U.S. Department of Transportation
Federal Aviation Administration

Memorandum

Subject: **ACTION:** Deviation to FAA Order 8130.2, Airworthiness Certification of Aircraft and Related Products

Date: JUL 1 2005

From: Manager, Production and Airworthiness Division, AIR-200

Reply to Attn. of:

To: Manager, Manufacturing Inspection Office ANM-108

This is in response to your memorandum requesting a deviation to FAA Order 8130.2, Airworthiness Certification of Aircraft and Related Products, to use an AIR-200 interim version of Section 9, Experimental Amateur-Built Airworthiness Certification.

Your request for a deviation to Section 9 and the use of interim FAA Form 8000-38, Fabrication/Assembly Operation Checklist is granted. In your request, you took an exception to NOTE 1 of paragraph 147a(3), it has also been granted. Your request to use the interim FAA Form 8130-12, Eligibility Statement, Amateur-Built Aircraft is denied. This form is an official FAA form that has to be approved before it can be released.

These interim procedures will be included in a future change or revision to Order 8130.2. If there are any questions, please contact a member of the Production & Airworthiness Certification Division, AIR-200, at (202) 267-8361.

Frank P. Paskiewicz

cc: All Manufacturing Inspection Offices

SECTION 9. EXPERIMENTAL AMATEUR-BUILT AIRWORTHINESS CERTIFICATIONS

146. GENERAL. Under the provisions of § 21.191(g), an amateur-built aircraft is defined as an aircraft in which the major portion has been fabricated and assembled by persons who undertook the construction project solely for their own education or recreation. The applicant should be advised of the availability of AC 20-27, Certification and Operation of Amateur-Built Aircraft.

a. Eligibility.

(1) Amateur-built aircraft are eligible for an experimental airworthiness certificate when the applicant presents satisfactory evidence of the following:

(a) The aircraft was fabricated and assembled by an individual or group of individuals.

(b) The project was undertaken for educational or recreational purposes.

(c) The FAA finds that the aircraft complies with acceptable aeronautical standards and practices.

> **NOTE: Aircraft that are manufactured and assembled as a business for sale to other persons are not considered to be in compliance with § 21.191(g).**

(2) The determination of the major portion factor may be made by evaluating the amount of work accomplished by the individual or group of individuals, against the total amount of work necessary for the complete project, excluding standard procured items. The "major portion" of the aircraft is considered to mean more than 50 percent of the fabrication and assembly operations. The applicant must submit a notarized FAA Form 8130-12, Eligibility Statement, Amateur-Built Aircraft, certifying the major portion was fabricated and assembled for educational or recreational purposes, and that evidence is available to support this statement. The evidence will be provided to the ASI upon request. If a question arises as to the eligibility regarding the major portion requirement of an amateur-built aircraft, FAA Form 8000-38, Fabrication/Assembly Operation Checklist, may be used. See figure 4-14 for a sample Form 8130-12 and figure 4-15 for a sample Form 8000-38. The FAA reserves the right to verify the authenticity of any statement that was made on FAA Form 8130-12 and may or may not conduct an investigation to determine that the major portion requirements has been complied with. The ASI or DAR may withhold issuance of an airworthiness certificate if denied access into a build center in order to verify that major portion requirements have been meet.

> **NOTE 1: Applicants will jeopardize eligibility for certification under § 21.191(g) if someone else builds the aircraft.**

> **NOTE 2: If the aircraft kit is on the FAA Eligible Kit List (e.g., meets the 51% rule), and the builder has not deviated from the kit and has not used a Commercial Assistance Center for assistance in building the aircraft per statements made on FAA Form 8130-12, then no additional determination of the major portion is required.**

b. Design and Construction.

(1) To meet the intent of § 21.191(g) and to be eligible for an experimental airworthiness certificate, satisfactory evidence must be presented to show that the aircraft was not built from completely prefabricated parts or kits. However, the applicant cannot be expected to have personally fabricated every part that makes up the aircraft any more than this can be expected of a commercial aircraft manufacturer. Items such as engines and engine accessories, propellers, rotor blades, rotor hubs, tires, wheel and brake assemblies, instruments, and standard aircraft hardware such as pulleys, bell cranks, rod ends, bearings, bolts, rivets, etc., may be procured on the open market.

