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FAA-04-18024-9

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Appendix 4

DEPT. OF TRANSPORTATION
DOCKETS

Revised July 17, 1995

2003-NE-39-AD A 9:48

Aircraft Certification Service AD PROPOSAL WORKSHEET

DOCKET NUMBER: 2003-NE-39-AD

TECH WRITER:

This supercedure AD is necessary to relax a compliance requirement that, as written, is more restrictive than the Service Bulletin. The corrective action is provided as a Supercedure AD and will be issued as an NPRM, effective immediately as of the effective date of the AD.

PROPOSED ACTION:

- Telegraphic AD
- Priority Letter
- Immediately Adopted AD
- Federal Register version of Telegraphic AD or Priority Letter
- Final Rule after NPRM (*See Note on next page)
- Notice of Proposed Rulemaking
- Other

Is this proposed action one of the following? (Check if applicable):

Supersedure of an AD Revision of an AD Supplemental NPRM

1. Product Manufacturer.

Rolls-Royce (1971) Limited, Bristol Engine Division

2. Applies to (models, serial numbers or references, installations, part numbers, as applicable).

Rolls-Royce Limited Viper Mk.601-22 Turbojet Engine installed on but not limited to Raytheon HS.125 Series 600 and the BH.125 Series 600 Aircraft.

3. ACO project engineer.

Name/Title/Branch: Ian Dargin/ Aerospace Engineer/ANE-142

Telephone: 781-238-7178

Fax: 781-238-7199

4. Directorate Project Officer (if applicable) and title.

Name/Title/Branch: Marc Bouthillier/ Aerospace engineer/ANE-110

Telephone: 781-238-7120

Fax: 781-238-7199

5. If this action is a Final Rule after NPRM, list the docket number and the number of public comments received. Fill out the "AD Proposal Worksheet Attachment: Disposition of Comments."

Docket No.: 2003-NE-39-AD

Number of comments received: 1

***NOTE: For Final Rules after NPRM, if any of the following requested information (in Questions 6 through 23) is unchanged from the NPRM, you may so indicate this in the space provided, rather than repeat the information.)**

6a. Describe the unsafe condition.

To prevent possible dual engine shutdowns due to multiple 1st Stage Turbine Rotor Blade losses.

6b. Describe the cause of the unsafe condition.

Inspection of 1st stage turbine blades from field returned engines identified cracks in the blade airfoil, at an increasing incident rate. Under the current requirements of blade replacement at 7,000 hours, the current risk of dual engine shutdowns is unacceptable. Reducing the first stage turbine lives from 7,000 to 4,600 hours reduces the risk of failure to an acceptable level.

6d. How many such occurrences have been reported?

Unknown

6e. On what date did the FAA become aware of the situation?

January, 2001

7. Was this proposed action prompted by a manufacturer's quality control (QC) problem? If so, is a reporting requirement needed in the AD to determine the scope of the problem? (If yes to either of these questions, coordinate with cognizant MIDO.)

No

8. Was this proposed action prompted by the use of suspected unapproved parts (SUP)?

No

9. Is this action related to an NTSB safety recommendation? If yes, attach a copy of that recommendation and the FAA response.

No

10. If this proposed action will revise, supersede, or withdraw an existing AD, please provide the following information about the existing AD.

Amendment No.: 39-13684

Docket No.: FAA-2004-18024 (2003-NE-39-AD))

Federal Register Citation: AD 2004-13-03 (Vol. 69, No. 119, Page 34563)

11a. What are the proposed types of corrective actions (i.e., one-time inspections, recurring inspections, terminating actions, modifications, operational restrictions, etc.) **AND**

What are the corresponding compliance times?

(See attached "**SAMPLE: Proposed Corrective Action**" for an example of how this information should be provided.)

Have you considered all of the aspects of what you are proposing, such as overlapping requirements, the effect these actions will have on other existing requirements, and other sensitive issues? (Be as specific as possible.)

[Note to Word users: The area below is formatted as a "Table." It allows you to insert as much information as needed into each cell. To move to the next cell, use the Tab key.]

