U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
National Policy

ORDER 8130.35

Effective Date:
8/25/2009

SUBJ: Amateur-Built Aircraft National Kit Evaluation Team

This order defines the policy and procedures for the formation of a National Kit Evaluation Team (NKET) and establishes a standard methodology to evaluate amateur-built aircraft kits. It also describes the selection and orientation of team members, the process for requesting an aircraft kit evaluation, the conduct of evaluations, and reporting and records maintenance requirements.

The goal of the NKET is to ensure that amateur-built aircraft kit evaluations are performed in accordance with national policy. The purpose of the kit evaluation is to determine if an aircraft kit will allow an amateur builder to meet the major portion requirement of Title 14, Code of Federal Regulations, part 21, Certification Procedures for Products and Parts, § 21.191(g).

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Distribution: A-W (IR/FS/VN)-3; A-X (CD/FS/RM/PL)-3; A-FAC-0; A-FFS-7 (LTD); AMA-220 (10 copies); AMA-250 (10 copies); A-AFS- 600 (3 copies)

Initiated By: AIR-200

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Chapter 1. General Information

1. Purpose of This Order. This order defines the policy and procedures of the Federal Aviation Administration (FAA) Amateur-Built Aircraft National Kit Evaluation Team (NKET). This order describes the use of the NKET for the following purposes:

a. The evaluation of newly developed kits.

b. The reevaluation of previously evaluated kits with design changes (derivative kits) that may affect the fabrication and/or assembly percentage totals of the amateur builder.

c. The reevaluation of previously evaluated kits that the FAA determined(s) may not meet the major portion requirement of Title 14 of the Code of Federal Regulations (14CFR) part 21, Certification Procedures for Products and Parts, § 21.191(g).

2. Audience. FAA personnel, designees, aircraft kit manufacturers, and amateur-built aircraft builders.

3. Where Can I Find This Order. You can find this order on the MYFAA Employee Web site at: https://employees.faa.gov/tools_resources/orders_notices/ or http://www.faa.gov/regulations_policies/orders_notices/. This order is also available on the Regulatory and Guidance Library at http://rgl.faa.gov/regulations_policies/orders_notices.

4. What the NKET Does and Does Not Do. The NKET evaluates aircraft kits to determine if they, as manufactured, allow an amateur builder to meet the major portion requirement of § 21.191(g). The NKET does not certify, approve, or recommend aircraft kits for airworthiness certification.

Chapter 2. Policies and Procedures

1. General. The Aircraft Certification Service, Production and Airworthiness Division (AIR-200) at FAA Headquarters is responsible for the overall management and conduct of the NKET.

2. NKET Members.

a. Selection.

(1) The NKET will be composed of members with experience in the evaluation and airworthiness certification of amateur-built aircraft.

(2) AIR-200 will identify personnel within the Evaluations and Special Projects Branch (AIR-240) to lead the NKET.

(3) Other positions will be filled from the four Aircraft Certification Service directorates as needed. Each directorate will identify FAA personnel (primary and backup) for assignment as NKET team members.

(4) Departing NKET members will be replaced by qualified personnel from the directorate to which the departing member was assigned.

(5) AIR-240 will maintain the NKET member roster. The manager of AIR-200 (or designee) must approve (in writing) any changes to NKET membership.

b. Orientation.

(1) The NKET lead is responsible for—

(a) Developing and maintaining the member orientation briefing (PowerPoint presentation), and

(b) Maintaining orientation and attendance and completion records for items listed in paragraphs 2b(2)(a) through (e) below.

(2) Before conducting an NKET evaluation, each team member will—

(a) Become knowledgeable about the requirements of this order,

(b) Attend an orientation briefing conducted by AIR-200,

(c) Participate in a preliminary evaluation review of a manufacturer's aircraft kit documentation,

(d) Participate in an onsite evaluation of a manufacturer's aircraft kit, and

(e) Participate in the postevaluation process established to finalize the evaluation effort.

3. Request for Kit Evaluation.

a. Request for a Kit Evaluation Within the United States. Manufacturers may submit a request for an aircraft kit evaluation for many reasons, including those found in chapter 1, paragraph 1 of this order. A request for reevaluation is not required for new owners of companies that produce a kit(s) previously evaluated and currently posted to the List of Amateur-Built Aircraft Kits located on the FAA website.

(1) The NKET will evaluate only those kits for which the manufacturer has submitted a letter (verbal requests will not be accepted) requesting an aircraft kit evaluation. The letter should be submitted to the following address:

Federal Aviation Administration
Production and Airworthiness Division (AIR-200)
950 L'Enfant Plaza SW
5th Floor, Suite 500
Washington, DC 20024
ATTN: National Kit Evaluation Team

(2) All requests for kit evaluations should include the following:

(a) Manufacturer name and address,

(b) Point of contact,

(c) Primary and alternate phone numbers,

(d) Address of requested inspection location,

(e) Date of kit availability (minimum 8 weeks from date of request),

(f) Kit name and type (for example, Starship 2/airplane, helicopter), and

(g) Kit model number or other specific identifier.

Note: Requests lacking any of the above information will not be considered.

