

Rules and Regulations

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2000-NE-50-AD; Amendment 39-12742; AD 2002-09-09]

RIN 2120-AA64

Airworthiness Directives; Honeywell International, Inc., (Formerly AlliedSignal, Inc., Textron Lycoming, Avco Lycoming, and Lycoming) Former Military T53 Series Turboshaft Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), that is applicable to Honeywell International, Inc., (formerly AlliedSignal, Inc., Textron Lycoming, Avco Lycoming, and Lycoming) former military T53 series turboshaft engines. This amendment requires conducting a revised operating cycle count (prorate) and initial and repetitive inspections for cracks of centrifugal compressor impellers. This amendment is prompted by a report of a military surplus helicopter that experienced low-cycle fatigue failure of the centrifugal compressor impeller, resulting in an uncontained engine failure. The actions specified by this AD are intended to prevent centrifugal compressor impeller failure, which can result in an uncontained engine failure, in-flight engine shutdown, or damage to the helicopter.

DATES: Effective date June 13, 2002. The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of June 13, 2002.

ADDRESSES: The service information referenced in this AD may be obtained from 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. This information may be examined, by appointment, at the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT:

Robert Baitoo, Aerospace Engineer, Los Angeles Aircraft Certification Office, FAA, Transport Airplane Directorate, 3960 Paramount Blvd., Lakewood, CA 90712-4137; telephone: (562) 627-5245, fax: (562) 627-5210.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that is applicable to Honeywell International, Inc., (formerly AlliedSignal, Inc., Textron Lycoming, Avco Lycoming, and Lycoming) former military T53 series turboshaft engines was published in the **Federal Register** on August 16, 2001(66 FR 42970). That action proposed to require conducting a revised operating cycle count (prorate) and initial and repetitive inspections for cracks of centrifugal compressor impellers in accordance with AlliedSignal, Inc. SB's T53-L-13B-0108, Revision 1, dated November 22, 1999; T53-L-13B/D-0108, Revision 1, dated November 22, 1999; T53-L-703-0108, Revision 1, dated November 22, 1999 and Honeywell International Inc. SB's T53-L-13B-0020, Revision 2, dated April 25, 2001; T53-L-13B/D-0020, Revision 1, dated April 25, 2001; and T53-L-703-0020, Revision 1, dated April 25, 2001.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comment received.

One commenter believes that the AD is unnecessary. The FAA does not agree. The AD was prompted by a report of a military surplus helicopter that experienced low-cycle fatigue of the centrifugal compressor impeller, resulting in an uncontained engine failure.

After careful review of the available data, including the comment noted

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above, the FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

Economic Analysis

The FAA estimates that there are approximately 300 Lycoming former military T53 series turboshaft engines installed on helicopters of U.S. registry, that would be affected by this AD. The FAA also estimates that it would take approximately 8 work hours per engine to accomplish an initial or repetitive inspection of the centrifugal compressor impeller, and that the average labor rate is \$60 per work hour. No additional work hour cost would be incurred if the centrifugal compressor impeller is replaced during normal engine disassembly. Based on these figures, the total labor cost impact of the AD on U.S. operators for an inspection is estimated to be \$144,000. The FAA estimates that operators will perform two inspections annually, and that the total annual labor cost for inspections is estimated to be \$288,000. The cost of a replacement centrifugal compressor impeller is estimated to be \$22,037. Assuming a loss of 50% of the life of each disk by the prorate, the total annual cost of the proposed AD on U.S. operators is estimated to be \$3,593,550.

Regulatory Analysis

This final rule does not have federalism implications, as defined in Executive Order 13132, because it 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. Accordingly, the FAA has not consulted with state authorities prior to publication of this final rule.

For the reasons discussed above, I certify that this action (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); and (3) if promulgated, 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. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained by contacting the

Rules Docket at the location provided under the caption **ADDRESSES**.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (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. Section 39.13 is amended by adding a new airworthiness directive to read as follows:

2002-09-09 Honeywell International, Inc.:
Amendment 39-12742. Docket No. 2000-NE-50-AD.

