

Revision 3

18 January 2022

Special Category—Amateur-Built Aircraft Airworthiness Certificates

General

Civil Aviation Authority (CAA) advisory circulars (ACs) contain information about standards, practices, and procedures that the Director has found to be an **acceptable means of compliance** with the associated rule.

Consideration will be given to other methods of compliance that may be presented to the Director. When new standards, practices, or procedures are found to be acceptable they will be added to the appropriate AC.

Purpose

This AC describes an acceptable means of compliance with Part 21, Certification of Products and Parts.

Related Rules

This AC relates specifically to Civil Aviation Rule Part 21, Subpart H – *Airworthiness Certificates*, rule 21.173(5) *Special category – amateur-built airworthiness certificate*, and rule 21.197 *Special category – amateur-built certification requirements*.

Change Notice

Revision 3 is a complete re-issue with many updated sections to reflect the latest CAA and Federal Aviation Authority (FAA) interpretations and guidelines.

Version History

The record of revisions to this AC are outlined overleaf:

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AC21-4, Rev 0	27 February 2006	Replaced Civil Aviation Pamphlet 20-1
AC21-4, Rev 1	20 September 2010	<p>Amended:</p> <ul style="list-style-type: none"> • the title to align with Part 91 and Part 21, and • the Part 91 rule references under Certification Steps. <p>Removed reference to actual dollar amounts where CAA fees were mentioned and instead refers to Civil Aviation Charges Regulations.</p>
AC21-1, Rev 2	4 February 2014	<p>Inserted a new paragraph (l) under “Design and Construction” to clarify some policy issues which could affect eligibility to be classified as an amateur-built aircraft.</p> <p>Updated the CAA point of contact manager title.</p> <p>Amended:</p> <ul style="list-style-type: none"> • Annual Review of Airworthiness (ARA) to read Review of Airworthiness (RA) • the period for RA to read “24-month period to align with Part 91” • paragraphs (a) and (c)(vii) under “Amateur Aircraft, Constructed Outside New Zealand”, to align with current policy for imported aircraft, and • rule reference 21.193(c) under “Issuance of Special Category Airworthiness certificate” to read 21.197(a)(9), to align with the current version of Part 21.
AC21-1, Rev 3	18 January 2022	A complete re-issue with many updated sections to reflect the latest CAA and FAA interpretations and guidelines.

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Certification, Maintenance and Operation of Amateur-built Aircraft.

1. Purpose

This AC provides guidance concerning the construction, certification, maintenance and operation of amateur-built aircraft of all types. It explains how much fabrication and assembly the builder must do for the aircraft to be eligible for amateur-built certification and describes CAA's role in the certification process. It does not replace any manufacturer's, or designer's, instruction manual or any other technical information supplied by a kit manufacturer or supplier of aircraft plans.

The aircraft builder is responsible for the quality of workmanship, materials, maintenance, and the ultimate airworthiness of the aircraft.

2. Amateur-built aircraft philosophy

2.1. Definition of an amateur-built aircraft

Under Part 1, amateur built aircraft means an aircraft that is eligible for the issue of a special category—amateur-built airworthiness certificate under Subpart H of Part 21; and—

(1) the aircraft's amateur constructor has built the major portion of the aircraft for the constructor's own education or recreation; or

(2) the aircraft is a light sport aircraft designated by the manufacturer as an experimental – light sport aircraft.

In practice, this means any amateur-built aircraft (excluding light sport aircraft) which is at least 51% built by the amateur constructor/ builder for their own education or recreation. This is consistent with the FAA definition which requires an amateur-built aircraft to have had the majority completed by the builder for their own education or recreation. While this requirement is not in the Part 1 Definition, it is specified in Part 21 at rule 21.197(a)(5)(i).

Note: This precludes an amateur-build aircraft being built for any commercial purposes.

2.2. Background

CAA introduced a completely new process for certification of amateur-built aircraft when Part 21 was published in July 1995.

