



U.S. Department
of Transportation

**Federal Aviation
Administration**

Advisory Circular

Subject: CERTIFICATION AND
OPERATION OF
AMATEUR-BUILT AIRCRAFT

Date: 9/26/2003
Initiated by: AIR-200

AC No.: 20-27F

1. PURPOSE OF THIS ADVISORY CIRCULAR (AC).

a. This AC gives you information and guidance on how to—

- (1) Fabricate and assemble an amateur-built aircraft,
- (2) Register your aircraft,
- (3) Identify and mark your aircraft,
- (4) Get your aircraft inspected and certificated,
- (5) Flight test your aircraft,
- (6) Operate your aircraft,
- (7) Receive certification of an amateur-built aircraft purchased outside the United States, and
- (8) Become a repairman for your amateur-built aircraft.

b. This AC is not mandatory and does not constitute a regulation. This AC describes an acceptable means, but not the only means, to comply with the certification requirements for amateur-built aircraft listed in Title 14, Code of Federal Regulations (14 CFR) part 21, Certification Procedures for Products and Parts. However, if you use the means described in the AC, you should follow it in all important aspects.

c. Section 21.191(g) defines an amateur-built aircraft as an aircraft in which the major portion of the aircraft has been fabricated and assembled by persons who undertook the construction project solely for their own education or recreation.

d. Definitions of terms and sample forms and letters referenced in this AC are located in the appendixes. Lists of 14 CFR parts and publications related to this AC also are in the appendixes.

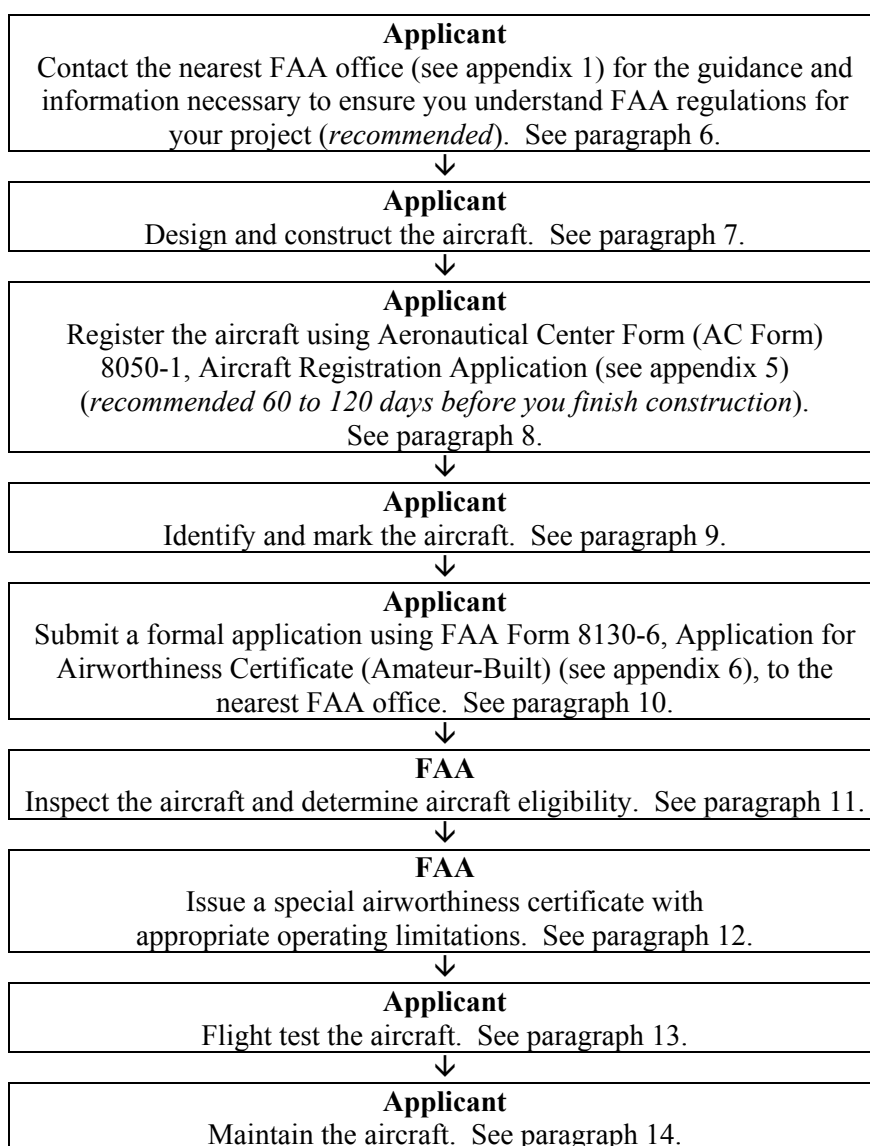
2. WHO THIS AC AFFECTS. This AC applies to anyone who seeks an airworthiness certificate for an amateur-built aircraft.

3. PRINCIPAL CHANGES FROM THE PREVIOUS VERSION OF THIS AC. This AC has been rewritten in plain language, including the use of more precise wording, descriptive headings, tables, figures, and active voice. This AC also follows the new format described in Federal Aviation Administration (FAA) Order 1320.46, Advisory Circular System; therefore, the overall organization of the AC has been changed.

4. DOCUMENT THIS AC CANCELS. This AC cancels AC 20-27E, dated September 26, 2001.

5. CERTIFYING AND OPERATING AN AMATEUR-BUILT AIRCRAFT. You should follow the steps in figure 1, *in general order*, when trying to get your airworthiness certificate. A detailed explanation of each step follows this flowchart (see paragraphs 6 through 14).

Figure 1 — Certifying and Operating an Amateur-Built Aircraft



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6. WHAT TO DO AND KNOW BEFORE BUILDING AN AMATEUR-BUILT AIRCRAFT.

a. We recommend that before you build your aircraft, you contact the nearest FAA office. Discuss the type of aircraft, its complexity, and its materials. Provide a three-view sketch, drawing, or photograph of the proposed aircraft project and the date you think you will finish. We should give you any guidance and information necessary to ensure you thoroughly understand the FAA regulations that apply to your project.

b. If you request them, we will give you all the forms you need to get your aircraft registered and certified. Refer to appendix 4 for a list of forms.

7. DESIGNING AND CONSTRUCTING AN AMATEUR-BUILT AIRCRAFT.

a. Asking Others for Help.

(1) Contacting the Experimental Aircraft Association (EAA). You can get help from the EAA (see appendix 7 for contact information). The EAA promotes aviation safety and construction of amateur-built aircraft, and provides technical advice and help to its members. EAA's Technical Counselors Program helps to ensure amateur-built aircraft are safe and dependable. EAA Technical Counselors may be available to visit an amateur-built aircraft project and offer to its members advice regarding workmanship. However, the EAA has advised the FAA that it does not provide technical help on designing an aircraft.

(2) Asking Other Persons With Expertise. During construction, you may ask persons with aviation design or engineering experience; other builders; mechanics with aircraft, airframe, and powerplant experience; and other persons with relevant expertise to inspect your aircraft. These persons can inspect the construction of particular components (for example, wing assemblies and fuselages) to verify an acceptable level of safety has been met.

(3) Contracting for Commercial Help. You may contract commercially for several tasks, such as installation of avionics, upholstery, and painting. See AC 20-139, Commercial Assistance During Construction of Amateur-Built Aircraft, for detailed information about the types of commercial help you can use.

b. Purchasing Prefabricated or Assembled Components and Materials.

(1) We do not expect you to personally fabricate every part of the aircraft. You may use commercially produced components and materials when constructing your amateur-built aircraft. However, we will not give credit for fabrication of these components. Use the guidelines in the table on the following page, especially for parts constituting the primary structure, such as wing spars, critical attachment fittings, and fuselage structural members.

Type of Component/Material	Guidelines for Use
Any choice of engines, propellers, wheels, or other components	We recommend you use FAA-approved components (for example, components produced under a production certificate, a technical standard order (TSO), or a parts manufacturer approval).
Any choice of materials	We recommend you use material of established quality (for example, materials produced under a military specification, SAE, or AN).
Major components (for example, wings, fuselage, and empennage) from type-certificated or experimental aircraft	You should know whether the components are in a condition for safe operation. This description refers to the condition of that component relative to structural strength, wear, or deterioration.

(2) You should not use materials whose identity or quality you do not know.

(3) You may use FAA Form 8000-38, Fabrication/Assembly Operation Checklist (see appendix 8), as an aid to determine if using certain components would affect the requirement to fabricate and assemble the major portion of your aircraft.

c. Meeting General Design and Construction Requirements.

(1) Amateur builders are free to develop their own designs or build from existing designs. We do not approve those designs, and it would be impractical to develop design standards for the wide variety of design configurations created by designers, kit manufacturers, and amateur builders.

(2) We recommend that you use FAA-approved components, especially when you are building parts constituting the primary structure. You should be able to prove the identity and quality of any materials you use.

d. Designing the Cockpit/Cabin. When you design the cockpit or cabin, you should do the following:

(1) Avoid sharp corners or edges, protrusions, knobs, and similar objects that may cause injury to the pilot or passengers during an accident. If you cannot avoid having them, you should pad them.

(2) Install FAA TSO-approved seatbelts and shoulder harnesses.

(3) Mark and place cockpit instruments and placards so they are easy to see.

(4) Include a fuel selector so the pilot can control the flow of all tanks. Make sure it's labeled clearly and appropriately.

(5) Clearly mark system controls, such as the fuel selectors and electrical switches or breakers. Make sure these controls are easy to reach and operate.

(6) Use the sample checklist in appendix 1 to AC 90-89, Amateur-Built Aircraft and Ultralight Flight Testing Handbook, to inspect cockpit instrumentation and systems controls.

(7) Place a firewall between the engine compartment and the cockpit or cabin if the design allows.

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e. Designing the Fuel System. When you design the fuel system, you should do the following:

- (1) Ensure your fuel tank can supply adequate fuel to the engine in all anticipated flight attitudes.
- (2) Ensure the fuel system controls are easy to reach and operate.
- (3) Provide a carburetor heat system to minimize the possibility of carburetor icing.

f. Building an Aircraft Using a Plan.

