[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2020-0394; Project Identifier AD-2019-00141-E]

RIN 2120-AA64

Airworthiness Directives; Honeywell International Inc. Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for all Honeywell International Inc. ALF502L, ALF502L-2, ALF502L-2A, ALF502L-2C, ALF502L-3, ALF502R-3, ALF502R-3A, ALF502R-4, ALF502R-5, ALF502R-6, LF507-1F, and LF507-1H model turbofan engines. This proposed AD was prompted by a report of an engine experiencing an uncontained release of low-pressure turbine (LPT) blades. This proposed AD would require initial and repetitive visual inspections of the overspeed fuel solenoid valve assembly and the fuel filter outlet. Depending on the results of these inspections, the AD may require inspection of the adjacent fuel system tube assemblies as well as replacement or overhaul of the overspeed fuel solenoid valve assembly. This proposed AD would also require periodic overhaul of the overspeed fuel solenoid valve assembly. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA 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 https://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: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Honeywell International Inc., 111 S. 34th Street, Phoenix, Arizona 85034-2802, United States; phone: 800-601-3099; website: https://aerospace.honeywell.com/en#/. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the availability of this material at the FAA, call 781-238-7759.

Examining the AD Docket

You may examine the AD docket on the Internet at https://www.regulations.gov by searching for and locating Docket No. FAA-2020-0394; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Mark Matzke, Aerospace Engineer, Los Angeles ACO Branch, FAA, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5312; fax: 562-627-5210; email: mark.matzke@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section.

Include "Docket No. FAA-2020-0394; Project Identifier AD-2019-00141-E" at the beginning of your comments. The FAA specifically invites comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. The FAA will consider all comments received by the closing date and may amend this NPRM because of those comments.

Except for Confidential Business Information as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to https://www.regulations.gov, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

Confidential Business Information (CBI) is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Mark Matzke, Aerospace Engineer, Los Angeles ACO Branch, FAA, 3960 Paramount Boulevard, Lakewood, CA 90712-4137. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Discussion

The FAA received a report of an engine experiencing an uncontained release of the LPT blades. Subsequent analysis by the manufacturer determined that fuel system coking and/or contamination may slow the response time and operation of the overspeed fuel solenoid valve assembly resulting in the failure to arrest an engine overspeed. As a result, engine overspeed may lead to uncontained release of the LPT blades. This condition, if not addressed, could result in uncontained LPT blade release, damage to the engine, and loss of the aircraft.

Related Service Information under 1 CFR part 51

The FAA reviewed Honeywell Alert Service Bulletin (ASB) ALF/LF-72-1120, Revision 1, dated January 6, 2020. The ASB describes procedures for a one-time inspection of the overspeed fuel solenoid valve assembly, fuel tube, and dual heater oil cooler.

The FAA reviewed Honeywell Temporary Revision (TR) No. 72-1022, dated October 14, 2019, to Honeywell Engine Manual Report No. 286.1, Revision 27, dated August 27, 2004. The TR describes procedures for repetitive overhaul of overspeed fuel solenoid valve assemblies installed on Honeywell ALF502R model engines.

The FAA reviewed Honeywell TR No. 72-202, dated October 10, 2019, to Honeywell Engine Manual Report No. 507F.1, Revision 6, dated August 16, 2013. The TR describes procedures for repetitive overhaul of overspeed fuel solenoid valve assemblies installed on Honeywell LF507-1F model engines.

The FAA reviewed Honeywell TR No. 72-177, dated October 10, 2019, to Honeywell Engine Manual Report No. 507H.1, Revision 5, dated September 30, 1999. The TR describes procedures for repetitive overhaul of overspeed fuel solenoid valve assemblies installed on Honeywell LF507-1H model engines.

The FAA reviewed Honeywell TR No. 72-57, dated October 29, 2019, to Honeywell Overhaul Manual 72-07-07, Revision 1, dated January 31, 2001. The TR describes procedures for repetitive overhaul of overspeed fuel solenoid valve assemblies installed on Honeywell ALF502L model engines.

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.

Other Related Service Information

The FAA reviewed Wright Components, Inc, Component Maintenance Manual (CMM) 73-19-01, Initial Revision, dated July 30, 1982. The CMM describes procedures for overhauling three-way two-position solenoid operated fuel valves, part number 2-303-175-01.