Prior to 1995 the homebuilt system was based on the British model and resulted in the issue of a Permit to Fly. There was a lot of control over the aircraft type and general parameters, with acceptance of aircraft plans and approval of any changes. Aircraft were expected to have stage inspections carried out by CAA Inspectors, and workshops, tooling, and construction conditions were assessed and approved by CAA.

2.3. Current system

The certification process completely changed under the new Part 21, which brought in a new process based on the successful FAA system.

Certification is now based on a single inspection of the completed aircraft by CAA, followed by a period of flight testing to prove airworthiness. This concept allows the maximum freedom of choice and innovation, balanced with the need for the constructor to act responsibly and seek

advice from those with the knowledge and appropriate qualifications before proceeding. CAA's inspection of an amateur-built aircraft is limited to:

- ensuring the use of acceptable workmanship, methods, materials, techniques and practices, and
- issuing operating limitations necessary to protect persons and property not involved in operating the aircraft.

The new certification process for the construction and operation of amateur built aircraft in New Zealand is intended to enable:

- constructors to build an aircraft with a minimum of CAA involvement, and
- a means to prove the airworthiness of the aircraft by flight evaluation alone.

2.4. Some things a builder should be aware of

Under the previous system builders had to notify CAA of their intention to construct an aircraft, using CAA Form 2188. This is no longer the case.

However, now that CAA only carries out one inspection of the completed aircraft and does not see the project before then, there are some issues that the builder needs to be aware of in advance, and some actions they need to remember to do.

It is most important that the builder:

- carefully documents the assembly work and compiles a detailed Construction Log, and
- makes sure to photograph any areas which will be covered in during construction and thus can't be seen when the aircraft is finished.

This photographic log can also serve to show the amount of work completed by the builder, to satisfy under the "51%" rule as amateur-built, as well as showing the areas of the structure which are no longer visible.

Another potential issue to be aware of is control cables which have had the ends crimped after installation, and which need to be tested in accordance with the requirements of DCA/GEN/6. Access for this purpose can be difficult once the cables have been fitted.

2.5. Important considerations arising from the definition

The definition of an amateur-built aircraft leads to several important considerations, which are outlined below.

Firstly, by definition, an amateur-built aircraft is one which the owner is the builder who completed the majority (51% or more) of the aircraft for their own education or recreation. This is not usually a problem in New Zealand but has been in the USA where some organisations exist to complete amateur-built aircraft for sale or on commission. Manufacturing for the purpose of re-sale is commercial work which is outside the definition for this class of aircraft. Similarly, a builder is not permitted to pay others to help them complete the aircraft, except for specialised services like welding. This is why it is important for the builder to compile a Construction Log to be able to establish that they built 51% of the aircraft for their own education and recreation.

At the finish of the construction process, the builder will be required to submit a completed form CAA 2115, *Eligibility statement - amateur-built aircraft*, witnessed by a JP, lawyer, or other registered professional, which certifies the major portion was fabricated and assembled by the applicant for their own education or recreation.

Note: Some kit manufacturers in the USA offer fast-built kits, and in some cases a factory-supported build process: one example is the “two weeks to taxi” program offered by Glastar. These kits or builder-assistance programmes will usually have been evaluated and certified by FAA to meet the 51% rule, under a very well-defined FAA process which involves quite detailed checklists. CAA will accept processes that have been through and been certified by these FAA determinations. For kits where the FAA-certified status is not so clear, it is important for builders to confirm that the kit has been accepted by the FAA before committing to a purchase. It is also important to bear in mind that FAA evaluations and approval of the 51% major portion rule will be specific to a particular aircraft and builder-assistance programme.

Secondly, a type-certificated aircraft cannot form the basis of an amateur-built aircraft, regardless of how extensively it is modified. This is because the amateur-built category is not intended to be used as a means to avoid normal modification standards for type-certificated aircraft. Some major components of a type-certificated aircraft may be used, such as a fuselage, but that component will then not be included when reviewing the work performed by the constructor in assessing eligibility under the 51% rule.

Note: This interpretation of the amateur-built category is exactly as practiced by FAA. Because CAA has adopted the FAA amateur-built system and definitions, the FAA interpretation of those particular rules are generally accepted.

