

4/02/03

**SUBJ: ISSUANCE OF SPECIAL AIRWORTHINESS CERTIFICATES FOR REPLICAS OF THE
1903 WRIGHT FLYER AIRCRAFT**

1. PURPOSE. This order provides guidance for the issuance of a Federal Aviation Administration (FAA) Form 8130-7, Special Airworthiness Certificate, for replicas of the 1903 Wright Flyer aircraft. These aircraft will be certificated only in the Experimental category for the purpose of exhibition. This order will assist the Aviation Safety Inspector (ASI) to issue airworthiness certificates in a timely manner, with a minimum of regulatory burden to the applicant or aircraft.

2. DISTRIBUTION. This order is distributed to the Washington Headquarters division levels of the Flight Standards Service; to the branch levels of the Aircraft Certification Service; to the branch levels in the regional Flight Standards Divisions and Aircraft Certification Directorates; to all Flight Standards District Offices; to all Aircraft Certification Offices, Aircraft Certification field offices, and all Manufacturing Inspection District and Satellite Offices; to the Aircraft Certification and Flight Standards Branches at the FAA Academy; to the Suspected Unapproved Parts Program Office; to the Brussels Aircraft Certification Division and Flight Standards Staff; to applicable Representatives of the Administrator; and to all International Field Offices.

3. RELATED PUBLICATIONS.

- a. FAA Order 8130.2, Airworthiness Certification of Aircraft and Related Products.
- b. Advisory Circular (AC) 21-12, Application for U.S. Airworthiness Certificate, FAA Form 8130-6.

4. RECORDS MANAGEMENT. Refer to FAA Orders 0000.1, 1350.14, and 1350.15, or your office Records Management Officer/Directives Management Officer for guidance regarding retention or disposition of records.

5. BACKGROUND. The Administrator of the FAA attended a ceremony at the National Air and Space Museum to kick off a yearlong celebration leading to the 100th anniversary of powered flight. The Administrator stated that this commemoration has a special meaning for the FAA because this agency and its predecessor agencies had helped to chart the course of aviation for more than three quarters of a century. Over the next year's commemoratives of aviation achievements and milestones, it is anticipated that FAA offices throughout the country will see an increase in the number of airworthiness certificate applications. Those applications will be from persons wanting to have their Wright Flyer replica certification expedited in order to participate in the various planned events.

6. DISCUSSION. The policy or procedures within this order are intended to modify, as necessary, the established certification procedures contained in Order 8130.2. The policy and procedures in this order must be used in conjunction with Order 8130.2 and AC 21-12. Due to the uniqueness or various configurations of the Wright Flyer aircraft and their intended use, additional policy is needed to supplement the current airworthiness certification process contained in Order 8130.2.

a. Before issuing an airworthiness certificate for any replicas of the Wright Flyer aircraft the ASI will notify of the Production and Airworthiness Division AIR-200 through the geographic MIDO or FSDO Manager. AIR-200 will be responsible for any additional coordination with other FAA offices associated with this certification, (e.g., AFS, AIR, etc.). All airworthiness certificates will be issued by ASIs, and NOT delegated to FAA designees at this time.

b. Certification activities may include aircraft with various engines and horsepower that are either self-propelled, rail launched, catapulted, or possess simple fixed landing gear. An ASI, in coordination with the MIDO or FSDO Manager, will determine any uniqueness in an aircraft's configuration, performance, usage, etc., or elements of the applicant's proposed program for each airworthiness certification application submitted. The general description of applicable 1903 Wright Flyer replicas are any close reproduction or copy of the Wright Brothers 1903 aircraft which may be used, but not limited to re-enactment or simulation of the proof of design concept type of flights performed in 1903 with only a pilot on board. A Special Airworthiness Certificate will be issued for this type of aircraft in the Experimental category for the purpose of Exhibition with an unlimited duration.

c. The 1903 Wright Flyer replicas aircraft will be restricted to a well-defined flight area at events where the aircraft is to be exhibited. For example, some aircraft could be limited to a straight and level flight into the wind with no abrupt maneuvers, at an altitude of a hundred feet or less, and a flight distance of no more than 1500 feet. The flight parameters will need to be determined on a case-by-case basis. If questions arise on application of parameters contact the Production and Airworthiness Division AIR-200 for guidance. These aircraft will be transported on the ground and NOT flown from one event to another. As provided by Title 14, Code of Federal Regulations (14 CFR) part 45, Identification and Registration Marking, section (§) 45.22 (a)(1), (2), and (3), these aircraft are not required to display their assigned U.S. nationality and registration marks, except for test flights and practice necessary for Exhibition purposes (14 CFR part 21, Certification Procedures for Products and Parts, § 21.182). While these aircraft are not required to have the identification markings prescribed in § 45.11, a method of permanent (e.g., serial number) identification is still needed in order to link a specific aircraft to its U.S. assigned registration number and Airworthiness Certificate.

