

## Conformity Inspection Record Notes and Explanations

FAA Form 8100-1 (8-10)

Best information known as of 10/17/2020. Follow up with the references; **errors may exist.**

1. Designee Management System (DMS) Delegation—if one applies/inquires to/of the FSDO reference a DAR for their Experimental (AB) certification process (DAR-F), a DAR-F will be assigned. It is possible to request a DAR-F of your choosing, but the DAR-F must still be “delegated” in the FAA system to your aircraft. If you have a DAR-F in mind, contact him/her and he/she will arrange for the “delegation” from their end with the DAR handler. You can go here to find available DAR-F’s:

<https://designee.faa.gov/#/designeeLocator>

2. FAA Form 8130-6 Application for Airworthiness

[https://www.faa.gov/documentLibrary/media/Form/FAA\\_Form\\_8130-6.pdf](https://www.faa.gov/documentLibrary/media/Form/FAA_Form_8130-6.pdf)

In general, the items on the form are self-explanatory; however, if you need help, refer to AC 21-12, Application for U.S. Airworthiness Certificate, FAA Form 8130-6, for additional guidance, or get assistance from the FAA office you with which you will be working. READ and FOLLOW the INSTRUCTIONS!

Option 1: Print out the physical form and fill it in. READ and FOLLOW the INSTRUCTIONS! Send it to your DAR for review and correction as necessary.

Option 2: Open the link above with your browser or Adobe Reader. Fill it out online and save it to your computer. READ and FOLLOW the INSTRUCTIONS! After filling it out online, print it and send it to your DAR for review and correction as necessary.

3. Program Letter

Use the Program Letter uploaded to the EAA Chapter 72 website, either in its entirety or as an example. Note the included items—those items are a “mini-worksheet/checklist” to further enable you to comply with the conformity checklist items. Make sure you do them even if you do not include the items on your Program Letter. Here’s the CFR version:

§21.193 Experimental certificates: general.

An applicant for an experimental certificate must submit the following information:

- (a) A statement, in a form and manner prescribed by the FAA setting forth the purpose for which the aircraft is to be used.
- (b) Enough data (such as photographs) to identify the aircraft.
- (c) Upon inspection of the aircraft, any pertinent information found necessary by the FAA to safeguard the general public.
- (d) In the case of an aircraft to be used for experimental purposes—
  - (1) The purpose of the experiment;
  - (2) The estimated time or number of flights required for the experiment;
  - (3) The areas over which the experiment will be conducted; and
  - (4) Except for aircraft converted from a previously certificated type without appreciable change in the external configuration, three-view drawings or three-view dimensioned photographs of the aircraft.

4. AC Form 8050-3 Registration You must register the airplane before a C of A can be issued.

You must fill out an AC Form 8050-1 Application for Aircraft Registration to get an AC Form 8050-3. Go to this link:

[https://www.faa.gov/documentLibrary/media/Form/AC8050-1\\_10.31.20.pdf](https://www.faa.gov/documentLibrary/media/Form/AC8050-1_10.31.20.pdf)

Once you receive the 8050-3 from the FAA, find a spot for it in the aircraft—it must be carried in the aircraft when the aircraft is operated. Aircraft Spruce has a variety of holders that will serve to semi-permanently mount it and yet still allow access to it for the occasional Ramp Check.

5. FAA Form 8130-12 Eligibility Statement

You have to be a “good guy” to be able to get a C of A. Go here:

[https://www.faa.gov/documentLibrary/media/Form/FAA\\_Form\\_8130-12.pdf](https://www.faa.gov/documentLibrary/media/Form/FAA_Form_8130-12.pdf)

Option 1: Print out the physical form and fill it in BUT DO NOT SIGN IT. Take it to a Notary Public and get the form notarized. Send it to your DAR.

Option 2: Open the link above with Adobe Reader. Fill it out online BUT DO NOT DIGITALLY SIGN IT and save it to your computer. READ and FOLLOW the INSTRUCTIONS! After filling it out online, print it and take it to a Notary Public and get it notarized; you will sign it in the presence of a Notary Public. Tip: most banks and credit unions have a complimentary notary service for their clients/members.

You are certifying, in part, that you and your helpers (if applicable) completed the majority of the work (>50% aka 51% Rule) on the aircraft for your “own education or recreation” such that it can be certified in the Experimental (Amateur Built) category. If you had Commercial Assistance >50% (ie., you paid someone else to build more than 50% of the airplane) it will need to be certified in the Experimental (Exhibition) or some other appropriate category because it was NOT “Amateur Built” per the FAA’s definition of such.