In the construction of amateur-built aircraft, commercially produced components and parts which are normally purchased for use in type-certificated aircraft may be used. These include:

- Powerplant (engines and engine accessories, propellers)
- Undercarriage (tyres, spring steel landing gear, wheel and brake assemblies)
- Helicopter Dynamic Components (main and tail rotor blades, rotor hubs, gearbox)
- Specialised Manufacturing Assemblies (forgings, castings and extrusions)
- Standard aircraft hardware (pulleys, bell cranks, rod ends, bearings, bolts, rivets etc.)

If you have any doubt about compliance with either of these issues, we recommend you consult CAA before committing any resources to the project.

CAA also recommends that an owner should seek professional design advice if they are contemplating a completely original design, or major modifications to an existing design. This is a very important safeguard to ensure areas such as structural strength, stability, weight and balance and engine performance and cooling have been adequately considered.

Although they are no longer required, stage inspections by an appropriately rated licensed aircraft maintenance engineer (LAME) or a mentor appointed by the Sport Aircraft Association of New Zealand (SAANZ) are still highly recommended, especially prior to the closing up of areas that cannot be viewed during the CAA inspection.

3. General advice for builders

Many people who want to construct their own aircraft have little or no experience in aeronautical practices, workmanship or design. An excellent source for advice in such matters is SAANZ, an organisation established to promote amateur aircraft construction and give technical advice and assistance to its members. SAANZ has a technical committee which aims to ensure the safety and reliability of amateur-built aircraft. They also appoint mentors who can assist on amateur-built aircraft projects and offer constructive advice regarding workmanship or design, or both.

Any choice of engines, propellers, wheels, or other components, and any choice of materials may be used in the construction of amateur-built aircraft. However, it is strongly recommended that materials of aircraft quality and specification be used in areas of the primary structure such as:

- wing spars
- fuselage structural members, and
- critical attachment fittings.

Materials of unknown strength and quality should not be used.

Good aviation design practices should be followed wherever possible. Although there are no mandatory design standards for amateur-built aircraft, airworthiness design standards like FAR Part 23 for small aircraft have been developed as a result of lessons learned. For example, the design of the cockpit or cabin of the aircraft should avoid, or provide for padding on, any sharp corners or edges, protrusions, knobs and similar objects which may cause injury to the pilot or passengers in the event of a head-strike during an accident.

It is strongly recommended that Technical Standard Order (TSO) approved or equivalent seat belts be installed, along with approved shoulder harnesses. For example, automotive seat belts to NZS 5401:1982 or BS 3254:1988, Part 1, would be acceptable as equivalents. It is also important that builders do not make changes to the seatbelt mounting attachments in the aircraft plans without careful consideration of the implications. A recent accident in New Zealand was fatal to the pilot because the seat belt attachment had been unintentionally weakened during a design change to the aircraft.

Engines installed in multi-seat aircraft should have an independent source of ignition to provide a backup if the primary source fails. An engine installation must ensure that adequate fuel is supplied to the engine in all anticipated flight attitudes. The fuel system should be capable of delivering 1.5 times the maximum required fuel flow to the engine. The CAA Inspector will expect to see that a fuel flow test has been done and the result entered in the aircraft logbook.

A suitable means, consistent with the size and complexity of the aircraft, should be provided to reduce the fire hazard wherever possible. A fireproof firewall between the engine compartment and the cabin is a mandatory requirement.

Fuel systems must have a firewall shut-off valve (with positive OFF and ON stops). The fuel system must have water drains at the low points of all tanks and at the lowest points of the fuel system and an in-line filter or 'gascolator' in front of the carburettor or injector. Fuel tanks should be positively vented and be capable of withstanding 10.3 kPa (1.5 psi). When applicable, a carburettor heat system must also be provided to minimise the possibility of carburettor icing.

Electrical installations should have individual circuit protection and wiring capable of carrying the anticipated load. An electrical loads analysis should be carried out on the planned electrical components against the capacity of the generation and storage system planned. It is recommended that aircraft-grade wiring and fittings should be used, and vented cell batteries, (or the more modern closed AGM-type batteries) are secured in enclosed boxes which are vented overboard.

