Part 36 — CCAR-36 ????

航空器型号和适航合格审定的噪声审定标准和测量程序。

- FAR Part 36 原文__
- CCAR-36 原文__

FAR Part 36 ??

Part 36

Authority:

Source:

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§ 36.1

Applicability and definitions.

(a) This part prescribes noise standards for the issue of the following certificates:

(1) Type certificates, and changes to those certificates, and standard airworthiness certificates, for subsonic transport category large airplanes, and for subsonic jet airplanes regardless of category.

(2) Type certificates and changes to those certificates, standard airworthiness certificates, and restricted category airworthiness certificates, for propeller-driven, small airplanes, and for propeller-driven, commuter category airplanes except those airplanes that are designed for “agricultural aircraft operations” (as defined in § 137.3 of this chapter, as effective on January 1, 1966) or for dispersing fire fighting materials to which § 36.1583 of this part does not apply.

(3) A type certificate and changes to that certificate, and standard airworthiness certificates, for Concorde airplanes.

(4) Type certificates, and changes to those certificates, for helicopters except those helicopters that are designated exclusively for “agricultural aircraft operations” (as defined in § 137.3 of this chapter, as effective on January 1, 1966), for dispensing fire fighting materials, or for carrying external loads (as defined in § 133.1(b) of this chapter, as effective on December 20, 1976).

(5) Type certificates, changes to those certificates, and standard airworthiness certificates, for tiltrotors.

(b) Each person who applies under Part 21 of this chapter for a type of airworthiness certificate specified in this part must show compliance with the applicable requirements of this part, in addition to the applicable airworthiness requirements of this chapter.

(c) Each person who applies under Part 21 of this chapter for approval of an acoustical change described in § 21.93(b) of this chapter must show that the aircraft complies with the applicable provisions of §§ 36.7, 36.9, 36.11 or 36.13 of this part in addition to the applicable airworthiness requirements of this chapter.

(d) Each person who applies for the original issue of a standard airworthiness certificate for a transport category large airplane or for a jet airplane under § 21.183 must, regardless of date of application, show compliance with the following provisions of this part (including appendix B):

(1) The provisions of this part in effect on December 1, 1969, for subsonic airplanes that have not had any flight time before—

(i) December 1, 1973, for airplanes with maximum weights greater than 75,000 pounds, except for airplanes that are powered by Pratt & Whitney Turbo Wasp JT3D series engines;

(ii) December 31, 1974, for airplanes with maximum weights greater than 75,000 pounds and that are powered by Pratt & Whitney Turbo Wasp JT3D series engines; and

(iii) December 31, 1974, for airplanes with maximum weights of 75,000 pounds and less.

(2) The provisions of this part in effect on October 13, 1977, including the stage 2 noise limits, for Concorde airplanes that have not had flight time before January 1, 1980.

(e) Each person who applies for the original issue of a standard airworthiness certificate under § 21.183, or for the original issue of a restricted category airworthiness certificate under § 21.185, for propeller-driven, commuter category airplanes for a propeller driven small airplane that has not had any flight time before January 1, 1980, must show compliance with the applicable provisions of this part.

(f) For the purpose of showing compliance with this part for transport category large airplanes and jet airplanes regardless of category, the following terms have the following meanings:

(1) A “Stage 1 noise level” means a flyover, lateral or approach noise level greater than the Stage 2 noise limits prescribed in section B36.5(b) of appendix B of this part.

(2) A “Stage 1 airplane” means an airplane that has not been shown under this part to comply with the flyover, lateral, and approach noise levels required for Stage 2 or Stage 3 airplanes.

(3) A “Stage 2 noise level” means a noise level at or below the Stage 2 noise limits prescribed in section B36.5(b) of appendix B of this part but higher than the Stage 3 noise limits prescribed in section B36.5(c) of appendix B of this part.

(4) A “Stage 2 airplane” means an airplane that has been shown under this part to comply with Stage 2 noise levels prescribed in section B36.5(b) of appendix B of this part (including use of the applicable tradeoff provisions specified in section B36.6) and that does not comply with the requirements for a Stage 3 airplane.

(5) A “Stage 3 noise level” means a noise level at or below the Stage 3 noise limits prescribed in section B36.5(c) of appendix B of this part.

(6) A “Stage 3 airplane” means an airplane that has been shown under this part to comply with Stage 3 noise levels prescribed in section B36.5(c) of appendix B of this part (including use of the applicable tradeoff provisions specified in section B36.6).

(7) A “subsonic airplane” means an airplane for which the maximum operating limit speed, M mo , does not exceed a Mach number of 1.

(8) A “supersonic airplane” means an airplane for which the maximum operating limit speed, M mo , exceeds a Mach number of 1.

(9) A “Stage 4 noise level” means a noise level at or below the Stage 4 noise limit prescribed in section B36.5(d) of appendix B of this part.

(10) A “Stage 4 airplane” means an airplane that has been shown under this part not to exceed the Stage 4 noise limit prescribed in section B36.5(d) of appendix B of this part.

