

[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

(Docket No. 90-ANE-18; Amendment 39-6749)

Airworthiness Directives; Garrett Engine Division, Allied-Signal Incorporated, Models TPE331 Series Turboprop and TSE331-3U Turboshaft Engines.

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final Rule, request for comments.

SUMMARY: This amendment adopts a new airworthiness directive (AD), which requires the periodic replacement of the third stage stator assembly. This AD is needed to prevent thermal fatigue of the sheet metal inner seal support and/or the outer ring nozzle support, which has resulted in uncontained third stage turbine rotor failures. Uncontained rotor fragments can cause structural/system airplane damage, passenger injury, and possible loss of the airplane.

DATES: Effective - October 1, 1990.

Comments for inclusion in the docket must be received on or before October 18, 1990.

ADDRESSES: Submit comments in duplicate to: Federal Aviation Administration, New England Region, Office of the Assistant Chief Counsel, Attention: Rules Docket Number 90-ANE-18, 12 New England Executive Park, Burlington, Massachusetts 01803, or delivered in duplicate to Room 311 at the above address.

Comments may be inspected at the above location between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday, except federal holidays.

The applicable engine manufacturer's service bulletins (SB) may be obtained from Garrett General Aviation Services Division, Distribution Center, 2340 East University, Phoenix, Arizona 85034; telephone (602) 225-2548, and may be examined in the Regional Rules Docket, Room 311, Office of the Assistance Chief Counsel, Federal Aviation Administration, New England Region, 12 New England Executive Park, Burlington, Massachusetts 01803.

FOR FURTHER INFORMATION CONTACT: Mr. Joseph Costa, Aerospace Engineer, Propulsion Branch, ANM-140L, Los Angeles Aircraft Certification Office, Transport Airplane Directorate, Aircraft Certification Service, Federal Aviation Administration, 3229 East Spring Street, Long Beach, California 90806-2425; telephone (213) 988-5246.

SUPPLEMENTARY INFORMATION: Three incidents of multiple circumferential cracking of the inner seal support and outer ring nozzle support of the third stage stator assembly have been reported. The accumulated cyclic life of the assemblies were within a range of 2,232 to 4,226 cycles. The FAA has determined that failure of the inner seal support and outer ring nozzle support of the third stage stator may result in the seal support moving aft and making contact with the third stage turbine wheel. If uncorrected, this contact could result in an uncontained separation of the third stage turbine rotor assembly. Uncontained rotor fragments can cause structural/system airplane damage, passenger injury, and possible loss of airplane.

The FAA has determined, based on service experience, that the manufacturer's recommended replacement interval of 6,000 hours for the Part Number (P/N) 868379-5 third stage stator assembly is inadequate. Therefore, the FAA has reduced the service life limit of the P/N 868379-5 third stage stator assembly to 1,800 cycles.

Since this condition is likely to exist or develop in other engines with stators of the same type design, this AD requires the periodic replacement of the third stage turbine stator assembly on certain TSE/TPE331 series engines to correct an unsafe condition.

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

Although this action is in the form of a final rule, which involves an emergency and, thus, was not preceded by notice and public procedure, therein, interested persons are invited to submit such written data, views, or arguments as they may desire regarding this AD. Communications should identify the regulatory docket number and be submitted in duplicate to the Federal Aviation Administration, New England Region, Office of the Assistant Chief Counsel, Attention: Rules Docket 90-ANE-18, 12 New England Executive Park, Burlington, Massachusetts 01803.

All communications received by the deadline date indicated above will be considered by the Administrator and the AD may be amended in light of comments received.

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 and that it is not considered to be major under Executive Order 12291. It is impracticable for the agency to follow the procedures of Executive Order 12291 with respect to this rule since the rule must be issued immediately to correct an unsafe condition in aircraft. It had 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 (otherwise, an evaluation is not required). A copy of it, if filed, may be obtained from the Rules Docket.

