[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2017-0020; Directorate Identifier 2016-NE-33-AD]

RIN 2120-AA64

Airworthiness Directives; Honeywell International Inc. Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain Honeywell International Inc. AS907 series turbofan engines. This proposed AD was prompted by two loss-of-thrust-control events, and two in-flight shutdowns (IFSDs) of new production, low-time engines attributed to water intrusion of the engine electronic control unit (ECU). This proposed AD would require applying sealant to identified areas of the ECU and requires inserting a copy of certain airplane operating procedures into the applicable flight manuals. We are proposing this AD to correct the unsafe condition on these products.

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: 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, AZ 85034-2802; phone: 800-601-3099; Internet: https://myaerospace.honeywell.com/wps/portal/!ut/. You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (781) 238-7125.

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-2017-0020; 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 proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Joseph Costa, Aerospace Engineer, Los Angeles Aircraft Certification Office, FAA, Transport Airplane Directorate, 3960 Paramount Blvd., Lakewood, CA 90712-4137; phone: 562-627-5246; fax: 562-627-5210; email: joseph.costa@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this NPRM. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2017-0020; Directorate Identifier 2016-NE-33 AD" at the beginning of your comments. We specifically invite comments on the overall regulatory,

economic, environmental, and energy aspects of this NPRM. We will consider all comments received by the closing date and may amend this NPRM because of 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 NPRM.

Discussion

We received reports of two loss-of-thrust-control events and two IFSDs of new production, low-time AS907-2-1A engines, attributed to water intrusion into the ECU at the ECU cover-to-body splitline, cover screws and cavities, leading to internal board electrical faults. Similar events have occurred on AS907-1-1A engines when rainwater dripped through the ECU and T2 engine access panels at 10 and 2 o'clock locations onto the ECU and harnesses while the airplane was on the ground. This proposed AD would require application of sealant to identified areas of the ECU and requires inserting a copy of certain airplane operating procedures into the applicable flight manuals. These procedures describe interim actions for not dispatching the airplane under certain engine electronic fault conditions. This condition, if not corrected, could result in dual engine power loss, loss of thrust control, and damage to the engine and airplane.

Related Service Information under 1 CFR part 51

We reviewed Honeywell Service Bulletin (SB); SB AS907-76-9021, Revision 1, dated April 20, 2017; Operating Information Letter (OIL) OIAS907-0001R00, dated March 14, 2017; Component Maintenance Manual (CMM) 2119576, Temporary Revision (TR) No. 76-1, Section 76-10-15, dated September 6, 2016; and CMM 2119576, TR No. 76-1, Section 76-10-29, dated August 2, 2016.

In combination, the SB and TRs describe procedures for applying sealant to identified areas of the ECU to prevent water from entering the ECU on AS907 series engines. The OIL provides instructions for interrogating the onboard Maintenance Data Computer to clear engine electronic fault conditions. 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

We are 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 applying sealant to identified areas of the ECU.

Differences Between this Proposed AD and the Service Information

Honeywell SB AS907-76-9021, Revision 1, dated April 20, 2017 recommends complying after 400 engine operating hours, not to exceed 18 months from the date of issuance of the SB. This NPRM proposes complying within 200 engine operating hours or 9 months after the effective date of the AD, whichever occurs first.

Interim Action

We consider this proposed AD interim action. Honeywell is developing design changes that will eliminate the need to apply sealant to the ECU.

Costs of Compliance

We estimate that this ECU sealing affects 477 engines installed on airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inserting Figure into AFM	2 work-hours X $85 per hour = $170.00	$0	$170.00	$81,090.00
Application of sealant, on-wing	5.5 work-hours X $85 per hour = $467.50	$50.00	$517.50	$246,847.50

We estimate the following costs to do any necessary fault checks of the Maintenance Data Computer (MDC) / Onboard Messaging System (OMS). We estimate that 20 engines will need this fault check.

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Fault Check of Maintenance Data Computer	5 work-hours X $85 per hour = $425.00	$0	$425.00

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

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):

Honeywell International Inc.: Docket No. FAA-2017-0020; Directorate Identifier 2016-NE-33-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

None.

(c) Applicability

This AD applies to all Honeywell International Inc. AS907-1-1A, -2-1A, -2-1G, and -3-1E model turbofan engines, with engine serial numbers (S/Ns) listed in Table 3 of Honeywell Service Bulletin (SB) AS907-76-9021 Revision 1, dated April 20, 2017; or with engine electronic control unit (ECU), part numbers (P/Ns) 2119576-1001 through -1011, with no Mod Record or with a Mod Record 1 through 5 (for the AS907-1-1A engine); or with ECU, P/N 2119576-1102, with no Mod Record (for the AS907-2-1A engine); or with ECU, P/Ns 2119576-3002 and -3102, with no Mod Record (for the AS907-2-1G engine); or with ECU, P/Ns 2119576-4102 and -4103, with no Mod Record (for the AS907-3-1E), installed.

(d) Subject

Joint Aircraft System Component (JASC) Code 7600, Engine Controls Section.

(e) Unsafe Condition

This AD was prompted by two low-time loss-of-thrust-control events and two in-flight shut downs (IFSDs) attributed to water intrusion of the engine ECU. We are issuing

this AD to prevent a dual engine power loss, and loss of thrust control and damage to the engine and airplane.

