	SAAA CONTROLLED DOCUMENT	
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Information Paper

Convert RAAus Amateur-Built to VH Experimental Amateur-Built

This information paper provides guidance to persons who would like to know about converting an RAAus amateur-built aircraft to VH Experimental. This paper does not address the matters of ***RAAus Recreational Pilot* Certificate** to ***CASA Recreational Pilot Licence*** conversion or costs.

1. INTRODUCTION:

Is it possible to convert an RAAus amateur-built aircraft to VH Experimental? Yes.

VH registered amateur-built experimental aircraft are flown by holders of a CASA Pilot Licence eg RPL, PPL, CPL, ATPL, and the holder must also have a CASA Medical Certificate eg Class 1 or 2, or a Basic Class 2.

VH amateur-built aircraft have no maximum weight limit or passenger limits, and can be flown acrobatically if designed for that, and also if equipped, by night or under instrument flight rules.

2. WHY WOULD YOU WANT TO DO THIS?

Reasons may be numerous and vary. Some may be:

- Desire to operate over the RAAus 600kg weight limit (if aircraft design is capable).
- Desire to do aerobatics (if aircraft is capable).
- Desire to take more than one passenger.
- Desire access to controlled airspace. There is no “extra anything” for an experimental aircraft to be able to enter CTA. Some CTA (not all) does require a transponder.
- Desire Night or IFR capability (if aircraft equipped and pilot licenced for it).
- No annual aircraft registration fee.
- You may already have a CASA Pilot Licence to use.

3. ELIGIBLE AIRCRAFT:

Only amateur-built aircraft are eligible to receive a CASA Special Certificate of Airworthiness, (more commonly known as Experimental Certificate) under ***CASR 21.191(g) Operating an Amateur-Built Aircraft.*** For SAAA, this is the only type (of the many different Experimental Certificates available) that we deal with.

The aircraft may have been built from a kit, plans, or own design. Factory built aircraft of any type, even if modified, are not eligible aircraft.

4. SAAA AND EXPERIMENTAL:

SAAA is often referred to as a self-administering sport aviation organisation, but we are not. SAAA does not ***administer*** Experimental aircraft in Australia, CASA does. Anyone can participate in VH registered amateur-built aircraft totally outside SAAA. SAAA does not issue pilot qualifications, do pilot initial training, register aircraft. SAAA does have some members who are CASA Authorised Persons, able to issue Experimental Certificates and other approvals.

5. MAINTENANCE OF AMATEUR-BUILT EXPERIMENTAL AIRCRAFT:

Amateur-Built Experimental Aircraft are maintained and operated in accordance with all normal general aviation regulations, but we also have one or two special permissions, and there are one or two small exemptions.

CASA issues a General Legislative Instrument (permission document) that permits builders of amateur-built aircraft to maintain their aircraft and issue a Maintenance Release, subject to some conditions. One of those is that the person must hold a Certificate of Attainment from an approved course provider. One such provider is SAAA via the Maintenance Procedures Course (which is on regulatory matters, what you can and cannot do, and paperwork, it is not about spanner work) and this is available only to SAAA members (fees apply). CASA has not made this type of certificate "SAAA exclusive" - CASA has made it possible for other aviation industry training providers to build and market a similar course, but thus far, no other courses exist. CASA has left the door open and the welcome mat out. CASA does not recognise ***any*** previous maintenance experience or qualifications gained with RAAus, even if you have already been maintaining your aircraft via RAAus provisions for years.

The SAAA Certificate of Attainment itself ***is not*** a permission or an approval to do anything, it is just a certificate. Yes, it has value, it marries up with the CASA permission. Neither SAAA nor CASA gives any individual person any personal written approval for maintenance activities, it is all handled by the CASA General Legislative Instrument and the conditions within it.

LAMEs can of course maintain amateur-built experimental aircraft also and fortunately many LAMEs are now quite familiar with our types of aircraft and find them easy to work on.