7. AIRCRAFT NOT MEETING THE PURPOSE OF THIS ORDER. Other Wright Flyer replica aircraft that are outside the scope of this order due to construction, configuration, performance, flight capability, or its intended use as described in this order, will be certificated in accordance with Order 8130.2. When further guidance and information is needed on applicability for issuance of an airworthiness certificate for replicas of the Wright Flyer aircraft contact the Production and Airworthiness Division AIR-200.

8. CERTIFICATION PROCEDURES. This order does not change the general airworthiness certification process contained in Chapter 4 of Order 8130.2. This order only allows for changes in the aircraft's prescribed operating limitations based on the uniqueness in the aircraft's configuration, performance, usage, etc., or the applicant's proposed Exhibition program. If during this certification process there are any problems or concerns in regard to the current regulations or guidance, immediately contact AIR-200 for an interpretation and guidance.

9. OPERATING LIMITATIONS. This experimental category aircraft for the purpose of Exhibition must be operated in compliance with the limitations prescribed in 14 CFR part 91, General Operating and Flight Rules, § 91.319. However, the FAA ASI may prescribe limitations as deemed necessary for safe operation. Operating limitations shall be designed to fit the specific situation encountered for each individual aircraft on a case-by-case basis. The operating limitations in paragraph 9b below are for 1903 Wright Flyer replica aircraft, which are transported (NOT FLOWN) from exhibition site to exhibition site as stated in the program letter (required by 14 CFR § 21.193) for this aircraft. This order details unique limitations for 1903 Wright Flyer replicas and will be used in conjunction with Order 8130.2 and AC 21-12.

a. The operating limitations are a part of the Special Airworthiness Certificate, and AT ALL TIMES ARE TO BE AVAILABLE TO THE PILOT IN COMMAND OF THE AIRCRAFT.

NOTE: The FAA ASI will use the minimum operating limitations of this order as a baseline for this aircraft. Nothing in this procedure prohibits the inspector from applying additional operating limitations in the interest of safety. The FAA ASI shall review each imposed operating limitation with the applicant to ensure the operating limitations are understood. The wording for the required minimum operating limits may not be altered without the approval of AIR-200.

b. Minimum Operating Limitations:

(1) No person may operate this aircraft unless the Special Airworthiness Certificate, FAA Form 8130-7, is visible to the pilot, and is located on the aircraft during flight. These operating limitations are a part of the Special Airworthiness Certificate and are to be carried in the aircraft at all times in accordance with 14 CFR § 91.203.

NOTE: Since the Wright Flyer was created before federal aviation regulations; the maximum flexibility should be given as to the placement of the Form 8130-7 on this replica aircraft.

(2) No person may operate this aircraft for other than complying with the requirements of 14 CFR § 91.319, as stated in the program letter (required by 14 CFR § 21.193) for this aircraft.

(3) This aircraft shall at all times be operated in accordance with applicable air traffic and general operating rules of part 91 and all additional limitations herein prescribed under the provisions of 14 CFR § 91.319(e).

(4) In accordance with 14 CFR § 47.45, the FAA Aircraft Registry must be notified within 30 days for any change of the aircraft registrant's address. Such notification is by submitting a new FAA Form 8050-1, Aircraft Registration Application.

(5) This aircraft may only operate from (identify name of airport) until the requirements of 14 CFR § 91.319(b) have been met. The operator will use the described area (shown on the attached chart). After meeting the requirements of 14 CFR § 91.319(b), the aircraft may be operated at air shows, exhibitions or other aviation events for flight purposes. Subsequent operations will be conducted at airports listed in the program letter; however, the aircraft shall be transported (NOT FLOWN) to those events.

NOTE: This limitation may need to be modified or further clarifications added depending on the mode of transportation or the type of demonstration planned and the capabilities of the aircraft.

(6) This aircraft shall be operated for at least (_____) (e.g., minutes/hours) with at least (____) takeoffs and landings (to a full stop) and shall be conducted in the geographic area described and/or shown on the attached chart.

NOTE: The 1903 Wright Flyer replica engines may only have a life-limit of a few hours. In the case of aircraft so equipped, apply the minimum time to accommodate flight-testing as required by 14 CFR § 91.319(b).

(7) Following satisfactory completion of the required flight time in the flight test area, the pilot shall certify in the records that the aircraft has been shown to comply with 14 CFR § 91.319(b). Compliance with 14 CFR § 91.319(b) shall be recorded in the aircraft records with the following or a similarly worded statement: **"I certify that the prescribed number of takeoffs, landings, and the flight test time has been completed and the aircraft is controllable throughout its normal range of speeds and throughout all maneuvers to be executed, does not appear to have hazardous operating characteristics or design features, and is safe for operation."**

(8) Any revisions to these operating limitations must be made by application to the geographically responsible FAA Flight Standards District Office (FSDO). The FSDO will coordinate the approval with the Production and Airworthiness Division AIR-200.

(9) This aircraft may NOT be operated over densely populated areas or in congested airways.

(10) This aircraft is to be operated under Visual Flight Rules (VFR), day only.

(11) The pilot in command is the only person allowed on board the aircraft during flight operation.

(12) No person may operate this aircraft for carrying persons or property for compensation or hire.

(13) Aerobatic maneuvers are NOT authorized.

