



**EAA comments regarding FAA's Federal Register Notice labeled:
*Notification of Policy Revisions, and Requests for Comments on the Percentage of Fabrication and Assembly that Must Be Completed by an Amateur Builder to Obtain an Experimental Airworthiness Certificate for an Amateur-Built Aircraft.***

Having expressed concerns about compliance with amateur aircraft-building requirements for more than two years, the FAA has proposed a new policy that would overcomplicate participation in amateur aircraft building without solving the fundamental compliance concerns.

EAA understands that the purpose of the proposed new policies is to address FAA concerns about excessive commercial building of "amateur built" aircraft. The FAA is seeking to impose more stringent oversight of amateur-built aircraft certification.

EAA is concerned, however, that the complexities of the proposed policy would add significant new burdens on builders who follow the regulations today while not significantly addressing the FAA's stated concerns of excessive commercial building.

For the past several months, EAAers have contacted FAA policymakers, urging them not to weaken this valuable movement and the innovations that it engenders. EAA and its members are particularly concerned about the proposed creation of a new criterion above and beyond the regulatory requirement for "major portion" (51%): the proposed requirement that 20% of the total construction tasks must be "fabrication" work performed by the amateur builder(s). EAA contends that such a requirement would add significant complexity to the use and enforcement of the regulation while not addressing the core issue of excessive (more than 49%) commercial assistance.

EAA fully supports the "major portion" requirement of the regulations and supports the FAA in its efforts to enforce the regulation. EAA's comments on the proposed policies focus on supporting the FAA's efforts to enforce the existing regulations while not creating new burdensome requirements, such as the 20% fabrication requirement. EAA contends that most of the proposed changes that do not directly address the core issue of excessive commercial assistance are unnecessary.

EAA and its members are also concerned that there is no provision in the proposal for a "phase-in" of the new requirements. Builders of amateur-built aircraft often work on the project over several or many years. The proposed changes are significant, and builders who have been constructing a project under the guidance of the existing policy may not be able to generate sufficient documentation to meet the new proposed requirements. Expecting these builders to meet the new requirements would impose a significant burden and may lead to an unfair denial of an airworthiness certificate to a builder who has been working in good faith and within the regulations.

EAA suggests that, if significant changes are to be made in the amateur-built certification policy, a phase-in period should be allowed for these in-process projects to be certificated under the current policy. EAA recommends that this phase-in period be available until 30 September 2011 for those builders who can document that they began their project before 30 September 2008.

The following are EAA's detailed comments:

FAA Order 8130.2 Section 9 as proposed:

Para 146 General

Acceptable as drafted.

Para 147 Eligibility

Revise a. Education or Recreation from:

“Kit aircraft manufactured and assembled by a business for sale to other persons are not considered amateur-built and do not meet the education or recreation requirements of 21.191(g).”

To:

“Aircraft manufactured and assembled by an individual or a business”

Reason: Not all aircraft are kits and there are individuals that are not incorporated as business who construct aircraft for compensation.

Revise b. Major Portion

Remove: The two sentences in the body of the first paragraph that state: “Within that 51% percent, the amateur builder must fabricate at least 20 percent of the aircraft kit and assemble at least another 20 percent; the remaining 11 percent may vary between fabrication and assembly.”

Reason: The regulation calls only for major portion of the aircraft to be fabricated and assembled by amateur builders. The regulation does not require specific percentages of “fabrication” and or “assembly.” EAA contends that it is practical and within the spirit and letter of the regulation to complete an amateur-built aircraft without completing a specific percentage of the fabrication. Equally important, EAA considers adding such a new requirement as rulemaking through policy change and further would not address the core problem of excessive commercial assistance being obtained.

This new requirement only makes it more difficult for legitimate amateur-builders to document compliance while having no effect on those who may currently fraudulently declare that their aircraft was constructed by amateurs.

As EAA members and builders have stated, the FAA needs to enforce the current regulations, not create a new regulation through policy.

