PART 91—GENERAL OPERATING AND FLIGHT RULES

§ 91.179 IFR cruising altitude or flight level.
   (b) * * *
   (3) When operating at flight level 290 and above airspace, and—
       * * * * *
       (4) When operating at flight level 290 and above airspace designated as Reduced Vertical Separation Minimum (RVSM) airspace and—
       (i) On a magnetic course of zero degrees through 179 degrees, any odd flight level, at 2,000-foot intervals beginning at and including flight level 290 (such as flight level 290, 310, 330, 350, 370, 390, 410); or
       (ii) On a magnetic course of 180 degrees through 359 degrees, any even flight level, at 2,000-foot intervals beginning at and including flight level 300 (such as 300, 320, 340, 360, 380, 400).

§ 91.180 Operations within airspace designated as Reduced Vertical Separation Minimum airspace.
   (a) Except as provided in paragraph (b) of this section, no person may operate a civil aircraft in airspace designated as Reduced Vertical Separation Minimum (RVSM) airspace unless:
      (1) The operator and the operator’s aircraft comply with the minimum standards of appendix G of this part; and
      (2) The operator is authorized by the Administrator or the country of registry to conduct such operations.
   (b) The Administrator may authorize a deviation from the requirements of this section.

12. Effective January 26, 2004, in Appendix G, amend section 5 by revising the introductory text; redesignating paragraph (2) as paragraph (a) and by revising newly redesignated (a); and amend section 8 by adding new paragraphs (d), (e), and (f) to read as follows:

Appendix G to Part 91—Operations in Reduced Vertical Separation Minimum (RVSM) Airspace
   * * * * *

Section 5. Deviation Authority Approval

The Administrator may authorize an aircraft operator to deviate from the requirements of § 91.180 or § 91.706 for a specific flight in RVSM airspace if that operator has not been approved in accordance with section 3 of this appendix if:
   (a) The operator submits a request in a time and manner acceptable to the Administrator; and
   * * * * *
   (d) RVSM in the United States. RVSM may be applied in the airspace of the 48 contiguous states, District of Columbia, and Alaska, including that airspace overlying the waters within 12 nautical miles of the coast.
   (e) RVSM in the gulf of Mexico. RVSM may be applied in the Gulf of Mexico in the following areas: Gulf of Mexico High Offshore Airspace, Houston Oceanic ICAO FIR and Miami Oceanic ICAO FIR.
   (f) RVSM in Atlantic High Offshore Airspace and the San Juan FIR. RVSM may be applied in Atlantic High Offshore Airspace and in the San Juan ICAO FIR.

Issued in Washington, DC, on December 11, 2003.
Donald P. Byrne,
Assistant Chief Counsel.

BILLY CODE 4910-13-M
SUMMARY: These special conditions are for Airbus Model A320 airplanes. These airplanes, as modified by AMSAFE Inc., will have novel and unusual design features associated with a child restraint system that attaches to the existing passenger lap belt. 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.


SUPPLEMENTARY INFORMATION:

Background
On February 12, 2003, AMSAFE Inc., P.O. Box 1570, Higley, Arizona 85236, applied for a supplemental type certificate for the modification of Airbus Model A320 airplanes. The modification includes a child restraint system (identified by AMSAFE as a child safety system (CSS)) that attaches to the existing passenger lap belt and can be installed on certain seats of Airbus Model A320 airplanes in order to reduce the potential for injury in the event of an accident. The Model A320 is a swept-wing, conventional tail, twin-engine, turbofan-powered transport airplane.

Type Certification Basis
Under the provisions of § 21.101, AMSAFE Inc. must show that the Airbus Model A320 airplanes, as changed, continue to meet the applicable provisions of the regulations incorporated by reference in Type Certificate No. A28NM, 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. A28NM are as follows: 14 CFR part 23, effective February 1, 1965, including Amendments 25–1 through 25–56; SFAR 27, effective February 1, 1974, including Amendments 1 through 1149; and 14 CFR part 36, effective December 1, 1969, including Amendments 36–1 through 36–12. 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 the Airbus Model A320 airplanes because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.101.