PROPOSED CORRECTIVE ACTION

SERVICE INFORMATION (Attach 2 copies)	ACTION	INITIAL COMPLIANCE THRESHOLD	REPETITIVE INTERVAL (if any)	TERMINATING ACTION (if any)
Rolls-Royce plc Alert Service Bulletin 72-A184, dated January 2001	Remove blades per the attached	See attached	Not applicable	Yes

11b. How was the compliance time(s) established?

Compliance action was determined from risk analysis, based on 1st stage turbine rotor blade failure rates. This analysis resulted in the reduction of the life limit of these parts from 7,000 hours to 4,600 hours. Failure of these parts results in an in-flight shutdown of the engine.

11c. Has the manufacturer issued relevant service information? If so, attach 2 copies. (Copies must be legible and of very good quality. Originals are preferred.)

Yes. Rolls-Royce plc Alert Service Bulletin 72-A184, dated January, 2001

11d. If this action relates to a non-U.S. product, has the foreign civil airworthiness authority (FCAA) issued a parallel AD? If yes, please provide the following information:

FCAA AD Number: CAA AD 004-01-2001

Date of issuance: January 2001

11e. Are there any differences between the manufacturer's service information referenced above, other AD's (foreign or U.S.), and the requirements of this AD? (For example, does the compliance time of this AD action differ significantly from that recommended in the referenced service information?) If so, explain these differences and the reasons for each.

Yes. Compliance time for the new blade life limit is changed to 3 years from the effective date of the AD and not within 5 years from receipt of the Alert Service Bulletin.

11f. Are notes, drawings, or diagrams needed in the AD to explain procedures or differences from the service instructions? (If so, please explain below or attach a copy.)

No

12. Number of aircraft engines/products that will be affected? (Use numerical figures).

___ 84 ___ Domestic only

___ 84+ ___ Worldwide (including domestic)

13. Provide the number of work hours/associated costs per aircraft/product for **EACH** proposed corrective action (i.e., inspection, modification, etc.) in the table below.

FOR THE PROPOSED AD.

Type of Corrective Action	Number of Workhours per aircraft	Number of U.S. Aircraft Affected	Parts Costs per aircraft
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FOR THE **EXISTING** AD (i.e., the one to be superseded or revised), if applicable.

Type of Corrective Action	Number of Workhours per aircraft	Number of U.S. Aircraft Affected	Parts Costs per aircraft
Replace blades	0 hours when done at overhaul	84	\$2287.50 per blade

On the basis of an estimated 84 domestic engines affected by this AD, the projected cost for replacing one blade per engine is 84 engines x \$2287.50 per blade per engine = \$192,150.00

Note 1: This assumes that 100% of the costs would be paid by the operator and does not include a reduction factor for used life.

14. If parts are required, are they available for all aircraft?

Yes

15. If known, please indicate the number of affected aircraft that are already in compliance with the proposed inspection, modification, installation, or replacement, etc.

Unknown

16. Should a special flight permit be:

Permitted

Permitted with limitations (*List the limitations on a separate sheet.*)

Prohibited

17. In general, how is the product utilized (i.e., air carrier, general aviation, commuter, military, agri-business, training, etc.)?

Commuter

18a. If this proposed AD would revise or supersede an existing AD, have alternative methods of compliance (AMOC) been approved for the existing AD?

N/A

18b. If yes, should those AMOC's continue to be considered approved for all or any portion of the proposed AD?

N/A

18c. If yes, state for what portions of the proposed AD the previously approved AMOC's should continue to be considered approved.

N/A

19. With whom outside the FAA has this proposal been discussed (i.e., ATA, NBAA, RAA, AOPA, ALPA, GAMA, etc.)? (A separate record may need to be submitted to the Rules Docket. See paragraph 3, "Ex parte Contacts," of the AD Manual.)

Note: This item should be completed prior to submission of the AD Proposal worksheet.

Organization	Person Contacted	Date	Reaction
Regional Airline Association	David Lotterer 202-367-1252	July 31, 2003	Concur
National Air Transportation Association	Jacque Rosser 800-808-6282	August 5, 2002	Concur – will pass to Karl Florian

20. Are there any special considerations or concerns that need to be taken into account in the drafting of this proposal? (Use a separate sheet to detail these items, if necessary.)

