

Federal Aviation Administration

14 CFR Part 36

[Docket No.: FAA-2004-17041; Amendment No. 36-28]

RIN 2120-AH44

Noise Stringency Increase for Single-Engine Propeller-Driven Small Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new noise standard for single-engine propeller driven small airplanes. This noise standard ensures that the latest available noise reduction technology is incorporated into new aircraft designs. This noise standard is also intended to harmonize the noise certification standard for propeller driven small airplanes newly certificated in the United States with those airplanes that meet the International Civil Aviation Organization (ICAO) Annex 16 noise standard.

DATES: *Effective date:* This amendment becomes effective February 3, 2006.

Compliance date: This noise standard applies to any airplane for which an application for a new airplane type design is submitted on and after February 3, 2006.

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.

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 Regulations and Policies Web page at http://www.faa.gov/regulations_policies/; or
- (3) Accessing the Government Printing Office's Web page at <http://www.gpoaccess.gov/fr/index.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 its 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/regulations_policies/rulemaking/sbre_act/.

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, subpart III, section 44715, Controlling aircraft noise and sonic boom. Under that section, the FAA is charged with prescribing regulations to measure and abate aircraft noise. 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

On February 11, 2004, the FAA published a Notice of Proposed Rulemaking (NPRM) proposing a change to the noise limits for propeller-driven small airplanes (69 FR 6856). A brief history of the FAA's regulation of noise stringency limits for single-engine propeller-driven small airplanes was presented in the preamble of the NPRM.

The FAA is adopting the final rule with one significant change from that which was proposed. As proposed, this final rule amends Appendix G to Part 36 by adding a new paragraph (c) to § 36.301. New paragraph (c) requires a 6 dBA noise limit reduction from the

current standard for single-engine propeller-driven small airplanes having maximum take-off weight less than 1,257 lb. (570 kg) and a 3 dBA noise limit reduction for airplanes that weigh more than 3,307 lb. (1,500 kg). The noise limit increases at a rate of 10.75 dB per doubling of weight between 1,257 lb. and 3,307 lb. This change is intended to ensure that the latest available noise reduction technology is incorporated into new aircraft designs.

As proposed, the new standard would have applied to all new type certifications and to supplemental type certifications in which the airplanes underwent an acoustical change. Instead, for the reasons discussed below, this final rule will apply only to airplanes for which a new original type certification application is submitted on and after February 3, 2006. This new standard will not be applied to applications for supplemental type certificates (STCs) for airplanes already type certificated. This noise standard is intended to ensure lower noise levels from future airplanes and to harmonize the noise certification standard for propeller driven small airplanes newly certificated in the United States with those airplanes that meet the International Civil Aviation Organization (ICAO) Annex 16 noise standard.

Much of the background for the development of noise stringency levels has taken place in the international arena and through the work of the ICAO. The environmental activities of the ICAO are largely undertaken through the Committee on Aviation Environmental Protection (CAEP), which was established by the ICAO in 1983, and which superseded the Committee on Aircraft Noise and the Committee on Aircraft Engine Emissions. The CAEP assists the ICAO in formulating new policies and adopting new standards on aircraft noise and aircraft engine emissions. The United States is an active member in the CAEP activities. There is at least one U.S. representative participating on each of the CAEP working groups.

Discussion of Comments

The FAA received 34 comments in response to the NPRM. Nine commenters supported this rulemaking. One commenter who did not support the rule submitted the same comment three times. The remaining commenters either opposed the rule, or raised issues that are beyond the scope of this rulemaking. Many comments suggest that the commenters are unfamiliar with the issues of aircraft noise certification and regulations that apply to the

issuance of type certificates for aircraft. These comments will all be discussed briefly as part of this disposition of the comments.

Description of Noise Limits

One commenter recommended that the FAA change Appendix G to match the weight unit and description in ICAO Annex 16 exactly. The commenter pointed out that the description of the current noise limits in Appendix G does not exactly match the corresponding description in the ICAO Annex 16, and that the weight unit used in Appendix G (pounds) is different from the weight unit used in ICAO Annex 16 (kilograms).

FAA Response: We are not changing either the description or the weight unit used in Appendix G. The FAA believes it would be more confusing to change the description to match the exact language in ICAO Annex 16. It would also be more confusing to use a weight unit not consistent with the current weight units used in the rest of Part 36. The weight difference is negligible, and results from using pounds instead of kilograms when calculating noise limits at takeoff weight. Since the calculated difference is negligible and the metric system unit is not consistent with the weight system used in Part 36, no change is being made as a result of this comment.

