

ERA22FA279

AIRWORTHINESS

Group Chair's Factual Report - Attachment 1
FAA Order 8130.2G Chapter 4 Section 10

(26) An experimental aircraft builder certificated as a repairman for this aircraft under 14 CFR § 65.104 or an appropriately rated FAA-certificated mechanic may perform the condition inspection required by these operating limitations.

(27) Application must be made to the geographically responsible FSDO or MIDO for any revision to these operating limitations.

(28) The pilot in command of this aircraft must notify air traffic control of the experimental nature of this aircraft when operating into or out of airports with an operational control tower. When filing Instrument Flight Rules (IFR), the experimental nature of this aircraft must be listed in the remarks section of the flight plan.

4105.-4106. Reserved.

Section 10. Certification and Operation of Aircraft Under the Experimental Purpose(s) of Exhibition and Air Racing

4107. General. Under the provisions of 14 CFR § 21.191(d), exhibition aircraft are defined as aircraft that exhibit the aircraft's flight capabilities, performance, or unusual characteristics at airshows, fly-ins, aviation events, for motion picture, television, and similar productions, and for the maintenance of exhibition flight proficiency, including (for persons exhibiting aircraft) flying to and from such events and productions. Under the provisions of 14 CFR § 21.191(e), air racing aircraft are defined as aircraft that participate in air races, including (for such participants) practicing for such air races and flying to and from racing events.

a. Exhibition. A certificate for experimental exhibition must only be issued when an aircraft is to be used for valid exhibition purposes. Included in those purposes are organized airshows, organized fly-in activities, organized exhibitions, youth education events, shopping mall/school/similar static displays, organized aerobatic competition, fly-ins or meets, and movie or television productions. The duration of an airworthiness certificate for exhibition is unlimited.

b. Air Racing. A certificate for experimental air racing must only be issued when an aircraft is to be used for valid air racing purposes, including organized air races or sail plane competitive events. The duration of an airworthiness certificate for air racing is unlimited.

c. Home Base Changes or Ownership Transfers. When an aircraft's home base is changed or there is a transfer of ownership, the owner/operator must notify the local FSDO having jurisdiction over the area in which the aircraft will be based within 30 days, and—

(1) Provide the FSDO with a copy of the FAA-approved inspection program (if required for the aircraft). The person responsible for scheduling the inspections must be identified in the program letter to the FSDO. The gaining FSDO should accept the previously approved program, but may review it to ensure the adequacy of the program.

(2) The gaining FSDO will not require the aircraft's special airworthiness certificate and operating limitations to be reissued, unless the aircraft is in Phase I test flight operations, the current limitations require reissuance, or the owner requests reissuance or amendment.

(3) Upon transfer of ownership, the gaining FSDO will require the new owner to submit a new program letter to ensure the new owner is familiar with the limitations of the experimental exhibition aircraft. A new proficiency area is required for Groups 6 and 7 aircraft as described in paragraph 4110 of this order.

(4) Copies of the aircraft registration, special airworthiness certificate, and operating limitations are on file with the FAA Aircraft Registration Branch, and the aircraft owner does not need to provide copies to the gaining FSDO.

d. Existing Airworthiness Certificates and Operating Limitations. All previously issued airworthiness certificates and operating limitations will remain valid unless changes are requested by the applicant or reexamined by the FAA in accordance with 49 U.S.C. 44709.

4108. Former Military Aircraft.

a. Background. Many of the aircraft that are presented for airworthiness certification for the purpose(s) of exhibition or air racing are former military aircraft, both U.S. and non-U.S. The FAA acknowledges the significant role military aircraft have played in our aviation heritage and the importance of preserving their legacy for future generations. The exhibition of former military aircraft at aviation events for demonstration and display provides the public a rare view into our aviation past. Therefore, it is the policy of the FAA to permit the operation of former military aircraft for civilian use, consistent with the need to safeguard the general public.

b. Former Military Aircraft. These aircraft have historically operated in the United States for R&D, air racing, and exhibition purposes in the experimental category. It is the policy of the FAA that eligible aircraft will be certificated in the experimental category when operated for the special purposes of exhibition and/or air racing.

