

SECTION 3.4.2APPROVAL OF A KIT FOR A CAO 95.10 ULTRALIGHT
AIRCRAFT - APPROVAL BASED ON HISTORY OF SAFE
OPERATION**INTRODUCTION**

1. CAO 95.10 paragraph 2.2 (c) (iii) permits construction of a privately built single seat ultralight aircraft from an approved kit that complies with the design standards specified in CAO 101.55, including a design standard nominated by the applicant and acceptable to the Australian Civil Aviation Safety Authority (CASA). Section 3.4.1 outlines the requirements when seeking approval of a kit for an aircraft type conforming to CAO 95.10 to an alternative design standard.
2. Approval of a kit for a CAO 95.10 aircraft type may be based on a demonstrated history of safe operation of the type. Details of the requirements for seeking approval of a kit for an aircraft type based on a history of safe operation are set out below.
3. The kit manufacturer, or in the case of aircraft designed overseas, the Australian agent or representative, is responsible for the demonstration of an adequate history of safe operation acceptable to the AUF. The manufacturer or agent cannot sell, lease, hire or otherwise enter into a commercial agreement for the ownership of an aircraft of the type until a history of safe operation has been accepted by the AUF Technical Manager and the kit for the aircraft type has been approved.

BASIC REQUIREMENTS

4. **Compliance Demonstration.** CAO 95.10 ultralight aircraft, whether of Australian or overseas origin, may be sold in kit form following acceptance by the AUF of a history of safe operation and approval of the kit for the aircraft type. The history must demonstrate that satisfactory levels of stability, control, performance, handling, strength and reliability of the aircraft type have been established.
5. **Aircraft of Australian Design.** If the aircraft type is of Australian design, a satisfactory history of operation of one prototype plus one identical copy for periods of 200 and 100 hours will provide an acceptable basis for application for approval of the kit for the aircraft type. The second aircraft may be factory or privately built. However no more than two aircraft of the type may be built by a factory following application for approval until approval of the kit has been completed.

6. Any significant defects on any development examples identified during this period are to be documented, repair schemes developed by the manufacturer and incorporated into both aircraft.
7. Subject to para 13 below and the agreement of the AUF Technical Manager, the development aircraft, not including the lead aircraft, may be sold or leased by the manufacturer to continue the safe history of operation demonstration. Owners or lessees of development aircraft are to be advised of the development nature of the aircraft and instructed in writing on the safe history of operation program and on the keeping of records of flying hours and defects.
8. **Aircraft of Overseas Origin.** If the aircraft type is of overseas origin, at least four identical examples of aircraft are to have flown for at least 100 hours each. One aircraft of the type is to have accrued at least 200 hours of safe operation. Significant defects identified in the aircraft are to have been documented, repair schemes developed and incorporated into all four aircraft used to demonstrate safe history. Designers and builders statement documents as used for certification by the Sport Aircraft Association of Australia [SAAA] under CAO 101.28 are acceptable as evidence of safe operation for this purpose.
9. **Substantiation of Flying Hours.** Flying hours to be used for substantiating a history of safe operation are to be formally documented. Where the aircraft type is of overseas origin evidence that the required number of aircraft have flown the required number of hours is also to be documented. The Australian agent or representative in responsible for the provision of certified statements from owners/builders overseas attesting to the number of flying hours accrued on examples of the aircraft.
10. **Structural Tests versus Flying Hours.** The AUF Technical Manager, after consulting with the CASA, may accept lesser flying hours than those specified above where significant structural testing has been completed on an example of the aircraft type.
11. **Performance and Handling.** The manner in which all controls are used shall be determined and recorded in sufficient detail to establish that the flight characteristics are able to be repeated by pilots of average ability. Stall speed and maximum speed demonstrations are to be conducted in accordance with the method outlined in the Flight Test Guide for Certification of CAO 101.28 Aeroplanes.

APPLICANT PROCEDURE

12. **Documentation Required.** An applicant seeking approval of a kit using the history of safe operation method to substantiate the design shall provide the following data to the AUF Technical Manager.