6. Amateur kit evaluated by NKET. Reference 8130.2J 15-4d and FAA KNET list:

[https://www.faa.gov/aircraft/gen\\_av/ultralights/amateur\\_built/kits/media/amateur\\_built\\_kit\\_listing.pdf](https://www.faa.gov/aircraft/gen_av/ultralights/amateur_built/kits/media/amateur_built_kit_listing.pdf)

Your “kit” will be evaluated against the NKET (National Kit Evaluation Team) list of approved kits. This will impact whether or not you have to complete the Amateur-Built Fabrication and Assembly Checklist-Fixed Wing. The FAA is tasked to determine if your kit is truly a kit to meet the “51% Rule.” The kit must require some fabrication in addition to assembly to be considered a kit. It can not be simply a collection of parts which can be bolted together. If your kit does not appear on the NKET list, it may still be eligible for an Exp (AB) C of A. An example of this is the RV-4. It’s not on the list because the NKET started evaluating kits after the RV-4 was introduced. Reference 8130.2J 15-4d (1) This checklist is an “aid for the ASI in determining if a specific aircraft meets the major portion requirement.” If your kit is on the list, it has already been determined by NKET that it meets the major portion requirement.

7. Engine/Propeller combination—Reference 8130.2 8130.2J 15-4(e) The DAR will make sure you are not doing something stupid with your powerplant combination. If you have questions about your combination, consult with an EAA Technical Representative!
8. AFS-750, EDRS Reference 8130.2J para 2-3(b) The DAR will verify that there are no letters of denial. This is a DAR function.
9. Airworthiness Directives—Reference 8130.2J para 2-3(d). Check the FAA.gov website for AD’s for major components in your aircraft such as engine(s),

propeller(s), etc.

[https://rgl.faa.gov/Regulatory\\_and\\_Guidance\\_Library/rgAD.nsf/MainFrame?OpenFrameSet](https://rgl.faa.gov/Regulatory_and_Guidance_Library/rgAD.nsf/MainFrame?OpenFrameSet)

10. Weight and Balance—Have the weight and balance calculations completed. Have several examples for a selected number of expected configurations:

1. Zero Fuel Weight—no fuel, full oil, nothing else.
2. Max Gross Weight—aircraft empty weight + full fuel + pilot (standard weight of 170 lbs) + baggage (if applicable)
3. Max forward CG—conditions which place, for YOUR aircraft, the CG most forward considering the weight of the pilot, effect of full or minimum fuel, location of baggage, passenger (if applicable) etc.
4. Max aft CG—conditions which place, for YOUR aircraft, the CG most forward considering the weight of the pilot, effect of full or minimum fuel, location of baggage, passenger (if applicable) etc.
5. Anticipated First Takeoff—weight of the test pilot, effect of amount of first flight fuel, etc.

Build an equipment list of the removable items which are installed in the aircraft. A spreadsheet works well. Example for Column Headings: Nomenclature, Manufacturer, Model Name, Part Number, Serial Number, Quantity, Weight, Moment Arm (referenced to Aircraft Datum), Resultant Moment, Notes (date installed, origin, new/used, Time Limited, etc.)

11. Build and Inspection Records—Reference AC 8130.2J 15-4b(1)(b). Provide evidence that you built the airplane such as build log, photos, etc. Be prepared to speak in great detail about how you built the airplane.

12. Identification Plate—Reference 14 CFR 45.11(a). These may be engraved or hand embossed but the nomenclature must be of a permanent nature. Install this plate prior to requesting the C of A inspection.

[https://www.ecfr.gov/cgi-bin/text-idx?SID=eed43786296c5051130faf9170d05790&mc=true&node=pt14.1.45&rgn=div5#se14.1.45\\_111](https://www.ecfr.gov/cgi-bin/text-idx?SID=eed43786296c5051130faf9170d05790&mc=true&node=pt14.1.45&rgn=div5#se14.1.45_111)

13. Identification Data-- Reference 14 CFR 45.13—what to put on the dataplate. Only three things are required for an experimental airplane: Model, Serial number, Builder.

