

**DEPARTMENT OF TRANSPORTATION****Federal Aviation Administration****14 CFR Part 36**

[Docket No.: FAA-2003-15279; Amendment No. 36-27]

RIN 2120-AI25

**Harmonization of Noise Certification Standards for Propeller-Driven Small Airplanes**

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

**SUMMARY:** This final rule amends FAA regulations regarding airplane noise certification standards. These changes are necessary to harmonize two technical items with international standards and provide uniform noise certification standards for airplanes certificated in the United States and Joint Aviation Authorities (JAA) countries. This amendment will simplify airworthiness approvals for import and export purposes. We anticipate that the changes to these two items will apply only to a small number of older-technology airplanes.

**DATES:** This amendment becomes effective September 6, 2005.

**FOR FURTHER INFORMATION CONTACT:** Mehmet Marsan, Office of Environment and Energy, AEE-100, Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591; telephone (202) 267-7703; facsimile (202) 267-5594, e-mail [mehmet.marsan@faa.gov](mailto:mehmet.marsan@faa.gov).

**SUPPLEMENTARY INFORMATION:****Availability of Rulemaking Documents**

You can get an electronic copy using the Internet by:

(1) Searching the Department of Transportation's electronic Docket Management System (DMS) web page (<http://dms.dot.gov/search>);

(2) Visiting the FAA's web page at <http://www.faa.gov>; or

(3) Accessing the Government Printing Office's web page at [http://www.access.gpo.gov/su\\_docs/aces/aces140.html](http://www.access.gpo.gov/su_docs/aces/aces140.html).

You can also get a copy by sending a request to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue SW., Washington, DC 20591, or by calling (202) 267-9680. Make sure to identify the amendment number or docket number of this rulemaking.

Anyone is able to search the electronic form of all comments received into any of our dockets by the

name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act statement in the **Federal Register** published on April 11, 2000 (Volume 65, Number 70; Pages 19477-78) or you may visit <http://dms.dot.gov>.

**Small Business Regulatory Enforcement Fairness Act**

The Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 requires FAA to comply with small entity requests for information or advice about compliance with statutes and regulations within its jurisdiction. If you are a small entity and you have a question regarding this document, you may contact your local FAA official, or the person listed under **FOR FURTHER INFORMATION CONTACT**. You can find out more about SBREFA on the Internet at <http://www.faa.gov/avr/arm/sbrefa.cfm>.

**Authority for This Rulemaking**

The FAA's authority to issue rules regarding aviation safety is found in Title 49 of the United States Code. Subtitle I, Section 106 describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority.

This rulemaking is promulgated under the authority described in Subtitle VII, Part A, Air Commerce and Safety, Section 44715, Controlling aircraft noise and sonic boom. Under that section, the Administrator of the FAA is charged with prescribing standards to measure aircraft noise and sonic boom and prescribing the regulations to control and abate aircraft noise and sonic boom. This regulation is within the scope of that authority because Title 14 part 36 of the Code of Federal Regulations (CFR) contains the FAA's noise standards and regulations that apply to the issuance of type certificates for all types of aircraft.

**Background**

This final rule completes the FAA's efforts to harmonize the regulations of 14 CFR Part 36 Appendix G, with International Civil Aviation Organization (ICAO) Annex 16, Volume I, Chapter 10, regarding propeller-driven small airplane noise certification. The FAA proposed these changes in the notice of proposed rulemaking (NPRM), "Harmonization of Noise Certification Standards for Propeller-Driven Small Airplanes" (68 FR 34256), published on June 6, 2003. In the NPRM, you will find a discussion of the current requirements and why they do not

adequately address the noise certification standards for airplanes in keeping with U.S. obligations under the Convention on International Civil Aviation. In the NPRM, we also refer to the studies and reports we relied on in developing the proposed rule, and discuss each alternative that we considered and the reasons for rejecting the ones we did not propose.

The background material in the NPRM also contains the basis and rationale for these requirements and, except where we have specifically expanded on the background elsewhere in this preamble, supports this final rule. Discussions regarding the intent of the requirements may refer to the background in the NPRM without repeating it in this document.