Persons who purchased their amateur-built aircraft are not eligible to maintain it as a VH registered aircraft. Again, CASA does not recognise ***any*** previous maintenance experience gained with RAAus, defence, industry - none. So LAME maintenance would be required (other than CASA Schedule 8 Pilot Permitted Maintenance items, oil changes, and other similar basic tasks). There is one small exception in the CASA permission, which may apply to a person who has built an aircraft that is "essentially similar" to the one they want to maintain now. SAAA has an Information paper on that topic.

Myth-bust #1: Experimental Aircraft are not exempt from Airworthiness Directives, though in reality, there are not many specifically targeted to experimental aircraft. Some apply to all VH registered aircraft eg transponder checking.

Maintenance activities will change somewhat when CASA introduces new FAA-like Part 43 maintenance regulations (unknown exactly when). Purchasers of amateur-built experimental aircraft will be able to complete a 16 hour course on inspection (for the annual inspection) of

aircraft and obtain an Aircraft Maintenance Technician Certificate 3 (AMTC3) for those activities. Under Part 43, anyone, and this means ***anyone*** at all, will be able to conduct routine maintenance activities on experimental aircraft. Annual Inspection - no, only accredited persons with either AMTC 2 (builder) or AMTC3 (buyer). SAAA has already substantially built the 16 hour training course for AMTC3 – we aim to be ready on Day One of the Part 43 regs.

HOW TO ARRANGE A CHANGE FROM RAAus to VH:

6. CASA ARN (AVIATION REFERENCE NUMBER) REQUIRED:

CASA requires all those who have dealings with them to have an ARN – Aviation Reference Number. This is really *step one* if you do not already have an ARN with CASA.
https://www.casa.gov.au/licences-and-certification/individual-licensing/aviation-reference-numbers

7. AIRCRAFT REGISTRATION CHANGE:

Aircraft must be de-registered with RAAus, and written confirmation supplied.

Aircraft must then be registered with CASA. They will require proof of de-registration from RAAus. You may first ***reserve*** a VH Registration Mark from the available pool of vacant marks (as found on the CASA website) if you wish (CASA fees apply), and then ***register*** the aircraft (CASA fees apply). To save a few of dollars you may skip the aircraft reservation step and just register the aircraft, CASA will allocate you a VH mark from the pool.

CASA will require to know who is the Registration Holder, and who is the Aircraft Operator. Usually, we are one and the same. CASA will then issue an official Certificate of Registration.

https://www.casa.gov.au/aircraft/civil-aircraft-register

8. AIRCRAFT MARKINGS CHANGE:

Remove the RAAus aircraft registration marks.

Remark with the assigned VH registration mark. SAAA has an Information Paper on this topic. Basics are; 75mm minimum height letters, only on fuselage sides or vertical tail, no underwing required. Certain specifics apply to the location etc.

EXPERIMENTAL mark(s) must be displayed on the aircraft visible to persons as they board the aircraft. The SAAA Information Paper also has details.

A CAR 262AP(9) **PASSENGER WARNING PLACARD** is required for aircraft of two or more seats. This placard has different wording to any previously installed for RAAus operations. Remove RAAus specific placarding. The SAAA Information Paper also has details.

9. EXPERIMENTAL CERTIFICATE:

A CASA Special Certificate of Airworthiness (Experimental Certificate) must be sought after the aircraft is VH registered.

An Experimental Certificate is issued based on three main things as per CASA CASR Part 21 regulations; The applicant applies for it, is eligible for it, and is entitled to it.

An “airworthiness inspection” is not part of that process. Airworthiness is the responsibility of the registration holder/registered operator.

The certificate can be applied for to CASA or an Authorised Person (AP). There are numerous aviation industry commercial APs in Australia, and SAAA has APs in most states. Via our own processes, SAAA APs can only issue experimental certificates to our SAAA members – we are a member based organisation. (fees apply). A person is 100% able to apply to a commercial (aviation industry) AP or indeed CASA for an experimental certificate, SAAA holds no monopoly on their issue. (SAAA does not administer experimental aircraft in Australia, CASA does.) The SAAA path may be the least costly.