Revise b(2) last sentence to remove the word “main” as follows:
“.....Ultralights & Amateur Built Aircraft” section under the ~~main~~ “Aircraft” topic tab on the FAA’s ~~main~~ Web page as www.faa.gov.”

Reason: Grammatical revision.

Para 148 Determination of Major Portion

Revise a(4) to read: “The aircraft was built from prefabricated major components that are readily available from aircraft parts suppliers, *other than those components listed in paragraph 149 a(2).*”

Reason: To ensure consistency within the document by referring to the section that lists the acceptable components.

Para 149 Design and Construction

Revise a. Use of Commercially Produced Components and Materials to remove the word fabricated as follows:

“...satisfactory evidence must be presented to show that the aircraft was not ~~fabricated and~~ assembled from completely prefabricated parts or kits.”

Reason: If the components were completely prefabricated then no fabrication by the builder would take place.

Revise b.(3) to add more specific language as follows:

“Amateur builders should be made aware that excessive use of *prefabricated or salvaged* major assemblies.....”

Reason: To clarify that the concern is excessive use of prefabricated or salvaged components not the use of “major assemblies.”

Revise b.(3) Note as follows:

“Fabrication is defined as *“to perform work on a part or component, such as gluing, forming, shaping, trimming, drilling, applying protective coatings, riveting, spot welding or heat-treating, transforming the part or component into its finished state.”* This excludes rebuilding or restoring activities.”

Reason: More clearly defines the term and aligns with current FAA and industry practice.

Revise c. Modifications to salvaged Major Assemblies that may be Credited as follows:

“If an amateur builder uses a salvaged major assembly from a type certificated aircraft, ~~changes the original design~~ and then fabricates entirely new parts from raw stock or materials, some of the fabrication may be creditable. For example, an amateur builder uses a salvaged wing, keeps the wing spar, and fabricates new wing ribs *from raw stock* ~~of his own design~~, the amateur builder could be given credit for the rib fabrication. However, amateur builders need to be made aware that:”

Reason: More clearly defines requirement and aligns with current FAA and industry practice. The regulation allows for the amateur construction of replica aircraft. The proposed language could be interpreted as prohibiting this.

Revise c.(2) as follows:

~~“Alterations, modifications and repairs to a type-certificated aircraft will be categorized as falling under 14 CFR Part 43. As a result, such alterations, modifications and repairs will not be accounted as fabrication or assembly conducted by the amateur builder towards an amateur-built aircraft project.”~~

Reason: Alterations and modifications by definition would be new fabrication and assembly and should be credited to the amateur-builder.

Revise d. Attempting to Convert a Type Certificated Aircraft to an Amateur-Built Aircraft as follows:

~~“The practice of attempting to convert a type certificated aircraft to amateur-built aircraft by crediting rebuilding, alterations or repairs, does not meet the intent of § 21.191(g). Applications for such aircraft will not be accepted.”~~

Reason: Alterations by definition would be new fabrication and assembly and should be credited to the amateur-builder.

Revise e.(1) as follows:

~~“An aircraft that is fabricated and assembled from a kit may be eligible for amateur-built certification, provided the major portion of the aircraft has been fabricated and assembled by the applicant *amateur builder(s)* for education or recreation purposes.....”~~

Reason: The regulation does not require the “applicant” to be the builder.

Revise e. (2) as follows:

~~“..... (See figure 9-1). An aircraft assembled from a kit composed entirely of completely finished prefabricated components, parts, and pre-cut/pre-drilled materials is not eligible for an experimental amateur-built airworthiness certificate.”~~

Reason: More clearly defines the requirement and aligns with current FAA and industry practice. Having the terms “pre-cut/pre-drilled” can give the impression that currently approved kits with such components are disqualified.

Para 150 FAA Evaluation of Amateur-Built Aircraft Kits

Revise b. as follows:

~~“.....However, this does not mean that all the credit for the fabrication tasks may then be given on the Amateur-Built Fabrication and Assembly Checklist to the amateur builder. Rather, an adequate percentage of a task will may be accounted for on the Amateur-Built Fabrication and Assembly Checklist in the kit manufacturer column. If there is insufficient work for a particular task, the credit will be placed in the Kit Manufacturer or Commercial Assistance columns.”~~

Reason: The team completing the evaluation is making a determination of what the kit manufacturer, not the builder, has completed.

