SECTION 15.1 LIGHTWEIGHT AEROPLANES

15.1.1 INTRODUCTION

CAO 95.55 provides for the operation of certain production, experimental amateur built lightweight aeroplanes registered by RAAus.

15.1.2 CRITERIA

A lightweight aeroplane is an aeroplane (other than a light sport aircraft or ultralight aeroplane):

a) that is a single-place or two-place aeroplane; and

b) that has a single engine and a single propeller; and

c) that has a maximum take-off weight:

   i. if it is not equipped to operate on water — greater than 600 kilograms but not exceeding 760 kilograms; or

   ii. if it is equipped to operate on water — greater than 650 kilograms but not exceeding 760 kilograms; and

d) for which:

   i. a certificate of airworthiness is in force under regulation 21.176 of CASR; or

   ii. in the case of an amateur-built or kit-built aeroplane — an experimental certificate is in force under regulation 21.195A of CASR.

15.1.3 AIRCRAFT REGISTRATION PROCESS

Apply to RAAus to reserve a RAAus registration number using TECH FORM 11. See also Section 5.1 (4.2) and the current RAAus schedule of fees.

RAAus will allocate a registration number when TECH FORM 011/23 Reservation of Aircraft Registration Number is completed and signed by the applicant and submitted to RAAus for processing together with the appropriate fee.

Note: this is a registration number allocation only and is not in itself registration of the aircraft or a permit to fly the aircraft.

All RAAus Aircraft listed in accordance with this Section will bear the registration numbers as described in Section 5.1 of this manual.

The allocation and reservation of an RAAus aircraft registration number is the first step in the process of applying for the registration of a RAAus aircraft and if necessary the issue of an initial or replacement Certificate of Airworthiness or a Permit to fly. Refer to the RAAus Group G CoA Matrix at the end of this section for further guidance.

15.1.4 CERTIFICATE OF REGISTRATION REQUIREMENTS

Eligibility

The first step in applying for a Group G aeroplane's registration requires the applicant to complete an application for the reservation of a RAAus registration number and then carry out a process of self-determination of the aeroplane's eligibility for registration as a Group G lightweight aeroplane using TECH FORM 101G for non-VH registered LWA or TECH FORM 102G for currently registered VH LWA. The application forms assist the aeroplane owner to self-determine eligibility. All criteria in TECH Form 101G and 102G are essential and must be met to

proceed with an application for aircraft registration. This first step is a fundamental requirement in the process and will be validated by RAAus at the time of receiving a complete application for registration.

Documentation to be supplied for registration:

a) Evidence that the aircraft meets the requirements of CAO 95.55.
b) Image of the aircraft data plate

For a currently VH registered Lightweight aeroplane with a Standard CoA or an Experimental Certificate you must supply legible copies of:

a) CASA issued Standard CoA or Experimental Certificate; and
b) CASA deregistration Certificate; and
c) Current W&B report; and
d) Maintenance Logbook statement identifying the standard to which the aeroplane has been maintained. e.g., CASA schedule 5; and
e) Current maintenance release; and
f) Images of registration markings fixed to the aeroplane; and
g) Image of the MTOW placard

15.1.5 FIRST OF TYPE ACCEPTANCE

CAO 95.55 permits the operation of a factory-built aircraft which:

a) has a Type Certificate or equivalent document issued by CASA or another National Airworthiness Authority (NAA) from overseas; and
b) has a Production Certificate or equivalent document permitting the manufacture of aeroplanes, issued by CASA or another National Airworthiness Authority (NAA) from overseas; and
c) meets the maximum weight, and other specifications detailed in the CAO.

RAAus must be satisfied that all aspects within CAO 95.55 are met for any new aircraft types coming on to the RAAus register.

RAAus shall accept no liability for any aircraft brought into Australia and subsequently found to be not compliant with the provisions of CAO 95.55.

First of type in Group G will require that CASA issue a Type Certificate or Type acceptance Certificate before it is eligible for RAAus registration.