(1) Modifying a Design Plan. If you are working from a design plan and you want to make modifications, you should discuss the changes with the designer, kit manufacturer, or equally knowledgeable person. You should record in your builder's log any modifications you make.

(2) Buying a Partially Built Aircraft Built From a Plan. If you buy a partially built aircraft built from a plan, you should get all fabrication and assembly records, such as receipts for materials, the builder's log, and aircraft, engine, and propeller logbooks, from the previous owner. You should add the construction efforts of the previous amateur builders to your builder's log to show the construction history of the aircraft. This information may help us to determine that your aircraft is eligible for amateur-built certification.

g. Building an Aircraft Using a Kit.

(1) Kits Eligible for Certification. You should always verify the aircraft will be eligible for certification as an amateur-built aircraft. Advertisements may be somewhat vague and in some cases misleading about whether a kit will produce an aircraft eligible for amateur-built certification. Use the information in the table below as guidance.

Scenario	Eligible	Not Eligible
You are able to show you built the major portion of the aircraft.	X	
The kit you are using or intend to use is one we evaluated and placed on our listing of eligible amateur-built aircraft kits. (Note: We do not certify nor approve kits, kit manufacturers, or kit distributors. However, we do evaluate kits at the request of the kit manufacturer or distributor, primarily to determine if an aircraft built from a particular kit would meet the major portion requirement. You can contact your local FAA office for the current Web site address of the listing of eligible kits. Kits other than those on the list may produce an aircraft we would certify as amateur-built.)	X	
You used a construction kit containing raw materials and some prefabricated components. (Note: The raw materials may include lengths of wood, tubing, extrusions, or similar items that may have been cut to an approximate length. We will also accept some prefabricated parts such as heat-treated ribs, bulkheads, or complex parts made from sheet metal, fiberglass, or polystyrene, and precut/predrilled material, provided you fabricate and assemble the major portion of the aircraft as required by § 21.191(g), Experimental certificates: Operating amateur-built aircraft.)	X	
You assembled your aircraft from a kit composed of completely finished, prefabricated components, parts, or precut or predrilled materials, and using these materials means you did not fabricate and assemble the major portion of the aircraft.		X
You hired someone to build the aircraft for you, and hiring this person means you did not fabricate and assemble the major portion of the aircraft.		X

(2) Modifying a Kit. If you are working from a construction kit and you want to make modifications, you should discuss the changes with the kit manufacturer or equally knowledgeable person. You should record in your builder's log any modifications you make.

(3) Buying an Aircraft Built From a Partially Completed Kit. If you buy an aircraft built from a partially completed kit, you should get all fabrication and assembly records, such as receipts for materials, the builder's log, and aircraft, engine, and propeller logbooks, from the previous owner. You should add the construction efforts of the previous amateur builders to your builder's log to show the construction history of the kit. This information may help us to determine that your aircraft is eligible for amateur-built certification.

8. REGISTERING YOUR AMATEUR-BUILT AIRCRAFT. Section 21.173, Airworthiness certificates: Eligibility, requires that all U.S. civil aircraft be registered before we issue an airworthiness certificate. Part 47 of 14 CFR, Aircraft Registration, prescribes the regulatory requirements for registering civil aircraft. The procedures for registering an amateur-built aircraft are as follows.

a. When To Register. We recommend you apply for registration 60 to 120 days before you finish constructing your aircraft and before you submit FAA Form 8130-6 to us. This should allow you to get your registration information in time for your FAA inspection.

b. How To Submit Your Application. Submit an application under § 47.33, Aircraft not previously registered anywhere, to the FAA Aircraft Registration Branch AFS-750 (see appendix 7 for the address). Include the following in the package:

(1) Documentation that you own the aircraft. You may use AC Form 8050-88, Affidavit of Ownership for Amateur-Built Aircraft (see appendix 9), or its equivalent. The affidavit must state that you built the aircraft from parts or a kit and that the person signing the affidavit is the owner.

(2) A signed bill of sale from the manufacturer of the kit, if the aircraft was built from a kit. You may use AC Form 8050-2, Aircraft Bill of Sale, but strike out the word "aircraft" and insert the word "kit" (see appendix 10). If you cannot provide a bill of sale for the kit, explain why. If you are not the original purchaser of an uncompleted kit, you must provide to AFS-750 traceability from the kit manufacturer through the previous builder or builders to yourself.

(3) A completed AC Form 8050-1 (see appendix 5). Keep the pink copy for your records until you get your Certificate of Aircraft Registration (AC Form 8050-3). Neither this pink copy nor FAA Form 8130-6 give you temporary authority to operate your aircraft, because your amateur-built aircraft has never been registered or received airworthiness certification. We may consider certifying your aircraft as airworthy once we have verified your aircraft is registered.

(4) A check or money order payable to the FAA for the registration fee. The registration fee is \$5. If you are requesting a special registration number, it is an extra \$10. Therefore, if you submit your registration and request for a special registration number at the same time, the total fee is \$15.

(5) A special request letter as described in paragraph 8c, if you want a specific registration number.

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c. How to Request a Specific Registration Number.

(1) If you want us to assign a specific registration number, list up to five possible numbers, in order of your preference (see appendix 11). Your suggested numbers may be up to five characters long, and the last two characters can be letters. There is an additional fee for this service. If you want to see whether your preferred numbers are available, you can contact AFS-750 (see appendix 7 for the address).

(2) You can reserve a registration number for 1 year; this service costs \$10. If the number is not assigned to an aircraft during this period, you must renew this reservation every year by paying an additional \$10 fee before the end of each 1-year period.

9. IDENTIFYING AND MARKING YOUR AMATEUR-BUILT AIRCRAFT.

a. **When To Mark.** Mark your aircraft before you apply for an airworthiness certificate.

b. **Required Marks.** When you apply for an airworthiness certificate for an amateur-built aircraft, you must show compliance with the identification requirements of § 21.182, Aircraft identification, and the nationality and registration marking requirements of 14 CFR part 45, Identification and Registration Marking. Part 45, subpart C, Nationality and Registration Marks, provides specific marking requirements for all aircraft. AC 45-2, Identification and Registration Marking, provides additional guidance. You should direct any questions to your local FAA office. The office will handle questions individually.

(1) **Identification Information.** If you built the aircraft from your design, and the model designation and serial number are not used for any other aircraft, you may use whatever number you want. If you built the aircraft from a plan or a kit, use the identification information provided by the plan designer or kit manufacturer. Make sure the information is the same as you have shown on AC Form 8050-88. Place this information on the identification plate as described in the following table.

Elements of the Plate	Details of Those Elements
Type of plate	Fireproof
Information to put on the plate	<ul style="list-style-type: none"> • Name of the builder (not the designer, plans producer, or kit manufacturer) • Model designation • Serial number of the aircraft
How to put the information on the plate	Etch, stamp, engrave, or mark by some other approved fireproof marking method
How to attach the plate	<ul style="list-style-type: none"> • So that it cannot be defaced or removed during normal service, or lost or destroyed during an accident • So that it is legible to a person standing on the ground
Where to attach plate	On the exterior of the aircraft in accordance with § 45.11, Identification of Aircraft and Related Products: General, as follows: <ul style="list-style-type: none"> • Adjacent to the aft of the rear-most entrance door, or • On the fuselage near the tail surfaces.

(2) Nationality Designation and Registration Marks. You must paint, or affix by a way that is just as permanent, the N-number on the body of the aircraft. For example, only use paints that need thinners or strippers to remove it, or decals. Do not use tape that can be easily peeled off or water-soluble paint. For the appropriate location of the marks, refer to §§ 45.22 and 45.25 for fixed-wing aircraft and § 45.27 for non-fixed-wing aircraft. For size, follow the guidelines in the table below.

Height of Marks	Type of Aircraft	Other
At least 2 inches	Aircraft with the same external configuration (that is, a replica) of a small aircraft built at least 30 years ago	
3 inches	Most amateur-built aircraft	
12 inches	Aircraft with a maximum cruising speed that exceeds 180 knots calibrated air speed (207 miles per hour)	You must also use 12-inch high marks if you will be operating your aircraft outside the United States or Canada, or in an Air Defense Identification Zone.

(3) “Experimental” Aircraft Designation. Follow the guidelines in the table below to determine whether you need an “experimental” aircraft designation.

If you have a—	Then you—
nonreplica aircraft	must display the word “experimental” on your aircraft in accordance with § 45.23(b). You must place the 2- to 6-inch high letters near each entrance to the cabin or the cockpit.
replica aircraft	do not have to label your aircraft “experimental” if it is a replica of an aircraft built at least 30 years ago. However, in such a case, you must include an “X” between the nationality designation and the registration number. For example, the marking on an amateur-built replica of an antique aircraft would be “NX1234.” You should use the letter symbol appropriate to the airworthiness certificate of the aircraft being certificated, not the aircraft being replicated.

c. Passenger Warning. You must display the following placard in a readily visible location in the cabin or cockpit, unless your aircraft has only one seat:

“Passenger Warning: This aircraft is amateur-built and does not comply with Federal safety regulations for standard aircraft.”

10. APPLYING FOR CERTIFICATION OF AN AMATEUR-BUILT AIRCRAFT. Submit the following documents and information to your local FAA office. You can get all the forms you need from your local FAA office:

- a. FAA Form 8130-6 (see appendix 3).
- b. AC Form 8050-3 (AFS-750 will return this form to you, which you in turn will show to the FAA inspector at the time the aircraft is inspected).
- c. Sufficient information to identify the aircraft, such as photographs or three-view drawings.

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d. A notarized FAA Form 8130-12, Eligibility Statement, Amateur-Built Aircraft, certifying that the major portion of the aircraft was fabricated and assembled for your own education or recreation, and that you have evidence, such as a builder's log or its equivalent, to support this statement (see appendix 12).

e. A program letter in accordance with § 21.193, Experimental certificates: General (see appendix 13). With the information in this letter, we can prescribe the limitations and conditions necessary to ensure safety. The program letter should—

(1) Identify the aircraft (using photographs, for example),

(2) Identify the purpose of the certificate (that is, operating an amateur-built aircraft), and

(3) Describe a flight test program that addresses the requirements, goals, and objectives during flight testing, including the area over which you intend to do your flight tests (see paragraph 13).

