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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 25

[Docket No. NM316; Special Conditions No. 25-312-SC]

#### Special Conditions: Airbus Model A380-800 Airplane, Discrete Gust Requirements

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

**ACTION:** Final special conditions.

**SUMMARY:** These special conditions are issued for the Airbus A380-800 airplane. This airplane will have novel or unusual design features when compared to the state of technology envisioned in the airworthiness standards for transport category airplanes. Many of these novel or unusual design features are associated with the complex systems and the configuration of the airplane, including its full-length double deck. For these design features, the applicable airworthiness regulations do not contain adequate or appropriate safety standards regarding discrete gust requirements. 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. Additional special conditions will be issued for other novel or unusual design features of the Airbus Model A380-800 airplane.

**EFFECTIVE DATE:** The effective date of these special conditions is January 10, 2006.

**FOR FURTHER INFORMATION CONTACT:** Holly Thorson, FAA, International Branch, ANM-116, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington 98055-4056;

telephone (425) 227-1357; facsimile (425) 227-1149.

#### SUPPLEMENTARY INFORMATION:

##### Background

Airbus applied for FAA certification/validation of the provisionally-designated Model A3XX-100 in its letter AI/L 810.0223/98, dated August 12, 1998, to the FAA. Application for certification by the Joint Aviation Authorities (JAA) of Europe had been made on January 16, 1998, reference AI/L 810.0019/98. In its letter to the FAA, Airbus requested an extension to the 5-year period for type certification in accordance with 14 CFR 21.17(c).

The request was for an extension to a 7-year period, using the date of the initial application letter to the JAA as the reference date. The reason given by Airbus for the request for extension is related to the technical challenges, complexity, and the number of new and novel features on the airplane. On November 12, 1998, the Manager, Aircraft Engineering Division, AIR-100, granted Airbus' request for the 7-year period, based on the date of application to the JAA.

In its letter AI/LE-A 828.0040/99 Issue 3, dated July 20, 2001, Airbus stated that its target date for type certification of the Model A380-800 has been moved from May 2005, to January 2006, to match the delivery date of the first production airplane. In accordance with 14 CFR 21.17(d)(2), Airbus chose a new application date of April 20, 1999, and requested that the 7-year certification period which had already been approved be continued. The part 25 certification basis for the Model A380-800 airplane was adjusted to reflect the new application date.

The Model A380-800 airplane will be an all-new, four-engine jet transport airplane with a full double-deck, two-aisle cabin. The maximum takeoff weight will be 1.235 million pounds with a typical three-class layout of 555 passengers.

##### Type Certification Basis

Under the provisions of 14 CFR 21.17, Airbus must show that the Model A380-800 airplane meets the applicable provisions of 14 CFR part 25, as amended by Amendments 25-1 through 25-98. If the Administrator finds that the applicable airworthiness regulations do not contain adequate or appropriate

safety standards for the Airbus A380-800 airplane because of novel or unusual design features, special conditions are prescribed under the provisions of 14 CFR 21.16.

In addition to the applicable airworthiness regulations and special conditions, the Airbus Model A380-800 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. In addition, the FAA must issue a finding of regulatory adequacy pursuant to section 611 of Public Law 93-574, the "Noise Control Act of 1972."

Special conditions, as defined in 14 CFR 11.19, are issued in accordance with 14 CFR 11.38 and become part of the type certification basis in accordance with 14 CFR 21.17(a)(2).

Special conditions are initially applicable to the model for which they are issued. Should the type certificate for that model be amended later to include any other model that incorporates the same novel or unusual design feature, the special conditions would also apply to the other model under the provisions of 14 CFR 21.101.

##### Discussion of Novel or Unusual Design Features

In terms of requirements pertaining to discrete gusts, the size of the Airbus Model A380 is a novel or unusual design feature. These requirements are found in 14 CFR 25.341 (Amendment 25-86) which specifies that the gust loads acting on the airplane are to be determined by dynamic analysis, considering the dynamic and rigid body responses of the airplane. Section 25.341(a)(3) requires that a sufficient number of gust gradient distances in the range of 30 feet to 350 feet be investigated to find the critical response for each load quantity. For large airplanes, the longer gust gradient distances are vital to assess the rigid body response.

At the time § 25.341 was adopted, the value of the upper end of the range of gust gradient distances to be investigated was determined from the largest commercial airplane then in existence, the Boeing Model 747. This value was calculated to be the mean geometric chord of the Boeing 747 (which is 28 feet) multiplied by 12.5, which equals 350 feet.

