

comments in subsequent final rule based on the NPRM. If no significant adverse comments are timely received, OTS will take no further action on the NPRM.

#### Effective Date

This direct final rule imposes no additional requirements on insured depository institutions. This rule is therefore exempt from the requirement found in section 302 of the Riegle Community Development and Regulatory Improvement Act of 1994<sup>20</sup> that regulations must not take effect before the first day of the quarter following publication.

#### Regulatory Flexibility Act

Pursuant to section 605(b) of the Regulatory Flexibility Act,<sup>21</sup> the Director certifies that this direct final rule will not have a significant economic impact on a substantial number of small entities. The rule merely removes an unnecessary regulation that imposes overly burdensome requirements on all savings associations, including small savings associations.

#### Executive Order 12866

OTS has determined that this direct final rule is not a "significant regulatory action" for purposes of Executive Order 12866.

#### Unfunded Mandates Reform Act of 1995

OTS has determined that the requirements of this direct final rule will not result in expenditures by State, local, and tribal governments or by the private sector of \$100 million or more in any one year. Accordingly, a budgetary impact statement is not required under section 202 of the Unfunded Mandates Reform Act of 1995.

#### Federalism

Executive Order 13132 imposes certain requirements on an agency when formulating and implementing policies that have federalism implications or taking actions that preempt state law. OTS has determined that this direct final rule will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, and will not preempt State law.

#### List of Subjects

##### 12 CFR Part 563

Accounting, Advertising, Crime, Currency, Investments, Reporting and recordkeeping requirements, Savings associations, Securities, Surety bonds.

##### 12 CFR Part 563c

Accounting, Savings associations, Securities.

##### 12 CFR Part 563g

Reporting and recordkeeping requirements, Savings associations, Securities.

Accordingly, the Office of Thrift Supervision hereby amends title 12, chapter V of the Code of Federal Regulations as set forth below.

#### PART 563—OPERATIONS

1. The authority citation for part 563 continues to read as follows:

**Authority:** 12 U.S.C. 375b, 1462, 1462a, 1463, 1464, 1467a, 1468, 1817, 1820, 1828, 1831i, 3806; 42 U.S.C. 4106.

##### § 563.84 [Removed]

2. Section 563.84 is removed.

#### PART 563c—ACCOUNTING REQUIREMENTS

3. The authority citation for part 563c continues to read as follows:

**Authority:** 12 U.S.C. 1462a, 1463, 1464; 15 U.S.C. 78c(b), 78m, 78n, 78w.

4. Section 563c.101 is amended by revising paragraph (c) to read as follows:

##### § 563c.101 Application of this subpart.

\* \* \* \* \*

(c) Any offering circular required to be used in connection with the issuance of mutual capital certificates under § 563.74 and debt securities under § 563.80 and § 563.81 of this chapter.

#### PART 563g—SECURITIES OFFERINGS

5. The authority citation for part 563g continues to read as follows:

**Authority:** 12 U.S.C. 1462a, 1463, 1464; 15 U.S.C. 78c(b), 78l, 78m, 78n, 78p, 78w.

##### § 563g.3 [Amended]

6. Section 563g.3 is amended by removing and reserving paragraph (a).

Dated: March 21, 2000.

By the Office of Thrift Supervision.

**Ellen Seidman,**  
Director.

[FR Doc. 00-7419 Filed 3-27-00; 8:45 am]

**BILLING CODE 6720-01-P**

#### DEPARTMENT OF TRANSPORTATION

##### Federal Aviation Administration

##### 14 CFR Part 25

[Docket No. NM167; Special Conditions No. 25-159-SC]

#### Special Conditions: Boeing Model 777 Series Airplanes; Seats With Inflatable Lapbelts

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final special conditions.