In addition to the applicable airworthiness regulations and special conditions, the Airbus Model A320 airplanes 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 defined in § 11.19, are issued in accordance with § 11.38 and become part of the type certification basis in accordance with § 21.101.

Special conditions are initially applicable to the model for which they are issued. Should AMSAFE Inc. 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 the provisions of § 21.101.

Novel or Unusual Design Features
The AMSAFE Inc., Child Safety System (CSS) is an improved harness type child restraint system (CRS) that utilizes the seat back and the lap belt on passenger seats to provide upper torso restraint and to improve the restraint of small children. The physical characteristics of small children will govern the use of the CSS and must be defined according to accepted classification standards. The device is intended for children in the 1 to 4-year age group who are prohibited from being held in their parents’ arms during taxi, take-off, and landing and must occupy their own passenger seat, typically with no supplemental restraint. The CSS is made with webbing and fastening hardware and consists of an adjustable strap that wraps horizontally around the seat back to secure the device to the passenger seat, and a double shoulder harness that is fastened around the child’s upper torso. The ends of the device’s shoulder harness are held in place using the existing passenger lap belt that is passed through two open loops on the lower ends of the device’s shoulder straps. The current part 25 airworthiness regulations are not adequate to define the necessary certification criteria.

Discussion
The CSS is a non-conforming CRS, that is not approved for use on aircraft per Federal Motor Vehicle Safety Standard (FMVSS) 213 and as such the design requirements are established in these special conditions. It is a safety restraint device specifically designed for use by small children on JetBlue Airways Airbus A320 aircraft.

The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this particular design feature. Additional safety standards are therefore necessary to establish a level of safety equivalent to that established by the existing airworthiness standards for transport category airplanes.

Additionally, the operating regulations, 14 CFR 91.107 and 121.311, prohibit the use of any “vest-type child restraints, and harness-type child restraints” for commercial and private use operations. In order for the CSS, which is a harness-type child restraint, to be useable in the U.S., AMSAFE Inc., or their agent, must petition the FAA for an exemption from the operating regulations. The petition must be granted in order to allow use of the CSS.

The following special conditions can be characterized as addressing the safety performance of the system and the capability of the system to be installed and utilized without creating additional safety concerns. Because of the nature of the system and the direct interface with the crew and passengers, as well as the intended occupants, these special conditions are more rigorous from a design standpoint than for the standard lap belt installation.

Discussion of Comments
Notice of proposed special conditions No. 25–03–07–SC for the Airbus Model A320 airplanes was published in the Federal Register on October 8, 2003 (68 FR 58042). One commenter responded. The commenter, on behalf of its members, notes that the members generally support the special conditions, but express some concerns (some safety related, others not so) with the design and certification of the CSS. The commenter’s concerns and FAA responses are as follows:

Comment 1: The CSS could endanger the child if installed on a seat with full breakover, and it would be difficult to control the seats where the CSS could be installed.

FAA Response: The FAA does not agree. Special Condition 1 requires that the CSS prevent serious head and other
injuries under dynamic landing conditions. If a seat with full breakover would cause serious head or other injuries to a child in a CSS, the CSS cannot be installed in such a seat. Special Condition 11 requires that seats, together with the child safety system, that can be shown to achieve Special Condition 1 need to be identified to the installer of the CSS. While this may incur some difficulty for an operator wishing to use the CSS, this is part of the responsibility the operator accepts for voluntarily using the CSS. Additionally, Special Condition 9 requires that the CSS be shown to not cause the affected seat back to fold over in a crash and cause injury to the occupant.

Comment 2: The CSS could potentially damage the tray table in the seat back or interfere with its operation by the passenger seated behind the CSS.

