problem of the aircraft. These are usually adopted and become airworthiness directives.

Non-Mandatory Service Bulletins provide for a modification which delivers economic or operational benefit without having a serious impact on the airworthiness of an aircraft.

7.12 Approved Part-21 Design Organisation Modifications.

A Part 21 Design Organisation (often referred to as DOA – Design Organisation Approval) is able to develop modifications, and repairs and issue appropriate airworthiness documentation. Often provided in the form of Service Bulletins.

The Part 21 Organisation is responsible for Instructions for Continued Airworthiness (ICA) detailing maintenance requirements which form part of the operators approved maintenance program (AMP).

APPENDIX 1: Example Design Change Approval Form (Optional)

<table>
<tr><th colspan="5">APPLICATION FOR APPROVAL OF A DESIGN CHANGE</th></tr>
<tr><td>1</td><td colspan="2">NAA/Classification: *FAA *TCCA *EASA *ANAC</td><td>*Major</td><td>*Minor</td></tr>
<tr><td rowspan="3">2</td><td rowspan="3">Aircraft Details:</td><td>Aircraft Type:</td><td colspan="2"></td></tr>
<tr><td>Aircraft Registration No(s):</td><td colspan="2"></td></tr>
<tr><td>Serial No(s):</td><td colspan="2"></td></tr>
<tr><td rowspan="2">3</td><td rowspan="2">Applicants Reference:</td><td>Local No:</td><td colspan="2"></td></tr>
<tr><td>Issue No./Date:</td><td colspan="2"></td></tr>
<tr><td>4</td><td colspan="4">Description of Proposed Design Change*:</td></tr>
<tr><td colspan="5">* Use additional sheets as required, see guidance note 4.</td></tr>
<tr><td>5</td><td colspan="4">Certification of Data Statement*:</td></tr>
<tr><td colspan="5">* For use by a Design Organisation or NAA Delegated Signatory when directly approving the data, see guidance note 5.</td></tr>
<tr><td rowspan="5">6</td><td colspan="4">Applicant Details</td></tr>
<tr><td>Applicant Name:</td><td colspan="2"></td><td>Signature:</td><td></td></tr>
<tr><td>Organisation:</td><td colspan="2"></td><td>Date:</td><td></td></tr>
<tr><td rowspan="2">Contact Details</td><td>Email</td><td colspan="3"></td></tr>
<tr><td>Tel No</td><td colspan="3"></td></tr>
</table>

Compliance with Airworthiness Standards Checklist:		
7	Type Certificate Data Sheet Ref (TCDS):	
8	Noise/Environmental Compliance Standards affected:	
9	Flight Manual Supplement (FMS) and Pilot Operating Handbook (POH):	
10	OTAR 91, 121, 135 Subpart F & G Operations Compliance:	
11	**Design Change Data:**	
	a. Supplemental Type Certificate (STC):	
	b. Design Organisation Approval (DOA):	
	c. Organisation Engineering Order No:	
	d. FAA DER*/Advisory Circular AC43-13* References:	
	e. EASA CS-STAN*/DOA EASA Part 21 Subpart J*:	
	f. TCCA DAR*/DOA*/CAR 571 Appendix A:	
12	**Supporting Documentation:**	
	a. Weight and C of G Schedule Change:	
	b. Instructions for Continued Airworthiness/Maintenance Manual supplements:	
	c. Electrical Load Analysis (ELA):	
	d. Minimum Equipment List (MEL) amended:	
	e. Aircraft Maintenance Programme (AMP) amended:	
	f. Software Configuration & control:	
	g. Operations Compliance check list:	
	h. Technical Log requirements:	
	i. Ground Test/Flight Test/Special Flight Permit requirements:	