(3) AIR-200 will notify the manufacturer by letter that its request for a kit evaluation has been received. The letter will also provide the information needed to send the required kit documentation to the FAA. (Refer to paragraph 4a of this order.)

b. Request for a Kit Evaluation Outside the United States. In some cases, foreign manufacturers produce amateur-built kits for sale in the United States. The NKET will not perform kit evaluations outside the United States. However, a kit evaluation may take place if the foreign manufacturer has a distributor located within the United States. The foreign kit manufacturer's representative will need to display the complete aircraft kit at the distributor's U.S. location. All of the requirements of this order apply.

4. Documentation.

a. Aircraft Kit Documentation. Requesting manufacturers must provide their aircraft kit documentation to the FAA. Documentation must be submitted to the FAA in English and reflect the nature and scope of the aircraft design and include the following:

(1) The aircraft's construction, and weight and balance information,

(2) The exact configuration as sold,

(3) Photographs, drawings, detailed parts listings, builder instructions, and other design, fabrication, and assembly information, and

(4) Any requirements for special tooling, processes, or commercial assistance.

Note: Kits lacking this documentation will not be evaluated.

b. Sending Kit Documentation. Kit documentation may be sent either electronically (preferred), by conventional mail, or by shipping service. All hard copy documentation must be provided in two complete and identical sets. Hard copy documents will not be returned to the manufacturer. The manufacturer is responsible for all document shipping costs.

c. Receipt of Kit Documentation. The NKET lead will verify by conventional mail and email to the manufacturer that the required kit documentation has been received and is complete. If the information is insufficient or, if sent by hard copy, is incomplete or not identical, the NKET lead will advise the kit manufacturer that the process may not proceed until the issue is resolved.

5. Evaluations.

a. Preliminary Evaluation. The preliminary evaluation consists of a kit documentation review, determination of the kit's complexity, the identification and use of any technical or professional assistance, and a determination of the number of NKET members required to conduct the onsite evaluation. The NKET lead maintains overall responsibility for the conduct of all preliminary evaluations.

(1) Two NKET members are usually required to conduct a preliminary evaluation and should be selected from the geographic directorate closest to the manufacturer. If the members from the identified directorate are unavailable, the NKET lead will identify NKET members from another directorate to conduct the preliminary evaluation.

(2) The selected NKET members will conduct the preliminary evaluation using the manufacturer kit documentation and the Amateur-Built Aircraft Fabrication and Assembly Checklist (2009) (refer to appendix B of this order). Once completed, the members who conducted the preliminary evaluation will develop a recommendation for further evaluation and electronically forward it to the NKET lead. The NKET lead (or designee) will provide the results of the preliminary evaluation to the AIR-240 manager (or designee), who must provide written approval to proceed with the onsite evaluation.

(3) Upon successful completion of the preliminary evaluation, the NKET lead will:

(a) Contact the kit manufacturer to coordinate the onsite evaluation. The NKET lead will consider the manufacturer's request and determine if the onsite evaluation can be conducted within the timeframe requested. If there is a conflict, the NKET lead will contact the manufacturer and coordinate an alternate onsite evaluation date.

(b) Contact the member(s) who conducted the preliminary evaluation, confirm their availability for the onsite evaluation, and notify the appropriate directorate management by email of the NKET member(s) involvement in the specific onsite evaluation. The NKET member(s) conducting the onsite evaluation will coordinate final details with the manufacturer.

Note: An onsite evaluation will not be scheduled or conducted unless a complete kit is available for evaluation by the NKET in the exact configuration (including documentation) that will be supplied to amateur builders.

b. Onsite Evaluation. The onsite evaluation is a comprehensive evaluation of the aircraft kit components and construction procedures. NKET members conduct the evaluation at the kit manufacturer's or distributor's location. All of the preliminary evaluation requirements in chapter 2, paragraph 5a of this order will be completed before conducting the onsite evaluation. The NKET lead maintains overall responsibility for the conduct of all onsite evaluations.

(1) The NKET lead is not required to attend all onsite evaluations. If not attending, the NKET lead will identify one NKET member as the field lead for a specific onsite evaluation. The field lead is responsible for the overall onsite evaluation process. The field lead will brief the manufacturer per chapter 2, paragraph 5b(3) and (8) below, coordinate all issues during the onsite evaluation, consolidate the required evaluation results, and forward all information to the NKET lead.

(2) NKET members conducting the onsite evaluation should review all details of the onsite evaluation before arriving at the manufacturer's or distributor's location.

(3) Before beginning the onsite evaluation, the field lead will conduct an in-brief with the kit manufacturer's representatives. The in-brief format includes the following:

(a) Introduction of NKET members,

(b) Confirmation of the aircraft model kit to be evaluated,

(c) Description of the evaluation process,

(d) Outline of the NKET requirements to conduct the evaluation, and

(e) Ensuring the kit manufacturer's representatives understand that the results of the onsite evaluation will not be released until approved by AIR-200. Manufacturers will be notified by letter per paragraph 5c(3) of this order.

(4) The NKET will conduct the onsite evaluation using the Amateur-Built Aircraft Fabrication and Assembly Checklist (2009) used in the preliminary evaluation. The kit documentation provided for the onsite evaluation must be identical to the documentation supplied for the preliminary evaluation. Discrepancies must be resolved with the manufacturer before continuing the evaluation.

