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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2006-23706; Directorate Identifier 2006-NE-03-AD; Amendment 39-18688; AD 2016-21-07]

RIN 2120-AA64

Airworthiness Directives; Honeywell International Inc. Turboprop Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding airworthiness directive (AD) 2015-12-04 for all Honeywell International Inc. (Honeywell) TPE331-1, -2, -2UA, -3U, -3UW, -5, -5A, -5AB, -5B, -6, -6A, -10, -10AV, -10GP, -10GT, -10P, -10R, -10T, -10U, -10UA, -10UF, -10UG, -10UGR, -10UR, -11U, -12JR, -12UA, -12UAR, and -12UHR turboprop engines with certain Woodward fuel control unit (FCU) assemblies, installed. AD 2015-12-04 required initial and repetitive dimensional inspections of the affected fuel control drives and insertion of certain airplane operating procedures into the applicable flight manuals. This AD corrects the compliance requirements and relaxes the inspection interval. This AD was prompted by a request to change compliance time from 50 hours to 100 hours for affected fuel controls. We are issuing this AD to prevent failure of the fuel control drive, damage to the engine, and damage to the airplane.

DATES: This AD is effective November 28, 2016.

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://myaerospace.honeywell.com/wps/portal. 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. It is also available on the internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2006-23706.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.govby searching for and locating Docket No. FAA-2006-23706; 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

AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, 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 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:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2015-12-04, Amendment 39-18177, (80 FR 34534, June 17, 2015), ("AD 2015-12-04"). AD 2015-12-04 applied to all Honeywell TPE331-1, -2, -2UA, -3U, -3UW, -5, -5A, -5AB, -5B, -6, -6A, -10, -10AV, -10GP, -10GT, -10P, -10R, -10T, -10U, -10UA, -10UF, -10UG, -10UGR, -10UR, -11U, -12JR, -12UA, -12UAR, and -12UHR turboprop engines with certain Woodward FCU assemblies, installed. The NPRM published in the Federal Register on March 29, 2016 (81 FR 17412). This AD requires correcting the compliance requirements and relaxing the inspection interval. We are issuing this AD to prevent failure of the fuel control drive, damage to the engine, and damage to the airplane.

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.

Related Service Information

We reviewed Honeywell Operating Information Letter (OIL) OI331-12R6, dated May 26, 2009, for multi-engine airplanes; and OIL OI331-18R4, dated May 26, 2009, for single-engine airplanes, and Honeywell TPE331 maintenance manuals. That service information describes procedures for conducting fuel control drive inspections and engine shutdown.

Costs of Compliance

We estimate that this AD affects 2,250 engines installed on airplanes of U.S. registry. We also estimate that it would take about 8 hours per engine to comply with this AD. The average labor rate is $85 per hour. We estimate that 10% of affected engines will require FCU assembly stub shaft replacement and fuel pump or fuel control repair. We also estimate that repairs will cost about $10,000 per engine. Based on these figures, we estimate the cost of this AD on U.S. operators to be $525,587 per year.

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),

(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) 2015-12-04, Amendment 39-18177, (80 FR 34534, June 17, 2015), and adding the following new AD:

2016-21-07 Honeywell International Inc.: Amendment 39-18688; Docket No. FAA-2006-23706; Directorate Identifier 2006-NE-03-AD.

(a) Effective Date

This AD is effective November 28, 2016.

(b) Affected ADs

This AD replaces AD 2015-12-04, Amendment 39-18177, (80 FR 34534, June 17, 2015).

(c) Applicability

This AD applies to all Honeywell International Inc. (Honeywell) TPE331-1, -2, -2UA, -3U, -3UW, -5, -5A, -5AB, -5B, -6, -6A, -10, -10AV, -10GP, -10GT, -10P, -10R, -10T, -10U, -10UA, -10UF, -10UG, -10UGR, -10UR, -11U, -12JR, -12UA, -12UAR, and -12UHR turboprop engines with Woodward fuel control unit (FCU) assemblies with Honeywell part numbers (P/Ns) as listed in Table 1 to paragraph (c) of this AD, installed.

