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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2007-0096; Directorate Identifier 2007-NE-39-AD; Amendment 39-16141; AD 2009-26-06]

RIN 2120-AA64

Airworthiness Directives; Honeywell International Inc. ALF502 Series and LF507 Series Turbofan Engines

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

ACTION: Final rule.

SUMMARY: The FAA is superseding an existing airworthiness directive (AD) for Honeywell International Inc. ALF502 series and LF507 series turbofan engines with certain fuel manifold assemblies installed. That AD currently requires initial and repetitive on-wing eddy current or in-shop fluorescent penetrant inspections of certain part number (P/N) fuel manifold assemblies for cracks, and replacement of cracked fuel manifolds with serviceable manifolds. This AD continues to require inspecting those fuel manifolds for cracks, adds leak checks of certain additional P/N fuel manifolds, and specifies replacement of the affected manifolds as an optional terminating action in lieu of the repetitive inspections. This AD results from reports of fire in the engine nacelle. We are issuing this AD to detect cracks in certain fuel manifolds and fuel leaks from other fuel manifolds, which could result in a fire in the engine nacelle and a hazard to the aircraft.

DATES: This AD becomes effective February 11, 2010. The Director of the Federal Register approved the incorporation by reference of AlliedSignal Service Bulletin (SB) ALF/LF 73-1002, Revision 1, dated March 24, 1997, listed in this AD as of February 11, 2010. The Director of the Federal Register previously approved the incorporation by reference of SB ALF/LF 73-1002, dated December 22, 1995, listed in this AD as of July 28, 1997 (62 FR 28994, May 29, 1997).

ADDRESSES: You can get the service information identified in this AD from Honeywell International Inc., P.O. Box 52181, Phoenix, AZ 85072-2181; telephone (800) 601-3099 (U.S.A.) or (602) 365-3099 (International); or go to: <https://portal.honeywell.com/wps/portal/aero>.

The Docket Operations office is located at Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.

FOR FURTHER INFORMATION CONTACT: Robert Baitoo, Aerospace Engineer, Los Angeles Aircraft Certification Office, FAA, Transport Airplane Directorate, 3960 Paramount Blvd., Lakewood, CA 90712-4137; e-mail: robert.baitoo@faa.gov; telephone (562) 627-5245; fax (562) 627-5210.

SUPPLEMENTARY INFORMATION: The FAA proposed to amend 14 CFR part 39 by superseding AD 97-11-05, Amendment 39-10034 (62 FR 28994, May 29, 1997), with a proposed AD. The proposed AD applies to Honeywell International Inc. ALF502 series and LF507 series turbofan engines with certain fuel manifold assemblies installed. We published the proposed AD in the Federal Register on April 13, 2009 (74 FR 16803). That action proposed to continue to require inspecting those fuel manifolds for cracks, would also add leak checks of certain additional P/N fuel manifolds, and would specify replacement of the affected manifolds as an optional terminating action in lieu of the repetitive inspections.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; 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 AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is provided in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

Comments

We provided the public the opportunity to participate in the development of this AD. We received no comments on the proposal or on the determination of the cost to the public.

Clarification in Optional Terminating Action Paragraph

Paragraph (i) of this AD is partially revised from, "* * * terminates the repetitive inspection requirement specified in paragraphs (f)(1)(iii), (f)(2)(iii), (g), and (h) of this AD." to "* * * terminates the inspection requirement of this AD." This change was made because replacing a fuel manifold assembly that has a P/N specified in paragraph (i) of this AD, or an FAA-approved equivalent part, terminates all inspection requirements of this AD.

Conclusion

We have carefully reviewed the available data and determined that air safety and the public interest require adopting the AD with the change described previously. We have determined that this change will neither increase the economic burden on any operator nor increase the scope of the AD.

Costs of Compliance

We estimate that this AD will affect 156 engines installed on airplanes of U.S. registry. We also estimate that it will take about 7 work-hours per engine to perform the required actions, and that the average labor rate is \$80 per work-hour. Required parts will cost about \$50,000 per engine. Based on these figures, we estimate the total cost of this AD to U.S. operators to be \$7,887,360.

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 summary of the costs to comply with this AD and placed it in the AD Docket. You may get a copy of this summary at the address listed under ADDRESSES.

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 Federal Aviation Administration 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 39-10034 (62 FR 28994, May 29, 1997), and by adding a new airworthiness directive, Amendment 39-16141, to read as follows:



2009-26-06 Honeywell International Inc. (Formerly AlliedSignal and Textron-Lycoming):
Amendment 39-16141. Docket No. FAA-2007-0096; Directorate Identifier 2007-NE-39-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective February 11, 2010.

