U.S. Department
of Transportation
Federal Aviation
Administration

Advisory Circular

Subject: Guidance on Carrying Noise Certification Documents On Board Aircraft Operating Outside the United States

Date: 02/23/10
Initiated by: AEE-100

AC No: 91-86
Change:

1. Purpose:

a. This Advisory Circular (AC) provides guidance on aircraft noise certification information that is required by regulation to be carried on board an aircraft when it is operated outside of the United States.

b. This AC contains background information and three appendices. Two of the appendices are sample forms that may be used to compile the information required by the regulation. The third appendix contains instructions for completing the forms.

(1) Appendix 1 of this AC describes the relevant information to be entered on the sample forms for appendices 2 and 3.

(2) Appendix 2 contains the sample form to be used for aircraft that have undergone noise certification under 14 CFR Part 36.

(3) Appendix 3 contains the sample form for aircraft that, because of their age, were not required to be noise certificated under 14 CFR Part 36 and thus have no noise levels to enter on certain parts of the form.

2. Compliance:

a. Under 14 CFR Section 91.703(a)(5), U.S. aircraft that operate outside the United States must carry certain noise certification information on board. This regulation is based on the requirements of Amendment 8 to Annex 16 of the International Civil Aviation Organization (ICAO). This AC is intended to provide guidance on the appropriate noise certification information that needs to be on board to satisfy the regulation and the ICAO requirement. Background information on the adoption of this regulation can be found in the preamble to the final rule titled "Aircraft Noise Certification Documents for International Operations" and published at 75 FR 9327 (March 2, 2010).

b. ICAO Annex 16, Chapter 1, Amendment 8, Attachment G describes three methods of compliance for the noise documentation requirement, depending on the certification documents used by the ICAO member State. The option that applies to U.S.-registered aircraft includes two complementary documents. The first document is the U.S. airworthiness certificate, which is already required to be carried on board. The second document must contain the noise certification levels for the aircraft that are provided in the airplane flight manual (AFM) or rotorcraft flight manual (RFM) for the aircraft.

c. To comply with Part 91 and Annex 16, an operator may choose to carry the appropriate pages of the AFM/RFM that contain the noise information required. In the alternative, an operator may choose to create its own form on which to compile the noise information, or it may choose to use the sample form provided in this AC as a compilation document for the noise information.

d. Whether choosing to use the AFM/RFM pages, its own form, or the sample form provided here, operators are cautioned that they are responsible for the information being correct and complete. While the AFM/RFM is an FAA-approved document, other documents on which the noise certification information may be compiled, such as the form provided here, are the responsibility of the operator. Incorrect transfer of the data or a failure to carry all of the required information is a violation of the Part 91 regulation. The FAA does not approve completed noise documentation forms, and operators are cautioned not to refer to them as "noise certificates" since the FAA does not have the authority to issue such certificates.

e. Regardless of the format of the information (such as the sample form or an operator's own form), the noise documentation carried may reference only the subject aircraft. Aircraft may not be combined on any form regardless of the similarity of model, series, or noise characteristics. Noise documentation is not valid for regulatory compliance if more than one aircraft is listed.

f. Operators of aircraft that have not, because of their age, been noise certificated under Part 36 are encouraged to use the sample form provided in Appendix 3. That form includes a statement indicating that the noise levels are not included because the information is not available.

3. Part 36 Certification Requirements:

a. The current U.S. regulations in Part 36 (§§ 36.1581 and 36.1583) describe the specific noise certification data that are required to be included in an FAA-approved AFM or RFM as part of the original aircraft type certification.

b. Some aircraft, because of their age, were not required to be noise certificated under Part 36. The following descriptions are a restatement of the regulations found in §§36.1(d)(1), 36.501(a)(1) and(2), and 36.805(c). If your aircraft fits any of the descriptions, you may use the form shown in appendix 3 of this AC. These include:

(1) A transport category large airplane or a jet airplane regardless of certification category that:

(a) Received its type certification prior to December 1, 1969 (the date Part 36 was adopted);

(b) Has not undergone an acoustical change as described in 14 CFR §21.93(b);

(c) Has a maximum weight greater than 75,000 pounds;

(d) Is not powered by Pratt & Whitney Turbo Wasp JT3D series engines; and

(e) Had flight time prior to December 1, 1973.

(2) A transport category large airplane or a jet airplane regardless of certification category that:

(a) Received its type certification prior to December 1, 1969 (the date Part 36 was adopted);

(b) Has not undergone an acoustical change as described in 14 CFR §21.93(b);

(c) Has a maximum weight greater than 75,000 pounds;

(d) Is powered by Pratt & Whitney Turbo Wasp JT3D series engines; and

(e) Had flight time prior to December 1, 1974.

