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## V2500-A1/A5/D5 PROPULSION SYSTEM SERVICE BULLETIN

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This document transmits Revision 3 to Service Bulletin EV2500-70-0115

Document History

| Service Bulletin Revision Status |           |
|----------------------------------|-----------|
| Initial Issue                    | Sep.15/93 |
| Revision 1                       | Jan.15/94 |
| Revision 2                       | Jul.15/94 |

Supplement Revision Status

Bulletin Revision 3

Remove  
All pages of the  
Service Bulletin

Incorporate  
Pages 1 to 10 of the  
Service Bulletin

Reason for change  
To update Effectivity and  
Material Information.

# V2500-ENG-70-0115

Transmittal - Page 1 of 2

CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED

If any have not been received please advise Publication Services, Rolls-Royce plc, Derby, England

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# LIST OF EFFECTIVE PAGES

The effective pages to this Service Bulletin following incorporation of Revision 3 are as follows:

| <u>Page</u> |          | <u>Revision Number</u> | <u>Revision Date</u> |
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| R           | 10       | 3                      | Apr.7/03             |

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INFORMATION - ENGINE - PROVIDE ADDITIONAL OPTIONS FOR THE NO. 1 AND NO. 4 FACE SEAL ASSEMBLIES

1. Planning Information

A. Effectivity Data

(1) For Airbus A319

Engine Models Applicable

V2522-A5, V2524-A5, V2527M-A5 Engines Serial Nos. V10001 thru V10058\*

\* The Serial Number Listed represents a tolerance band of 23. This estimate of engine serial numbers will be revised, if necessary, when parts are installed in engines at Pratt and Whitney.

(2) For Airbus A320

Engine Models Applicable

V2500-A1 Engines Serial Nos. V0001 thru V0353\*

\* The Serial Number Listed represents a tolerance band of 10. This estimate of engine serial numbers will be revised, if necessary, when parts are installed in engines at Pratt and Whitney.

Engine Models Applicable

V2527-A5, V2527E-A5

\* The Serial Number Listed represents a tolerance band of 23. This estimate of engine serial numbers will be revised, if necessary, when parts are installed in engines at Pratt and Whitney.

(3) For Airbus A321

Engine Models Applicable

V2530-A5 Engines Serial Nos. V10001 thru V10058\*

\* The Serial Number Listed represents a tolerance band of 23. This estimate of engine serial numbers will be revised, if necessary, when parts are installed in engines at Pratt and Whitney.

(4) For Boeing MD-90

Engine Models Applicable

V2525-D5, V2528-D5 Engines Serial Nos. V20001 thru V20007\*



\* The Serial Number Listed represents a tolerance band of 4. This estimate of engine serial numbers will be revised, if necessary, when parts are installed in engines at Pratt and Whitney.

B. Concurrent Requirements

There are no concurrent requirements.

C. Reason

- (1) Provide a No. 1 Bearing Face Seal alternate that has increased hardness. This configuration has improved compression strength.
- (2) Provide an additional source for the No. 4 Bearing Face Seal. The addition of a new source will make it easier to procure parts..
- (3) Change the No. 1 and No. 4 Bearing Seal hierarchy by transferring the Seal Options into Seal Assembly Options. This will agree with the procedure now in use..
- (4) Effects of Bulletin on:  
  
Removal/Installation: Not affected.  
  
Disassembly/Assembly: Not affected..  
  
Cleaning: Not affected.  
  
Inspection/Check: Not affected.  
  
Repair: Not affected.  
  
Testing: Not affected.
- (5) Supplemental Information  
  
None.

D. Description

Add options for the No. 1 and 4 Face Seal Assemblies.

E. Compliance

Category 8

Accomplish based upon experience with the prior configuration.