**SUMMARY:** These special conditions are issued for Boeing Model 777 series airplanes. These airplanes as modified by BF Goodrich Aerospace will have novel and unusual design features associated with seats with inflatable lapbelts. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

**EFFECTIVE DATE:** April 27, 2000.

**FOR FURTHER INFORMATION CONTACT:** Jeff Gardlin, Airframe and Cabin Safety Branch, ANM-115, Transport Airplane Directorate, Aircraft Certification Service, FAA, 1601 Lind Avenue SW., Renton, Washington, 98055-4056; telephone (425) 227-2136; facsimile (425) 227-1149.

#### SUPPLEMENTARY INFORMATION:

##### Background

On March 31, 1999, BF Goodrich Aerospace, 3420 South 7th Street, Suite 1, Phoenix, Arizona 85040, applied for a supplemental type certificate to install inflatable lapbelts for head injury protection on certain seats in Boeing Model 777 series airplanes. The Model 777 series airplane is a swept-wing, conventional-tail, twin-engine, turbofan-powered transport. The inflatable lapbelt is designed to limit occupant forward excursion in the event of an accident. This will reduce the potential for head injury, thereby reducing the Head Injury Criteria (HIC) measurement. The inflatable lapbelt behaves similarly to an automotive airbag, but in this case the airbag is integrated into the lapbelt, and inflates away from the seated occupant. While airbags are now standard in the automotive industry, the use of an inflatable lapbelt is novel for commercial aviation.

Title 14 Code of Federal Regulations (14 CFR) § 25.785 requires that

<sup>20</sup> Pub. L. No. 103-325, 12 U.S.C. 4802.

<sup>21</sup> Pub. L. No. 96-354, 5 U.S.C. 601.

occupants be protected from head injury by either the elimination of any injurious object within the striking radius of the head, or by padding. Traditionally, this has required a set back of 35 inches from any bulkhead or other rigid interior feature or, where not practical, specified types of padding. The relative effectiveness of these means of injury protection was not quantified. With the adoption of Amendment 25-64 to 14 CFR part 25, specifically § 25.562, a new standard that quantifies required head injury protection was created.

Title 14 CFR 25.562 specifies that dynamic tests must be conducted for each seat type installed in the airplane. In particular, the regulations require that persons not suffer serious head injury under the conditions specified in the tests, and that a HIC measurement of not more than 1000 units be recorded, should contact with the cabin interior occur. While the test conditions described in this section are specific, it is the intent of the requirement that an adequate level of head injury protection be provided for crash severity up to and including that specified.

Amendment 25-64 is part of the Model 777 certification basis. Therefore, the seat installation with inflatable lapbelts must meet the requirement that a HIC of less than 1000 be demonstrated for occupants of seats incorporating the inflatable lapbelt.

Because §§ 25.562 and 25.785 and associated guidance do not adequately address seats with inflatable lapbelts, the FAA recognizes that appropriate pass/fail criteria need to be developed that do fully address the safety concerns specific to occupants of these seats.

The inflatable lapbelt has two potential advantages over other means of head impact protection. First, it can provide significantly greater protection than would be expected with energy-absorbing pads, for example, and second, it can provide essentially equivalent protection for occupants of all stature. These are significant advantages from a safety standpoint, since such devices will likely provide a level of safety that exceeds the minimum standards of the Federal Aviation Regulations (FAR). Conversely, airbags in general are active systems and must be relied upon to activate properly when needed, as opposed to an energy-absorbing pad or upper torso restraint that is passive, and always available. These potential advantages must be balanced against the potential disadvantages in order to develop standards that will provide an equivalent level of safety to that intended by the regulations.

The FAA has considered the installation of inflatable lapbelts to have two primary safety concerns: first, that they perform properly under foreseeable operating conditions, and second, that they do not perform in a manner or at such times as would constitute a hazard to the airplane or occupants. This latter point has the potential to be the more rigorous of the requirements, owing to the active nature of the system. With this philosophy in mind, the FAA has considered the following as a basis for the special conditions.

