



Federal Aviation Administration

Memorandum

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To: See Distribution List

From: Brian Cable, Manager, Systems Policy Branch, Policy and Innovation Division,
Aircraft Certification Service, AIR-630

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Subject: Deviation to FAA Order 8130.2J, *Airworthiness Certification of
Aircraft*, Appendix D, Operating Limitation #42

Memo No: AIR-600-DM04

Purpose

This memorandum authorizes a deviation from FAA Order 8130.2J, *Airworthiness Certification of Aircraft*, Appendix D, Operating Limitation #42. This limitation can be issued to amateur-built aircraft entering Phase 1 flight test to demonstrate compliance with 14 CFR 91.319(b).

Background

The FAA has been transitioning to more performance-based rules and policies, which leads to allowances for performance-based criteria in experimental aircraft flight testing. The minimum 25- or 40-hour flight test period found in current policy has long been considered necessary to ensure the aircraft and its systems are properly and thoroughly tested, found to be reliable, and the aircraft does not exhibit any undesirable flight characteristics or system flaws throughout its intended flight regime. The requirements for issuing an airworthiness certificate to amateur-built aircraft entering Phase 1 flight test are outlined in paragraph 15-4(e)(1) (a) thru (c).

(1) Duration of Assignment to Flight Test Area. Amateur-built aircraft should be limited to operation within an assigned flight test area for at least:

(a) 40 hours when a non-type-certificated engine, propeller, or engine/propeller combination is installed.

(b) 40 hours if an installed type-certificated engine, propeller, or engine/propeller combination has been altered in a way that differs from an approved type design on a TCDS.

(c) 25 hours when an unaltered, type-certificated engine/propeller combination is installed.

These subparagraphs prescribe the minimum flight hours for testing an aircraft that has been issued an experimental airworthiness certificate and is limited to operations within an assigned flight test area for the prescribed 25 or 40 hours.

Policy

This deviation authorizes a change in the prescribed 25 or 40 flight test hours when using a task-based flight test plan, creating the ability for builders to use a comprehensive, individualized task-based approach to meet the objectives of flight testing and developing an aircraft operating handbook (AOH) for their aircraft. In some cases, using a task-based flight test plan may result in more or less flight time than the typical 25 or 40 hours, depending on the complexity of the aircraft and other factors.

The builder of an amateur-built aircraft may refer to the task-based procedures in Advisory Circular 90-89C, *Amateur Built Aircraft and Ultralight Flight Testing Handbook*, to develop their flight test plan. The task-based flight test plan is enabled by issuing an operating limitation that authorizes its use in place of the minimum 25 or 40 hour flight test periods contained in the previously issued operating limitations. The builder must comply with the objectives of the task-based flight test plan, specified logbook entry and maintain the AOH during flight testing.

A task-based flight test plan is not required when issuing operating limitations with the traditional minimum hourly flight test periods. In this scenario, the traditional hourly-based limitations will be issued.

No additional acceptance is required for a builder to utilize a task-based flight test plan. Creating, submitting, or using a formal flight test plan is not required, but the FAA strongly encourages amateur builders to develop and utilize an individualized and comprehensive flight test plan appropriate for the complexity of the aircraft with specific tasks and objectives.

Additionally, industry-developed task-based test manuals may assist aircraft builders through the testing process, such as the Experimental Aircraft Association (EAA) Flight Test Manual referred to in AC 90-89C, Appendix C, Additional References on Flight Testing.

Required Operating Limitation. To utilize a task-based flight test plan, the current operating limitation #42 in FAA Order 8130.2J is revised and must be issued/reissued to read as follows:

*No person may operate this aircraft for other than the purpose of meeting the requirements of § 91.319(b). The pilot in command must comply with § 91.305 at all times. This aircraft is to be operated under VMC, day only. **Unless operating in accordance with the task-based flight test program described in Advisory Circular (AC) 90-89C, Amateur-Built Aircraft and Ultralight Flight Testing Handbook, chapter 2, section 1, during Phase I flight testing, this aircraft must be operated for at least _____ hours with at least _____ takeoffs and landings in this geographical area:***

[The area must be described by radius, coordinates, navigational aids, and/or landmarks. The size of the area and airports must be that required to safely conduct the anticipated maneuvers and tests.] This aircraft may only operate from [identify name of airport(s)]. (42)

This change will be incorporated in a future revision to FAA Order 8130.2. Please direct questions on this deviation to Aircraft Maintenance Division, AFS-300, at (202) 267-1675, or the Production and Airworthiness Systems, AIR-632, at (202) 267-1575.

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