13	**OTAR 21 Subpart C Compliance Statement.**	
	The Design Change meets OTAR 21.73(a) requirements and is compatible with the aircraft design to the OTAA Type Acceptance Certificate in force for installation on the aircraft concerned:	
	21.73(a)(1) has been certified, approved or accepted by an NAA specified in paragraph 21.25(a) that issued the type certificate identified on the Type Acceptance Certificate, against which the C of A for the aircraft has been issued; or	☐
	21.73(a)(2) has been certified, approved or accepted by an NAA specified in paragraph 21.25(a) that is not the issuing state of the Type Certificate identified on the Type Acceptance Certificate against which the C of A for the aircraft was issued and has been declared to comply with the applicable Type Certification standards identified on the Type Acceptance Certificate for the aircraft by a suitably approved design organisation or individual; or	☐
	21.73(a)(3) through bilateral agreement has been certified, approved or accepted by the NAA specified in paragraph 21.25(a) that issued the type certificate identified on the Type Acceptance Certificate against which the C of A for the aircraft has been issued; or	☐
	21.73(a)(4) for design changes that have been certified, approved or accepted using the processes of and classified as Minor by an NAA specified in paragraph 21.25(a) that is not the issuing state of the Type Certificate identified on the Type Acceptance Certificate against which the C of A for the aircraft was issued.	☐
	For and on behalf of:	
	Name & Position:	
	Part 39 Approval No:	
	Signature/Date:	

14	**OTAA Acceptance** ***(OTAA Use Only)***	
	The change in the Type Design to the following product, as specified herein, meets the appropriate requirements and is accepted for installation.	
	Design Change Approval No:	
	Associated Conditions:	
	Name:	
	Signature/Date of Issue:	

APPENDIX 2: Guidance for applicants who do not hold Design Organisation Approvals, for the preparation of the data required to support applications for the approval of minor design changes and repairs to aircraft

1. Introduction

1.1 Standard Design Changes, Alterations or Repairs are changes to a type-certificate in relation only to aeroplanes of 5700 kg Maximum Take-Off Mass (MTOM) or less, rotorcraft of 3175 kg MTOM or less that follow design data included in specifications issued by the relevant Agency eg FAA AC 43.13-1, 43.13-2 and EASA CS-STAN. Such Standard Changes or Alterations are to be submitted to the appropriate OTAA in accordance with OTAR 21 Subpart C or Subpart M and this appendix guidance.

1.2 Where FAA, Transport Canada Civil Aviation or EASA standard design change regulations permit, subject to OTAA agreement, minor design changes and repairs may be embodied on an aircraft, to approved or accepted generic data containing acceptable methods, techniques and practices for carrying out and identifying such a change or repair, by a Certified Mechanic under a OTAR Part 145 Approval.

1.3 The data should include the associated instructions for continuing airworthiness and must not conflict with TC or STC holder's data. Such a design change to an aircraft, should be classified as 'minor' in accordance with the appropriate NAA's instructions, ie it should not affect Mass, Balance, Structural strength, Reliability, Operational Characteristics or Environment (noise, emissions, fuel venting) etc.

1.4 The data submitted in support of an application for the approval of a minor change to acceptable data needs to convey the following information:

- A definition of the change – what it is doing and on what aircraft,
- Details of how the change is embodied (accomplishment instructions),
- Details of how the changed aircraft is maintained (Instructions for Continued Airworthiness – or ICA),
- Details of how the change complies with the applicable airworthiness and operational or airspace requirements.

1.5 There is no pre-defined format for the presentation of much of the information detailed in 1.3 (above), however the guidance in the following paragraphs should be taken into consideration when preparing the data pack for OTAA acceptance. It is typical that a single 'change document' would contain the definition and accomplishment information, with the ICA and the airworthiness compliance details as separate sections, documents or attachments.

2. Definition of the minor change

2.1 The minor change must be clearly defined, addressing the following aspects:

- Unique identification (modification number),
- A concise title,
- A description of the change, and
- Aircraft type and model applicability

2.2 The OTAA approval note for a design change/repair will refer to a specific set of data. The applicant must therefore assign and identify each individual document associated with the change with:

- A unique document number,

- A revision or issue status, and
- The date of the issue or revision of the source data.

It is useful if all documents and drawings associated with a change are listed within a single document (typically incorporated within the 'change document'), so that it may become the definition reference for the change – similar in concept to a Master Data List.

2.3 The change should be given a title that concisely describes the scope and purpose of the change. Generic titles such as 'Avionics Upgrade' should be avoided and more specific titles such as 'Installation of Bloggs ELS123 Transponder to Comply with Elementary Mode S' should be used. This title should be reflected on the application form.

