

Guidance for applicants on preparing applications for the approval of minor modifications to non-EASA aircraft

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Purpose

This document and its appendices provide guidance, to applicants who do not hold CAA BCAR A-8 or EASA Part 21 Design Organisation approvals, for the preparation of the data required to support applications for the approval of minor modifications to UK registered non-EASA aircraft. EASA is responsible for providing equivalent guidance for the approval of minor changes to EASA aircraft.

The guidance within this document uses the term 'modification' to refer to an alteration of UK registered non-EASA aircraft. A minor modification is one that requires CAA approval but has no appreciable effect on airworthiness, as further explained in paragraph 1.2. The guidance also refers to the term 'design change', which is the equivalent term used by EASA within Part 21 to refer to alterations to EASA aircraft.

This guidance, which was previously available from the CAA website, is provided to enable applicants to prepare data that can be approved without unnecessary delay that may result from the submission of incomplete or ambiguous data.

This format was issued in 2017 to replace the CAA website as the location of this guidance, to amend the scope to apply to UK-registered Non-EASA aircraft only, reflect the issue of CS-STAN, update references to TGLs and AMC materials and to provide clarification regarding the recording of compliance with CAA-only Generic Requirements.

EASA aircraft

EASA is responsible for providing guidance for the approval of minor changes to EASA aircraft. It should be noted that applications for the approval of minor changes are made directly to EASA using the [EASA Form 32](#), which is available from the EASA website.

EASA may allocate the technical assessment of minor changes for UK originated applications to the CAA. Minor change applications are assessed by the CAA's

certification specialists within the GA Unit or Airworthiness at Aviation House, Gatwick. The CAA is expected to determine that each minor change applicant has demonstrated compliance with the applicable airworthiness requirements as required by Part 21.A.93 before recommending approval to EASA. When satisfied that compliance has been demonstrated, CAA will compile a Technical Visa and submit it to EASA. The change approval certificate is issued by EASA.

Non-EASA aircraft

Applications for the approval of minor modifications to Non-EASA aircraft should be made on [CAA Form SRG 1726](#) and, together with the appropriate fee, directed to:

Civil Aviation Authority
Safety Airspace Regulation Group
Shared Services Centre
Aviation House
Gatwick Airport South
West Sussex RH6 0YR

Applications may also be submitted by email to apply@caa.co.uk.

The [SRG 1726 application form](#) is available on the CAA website.

Details of charges can be found in the CAA [Scheme of Charges - Airworthiness, Noise Certification and Aircraft and Aircraft Engine Emissions](#) ORS 5.

Approval of a minor modification will be indicated by the CAA's issuance of a signed Minor Modification Approval Certificate.

Chapter 1

Introduction

1.1 The guidance presented within this publication is intended to assist the application for the approval of minor modifications to UK registered Non-EASA aircraft.

1.2 A modification to an aircraft may be classified as 'minor' when it does not have an 'appreciable effect' on:

- Mass,
- Balance,
- Structural strength,
- Reliability,
- Operational characteristics, or
- Environment (noise, emissions, fuel venting).

Or where the modification does not introduce:

- New Certification basis/interpretations/aspects of compliance or requires an extensive re-evaluation,
- Changes to limitations,
- MPD/AD terminating action, or
- Functions with Catastrophic or Hazardous failure conditions.

The guidance material (GM) within BCAR A8-21 Appendix 2 provides further considerations that affect the modification classification for UK registered Non-EASA aircraft.

EASA has published specific guidance regarding the classification of common design changes for general aviation aircraft on the '[General Aviation FAQs](#)' page of their website. The content of this is also accepted as guidance to be referred to when agreeing modification classifications with CAA for UK registered Non-EASA aircraft.

- 1.3 The data submitted in support of an application for the approval of a minor modification needs to convey the following information:
- A definition of the modification – what it is doing and on what aircraft,
 - Details of how the modification is embodied (accomplishment instructions),
 - Details of how the modified aircraft is maintained (Instructions for Continued Airworthiness – or ICA),
 - Details of how the modified aircraft is operated (e.g. Flight Manual Supplement), and
 - Details of how the modification complies with the applicable airworthiness and operational or airspace requirements.
- 1.4 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. It is typical that a single ‘modification document’ would contain the definition and accomplishment information, with the ICA and airworthiness compliance details as separate sections, documents or attachments. The Flight Manual Supplement is always a separate document.

