



[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR part 25

Docket No. FAA-2013-0896; Notice No. 25-13-27-SC

Special Conditions: Airbus, Model A350-900 Series Airplane; Side Stick Controller

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed special conditions.

SUMMARY: This action proposes special conditions for the Airbus Model A350-900 series airplanes. These airplanes will have a novel or unusual design feature associated with side stick controllers which require limited pilot force because they are operated by only one hand. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These proposed 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: Send your comments on or before **[insert a date 45 days after date of publication in the Federal Register]**.

ADDRESSES: Send comments identified by docket number FAA-2013-0896 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, D.C., 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, D.C., 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), as well as at <http://DocketsInfo.dot.gov/>.

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 the Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE, Washington, D.C., between 9 a.m. and 5 p.m., Monday through Friday, except federal holidays.

FOR FURTHER INFORMATION CONTACT: Todd Martin, FAA, Airframe and Cabin Safety Branch, ANM-115, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington, 98057-3356; telephone (425) 227-1178; facsimile (425) 227-1320.

SUPPLEMENTARY INFORMATION:

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 proposed special conditions, explain the reason for any recommended change, and include supporting data.

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

Background

On August 25, 2008, Airbus applied for a type certificate for their new Model A350-900 series airplane. Later, Airbus requested and the FAA approved an extension to the application for FAA type certification to June 28, 2009. The Model A350-900 series airplane has a conventional layout with twin wing-mounted Rolls-Royce Trent XWB engines. It features a twin aisle 9-abreast economy class layout, and accommodates side-by-side placement of LD-3 containers in the cargo compartment. The basic Model A350-900 series configuration will accommodate 315 passengers in a standard two-class arrangement. The design cruise speed is Mach 0.85 with a Maximum Take-Off Weight of 602,000 lbs. Airbus proposes the Model A350-900 series to be certified for extended operations (ETOPS) beyond 180 minutes at entry into service for up to a 420-minute maximum diversion time.

The Airbus Model A350-900 series airplane is equipped with two side stick controllers instead of the conventional control columns and wheels. This kind of controller is designed for only one-hand operation. The requirement of Title 14, Code of Federal Regulations (14 CFR) 25.397(c), which defines limit pilot forces and torques for conventional wheel or stick controls,

is not adequate for a side stick controller. Special conditions are necessary to specify the appropriate loading conditions for this kind of controller.

Type Certification Basis

Under Title 14, Code of Federal Regulations (14 CFR) 21.17, Airbus must show that the Model A350-900 series meets the applicable provisions of 14 CFR part 25, as amended by Amendments 25-1 through 25-129.

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 Model A350-900 series because of a novel or unusual design feature, special conditions are prescribed under § 21.16.

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

In addition to the applicable airworthiness regulations and proposed special conditions, the Model A350-900 series 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 and the FAA must issue a finding of regulatory adequacy under § 611 of Public Law 92-574, the "Noise Control Act of 1972."

The FAA issues special conditions, as defined in 14 CFR 11.19, under § 11.38, and they become part of the type-certification basis under § 21.17(a)(2).

Novel or Unusual Design Features

The Airbus Model A350-900 series airplane will incorporate the following novel or unusual design feature: a side stick controller for only one-hand operation by wrist and not by

arms.

Discussion

Special conditions for Airbus side stick controllers have been developed and applied during previous Airbus certification programs. These proposed special conditions are also appropriate for the Model A350-900 series side stick controller.

Applicability

As discussed above, these proposed special conditions apply to Airbus Model A350-900 series airplanes. Should Airbus apply later for a change to the type certificate to include another model incorporating the same novel or unusual design feature, the proposed special conditions would apply to that model as well.

Conclusion

This action affects only certain novel or unusual design features on the Airbus Model A350-900 series airplanes. 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 proposed special conditions is as follows:

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

The Proposed Special Conditions

Accordingly, the Federal Aviation Administration (FAA) proposes the following special conditions in lieu of § 25.397(c), which are identical to A320, A340, and A380 special conditions on the same subject:

For the Airbus Model A350-900 series airplane equipped with stick controls designed for forces to be applied by one wrist and not arms, the limit pilot forces are as follows:

(1) For all components between and including the handle and its control stops.

PITCH	ROLL
Nose up 200 lbf.	Nose left 100 lbf.
Nose down 200 lbf.	Nose right 100 lbf.

(2) For all other components of the side stick control assembly, but excluding the internal components of the electrical sensor assemblies, to avoid damage as a result of an in-flight jam.

PITCH	ROLL
Nose up 125 lbf.	Nose left 50 lbf.
Nose down 125 lbf.	Nose right 50 lbf.

Issued in Renton, Washington, on October 22, 2013

Stephen P. Boyd
Acting Manager, Transport Airplane Directorate
Aircraft Certification Service

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