**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 | Not Applicable     |

**H. Weight and Balance**

| Weight Change | None   |
|---------------|--|
| Moment        | No Effect  |
| Datum         | Engine Front Mount Centerline<br>(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 Service Bulletin V2500-ENG-72-0082 - (Engine - LP Compressor - Rework the No. 1 Bearing Seal Assembly to Incorporate a Revised Sleeve Spacer and Retaining Collar).
2. IAE V2500 Service Bulletin V2500-ENG-72-0096 - (Engine - LP Compressor - Incorporate Anti-Fret Coating on the Annulus Filler Assembly Front Face).
3. IAE V2500 Service Bulletin V2500-ENG-72-0132 - (Engine - LP Compressor - Removal of Stage 6 Buffer Air System).



4. V2500 Engine Illustrated Parts Catalogs (S-V2500-1IA, S-V2500-2IA, S-V2500-2IB, S-V2500-3IA, S-V2500-3IB, V2500-6IA, S-V2500-6IB, S-V2500-7IA, and S-V2500-7IB), Chapter/Section 72-32-53, 72-42-33, and 72-43-20.
5. V2500 Engine Manual (E-V2500-1IA), Chapter/Section 72-32-53, 72-42-33, and 72-43-20.
6. V2500 Engine Manual (E-V2500-3IA), Chapter/Section 72-32-53, 72-42-33, and 72-43-20.
7. Internal Reference No.s - 93VA006, 93VA006C, 93VA006-03.
8. ATA Number - 72-00-00.

L. Other Publications Affected

1. V2500 Engine Illustrated Parts Catalogs (S-V2500-1IA, S-V2500-2IA, S-V2500-2IB, S-V2500-3IA, S-V2500-3IB, S-V2500-6IA, S-V2500-6IB, S-V2500-7IA, and S-V2500-7IB), Chapter/Section 72-32-53, 72-42-33, and 72-43-20 to add the new part.
2. V2500 Engine Manuals (E-V2500-1IA and E-V2500-3IA), Chapter/Section 72-32-53, 72-42-33, and 72-43-20 Cleaning, Inspection and Repair, to add the new part.

M. Interchangeability of Parts

Old and new parts are directly interchangeable.

N. Information in the Appendix

Alternate Accomplishment Instructions (No)

Progression Charts (No)

Added Data (No)

Revision to Table of Limits (No)

Inspection Procedures (/No)

O. General Information

The Material Information section of this Service Bulletin provides the latest information concerning the availability and part hierarchy for the No. 1 and 4 Bearing Face Seals.



## 2. Material Information

### A. Material - Price and Availability

1. The estimated price of new material to do this Service Bulletin using new replacement parts is \$ 5,214.40.
2. There is no kit provided to do this Service Bulletin.
3. Part availability information is provided in material data Instructions - Disposition.

### B. Industry Support Program

Not Applicable.

### C. The material data that follows is for each engine.

**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.

Applicability: For each V2500-A1 Engine that incorporates V2500-ENG-72-0132, to Incorporate this Service Bulletin. For each V2500-A5 Engine to Incorporate this Service Bulletin. For each V2500-D5 Engine to Incorporate this Service Bulletin.

72-32-53

| New PN | Qty | Estimate of<br>Unit Price (\$) | Keyword                                | Old PN<br>(Fig/Item) | Inst/Disp    |
|--------|-----|--------------------------------|--|----------------------|--------------|
| 2A2917 | 1   |                                | .Seal Assembly,<br>No. 1 Bearing       | 2A1065<br>(01-105)   | (2)(F)(N)(I) |
| 2A2915 | 1   |                                | ..Seal Assembly<br>Option              | 2A2199<br>(01-150)   | (2)(N)(01)   |
| -      | 12  |                                | ...Guide, Seal<br>Spring               | 2A1770<br>(01-170)   | (3)          |
| 2A2924 | 1   |                                | ...Seal Face<br>Assy, No. 1<br>Bearing | -<br>(01-180)        | (A)(I)       |
| 2A1770 | 12  | 20.80                          | ....Guide, Seal -<br>Spring<br>OR      | -<br>(01-192)        | (A)(I)       |



