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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2018-0479; Product Identifier 2016-NE-23-AD; Amendment 39-19369; AD 2018-17-15]

RIN 2120-AA64

Airworthiness Directives; Honeywell International Inc. Turboprop and Turboshaft Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding Airworthiness Directive (AD) 2018-02-14 for certain Honeywell International Inc. (Honeywell) TPE331 turboprop and TSE331 turboshaft engines. AD 2018-02-14 required inspection of the affected combustion chamber case assembly, replacement of those assemblies found cracked, and removal of affected assemblies on certain TPE331 and TSE331 engines. This AD retains the inspection and replacement requirements in AD 2018-02-04; revises the Applicability to add the TPE331-12 engine model and the related inspection action, correct references to certain engine models; and revises compliance to allow certain weld repair procedures. This AD was prompted by comments to revise the applicability and required actions of AD 2018-02-14 to include the TPE331-12B engine model, correct certain TPE engine model typographical errors, and to allow certain weld repair procedures. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective October 22, 2018.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of October 22, 2018.

The Director of the Federal Register approved the incorporation by reference of a certain other publication listed in this AD as of February 28, 2018 (83 FR 3263, January 24, 2018).

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; website: <https://myaerospace.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-2018-0479.

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-2018-0479; 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 Document Operations, 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 2018-02-14, Amendment 39-19167 (83 FR 3263, January 24, 2018), (“AD 2018-02-14”). AD 2018-02-14 applied to certain Honeywell TPE331 turboprop and TSE331 turboshaft engines. The NPRM published in the Federal Register on June 25, 2018 (83 FR 29479). The NPRM was prompted by comments to revise the applicability and required actions of AD 2018-02-14 to include the TPE331-12B engine model, correct certain TPE engine model typographical errors, and to allow certain weld repair procedures. The NPRM proposed to continue to require the inspection and replacement of the affected combustion chamber case assembly on certain TPE331 and TSE331 engines. The NPRM also proposed to revise the Applicability to include the TPE331-12B engine model and the related inspection action, correct references to the TPE331-43-A, -43-BL, -47-A, -55-B, and -61-A engine models, and to allow weld repair procedures to the applicable combustion chamber case assemblies provided those procedures are approved by the Manager, Los Angeles ACO Branch. 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. We received no comments on the NPRM or on the determination of the cost to the public.

Conclusion

We reviewed the relevant data and determined that air safety and the public interest require adopting this AD as proposed except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

Related Service Information Under 1 CFR Part 51

We reviewed Honeywell Service Bulletin (SB) TPE331-72-2178, Revision 0, dated May 3, 2011 and Honeywell SB TPE331-72-2179, Revision 0, dated May 3, 2011. Honeywell SB TPE331-72-2178, Revision 0, describes procedures for inspection and removal of the affected combustion chamber case assemblies installed on all affected engines except for the TPE331-12B engine model. Honeywell SB TPE331-72-2179, Revision 0, describes procedures for inspection and removal of the

affected combustion chamber case assemblies installed on the TPE331-12B engine model. 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 SBs TPE331-72-2228, Revision 0, dated June 12, 2014; TPE331-72-2230, Revision 0, dated June 19, 2014; TPE331-72-2218, Revision 2, dated February 18, 2017; TPE331-72-2244, Revision 2, dated March 20 2017; TPE331-72-2235, Revision 2, dated February 18, 2017; TPE331-72-2281, Revision 0, dated July 22, 2016; TPE331-72-2294, Revision 0, dated December 22, 2016; TPE331-72-2231, Revision 1, dated August 1, 2017; and TSE331-72-2245, Revision 0, dated November 11, 2016. These SBs provide guidance on replacement of the affected combustion chamber case assemblies.

Costs of Compliance

We estimate that this AD affects 5,644 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
On-wing inspection	1 work-hour × \$85 per hour = \$85	\$0	\$85 per inspection	\$479,740 per inspection cycle.

We estimate the following costs to do any necessary replacements that would be required based on the results of the inspection. We estimate that 158 engines will need this replacement during the first year of inspection.

On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Replacement of the combustion chamber case assembly	1 work-hour × \$85 per hour = \$85	\$15,000	\$15,085

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) 2018-02-14, Amendment 39-19167 (83 FR 3263, January 24, 2018), and adding the following new AD:



FAA
Aviation Safety

AIRWORTHINESS DIRECTIVE

www.faa.gov/aircraft/safety/alerts/
www.gpoaccess.gov/fr/advanced.html

2018-17-15 Honeywell International Inc. (Type Certificate previously held by AlliedSignal Inc., Garrett Engine Division; Garrett Turbine Engine Company; and AiResearch Manufacturing Company of Arizona): Amendment 39-19369; Docket No. FAA-2018-0479; Product Identifier 2016-NE-23-AD.