The inflatable lapbelt will rely on electronic sensors for signaling and pyrotechnic charges for activation so that it is available when needed. These same devices could be susceptible to inadvertent activation, causing deployment in a potentially unsafe manner. The consequences of such deployment must be considered in establishing the reliability of the system. BF Goodrich Aerospace must substantiate that the effects of an inadvertent deployment in flight are either not a hazard to the airplane, or that such deployment is an extremely improbable occurrence (less than  $10^{-9}$  per flight hour). The effect of an inadvertent deployment on a passenger or crewmember that might be positioned close to the airbag should also be considered. The person could be either standing or sitting. A minimum reliability level will have to be established for this case, depending upon the consequences, even if the effect on the airplane is negligible.

The potential for an inadvertent deployment could be increased as a result of conditions in service. The installation must take into account wear and tear so that the likelihood of an inadvertent deployment is not increased to an unacceptable level. In this context, an appropriate inspection interval and self-test capability are considered necessary. Other outside influences are lightning and high intensity electromagnetic fields (HIRF). Since the sensors that trigger deployment are electronic, they must be protected from the effects of these threats. Existing Special Conditions No. 25-ANM-78 regarding lightning and HIRF are therefore applicable. For the purposes of compliance with those special conditions, if inadvertent deployment could cause a hazard to the airplane, the airbag is considered a critical system; if inadvertent deployment could cause injuries to persons, the airbag should be considered an essential system. Finally, the airbag installation should be protected from the effects of fire, so that an additional hazard is not created by,

for example, a rupture of the pyrotechnic squib.

In order to be an effective safety system, the airbag must function properly and must not introduce any additional hazards to occupants as a result of its functioning. There are several areas where the airbag differs from traditional occupant protection systems, and requires special conditions to ensure adequate performance.

Because the airbag is essentially a single use device, there is the potential that it could deploy under crash conditions that are not sufficiently severe as to require head injury protection from the airbag. Since an actual crash is frequently composed of a series of impacts before the airplane comes to rest, this could render the airbag useless if a larger impact follows the initial impact. This situation does not exist with energy absorbing pads or upper torso restraints, which tend to provide protection according to the severity of the impact. Therefore, the airbag installation should be such that the airbag will provide protection when it is required, and will not expend its protection when it is not needed. There is no requirement for the airbag to provide protection for multiple impacts, where more than one impact would require protection.

Since each occupant's restraint system provides protection for that occupant only, the installation must address seats that are unoccupied. It will be necessary to show that the required protection is provided for each occupant regardless of the number of occupied seats, and considering that unoccupied seats may have lapbelts that are active.

Since a wide range of occupants could occupy a seat, the inflatable lapbelt should be effective for a wide range of occupants. The FAA has historically considered the range from the fifth percentile female to the ninety-fifth percentile male as the range of occupants that must be taken into account. In this case, the FAA is proposing consideration of a broader range of occupants, due to the nature of the lapbelt installation and its close proximity to the occupant. In a similar vein, these persons could have assumed the brace position, for those accidents where an impact is anticipated. Test data indicate that occupants in the brace position do not require supplemental protection, and so it would not be necessary to show that the inflatable lapbelt will enhance the brace position. However, the inflatable lapbelt must not introduce a hazard in that case by deploying into the seated, braced occupant.

Another area of concern is the use of seats so equipped by children whether lap-held, in approved child safety seats, or occupying the seat directly. Similarly, if the seat is occupied by a pregnant woman, the installation needs to address such usage, either by demonstrating that it will function properly, or by adding appropriate limitation on usage.

Since the inflatable lapbelt will be electrically powered, there is the possibility that the system could fail due to a separation in the fuselage. Since this system is intended as crash/post-crash protection means, failure due to fuselage separation is not acceptable. As with emergency lighting, the system should function properly if such a separation occurs at any point in the fuselage. A separation that occurs at the location of the inflatable lapbelt would not have to be considered.