| New PN | Qty | Estimate of<br>Unit Price (\$) | Keyword                                | Old PN<br>(Fig/Item) | Inst/Disp |
|--------|-----|--------------------------------|--|----------------------|-----------|
| 2A2916 | 1   |                                | ...Seal Face<br>Assy, No. 1<br>Bearing | -<br>(01-194)        | (A)(I)    |
| 2A1770 | 12  | 20.80                          | ....Guide, Seal<br>Spring              | -<br>(01-196)        | (A)(I)    |

Applicability: For each V2500-A1 Engine that incorporates V2500-ENG-72-0096, but does not incorporate V2500-72-0132, to Incorporate this Service Bulletin.

72-32-53

| New PN     | Qty | Estimate of<br>Unit Price (\$) | Keyword                                      | Old PN<br>(Fig/Item) | Inst/Disp |
|------------|-----|--------------------------------|--|----------------------|-----------|
| 2A2203-001 | 1   |                                | .Seal Assembly, 2A2203<br>No. 1 Bearing      | (01-105)             | (M)(N)(I) |
| 2A2933     | 1   |                                | OR<br>.Seal Assembly,<br>No. 1 Bearing       | 2A2203<br>(01-105)   | (F)(N)(I) |
| 2A2915     | 1   |                                | ..Seal Assembly<br>Option                    | 2A2199<br>(01-150)   | (N)(01)   |
| -          | 12  |                                | ...Guide, Seal<br>Spring                     | 2A1770<br>(01-170)   | (3)       |
| 2A2924     | 1   |                                | ...Seal Face<br>Assy, No. 1<br>Bearing       | -<br>(01-180)        | (A)(I)    |
| 2A1770     | 12  | 20.80                          | ....Guide, Seal<br>Spring                    | -<br>(01-192)        | (A)(I)    |
| 2A2916     | 1   |                                | OR<br>...Seal Face<br>Assy, No. 1<br>Bearing | -<br>(01-194)        | (A)(I)    |
| 2A1770     | 12  | 20.80                          | ....Guide, Seal<br>Spring                    | -<br>(01-196)        | (A)(I)    |





Applicability: For each V2500-A1 Engine that incorporates V2500-ENG-72-0082, but does not incorporate V2500-72-0096 and V2500-ENG-72-0132, to Incorporate this Service Bulletin.

72-32-53

| New PN     | Qty | Estimate of<br>Unit Price (\$) | Keyword                                | Old PN<br>(Fig/Item) | Inst/Disp |
|------------|-----|--------------------------------|--|----------------------|-----------|
| 2A2036-001 | 1   |                                | .Seal Assembly,<br>No. 1 Bearing       | 2A2036<br>(01-105)   | (M)(N)(I) |
| 2A2915     | 1   |                                | ..Seal Assembly<br>Option              | 2A2199<br>(01-150)   | (N)(01)   |
| -          | 12  |                                | ...Guide, Seal<br>Spring               | 2A1770<br>(01-170)   | (3)       |
| 2A2924     | 1   |                                | ...Seal Face<br>Assy, No. 1<br>Bearing | -<br>(01-180)        | (A)(I)    |
| 2A1770     | 12  | 20.80                          | ....Guide, Seal<br>Spring<br>OR        | -<br>(01-192)        | (A)(I)    |
| 2A2916     | 1   |                                | ...Seal Face<br>Assy, No. 1<br>Bearing | -<br>(01-194)        | (A)(I)    |
| 2A1770     | 12  | 20.80                          | ....Guide, Seal<br>Spring              | -<br>(01-196)        | (A)(I)    |

Applicability: For each V2500 Engine to incorporate this Service Bulletin.