(5) The field lead will immediately advise the NKET lead of any onsite evaluation issues that can't be resolved at the manufacturer's or distributor's facility.

(6) The NKET lead will be notified at the earliest opportunity if the field lead anticipates the onsite evaluation will take longer than 3 days.

(7) The onsite evaluation is complete when all kit information is fully evaluated and the Amateur-Built Aircraft Fabrication and Assembly Checklist (2009) is complete. The evaluation will allow the FAA to determine if an amateur builder who buys the kit and follows the manufacturer's instructions may meet the major portion requirement of § 21.191(g).

(8) After completing the onsite evaluation, the field lead will conduct an out-brief with the kit manufacturer's representatives. The out-brief format includes the following:

(a) Discussing aircraft kit issues identified by the NKET,

(b) Discussing any NKET questions or issues raised by the manufacturer, and

(c) Informing the manufacturer's representative that notification of the evaluation results will be sent by letter from AIR-200.

(9) As soon as practicable after the onsite evaluation, the field lead will contact the NKET lead with the results of the evaluation. The field lead will document all pertinent evaluation information (for example, inspection highlights, difficulties, and observations) and forward this information to the NKET lead at the address provided in paragraph 3a(1) of this order.

c. Postevaluation. The NKET postevaluation process finalizes the evaluation effort and recognizes a kit's potential toward meeting the intent of § 21.191(g). Requirements include review and verification of the completed Amateur-Built Aircraft Fabrication and Assembly Checklist (2009), preparation and approval of the notification of the evaluation results to the manufacturer, addition of the kit name to the FAA website as appropriate, kit documentation disposition, and file maintenance and control of the evaluation records. The NKET lead has primary responsibility for postevaluation requirements and procedures.

(1) When all documentation from the onsite evaluation is received, the NKET lead will verify the results of the Amateur-Built Aircraft Fabrication and Assembly Checklist (2009). To the extent possible, any unresolved issues with the results should be resolved among the members who conducted the onsite evaluation and the NKET lead before review by AIR-200 management.

(2) When all checklist results are verified, the NKET lead will prepare the completed evaluation results for AIR-200 management review, approval, and signature, consisting of the following:

(a) A memorandum containing inspection highlights, difficulties, observations, and a recommendation based on the completed Amateur-Built Aircraft Fabrication and Assembly Checklist (2009) results.

(b) A letter to the manufacturer (refer to figure B-1 or figure B-2 of this order) indicating a determination of whether the evaluated kit may or may not allow an amateur builder to meet the major portion requirement of the regulation.

(c) A copy of the completed Amateur-Built Aircraft Fabrication and Assembly Checklist (2009).

(3) AIR-200 will notify the manufacturer of the evaluation results by letter (refer to paragraph 5c(2)(b) of this order).

(4) After determination that the kit meets all appropriate requirements and AIR-200 approval, the NKET lead (or designee) will ensure that the evaluated kit and the completed checklist are posted to the List of Amateur-Built Aircraft Kits on the FAA website (refer to paragraph 8 of this order).

(5) The NKET lead (or designee) will ensure that all evaluation documents are consolidated and filed in accordance with paragraph 7 and appendix C to this order.

6. NKET Data Analysis. AIR-240 will analyze the NKET evaluation data every year in January to identify trends. The analysis results will be used in support of recommendations to AIR-200 management for changes to national policy

7. AIR-200 Records Management. All forms and records relevant to the aircraft kit evaluation process will be consolidated and filed in accordance with the FAA records control process.

a. Evaluation Information. The NKET lead will maintain the following evaluation information within AIR-200:

(1) The original evaluation request from the manufacturer.

(2) A copy of all documents that were sent to the manufacturer.

(3) A copy of the completed Amateur-Built Aircraft Fabrication and Assembly Checklist (2009) completed during the kit evaluation.

(4) Copies of other correspondence relevant to the evaluation including emails and correspondence logs.

b. Aircraft Kit Documentation. The directorate involved in conducting the evaluation will maintain one complete set of the aircraft kit documentation used during the evaluation. Any remaining manufacturer aircraft kit documentation should be considered proprietary and, at the discretion of the directorate, be either returned to the manufacturer or properly disposed of per FAA Order 1350.15, Records Organization, Transfer, and Destruction Standards.

8. List of Amateur-Built Aircraft Kits. Kits evaluated as meeting the intent of the major portion requirement of § 21.191(g) will be added to the List of Amateur-Built Aircraft Kits located on the FAA website. AIR-200 is responsible for adding evaluated kits to and deleting kits from the list. The NKET lead will ensure that all information added to or deleted from the List of Amateur-Built Aircraft Kits is accurate.

Appendix A. Definitions

The following definitions are used in this order.

1. Amateur Builder. A builder(s) who fabricates and assembles the major portion of an aircraft with the intent of obtaining an experimental aircraft airworthiness certificate.

2. Amateur-Built Aircraft. An aircraft in which the major portion has been fabricated and assembled by a person(s) who undertook the construction project solely for their own education or recreation (sometimes referred to as home-built aircraft).

3. Amateur-Built Aircraft Fabrication and Assembly Checklist (2009). An aid used by the FAA in determining if a manufacturer's aircraft kit meets the major portion requirement of § 21.191(g).