(11) A “Chapter 4 noise level” means a noise level at or below the maximum noise level prescribed in Chapter 4, Paragraph 4.4, Maximum Noise Levels, of the International Civil Aviation Organization (ICAO) Annex 16, Volume I, Amendment 7, effective March 21, 2002. [Incorporated by reference, see § 36.6].

(12) A “Stage 5 noise level” means a noise level at or below the Stage 5 noise limit prescribed in section B36.5(e) of appendix B to this part.

(13) A “Stage 5 airplane” means an airplane that has been shown under this part not to exceed the Stage 5 noise limit prescribed in section B36.5(e) of appendix B to this part.

(14) A “Chapter 14 noise level” means a noise level at or below the Chapter 14 maximum noise level prescribed in Chapter 14 of the ICAO Annex 16, Volume 1, Seventh Edition, Amendment 11-B (Incorporated by reference, see § 36.6).

(g) For the purpose of showing compliance with this part for transport category large airplanes and jet airplanes regardless of category, each airplane may not be identified as complying with more than one stage or configuration simultaneously.

(h) For the purpose of showing compliance with this part, for helicopters in the primary, normal, transport, and restricted categories, the following terms have the specified meanings:

(1) Stage 1 noise level means a takeoff, flyover, or approach noise level greater than the Stage 2 noise limits prescribed in section H36.305 of appendix H of this part, or a flyover noise level greater than the Stage 2 noise limits prescribed in section J36.305 of appendix J of this part.

(2) Stage 1 helicopter means a helicopter that has not been shown under this part to comply with the takeoff, flyover, and approach noise levels required for Stage 2 helicopters as prescribed in

section H36.305 of appendix H of this part, or a helicopter that has not been shown under this part to comply with the flyover noise level required for Stage 2 helicopters as prescribed in section J36.305 of appendix J of this part.

(3) Stage 2 noise level means a takeoff, flyover, or approach noise level at or below the Stage 2 noise limits prescribed in section H36.305 of appendix H of this part, or a flyover noise level at or below the Stage 2 limit prescribed in section J36.305 of appendix J of this part.

(4) Stage 2 helicopter means a helicopter that has been shown under this part to comply with Stage 2 noise limits (including applicable tradeoffs) prescribed in section H36.305 of appendix H of this part, or a helicopter that has been shown under this part to comply with the Stage 2 noise limit prescribed in section J36.305 of appendix J of this part.

(5) A “Stage 3 noise level” means a takeoff, flyover, or approach noise level at or below the Stage 3 noise limits prescribed in section H36.305 of appendix H of this part, or a flyover noise level at or below the Stage 3 noise limit prescribed in section J36.305 of appendix J of this part.

(6) A “Stage 3 helicopter” means a helicopter that has been shown under this part to comply with the Stage 3 noise limits (including applicable tradeoffs) prescribed in section H36.305 of appendix H of this part, or a helicopter that has been shown under this part to comply with the Stage 3 noise limit prescribed in section J36.305 of appendix J of this part.

(7) Maximum normal operating RPM means the highest rotor speed corresponding to the airworthiness limit imposed by the manufacturer and approved by the FAA. Where a tolerance on the highest rotor speed is specified, the maximum normal operating rotor speed is the highest rotor speed for which that tolerance is given. If the rotor speed is automatically linked with flight condition, the maximum normal operating rotor speed corresponding with the reference flight condition must be used during the noise certification procedure. If rotor speed can be changed by pilot action, the highest normal operating rotor speed specified in the flight manual limitation section for reference conditions must be used during the noise certification procedure.

(i) For the purpose of showing compliance with this part for tiltrotors, the following terms have the specified meanings:

Airplane mode means a configuration with nacelles on the down stops (axis aligned horizontally) and rotor speed set to cruise revolutions per minute (RPM).

Airplane mode RPM means the lower range of rotor rotational speed in RPM defined for the airplane mode cruise flight condition.

Fixed operation points mean designated nacelle angle positions selected for airworthiness reference. These are default positions used to refer to normal nacelle positioning operation of the aircraft. The nacelle angle is controlled by a self-centering switch. When the nacelle angle is 0 degrees (airplane mode) and the pilot moves the nacelle switch upwards, the nacelles are programmed to automatically turn to the first default position (for example, 60 degrees) where they will stop. A second upward move of the switch will tilt the nacelle to the second default position (for example, 75 degrees). Above the last default position, the nacelle angle can be set to

any angle up to approximately 95 degrees by moving the switch in the up or down direction. The number and position of the fixed operation points may vary on different tiltrotor configurations.

Nacelle angle is defined as the angle between the rotor shaft centerline and the longitudinal axis of the aircraft fuselage.

Tiltrotor means a class of aircraft capable of vertical take-off and landing, within the powered-lift category, with rotors mounted at or near the wing tips that vary in pitch from near vertical to near horizontal configuration relative to the wing and fuselage.