72-42-33

| New PN | Qty | Estimate of<br>Unit Price (\$) | Keyword                                    | Old PN<br>(Fig/Item) | Inst/Disp      |
|--------|-----|--------------------------------|--|----------------------|----------------|
| 2A2930 | 1   |                                | .Seal Assembly,<br>No. 4 Bearing,<br>Front | 2A2834<br>(01-010)   | (F)(N)(I)      |
| 2A2918 | 1   |                                | ..Seal Assembly<br>Option                  | 2A2053<br>(01-220)   | (A)(N)<br>(02) |
| -      | 12  |                                | ...Guide, Seal<br>Spring                   | 2A0076<br>(01-240)   | (3)            |



| New PN | Qty | Estimate of<br>Unit Price (\$) | Keyword                                     | Old PN<br>(Fig/Item)             | Inst/Disp  |
|--------|-----|--------------------------------|---|----------------------------------|------------|
| 2A2053 | 1   | 5060.80                        | ...Seal, Face,<br>No. 4 Bearing<br>Assembly | -<br>(01-241)                    | (D1)(I)    |
| 2A0076 | 12  | 12.80                          | ....Guide, Seal<br>Spring                   | -<br>(01-246)                    | (A)(I)     |
| 2A2011 | 1   |                                | ...Seal, Face,<br>No. 4 Bearing<br>Assembly | -<br>(01-248)                    | (D1)(I)    |
| 2A0076 | 12  | 12.80                          | ....Guide, Seal<br>Spring                   | -<br>(01-252)                    | (A)(I)     |
| 2A2931 | 1   |                                | .Seal Assembly,<br>No. 4 Bearing,<br>Front  | 2A2056<br>(72-43-20)<br>(01-020) | (F)(N)(I)  |
| 2A2918 | 1   |                                | ..Seal Assembly<br>Option                   | 2A2053<br>(72-43-20)<br>(01-180) | (A)(N)(02) |
| -      | 12  |                                | ...Guide, Seal<br>Spring                    | 2A0076<br>(01-200)               | (3)        |
| 2A2053 | 1   | 5060.80                        | ...Seal, Face,<br>No. 4 Bearing<br>Assembly | -<br>(01-201)                    | (D1)(I)    |
| 2A0076 | 12  | 12.80                          | ....Guide, Seal<br>Spring<br>OR             | -<br>(01-206)                    | (A)(I)     |
| 2A2011 | 1   |                                | ...Seal, Face,<br>No. 4 Bearing<br>Assembly | -<br>(72-43-20)<br>(01-208)      | (D1)(I)    |
| 2A0076 | 12  | 12.80                          | ....Guide, Seal<br>Spring                   | -<br>(72-43-20)<br>(01-212)      | (A)(I)     |

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D. Instructions/Disposition Code Statements:

Parts Modification Conditions-

(2) The new part is a replacement part only, and cannot be obtained by modification of the old part.

(3) Old Part was transferred to a new Illustrated Parts Catalog Sequence Number and is available for sale.

Spare Parts Availability

(A) The new part is available.

(D1) The new part is a detail of option 2A2918.

(D2) The new part is a detail of option 2A2915.

(F) The new part will be available on a Full Manufacturing Lead time quote basis only.

(L) The old part will be supplied until the supply is fully used.

(M) It is possible to get the new part only by modification.

(N) The old part is not available.

(01) Seal Assembly Option, PN 2A2915, consists of a Seal Assembly, PN PN 2A2916, or PN 2A2924.

(02) Seal Assembly Option, PN 2A2918, consists of a Seal Assembly, PN 2A2053, or PN 2A2011.

Cleaning, Inspection and Repair Information

(I) The cleaning, inspection and repair requirements are the same for the old and new part. The applicable engine manuals will be revised.

E. Tooling - Price and Availability

Special tools are not required to accomplish this Service Bulletin.

F. Reidentified Parts

Not Applicable.

G. Other Material Information Data

Not Applicable.



**3. Accomplishment Instructions**

- (1) Not required.