4. Amateur-Built Kit Manufacturer. A person or organization that produces aircraft kits for purchase by amateur builders.

5. Commercial Assistance. To provide assistance with fabricating or assembling amateur-built aircraft in exchange for cash, services, or other tender. This does not include one builder helping another without compensation.

6. Fabricate. To perform work on any material, part, or component, such as layout, bending, countersinking, straightening, cutting, sewing, gluing/bonding, layup, forming, shaping, trimming, drilling, deburring, machining, applying protective coatings, surface preparation and priming, riveting, welding, or heat treating, and transforming the material, part, or component toward or into its finished state.

7. Major Portion. The fabrication and assembly of more than 50 percent of the aircraft (also known as the "51-percent rule").

8. National Kit Evaluation Team (NKET). A team of FAA personnel with extensive experience in the evaluation and airworthiness certification of amateur-built aircraft.

9. NKET Evaluation. A courtesy evaluation by the FAA's National Kit Evaluation Team (NKET) for the purpose of determining if specific aircraft kits, as manufactured, may allow an amateur builder to meet the major portion requirement of § 21.191(g).

Appendix B. Sample Letters and Forms

Figure B-1. Sample Letter, Aircraft Kit Meets the Intent of § 21.191(g)

U.S. Department
of Transportation
**Federal Aviation
Administration**

[Insert Date]

Mr. Joe Kitbuilt, President
Amateur-Built Airplane Company
1234 Main Street
Anytown, US 00000

Dear Mr. Kitbuilt:

The Federal Aviation Administration (FAA) has completed an evaluation of the *(Aircraft Kit Name and specific model or other identifier)* Kit. The National Kit Evaluation Team has determined that the kit, in its present configuration, as evaluated at your facility on *(date)* and defined by the *(defining information, that is, master drawing list, dated: 00/00/2009, Aircraft Assembly Manual, name, dated: 00/00/2009, Instruction Manual, name, dated 00/00/2009)*, may allow an amateur builder to meet the major portion requirement of Title 14, Code of Federal Regulations part 21, Certification Procedures for Products and Parts, § 21.191(g). The FAA Production and Airworthiness Division, AIR-200, will have the kit added to the List of Amateur-Built Aircraft Kits located on the FAA website.

This evaluation does not mean that the *(Aircraft Kit Name and specific model or other identifier)* or *(Aircraft Kit Company)* is FAA CERTIFIED, CERTIFICATED, or APPROVED, and it is inappropriate to represent it as such.

(Aircraft Kit Company) should notify this office in writing if ownership of the company changes and/or if there are changes made to the evaluated kit that may affect its potential to meet the major portion requirement. Failure to notify this office may result in removal of the kit from the List of Amateur-Built Aircraft Kits located on the FAA website.

Sincerely,

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

Enclosure—Amateur-Built Aircraft Fabrication and Assembly Checklist (2009)

Figure B-2. Sample Letter, Aircraft Kit Does Not Meet the Intent of § 21.191(g)

U.S. Department
of Transportation
Federal Aviation Administration

[Insert Date]

Mr. Joe Kitbuilt, President
Amateur-Built Airplane Company
1234 Main Street
Anytown, US 00000

Dear Mr. Kitbuilt:

The Federal Aviation Administration (FAA) has completed an evaluation of the *(Aircraft Kit Name and specific model or other identifier)* Kit. The National Kit Evaluation Team (NKET) has determined that the kit, in its current configuration, as evaluated at your facility on *(date)* and defined by the *(defining information, that is, master drawing list, dated: 00/00/2009, Aircraft Assembly Manual, name, dated: 00/00/2009, Instruction Manual, name, dated: 00/00/2009)*, **may not** allow an amateur builder to meet the major portion requirement of Title 14, Code of Federal Regulations part 21, Certification Procedures for Products and Parts, § 21.191(g).

Give specifics as to why the kit does not meet the rule.

You may request a reevaluation of the aircraft kit. Your request must include all the information required in the initial request plus specific information detailing the changes made to meet § 21.191(g) since the first evaluation. The NKET will review your request and determine the level of reevaluation needed. You will be notified by letter of the FAA's decision regarding your reevaluation request.

It is important to remember that the FAA does not approve or certify aircraft kits or kit manufacturers. Your company may continue to develop, manufacture, market, and sell its kits. An applicant (builder) may still apply for airworthiness certification upon completion of an aircraft built from this kit.

Sincerely,

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

Enclosure—Amateur-Built Aircraft Fabrication and Assembly Checklist (2009)

Figure B-3. Sample Amateur-Built Aircraft Fabrication and Assembly Checklist (2009) (Fixed-wing)

Amateur-Built Aircraft Fabrication and Assembly Checklist (2009)
(Fixed-wing)

Name(s):……

Address:……....

Aircraft Model:…….

Date:……..

Remarks:……

……...

NOTE: This checklist is applicable only to fixed-wing aircraft. Evaluation of other types of aircraft (that is, rotorcraft, balloons, lighter than air) will not be accomplished with this form.

NOTE: This checklist is invalid for and will not be used to evaluate an altered or modified type-certificated aircraft with the intent to issue an Experimental Amateur-Built Airworthiness Certificate. Such action violates FAA policy and DOES NOT meet the intent of 14 CFR § 21.191(g).