Vertical takeoff and landing (VTOL) mode means the aircraft state or configuration having the rotors orientated with the axis of rotation in a vertical manner (i.e. , nacelle angle of approximately 90 degrees) for vertical takeoff and landing operations.

V CON is defined as the maximum authorized speed for any nacelle angle in VTOL/Conversion mode.

VTOL/Conversion mode is all approved nacelle positions where the design operating rotor speed is used for hover operations.

VTOL mode RPM means highest range of RPM that occur for takeoff, approach, hover, and conversion conditions.

§ 36.2

Requirements as of date of application.

(a) Section 21.17 of this chapter notwithstanding, each person who applies for a type certificate for an aircraft covered by this part, must show that the aircraft meets the applicable requirements of this part that are effective on the date of application for that type certificate. When the time interval between the date of application for the type certificate and the issuance of the type certificate exceeds 5 years, the applicant must show that the aircraft meets the applicable requirements of this part that were effective on a date, to be selected by the applicant, not earlier than 5 years before the issue of the type certificate.

(b) Section 21.101(a) of this chapter notwithstanding, each person who applies for an acoustical change to a type design specified in § 21.93(b) of this chapter must show compliance with the applicable requirements of this part that are effective on the date of application for the change in type design. When the time interval between the date of application for the change in type design and the issuance of the amended or supplemental type certificate exceeds 5 years, the applicant must show that the aircraft meets the applicable requirements of this part that were effective on a date, to be selected by the applicant, not earlier than 5 years before the issue of the amended or supplemental type certificate.

(c) If an applicant elects to comply with a standard in this part that was effective after the filing of the application for a type certificate or change to a type design, the election:

(1) Must be approved by the FAA;

(2) Must include standards adopted between the date of application and the date of the election;

(3) May include other standards adopted after the standard elected by the applicant as determined by the FAA.

§ 36.3

Compatibility with airworthiness requirements.

It must be shown that the aircraft meets the airworthiness regulations constituting the type certification basis of the aircraft under all conditions in which compliance with this part is shown, and that all procedures used in complying with this part, and all procedures and information for the flight crew developed under this part, are consistent with the airworthiness regulations constituting the type certification basis of the aircraft.

§ 36.5

Limitation of part.

Pursuant to 49 U.S.C. 44715, the noise levels in this part have been determined to be as low as is economically reasonable, technologically practicable, and appropriate to the type of aircraft to which they apply. No determination is made, under this part, that these noise levels are or should be acceptable or unacceptable for operation at, into, or out of, any airport.

§ 36.6

Incorporation by reference.

(a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the locations in this paragraph (a) and may be obtained from the sources detailed in paragraphs (a)(1) through (12) of this section.

(1) The U.S. Department of Transportation, Docket Operations, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

(2) Federal Aviation Administration New England Regional Headquarters, 12 New England Executive Park, Burlington, MA 01801.

(3) Federal Aviation Administration Eastern Region Headquarters, Federal Building, John F. Kennedy International Airport, Jamaica, NY 11430.

(4) Federal Aviation Administration Southern Region Headquarters, 1701 Columbia Avenue, College Park, GA 30337.

(5) Federal Aviation Administration Great Lakes Region Headquarters, O'Hare Lake Office Center, 2300 East Devon Avenue, Des Plaines, IL 60018.

(6) Federal Aviation Administration Central Region Headquarters, Federal Building, 601 East 12th Street, Kansas City, MO 64106.

(7) Federal Aviation Administration Southwest Region Headquarters, 2601 Meacham Boulevard, Fort Worth, TX 76137.

(8) Federal Aviation Administration Northwest Mountain Region Headquarters, 1601 Lind Avenue SW, Renton, WA 98055.

(9) Federal Aviation Administration Western Pacific Region Headquarters, 15000 Aviation Boulevard, Hawthorne, CA 92007.

(10) Federal Aviation Administration Alaskan Region Headquarters, 222 West 7th Avenue, #14, Anchorage, AK 99513.

(11) Federal Aviation Administration European Office Headquarters, 15 Rue de la Loi, Third Floor, B-1040, Brussels, Belgium.

(12) The National Archives and Records Administration (NARA). For information on the availability of this information at NARA, call 202-741-6030 or go to http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(b) International Civil Aviation Organization (ICAO), Document Sales Unit, 999 University Street, Montreal, Quebec, H3C 5H7, Canada. http://www.icao.int/publications/Pages/default.aspx .

(1) International Standards and Recommended Practices, Annex 16 to the Convention on International Civil Aviation, Environmental Protection, Volume I, Aircraft Noise, Third Edition, July 1993, Amendment 7 effective March 21, 2002, IBR approved for § 36.1(f), and appendices A and B to part 36.

(2) International Standards and Recommended Practices, Annex 16 to the Convention on International Civil Aviation, Environmental Protection, Volume I, Aircraft Noise, Seventh Edition, July 2014, Amendment 11-B, applicable January 1, 2015, IBR approved for § 36.1(f) and appendices A and B to part 36.