Note: Not all former military aircraft require experimental airworthiness certificates. Some models have a valid TC and are eligible for other airworthiness certificates.

c. Limitations. To ensure the safe operation of these aircraft and minimize adverse environmental impact, the FAA has established appropriate and reasonable operating limitations. Operating limitations developed jointly by the FAA Aircraft Certification Service and FAA Flight Standards Service are contained in paragraph 4113 of this order.

d. Maintenance and Inspections. The ability of civilian operators to maintain and operate these aircraft depends on their background and experience, training and facilities, availability of technical manuals and design information, and the complexity of the aircraft involved. Aircraft inspection guidelines are contained in the FAA Inspector's Handbook; FAA Order 8900.1. Qualification standards for flight crew members have been developed by the Flight Standards Service and are contained in the FAA Inspector's Handbook.

e. Environmental Impact. Applicants for certification of experimental exhibition aircraft must be advised that these aircraft were designed and manufactured without the acoustical treatment provided for current commercial and business aircraft. They also must be advised of industry-developed procedures and guidelines designed to minimize the impact such aircraft impose at airports and the surrounding communities. Aircraft operators must accept the

responsibility for operating their aircraft in such a manner as to reduce the environmental impact to the lowest practicable level consistent with safe operation.

4109. Brokering. 14 CFR § 21.191(d) was not intended to allow for the brokering or marketing of experimental aircraft. This includes individuals who manufacture, import, or assemble aircraft, and then apply for and receive experimental exhibition airworthiness certificates so they can sell the aircraft to buyers. 14 CFR § 21.191(d) ONLY provides for the exhibition of an aircraft's flight capabilities, performance, or unusual characteristics at airshows, and for motion picture, television, and similar productions. COs must ensure that all applications for exhibition airworthiness certificates are for the purposes specified under 14 CFR § 21.191(d), and are from the registered owners who will exhibit the aircraft for those purposes. Applicants also must provide the applicable information specified in 14 CFR § 21.193.

4110. Groups of Aircraft. Aircraft eligible for experimental airworthiness certification are divided into seven groups. This was done in order to establish standardized operating limitations and inspection requirements. Operating limitations for each group are provided in paragraph 4113 of this order. The FAA will determine which group the aircraft will operate in based on the following definitions. An aircraft that meets any one of the criteria falls in that group. An aircraft with an ejection seat is always in group 7. Questions concerning the appropriate group for specific aircraft will be referred to the FAA National Program Office for Vintage and Experimental Aircraft, AFS-800.

a. Group 1 Aircraft.

(1) Description of Aircraft.

(a) Gliders, both unpowered and powered.

(b) The aircraft must be in full compliance with the manufacturer's or country of origin's maintenance and/or inspection programs (if provided).

(c) If the State of Manufacture or CAA does not provide an inspection program, the aircraft must have an annual condition inspection that meets the scope and detail of 14 CFR part 43, appendix D.

(d) The aircraft must be in full compliance with manufacturer's or country of origin life limits (if specified).

(2) Type of Aircraft. This group includes gliders; unpowered, self launching, and sustaining.

b. Group 2 Aircraft.

(1) Description of Aircraft.

(a) Piston or turbo propeller powered.

(b) Maximum gross takeoff weight not more than 12,500 lb.

(c) Stall speeds of 61 knots or less.

(d) If multiengine, is operated at weights and altitudes such that the aircraft is capable of continuing a takeoff after the failure of the critical power plant.

(e) Not equipped with an operable ejection seat.

(f) Must be in compliance with the manufacturer's or country of origin's maintenance, and/or inspection programs (if provided).

(g) If the manufacturer or country of origin does not provide an inspection program, the aircraft must have an annual condition inspection that meets the scope and detail of 14 CFR part 43, appendix D.

(h) The aircraft must be in full compliance with manufacturer's or country of origin life limits (if specified).

(2) Type of Aircraft. Examples of aircraft that could operate under this group include, but are not limited to, aircraft such as the Yak-52; SU-31; SIAI-Marchetti S.M.1019, AN-2; all single-engine piston-powered WWII fighters; and small helicopters.

c. Group 3 Aircraft.

(1) Description of Aircraft.

(a) Piston or turbo propeller powered with a takeoff rating of greater than 800 HP (per engine) and a V_{NE} greater than 250 knots.

(b) If multiengine, is operated at weights and altitudes such that the aircraft is capable of continuing a takeoff after the failure of the critical power plant.

(c) Not equipped with an operable ejection seat.

(d) The aircraft must be in full compliance with the manufacturer's or country of origin's maintenance and/or inspection programs (if specified).

(e) If the manufacturer or country of origin does not provide an inspection program, the aircraft must have an annual condition inspection that meets the scope and detail of 14 CFR part 43, appendix D.

(f) The aircraft must be in full compliance with manufacturer's or country of origin life limits.