The FAA reviewed Honeywell Service Bulletin (SB) ALF502-72-0001, Revision 24, dated October 29, 2019. The SB describes procedures for repetitive visual inspections of overspeed fuel solenoid valve assemblies installed on Honeywell ALF502R model engines.

The FAA reviewed Honeywell SB LF507-1F-72-1, Revision 10, dated October 29, 2019. The SB describes procedures for repetitive visual inspections of overspeed fuel solenoid valve assemblies installed on Honeywell LF507-1F model engines.

The FAA reviewed Honeywell SB LF507-1H-72-1, Revision 9, dated October 18, 2019. The SB describes procedures for repetitive visual inspections of overspeed fuel solenoid valve assemblies installed on Honeywell LF507-1H model engines.

The FAA reviewed Honeywell SB ALF502-72-0005, Revision 17, dated October 29, 2019. The SB describes procedures for repetitive visual inspections of overspeed fuel solenoid valve assemblies installed on Honeywell ALF502L model engines.

FAA's Determination

The FAA is proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require initial and repetitive visual inspections of the overspeed fuel solenoid valve assembly and the fuel filter outlet. Depending on the results of the inspection, this AD may require inspection of the adjacent fuel system tube assemblies as well as replacement or overhaul of the overspeed fuel solenoid valve assembly. This proposed AD would also require periodic overhaul of the overspeed fuel solenoid valve assembly.

Differences Between this Proposed AD and the Service Information

Honeywell ASB ALF/LF-72-1120, Revision 1, dated January 6, 2020, uses the term "flights" and recommends installing the improved clamping of the overspeed fuel solenoid valve assembly to the in-line fuel filter housing assembly introduced in AlliedSignal Aerospace SB ALF502 73-0131, Revision 3, dated September 8, 1995, prior to re-installation. This proposed AD uses "engine cycles" and does not require installing the improved clamping of the overspeed fuel solenoid valve assembly to the in-line fuel filter housing assembly as this is not related to the unsafe condition of this proposed AD.

Costs of Compliance

The FAA estimates that this proposed AD affects 210 engines installed on airplanes of U.S. registry.

The FAA estimates the following costs to comply with this proposed AD:

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Visual inspection	2 work-hours x	$0	$170	$35,700

of the fuel solenoid valve, fuel filter outlet, and adjacent fuel system tube assemblies	$85 per hour = $170			
Overhaul of overspeed fuel solenoid valve assembly	0.25 work-hours x $85 per hour = $21.25	$7,700	$7,721.25	$1,621,462.50

The FAA estimates the following costs to do any necessary overhauls or replacements that would be required based on the results of the proposed inspection. The FAA has no way of determining the number of aircraft that might need these overhauls or replacements:

On-condition costs

Action	Labor Cost	Parts Cost	Cost per product
Removal, Inspection, and Cleaning of the engine fuel tube assemblies	2 work-hours x $85 per hour = $170	$0	$170
Replacement or overhaul of overspeed fuel solenoid valve assembly	0.25 work-hours x $85 per hour = $21.25	$7,700	$7,721.25

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.

The FAA is 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

The FAA 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) Will not affect intrastate aviation in Alaska, 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.

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):

Honeywell International Inc.: Docket No. FAA-2020-0394; Project Identifier AD-2019-00141-E.

(a) Comments Due Date

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

(b) Affected ADs

None.

(c) Applicability

This AD applies to all Honeywell International Inc. ALF502L, ALF502L-2, ALF502L-2A, ALF502L-2C, ALF502L-3, ALF502R-3, ALF502R-3A, ALF502R-4, ALF502R-5, ALF502R-6, LF507-1F, and LF507-1H model turbofan engines.

(d) Subject

Joint Aircraft System Component (JASC) Code 7200, Engine (Turbine/Turboprop); 7300, Engine Fuel and Control; and 7620, Engine Emergency Shutdown System.

(e) Unsafe Condition

This AD was prompted by a report of an engine experiencing an uncontained release of low-pressure turbine (LPT) blades. The FAA is issuing this AD to prevent failure of the LPT blades. The unsafe condition, if not addressed, could result in uncontained LPT blade release, damage to the engine, and loss of the aircraft.