(c) International Electrotechnical Commission (IEC) 3 Rue de Varembe, Case Postale 131, 1211 Geneva 20, Switzerland, http://www.iec.ch/standardsdev/publications/?ref=menu.

(1) Publication No. 179, Precision Level Sound Meters, (IEC 179) 1973, IBR approved for appendix F to part 36.

(2) Publication No. 561, Electro-acoustical Measuring Equipment for Aircraft Noise Certification, first edition, 1976, (IEC 561), IBR approved for appendices G and J to part 36.

(3) Publication No. 651, Sound Level Meters, first edition, 1979, (IEC 651), IBR approved for appendices G and J to part 36.

(4) Publication No. 804, Integrating-averaging Sound Level Meters, first edition, 1985, (IEC 804), IBR approved for appendix J to part 36.

(5) Publication No. 61094-3, Measurement Microphones—Part 3: Primary Method for Free-Field Calibration of Laboratory Standard Microphones by the Reciprocity Technique, edition 1.0, 1995 (IEC 61094-3) IBR approved for appendix A to part 36.

(6) Publication No. 61094-4, Measurement Microphones—Part 4: Specifications for Working Standard Microphones, edition 1.0, 1995, (IEC 61094-4) IBR approved for appendix A to part 36.

(7) Publication No. 61260, Electroacoustics-Octave-Band and Fractional-Octave-Band Filters, edition 1.0, 1995, (IEC 61260), IBR approved for appendix A to part 36.

(8) Publication No, 60942, Electroacoustics-Sound Calibrators, edition 2.0, 1997, (IEC 60942) IBR approved for appendix A to part 36.

(d) Society of Automotive Engineers, Inc. (SAE), 400 Commonwealth Drive, Warrentown, PA 15096, http://www.sae.org/pubs/.

(1) ARP 866A, Standard Values at Atmospheric Absorption as a Function of Temperature and Humidity for use in Evaluating Aircraft Flyover Noise, March 15, 1975, IBR approved for appendix H to part 36.

(2) [Reserved]

§ 36.7

Acoustical change: Transport category large airplanes and jet airplanes.

(a) Applicability. This section applies to all transport category large airplanes and jet airplanes for which an acoustical change approval is applied for under § 21.93(b) of this chapter.

(b) General requirements. Except as otherwise specifically provided, for each airplane covered by this section, the acoustical change approval requirements are as follows:

(1) In showing compliance, noise levels must be measured and evaluated in accordance with the applicable procedures and conditions prescribed in Appendix A of this part.

(2) Compliance with the noise limits prescribed in section B36.5 of appendix B must be shown in accordance with the applicable provisions of sections B36.7 and B36.8 of appendix B of this part.

(c) Stage 1 airplanes. For each Stage 1 airplane prior to the change in type design, in addition to the provisions of paragraph (b) of this section, the following apply:

(1) If an airplane is a Stage 1 airplane prior to the change in type design, it may not, after the change in type design, exceed the noise levels created prior to the change in type design. The tradeoff provisions of section B36.6 of appendix B of this part may not be used to increase the Stage 1 noise levels, unless the aircraft qualifies as a Stage 2 airplane.

(2) In addition, for an airplane for which application is made after September 17, 1971—

(i) There may be no reduction in power or thrust below the highest airworthiness approved power or thrust, during the tests conducted before and after the change in type design; and

(ii) During the flyover and lateral noise tests conducted before the change in type design, the quietest airworthiness approved configuration available for the highest approved takeoff weight must be used.

(d) Stage 2 airplanes. If an airplane is a Stage 2 airplane prior to the change in type design, the following apply, in addition to the provisions of paragraph (b) of this section:

(1) Airplanes with high bypass ratio jet engines. For an airplane that has jet engines with a bypass ratio of 2 or more before a change in type design—

(i) The airplane, after the change in type design, may not exceed either (A) each Stage 3 noise limit by more than 3 EPNdB, or (B) each Stage 2 noise limit, whichever is lower:

(ii) The tradeoff provisions of section B36.6 of appendix B of this part may be used in determining compliance under this paragraph with respect to the Stage 2 noise limit or to the Stage 3 plus 3 EPNdB noise limits, as applicable; and

(iii) During the flyover and lateral noise test conducted before the change in type design, the quietest airworthiness approved configuration available for the highest approved takeoff weight must be used.

(2) Airplanes that do not have high bypass ratio jet engines. For an airplane that does not have jet engines with a bypass ratio of 2 or more before a change in type design—

(i) The airplane may not be a Stage 1 airplane after the change in type design; and

(ii) During the flyover and lateral noise tests conducted before the change in type design, the quietest airworthiness approved configuration available for the highest approved takeoff weight must be used.

(e) Stage 3 airplanes. If an airplane is a Stage 3 airplane prior to the change in type design, the following apply, in addition to the provisions of paragraph (b) of this section:

(1) If compliance with Stage 3 noise levels is not required before the change in type design, the airplane must—

(i) Be a Stage 2 airplane after the change in type design and compliance must be shown under the provisions of paragraph (d)(1) or (d)(2) of this section, as appropriate; or

(ii) Remain a Stage 3 airplane after the change in type design. Compliance must be shown under the provisions of paragraph (e)(2) of this section.