Since the inflatable lapbelt is likely to have a large volume displacement, the inflated bag could potentially impede egress of passengers. Since the bag deflates to absorb energy, it is likely that an inflatable lapbelt would be deflated at the time that persons would be trying to leave their seats. Nonetheless, it is considered appropriate to specify a time interval after which the inflatable lapbelt may not impede rapid egress. Ten seconds has been chosen as a reasonable time since this corresponds to the maximum time allowed for an exit to be openable. In actuality, it is unlikely that an exit would be prepared this quickly in an accident severe enough to warrant deployment of the inflatable lapbelt, and the inflatable lapbelt will likely deflate much quicker than ten seconds.

Finally, it should be noted that the special conditions are certification applied to the inflatable lapbelt system as installed. The special conditions are not an installation approval. Therefore, while the special conditions relate to each such system installed, the overall installation approval is a separate finding, and must consider the combined effects of all such systems installed.

#### Type Certification Basis

Under the provisions of 14 CFR 21.101, BF Goodrich Aerospace must show that the Model 777 series airplanes, as changed, continue to meet the applicable provisions of the regulations incorporated by reference in Type Certificate No. T00001SE or the applicable regulations in effect on the date of application for the change. The regulations incorporated by reference in the type certificate are commonly referred to as the "original type

certification basis." The regulations incorporated by reference in Type Certificate No. T00001SE are as follows: Amendments 25-1 through 25-82 for the Model 777-200 and Amendments 25-1 through 25-86 with exceptions for the Model 777-300. The U.S. type certification basis for the Model 777 is established in accordance with 14 CFR 21.29 and 21.17 and the type certification application date. The U.S. type certification basis is listed in Type Certificate Data Sheet No. T00001SE.

If the Administrator finds that the applicable airworthiness regulations (*i.e.*, 14 CFR part 25 as amended) do not contain adequate or appropriate safety standards for Boeing Model 777 series airplanes because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

In addition to the applicable airworthiness regulations and special conditions, the Boeing Model 777 must comply with the fuel vent and exhaust emission requirements of 14 CFR part 34 and the noise certification requirements of 14 CFR part 36.

Special conditions, as appropriate, are issued in accordance with § 11.49 after public notice, as required by §§ 11.28 and 11.29(b), and become part of the type certification basis in accordance with § 21.101(b)(2).

Special conditions are initially applicable to the model for which they are issued. Should the applicant apply for a supplemental type certificate to modify any other model included on the same type certificate to incorporate the same novel or unusual design feature, the special conditions would also apply to the other model under the provisions of § 21.101(a)(1).

#### Novel or Unusual Design Features

The Model 777 series airplanes will incorporate the following novel or unusual design features: BF Goodrich is proposing to install an inflatable lapbelt on certain seats of Boeing Model 777 series airplanes, in order to reduce the potential for head injury in the event of an accident. The inflatable lapbelt works similar to an automotive airbag, except that the airbag is integrated with the lap belt of the restraint system.

The CFR states the performance criteria for head injury protection in objective terms. However, none of these criteria are adequate to address the specific issues raised concerning seats with inflatable lapbelts. The FAA has therefore determined that, in addition to the requirements of 14 CFR part 25, special conditions are needed to address requirements particular to installation of seats with inflatable lapbelts.

Accordingly, in addition to the passenger injury criteria specified in § 25.785, these special conditions are adopted for the Boeing Model 777 series airplanes equipped with inflatable lapbelts. Other conditions may be developed, as needed, based on further FAA review and discussions with the manufacturer and civil aviation authorities.

#### Discussion

From the standpoint of a passenger safety system, the airbag is unique in that it is both an active and entirely autonomous device. While the automotive industry has good experience with airbags, the conditions of use and reliance on the airbag as the sole means of injury protection are quite different. In automobile installations, the airbag is a supplemental system and works in conjunction with an upper torso restraint. In addition, the crash event is more definable and of typically shorter duration, which can simplify the activation logic. The airplane-operating environment is also quite different from automobiles and includes the potential for greater wear and tear, and unanticipated abuse conditions (due to galley loading, passenger baggage, etc.); airplanes also operate where exposure to high intensity electromagnetic fields could affect the activation system.

