

# Rules and Regulations

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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 25

[Docket No. NM392; Special Conditions No. 25-371-SC]

#### Special Conditions: AmSafe, Inc., Various Transport Category Airplanes; Inflatable Restraints

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

**ACTION:** Final special conditions; request for comments.

**SUMMARY:** These special conditions are issued for the transport category airplanes listed in Table 1. These airplanes, as modified by AmSafe, Inc., will have a novel or unusual design feature associated with the lap belt or shoulder harness portion of the safety belt that contains an integrated inflatable airbag installed on passenger seats. 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.

**DATES:** The effective date of these special conditions is May 7, 2008. We must receive your comments by June 19, 2008.

**ADDRESSES:** You must mail two copies of your comments to: Federal Aviation Administration, Transport Airplane Directorate, Attn: Rules Docket (ANM-113), Docket No. NM392, 1601 Lind Avenue, SW., Renton, Washington, 98057-3356. You may deliver two copies to the Transport Airplane Directorate at the above address. You must mark your comments: Docket No. NM392. You can inspect comments in the Rules Docket weekdays, except

Federal holidays, between 7:30 a.m. and 4 p.m.

**FOR FURTHER INFORMATION CONTACT:** Jeff Gardlin, FAA, Airframe and Cabin Safety Branch, ANM-115, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington, 98057-3356; telephone (425) 227-2136; facsimile (425) 227-1320.

**SUPPLEMENTARY INFORMATION:** The FAA has determined that notice and opportunity for prior public comment hereon are impracticable because these procedures would significantly delay issuance of the design approval and thus delivery of the affected aircraft. In addition, the substance of these special conditions has been subject to the public comment process in several prior instances with no substantive comments received. The FAA therefore finds that good cause exists for making these special conditions effective upon issuance.

#### Comments Invited

We invite interested people to take part in this rulemaking by sending written comments, data, or views. The most helpful comments reference a specific portion of the special conditions, explain the reason for any recommended change, and include supporting data. We ask that you send us two copies of written comments.

We will file in the docket all comments we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning these special conditions. You can inspect the docket before and after the comment closing date. If you wish to review the docket in person, go to the address in the **ADDRESSES** section of this preamble between 7:30 a.m. and 4 p.m., Monday through Friday, except Federal holidays.

We will consider all comments we receive by the closing date for comments. We will consider comments filed late if it is possible to do so without incurring expense or delay. We may change these special conditions based on the comments we receive.

If you want us to let you know we received your comments on these special conditions, send us a pre-addressed, stamped postcard on which the docket number appears. We will stamp the date on the postcard and mail it back to you.

#### Background

On August 21, 2006, AmSafe Inc., 1043 N. 47th Ave., Phoenix, AZ 85043, applied for a supplemental type certificate to install the AmSafe Aviation Inflatable Restraint (AAIR) for head injury protection on passenger seats on various transport category airplanes. The AAIR is designed to limit passenger forward excursion in the event of an accident, thus reducing the potential for head injury.

The AAIR will reduce the potential for head injury and head entrapment. The AAIR behaves like an automotive inflatable airbag except that the airbag is integrated into the lap belt and inflates away from the seated passenger. While inflatable airbags are standard in the automotive industry, the use of an inflatable lap belt is novel for commercial aviation.

Title 14, Code of Federal Regulations (CFR), section 25.785 requires that passengers be protected from head injury by either the elimination of any injurious object within the striking radius of the head or by padding. Traditionally, compliance has required either a setback of 35 inches from any bulkhead, front seat or other rigid interior feature or padding where a setback was not practical. The relative effectiveness of these two means of injury protection was not quantified. The adoption of Amendment 25-64 to 14 CFR part 25, specifically § 25.562, created a new standard for protection from head injury.

Section 25.562 requires that dynamic tests be conducted for each seat type installed in the airplane. In particular, the regulation requires that persons not suffer serious head injury under the conditions specified in the tests and that a Head Injury Criterion (HIC) measurement of not more than 1000 units be recorded, should the head contact the cabin interior. 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.