List of Subjects in 14 CFR Part 39:

Air Transportation, Aircraft, Aviation safety, Safety.

ADOPTION OF THE AMENDMENT

Accordingly, pursuant to the authority delegated to me, the Federal Aviation Administration (FAA) amends 14 CFR Part 39 of the Federal Aviation Regulations (FAR) as follows:

PART 39 - [AMENDED]

1. The authority citation for Part 39 continues to read as follows:

Authority: 49 U.S.C. 1354(a), 1421 and 1423; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983); and 14 CFR 11.89.

SECTION 39.13 - [AMENDED]

2. By adding to Section 39.13, the following new airworthiness directive (AD):



U.S. Department
of Transportation

Federal Aviation
Administration

AIRWORTHINESS DIRECTIVE

AVIATION STANDARDS NATIONAL FIELD OFFICE
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Federal Aviation Regulations, Part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety. They 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 (FAR 39.3).

90-21-01 GARRETT ENGINE DIVISION, ALLIED-SIGNAL, INC.
(formerly Garrett Turbine Engine Co., GTEC, formerly
AIREsearch Manufacturing Company of Arizona):
Amendment 39-6749. Docket No. 90-ANE-18-AD.

Applicability: Model TPE331-1, -2, -2UA, -3U, -3UW, -5,
-5A, -6, -6A turboprop and TSE331-3U turboshaft engines
equipped with Part Number (P/N) 868379-5 third stage stator
assemblies.

Compliance: Required as indicated, unless already
accomplished.

To prevent an uncontained third stage turbine rotor
failure, replace P/N 868379-5 third stage stator assembly with
a serviceable assembly, in accordance with the following
schedule:

a. Replace within the next 300 cycles in service after
the effective date of this AD, if the stator assembly has more
than 1,500 cycles, since new or since rework to a P/N 868379-5
configuration, on the effective date of this AD.

b. Replace prior to accumulating 1,800 cycles in service
since new or since rework to P/N 868379-5 configuration if the
stator assembly has less than 1,500 cycles or less in service
on the effective date of this AD.

Note: Guidance and information regarding the replacement
of the stator assembly can be obtained from Garrett Service
Bulletin (SB) TPE331-A72-0699, R2, dated June 28, 1990.

c. Thereafter, replace at intervals not to exceed 1,800
cycles in service since new or rework.

Note: Refer to Garrett SB TPE/TSE331-72-0019, R14, dated
July 24, 1990, for definition of critical component service
life limits, including the required life limit, cycle
definitions, and stator serviceability.

d. Aircraft may be ferried in accordance with the
provisions of FAR 21.197 and 21.199 to a base where the AD can
be accomplished.

e. Upon submission of substantiating data by an owner or
operator through an FAA Airworthiness Inspector, the Manager,
Los Angeles Aircraft Certification Office, Transport Airplane
Directorate, Aircraft Certification Service, Federal Aviation
Administration, 3229 East Spring Street, Long Beach,
California 90806-2425, may approve an equivalent means of
compliance or an adjustment of the compliance schedule which
provides an equivalent level of safety.

All persons affected by this directive who have not
already received the appropriate service information from the
manufacturer may obtain copies upon request to Garrett General

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Aviation Services Division, Distribution Center, 2340 East University, Phoenix, Arizona 85034. This information may be examined at the Regional Rules Docket, Office of the Assistant Chief Counsel, Federal Aviation Administration, New England Region, 12 New England Executive Park, Room 311, Burlington, Massachusetts 01803.

This amendment (39-6749, AD 90-21-01) becomes effective on October 1, 1990.

FOR FURTHER INFORMATION CONTACT:

Mr. Joseph Costa, Aerospace Engineer, Propulsion Branch, ANM-140L, Los Angeles Aircraft Certification Office, Transport Airplane Directorate, Aircraft Certification Service, Federal Aviation Administration, 3229 East Spring Street, Long Beach, California 90806-2425; telephone (213) 988-5246.