(2) Type of Aircraft. Examples of aircraft that could operate under this group include, but are not limited to, aircraft such as the P-51; T-28; Yak-9; RI-OV10; and Hawker Sea Fury.

d. Group 4 Aircraft.**(1) Description of Aircraft.**

- (a) Piston- or turbine-powered.
- (b) Maximum gross takeoff weight in excess of 12,500 lb.
- (c) Not equipped with an operable ejection seat.
- (d) Must be maintained in full compliance with manufacturer, country of origin, or FAA-approved maintenance and inspection programs.
- (e) If the manufacturer or country of origin does not provide an inspection program, the owner/operator must select, establish, identify, and use an inspection program as set forth in 14 CFR § 91.409(f), (g), and (h).
- (f) The aircraft must be in full compliance with manufacturer or country of origin life limits (if specified).

(2) Type of Aircraft. This group includes, but is not limited to, aircraft such as the IL-78; B-29; PB4Y; and OV-1.

e. Group 5 Aircraft.**(1) Description of Aircraft.**

- (a) Piston- or turbine-powered.
- (b) Maximum gross takeoff weight of 12,500 lb or less.
- (c) If multiengine, operated at weights or altitudes such that the aircraft is not capable of maintaining a positive rate of climb after failure of the critical engine.
- (d) Not equipped with an operable ejection seat.
- (e) The aircraft must be in full compliance with the manufacturer, country of origin, or FAA-approved maintenance and inspection programs. If the manufacturer or country of origin does not provide an inspection program, the owner/operator must select, establish, identify, and use an inspection program as set forth in 14 CFR § 91.409(f), (g), and (h).
- (f) The aircraft must be in full compliance with manufacturer or country of origin life limits (if specified).

(2) Type of Aircraft. This group includes, but is not limited to, aircraft such as the L-29; L-39; T-33; and CM-170.

f. Group 6 Aircraft.

(1) Description of Aircraft. This group includes aircraft from any Group 1, 2, 3, 4 or 5, but is not maintained in accordance with the manufacturer's maintenance and/or inspection programs and life limits or approved life extensions.

(2) Type of Aircraft. This group includes aircraft that fit in to other groups but have not been maintained and inspected in accordance with an approved program, have an undocumented service/maintenance/inspection history, or are not in compliance with their life limits.

(3) Proficiency Area. A proficiency area will be established for the aircraft within this group. All proficiency flights will be conducted in airspace not more than one-half the range of the aircraft from the aircraft's home base airport and must be clearly described in the program letter. The proficiency area may be depicted using a map or it may be described by geographic land marks, airports, or aids to navigation. The maximum dimension of the proficiency area will not exceed 600 Nautical Miles (NM).

g. Group 7 Aircraft.

(1) Description of Aircraft.

(a) Unable to comply with 14 CFR § 91.117(a) in normal cruise configuration.

(b) Manufacturer's or country of origin emergency checklist requires bailout or ejection in the event of an engine or other system failure.

(c) If multiengine, not capable of continuing a takeoff after the failure of the critical power plant.

(d) Equipped with an operable ejection seat.

(e) Not maintained in accordance with the manufacturer's maintenance, inspection, and life limits (if specified).

(f) Rocket-powered aircraft.

(2) Type of Aircraft. This group includes aircraft that do not fit in to other groups and/or pose a higher risk to the general public. This group includes, but is not limited to subsonic aircraft such as the AV-8 Harrier; and supersonic aircraft such as the MIG-21, F-104, F-4, and SU-27.

(3) Proficiency Area. A proficiency area will be established for the aircraft within this group. All proficiency flights will be conducted in airspace not more than one-half the range of the aircraft from the aircraft's home base airport and must be clearly described in the program letter. The proficiency area may be depicted using a map or it may be described by geographic landmarks, airports, or aids to navigation. The maximum dimension of the proficiency area will not exceed 600 NM.

4111. Special Initial Certification Requirements. The following provides information and guidance concerning the initial airworthiness certification for experimental aircraft for the purpose(s) of exhibition and/or air racing. These steps are in the normal order of occurrence for the certification of these aircraft.

a. Demilitarization of Former Military Aircraft. For demilitarization of former military aircraft, see paragraph 4073 of this order.

b. Records Inspection. In addition to the record inspection requirements of paragraph 4002a of this order, the FAA must—

(1) Obtain from the applicant a program letter in accordance with 14 CFR § 21.193, setting forth the purpose(s) for which the aircraft will be used. The program letter must be specific as to the intended use under the purpose request and must include the information as required by limitation #3 found in paragraph 4113b(3) of this order.

(2) Ensure that the applicant has written in or translated into the English language all of the necessary maintenance, inspection, operating, and flight manual(s) required to safely operate the aircraft.