*History*

Under 49 U.S.C. 44715, the Administrator of the FAA is directed to prescribe "standards to measure aircraft noise and sonic boom; \* \* \* and regulations to control and abate aircraft noise and sonic boom." On October 13, 1999, the FAA published a final rule (64 FR 55598) adopting noise certification standards for propeller-driven small airplanes. That rule, which harmonized the U.S. noise certification regulations with the European Joint Aviation Requirements (JAR) for propeller-driven small airplanes, resulted from a joint effort of the FAA, the JAA, and the Aviation Rulemaking Advisory Committee (ARAC). However, two technical items contained in Appendix G to Part 36 remained unharmonized with ICAO Annex 16, Volume I, Chapter 10. These two items were not harmonized at that time because the effect on exported older airplanes was not known. The two unharmonized items are as follows:

(1) Appendix G, section G34.111 allows the use of "maximum continuous power" during the second segment of the noise certification test flight path. Annex 16, Chapter 10, Section 10.5.2 defines "power" for the second segment as "maximum power." Since "maximum continuous power" is typically lower than "maximum power" or "takeoff power," as described in ICAO, this is considered unharmonized.

(2) Appendix G, section G36.201 specifies a simplified data correction procedure for fixed-pitch type propellers if the engine test power is within 5 percent of the reference power. However, ICAO Annex 16, Volume I, Chapter 10 does not have a corresponding simplified data correction procedure.

In keeping with U.S. obligations, it is the FAA's policy to comply with ICAO

Standards and Recommended Practices to the maximum extent practicable. The FAA is revising part 36 to make the requirements the same as the propeller-driven small airplane noise certification regulations of Annex 16, Volume I, Chapter 10. The Annex 16 version better represents the intent of the original noise certification standards, which was to certify propeller-driven small airplanes at takeoff power. This final rule completes the FAA's efforts to harmonize part 36 Appendix G and Annex 16.

#### *Related Activity*

The European Aviation Safety Agency (EASA) was established July 15, 2002, and assumed authority to conduct certification of aircraft, engines and parts on September 28, 2003. The EASA will eventually absorb all JAA functions and activities, including the JAA's rulemaking harmonization activities. Since this rulemaking action is a result of FAA/JAA harmonization efforts, we anticipate that it will be incorporated into the EASA's requirements as well.

#### **Discussion of Comments**

The FAA received comments from three commenters on the proposed rule. All three commenters oppose the adoption of this final rule. However, as discussed below, we made no changes to the rule based on these comments.

*Comment:* One commenter disagreed with the statement in the summary section of the NPRM that states that the revisions to these two unharmonized technical items would apply only to a small number of older-technology airplanes. The commenter states that the majority of the world's small airplanes are based in the United States, and believes that all of these airplanes are potential candidates for retrofit.

*FAA reply:* While the U.S. small airplane fleet is large, the FAA has no information to suggest that a significant number of airplanes are candidates for engine or propeller retrofits. The FAA believes the only airplanes that would be affected are those undergoing a voluntary retrofit that have time-limited engines; based on past experience this is a very small number. Further, among the airplanes that are retrofitted, compliance with this part 36 amendment would only be required if the retrofit results in an acoustical change. Section 21.93(b) defines acoustical change as any voluntary change in type design of an aircraft that may increase the noise level of an aircraft.

*Comment:* Two commenters state that it would be detrimental to the safe operation of airplanes if they cannot be

noise certificated at engine power levels lower than takeoff power.

*FAA reply:* The FAA disagrees that it would be unsafe for airplanes to operate at an engine power level lower than takeoff power. The FAA believes the commenters fear losing the operational performance level between maximum continuous power and takeoff power, because they often operate in that range, but do noise certification at the maximum continuous power level. The FAA is not advocating operation at an unsafe power level, only that noise certification should not be conducted at a level consistently lower than the usual operating power. The rule is being changed to harmonize the standards and close this loophole, which does not exist under ICAO Annex 16. Operators will still have the option of maintaining takeoff power and rpm for as long as the airplane's airworthiness limitations permit, after which maximum continuous power and rpm must be maintained.