(2) If compliance with Stage 3 noise levels is required before the change in type design, the airplane must be a Stage 3 airplane after the change in type design.

(3) Applications on or after [August 14, 1989.] The airplane must remain a Stage 3 airplane after the change in type design.

(4) If an airplane is a Stage 3 airplane prior to a change in type design, and becomes a Stage 4 after the change in type design, the airplane must remain a Stage 4 airplane.

(5) If an airplane is a Stage 3 airplane prior to a change in type design, and becomes a Stage 5 airplane after the change in type design, the airplane must remain a Stage 5 airplane.

(f) Stage 4 airplanes. (1) If an airplane is a Stage 4 airplane prior to a change in type design, the airplane must remain a Stage 4 airplane after the change in type design.

(2) If an airplane is a Stage 4 airplane prior to a change in type design, and becomes a Stage 5 airplane after the change in type design, the airplane must remain a Stage 5 airplane.

(g) Stage 5 airplanes. If an airplane is a Stage 5 airplane prior to a change in type design, the airplane must remain a Stage 5 airplane after the change in type design.

§ 36.9

Acoustical change: Propeller-driven small airplanes and propeller-driven commuter category airplanes.

For propeller-driven small airplanes in the primary, normal, utility, acrobatic, transport, and restricted categories and for propeller-driven, commuter category airplanes for which an acoustical change approval is applied for under § 21.93(b) of this chapter after January 1, 1975, the following

apply:

(a) If the airplane was type certificated under this part prior to a change in type design, it may not subsequently exceed the noise limits specified in § 36.501 of this part.

(b) If the airplane was not type certificated under this part prior to a change in type design, it may not exceed the higher of the two following values:

(1) The noise limit specified in § 36.501 of this part, or

(2) The noise level created prior to the change in type design, measured and corrected as prescribed in § 36.501 of this part.

§ 36.11

Acoustical change: Helicopters.

This section applies to all helicopters in the primary, normal, transport, and restricted categories for which an acoustical change approval is applied for under § 21.93(b) of this chapter on or after March 6, 1986. Compliance with the requirements of this section must be demonstrated under appendix H of this part, or, for helicopters having a maximum certificated takeoff weight of not more than 7,000 pounds, compliance with this section may be demonstrated under appendix J of this part.

(a) General requirements. Except as otherwise provided, for helicopters covered by this section, the acoustical change approval requirements are as follows:

(1) In showing compliance with the requirements of appendix H of this part, noise levels must be measured, evaluated, and calculated in accordance with the applicable procedures and conditions prescribed in parts B and C of appendix H of this part. For helicopters having a maximum certificated takeoff weight of not more than 7,000 pounds that alternatively demonstrate compliance under appendix J of this part, the flyover noise level prescribed in appendix J of this part must be measured, evaluated, and calculated in accordance with the applicable procedures and conditions prescribed in parts B and C of appendix J of this part.

(2) Compliance with the noise limits prescribed in section H36.305 of appendix H of this part must be shown in accordance with the applicable provisions of part D of appendix H of this part. For those helicopters that demonstrate compliance with the requirements of appendix J of this part, compliance with the noise levels prescribed in section J36.305 of appendix J of this part must be shown in accordance with the applicable provisions of part D of appendix J of this part.

(b) Stage 1 helicopters. Except as provided in § 36.805(c), for each Stage 1 helicopter prior to a change in type design, the helicopter noise levels may not, after a change in type design, exceed the noise levels specified in section H36.305(a)(1) of appendix H of this part where the demonstration of compliance is under appendix H of this part. The tradeoff provisions under

section H36.305(b) of appendix H of this part may not be used to increase any Stage 1 noise level beyond these limits. If an applicant chooses to demonstrate compliance under appendix J of this part, for each Stage 1 helicopter prior to a change in type design, the helicopter noise levels may not, after a change in type design, exceed the Stage 2 noise levels specified in section J36.305(a) of appendix J of this part.

(c) Stage 2 helicopters. For each helicopter that is Stage 2 prior to a change in type design, after a change in type design the helicopter must either:

(1) Remain a Stage 2 helicopter; or

(2) Comply with Stage 3 requirements and remain a Stage 3 helicopter thereafter.

(d) Stage 3 helicopters. For a helicopter that is a Stage 3 helicopter prior to a change in type design, the helicopter must remain a Stage 3 helicopter after a change in type design.

§ 36.13

Acoustical change: Tiltrotor aircraft.

The following requirements apply to tiltrotors in any category for which an acoustical change approval is applied for under § 21.93(b) of this chapter on or after March 11, 2013:

(a) In showing compliance with Appendix K of this part, noise levels must be measured, evaluated, and calculated in accordance with the applicable procedures and conditions prescribed in Appendix K of this part.

