DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2004-18038; Directorate Identifier 2004-NE-01-AD; Amendment 39-14444; AD 2006-01-05]

RIN 2120-AA64


AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Honeywell International Inc., (formerly AlliedSignal, Inc., formerly Textron Lycoming, formerly Avco Lycoming) T53 turboshaft engines, installed on, but not limited to, Bell 204, Bell 205, Kaman K-1200 series, Bell AH-1, and Bell UH-1 helicopters, certified under 14 CFR 21.25 or 14 CFR 21.27. This AD requires implementing reduced life limits for certain parts, using cycle counting methods, and using draw-down schedules to replace components that exceed the new limits. This AD results from the manufacturer informing us of test and analysis showing lower calculated service life limits for certain parts, than previously published. We are issuing this AD to prevent failure of certain compressor, gas producer, and power turbine rotating components, which could result in failure of the engine and possible damage to the helicopter.

DATES: This AD becomes effective February 16, 2006. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of February 16, 2006. The Director of the Federal Register approved the incorporation by reference of a certain other publication listed in the regulations as of June 13, 2002 (67 FR 31111, May 9, 2002).

ADDRESSES: Contact Honeywell International Inc., Attn: Data Distribution, M/S 64-3/2101-201, P.O. Box 29003, Phoenix, AZ 85038-9003; telephone: (602) 365-2493; fax: (602) 365-5577 for the service information identified in this AD.

You may examine the AD docket on the Internet at http://dms.dot.gov or in Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC.


On January 6, 2005, the Federal Register (70 FR 1215) published notice that we would hold a public meeting to gather additional comments and data on the proposed AD. We held the meeting February 8, 2005, in Anaheim, California, at the Anaheim Convention Center. As a result of the comments we received, we reopened the comment period for the proposed AD as found in the Federal Register on March 14, 2005 (70 FR 12421).

Examining the AD Docket

You may examine the docket that contains the AD, any comments received, and any final disposition in person at the Docket Management System (DMS) Docket Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Office (telephone (800) 647-5227) is located on the plaza level of the Department of Transportation Nassif Building at the street address stated in ADDRESSES. Comments will be available in the AD docket shortly after the DMS receives them.

Comments

We provided the public the opportunity to participate in the development of this AD. They provided comments during the public meeting we held in Anaheim, California on February 8, 2005, and during the reopened comment period, which ran from March 14, 2005 to March 31, 2005. We reopened the comment period because of some of the comments we received during the February 8th meeting. We considered all comments we received.

Lack of Proof, Data, or Evidence of an Unsafe Condition

Twenty commenters oppose the AD as proposed, citing lack of proof, data, or evidence of an unsafe condition. We disagree. We determined that the identified parts are likely to fail before reaching their present life limits. These parts, therefore, present an unsafe condition. We are issuing this AD to correct that unsafe condition. As a result we did not change the AD.

Request for Help From the Helicopter Industry

One commenter states that during the public meeting on this issue, held in Anaheim, CA, the FAA requested that the industry step up to help the manufacturer develop data after-the-fact. In addition, that the FAA has blindly accepted the manufacturer's unsupported safety theory, and finally, that the FAA will still issue the proposed AD, despite the lack of supporting data.

We disagree. We requested the public provide whatever data they thought appropriate concerning the proposed AD. After the meeting we reviewed all data we received, together with the manufacturer's data, and determined that an unsafe condition exists or is likely to develop in the engines noted in this AD. We concluded that the data supports the need for this AD.
Number of Affected Engines Is Not Correct

One commenter states that a total of 592 rotorcraft of various models registered in the United States, including the Bell UH-1, Bell AH-1, Bell 205, and Kaman K-1200, are affected by the AD, nearly twice what the FAA said would be affected.

Another commenter states that neither the NPRM nor the AD worksheet (DMS file No. FAA-2004-18038-2) provides factors considered nor the methodology by which the FAA determined the quantity of engines affected, as well as the cost estimate.

We agree with both commenters. Some Bell 204 helicopters originally powered by T5311 series engines have been re-engined with T5313 series engines with certain parts that have life limit reductions. Therefore, we added eight engines to the estimated number of affected engines in the U.S. and increased the number of affected engines in the cost of compliance paragraph to 600, based on information from the engine manufacturer and our records. We updated the cost section to reflect the additional engines.

