

AIRWORTHINESS DIRECTIVES FINAL RULES: 96-19-01

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DOCKET NUMBER: 95-ANE-72

AMENDMENT: 39-9749

AD NUMBER: 96-19-01

SUBJECT HEADING: Airworthiness Directives; Allison 250 Series Turbine Engines

ACTION: Final rule; request for comments.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that is applicable to Allison 250 series turbine engines. This action requires initial and repetitive visual inspections of all engine filters for metal particles resulting from premature wear of two bearings produced under Parts Manufacture Approval (PMA) by Superior Air Parts, Inc. In addition, this AD requires replacement of those bearings with bearings that incorporate improved retainers, which constitutes terminating action to the inspection requirements of this AD. This amendment is prompted by a report of a failure during a ground test of an engine with bearings manufactured by Superior Air Parts, Inc. The actions specified in this AD are intended to prevent bearing failure due to bearing separator instability, which can result in subsequent turbine and engine failure.

DATES: Effective September 26, 1996. The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of September 26, 1996. Comments for inclusion in the Rules Docket must be received on or before November 12, 1996.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 95-ANE-72, 12 New England Executive Park, Burlington, MA 01803-5299. Comments may also be submitted to the Rules Docket by using the following Internet address: "epd-adcomments@mail.hq.faa.gov". All comments must contain the Docket No. in the subject line of the comment.

The service information referenced in this AD may be obtained from Superior Air Parts, Inc., 14280 Gillis Rd., Dallas, TX 75244-3792; telephone (800) 487-4884, fax (214) 490-8471. This information may be examined at the FAA, New England Region, Office of the Assistant Chief 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: Richard D. Karanian, Aerospace Engineer, Special Certification Office, FAA, Rotorcraft Directorate, 2601 Meacham Blvd., Fort Worth, TX 76137-4298; telephone (817) 222-5195, fax (817) 222-5136.

SUPPLEMENTARY INFORMATION: The Federal Aviation Administration (FAA) received a report of a chip detector light on an Allison 250 turboshaft engine during a helicopter flight. The pilot returned to base and the ground crew commenced with an inspection to determine the cause. Metal particles, including silver flakes, were discovered on the chip detector; however, a preliminary inspection failed to determine where the metal particles originated. In accordance with the applicable service instruction, an engine ground run was initiated. Approximately two hours into the ground run, the engine began to vibrate. The ground run was discontinued and the engine was disassembled. An inspection revealed that the No. 5 bearing, part number (P/N) A6871505, produced under Parts Manufacture Approval (PMA) by Superior Air Parts, Inc., had failed. In addition, the FAA has received reports of 5 more incidents where metal particles were found, resulting in the removal of four No. 5

bearings, P/N A6871505, and one No. 8 bearing, P/N A23007152. This condition, if not corrected, could result in bearing failure due to bearing separator instability, which can result in subsequent turbine and engine failure. The FAA has reviewed and approved the technical contents of Superior Turbine Service Bulletin (SB) No. T95-SB001, Revision A, dated September 29, 1995, and SB No. T95-SB002, Revision A, dated September 29, 1995, that describe procedures for initial and repetitive visual inspections of all engine filters for metal particles resulting from wear of bearing ball retainer.

Since an unsafe condition has been identified that is likely to exist or develop on other Allison 250 series turbine engines of the same type design, this AD is being issued to prevent bearing failure. This AD requires an initial visual inspection within 20 days after the effective date of this AD, followed by repetitive inspections at intervals not to exceed 25 hours time in service (TIS) since last inspection for the first 300 hours TIS of engine operation. After accumulating greater than 300 hours TIS of engine operation, the inspections must be accomplished at intervals not to exceed 100 hours TIS since last inspection. The repetitive inspections must be performed until engine overhaul, or repair or maintenance when disassembly permits replacement of the bearing, whichever occurs first. At that time, remove the No. 5 bearing, Superior P/N A6871505, and replace with a serviceable No. 5 bearing, Allison P/N 6871505; and remove the No. 8 bearing, Superior P/N A23007152, and replace with a serviceable No. 8 bearing, Allison P/N 23031478. The Allison bearings incorporate improved retainers, and Superior Air Parts, Inc. no longer manufactures replacement bearings. Replacement with these serviceable bearings constitutes terminating action to the inspection requirements of this AD. The actions are required to be accomplished in accordance with the SBs described previously.

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days. Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified under the caption "ADDRESSES." All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket. Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 95-ANE-72." The postcard will be date stamped and returned to the commenter.

The regulations adopted herein will not have substantial direct effects 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. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from 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 USC 106(g), 40113, 44701. §39.13 - [AMENDED]

2. Section 39.13 is amended by adding the following new airworthiness directive:

REGULATORY TEXT: 96-19-01 Allison: Amendment 39-9749. Docket 95-ANE-72.