Section 25.562, including HIC, is part of the certification basis of some of the airplanes covered by these special conditions. While § 25.562 is not part of the certification basis of other airplanes covered by these special conditions, some applicants elected to comply with

portions of § 25.562—not including §§ 25.562(c)(5) and (c)(6) which specify protection from femur injury and the HIC (this is summarized in table 1). Therefore, on those airplanes, the seat installations with AAIR are not required to meet the requirement of § 25.562 that HIC of less than 1000 be demonstrated for occupants of seats incorporating the AAIR. Although HIC may not be part of the certification basis for some of the covered airplanes, references to HIC are included in these special conditions for consistency with other projects that do require compliance with HIC.

Because §§ 25.562 and 25.785 do not adequately address seats with AAIRs, the FAA recognizes that we need to develop appropriate pass/fail criteria that do address the safety of occupants of those seats.

The AAIR has two potential advantages over other means of head impact protection. The first is that it can provide significantly greater protection than would be expected with energy-absorbing pads; the second is that 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 14 CFR part 25 standards.

On the other hand, AAIRs are active systems and must activate properly when needed, as opposed to an energy-absorbing pad or upper torso restraint that is passive and always available. Therefore, the potential advantages must be balanced against potential disadvantages in order to develop standards that will provide an equivalent level of safety to that intended by the regulations.

There are two primary safety concerns with the use of AAIRs: one is that they perform properly under foreseeable operating conditions, and two, that they do not perform in a way that 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.

The AAIR 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. AmSafe 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 (occurring less than  $10^{-9}$  per flight hour). The effect of an inadvertent deployment on a passenger sitting or standing close to the AAIR must also be considered. 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 necessary.

Other outside influences are lightning and high intensity radiated fields (HIRF). Since the sensors that trigger deployment are electronic, they must be protected from the effects of these threats. Existing regulations regarding lightning (§ 25.1316) and HIRF (§ 25.1317) are applicable in lieu of any other lightning and HIRF special conditions that have been adopted for the affected airplanes.

For the purposes of compliance, if inadvertent deployment could cause a hazard to the airplane, the AAIR is considered a critical system; if inadvertent deployment could cause injuries to persons, the AAIR is considered an essential system. Finally, the AAIR 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 AAIR must function properly and must not introduce any additional hazards to occupants as a result of its functioning. There are several areas where the AAIR differs from traditional occupant protection systems, and requires special conditions to ensure adequate performance.

Because the AAIR 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 AAIR. Since an actual crash is frequently composed of a series of impacts before the airplane comes to rest, this could render the AAIR 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 AAIR installation should be such that the AAIR will provide protection when it is required and will not expend its protection when it is not needed. There

is no requirement for the AAIR to provide protection for multiple impacts, where more than one impact would require protection.

Since each passenger'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 AAIR that are active.

Since there is a wide range in the size of passengers, the inflatable seatbelt restraint must be effective over the entire range. The FAA has historically considered the range from the fifth percentile female to the ninety-fifth percentile male as the range of passengers to take into account. In this case, the FAA is proposing consideration of an even broader range of passengers, due to the nature of the inflatable seatbelt restraint installation and its close proximity to the passenger. In a similar vein, passengers may assume the brace position for those accidents where an impact is anticipated. Test data indicate that passengers in the brace position do not require supplemental protection, so that it will not be necessary to show that the AAIR will enhance the brace position. However, the inflatable seatbelt restraint must not introduce a hazard in that case by deploying into the seated, braced passenger.

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 an appropriate limitation on usage.

Since the AAIR 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 a means of protection in a crash or after a crash, 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.

Since the AAIR 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 AAIR 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 AAIR may not impede rapid egress. Ten seconds has been chosen as a reasonable time, since it 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 AAIR, and the AAIR will likely deflate much quicker than ten seconds.

Finally, it should be noted that the special conditions are applicable to the AAIR 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.

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 (due to galley loading, passenger baggage, etc.); airplanes also operate where exposure to high intensity electromagnetic fields could affect the activation system.

**Type Certification Basis**

Under the provisions of § 21.101, AmSafe Inc. must show that the multiple airplane models as changed, continue to meet the applicable provisions of the regulations incorporated by reference in the Type Certificate (TC) numbers listed in Table 1 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 for each individual airplane model listed in Table 1 are defined within each Type Certificate Data Sheet (TCDS).