The following special conditions can be characterized as addressing either the safety performance of the system, or the system's integrity against inadvertent activation. Because a crash requiring use of the airbags is a relatively rare event, and because the consequences of an inadvertent activation are potentially quite severe, these latter requirements are probably the more rigorous from a design standpoint.

#### Discussion of Comments

Notice of proposed special conditions No. 25-99-10-SC for the Boeing Model 777 series airplanes was published in the **Federal Register** on December 13, 1999 (64 FR 69425). Three comments were received. One commenter concurred with the special conditions as proposed.

One commenter states that the requirement of condition #4 was vague, and that "wear and tear" needed further definition. The commenter suggests that the special condition be specific as to the level of wear and tear that must be addressed. The commenter indicates that operational inspections would be difficult and require changes to manufacturers' manuals. The commenter notes that the special condition seems to be focused on

pyrotechnically operated designs, and that this might not always be the case.

The FAA agrees that the term "wear and tear" is not particularly specific, and this was intentional. Depending on where certain components of the system are installed, their susceptibility to in-service wear and tear will vary. It is the intent of this requirement that the inflatable lapbelt will not deploy as a result of foreseeable in-service conditions, including interaction with passengers, if applicable, use of service carts, if applicable, and so on. There are regulatory requirements for instructions for continued airworthiness that continue to apply and are not a substitute for these special conditions. The device in question is pyrotechnically activated and, therefore, this condition was written with that in mind. Other designs that might require a different condition, or might not require a similar consideration, are not the subject of this special condition. No change is made to the special condition.

One commenter felt that special conditions #4 and #7 should also address the storage and transportation of the unit or its components, relative to inadvertent deployment. While this is a legitimate concern, it is not relevant to these special conditions, since it is not an issue for approval of the inflatable lapbelt on an airplane. Existing regulations in Title 49 of CFR address storage and transportation of hazardous materials.

One commenter states that the requirement of condition #5 was impractical as stated, since no injury severity level was specified. One commenter points out that a bruise or rash could be considered an injury under the current wording, and would therefore make the inflatable lapbelt unacceptable. The commenter suggests that the requirement should be stated as a performance criterion. For example, a requirement that deployment of the inflatable lapbelt should not cause an injury that would adversely affect the ability to egress the airplane.

Another commenter notes that in promotional literature the inflatable lapbelt appears to deploy from between the occupant and the seatbelt, and is characterized as a pre-tensioning device. The commenter considers that this could introduce new injury mechanisms that should be considered. In addition, the commenter questions whether this type of deployment could alter the position of the seatbelt itself, so that it bears on soft tissue, rather than the hips.

The intent of the requirement is to prevent the introduction of injury mechanisms that did not exist previously, or would not be present on

a seat that complied with the regulations directly. In this regard, injuries that would affect rapid egress are certainly of concern. Bruises or friction injuries would not be considered new injury mechanisms. However, there could be other injury mechanisms that might not have a direct impact on rapid egress, but could still be debilitating. The special condition requires that the inflatable lapbelt not introduce injury mechanisms and that rapid egress not be affected. With regard to the manner in which the airbag deploys, the FAA agrees that this should be considered as part of the special conditions. In fact, the concern expressed by the commenter is precisely the sort of thing the special conditions are intended to address, *i.e.*, the introduction of injury mechanisms.

One commenter states that consideration should be given to potential injury resulting from an airbag that appears not to provide full coverage to the head. It is not clear what change to the special conditions the commenter intended as a result of this suggestion. The performance of the inflatable lapbelt must be assessed by actual test. Therefore, whether or not the airbag provides full coverage to the head will be evident from tests and, of course, the acceptability of this must be assessed. No change is made to the special conditions.