(3) Verify that maintenance records reflect records of inspections, overhauls, repairs, time-in-service on life-limited articles and engines, etc., and that all records are current. In addition, for Group 4 and 5 aircraft, if appropriate, make an entry in the aircraft logbook showing the following (or similarly worded) statement: “The inspection program for this aircraft has been approved by the [insert name of FSDO] on [insert approval date] by [insert printed name of ASI], signed by approving Inspector.”

Note: The requirements in 14 CFR § 91.409(e) are applicable via an operating limitation issued at the time of certification for all turbojet powered and large aircraft. One of the requirements provides for the replacement of life-limited articles at a time specified in documents approved by the FAA.

(4) For turbine powered and large aircraft (maximum gross take-off weight in excess of 12,500 pounds), aircraft as described in paragraph 4110 of this order, verify that the applicant has an FSDO-approved inspection program that meets the requirements of 14 CFR § 91.409 and complies with the manufacturer’s program. Guidance regarding inspection programs can be found in FAA Order 8900.1

Note: A special airworthiness certificate shall not be issued for these aircraft without a FSDO-approved inspection program, unless issued Group 6 or 7 operating limitations.

(5) Verify that the appropriately rated FAA-certificated mechanic has made an entry in the aircraft records documenting the applicable inspections as referenced in paragraph 4111d of this order for all aircraft (including new) within 60 days before submitting FAA Form 8130-6.

c. Aircraft Inspection. The FAA will perform an inspection to the extent necessary to ensure that a prior inspection of the aircraft and aircraft systems has been accomplished in accordance with the inspection requirements as identified in paragraph 4002b of this order. The FAA will verify that instruments, instrument markings, and placards are as required by the CFR and are identified in the English language. In addition, the FAA will verify that all measurements are converted to standard U.S. units of measure for those instruments necessary for operation in the U.S. air traffic system.

Note: Depending on the intended operation, the applicable reference would be 14 CFR § 91.205(b), VFR (day); 14 CFR § 91.205(c), VFR (night); or 14 CFR § 91.205(d), IFR. Operators should be alerted that there are specific requirements under 14 CFR part 91 for maintenance and inspection of the various aircraft instruments, and that those requirements are applicable for these aircraft if the instruments are installed, for example, 14 CFR §§ 91.173 through 91.187, 91.215, 91.217, 91.219, 91.411, 91.413, etc.

4112. Certification Procedures.

a. Once it has been determined that the aircraft meets the requirements for the special airworthiness certification requested, the FAA must—

(1) Make an aircraft record entry showing the following, or similarly worded statement: “I find this aircraft meets the requirements for a special airworthiness certificate for the purpose(s) of [identify purpose(s)], and have issued a special airworthiness certificate and operating limitations dated _____. The next inspection is due _____. Signed: John Doe, Aviation Safety Inspector, NM48.”

(2) Issue the special airworthiness certificate and appropriate operating limitations in accordance with this order.

b. Denial. If the aircraft does not meet the certification requirements and the special airworthiness certificate is denied, the FAA will provide a letter to the applicant stating the reason(s) for denial and, if feasible, identify which steps may be accomplished to meet the certification requirements. Should this occur, a copy of the denial letter will be attached to FAA Form 8130-6 and forwarded to AFS-750, and made a part of the aircraft’s record.

c. Phases. For the purpose of this section:

(1) Phase 1 means: The initial flight testing period for a newly assembled aircraft, not newly manufactured or newly built. Newly manufactured/built aircraft must complete initial flight testing comparable to experimental amateur-built aircraft.

(2) Phase 2 means: an aircraft that has completed Phase 1 testing and has not been altered from the tested configuration, or flown outside the flight tested envelope. Modifications that invalidate Phase 2 limitations are:

(a) Structural modifications;

(b) Aerodynamic modifications, including externally mounted equipment except as permitted in limitation (15) found in paragraph 4113 of this order; and

(c) Change of engine make, model, or power rating (thrust or horse power).

Note 1: The owner/operator may return the aircraft to Phase 1 in order to flight test specific items as required by these limitations without invalidating the issued limitations; however, major modifications such as those listed above may require new operating limitations in accordance with limitation (32) found in paragraph 4113 of this order.

Note 2: The FAA may elect to process the aircraft on a one-time certification basis, for example, via the issuance of only one special airworthiness certificate of unlimited duration. In these instances, when issuing the special airworthiness certificate for the purpose(s) of exhibition and/or air racing, the operating limitations will be prescribed in two phases in the same document.