(2) The use of used or salvaged major assemblies (for example, wings, fuselage, empennage, etc.) from type-certificated aircraft is permitted, as long as they are in a condition for safe operation. These assemblies will be considered by the FAA in determining the "major portion," but no credit for fabrication and assembly will be given to the builder.

(3) The FAA should be reasonable in its requests to amateur builders, keeping in mind that in most instances only one aircraft is involved. Accordingly, the builder is not required to have the detailed design data, quality systems, procedures, etc., that the holder of a type and PC is required to have for the production of duplicate aircraft.

(4) For a major change, the FAA is not required to modify an experimental amateur-built aircraft's special airworthiness certificate and operating limitations unless the modification creates the need for special restrictions.

c. Kit Construction.

(1) An aircraft that is built from a kit may be eligible for amateur-built certification, provided the major portion of the aircraft (that is, more than 50 percent), has been fabricated and assembled by the applicant for education and/or recreation and the applicant has evidence to support the major portion requirement. Based on the criteria set forth in paragraphs 146a and b of this order, it is obvious that **an aircraft assembled from a kit composed of completely finished prefabricated components, parts, and precut/predrilled materials is not eligible for the issuance of an experimental airworthiness certificate as an amateur-built aircraft.**

(2) The major portion of a kit should be composed of raw stock, such as lengths of wood, tubing, extrusions, etc., which may have been cut to an approximate length. A certain quantity of prefabricated parts, such as heat-treated ribs, bulkheads, or complex parts made from sheet metal, fiberglass, or polystyrene would also be acceptable. The kit must still meet the major portion requirement, and the applicant must show to the satisfaction of the FAA inspector that completion of the aircraft is not merely an assembly operation.

(3) Some kits may include assembly jigs, templates, raw stock, or other means to simplify the fabrication and assembly process. If an applicant proposes to use a kit that has such items provided, the FAA inspector should evaluate the kit to determine whether the builder will still fabricate and assemble the major portion of the aircraft and advise the applicant accordingly.

d. Kit Evaluation. The FAA does not certify aircraft kits or approve kit manufacturers. However, the FAA does perform evaluations of kits for the purpose of determining if an aircraft built from the kit will meet the major portion requirement of § 21.191(g). This evaluation must not be construed as meaning the kit is FAA "certified," "certificated," or "approved," and it is not appropriate to represent it as such. See paragraphs 148, 149, and 150 of this order for kit evaluation criteria.

e. Advising Applicants.

(1) FAA inspection of an amateur-built aircraft will be limited to a general airworthiness inspection when the aircraft is submitted for airworthiness certification. The FAA will not perform any progressive precover inspections during the construction of the aircraft. These in-process inspections should be conducted by knowledgeable persons, for example, Experimental Aircraft Association (EAA) technical counselors and certificated mechanics, etc. All advice given to the amateur builder by the FAA should be made a matter of record for future reference. IN NO INSTANCE WILL THE FAA ACTUALLY PERFORM ANY OF THE FABRICATION OR CONSTRUCTION WORK.

(2) Many individuals who desire to build their own aircraft have little or no experience with respect to aeronautical practices, workmanship, or design. An excellent source for advice in such matters is the EAA, located in Oshkosh, Wisconsin. Information on EAA programs and benefits may be obtained via the EAA Web site at http://www.eaa.org.

(3) When the prospective builder contacts the appropriate FAA office to advise the FAA of the construction project, the inspector should provide the prospective builder with the applicable forms and any guidance necessary to ensure a thorough understanding of applicable regulations.

(4) The prospective builder, when applying for an airworthiness certificate, should submit to the FAA a three-view sketch, drawing, or photograph of the proposed aircraft project.

(5) The applicant should be advised that to show compliance with § 91.319(b), the applicant must develop a flight test program that addresses the requirements, goals, and objectives of each test flight. The flight test program should be developed in accordance with AC 90-89, Amateur-Built Aircraft and Ultralight Flight Testing Handbook, as revised, or its equivalent in scope and detail. Flight test programs accomplish two purposes. First, they ensure that the aircraft has been adequately tested and determined to be safe to fly within the aircraft's flight envelope. Second, the flight test data is used to develop an accurate and complete aircraft flight manual and to establish emergency procedures.

