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V2500-A5/D5 SERIES PROPULSION SYSTEM NON-MODIFICATION SERVICE BULLETIN

Printed in Great Britain

This document transmits the Initial Issue of Service Bulletin EV2500-72-0428

Bulletin Initial Issue

Remove	Incorporate	Reason for change
	Pages 1 to 7 of the Service Bulletin	Initial issue

V2500-ENG-72-0428

CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED
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LIST OF EFFECTIVE PAGES

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International Aero Engines

SERVICE BULLETIN

NON MODIFICATION SERVICE BULLETIN - ENGINE - HPT STAGE 2 BLADE INSPECTION FOR SURFACE IMPERFECTIONS ON AIRFOIL

1. Planning Information

A. Effectivity

(1) Airbus A319

V2522-A5, V2524-A5, V2527M-A5 Engines Serial Nos. V10025, V10068, V10094, V10111, V10129, V10192, V10198, V10207, V10216, V10228, V10242, V10243, V10261, V10356, V10396, V10778, V10787, V10951, V10953, V10955, V10957, V10959, V10961, V10963 thru V10976, V10978 thru V10984, V10986 thru V10988, V10990, V10992 thru V10994, V10997, V10999 thru V11002, V11004, V11006, V11012 thru V11020, V11023 thru V11025, V11027, V11028, V11030 thru V11035, V11037, V11039 thru V11041, V11043 thru V11053, V11055 thru V11059, V11062 thru V11074, V11076 thru V11085, V11087, V11089 thru V11096, V11098, V11100 thru V11102, V11104 thru V11121, V11123 thru V11270, V11272, V11274, V11276, V11278.

(2) Airbus A320

V2527-A5, V2527E-A5 Engines Serial Nos. V10025, V10068, V10094, V10111, V10129, V10192, V10198, V10207, V10216, V10228, V10242, V10243, V10261, V10356, V10396, V10778, V10787, V10951, V10953, V10955, V10957, V10959, V10961, V10963 thru V10976, V10978 thru V10984, V10986 thru V10988, V10990, V10992 thru V10994, V10997, V10999 thru V11002, V11004, V11006, V11012 thru V11020, V11023 thru V11025, V11027, V11028, V11030 thru V11035, V11037, V11039 thru V11041, V11043 thru V11053, V11055 thru V11059, V11062 thru V11074, V11076 thru V11085, V11087, V11089 thru V11096, V11098, V11100 thru V11102, V11104 thru V11121, V11123 thru V11270, V11272, V11274, V11276, V11278.

(3) Airbus A321

V2530-A5, V2533-A5* Engines Serial Nos. V10025, V10068, V10094, V10111, V10129, V10192, V10198, V10207, V10216, V10228, V10242, V10243, V10261, V10356, V10396, V10778, V10787, V10951, V10953, V10955, V10957, V10959, V10961, V10963 thru V10976, V10978 thru V10984, V10986 thru V10988, V10990, V10992 thru V10994, V10997, V10999 thru V11002, V11004, V11006, V11012 thru V11020, V11023 thru V11025, V11027, V11028, V11030 thru V11035, V11037, V11039 thru V11041, V11043 thru V11053, V11055 thru V11059, V11062 thru V11074, V11076 thru V11085, V11087, V11089 thru V11096, V11098, V11100 thru V11102, V11104 thru V11121, V11123 thru V11270, V11272, V11274, V11276, V11278.

NOTE: * V2533-A5 Base Line Serial Number is V10198.

(4) Boeing MD-90

V2525-D5, V2528-D5 Engines Serial Nos. V20051, V20092, V20229, V20246, V20262.

B. Concurrent Requirements

There are no concurrent requirements.

C. Reason

(1) Problem: HPT stage 2 blades were manufactured with surface imperfections (raised material) on the airfoil. Blade(s) with these surface defects were found to have internal cracks. Any cracking in blades may propagate and result in a fracture of a piece of the blade airfoil.