11. FAA INSPECTION OF AN AMATEUR-BUILT AIRCRAFT.

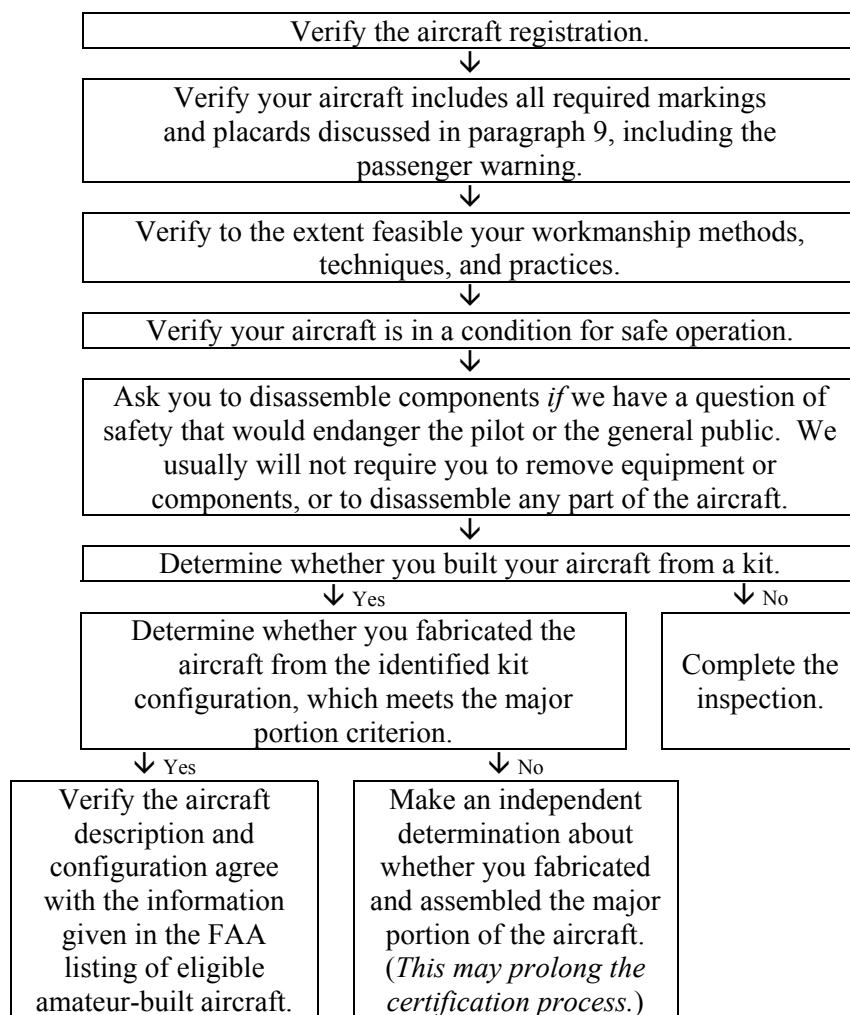
a. General Information About What We Do and Do Not Do For Inspections.

(1) We inspect your aircraft for general airworthiness when you submit it for airworthiness certification. We will not inspect it before you register it or during construction. However, we must inspect it before we issue your airworthiness certificate. Standard FAA policy is to issue one airworthiness certificate for the aircraft. In some cases, we may issue a limited duration airworthiness certificate, which would be valid only for flight testing (Phase I) the aircraft. When we inspect it, it should be ready to fly, except for having the cowlings, fairings, and panels open for inspection.

(2) The FAA inspector cannot be involved in the building process and will not perform any progressive or in-process inspections during the building process. You should ask a knowledgeable person (for example, an EAA Technical Counselor) to conduct in-process inspections. You should record any such inspections in the aircraft logbook.

(3) We consider FAA designated airworthiness representatives (DARs) the primary resource for the certification of amateur-built aircraft. You may contact your local FAA office to locate an authorized DAR. DARs are authorized to charge a fee for their services, which they set. We do not govern this fee.

b. Visual Inspection. The FAA inspector will conduct an onsite, visual, general airworthiness certification inspection of the aircraft, including reviewing the information discussed in paragraphs 11c(1) and (2), before issuing a special airworthiness certificate with the appropriate operating limitations. With your special airworthiness certificate and operating limitations, you will be able to show compliance with 14 CFR part 91, General Operating and Flight Rules, § 91.319(b). The FAA will perform the visual inspection as shown in figure 2, FAA Visual Inspection of an Amateur-Built Aircraft.

Figure 2 — FAA Visual Inspection of an Amateur-Built Aircraft

c. Paperwork Review. We will review the following information as part of our inspection.

(1) Evidence of inspections, such as construction log entries signed by the amateur builder or other knowledgeable persons (for example, certified mechanics or other builders) or EAA Technical Counselors visit report cards describing any inspections conducted during the construction. Those entries should indicate what was inspected and by whom, and the date of the inspection. Include photographs documenting construction details, if available.

(2) Logbooks covering the aircraft, engine, and propeller or rotor blade(s) so that the FAA inspector can review the service records, record the inspection, and issue the certification. We will use the builder's log entries to substantiate that your construction workmanship methods, techniques, and practices are acceptable, and to support your inspection and airworthiness statement on FAA Form 8130-6.

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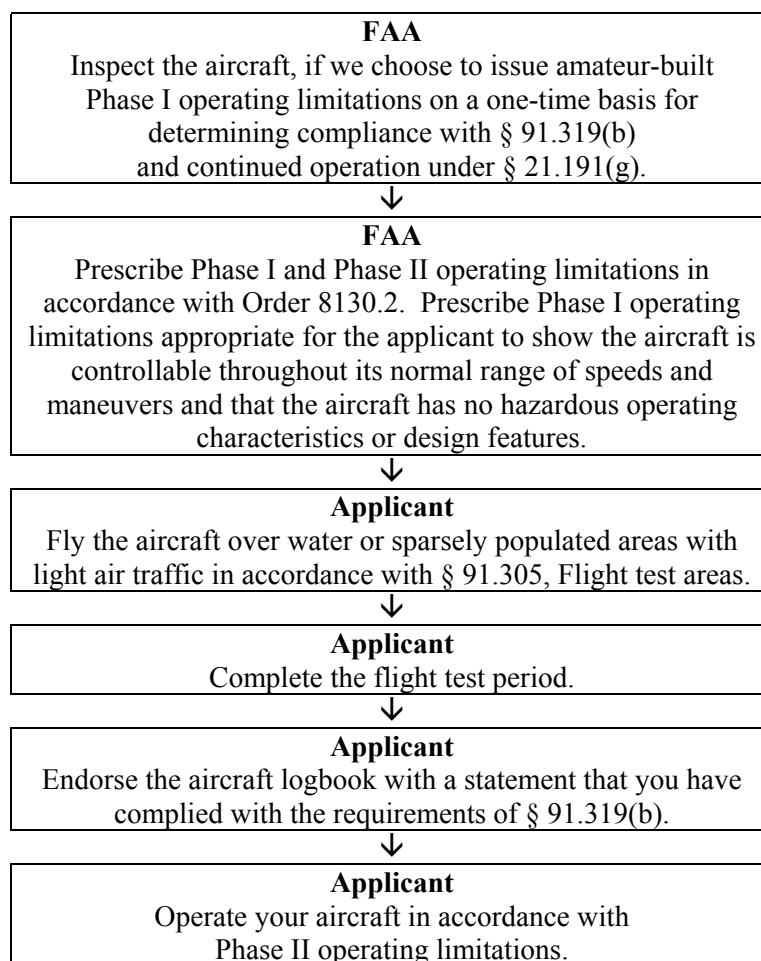
12. ISSUING AN AIRWORTHINESS CERTIFICATE FOR AN AMATEUR-BUILT AIRCRAFT.

a. Issuance of a Special Airworthiness Certificate and Operating Limitations.

(1) In addition to 14 CFR requirements, the guidelines you use to operate and maintain your aircraft are included in your operating limitations, which become part of the special airworthiness certificate. We may impose additional limitations to those listed in FAA Order 8130.2, Airworthiness Certification of Aircraft and Related Products, if necessary for safety. References in this AC to “Phase I” refer to those operating limitations that apply to the aircraft while it’s undergoing initial flight tests. “Phase II” refers to those operating limitations that apply after you complete the initial flight tests. Phase I and Phase II operating limitations are provided in Order 8130.2. The FAA inspector will issue the special airworthiness certificate, but its validity will be subject to compliance with its operating limitations. Those limitations will provide for operation in an assigned flight test area for a certain number of hours (Phase I) before the second part (Phase II) of the limitations becomes effective, which releases the aircraft from the flight test area.

(2) After we inspect your aircraft and determine it is in a condition for safe operation, we will issue FAA Form 8130-7, Special Airworthiness Certificate, with the appropriate operating limitations in accordance with Order 8130.2. Typically, we issue one airworthiness certificate per aircraft.

(3) In accordance with § 91.203(b), you must display the airworthiness certificate and attached operating limitations at the cabin or cockpit entrance so that it is legible to passengers or crew while the aircraft is being operated. The pilot must conduct all flights under the operating limitations and part 91. Details concerning flight test areas are discussed in paragraph 13.

Figure 3 — Getting Your Operating Limitations

b. Issuance of a Limited Duration Airworthiness Certificate and Operating Limitations. Due to unique or special situations, an FAA inspector may issue a limited duration airworthiness certificate, which is valid only for flight testing (Phase I). When you satisfactorily complete all flight test maneuvers and required flight test hours, you may apply to the local FAA office for amending the airworthiness certificate and operating limitations.

(1) How to Apply. Submit another FAA Form 8130-6 and a letter requesting amendment of the airworthiness certificate and operating limitations.