(3) A transport category large airplane or a jet airplane regardless of certification category that:

(a) Has a maximum weight of 75,000 pounds or less; and

(b) Had flight time prior to December 1, 1974.

(4) A propeller-driven small airplane or a propeller-driven commuter category airplane:

(a) For which type certification application was made before October 10, 1973; and

(b) That has not undergone an acoustical change as described in 14 CFR §21.93(b).

(5) A propeller-driven small airplane or a propeller-driven commuter category airplane:

(a) For which standard airworthiness certification was made before January 1, 1980;

(b) That did not have any flight time prior to January 1, 1980; and

(c) That has not undergone an acoustical change as described in 14 CFR §21.93(b).

(6) A helicopter:

(a) For which type certification application was made before March 6, 1986; and

(b) That has not undergone an acoustical change as described in 14 CFR §21.93(b).

4. Document Availability: This Advisory Circular, "Guidance on Carrying Noise Certification Documents On Board Aircraft Operating Outside the United States," AC 91-86, is available on the FAA's website at http://www.faa.gov/regulations_policies/advisory_circulars/.

Lourdes Q. Maurice
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Appendix 1. Instructions for using one of the Sample Forms.

The items numbered below correspond with the required information for the sample forms in appendix 2 and appendix 3. For example, you will find "aircraft serial number" as Item 6 in both the instructions below and on the sample form.

The following information is not new. This information is already in each operator's possession in the FAA-approved AFM/RFM, and is part of the aircraft airworthiness certification. The operators are responsible for accurately transferring the information to the sample form in Appendices 2 or 3. The sample form in Appendix 2 is for aircraft with certificated noise levels, and the sample form in Appendix 3 is for aircraft without certificated noise levels.

1. The State (country) issuing the document.

2. The title of the document.

3. The number of the document (for operator's use).

4. The nationality or common mark and registration marks.

5. The manufacturer and manufacturer's designation of aircraft (model).

6. The aircraft serial number.

7. The type and model of the subject engine(s) for identification and verification of the aircraft configuration.

8. If applicable, for propeller-driven airplanes, the propeller type and model.

9. The maximum takeoff mass and unit. Since the primary U.S. unit differs from the international unit, the conversion factor can be found in ICAO Annex 5. To avoid any confusion, a U.S. operator may choose to have both mass and weight included in item 9. An example of a conversion change from pounds to kilograms is shown below:

Aircraft weight (pounds) conversion to aircraft mass (kilograms)[1]:

To convert aircraft weight from	*to*	*Multiply by*
pound mass(lb)	kilogram (kg)	4.53592 E-01

Example: For a Boeing 747-400F that weights 875,000 lb,

875,000 (lb) X 4.53592 E-01 (kg/lb) = 396,893.32 (kg)

[1]In 1959 the directors of the national standards laboratories of the United States, Canada, the United Kingdom, Australia, New Zealand, and the Union of South Africa agreed on common definitions of the customary length and mass units. They define the pound avoirdupois as 0.453592 kg. The engineering practice of using lbm for pounds mass is obsolete.

10. The maximum landing mass and unit. To avoid any confusion, a U.S. operator may choose to have both mass and weight included in item 10. See conversion example above.

11. The noise stage of the certificated aircraft. The terminology of aircraft certification classification in the United States is "Stage" rather than "Chapter" as used in Annex 16. The U.S. term is recognized by ICAO and is not considered a difference from Annex 16. Note that the term "Stage" is not applicable to U.S. small airplanes certificated under 14 CFR part 36, Subpart F.

12. Any modifications incorporated for compliance with applicable noise certification standards. This item should include any modifications to the basic aircraft described in items 5, 7, and 8.

13. The lateral/full-power noise level, as certificated. Operators of U.S.-registered aircraft would include the 14 CFR part 36 certificated noise levels, i.e., Effective Perceived Noise Level (EPNdB).

14. The approach noise level, as certificated. Operators of U.S.-registered aircraft would include the 14 CFR part 36 certificated noise levels, i.e., EPNdB.

15. The flyover noise level, as certificated. Operators of U.S.-registered aircraft would include the 14 CFR part 36 certificated noise levels, i.e., EPNdB. For small airplanes, certificated under appendix G, it would be the maximum A-weighted sound level (dBA). For rotorcraft, certificated under appendices H & J, it would be either EPNdB or A-weighted Sound Exposure Level (dBA SEL). Note: AFMs issued prior to Amendment 36-24 use the term "takeoff" instead of "flyover."

