



# SERVICE BULLETIN

ENGINE - HP TURBINE ROTOR AND STATOR ASSEMBLY - PROVIDE NEW STAGE 2 HPT AIR SEAL ASSEMBLY - CATEGORY CODE 8 - MOD.ENG-72-0121

## 1. Planning Information

### A. Effectivity

- (1) Aircraft: Airbus A320
- (2) Engine: V2500-A1 Engines before Serial No. V0266

This Service Bulletin must be incorporated at the same time as or subsequent to V2500-ENG-72-0122. This does not apply if you get the Stage 2 HPT Airseal Assembly by incorporation of Part 1 of this Service Bulletin.

### B. Reason

#### (1) Condition

The new parts specified in this Service Bulletin will decrease the flow of cooling air around the Second Stage HPT Air Seal. This modification will result in improved engine performance.

#### (2) Background

Not considered necessary.

#### (3) Objective

To provide increased engine operating efficiently by reducing cooling air flow around the second stage HPT Air Seal.

#### (4) Substantiation

Satisfactory engine testing.

#### (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

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C. Description

(1) The changes introduced by this Service Bulletin are as follows:

Part 1

- (a) New oil drain metering plugs are installed in the stage 2 HPT air seal. Refer to Figure 1.

Part 2

- (a) A new stage 2 HPT air seal assembly which has 5 knife edges and oil drain metering plugs is introduced.
- (2) The modification given in Part 1 is accomplished when the oil metering plugs are installed in the 2A0487 air seal assembly.
- (3) The 2A1158 (2 off) stage 2 metering plugs are necessary to do the modification.
- (4) For the relationship with other Service Bulletins see 1. K. References.

For the effect on declared life see reference (4), 5-10-01, Group A Parts Lives.

- (5) This Service Bulletin is comprised of the following two parts:

Part 1: Modification of the 4 knife edge seal to include oil drain metering plugs.

Part 2: Installation of the new 5 knife edge seal which has oil drain metering plugs.

D. 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.

E. Compliance

Category Code 8.

Accomplish based upon experience with the prior configuration.

F. Manpower

Estimated Manhours to incorporate the full intent of this Service Bulletin:

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Venue

Estimated Manhours

(1) In Service .. .. . Not applicable

(2) At Overhaul (Note: The parts affected by this Service Bulletin are accessible at overhaul.)

(a) To accomplish the modification and identification of the Stage 2 HPT

Air Seal Assembly .. .. . 10 Minutes

TOTAL: 10 Minutes

G. Material - Price and Availability

(1) Modification Kit not required.

(2) See "Material Information" section for prices and availability of future spares.

H. Tooling - Price and Availability

None.