(b) Compliance with the noise limits prescribed in section K4 (Noise Limits) of Appendix K of this part must be shown in accordance with the applicable provisions of sections K2 (Noise Evaluation Measure), K3 (Noise Measurement Reference Points), K6 (Noise Certification Reference Procedures), and K7 (Test Procedures) of Appendix K of this part.

(c) After a change in type design, tiltrotor noise levels may not exceed the limits specified in § 36.1103.

§ 36.101

Noise measurement and evaluation.

For transport category large airplanes and jet airplanes, the noise generated by the airplane must be measured and evaluated under appendix A of this part or under an approved equivalent procedure.

§ 36.103

Noise limits.

(a) For subsonic transport category large airplanes and subsonic jet airplanes compliance with this section must be shown with noise levels measured and evaluated as prescribed in appendix A of this part, and demonstrated at the measuring points, and in accordance with the test procedures under section B36.8 (or an approved equivalent procedure), stated under appendix B of this part.

(b) Type certification applications between November 5, 1975 and December 31, 2005. If application is made on or after November 5, 1975, and before January 1, 2006, it must be shown that the noise levels of the airplane are no greater than the Stage 3 noise limit prescribed in section B36.5(c) of appendix B of this part.

(c) Type certification applications between January 1, 2006, and the date specified in paragraph (d) or (e) of this section, as applicable for airplane weight. If application is made on or after January 1, 2006, and before the date specified in paragraph (d) or (e) of this section (as applicable for airplane weight), it must be shown that the noise levels of the airplane are no greater than the Stage 4 noise limit prescribed in section B36.5(d) of appendix B of this part. If an applicant chose to voluntarily certificate an airplane to Stage 4 prior to January 2006, then the requirements of § 36.7(f) apply to that airplane.

(d) For airplanes with a maximum certificated takeoff weight of 121,254 pounds (55,000 kg) or more, type certification applications on or after December 31, 2017. If application is made on or after December 31, 2017, it must be shown that the noise levels of the airplane are no greater than the Stage 5 noise limit prescribed in section B36.5(e) of appendix B of this part. Prior to December 31, 2017, an applicant may seek voluntary certification to Stage 5. If Stage 5 certification is chosen, the requirements of § 36.7(g) will apply.

(e) For airplanes with a maximum certificated take-off weight of less than 121,254 pounds (55,000 kg), type certification applications on or after December 31, 2020. If application is made on or after December 31, 2020, it must be shown that the noise levels of the airplane are no greater than the Stage 5 noise limit prescribed in section B36.5(e) of appendix B of this part. Prior to December 31, 2020, an applicant may seek voluntary certification to Stage 5. If Stage 5 certification is chosen, the requirements of § 36.7(g) will apply.

§ 36.105

Flight Manual Statement of Chapter 4 equivalency.

For each airplane that meets the requirements for Stage 4 certification, the Airplane Flight Manual or operations manual must include the following statement: “The following noise levels comply with part 36, Appendix B, Stage 4 maximum noise level requirements and were obtained by analysis of

approved data from noise tests conducted under the provisions of part 36, Amendment 36 (insert part 36 amendment to which the airplane was certificated). The noise measurement and evaluation procedures used to obtain these noise levels are considered by the FAA to be equivalent to the Chapter 4 noise level required by the International Civil Aviation Organization (ICAO) in Annex 16, Volume I, Appendix 2, Amendment 7, effective March 21, 2002.”.

§ 36.106

Flight Manual statement of Chapter 14 noise level equivalency.

For each airplane that meets the requirements for Stage 5 certification, the Airplane Flight Manual or operations manual must include the following statement: “The following noise levels comply with part 36, appendix B, Stage 5 maximum noise level requirements and were obtained by analysis of approved data from noise tests conducted under the provisions of part 36, Amendment [insert part 36 amendment number to which the airplane was certificated]. The noise measurement and evaluation procedures used to obtain these noise levels are considered by the FAA to be equivalent to the Chapter 14 noise levels required by the International Civil Aviation Organization (ICAO) in Annex 16, Volume 1, Aircraft Noise, Seventh Edition, July 2014, Amendment 11-B, applicable January 1, 2015.”

§ 36.301

Noise limits: Concorde.

(a) General. For the Concorde airplane, compliance with this subpart must be shown with noise levels measured and evaluated as prescribed in Subpart B of this part, and demonstrated at the measuring points prescribed in appendix B of this part.

(b) Noise limits. It must be shown, in accordance with the provisions of this part in effect on October 13, 1977, that the noise levels of the airplane are reduced to the lowest levels that are economically reasonable, technologically practicable, and appropriate for the Concorde type design.

§ 36.501

Noise limits.

(a) Compliance with this subpart must be shown for—

(1) Propeller driven small airplanes for which application for the issuance of a new, amended, or supplemental type certificate in the normal, utility, acrobatic, transport, or restricted category is

made on or after October 10, 1973; and propeller-driven, commuter category airplanes for which application for the issuance of a type certificate in the commuter category is made on or after January 15, 1987.