Radio communication, navigation, intercommunication, transponder and emergency locator installations, meeting the requirements and specifications of Part 91, should be carried out to the manufacturer's Instructions, taking into consideration the recommended aerial positions, ground planes and power requirements.

All avionic equipment should be properly earthed and protected by fuses or circuit breakers.

All radio equipment should be performance checked on installation by a qualified person using the appropriate test equipment to highlight any installation and performance problems before flight. Radios and transponders must meet the Class 1 or 2 technical standards in Part 91 to operate in controlled airspace.

There is additional information and guidance concerning acceptable fabrication and assembly in:

- FAA AC 43.13-1B, *Acceptable Methods, Techniques, and Practices - Aircraft Inspection and Repair*, and
- FAA AC 43.13-2B, *Acceptable Methods, Techniques, and Practices — Aircraft Alterations*.

These publications can be downloaded from the FAA website at https://www.faa.gov/regulations_policies/, by using the Advisory Circulars search tab.

3.1. Nearing completion

When the aircraft is nearly ready to fly, the builder will need to make two applications to CAA:

- Registration of the aircraft, and
- Issue of a Special Category Amateur-Built airworthiness certificate.

CAA recommends that builders get any applications in at least two months before they expect the aircraft to be completely finished.

4. Aircraft registration

An aircraft must be registered before any category of airworthiness certificate can be issued. Part 47, *Registration and Marking of Aircraft*, prescribes the requirements for registering civil aircraft and the location and specification of registration marks. Additional information can be found in the associated AC47-1, *Aircraft Registration and Marking*, and there is also some general guidance on the CAA website.

Note: Registration applications for amateur-built projects will only be accepted when the aircraft is substantially finished and it is clear that the project will be completed.

The aircraft type/model will be taken as specified by the kit manufacturer or the designer of a plans-built aircraft. It is important that information to identify the aircraft is provided with the application for registration. This could be a copy of the plans showing the model number and

allocated serial number, or a copy of the dataplate supplied by the kitset manufacturer, or something equivalent.

Note: CAA policy is to use a single generic model name wherever possible, even though there might be small differences between some variants. Often model name changes are made by the manufacturer for small cosmetic changes for commercial reasons. If any safety information needs to be sent to owners, it is much easier to do so if they are all registered under the one family model name.

The aircraft must also have an identification plate made of a fireproof metal, or other fireproof material with suitable physical properties, that is stamped, engraved, or etched with the allocated nationality and registration marks, as required by rule 47.119. This must be affixed to the aircraft in a prominent position near the main point of entrance to the aircraft.

Part 21 requires the aircraft to be identified by the means specified in Part 21 Subpart Q: that is, a dataplate for the aircraft, engine and propeller which specifies the make and model. (This is separate to the ID plate required under rule 47.119, but note, however, that they can be combined.) Many kits may not come with an airframe dataplate. In that case one can be made up by the builder, or you can purchase blank nameplates from various organisations like the Experimental Aircraft Association (EAA).

Special Category amateur-built aircraft can also apply to have an Identifiable Paint Scheme approved for the aircraft. This application should be made on CAA Form 24047-04.

5. Certification process for amateur-built aircraft

5.1. Application

Applications for a Special Category Experimental airworthiness certificate should be made on CAA Form 24021/06.

It is important all applicable sections of this form are completed, and particularly important for the applicant to provide a statement specifying the purpose for which the aircraft is to be used. This is because the Director is obliged to consider what the aircraft is going to be used for and if any special safety considerations would apply under such particular use. (That also means the aircraft could not later be used for any purpose which was not disclosed to CAA at the time of the application.)

The Director also has the power under section 7(3) of the Civil Aviation Act 1990 to impose conditions as the Director considers appropriate on airworthiness certificates.