International Compatibility

Nine commenters questioned why the FAA needed to make the regulations for single-engine propeller-driven small airplanes more consistent with international standards. They asked why the aircraft owners in the U.S. "have to conform to the regulation of international authorities." Two commenters opposed the new stringency limits because they believed the creation of new limits is being driven by a European desire to have excessive environmental restrictions. Another commenter did not see any need to have harmonized international noise standards since only a few single-engine propeller driven airplanes fly internationally. One commenter proposed adoption of a more stringent standard than ICAO. Another commenter thinks "the restrictions in Europe are excessive" and that "the U.S. should pressure Europe to adopt our standards."

FAA response: As explained in the NPRM, the new noise stringency limits were developed by a task group of the ICAO Committee on Aviation and Environmental Protection (CAEP). The task group included representatives from the Joint Aviation Authorities

(JAA) Council, which consists of JAA members from European countries, representatives of the U.S. and European aviation industries, and the FAA.

As explained in the NPRM, the task group compiled a database of noise certification level and performance data for each model of single-engine propeller-driven small airplanes in production. The purpose of the database was to identify the effectiveness of available noise abatement technologies applicable to single-engine propeller-driven airplanes that would not affect airworthiness of the airplanes. The task group studied several stringency options for the airplanes in the database, and decided to propose new noise stringency levels that are the same as the noise levels of current production airplanes. The proposed noise stringency level reflects the current noise abatement technology that is applied to single-engine propeller-driven small airplanes in production. Raising the stringency to the level of current production guarantees that future new type designs will not produce noise levels greater than current production airplanes.

The United States was not pressured to "conform to European standards." In fact, the development of the proposed standard by ICAO includes significant participation by the United States, and included input from the U.S. general aviation industry. The United States helped develop and agreed to adopt the ICAO standard because it recognizes that aircraft noise is a concern of every ICAO member state. The U.S. general aviation manufacturers who export their products to European countries also recognize the importance of having harmonized standards. Last, the FAA also believes it is not the role of the United States to propose an arbitrarily more stringent or less stringent standard outside of the international process.

Applicability of the New Noise Stringency Limits to STCs

A number of commenters stated that the new noise stringency limits should not apply to supplemental type certificates (STCs).

For example, Hartzell Propeller, Inc., expressed support for the rule but asked for clarification on the impact this rule has on STCs. Specifically, they asked if the FAA would continue to allow STCs that are obtained using a no-acoustical-change finding.

Similarly, the Cessna Pilots Association (CPA) felt the new standard should not be applied to any STCs developed for aircraft that were certificated under the old noise level

standards. The CPA supported making any new production aircraft meet the new noise standards.

The Aircraft Owners and Pilots Association (AOPA) recommended that the FAA limit its proposed noise stringency increase for single-engine propeller-driven airplanes to newly type certificated airplanes only, and exclude STCs from the new standard. The AOPA was concerned with the effect of this proposal on the development of STCs for general aviation aircraft.

FAA response: The FAA agrees with AOPA that the new standard should not apply to supplemental type certificates. Following consideration of all the comments, the FAA has determined that the impact of a new noise standard on already certificated aircraft could be significant. We also realized that given the number of STCs, the impact is almost impossible to estimate for the fleet of single engine airplanes. Accordingly, we have changed the applicability of this final rule as described below.

This final rule applies to any airplane for which a new original type certification application is submitted on and after February 3, 2006. The new standard will also apply to any future STCs related to type certificates issued under the new standard.

The new standard will not apply to airplanes manufactured under an existing type certificate undergoing modification through a STC, even if it results in an acoustical change. Those airplanes must continue to comply with the standard under which it was certificated. Section 21.93(b) of the regulations defines acoustical change as any voluntary change in the type design of an aircraft that may increase the noise level of an aircraft. The applicable noise stringency limits for an acoustical change approval are described in § 36.9. According to §§ 21.93(b) and 36.9 any airplane that has a higher noise level after a modification must comply with the applicable noise stringency limits.

The FAA intends to maintain its current policy of honoring STCs obtained under a no-acoustical-change approval. This policy allows the approval of modifications to the TC as long as there is no increase in the certificated noise level of the aircraft. Existing STCs granted under a no-acoustical-change approval remain valid under this final rule.

The final rule has been written to reflect these changes.

Impact on Airplanes in Production

Two manufacturers did not support the new noise stringency increase. They

had concerns regarding airplanes they currently have in production.

In its comments, Cessna Aircraft Company expressed concern that the rule change would place the Cessna Model 206H above the new noise stringency limit proposed for Appendix G. It stated that certification of an acoustic change to this aircraft would require considerable effort and high cost to meet the new stringency level proposed.

Maule Air, Inc., expressed similar concern that several of the existing FAA-approved Maule engine-propeller combinations would have noise levels that exceed the new more stringent limit proposed.