Note: Enter "N/A" in any box where a listed task is not applicable to the particular aircraft being evaluated. Use the "Add item" boxes at the end of each section to add applicable unlisted tasks and award credit.

FABRICATION AND ASSEMBLY TASKS		**A**	**B**	**C**	**D**
		Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
Task #	**Fuselage — 24 Listed Tasks**				
F1	Fabricate Longitudinal Members				
F2	Fabricate Composite Cores or Shells, Skins				
F3	Fabricate Bulkheads or Cross-members				
F4	Fabricate Control Yokes/Sticks				
F5	Assemble Control Yokes/Sticks				
F6	Fabricate Flt Control Push Pull Tubes/Cables				
F7	Assemble Flt Control Push Pull Tubes/Cables				
F8	Assemble Fuselage Basic Structure				
F9	Fabricate Brackets and Fittings				
F10	Assemble Brackets and Fittings				
F11	Fabricate Cables, Wire, and Lines				
F12	Assemble Cables, Wire, and Lines				

F13	Fabricate Fuselage Fuel System Components				
F14	Assemble Fuselage Fuel System Components				
F15	Fabricate Fuselage Covering or Skin				
F16	Assemble Fuselage Covering or Skin				
F17	Fabricate Windshield				
F18	Assemble Windshield to Fuselage				
F19	Fabricate Windows				
F20	Assemble Windows to Fuselage				
F21	Fabricate Doors/Canopy				
F22	Assemble Doors/Canopy to Fuselage				
F23	Fabricate Mast and Strut Assembly				
F24	Assemble Mast and Strut Assembly				
	Add item:				
	Add item:				
	Add item:				
	Add-item:				
Total of # Fuselage Tasks	**Fuselage Subtotal**	Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
	Fuselage Total Points ►				

FABRICATION AND ASSEMBLY TASKS		**A**	**B**	**C**	**D**
		Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
Task #	**Wings — 51 Listed Tasks**				
W1	Fabricate Wing Spars				
W2	Assemble Wing Spars to Wing				
W3	Fabricate Wing Ribs or Cores				
W4	Assemble Wing Ribs or Cores to Wing				
W5	Fabricate Composite Cores				
W6	Assemble Composite Cores to Wing				
W7	Fabricate Wing Leading and Trailing Edges				
W8	Assemble Wing Leading & Trailing Edges to Wing				
W9	Fabricate Drag/Anti-drag Truss Members				
W10	Assemble Drag/Anti-drag Truss Members to Wing				
W11	Fabricate Wing Brackets and Fittings				
W12	Assemble Wing Brackets and Fittings to Wing				
W13	Fabricate Wing Tips				
W14	Assemble Wing Tips to Wings				
W15	Fabricate Special Tools or Fixtures				
W16	Fabricate Aileron Spars				
W17	Fabricate Aileron Ribs or Cores				
W18	Assemble Aileron Ribs or Cores to Aileron				

W19	Assemble Aileron Primary Structure				
W20	Fabricate Aileron Leading and Trailing Edges				
W21	Assemble Aileron Leading and Trailing Edges				
W22	Fabricate Aileron Brackets and Fittings				
W23	Assemble Aileron Brackets & Fittings to Aileron				
W24	Fabricate Aileron covering or Skin				
W25	Assemble Aileron Covering or Skin to Aileron				
W26	Fabricate Aileron Roll Trim				
W27	Assemble Aileron Trim Tab/Roll Trim to Aileron				
W28	Assemble Aileron to Wing				
W29	Fabricate Flap Spars				
W30	Assemble Flap Spars to Flap				
W31	Fabricate Flap Ribs or Cores				
W32	Assemble Flap Ribs or Cores to Flap				
W33	Assemble Flap Primary Structure				
W34	Fabricate Flap Leading and Trailing Edges				
W35	Assemble Flap Brackets and Fittings to Flap				
W36	Fabricate Flap Covering or Skin				
W37	Assemble Flap Covering or Skin to flap				
W38	Assemble Flaps to Wing				
W39	Fabricate Wing External Lighting Components				
W40	Assemble Wing Ext Lighting Components to Wing				
W41	Assemble Basic Wing Structure				
W42	Fabricate Wing Fuel System components				
W43	Assemble Wing Fuel System Components to Wing				
W44	Fabricate Cables Wires and Lines				
W45	Assemble Cables Wires and Lines to Wing				
W46	Fabricate Wing Covering or Skin				
W47	Assemble Wing Covering or Skin to Wing				
W48	Fabricate Wing Struts/Wires				
W49	Fabricate Fuel Tank				
W50	Assemble Fuel Tank to Wing				
W51	Calibrate Fuel System Components				
	Add item:				
	Add item:				
	Add item:				
	Add item:				
Total # of Wings Tasks	**Wings Subtotal**	Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
	Wings Total Points ►				

