

[Federal Register: November 14, 2008 (Volume 73, Number 221)]
[Rules and Regulations]
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[DOCID:fr14no08-8]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2007-27011; Directorate Identifier 2006-NM-175-AD; Amendment 39-15722; AD 2008-23-01]

RIN 2120-AA64

Airworthiness Directives; Airbus Model A318, A319, A320, and A321 Airplanes

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

ACTION: Final rule.

SUMMARY: The FAA is superseding an existing airworthiness directive (AD), which applies to certain Airbus Model A318, A319, A320, and A321 airplanes. That AD currently requires inspecting to determine the part number and serial number of the fuel tank boost pumps and, for airplanes with affected pumps, revising the airplane flight manual (AFM) and the FAA-approved maintenance program. The existing AD also provides for optional terminating action for compliance with the revisions to the AFM and the maintenance program. This new AD requires modifying or replacing the fuel tank boost pumps, which would terminate the AFM limitations and the maintenance program revisions. This AD results from a report that a fuel tank boost pump failed in service, due to a detached screw of the boost pump housing that created a short circuit between the stator and rotor of the boost pump motor and tripped a circuit breaker. We are issuing this AD to prevent electrical arcing in the fuel tank boost pump motor, which, in the presence of a combustible air-fuel mixture in the pump, could result in an explosion and loss of the airplane.

DATES: This AD becomes effective December 19, 2008.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of December 19, 2008.

On July 3, 2006 (71 FR 34814, June 16, 2006), the Director of the Federal Register approved the incorporation by reference of a certain other publication.

ADDRESSES: For service information identified in this AD, contact Airbus, Airworthiness Office—EAS, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France; fax +33 5 61 93 44 51; e-mail: account.airworth-eas@airbus.com; Internet <http://www.airbus.com>.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (telephone 800-647-5527) is the Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Tim Dulin, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-2141; fax (425) 227-1149.

SUPPLEMENTARY INFORMATION:

Discussion

The FAA issued a supplemental notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that supersedes AD 2006-12-02, amendment 39-14626 (71 FR 34814, June 16, 2006). The existing AD applies to all Airbus Model A318, A319, A320, and A321 airplanes. That supplemental NPRM was published in the Federal Register on March 13, 2008 (73 FR 13507). That supplemental NPRM proposed to supersede an existing AD that currently requires inspecting to determine the part number and serial number of the fuel tank boost pumps and, for airplanes with affected pumps, revising the airplane flight manual (AFM) and the FAA-approved maintenance program. The existing AD also provides for optional terminating action for compliance with the revisions to the AFM and the maintenance program. That supplemental NPRM proposed to require modifying or replacing the fuel tank boost pumps, which would terminate the AFM limitations and the maintenance program revisions. That supplemental NPRM proposed to exclude certain modified airplanes from the applicability, require the AFM/maintenance program revisions on additional airplanes, and require modification or replacement of additional fuel tank boost pumps.

Comments

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

Request To Remove Paragraph (k) of the Supplemental NPRM

Airbus states a concern that we have introduced Airbus Modification 36734/Mandatory Service Bulletin A320-28-1153, dated May 5, 2006, as terminating action to the AD. Airbus recognizes that this modification and associated service bulletin were terminating action for AD 2006-12-02, however Airbus points out that any modified pump installed according to either Airbus Modification 36734 or Airbus Mandatory Service Bulletin A320-28-1153 is two-way interchangeable with an affected pump having a part number ending in -005, -002, or -001. Airbus points out that Airbus Modification 37508 and Airbus Mandatory Service Bulletin A320-28-1159, dated January 8, 2007, are the only means to ensure that no affected pumps are on the airplanes. Further, Airbus states that operators that do not use Airbus Mandatory Service Bulletin A320-28-1159 will not be allowed to update their AFMs.