> **NOTE: The EAA flight advisor program has been established to assist applicants in developing flight test programs.**

(6) The FAA district office, when requested, should furnish the builder with the following forms:

(a) Aircraft Registration Application, Form 8050-1;

(b) Application for Airworthiness Certificate, Form 8130-6;

(c) Eligibility Statement, Amateur-Built Aircraft, FAA Form 8130-12; and

(d) Affidavit of Ownership for Amateur-Built Aircraft, Aeronautical Center Form 8050-88.

(7) At the time of airworthiness certification—

(a) The aircraft should be complete in every respect, and

(b) The applicant must submit all required documentation. If the applicant cannot, or will not, provide a statement of eligibility, the applicant should be advised that the aircraft cannot be certificated as amateur-built until other satisfactory evidence is provided to substantiate that the major portion of the aircraft was built for educational or recreational purposes.

f. Weight and Balance.

(1) Before certification, the amateur builder should accurately weigh the aircraft in accordance with established weight and balance procedures to determine the aircraft's empty, gross, and most forward and aft CG location, including the weight and balance for the initial flight tests in order to help reduce stall, spin, and other control-related accidents. If the aircraft is self-designed, these limits would be determined by the builder's calculations; if the aircraft is constructed from a kit or built from purchased plans, the predetermined data would be used. The completed weight and balance report, including load limits for flightcrew, oil, fuel, and baggage, should be available in the aircraft along with the other applicable placards, listings, and markings required by § 91.9.

(2) Prior to certificating the aircraft, the FAA should verify that the weight and balance data is accurate for that aircraft, that the aircraft has been weighed correctly, and that the CG and its most forward and aft CG limits are established.

g. Transfer of Airworthiness Certificates.

(1) An airworthiness certificate is transferred with the aircraft (§ 21.179), for example, if there is a change of ownership, transfer of registration, etc. There is no FAA inspection required after transfer of an aircraft with its airworthiness certificate unless it is determined that revised operating limitations are necessary. In this case, a new Form 8130-7 must be issued to reflect the new date of the revised operating limitations. Therefore, Form 8130-6 is required to be submitted by the applicant.

(2) In some cases, amateur-built aircraft are sold with an expired airworthiness certificate or foreign airworthiness certificate. In such cases, an applicant may request and receive a special airworthiness certificate for the purpose of operating amateur-built aircraft, only if the aircraft previously was certificated in this category. In this case, a new Form 8130-7 would be issued along with new operating limitations, but without the eligibility to obtain a repairman certificate for that aircraft. The new certificate should only be issued after the FAA has verified airworthiness by following the appropriate procedures in paragraph 88 of this order.

h. Operation of Canadian-Registered Amateur-Built Aircraft in the United States. Canadian-registered amateur-built aircraft are issued a special certificate of airworthiness with operating limitations set by Transport Canada Civil Aviation. In the United States, operation of Canadian-registered amateur-built aircraft certified under the provisions of Canadian air regulations is permitted by the issuance of an SFA under § 91.715. This authorization must be obtained before operation in the United States is permitted. The authorization may be obtained electronically via the Flight Standards Web site at http://www.faa.gov/avr/afs/afs800/formtext.htm. Additional guidance on the issuance of SFAs for Canadian-registered amateur-built aircraft may be found in paragraph 261 of this order.

i. Prototype Aircraft Produced by an Amateur-Built Aircraft Kit Manufacturer. When persons produce prototype aircraft to be used to prove their design for amateur-built purposes, even though the design is intended to be sold as plans and/or kits, such aircraft are considered to be produced as a furtherance of a business.

(1) These prototype aircraft are not produced by persons "solely for their own education or recreation," and therefore cannot be certificated as amateur-built aircraft under § 21.191(g). An application to be certificated as amateur-built cannot be accepted for such aircraft, but the aircraft could qualify for the purpose of R&D under § 21.191(a). FAA inspectors may issue experimental certificates for the purpose of R&D as long as the applicant has a bona fide program of R&D.