In addition, the certification basis includes other regulations and special conditions that are not pertinent to these special conditions.

If the Administrator finds that the applicable airworthiness regulations

(i.e., 14 CFR part 25) do not contain adequate or appropriate safety standards for each airplane model listed in Table 1 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, each airplane model listed in Table 1 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.

The FAA issues special conditions, as defined in § 11.19, under § 11.38 and they become part of the type certification basis under § 21.101.

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 or similar novel or unusual design feature, the special conditions would also apply to the other model under § 21.101.

TABLE 1.—AIRPLANE MODEL LIST

Make	Model	TC holder	TCDS
Boeing	737–500 Series <sup>1</sup> 737–700 Series <sup>3</sup> 737–800 Series <sup>3</sup> 737–600 Series <sup>3</sup> 737–700C Series <sup>4</sup> 737–900 Series <sup>3</sup> 737–900ER Series <sup>3</sup>	The Boeing Company	A16WE Revision 40.
Boeing	747–400 Series <sup>1</sup> 747–400D Series <sup>1</sup> 747–400F Series <sup>1</sup>	The Boeing Company	A20WE Revision 38.
Boeing	767–300 Series <sup>1</sup> 767–300F Series <sup>1</sup> 767–400ER Series <sup>3</sup>	The Boeing Company	A1NM Revision 25.
Boeing	777–200 Series 777–300 Series 777–300ER Series 777–200LR Series	The Boeing Company	T00001SE Revision 19.
Airbus	A318 Series: A318–111 <sup>1</sup> A318–112 <sup>1</sup> A318–121 <sup>5</sup> A318–122 <sup>5</sup> A319 Series: <sup>5</sup> A319–111 A319–112 A319–113 A319–114 A319–115 A319–131 A319–132 A319–133 A320 Series: <sup>5</sup> A320–111 A320–211 A320–212 A320–214 A320–231		

TABLE 1.—AIRPLANE MODEL LIST—Continued

Make	Model	TC holder	TCDS
Airbus .....	A320–232 A320–233 A321 Series: <sup>5</sup> A321–111 A321–112 A321–131 A321–211 A321–212 A321–213 A321–231 A321–232	Airbus .....	A28NM Revision 10.
Airbus .....	A330–200 Series: <sup>6</sup> ..... A330–201 A330–202 A330–203 A330–223 A330–243 A330–300 Series: <sup>6</sup> A330–301 A330–321 A330–322 A330–323 A330–341 A330–342 A330–343	Airbus .....	A46NM Revision 10.
Airbus .....	A340–200 Series: <sup>6</sup> ..... A340–211 A340–212 A340–213 A340–300 Series: <sup>6</sup> A340–311 A340–312 A340–313 A340–500 Series: A340–541 A340–600 Series: Models: A340–642	Airbus .....	A43NM Revision 10.
Bombardier Inc .....	BD–100–1A10 .....	Airbus .....	A58NM Revision 1.
Bombardier .....	BD–700–1A10 .....	Bombardier Inc .....	T00005NY Revision 5.
Bombardier .....	BD–700–1A11	Bombardier Inc .....	T00003NY Revision 13.
Bombardier .....	DHC–8–100 Series <sup>1</sup> .....	Bombardier Inc .....	T00003NY Revision 13.
Bombardier .....	DHC–8–200 Series <sup>1</sup>	Bombardier Inc .....	T00003NY Revision 13.
Bombardier .....	DHC–8–300 Series <sup>1</sup>	Bombardier Inc .....	T00003NY Revision 13.
Bombardier .....	DHC–8–400 Series <sup>1</sup>	Bombardier Inc .....	T00003NY Revision 13.
Bombardier .....	CL–600–1A11 CL–600) <sup>1</sup> .....	Bombardier Inc .....	A13NM Revision 15.
Bombardier .....	CL–600–2A12 (CL–601) <sup>1</sup> .	Bombardier Inc .....	A13NM Revision 15.
Bombardier .....	CL–600–2B16 (CL–601–3A Variant) <sup>1</sup> .	Bombardier Inc .....	A13NM Revision 15.
Bombardier .....	CL–600–2B16 (CL–601–3R Variant) <sup>1</sup> .	Bombardier Inc .....	A13NM Revision 15.
Bombardier .....	CL–600–2B16 (CL–604 Variant) <sup>1</sup>	Bombardier Inc .....	A13NM Revision 15.
Bombardier .....	CL–600–2B19 (Regional Jet Series 100 & 440) <sup>1</sup>	Bombardier Inc .....	A13NM Revision 15.
Bombardier .....	CL–600–2C10 (Regional Jet Series 700, 701 & 702)	Bombardier Inc .....	A13NM Revision 15.
Bombardier .....	CL–600–2D15 (Regional Jet Series 705)	Bombardier Inc .....	A13NM Revision 15.
Bombardier .....	CL–600–2D24 (Regional Jet Series 900)	Bombardier Inc .....	A13NM Revision 15.
Embraer .....	EMB–145 .....	Bombardier Inc .....	A21EA Revision 26.
Embraer .....	EMB–145ER	Bombardier Inc .....	A21EA Revision 26.
Embraer .....	EMB–145MR	Bombardier Inc .....	A21EA Revision 26.
Embraer .....	EMB–145LR	Bombardier Inc .....	A21EA Revision 26.
Embraer .....	EMB–135ER	Bombardier Inc .....	A21EA Revision 26.
Embraer .....	EMB–135LR	Bombardier Inc .....	A21EA Revision 26.
Embraer .....	EMB–135KE	Bombardier Inc .....	A21EA Revision 26.
Embraer .....	EMB–135KL	Bombardier Inc .....	A21EA Revision 26.
Embraer .....	EMB–135BJ	Bombardier Inc .....	A21EA Revision 26.
Embraer .....	EMB–145XR	Bombardier Inc .....	A21EA Revision 26.
Embraer .....	EMB–145MP	Bombardier Inc .....	A21EA Revision 26.
Embraer .....	EMB–145EP	Bombardier Inc .....	A21EA Revision 26.