I. Weight and Balance

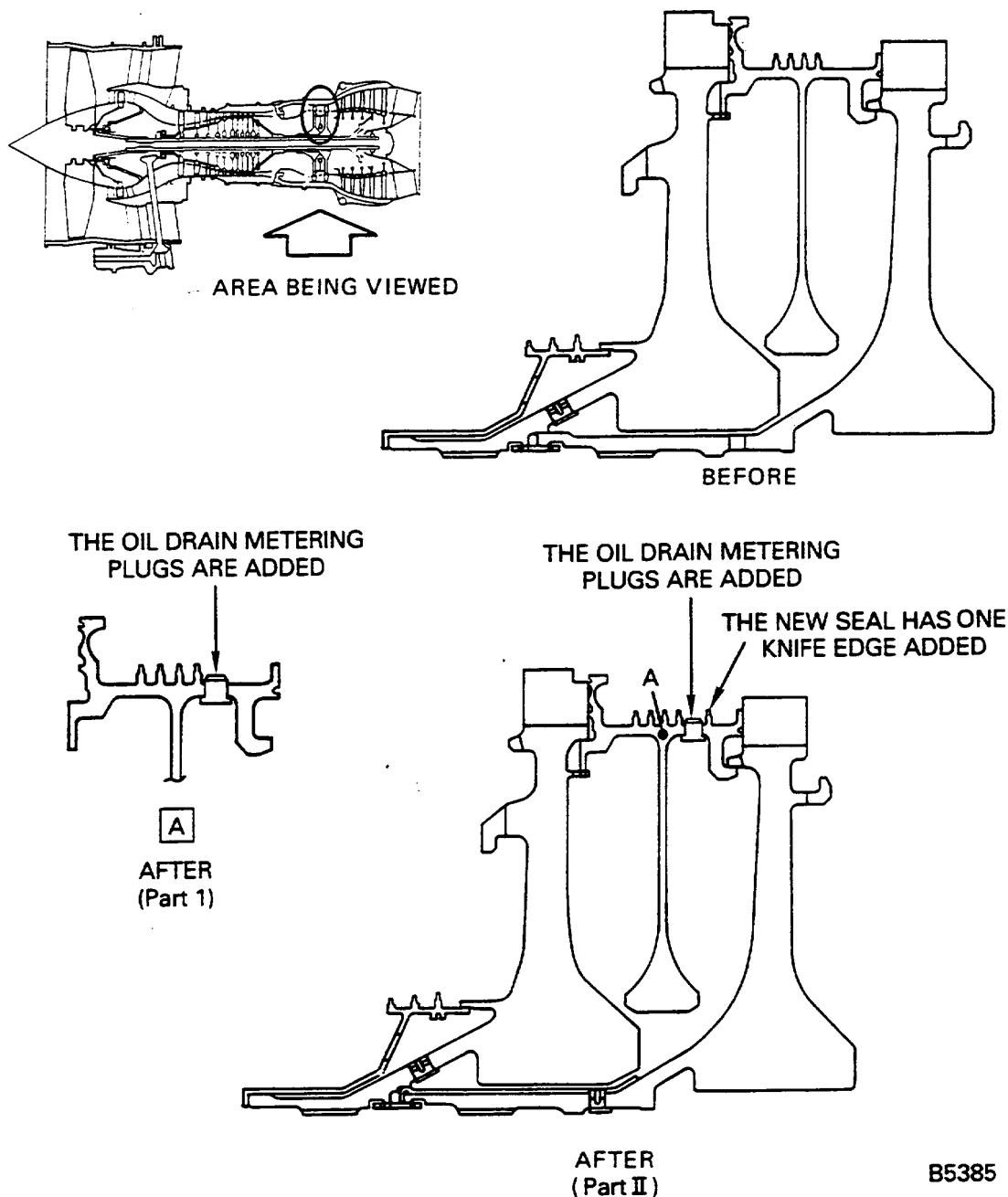
(1) Weight change .. .. . None

(2) Moment arm .. .. . No effect

(3) Datum .. .. . Engine front mount centreline  
(Powerplant Station P.P.S. 100)J. Electrical Load Data

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

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Before and after views of configuration changes that affect the Stage 2 HPT Airseal Assembly  
Fig.1

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**K. Reference**

- (1) Internal Reference No.

88VA347

- (2) Other References

IAE V2500 Service Bulletins:

V2500-ENG-72-0122 – HP Turbine Rotor and Stator Assembly – New Stage 2 HPT Vane Assemblies, Stage 2 Air Sealing Ring Segment Assemblies, and Stage 2 HPT Seals

V2500 Engine Illustrated Parts Catalog.

V2500 Standard Practises Manual.

V2500 Engine Manual.

**L. Other Publications Affected**

- (1) The V2500 Engine Illustrated Parts Catalog, 72-45-00, Figure 1, to add the new parts.
- (2) The V2500 Engine Manual, Chapter/Section 72-45-00, Cleaning, to add the new parts.
- (3) The V2500 Engine Manual, Chapter/Section 72-45-00, Inspection, to add the new parts.
- (4) The V2500 Engine Manual, Chapter/Section 72-45-00, Repair, to add the new parts.
- (5) The V2500 Engine Manual, Chapter/Section 72-45-00, Disassembly to add the new parts.
- (6) The V2500 Engine Manual Chapter/Section 72-45-00, Assembly to add the new parts.

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## 2. Accomplishment Instructions

### A. Rework Instructions

- (1) Do a modification to the 2A0487 Stage 2 HPT Air Seal Assembly. (See Reference (2), Chapter/Section 72-45-00, Figure/Item No. 01-080) and identify as follows:

Procedure	Supplementary Information	
(a) Install the two 2A1158 Stage 2 HPT Metering Plugs (2 off) into the Stage 2 HPT Air Seal.	Refer to Figures 2 and 3.	
(b) Mark the new part number adjacent to the old part number. Use the vibration peen method.	Old Part No. 2A0487	New Part No. 2A1159
	See Reference (3), Control No./ TASK No. 70-09-00-400-501. Refer to Figure 3.	

#### Part 1

### B. Assembly Instructions

- (1) Install the 2A1159 Stage 2 HPT Air Seal Assembly (1 off) by the procedure given in Reference (4), Chapter/Section 72-45-00, Assembly-01. Refer to Figure 2.