One commenter questioned the origin of the 10-second standard proposed in condition #8, and whether that standard applied equally to accidents that consisted of single and multiple impacts. The commenter also states that this requirement must be related to other time critical requirements in the regulations, such as those for exit opening, escape slide deployment and overall airplane evacuation time.

The requirement as written was intended to address a representative accident scenario, from initial impact until the airplane comes to rest. The reason that a specific time interval was chosen was in consideration of the fact that an evacuation cannot take place simultaneously with the accident. The 10-second interval was established based on FAA review of both test and accident data considering the time from impact until an airplane comes to rest, coupled with the time needed to prepare exits and escape slides for evacuation. Therefore, whether an accident consists of a single impact or several, 10 seconds after the device deploys, it should not impede rapid egress of occupants. This includes occupants of seats adjacent to deployed devices, as well as occupants of the seat in which the device deploys. No change

is made to this provision. There is no need to further correlate this requirement to other evacuation time-related requirements, since there is no conflict or incompatibility.

One commenter notes that promotional literature implies that the inflatable lapbelt will have an end release buckle. The commenter questions whether this is appropriate in an aviation application and whether an injured person would be able to release such a buckle.

The FAA considers the utility and functionality of the buckle itself as not requiring special conditions. Any restraint system buckle must be demonstrated to be in compliance with the applicable requirements, whether it releases from the center or the end. Therefore, the fact that this restraint system is also equipped with an airbag device has no bearing on the buckle position assessment, other than as it relates to egress. Egress issues are already covered in condition #8.

#### **Applicability**

As discussed above, these special conditions are applicable to the Model 777 series airplanes. Should BF Goodrich apply at a later date for a supplemental type certificate to modify any other model included on Type Certificate No. T00001SE to incorporate the same novel or unusual design feature, the special conditions would apply to that model as well under the provisions of § 21.101(a)(1).

#### **Conclusion**

This action affects only certain novel or unusual design features on the Boeing Model 777 series airplanes. It is not a rule of general applicability, and it affects only the applicant who applied to the FAA for approval of these features on the airplane.

#### **List of Subjects in 14 CFR Part 25**

Air transportation, Aircraft, Aviation safety, Safety, Reporting and recordkeeping requirements.

The authority citation for these proposed special conditions is as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701, 44702, 44704.

#### **The Special Conditions**

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for the Boeing Model 777 series airplanes modified by BF Goodrich Aerospace by installing inflatable lapbelts.

1. *Seats With Inflatable Lapbelts.* It must be shown that the inflatable lapbelt will deploy and provide protection under crash conditions where it is necessary to prevent serious head injury. The means of protection must take into consideration a range of stature from a two-year-old child to a ninety-fifth percentile male. The inflatable lapbelt must provide a consistent approach to energy absorption throughout that range. In addition, the following situations must be considered:

- a. The seat occupant is holding an infant.
- b. The seat occupant is a child in a child restraint device.
- c. The seat occupant is a child not using a child restraint device.
- d. The seat occupant is a pregnant woman.

2. The inflatable lapbelt must provide adequate protection for each occupant regardless of the number of occupants of the seat assembly, considering that unoccupied seats may have active seatbelts.

3. The design must prevent the inflatable lapbelt from being either incorrectly buckled or incorrectly installed such that the airbag would not properly deploy. Alternatively, it must be shown that such deployment is not hazardous to the occupant, and will provide the required head injury protection.

4. It must be shown that the inflatable lapbelt system is not susceptible to inadvertent deployment as a result of wear and tear, or inertial loads resulting from in-flight or ground maneuvers (including gusts and hard landings), likely to be experienced in service.

5. Deployment of the inflatable lapbelt must not introduce injury mechanisms to the seated occupant, or result in injuries that could impede rapid egress. This assessment should include an occupant who is in the brace position when it deploys and an occupant whose belt is loosely fastened.

6. It must be shown that an inadvertent deployment, that could cause injury to a standing or sitting person, is improbable.