From these statements, we infer that Airbus is requesting that we remove paragraph (k) of the supplemental NPRM, which provides credit for actions done using Airbus Mandatory Service Bulletin A320-28-1153, and that we remove reference to Airbus Modification 36734 from the applicability statement of the supplemental NPRM. We do not agree. This AD requires

accomplishment of Airbus Mandatory Service Bulletin A320-28-1159, which, as Airbus points out, allows operators to remove the TR from the AFM. We have determined that any affected fuel pump modified in accordance with the actions specified in Airbus Mandatory Service Bulletin A320-28-1153 (Modification 36734) will be the same as any affected fuel pump modified in accordance with Airbus Mandatory Service Bulletin A320-28-1159. Therefore, paragraph (k) of this AD merely provides credit to operators that have previously modified an affected fuel pump before the effective date of this AD using Airbus Mandatory Service Bulletin A320-28-1153 for that pump only. While we understand Airbus' concern that the modified pumps may be interchanged with unmodified pumps, we note that paragraph (j) of this AD allows removal of the AFM TR only if all pumps have been replaced or modified. Therefore, we have made no change to this AD in this regard.

Request To Refer to Latest Temporary Revision (TR)

Airbus notes that Airbus TR 4.03.00/28, Issue 02, dated May 18, 2007, to the Airbus A318/319/320/321 AFM has replaced Airbus TR 4.03.00/28, dated May 4, 2006. From this statement, we infer that Airbus requests that we revise this AD to refer to Airbus TR 4.03.00/28, Issue 02. Because Airbus TR 4.03.00/28, Issue 02, is already referred to in paragraph (g)(2) of this AD, we do not agree that any change to the AD is necessary in this regard.

Request To Remove Certain Fuel Boost Pumps

Air Transport Association (ATA), on behalf of one of its members, Northwest Airlines (NWA), states that the proposed actions should not apply to fuel boost pumps below serial number (S/N) 6137 and that no operating restrictions should be placed on airplanes with those pumps. NWA states that there have been no definitive findings of missing or loose fasteners on pumps below S/N 6137. NWA further asserts that the fuel boost pump vendor, Eaton, has indicated the cause of the unsecured nuts was errors made by a robotic tool used during assembly, which was not used prior to S/N 6137 and not used on any older pump part numbers.

From these statements, we infer that the commenters request that we remove fuel boost pumps having S/N below S/N 6137 from the requirements of this AD. We do not agree. While it is true that there have not been any confirmed loose or missing fasteners found on the -001, -002, or -005 Eaton fuel boost pump with a serial number below S/N 6137, these pumps are vulnerable to the same unsafe condition. We, along with Airbus and the European Aviation Safety Agency (EASA), have determined that all of the subject fuel boost pumps might have had inadequate torque applied to the screws during assembly, whether hand-driven (below S/N 6137) or robotic-driven (above S/N 6137). Therefore, the operational restriction must be applied to all airplanes with the affected Eaton fuel boost pumps installed until the fuel boost pumps are modified in accordance with the AD. We have made no change to the AD in this regard.

Conclusion

We have carefully reviewed the available data, including the comments received on the supplemental NPRM, and determined that air safety and the public interest require adopting the AD as proposed in the supplemental NPRM.

Costs of Compliance

The following table provides the estimated costs for U.S. operators to comply with this AD.

Estimated Costs

| Action | Work hours | Average labor rate per hour | Parts | Cost per airplane | Number of U.S.-registered airplanes | Fleet cost |
|--|------------|-----------------------------|---|-------------------|-------------------------------------|-----------------|
| Identification of boost pumps | 1 | \$80 | None | \$80 | 670 | \$53,600 |
| Revisions to AFM and maintenance program | 1 | \$80 | None | \$80 | Up to 670 | Up to \$53,600 |
| Modifications | 3 | \$80 | Eaton states that pumps will qualify for free repair. | \$240 | Up to 670 | Up to \$160,800 |

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 have determined that this AD will not have federalism implications under Executive Order 13132. This AD will 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 that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866;
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
- (3) 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

List of Subjects in 14 CFR Part 39

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

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 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 removing amendment 39-14626 (71 FR 34814, June 16, 2006) and by adding the following new AD:



2008-23-01 Airbus: Amendment 39-15722. Docket No. FAA-2007-27011; Directorate Identifier 2006-NM-175-AD.

Effective Date

- (a) This AD becomes effective December 19, 2008.

Affected ADs

- (b) This AD supersedes AD 2006-12-02.

Applicability

- (c) This AD applies to Airbus Model A318, A319, A320, and A321 airplanes, certificated in any category, except those airplanes on which Airbus Modification 36734 or 37508 has been incorporated in production.

