

SERVICE BULLETIN

ENGINE – STAGE 1 TURBINE NOZZLE ASSEMBLY AND HP TURBINE ROTOR AND STATOR ASSEMBLY –
REPLACEMENT OF THE STAGE 1 HPT DUCT SEGMENT AND THE STAGE 1 HPT AIRSEAL – CATEGORY
CODE 7 – MOD.ENG-72-0013

1. Planning InformationA. Effectivity

- (1) Aircraft: Airbus A320
- (2) Engine: V2500-A1 Engines Prior to Serial No.V0077 except Serial No.V0074.

B. Reason

(1) Condition

Potential high temperature in the front cavity between the Turbine Nozzle Group and the Stage 1 Turbine Rotor and Stator Assembly, which could also cause a temperature increase in the Stage 1 to 2 Air Seal area, and reduce module durability.

(2) Background

Gas path leakage into the front cavity between the Turbine Nozzle Group and the Stage 1 Turbine Rotor and Stator Assembly causes high cavity temperatures.

(3) Objective

To provide additional sealing between the Stage 1 HPT Duct Segment (Tobi Duct) and Stage 1 HPT Air Seal (Outer). This will improve durability of the HPT module.

(4) Substantiation

Many hours of engine test have shown that this design improvement is desirable.

(5) Effect 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:

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None.

C. Description

(1) The 1st stage cavity temperature and weight is reduced as follows:

(a) An additional sealing surface is added to the Stage 1 HPT Airseal (Outer). Refer to Figure 1.

(b) An additional seal is added to the Stage 1 HPT Duct Segment. Refer to Figure 1.

D. Approval

The part Number changes and/or part modifications described in Sections 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 Module listed.

E. Compliance

Category Code 7

Accomplish when supply of superseded parts has been depleted.

F. Manpower

Estimated Manhours to incorporate the full intent of this Bulletin:

