

SECTION 6.2 MODIFICATION AND REPAIR APPROVAL PROCESS (MARAP)

MODIFICATIONS TO FACTORY BUILT / TYPE CERTIFIED OR ACCEPTED WEIGHT SHIFT CONTROLLED AEROPLANES AND POWERED PARACHUTES CAO 95.32 (NON-LSA / E-LSA)

MODIFICATIONS TO FACTORY BUILT / TYPE CERTIFIED OR ACCEPTED AIRCRAFT CAO 95.55 (NON-LSA / E-LSA) EXCLUDING LIGHTWEIGHT AEROPLANES

6.2.1 INTRODUCTION

The Modification and Repair Approval Process (MARAP) is for the consideration and possible approval of modifications or repairs to a non LSA/E-LSA factory-built aircraft, for which a type certificate, a certificate of type approval, or an equivalent document has been issued by CASA, another national airworthiness authority (NAA) or a competent issuing authority. The proposed modifications or repairs are not:

- a) manufacturer approved; or
- b) supported by Supplemental Type Certificate; or
- c) supported by a CASR engineering review process.

The Modification and Repair Approval Process may be used for approving:

- a) an engine model and type change
- b) a propeller type change
- c) an airframe change
- d) an equipment change
- e) a repair scheme
- f) (This list is not exhaustive)

While a CASR 21.M authorised person may not be authorised to approve a modification under their design approval due to the certification basis of the aircraft, RAAus acknowledges that such a person has the necessary knowledge, experience, and qualifications to assess proposed modifications or repairs for these aircraft and make a determination as to the suitability of the proposal.

6.2.2 PROCESS

The RAAus member (applicant) is to:

- a) Complete RAAus **TECH FORM 014 – APPLICATION FOR MODIFICATION OR REPAIR, FACTORY BUILT AIRCRAFT (NON LSA/E-LSA)** and provide any relevant supporting information. *(Note: further information may be requested by the HAM or Subpart 21.M Approved Person after application has been received)*
- b) A Recreational Aircraft Condition Report (RACR) must be supplied with Tech Form 014 indicating the status of the aircraft prior to any modifications or repairs being carried out.

The RAAus HAM will:

- a) Review the application.
- b) Seek advice from an appropriate CASA Subpart 21.M Authorised Person (or persons) as to the suitability or applicability of the proposed modification or repair.
- c) The HAM or the Subpart 21.M Authorised Person (or persons) may then request additional information be supplied by the applicant to enable adequate assessment of the modification or repair.

- d) After the assessment, the HAM will advise the CEO of the outcome of which may be to:
- e) Issue an approval; or
- f) Refuse to issue an approval. Any refusal will be in writing and will explain the reasons for refusal. (RAAus will not approve any modification without the support and acceptance of an appropriate CASA Subpart 21.M Authorised Person.)

The CASA Subpart 21.M Authorised Person assessment process:

- a) They will review the proposal against the relevant requirements and follow all processes as outlined in the CASA approved procedures for assessing modifications or repairs. The exception being that all references to CASA in their manual should be read as referring to RAAus for the purposes of this process.
- b) The CASA Subpart 21.M Authorised Person is not required to formally approve the modification themselves. The intent is for them to provide a review of the information supplied by the applicant and offer a recommendation as to whether the proposed modifications appear sound. They are not expected to redesign the modification or repair – it will be assessed on the information provided by the applicant and will be assessed as acceptable, or not.
- c) Once the CASA 21.M Authorised Person has assessed the design, they will provide the RAAus HAM with a written recommendation as to whether the modification or repair should be accepted.

Once the information is received, assessed, and approved in accordance with the procedures as outlined in paragraph 1.6 of this section, an Experimental Certificate may be required. Refer to CASR 21.191 (a) or (b). This must be sought from a CASA Authorised Person. The Experimental Certificate will assist the HAM and CASA Subpart 21.M Authorised Person(s) with validation of the proposed modification or repair. The maximum duration of the Experimental Certificate will not exceed 12 months. The Experimental Certificate will provide any specific operational and maintenance requirements for the duration of the EC (Experimental Certificate), such as, but not limited to:

- a) The specific conditions operationally permitted for the aircraft; and
- b) If the aircraft is restricted to single seat operations; and
- c) If the aircraft is restricted to location of operations (not over populous areas); and
- d) If the aircraft is restricted from operations in CTA; and
- e) If there are any additional maintenance requirements.

6.2.3 FURTHER ASSESSMENT AND APPROVAL PROCESS IF INITIAL APPLICATION REFUSED

If RAAus does not approve a proposed modification, the aircraft owner will be advised of this, including an explanation of why, and the owner may freely choose to engage the professional services of a Subpart 21.M Authorised Person for assistance with a revised proposal. The applicant may then re-apply and submit any revised proposal for assessment.

6.2.4 FORMS

TECH FORM 014 – MODIFICATION AND REPAIR APPROVAL REQUEST is the form to be used by the member/applicant and forwarded with any supporting documentation to the RAAus HAM for consideration.

6.2.5 UPON COMPLETION OF TESTING

Upon satisfactory completion of flight testing in accordance with the Experimental Certificate conditions issued, the aircraft owner must:

- a) advise the HAM in writing that the required flight testing has been satisfactorily completed; and
- b) supply copies of flight testing records or reports (if any), together with a copy of logbook entry regarding the modification or repair; and
- c) request finalisation of the MARAP process for the aircraft.

When received, reviewed, and found to have met the objectives of the MARAP (para 1.2 of this section), the HAM will issue a MARAP Certificate formally accepting the modification or repair, and the aircraft may resume normal ongoing operations. The modifications will determine if any additional conditions are required or not. The MARAP Certificate will form part of the aircraft's records and must be kept with the aircraft logbook. For significant engine or propeller changes, a copy of the MARAP Certificate must also be retained within the aircraft's Flight Manual or Pilot Operating Handbook, along with any revised or additional operating instructions.

The Experimental Certificate issued for the flight testing will need to be surrendered (if it has not already naturally expired by date) to the CASA Authorised Person who issued the certificate, together with a covering letter detailing the reason for the return of the certificate, (completion of flight testing and finalisation of this process) and as a courtesy, advice about the flight testing undertaken. The Authorised Person will advise CASA of the cessation of the Experimental Certificate

6.2.6 SUBSEQUENT AIRCRAFT

Owners of other identical aircraft wishing to incorporate a modification or repair already approved, will be able to obtain the MARAP package from RAAus and then incorporate that modification or repair to their own aircraft. A fee may be payable. See the RAAus Schedule of Fees. Flight testing may not be required however, a post modification test flight(s) may be required to verify any operational changes at the HAM's discretion.

RAAus will make known all available MARAP Certificates approved under the MARAP process, so that members may consider incorporating such modifications or repairs.