*Comment:* One commenter states that, in the background section of the NPRM, the FAA discussed the 14 CFR Part 36 amendments, but did not discuss any of the recent power testing changes made in ICAO Annex 16 Chapter 10. The commenter states that in June 2000, the JAA approved a small airplane of European design, manufacture, and certification, using a maximum-continuous power rating. This would mean that the European authorities were not complying with their own regulations at that time.

*FAA reply:* All JAA countries use ICAO Annex 16, Volume I as their environmental standard. Individual JAA member countries may file differences with ICAO from Volume I, and these differences are listed in Volume I. Germany was the only JAA member country that filed differences with the ICAO on defining power during testing. Our understanding is that Germany recently realized it would be the only country not harmonized on this standard and changed its rule to remove the difference with ICAO Annex 16. At present, there are no differences in defining power during testing.

#### **Paperwork Reduction Act**

Under the provisions of the Paperwork Reduction Act of 1995, there are no current or new requirements for information collection associated with this final rule.

#### **International Compatibility**

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with ICAO Standards and

Recommended Practices to the maximum extent practicable. The FAA has reviewed the corresponding ICAO Standards and Recommended Practices and has identified no differences with these regulations other than those directly addressed by the rule change.

#### **Executive Order 12866 and DOT Regulatory Policies and Procedures**

Proposed changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (19 U.S.C. 2531–2533) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, this Trade Act requires agencies to consider international standards and, where appropriate, that they be the basis for U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector, of \$100 million or more annually (adjusted for inflation).

The Department of Transportation Order DOT 2100.5 prescribes policies and procedures for simplification, analysis, and review of regulations. If it is determined that the expected cost impact is so minimal that a rulemaking does not warrant a full evaluation, this order permits a statement to that effect along with the basis for that determination to be in the preamble. In this case, a full regulatory evaluation cost benefit evaluation need not be prepared. Such a determination has been made for this rule. The reasoning for that determination follows.

The FAA has determined that this rule will increase the harmonization of the U.S. Federal regulations with the ICAO Standards and Recommended Practices and will impose, at most, negligible costs. Because the costs and benefits of this action do not make it a "significant regulatory action" as defined in the Order, we have not prepared a "regulatory impact analysis." Similarly, we have not prepared a full "regulatory evaluation," which is the written cost/benefit analysis ordinarily

required for all rulemaking under the DOT Regulatory and Policies and Procedures. We do not need to do a full evaluation where the economic impact of a rule is minimal.

#### Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) establishes "as a principle of regulatory issuance that agencies shall endeavor, consistent with the objective of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the business, organizations, and governmental jurisdictions subject to the regulation." To achieve that principle, the RFA requires agencies to solicit and consider flexible regulatory proposals and to explain the rationale for their actions. The RFA covers a wide-range of small entities, including small business, not-for-profit organizations and small governmental jurisdictions.

Agencies must perform a review to determine whether a proposed or final rule will have a significant economic impact on a substantial number of small entities. If the agency determines that it will, the agency must prepare a regulatory flexibility analysis as described in the RFA.

However, if an agency determines that a proposed or final rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the RFA provides that the head of the agency may so certify and a regulatory flexibility analysis is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

This final rule revises two technical items, which are the only remaining unharmonized items between part 36 Appendix G and the ICAO Annex 16, Volume I, Chapter 10, regarding the noise certification of small propeller-driven airplanes. Our assessment of this rulemaking indicates that its economic impact is minimal because these two items affect only airplanes with older-technology engines that are not required to undergo new noise certification, or are already noise certificated. Therefore, we certify that this action will not have a significant economic impact on a substantial number of small entities.

#### Trade Impact Assessment

The Trade Agreements Act of 1979 prohibits Federal agencies from establishing any standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States.

Legitimate domestic objectives, such as safety, are not considered unnecessary obstacles. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. The FAA has assessed the potential effect of this rulemaking and has determined that it will impose the same minimal costs on domestic and international entities and thus have a neutral trade impact.