(a) Effective Date

This AD is effective October 22, 2018.

(b) Affected ADs

This AD replaces AD 2018-02-14, Amendment 39-19167 (83 FR 3263, January 24, 2018).

(c) Applicability

This AD applies to Honeywell International Inc. (Honeywell) TPE331-1, -2, -2UA, -3U, -3UW, -5, -5A, -5AB, -5B, -6, -6A, -8, -10, -10AV, -10GP, -10GT, -10N, -10P, -10R, -10T, -10U, -10UA, -10UF, -10UG, -10UGR, -10UR, and -11U, -12B, -12JR, -12UA, -12UAR, -12UHR, -25AA, -25AB, -25DA, -25DB, -25FA, -43-A, -43-B, -47-A, -55-B, and -61-A turboprop engine models, including those engine models with a -L stamped after the model number (for example, -43-BL); and TSE331-3U turboshaft engine models with combustion chamber case assemblies, part numbers (P/Ns) 869728-x, 893973-x, 3101668-x, and 3102613-x, where “x” denotes any dash number, installed.

(d) Subject

Joint Aircraft System Component (JASC) Code 7240, Turbine Engine Combustion Section.

(e) Unsafe Condition

This AD was prompted by reports that combustion chamber case assemblies have cracked and ruptured. We are issuing this AD to prevent failure of the combustion chamber case assembly. The unsafe condition, if not addressed, could result in failure of the combustion chamber case assembly, in-flight shutdown, and reduced control of the airplane.

(f) Compliance

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

(g) Required Actions

(1) For all affected engines:

(i) Inspect all accessible areas of the combustion chamber case assembly, focusing on the weld joints, before accumulating 450 hours time in service (TIS) since last fuel nozzle inspection or within 50 hours TIS after the effective date of this AD, whichever occurs later.

(ii) Perform the inspection in accordance with the Accomplishment Instructions, paragraphs 3.B.(1) through 3.B.(2), in Honeywell Service Bulletin (SB) TPE331-72-2178, Revision 0, dated May 3, 2011, or SB TPE331-72-2179, Revision 0, dated May 3, 2011, as applicable to the affected engine model.

(iii) Thereafter, repeat this inspection during scheduled fuel nozzle inspections at intervals not to exceed 450 hours TIS since the last fuel nozzle inspection.

(2) For TPE331-3U, -3UW, -5, -5A, -5AB, -5B, -6, and -6A engine models with combustion chamber case assemblies, P/Ns 869728-1, 869728-3, or 893973-5, installed, and without the one-piece bleed pad with P3 boss; and for TPE331-1, -2, and -2UA engine models modified by National Flight Services, Inc., supplemental type certificate (STC) SE383CH, remove the combustion chamber case assembly from service at the next removal of the combustion chamber case assembly from the engine, not to exceed 3,700 hours TIS since last hot section inspection.

(3) After the effective date of this AD, do not weld repair the applicable combustion chamber case assemblies unless the weld repair procedures are approved by the Manager, Los Angeles ACO Branch, and that approval specifically refers to this AD.

(h) Definition

(1) TPE331 engines modified by STC SE383CH may be defined as the “Super 1” and “Super 2” for the compressor modification of the TPE331-1 and the TPE331-2, -2U, and -2UA engine models, respectively.

(2) Figures 1 and 2 to paragraph (h) of this AD illustrate the appearance of combustion chamber case assembly, P/N 893973-5, without and with, respectively, the one-piece bleed pad with the P3 boss.

Figure 1 to Paragraph (h) of this AD. Combustion Chamber Case Assembly Without the One-Piece Bleed Pad with P3 Boss