(2) Background: HPT stage 2 blades were found at production with surface imperfections (raised material) on the airfoil. These blades were cut up and internal cracks were identified. Analysis shows that these internal cracks would eventually propagate and release a section of the airfoil. Release of an airfoil section would result in damage downstream of the stage 2 blade.

(3) Objective: An inspection is provided to identify the stage 2 blades with surface imperfections (bumps). This inspection must be accomplished at the next shop visit. If blades with surface imperfections are identified during the inspection, then replacement of the blades will be required. Not replacing the blades with surface imperfections will risk crack propagation and may result in a blade fracture, causing significant engine damage.

(4) Substantiation: Blades with surface imperfections were run in a development engine for a service interval. This successfully demonstrated that blades with surface imperfections could achieve a service interval without a blade fracture.

(5) Effects of Bulletin on:

Removal/Installation: None.

Disassembly/Assembly: None.

Cleaning: None.

Inspection/Check: None.

Repair: None.

Testing: None.

(6) Supplemental Information

None.

D. Description

Take appropriate action to replace any suspect HPT stage 2 blades in service.

E. Compliance

Category 4

Accomplish at the first visit of an engine or module to a maintenance base capable of compliance with the accomplishment instructions regardless of the planned maintenance action or the reason for engine removal.

F. Approval Data

The part number changes and/or part modifications specified in the Accomplishment Instructions and Material Information sections of this Service Bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the engine model(s) given.

The `compliance' statement and the procedures described in this Service Bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the Engine Model listed.

G. Manpower

Estimated man-hours to incorporate the full intent of this Bulletin:

Venue	Estimated Manhours
In Service	Not Applicable
At Overhaul	1 hour

H. Weight and Balance

Weight Change	None
Moment	No Effect
Datum	Engine Front Mount Centerline (Power Plant Station (PPS) 100)

I. Electrical Load Data

This Service Bulletin has no effect on the aircraft electrical load.

J. Software Accomplishment Summary

Not Applicable.

K. References

1. IAE V2500 All Operators Wire - 1060 Dated April 8, 2002.

2. V2500 Engine Illustrated Parts Catalogs (S-V2500-2IB, S-V2500-3IA, S-V2500-3IB, S-V2500-5IA, S-V2500-5IB, S-V2500-6IA, S-V2500-6IB, S-V2500-7IA, and S-V2500-71B), Chapter/Section 72-45-32-01-010.

3. V2500 Engine Manual (E-V2500-1IA), Chapter/Section 72-00-00.

4. V2500 Engine Manual (E-V2500-3IA), Chapter/Section 72-00-00.

5. Internal Reference No. - 02VC081.

6. ATA Locator - 72-45-00.

L. Other Publications Affected

None.

M. Interchangeability of Parts

Replace all suspect blades that fail inspection.

N. Information in the Appendix

Alternate Accomplishment Instructions (No)

Progression Charts (No)

Added Data (No)

Revision to Table of Limits (No)

Inspection Procedures (No)

2. Material Information

A. Material - Price and Availability

1. The estimated price of each new replacement blade to do this Service Bulletin is $4063.00.

2. There is no kit provided to do this Service Bulletin.

3. Part availability information is provided in material data Instructions - Disposition.

NOTE: The prices shown are for estimating purposes only and as such are given in good faith without commercial liability for advanced planning purposes only. Refer to IAE Spares and/or current Price Catalog for current prices.

B. Industry Support Program

Not Applicable.

C. Instructions/Disposition Code Statements:

Not Applicable.

D. Tooling - Price and Availability

A Special tool (IAE2P16497) will be provided to each shop as an example of what to inspect for.

E. Reidentified Parts

Not Applicable.

F. Other Material Information Data

Not Applicable.

3. Accomplishment Instructions

(1) Removal:

(a) Follow the Engine Manual instructions to remove the Low Pressure Turbine. See references 3. and 4., Disassembly Task 72-45-00-030-0010-B00.

(2) Inspection:

(a) A tool (IAE2P16497), which will have a typical surface imperfection will be provided to each shop as an example of what to inspect for. The surface imperfections will vary in size, location and shape and the tool is only a typical example.