(2) Propeller driven small airplanes and propeller-driven, commuter category airplanes for which application is made for the original issuance of a standard airworthiness certificate or restricted category airworthiness certificate, and that have not had any flight time before January 1, 1980 (regardless of date of application).

(3) Airplanes in the primary category:

(i) Except as provided in paragraph (a)(3)(ii) of this section, for an airplane for which application for a type certificate in the primary category is made, and that was not previously certificated under appendix F of this part, compliance with appendix G of this part must be shown.

(ii) For an airplane in the normal, utility or acrobatic category that (A) has a type certificate issued under this chapter, (B) has a standard airworthiness certificate issued under this chapter, (C) has not undergone an acoustical change from its type design, (D) has not previously been certificated under appendix F or G of this part, and (E) for which application for conversion to the primary category is made, no further showing of compliance with this part is required.

(b) For aircraft covered by this subpart for which certification tests are completed before December 22, 1988, compliance must be shown with noise levels as measured and prescribed in Parts B and C of appendix F, or under approved equivalent procedures. It must be shown that the noise level of the airplane is no greater than the applicable limit set in Part D of appendix F.

(c) For aircraft covered by this subpart for which certification tests are not completed before December 22, 1988, compliance must be shown with noise levels as measured and prescribed in Parts B and C of appendix G, or under approved equivalent procedures. It must be shown that the noise level of the airplane is no greater than the applicable limits set in Part D of appendix G.

§ 36.801

Noise measurement.

For primary, normal, transport, or restricted category helicopters for which certification is sought under appendix H of this part, the noise generated by the helicopter must be measured at the noise measuring points and under the test conditions prescribed in part B of appendix H of this part, or under an FAA-approved equivalent procedure. For those primary, normal, transport, and restricted category helicopters having a maximum certificated takeoff weight of not more than 7,000 pounds for which compliance with appendix J of this part is demonstrated, the noise generated by the helicopter must be measured at the noise measuring point and under the test conditions prescribed in part B of appendix J of this part, or an FAA-approved equivalent procedure.

§ 36.803

Noise evaluation and calculation.

The noise measurement data required under § 36.801 and obtained under appendix H of this part must be corrected to the reference conditions contained in part A of appendix H of this part, and evaluated under the procedures of part C of appendix H of this part, or an FAA-approved equivalent procedure. The noise measurement data required under § 36.801 and obtained under appendix J of this part must be corrected to the reference conditions contained in part A of appendix J of this part, and evaluated under the procedures of part C of appendix J of this part, or an FAA-approved equivalent procedure.

§ 36.805

Noise limits.

(a) Compliance with the noise levels prescribed under part D of appendix H of this part, or under part D of appendix J of this part, must be shown for helicopters for which application for issuance of a type certificate in the primary, normal, transport, or restricted category is made on or after March 6, 1986.

(b) For helicopters covered by this section, except as provided in paragraph (c) or (d)(2) of this section, it must be shown either:

(1) When an application for issuance of a type certificate in the primary, normal, transport, or restricted category is made on and after March 6, 1986 and before May 5, 2014, that the noise levels of the helicopter are no greater than the Stage 2 noise limits prescribed in either section H36.305 of appendix H of this part or section J36.305 of appendix J of this part, as applicable; or

(2) When an application for issuance of a type certificate in the primary, normal, transport, or restricted category is made on or after May 5, 2014, that the noise levels of the helicopter are no greater than the Stage 3 noise limits prescribed in either section H36.305 of appendix H of this part, or section J36.305 of appendix J of this part, as applicable.

(c) For helicopters for which application for issuance of an original type certificate in the primary, normal, transport, or restricted category is made on or after March 6, 1986, and which the FAA finds to be the first civil version of a helicopter that was designed and constructed for, and accepted for operational use by, an Armed Force of the United States or the U.S. Coast Guard on or before March 6, 1986, it must be shown that the noise levels of the helicopter are no greater than the noise limits for a change in type design as specified in section H36.305(a)(1)(ii) of appendix H of this part for compliance demonstrated under appendix H of this part, or as specified in section J36.305 of appendix J of this part for compliance demonstrated under appendix J of this part. Subsequent civil versions of any such helicopter must meet the Stage 2 requirements.

(d) Helicopters in the primary category:

(1) Except as provided in paragraph (d)(2) of this section, for a helicopter for which application for a type certificate in the primary category is made, and that was not previously certificated under appendix H of this part, compliance with appendix H of this part must be shown.

(2) For a helicopter that:

(i) Has a normal or transport type certificate issued under this chapter,

(ii) Has a standard airworthiness certificate issued under this chapter,

(iii) Has not undergone an acoustical change from its type design,

(iv) Has not previously been certificated under appendix H of this part, and

(v) For which application for conversion to the primary category is made, no further showing of compliance with this part is required.

§ 36.1101

Noise measurement and evaluation.

