



# International Aero Engines INFORMATION BULLETIN

ENGINE - INFORMATION - PROVIDE NEW FRONT AND REAR NO. 4 BEARING FACE SEALS

## MODEL APPLICATION

V2500-A1  
V2522-A5  
V2524-A5  
V2527-A5  
V2527E-A5  
V2527M-A5  
V2530-A5  
V2533-A5  
V2525-D5  
V2528-D5

## BULLETIN INDEX LOCATOR

72-00-00

Compliance Category Code

7

Internal Reference No.

00VA001

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## 1. Planning Information

### A. Effectivity

- (1) Aircraft: Airbus A319, A320, A321  
McDonnell Douglas MD-90
- (2) Engine: V2500-A1 Engines Before Serial No. V0362  
V2522-A5 Engines before Serial No V11082  
V2524-A5 Engines before Serial No V11082  
V2527-A5 Engines before Serial No V11082  
V2527E-A5 Engines before Serial No V11082  
V2527M-A5 Engines before Serial No V11082  
V2530-A5 Engines before Serial No V11082  
V2533-A5 Engines before Serial No V11082  
V2525-D5 Engines Serial No. V20286  
V2528-D5 Engines Serial No. V20286

### B. Concurrent Requirements

None

### C. Reason

#### (1) Problem:

Multiple No. 4 refurbished carbon seals fractured during engine green run at overhaul. The root cause was suspected to come from the repair process. As a consequence of this, the repair process was removed and no refurbished carbon seal could be used.

#### (2) Background:

The Finite Element Analysis (FEA) investigation carried out on the refurbished seal process concluded that excessive carrier out-of-round and carbon blank configuration was generating a high stress on the carbon nose during the refurbishment process. This stress can generate sub surface cracks progressing into seal fracture during engine green run.

#### (3) Objective:

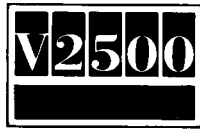
The carbon seal was redesigned to increase stress margin and improve robustness to process variation. The new design carbon seal will be repairable and a reviewed repair process with better control over out-of-round will be authorized.

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## (4) Substantiation

Changes will be substantiated through Finite Element Analysis and classified as a Class I minor engineering change.

## (5) Effects of Bulletin on Workshop Procedures:

Removal/Installation	Not affected
Disassembly/Assembly	Not affected
Cleaning	Not affected
Inspection/Check	Not affected
Repair	Not affected
Testing	Not affected

## (6) Supplemental Information

None

## D. Description

- (1) New redesigned No. 4 bearing front and rear face seals are introduced.

## E. Approval

The Part Number Changes and/or part modifications described in Section 2 and 3 of this Service Bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the Engine Model listed.

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

## F. Compliance

Category 7

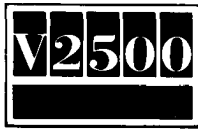
Accomplish when supply of superseded parts has been depleted.

## G. Manpower

Estimated Manhours to incorporate the full intent of this Bulletin:

<u>Venue</u>	<u>Estimated Manhours</u>
(1) In service	Not applicable
(2) At overhaul	Not applicable

NOTE: The parts affected by this Service Bulletin are accessible at overhaul.



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## H. Material - Price and Availability

- (1) Modification kit is not required. Parts are supplied as single line items.
- (2) See "Material Information" section for prices and availability of future spares.

## I. Tooling - Price and Availability

Special tools are not required to accomplish this Service Bulletin.  
The following tools are required to accomplish the Service Bulletin.

## J. Weight and Balance

- |                   |  |
|-------------------|--|
| (1) Weight change | None   |
| (2) Moment arm    | No effect  |
| (3) Datum         | Engine Front mount Centerline<br>(Power Plant station (PPS) 100) |

## K. Electrical Load Data

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

## L. Interchangeability

- (1) Not Affected

## M. References

- (1) IAE V2500 Service Bulletins:

V2500-ENG-72-0163 (Engine - No. 4 Gearing Compartment - Provide A New No. 4 Bearing Seal Assembly With Nuts Silver Plated On The Threads Only)

V2500-ENG-70-0115 (Information - Engine - Provide Additional Options For The No.1 And No. 4 Face Seal Assemblies)

- (2) The V2500 Engine Illustrated Parts Catalog, S-V2500-11A, S-V2500-21A, S-V2500-21B, S-V2500-31A, S-V2500-31B, S-V2500-51A, S-V2500-51B, S-V2500-61A, S-V2500-61B, S-V2500-71A, S-V2500-71B), Chapter/Section 72-42-33 and 72-43-20, to add the new part numbers.

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## 2. Material Information

Applicability: For each V2500 Engine to incorporate this Bulletin.

A. Kit associated with this bulletin.

None

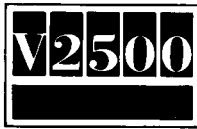
B. Parts affected by this bulletin.

