SECTION 4.2 CAO 95.10 AEROPLANE – APPROVED KITS

4.2.1 INTRODUCTION

CAO 95.10 permits construction of a privately built single place low momentum recreational aeroplane from an approved kit.

CAO 95.10 defines approved kits for construction of an aeroplane in this category, which are summarised as follows:

a) the kit was manufactured by the holder of a certificate of approval for the kit; or
b) the kit was manufactured by an approval given by CASA; or
c) the kit was exported to Australia with a certificate, acceptable to CASA, that relates to the airworthiness of the design; or
d) RAAus or SAFA have issued a certificate for the kit.

4.2.2 DESIGN AND CONSTRUCTION REQUIREMENTS

RAAus sets no design requirements. Kit manufacturers are free to design as they wish and supply any materials they wish.

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 RAAus or CASA Flight Test Guide.

4.2.3 SAFETY EQUIPMENT REQUIREMENTS

A seat belt set of commercially available automotive, or aviation shoulder harness type shall be provided that has a minimum of three points of attachment.

4.2.4 SALE OF APPROVED KITS

A manufacturer or agent must not sell a CAO 95.10 aircraft kit until that kit has been approved in writing by RAAus, or has an approval as detailed in para 1.2 above.

Each kit offered for sale is to include all the following items:

a) a copy of the RAAus (or other) kit approval
b) an assembly manual or building instructions
c) a Flight Manual or Pilots Operating Handbook
d) a maintenance manual
e) a parts list or catalogue

4.2.5 ACCEPTANCE OF A KIT TO BE BASED ON A HISTORY OF SAFE OPERATION

Any person may apply to RAAus for acceptance of a CAO 95.10 aircraft kit.

Approval of a kit for a CAO 95.10 low momentum recreational aeroplane type must be based on a demonstrated history of safe operation of that type.

For all aircraft, satisfactory history of operation of one prototype plus at least one identical version for periods of 100 flight hours each is an acceptable basis to apply for approval of the kit for the aircraft type. The applicant is responsible for providing evidence to RAAus of a history of safe operation for the type.

4.2.6 CONSIDERATIONS

The history of safe operation of an aircraft type already operating overseas must include an analysis of:

a) published flight test reports.

b) incident and accident reports attributed to an aircraft related issue.

c) defect reports. Significant defects are to be documented, repair schemes developed by the manufacturer and incorporated into the kit.

Substantiation of flying hours - flying hours to be used for substantiating a history of safe operation are to be formally documented:

a) when 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; and

b) the Australian agent or representative is responsible for the provision of certified statements from owners/builders overseas attesting to the number of flying hours accrued on examples of the aircraft.

Performance and handling must be such that:

a) the aeroplane conforms to the requirements specified in the RAAus or CASA Flight Test Guide for assessment of Amateur-Built Aircraft accepted under an ABAA, or an equivalent overseas document accepted by RAAus; and

b) a qualified pilot of average ability should have no difficulty in controlling the aircraft at all times.

4.2.7 APPLICANT PROCEDURE

The applicant shall arrange to present a sample of the aircraft kit for which approval is sought, to the RAAus HAM, or an L4 approved by the HAM.

Documentation Required - an applicant seeking acceptance of a kit shall provide the following data to the RAAus HAM;

a) a detailed description of the aircraft including specification of its engine(s) and propeller(s);

b) a statement specifying the design standard to which the aircraft model was structurally tested, and the conditions and limitations during such testing, including the applied loads report and a report of the static testing undertaken; and

c) a report of the flight tests undertaken. These should follow the format given in the RAAus Flight Test Guide; and

d) a statement detailing operational limitations applicable to the aircraft type, including as a minimum:

   i. empty weight and maximum take-off weight; and

   ii. centre of gravity range and loading data; and

   iii. stalling speeds, maximum manoeuvre speed, never exceed speed, flap and undercarriage extension speeds (if applicable); and

   iv. drawings showing the general arrangement of the aircraft type and its sub- assemblies, which clearly define the material specifications, dimensions, rigging details, control surface deflections, tolerances, standard parts used and finish; and

   v. assembly or building instructions; and

   vi. a maintenance manual if provided by the kit manufacturer; and

   vii. a parts list or catalogue, preferably illustrated; and

   viii. a flight manual or pilots operating handbook if provided by the kit manufacturer; and

   ix. the aircraft kit manufacturers name and contact details.

4.2.8 EVALUATION

The RAAus HAM will evaluate the kit contents, data, drawings and statements to confirm;

a) the kit aircraft has been designed, manufactured or certified to carry no more than one person; and

b) the kit aircraft has a maximum take-off weight not exceeding 300Kg except in accordance with CAO 95.10 para 5.1 (a); and

c) the kit aircraft has a wing loading not exceeding 30 Kilograms per square metre at its max take-off weight

If the evaluation is found to be satisfactory, the RAAus HAM must issue a certificate (or the like) which indicates that the kit is accepted for RAAus registration and operation.

The issue of the certificate will allow kits to be produced for sale provided they precisely replicate the aircraft for which the acceptance was given.

Any changes to the kit will require contact with the HAM to ascertain whether those changes are major or minor in nature. Major changes will require a fresh application for an approval certificate. Minor changes can be addressed by way of a Service Bulletin, revised plans, or updated parts list etc from the kit Manufacturer.

If the kit evaluation is found to be unsatisfactory due to some technical reason, (for example, the aircraft would surely exceed the max take- off weight permitted under CAO 95.10) no approval certificate can be issued, however the aircraft may still be eligible for RAAus registration and operation as a CAO 95.55 amateur-built aircraft.