#### Part 2

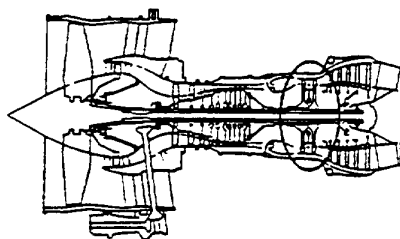
### C. Assembly Instructions

- (1) Install the 2A1160 Stage 2 HPT Air Seal Assembly (1 off) by the procedure given in Reference (4), Chapter/Section 72-45-00, Assembly-01. Refer to Figure 2.

### D. Recording Instructions

- (1) A record of accomplishment is necessary.

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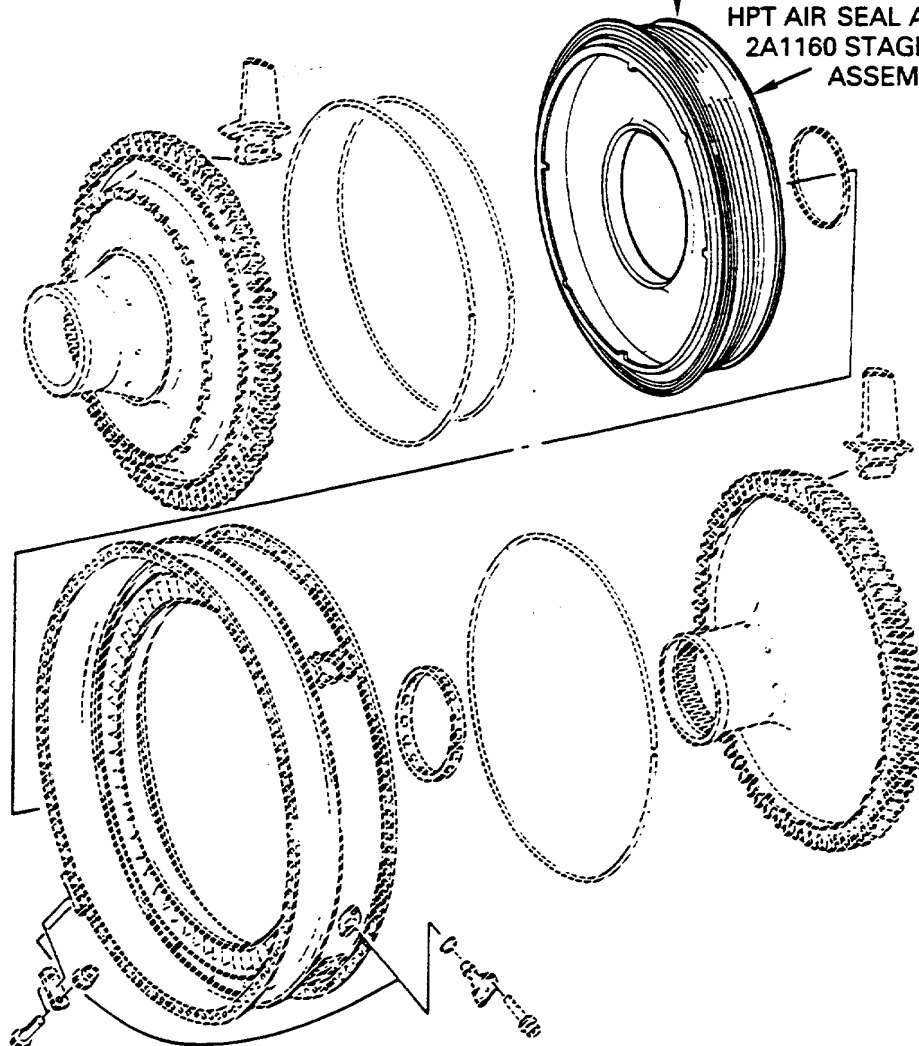


### PART 1

REMOVE THE 2A0487 STAGE 2 HPT AIR SEAL, DO A MODIFICATION, AND INSTALL AS THE 2A1159 STAGE 2 HPT AIR SEAL ASSEMBLY (1 off)