On receipt of the application, CAA will send out details of the steps to be followed and what the applicant will be expected to provide when the CAA Airworthiness Inspector comes to survey the aircraft. This will include:

- the information required under Rule 21.197(a)
- any instrument and equipment requirements under Part 91 Subpart F, and
- any maintenance requirements under Part 91 Subpart G.

In addition, logbooks should have been raised for the airframe, engine and propeller, and Airworthiness Directives (ADs). All applicable Airworthiness Directives (including DCA/ABUILT/) should be certified in the AD logbook.

5.2. Aircraft survey

As mentioned previously the philosophy of the amateur-built aircraft system is that CAA conducts an initial inspection looking for workmanship and any potential unsafe features.

The physical inspection of the aircraft will include:

- verification of dataplate details
- conformity with the defined type design or aircraft configuration
- compliance with New Zealand requirements
- checks for satisfactory workmanship (in accordance with standard practices), and
- checks that there are no obvious unsafe features.

The CAA inspection is limited to the following regulatory aspects:

- ensuring the use of acceptable workmanship, methods, materials, techniques and practices, and
- issuing operating limitations necessary to protect persons and property not involved in operating the aircraft.

The inspection can take place wherever the aircraft is located. The location must be clean and well-lit to provide adequate access to the aircraft. At the time of the inspection, the aircraft must be presented in essentially a complete state ready for flight, except for cowlings, fairings and panels opened for inspection access, and propeller spinner removed where applicable.

The aircraft must be fitted with the passenger warning placard required by rule 21.205. In addition, during the experimental test flying period, it must have the word EXPERIMENTAL affixed to the aircraft exterior near the point of entry.

The aircraft should also have the air speed indicator (ASI) marked, or the instrument panel placarded with the applicable operating limitations (VNE, VLE, VF, VA etc.), and the engine instruments should also have the appropriate operating limit markings or placards. The fuel and oil grade and quantity should be placarded at the filling points. A warning decal should be fitted if a ballistic recovery parachute is fitted.

5.3. Maintenance programme

All Special Category aircraft must have a Maintenance Programme that has been approved under rule 91.607. If the builder has purchased a SAANZ Maintenance Programme for the aircraft, this is automatically accepted by CAA and can be approved at the time of the survey. If the builder has produced their own customised Maintenance Programme, this should be submitted well in advance for CAA review and approval.

5.4. Flight evaluation

Once the aircraft inspection has been found to be satisfactory, the Airworthiness Inspector will issue a Special Category Experimental airworthiness certificate for the purpose of flight evaluation. (In the FAA system this is referred to as Phase 1 Operating Limitations.)

Under this certificate the aircraft may be flight tested to prove airworthiness. The flight test period will be either:

- a minimum of 25 hours, if the aircraft has a type-certificated engine and propeller combination, or
- a minimum of 40 hours.

Amateur-built gliders, balloons and airships built from kits will be limited to operating within an assigned flight evaluation area for at least 10 hours of satisfactory operation, including at least five take-offs and landings.

5.5. Test pilot

A standard condition on a Special Category Experimental airworthiness certificate is that the aircraft can only be flown by a test pilot approved under rule 19.405. The guidelines for test pilot required qualifications and experience are given in AC19-1, *Test Pilot Approvals*.

Note: Where a glider or powered glider is to be flight tested, a New Zealand Gliding Test Pilot Approval should be applied for under their Part 149 approval.

During the flight test period the aircraft may only be flown solo by the test pilot and is subject to strict limitations to minimise third-party risk. There is also provision that an 'Additional Pilot' can now be carried in accordance with the principles in FAA AC90-116.

SAANZ can provide an acceptable flight test schedule template, or CAA can provide a generic sample schedule upon request. (See also FAA AC 90-89A, *Amateur-Built Aircraft and Ultralight Flight-Testing Handbook*.)

5.6. Flight test area

The Phase 1 Experimental airworthiness certificate will specify a range of conditions and limitations, which will include a flight test area selected to minimise any third-party risk. The flight test area would normally be an area within 50 nautical miles of the base airfield, with no flight permitted over built-up areas.