NOTE: If the stage 2 Rotor Assembly is going to be removed or the Rotor Assembly is going to be disassembled, the inspection for surface imperfections can be done at the Rotor or piece part level.

(b) Inspect blades for surface imperfections with a visual inspection and carefully examine parts with hand for raised material. Run fingers over the concave and convex sides of the airfoil feeling for protrusions on the airfoil. The surface imperfection is an area of the airfoil on either the concave or convex side, which has a slight bulge or bump. The typical location for the slight bulge is from 50% span to the tip, on the concave and convex sides. See Figure 1.

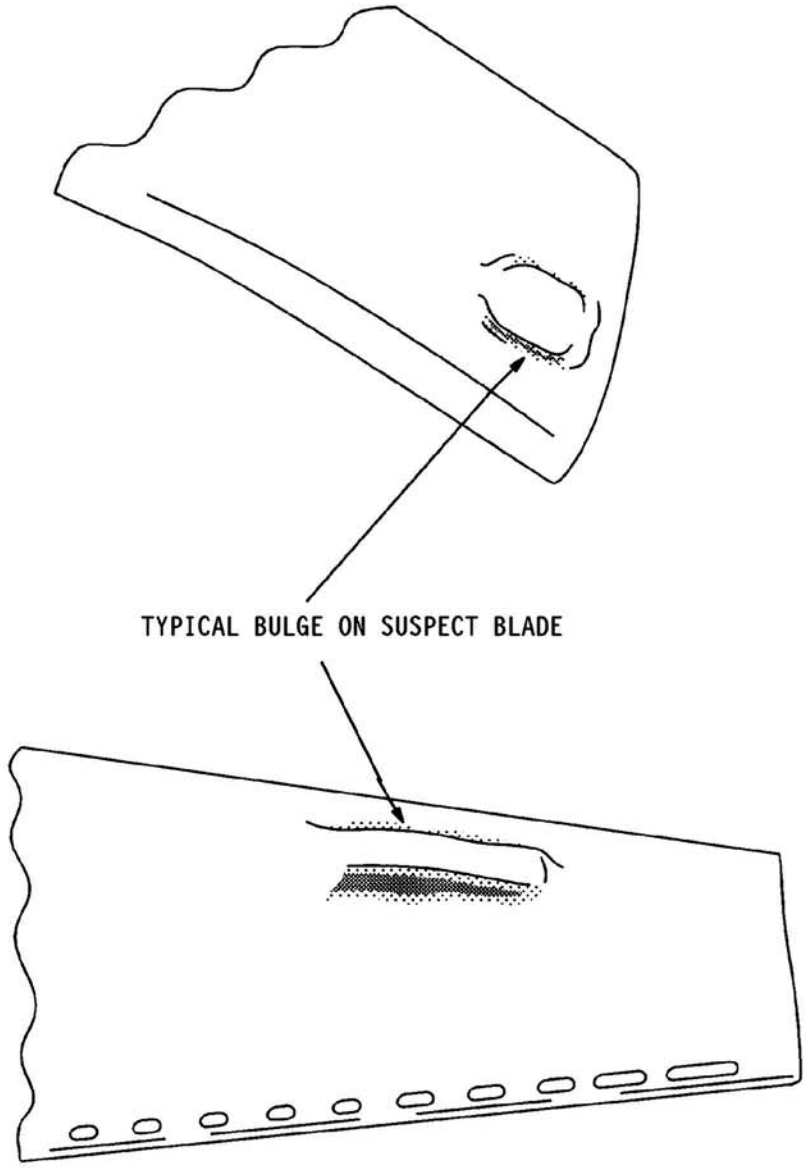
(c) If blades with surface imperfections are found they must be replaced. IAE Technical Services must also be notified via field representative.

(3) Blade Replacement Instructions:

(a) Replace all blades with surface imperfections in accordance with the Engine Manual. See reference 3. and 4. , Task 72-45-30-040-001-C00)

(4) Recording Instructions

(a) A record of accomplishment is required.



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TYPICAL HPT STAGE 2 SUSPECT BLADE
Figure 1