When applying for the Experimental Certificate, certain paperwork and documentation must be presented. For those applying to an SAAA AP, we have a “Checklist 3” that describes the requirements. An AP may require to inspect the aircraft – not for airworthiness, but for compliance matters and to assess general construction and condition, in order to compose any particular operating conditions or limitations to the aircraft. An AP will pay particular attention to the documented maintenance records of the aircraft.

An Experimental Certificate has an Annex of Operational Conditions and Limitations, composed by the AP. They are primarily to protect those persons on the ground and water who are not involved in your aircraft operation. They might include other requirements such as maintenance aspects. Most common well-known and proven aircraft types, with proper aircraft engines and propellers, will have minimal conditions. Aircraft of truly “experimental” design, perhaps one-offs of unconventional layout, or unconventional power-plants, might have additional conditions. Consult an AP or SAAA with any concerns or questions about your aircraft.

An RAAus aircraft that has been flying for quite some time and is now switching to VH registration, would normally be issued with a Phase 2 (ongoing operations) Experimental Certificate and these commonly have no expiry date.

10. FLIGHT OVER BUILT-UP AREAS:

One of the CASA CAR 262AP Experimental Aircraft Operating Limitations *excludes* Experimental aircraft from operating over the built-up area of a city or town, ***unless authorised to do so***. Some aircraft owners may need it, some may not.

Previous RAAus operations may not have been so fixed in black and white. CAR 262AP did not apply to your previous RAAus operations as your aircraft was not an “experimental” by designation. As a VH aircraft, now it does apply. RAAus may well have had other information about flight over built-up areas. You might not have had any *specific* written approval for your aircraft, but as a VH aircraft now, you ***will*** need that if you plan to fly over built-up areas. (CASA rules, not SAAA rules.)

SAAA APs can assess these application (fees apply). It is not simply a *“you buy it you get it”* proposition, each aircraft and application is assessed on its own merits. What the aircraft is, what it is powered with, propeller type, operational safe history etc all come into play. The authorisation might be issued unconditionally, or it might be issued with specific conditions attached. Or, depending on the aircraft, it might not be able to be issued at all.

11. ANNUAL INSPECTION AND MAINTENANCE RELEASE ISSUE:

Following issue of the Experimental Certificate, the aircraft must have an Annual Inspection performed and then have a fresh Maintenance Release issued. No exceptions. The only way to issue a Maintenance Release is via having an annual inspection performed.

The annual inspection is required even if the aircraft recently had one done when wearing RAAus registration. As soon as the RAAus registration is cancelled, the aircraft cannot fly again until VH registered, Experimental Certificate issued, Annual Inspection performed and Maintenance Release issued. No exceptions. (CASA rules, not SAAA rules.)

As previously mentioned, persons who hold the SAAA Maintenance Procedures Course Certificate of Attainment, *who are the original builder of the aircraft*, can do the annual inspection and issue the maintenance release. Alternatively, a LAME can do both.

12. WHAT IS ALL THIS GOING TO COST ME?

(Prices subject to change, not all items may have been listed here)

AIRCRAFT:	***COST***
CASA – RESERVE aircraft VH registration mark (if you desire to choose your own VH mark)	$65.00
CASA – REGISTER a VH aircraft	$130.00
SAAA membership (if you desire SAAA member benefits; eg access to SAAA AP, SAAA Maintenance Procedures Course, QBE Insurance as SAAA member, and many other practical benefits etc)	$270.00 p.a. (pro-rata for part year)
SAAA AP Service – Application for issue of Experimental Certificate (to existing flying aircraft) ***OR*** Issue of Experimental Certificate by CASA or an industry commercial AP	$400.00 (if no complications) $ unknown
SAAA AP Service - Application for authorisation for flight over the built up area of a city or town (*if needed*) ***OR*** Issue of Authorisation for flight over the built up area of a city or town by CASA or an industry commercial AP	$215.00 $ unknown
SAAA AP Service – NVFR or IFR applications	Contact SAAA
OTHER:	***COST***
SAAA Maintenance Procedures Course (2 days) attendance (if needed)	$550.00
LAME services (if needed – eg annual inspection and maintenance release issue to the non-builder aircraft owner or to a person not yet holding a Maintenance Procedures Course Certificate of Attainment)	$ unknown,
UNDER FUTURE CASA PART 43 REGULATIONS AMTC3 training course for Inspection of aircraft (for non-builders of aircraft)	$ unknown