7. It must be shown that inadvertent deployment of the inflatable lapbelt, during the most critical part of the flight, will either not cause a hazard to the airplane or is extremely improbable.

8. It must be shown that the inflatable lapbelt will not impede rapid egress of occupants 10 seconds after its deployment.

9. The system must be protected from lightning and HIRF. The threats specified in Special Condition No. 25—ANM-78 are incorporated by reference

for the purpose of measuring lightning and HIRF protection. For the purposes of complying with HIRF requirements, the inflatable lapbelt system is considered a “critical system” if its deployment could have a hazardous effect on the airplane; otherwise it is considered an “essential” system.

10. The inflatable lapbelt must function properly after loss of normal aircraft electrical power, and after a transverse separation of the fuselage at the most critical location. A separation at the location of the lapbelt does not have to be considered.

11. It must be shown that the inflatable lapbelt will not release hazardous quantities of gas or particulate matter into the cabin.

12. The inflatable lapbelt installation must be protected from the effects of fire such that no hazard to occupants will result.

13. There must be a means for a crewmember to verify the integrity of the inflatable lapbelt activation system prior to each flight or it must be demonstrated to reliably operate between inspection intervals.

Issued in Renton, Washington, on March 20, 2000.

**Donald L. Riggins,**

*Acting Manager, Transport Airplane Directorate, Aircraft Certification Service, ANM-100.*

[FR Doc. 00-7633 Filed 3-27-00; 8:45 am]

**BILLING CODE 4910-13-U**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. 99-NE-57-AD; Amendment 39-11632; AD 2000-05-22]

**RIN 2120-AA64**

#### **Airworthiness Directives; CFM International CFM56-2, -2A, -2B, -3, -3B, and -3C Series Turbofan Engines**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

**SUMMARY:** This amendment adopts a new airworthiness directive (AD) that is applicable to CFM International CFM56-2, -2A, -2B, -3, -3B, and -3C series turbofan engines. This amendment requires a one-time eddy current inspection (ECI) for cracks in the bolt holes of high pressure turbine (HPT) front rotating air seals. This amendment is prompted by reports of machining anomalies in a bolt hole that led to an HPT front rotating air seal

failure. The actions specified by this AD are intended to detect cracks in the bolt holes of HPT front rotating air seals, which can lead to an uncontained engine failure and damage to the aircraft.

**DATES:** Effective May 2, 2000.

The incorporation by reference of certain publications in this rule is approved by the Director of the Federal Register as of May 2, 2000.

**ADDRESSES:** The service information referenced in this AD may be obtained from CFM International, Technical Publications Department, 1 Neumann Way, Cincinnati, OH 45215; telephone (513) 552-2800, fax (513) 552-2816. This information may be examined at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

#### **FOR FURTHER INFORMATION CONTACT:**

James Rosa, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7152, fax (781) 238-7199.

#### **SUPPLEMENTARY INFORMATION:**

A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to CFM International CFM56-2, -2A, -2B, -3, -3B, and -3C Series Turbofan Engines was published in the **Federal Register** on December 13, 1999 (64 FR 69248). That action proposed to require a one-time eddy current inspection (ECI) for cracks in the bolt holes of high pressure turbine (HPT) front rotating air seals. That action was prompted by reports of machining anomalies in a bolt hole that led to an HPT front rotating air seal failure. That condition, if not corrected could result in cracks in the bolt holes of HPT front rotating air seals, which can lead to an uncontained engine failure and damage to the aircraft.

Interested persons have been afforded an opportunity to participate in the making of this amendment. No comments were received.

After careful review of the available data, the FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

#### **Economic Analysis**

There are approximately 121 engines of the affected design in the worldwide fleet. The FAA estimates that 13 engines installed on aircraft of US registry will be affected by this AD, that it would take approximately 300 work hours per engine to accomplish the actions, and that the average labor rate is \$60 per work hour. Based on these figures, the