### PART 2

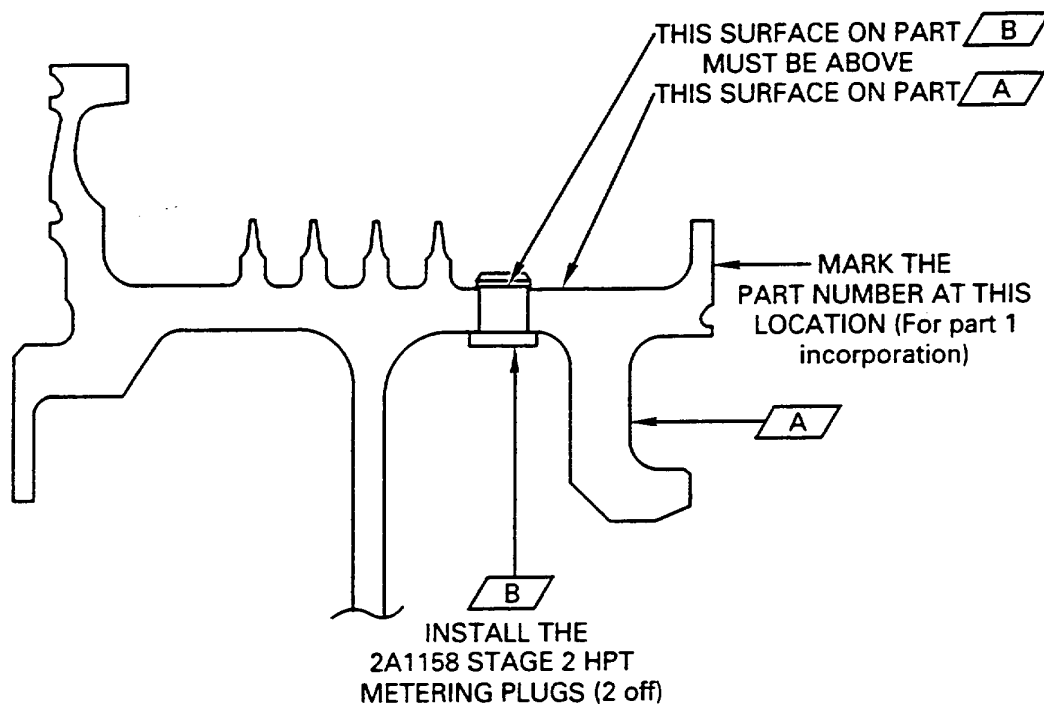
REMOVE THE 2A0487 STAGE 2 HPT AIR SEAL AND INSTALL THE 2A1160 STAGE 2 HPT AIR SEAL ASSEMBLY (1 off)



B5180

Location of the Stage 2 HPT Air Seal Assembly  
Fig.2

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SECTION THROUGH THE STAGE 2 HPT AIR SEAL ASSEMBLY

B5181

Modification of the Stage 2 HPT Air Seal Assembly  
Fig.3

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## SERVICE BULLETIN

3. Material Information

Applicability: For each V2500 Engine to incorporate this Service 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
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Part 1 of section 2 of this Service Bulletin

2A1159 (72-45-00)	1	-	Air Seal Assy, HPT, Stage 2	2A0487 (01-080)	(B)(S1) (1D)
2A0487 (72-45-00)	1	-	.Seal - Air, HPT, Stage 2	- (01-082)	(S1)
2A1158 (72-45-00)	2	60.00	.Metering Plug - HPT, Stage 2	- (01-084)	(A)(S1)

Part 2 of section 2 of this Service Bulletin

2A1160 (72-45-00)	1	-	Air Seal Assy, HPT, Stage 2	2A0487 (01-080)	(A)(B)(S1)
2A1161 (72-45-00)	1	-	.Seal - Air, HPT, Stage 2	- (01-082)	(C)
2A1158 (72-45-00)	2	60.00	.Metering Plug - HPT, Stage 2	- (01-084)	(A)(S1)

C. Instruction/Disposition Code Statements:

- (S1) New parts coded (S1) must replace old parts coded (S1) as a COMPLETE SET per engine.
- (1D) Rework old part number and identify as the New part number.
- (A) New part is currently available.
- (B) Old part is no longer available.
- (C) Not available as a spare for replenishment purposes.

NOTE: The estimated 1992 unit prices 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.

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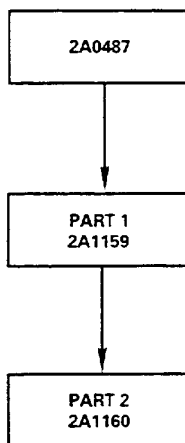
MODIFICATIONS

BASE LINE

V2500 - ENG - 72 - 0121  
PART 1  
A NEW STAGE 2 HPT AIR SEAL ASSEMBLY  
WITH OIL DRAIN PLUGS

V2500 - ENG - 72 - 0121  
PART 2  
A NEW STAGE 2 HPT AIR SEAL ASSEMBLY  
WITH 5 KNIFE EDGES AND OIL DRAIN PLUGS

PART NUMBER CHANGE



B5182A

Family tree - Stage 2 HPT Air Seal Assembly  
Fig.4

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**International Aero Engines**

## **SERVICE BULLETIN**

Printed in Great Britain

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Jan. 15/94

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