(14) No person shall operate this aircraft unless within the preceding 12 calendar months it has had a condition inspection performed in accordance with the scope and detail of Appendix D to part 43, or other FAA-approved programs, and found to be in a condition for safe operation. This inspection will be recorded in the aircraft maintenance records.

(15) Condition inspections shall be recorded in the aircraft maintenance records showing the following or a similarly worded statement: **"I certify that this aircraft has been inspected on (insert date) in accordance with the scope and detail of Appendix D to part 43 or FAA approved inspection program and found to be in a condition for safe operation."** The entry will include the aircraft total time in service, and the name, signature, certificate number, and type of certificate held by the person performing the inspection.

(16) Upon satisfactory compliance with 14 CFR § 91.319(b), no person may operate this aircraft for other than the purpose(s) of exhibiting the aircraft, or participating in events outlined in (identify applicant) program letter (or any amendments) describing compliance with 14 CFR § 21.193(d).

(17) All proficiency, practice, and exhibition flights shall be conducted within the geographical area described in the applicant's program letter, any amendments to that letter, with the following established limitations as applicable:

(a) For rail launch catapulted aircraft, flights shall be within the airport run way area(s) or to the airfield strip area(s). All flights are limited to a non-stop flight that begins and ends within the airport or airfield where the aircraft is flown.

(b) For aircraft equipped with simple fixed landing gear, flights shall be within the airport or airfield areas, this limitation is dependent on individual aircraft configuration, and engine equipped. All flights are limited to a non-stop flight that begins and ends within the airport or airfield where the aircraft is flown.

(18) The owner/operator of this aircraft must submit an annual program letter update to the local FSDO that lists air shows, fly-ins, etc., that will be attended during the next year. This list of events may be amended, as applicable, by letter or facsimile transmission to the FSDO at least 48 hours prior to the intended operation, and a copy of the highlighted aeronautical chart, when applicable, is carried aboard the aircraft and is available to the pilot.

(19) This aircraft is authorized for flights or static display at air shows and motion pictures conducted under a waiver issued in accordance with 14 CFR § 91.903.

(20) This aircraft does not meet the requirements of the applicable, comprehensive, and detailed airworthiness code as provided by Annex 8 of the International Civil Aviation Organization (ICAO). This aircraft MAY NOT be operated outside the United States of America, its territories or possessions or in international airspace.

10. AUTHORITY TO CHANGE THIS ORDER. The issuance, revision, or cancellation of the material in this order is the responsibility of the Aircraft Certification Service, Production and Airworthiness Division AIR-200. This division will accomplish all changes, as required, to carry out the agency's responsibility to provide guidance related to the airworthiness certification of replicas of the Wright Brothers Flyer aircraft.

11. RELATION TO OTHER DIRECTIVES. Orders or advisory circulars reference in this directive list only the basic number. It is the responsibility of the user to establish that the latest revision/amendments are being utilized.

12. DEVIATIONS. Adherence to the procedures in this order is necessary for uniform administration of this directive material. Any deviations from this guidance material must be coordinated with AFS-300, AFS-800 and approved by AIR-200. If a deviation becomes necessary, the FAA employee involved should ensure the deviations are substantiated, documented, and concurred with by the appropriate supervisor. The deviation must be submitted to AIR-200 for review and approval. The limits of federal protection for FAA employees are defined by Title 28 United States Code § 2679.

13. ACTION TO BE TAKEN. The contents of this order may at a later date be reviewed for incorporation into other directive material.

14. DIRECTIVE FEEDBACK. Any deficiencies found, clarifications needed, or improvements suggested regarding the content of this order will be forwarded (written or electronically) for consideration to the Aircraft Certification Service, Automated Systems Branch, AIR-520, Attention: Directives Management Officer. FAA Form 1320-19, Directive Feedback Information, is located on the last page of this order for your convenience. A copy may be forwarded to the Production and Airworthiness Division, AIR-200, Attention: Comments to Order 8130.31. If an interpretation is urgently needed, you may contact AIR-200. Always use Form 1320-19 to follow up each verbal conversation.

/S/ Terry A. Allen

Terry A. Allen
Acting Manager, Production and Airworthiness
Division



U.S. Department
of Transportation
**Federal Aviation
Administration**

Directive Feedback Information

Please submit any written comments or recommendations for improving this directive, or suggest new items or subjects to be added to it. Also, if you find an error, please tell us about it.

Subject: Order 8130.31, ISSUANCE OF SPECIAL AIRWORTHINESS CERTIFICATES FOR REPLICAS OF THE 1903 WRIGHT FLYER AIRCRAFT

To: Directive Management Officer, AIR-520

(Please check all appropriate line items)

- An error (procedural or typographical) has been noted in paragraph _____ on page _____.
- Recommend paragraph _____ on page _____ be changed as follows:
(attach separate sheet if necessary)
- In a future change to this directive, please include coverage on the following subject
(briefing describe what you want added):

Other comments:

I would like to discuss the above. Please contact me.

Submitted by: _____ Date: _____

FTS Telephone Number: _____ Routing Symbol: _____