Remove e. and f. from paragraph 150 and place under paragraph 148 and renumber as appropriate.

Reason: Guidance on use of commercial and or educational assistance is not part of determining if a kit qualifies to be added to the FAA kit list. It is applicable to determination of major portion and should be placed in that section of the Order.

Revise f. Providing Commercial and/or Educational Assistance as follows:

“..... The FAA will not credit toward the major portion determination any tasks completed by the commercial assistance provider ~~for educational purposes.~~”

Reason: Regardless of the purpose for the commercial assistance, work accomplished by a commercial provider rather than by the amateur builder cannot be credited as amateur-built construction.

Revise f. 2 by removing the last sentence follows:

“.....~~A reasonable level of fabrication knowledge is necessary for the FAA to issue the amateur builder a repairman certificate as the primary builder of the aircraft to which the privileges of the certificate are applicable as provided under 14 CFR §-65.104.~~”

Reason: Not applicable to determination of major portion. Further the regulation does not require amateur builders to qualify for a repairman certificate.

Remove k. from paragraph 150, renumber and place under paragraph 147 Eligibility.

Reason: Paragraph deals with eligibility of prototype aircraft for an amateur built airworthiness certificate not evaluation of a kit.

Para. 151 Advising Applicants

No requested revisions.

Para. 152. Certification Procedures

Revise b. Major portion Determination table as follows:

Method of Construction	FAA Must Determine Major Portion?	
	Yes	No
The aircraft was fabricated and assembled from a kit on the FAA kit listing, no modifications to the kit were made, and commercial assistance was not used.		X
The aircraft was fabricated and assembled from a kit on the FAA kit listing. However, the kit was modified and/or the builder(s) used commercial assistance.	X	
The aircraft was fabricated and assembled from a kit that does not appear on the FAA kit listing.	X	
The aircraft was fabricated and assembled from plans, used no salvaged major assemblies, and commercial assistance was not used.	X	X
The aircraft was fabricated and assembled from plans, However, the amateur builder used salvaged major assemblies and/or commercial assistance.	X	

Reason: If the aircraft is built from plans, used no salvaged major assemblies, and commercial assistance was not used no further showing should be necessary.

Revise c. **Deviating from Kits and/or Using Commercial Assistance** as follows:

~~“.....Deviations from the AIR-200-identified kit configuration or changes that would result in an increase in the amount of commercial assistance require AIR-200 to determine (prior to fabrication and assembly, and using Amateur-Built Fabrication and Assembly Checklist) that the kit still meets the major portion requirement. This is necessary in order to determine whether the amateur builder(s) still fabricated at least 20 percent of the aircraft and assembled at least another 20 percent within the scope of the major portion requirements discussed in paragraph 147.~~

Reason: The regulation calls only for major portion of the aircraft to be fabricated and assembled by amateur builders. The regulation does not require specific percentages of “fabrication” and or “assembly.” EAA contends that it is practical and within the spirit and letter of the regulation to complete an amateur-built aircraft without completing a specific percentage of the fabrication. Equally important, EAA considers adding such a new requirement as rulemaking through policy change and further would not address the core problem of excessive commercial assistance being obtained.

Revise e. (4) as follows:

~~“.....Because the FAA usually will not perform any in-process inspections, the amateur builder’s documentation ~~must~~ should indicate in-process inspections by knowledgeable persons such as other builders, EAA technical counselors or certificated mechanics.....”~~

Reason: Although recommended, the regulation does not require in-process inspections.