2.4 The change document should include a brief, but complete, introductory description of the proposed change, including:

- Details of what is being installed and where,
- Details of what is being removed,
- Details of interfaces to existing aircraft systems/equipment, and
- Details regarding the purpose of the change (for example 'to comply with Elementary Mode S requirements' or 'to qualify the navigation equipment for BRNAV operation in accordance with…').

2.5 The aircraft to which the change is applicable must be fully detailed. This includes the aircraft type, any applicable model(s) of that type and the respective Type Certificate Data Sheet. For example:

Aircraft Type: Piper PA-24
Applicable Models: PA-24-250, PA-24-260 and PA-24-400
TCDS: FAA TCDS 1A15 Revision 34

2.6 It is usually permissible for a minor change to be applicable to more than one aircraft model if the applicable models are covered by the same aircraft type TCDS and it can be shown that the change is compatible with that model – for example, where other models of the type have a similar instrument panel.

2.7 If there is any other limitation to the applicability, for example 'VFR Aircraft Only', then this must also be stated.

3. Change detail – Guidance for development of advisory information and accomplishment instructions

3.1 The change document must fully describe the means by which the change can be consistently embodied and provide any necessary supplementary advisory information. The change document text may be supplemented by drawings or references to aircraft or equipment manufacturer's documentation as necessary. The accomplishment instructions will include, but not be limited to, details of:

- Verification that the existing aircraft configuration is compatible with the proposed design changes before embodiment begins,
- Access or preparation work,
- Special precautions,
- Required tooling, test equipment or aircraft/equipment manufacturer's data,
- Parts to be manufactured,
- Parts or equipment to be fitted (by part number) including location and the associated methods of attachment/installation,

- Required materials,
- Modification to existing aircraft parts or structure,
- Required placards,
- Any necessary wiring. The wiring diagrams will include:
  - Wire type and size,
  - Wire, connector, earth point, switch etc identification,
  - Screening and shielding information,
  - Circuit breaker types and rating,
  - Wire routing/installation information (ie standard practices),
- Any required testing, including that necessary to:
  - To confirm compliance with airworthiness or operational requirements (typically only done on first of type installations, but may be necessary on subsequent installations for certain elements such as electrical load which will have to consider individual aircraft configurations),
  - To confirm correct installation (eg wiring continuity/insulation/bonding or pressure/leak testing),
  - To confirm proper function of installed equipment and any interfacing systems to ensure that disturbed systems have been properly restored and are not adversely affected by the change (including EMC interference checks).

3.2 Flight-testing is not normally necessary for the certification of a minor change. If it does become necessary, the change may be re-classified Major, requiring a different application process.

3.3 The change document should provide full details of the effect the change has on the aircraft's weight and balance and the electrical load – showing that neither the existing C of G range or the generator/busbar ratings are exceeded.

3.4 If the change introduces anything that is subject to an Airworthiness Directive (AD), then that effect should be highlighted. For example, if a transponder installation is interfaced with an altitude encoder providing Gillham-coded data then the change should inform the installer/operator that the modified aircraft would be subject to EASA AD 2006-0265.

3.5 If the change includes optional content it should be 'parted' such that the embodiment of certain parts of the change can be properly and separately recorded. An example of acceptable parting would be to provide options for a Nav/Com to interface with different or optional indicators, displays or audio systems – where the Nav/Com provides the common element to the change.

3.6 If the change introduces separate and un-related features - such as the introduction of a transponder, an ELT and a DME - the minor change should be composed as a single (un-parted) minor change or be split into separate minor changes covered by separate approval applications. It should be noted that if the cumulative effect of the new features is 'appreciable' then the change might be re-classified as Major.

4 Instructions for continued airworthiness

4.1 The change data pack must provide information on how the continued airworthiness of the changed aircraft is assured. This data is commonly referred to as the Instructions for Continued Airworthiness (ICA).

4.2 The ICA will include the following elements:

- Instructions on the removal and installation of equipment which may fail or otherwise need replacement during service (including subsequent testing – which may not necessarily be the same test as that required during embodiment of the change),
- Any instructions necessary for access,
- Instructions on and frequency of any required scheduled maintenance,
- Instructions on and parts required for any servicing (charging, lubrication etc),
- Details of any tooling or test equipment,
- Details of any supplementary data such as equipment or aircraft manufacturers instruction manuals,
- Details of any Airworthiness Limitations.