FAA Response: This new noise stringency limit applies to any person submitting an application for a new airplane type design on and after February 3, 2006. The rule does not affect existing TCs or application for new STCs. This final rule only applies to applications for new original type certificates, and related STCs, application for which is received on or after February 3, 2006.

Unfamiliarity With Aircraft Noise Certification Issues

A number of commenters made statements that suggest they are unfamiliar with the issues of aircraft noise certification and regulations that apply to issuing type certificates for aircraft. For example, one commenter asked that experimental and sport aircraft be exempted from the rule. Another commenter wanted to expand the applicability of this rule to experimental and older aircraft. Several commenters expressed concerns that there would be excessive costs to small airplane owners, as well as enforcement issues, when trying to meet the new standards.

FAA response: Aircraft noise certification testing is conducted when a new aircraft is introduced (type certification), or an existing model aircraft is modified (supplemental type certification) in a manner that would produce an acoustical change, such as changes in size, configuration, or engines. Each aircraft model is noise certificated to operate up to its maximum weight. An aircraft is tested at this maximum weight and must meet the noise standards for an aircraft of that weight according to the formulas adopted in part 36.

When the FAA seeks to decrease noise levels produced by future aircraft, we amend the certification rules to introduce the quieter standard. The initial establishment of a new noise standard allows time for manufacturers

to adjust engine and airframe designs to meet it. This rule amends only a certification rule, and does not affect previously certificated airplanes currently in operation, nor the operation of aircraft in general.

Currently, the FAA does not require a type certification for experimental or sport aircraft; there are no noise standards applicable to those aircraft. Since there is no change to currently operating aircraft, there are no cost issues for small airplane owners.

Similarly, several commenters did not agree with FAA's assertion that the new stringency limits would impose minimal, if any, costs on STC applicants and would impose no cost on TC applicants, because airplanes in current production already meet the proposed noise standards. There was no documentation to support this claim; however, the FAA believes this comment is partially related to the commenters' unfamiliarity with aircraft noise certification issues and partially related to confusion about how the new noise stringency limits were proposed to apply to STCs.

Outside the Scope of the NPRM

One commenter did not address the proposed rule, but discussed aircraft noise in its neighborhood. Another commenter proposed that a new category of aircraft be created to address noise concerns.

FAA response: All comments concerning local airport operating noise issues and new aircraft classifications are considered beyond the scope of this rulemaking.

Paperwork Reduction Act

There are no current or new requirements for information collection associated with this amendment.

International Compatibility

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA has reviewed the corresponding ICAO Standards and Recommended Practices and this rule will further harmonize U.S. regulations with ICAO.

Executive Order 12866 and DOT Regulatory Policies and Procedures

Executive Order 12866, Regulatory Planning and Review, directs the FAA to assess both the costs and the benefits of a regulatory change. We are not allowed to propose or adopt a regulation unless we make a reasoned

determination that the benefits of the intended regulation justify its costs. The FAA has determined that this rule will make the FAA's single-engine propeller-driven small airplanes noise regulation more consistent with international standards. Our assessment of this rulemaking indicates that its economic impact is minimal. The FAA believes that this rule will impose only minimal cost on type certificate applicants because most airplanes in current production already meet these new noise stringency standards. 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.

Economic Assessment, Regulatory Flexibility Determination, Trade Impact Assessment, and Unfunded Mandates Assessment

Proposed changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs each Federal agency to 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 also requires agencies to consider international standards and, where appropriate, use them as the basis of 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.)

In conducting these analyses, FAA has determined this rule (1) Will generate benefits that justify its costs and is not a "significant regulatory action" as defined in the Executive Order; (2) is not significant as defined in the Department of Transportation's

Regulatory Policies and Procedures; (3) will not have a significant impact on a substantial number of small entities; (4) will not constitute a barrier to international trade; and (5) does not contain any Federal intergovernmental or private sector mandate.

This rule is intended to ensure that future single-engine airplanes are as quiet as those being manufactured today, and to make the FAA's single-engine propeller-driven small airplanes noise standard regulation more consistent with the international standard in ICAO Annex 16.

The FAA had proposed that the new standard be applicable to new type certifications and to new applications for STCs for previously type certificated airplanes. While reviewing the comments, however, we became aware of an unforeseen impact of the proposed rule. We had presumed that few if any older single-engine airplanes were candidates for new STCs that involved an acoustical change. It appears, however, that applying the new standard to new STC applications could have a much greater impact than we anticipated. More recent analysis led us to conclude that it is almost impossible to estimate how many STCs might be applied for older airplanes, and that STCs for these airplanes are often developed out of necessity when replacement equipment becomes unavailable. We found that potentially thousands of airplanes could be affected, and that the cost of having to apply a new noise standard might well keep operators from making safety-related modifications. Since we are unable to confidently estimate the number of airplanes that might be affected or the cost on an individual owner, we have determined that the application of the new noise standard to previously certificated airplanes is probably not cost beneficial. That part of the proposed rule has been removed.