4113. Issuance of Experimental Exhibition and Air Racing Operating Limitations.

a. Operating limitations. The FAA may impose any additional limitations deemed necessary in the interest of safety, only after coordination with AFS-800 and AIR-200. The FAA must review each imposed operating limitation with the applicant to ensure that the operating limitations are understood by the applicant.

b. Issuance. Operating limitations must be issued in accordance with table 4-1 below:

Table 4-1. Operating Limitations to be Issued

**R = Required N = Not required P = Prohibited I = If required by Aircraft Type
OL = Operating Limitation**

OL	1	2	3	4	5	6	7	8	9	10	11	12
GROUP	1	R	R	R	R	N	N	N	R	R	R	R
	2	R	R	R	R	N	N	N	R	R	R	R
	3	R	R	R	R	R	N	N	R	R	R	R
	4	R	R	R	R	R	R	R	R	R	R	R
	5	R	R	R	R	R	R	I	R	R	R	R
	6	R	R	R	R	R	R	I	R	R	R	R
	7	R	R	R	R	R	R	I	R	R	R	R

OL	13	14	15	16	17	18	19	20	21	22	23	24
GROUP	1	R	R	R	R	R	N	N	R	N	N	R
	2	R	R	R	R	R	N	N	R	N	N	R
	3	R	R	R	R	R	N	N	R	N	N	R
	4	R	R	R	R	R	N	N	R	N	N	R
	5	R	R	R	R	R	P	R	N	R	N	R
	6	R	R	R	R	R	P	P	R	P	R	R
	7	R	R	R	R	R	P	P	R	R	R	R

OL	25	26	27	28	29	30	31	32	33	34	35	36
GROUP	1	R	R	R	R	N	N	R	R	R	N	R
	2	N	R	R	R	R	R	R	R	R	N	R
	3	N	R	R	R	R	R	N	N	R	N	R
	4	N	R	R	R	R	R	N	N	R	N	R
	5	N	R	R	R	R	R	N	N	R	N	R
	6	N	R	P	R	R	R	N	N	R	R	R
	7	N	R	P	R	R	R	N	N	R	R	R

OL	37	38	39	40	41	42	43	44	45			
+ GROUP	1	R	R	R	N	R	R	R	N			
	2	R	R	R	N	R	R	R	N			
	3	R	R	R	N	R	R	R	N			
	4	R	R	R	R	R	R	R	N			
	5	R	R	R	R	R	R	R	N			
	6	R	R	R	R	R	R	R	R			
	7	R	R	R	R	R	R	R	N			

* (1) No person may operate this aircraft for other than the purpose of exhibition, or to participate in events, in accordance with 14 CFR § 21.191(d) or § 21.191(e). This aircraft must be operated in accordance with all air traffic and general operating rules of 14 CFR part 91, all limitations herein prescribed, and as described in the owner operator's program letter. These operating limitations are a part of FAA Form 8130-7, and are to be carried in the aircraft at all times and be available to the pilot in command of the aircraft. *

(2) No person may operate this aircraft unless FAA Form 8130-7 is displayed at the cabin or cockpit entrance so that it is visible to passengers or flightcrew members, the word "EXPERIMENTAL" is displayed in accordance with 14 CFR § 45.23, and the aircraft contains the placards and markings required by 14 CFR § 91.9. The pilot in command of this aircraft must advise passengers of the experimental nature of this aircraft and that it does not meet the certification requirements of a standard certificated aircraft.

(3) The owner operator must submit an annual program letter to the geographically responsible FSDO where the aircraft is based. All operations must be conducted in accordance with these limitations and the program letter. A copy of the current program letter and any amendments must be carried on board the aircraft any time that the aircraft is being operated. The program letter must include the following information:

(a) The aircraft's home base.

(b) The name of the person responsible for the operation and maintenance of the aircraft.

(c) A list of events at which the aircraft will be exhibited (the list may be amended as necessary).

(d) For Group 6 and Group 7 aircraft, the proficiency area. The proficiency area may be depicted using a map or it may be described by geographic landmarks, airports, or aids to navigation.

(4) The pilot in command of this aircraft must hold an appropriate category and class rating.

(5) In addition to the requirements of limitation (4) of this paragraph; the pilot in command also must hold:

(a) An appropriate type rating (if one has been established), or

(b) An experimental aircraft authorization, by make and model, on their pilot certificate, or

(c) A temporary LOA issued by an FAA Flight Standards Operations Inspector.

Note: For the purpose of completing the practical test for the issuance of an experimental aircraft authorization, a qualified instructor may make a logbook endorsement permitting limited local solo operations for a period of not more than 30 days.