4.3 This data should comply with the relevant airworthiness requirements (eg CS xx.1529 and the associated appendix). The instructions should be provided in the form of a manual or a supplement to an existing manual, be arranged in a practical manner and address each topic of CS xx.1529 (as applicable).

4.4 It is not sufficient to only refer to the specific existing aircraft maintenance programme for the scheduled maintenance aspects of continued airworthiness. The scheduled maintenance requirements must always be explicitly noted. Where such maintenance is covered by an existing maintenance programme entry, a note may be included in the ICA stating which task(s) of that programme cover the scheduled maintenance requirements introduced by the change.

5. Operational instructions (including Flight Manual Supplements)

A change to the Flight Manual or Supplements is not normally necessary for the certification of a minor change. If it does become necessary, the change may be re-classified Major, requiring a different application process.

6. Recording compliance with applicable airworthiness and/or operational requirements

6.1 Applicants are required to demonstrate how the design change complies with all the applicable airworthiness (certification basis) and/or operational requirements plus any associated means of compliance material.

6.2 The certification basis applied is usually that specified in the Type Certificate Data Sheet (TCDS) or Supplemental Type Certificate (STC) for the aircraft type. However, the applicant may elect to comply with later requirements for that class of aircraft (eg FAR 23) for the affected areas. The amendment status of the Certification Specifications used should be stated.

6.3 The applicable airworthiness requirements for the affected areas (ie those impacted by the design change) should be identified from the certification basis and the corresponding details of how compliance has been demonstrated should be recorded. These statements of compliance should directly address the respective requirements. This can be recorded in a simple matrix.

6.4 Compliance with the applicable parts of the published guidance material or advisory material (eg FAA Advisory Circular AC 43.13 or EASA CS-STAN) material should also be recorded.

6.5 Only persons entitled to release to service an aircraft after maintenance in accordance with OTAR Part 43 or Part 145 are considered as an eligible installer responsible for the embodiment of a minor design change when in compliance with the applicable requirements.

6.6 Parts and appliances to be installed as part of a minor design change. The design of the parts and appliances to be used is considered a part of the change/repair, and therefore, there is no need of a specific design approval. Normally, a minor design change shall not contain specifically designed parts that should otherwise be produced by a production organisation approved in accordance with a Production Organisation Approval (POA). In the case that the change or repair would contain such a part, it should be produced by an approved Production Organisation and delivered with an appropriate authorised release form. Eligibility for installation of parts and appliances belonging to a minor design change is subject to compliance with OTAR Part 21 and Part 39 and Part 145 related provisions, and the situation varies depending on the aircraft in/on which the change is to be embodied, and who the installer is. Furthermore, the Organisations scope of OTAR Part 145 approval may contain provisions allowing certain parts to be fabricated and installed in/on the aircraft as part of their maintenance activities.

6.7 Parts and appliances identification. The parts modified or installed during the embodiment of the minor design change should be permanently marked in accordance with OTAR Part 21 Subpart Q.

6.8 Record-keeping. The person responsible (see paragraph 6.4 above) for the embodiment of the change/repair should keep the records generated with the minor design change as required by OTAR Parts 21, 39 and 145. In addition, OTAR 39 requires that the aircraft owner or continuing airworthiness manager keeps the status of the changes/repairs embodied in/on the aircraft, to control the aircraft configuration and manage its continuing airworthiness.

6.9 Regarding minor design changes, the information provided to the owner or continuing airworthiness manager should include, as required, a copy of any modified aircraft manual and/or instructions for continuing airworthiness. All this information should normally be consulted when the aircraft undergoes a certificate of airworthiness or permit to fly review, and therefore, a clear system to record the embodiment of design changes, which is also easily traceable, would be of help during subsequent aircraft inspections.

6.10 Maintenance Programme and instructions for continuing airworthiness, the aircraft owner or continuing airworthiness manager needs to assess if the changes in the ICA of the aircraft requires the amendment of the aircraft maintenance programme and if it does, to obtain its approval in accordance with OTAR Part 39.