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

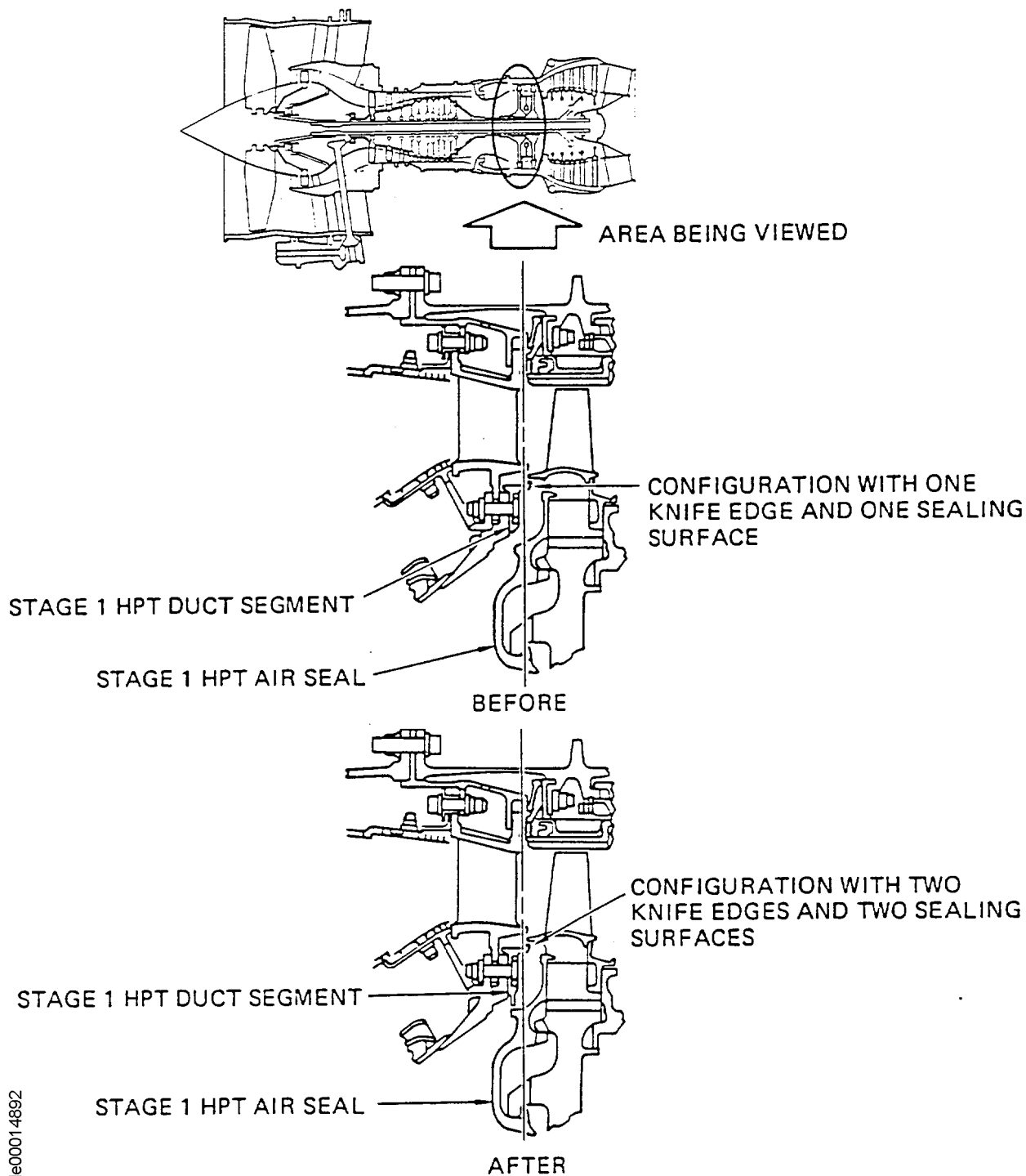
G. Material Price and Availability

(1) Modification Kit not required.

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

H. Tooling

Special tools are not required.



Before and after views of configuration changes that affect the HPT rotor and stator assembly module

Fig.1



I. Weight and Balance

- (1) Weight change Minus 0.3 lb (0.14 Kg)
- (2) Moment arm No effect
- (3) Datum Engine front centerline.

J. Electrical Load Data

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

K. References

- (1) Internal Reference No.

EC87VA010

- (2) Other References

IAE V2500 Service Bulletin Numbers.

V2500-ENG-70-0014 (General Information - Announcement of a New Part Number Stage 1 HPT Airseal, Outer)

V2500 Engine Manual

V2500 Standard Practices Manual

L. Other Publications Affected

- (1) The V2500 Engine Illustrated Parts Catalog, Chapter/Section 72-44-60, Figure 1 and 72-45-12, Figure 1.



2. Accomplishment Instructions

A. Rework Instructions

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

B. Assembly Instructions

- (1) Install the PN 2A1198 Duct Segments (20 off) in the Stage 1 Turbine Nozzle Assembly by use of the approved procedures in Reference (2) Chapter/Section 72-44-00, Assembly. Refer to Figure 2.
- (2) Change the Assembly Part Number which is on the Turbine Nozzle Group from PN 2A1200 to PN 2A0600. Use the approved procedures in Reference (3), 70-09-00, Marking of Parts.

NOTE: You can use the PN 2A1271 Stage 1 HPT Air Seal with the PN 2A0087 or PN 2A1198 Stage 1 HPT Duct Segments.

The PN 2A0488 Stage 1 HPT Air Seal cannot be used with PN 2A1198 Stage 1 HPT Duct Segments because there will be interference.