(f) Compliance

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

(g) Required Actions

(1) For applicable engines, apply sealant to both ECUs within 200 engine operating hours, or 9 months after the effective date of this AD whichever occurs first, using Accomplishment Instructions, paragraph 3.C. of Honeywell SB AS907-76-9021, Revision 1, dated April 20, 2017.

(2) If the ECU sealant is removed or becomes defective, re-apply sealant using Accomplishment Instructions, paragraph 3.C. of Honeywell SB AS907-76-9021, Revision 1, dated April 20, 2017; or Component Maintenance Manual (CMM) 2119576, Temporary Revision (TR) No. 76-1, Section 76-10-15, dated September 6, 2016; or CMM 2119576, TR No. 76-1, Section 76-10-29, dated August 2, 2016.

(3) Within 60 days after the effective date of this AD, for all airplanes that have an affected engine installed with an ECU not in compliance with paragraph (g)(1) or (g)(2) of this AD, insert a copy of Figure 1, 2, or 3 to paragraph (g) of this AD, as applicable to your airplane, into the Emergency Procedures Section of the Airplane Flight Manual (AFM).

Figure 1 to Paragraph (g) – Airplane Operating Procedures for Bombardier Airplanes

NOTE

Procedures in dotted line boxes are actions to be performed by the pilot / flight crew.

WARNING

IF A CYAN "L ENGINE MINOR FAULT" OR "R ENGINE MINOR FAULT" IS ANNOUNCED AT ANY TIME BEFORE TAKEOFF, DO NOT FLY THE AIRPLANE. CONTACT MAINTENANCE PERSONNEL.

Figure 2 to Paragraph (g) - Airplane Operating Procedures for Gulfstream Airplanes

NOTE

Procedures in dotted line boxes are actions to be performed by the pilot / flight crew.

WARNING

IF A CYAN "L ENGINE MINOR FAULT" OR "R ENGINE MINOR FAULT" IS ANNOUNCED AT ANY TIME BEFORE TAKEOFF, DO NOT FLY THE AIRPLANE. CONTACT MAINTENANCE PERSONNEL.

Figure 3 to Paragraph (g) – Airplane Operating Procedures for Embraer Airplanes

NOTE

Procedures in dotted line boxes are actions to be performed by the pilot / flight crew.

WARNING

IF A CYAN "ENGINE SHORT DISPATCH" IS ANNOUNCED AT ANY TIME BEFORE TAKEOFF, DO NOT FLY THE AIRPLANE. CONTACT MAINTENANCE PERSONNEL.

(4) If a cyan warning is announced, before next flight, check the current fault messages in the Maintenance Data Computer (MDC) / Onboard Messaging System (OMS) for any of the following:

(i) FADEC ECU A

(ii) FADEC ECU B

(iii) THROTTLE LEVER 1A

(iv) THROTTLE LEVER 1B

(v) THROTTLE RIGGING 1A

(vi) THROTTLE RIGGING 1B

(5) Replace the ECU if any of the fault messages listed in paragraph (g)(4) of this AD are in the MDC OMS. Refer to Operating Information Letter (OIL) OIAS907-0001R00, dated March 14, 2017 for information on returning and replacing the ECU.

(6) Continued flight is permitted if none of the fault messages listed in paragraph (g)(4) of this AD are in the MDC OMS, or if paragraph (g)(5) of this AD was accomplished.

(h) Installation Prohibition

(i) Do not install an ECU if any of the fault messages listed in paragraph (g)(4) of this AD are in the MDC OMS.

(ii) Do not install an ECU that has a P/N and Mod Record listed in paragraph (c) of this AD unless it was either sealed as specified in paragraph (g)(1) of this AD or if the ECU is not affected by this AD.

(i) Terminating Action

Remove from the AFM, Figure 1, 2, or 3 to paragraph (g) of this AD, after paragraph (g)(1) or (g)(2) of this AD is accomplished.

(j) Credit for Previous Actions

You may take credit for the actions required by paragraphs (g)(1) or (g)(2) of this AD, if you performed those actions before the effective date of this AD using Honeywell SB AS907-76-9021, Revision 0, dated May 13, 2016.

(k) Alternative Methods of Compliance (AMOCs)

The Manager, Los Angeles Aircraft Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request.

(l) Related Information

(1) For more information about this AD, contact Joseph Costa, Aerospace Engineer, Los Angeles Aircraft Certification Office, FAA, Transport Airplane Directorate, 3960 Paramount Blvd., Lakewood, CA 90712-4137; phone: 562-627-5246; fax: 562-627-5210; email: joseph.costa@faa.gov.

(2) Honeywell SB AS907-76-9021, Revision 1, dated April 20, 2017; OIL OIAS907-0001R00, dated March 14, 2017; CMM 2119576, TR No. 76-1, Section 76-10-15, dated September 6, 2016; and CMM 2119576, TR No. 76-1, Section 76-10-29, dated August 2, 2016, can be obtained from Honeywell International using the contact information in paragraph (l)(3) of this AD.

(3) For service information identified in this AD, contact Honeywell International Inc., 111 S. 34th Street, Phoenix, AZ 85034-2802; phone: 800-601-3099; Internet: https://myaerospace.honeywell.com/wps/portal/!ut/.

(4) You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on June 21, 2017.

Thomas A. Boudreau,
Acting Manager, Engine & Propeller Directorate,
Aircraft Certification Service.
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