(f) Compliance

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

(g) Required Actions

(1) Perform an initial visual inspection of the overspeed fuel solenoid valve assembly and fuel filter outlet in accordance with the Accomplishment Instructions,

paragraphs 3.B.(1) to (3), of Honeywell Alert Service Bulletin (ASB) ALF/LF-72-1120, Revision 1, dated January 6, 2020 ("Honeywell ASB ALF/LF-72-1120"), using the times, as applicable, in paragraphs (g)(1)(i), (ii), and (iii) of this AD.

(i) If, on the effective date of this AD, the fuel solenoid valve assembly has 1,500 or less engine cycles since last overhaul, perform the inspection before exceeding 3,000 engine cycles since last overhaul or within 5 years after the effective date of this AD, whichever occurs first.

(ii) If, on the effective date of this AD, the fuel solenoid valve assembly has greater than 1,500 but less than 3,000 engine cycles since last overhaul, perform the inspection before exceeding 3,500 engine cycles since last overhaul or within 5 years after the effective date of this AD, whichever occurs first.

(iii) If, on the effective date of this AD, the fuel solenoid valve assembly has 3,000 or more engine cycles since last overhaul, perform the inspection before exceeding 500 engine cycles or within 5 years after the effective date of this AD, whichever occurs first.

(2) Thereafter, repeat the visual inspection of the overspeed fuel solenoid valve assembly, fuel filter outlet, and adjacent fuel system tube assemblies at intervals not to exceed 3,000 engine cycles since the last visual inspection using the Accomplishment Instructions, paragraphs 3.B.(1) to (3), of Honeywell ASB ALF/LF-72-1120.

(3) If, based on the visual inspection required by paragraph (g)(1) or (2) of this AD, an overspeed fuel solenoid valve assembly is rejected for visual coking or varnish residue, as depicted in the Accomplishment Instructions, paragraph 3.B.(3) of Honeywell ASB ALF/LF-72-1120, before further flight:

(i) Remove and inspect the adjacent fuel system tube assemblies using the Accomplishment Instructions, paragraph 3.B.(3) of Honeywell ASB ALF/LF-72-1120.

(ii) Overhaul the overspeed fuel solenoid valve assembly or replace it with a part eligible for installation using the Accomplishment Instructions, paragraphs 3.B.(5) to (8), of Honeywell ASB ALF/LF-72-1120.

Note to paragraph (g)(3)(ii): Valves may be serviced at any appropriately rated, FAA-approved repair facility.

(4) At the next engine shop visit after the effective date of this AD, and each shop visit thereafter, if the overspeed fuel solenoid valve assembly time since new or since last overhaul, whichever is less, exceeds 8,000 engine cycles or is unknown, overhaul the overspeed fuel solenoid valve assembly in accordance with the applicable Honeywell Temporary Revision (TR) for the engine, as defined in paragraphs (h)(1) through (4).

(h) Definition

For the purpose of this AD, the "applicable Honeywell TR" refers, depending on the affected engine model, to the following engine model TRs:

(1) Honeywell TR No. 72-1022, dated October 14, 2019, for Honeywell ALF502R model engines;

(2) Honeywell TR No. 72-202, dated October 10, 2019, for Honeywell LF507-1F model engines;

(3) Honeywell TR No. 72-177, dated October 10, 2019, for Honeywell LF507-1H model engines; or

(4) Honeywell TR No. 72-57, dated October 29, 2019, for Honeywell ALF502L model engines.

(i) Credit for Previous Actions

You may take credit for the initial visual inspection and replacement required by paragraph (g)(1) to (3) of this AD if the inspection was performed using the Accomplishment Instructions, paragraphs 3.B.(1) to (2) or 3.B.(6), of Honeywell ASB ALF/LF-72-1120, Revision 0, dated August 30, 2019.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Los Angeles ACO Branch, 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 manager of the certification office, send it to the attention of the person identified in paragraph (k)(1) of this AD. Information may be emailed to: 9-ANM-LAACO-AMOC-Requests@faa.gov.

(2) 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.

(k) Related Information

(1) For more information about this AD, contact Mark Matzke, Aerospace Engineer, Los Angeles ACO Branch, FAA, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5312; fax: 562-627-5210; email: mark.matzke@faa.gov.

(2) For service information identified in this AD, contact Honeywell International Inc., 111 S. 34th Street, Phoenix, Arizona 85034-2802, United States; phone: 800-601-3099; website: https://aerospace.honeywell.com/en#/. You may view this referenced service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the availability of this material at the FAA, call 781-238-7759.

Issued on April 28, 2020.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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