(2) Issuing the Amended Airworthiness Certificate and Operating Limitations. After you complete the Phase I flight test period and before we issue the amended airworthiness certificate and Phase II operating limitations, we will review the flight log to determine whether you have taken corrective action on any problems found during the flight testing and whether the aircraft's condition for safe operation has been established under § 91.319. We also may reinspect the aircraft.

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c. Refusal to Issue an Airworthiness Certificate. We do not certify amateur-built aircraft designs or require that you modify the design before airworthiness certification. However, we may deny airworthiness certification if when we inspect your aircraft, we find it does not meet the requirements for the certification you request or is not in a condition for safe operation. If we deny your certification request, we will send you a letter stating why we denied it. We will put a copy of the letter in your aircraft record in the FAA Aircraft Registry office. Reference § 21.193(c) and Order 8130.2 for more information.

13. PHASE I FLIGHT TESTING.

a. Flight Tests. Section 91.319(b) requires you to show your aircraft is controllable at all its normal speeds during all the maneuvers you might expect to execute. You must also show it has no hazardous operating characteristics or design features.

b. Number of Flight Test Hours. The number of hours depends on your aircraft's characteristics. See the following table for specific requirements. The FAA inspector may decide you need additional hours of flight testing beyond those shown in the table to comply with § 91.319(b).

Aircraft Characteristics	Required Flight Testing
Type-certificated engine/propeller combination	25 hours
Non-type-certificated engine/propeller combination	40 hours
Gliders, balloons, dirigibles, and ultralight vehicles eligible for FAA certification	10 hours, including five takeoffs and landings

c. Location. You may suggest the location of a flight test area to the FAA inspector. If the inspector approves your suggestion, they will specify it in your operating limitations. Usually, the flight test area should be within a 25-statute-mile radius from your aircraft's base of operation. Under § 91.305, the flight test must be over open water or sparsely populated areas with light air traffic so it does not pose a hazard to persons or property on the ground. You can ask us to help you pick a suitable area to ensure adequate airspace for flight testing.

d. Procedures. See AC 90-89 for recommended flight testing procedures. We *strongly* recommend builders get a copy of this AC and follow its guidance. Also, the EAA will help its members in developing flight testing programs.

e. Restrictions.

(1) Carrying Passengers. You may not carry passengers while you are restricted to the flight test area or during any portion of your Phase I flight test program. We suggest you use a tape or video recorder for recording readings and other similar tasks. If you need an additional crewmember for a particular flight test, specify that in your application program letter for the airworthiness certificate. We will list this need in your operating limitations.

(2) Flight Instruction. You may not receive flight instruction during your flight test.

(3) Operating Limitations. When we issue an unlimited duration special airworthiness certificate, the operating limitations may be prescribed under the guidelines in Order 8130.2. The purpose of the operating limitations is for you to show and maintain compliance with § 91.319. The operating limitations include a requirement for you to endorse the aircraft maintenance record (logbook) with a statement certifying the aircraft has been shown to comply with that section. The limitations may vary for some aircraft, and we may issue additional limitations in unusual conditions in the interest of safety. We will review the limitations with you to make sure you thoroughly understand each one.

14. CONTINUING TO OPERATE YOUR AMATEUR-BUILT AIRCRAFT.

a. After you complete all required flight tests, hours, and maneuvers, the aircraft is considered safe for continued flight. To continue operating your aircraft, you must follow the operating limitations issued with the aircraft airworthiness certificate.

b. You may not operate your aircraft without the airworthiness certificate and operating limitations aboard. If you lose the operating limitations or they are mutilated or no longer legible, contact your local FAA office for guidance or contact AFS-750 (see appendix 7 for the address) to obtain a copy of the operating limitations. If you cannot get a copy, ask your local FAA office to issue a replacement FAA Form 8130-7 and operating limitations. If you can document that the aircraft has completed the flight test requirements (through logbook entries), we may issue new operating limitations without initial flight test operating limitations.

c. You should be aware of the responsibilities for maintenance and recordkeeping.

15. BUILDING AND CERTIFYING AN AMATEUR-BUILT AIRCRAFT BUILT OUTSIDE THE UNITED STATES AND PURCHASED BY A U.S. CITIZEN.

a. U.S. Requirements for Getting an Airworthiness Certificate for an Amateur-Built Aircraft Built Outside the United States and Purchased by a U.S. Citizen. Contact your local FAA office to find out the exact steps to take to meet U.S. certification requirements. You will need to send the following:

(1) FAA Form 8130-6.

(2) A record of a condition inspection performed on the aircraft by the previous owner within a reasonable period of time (about 30 days) before you apply for certification. (Use 14 CFR part 43, Maintenance, Preventive Maintenance, Rebuilding, and Alteration, appendix D, Scope and Detail of Items (as Applicable to the Particular Aircraft) To Be Included in Annual and 100 Hour Inspections, as a guide for the inspection.) Record the inspection in the aircraft records.

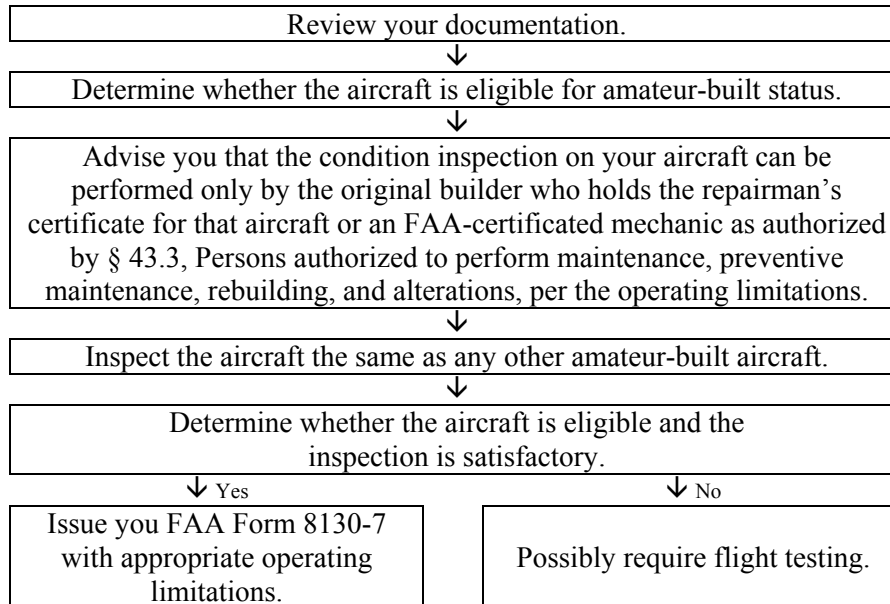
(3) Documentation obtained by the previous owner from the civil aviation authority of the country or jurisdiction of origin verifying the aircraft was originally certificated as an amateur-built experimental aircraft and that it meets the requirements of § 21.191(g).

(4) Proper documentation of registration under part 47.

(5) A letter of request for certification (see appendix 13).

b. FAA Inspection of an Amateur-Built Aircraft Built Outside the United States and Purchased by a U.S. Citizen. During our inspection of the aircraft, we will be following the procedures in figure 4, Procedures the FAA Uses to Complete the Inspection.

Figure 4 — Procedures the FAA Uses to Complete the Inspection



c. Foreign Requirements and Procedures for an Amateur-Built Aircraft Built Outside the United States and Purchased by a U.S. Citizen. Many other civil aviation authorities recognize FAA regulatory requirements and certification procedures and in some cases have incorporated them into their certification process. However, some countries' or jurisdictions' requirements for certification may not meet FAA requirements. If you get an aircraft from one of those countries or jurisdictions, you may not be allowed to operate it in the United States under § 21.191(g).

d. Requirements and Procedures for a U.S. Citizen Building an Amateur-Built Aircraft Outside the United States. You should comply with the civil aviation authority rules in the country or jurisdiction where you wish to operate the aircraft. If you want to bring your aircraft into the United States, you will have to apply for a U.S. airworthiness certificate as described previously in paragraph 15.

16. BECOMING A REPAIRMAN OF YOUR AMATEUR-BUILT AIRCRAFT. You can get a repairman certificate under certain circumstances. However, the only privilege this certificate gives you under § 65.104 is to do the annual condition inspection. The certificate will be valid only for a specific person and a specific aircraft. The privileges and limitations in 14 CFR part 65, Certification: Airmen Other Than Flight Crewmembers, § 65.103, Repairman certificate: Privileges and limitations, do not apply to becoming this type of repairman (experimental aircraft builder). To get a certificate, apply to your local FAA office. See appendix 14 and AC 65-23, Certification of Repairmen (Experimental Aircraft Builders), for application information. You can get a certificate if you are—

a. The primary builder of your aircraft and can satisfactorily prove to us that you can determine whether the aircraft is in a condition for safe operation.

b. One of the builders of an amateur-built aircraft registered in a corporation's name. The applicant should prove through use of the builder's log that they can determine whether the aircraft is in a condition for safe operation.

17. SAFETY RECOMMENDATIONS.

a. Pilot Responsibilities. As a pilot, you should—

(1) Be thoroughly familiar with the aircraft, its engine and propeller operation, and ground handling characteristics, including operation of the brakes. You should test these operations by conducting taxi tests before attempting flight operations. **You may not take off during taxi tests without an airworthiness certificate.**

(2) Take precautions to ensure emergency equipment and personnel are readily available in the event of an accident, before the first flight of an amateur-built aircraft.

(3) Refrain from aerobatic maneuvers until you have enough flight experience to establish that the aircraft is satisfactorily controllable throughout its normal range of speeds and maneuvers. You should document in the aircraft logbook, flight test program log, or equivalent all satisfactorily conducted maneuvers.

b. Operating Limitations.

(1) The operating limitations require that you operate the aircraft under the applicable air traffic control and general operating rules of part 91. If you plan to operate under instrument flight rules (IFR), pay particular attention to the applicable requirements in part 91.