Applicability: Allison Model 250-B15G,-B17F, -B17F/1, -B17F/2, -C20, -C20B, -C20F, -C20J, -C20S, -C20W, -R, -C20R/1, -C20R/2, -C20R/4, -C28B, -C28C, -C30, -C30P, -C30M, and -C30G turbine engines, with Superior Air Parts, Inc. Parts Manufacture Approval (PMA) bearings, Part Number (P/N) A6871505 and P/N A23007152, installed. These engines are installed on but not limited to the following aircraft: Aerospace Technologies of Australia PTY Ltd. N-22 and N-24; Agusta S.p.A A109 series, SF600 series; Beech Aircraft Corp. A36 and T34 (Tradewind Turbines conversion); Bell Helicopter Textron Model 47 (Soloy Conversion), OH58 series, 206 series, 230, 430; Cessna 206 and 207 (Soloy Conversions); Enstrom Helicopter Corp. TH28, 480; Eurocopter Deutschland GmbH BO105 series; Eurocopter France AS355 series; Flugzeugwerke Altenrhein AG (FFA) AS202 series; Hiller Aviation UH12 series (Soloy Conversions); Maule Aerospace Technology Corp. MX-7 series; McDonnell Douglas Helicopter Co. OH6 series, 500 series, MD500 series, MD520N series, MD530 series; Partenavia Costruzioni Aeronautiche S.p.A P68 series; Pilatus Britten-Norman Ltd. BN-2T; and Sikorsky Aircraft Division S76 series.

Note: This airworthiness directive (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: Required as indicated, unless accomplished previously.

To prevent bearing failure due to bearing separator instability, which can result in subsequent turbine and engine failure, accomplish the following:

(a) For engines with No. 5 bearings, Superior P/N A6871505, installed, accomplish the following:

(1) Within 20 days after the effective date of this AD, perform an initial visual inspection of all engine filters for metal particles in accordance with Superior Turbine Service Bulletin (SB) No. T95-SB001, Revision A, dated September 29, 1995. If any engine filter contains metal particles that exceed the return to service criteria described in that SB, prior to further flight, remove the No. 5 bearing, Superior P/N A6871505, and replace with a serviceable No. 5 bearing, Allison P/N 6871505.

(2) Thereafter, for engines with No. 5 bearing, Superior P/N A6871505, installed, perform visual inspections of all engine filters for metal particles in accordance with Superior Turbine SB No. T95-SB002, dated September 29, 1995, and, if necessary, replace with serviceable parts, at intervals not to exceed the following:

(i) For engines with 300 hours or less TIS since overhaul, or TSN if never overhauled, perform inspections at intervals not to exceed 25 hours TIS since last inspection.

(ii) For engines with more than 300 hours TIS since new or overhaul, whichever is lesser, perform inspections at intervals not to exceed 100 hours TIS since last inspection.

(b) For engines with No. 8 bearings, Superior P/N A23007152, installed, accomplish the following:

(1) Within 20 days after the effective date of this AD, perform an initial visual inspection of all engine filters for metal particles in accordance with Superior Turbine SB No. T95-SB002, Revision A, dated September 29, 1995. If any engine filter contains metal particles that exceed the return to service criteria described in that SB, prior to further flight, remove the No. 8 bearing, Superior P/N A23007152, and replace with a serviceable No. 8 bearing, Allison P/N 23031478.

(2) Thereafter, for engines with No. 8 bearing, Superior P/N A23007152, installed, perform visual inspections of all engine filters for metal particles in accordance with Superior Turbine SB No. T95-SB002, dated September 29, 1995, and, if necessary, replace with serviceable parts, at intervals not to exceed the following:

(i) For engines with 300 hours or less TIS since overhaul, or TSN if never overhauled, perform inspections at intervals not to exceed 25 hours TIS since last inspection.

(ii) For engines with more than 300 hours TIS since new or overhaul, whichever is lesser, perform inspections at intervals not to exceed 100 hours TIS since last inspection.

(c) At the next engine overhaul, or repair or maintenance when disassembly permits replacement of the bearing,

after the effective date of this AD, whichever occurs first, remove the No. 5 bearing, Superior P/N A6871505, and replace with a serviceable No. 5 bearing, Allison P/N 6871505; and remove the No. 8 bearing, Superior P/N A23007152, and replace with a serviceable No. 8 bearing, Allison P/N 23031478.

(d) Installation of serviceable bearings in accordance with paragraph (c) of this AD, constitutes terminating action to the inspection requirements of this AD.

(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, Special Certification Office. The request should be forwarded through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Special Certification Office.

Note: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Special Certification Office.

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

(g) The actions required by this AD shall be done in accordance with the following Superior Turbine service documents:

Document No.	Pages	Revision	Date
SB No. T95-SB001	1-2	A	September 29, 1995
Total pages: 2.			
SB No. T95-SB002	1-2	A	September 29, 1995
Total pages: 2.			

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 Superior Air Parts, Inc., 14280 Gillis Rd., Dallas, TX 75244-3792; telephone (800) 487-4884, fax (214) 490-8471. Copies may be inspected at the FAA, New England Region, Office of the Assistant Chief 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.

(h) This amendment becomes effective on September 26, 1996.

FOOTER: