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To Whom it May Concern,

EAA appreciates the opportunity to comment on the proposed revision “H” to FAA Order 8130.2. As you know, this is an important document to our community, particularly homebuilders, sport pilots, and our Warbirds of America division. Our comments reflect input from experts in each of these communities, as well as our own analysis.

Summary

It is apparent that in creating this revision, the Agency strived to reorganize the document in a way that was more streamlined and easier to understand. We appreciate the intent of this effort, however we are concerned that in an effort to simplify the document, many specific provisions we have worked hard with the Agency to formulate over the past two decades have been significantly altered or altogether lost. EAA, our members, and the FSDOs and MIDOs have good understanding of the current guidance, and at a fundamental level it works. We urge the agency to consider changes to this guidance only when systemic safety issues are present. EAA always stands ready to provide expertise to assist the Agency in crafting effective and workable policy.¹

With the above being said, EAA has identified several sections of the new Order as written that would have a significant and detrimental impact on aircraft owners and operators if retained. They are enumerated on the following pages, along with our suggested amendments. We ask that special attention be paid to items 9, 11, and 20.

¹ Specifically, if there is a need for additional limitations due to new types of aircraft that are obtaining experimental exhibition certification, and the current limitations do not address the safety and operational issues presented by these aircraft, EAA would help bring current and former military and civilian pilots together in an industry group to address these matters.

Recommendations

1. Paragraph 212(b) (page 2-9):

The language pertaining to the F7U Cutlass and the English Electric Lightning is subjective and we believe not appropriate for this Order. As with any aircraft, if legitimate safety concerns exist that cannot be resolved, an inspector or designee has the right to deny or restrict an airworthiness certificate, and the owner/operator has appropriate options for recourse. Additionally, the URL for the research papers found in this paragraph returns a “dead” link.

EAA recommends the sentence “Some aircraft such as the English Electric Lightning or F7U Cutlass may have high-risk factors that cannot be mitigated, and consequently may not be eligible for an airworthiness certificate” be struck, and the link to the research papers be corrected in Paragraph 212(b).

2. Paragraph 213 (page 2-11):

Subsections (a), (b), (c), (d), and (e) have points that should be in the Approved Maintenance program and Training program required for an ejection seat, not spelled out in the Order. The scope and detail of these paragraphs are not detailed enough to be the program themselves but are an interpretation of those programs.

EAA recommends any specific language that would be better detailed in a specific maintenance program be removed from Paragraph 212(a), (b), (c), (d), and (e).

3. Paragraphs 323 to 328, Figures 3-5 to 3-9 (pages 3-16 to 3-24, 3-29 to 3-43):

We believe these sections will add major complexities to the certification of former military aircraft that are unwarranted. They could easily add significant time to the certification process or make certification impossible altogether. For example, the requirement to coordinate between the FAA and military on deviations from the FAA type design is difficult to accomplish at best. It is also unclear who is to accomplish the “screening inspection” described in Paragraph 324.

We are unsure of the fundamental intent of these sections and we believe more discussion is necessary regarding this language before it is implemented. EAA is aware of many FSDOs and MIDOs which have the expertise to handle certification of these aircraft and have smoothly accomplished it in the past, and an office without experience in these matters cannot be expected to accomplish this type of certification through reference to this Order alone.²

EAA requests a meeting with appropriate FAA staff to discuss the intent of Paragraphs 323 through 328 (and associated forms) and the most practical procedures to accomplish said intent. We believe this section is unacceptably impractical to implement as written.

² EAA strongly supports the establishment of “National Resource FSDOs” (with appropriate MIDO coordination) to assist in the certification of former military aircraft.

4. Paragraph 403(c) and (d) (page 4-4):

The language on the duration of certificates in this part can cause confusion, because many E-AB aircraft are issued their phase I and phase II operating limitations concurrently. In this case, the duration is generally not limited, even though the limitations are in part for the purposes of flight testing.

EAA recommends “However, experimental certificates issued for the purpose of flight testing...” be replaced with “However, experimental certificates issued only for the purpose of flight testing...” in Paragraph 403(d).

5. Paragraph 467 (page 4-70):

We suggest this language be clarified to note that it is only applicable to aircraft with *operable* ejection seats, excluding aircraft that have had their seats uninstalled or deactivated.

EAA recommends “An aircraft with an ejection seat...” be replaced with “An aircraft with an operable ejection seat...” in Paragraph 467.

6. Paragraph 468(b)(5) (page 4-70):

This section only addresses inspection programs for turbojet multiengine airplanes and omits turbine single engine airplanes. Small single engine turbine airplanes have their own, appropriately-scaled inspection program requirements in the new revision, as outlined in Table C-1 Limitation 13, and to avoid confusion the language in this section should acknowledge Limitation 13 for small single engine turbines.

EAA recommends that a section be added to Paragraph 468(b) that paraphrases the inspection program requirements for small single engine turbine airplanes in a similar manner to those for large aircraft and multiengine turbine aircraft.

7. Paragraph 468(b)(8)(b) (page 4-71):

This section makes reference to a “maintenance program.” We believe it is referring to the required *inspection program*, and suggest the language be changed to avoid confusion

EAA recommends “Review the maintenance program” be replaced with “Review the inspection program” in Paragraph 468(b)(8)(b).

8. Paragraph 468(b)(8)(b) Note (page 4-71):

EAA has worked hard to create effective guidance for inspections of parts that have replacement times, including language found in AC 43-209A 4(e)(2): “The article must be inspected to ensure that the equivalent level of safety still renders the product in a serviceable condition for safe

operation.” We believe this captures the intent of the note well while limiting the burden on the owner/operator.

EAA recommends the current language of Paragraph 468(b)(8)(b)’s note be replaced in its entirety with the following: “Items that have replacement times must be inspected to ensure that the equivalent level of safety still renders the product in a serviceable condition for safe operation.”

9. Appendix B, Paragraph 2(b) (pages B-1 and B-2):

This is much more prescriptive than current guidance on experimental exhibition program letters, and we question the necessity of provisions (2) and (3), requiring applicants to provide their flight routing to and from events, their estimated proficiency flying hours, and the airports and geographic areas involving such flights.

Experimental exhibition aircraft, as with all experimental aircraft, are governed in their flight activity by their operating limitations. These documentation requirements are burdensome and unnecessary, and according to one tour operator we consulted, “difficult if not impossible to comply with” due to factors such as weather, available fuel, and other factors that are subject to change over the course of a tour season. This also applies to smaller operators, many of whom confine their activity to local events and fly-ins as time, resources, and weather allow. While they can easily continue listing their intended events as the current guidance requires, requiring full routing information for an entire year is an overly burdensome requirement.

Similarly, proficiency flying within the bounds of the aircraft’s operating limitations should be encouraged, and we are concerned about the estimation requirements found in provision 2(b)(3). As with any aircraft, flying time in a given year is dictated by available time and money and external factors such as weather. This requirement is also problematic in the soaring community, where the time of a given flight can be anywhere from several minutes to many hours depending on weather conditions and the skill of the pilot. It can be nearly impossible to predict total time flown in a year with any degree of accuracy.

EAA recommends that Appendix B Paragraph 2(b)(2) and (3) be struck from the Order.

10. Appendix B, Paragraph 2(b) Note (page B-2):

The mere addition of an event to a program letter should not involve the revision of operating limitations. We are unsure why language to that effect is in this note.

EAA recommends that the second sentence of Appendix B Paragraph 2(b)’s note be struck.

11. Appendix C Paragraph 5(c)(5) and (6) and 5(e)(4) and (5) (pages C-2 and C-3):

These instructions to the inspector/designee for assigning operating limitations create extremely restrictive and onerous limitations to two groups of aircraft in particular – Special Light-Sport

Aircraft (S-LSA) that have been converted to Experimental Light-Sport Aircraft (E-LSA) and electric aircraft. In particular, they prohibit these aircraft from carrying passengers, flying over densely populated areas, flying at night or under IFR, and restrict these aircraft to a geographic area.

EAA views these restrictions as completely unwarranted in the sweeping manner in which they are proposed. Converting S-LSA to E-LSA is a common practice for owners who wish to modify or self-maintain their aircraft, with an *appropriate* reduction in operating privileges (see FAR 91.319). Electric aircraft are still a frontier technology, but they show great promise and have been the focus of much innovation in the past few years.

The FAA may at any time issue additional restrictions if necessary to ensure safety (as stated in Appendix C Paragraphs 2 and 3). *If there is a legitimate safety concern with a specific aircraft, the agency has the tools to mitigate the problem.* It is *not* necessary to restrict these entire groups of aircraft, especially the common conversion of S-LSA to E-LSA and the blossoming new field of electric aircraft.

EAA recommends that Appendix C Paragraph 5(c)(5) and (6) and 5(e)(4) and (5) be struck from the Order.

12. Appendix C Table C-1 Limitation 5 (page C-4):

FAR 61.31(l) contains exceptions to category and class requirements. This should be clarified in the limitation.

EAA recommends that the first sentence of Limitation 5 be amended to read “If required, the pilot in command of this aircraft must hold the appropriate category and class rating or privilege.”

13. Appendix C Table C-1 Limitation 19 (page C-7):

Although this limitation appears to be based upon guidance in AC 43-209A Paragraph 4(e)(1) and (2), certain language of the guidance is changed or modified in this limitation, affecting the intent of the guidance.

EAA recommends that Limitation 19 be brought into better alignment with existing guidance found in AC 43-209A Paragraph 4(e)(1) and (2).

14. Appendix C Table C-1 Limitation 21 (page C-7):

While this limitation is similar to that currently in use for other experimental categories, current guidance for E-AB aircraft clearly lays out what is expected of the owner and the FSDO in the event of a major change. We fear that this new, open-ended language requiring only a “response

in writing” from the FSDO can lead to misunderstandings on the part of both parties. The present requirement for E-AB is reasonable and effective.

EAA recommends the text of Order 8130.2G Paragraph 4104(b)(19) be used as alternate text to Limitation 21 for experimental amateur-built aircraft.