Since the mean geometric chord of the A380 is larger than that of the Boeing 747, a special condition is necessary to define an appropriate upper value for the range of gust gradient distances to be investigated. That value would be the mean geometric chord of the A380 (which is 34.8 feet) multiplied by 12.5, which equals 435 feet. Increasing the range of gust gradient distances to be investigated to 435 feet will ensure an appropriate analysis of the critical rigid body response of the A380.

#### Discussion of Comments

Notice of Proposed Special Conditions No. 25-05-11-C, pertaining to discrete gust requirements for the Airbus A380 airplane, was published in the **Federal Register** on August 9, 2005 (70 FR 46113). A single comment was received which supports the intent and the language of the special condition, as proposed.

#### Applicability

As discussed above, these special conditions are applicable to the Airbus A380-800 airplane. Should Airbus apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design features, 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 of the Airbus A380-800 airplane. It is not a rule of general applicability.

#### 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 Federal Aviation Administration (FAA), the following special conditions are issued as part of the type certification basis for the Airbus A380-800 airplane.

In lieu of the requirements of § 25.341(a)(3), the following special conditions apply:

A sufficient number of gust gradient distances in the range of 30 feet to 435 feet (12.5 times the Geometric Chord of the Model A380) must be investigated to find the critical response for each load quantity.

Issued in Renton, Washington, on January 10, 2006.

**Ali Bahrami,**

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

[FR Doc. 06-598 Filed 1-23-06; 8:45 am]

**BILLING CODE 4910-13-M**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

**[Docket No. FAA-2005-21242; Directorate Identifier 2005-NE-09-AD; Amendment 39-14460; AD 2006-02-08]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Turbomeca Arriel 1B, 1D, 1D1, and 1S1 Turboshaft Engines**

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

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

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain Turbomeca Arriel 1B, 1D, 1D1, and 1S1 turboshaft engines. This AD requires initial and repetitive position checks of the gas generator 2nd stage turbine blades on all Turbomeca Arriel 1B, 1D, 1D1, and 1S1 turboshaft engines, and initial and repetitive replacements of 2nd stage turbines on 1B, 1D, and 1D1 engines only. This AD results from reports of the release of gas generator 2nd stage turbine blades while in service, with full containment of debris. We are issuing this AD to prevent in-flight engine shutdown and subsequent forced autorotation landing or accident.

**DATES:** This AD becomes effective February 28, 2006. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of February 28, 2006.

We must receive any comments on this AD by March 27, 2006.

**ADDRESSES:** Use one of the following addresses to comment on this AD:

- DOT Docket Web site: Go to <http://dms.dot.gov> and follow the instructions for sending your comments electronically.

- Government-wide rulemaking Web site: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.

- Mail: Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building,

Room PL-401, Washington, DC 20590-0001.

- Fax: (202) 493-2251.
- Hand Delivery: Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. Contact Turbomeca, 40220 Tarnos, France; telephone +33 05 59 74 40 00, fax +33 05 59 74 45 15, for the service information identified in this AD.

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

Christopher Spinney, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7175, fax (781) 238-7199.

**SUPPLEMENTARY INFORMATION:** The FAA proposed to amend 14 CFR part 39 with a proposed airworthiness directive (AD). The proposed AD applies to Turbomeca Arriel 1B engines fitted with 2nd stage turbine modification TU 148, and Arriel 1D, 1D1, and 1S1 engines. We published the proposed AD in the **Federal Register** on June 28, 2005 (70 FR 37063). That action proposed to require initial and repetitive position checks of the 2nd stage turbine blades on Turbomeca Arriel 1B, 1D, 1D1, and 1S1 turboshaft engines, and replacement of 2nd stage turbines on 1B and 1D1 engines only.

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

You may examine the docket that contains the AD, any comments received, and any final disposition in person at the Docket Management Facility Docket Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Office (telephone (800) 647-5227) is located on the plaza level of the Department of Transportation Nassif Building at the street address stated in **ADDRESSES**. Comments will be available in the AD docket shortly after the DMS receives them.

#### **Comments**

We provided the public the opportunity to participate in the development of this AD. We have considered the comments received.

#### **Request To Change the Compliance Time**

One commenter, Turbomeca, requests we change the compliance time for replacing 2nd stage turbines to, immediately upon receipt of a replacement 2nd stage turbine from Turbomeca, and at least by August 31, 2006. The commenter states that without this requirement, operators will incur unacceptable and unnecessary risk for engines operating past the