No

21. Do you have reason to believe that this action would be considered "sensitive?" (See Section 15 of the AD Manual for a definition of "sensitive".) If yes, please explain below.

AD Proposal Worksheet Attachment: -- DISPOSITION OF COMMENTS TO NPRM --

DOCKET NUMBER: 2003-NE-39-AD

Directions for completing this form: Summarize all comments received by issue (not by commenter) and provide your suggested resolution of each issue. All comments relating to the same issue should be discussed together. Do not list all of the issues of one commenter together. If changes to the AD need to be made based on the comments received, explain why and describe in detail what changes(s) you recommend.

ISSUE #1 AD Compliance requirements, Para (g)(4).

List commenter(s): Rolls-Royce

1. What change to the proposed AD is requested? Revise paragraph (g)(4) so that the limits are only applicable to those engines with blade lives, which exceed 5800 hours.
2. Why is the change requested or how is it justified? It is not consistent with the Service Bulletin and would be more restrictive than necessary.
3. Does the FAA agree? (check one) Yes: / No: / Partially Agree:
 - a. If YES or PARTIALLY AGREE, As written, the paragraph is more restrictive than the Service Bulletin. It is possible that an engine with less than 5800 hours, but exceeding either the 200 hours or 6 months limit from the effective date of the AD, would have to be removed from service. The intent was that after 6 months from the effective date of the AD and up to 3 years from the effective date of the AD, engines will be able to operate up to a maximum of 5800 hours.

Paragraph (g)(4) of Table 1, second column, is rewritten to read as follows:

(4) One engine installed on the airplane has 1 st stage turbine rotor blades that exceed 4,600 hours TIS, but have fewer than 5,800 hours TIS, and the other engine has 1 st stage turbine rotor blades with fewer than 4,600 hours TIS.	Replace the engine that has the highest blade life at 5800 hours, applicable within 6 months after the effective date of this AD.
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Add a new paragraph (h):

“(h) No engine may operate with a blade life exceeding 5800 hours TIS applicable beginning 6 months from the effective date of this AD.”

- b. If NO, explain why not.

ISSUE #2 AD Compliance requirements, Para (h).

List commenter(s): Rolls-Royce

1. What change to the proposed AD is requested? Revise paragraph (h) so that it is consistent with the Service Bulletin intent.
2. Why is the change requested or how is it justified? The requirement per paragraph (h) is more restrictive than the Service Bulletin.
3. Does the FAA agree? (check one) Yes: / No: / Partially Agree:

a. If **YES** or **PARTIALLY AGREE**, As written, the paragraph is more restrictive than the Service Bulletin. While the intent of paragraph (h) was to remove all engines with blades exceeding 4600 hours time in service (TIS), applicable within 3 years after the effective date of this AD, the existing language is not clear and could apply to an engine with, for example, 1000 hours TIS. This would force the engine off wing after 3 years while the engine may have only accumulated an additional 1000 hours TIS – far short of the intended life limit. Therefore, it is important to delineate between the near term “drawdown” schedule which limits blade life to 5800 hours TIS per Table 1 beginning at 6 months and continuing up to 3 years from the effective date of this AD and the “objective” life limit of 4600 hours TIS which begins at 3 years from the effective date of this AD. Paragraph (h) is re-identified as paragraph (i) and rewritten to read as follows:

“(i) No engine may operate with a blade life exceeding 4600 hours TIS applicable beginning 3 years from the effective date of this AD.”

Note: Subsequent paragraphs will be re-numbered.

b. If **NO**, explain why not.

Compliance Section

Applicability: Rolls-Royce Limited Viper Mk.601-22 Turbojet Engine installed on but not limited to Raytheon HS.125 Series 600 and BS.125 Series 600 Aircraft.

Note 1: Required as indicated, unless accomplished previously.

To prevent possible **dual engine shutdowns due to multiple 1st Stage Turbine Rotor Blade losses:**

Replace the 1st stage turbine rotor blades, after the effective date of this AD as specified in Table 1, Table 2 or Table 3, as applicable.