#### Unfunded Mandates Assessment

The Unfunded Mandates Reform Act of 1995 (the Act) is intended, among other things, to curb the practice of imposing unfunded Federal mandates on State, local, and tribal governments. Title II of the Act requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of \$100 million or more (adjusted annually for inflation) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a "significant regulatory action." The FAA currently uses an inflation-adjusted value of \$120.7 million in lieu of \$100 million.

This final rule does not contain such a mandate. The requirements of Title II do not apply.

#### Executive Order 13132, Federalism

The FAA has analyzed this final rule under the principles and criteria of Executive Order 13132, Federalism. We have determined that this action will not have a substantial direct effect on the States, or the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government, and therefore does not have federalism implications.

#### Environmental Analysis

In accordance with FAA Order 1050.1E, the FAA has determined that this action is categorically excluded from environmental review under section 102(2)(c) of the National Environmental Policy Act (NEPA). This action is categorically excluded under FAA Order 1050.1E, Chapter 3, Paragraph 312f, which covers regulations "excluding those which if implemented may cause a significant impact on the human environment." It qualifies for a categorical exclusion because no significant impacts to the environment are expected to result from its finalization or implementation and no extraordinary circumstances exist as prescribed under Chapter 3, paragraph 304 of Order 1050.1E.

#### Regulations That Significantly Affect Energy Supply, Distribution, or Use

The FAA has analyzed this rulemaking action under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). We have determined that it is not a "significant energy action" under the executive order because it is not a "significant regulatory action" under Executive Order 12866, and it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

#### List of Subjects in 14 CFR Part 36

Aircraft, Noise control.

#### The Amendment

■ In consideration of the foregoing, the Federal Aviation Administration amends Chapter I of Title 14, Code of Federal Regulations as follows:

#### PART 36—NOISE STANDARDS: AIRCRAFT TYPE AND AIRWORTHINESS CERTIFICATION

■ 1. The authority citation for part 36 continues to read as follows:

**Authority:** 42 U.S.C. 4321 *et seq.* 49 U.S.C. 106(g), 40113, 44701–44702, 44704, 44715, sec. 305, Pub. L. 96–193, 94 Stat. 50, 57; E.O. 11514, 35 FR 4247, 3 CFR, 1966–1970 Comp., p. 902.

■ 2. Amend Appendix G to part 36 by revising section G36.111(c)(2)(iv) to read as follows:

#### Appendix G to Part 36—Takeoff Noise Requirements for Propeller-Driven Small Airplane and Propeller-Driven, Commuter Category Airplane Certification Tests on or After December 22, 1988

*Sec. G36.111 Flight Procedures*

\* \* \* \* \*

(c) \* \* \*

(2) \* \* \*

(iv) For airplanes equipped with fixed pitch propellers, takeoff power must be maintained throughout the second segment. For airplanes equipped with variable pitch or constant speed propellers, takeoff power and rpm must be maintained throughout the second segment. If airworthiness limitations do not allow the application of takeoff power and rpm up to the reference point, then takeoff power and rpm must be maintained for as long as is permitted by such limitations; thereafter, maximum continuous power and rpm must be maintained. Maximum time allowed at takeoff power under the airworthiness standards must be used in the second segment. The reference height must be calculated assuming climb gradients appropriate to each power setting used.

■ 3. Amend Appendix G to part 36 by revising section G36.201(c) to read as follows:

\* \* \* \* \*

(c) No corrections for helical tip Mach number variation need to be made if the propeller helical tip Mach number is:

(1) At or below 0.70 and the test helical tip Mach number is within 0.014 of the reference helical tip Mach number.

(2) Above 0.70 and at or below 0.80 and the test helical tip Mach number is within 0.007 of the reference helical tip Mach number.

(3) Above 0.80 and the test helical tip Mach number is within 0.005 of the reference helical tip Mach number. For mechanical tachometers, if the helical tip Mach number is above 0.8 and the test helical tip Mach

number is within 0.008 of the reference helical tip Mach number.

\* \* \* \* \*

Issued in Washington, DC, on July 28, 2005.

**Marion C. Blakey,**  
*Administrator.*

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**BILLING CODE 4910-13-P**