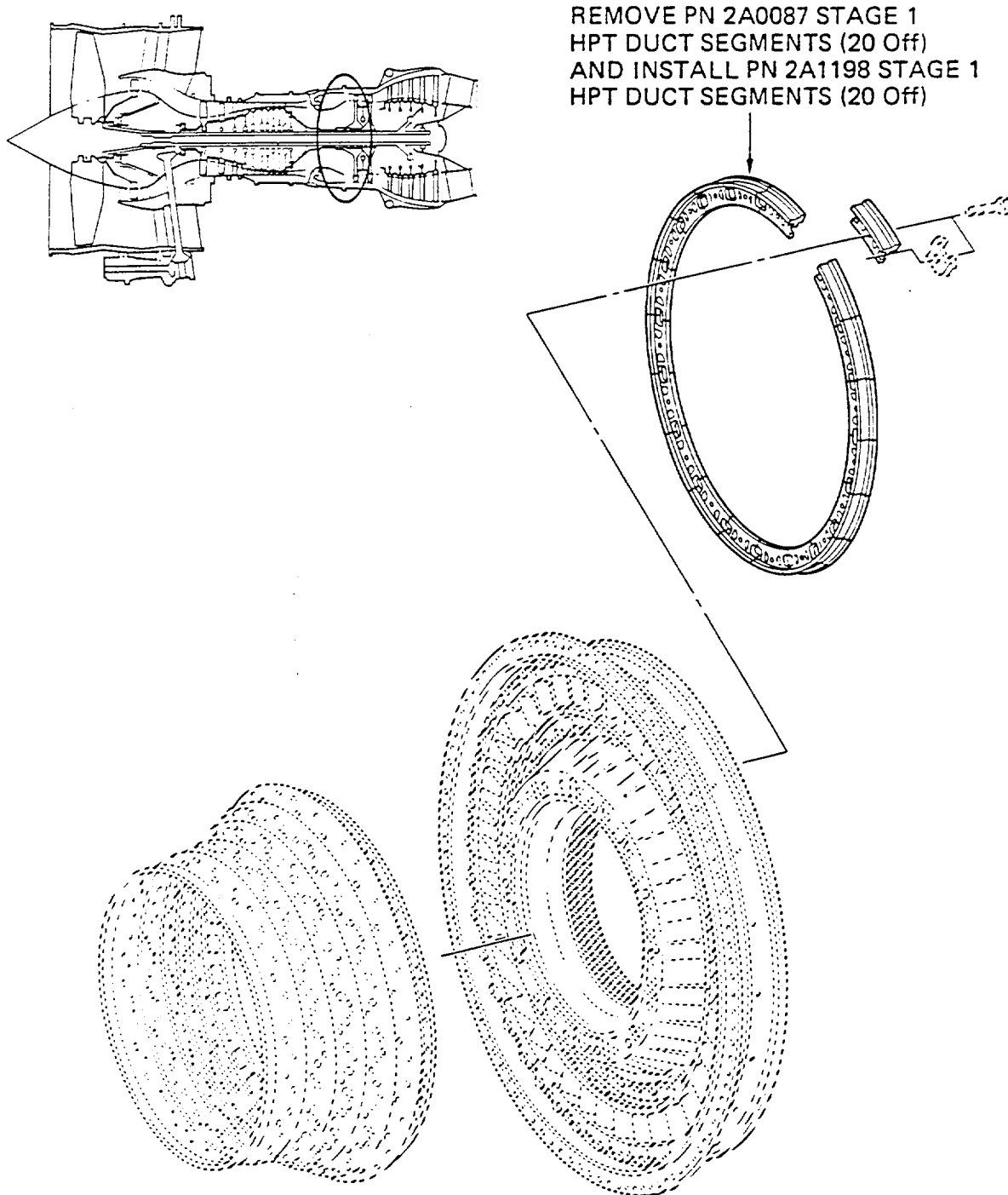
- (3) Install the PN 2A1271 Stage 1 HPT Air Seal (1 off) in the Stage 1 Turbine Rotor Assembly. use of the approved procedures in Reference (2), Chapter/Section 72-45-10, Assembly. Refer to Figure 3.
- (4) Change the Assembly Part Number which is on the Stage 1 Turbine Rotor Assembly from PN 2A1021 to PN 2A1621. Use the approved procedures in Reference (3), 70-09-00, Marking of Parts.
- (5) Assemble the HPT Module Rotor and Stator Assembly by use of the approved procedures in Reference (2), Chapter/Section 72-45-00 Assembly.
- (6) Change the Assembly Part Number which is on the HPT Module Rotor and Stator Assembly from PN 2A1300 to PN 2A0400. Use the approved procedures in reference (3), 70-09-00, Marking or Parts.

C. Recording Instructions

- (1) A record of accomplishment is necessary.

