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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2017-1116; Product Identifier 2016-NE-32-AD; Amendment 39-19459; AD 2018-21-01]

RIN 2120-AA64

Airworthiness Directives; Honeywell International Inc. Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding Airworthiness Directive (AD) 2017-20-06 for certain Honeywell International Inc. (Honeywell) AS907-1-1A turbofan engines. AD 2017-20-06 required a one-time inspection of the second stage low-pressure turbine (LPT2) blades and, if the blades fail the inspection, the replacement of the blades with a part eligible for installation. This AD continues to require a one-time inspection of the LPT2 blades and, if the blades fail the inspection, the replacement of the blades with a part eligible for installation. This AD was prompted by the need to clarify the Applicability and Compliance sections of AD 2017-20-06. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective November 19, 2018.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of November 9, 2017 (82 FR 46379, October 5, 2017).

ADDRESSES: For service information identified in this final rule, contact Honeywell International Inc., 111 S 34th Street, Phoenix, AZ 85034-2802; phone: 800-601-3099; internet: <https://myaerospace2.honeywell.com/wps/portal>. You may view this service information at the FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7759. It is also available on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-1116.

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-2017-1116; 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 final rule, the

regulatory evaluation, any comments received, and other information. The address for Docket Operations (phone: 800-647-5527) is 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: Joseph Costa, Aerospace Engineer, Los Angeles ACO Branch, FAA, 3960 Paramount Blvd., Lakewood, CA 90712-4137; phone: 562-627-5246; fax: 562-627-5210; email: joseph.costa@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2017-20-06, Amendment 39-19063 (82 FR 46379, October 5, 2017), (“AD 2017-20-06”). AD 2017-20-06 applied to certain Honeywell International Inc. (Honeywell) AS907-1-1A turbofan engines. The NPRM published in the Federal Register on January 30, 2018 (83 FR 4167). The NPRM was prompted by the need to clarify the Applicability and Compliance sections of AD 2017-20-06. The NPRM proposed to continue to require one-time inspection of the LPT2 blades and, if the blades fail the inspection, the replacement of the blades with a part eligible for installation. We are issuing this AD to address the unsafe condition on these products.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request To Align the Compliance Requirements With the Service Bulletin (SB)

Bombardier Aerospace (Bombardier) requested that the compliance requirements of the AD be aligned with Honeywell SB AS907-72-9067, Revision 1, dated March 20, 2017. Bombardier asked that we remove the requirements for measured wear requirements for recording of wear. Bombardier noted that Honeywell SB AS907-72-9067 requires contact between the LPT2 rotor blade Z-gap.

We disagree. Honeywell SB AS907-72-9067, Revision 1, dated March 20, 2017 and the compliance section of this AD provide the same guidance for measuring and recording wear with a borescope at the LPT2 blade shroud Z-gap. Reported borescope inspections of high-time engines show that blade-to-blade contact at the Z-gap is difficult to measure with a borescope. The FAA and Honeywell agree that the measured wear limit of 0.005”, as defined by the Honeywell Light Maintenance Manual (LMM) AS907-1-1A, 72-00-00, is acceptable for this AD.

Additionally, the FAA disagrees with the request to remove the requirement for recordings of the borescope inspection. We find that making these recordings with a clean digital image helps us to identify wear characteristics, severity, and cumulative damage of LPT2 blade assembly and to provide future borescope requirements for LPT blade maintenance. We did not change this AD.

Request To Revise Costs of Compliance

Bombardier Aerospace requested that we align the cost estimates in this AD with the cost estimates in Honeywell's SB.

We disagree. The slight differences in costs between the NPRM and Honeywell's SB reflect the additional recording requirements in this AD. We did not change this AD.

Revision to Applicability

The intent of the NPRM was to limit the applicability of this AD to affected blades that have more than 8,000 hours since new on November 9, 2017 (the effective date of AD 2017-20-06). We therefore revised the applicability to refer to “November 9, 2017,” instead of “the effective date of this AD.”

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD as proposed.

Related Service Information Under 1 CFR Part 51

We reviewed Honeywell SB AS907-72-9067, Revision 1, dated March 20, 2017. This SB describes procedures for inspecting the LPT2 blades. 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

We reviewed Honeywell SB AS907-72-9067, Revision 0, dated December 12, 2016, which also describes procedures for inspecting the LPT2 blades. We also reviewed the Honeywell LMM AS907-1-1A, 72-00-00, Section 72-05-12, dated May 25, 2016, and Section 72-55-03, dated September 27, 2011, which provide additional guidance for performing borescope inspections.