ADDITIONAL EXPERIMENTAL MATTERS:

13. NIGHT VFR AND IFR APPROVALS:

NVFR and IFR approvals are available to appropriately equipped aircraft and when flown by appropriately licenced pilots. SAAA has Information Papers on those topics. Fees apply.

14. EXPERIMENTAL AIRCAFT OPERATIONS:

CAR 262AP Experimental Aircraft Operating Limitations apply to all Experimental Aircraft operations in Australia. Owners and pilots of Experimental Aircraft ***must*** be familiar with and comply with these. One of the most important ones is the required passenger briefing prior to flight. SAAA has an Information Paper on that topic.

15. AIRSERVICES PERMISSION TO OPERATE WITHOUT A NOISE CERTIFICATE:

Airservices is the government appointed agency to administer aircraft noise certification matters in Australia. All aircraft (not just VH registered ones) must either have a noise certificate (unlikely for ours) or permission to operate without a noise certificate (most commonly for ours) or be in an exempt category eg an aircraft designed for and exclusively used for aerobatics eg Pitts Special etc. Aircraft "capable of aerobatics" (eg Corby Starlet, RV4 and perhaps others) do not meet that same criteria.

This is an ***operational*** matter for the aircraft owner, not strictly a Special Certificate of Airworthiness issue matter. SAAA has an Information Paper of the topic. Currently, there is no fee to Airservices for this. SAAA encourages all aircraft owners to comply fully, it's not difficult and costs nothing - at present!

16. EXPERIMENTAL AIRCRAFT OPERATIONS IN CONTROLLED AIRSPACE:

Myth-bust #2: Assuming your pilot licence CTA operations, there is no extra permission required from anywhere to operate an experimental aircraft in controlled airspace. It does not exist. It's not a thing.

Some do confuse and link *operating over the built up area of a city or town* with *operations in controlled airspace.* They are two completely different things, but, they can exist separately or together. You may need authorisation to operate over the built up area of a city or town to access some controlled airspace airports (easy examples, Essendon, Moorabbin, Bankstown, Archerfield) as these are totally surrounded by suburbia. But does the aircraft need something else to access controlled airspace because it is Experimental? No.

Nor does the ATC tower need to know you are Experimental. Some ATCs might know what that means, many won't. Either way, they don't care, they have no different procedures for you. If they don't know what TYPE your aircraft is (for speed and performance matters) they will ask for what they need. You can certainly say Experimental in that case, it might help.

17. SAAA "CHECKLIST 3" CONTENT:

This is not the official Checklist 3 as it may change slightly from time to time, but it gives a good representation of the things involved. (This same checklist is also used for imported Experimental aircraft eg from USA.)