(2) Following termination of an R&D program, such prototype aircraft may be eligible for an experimental certificate for the purpose(s) of exhibition and/or air racing with appropriate operating limitations issued for such purpose(s).

(3) Kit manufacturers also may be eligible to receive an experimental certificate (§ 21.191(f)) for the purpose of conducting market surveys, sales demonstrations, and customer crew training as provided in § 21.195(a). The airworthiness certificate may be issued ONLY after the applicant has satisfied the requirements of § 21.195(d). The following operating limitations will be added when issuing airworthiness certificates under § 21.191(f):

(a) Condition inspections must be performed in accordance with appendix D to part 43 at least every 90 days or 100 flight hours, whichever comes first. The inspections must be performed by an FAA-certificated mechanic with appropriate ratings as defined in § 43.3.

(b) Familiarization flights must be conducted only over sparsely populated areas. If aerobatics are involved, the applicant must inform the local FAA office and additional limitations may be imposed as necessary.

> **NOTE 1: "Customer crew training" means pilot familiarization with that aircraft rather than training the customer to become a pilot. The manufacturer will only be familiarizing an already qualified pilot with the novel characteristics of the aircraft, not training the customer to obtain a pilot's certificate.**

NOTE 2: This should not be construed to enlarge the scope of § 21.191(f) except as specifically provided. Amateur builders are not "manufacturers" for the purposes of §§ 21.191(f) and 21.195(a), and cannot obtain Form 8130-7 under § 21.191(f). In addition, a person who distributes kits or plans manufactured by another company would not qualify for Form 8130-7 under §§ 21.191(f) and 21.195(a).

147. CERTIFICATION PROCEDURES. The procedures in this chapter provide guidance material associated with airworthiness certification and the issuance of Form 8130-7.

a. General.

(1) The FAA airworthiness certification process consists of a general airworthiness inspection of the aircraft. It is accomplished after the aircraft is completed and prior to the issuance of an airworthiness certificate. During this inspection, the FAA may not request extensive disassembly of the aircraft if the builder can provide documented evidence of in-process inspections. These in-process inspections should be conducted by knowledgeable persons, for example, EAA technical counselors and certificated mechanics. The records should indicate what was inspected, by whom, and the date of the inspection. In addition, builders should document construction phases using photographs taken at appropriate times prior to covering or finishing. The photographs should clearly show the methods of construction and quality of workmanship. Such photographic records should be included with the builder's log or other construction records. The only time extensive disassembly should be requested is when there is a question of safety that would endanger the general public.

(2) When an aircraft fabricated from a kit is identified as meeting the major portion rule by the FAA, the FAA will review the applicant's documentation supplied with the kit to verify it agrees with the identification and description given in the FAA listing of eligible amateur-built kits. Deviations from the FAA-identified kit configuration will require the inspector to make an independent determination that the applicant fabricated and assembled the major portion of the aircraft.

(3) When a kit has been evaluated and published in the listing of eligible amateur-built aircraft kits, and commercial assistance was used in the construction of the aircraft using the evaluated kit, the ASI or DAR will need to make another major portion rule determination to ensure the amateur-builder still completed the major portion of the aircraft. In no instance may work performed by a commercial assistance facility reduce the amount of work the amateur-builder performs to less than 51 percent without loosing amateur-built eligibility. In addition, an amateur-builder cannot perform a percentage of an operation and the commercial assistance facility complete it and the amateur-builder be given full credit for that operation. For example, a kit's wing assembly requires the fabrication of 32 ribs. The amateur-builder cannot make the first rib and have the commercial assistance facility complete the remaining ribs and take credit for building all 32 ribs. This type of operation degrades the amount of work actually performed by the amateur-builder.

~~**NOTE 1: A builders assistance center can perform fabrication or assembly of components not listed in the approved Kit list without affecting the eligibility of the aircraft to obtain an amateur-built aircraft airworthiness certificate under the 51 percent rule.**~~

NOTE 2: "When a FAA evaluated kit is assembled at a facility such as a Builder Assist Center, or a Completion Center, that provides tools, jigs, and/or manual labor, the original kit evaluation form must be annotated to determine eligibility of the specific aircraft. The annotation of form 8000-38 is accomplished by adding a third column to evaluate the effect of the builder assistance on the aircraft's eligibility for amateur-built certification. The required kit evaluation form will be provided by the geographic MIDO.

b. Record Inspection and Document Review. The FAA representative must—

(1) Obtain from the applicant a properly executed Form 8130-6 and any other documents required for the certification.