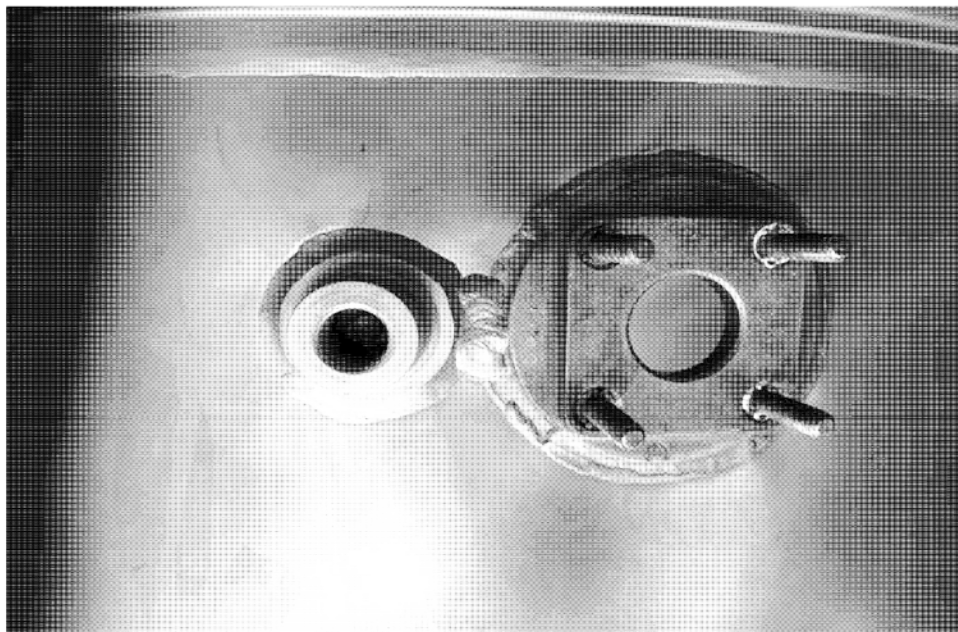
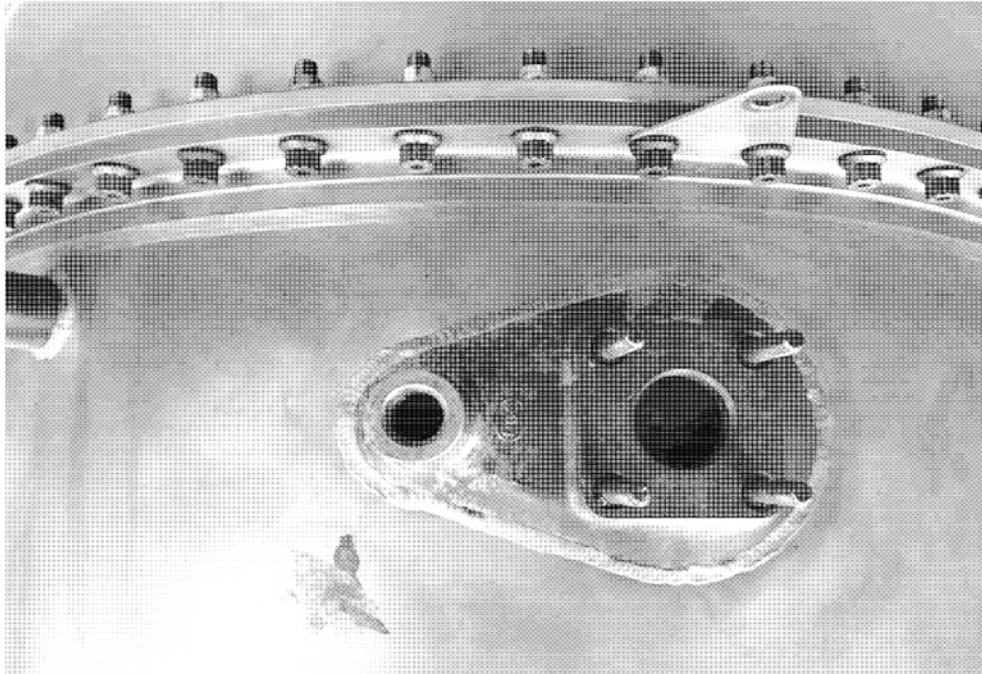


Figure 2 to Paragraph (h) of this AD. Combustion Chamber Case Assembly with One-Piece Bleed Pad with P3 Boss



(i) Installation Prohibition

After the effective date of this AD, do not install a combustion chamber case assembly, P/N 869728-1, 869728-3, or 893973-5, in TPE331-3U, -3UW, -5, -5A, -5AB, -5B, -6, and -6A engine models or in TPE331-1, -2, and -2UA engine models modified by National Flight Services, Inc., STC SE383CH, unless the combustion chamber case assembly has a one-piece bleed pad with P3 boss.

(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) 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 October 22, 2018.

(i) Honeywell International Inc. (Honeywell) Service Bulletin (SB) TPE331-72-2179, Revision 0, dated May 3, 2011.

(ii) Reserved.

(4) The following service information was approved for IBR on February 28, 2018 (83 FR 3263, January 24, 2018).

(i) Honeywell SB TPE331-72-2178, Revision 0, dated May 3, 2011.

(ii) Reserved.

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

(6) 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.

(7) 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 September 5, 2018.

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