15.1.6 AMATEUR BUILT OR KIT BUILT AIRCRAFT – NEW BUILDS

The definition of an RAAus Amateur Built Aircraft or kit built aircraft is an aircraft that has been or is being built by an individual or group of individuals, for educational and or recreational purposes, and the major portion of the aircraft has been completed by the builder/s. Evidence is to be supplied in the form of a builder's log.

A builder's log records the details of the aircraft's construction. A log should contain matters such as the date of the work, the work performed, any assistance received, the hours worked for that session, details of any stage inspections conducted, any other pertinent information. Sufficient photographs should be taken during construction to support the builder's log.

Members intending to build and register an Amateur Built Aircraft or kit built aircraft with RAAus should obtain a copy of FAA AC 43.13-1B Acceptable Methods, Techniques and Practices – Aircraft Inspection and Repair available from the FAA website www.faa.gov and at various aviation suppliers or bookstores.

The document contains valuable advice regarding not only inspection and repair as the title suggests, but practical

information for constructors of aircraft.

The design of an Amateur Built Aircraft under this Section need not be of an approved design or be constructed from aviation grade materials. The aircraft can be of any origin, including an existing amateur built aircraft that has been modified or altered in some manner, but remains within the weight and stall speed requirements set out in CAO 95.55 and complies with all relevant and current Advisory Circulars, kit manufacturer's bulletins and RAAus Airworthiness Notices. Essentially the choice of aircraft type and model, including engine(s), is at the discretion of the builder.

Two seat aircraft which comply with the requirements of this section may also be eligible to be used for the purpose of training the builder (or each person in a group of builders) for the issue of a Pilot Certificate.

15.1.7 DETERMINATION OF MAXIMUM TAKEOFF WEIGHT (MTOW) FOR AMATEUR BUILT AIRCRAFT

DEFINITIONS SPECIFIC TO THIS SECTION:

Adult means a person who has turned 16.

Adult Weight for purposes of aircraft weight is 86kg for each aircraft seat, or as defined by CASA in the Part 21 MOS (Prescribed Standard Weights) for the purposes of paragraph 121.440(2)(c) of CASR.

Manufacturer's Empty Weight (MEW) (also referred to as the approved aircraft standard empty weight) is the empty weight of the aircraft "as built" and includes the weight of the structure, power plant, propeller, furnishings, installations, instruments, systems, and other equipment that are considered an integral part of the aircraft before additional operator items are added for operation. For clarity this is the aircraft's standard basic dry weight upon which all other weight and balance calculations, standard specifications and aircraft performance are based by the plan's designer or the aircraft manufacturer.

Aircraft Functionality means the aircraft must be capable of conducting a flight with all seats occupied (using a minimum of Adult Weight or actual weight of the POB if the actual weight is greater than Adult Weight), and carry sufficient fuel for a minimum of 1 hrs flight duration plus legal reserves at a weight at take-off not exceeding 760kg.

15.1.8 CERTIFICATE OF AIRWORTHINESS

See the RAAus Group G aircraft registration matrix at the end of this section for required application which is dependent on the certification basis and current registration status. **All LWA registered with RAAus require a CASA issued certificate of airworthiness or experimental certificate as applicable to operate. This is in addition to a registration certificate.**

15.1.9 MAINTENANCE

A lightweight aeroplane must be maintained in accordance with CAR 4 to 4D. Part 4A of Civil Aviation Regulations (CAR) sets out when CASA can give directions relating to the maintenance of Australian aircraft. This includes:

a) what maintenance is required to be carried out on class A and B aircraft
b) provisions about maintenance schedules and systems of maintenance
c) provisions as to how maintenance is to be carried out including the installation and use of aircraft components.

Only appropriately qualified Part 66 licence holders may carry out maintenance on an amateur built lightweight aeroplane unless an individual has been authorised under CASA instrument 18/22 (or updated instrument)

CASA 18/22 — Maintenance (certain amateur-built, kit-built and light sport aircraft) Instrument 2019 authorises certain persons involved in the fabrication or assembly of certain amateur-built and kit-built aircraft to carry out

maintenance on such aircraft in Australian territory, and to perform certain functions in respect of maintenance of such aircraft, subject to conditions.