FAA Response: Interference with the use of a tray table is not a safety concern. Each potential user must determine whether or not to offer the CSS to airplane occupants. These special conditions do not require any operator to provide the CSS. Special Condition 10, however, is intended to ensure that items such as a tray table do not interfere with the performance of the CSS.

Comment 3: The seat back is not designed to carry the load of the CSS plus an occupant and may be damaged in an emergency.

FAA Response: Special Conditions 1 and 9 are intended to ensure that the combination of CSS and passenger seat will provide protection to the occupant during a dynamic event. Damage to the passenger seat is not addressed by these special conditions. Again, it is up to the potential installer/operator to determine if the CSS should be offered as an option to the airplane occupants.

Comment 4: There may be delay in releasing the harness in an emergency due to unfamiliarity by crew members, and additional training may be necessary for flight attendants.

FAA Response: Special conditions 3, 4, 5, and 6 are intended to fully address the issue of use of the CSS and the rapidity of egress of the occupant from the device. Training, if deemed necessary or appropriate, is one of the considerations for whether or not the CSS should be offered by the installer/operator.

The FAA agrees with the intent of the safety concerns expressed by the commenter, but, as noted above, considers that they are adequately addressed by the special conditions and existing certification requirements. The special conditions are therefore adopted as proposed.

Applicability

As discussed above, these special conditions are applicable to the Airbus Model A320 airplanes modified by AMSAFE Inc. Should AMSAFE Inc. apply at a later date for a supplemental type certificate to modify any other model included on Type Certificate No. A28NM to incorporate the same or similar novel or unusual design feature, these special conditions would apply to that model as well under the provisions of § 21.101.

Conclusion

This action affects only certain novel or unusual design features on Airbus Model A320 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

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

Authority Citation

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 Airbus Model A320 airplanes modified by AMSAFE Inc.

1. The child safety system (CSS) must provide child restraint protection under dynamic emergency landing conditions to prevent serious head and other injuries. It must protect a range of occupant statures for which the system is designed in accordance with Sections 2.3 and 2.4 of the Society of Automotive Engineers (SAE) document AS5276/1. The CSS must provide a consistent approach to energy absorption throughout that range.

2. Means must be provided to prevent the use of the CSS with children who are outside the range of statures for which the system was designed and tested. The range of statures for which the CSS is approved must be clearly labeled on the device.

3. There must be obvious, clear, and concise instructions readily available to the flight and cabin crew as to the proper installation and use of the CSS system for children.

4. The design of the CSS must prevent it from being incorrectly buckled and/or incorrectly installed such that the CSS would not properly perform its intended function.

5. The CSS must meet the minimum performance standards of Appendix 1 and the test conditions of Appendix 2 of Technical Standard Order C100b.

6. The CSS must not impede rapid egress of the occupant using the CSS and the occupants seated in the same row.

7. Means must be provided to prohibit the installation and use of the CSS in the emergency exit rows.

8. The CSS must be shown to operate safely in the following locations, or means must be provided to prohibit the installation and use of the CSS at these seat locations:

   a. Behind any wall or seat back that has an inflatable airbag.

   b. Any passenger seat that has an inflatable restraint system.

   c. Side-facing seats.

9. It must be shown that the CSS will not cause the occupant’s passenger seat back to fold over during a crash situation and cause injury to the occupant.

10. It must be shown that tray tables, phones or other devices installed in the seat back will not degrade the performance of the CSS.

11. Passenger seats approved for installation of the CSS must be clearly identified to the installer by location and part number.

12. The operating regulations, 14 CFR 91.107 and 14 CFR 121.311, prohibit the use of any “vest-type child restraints, and harness-type child restraints” in commercial and private use operations. It is therefore incumbent upon AMSAFE Inc., or their agent, to petition the FAA for exemption from these two regulations. The exemption must be granted in order for the system to be used by a U.S. operator.

Issued in Renton, Washington, on December 8, 2003.

Kevin M. Mullin,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

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