



**[4910-13]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 25**

**[Docket No. FAA-2017-0341; Special Conditions No. 25-663-SC]**

**Special Conditions: AMAC Aerospace Switzerland AG, Boeing Model 737-700**

**Airplane; Installation of a Therapeutic Oxygen System for Medical Use**

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

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

**SUMMARY:** These special conditions are issued for the Boeing Model 737-700 airplane, as modified by AMAC Aerospace Switzerland AG (AMAC). This airplane will have a novel or unusual design feature when compared to the state of technology envisioned in the airworthiness standards for transport-category airplanes. This design feature is the installation of a therapeutic oxygen system for medical use. 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:** This action is effective on AMAC Aerospace Switzerland AG on **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. We must receive your comments by **[INSERT DATE 45 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]**.

**ADDRESSES:** Send comments identified by docket number FAA-2017-0341 using any of the following methods:

- *Federal eRegulations Portal:* Go to <http://www.regulations.gov/> and follow the online instructions for sending your comments electronically.
- *Mail:* Send comments to Docket Operations, M-30, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue, SE., Room W12-140, West Building Ground Floor, Washington, DC, 20590-0001.
- *Hand Delivery or Courier:* Take comments to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- *Fax:* Fax comments to Docket Operations at 202-493-2251.

*Privacy:* The FAA will post all comments it receives, without change, to <http://www.regulations.gov/>, including any personal information the commenter provides. Using the search function of the docket Web site, anyone can find and read the electronic form of all comments received into any FAA docket, including the name of the individual sending the comment (or signing the comment for an association, business, labor union, etc.). DOT's complete Privacy Act Statement can be found in the **Federal Register** published on April 11, 2000 (65 FR 19477-19478).

*Docket:* Background documents or comments received may be read at <http://www.regulations.gov/> at any time. Follow the online instructions for accessing the docket or go to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

**FOR FURTHER INFORMATION CONTACT:** Bob Hettman, FAA, Propulsion and Mechanical Systems, ANM-112, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington 98057-3356; telephone 425-227-2683; facsimile 425-227-1320.

**SUPPLEMENTARY INFORMATION:**

The FAA has determined that notice of, and opportunity for prior public comment on, these special conditions is impracticable because these procedures would significantly delay issuance of the design approval and thus delivery of the affected airplane.

In addition, the substance of these special conditions has been previously subject to the public comment process with no substantive comments received. The FAA therefore finds it unnecessary to delay the effective date and finds that good cause exists for making these special conditions effective upon publication in the Federal Register.

**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 will consider all comments we receive by the closing date for comments. We may change these special conditions based on the comments we receive.

**Background**

On September 7, 2016, AMAC applied for a supplemental type certificate (STC) for the installation of a supplemental therapeutic oxygen system, for medical use, in a Boeing Model 737-700 airplane configured by a separate STC with a business-cabin interior. This Boeing Model 737-700 airplane, as modified by AMAC, is a narrow-body, business-cabin interior, twin

jet-engine powered airplane with seating for 15 passengers, 1 cabin crewmember, and four flightcrew members. The maximum takeoff weight is 171,000 pounds.

### **Type Certification Basis**

Under the provisions of Title 14, Code of Federal Regulations (14 CFR) 21.101, AMAC must show that the Boeing Model 737-700 airplane, as changed, continues to meet the applicable provisions of the regulations listed in Type Certificate No. A16WE or the applicable regulations in effect on the date of application for the change, except for earlier amendments as agreed upon by the FAA.

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 Boeing Model 737-700 airplane because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

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, these special conditions would also apply to the other model under § 21.101.

In addition to the applicable airworthiness regulations and special conditions, the Boeing Model 737-700 airplane 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 14 CFR 11.19, in accordance with § 11.38, and they become part of the type certification basis under § 21.101.

## **Novel or Unusual Design Features**

The Boeing Model 737-700 airplane, as changed, will incorporate the following novel or unusual design features:

The installation of a supplemental therapeutic oxygen system, for medical use, in a private, not-for-hire, not-for-common-carriage airplane.

## **Discussion**

AMAC has applied to modify a private business jet, a Boeing 737-700 airplane, to include an oxygen supply for a dedicated medical-oxygen system. The gaseous passenger-oxygen system will be modified to include additional supply cylinders and several therapeutic oxygen outlets located throughout the airplane cabin. Each therapeutic outlet will provide a constant flow of oxygen at either 2 or 4 liters per minute.

The flightcrew controls the flow of therapeutic oxygen at all times during flight. Therapeutic oxygen systems have been previously certified and were generally considered an extension of the passenger-oxygen system for the purpose of defining the applicable regulations. As a result, the applicable regulations included those that applied to oxygen systems in general, or supplemental oxygen systems.

Section 25.1445 includes standards for oxygen-distribution systems when oxygen is supplied to crew and passengers. If a common source of supply is used, § 25.1445(a)(2) requires a means to separately reserve the minimum supply required for the flightcrew. This requirement was originally added to Civil Air Regulation (CAR) 4b.831 at amendment 4b-13, effective September 21, 1949, and was included in § 25.1445 when the regulations were codified.

The regulation is intended to protect the flightcrew by ensuring that an adequate supply of oxygen is available to complete a descent and land following a loss of cabin pressure. When the

regulation was written, the only passenger-oxygen system designs were supplemental-oxygen systems intended to protect passengers from hypoxia in the event of cabin decompression. Present designs of passenger-oxygen systems do not include design features that allow the crew to offer oxygen to passengers during flight.

Furthermore, the potential hazard that can exist when the oxygen content of an enclosed area becomes too high because of system leaks, malfunction, or damage from external sources, make it necessary to ensure that adequate safety standards are applied to the design and installation of the oxygen system. These potential hazards also necessitate development and application of appropriate additional design and installation standards.

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.

### **Applicability**

As discussed above, these special conditions are applicable to the Boeing Model 737-700 airplane. Should AMAC apply at a later date for a supplemental type certificate to modify any other model included on Type Certificate no. A16WE to incorporate the same novel or unusual design feature, these special conditions would apply to that model as well.

### **Conclusion**

This action affects only certain novel or unusual design features on one model of airplane. It is not a rule of general applicability and affects only the applicant who applied to the FAA for approval of this feature on the airplane.

The substance of these special conditions has been subject 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. Therefore, 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 good cause exists for adopting these special conditions upon publication in the **Federal Register**.

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 Boeing Model 737-700 airplanes as modified by AMAC Aerospace Switzerland AG.

The distribution system for the therapeutic-oxygen system must be designed and installed to meet requirements similar to § 25.1445(a) as follows:

When oxygen is supplied to passengers for both supplemental and therapeutic purposes, the distribution system must be designed for either—

1. A source of supplemental supply for protection from hypoxia following a loss of cabin pressure, and a separate source for therapeutic purposes, or

2. A common source of supply, with means to separately reserve the minimum supply required by the passengers for supplemental use following a loss of cabin pressure.

Issued in Renton, Washington, on April 27, 2017.

Paul Bernado

Acting Manager, Transport Airplane Directorate

Aircraft Certification Service

[FR Doc. 2017-09173 Filed: 5/4/2017 8:45 am; Publication Date: 5/5/2017]