



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2015-8472; Directorate Identifier 2014-NM-106-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Fokker Services B.V. Airplanes**

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

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for all Fokker Services B.V. Model F.28 Mark 1000, 2000, 3000, and 4000 airplanes. This proposed AD was prompted by a design review, that revealed a hot spot may develop in the main fuel tank under certain failure conditions of the solenoid of the level control pilot valve, the reed switch of the main tank overflow valve, the level float switch of the collector tank, or the solenoid of the main tank fueling shut-off valve. This proposed AD would require installing fuses in the wiring of the solenoid of the level control pilot valve, the reed switch of the main tank overflow valve, the level float switch of the collector tank, and the solenoid of the main tank fueling shut-off valve, as applicable. This proposed AD would also require accomplishing concurrent actions and revising the airplane maintenance or inspection program, as applicable, by incorporating fuel airworthiness limitation items and critical design configuration control limitations (CDCCLs). We are proposing this AD to prevent an ignition source in the main fuel tank vapor space, which could result in a fuel tank explosion and consequent loss of the airplane.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Fokker Services B.V., Technical Services Dept., P.O. Box 1357, 2130 EL Hoofddorp, the Netherlands; telephone +31 (0)88-6280-350; fax +31 (0)88-6280-111; email [technicalservices@fokker.com](mailto:technicalservices@fokker.com); Internet <http://www.myfokkerfleet.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

## **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-8472; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Tom Rodriguez, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1137; fax 425-227-1149.

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2015-8472; Directorate Identifier 2014-NM-106-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will

also post a report summarizing each substantive verbal contact we receive about this proposed AD.

## **Discussion**

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA Airworthiness Directive 2014-0107, dated May 7, 2014 (referred to after this the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for all Fokker Services B.V. Model F.28 Mark 1000, 2000, 3000, and 4000 airplanes. The MCAI states:

Prompted by an accident \* \* \*, the Federal Aviation Administration (FAA) published Special Federal Aviation Regulation (SFAR) 88 [(66 FR 23086, May 7, 2001)], and the Joint Aviation Authorities (JAA) published Interim Policy INT/POL/25/12.

The review conducted by Fokker Services on the Fokker F28 design in response to these regulations revealed that, under certain failure conditions of the solenoid of the level control pilot valve, the main tank overflow valve reed switch, the collector tank level float switch or the main tank fuelling shut-off valve solenoid, a hot spot may develop in the tank.

This condition, if not corrected, could create an ignition source in the main tank vapour space, possibly resulting in a fuel tank explosion and consequent loss of the aeroplane.

To address this potential unsafe condition, Fokker Services developed a modification to the wiring (installation of fuses) of the affected components.

For the reasons described above, this AD requires the installation of fuses in the wiring of the affected components [the solenoid of the level control pilot valve, the reed switch of the main tank overflow valve, the level float switch of the collector tank, and the solenoid of the

main tank fuelling shut-off valve] and, subsequently, the implementation of the associated Critical Design Configuration Control Limitations (CDCCL) items [and revision of the maintenance or inspection program].

More information on this subject can be found in Fokker Services All Operators Message AOF28.038#02.

You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-8472.

The FAA has examined the underlying safety issues involved in fuel tank explosions on several large transport airplanes, including the adequacy of existing regulations, the service history of airplanes subject to those regulations, and existing maintenance practices for fuel tank systems. As a result of those findings, we issued a regulation titled “Transport Airplane Fuel Tank System Design Review, Flammability Reduction and Maintenance and Inspection Requirements” (66 FR 23086, May 7, 2001). In addition to new airworthiness standards for transport airplanes and new maintenance requirements, this rule included Special Federal Aviation Regulation No. 88 (“SFAR 88,” Amendment 21-78, and subsequent Amendments 21-82 and 21-83).

Among other actions, SFAR 88 (66 FR 23086, May 7, 2001) requires certain type design (i.e., type certificate (TC) and supplemental type certificate (STC)) holders to substantiate that their fuel tank systems can prevent ignition sources in the fuel tanks. This requirement applies to type design holders for large turbine-powered transport airplanes and for subsequent modifications to those airplanes. It requires them to perform design reviews and to develop design changes and maintenance procedures if their designs do not meet the new fuel tank safety standards. As explained in the preamble to

the rule, we intended to adopt airworthiness directives to mandate any changes found necessary to address unsafe conditions identified as a result of these reviews.

