



ENGINE - HP COMPRESSOR - INTRODUCE A STRENGTHENED HPC REAR SHAFT AND A NEW MATING REAR ROTATING SEAL - CATEGORY CODE 7 - MOD.ENG-72-0202

1. Planning Information

A. Effectivity

- (1) Aircraft: (a) Airbus A320
(b) Airbus A321
(c) McDonnell Douglas MD-90
- (2) Engine: (a) V2527-A5 Engines before Serial No.V10095*
(b) V2530-A5 Engines before Serial No.V10095*
(c) V2525-D5 Engines before Serial No.V20012
(d) V2528-D5 Engines before Serial No.V20012

* The serial number data shown is of a preliminary nature and is provided for advance planning only. A future revision to this bulletin will confirm final serial number effectivity.

B. Concurrent Requirements

None

C. Reason

(1) Condition

Circumferential cracking has occurred on the HP compressor rear shaft at the blend radius between the conical section and the drive flange.

(2) Background

High peak stresses have caused the rear shaft to crack.

(3) Objective

To extend rear shaft and rotating seal cyclic lives.

(4) Substantiation

Stress evaluation using finite element analysis has indicated that the changes to the shaft and seal geometry would substantially reduce peak stresses, thus increasing the life potential of the shaft and seal.

(5) Effect of Bulletin on Workshop Procedures:

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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

This Service Bulletin introduces a new rear shaft similar to the existing rear shaft but with increased material thickness of 0.63ins (1,59 mm) on the outer rim and rear face of the rear flange.

A new rotating seal similar to the existing seal but with a reduced axial length to obtain its existing location is also instructed.

The 28 flange bolts have been increased in length to accomodate the thickened shaft flange.

For effect on declared life refer to Time Limits Manual 05-10-01, Group 'A' parts lives.

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.

F. Compliance

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Accomplish when supply of superseded parts has been depleted.

G. Manpower

Estimated manhours to incorporate the full intent of this Bulletin:

Venue	Estimated Manhours
(1) In Service	Not applicable
(2) At overhaul	Not affected

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H. Material - Price and Availability

- (1) Modification Kit not required
- (2) See "Material Information" section for prices and availability of future spares

I. Tooling - Price and Availability

Special tools are not required.

J. Weight and Balance

- (1) Weight Change Plus 0,54 kg (+1.2 lb.)
- (2) Moment Arm 1011 mm (39.8in.) rearward of datum
- (3) Datum Engine front mount centerline
(Power Plant Station - PPS100)

K. Electrical Load Data

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

L. References

- (1) Internal Reference No.
93VR090
- (2) Other References
Repair Scheme VRS6088A will be amended or new scheme prepared.

M. Other Publications Affected

- (1) Illustrated Parts Catalog will be revised.
- (2) Time Limits manual, 5-10-01, Group 'A' part lives, to add the new parts.



2. Accomplishment Instructions

A. Rework Instructions

- (1) There are no rework instructions required for this Service Bulletin.

B. Assembly Instructions

- (1) Assemble the 6A5867 HP compressor rear shaft assembly, 6A5869 rotating rear seal and AS58021 Tee headed bolts in accordance with the approved procedures, Engine Manual, 72-41-00, ASSEMBLY.

C. Recording Instructions

- (1) A record of accomplishment is necessary.

3. Material Information

Applicability: For each V2527 Engine to incorporate this Bulletin.

A. Kits 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
6A5869 (72-41-14)	1		Seal, rotating - Rear Rear	6A4392 (01-800)	(A)(B)(S1)
6A5867 (72-41-13)	1		Shaft assy, rear - HP comp	6A4157 (01-850)	(A)(B)(S1)
AS58021 (72-41-13)	28		Bolt, tee head	AS58020 (01-858)	(A)(B)(S1)

C. Instruction/Disposition Code Statements:

- (A) New parts are currently available
- (B) Old parts are no longer available
- (S1) New parts coded (S1) must replace old parts coded (S1) as a complete set per engine.