Unsafe Condition

- (d) This AD results from a report that a fuel tank boost pump failed in service, due to a detached screw of the boost pump housing that created a short circuit between the stator and rotor of the boost pump motor and tripped a circuit breaker. We are issuing this AD to prevent electrical arcing in the fuel tank boost pump motor, which, in the presence of a combustible air-fuel mixture in the pump, could result in an explosion and loss of the airplane.

Compliance

- (e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Restatement of Certain Requirements of AD 2006-12-02

Part and Serial Number Inspection

- (f) Within 10 days after July 3, 2006 (the effective date of AD 2006-12-02), inspect to determine the part number (P/N) and serial number (S/N) of each fuel tank boost pump installed in the wing and center fuel tanks. A review of maintenance records may be performed instead of the required inspection if the P/N and S/N of the fuel boost pump can be conclusively determined from that review. Airbus Mandatory Service Bulletin A320-28-1152, dated May 5, 2006; or Revision 01, dated July 17, 2006; is acceptable for complying with the requirements of this paragraph.

Revisions to Airplane Flight Manual (AFM)/Maintenance Program

P/N 568-1-27202-005 With S/Ns 6137 and Subsequent

(g) For airplanes equipped with one or more Eaton Aerospace Limited (formerly FR-HITEMP Limited) fuel boost pumps, having P/N 568-1-27202-005 with S/N 6137 and subsequent: Prior to further flight after accomplishing the inspection required by paragraph (f) of this AD, do the actions specified in paragraphs (g)(1) and (g)(2), as applicable of this AD, until the modifications/replacements required by paragraph (j) of this AD have been done.

(1) Revise the Limitations section of the Airbus A318/319/320/321 AFM ("the AFM") and the FAA-approved maintenance program by incorporating the following. This may be accomplished by inserting copies of this AD into the AFM and the maintenance program.

"Apply the following procedure at each fuel loading:

Refueling:

Before refueling, all pumps must be turned off, in order to prevent them from automatically starting during the refueling process.

Ground fuel transfer:

For all aircraft, do not start a fuel transfer from any wing tank, if it contains less than 700 kg (1,550 lb) of fuel.

For A318, A319, and A320 aircraft with a center tank, do not start a fuel transfer from the center tank, if it contains less than 2,000 kg (4,500 lb) of fuel.

If a tank has less than the required quantity, it is necessary to add fuel (via a transfer from another tank or refueling) to enable a transfer to take place.

Defueling:

For all aircraft, when defueling the wings, do not start the fuel pumps if the fuel quantity in the inner tank (wing tank for A321) is below 700 kg (1,550 lb). If the fuel on the aircraft is not sufficient to achieve the required fuel distribution, then transfer fuel or refuel the aircraft to obtain the required fuel quantity in the wing tank.

For A318, A319, and A320 aircraft with a center tank, when performing a pressure defuel of the center tank, make sure that the center tank contains at least 2,000 kg (4,500 lb) of fuel. If it has less than the required quantity, then transfer fuel to the center tank. Defuel the aircraft normally, and turn OFF the center tank pumps immediately after the FAULT light on the corresponding pushbutton-switch comes on."

(2) For all airplanes equipped with a center tank (Modification 20024) excluding A321 models, revise the Limitations section of the Airbus A318/319/320/321 AFM ("the AFM") to incorporate the changes specified in Airbus Temporary Revision (TR) 4.03.00/28, dated May 4, 2006; or 4.03.00/28, Issue 02, dated May 18, 2007. This may be accomplished by inserting a copy of the TR into the AFM. When general revisions of the AFM have been issued that incorporate the revisions specified in the TR, the copy of the TR may be removed from the AFM, provided the relevant information in

the general revision is identical to that in TR 4.03.00/28, dated May 4, 2006; or 4.03.00/28, Issue 02, dated May 18, 2007.

New Requirements of This AD

Part and Serial Number Inspection

(h) For all airplanes: Within 10 days after the effective date of this AD, inspect to determine the type and part number of each fuel tank boost pump installed in the wing and center fuel tanks. A review of maintenance records may be performed instead of the required inspection if the part number and serial number of the fuel boost pump can be conclusively determined from that review. Airbus Mandatory Service Bulletin A320-28-1159, dated January 8, 2007, is acceptable for complying with the requirements of this paragraph.