15.1.10 REPAIRS AND MODIFICATIONS

A person must not operate a type certificated lightweight aeroplane that has been repaired or modified unless the repair or modification has been approved by:

a) CASA or an authorised person under sub regulation 35 (1) of CAR as the provision was in force from time to time before its repeal; or

b) CASA, under regulation 21.435 of CASR; or

c) an authorised person or approved design organisation under regulation 21.437 of CASR

15.1.11 PILOT MAINTENANCE

Provided it does not alter or require a change or disassembly of the primary structure of the aircraft, pilot maintenance for a LWA is defined as:

a) Removal or installation of landing gear tyres
b) Repair of pneumatic tubes of landing gear tyres
c) Servicing of landing gear wheel bearings
d) Replacement of defective safety wiring or split pins
e) Replacement of side windows
f) Replacement of seats
g) Repairs to upholstery or decorative furnishings inside the cockpit
h) Replacement of seat belts or harnesses
i) Replacement or repair of signs and markings
j) Replacement of bulbs, reflectors, glasses, lenses and lights
k) Replacement, cleaning, or setting gaps of, spark plugs
l) Replacement of batteries
m) Changing oil filters or air filters
n) Changing engine oil or fuel
o) Lubrication of components
p) Replenishment of hydraulic fluid
q) Application of preservative or protective materials
r) Removal or replacement of glider tow hooks
s) Carrying out a duplicate inspection of a flight control system that has been assembled, adjusted, repaired, modified or replaced
t) Carrying out a daily inspection on an aircraft

Who can do pilot maintenance on a Lightweight Aeroplane?

The holder of a RAAus pilot certificate endorsed for the operation of a lightweight aeroplane or a CASA Part 66 LAME.

The person carrying out pilot maintenance is responsible for ensuring they are familiar with, and can satisfactorily comply with, any manufacturer's instructions regarding the maintenance before undertaking any of the tasks identified. RAAus strongly recommends guidance should be sought by pilots from a relevant CASA Part 66 licence holder on the correct aircraft maintenance practices and procedures.

If tooling is to be used that requires calibration, it is the responsibility of the person using the tooling to ensure that the tooling is within its calibration tolerance and test period. Calibration ensures the accuracy of tools, such as torque wrenches, used to maintain aircraft and aeronautical products.

Upon completion of maintenance, the pilot performing the maintenance is responsible as the person carrying out that maintenance to record all relevant details and make the appropriate certifications, as required by this TM in the aircraft's logbook or, if appropriate, on the aeroplane maintenance release.

15.1.12 DEFECT REPORTING (Refer also to Section 13.1)
RAAus uses defect reports as a means of identifying trends in design and maintenance reliability for the benefit of aviation safety. Reports are collected by RAAus and maintained in a database. It is of benefit to both RAAus and the recreational aviation sector that information reported is accurate and relevant.

For a lightweight aircraft a defect must be reported by the aircraft maintainer or the aircraft owner, if the owner is not the aircraft maintainer, in accordance with the requirements of Section 13.1 of this manual. In all cases the responsibility for ensuring a defect report is submitted to RAAus is with the aircraft owner.

15.1.13 IMMEDIATELY REPORTABLE MATTER (IRM) AND ROUTINE REPORTABLE MATTER – TSI Act (2003

An Immediately Reportable Matter (IRM) for a lightweight aircraft, must be made via phone to RAAus as soon as reasonably practicable, and in writing within 72 hours in accordance with the requirements of Section 13.2 of this manual.

A Routinely Reportable Matter (RRM) for a lightweight aircraft must be notified in writing to RAAus within 72 hours of the occurrencein accordance with the requirements of Section 13.2 of this manual.

RAAus online Occurrence Management System (OMS) must be used for this purpose.