(2) Obtain from the applicant a program letter identifying the aircraft, the purpose of the certificate, the area over which the operations are to be conducted, and the duration of the program.

(3) Review the documentation provided by the applicant to determine that the registration requirements of part 47 have been met, and ensure the aircraft is marked in accordance with part 45.

(4) Check with AFS-750 to determine if a denial letter exists for the particular aircraft. This may assist the inspector in determining aircraft eligibility.

(5) Review the aircraft records to determine whether any required maintenance, inspections, etc., have been accomplished. Records must be complete.

(6) Review the applicant's weight and balance data for accuracy and currency for the aircraft submitted.

(7) Ensure there is a signed and dated statement from the owner in the aircraft records that the aircraft has had an inspection performed in accordance with appendix D to part 43, or other approved programs, and was found to be in a condition for safe operation. This statement will support the owner's inspection and airworthiness statement on block III of the Application for Airworthiness Certificate. The inspection described above will help reduce errors made during construction of the aircraft. (Appendix 1 to AC 90-89, as revised, may be used.)

NOTE: There is NO requirement for airframe and powerplant mechanics to sign off on amateur-built airworthiness inspections. The aircraft builder's signature on Form 8130-6, block III, attests to the airworthiness of the amateur-built aircraft.

c. Aircraft Inspection. The FAA must arrange with the applicant to make the aircraft available for inspection to determine the following:

(1) The ID plate meets the requirements of § 45.11, as applicable.

(2) The information on the ID plate is correct, matches the information on Form 8130-6, and is in accordance with § 45.13, as applicable.

(3) The aircraft nationality and registration marks are in accordance with part 45, subpart C.

(4) The flight control system, engine(s), propeller(s), pitot static system, and associated instruments operate properly.

(5) The cockpit instruments are appropriately marked, and needed placards are installed and placed for easy reference.

(6) System controls (for example, fuel selector(s) and electrical switches/breakers) are appropriately placed, clearly marked, provide easy access and operation, and function as intended by the builder/owner.

(7) An ELT is installed, if required (§ 91.207).

(8) All explosive devices used in ballistic parachutes are clearly marked and identified.

d. Certificate Issuance. Upon satisfactory completion of the airworthiness inspection and documentation review, the FAA will issue the special airworthiness certificate and the operating limitations for that aircraft. The operating limitations will be attached to Form 8130-7. The FAA must review the operating limitations with the applicant to ensure a clear understanding of the limitations. The FAA will issue phase I and phase II operating limitations for an unlimited duration during the initial airworthiness certification. The FAA may elect to issue phase I and phase II limitations separately only when a documented safety issue exists. The operating limitations should be prescribed in two phases in the same document as follows:

(1) For the phase I limitations, the FAA must prescribe all operating limitations appropriate for the applicant to demonstrate compliance with § 91.319(b) in the assigned flight test area. This includes a limitation requiring the owner/operator to endorse the aircraft logbook with a statement certifying that the prescribed flight hours have been completed and the aircraft has been shown to comply with § 91.319(b). The owner/operator may then operate in accordance with phase II.

(2) For the phase II limitations, the FAA must prescribe operating limitations for the operation of an amateur-built aircraft for an unlimited duration, as appropriate.

(3) Under § 91.319(e), the FAA may prescribe any additional limitations in phase I or II deemed necessary in the interest of safety.

(4) If the aircraft meets the requirements for the certification requested, the FAA must—

(a) Make an aircraft logbook entry.

(b) Issue Form 8130-7.

(c) Complete sections V and VIII of Form 8130-6, in accordance with the instructions contained in chapter 8 of this order.

(d) Examine, review, and route the certification file in accordance with the instructions contained in chapter 8 of this order.

(5) If the aircraft does not meet the requirements for the certification requested and the airworthiness certificate is denied, the FAA must—

(a) Write a letter to the applicant stating the reason(s) for denying the airworthiness certificate.