FABRICATION AND ASSEMBLY TASKS Task # Empennage — 57 Listed Tasks		A Mfr Kit/Part/ Component	B Commercial Assistance	C Am-Builder Assembly	D Am-Builder Fabrication
E1	Fabricate Horizontal Stabilizer Spars				
E2	Assemble Horizontal Stabilizer Spars to Stabilizer				
E3	Fabricate Ribs or Cores				
E4	Assemble Horizontal Stabilizer Ribs or Cores to Stabilizer				
E5	Fabricate Horizontal Stabilizer Leading and Trailing Edge				
E6	Assemble Horizontal Stabilizer Leading and Trailing Edges to Stabilizer				
E7	Fabricate Horizontal Stabilizer Brackets & Fittings				
E8	Assemble Horizontal Stabilizer Brackets and Fittings to Stabilizer				
E9	Assemble Horizontal Stabilizer Structure				
E10	Fabricate Horizontal Stabilizer Lead/Trailing Edges				
E11	Assemble Horizontal Stabilizer Lead/Trailing Edges to Stabilizer				
E12	Fabricate Horizontal Stabilizer Cables, Wires and Lines				
E13	Assemble Horizontal Stabilizer Cables, Wires and Lines to stabilizer				
E14	Fabricate Horizontal Stabilizer Empennage Covering or Skin				
E15	Assemble Horizontal Stabilizer Empennage Covering or Skin to Stabilizer				
E16	Assemble Horizontal Stabilizer Structure to Fuselage				
E17	Fabricate Elevator Spars				
E18	Assemble Elevator Spars to Elevator				
E19	Fabricate Elevator Ribs or Cores				
E20	Assemble Elevator Ribs or Cores to Elevator				
E21	Assemble Elevator Structure				
E22	Fabricate Elevator Leading and Trailing Edge				
E23	Assemble Elevator Leading and Trailing Edges to Elevator				
E24	Fabricate Elevator Brackets and Fittings				
E25	Assemble Elevator Brackets and fittings to Elevator				
E26	Fabricate Elevator Covering or Skins				
E27	Assemble Elevator Covering or Skins to Elevator				
E28	Fabricate Elevator Trim Tab				
E29	Assemble Elevator Trim Tab to Elevator				
E30	Fabricate Special Tools or Fixtures				

E31	Fabricate Vertical Stabilizer Spars				
E32	Assemble Vertical Stabilizer Spar to the Vertical Stabilizer				
E33	Fabricate Vertical Stabilizer Ribs or Cores				
E34	Assemble Ribs or Cores to Vertical Stabilizer				
E35	Fabricate Vertical Stabilizer Leading/Trailing Edges				
E36	Assemble Leading and Trailing Edges to Vertical Stabilizer				
E37	Fabricate Vertical Stabilizer Brackets and Fittings				
E38	Assemble brackets and Fittings to Vertical Stabilizer				
E39	Fabricate Vertical Stabilizer Cables, Wires, Lines				
E40	Assemble Cables, Wires, Lines to Vertical Stabilizer				
E41	Fabricate Vertical stabilizer Empennage Covering or Skin				
E42	Assemble Vertical stabilizer Empennage Covering or Skin to Vertical Stabilizer				
E43	Assemble Vertical Stabilizer Structure to Fuselage				
E44	Fabricate Rudder Spar				
E45	Assemble Rudder Spar to Rudder				
E46	Fabricate Rudder Ribs or Cores				
E47	Assemble Rudder Ribs or Cores to Rudder				
E48	Assemble Rudder Structure				
E49	Fabricate Rudder Leading and Trailing Edge				
E50	Assemble Rudder Leading and Trailing Edge to Rudder				
E51	Fabricate Rudder Brackets and Fittings				
E52	Assemble Rudder Brackets and Fittings to Rudder				
E53	Fabricate Rudder Covering or Skin				
E54	Assemble Rudder Covering or Skin to Rudder				
E55	Fabricate Rudder Trim Tab				
E56	Assemble Rudder Trim Tab to Rudder				
E57	Assemble Rudder to Vertical Stabilizer				
	Add item:				
	Add item:				
	Add item:				
	Add item:				
Total # of Empennage Tasks	**Empennage Subtotal**	Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
	Empennage Total Points ►				

FABRICATION AND ASSEMBLY TASKS Task #	Landing Gear — 12 Listed Tasks	A Mfr Kit/Part/ Component	B Commercial Assistance	C Am-Builder Assembly	D Am-Builder Fabrication
LG1	Fabricate Struts				
LG2	Fabricate Brake System Components				
LG3	Fabricate Landing Gear Actuation System Components				
LG4	Fabricate Landing Gear System Cables, Wires and Lines				
LG5	Assemble Wheels				
LG6	Assemble Brakes, Tires				
LG7	Assemble Landing Gear				
LG8	Assemble Landing Gear System Components Next Level Structure				
LG9	Align Landing Gear				
LG10	Fabricate Landing Gear Fairings/Gear Doors				
LG11	Assemble Landing Gear Fairings/Gear Doors to Next Level Structure				
LG12	Perform Landing Gear Operational Check (Normal, Emergency Systems)				
	Add item:				
	Add item:				
	Add item:				
	Add item:				
Total # of Land Gear Tasks	**Landing Gear Subtotal**	Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
	Landing Gear Total Points ►				