TABLE 1.—AIRPLANE MODEL LIST—Continued

Make	Model	TC holder	TCDS
Embraer .....	ERJ 170–100 STD .....	Embraer-Empresa Brasileira de Aeronautica S.A.	T00011AT Revision 26.
	ERJ 170–100 LR .....		
	ERJ 170–100 SU .....		
	ERJ 170–100 SE .....		
	ERJ 170–200 STD .....		
	ERJ 170–200 LR .....		
Embraer .....	ERJ 190–100 STD .....	Embraer-Empresa Brasileira de Aeronautica S.A.	A56NM Revision 6.
	ERJ 190–100 LR .....		
	ERJ 190–100 IGW .....		
McDonnell Douglas .....	MD–88 .....	McDonnell Douglas Corporation ..	A6WE Revision 26.
	MD–90–30 .....		
	MD–717–200 <sup>2</sup> .....		

All models listed include Amendment 25–64 in their certification basis with exceptions as noted.

<sup>1</sup> Does not include § 25.562 (Amendment 25–64) in certification basis.

<sup>2</sup> Does not include § 25.562(c)(5) HIC in certification basis.

<sup>3</sup> Does not include § 25.562(c)(5) HIC in certification basis; only flight attendant and flight deck observer seats meet HIC.

<sup>4</sup> Does not include § 25.562(c)(5) HIC in certification basis; only flight deck observer seat meets HIC.

<sup>5</sup> Does not include Amendment 25–64 in certification basis, but applicant elected to meet § 25.562, except § 25.562(c)(5) HIC.

<sup>6</sup> Cockpit seats do not comply with § 25.562 but will meet § 25.561; § 25.785 front row seats behind bulkhead met by 35-inch free head strike envelope.

<sup>7</sup> Includes § 25.562 in certification basis with exemption from § 25.562(b)(2) only.

### Novel or Unusual Design Features

The airplane model list in Table 1 will incorporate the following novel or unusual design features: These airplanes as modified by AmSafe, Inc. will have a lap belt or shoulder harness portion of the safety belt that contains an integrated inflatable airbag device or AAIR installed on passenger seats. The AAIR will be installed to reduce the potential for head injury in the event of an accident. The AAIR works like an automotive airbag, except that the airbag is integrated with the lap belt or harness of the restraint system. The AAIR is considered a novel design for transport category airplanes and were not considered as part of the original type certification basis.