Affected ADs

(b) This AD supersedes AD 97-11-05, Amendment 39-10034.

Applicability

(c) This AD applies to Honeywell International Inc. ALF502L and ALF502R series, and LF507-1F and LF507-1H turbofan engines with fuel manifolds, part numbers (P/Ns) 2-163-620-9, 2-163-620-10, 2-163-620-17, 2-163-620-18, 2-163-620-23, 2-163-620-24, 2-163-620-25, 2-163-620-26, 2-163-620-27, 2-163-620-28, 2-163-620-33, 2-163-620-34, 2-163-620-35, 2-163-620-36, 2-163-620-37, or 2-163-620-38, installed. These engines are installed on, but not limited to, Bombardier CL-600-1A11 and BAE Systems 146-100/A, -200/A, and -300/A, and AVRO 146-RJ70A, -RJ85A, and -RJ100A airplanes.

Unsafe Condition

(d) This AD results from reports of fire in the engine nacelle. We are issuing this AD to detect cracks in certain fuel manifolds and fuel leaks from other fuel manifolds, which could result in a fire in the engine nacelle and a hazard to the aircraft.

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.

Initial Inspection for Cracks in Fuel Manifold Assemblies That Have a P/N Listed in Paragraph (c) of This AD, Except P/Ns 2-163-620-37 or 2-163-620-38

(f) Using the following compliance times, perform initial and repetitive on-wing eddy current inspections (ECI) or in-shop fluorescent penetrant inspections (FPI) of fuel manifold assemblies having a P/N listed in the paragraph (c) of this AD, except P/Ns 2-163-620-37 or 2-163-620-38. Use paragraphs 2.A.(1) through 2.A.(3)(d) of the accomplishment instructions of AlliedSignal Service Bulletin ALF/LF 73-1002, Revision 1, dated March 24, 1997 or original issue dated December 22, 1995, to perform the inspections.

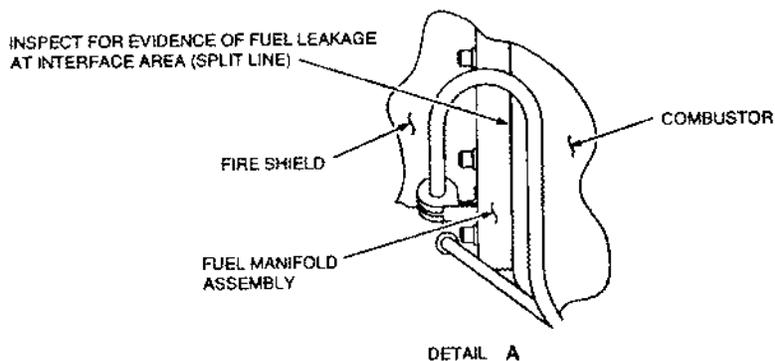
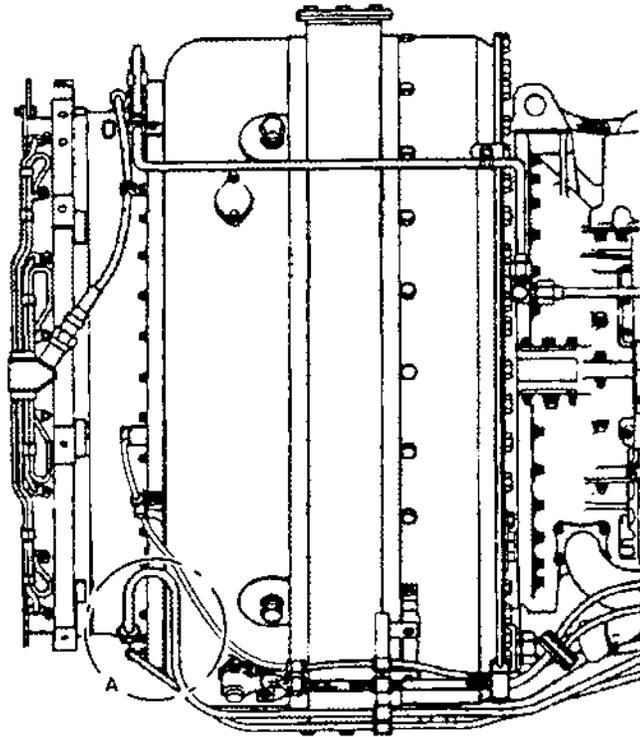
(1) For ALF502L series engines:

(i) For fuel manifold assemblies with 3,250 or more cycles since new (CSN) or unknown CSN on July 28, 1997 (the effective date of AD 97-11-05), inspect at the next hot section inspection (HSI), or 2,000 cycles-in-service (CIS) after July 28, 1997, whichever occurs first.