(2) The operating limitations will authorize all operations to be conducted (visual flight rules, day/night, and IFR). These operating limitations may state that the instruments and equipment mandated by § 91.205(b), (c), and/or (d), Powered civil aircraft with standard category U.S. airworthiness certificates: Instrument and equipment requirements, must be installed and operable. In addition, these operating limitations may state flight test areas as defined in § 91.305.

c. Equipment.

(1) Unless you received deviation authority from air traffic control, if your aircraft has a Mode C transponder, the aircraft also must have a calibrated airspeed/static pressure system to prevent an error in altitude reporting. You should have the transponder tested and inspected under § 91.413, ATC transponder tests and inspections.

(2) Once your aircraft has been released from the flight test area, you must have an emergency locator transmitter aboard in accordance with § 91.207, Emergency locator transmitters. An aircraft with only one seat is exempt from this requirement according to § 91.207(f)(9).

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d. Rotorcraft.

(1) If you intend to fly an aircraft with a fully articulated rotor system, be particularly cautious of ground resonance. If you maintain or allow this condition of rotor imbalance to progress, it can be extremely dangerous and may result in structural failure.

(2) As a rotorcraft pilot, you should complete tests showing that stability, vibration, and balance are satisfactory with the rotorcraft tied down before beginning hover, horizontal, or vertical flight operations.

18. GETTING THE PUBLICATIONS REFERRED TO IN THIS AC.

a. The CFR and those ACs for which a fee is charged may be obtained from the Superintendent of Documents at the following address. A listing of the CFR and current prices is located in AC 00-44, Status of Federal Aviation Regulations, and a listing of all ACs is located in AC 00-2, Advisory Circular Checklist.

Superintendent of Documents
P.O. Box 371954
Pittsburgh, PA 15250-7954

b. To be placed on our mailing list for free ACs, contact—

U.S. Department of Transportation
Subsequent Distribution Office
SVC-121.23
Ardmore East Business Center
3341Q 75th Avenue
Landover, MD 20785

c. Our Web site is located at www.faa.gov.

19. SUBMITTING COMMENTS ABOUT THIS AC. Submit direct comments regarding this AC to the Production and Airworthiness Division, AIR-200, 800 Independence Avenue SW., Washington, DC 20591.

/s/

Frank P. Paskiewicz
Manager, Production and
Airworthiness Division, AIR-200

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APPENDIX 1. DEFINITIONS RELEVANT TO THIS AC

Amateur-Built Aircraft. Section 21.191(g) defines an amateur-built aircraft as an aircraft in which the major portion has been fabricated and assembled by a person(s) who undertook the construction process solely for his or her own education or recreation.

Commercial Help. Help with fabricating or assembling amateur-built aircraft for compensation. This does not include one person helping another without compensation.

Designated Airworthiness Representative (DAR). Within the context of this AC, a private person designated by the FAA to act on its behalf to inspect amateur-built aircraft and issue airworthiness certificates.

Experimental Aircraft Association (EAA) Technical Counselor. As defined by the EAA, EAA Technical Counselors provide overall mechanical help and pre-cover guidance to owners and builders.

FAA Inspector. Within the context of this AC, an aviation safety inspector or an authorized DAR.

FAA Office. Within the context of this AC, an FAA office with airworthiness certification authority. These offices include flight standards district offices, manufacturing inspection district offices, certificate management offices, certificate management units, and manufacturing inspection satellite offices that may delegate the airworthiness inspection and certification of an amateur-built aircraft to a DAR.

Fabricate. To construct a structure or component from raw stock or materials.

Fireproof. Section 1.1 defines fireproof as the capacity of a material or part to withstand the heat associated with fire at least as well as steel in dimensions appropriate for the purpose for which it is used.

Kit-Built Aircraft. An aircraft constructed from a manufactured kit that may include some major subassemblies and/or preassembled components. This description does not include primary category aircraft as defined in § 21.184.

Major Portion. When the aircraft is completed, the majority of the fabrication and assembly tasks have been performed by the amateur builder. When you purchase a partially completed kit or aircraft, the major portion includes the construction efforts of the previous amateur builders.

Person. Section 1.1 defines person as an individual, firm, partnership, corporation, company, association, joint-stock association, or governmental entity, including a trustee, receiver, assignee, or similar representative of any of them.

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APPENDIX 2. 14 CFR PARTS RELATED TO THIS AC

14 CFR Part 1, Definitions and Abbreviations. Part 1 defines the words and terms used in subchapters A through K of chapter 1 of 14 CFR.

14 CFR Part 21, Certification Procedures for Products and Parts. Part 21 sets forth rules for the issuance of and change to type certificates, and issuance of production certificates, airworthiness certificates, and export airworthiness approvals. It also sets forth the rules governing the holders of these certificates and the approval of certain materials, parts, processes, and appliances.

14 CFR Part 43, Maintenance, Preventive Maintenance, Rebuilding, and Alteration. Part 43 sets forth rules governing the maintenance, preventive maintenance, rebuilding, and alteration of aircraft having a U.S. airworthiness certificate, certain foreign-registered aircraft, and airframes, aircraft engines, propellers, appliances, and component parts of these aircraft.

14 CFR Part 45, Identification and Registration Marking. Part 45 sets forth rules for display of nationality and registration marks; display of special airworthiness classification marks; identification plates for aircraft, aircraft engines, and propellers; and identification of certain replacement and critical aircraft parts and components.

14 CFR Part 47, Aircraft Registration. Part 47 sets forth rules for registering aircraft.

14 CFR Part 65, Certification: Airmen Other Than Flight Crewmembers. Part 65 sets forth rules for the issuance of certain certificates and associated ratings for airmen other than flight crewmembers and the general operating rules for the holders of those certificates.

14 CFR Part 91, General Operating and Flight Rules. Part 91 sets forth rules governing the operation of most aircraft within the United States.

14 CFR Part 103, Ultralight Vehicles. Part 103 sets forth rules governing the operation of ultralight vehicles within the United States.

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APPENDIX 3. PUBLICATIONS RELATED TO THIS AC

AC 20-139, Commercial Assistance During Construction of Amateur-Built Aircraft. AC 20-139 explains the regulations and FAA policy for fabricating and assembling amateur-built aircraft.

AC 21-12, Application for U.S. Airworthiness Certificate, FAA Form 8130-6. AC 21-12 provides instructions for preparing and submitting FAA Form 8130-6.

AC 43.13-1, Acceptable Methods, Techniques, and Practices — Aircraft Inspection and Repair. AC 43.13-1 describes the methods, techniques, and practices acceptable to the Administrator for the inspection and repair of nonpressurized areas of civil aircraft when there are no manufacturer repair or maintenance instructions.

AC 43.13-2, Acceptable Methods, Techniques, and Practices — Aircraft Alterations. AC 43.13-2 describes the methods, techniques, and practices acceptable to the Administrator for altering civil aircraft.

AC 45-2, Identification and Registration Marking. AC 45-2 describes one way, but not the only way, to comply with part 45.

AC 65-23, Certification of Repairmen (Experimental Aircraft Builders). AC 65-23 provides guidance to builders of experimental aircraft concerning certification as a repairman.

AC 90-89, Amateur-Built Aircraft and Ultralight Flight Testing Handbook. AC 90-89 sets forth suggestions and safety-related recommendations to help amateur and ultralight builders in developing individualized aircraft flight test plans.

FAA Order 8130.2, Airworthiness Certification of Aircraft and Related Products. Order 8130.2 establishes procedures for accomplishing original and recurrent airworthiness certification of aircraft and related products.

FAA Order 8130.30, Amateur-Built Designated Airworthiness Representatives. Order 8130.30 provides policy and guidance concerning new DAR qualification criteria for appointments limited to amateur-built airworthiness certification activities.

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APPENDIX 4. LIST OF SAMPLE FORMS AND LETTERS IN THIS AC

Sample AC Form 8050-1, Aircraft Registration Application (see appendix 5).

Sample FAA Form 8130-6, Application for Airworthiness Certification (Amateur-Built) (see appendix 6).

Sample FAA Form 8000-38, Fabrication/Assembly Operation Checklist (see appendix 8).

Sample AC Form 8050-88, Affidavit of Ownership for Amateur-Built Aircraft (see appendix 9).

Sample AC Form 8050-2, Aircraft Bill of Sale (see appendix 10).

Sample letter for requesting an aircraft registration number under 14 CFR § 47.15 (see appendix 11).

Sample FAA Form 8130-12, Eligibility Statement, Amateur-Built Aircraft (see appendix 12).

Sample program letter to accompany application for airworthiness certificate (see appendix 13).

Sample FAA Form 8610-2, Airman Certificate and/or Rating Application (see appendix 14).