Costs of Compliance Are Underestimated and Would Be an EconomicHardship

Eighteen commenters state that the cost of compliance with the proposed AD is underestimated. Three commenters state that compliance cost would be an economic hardship. We agree the total cost was inaccurate. After we published the NPRM, we received more accurate parts and labor cost data for a T53 engine repair. We changed our cost estimate in the AD. It now reads "We estimate that 600 engines installed on helicopters of U.S. registry will be affected by this AD. We also estimate that the prorated labor and parts cost due to life limit reductions per engine is $97,000. Based on these figures, we estimate the total cost of the AD to U.S. operators to be $58,000,000." We do not agree that the cost of compliance would impose an economic hardship, based on the small percentage increase in overall overhaul cost.

U.S. Army Safety-of-Flight Data Should Be Implemented

Two commenters state that the FAA should require implementation of the life limits established in U.S. Army safety of flight message UH-1-01-01. We disagree. The U.S. Army UH-1-01-01 life limits are unique for the Army's mission profile. As a result we did not change the AD.

Lower Risk Factor of Fatalities

One commenter states that the worksheet directs this AD at restricted category rotorcraft that do not carry passengers under FAR Part 135, and that cannot fly over densely populated areas without an FAA waiver. With this combination, the commenter suggests that the risk of fatalities is lower than that of other rotorcraft passenger carrying operations. We disagree. We also consider the safety of the pilot and crew and the rate at which accidents are predicted to occur. As a result we did not change the AD.

An AD Should Be Issued for A One-time Inspection

One commenter states that to be fair to both sides on this issue, and to see how concerned the OEM is about the safety of these parts, more evaluation data should be obtained and the cost to obtain that data should be shared. The FAA should issue an AD that requires a one-time inspection be done on all the parts in service at this time. The OEM should pick up the cost of the non-destruct inspection and the operators should absorb the down-time cost and the cost to remove and reinstall the engines. This inspection should be done over a one-year period in which the operators could choose the down-time period. The commenter concludes that the data should be sent to the NTSB for evaluation and made public.
We disagree. We reviewed the technical data supporting the life limit reduction and concluded that an inspection AD is insufficient. The removal of these parts from service is necessary to eliminate the unsafe condition. As a result we did not change the AD.

**Contact the Repair Stations**

One commenter suggests that repair stations that have the experience on repair, overhaul, and maintenance of these engines, be contacted in order to gain their input on field service of the T53 and any related service difficulties they have experienced that relate to this NPRM. We agree. We investigated repair station inspection results, record keeping, and reasons for part removals and part retirements. We considered this input in this final rule.

**Service Bulletins Not Readily Available**

Two commenters state that the Service Bulletins are not readily available. As a result, the public cannot provide sufficient substantive comments on the compliance standards the proposed AD would impose. Until the Service Bulletins appear on the docket, the NPRM will remain deficient. We partially agree. Commenters may get the service bulletins from Honeywell at the address listed in the AD. Further, the Service Bulletins may be viewed at the National Archives and Records Administration when the AD is published.

**Question on D979 Turbine Disks Used in T55 and ALF 502 Engines**

Two commenters question why the life limited parts made of D979 material installed in Honeywell's other engines such as T55 and ALF502 series did not have a reduction in life limits. Part dimensions, features, manufacturing process, material characteristics, stress and strain ranges, operating environment, and flight profile collectively affect a part's life limit. The use of D979 material in other applications is not affected by this action. As a result we did not change the AD.

**Questions on Delay of AD Action**

Four commenters suggest a safety concern does not exist, given the delay in AD action. We disagree. The safety concern did not require immediate action, so we used the NPRM process to allow for public comment, and to perform additional technical review in response to these comments.

**Question on Draw-Down Schedules**

One commenter questions the validity of the safety concern given the longer draw-down schedules for parts that have higher accumulated cycles. We disagree. The higher draw-down schedules for parts that have higher in-service cycles were developed by risk analysis, and help to minimize the economic impact to operators.