- (ii) For fuel manifold assemblies with less than 3,250 CSN on July 28, 1997, inspect at the next HSI or before accumulating 5,250 CSN, whichever occurs first.
 - (iii) Thereafter, inspect at HSI intervals not to exceed 2,000 cycles-since-last inspection (CSLI).
 - (iv) If a fuel manifold assembly is found cracked, prior to further flight, replace the fuel manifold assembly with an FAA-approved serviceable assembly.
- (2) For ALF502R and LF507 series engines:
- (i) For fuel manifold assemblies with 3,250 or more CSN, or unknown CSN, on July 28, 1997, inspect within 1,250 CIS after July 28, 1997.
 - (ii) For fuel manifold assemblies with less than 3,250 CSN on July 28, 1997, inspect prior to accumulating 4,500 CSN.
 - (iii) Thereafter, inspect at intervals not to exceed 1,250 CSLI.
 - (iv) If a fuel manifold assembly is found cracked, before further flight replace the fuel manifold assembly with an FAA-approved serviceable assembly.

Initial Inspection for Fuel Leaks, Fuel Manifold Assemblies, P/Ns 2-163-620-37 or 2-163-620-38

- (g) For fuel manifold assemblies, P/Ns 2-163-620-37 or 2-163-620-38, with 1,800 or more CSN or cycles-since-overhaul (CSO), inspect for leaks within 300 CIS after the effective date of this AD as follows:
- (1) Start engine and let stabilize at ground idle.
 - (2) With the engine operating, look for fuel leaking from the fuel manifold assembly to the fire shield interface area (see Figure 1 of this AD). No leaks allowed.
 - (3) If you find any leaks, shutdown the engine and replace the fuel manifold assembly with an FAA-approved serviceable assembly.
 - (4) Shut down engine.
 - (5) Look for fuel leaking from the fuel manifold assembly to the fire shield interface area (see Figure 1 of this AD). No leaks allowed.
 - (6) If you find any leaks, replace the fuel manifold assembly with an FAA-approved serviceable assembly.



Repetitive Inspection for Fuel Leaks, Fuel Manifold Assemblies P/Ns 2-163-620-37 and 2-163-620-38

(h) Thereafter, within 600 CSLI, inspect fuel manifold assemblies, P/Ns 2-163-620-37 and 2-163-620-38, for leaks as specified in paragraphs (g)(1) through (g)(6) of this AD.

Optional Terminating Action

(i) Replacing a fuel manifold assembly that has a P/N specified in paragraph (c) of this AD with a fuel manifold assembly, P/N 2-163-620-39, 2-163-620-40, 2-163-620-41, or 2-163-620-42, or an FAA-approved equivalent part, terminates the inspection requirement of this AD.

Alternative Methods of Compliance

(j) The Manager, Los Angeles Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

Related Information

(k) Contact Robert Baitoo, Aerospace Engineer, Los Angeles Aircraft Certification Office, FAA, Transport Airplane Directorate, 3960 Paramount Blvd., Lakewood CA 90712-4137; e-mail: robert.baitoo@faa.gov; telephone (562) 627-5245; fax (562) 627-5210, for more information about this AD.

Material Incorporated by Reference

(l) You must use AlliedSignal Service Bulletin (SB) ALF/LF 73-1002, Revision 1, dated March 24, 1997 or SB ALF/LF 73-1002, dated December 22, 1995, to perform the actions required by this AD. The Director of the Federal Register approved the incorporation by reference of AlliedSignal SB ALF/LF 73-1002, Revision 1, dated March 24, 1997, in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. The Director of the Federal Register previously approved the incorporation by reference of AlliedSignal SB ALF/LF 73-1002, dated December 22, 1995 on July 28, 1997 (62 FR 28994, May 29, 1997). Contact Honeywell International Inc., P.O. Box 52181, Phoenix, AZ 85072-2181; telephone (800) 601-3099 (U.S.A.) or (602) 365-3099 (International); or go to: <https://portal.honeywell.com/wps/portal/aero>, for a copy of this service information. You may review copies at the FAA, New England Region, 12 New England Executive Park, Burlington, MA; 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/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts, on December 10, 2009.

Peter A. White,
Assistant Manager, Engine and Propeller Directorate,
Aircraft Certification Service.