(6) In addition to the requirements of limitation (4) of this paragraph, the pilot in command also must hold:

- (a) An appropriate type rating (if one has been established), or
- (b) An experimental aircraft authorization by make and model, on their pilot certificate, or
- (c) A temporary LOA issued by an FAA Flight Standards Operations Inspector, or
- (d) For the purpose of completing the practical test for the issuance of an experimental aircraft authorization, a qualified instructor may make a logbook endorsement permitting limited local solo operations (provided that a second in command is not required by 14 CFR § 91.531) for a period of not more than 30 days.

Note: An experimental aircraft authorization or temporary LOA is issued in accordance with the procedures described in the FSIMS under the title “Airman Qualification Requirements for Aircraft for Which the Operating Limitations require an FAA-issued authorization to act as pilot in command.”

(7) Additional crewmembers such as second in command as required by 14 CFR § 91.531, or flight engineers must hold appropriate airmen certificates. The additional required crewmembers must also meet the qualification, training, and recency of experience requirements of 14 CFR part 61 or part 63 as appropriate.

(8) The pilot in command must have completed a flight review in accordance with 14 CFR part 61 from a qualified instructor in a high performance aircraft. Additionally, if the pilot has not completed three takeoffs and landings within the preceding 180 days in this aircraft make and model or comparable aircraft, the pilot must receive training from a qualified instructor in this aircraft make and model or comparable aircraft.

(9) During Phase I test flight operations, this aircraft is to be operated under VFR, day only, and no person may be carried in this aircraft during flight unless that person is a required crewmember. The local FSDO must approve if a person is essential for the test flight.

(10) During Phase I test flight operations, no person may flight test an aircraft except over open water or sparsely populated areas having light air traffic.

(11) During Phase I test flight operations, this aircraft may only operate from [identify name of airport(s)] until the requirements of 14 CFR § 91.319(b) have been met.

(12) During Phase I test flight operations, this aircraft must be operated for at least _____ hours with at least _____ takeoffs and landings (to a full stop), and all operations must be conducted in the geographic area described as follows:

(a) The size of the test flight area must be the minimum required to safely conduct the anticipated maneuvers and tests.

(b) The area must be described by radius, and/or landmarks, or as depicted on an attached chart.

(c) The minimum number of hours and minimum number of takeoffs and landings should be based on the aircraft's condition and records and the total time on the aircraft and its engine(s).

(d) For aircraft other than newly manufactured or built, the number of hours normally should normally be 10 and the minimum number of takeoffs and landings should be five.

Note: For newly manufactured or newly built aircraft, Phase I test flight limitations similar in scope to paragraph 4013b(3) and 4013b(4) of this order will be added to these operating limitations.

(13) During Phase I test flight operations, following satisfactory completion of the required number of flight hours in the flight test area, the pilot must certify in the records that the aircraft has been shown to comply with 14 CFR § 91.319(b). Compliance must be recorded in the aircraft records with the following, or a similarly worded, statement: "I certify that the prescribed flight test hours have been completed and the aircraft is controllable throughout its normal range of speeds and throughout all maneuvers to be executed, has no hazardous operating characteristics or design features, and is safe for operation."

(14) During Phase I test flight operations, aerobatic maneuvers intended to be performed must be satisfactorily accomplished and recorded in the aircraft records during the flight test period. In addition to the requirements of 14 CFR § 91.303, appropriate limitations identifying the aerobatic maneuvers and conditions under which they may be performed shall be included in the aircraft records.

(15) During Phase I test flight operations, if the aircraft will have removable externally mounted equipment, it must be test flown in all configurations. An entry must be made in the aircraft records indicating the configurations flight tested, unless the original manufacturer's flight test data for that equipment is included in the aircraft limitations.

(16) During Phase II operations, this aircraft is prohibited from flight with any externally mounted equipment except in compliance with limitation (15) of this paragraph.

Note: The owner may place the aircraft back into Phase 1 for the sole purpose of flight testing the added external equipment; in this case the owner must comply with limitation (15) requirements of this paragraph.

(17) During Phase II operations, this aircraft is prohibited from flight with any externally mounted equipment unless the equipment is mounted in a manner that will prevent in-flight jettison,

(18) During Phase II operations, except for takeoffs and landings (within class B, C, D, or E surface airspace designated for the airport, or 5 NM, whichever is greater), this aircraft may not be operated over densely populated, or congested areas except in compliance with 14 CFR § 91.119, or in an emergency situation. When exercising this authorization, the pilot in command must avoid densely populated areas and congested areas whenever possible.