Applicability

This airworthiness directive (AD) is applicable to Honeywell International, Inc. (formerly AlliedSignal, Inc., Textron Lycoming, Avco Lycoming, and Lycoming) former military T53 series turboshaft engines with centrifugal compressor impellers part numbers (P/N's) 1-100-078-07 or 1-100-078-08 installed. These engines are installed on, but not limited to, Bell Helicopter Textron manufactured AH-1, UH-1, and SW-204/205 (UH-1) series surplus military helicopters that have been certified in accordance with §§ 21.25 or 21.27 of the Federal Aviation regulations (14 CFR 21.25 or 21.27).

Note 1: This AD applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or

repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (e) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance

Compliance with this AD is required as indicated, unless already done.

To prevent centrifugal compressor impeller failure, which can result in an uncontained engine failure, in-flight engine shutdown, or damage to the helicopter, do the following:

Centrifugal Compressor Impeller Revised Operating Cycle Count

(a) Within 25 operating cycles or 7 calendar days, whichever occurs first, after the effective date of this AD, do a revised centrifugal compressor impeller operating cycle count (prorate) in accordance with the accomplishment instructions of Honeywell International, Inc. Service Bulletin (SB) No. T53-L-13B-0020, Revision 3, dated October 25, 2001, for T53-L-13B Lycoming engines, SB No. T53-L-13B/D-0020, Revision 1, dated April 25, 2001 for T53-L-13B/D Lycoming engines, and SB No. T53-L-703-0020, Revision 1, dated April 25, 2001 for T53-L-703 Lycoming engines.

(b) Following the revised operating cycle count required by paragraph (a) of this AD, remove from service installed centrifugal compressor impellers that exceed their life limit or whose life cannot be determined, within 50 hours time-in-service (TIS), or 25 operating cycles, whichever occurs first and replace with a serviceable part that does not exceed the life limit.

(c) Installation of uninstalled centrifugal compressor impellers that exceed their life limit, which is revised in accordance with paragraph (a) of this AD is prohibited.

Centrifugal Compressor Impeller Inspections

(d) Following the revised operating cycle count required by paragraph (a) of this AD, inspect centrifugal compressor impellers, part numbers (P/N's) 1-100-078-07 and 1-100-078-08, in accordance with the

accomplishment instructions of AlliedSignal, Inc. SB No. T53-L-13B-0108, Revision 1, dated November 22, 1999, for T53-L-13B Lycoming engines; SB No. T53-L-13B/D-0108, Revision 1, dated November 22, 1999 for T53-L-13B/D Lycoming engines; or SB No. T53-L-703-0108, Revision 1, dated November 22, 1999 for T53-L-703 Lycoming engines, as follows:

(1) For centrifugal compressor impellers with equal to or greater than 4,600 cycles-in-service (CIS), initially inspect within 200 CIS after the effective date of this AD.

(2) For those centrifugal compressor impellers with less than 4,600 CIS, initially inspect no later than 4,800 CIS.

(3) Centrifugal compressor impellers found cracked must be removed from service prior to further flight and replaced with a serviceable part.

(4) If no cracks are detected, perform repetitive inspections of the centrifugal compressor impellers at intervals not to exceed 500 CIS since last inspection.

Alternative Methods of Compliance

(e) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Los Angeles Aircraft Certification Office (ACO). Operators must submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Los Angeles ACO.

Note 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Los Angeles ACO.

Special Flight Permits

(f) Special flight permits may be issued in accordance with §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be done.