Appendices to this guidance provide illustrations of how some of the data could be presented.

Chapter 2

Definition of the minor modification

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

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

2.2 The approval certificate for the modification will refer to a specific set of data. The applicant must therefore assign and identify **each individual document** associated with the modification with:

- A unique document number,
- A revision or issue status, and
- The date of the particular issue or revision.

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

2.3 The modification should be given a title that concisely describes the scope and purpose of the modification. 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 modification document should include a brief, but complete, introductory description of the proposed modification, 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 modification (for example ‘to comply with Elementary Mode S requirements’ or ‘to qualify the navigation equipment for BRNAV operation i.a.w. AMC 20-4’).

2.5 The aircraft to which the modification 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 (or equivalent – noting that for some non-EASA aircraft, this may be a reference to the CAA Airworthiness Approval Note, or AAN). For example:

Aircraft Type: DHC-1 Chipmunk, DHC-1A-1

Applicable Models: DHC-1 Chipmunk Mk21; DHC-1 Chipmunk Mk22 and 22A; DHC-1 Chipmunk Mk23

AAN: AAN1399; AAN4383; AAN5545

2.6 The type certification references for non-EASA aircraft are detailed within Section 1 of CAA document [CAP 747](#) (Mandatory Requirements for Airworthiness).

2.7 It is usually permissible for a minor modification to be applicable to more than one aircraft model if the applicable models are covered by the same aircraft type approval (e.g. AAN) and it can be shown that the modification is compatible with that model – for example, where other models of the type have a similar instrument panel.

2.8 In some limited circumstances it may be permissible to extend the applicability beyond that of a single type approval (perhaps to include more than one aircraft type of a single manufacturer) but only where those aircraft are similar **with respect to the effect of the modification** (use a common instrument panel and have similar power supply arrangements and aircraft system interfaces, for example) and a common certification basis for the modification can be applied.

2.9 In some very limited circumstances applicability may be extended further, for example where the modification details the installation of one equipment type as a direct replacement for another (i.e. a ‘box swap’) with

very little or no associated mechanical or electrical modification (typically limited to a change of the mating electrical connector on the aircraft) to the aircraft or change in the use of the equipment.

The EASA policy on the extension of applicability for GA aircraft, which is detailed on the [General Aviation FAQ page of the EASA website](#), can be referred to and would generally be considered useful when considering modifications to UK-registered non-EASA aircraft.

NOTE: In any case, an extension of applicability beyond a single aircraft type must be justified at the time of modification approval application and the substantiation recorded on the modification document.

2.10 Where the modification is only applicable to a single aircraft, or finite group of aircraft within a model range, then the serial number(s) of the aircraft must be identified. As modified aircraft may change registries, it is not sufficient to refer to the aircraft by registration number(s) alone.

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

Chapter 3

Modification detail – Advisory information and accomplishment instructions

3.1 The modification document must fully describe the means by which the modification can be consistently embodied and provide any necessary supplementary advisory information. The modification 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 modifications 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 (i.e. standard practices).
- Any required testing, including that necessary 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),

- Confirm correct installation (e.g. wiring continuity / insulation / bonding or pressure / leak testing),
- Confirm proper function of installed equipment and any interfacing systems,
- Ensure that disturbed systems have been properly restored and are not adversely affected by the modification (including EMC interference checks).

- 3.2 Flight-testing it is not normally necessary for the certification of a minor modification. If it does become necessary, the modification may be re-classified Major, requiring a different application process.
- 3.3 The modification document should provide full details of the effect the modification has on the aircraft's weight and balance and the electrical load – showing that the neither the existing CoG range or the generator / busbar ratings are exceeded. See paragraphs 5.2 and 6.4 for further detail of compliance with CAA Generic Requirements for electrical load.
- 3.4 If the modification introduces anything that is subject to an Airworthiness Directive (AD) or Mandatory Permit Directive (MPD), then that effect should be highlighted. However, if the modification is introduced as a terminating action in response to an AD or MPD, the modification would be classified as Major, requiring a different application process.
- 3.5 If the modification includes optional content it should be 'parted' such that the embodiment of certain parts of the modification can be properly and separately recorded.
- 3.6 An example of acceptable modification parting, introduced in 3.5 above, 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 modification.