New Part No. (ATA No.)	Qty	Est'd Unit Price(\$)	Keyword	Old Part No. (IPC No.)	Instructions Disposition
Applicability: For each V2500 Engine to incorporate this Service Bulletin					
2A3525 (72-42-33)	1	\$ 34920.00	.Seal Assy, No. 4 Brg, Front	2A2930 (01-001)	(S1)(B)(C)
2A3517 (72-42-33)	1	\$ 6864.00	..Seal Assy Option	2A2918 (01-220)	(S1)(A)(B)
(72-42-33)	REF		...Seal-Face, No. 4 Brg, Assy Of	2A2053 (01-241)	(B)
(72-42-33)	12	\$ 17.40	....Guide, No. 2A0076 4 Brg Seal Spring	(01-246)	(B)
2A3499 (72-42-33)	REF		...Seal Assy Of-Face, No. 4 Brg	2A2011 (01-248)	(S1)(B)(D)
2A3526 (72-43-20)	1	\$ 23600.00	.Seal Assy, No. 4 Brg, Rear	2A2931 (01-001)	(S1)(B)(C)
2A3517 (72-43-20)	1	\$ 6864.00	..Seal Assy Option	2A2918 (01-180)	(S1)(A)(B)
(72-43-20)	REF		...Seal-Face, No. 4 Brg, Assy Of	2A2053 (01-201)	(B)
(72-43-20)	12	\$ 17.40	....Guide, No. 2A0076 4 Brg Seal Spring	(01-206)	(B)
2A3499 (72-43-20)	REF		...Seal Assy Of-Face, No. 4 Brg	2A2011 (01-208)	(S1)(B)(D)

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C. Consumable Materials

None.

D. Instructions/Disposition Code Statements:

(S1) Old and New Parts are freely and fully interchangeable.

(A) The new part will be available approximately May 2001.

(B) The old part will no longer be supplied.

(C) The new part will be supplied on a lead time quotation basis only.

(D) The new part is a non procurable detail of the 2A3517 Seal Assembly.

NOTE: The estimated unit prices, if shown, are provided for planning purposes only and do not constitute a firm quotation. Consult the IAE Price Catalog or contact IAE's Spare Parts Sales Department for information concerning firm prices.

3. General Information

- A. The Material Information portion of this Service Bulletin provides the latest information concerning the availability of the Front and Rear No. 4 Bearing Seal Face.

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## MODIFICATIONS

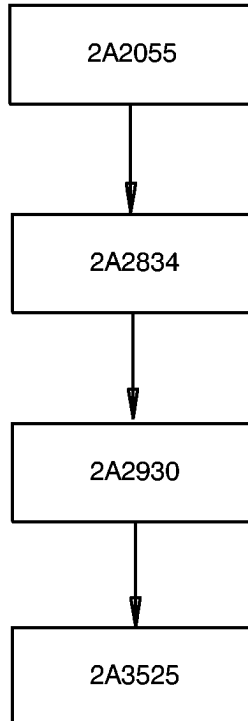
### BASE LINE

V2500-ENG-72-0163  
ENGINE - NO. 4 GEARING  
COMPARTMENT - PROVIDE A  
NEW NO. 4 BEARING SEAL  
ASSEMBLY WITH NUTS SILVER  
PLATED ON THE THREADS ONLY

V2500-ENG-70-0115  
INFORMATION - ENGINE -  
PROVIDE ADDITIONAL OPTIONS  
FOR THE NO.1 AND NO. 4 FACE  
SEAL ASSEMBLIES

V2500-ENG-70-0801 ENGINE  
- INFORMATION - PROVIDE NEW  
FRONT AND REAR NO. 4 BEARING  
FACE SEALS

## PART NUMBER CHANGE



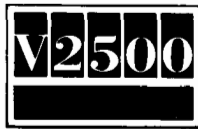
E8375

Family Tree - Seal Assembly, No. 4 Bearing, Front  
Ref. Catalog Sequence No 72-42-33. Fig. 01 Item 010  
Figure 1

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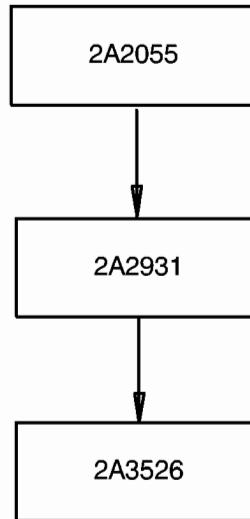
## MODIFICATIONS

### BASE LINE

V2500-ENG-70-0115  
INFORMATION - ENGINE -  
PROVIDE ADDITIONAL OPTIONS  
FOR THE NO.1 AND NO. 4 FACE  
SEAL ASSEMBLIES

V2500-ENG-70-0801  
ENGINE - INFORMATION -  
PROVIDE NEW FRONT AND REAR  
NO. 4 BEARING FACE SEALS

## PART NUMBER CHANGE



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E8376

Family Tree - Seal Assembly, No. 4 Bearing, Rear  
Ref. Catalog Sequence No 72-43-20. Fig. 01 Item 020  
Figure 2

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