	Item:	Guidance:
1	**Documentation Inspection:**	
1.1	**Proof of payment to SAAA for Phase 2 Certificate.**	Receipt etc. (Can be used for item 1.3 on this checklist also)
1.2	**Letter 3 to AP**	Letter from applicant requesting a Phase 2 – Ongoing Operations certificate. (sample is included at end)
1.3	**Proof of current SAAA membership**	Membership card or other evidence. CAUTION! New (2018 on) blue membership cards have no date.
1.4	**CASA FORMS** **Form 718 – CofA Application** **Form 371 – Checklist 01B** **Form 372 – Checklist 02**	No Form 727 Eligibility Statement required as aircraft has been accepted as amateur-built by other agency/register.
1.5	**RESERVED**	
1.6	**Aircraft Identification photos &/or 3 views**	Required by CASR 21.193(b)
1.7	**Proof that the aircraft had been accepted and operated as an amateur-built aircraft**	Cancelled FAA Experimental Certificate, or documents essentially similar from other registering bodies. Copy of previous aircraft log book entries for the last year of operation.
1.8	**Certificate of Registration**	Ensure it is not just a reservation certificate. See evidence of the cancellation of previous registration.
1.9	**AIRSERVICES Permission to operate without Noise Certificate**	Not mandatory for CoA issue. (This is an operational matter). Some aircraft are exempt. Normally we do like to see it, you should have it.
1.10	**Weight & Balance Report**	Acceptable: Doc from another Recreational Aviation Administering Org. Doc accepted by FAA or other NAA. New CAO 100.7 doc by WCO. New CAO 100.7 doc by aircraft builder with current (2yr) SAAA MPC Topic15.
1.11	**Maintenance Release**	Not mandatory for CoA issue (This is a maintenance matter) Normally we like to see it in a prepared but not signed state.
1.12	**Maintenance Schedule**	Nominated in log book statement. Consider if adequate for aircraft, systems, & intended operations
1.13	**Flight Manual, Pilot's Operating Handbook and/or suitable operational placarding *(see item 3.9)***	Must be the completed document, or photographs of cockpit placarding if no AFM/POH. Ref CASA AC 21-34(***n***)
1.14	**New Aircraft log book(s) – airframe/eng/prop**	Must be CASA CAO 100.5 compliant
1.15	**Airworthiness Directives recorded in logbooks as complied with.**	Not mandatory for CoA issue (This is a maintenance matter)
1.16	**RESERVED**	

Checklist 3 items continued:

1.17	**CAR 262AP(5) authorisation sought?**	Not automatic - Must request it. See SAAA Info Paper IPM5 Flight over built-up areas
1.18	**Proof of payment to SAAA for CAR 262AP(5) application.**	Payment is for application and assessment. Issue is not guaranteed.
1.19	**CAR 262AP(6) approval sought?**	NVFR or IFR? Must request it. See SAAA Info Paper IPM6 NVFR and IFR considerations
1.20	**Proof of payment to SAAA for CAR 262AP(6) application.**	Payment is for application and assessment. Issue is not guaranteed.
1.21	**For NVFR and/or IFR flight: Evidence of suitability of equipment**	Logbook entry - LAME sign off that equipment meets CAO 20.18 & CAO 100.5 requirements

	Item:	**Guidance:**
2	**Airframe Inspection:**	
2.1	**Registration Marks x 2 sets**	CASR Part 45 MOS – 75mm minimum height
2.2	**Aircraft Manufacturer's Fireproof Data Plate**	CASR 21.820 Manufacturer/model/serial no.
2.3	**Passenger Warning Placard**	CAR 262AP(9) wording. Conspicuous to and easily read by <u>each</u> person <u>in</u> the aircraft. Not required for single seat aircraft.
2.5	**EXPERIMENTAL marking(s)**	CASR Part 45 MOS – 50mm minimum height Visible as persons enter.
3	**Airframe General Inspection:**	
3.1	**Engine Controls – operate properly?**	*AC21.4*
3.2	**Flight Controls – operate properly?**	*AC21.4* CAR 42G dual inspection recorded? (presumably done originally)
3.3	**Pitot/Static System – operate properly?**	*AC21.4* Logbook entry is a suitable check.
3.4	**Seat Belts & Shoulder Harnesses**	*AC21.4*
3.5	**Cockpit safe from protrusions?**	*AC21.4*
3.6	**Carb Heat (when applicable) fitted?**	*AC21.4*
3.7	**Firewall adequate?**	*AC21.4*
3.8	**Instruments suitable for intended flight category?**	*CAO 20.18* LAME logbook entry is a suitable check for IFR.
3.9	**Placards and markings**	May include operational placarding for item 1.13.
3.10	**Standard Aeronautical Practices used?**	(AP item for consideration.)
3.11	**General level of Workmanship?**	(AP item for consideration.)