Documents That Have Been Incorporated By Reference

(g) The inspection must be done in accordance with the following Honeywell International Inc. (HII) and AlliedSignal, Inc. (ASI) service bulletins:

Document No.	Pages	Revision	Date
HII, SB No. T53-L-13B-0020	All	3	Oct. 25, 2001.
Total pages 13			
HII, SB No. T53-L-13B/D-0020	All	1	April 25, 2001.
Total pages 12			
HII, SB No. T53-L-703-0020	All	1	April 25, 2001.
Total pages 12			
ASI	1	Original	July 22, 1999.
SB No. T53-L-13B-0108	2	1	Nov. 22, 1999.
Total pages 12	3-12	Original	July 22, 1999.
ASI	1	Original	July 22, 1999.
SB No. T53-L-13B/D-0108	2	1	Nov. 22, 1999.
Total pages 12	3-12	Original	July 22, 1999.
ASI	1	Original	July 22, 1999.
SB No. T53-L-703-0108	2	1	Nov. 22, 1999.

Document No.	Pages	Revision	Date
Total pages 12	3-12	Original	July 22, 1999.

This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from 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. Copies may be inspected, by appointment, at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

Effective Date

(h) This amendment becomes effective on June 13, 2002.

Issued in Burlington, Massachusetts, on April 29, 2002.

Diane S. Romanosky,

Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.
[FR Doc. 02-11216 Filed 5-8-02; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2000-NE-08-AD; Amendment 39-12741; AD 2002-09-08]

RIN 2120-AA64

Airworthiness Directives; Hartzell Propeller, Inc. Compact Series Propellers

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), that is applicable to Hartzell models ()HC-()()Y()()() compact series, constant speed or feathering propellers with Hartzell manufactured "Y" shank blades. That AD currently requires initial and repetitive blade inspections; rework of all "Y" shank blades including cold rolling of the blade shank retention radius; blade replacement and modification of pitch change mechanisms for certain propeller models; and changing the airplane operating limitations with specific models of propellers installed. This amendment requires initial blade inspections, with no repetitive inspections; rework of all "Y" shank

blades including cold rolling of the blade shank retention radius, blade replacement and modification of pitch change mechanisms for certain propeller models; and changing the airplane operating limitations with specific models of propellers installed. This amendment is prompted by FAA reviews of propeller service histories since the issuance of AD 77-12-06R2. The actions specified by this AD are intended to prevent failure of the propeller blade from fatigue cracks in the blade shank radius, which can result in damage to the airplane and loss of airplane control.

DATES: Effective date June 13, 2002. The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of June 13, 2002.

ADDRESSES: The service information referenced in this AD may be obtained from Hartzell Propeller Inc., One Propeller Place, Piqua, Ohio 45356-2634, telephone (937) 778-4200; fax (937) 778-4391. This information may be examined, by appointment, at the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Tomaso DiPaolo, Aerospace Engineer, Chicago Aircraft Certification Office, FAA, Small Airplane Directorate, 2300 E. Devon Ave., Des Plaines, IL 60018; telephone (847) 294-7031; fax (847) 294-7834.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding AD 77-12-06R2, Amendment 39-3097 (42 FR 63165, December 15, 1977), which is applicable to Hartzell models ()HC-()()Y()()() compact series, constant speed or feathering propellers with Hartzell manufactured "Y" shank blades was published in the **Federal Register** on November 20, 2001 (66 FR 58077). That action proposed to require initial blade inspections, with no repetitive inspections; rework of all "Y" shank blades including cold rolling of the blade shank retention radius, blade replacement and modification of pitch change mechanisms for certain propeller models; and changing the

airplane operating limitations with specific models of propellers installed.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. No comments were received on the proposal or the FAA's determination of the cost to the public. The FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

Economic Analysis

At the time the existing AD was issued, there were about 55,000 propellers of the affected design in the worldwide fleet. The FAA estimated that there were 35,750 propellers installed on airplanes of U.S. registry. The FAA expects that all of the affected propellers should have already been inspected to comply with the existing AD's requirements to inspect, and rework or replace the blades. If these actions have not already been done, then the total cost to comply with this AD is estimated to be \$700 per propeller.

Regulatory Analysis

This final rule does not have federalism implications, as defined in Executive Order 13132, because it 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. Accordingly, the FAA has not consulted with state authorities prior to publication of this final rule.

For the reasons discussed above, I certify that this action (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); and (3) if promulgated, 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. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption **ADDRESSES**.