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APPENDIX 5. SAMPLE AERONAUTICAL CENTER FORM 8050-1, AIRCRAFT REGISTRATION APPLICATION

FORM APPROVED
OMB No. 2120-0042

UNITED STATES OF AMERICA DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION-MIKE MONRONEY AERONAUTICAL CENTER AIRCRAFT REGISTRATION APPLICATION			CERT. ISSUE DATE
UNITED STATES REGISTRATION NUMBER N 130EA			FOR FAA USE ONLY
AIRCRAFT MANUFACTURER & MODEL BUILDER - VANS RV-6			
AIRCRAFT SERIAL No. 1001			
TYPE OF REGISTRATION (Check one box)			
<input checked="" type="checkbox"/> 1. Individual <input type="checkbox"/> 2. Partnership <input type="checkbox"/> 3. Corporation <input type="checkbox"/> 4. Co-owner <input type="checkbox"/> 5. Gov't <input type="checkbox"/> 8. Non-Citizen Corporation			
NAME OF APPLICANT (Person(s) shown on evidence of ownership. If individual, give last name, first name, and middle initial.)			
BUILDER, EARLY A.			
TELEPHONE NUMBER: (903) 555-1212			
ADDRESS (Permanent mailing address for first applicant listed.)			
Number and street: 1240 Bois d' Arc Road			
Rural Route:		P.O. Box:	
CITY	STATE	ZIP CODE	
Savoy	TX	75479	
<input type="checkbox"/> CHECK HERE IF YOU ARE ONLY REPORTING A CHANGE OF ADDRESS ATTENTION! Read the following statement before signing this application. This portion MUST be completed. A false or dishonest answer to any question in this application may be grounds for punishment by fine and / or imprisonment (U.S. Code, Title 18, Sec. 1001).			
CERTIFICATION			
I/WE CERTIFY:			
(1) That the above aircraft is owned by the undersigned applicant, who is a citizen (including corporations) of the United States.			
(For voting trust, give name of trustee: _____), or:			
CHECK ONE AS APPROPRIATE:			
a. <input type="checkbox"/> A resident alien, with alien registration (Form 1-151 or Form 1-551) No. _____			
b. <input type="checkbox"/> A non-citizen corporation organized and doing business under the laws of (state) _____ and said aircraft is based and primarily used in the United States. Records or flight hours are available for inspection at _____			
(2) That the aircraft is not registered under the laws of any foreign country; and			
(3) That legal evidence of ownership is attached or has been filed with the Federal Aviation Administration.			
NOTE: If executed for co-ownership all applicants must sign. Use reverse side if necessary.			
TYPE OR PRINT NAME BELOW SIGNATURE			
EACH PART OF THIS APPLICATION MUST BE SIGNED IN INK.	SIGNATURE <i>Early A. Builder</i>	TITLE Owner	DATE xx/xx/xx
	SIGNATURE	TITLE	DATE
	SIGNATURE	TITLE	DATE
NOTE Pending receipt of the Certificate of Aircraft Registration, the aircraft may be operated for a period not in excess of 90 days, during which time the PINK copy of this application must be carried in the aircraft.			

AC Form 8050-1 (12/90) (0052-00-628-9007) Supersedes Previous Edition

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APPENDIX 6. SAMPLE FAA FORM 8130-6, APPLICATION FOR AIRWORTHINESS CERTIFICATE (AMATEUR-BUILT) (FACE SIDE)

APPLICATION FOR AIRWORTHINESS CERTIFICATE		INSTRUCTIONS - Print or type. Do not write in shaded areas; these are for FAA use only. Submit original only to an authorized FAA Representative. If additional space is required, use attachment. For special flight permits complete Sections II, VI, and VII as applicable.																																																																																																																																																																							
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APPENDIX 6. SAMPLE FAA FORM 8130-6, APPLICATION FOR AIRWORTHINESS CERTIFICATE (AMATEUR-BUILT) (REVERSE SIDE)

VI. PRODUCTION FLIGHT TESTING	A. MANUFACTURER				
	NAME		ADDRESS		
	B. PRODUCTION BASIS <i>(Check applicable item)</i>				
	<input type="checkbox"/> PRODUCTION CERTIFICATE <i>(Give production certificate number)</i> <input type="checkbox"/> TYPE CERTIFICATE ONLY <input type="checkbox"/> APPROVED PRODUCTION INSPECTION SYSTEM				
	C. GIVE QUANTITY OF CERTIFICATES REQUIRED FOR OPERATING NEEDS →				
	DATE OF APPLICATION	NAME AND TITLE <i>(Print or type)</i>	SIGNATURE		
VII. SPECIAL FLIGHT PERMIT PURPOSES OTHER THAN PRODUCTION FLIGHT TEST	A. DESCRIPTION OF AIRCRAFT				
	REGISTERED OWNER		ADDRESS		
	BUILDER (Make)		MODEL		
	SERIAL NUMBER		REGISTRATION MARK		
	B. DESCRIPTION OF FLIGHT CUSTOMER DEMONSTRATION FLIGHTS <input type="checkbox"/> <i>(Check if applicable)</i>				
	FROM		TO		
	VIA	DEPARTURE DATE	DURATION		
	C. CREW REQUIRED TO OPERATE THE AIRCRAFT AND ITS EQUIPMENT				
	<input type="checkbox"/>	PILOT	<input type="checkbox"/> CO-PILOT	<input type="checkbox"/> FLIGHT ENGINEER	<input type="checkbox"/> OTHER <i>(Specify)</i>
	D. THE AIRCRAFT DOES NOT MEET THE APPLICABLE AIRWORTHINESS REQUIREMENTS AS FOLLOWS:				
	E. THE FOLLOWING RESTRICTIONS ARE CONSIDERED NECESSARY FOR SAFE OPERATION: <i>(Use attachment if necessary)</i>				
F. CERTIFICATION - I hereby certify that I am the registered owner (or his agent) of the aircraft described above; that the aircraft is registered with the Federal Aviation Administration in accordance with Title 49 of the United States Code 44101 <u>et seq.</u> and applicable Federal Aviation Regulations; and that the aircraft has been inspected and is airworthy for the flight described.					
	DATE	NAME AND TITLE <i>(Print or type)</i>	SIGNATURE		
VIII. AIRWORTHINESS DOCUMENTATION (FAA/DESIGNEE use only)	A. Operating Limitations and Markings in Compliance with 14 CFR section 91.9, as Applicable		G. Statement of Conformity, FAA Form 8130-9 <i>(Attach when required)</i>		
	B. Current Operating Limitations Attached		H. Foreign Airworthiness Certification for Import Aircraft <i>(Attach when required)</i>		
	C. Data, Drawings, Photographs, etc. <i>(Attach when required)</i>		L. Previous Airworthiness Certificate Issued in Accordance with 14 CFR Section _____ CAR _____ <i>(Original Attached)</i>		
	D. Current Weight and Balance Information Available in Aircraft				
	E. Major Repair and Alteration, FAA Form 337 <i>(Attach when required)</i>		J. Current Airworthiness Certificate Issued in Accordance with		
	F. This inspection Recorded in Aircraft Records		14 CFR Section _____ <i>(Copy attached)</i>		

9/26/2003

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APPENDIX 7. USEFUL ADDRESSES

Federal Aviation Administration
Aircraft Registration Branch, AFS-750

Mailing Address

P.O. Box 25504
Oklahoma City, OK 73125-0504

Physical Address

6425 South Denning
Oklahoma City, OK 73169

Telephone: (405) 954-3116

Fax: (405) 954-3548

Experimental Aircraft Association, Inc.

Mailing Address

P.O. Box 3086
Oshkosh, WI 54903-3086

Physical Address

3000 Poberezny Road
Oshkosh, WI 54902

Telephone: (920) 426-4821

Fax: (920) 426-6560

EAA aviation information services: (920) 426-4800

E-mail: infoserv@eaa.org

Public Web site: www.eaa.org

Members Only Web site: <http://members.eaa.org/homebuilders/index.html>

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**APPENDIX 8. SAMPLE FAA FORM 8000-38,
FABRICATION/ASSEMBLY OPERATION CHECKLIST**

FABRICATION/ASSEMBLY OPERATION CHECKLIST		
Company Name _____.		
Address _____.		
Aircraft Model _____ Document Name and Date _____.		
Type of Aircraft _____.		
	Accomplished By	
	Kit Manufacturer	Amateur
FUSELAGE		
1. Fabricate Special Tools or Fixtures		
2. Fabricate Longitudinal Members, Cores or Shells		
3. Fabricate Bulkheads or Cross Members		
4. Assemble Fuselage Basic Structure		
5. Fabricate Brackets and Fittings		
6. Install Brackets and Fittings		
7. Fabricate Cables, Wire, and Lines		
8. Install Cables, Wires, and Lines		
9. Fabricate Fuselage Covering or Skin		
10. Install Fuselage Covering or Skin		
11. Fabricate Windshield/Windows/Canopy		
12. Install Windshield/Windows/Canopy		
WINGS		
1. Fabricate Special Tools or Fixtures		
2. Fabricate Wing Spars		
3. Fabricate Wing Ribs or Cores		
4. Fabricate Wing Leading and Trailing Edge		
5. Fabricate Drag/Anti-Drag Truss Members		
6. Fabricate Wing Brackets and Fittings		
7. Fabricate Wing Tips		
8. Assemble Basic Wing Structures		
9. Install Wing Leading/Trailing Edge and Tips		
10. Install Drag/Anti-Drag Truss		
11. Fabricate Cables, Wires and Lines		
12. Install Cables, Wires, and Lines		
13. Fabricate Wing Covering or Skin		
14. Install Wing Covering or Skin		
15. Fabricate Wing Struts/Wires		
16. Install and Rig Wings and Struts		

FAA Form 8000-38 (12-91)

**APPENDIX 8. SAMPLE FAA FORM 8000-38,
FABRICATION/ASSEMBLY OPERATION CHECKLIST (CONTINUED)**

FABRICATION/ASSEMBLY OPERATION CHECKLIST (Continued)		
	Accomplished By	
	Kit Manufacturer	Amateur
FLIGHT CONTROLS		
1. Fabricate Special Tools or Fixtures		
2. Fabricate Aileron Spars		
3. Fabricate Aileron Ribs or Cores		
4. Assemble Aileron Structure		
5. Fabricate Aileron Leading and Trailing Edge		
6. Assemble Aileron Leading and Trailing Edge		
7. Fabricate Aileron Brackets and Fittings		
8. Install Aileron Brackets and Fittings		
9. Fabricate Aileron Covering or Skin		
10. Install Aileron Covering or Skin		
11. Fabricate Aileron Trim Tab		
12. Install Aileron Trim Tab		
13. Install and Rig Aileron		
14. Fabricate Flap Spars		
15. Fabricate Flap Ribs or Cores		
16. Assemble Flap Structure		
17. Fabricate Flap Leading and Trailing Edge		
18. Assemble Flap Leading and Trailing Edge		
19. Fabricate Flap Brackets and Fittings		
20. Install Flap Brackets and Fittings		
21. Fabricate Flap Covering or Skin		
22. Install Flap Covering or Skin		
23. Install and Rig Flap		
24. Fabricate Elevator Spars		
25. Fabricate Elevator Ribs or Cores		
26. Assemble Elevator Structure		
27. Fabricate Elevator Leading and Trailing Edge		
28. Assemble Elevator Leading and Trailing Edge		
29. Fabricate Elevator Brackets and Fittings		
30. Install Elevator Brackets and Fittings		
31. Fabricate Elevator Covering or Skin		
32. Install Elevator Covering or Skin		
33. Fabricate Elevator Trim Tab		
34. Install Elevator Trim Tab		
35. Install and Rig Elevator		
36. Fabricate Rudder Spar		
37. Fabricate Rudder Ribs or Cores		
38. Assemble Rudder Structure		
39. Fabricate Rudder Leading and Trailing Edge		
40. Assemble Rudder Leading and Trailing Edge		
41. Fabricate Rudder Brackets and Fittings		
42. Install Rudder Brackets and Fittings		
43. Fabricate Rudder Covering or Skin		
44. Install Rudder Covering or Skin		
45. Fabricate Rudder Trim Tab		
46. Install Rudder Trim Tab		
47. Install and Rig Rudder		