FABRICATION AND ASSEMBLY TASKS		A	B	C	D
		Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
Task #	**Propulsion — 27 Listed Tasks**				
P1	Fabricate Engine Mounts(s)				
P2	Assemble Engine Mount(s) to Next Level Structure				
P3	Fabricate Engine Cooling System/Baffles				
P4	Assemble Engine Cooling System Baffles to Engine				
P5	Fabricate Engine Compartment Overheat/Fire Detection System				
P6	Assemble Engine Compartment Overheat/Fire Detection System to Engine Compartment				
P7	Fabricate Induction System				
P8	Assemble Induction System to Engine				
P9	Fabricate Exhaust System				
P10	Assemble Exhaust System to Engine				
P11	Fabricate Engine Control Installation Brackets				
P12	Assemble Engine Controls to Next Level Structure				
P13	Rig and Adjust Engine Controls				
P14	Fabricate Brackets and Fittings				
P15	Assemble Brackets and Fittings to Next Level Structure				
P16	Fabricate Cables, Wires and Lines				
P17	Assemble Cables, Wires and Lines to next Level Structure				
P18	Assemble Engine (Likely N/A)				
P19	Assemble Engine to Engine Mount				
P20	Fabricate Engine Propeller (Likely N/A)				
P21	Fabricate Propeller Spinner Components				
P22	Assemble Propeller to Engine				
P23	Rig and Track Propeller				
P24	Fabricate Engine Cowling				
P25	Assemble Engine Cowling to Airframe				
P26	Fabricate Engine Fuel System Components				
P27	Assemble Engine Fuel System Components to Next Level Structure				
	Add item:				
	Add item:				
	Add item:				
	Add item:				
Total # of Propulsion Tasks	**Propulsion Subtotal**	Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
	Propulsion Total Points ►				

FABRICATION AND ASSEMBLY TASKS		A	B	C	D
		Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
Task #	**Cockpit Interior — 11 Listed Tasks**				
C1	Fabricate Instrument Panel				
C2	Fabricate Instrument Panel Bracket and Fittings				
C3	Assemble Instrument Panel with Fittings and Brackets				
C4	Assemble Avionics to Instrument Panel				
C5	Fabricate Seats				
C6	Fabricate Seat Brackets and Fittings				
C7	Assemble Seats to Cockpit				
C8	Fabricate Seat Belts Fittings and Shoulder Harness Fittings				
C9	Assemble Seat Belts and Shoulder Harness to Structure				
C10	Fabricate Electrical Wiring, Controls and Switches				
C11	Assemble Electrical Systems Controls and Switches to Next Level Structure				
	Add item:				
	Add item:				
	Add item:				
	Add item:				
Total # of Cockpit Interior Tasks	**Cockpit Interior Subtotal**	Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
	Cockpit Interior Total Points ►				
Total # of Aircraft Tasks					
	◄ SUM #1				

TOTAL TASKS AND LINE ITEMS ↓ ↓ ↓ ↓

FABRICATION AND ASSEMBLY SUMMARY	A	B	C	D
	Mfr Kit/Part/ Component	Commercial Assistance	Am-Builder Assembly	Am-Builder Fabrication
1. Total Points for Each Category				
2. Total Points for Complete Aircraft Construction (SUM # 2 should equal SUM # 1 above.)	**(SUM #2) ►**			
3. Percentage of Each Category as Part of Total Aircraft Construction				
4. Total Percentages for Complete Aircraft Construction – Add all percentages in row 3. (Total should equal 100% (± .5%).)				
5. Total Builder Points – Add together points in row 1, columns C and D only.				
6. Total Builder Percentage – Add together percentages in row 3, columns C and D only.				

Instructions for Completing the Amateur-Built Aircraft Fabrication and Assembly Checklist (2009)

1. Total Points for Each Category (columns A, B, C and D). Each column's total points are tallied by adding the sum of the points awarded to the tasks in each section (for example, Fuselage, Wings, Empennage). Include points assigned to additional items in each section. Boxes with a N/A (not applicable) have zero points.

2. Total Points for Complete Aircraft Construction.

SUM #1. To find total points, add up the six "Total # of Tasks" blocks at the bottom left of each fabrication and assembly tasks section.

SUM #2. In the FABRICATION AND ASSEMBLY SUMMARY section, add the four blocks from each column's category total (columns A+B+C+D).

Compare SUM #1 to SUM #2. SUM #1 should be equal to SUM #2. (Verify the two sums are equal within a deviation of ±0.5). Total points will vary from aircraft to aircraft depending on number of N/As (not applicable), and additional items applied (123 listed task points + additional items - N/As).

3. Percentage of Each Category. To compute percentages, divide each of the point totals in each column (row 1) individually by the number derived in row 2. For example, if the total points of Mfr Kit/Part/Component category (column A) equals 60 and the number in row 2 equals 170, then divide 60 by 170 to equal 35.3 percent. Do this for each category column. Percentages may be rounded to the nearest tenth (for example, 22.86 percent is rounded up to 22.9 percent).

4. Total Percentages for Complete Aircraft Construction as Part of Total Aircraft Construction. Add the percentages of each of the four categories together (columns A+B+C+D). Total must be equal to 100 percent with a deviation limited to ± 0.5 percent. For example, a derived percentage between 99.5 percent and 100.5 percent is acceptable. If this computation falls outside the accepted deviation, then an error has occurred in row 1, 2, or 3.