Revisions to AFM/Maintenance Program: P/Ns 568-1-27202-001 and -002; and P/N 568-1-27202-005 With S/Ns Below 6137

(i) For airplanes equipped with one or more Eaton Aerospace Limited (formerly FR-HITEMP Limited) fuel boost pumps, having P/N 568-1-27202-001 or 568-1-27202-002; or P/N 568-1-27202-005 with any serial number below 6137: Before further flight after accomplishing the inspection required by paragraph (h) of this AD, do the actions specified in paragraphs (g)(1) and (g)(2) of this AD, as applicable, until the modifications/replacements required by paragraph (j) of this AD have been done.

Terminating Action

(j) For airplanes equipped with one or more Eaton Aerospace Limited (formerly FR-HITEMP Limited) fuel boost pumps, having P/N 568-1-27202-001, -002, or -005: Within 5,000 flight hours or 18 months, whichever occurs first after the effective date of this AD, modify or replace affected fuel boost pumps in accordance with the Accomplishment Instructions of Airbus Mandatory Service Bulletin A320-28-1159, dated January 8, 2007. Modification or replacement of all affected fuel tank boost pumps on an airplane terminates the requirements of this AD, and the limitations required by paragraph (g) of this AD may be removed from the Airbus A318/319/320/321 AFM and the maintenance program for that airplane.

Note 1: For additional sources of service information for the fuel pump modification/replacement, Airbus Mandatory Service Bulletin A320-28-1159, dated January 8, 2007, refers to EATON Service Bulletin 8410-28-05, dated October 2, 2006.

Credit for Actions Done Using Alternative Service Information

(k) Modification of a fuel pump before the effective date of this AD in accordance with Airbus Mandatory Service Bulletin A320-28-1153, dated May 5, 2006, is acceptable for compliance with the corresponding requirements of paragraph (j) of this AD, for that pump only.

Alternative Methods of Compliance (AMOCs)

(l)(1) The Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA, ATTN: Tim Dulin, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-2141; fax (425) 227-1149; has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19.

(2) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

(3) AMOCs approved previously in accordance with AD 2006-12-02 are approved as AMOCs for the corresponding provisions of this AD.

Related Information

(m) European Aviation Safety Agency airworthiness directive 2007-0218, dated August 10, 2007, also addresses the subject of this AD.

Material Incorporated by Reference

(n) You must use the service information specified in Table 1 of this AD to perform the actions that are required by this AD, as applicable, unless the AD specifies otherwise.

Table 1 – All Material Incorporated by Reference

| Service Information | Revision/Issue Level | Date |
|--|-----------------------------|-----------------|
| Airbus Mandatory Service Bulletin A320-28-1152, including Appendix 01 | Original | May 5, 2006 |
| Airbus Mandatory Service Bulletin A320-28-1152, including Appendix 01 | Revision 01 | July 17, 2006 |
| Airbus Mandatory Service Bulletin A320-28-1159 | Original | January 8, 2007 |
| Airbus Temporary Revision 4.03.00/28 | Original | May 4, 2006 |
| Airbus Temporary Revision 4.03.00/28 to the Airbus A318/319/320/321 Airplane Flight Manual | Issue 02 | May 18, 2007 |

(1) The Director of the Federal Register approved the incorporation by reference of the documents specified in Table 2 of this AD in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

Table 2 – New Material Incorporated by Reference

| Service Information | Revision/Issue Level | Date |
|--|-----------------------------|-----------------|
| Airbus Mandatory Service Bulletin A320-28-1152, including Appendix 01 | Original | May 5, 2006 |
| Airbus Mandatory Service Bulletin A320-28-1152, including Appendix 01 | Revision 01 | July 17, 2006 |
| Airbus Service Bulletin A320-28-1159 | Original | January 8, 2007 |
| Airbus Temporary Revision 4.03.00/28 to the Airbus A318/319/320/321 Airplane Flight Manual | Issue 02 | May 18, 2007 |

(2) On July 3, 2006 (71 FR 34814, June 16, 2006), the Director of the Federal Register previously approved the incorporation by reference of Airbus Temporary Revision 4.03.00/28, dated May 4, 2006.

(3) Contact Airbus, Airworthiness Office–EAS, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France; fax +33 5 61 93 44 51; e-mail: account.airworth-eas@airbus.com; Internet <http://www.airbus.com>, for a copy of this service information. You may review copies at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on October 24, 2008.

Ali Bahrami,
Manager, Transport Airplane Directorate,
Aircraft Certification Service.