**Changes Since Issuing the Proposed AD**

*_Supersedure of AD 87-12-05*_

Since we issued the NPRM for this AD, we found that the corrective actions required by this AD address the safety concerns of AD 87-12-05, Amendment 39-5640 (52 FR 21497, June 8, 1987) as well. Therefore, AD 87-12-05 is redundant and is superseded by this AD action. Since we are relaxing a regulatory requirement by superseding the AD, we are using this Final Rule to satisfy the notice requirements to supersede AD 87-12-05, Amendment 39-5640 (52 FR 21497, June 8, 1987).
Addition of Helicopter Model to Applicability

Some Bell 204 helicopters were originally powered by T5311 series engines have been re-engined with T5313 series engines on which certain parts had life limit reductions. Therefore, we added the Bell 204 helicopter model to the applicability of this AD.

Addition of Instructions for Parts With Unknown Hours Or Cycles

During the public meeting and investigation into the concerns raised by commenters, we found aircraft were operated with engines with unknown total hours. This safety concern about those engines is now addressed by this AD. We added a requirement to remove from service engines with unknown accumulated hours or cycles within 250 cycles from the effective date of this AD. This requirement is consistent with language in Honeywell Service Bulletin No. T5313B/17-0020 (paragraph 1.D.(2)).

Compliance Time Clarified

Although the NPRM compliance time stated "within 100 operating hours after the effective date of this AD", the compliance time in this AD is clarified to state "within 100 operating hours or 90 days after the effective date of this AD, whichever occurs first".

Conclusion

We have carefully reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that these changes will not increase the economic burden on operators nor increase the scope of the AD.

Costs of Compliance


We estimate that the prorated labor and parts costs due to life limit reductions per engine are approximately $97,000. Based on these figures, we estimate the total cost of this AD to U.S. operators to be approximately $58,000,000.

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); 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.

We prepared a summary of the costs to comply with this AD and placed it in the AD Docket. You may get a copy of this summary at the address listed under ADDRESSES.

**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 Federal Aviation Administration 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 Amendment 39-5640 (52 FR 21497, June 8, 1987) and by adding a new airworthiness directive, Amendment 39-14444, to read as follows:
AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

We post ADs on the internet at www.faa.gov/aircraft/safety/alerts/

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).


Effective Date

(a) This airworthiness directive (AD) becomes effective February 16, 2006.

Affected ADs

(b) This AD supersedes AD 87-12-05, Amendment 39-5640.

Applicability


Unsafe Condition

(d) This AD results from the manufacturer informing us of test and analysis showing lower calculated service life limits for certain parts, than originally determined. We are issuing this AD to prevent failure of certain compressor, gas producer, and power turbine rotating components, which could result in failure of the engine and possible damage to the helicopter.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified unless the actions have already been done.

T5309, T5311, T53-L-9, and T53-L-11 Series Turboshaft Engines

(f) For T5309, T5311, T53-L-9, and T53-L-11 series turboshaft engines, within 100 operating hours or 90 days after the effective date of this AD, whichever occurs first, compute the total
operating hours and cycles and replace rotating components before they exceed the new service life limits. Use 2.a. through 2.f. and Component Service Life Limits Table 1 of Accomplishment Instructions of Lycoming Service Bulletin (SB) No. 0002, Revision 2, dated March 6, 1989.

T5313B, T5317A, T5317A-1, and T5317B Turboshaft Engines

(g) For T5313B, T5317A, T5317A-1, and T5317B turboshaft engines, within 100 operating hours or 90 days after the effective date of this AD, whichever occurs first, compute the total operating hours and cycles and replace the rotating components before they exceed the new service life limits. Use 2.A. through 2.K. and Component Service Life Limits Table 1 of Accomplishment Instructions of Honeywell International Inc. SB No. T5313B/17-0020, Revision 7, dated November 21, 2002.

(h) For T5313B, T5317A, T5317A-1, and T5317B turboshaft engines that have one or more rotating components that exceed the limits specified in Component Service Life Limits Table 1 of Honeywell International Inc. SB No. T5313B/17-0020, Revision 7, dated November 21, 2002, replace the components using the applicable draw-down schedule in Table 1 of Honeywell International Inc. SB No. T5313B-0125, dated March 15, 2001 or Honeywell International Inc. SB No. T5317-0125, dated March 15, 2001.