The flight test period should also be used to prove the limitations and the allowable manoeuvres which will be specified in the flight manual. CAA requires that there must be a flight manual specified for the aircraft which will be referenced on the Special Category – Amateur-Built airworthiness certificate. The builder should prepare an appropriate document to use as the flight manual for the aircraft. If there is not a flight manual readily available, CAA can provide a template which can be used to produce one.

The flight manual can be finalised after the flight evaluation, using the data obtained during the flight tests. The flight manual will then be assessed by CAA to confirm that it specifies the required flight envelope limitations for the aircraft.

One of the benefits of a flight manual is that the airworthiness certificate does not have to be re-issued if any details are changed, such as any operating parameters, or engine or propeller details. Any subsequent change to the flight manual should be sent to CAA for acceptance. Any changes may, of course, need to be proven by further flight test using a Special Category Experimental airworthiness certificate.

The Phase 1 Experimental airworthiness certificate is normally issued for a period of 12 months. If the flight evaluation is not able to be completed in this time, the certificate can be renewed. CAA will, however, expect to see an explanation of any issues encountered which have delayed the completion.

5.7. Flight test safety precaution recommendations

The test pilot should become thoroughly familiar with aircraft ground handling, including the effectiveness of the brakes, engine operation, and the ground handling characteristics of the aircraft by conducting taxi tests before attempting flight operations. Lift-off is not permitted during taxi tests without a Special Category Experimental airworthiness certificate.

Before the first flight of an amateur-built aircraft, the test pilot should take precautions to ensure that emergency equipment and rescue personnel are readily available in the event of an accident.

Sudden control movements or aerobatic manoeuvres should not be attempted until sufficient flight experience has been gained. This is crucial to establish that the aircraft is satisfactorily controllable throughout its normal range of speeds and manoeuvres.

Where it is proposed to carry out aerobatics in aerobatic-capable aircraft, spin entry and recovery should be included in the evaluation unless prohibited by design. It is recommended that a parachute be worn and that the canopy or door can be jettisoned when carrying out aerobatic manoeuvres and exploring the outer limits of the flight envelope.

When test flying amateur-built helicopters that have articulated rotor systems, the test pilot should be particularly cautious of ground resonance. This condition of rotor unbalance, if maintained or allowed to progress, can be extremely dangerous and can often result in structural failure. Tests showing that stability, vibration, and balance are satisfactory should normally be completed with the helicopter tied down, before beginning hover or horizontal flight operations.

5.8. Issue of Special Category Amateur-Built airworthiness certificate

Upon satisfactory completion of operations in accordance with the phase 1 Operating Limitations in the assigned evaluation area, the operator of the aircraft is required to submit evidence to the Director that a period of flight evaluation has been completed, as required by rule 21.197(a)(9).

This following statement should be entered in the aircraft logbook, and signed and dated by the test pilot carrying out the flight evaluation.

“I certify that the prescribed flight evaluation period has been completed and the aircraft is controllable throughout its normal range of speeds and throughout all manoeuvres to be executed and has no hazardous operating characteristics or design features. The manoeuvres executed were: (list all manoeuvres executed)”.

A copy of this, and the completed Flight Test Report, should be sent to CAA for assessment. Once these have been reviewed and found satisfactory, CAA will issue a non-terminating Special Category Amateur-Built airworthiness certificate. (This is called the Phase 2 Operating limitations under the FAA system.)

6. Design changes after airworthiness certificate Issue

If an owner wishes to make a major design change that may affect the airworthiness of the aircraft, after the airworthiness certificate and Phase 2 Operating Limitations have been issued, CAA must be advised of the extent and nature of the change before the aircraft is flown. This is a limitation specified on the back of the Phase 2 airworthiness certificate.

Should the design change be significant, such as an engine type, propeller, structural change or one that has the potential to change the aerodynamics or flight characteristics of the aircraft, it may be necessary for the aircraft to be re-inspected by CAA. In addition, further flight evaluation may be required under new Phase 1 Operating Limitations.

On satisfactory completion of this evaluation, CAA will re-issue the Phase 2 Operating Limitations to allow the aircraft to be returned to normal operations.