16. The overflight noise level, as certificated. Operators of U.S.-registered aircraft would include the 14 CFR part 36 certificated noise levels. For small airplanes, certificated under appendix F, it would be maximum A-weighted sound level (dBA). For rotorcraft, certificated under appendices H or J, it would be either EPNdB or A-weighted SEL (dBA SEL). Note: The terminology of this noise level in 14 CFR part 36 is "flyover" rather than "overflight" as used in Annex 16.

17. The takeoff noise level, as certificated. Operators of U.S.-registered aircraft would include the 14 CFR part 36 certificated noise levels as used for item 16 above.

18. The sample form in Appendix 2 includes a statement that the individual aircraft complies with the applicable noise requirements of the U.S regulations applicable to its type and size. The sample form in Appendix 3 includes a statement that the individual aircraft pre-dates noise requirements of its State of Registry.

19. The date on which the noise certification document was created.

20. The signature of the official of the operator attesting to the information in the noise certification document.

Appendix 2. Sample Form for Aircraft With Certificated Noise Levels

1. **United States of America**			
2. **Aircraft Noise Certification Information** **Name of Operator** (Address, Telephone, and Fax Number)			
3.Document Number: (Optional)	**4. Nationality and Registration Marks:**	**5. Manufacturer; Manufacturer's Designation Of Aircraft (Model/Series):**	**6. Aircraft Serial Number:**
7. Engine:		**8. Propeller: (If applicable)**	
9. Maximum Takeoff Weight/ Mass: _____ pounds(_____ kg)	**10. Maximum Landing Weight/ Mass:** _____ pounds (_____ kg)	**11. Noise Standard: (If applicable)** Stage ____	
12. Additional modifications incorporated for the purpose of compliance with the applicable noise certification standards:			
13. Lateral/Full-Power Level (if applicable)	**14. Approach Noise Level (if applicable)**	**15. Flyover Noise Level (if applicable)**	**16. Over-flight Noise Level (if applicable)**	**17. Takeoff Noise Level (if applicable)**
18. Subject Aircraft Noise Levels: The aircraft listed on this form meets the requirements of 14 CFR Part 36. The noise information on this document has been copied from FAA-approved AFM/RFM/AOM/FCOM, number _____, Revision ___, dated _____. **19. Date** _____ **20. Signature** _____ (Official of Operator)			
This document supports compliance with 14 CFR §91.703(a)(5) and ICAO Annex 16, Volume 1 for noise certification documentation carried on board U.S. aircraft operating outside the United States. Information on this form has been transferred from an FAA-approved Aircraft Flight Manual or Rotorcraft Flight Manual by the named operator, and the operator is solely responsible for the content.			

Appendix 3. Sample Form for Aircraft without Certificated Noise Levels

1. **United States of America**			
2. **Aircraft Noise Certification Information** **Name of Operator** (Address, Telephone, and Fax Number)			
3.Document Number: (Optional)	**4. Nationality and Registration Marks:**	**5. Manufacturer; Manufacturer's Designation Of Aircraft (Model/Series):**	**6. Aircraft Serial Number:**
7. Engine:		**8. Propeller: (If applicable)**	
9. Maximum Takeoff Weight/ Mass: _____ pounds(_____ kg)	**10. Maximum Landing Weight/ Mass:** _____ pounds (_____ kg)	**11. Noise Standard: (If applicable)** Stage ____	
12. Additional modifications incorporated for the purpose of compliance with the applicable noise certification standards:			
13. Lateral/Full-Power Level (if applicable) (See box 18 below)	**14. Approach Noise Level (if applicable)** (See box 18 below)	**15. Flyover Noise Level (if applicable)** (See box 18 below)	**16. Over-flight Noise Level (if applicable)** (See box 18 below)	**17. Takeoff Noise Level (if applicable)** (See box 18 below)
18. Subject Aircraft Noise Levels: This aircraft does not have 14 CFR Part 36 noise levels listed for boxes 13–17 above because it was certificated before Part 36 became effective. **19. Date** _____ **20. Signature** _____ (Official of Operator)			
This document supports compliance with 14 CFR §91.703(a)(5) and ICAO Annex 16, Volume 1 for noise certification documentation carried on board U.S. aircraft operating outside the United States. Information on this form has been transferred from an FAA-approved Aircraft Flight Manual or Rotorcraft Flight Manual by the named operator, and the operator is solely responsible for the content.			