15. Appendix C Table C-1 Limitation 25 (page C-8):

This language is very prescriptive, and appears to at least in part paraphrase Part 135 requirements for takeoff and landing calculations. This is not appropriate for experimental exhibition aircraft. Former military aircraft should be operated based upon the aircraft flight manual produced by the manufacturer. If there is a systemic safety problem concerning former military aircraft and appropriate runway requirements the problem should be addressed through pilot training, flight exams and proficiency checks.

EAA recommends that Limitation 25 be rewritten to omit any prescriptive requirement, referring the owner/operator instead to the aircraft flight manual, or struck and the subsequent items in Table C-1 renumbered accordingly.

16. Appendix C Table C-1 Limitation 29 (page C-9):

Although this limitation may contain some valid safety-related points, the arbitrary 8000 foot runway length should be disregarded in deference to data from the aircraft flight manual produced by the manufacturer. Further, this limitation could cause an airman to pass up a safe landing area in the case of an emergency, in search of an 8000 foot runway, resulting in an off airport landing, or a landing at an airport with what had developed into a much more serious problem.

EAA recommends that the sentence “Minimum runway length 8000 feet, unless calculated greater” be struck from Limitation 29.

17. Appendix C Table C-1 Limitation 30 (page C-9):

The arbitrary 5000 foot runway length should be disregarded in deference to data from the aircraft flight manual produced by the manufacturer. This limitation could cause an airman to pass up a safe landing area in the case of an emergency, in search of an 5000 foot runway, resulting in an off airport landing, or a landing at an airport with what had developed into a much more serious problem.

EAA recommends Limitation 30 be struck and the other limitations in Table C-1 be renumbered accordingly.

18. Appendix C Table C-1 Limitation 32 (page C-10):

Homebuilders are presently required to determine V_x , V_y , and V_{so} at a given weight and CG and record it in their operating limitations at the conclusion of phase I flight testing (Order 8130.2G Paragraph 4104(b)(4)). While we believe homebuilders should have every latitude possible in determining the best test program for their aircraft, we believe it is reasonable to ask the builder to establish this fundamental and easily obtainable information in the interests of safety.

EAA recommends that the language found in order 8130.2G Paragraph 4104(b)(4) pertaining to the establishment of V_x , V_y , and V_{so} at a given weight and CG be restored for experimental amateur-built aircraft.

19. Appendix C Table C-1 Limitation 38 (page C-11):

This limitation has alternate language – it is either written to require the pilot to advise passengers of the experimental nature of the aircraft or to prohibit the carriage of passengers, as prescribed in the FARs and other parts of the Order. However, we believe it should be clarified that carriage of passengers may only be prohibited pursuant to the Order and/or applicable FARs.

EAA recommends a note be added to Limitation 38 advising the inspector/designee that carriage of passengers may be only prohibited pursuant to the Order and/or applicable FARs.

20. Appendix C Table C-1 Limitation 40 (page C-12):

We have several concerns with this limitation as written and applied. Under the current format of Order 8130.2G, Experimental-Amateur Built aircraft have a dedicated list of operating limitations, applied as appropriate. Among these is the following operating limitation concerning flight over densely populated areas:

(6) This aircraft is prohibited from operating in congested airways or over densely populated areas unless directed by air traffic control, or unless sufficient altitude is maintained to effect a safe emergency landing in the event of a power unit failure, without hazard to persons or property on the ground.

Note: This limitation is applicable to the aircraft after it has satisfactorily completed all requirements for phase I flight testing, has the appropriate endorsement in the aircraft logbook and maintenance records, and is operating in phase II.

Under the new, common list of operating limitations in revision “H” found in Appendix C, this language is now missing, and instead all experimental aircraft are subject to a prohibition of flight over densely populated areas that is significantly more detailed than that found in revision

“G.” Additionally, this limitation contains language that restrictively defines “takeoff and landing” operations.

EAA believes very strongly that the existing guidance is adequate, and requests that the language concerning this subject in this revision match that found in revision “G.”

Note

EAA is aware of several cases in which unique operating limitations found in neither the current Order 8130.2G nor the draft Order 8130.2H have been assigned. EAA and industry have worked hard with the Agency to create limitations that are known, reasonable, and understood. Nevertheless, guidance exists to allow the FAA to issue any additional operating limitations in the interests of safety, so long as they “review each imposed operating limitation with the applicant to ensure that the operating limitations are understood by the applicant.” This apparently did not happen in several of these cases. We strongly object to this practice.

Conclusion

We again stress that the current Order 8130.2G is the result of years of collaboration by industry and the FAA to safely and effectively accommodate the operation of aircraft with special airworthiness certificates. Its provisions should be altered only in the face of serious and persistent safety concerns. Streamlining the document to improve ease of use and understandability is a commendable goal, but in doing so the existing guidance should not be needlessly altered or removed. We believe it is possible to do one without the other.

With this in mind we ask that our individual recommendations be taken as specific commentary with regards to the current draft of revision “H,” with our urging that as a general rule the jointly created language found in the existing guidance should prevail whenever possible.

EAA again thanks the Agency for the opportunity to comment on this critical Order. We stand ready to assist in any way as this policy is revised.

Respectfully,



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