The maintenance aspects of a design change must also be considered, and the aircraft's maintenance programme reviewed by CAA to ensure that it remains relevant.

7. Amateur-built aircraft constructed outside New Zealand

If an amateur-built aircraft is imported into New Zealand, it will be treated the same as if it had been constructed here. If it is already flying, however, it is vital that the previous State-of-Registration National Airworthiness Authority (NAA) has already accepted the aircraft in the amateur-built category. (This would usually be by issue of an airworthiness certificate in that category.)

As a general rule, if the aircraft has been accepted as amateur-built by the foreign NAA then that determination would be accepted here. However, it depends on what that country's rules are.

Note: The FAA and Australian rules for amateur-built aircraft are the same as New Zealand. The UK eligibility requirements may be different.

If the aircraft is eligible, the owner should make applications for registration and issue of an airworthiness certificate in the same way as detailed above.

An imported aircraft cannot be registered in New Zealand until it has been de-registered in the previous State-of-Registry, and this has been formally notified to CAA.

An unflown imported aircraft will require the same inspection and issue of an airworthiness certificate and Phase 1 Operating Limitations. If the aircraft has completed the Phase 1 flight testing overseas, however:

- the aircraft will only be required to complete the minimal flight time needed to complete the standard flight test schedule, and
- the test pilot will need to make the logbook certification that the aircraft has no hazardous operating characteristics.

If these two requirements are met, CAA will recognise flight time accrued overseas, and will not require this to be repeated, unless there was some doubt as to its validity, or the aircraft had been modified since being imported.

Note: Some flight testing will still be required to satisfy rule 21.197(a)(9), because CAA cannot be sure of the conditions under which the previous foreign flight testing was performed, or the exact configuration of the aircraft.

8. Maintenance of amateur-built aircraft

For an aircraft issued with an airworthiness certificate of any category, all maintenance must be carried out and certified by persons approved or licensed under Part 66 (with the exception of Pilot Maintenance as defined in Part 43 Appendix A). The aircraft will not be released to

service until the certifying person is satisfied that all required maintenance has been carried out and that the aircraft is in a condition for safe operation.

The operator is responsible for providing a technical log which will be kept in the aircraft and used on a daily basis until filled and replaced. This log records daily flight hours, defects and rectification of defects. It also shows when the next RA is due.

Note: The technical log is an extension of the aircraft logbook and must be retained as such in accordance with Part 91 (AC91-6, *Aircraft technical log*, refers).

8.1. Maintenance approvals

The aircraft constructor may be issued a CAA Maintenance Approval under Part 66 Subpart D to carry out the maintenance on their aircraft if they:

- were the primary constructor of the aircraft, and
- can satisfactorily prove the required knowledge and skill to determine whether the aircraft is in condition for safe operation.

This approval will be granted based on the assumption that the constructor has a good technical knowledge of the aircraft. SAANZ runs a one-day training course on Civil Aviation Rules, intended to provide training on the other aspects needed to obtain a Maintenance Approval.

Someone purchasing a second hand amateur-built aircraft may also qualify for a Maintenance Approval if they pass certain papers of the licensed aircraft engineer examinations and an oral examination relating to the aircraft.

9. Type ratings

Test pilots approved under rule 19.405 need not be rated on the aircraft type to carry out evaluation flights. However, Part 61 Subpart B requires all pilots (other than those conducting the test flying evaluation) to be rated.

Note: Completion of a flight test schedule for an aircraft as Test Pilot would satisfy the requirements for issue of a type rating under the provisions of rule 61.55(b)(2).

10. Reference material

CARs, ACs and Airworthiness Directives may be obtained from the CAA web site www.aviation.govt.nz

Sport Aircraft Association of New Zealand (SAANZ) website is www.saa.org.nz

FAA ACs, etc. may be obtained on the website www.faa.gov

Experimental Aircraft Association (EAA) information may be obtained on the website www.eaa.org

Civil Aviation Charges Regulations can be found on the website: <https://www.legislation.govt.nz/regulation>