(19) During Phase II operations, this aircraft may not be operated over densely populated or congested areas. The pilot in command must operate at altitudes and over routes that ensure compliance with 14 CFR § 91.119(a) at all times and avoid densely populated and congested areas.

(20) During all operations, this aircraft may not be operated over densely populated areas or in congested airways. All operations must be conducted in a manner and in areas that, in the event of a bailout, ejection (unless otherwise authorized by AFS-800), or in-flight structural failure, persons or property on the surface or other aircraft in flight are not endangered.

(21) During Phase II operations, no person may be carried in this aircraft during the exhibition of the aircraft's flight capabilities, performance, or unusual characteristics at airshows, or for motion picture, television, or similar productions, unless essential for the purpose of the flight. Persons may be carried during flights to and from any event or during proficiency/currency flying, limited to the design seating capacity of the aircraft and subject to the regulatory prohibition on compensation. The pilot in command of this aircraft must advise the passenger of the experimental nature of this aircraft and that it does not meet the certification requirements of a standard certificated aircraft.

(22) During Phase II operations of Group 6 and Group 7 aircraft, all proficiency/practice flights must be conducted within the geographical area described in the applicant's program letter and any modifications to that letter, but that area will not be more than one-half the range of the aircraft from the aircraft's home base airport. An exception is permitted for proficiency flying outside of the area stated above for organized formation flying, training, or pilot checkout in conjunction with a specific event listed in the applicant's program letter (or amendments).

(23) During Phase II operations of Group 6 and Group 7 aircraft, flights for maintenance of the aircraft are permitted outside the defined proficiency area, provided the maintenance facility airport is listed in the required program letter. (Maintenance, as defined in 14 CFR § 1.1, is the reference for the purpose of these flights.) The maintenance performed in connection with the flight must be recorded in the aircraft records in accordance with 14 CFR part 43.

(24) During Phase II operations, aerobatic maneuvers that were not satisfactorily accomplished and recorded during the Phase I flight test time period may not be performed.

Note: The owner may place the aircraft back into Phase 1 for the sole purpose of adding additional aerobatic maneuvers to the aircraft authorized maneuvers. In this case, the owner must comply with limitation (13) requirements of this paragraph.

(25) During Phase II operations, the following placard, pertaining to gliders and sailplanes having experimental certificates, must be displayed in the cockpit in full view of the pilot in addition to the requirements of 14 CFR § 91.9. “NOTE: No person may exceed the designer’s or builder’s recommended limitations as follows: maximum gross weight _____; CG limits _____; airplane tow speed _____; maximum airspeed in smooth air _____; and maximum airspeed in rough air _____.”

(26) This aircraft must not be used for glider towing, banner towing, or recreational/sport parachute jumping.

(27) During Phase II operations, night and/or instrument flight is approved, provided the aircraft is equipped as described in 14 CFR § 91.205. Instruments and equipment installed for night and/or instrument flight must be inspected and maintained in accordance with the applicable requirements of 14 CFR part 91. All maintenance or inspection of this equipment must be recorded in the aircraft maintenance records.

(28) Equipment installed to meet regulatory requirements must be inspected and maintained in accordance with the applicable requirements of 14 CFR part 91. Any maintenance or inspection of this equipment must be recorded in the aircraft maintenance records.

(29) All large airplanes, turbojet airplanes, turbopropeller-powered multiengine airplanes, or turbine-powered rotorcraft must be maintained in with accordance an FAA-approved inspection program meeting the scope and content as described in 14 CFR § 91.409(f). Completion of these inspections must be recorded in the aircraft maintenance records.

(30) Inspections for all large airplanes, turbojet airplanes, turbopropeller-powered multiengine airplanes, and turbine-powered rotorcraft must 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 [identify applicable inspection program] and found to be in a condition for safe operation.”

(31) No person may operate aircraft other than those described in limitations (29) and (30) of this paragraph unless within the preceding 12 calendar months it has had a condition inspection performed in accordance with the scope and detail of 14 CFR part 43, appendix D, or other FAA-approved programs, and was found to be in a condition for safe operation. This inspection will be recorded in the aircraft maintenance records.

(32) Condition inspections for aircraft other than those described in limitations (29) and (30) of this paragraph must 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 14 CFR part 43, appendix D, and found to be in a condition for safe operation.” The entry will include the aircraft’s total time-in-service and the name, signature, certificate number, and type of certificate held by the person performing the inspection.

(33) Only FAA-certificated mechanics with appropriate ratings as authorized by 14 CFR § 43.3 may perform inspections required by these operating limitations.

