



[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA-2012-0699; Special Conditions No. 25-474-SC]

Special Conditions: Airbus, Model A318-112 Airplane (S/N 3238); Certification of Cooktops

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions.

SUMMARY: These special conditions are issued for the Airbus Model A318-112 airplane, serial number (S/N) 3238. This airplane, as modified by Fokker Services B.V., will have a novel or unusual design feature associated with a cooktop installation. 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.

EFFECTIVE DATE: January 24, 2013.

FOR FURTHER INFORMATION CONTACT: Dan Jacquet, FAA, Airframe and Cabin Safety Branch, ANM-115, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington, 98057-3356; telephone 425-227-2676; facsimile 425-227-1100; e-mail daniel.jacquet@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

On January 12, 2010, Fokker Services B.V. applied for a supplemental type certificate for an interior conversion on an Airbus Model A318-112 airplane, S/N 3238. The Airbus Model A318-112 airplane is a large, transport-category airplane powered by two CFM56-5B9/P engines, with a basic maximum takeoff weight of 130,071 pounds.

At the time of the notice of proposed special conditions No. 25-12-02-SC, Fokker Services B.V. requested certification to convert an Airbus Model A318-112 (S/N 3238) to a corporate jet, operating for both common carriage and private use. As of this publication, Fokker Services B.V. requested certification for common carriage only. The aircraft will now be certified for a maximum of 8 crew and 19 passengers and limited to common carriage only. The aircraft will be subdivided into an entrance way, executive lounge, two private lounges, and a private bathroom. The entry will include the installation of two wet galleys. One of the galleys will include the installation of two combined cooktop pan units. The addition of a cooktop to this interior conversion can lead to hazards to both the occupants and the aircraft. Special consideration is needed to address the safety standards associated with this installation.

Type Certification Basis

Under the provisions of Title 14, Code of Federal Regulations (14 CFR) 21.101, Fokker Services B.V. must show that the Airbus Model A318-112 (S/N 3238) airplane, as changed, continues 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 14 CFR part 25, as amended by Amendments 25-1 through 25-56, with reversions to earlier amendments, voluntary compliance to later amendments, special conditions, equivalent safety findings, and exemptions listed in the type certificate data sheet.

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 A318-112 (S/N 3238) 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, the special conditions would also apply to the other model under § 21.101.

In addition to the applicable airworthiness regulations and special conditions, the Airbus Model A318-112 (S/N 3238) 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 Airbus Model A318-112 airplane, S/N 3238, will incorporate the following novel or unusual design feature: Cooktops in the passenger cabin. Cooktops introduce high heat, smoke, and the possibility of fire into the passenger cabin environment. The current airworthiness standards of part 25 do not contain adequate or appropriate safety standards to protect the

airplane and its occupants from these potential hazards. The applicant's proposed system is considered to be a novel or unusual design feature.

Discussion

Currently, ovens are the prevailing means of heating food on airplanes. Ovens are characterized by an enclosure that contains both the heat source and the food being heated. The hazards presented by ovens are thus inherently limited and are well understood through years of service experience. Cooktops, on the other hand, are characterized by exposed heat sources and the presence of relatively unrestrained hot cookware and heated food. These may represent unprecedented hazards to both the occupants and the airplane.

Cooktops could have serious passenger and aircraft safety implications if appropriate requirements are not established for their installation and use. The requirements identified in these proposed special conditions are in addition to those considerations identified in Advisory Circular (AC) 20-168, *Certification Guidance for Installation of Non-Essential, Non-Required Aircraft Cabin Systems and Equipment (CS&E)*, and those in AC 25-17A, *Transport Airplane Cabin Interiors Crashworthiness Handbook*. The intent of these proposed special conditions is to provide a level of safety that is consistent with that on similar aircraft without cooktops.

In similar cooktop installations, the FAA has required a deployable cover and a means to automatically shut off the power when the cover was in use. In lieu of these requirements, the cooktop installation in this Airbus A318-112 (S/N 3238) will have a lid and a timer that is not covered by the lid. The timer switches the heating elements on and off, has a maximum time of 20 minutes, and is still accessible when the lid is closed. The cabin crew will be instructed on its use. In addition to the lid and timer, the applicant will supply a fire blanket that is 1,100 by

1,100 mm (catalogue no. SAP-967-T). The fire blanket meets the requirements of British Standard BS 6575:1965. These specifications contain the requirements for flexibility, heat, electrical resistance, and fire extinguishing including cooking oil fires for light duty and heavy duty (industrial) applications.

For this cooktop installation, the FAA requires evidence that with the cooktop lid closed, the temperature set on “high,” and the timer at maximum, the cooktop will maintain safe operation and will not create a hazardous condition even with cooking oil in the cooktop.