Para 153 Flight Test Area

Revise c.(2) as follows:

~~“In the case of an aircraft located at any airport surrounded by a densely populated area and lacking any acceptable approach/departure route of flight, the FAA ~~must deny the airworthiness certificate and process the denial in accordance with paragraph 88 of this order.~~ If the applicant must be advised to relocate the aircraft by other means to a suitable airport *before operating limitations can be issued.*”~~

Reason: Lack of a suitable flight test area does not make the aircraft ineligible for an airworthiness certificate. A denial letter should not have to be issued based solely on the need to relocate the aircraft for flight testing.

Para 154 Issuance of Experimental Amateur-Built Operating Limitations.

Revise c.(3)Note as follows:

~~“The FAA ~~requires~~ recommends a minimum of 25 hours of flight testing for an aircraft with a type-certificated engine and propeller combination installed. A minimum of 40 hours is ~~required~~ recommended when a non-type-certificated engine, propeller, or engine/propeller combination is installed. The FAA may assign longer test hours when it is necessary to determine compliance with § 91.319(b).”~~

Reason: Minimum flight test hours are not called out in the regulation. Further this change would align the language in this note with the previous statements made in paragraph 153 b. of this chapter.

Figure 9-1. Depiction of Major Portion

Delete Figure 9-1.

Reason: The regulation calls only for major portion of the aircraft to be fabricated and assembled by amateur builders. The regulation does not require specific percentages of “fabrication” and or “assembly.” EAA contends that it is practical and within the spirit and letter of the regulation to complete an amateur-built aircraft without completing a specific percentage of the fabrication. Equally important, EAA considers adding such a new requirement as rulemaking through policy change and further would not address the core problem of excessive commercial assistance being obtained.

FAA Advisory Circular 20-27G

General: EAA agrees with the combining of AC 20-27 and AC 20-139

Para 1 Purpose of the Advisory Circular

Revise c. (1) Major Portion, as follows:

“The determination of major portion is made by evaluating the amount of work accomplished by the amateur builder(s) against the total amount of work necessary to complete the aircraft, excluding standard procured items. The major portion of the aircraft is defined as more than 50 percent of the fabrication and assembly tasks (51 percent). This is sometimes referred to as the “51 percent rule.” ~~Within that 51 percent, the amateur builder must fabricate at least 20 percent of the aircraft kit and assemble at least another 20 percent. The remaining 11 percent may vary between fabrication and assembly.”~~

Reason: The regulation calls only for major portion of the aircraft to be fabricated and assembled by amateur builders. The regulation does not require specific percentages of “fabrication” and or “assembly.” EAA contends that it is practical and within the spirit and letter of the regulation to complete an amateur-built aircraft without completing a specific percentage of the fabrication. Equally important, EAA considers adding such a new requirement as rulemaking through policy change and further would not address the core problem of excessive commercial assistance being obtained.

Para. 6 What to do and Know Before Building an Amateur-Built Aircraft

Revise a. (2) as follows:

“The major portion of the aircraft is defined as more than 50 percent of the fabrication and assembly tasks (51 percent). ~~Within that 51 percent, the amateur builder must fabricate at least 20 percent of the total aircraft and at least assemble 20 percent. Any fabrication or assembly tasks contracted to another party (for hire) or provided by a commercial assistance center must not reduce the amateur builder’s fabrication/assembly percentage below 51 percent. The graph below provides a visual depiction of this.”~~

Reason: The regulation calls only for major portion of the aircraft to be fabricated and assembled by amateur builders. The regulation does not require specific percentages of “fabrication” and or “assembly.” EAA contends that it is practical and within the spirit

and letter of the regulation to complete an amateur-built aircraft without completing a specific percentage of the fabrication. Equally important, EAA considers adding such a new requirement as rulemaking through policy change and further would not address the core problem of excessive commercial assistance being obtained.

Delete a. (3) in its entirety.

Renumber a. (4) to a. (3)

Reason: The regulation calls only for major portion of the aircraft to be fabricated and assembled by amateur builders. The regulation does not require specific percentages of “fabrication” and or “assembly.” EAA contends that it is practical and within the spirit and letter of the regulation to complete an amateur-built aircraft without completing a specific percentage of the fabrication. Equally important, EAA considers adding such a new requirement as rulemaking through policy change and further would not address the core problem of excessive commercial assistance being obtained.