In evaluating these design reviews, we have established four criteria intended to define the unsafe conditions associated with fuel tank systems that require corrective actions. The percentage of operating time during which fuel tanks are exposed to flammable conditions is one of these criteria. The other three criteria address the failure types under evaluation: single failures, single failures in combination with a latent condition(s), and in-service failure experience. For all four criteria, the evaluations included consideration of previous actions taken that may mitigate the need for further action.

The Joint Aviation Authorities (JAA) has issued a regulation that is similar to SFAR 88 (66 FR 23086, May 7, 2001). (The JAA is an associated body of the European Civil Aviation Conference (ECAC) representing the civil aviation regulatory authorities of a number of European States who have agreed to co-operate in developing and implementing common safety regulatory standards and procedures.) Under this regulation, the JAA stated that all members of the ECAC that hold type certificates for transport category airplanes are required to conduct a design review against explosion risks.

We have determined that the actions identified in this AD are necessary to reduce the potential of ignition sources inside fuel tanks, which, in combination with flammable fuel vapors, could result in fuel tank explosions and consequent loss of the airplane.

## **Related Service Information under 1 CFR part 51**

We reviewed the following service information.

- Fokker Service Bulletin SBF28-28-049, Revision 2, dated November 3, 2014, including Fokker Drawing W57273, Sheet 002, Issue C, undated, Fokker Drawing W58048, Sheet 1, undated, and Fokker Manual Change Notification MCNM-F28-035, Rev 1, dated January 9, 2014. This service information describes procedures for installing fuses packed in jiffy junctions in the collector tank.

- Fokker Proforma Service Bulletin SBF28-28-056, dated January 9, 2014, including Appendix SBF28-28-056/APP01, dated July 15, 2014. This service information describes procedures for installing fuses in the wiring of the solenoid of the level control pilot valve, the reed switch of the main tank overflow valve, the level float switch of the collector tank, and the solenoid of the main tank fueling shut-off valve. This service information also describes certain CDCCLs.

- Fokker Service Bulletin SBF28-28-051, Revision 2, dated November 3, 2014, including Drawing W57231, Sheets 010 and 011, Issue K, undated; Drawing W58048, Sheet 2, dated April 29, 2010; and Manual Change Notification – Maintenance Document MCNM-F28-034 Rev 1, dated January 9, 2014. This service information describes procedures for reworking the wiring and installing fuses packed in jiffy junctions in the power supply wire of the solenoid in the left and right level control pilot valves.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

## **FAA's Determination and Requirements of This Proposed AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of these same type designs.

This AD requires revisions to certain operator maintenance documents to include new actions (e.g., inspections) and/or CDCCLs. Compliance with these actions and/or CDCCLs is required by 14 CFR 91.403(c). For airplanes that have been previously modified, altered, or repaired in the areas addressed by this AD, the operator may not be able to accomplish the actions described in the revisions. In this situation, to comply with 14 CFR 91.403(c), the operator must request approval for an alternative method of compliance according to paragraph (k)(1) of this AD. The request should include a description of changes to the required actions that will ensure the continued operational safety of the airplane.

### **Costs of Compliance**

We estimate that this proposed AD affects 5 airplanes of U.S. registry.

We also estimate that it would take about 21 work-hours per product to comply with the basic requirements of this proposed AD. The average labor rate is \$85 per work-hour. Required parts would cost about \$5,320 per product. Based on these figures, we

estimate the cost of this proposed AD on U.S. operators to be \$35,525, or \$7,105, or per product.

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

1. Is not a "significant regulatory action" under Executive Order 12866;

2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);

3. Will not affect intrastate aviation in Alaska; and

4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

**List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

**The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

**PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

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

**§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**Fokker Services B.V.:** Docket No. FAA-2015-8472; Directorate Identifier

2014-NM-106-AD.

**(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

This AD affects AD 2011-17-03, Amendment 39-16767 (76 FR 50115, August 12, 2011); and AD 2011-21-01, Amendment 39-16824 (76 FR 63156, October 12, 2011).

**(c) Applicability**

This AD applies to Fokker Services B.V. Model F.28 Mark 1000, 2000, 3000, and 4000 airplanes, certificated in any category, all serial numbers.

**(d) Subject**

Air Transport Association (ATA) of America Code 28, Fuel.