Table 1 – Installed Engines

On the effective date of this AD, if	Then:
(1) Both engines installed on the airplane have 1 st stage turbine rotor blades that exceed 5,800 hours time-in-service (TIS).	Replace the engine that has the higher blade life within 50 hours TIS or 6 weeks after the effective date of this AD, whichever occurs first.
(2) One engine installed on the airplane has 1 st stage turbine rotor blades that exceed 5,800 hours TIS, and the other engine has 1 st stage turbine rotor blades that exceed 4,600 hours TIS.	Replace the engine that has the higher blade life within 100 hours TIS or 4 months after the effective date of this AD, whichever occurs first.
(3) One engine installed on the airplane has 1 st stage turbine rotor blades that exceed 5,800 hours TIS, and the other engine has 1 st stage turbine rotor blades with fewer than 4,600 hours TIS.	Replace the engine that has the higher blade life within 200 hours TIS or 6 months after the effective date of this AD, whichever occurs first.
(4) One engine installed on the airplane has 1 st stage turbine rotor blades that exceed 4,600 hours TIS, but have fewer than 5,800 hours TIS, and the other engine has 1 st stage turbine rotor blades with fewer than 4,600 hours TIS.	Replace the engine that has the highest blade life at 5800 hours TIS, applicable within 6 months after the effective date of this AD.

Table 2: Uninstalled Serviceable Spare Engines

If:	Then:
1 st Stage blade life is at or above 5,800 hours TIS	Do not install
1 st Stage blade life is between 4,600 and 5,800 hours TIS	Install per Table 1
1 st Stage blade life is less than 4,600 hours TIS	Install but follow Table 1 guidance after reaching 4,600 hours TIS.

Table 3: Engines Undergoing Repair and Overhaul

If:	Then:
Installed during overhaul	Blade life must not exceed 4,600 hours TIS prior to the engine reaching its approved overhaul life (No action required by operator).

Note 2. Accomplish within the following time-in-service (TIS) and repeat in accordance with the values listed in Table 1.

Note 3. No engine may operate with a blade life exceeding 5800 hours TIS applicable beginning 6 months from the effective date of this AD.

Note 4. No engine may operate with a blade life exceeding 4600 hours TIS applicable beginning 3 years from the effective date of this AD

No

22. Please indicate Yes or No to the following questions:

No Is this considered interim action?

No Do you know of any optional or alternative methods of accomplishing the proposed action?

Yes Have you considered any alternatives to an AD action?

No Are other Directorates involved in any similar actions?

No Does this action affect the Presidential fleet?

No Does this action affect the FAA fleet?

No Have the proposed procedures been verified (i.e., by MIDO, AEG, ACDO, FSDO)?

23. Check the category that best describes the cause of the unsafe condition addressed by this AD:

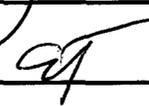
Design Problem Quality Control Problem

Operational Maintenance Unapproved Parts

Other (specify):

Signature Section

(Signature indicates concurrence with proposed action)

John F. Dargin		9/21/04
Project Engineer		Date
Eugene Triozzi		10/06/04
Branch Manager		Date
ACO/Staff Office Manager		Date
Roger H. Love	(Signed)	9/28/04
AEG Representative		Date
N/A		
MIDO Representative*		Date

(MIDO signature required if QC problem involved.)

*Enforcement action status? _____

No Is this considered interim action?

No Do you know of any optional or alternative methods of accomplishing the proposed action?

Yes Have you considered any alternatives to an AD action?

No Are other Directorates involved in any similar actions?

No Does this action affect the Presidential fleet?

No Does this action affect the FAA fleet?

No Have the proposed procedures been verified (i.e., by MIDO, AEG, ACDO, FSDO)?

23. Check the category that best describes the cause of the unsafe condition addressed by this AD.

Design Problem Quality Control Problem

Operational Maintenance Unapproved Parts

Other (specify):

Signature Section
NPRM Docket 03ne39
 (Signature indicates concurrence with proposed action)

John F. Dargin	9/21/04
Project Engineer	Date
Eugene Triozzi	
Branch Manager	Date
ACO/Staff Office Manager	Date
Roger H. Love	9/28/04
AEG Representative	Date
N/A	
MIDO Representative*	Date
<i>(MIDO signature required if QC problem involved.)</i>	
*Enforcement action status? _____	