

# CHANGES TO THE FAA KIT CHECKLIST AND THE "51%" RULE

By Dick VanGrunsven

Back in mid-July the FAA published their long awaited NPRM on Amateur Built Experimental aircraft licensing. There were few surprises, at least to me, as I had been involved in the ARC committee meeting for a year and a half and had a general idea of what to expect.

With the publishing of the "rules", the FAA allowed a 30 day comment period. The EAA has successfully petitioned the FAA for an extension, which now runs through the end of September 2008. We intend to submit comments regarding several areas of concern, and recommend that everyone read the "Rules" proposal and submit comments if you feel it necessary. Below, I will outline several areas of concern that other kit manufacturers and I have, and present a couple of ideas you might use for submitting comments if you agree. Comments from INDIVIDUALS are of most interest to the FAA. They DO want input from the end-users of their regulations. As always, name-calling and vague gripes serve no purpose other than to help convince the FAA that we are a bunch of idiots. Sticking to the topic with sound reasoning will get their attention.

I attended a couple of open meetings (forums) given by the FAA and the EAA on this subject. During the FAA forum, which was presented by Frank Paskewicz and Don Lausman, both of whom I had worked with on the ARC committee over a period of a year and a half. Also present was John Hickey, head of FAA certification. Following their formal presentation, which was very good, the forum was opened to questions from the audience. A number of well informed questions were fielded. However, perhaps half of those taking the floor had comments and questions which did not directly relate to the topic. A composite of these went something like: "As American citizens, we should have the right to build and sell airplanes based on their quality and safety, not whether or not the builder's intent was education and recreation". John Hickey himself answered this with something like: "I fully agree with your sincerity and passion. The rules do permit this, and they are called FAR Part 23 Type Certification for which standards must be met. We also have rules, which permit certification of airplanes that are not required to meet standards. These are known as the Amateur Built Rules, and they exclude commercial building. There are NO rules which permit licensing of commercially built airplanes that do not meet standards. If you want to create new rules, petition your congressman." This may sound harsh, but it is simply a statement of fact. We've got rules whose boundaries we must work within. The current issue is that of better defining, and perhaps altering, these boundaries. No more, no less. New rulemaking is a process lying somewhere between difficult and impossible. You can dream and pontificate about it, but that alone won't make it so.

**THE PROPOSED NEW POLICY (RULES):** The primary areas of concern addressed by the proposed new rules are as follows. In addition, I have included comments on a few other details.

1. Increased emphasis on verification of "built for education and recreation" only, including new forms requiring more builder disclosure.
2. New verbiage and emphasis to prevent modified production airplanes from being licensed Experimental Amateur-Built.
3. Revised Fabrication/Assembly Operation Checklist, FAA Form 8000-38.

## GRANDFATHER POLICY

Though the FAA had stated earlier that all kits which had previously been evaluated as Major Portion compliant will not be re-evaluated, this bears repeating. Unless the FAA sees a serious safety reason, they will not re-evaluate existing kits that have previously been found to meet the major portion rule. There is a reasonable number of existing kits which have never been evaluated. In these cases, the kit manufacturer will either have to evaluate under the new checklist, or the individual builders will be obligated to themselves show that they have completed the major portion. Existing RV kits, except for the RV-12 that cannot be evaluated now because of the FAA Moratorium, have been found major portion compliant. The kits that you bought in the past, along with kits of these models that you may purchase in the future, are eligible and are licensable in the Experimental Amateur Built category. That is, they are licensable IF you Fabricate and Assemble a major portion of the tasks remaining on the FAA 8000-38 Checklist form for that kit.

## The FAA 8000-38 CHECKLIST

This is the form that has long been used by the FAA when evaluating a manufacturer's kit to determine whether it meets the Major Portion Rule, as the kit is manufactured and shipped. The life of the checklist seemed to end there, as the airworthiness inspectors and DARs rarely if ever used this form in the final inspection of amateur Built airplanes. Most of you are probably not familiar with it. This, the FAA says, is about to change. Inspectors and DARs will be charged to require more proof from the builder that he did the major portion of the "Fabrication and Assembly" of the airplane. The -38 form is a convenient means of showing this. If the builder can signify that he performed the required number of tasks, as detailed on the form, the aircraft qualifies for licensing as Experimental Amateur Built. Without this form, the builder would have to supply his own proof that he had built the major portion. The -38 is a standardized convenience for all parties involved.

The revised FAA 8000-38 form has a greater number of line item building tasks than before. It also has additional columns for accounting the credit, adding a "commercial Assistance" column to the previous "Manufacturer" and "builder" columns. Of significance also is a difference in delineating task accomplishment credit. The old list used simple check marks assigning task credit to either the manufacturer, the builder, or both (equal credit). The new system proposes assigning a percentage credit for task accomplishment. This cuts both ways, and does have an element of subjectivity, but is generally viewed as a fair system. Our analysis of the "new" checklist is that its use should not pose a problem for future kits that are comparable to present kits.

From your prospective as the BUILDER, it will be necessary to become familiar with the -38 list so that you can determine the extent of builder assistance you might be able to use and still meet the major portion requirement. We will soon be posting, on our website, copies of the checklist for all of our current kits. Also, the FAA stated that they will similarly be posting checklists for all kits which have successfully been evaluated.