5. Total Builder Points. Add the two point tallies from column C and column D derived in row 1. Total will vary from aircraft to aircraft depending on number of N/As applied.

6. Total Builder Percentage. Add the two percentage tallies from column C and column D derived in row 3. Total must exceed 50 percent to be eligible for amateur-built status and to meet the major portion requirement under 14 CFR § 21.191(g).

Explanations and Examples

►A point (each task equals 1 point) can be divided over multiple categories (Manufacturer, Commercial Assistance, Amateur-Builder Assembly, and Amateur-Builder Fabrication) into 1/10 fractions. A manufacturer may be a kit manufacturer, a component manufacturer, or a part(s) manufacturer. Commercial assistance (for hire or compensation) may include assistance provided by kit manufacturers, commercial assistance centers, individuals (for example, A&P mechanics or avionics technicians).

►For example, 0.5 point can be assigned to the manufacturer, 0.3 point as commercial assistance, and 0.2 point to the amateur builder as fabrication, for a total of 1 point.

►All points are added at the end of the form in the FABRICATION AND ASSEMBLY SUMMARY section under their respective categories. The point total is comprised of all the credits awarded for primary delineated tasks plus any credits given for additional items.

►Additional items may be assigned points the same as primary listed tasks if work or parts not reflected in the main entries need to be credited.

►The applicants' completion of tasks can be documented in a number of ways and may include the following:

- Comprehensive builder's logs, to include photographs of all the steps included in each of the listed tasks in the Amateur-Builder Aircraft Fabrication and Assembly Checklist (2009), materials and techniques used in construction, as well as dates, locations, and detailed descriptions.,
- Photographs/video/DVD,
- Drawings and engineering specifications
- Kit manufacturer data when necessary,
- Relevant documentation (for example, plans) and references (for example, handbooks) used,
- Documentation concerning any commercial assistance used,
- Documentation concerning any non-commercial assistance used,
- Part inventories and histories,
- Receipts and Catalogs, and
- Logbook entries.

In addition to using this checklist, the builder should document the entire fabrication and assembly process. To issue an airworthiness certificate, the FAA must make a major portion determination (the major portion of an aircraft was fabricated and assembled by an amateur builder(s)). Making this finding requires sufficient, credible, and adequate documentation.

Appendix C. Administrative Information

1. Distribution. This order is distributed to the Washington Headquarters division and office levels of the Aircraft Certification Service and Flight Standards Service; to the branch levels of the Aircraft Certification Service; to the branch levels in the regional Flight Standards Divisions and Aircraft Certification Directorates; to all Flight Standards District Offices and International Field Offices; to all Aircraft Certification Offices; to all Certificate Management Offices and all Manufacturing Inspection District and Satellite Offices; to the Aircraft Certification and Airworthiness Branches; and to the Flight Standards International Field Offices.

2. Authority to Change This Order. The issuance, revision, or cancellation of the material in this order is the responsibility of the Aircraft Certification Service, Production and Airworthiness Division (AIR-200).

3. Deviations. Adherence to the procedures in this order is necessary for uniform administration of this directive material. Any deviations from this guidance material must be coordinated and approved by the Aircraft Certification Service, Production and Airworthiness Division, AIR-200. If a deviation is necessary, the FAA employee involved should ensure that the deviations are substantiated, documented, and concurred with by the appropriate supervisor. The deviation must be submitted to AIR-200 for review and approval. The limits of federal protection for FAA employees are defined in § 2679 of Title 28 of the United States Code.

4. Suggestions for Improvements. Please forward all comments on deficiencies, clarifications, or improvements regarding the contents of this order to:

Aircraft Certification Service
Administrative Services Branch, AIR-510
ATTN: Directives Management Officer
800 Independence Avenue SW
Washington, DC 20591

Your suggestions are welcome. FAA Form 1320-19, Directive Feedback Information, is located in appendix D to this order for your convenience. If you require an immediate interpretation, please contact AIR-200 at (202) 385-6346; however, you should also complete Form 1320-19 as a followup to the conversation.

5. Records Management. Refer to FAA Orders 0000.1, FAA Standard Subject Classification System; 1350.14, Records Management; and 1350.15, Records Organization, Transfer, and Destruction Standards; and AIR FAA IR-04-01, Records Management Requirements Manual, or see your office Records Management Officer (RMO)/Directives Management Officer (DMO) for guidance regarding retention or disposition of records.

Appendix D. FAA Form 1320-19, Directive Feedback Information

U.S. Department
of Transportation
Federal Aviation Administration

Directive Feedback Information

Please submit any written comments or recommendations for improving this directive, or suggest new items or subjects to be added to it. Also, if you find an error, please tell us about it.

Subject: FAA Order 8130.35

To: Directive Management Officer, AIR-510

(Please check all appropriate line items)

☐ An error (procedural or typographical) has been noted in paragraph _____ on page _____.

☐ Recommend paragraph _____ on page _____ be changed as follows:
(attach separate sheet if necessary)

☐ In a future change to this order, please include coverage on the following subject:
(Briefly describe what you want added)

☐ Other comments:

☐ I would like to discuss the above. Please contact me.

Submitted by: _____ Date: _____

Telephone Number: _____ Routing Symbol: _____

FAA Form 1320-19 (10-98)