(i) For T53-L-13B, T53-L-13BA, T53-L-13B S/SA, and T53-L-13B S/SB turboshaft engines, within 100 operating hours or 90 days after the effective date of this AD, whichever occurs first, compute the total operating hours and cycles and replace the rotating components before they exceed the new service life limits. Use 2.A. through 2.J. and Component Service Life Limits Table 1 of Accomplishment Instructions of Honeywell International Inc. SB No. T53-L-13B-0020, Revision 3, dated October 25, 2001.

(j) For T53-L-13B, T53-L-13BA, T53-L-13B S/SA, and T53-L-13B S/SB turboshaft engines that have one or more rotating components that exceed the limits in Component Service Life Limits Table 1 of Honeywell SB No. T53-L-13B-0020, Revision 3, dated October 25, 2001, replace the components using the applicable draw-down schedule in Table 1 of Honeywell International Inc. SB No. T53-L-13B-0125, dated April 5, 2001.

T53-L-13B/D Turboshaft Engines

(k) For T53-L-13B/D turboshaft engines, within 100 operating hours or 90 days after the effective date of this AD, whichever occurs first, compute the total operating hours and cycles and replace the rotating components before they exceed the new service life limits. Use 2.A. through 2.J. and Component Service Life Limits Table 1 of Accomplishment Instructions of Honeywell International Inc. SB No. T53-L-13B/D-0020, Revision 2, dated November 25, 2002.

(l) For T53-L-13B/D turboshaft engines that have one or more rotating components that exceed the limits in Component Service Life Limits Table 1 of Honeywell International Inc. SB No. T53-L-13B/D-0020, Revision 2, dated November 25, 2002, replace the components using the applicable draw-down schedule in Table 1 of Honeywell International Inc. SB No. T53-L-13B/D-0125, dated April 5, 2001.
T53-L-703 Turboshaft Engines

(m) For T53-L-703 turboshaft engines, within 100 operating hours or 90 days after the effective date of this AD, whichever occurs first, compute the total operating hours and cycles and replace the rotating components, before they exceed the new service life limits. Use 2.A. through 2.K. and Component Service Life Limits Table 1 of Accomplishment Instructions of Honeywell International Inc. SB No. T53-L-703-0020, Revision 2, dated November 25, 2002.

(n) For T53-L-703 turboshaft engines that have one or more rotating components that have exceeded the limits in Component Service Life Limits Table 1 of Honeywell International Inc. SB No. T53-L-703-0020, Revision 2, dated November 25, 2002, replace the components using the applicable draw-down schedule in Table 1 of Honeywell International Inc. SB No. T53-L-703-0125, dated April 5, 2001.

Action for Engines With Unknown Accumulated Hour or Cycle Information

(o) For any engines operating with parts affected by this AD for which accumulated operating hour or cycle information is unknown, those parts must be removed from service within 250 cycles after the effective date of this AD.

Computing Compliance Intervals

(p) For the purposes of this AD, use the effective date of this AD for computing compliance intervals whenever the SBs refer to the release date of the SB.

Prohibition of Removed Rotating Components

(q) Do not reinstall any rotating component that is replaced as specified in paragraphs (f) through (n) of this AD, into any engine.

Alternative Methods of Compliance

(r) The Manager, Los Angeles Aircraft Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

Related Information

(s) None.

Material Incorporated by Reference

(t) You must use the service information specified in Table 1 of this AD to perform the actions required by this AD. The Director of the Federal Register approved the incorporation by reference of Honeywell International Inc. Service Bulletin No. T53-L-13B-0020, Revision 3, dated October 25, 2001, listed in Table 1 of this AD as of June 13, 2002 (67 FR 31111, May 9, 2002). The Director of the Federal Register approved the incorporation by reference of the other documents listed in Table 1 of this AD in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact Honeywell International Inc., Attn: Data Distribution, M/S 64-3/2101-201, P.O. Box 29003, Phoenix, AZ 85038-9003; telephone: (602) 365-2493; fax: (602) 365-5577 for a copy of this service information. You may review copies at the Docket Management Facility; U.S. Department of Transportation, 400 Seventh
TABLE 1.—INCORPORATION BY REFERENCE

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Issued in Burlington, Massachusetts, on December 28, 2005.

Peter A. White,
Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 06-63 Filed 1-11-06; 8:45 am]