For tiltrotors, the noise generated must be measured and evaluated under Appendix K of this part, or under an approved equivalent procedure.

§ 36.1103

Noise limits.

(a) Compliance with the maximum noise levels prescribed in Appendix K of this part must be shown for a tiltrotor for which the application for the issuance of a type certificate is made on or after March 11, 2013.

(b) To demonstrate compliance with this part, noise levels may not exceed the noise limits listed in Appendix K, Section K4, Noise Limits of this part. Appendix K of this part (or an approved equivalent procedure) must also be used to evaluate and demonstrate compliance with the approved test procedures, and at the applicable noise measurement points.

§ 36.1501

Procedures, noise levels and other information.

(a) All procedures, weights, configurations, and other information or data employed for obtaining the certified noise levels prescribed by this part, including equivalent procedures used for flight, testing, and analysis, must be developed and approved. Noise levels achieved during type certification must be included in the approved airplane (rotorcraft) flight manual.

(b) Where supplemental test data are approved for modification or extension of an existing flight data base, such as acoustic data from engine static tests used in the certification of acoustical changes, the test procedures, physical configuration, and other information and procedures that are employed for obtaining the supplemental data must be developed and approved.

§ 36.1581

Manuals, markings, and placards.

(a) If an Airplane Flight Manual or Rotorcraft Flight Manual is approved, the approved portion of the Airplane Flight Manual or Rotorcraft Flight Manual must contain the following information, in addition to that specified under § 36.1583 of this part. If an Airplane Flight Manual or Rotorcraft Flight Manual is not approved, the procedures and information must be furnished in any combination of approved manual material, markings, and placards.

(1) For transport category large airplanes and jet airplanes, the noise level information must be one value for each flyover, lateral, and approach as defined and required by appendix B of this part, along with the maximum takeoff weight, maximum landing weight, and configuration.

(2) For propeller driven small airplanes, the noise level information must be one value for takeoff as defined and required by appendix G of this part, along with the maximum takeoff weight and configuration.

(3) For rotorcraft, the noise level information must be one value for each takeoff, flyover, and approach as defined and required by appendix H of this part, or one value for flyover as defined and required by appendix J of this part, at the maximum takeoff weight and configuration.

(b) If supplemental operational noise level information is included in the approved portion of the Airplane Flight Manual, it must be segregated, identified as information in addition to the certificated noise levels, and clearly distinguished from the information required under § 36.1581(a).

(c) The following statement must be furnished near the listed noise levels:

(d) For transport category large airplanes and jet airplanes, for which the weight used in meeting the takeoff or landing noise requirements of this part is less than the maximum weight established under the applicable airworthiness requirements, those lesser weights must be furnished, as operating limitations in the operating limitations section of the Airplane Flight Manual. Further, the maximum takeoff weight must not exceed the takeoff weight that is most critical from a takeoff noise standpoint.

(e) For propeller driven small airplanes and for propeller-driven, commuter category airplanes for which the weight used in meeting the flyover noise requirements of this part is less than the maximum weight by an amount exceeding the amount of fuel needed to conduct the test, that lesser weight must be furnished, as an operating limitation, in the operating limitations section of an approved Airplane Flight Manual, in approved manual material, or on an approved placard.

(f) For primary, normal, transport, and restricted category helicopters, if the weight used in meeting the takeoff, flyover, or approach noise requirements of appendix H of this part, or the weight used in meeting the flyover noise requirement of appendix J of this part, is less than the certificated maximum takeoff weight established under either § 27.25(a) or § 29.25(a) of this chapter, that lesser weight must be furnished as an operating limitation in the operating limitations section of the Rotorcraft Flight Manual, in FAA-approved manual material, or on an FAA-approved placard.

(g) Except as provided in paragraphs (d), (e), and (f) of this section, no operating limitations are furnished under this part.

§ 36.1583

Noncomplying agricultural and fire fighting airplanes.

(a) This section applies to propeller-driven, small airplanes that—

(1) Are designed for “agricultural aircraft operations” (as defined in § 137.3 of this chapter, effective on January 1, 1966) or for dispensing fire fighting materials; and

(2) Have not been shown to comply with the noise levels prescribed under appendix F of this part—

(i) For which application is made for the original issue of a standard airworthiness certificate and that do not have any flight time before January 1, 1980; or

(ii) For which application is made for an acoustical change approval, for airplanes which have a standard airworthiness certificate after the change in the type design, and that do not have any flight time in the changed configuration before January 1, 1980.

(b) For airplanes covered by this section an operating limitation reading as follows must be furnished in the manner prescribed in § 36.1581:

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- **CCAR-36-R2**：航空器型号和适航合格审定噪声规定（ 2018年）
- 最新修订征求意见稿可查阅 交通运输部法规征求意见系统

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CCAR-36规定了各类航空器的噪声标准和认证程序，包括：

- 亚音速喷气飞机
- 螺旋桨飞机
- 直升机
- 载人自由气球

该规定与中国环境噪声标准相协调，确保航空器噪声控制在可接受范围内。