Para. 7 Designing and Constructing an Amateur-Built Aircraft

Revise d. (3) note as follows:

“Fabrication is defined as “to perform work on a part or component, such as gluing, forming, shaping, trimming, drilling, applying protective coatings, riveting, spot welding or heat-treating, transforming the part or component into its finished state.” This excludes rebuilding or restoring activities.”

Reason: More clearly defines the term and aligns with current FAA and industry practice.

Revise e. (2) as follows:

“~~Alterations, modifications and~~ repairs to a type-certificated aircraft will be categorized as falling under 14 CFR Part 43. As a result, such ~~alterations, modifications and~~ repairs will not be accounted as fabrication or assembly conducted by the amateur builder towards an amateur-built aircraft project.”

Reason: Alterations and modifications by definition would be new fabrication and assembly and should be credited to the amateur-builder.

Revise f. (2) as follows: **(note: this is the second “f.” section in paragraph 7. This section needs to renumber/letter section as appropriate)**

“Install ~~FAA TSO approved~~ seatbelts and shoulder harnesses.”

Reason: Seatbelts provided by kit manufacturers are often specifically constructed for the application and comply with standards that exceed TSO requirements. The regulations do not require the use of FAA TSO seatbelts and often would result in a reduction in safety if used.

Revise chart that immediately precedes paragraph 8 Registering your amateur-built aircraft as follows:

Type of Kit Aircraft	FAA Evaluation Need?
Amateur-built aircraft to be constructed from a kit	Yes, an initial evaluation is needed. The FAA will evaluate the kit using the checklist as a guide. If it is found to comply with the major portion requirement of § 21.191(g), the FAA sends a Letter of Eligibility to the kit manufacturer. The kit is then accepted to be included in the listing of eligible amateur-built aircraft kits. (Note: The letter should not be construed to mean the kit or its manufacturer is FAA-certified, -certificated, or – approved, and it is not appropriate to represent it as such.)
Amateur-built aircraft kit currently on the List of Eligible Amateur-Built Aircraft Kits that offers an option or makes a change to the kit that decreases the amount of fabrication and assembly required by the amateur builder	Yes. The FAA will review the revised checklist, description of the option or change, and submitted drawings and/or photographs to determine if the kit still meets the major portion requirement. If it does, the FAA will issue a new Letter of Eligibility for the amended checklist without conducting a physical inspection or complete reevaluation of the kit. If the FAA determines that the option or change is significant, the aircraft will be treated as a non-evaluated kit and subject to complete evaluation by the FAA when presented for certification as an amateur-built aircraft. You may want to get a preconstruction evaluation of proposed commercial assistance in writing from the FAA to prevent certification problems at the completion of the project.
Completed amateur-built aircraft built from a kit evaluated and published in the listing of eligible amateur-built aircraft kits with no commercial assistance used	NO-Yes. The FAA has already evaluated the aircraft kit for compliance. will evaluate the aircraft for compliance with the major portion rule during airworthiness certification.
Aircraft constructed from a kit that has not been evaluated	Yes. The FAA must perform an evaluation upon completion of the aircraft for compliance with § 21.191(g), using the procedures in FAA Order 8130.2, Airworthiness Certification of Aircraft and Related Products, and Amateur-Built Fabrication and Assembly Checklist as a guide.

Reason: Consist with FAA Order 8130.2 Section 9 paragraph 152 b.

Para 17 Safety Recommendation

Revise a. (1) as follows:

“...You should test these operations by conducting taxi tests before attempting flight operations. **You ~~may~~ are not authorized to take off during taxi tests without an airworthiness certificate.**

Reason: Editorial change. One may take off but they are not authorized to do so until they have a valid airworthiness certificate.

Appendix 1 Definitions Relevant to this AC

Revise definition of *fabricate* as follows:

“To perform work on a part or component, such as gluing, forming, shaping, trimming, drilling, applying protective coatings, riveting, spot welding or heat-treating, transforming the part or component into its finished state.”

