

[Federal Register: March 22, 2002 (Volume 67, Number 56)]
[Rules and Regulations]
[Page 13262-13264]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr22mr02-4]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2001-NE-31-AD; Amendment 39-12685; AD 2002-06-08]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce Corporation (Formerly Allison Engine Company) 250-C28 Series Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), that is applicable to certain Rolls-Royce Corporation (formerly Allison Engine Company) 250-C28 series engines. This amendment requires removal of third stage turbine wheels, part number (P/N) 6899383, with certain serial numbers (SN's), from service before exceeding new, reduced life limits. This amendment also establishes a drawdown program to require the removal of those turbine wheels that exceed the new lower limits. This amendment is prompted by the potential to experience uncommanded shutdown caused by fractures of third stage turbine blade tips and shrouds. The actions specified by this AD are intended to prevent uncommanded shutdown of the engine due to fractures of third stage turbine blade tips and shrouds.

DATES: Effective date April 26, 2002.

ADDRESSES: The information contained in this AD 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: John Tallarovic, Aerospace Engineer, Chicago Aircraft Certification Office, FAA, Small Airplane Directorate, 2300 East Devon Avenue, Des Plaines, IL 60018; telephone (847) 294-8180; fax (847) 294-7834.

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 Rolls-Royce Corporation (formerly Allison Engine Company) 250-C28, -C28B, and -C28C model engines with third stage turbine wheels part number (P/N) 6899383, listed by serial number (SN) in the proposal, was published in the Federal Register on November 8, 2001 (66 FR 56493). That action proposed to require removal of third stage turbine wheels, part number (P/N) 6899383, with SN's, from service before exceeding new, reduced life limits. That action also proposed to establish a drawdown program to require the removal of those turbine wheels that exceed the new lower limit.

Comments

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

Change Life Limits References

One commenter requests that all references to "new, reduced life", and "new lower" limits be removed and replaced with "specified hour and cycle" limits and "acceptable hour and cycle" limits.

The FAA does not agree. The preamble of the AD provides background information as to why the AD is being issued. The FAA has only one means of mandating lower life limits on a life limited part, and that is with an AD. The sole purpose of this AD is to mandate lower life limits. Removing references to "new, reduced life", and "new lower" limits in the preamble adds to confusion because those references explain why this AD is being issued.

Remove References to Reports of Five Uncommanded Shutdowns

The manufacturer requests that references to reports of five uncommanded shutdowns occurring as a result of the out-of-print condition addressed by this AD, be removed. At the time this AD action was first being considered, it was preliminarily reported that there were five uncommanded shutdowns occurring as a result of the out-of-print condition addressed by this AD. It has since been determined that those shutdowns did not have the out-of-print condition and are unrelated to the actions required by this AD. The manufacturer still supports the issuance of this AD because of the potential safety issue that remains.

The FAA agrees. Therefore, the summary in the preamble of this final rule is changed to read: "This amendment is prompted by the potential to experience uncommanded shutdown caused by third stage turbine blade tip fractures, and turbine shroud fractures."

Eliminate Potential Nomenclature Confusion

The manufacturer requests that the phrase "third stage turbine shrouds" be replaced with the word "shrouds" and remove reference to turbine shroud fractures, to eliminate potential nomenclature confusion. The reason for the request is that on the model 250-C28 series third stage turbine wheels, the blades and shrouds are cast together with the hub, creating a one piece unit.

The FAA agrees. Therefore, the summary in the preamble of this final rule is changed to read: "This amendment is prompted by the potential to experience uncommanded shutdown caused by fractures of third stage turbine blade tips and shrouds."

The actions specified by this AD are intended to prevent uncommanded shutdown of the engine due to fractures of third stage turbine blade tips and shrouds."

Change Unsafe Condition Wording

One commenter requests that the NPRM preamble wording found in the FAA's Determination of an Unsafe Condition and Proposed Actions paragraph be changed from: "Since an unsafe condition has been identified that is likely to exist. * * *", to "Since an unsafe condition has been identified that may exist. * * *" No justification was given for this change.

The FAA does not agree. AD's are issued under Part 39 of the Federal Aviation Regulations, 14 CFR part 39. The FAA must make a finding that an unsafe condition prompting the AD "is likely to" exist or develop in other products of the same type design.

Incorporate Additional Information

The manufacturer requests that a phrase be added to the Economic Analysis that states that not all affected third stage turbine wheels may be installed in engines.

The FAA agrees that additional information should be added to the Economic Analysis. Therefore, the Economic Analysis is modified to include the sentence: "There are approximately 84 engines worldwide that may have an affected third stage turbine wheel installed, however, it is not known how many of those third stage turbine wheels are installed in engines."

Add Reference to Rolls-Royce Service Bulletin

The manufacturer requests a clarification to the AD to include a reference to the Rolls-Royce Corporation service bulletin associated with this life limit change.

The FAA does not agree. There is no reason to reference the service bulletin because all the pertinent information regarding the new reduced life limits of the affected third stage turbine wheels, which includes part number, serial numbers, and drawdown schedule, are included in the AD.