While the new checklist has more line item tasks and additional columns, I don't feel that it has become any more difficult to comply with. That is, a Van's kit which qualified major portion using the old checklist will still qualify if evaluated using the new checklist.

## ELIGIBILITY

Below are a couple of verbatim excerpts from the FAA proposal. I believe that these few paragraphs contain much of what concerns us. Much of the remainder of the document is supportive and explanatory information. I added the underlining for emphasis.

147. ELIGIBILITY. Amateur-built aircraft are eligible for a special airworthiness certificate in the experimental category, for the purpose of operating amateur-built when; (1) the applicant (individual or group) presents satisfactory evidence that the major portion of the aircraft was fabricated and assembled solely for educational or recreational purposes and (2) the FAA find that the aircraft complies with acceptable aeronautical standards and practices.
  - a. Education or Recreation. 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). Application for such aircraft will not be accepted.
  - b. Major Portion. 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%). 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. The amateur builder(s) must be informed that the aircraft will not be eligible for certification under 21.191 (g) if the amateur builder (s) have not completed the major portion of the aircraft fabrication and assembly tasks.

- c. (2) Any fabrication or assembly tasks contracted to another party (for hire) or provided by a commercial assistance center must not reduce the amateur builders's fabrication/assembly percentage below 51%. For example, if an amateur-built kit found on the FAA kit listing has 40 percent of the fabrication/assembly completed by the kit manufacturer, only 9 percent of the fabrication and assembly tasks could be contracted out (for hire) to another individual or builder/commercial assistance center in order to be eligible for an experimental amateur-built airworthiness certificate.

### ***Van's Viewpoint.***

MAJOR PORTION vs. 51%. We feel that major portion should be strictly defined as "more than 50%", and not be referred to as 51%. The smallest delineation possible using the FAA 8000-38 checklist should constitute major portion. For the sake of practicality, since the 8000-38 checklist delineates task accomplishment in single decimal point gradations, and since there are about 200 tasks on the list, it would be fair to consider major portion as 50.05%. This is approximately the closest percentage which could be measured in the process of doing a kit evaluation, whether by the kit manufacturer or by the builder/DAR at final inspection [Arguing over 1% may seem trite, but that represents almost two tasks on the check list. So, why give up ground simply to say "51% rather than "Major Portion". ]

In the Kitplane industry, considerable debate remains over the FAA wording requiring a minimum 20% fabrication, and a minimum 20% assembly, be accomplished by the Builder. Historically, the interpretation and application was that the combined total of "Fabrication and Assembly" must equal the major portion. Now the FAA has interpreted that the original intent was that the builder must perform "the major portion of the fabrication" and the "major portion of the assembly" or 25% +, and 25%+. Thus, they maintain that through the new wording, they are giving the Builder a break and requiring only 20% Fabrication. (of the total 100%)

#### **PRO:**

The FAA feels that a kit should not be so complete and pre-fabricated that the builder need only assemble the pre-built pieces. (rivet, bolt, snap, glue, weld, or nail together) They feel that the original intent was that the Builder also should perform a significant amount of the fabrication.

#### **CON:**

The Industry/Builder position is that the FAA is understating the task of assembly. Eg. Driving 10,000 plus rivets is not quite the same as "snapping" parts together. Also, as materials and machine technology has evolved, the most efficient means of building kit airplanes with the most consistently sound structures has been for the kit manufacturer to perform the majority of "Primary Fabrication" tasks, leaving time consuming "Finish Fabrication" and "assembly" tasks for the builder. Our point is that assembly should not be viewed as less important than fabrication and therefore, assembly tasks should be permitted to count for the vast majority of the "Major Portion".

Representatives of the kitplane industry have been requesting that the FAA publish a definition of FABRICATE for the purpose of better distinguishing between Fabrication and Assembly. We will try to get such a definition in place before the present proposal is placed in practice.

#### **WORK**

How is work measured? By counting man-hours? If the kit manufacturer uses a high tech machine to FABRICATE a part, how is that measured against manual labor used by the builder in finish fabrication of that same part? These are questions that will probably never find a scientific answer. The best we can hope for is that the FAA personnel performing kit evaluations will apply reason when assigning percentages to task accomplishment. I'm optimistic that they will.

#### COMMENT TO FAA

As mentioned above, we have until the end of Sept. 2008 to get out comments and recommendation in to the FAA. Sorry that I took so long to get this written. Perhaps some of you have already read the FAA proposal and submitted your comments. If not, lets get going soon; before we forget. As suggested above, we feel that the most onerous detail is the requirement for 20% builder fabrication. Use some of our above thoughts if you like, compose your own, and visit the EAA website, [eaa.org](http://eaa.org), for more information and suggestion. Referring to section 147 (b) above, the wording should remain as before, "the builder must complete the major portion of the Fabrication and Assembly". Keep it simple. Requiring a specific minimum percentage of Fabrication and a specific minimum percentage of Assembly adds complexity and does little if anything to remedy the FAA's primary concerns.

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