Reason: More clearly defines the term and aligns with current FAA and industry practice.

Appendix 9. Sample Aeronautical Center Form 8050-88, Affidavit of Ownership for Amateur-Built Aircraft

Replace with most current revision of this form.

Amateur-Built Fabrication and Assembly Checklist

(proposed revision)

General:

The tasks on this proposed checklist are supposed to be flexible to meet the class of aircraft and the specific model of aircraft being evaluated. If this premise is correct, then many of the notes are incorrect. If this premise is incorrect, then this form will not work for many classes and models of aircraft (e.g., there are no tasks listed for rotorcraft, powered parachutes or weight-shift control aircraft).

EAA’s comments that follow are based on the premise that this form is intended to be modified by the FAA as appropriate to the aircraft being evaluated.

NOTES

Revise Note 1: as follows:

“Total for each of the four categories [Columns A, B, C and D]. Each column is the total of the points accumulated by completing all of the **applicable** ~~187~~ tasks that composed the fuselage, wings, empennage, landing gear, propulsion and cockpit interior.

Reason: Not all tasks are applicable to every class and model of aircraft and additional tasks may be added as necessary, therefore a specific total number of tasks can be required. The major portion is 51% of *applicable* tasks.

Revise Note 2: as follows:

“Total for all four categories [Columns A, B, C and D] must not exceed 100%. To convert points to percentages, divide the total of points in each category by ~~187~~ **the total**

number of applicable tasks. For example, 56 points divided by 187 is 29.9%. To meet the major portion requirement under 14 CFR Part 21.191(g), the total **percentage in Column C and D must exceed 50%.** ~~for Column C must be at least 20% and the total for Column D must also be 20%.~~ All percentages are to be rounded up to the next lower or higher decimal. For example, 22.87% can be rounded up to 22.9%. On the other hand, 22.13% will be reported as 22.1%.”

Reason: See reason listed for note 1 regarding the number of tasks. Regarding the proposed 20% requirement for Column C and D, the regulation calls only for major portion of the aircraft to be fabricated and assembled by amateur builders. The regulation does not require specific percentages of “fabrication” and or “assembly.” EAA contends that it is practical and within the spirit and letter of the regulation to complete an amateur-built aircraft without completing a specific percentage of the fabrication. Equally important, EAA considers adding such a new requirement as rulemaking through policy change and further would not address the core problem of excessive commercial assistance being obtained.

Revise Note 3: as follows:

“Add the points of all four categories together (Columns A+B+C+D). ~~Total must be 187 points.~~”

Reason: Reference reason stated for note 1.

Delete Note 5:

Reason: No specific number of points can be predetermined (reference reason stated for note 1.)

INSTRUCTIONS

Revise first bullet as follows:

▶ “A point (1) can be divided over all four categories (Manufacturer, commercial assistance, Amateur Builder Assembly and Amateur Builder Fabrication) into 1/10 fractions. A Manufacturer ~~maybe~~ *may be* a kit manufacturer, a component manufacturer or a part(s) manufacturer. Commercial assistance (for hire or compensation) ~~maybe~~ *may* include assistance provided by kit manufacturers, commercial assistance centers, individuals (e.g. A& P mechanics or avionics technicians).”

Reason: Editorial correction.

▶ “Consideration is also applied in the task assignment to the Representative Number of Tasks, and Minor Repetitive Operations covered in the explanations of **the this** form will be used.”

Question: Where are the explanations referenced? (note also grammatical error “the this” in sentence)

Revise as follows:

▶ “Additional Items” ~~are to~~ may be listed ~~by do not count as tasks~~ for FAA consideration.

Reason: Not all tasks are applicable to every class and model of aircraft and additional tasks may be added as necessary. If accepted by the FAA the additional task(s) should be counted in the total.

End of EAA comments

For questions concerning these comments or to discuss them, call Joe Norris, EAA Homebuilders Community Manager, 888-322-4636, ext. 6806, or jnorris@eaa.org.