14. Experimental Identification—Reference 14 CFR 45.23(b) “Experimental” sticker, near the entrance to the aircraft.

[https://www.ecfr.gov/cgi-bin/text-idx?SID=eed43786296c5051130faf9170d05790&mc=true&node=pt14.1.45&rgn=div5#se14.1.45\\_123](https://www.ecfr.gov/cgi-bin/text-idx?SID=eed43786296c5051130faf9170d05790&mc=true&node=pt14.1.45&rgn=div5#se14.1.45_123)

15. Passenger Warning Placard—Some fairly recent changes as of 10/2017. The Passenger warning placard may not read the same as previous versions which you may have seen. The EAA has published an explanation:

<https://www.eaa.org/ea/news-and-publications/ea-news-and-aviation-news/news/10-12-2017-changes-to-passenger-warning-placards-in-new-faa-order>

It says:

October 12, 2017 - The latest version of the FAA order that provides guidance to agency personnel and designees for issuing experimental airworthiness certificates has slightly different language for passenger warning placards. FAA Order 8130.2J now adds the passenger warning placard as an operating limitation for amateur-built aircraft and directs the placard to read, “Passenger warning — this aircraft does not comply with federal safety regulations for standard aircraft.” This new language omits references to specific types of experimental aircraft, such as amateur-built and light-sport.

In addition to the change in language, the order only references FAR 21.191(g), Operating amateur-built aircraft, in the relevant operating limitation’s certification basis. This would suggest that the operating limitation only applies to amateur-built aircraft, but the order does require the passenger warning for experimental light-sport aircraft in Chapter 17, “Experimental Purpose of Operating Light-Sport Aircraft.” FAA personnel state that 21.191(i), Operating light-sport aircraft, will be included in the operating limitation’s certification basis in the next revision of order 8130.2.

It is important to note that this is not retroactive. Owners of experimental amateur-built or light-sport aircraft with existing airworthiness certificates need not change their passenger warning placard. EAA is updating its certification kits to reflect the new language.

16. Pitot-static system check—confirm no leakdown (as appropriate with AOA systems) Make logbook entry certifying accomplishment, and note the airspeed (for pitot) and altitude (for static) to which the respective systems were pressurized or evacuated, the duration for each test, and the leakdown(s) noted,

if any.

17. Engine run—leak check, engine instruments work correctly. Make a logbook entry with date and results.
18. Cockpit Instruments—verified working, range markings correct.
19. Taxi/brake check—confirm steering and brake operation. Make a logbook entry with date and results.
20. Fuel flow check—Reference 8120.2J 15.4b(5) Recommended, but NOT required. Remove the supply line to the fuel delivery system and time the flow into an appropriate receptacle. A 5-gallon bucket works well. Make a logbook entry with the data (time and quantity) if you do a check. For gravity fed systems—150% flow of the amount required for takeoff, for fuel boost pump systems—125% flow of the amount required for takeoff.
21. Flight controls—rigged for proper deflection in direction and displacement.
22. Trim mechanism— rigged for proper deflection in direction and displacement.
23. Flaps--rigged for proper displacement.
24. ELT installed—14 CFR 91.207  
  
<https://www.govinfo.gov/content/pkg/CFR-2011-title14-vol2/pdf/CFR-2011-title14-vol2-sec91-207.pdf>
25. Pre-closeout inspection—Complete a Logbook entry certifying inspection, cleaning, etc. prior to closing access panels. Include name of any assistants that were involved.
26. Maintenance records—Have logbooks for airframe, engine and propeller available. You should have some airframe logbook entries already incorporated per this checklist.
27. Condition inspection—Accomplish a thorough condition inspection in accordance with scope and detail of Appendix D to Part 43 and make a logbook entry to that effect:

“I certify that this aircraft has been inspected on (Insert Date) in accordance with the scope and detail of appendix D to Part 43 and found to be in condition for safe operation. Aircraft total time 0.0 hours.”

(INSERT YOUR SIGNATURE)

(Insert your printed name)

Owner/Builder

28. Some final thoughts:

1. Although 8130.2J is aimed at the ASI/DARF as requirement based document for issuing a C of A, it tells YOU, the Builder, what the inspector will be looking for. Study the document closely. If you do and follow its requirements, there should be few surprises.

2. Discuss with the DARF what he or she expects with respect to opening the aircraft up for inspection. You have certified, via 8130-6 IID, that the aircraft is airworthy. It's not really airworthy if you take a bunch of panels off. 8130.2J 15-4c(1)(c) instructs the inspector to NOT require excessive disassembly if...

3. Logbooks, ID Plates, decals, stickers, etc.—available from any of the builder sources: Spruce, Sporty's, etc.

4. Consider lumping some logbook entries together—Fuel flow, engine run, leakcheck/Flight control, trim tab(s), flaps.