Reword Discussion Information

One commenter requests changing in the discussion section the phrase "to life limits of 1,500 hours TSN and 3,000 CSN" to "to life limits of 1,500 hours TSN or 3,000 CSN, whichever occurs first." This change request by the commenter would be appropriate if the intent of this section was to describe how to comply with the new reduced life limits. However, the intent of the discussion section is to provide background information on the various life limits and how they are changing relative to each other. Details on compliance are explained in Table 2 of the compliance section of the AD, in which the phrase "whichever occurs earlier" is used where appropriate, consistent with the commenter's intent.

Restructure Contents of Table 2

One commenter requests the restructuring of the contents of Table 2 in the AD.

The FAA does not agree. The information in Table 2 as published in the NPRM is accurate and concise, and therefore remains unchanged in this AD.

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

Economic Analysis

There are approximately 84 third stage turbine wheels of the affected design in the worldwide fleet. The FAA estimates that 42 engines installed on helicopters of U.S. registry would be affected by this AD. However, it is not known how many of those third stage turbine wheels are installed in

engines. It would take approximately 44 work hours per engine to remove and replace an affected turbine wheel. The average labor rate is \$60 per work hour. The cost of a new third stage turbine wheel is approximately \$4,371. The FAA estimates that approximately \$2,929 per wheel has been lost due to life reduction. However, the manufacturer has stated it may reduce the new wheel cost to the customer. Based on these figures, the total cost of the AD on U.S. operators is estimated to be \$294,462.

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, 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.

Sec. 39.13 [Amended]

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

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "av-info.faa.gov"

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).

2002-06-08 Rolls-Royce Corporation: Amendment 39-12685. Docket No. 2001-NE-31-AD.

Applicability: This airworthiness directive (AD) is applicable to Rolls-Royce Corporation (formerly Allison Engine Company) 250-C28, -C28B, and -C28C model engines with third stage turbine wheels part number (P/N) 6899383, listed by serial number (SN) in the following Table 1:

Table 1.--SN's of Affected Third Stage Turbine Wheels

HX91428R	HX91489R	HX91707R
HX91456R	HX91490R	HX91708R
HX91457R	HX91492R	HX91709R
HX91458R	HX91493R	HX91710R
HX91459R	HX91494R	HX91711R
HX91461R	HX91500R	HX91712R
HX91462R	HX91501R	HX91713R
HX91464R	HX91503R	HX91714R
HX914659	HX91504R	HX91715R
HX91465R	HX91506R	HX91721R
HX91466R	HX91507R	HX91722R
HX91467R	HX91508R	HX91726R
HX91468R	HX91510R	HX91733R
HX91469R	HX91511R	HX91735R
HX91471R	HX91512R	HX91736R
HX91472R	HX91513R	HX91738R
HX91473R	HX91519R	HX91742R
HX91474R	HX91520R	HX91744R
HX91475R	HX91522R	HX91748R
HX91477R	HX91523R	HX91749R
HX91478R	HX91524R	HX91750R
HX91480R	HX91525R	HX91754R
HX91482R	HX91526R	HX91764R
HX91483R	HX91527R	HX91765R
HX91485R	HX91528R	HX91766R
HX91486R	HX91529R	HX91767R
HX91487R	HX91530R	HX91768R
HX91488R	HX91706R	HX91769R

Note.--These engines are installed on, but not limited to Bell Helicopter Textron 206L-1 helicopters.

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 (c) 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 an uncommanded shutdown of the engine due to fractures of third stage turbine blade tips and third stage turbine shrouds, do the following:

(a) Remove from service the third stage turbine wheels, P/N 6899383, listed by SN in Table 1 of this AD, in accordance with the following Table 2:

For third stage turbine wheels on the effective date of this AD	Remove by
(1) With fewer than 3,000 cycles-since-new (CSN), and fewer than 1,500 hours time-since-new (TSN).	3,000 CSN or 1,500 hours TSN, whichever occurs earlier.
(2) With between 3,000 and 6,000 CSN, and fewer than 1,500 hours TSN.	200 additional cycles, after the effective date of this AD.
(3) With fewer than 3,000 CSN, and between 1,500 and 3,000 hours TSN.	100 additional hours, after the effective date of this AD.
(4) With between 3,000 and 6,000 CSN and between 1,500 and 3,000 hours TSN.	200 additional cycles or 100 additional hours, after the effective date of this AD, whichever occurs earlier.
(5) With more than 6,000 CSN, or more than 3,000 hours TSN	Before further flight.

(b) After the effective date of this AD, do not install any third stage turbine wheels listed by SN in Table 1 of this AD. Thereafter, except as provided in paragraph (c) of this AD, no alternative cyclic life limits may be approved for the turbine wheels listed in Table 1 of this AD.

Alternative Methods of Compliance

(c) 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, Chicago Aircraft Certification Office (ACO). Operators must submit their request through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Chicago ACO.

Note 2: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Chicago ACO.

Special Flight Permits

(d) Special flight permits may be issued in accordance with Secs. 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 done.

Effective Date

(e) This amendment becomes effective on April 26, 2002.

Issued in Burlington, Massachusetts, on March 14, 2002.

Francis A. Favara,

Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 02-6913 Filed 3-21-02; 8:45 am]

BILLING CODE 4910-13-P