Discussion of Comments

Notice of proposed special conditions No. 25-12-02-SC for the Airbus Model A318-112 airplane (S/N 3238) was published in the Federal Register on August 28, 2012 (77 FR 51944-51946). No comments were received, and the special conditions are adopted as proposed.

Applicability

As discussed above, these special conditions are applicable to the Airbus Model A318-112 (S/N 3238). Should Fokker Services B.V. 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 novel or unusual design feature, these special conditions would apply to that model as well.

Under standard practice, the effective date of final special conditions would be 30 days after the date of publication in the Federal Register; however, as the certification date for the Airbus Model A318-112 airplane (S/N 3238) is imminent, the FAA finds that good cause exists to make these special conditions effective upon issuance.

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 these features on the airplane.

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 Airbus Model A318-112 airplane, serial number 3238, modified by Fokker Services B.V.

Cooktop installations with electrically powered burners must comply with the following criteria:

1. Means, such as conspicuous burner-on indicators, physical barriers, or handholds, must be installed to minimize the potential for inadvertent personnel contact with hot surfaces of both the cooktop and cookware. Conditions of turbulence must be considered.
2. Sufficient design means must be included to restrain cookware while in place on the cooktop, as well as representative contents, e.g., soup, sauces, etc., from the effects of flight loads and turbulence. Restraints must be provided to preclude hazardous movement of cookware and contents. These restraints must accommodate any cookware that is identified for use with the cooktop. Restraints must be designed to be easily utilized and effective in service. The

cookware restraint system should also be designed so that it will not be easily disabled, thus rendering it unusable. Placarding must be installed which prohibits the use of cookware that cannot be accommodated by the restraint system.

3. Placarding must be installed that prohibits the use of cooktops (i.e., power on any burner) during taxi, takeoff, and landing.

4. Means must be provided to address the possibility of a fire occurring on or in the immediate vicinity of the cooktop. Two acceptable means of complying with this requirement are as follows:

a. Placarding must be installed that prohibits any burner from being powered when the cooktop is unattended, which would prohibit a single person from cooking on the cooktop and intermittently serving food to passengers while any burner is powered; a fire detector must be installed in the vicinity of the cooktop that provides an audible warning in the passenger cabin; and a fire extinguisher of appropriate size and extinguishing agent must be installed in the immediate vicinity of the cooktop. Access to the extinguisher must not be blocked by a fire on or around the cooktop. One of the fire extinguishers required by § 25.851 may be used to satisfy this requirement. If this is not possible, then the extinguisher in the galley area would be additional; or,

b. An automatic, thermally activated, fire-suppression system must be installed to extinguish a fire at the cooktop and immediately adjacent surfaces. The agent used in the system must be an approved, total-flooding agent suitable for use in an occupied area. The fire-suppression system must have a manual override. The automatic activation of the fire-suppression system must also automatically shut off power to the cooktop.

5. The surfaces of the galley surrounding the cooktop, which would be exposed to a fire on the cooktop surface or in cookware on the cooktop, must be constructed of materials that comply with the flammability requirements of 14 CFR part 25, appendix F, part III. This requirement is in addition to the flammability requirements typically required of the materials in these galley surfaces. During the selection of these materials, consideration must also be given to ensure that the flammability characteristics of the materials will not be adversely affected by the use of cleaning agents and utensils used to remove cooking stains.
6. The cooktop ventilation system ducting must be protected by a flame arrestor. In addition, procedures and time intervals must be established and included in the instructions for continued airworthiness to inspect and clean or replace the ventilation system to prevent a fire hazard from the accumulation of flammable oils. [Note: The applicant may find additional useful information in the Society of Automotive Engineers, Aerospace Recommended Practice 85, Rev. E, entitled, "Air Conditioning Systems for Subsonic Airplanes," dated August 1, 1991.]
7. Means must be provided to contain spilled foods or fluids in a manner that prevents the creation of a slipping hazard to occupants, and that will not lead to the loss of structural strength due to corrosion.
8. Cooktop installations must provide adequate space for the user to immediately escape a hazardous cooktop condition.
9. A means to shut off power to the cooktop must be provided at the galley containing the cooktop and in the cockpit. If additional switches are introduced in the cockpit, revisions to smoke or fire emergency procedures of the airplane flight manual (AFM) will be required.

10. Cooktop installations must incorporate a timer that will switch the heating elements off after a maximum time of 20 minutes.

11. Instructions for the cabin crew to ensure safe operation of the cooktop lid and timer must be provided.

12. Evidence must be provided that with the cooktop lid closed, the temperature set on "high," and the timer at maximum, the cooktop will maintain safe operation and will not create a hazardous condition even with cooking oil in the cooktop.

Issued in Renton, Washington, on January 24, 2013.

Ali Bahrami
Manager, Transport Airplane Directorate
Aircraft Certification Service

[FR Doc. 2013-01939 Filed 01/29/2013 at 8:45 am; Publication Date: 01/30/2013]