(b) Attach a copy of the denial letter to Form 8130-6 and forward to AFS-750 to be made part of the aircraft record.

148. EVALUATION OF AMATEUR-BUILT AIRCRAFT/KITS.

a. The purpose of Form 8000-38 is to record the amount of fabrication and assembly accomplished by the kit manufacturer, and the fabrication and assembly necessary for the amateur builder to complete the aircraft.

b. Form 8000-38 may be used when—

(1) Determining whether an aircraft built from a kit would meet the major portion fabrication and assembly requirement of § 21.191(g).

(2) Settling any question with respect to the major portion requirement that may arise in the certification of an amateur-built aircraft in accordance with § 21.191(g).

> **NOTE: The use of this checklist is not necessary for an aircraft built from a kit previously found eligible for amateur-built certification or when the builder's records, data, and notarized statement provide ample proof that the builder fabricated and assembled the major portion of the aircraft.**

(3) The aircraft was built from prefabricated major components that are readily available from aircraft parts suppliers.

(4) The aircraft was built using salvaged or used sections from type-certificated standard category aircraft.

(5) The aircraft was built from a kit that has not been found eligible by the FAA.

(6) The aircraft was built from a kit that was changed by the kit manufacturer after the date of eligibility was established.

(7) Providing guidance to a kit manufacturer to determine if a proposed kit-built aircraft meets the major portion requirement of § 21.191(g). Using this checklist, the kit manufacturer can determine whether a proposed kit is eligible for amateur-built certification. If not, the kit manufacturer may be able to adjust the kit content to meet the major portion requirement.

c. The totals derived from the Kit Manufacturer and Amateur columns on Form 8000-38 indicate the relative portions of the aircraft fabricated and assembled by the kit manufacturer and the amateur builder. To meet the requirements of § 21.191(g), the total in the Amateur column must be greater than the total in the Kit Manufacturer column.

d. It is not necessary that a major portion of the individual parts be fabricated by the amateur builder. If some work (for example, trimming, measuring, cutting, drilling, gluing, lay-up, etc.) is required to prepare the individual part for installation/assembly into the aircraft, and if this work is performed on a representative number of parts listed under each applicable section of the aircraft, the kit may be considered eligible if the major portion of the aircraft has been fabricated and assembled by the amateur builder.

NOTE: When the proposed 'kit' aircraft is too complex to be manufactured outside of a factory setting or completion center, The FAA will not conduct a kit evaluation. In these instances, each individual aircraft would have to be individually assessed to determine amateur-built eligibility.

149. KIT EVALUATIONS AT MANUFACTURERS' FACILITIES.

a. The FAA does not certify aircraft kits or approve kit manufacturers. However, the FAA does perform evaluations of kits for the purpose of determining if an aircraft built from the kit will meet the major portion requirement of § 21.191(g). This evaluation should not be construed as meaning the kit or its manufacturer is FAA "certified," "certificated," or "approved," and it is not appropriate to represent it as such.

NOTE: As part of the FAA kit evaluation the responsible MIDO must determine that the complexity of the kit will not prevent an amateur builder from assembling the kit at their own work shop.

b. When a kit's eligibility for amateur-built airworthiness certification is questionable, the manufacturer may request evaluation by submitting a letter to the MIO responsible for the geographical area in which the kit manufacturer is located.

c. The geographically responsible MIO will forward the request for evaluation to the appropriate MIDO. The MIDO will conduct the evaluation at the kit manufacturer's facility using Form 8000-38. The kit should be evaluated in the exact configuration as supplied to amateur builders. For Form 8000-38—

(1) Upon completion of the evaluation, if the total number of check marks in the Amateur column is less than the total in the Kit Manufacturer column, the kit manufacturer will be advised that the kit does not meet the major portion requirement of § 21.191(g); or

(2) If the total number of check marks in the Amateur column is greater than the total in the Kit Manufacturer column, the kit manufacturer will be advised that the kit meets the major portion requirement of § 21.191(g).