**(e) Reason**

This AD was prompted by a design review, which revealed that a hot spot may develop in the main fuel tank under certain failure conditions of the solenoid of the level control pilot valve, the reed switch of the main tank overflow valve, the level float switch of the collector tank, or the solenoid of the main tank fueling shut-off valve. We are issuing this AD to prevent an ignition source in the main fuel tank vapor space, which could result in a fuel tank explosion and consequent loss of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Modification of Main Fuel Tank Wiring**

Within 24 months after the effective date of this AD, install fuses in the wiring of the solenoid of the level control pilot valve, the reed switch of the main tank overflow valve, the level float switch of the collector tank, and the solenoid of the main tank

fueling shut-off valve, as applicable, in accordance with the Accomplishment Instructions of Fokker Services Proforma Service Bulletin SBF28-28-056, dated January 9, 2014, including Appendix SBF28-28-056/APP01, dated July 15, 2014.

**(h) Concurrent Requirements**

Prior to or concurrently with accomplishing the requirements of paragraph (g) of this AD, do the actions specified in paragraphs (h)(1) and (h)(2) of this AD.

(1) Install fuses packed in jiffy junctions (i.e., crimped wire in-line junction device(s)), in accordance with the Accomplishment Instructions of Fokker Service Bulletin SBF28-28-049, Revision 2, dated November 3, 2014, including Fokker Drawing W57273, Sheet 002, Issue C, undated, Fokker Drawing W58048, Sheet 1, undated, and Fokker Manual Change Notification MCNM-F28-035, Rev 1, dated January 9, 2014. Accomplishment of the actions in this paragraph terminates the requirement of paragraph (g) of AD 2011-17-03, Amendment 39-16767 (76 FR 50115, August 12, 2011).

Note 1 to paragraph (h)(1) of this AD: Accomplishment of this action is required by AD 2011-17-03, Amendment 39-16767 (76 FR 50115, August 12, 2011).

(2) Rework the wiring and install fuses packed in jiffy junctions in the power supply wire of the solenoid in the left and right level control pilot valve, in accordance with the Accomplishment Instructions of Fokker Service Bulletin SBF28-28-051, Revision 2, dated November 3, 2014, including Drawing W57231, Sheets 010 and 011, Issue K, undated; Drawing W58048, Sheet 2, dated April 29, 2010; and Manual Change Notification – Maintenance Document MCNM-F28-034, Rev 1, dated January 9, 2014.

Accomplishment of the actions in this paragraph terminates the requirement of paragraph (g) of AD 2011-21-01, Amendment 39-16824 (76 FR 63156, October 12, 2011), for the actions specified in the Accomplishment Instructions of Fokker Service Bulletin SBF28-28-051, Revision 2, dated November 3, 2014, including Drawing W57231, Sheets 010 and 011, Issue K, undated; Drawing W58048, Sheet 2, dated April 29, 2010; and Manual Change Notification – Maintenance Document MCNM-F28-034, Rev 1, dated January 9, 2014, only.

Note 2 to paragraph (h)(2) of this AD: Accomplishment of this action is required by AD 2011-21-01, Amendment 39-16824 (76 FR 63156, October 12, 2011).

**(i) Revision of Maintenance or Inspection Program**

Before further flight after completing the installation specified in paragraph (g) of this AD, or within 30 days after the effective date of this AD, whichever occurs later: Revise the airplane maintenance or inspection program, as applicable, by incorporating the critical design configuration control limitations (CDCCLs) specified in paragraph 1.L.(1)(c) of Fokker Services Proforma Service Bulletin SBF28-28-056, dated January 9, 2014, including Appendix SBF28-28-056/APP01, dated July 15, 2014.

**(j) No Alternative CDCCLs**

After accomplishing the revision required by paragraph (i) of this AD, no alternative CDCCLs may be used unless the CDCCLs are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (k)(1) of this AD.

**(k) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance:** The Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Branch, send it to ATTN: Tom Rodriguez, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1137; fax 425-227-1149. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Contacting the Manufacturer:** For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the European Aviation Safety Agency (EASA); or Fokker B.V. Service's EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

**(l) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) European Aviation Safety Agency Airworthiness Directive 2014-0107, dated May 7, 2014, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov>. by searching for and locating Docket No. FAA-2015-8472.

(2) For service information identified in this AD, contact Fokker Services B.V., Technical Services Dept., P.O. Box 1357, 2130 EL Hoofddorp, the Netherlands; telephone +31 (0)88-6280-350; fax +31 (0)88-6280-111; email [technicalservices@fokker.com](mailto:technicalservices@fokker.com); Internet <http://www.myfokkerfleet.com>. You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on January 6, 2016.

Victor Wicklund,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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