Costs of Compliance

We estimate that this AD affects 40 engines installed on airplanes of U.S. registry. We estimate the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Borescope inspection	10 work-hours × \$85 per hour = \$850	\$0	\$850	\$34,000
Report results of inspection	1 work-hour × \$85 per hour = \$85	0	85	3,400

We estimate the following costs to do any necessary replacements that would be required based on the results of the inspection. We estimate that 40 engines will need this replacement.

On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Replacement of the LPT2 blade set	50 work-hours × \$85 per hour = \$4,250	\$50,000	\$54,250

Paperwork Reduction Act

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

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.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to engines, propellers, and associated appliances to the Manager, Engine and Propeller Standards Branch, Policy and Innovation Division.

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),
- (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.

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 Airworthiness Directive (AD) 2017-20-06, Amendment 39-19063 (82 FR 46379, October 5, 2017), and adding the following new AD:



2018-21-01 Honeywell International Inc.: Amendment 39-19459; Docket No. FAA-2017-1116; Product Identifier 2016-NE-32-AD.

(a) Effective Date

This AD is effective November 19, 2018.

(b) Affected ADs

This AD replaces AD 2017-20-06, Amendment 39-19063 (82 FR 46379, October 5, 2017).

(c) Applicability

This AD applies to Honeywell International Inc. (Honeywell) AS907-1-1A turbofan engines with second stage low-pressure turbine (LPT2) rotor blades, part number 3035602-1, installed, that have more than 8,000 hours since new on November 9, 2017 (the effective date of AD 2017-20-06).

(d) Subject

Joint Aircraft System Component (JASC) Code 7250 Turbine Section.

(e) Unsafe Condition

This AD was prompted by reports of loss of power due to failure of the LPT2 blade. We are issuing this AD to prevent failure of the LPT2 blades. The unsafe condition, if not corrected, could result in failure of one or more engines and loss of the airplane.

(f) Compliance

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

(g) Required Actions

Within 200 hours time in service after the effective date of this AD, do the following:

(1) Perform a one-time borescope inspection for wear of the Z gap contact area at the blade tip shroud for each of the 62 LPT2 rotor blades. Use the Accomplishment Instructions, Paragraph 3.B.(1), of Honeywell Service Bulletin (SB) AS907-72-9067, Revision 1, dated March 20, 2017, to do the inspection.

(2) If the measured wear and/or fretting of any Z gap contact area is greater than 0.005 inch, replace the LPT2 rotor assembly with a part eligible for installation before further flight.

(3) Using a borescope, make a clear digital image of the Z gap contact area at the blade tip shroud of the 62 LPT2 rotor blades, and do the following:

(i) Identify the three Z gap contact areas with the greatest amount of wear and/or fretting.

(ii) Record the blade position on the LPT2 rotor assembly and the measured wear of the three Z gap contact areas with the greatest amount of wear and/or fretting.

(iii) Send the results to Honeywell at engine.reliability@honeywell.com within 30 days after completing these actions.

(h) Credit for Previous Actions

You may take credit for the actions required by paragraphs (g)(1) and (2) of this AD if you performed these actions before the effective date of this AD using Honeywell SB AS907-72-9067, Revision 0, dated December 12, 2016.

(i) Paperwork Reduction Act Burden Statement

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Los Angeles ACO Branch, FAA, may 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 Los Angeles ACO Branch, send it to the attention of the person identified in paragraph (k) of this AD. You may email your request 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

For more information about this AD, contact Joseph Costa, Aerospace Engineer, Los Angeles ACO Branch, FAA, 3960 Paramount Blvd., Lakewood, CA 90712-4137; phone: 562-627-5246; fax: 562-627-5210; email: joseph.costa@faa.gov.

(l) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(3) The following service information was approved for IBR on November 9, 2017 (82 FR 46379, October 5, 2017).

(i) Honeywell Service Bulletin AS907-72-9067, Revision 1, dated March 20, 2017.

(ii) Reserved.

(4) For Honeywell service information identified in this AD, contact Honeywell International Inc., 111 S 34th Street, Phoenix, AZ 85034-2802; phone: 800-601-3099; internet: <https://myaerospace2.honeywell.com/wps/portal>.

(5) You may view this service information at FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7759.

(6) You may view this service information that is incorporated by reference 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 October 3, 2018.

Robert J. Ganley,
Manager, Engine and Propeller Standards Branch,
Aircraft Certification Service.