Table 1 to Paragraph (c)–Affected FCU Assembly P/Ns

Group #	Engine	FCU Assembly P/Ns
1	TPE331-1, -2, and -2UA	P/N 869199-13, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -31, -32, -33, -34, and -35.
2	TPE331-1, -2, and -2UA	P/N 869199-9, -10, -11, -12, -14, -16, -17, and -18.
3	TPE331-3U, -3UW, -5, -5A, -5AB, -5B, -6, -6A, -10AV, -10GP, -10GT, -10P, and -10T	P/N 893561-7, -8, -9, -10, -11, -14, -15, -16, -20, -26, -27, -29; and P/N 897770-1, -3, -7, -9, -10, -11, -12, -14, -15, -16, -25, -26, and -28.
4	TPE331-3U, -3UW, -5, -5B, -6, -6A, and -10T	P/N 893561-4, -5, -12, -13; and P/N 897770-5, -8, and -13.
5	TPE331-10, -10R, -10U, -10UA, -10UF, -10UG, -10UGR, -10UR, -11U, -12JR, -12UA, -12UAR, and -12UHR	P/N 897375-2, -3, -4, -5, -8, -9, -10, -11, -12, -13, -14, -15, -16, -17, -19, -21, -24, -25, -26, -27; and P/N 897780-1, -2, -3, -4, -5, -6, -7, -8, -9, -10, -11, -14, -15, -16, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27, -30, -32, -34, -36, -37, -38; and P/N 893561-17, -18, and -19.

(d) Unsafe Condition

This AD was prompted by reports of loss of the fuel control drive, leading to engine overspeed and engine failure. We are issuing this AD to prevent failure of the fuel control drive, damage to the engine, and damage to the airplane.

(e) Compliance

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

(1) Inspection of Engines With FCU Assembly P/Ns in Groups 2 or 4

For FCU assembly P/Ns in Groups 2 or 4 listed in Table 1 to paragraph (c) of this AD:

(i) At the next scheduled inspection of the fuel control drive, or within 500 hours-in-service (HIS) after the effective date of this AD, whichever occurs first, inspect the fuel control drive for wear.

(ii) Thereafter, reinspect the fuel control drive within every 1,000 HIS since-last-inspection (SLI).

(2) Inspection of Engines With FCU Assembly P/Ns in Groups 1, 3, or 5

For FCU assembly P/Ns in Groups 1, 3, or 5 listed in Table 1 to paragraph (c) of this AD:

(i) If, on the effective date of this AD, the FCU assembly has 900 or more HIS SLI, inspect the fuel control drive for wear within 100 HIS after the effective date of this AD.

(ii) If, on the effective date of this AD, the FCU assembly has fewer than 900 HIS SLI, inspect the fuel control drive for wear within 1,000 HIS.

(iii) Thereafter, reinspect the fuel control drive for wear within every 1,000 HIS SLI.

(3) Airplane Operating Procedures

Within 60 days after the effective date of this AD, insert the information in Figure 1 to paragraph (e) of this AD, into the Emergency Procedures Section of the applicable Airplane Flight Manual (AFM), Pilot Operating Handbook (POH), or the Manufacturer's Operating Manual (MOM).

Figure 1 to Paragraph (e) – Airplane Operating Procedures

NOTE

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

RAPID, UNCOMMANDED ACCELERATION DURING ENGINE START (Propeller ON Start Locks)

- Engine Start – Abort Immediately – Shut Down Affected Engine in accordance with Emergency Procedures.

WARNING

Do not attempt to re-start engine. Report to maintenance.

ON GROUND or IN FLIGHT:

RAPID, UNCOMMANDED INCREASE IN RPM, TORQUE, FUEL FLOW AND/OR TURBINE TEMPERATURE (Propeller OFF Start Locks)

- Identify Malfunctioning Engine (multi-engine airplanes) – Cross check for high torque, RPM, fuel flow, and turbine temperatures.
- Shut Down Affected Engine in accordance with Emergency Procedures.

WARNING

Never retard the power levers aft of flight idle in flight or on the ground.

WARNING

Do not attempt an engine re-start. Report to maintenance.

(f) Optional Terminating Action

Replacing the affected FCU assembly with an FAA-approved FCU assembly not listed in this AD by P/N is terminating action for the initial and repetitive inspections required by this AD, and for inserting the information in Figure 1 to paragraph (e) of this AD into the AFM, POH, and MOM.

(g) Definitions

For the purposes of this AD:

(1) The "fuel control drive" is a series of mating splines located between the fuel pump and fuel control governor.

(2) The fuel control drive consists of four drive splines: The fuel pump internal spline, the fuel control external "quill shaft" spline, and the stub shaft internal and external splines.

(h) 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.

(i) 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) Information pertaining to operating recommendations for affected engines after a fuel control drive failure is contained in Honeywell Operating Information Letter (OIL) OI331-12R6, dated May 26, 2009, for multi-engine airplanes; and OIL OI331-18R4, dated May 26, 2009, for single-engine airplanes. Information on fuel control drive inspection can be found in Section 72-00-00 of the applicable TPE331 maintenance manuals. These Honeywell OILs and the TPE331 maintenance manuals can be obtained from Honeywell using the contact information in paragraph (i)(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.

(4) You may view this service information at 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 October 14, 2016.
Colleen M. D'Alessandro,
Manager, Engine & Propeller Directorate,
Aircraft Certification Service.