Section 25.785 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 AAIR. 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 AAIR.

Accordingly, in addition to the passenger injury criteria specified in § 25.785, these special conditions are adopted for the airplane model list in Table 1 equipped with AAIR. 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.

### Applicability

As discussed above, these special conditions are applicable to the airplane models listed in Table 1. Should AmSafe, Inc. apply at a later date for a supplemental type certificate to modify any other model included on the airplane model list in Table 1 to incorporate the same novel or unusual

design feature, the special conditions would apply to that model as well.

### Conclusion

This action affects only certain novel or unusual design features on the airplane models listed in Table 1. It is not a rule of general applicability and affects only the applicant which applied to the FAA for approval of these features on the airplane models listed in these special conditions.

The substance of these special conditions has been subjected to the notice and comment period in several prior instances and has been derived without substantive change from those previously issued. It is unlikely that prior public comment would result in a significant change from the substance contained herein. For this reason and because a delay would significantly affect the certification of the airplane, which is imminent, the FAA has determined that prior public notice and comment are unnecessary and impracticable and that good cause exists for adopting these special conditions upon issuance. The FAA is requesting comments to allow interested persons to submit views that may not have been submitted in response to the prior opportunities for comment described above.

### List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

■ The authority citation for these 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 airplane models listed in Table 1 of these special conditions, as modified by installation of the AmSafe Aviation Inflatable Restraint (AAIR).

1. *Seats with AAIRs.* It must be shown that the AAIR will deploy and provide protection under crash conditions where it is necessary to prevent serious head injury or head entrapment. 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 AAIR 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 AAIR 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 AAIR from being either incorrectly buckled or incorrectly installed such that the AAIR 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 AAIR 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 AAIR 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 AAIR, 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 AAIR will not impede rapid egress of

occupants 10 seconds after its deployment.

9. The AAIR 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 lap belt does not have to be considered.

10. It must be shown that the AAIR will not release hazardous quantities of gas or particulate matter into the cabin.

11. The AAIR installation must be protected from the effects of fire such that no hazard to occupants will result.

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

Issued in Renton, Washington, on May 7, 2008.

**Michael J. Kaszycki,**

*Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.*

[FR Doc. E8-11297 Filed 5-19-08; 8:45 am]

**BILLING CODE 4910-13-P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2008-0554; Directorate Identifier 2008-NM-100-AD; Amendment 39-15522; AD 2008-10-15]

**RIN 2120-AA64**

#### **Airworthiness Directives; Boeing Model 747-100, 747-100B, 747-200B, 747-200C, 747-200F, 747-300, 747SR, and 747SP Series Airplanes**

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

**ACTION:** Final rule; request for comments.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Boeing Model 747-100, 747-100B, 747-200B, 747-200C, 747-200F, 747-300, 747SR, and 747SP series airplanes. This AD requires an inspection to determine if acceptable external skin doublers are installed at the stringer 6 (S-6) lap splices, between station (STA) 340 and STA 400. For airplanes without the acceptable external skin doublers, this AD requires repetitive related investigative actions and corrective actions if necessary. This AD also provides an optional terminating modification for the repetitive related investigative actions. This AD results from a report of cracked fastener holes

at the right S-6 lap splice between STA 340 and STA 380. We are issuing this AD to detect and correct cracking in the fuselage skin, which could result in rapid decompression and loss of structural integrity.

**DATES:** This AD is effective May 20, 2008.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of May 20, 2008.

We must receive comments on this AD by July 21, 2008.

**ADDRESSES:** You may send comments by any of the following methods:

- *Federal eRulemaking Portal:* Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- *Fax:* 202-493-2251.

- *Mail:* U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.

- *Hand Delivery:* U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this AD, contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (telephone 800-647-5527) is in the **ADDRESSES** section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Ivan Li, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6437; fax (425) 917-6590.

#### **SUPPLEMENTARY INFORMATION:**

##### **Discussion**

We have received a report of cracking found at fourteen adjacent fastener holes where protruding head fasteners were installed in the upper row of the right stringer 6 (S-6) lap splice, between station (STA) 360 and STA 380. The airplane had accumulated 23,132 total