FAA Form 8000-38 (12-91)

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AC 20-27F

**APPENDIX 8. SAMPLE FAA FORM 8000-38,
FABRICATION/ASSEMBLY OPERATION CHECKLIST (CONTINUED)**

FABRICATION/ASSEMBLY OPERATION CHECKLIST (Continued)		
	Accomplished By	
	Kit Manufacturer	Amateur
EMPENNAGE		
1. Fabricate Special Tools of Fixtures		
2. Fabricate Spars		
3. Fabricate Ribs or Cores		
4. Fabricate Leading and Trailing Edges		
5. Fabricate Tips		
6. Fabricate Brackets and Fittings		
7. Assemble Empennage Structures		
8. Install Leading/Trailing Edges and Tips		
9. Install Fittings		
10. Fabricate Cables, Wires, and Lines		
11. Install Cables, Wires and Lines		
12. Fabricate Empennage Covering or Skin		
13. Install Empennage Covering or Skin		
CANARD		
1. Fabricate Canard		
2. Assemble Canard Structure		
3. Install and Rig Canard		
LANDING GEAR		
1. Fabricate Special Tools or Fixtures		
2. Fabricate Struts		
3. Fabricate Brakes System		
4. Fabricate Retraction System		
5. Fabricate Cables, Wires and Lines		
6. Assemble Wheels, Brakes, Tires, Landing Gear		
7. Install Landing Gear System Components		
PROPULSION		
1. Fabricate Special Tools of Fixtures		
2. Fabricate Engine Mount		
3. Fabricate Engine Cooling System/Baffles		
4. Fabricate Induction System		
5. Fabricate Exhaust System		
6. Fabricate Engine Controls		
7. Fabricate Brackets and Fittings		
8. Fabricate Cables, Wires and Lines		
9. Assemble Engine		
10. Install Engine and Items Listed Above		
11. Fabricate Engine Cowling		
12. Install Engine Cowling		
13. Fabricate Propeller		
14. Install Propeller		
15. Fabricate Fuel Tank		

FAA Form 8000-38 (12-91)

**APPENDIX 8. SAMPLE FAA FORM 8000-38,
FABRICATION/ASSEMBLY OPERATION CHECKLIST (CONTINUED)**

FABRICATION/ASSEMBLY OPERATION CHECKLIST (Continued)		
	Accomplished By	
	Kit Manufacturer	Amateur
PROPULSION (Continued)		
16. Install Fuel Tank		
17. Fabricate Fuel System Components		
18. Install Fuel System Components		
MAIN ROTOR DRIVE SYSTEMS AND CONTROL MECHANISM(S)		
1. Fabricate Special Static and Dynamic Main Rotor Rigging Tools		
2. Fabricate/Assemble Main Rotor Drive Train		
3. Install Main Rotor Drive Train Assembly		
4. Fabricate/Assemble Main Rotor Shaft and Hub Assembly		
5. Install Main Rotor Shaft and Hub Assembly		
6. Align Main Rotor Shaft-Drive Train, Shaft and Hub Assembly		
7. Fabricate Main Rotor Rotating Controls		
8. Install Main Rotor Rotating Controls		
9. Fabricate Main Rotor Non-Rotating Controls		
10. Rig Main Rotor Rotating and Non-Rotating Controls		
11. Fabricate Main Rotor Blades		
12. Install Main Rotor Blades on Rotor Hub		
13. Statically Balance and Rig Main Rotor System		
14. Dynamically Track and Balance Main Rotor System		
TAIL ROTOR DRIVE SYSTEMS AND CONTROL MECHANISM(S)		
1. Fabricate Special Static Tail Rotor Rigging Tools		
2. Fabricate Vertical Trim Fin		
3. Install Vertical Trim Fin		
4. Fabricate Horizontal Stabilizer		
5. Install Horizontal Stabilizer		
6. Fabricate Tail Rotor Drive System		
7. Install Tail Rotor Drive System		
8. Fabricate Tail Cone or Frame		
9. Install and Rig Tail Cone or Frame		
10. Rig Vertical Trim Fin		
11. Fabricate Tail Rotor Shaft and Hub Assembly		
12. Install Tail Rotor Shaft and Hub Assembly		
13. Fabricate Tail Rotor Rotating and Non-Rotating Controls		
14. Rig Tail Rotor Rotating and Non-Rotating Controls		
15. Fabricate/Assemble Tail Rotor Blades		
16. Install Tail Rotor Blades		
17. Statically Balance and Rig Tail Rotor System		
18. Dynamically Track and Balance Tail Rotor System		

FAA Form 8000-38 (12-91)

9/26/2003

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**APPENDIX 8. SAMPLE FAA FORM 8000-38,
FABRICATION/ASSEMBLY OPERATION CHECKLIST (CONTINUED)**

FABRICATION/ASSEMBLY OPERATION CHECKLIST (Continued)		
	Accomplished By	
	Kit Manufacturer	Amateur
COCKPIT/INTERIOR		
1. Fabricate Instrument Panel		
2. Install Instrument Panel and Instruments		
3. Fabricate Seats		
4. Install Seats		
5. Fabricate Electrical Wiring, Controls/Switches		
6. Install Electrical System Controls/Switches		
TOTAL		
Comments		
Printed Name	Signature	Date

FAA Form 8000-38 (12-91)

9/26/2003

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**APPENDIX 10. SAMPLE AERONAUTICAL CENTER FORM 8050-2,
AIRCRAFT BILL OF SALE**

FORM APPROVED
OMB NO. 2120-0042

UNITED STATES OF AMERICA U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION KIT AIRCRAFT BILL OF SALE	
FOR AND IN CONSIDERATION OF \$ _____ THE UNDERSIGNED OWNER(S) OF THE FULL LEGAL AND BENEFICIAL TITLE OF THE AIRCRAFT DES- CRIBED AS FOLLOWS:	
UNITED STATES REGISTRATION NUMBER	N 130EA
AIRCRAFT MANUFACTURER & MODEL VAN'S RV-6	
AIRCRAFT SERIAL No. 1001	
DOES THIS _____ DAY OF _____ 20 HEREBY SELL, GRANT, TRANSFER AND DELIVER ALL RIGHTS, TITLE, AND INTERESTS IN AND TO SUCH AIRCRAFT UNTO:	

Do Not Write In This Block
FOR FAA USE ONLY

PURCHASER	NAME AND ADDRESS (IF INDIVIDUAL(S), GIVE LAST NAME, FIRST NAME, AND MIDDLE INITIAL.) BUILDER, Early A. 1240 Bois d' Arc Road Savoy, TX 75479
	DEALER CERTIFICATE NUMBER

AND TO _____ EXECUTORS, ADMINISTRATORS, AND ASSIGNS TO HAVE AND TO HOLD
SINGULARLY THE SAID AIRCRAFT FOREVER, AND WARRANTS THE TITLE THEREOF.

IN TESTIMONY WHEREOF _____ HAVE SET _____ HAND AND SEAL THIS _____ DAY OF _____ 20____

SELLER	NAME (S) OF SELLER (TYPED OR PRINTED)	SIGNATURE (S) (IN INK) (IF EXECUTED FOR CO-OWNERSHIP, ALL MUST SIGN.)	TITLE (TYPED OR PRINTED)
	VAN'S		

ACKNOWLEDGMENT (NOT REQUIRED FOR PURPOSES OF FAA RECORDING; HOWEVER, MAY BE REQUIRED
BY LOCAL LAW FOR VALIDITY OF THE INSTRUMENT.)

ORIGINAL: TO FAA

AC Form 8050-2 (9/92) (NSN 0052-00-629-0003) Supersedes Previous Edition

9/26/2003

AC 20-27F

**APPENDIX 11. SAMPLE LETTER FOR REQUESTING AN
AIRCRAFT REGISTRATION NUMBER UNDER 14 CFR § 47.15**

[Insert Date]

Federal Aviation Administration
Aircraft Registration Branch, AFS-750
P.O. Box 25504
Oklahoma City, OK 73125-0504

Sir/Madam:

This is a request for a U.S. identification number assignment for my amateur-built aircraft.

Aircraft Description:*Make/Builder:* Early A. Builder*Type* (airplane, rotorcraft, glider, or balloon): Airplane*Model:* VAN'S RV-6*Serial Number:* 1001

This aircraft has not previously been registered anywhere (reference 14 CFR § 47.15(a)(1)).