NOTE: The Builder Assist column is not used at the time of the kit evaluation. It is only needed if the evaluated kit is assembled in an Assist or Completion Center.

d. Upon receipt of the completed Form 8000-38 from the MIDO, the MIO will formally notify the kit manufacturer of the results by certified mail. When a kit has been found eligible, the notification should include at least the information in the sample letter illustrated in figure 4-16. When a kit has been found not eligible, the notification should include at least the information in the sample letter illustrated in figure 4-17.

e. The MIDO that performs the kit evaluation will establish a permanent file that should contain the following documents:

(1) A copy of the eligibility or non-eligibility letter that was sent to the kit manufacturer.

(2) A copy of Form 8000-38 completed for the kit.

(3) A copy of the manufacturer's document (parts list, assembly manual, etc.), exactly as sold with the kit. Manufacturers should identify each page of the document by date and/or revision level. This information will help to establish configuration of the kit as evaluated.

f. For kits found eligible, the MIO will send an evaluation report to the Production and Airworthiness Division, AIR-200, 800 Independence Avenue SW., Washington, DC 20591. The evaluation report must contain copies of the documents listed in paragraphs 149e(1) and (2) of this order.

g. Upon receipt of the evaluation report, AIR-200 will e-mail the results to the appropriate FAA field offices and add the kit to the listing of eligible amateur-built aircraft kits. The updated listing is available on the aircraft certification page of the FAA Web site at http://www.faa.gov, or a hardcopy may be obtained from AIR-200 by calling 202-267-8361.

> **NOTE: The placing of a kit on this list is not a prerequisite for amateur-built airworthiness certification. The purpose of the listing is to assist the FAA by eliminating the need for duplication of evaluations for the major portion determination.**

150. CHANGES TO ELIGIBLE KITS. Once a kit has been found eligible for amateur-built status, the manufacturer should coordinate with the FAA any change made to the kit that affects the fabrication and assembly operations.

a. The kit manufacturer should contact the geographically responsible MIO and describe the changes using parts lists, photographs, drawings, etc.

b. The FAA will determine the extent of reevaluation needed. Major changes that decrease the amount of fabrication and assembly required by the builder(s) may affect kit eligibility. Changes that consist of substituting standard hardware items, such as bolts, nuts, rivets, fasteners, etc., normally will not affect eligibility.

c. Derivative models developed from kits previously found eligible may have their eligibility determined based on inspection and evaluation of the original kit, and evaluation of detailed documentation of the changes submitted by the kit manufacturer. Inspection of the actual derivative kit is an option of the original evaluating FAA inspection office.

d. Evaluation reports of major kit changes and reports for derivative models will be processed the same way as original evaluations. Kits found not eligible after reevaluation will be removed from the listing of eligible amateur-built aircraft kits.

151. INSTRUCTIONS FOR COMPLETING FORM 8000-38.

a. Enter the kit manufacturer's company name and address.

b. Enter the kit model by name and/or number.

c. List the latest date or revision date of the kit parts list, assembly manual, etc. (Be sure to include the document name.)

d. Enter the type of aircraft (for example, land, sea, fixed-wing, rotorcraft).

e. Review each operation for its applicability to the kit under evaluation.

f. Check the appropriate boxes under Accomplished By for kit manufacturer and/or amateur builder.

g. Enter any operations not on the list in blank spaces.

h. If the operation is not applicable to the kit construction, enter "N/A" in the respective block.

i. Operations that are accomplished by other manufacturers or suppliers are to be checked in the Kit Manufacturer block.

j. The use of used or salvaged assemblies from standard category aircraft will be checked in the Kit Manufacturer block.

k. Special tools and fixtures (for example, jigs, templates, etc.) fabricated by the amateur builder will be given credit. No credit will be given for fabrication of hand tools.

l. When the evaluation is complete, enter the total number of check marks in the respective blocks on page 5 of the checklist.

m. Sign and date the checklist.