(34) The cognizant FSDO must be notified, and its response received in writing, prior to flying this aircraft after incorporation of a major change as defined by 14 CFR § 21.93 in order to determine whether new operating limitations will be required. The FSDO response should be entered in the aircraft's records and a copy sent the FAA Aircraft Registration Branch, AFS-750, P.O. Box 25504, Oklahoma City, Oklahoma 73125 for recording in the aircraft’s permanent records.

(35) Aircraft equipped with live ejection seats must be clearly externally marked to ensure that emergency personnel are aware of the hazard presented by the system. The ejection seat system must be maintained in accordance with the manufacturer’s procedures and inspected in accordance with the inspection program applicable to this aircraft. In addition, the ejection seat system must be mechanically secured to prevent inadvertent operation of the system any time the aircraft is parked or out of service.

(36) The special airworthiness certificate and attached operating limitations for this aircraft have no expiration date.

(37) When an aircraft’s home base is changed or there is a transfer of ownership, the new owner/operator will take any or all of the following actions within 30 days:

(a) Submit a new program letter to the geographically responsible FSDO.

(b) If an approved inspection program is specified in these operating limitations, submit a copy to the geographically responsible FSDO. The gaining FSDO will not change the previously approved program unless it can be substantiated that the previously approved program no longer meets FAA requirements.

(c) The gaining FSDO will not require the aircraft’s airworthiness certificate or operating limitations to be reissued, unless the aircraft requires Phase I test flight operations.

(38) This aircraft does not meet the requirements of the applicable, comprehensive, and detailed airworthiness code as provided by Annex 8 to the Convention on International Civil Aviation. The owner/operator of this aircraft must obtain written permission from another country’s CAA before operating this aircraft in or over that country. That written permission must be carried aboard the aircraft together with the U.S. airworthiness certificate and, upon request, be made available to an ASI or the CAA in the country of operation.

(39) Application must be made to the geographically responsible FSDO for any revision to these operating limitations.

(40) Supersonic flight (true flight Mach number greater than 1) is prohibited unless specifically authorized under 14 CFR §91.817(a) by the FAA Office of Aviation Policy Planning and Environment (AEP).

(41) The special airworthiness certificate and attached operating limitations for this aircraft have no expiration date. New proficiency areas must be described for Group 6 or 7 aircraft.

(42) FAA approval of maintenance and inspection interval extensions requires that the owner operator submit documentation and data justifying the extension to the local FSDO for elevation for concurrence.

(43) Approval of life limit extensions may be approved by the FAA only if the original manufacturer approves and provides documentation supporting the extension. In the case that original manufacturer data is not available, an appropriately qualified DER may provide data to substantiate life limit extension, but the FAA must concur with the results of the data.

(44) Aircraft originally incorporating fatigue life recording systems must maintain the system and comply with the original manufacturer fatigue limits. If the fatigue life system is removed, or is inoperative, the aircraft cannot be operated in any group other than Group 6.

(45) Operations are limited to minimum required crew. The carriage of passengers is prohibited at all times.

* **Note:** For fat ultralight vehicles and ultralight-like vehicles not meeting the provisions of 14 CFR § 103.1, add limitation (45) to these operating limitations and delete limitation (21).

*

4114.-4124 Reserved.

Section 11. Certification and Operation of Aircraft Under the Experimental Purpose(s) of Research and Development, Showing Compliance with Regulations, Crew Training, Market Surveys, and Operating Kit-Built Aircraft

4125. General. Under the provisions of 14 CFR § 21.191(a), R&D aircraft are defined as aircraft that test new design concepts, aircraft equipment, installations, operating techniques, or new uses for aircraft. Under the provisions of 14 CFR § 21.191(b), show compliance aircraft are defined as aircraft that conduct flight tests and other operations to show compliance with the regulations. This includes flights to show compliance for the issuance of TCs and STCs, major design changes, and function and reliability requirements. Under the provisions of 14 CFR § 21.191(c), crew training aircraft are defined as aircraft involved in the training of the applicant's flightcrews. Under the provisions of 14 CFR § 21.191(f), market survey aircraft are defined as aircraft that are used for conducting market surveys, sales demonstrations, and customer crew training as provided for in 14 CFR § 21.195. Under the provisions of 14 CFR § 21.191(h), operating kit-built aircraft is defined as operation of a PCA that meets the criteria of §14 CFR 21.24(a)(1) that was assembled by a person from a kit manufactured by the holder of a PC for that kit, without the supervision and quality system of the PC holder under 14 CFR § 21.184(a). Unless further defined in paragraphs 4125a through e of this order, the