<u> X </u>	Normal Request (\$5); fee attached (check or money order)
<u> X </u>	Special Registration Number Request (\$10); fee attached (check or money order)

Choices1st 130EA2nd 130JR3rd 130FE4th 130JJ5th 130TX

Sincerely,


Early A. Builder

Early A. Builder

Owner

APPENDIX 12. SAMPLE FAA FORM 8130-12, ELIGIBILITY STATEMENT, AMATEUR-BUILT AIRCRAFT

Form Approved
OMB NO. 2120-0018

	<h2>ELIGIBILITY STATEMENT AMATEUR-BUILT AIRCRAFT</h2>	<p>Instructions: Print or type all information except signature. Submit original to an authorized FAA representative. Applicant completes Section I thru III. Notary Public Completes Section IV.</p>
I. REGISTERED OWNER INFORMATION		
Name(s) <u>Early A. Builder</u>		
Address(es) <u>1240 Bois d'Arc Road</u> <u>Savoy</u> TX <u>75479</u>		
<small>No. & Street City State Zip</small>		
Telephone No. (s) (<u>903</u>) <u>555-1212</u> (<u>214</u>) <u>555-1212</u>		
<small>Residence Business</small>		
II. AIRCRAFT INFORMATION		
Model <u>VAN'S RV-6</u> Engine(s) Make <u>LY-CON O-320 EXP</u>		
Assigned Serial No. <u>1001</u> Engine(s) Serial No. <u>L 023-48X</u>		
Registration No. <u>N130EA</u> Prop./Rotor(s) Make <u>Sensenich</u>		
Aircraft Fabricated: Plan <input type="checkbox"/> Kit <input checked="" type="checkbox"/> Prop./Rotor(s) Serial No.(s) <u>195001</u>		
III. MAJOR PORTION ELIGIBILITY STATEMENT OF APPLICANT		
<p>I certify the aircraft identified in Section II above was fabricated and assembled by <u>Early A. Builder</u> <small>Name of Person(s) (Please Print)</small> for my (their) education or recreation. I (we) have records to support this statement and will make them available to the FAA upon request.</p> <p style="text-align: center;">-NOTICE-</p> <p>Whoever in any matter within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals or covers up by any trick, scheme, or device a material fact, or who makes any false, fictitious or fraudulent statements or representations, or makes or uses any false writing or document knowing the same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than 5 years, or both (U.S. Code, Title 18, Sec. 1001.)</p> <p style="text-align: center;">APPLICANT'S DECLARATION</p> <p>I hereby certify that all statements and answers provided by me in this statement form are complete and true to the best of my knowledge, and I agree that they are to be considered part of the basis for issuance of any FAA certificate to me. I have also read and understand the Privacy Act statement that accompanies this form.</p>		
Signature of Applicant (In Ink) <i>Early A. Builder</i>		Date XX/XX/XX
IV. NOTARIZATION STATEMENT		

9/26/2003

AC 20-27F

**APPENDIX 13. SAMPLE PROGRAM LETTER TO ACCOMPANY
APPLICATION FOR AIRWORTHINESS CERTIFICATE**

TO: [Insert local FAA office or DAR] Date: 01/30/2001

In accordance with 14 CFR § 21.193, I request a Special Airworthiness Certificate for my aircraft for the purpose of operating amateur-built aircraft. The aircraft description is as follows:

<i>Builder:</i>	<u>Early A. Builder</u>	<i>Registration No.:</i>	<u>N130EA</u>
<i>Model:</i>	<u>VAN'S RV-6</u>	<i>Serial No.:</i>	<u>1001</u>
<i>No. of Engines:</i>	<u>1</u>	<i>No. of Seats:</i>	<u>2</u>
<i>Design Criteria:</i>	<u>my own design</u>	<u>built from plans</u>	<u>built from a kit</u> <u>X</u>

The aircraft is complete and the following items have been accomplished.

- | | | |
|------------|-----------|--|
| Yes | No | I enclose FAA Form 8130-6 with Sections I, II, and III complete. |
| Yes | No | I enclose FAA Form 8130-12 with Sections I, II, and III complete and notarized in Section IV. |
| Yes | No | I possess Aeronautical Center Form 8050-3. |
| Yes | No | I enclose a three-view drawing or photographs of the aircraft. |
| Yes | No | I have weighed the aircraft to determine that the most forward and aft center of gravity positions are within established limits. The weight and balance report is available at the aircraft, and a copy is submitted with this application. |
| Yes | No | I have maintained a construction log for the project, including photographs showing methods of construction and workmanship during the construction. Log entries describe all inspections conducted during construction. |
| Yes | No | The marking requirements of Part 45 have been complied with, including permanent attachment of a fireproof identification (data) plate, permanent application of appropriate registration marks, and the word "EXPERIMENTAL" displayed near each entrance to the cabin or cockpit. |
| Yes | No | The following placard is displayed in the cockpit in full view of all occupants (not required for single-place aircraft). |

"PASSENGER WARNING - THIS AIRCRAFT IS
AMATEUR-BUILT AND DOES NOT COMPLY WITH
FEDERAL SAFETY REGULATIONS FOR STANDARD
AIRCRAFT."

**APPENDIX 13. SAMPLE PROGRAM LETTER TO ACCOMPANY
APPLICATION FOR AIRWORTHINESS CERTIFICATE (CONTINUED)**

The aircraft will be available for inspection at this location, and directions are as follows:

Grayson County Airport

Hangar No. 3

4701 Airport Drive

Sherman, TX 75020

I request airworthiness certification and operation limitations be issued permitting me to operate the aircraft within the following geographical area for flight testing. Initial flights will determine engine reliability and flight control characteristics. A flight test plan has been developed using the guidance in AC 90-89 and is available for review. After Phase I flight test completion, I plan to operate the aircraft under VFR conditions only.

25-statute mile radius of Grayson County Airport

Lat. 33-43 N; Long. 096-40W

Dallas-Ft. Worth Sectional (L13)

My residential telephone number is (903) 555-1212.

My daytime business number is (214) 555-1212.

Early A. Builder

Owner/Builder

9/26/2003

AC 20-27F

APPENDIX 14. SAMPLE FAA FORM 8610-2, AIRMAN CERTIFICATE AND/OR RATING APPLICATION

TYPE OR PRINT ALL ENTRIES IN INK

Form Approved OMB No. 2120-0022



AIRMAN CERTIFICATE AND/OR RATING APPLICATION

- MECHANIC
- AIRFRAME
- POWERPLANT
- REPAIRMAN
- PARACHUTE RIGGER
- SENIOR
- SEAT
- BACK
- MASTER
- CHEST
- LAP

EXPERIMENTAL AIRCRAFT BUILDER

(Specify Rating)

APPLICATION FOR: ORIGINAL ISSUANCE ADDED RATING

I. APPLICANT INFORMATION

A. NAME (First, Middle, Last)
Early A. INITIAL ONLY Builder

B. SOCIAL SECURITY NO
123-45-6789

C. DOB (Mo, Day, Yr.)
12-12-1943

D. HEIGHT
76 IN

E. WEIGHT
235

F. HAIR
brown

G. EYES
brown

H. SEX
M

I. NATIONALITY (Citizenship)
USA

J. PLACE OF BIRTH
Bug Tussle, TX

K. PERMANENT MAILING ADDRESS
1240 Bois d' Arc Road
NUMBER AND STREET, P.O. BOX, ETC.
Savoy
CITY TX 75479
STATE ZIP CODE

L. HAVE YOU EVER HAD AN AIRMAN CERTIFICATE SUSPENDED OR REVOKED?
 NO
 YES (If "Yes," explain on an attached sheet keying to appropriate item number)

M. DO YOU NOW OR HAVE YOU EVER HELD AN FAA AIRMAN CERTIFICATE?
 NO YES
SPECIFY TYPE: Private Pilot

N. HAVE YOU EVER BEEN CONVICTED FOR VIOLATION OF ANY FEDERAL OR STATE STATUTES PERTAINING TO NARCOTIC DRUGS, MARIJUANA, AND DEPRESSANT OR STIMULANT DRUGS OR SUBSTANCES? NO YES → DATE OF FINAL CONVICTION

II. CERTIFICATE OR RATING APPLIED FOR ON BASIS OF --

A. CIVIL EXPERIENCE

B. MILITARY EXPERIENCE

C. LETTER OF RECOMMENDATION FOR REPAIRMAN (Attach copy)

D. GRADUATE OF APPROVED COURSE

(1) NAME AND LOCATION OF SCHOOL

(2) SCHOOL NO. (3) CURRICULUM FROM WHICH GRADUATED (4) DATE

E. STUDENT HAS MADE SATISFACTORY PROGRESS AND IS RECOMMENDED TO TAKE THE ORAL/PRACTICAL TEST (FAR 65.80)

(1) SCHOOL NAME (2) SCHOOL OFFICIAL'S SIGNATURE

F. SPECIAL AUTHORIZATION TO TAKE MECHANIC'S ORAL/PRACTICAL TEST (FAR 65.80)

(1) DATE AUTH (2) DATE AUTH. EXPIRES (3) FAA INSPECTOR SIGNATURE (4) FAA DIST. OFC.

III. RECORD OF EXPERIENCE

A. MILITARY COMPETENCE OBTAINED IN

(1) SERVICE (2) RANK OR PAY LEVEL (3) MILITARY SPECIALTY CODE

B. APPLICANTS OTHER THAN FAA CERTIFICATED SCHOOL GRADUATES. LIST EXPERIENCE RELATING TO CERTIFICATE AND RATING APPLIED FOR
(Continue on separate sheet, if more space is needed)

DATES—MONTH AND YEAR		EMPLOYER AND LOCATION	TYPE WORK PERFORMED
FROM	TO		
			MAKE - Builder
			MODEL - Van's RV-6
			SERIAL No. - 1001
			CERTIFICATION DATE OF AIRCRAFT

C. PARACHUTE RIGGER APPLICANTS: INDICATE BY TYPE HOW MANY PARACHUTES PACKED →

SEAT	CHEST	BACK	LAP	FOR MASTER RATING ONLY	PACKED AS A --
					<input type="checkbox"/> SENIOR RIGGER <input type="checkbox"/> MILITARY RIGGER

IV. APPLICANT'S CERTIFICATION

I CERTIFY THAT THE STATEMENTS BY ME ON THIS APPLICATION ARE TRUE

A. SIGNATURE
Early A. Builder

B. DATE
X XXXX-XXXX

V. I FIND THIS APPLICANT MEETS THE EXPERIENCE REQUIREMENTS OF FAR 65 AND IS ELIGIBLE TO TAKE THE REQUIRED TESTS

DATE INSPECTOR'S SIGNATURE FAA DISTRICT OFFICE

FOR FAA USE ONLY															
Emp	req	D.O	seal	con	iss	Act	lev	TR	s.h	Stct	#re	RATING (1)	RATING (2)	RATING (3)	RATING (4)
LIMITATIONS															