- a. a detailed description of the aircraft including specification of its engine(s) and propeller(s);
 - b. a report detailing the history of safe operation of the aircraft type including statements of flying hours and defects found and rectified on each of the development aircraft;
 - c. a statement specifying the design standard to which the aircraft was structurally tested, if any, and a report of any static testing undertaken;
 - d. a report of the flight tests undertaken. These should follow the format given in the Flight Test Guide for Certification of CAO 101.55 Aeroplanes;
 - e. a statement detailing operational limitations applicable to the aircraft type including as a minimum the weight, speed, centre of gravity, loading, manoeuvre limitations and any other parameters to which limitations apply;
 - f. drawings showing the general arrangement of the aircraft type and its sub-assemblies and which clearly define the material specifications, dimensions, rigging details, control surface deflections, tolerances, standard parts used and finish; and
 - g. a copy of pilots handling and operating instructions, assembly or building instructions and a maintenance manual and an illustrated parts catalogue.
 - h. the aircraft kit manufacturers name, address, telephone and facsimile numbers as well as the principal contact officer; and
 - i. where the aircraft kit is of overseas origin, the name, address, telephone and facsimile numbers of the manufacturers representative in Australia and/or the Australian agent.
13. **Manufacture of Demonstration Aircraft.** Where less than the required number of aircraft are flying to meet the demonstration requirements of this Section, an applicant may apply to the AUF Office for a permit to build and provisionally register the additional aircraft provided that as much of the documentation specified in paragraph 12 above that is available is provided to the AUF Technical Manager. In addition the following information is required:
- a. The proposed program to demonstrate the history of safe operation of the aircraft type.
 - b. The names and qualifications of the pilots who are to fly the aircraft during the demonstration period of safe operation.

When the AUF Technical Manager, or a person acceptable to the AUF and the CASA, is satisfied that the history of safe operation program is correctly structured and controlled, the AUF Office will issue an authority to proceed.

14. **Conditional Registration.** Following issue of the AUF authority to proceed in accordance with para 13 of this Section, the applicant may build up to four aircraft for the purpose of demonstrating compliance with this Section. Those aircraft may be conditionally registered by the AUF Office.

15. **Inspection.** The applicant shall present an example of the aircraft type for which approval is sought to a person acceptable to the AUF and the CASA. That person will conduct an inspection to confirm that the aircraft conforms with the data, drawings and statements for the type. The inspector will report the details of that inspection to the AUF Technical Manager.

ASSESSMENT

16. **Assessment and Certification.** The AUF Technical Manager, or a person acceptable to the AUF and the CASA, will assess the inspection report, data, drawings and statements for completeness and ensure that the aircraft type meets the applicable requirements. If acceptable the AUF Technical Manager shall issue a certificate which indicates that the kit is approved by the AUF. The issue of this certificate will allow kits to be produced for sale provided they replicate the aircraft for which the approval was given.
17. **Audit.** The CASA may conduct an audit of any data, drawings, statements and reports held in the AUF Office relating to an approved kit.

SALE OF APPROVED KITS

18. Each kit offered for sale is to include pilot handling and operating instructions, a building or assembly manual, a maintenance manual, a parts manual and, if available, a set of drawings for the aircraft. A copy of the AUF certificate and certification by the manufacturer that the kit is complete as per the AUF approval certificate is also to be included.

COMPLIANCE OF INDIVIDUAL AIRCRAFT BUILT FROM AN APPROVED KIT

19. An applicant wishing to register an aircraft built from an approved kit with the AUF shall present the aircraft to a person designated by the AUF who shall establish that the aircraft complies with the weight and wing loading requirements of CAO 95.10. Procedures for the registration of aircraft complying with CAO 95.10 are detailed in Section 7.1.1 of this AUF Technical Manual.
20. For the purposes of paragraphs 15 and 19 above, a "*person acceptable to the AUF and CASA*" shall include a person who holds an approval under Civil Aviation Regulation 35 and an appropriately qualified AUF Level 2 maintenance authority holder or SAAA designated inspector specially approved by the AUF Technical Manager to undertake the assessment or inspection of the specific aircraft type.