The FAA has determined that this final rule will help to ensure lower noise levels from new type designs and harmonize the noise certification standards for airplanes certificated in the United States with those airplanes that meet the new ICAO Annex 16 noise standards. The FAA believes that this final rule will impose minimal, if any, cost on applicants for new type certificates, since airplanes in current production already meet the new noise standard and the technology will be incorporated into any new designs.

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 will help to ensure lower noise levels from new type designs and harmonize the noise certification standards for airplanes certificated in the United States with those airplanes that meet the new ICAO Annex 16 noise standards. The FAA finds that no new type certificate applicant would fail the more stringent noise standard required by this final rule because most airplanes in current production already meet the proposed standards. Consequently, I certify that the rulemaking action will not have a significant economic impact on a substantial number of small aircraft manufacturers.

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 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 of the Act, therefore, 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 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 312(f), 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 final rule 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 AIRWORTHENESS CERTIFICATION

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

Authority: 49 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. Section G36.301 of Appendix G is amended by revising the first sentence in paragraph (b); adding new paragraph (c); and revising Figure G2 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

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§ G36.301 Aircraft Noise Limits.

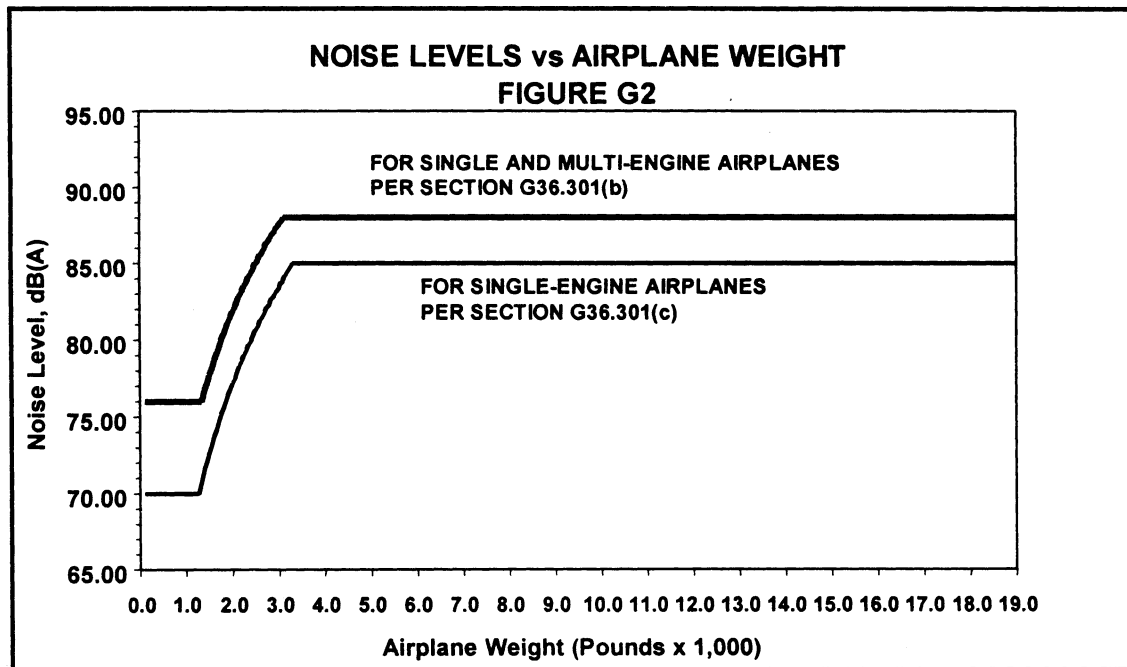
* * * * *

(b) For single-engine airplanes for which the original type certification application is received before February

3, 2006 and multi-engine airplanes, the noise level must not exceed 76 dB(A) up to and including aircraft weights of 1,320 pounds (600 kg).

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(c) For single-engine airplanes for which the original type certification application is received on or after February 3, 2006, the noise level must not exceed 70dB(A) for aircraft having a maximum certificated takeoff weight of 1,257 pounds (570 kg) or less. For aircraft weights greater than 1,257 pounds, the noise limit increases from that point with the logarithm of airplane weight at the rate of 10.75dB(A) per doubling of weight, until the limit of 85dB(A) is reached, after which the limit is constant up to and including 19,000 pounds (8,618 kg). Figure G2 depicts noise level limits for airplane weights for single-engine airplanes.



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

Marion C. Blakey,
Administrator.

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