FABRICATION/ASSEMBLY OPERATION CHECKLIST		
Company/Builder 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		
3. Fabricate Composite Cores or Shells		
4. Fabricate Bulkheads or Cross Members		
5. Assemble Fuselage Basic Structure		
6. Fabricate Brackets and Fittings		
7. Install Brackets and Fittings		
8. Fabricate Cables, Wire, and Lines		
9. Install Cables, Wires, and Lines		
10. Fabricate Fuselage Covering or Skin		
11. Install Fuselage Covering or Skin		
12. Fabricate Windshield/Windows/Canopy		
13. Install Windshield/Windows/Canopy		
WINGS		
1. Fabricate Special Tools or Fixtures		
2. Fabricate Wing Spars		
3. Fabricate Wing Ribs		
4. Fabricate Composite Cores		
5. Fabricate Wing Leading and Trailing Edge		
6. Fabricate Drag/Anti-Drag Truss Members		
7. Fabricate Wing Brackets and Fittings		
8. Fabricate Wing Tips		
9. Assemble Basic Wing Structures		
10. Install Wing Leading/Trailing Edge and Tips		
11. Install Drag/Anti-Drag Truss		
12. Fabricate Cables, Wires and Lines		
13. Install Cables, Wires, and Lines		
14. Fabricate Wing Covering or Skin		
15. Install Wing Covering or Skin		
16. Fabricate Wing Struts/Wires		
17. Install and Rig Wings and Struts		

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		
4. Fabricate Aileron Composite Cores		
5. Assemble Aileron Structure		
6. Fabricate Aileron Leading and Trailing Edge		
7. Assemble Aileron Leading and Trailing Edge		
8. Fabricate Aileron Brackets and Fittings		
9. Install Aileron Brackets and Fittings		
10. Fabricate Aileron Covering or Skin		
11. Install Aileron Covering or Skin		
12. Fabricate Aileron Trim Tab		
13. Install Aileron Trim Tab		
14. Install and Rig Aileron		
15. Fabricate Flap Spars		
16. Fabricate Flap Ribs		
17. Fabricate Flap Composite Cores		
18. Assemble Flap Structure		
19. Fabricate Flap Leading and Trailing Edge		
20. Assemble Flap Leading and Trailing Edge		
21. Fabricate Flap Brackets and Fittings		
22. Install Flap Brackets and Fittings		
23. Fabricate Flap Covering or Skin		
24. Install Flap Covering or Skin		
25. Install and Rig Flap		
26. Fabricate Elevator Spars		
27. Fabricate Elevator Ribs		
28. Fabricate Elevator Composite Cores		
29. Assemble Elevator Structure		
30. Fabricate Elevator Leading and Trailing Edge		
31. Assemble Elevator Leading and Trailing Edge		
32. Fabricate Elevator Brackets and Fittings		
33. Install Elevator Brackets and Fittings		
34. Fabricate Elevator Covering or Skin		
35. Install Elevator Covering or Skin		
36. Fabricate Elevator Trim Tab		
37. Install Elevator Trim Tab		
38. Install and Rig Elevator		
39. Fabricate Rudder Spar		
40. Fabricate Rudder Ribs		
41. Fabricate Rudder Composite Cores		
42. Assemble Rudder Structure		
43. Fabricate Rudder Leading and Trailing Edge		
44. Assemble Rudder Leading and Trailing Edge		
45. Fabricate Rudder Brackets and Fittings		
46. Install Rudder Brackets and Fittings		
47. Fabricate Rudder Covering or Skin		
48. Install Rudder Covering or Skin		
49. Fabricate Rudder Trim Tab		
50. Install Rudder Trim Tab		
51. Install and Rig Rudder		

FABRICATION/ASSEMBLY OPERATION CHECKLIST (Continued)		
	Accomplished By	
	Kit Manufacturer	Amateur
EMPENNAGE		
1. Fabricate Special Tools and Fixtures		
2. Fabricate Spars		
3. Fabricate Ribs		
4. Fabricate Composite Cores		
5. Fabricate Leading and Trailing Edges		
6. Fabricate Tips		
7. Fabricate Brackets and Fittings		
8. Assemble Empennage Structures		
9. Install Leading/Trailing Edges and Tips		
10. Install Fittings		
11. Fabricate Cables, Wires, and Lines		
12. Install Cables, Wires and Lines		
13. Fabricate Empennage Covering or Skin		
14. Install Empennage Covering or Skin		
CANARD		
1. Fabricate Special Tools and Fixtures		
2. Fabricate Spar		
3. Fabricate Ribs		
4. Fabricate Composite Cores		
5. Assemble Canard Structure		
6. 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		

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		

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		

Comments

Printed Name	Signature	Date