



FAA UAS SYMPOSIUM

Experimental Special Airworthiness Certification



Federal Aviation
Administration



#UAS2018

Experimental Special Airworthiness Certification



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FAA Order 8130.34



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

**ORDER
8130.34D**

National Policy

09/08/2017

SUBJ: Airworthiness Certification of Unmanned Aircraft Systems and Optionally Piloted Aircraft

This order establishes procedures for issuing special airworthiness certificates in the experimental category to unmanned aircraft systems (UAS), optionally piloted aircraft (OPA), and aircraft intended to be flown as either a UAS or an OPA under the designation "OPA/UAS". This order also establishes procedures for issuing special flight permits to UAS for the purpose of production flight testing. The procedures in this order apply to Federal Aviation Administration (FAA) aviation safety inspectors (ASI) and private persons delegated authority to issue special airworthiness certificates.

A handwritten signature in blue ink, reading "Michael J. Kaszycki".

Michael J. Kaszycki
Acting Director, Policy & Innovation Division
Aircraft Certification Service

Experimental Aircraft



- What are they?
 - Design requirements
 - Airworthy
 - Compliance with 14 CFR
 - Operating limitations
 - Authorized purposes in FAA Order 8130.34

OPA and OPA/UAS



- **Optionally Piloted Aircraft (OPA)**
 - A manned aircraft that can be flown or controlled by the onboard PIC or by another individual from a location not onboard the aircraft

- **OPA/UAS**
 - Aircraft designed to operate with or without a pilot, that is, either as an OPA or a UAS, are designated OPA/UAS.

Past Developments



- 2005
 - Issued first experimental certificate to a UAS
- 2008
 - Published FAA Order 8130.34
 - Issued first experimental certificate to an OPA
- 2014
 - UAS test sites established
 - Published FAA Order 8000.372 – *Unmanned Aircraft Systems (UAS) Designated Airworthiness Representatives (DAR) for UAS Certification at UAS Test Sites*

Past Developments



- 2016
 - UAS pathfinder programs
 - Ops over people
 - Extended visual line of sight
 - Beyond visual line of sight

Latest Changes in Order 8130.34D



- Coordination with applicants
- Certificate issuance
- Expanded purposes
- Added a risk assessment process
- Linked to new maintenance policy in Order 8900.1
- Issuance of FAA Form 7711-1 (COA)
- Added 14 CFR part 48 registration information
- Revised (shortened) program letter, safety checklist, and operating limitations

Process



- Receive proposed flight area
- Receive program letter and safety checklist
- Determine tasks in Appendix E, UAS Risk Index (UAS only)
- FAA team formed
- Conduct safety evaluation
- Applicant completes certification items
- Conduct onsite inspection

New Developments



- Designees at manufacturing facilities
- Permit to fly

Industry Perspective



- It's not easy
- Possible FAA – applicant kick-off meeting
- Register aircraft first
- What does ops area feasibility mean
- Document quality
- Follow FAA policy outlines
- The SYSTEM is certified, not just the UA
- FAA policies are general
- FAA / Industry collaboration