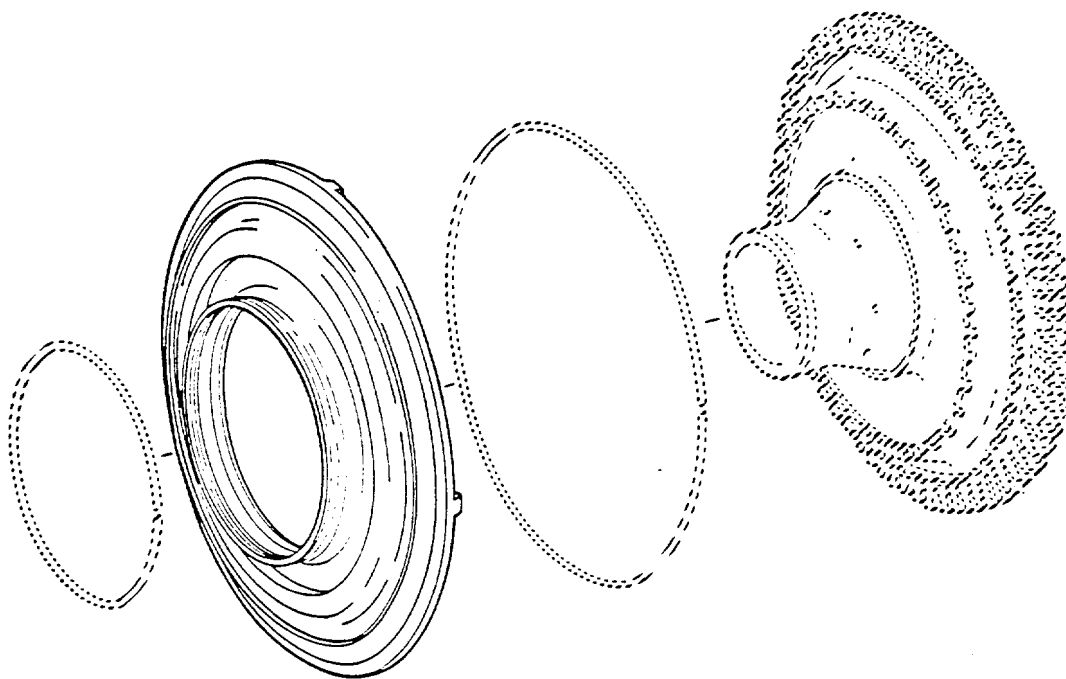
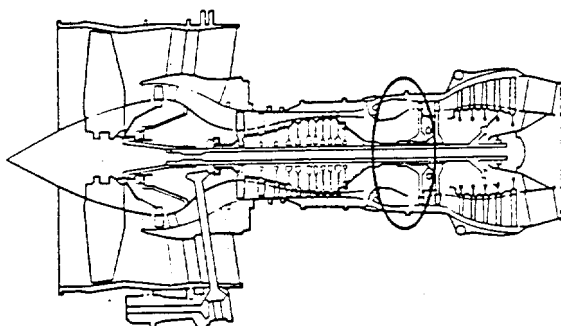


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Location of stage 1 HPT duct segments
Fig.2

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REPLACE THE PN 2A0488 STAGE 1 HPT
AIR SEAL (1 Off) OR PN 2A1105 STAGE 1
HPT AIR SEAL (1 Off) WITH PN 2A1271
STAGE 1 HPT AIR SEAL (1 Off)

Location of stage 1 HPT air seal
Fig.3

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New Part No. (ATA No.)	Qty	Est'd Unit Price (\$)	Keyword	Old Part No. (IPC No.)	Instructions Disposition
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Applicability: For each V2500 Engine to incorporate this Bulletin.

A. Kits associated with this Bulletin:

None

B. Parts affected by this Bulletin:

2A0600 (72-44-00)	1		Group-Turbine Nozzle	2A1200 (01-001)	(A)
2A1198 (72-44-60)	20	236.00	.Duct Segment HPT, Stage 1	2A0087 (01-010)	(S1)(B)(D)
2A0400 (72-45-00)	1		Rotor and Stator Assembly - HPT Module	2A1300 (01-001)	(A)
2A1621 (72-45-10)	1		.Turbine Rotor - Stage 1, Assembly	2A1021 (01-010)	(A)
2A1271 (72-45-12)	1	41,340.00	..Seal-Air, HPT Stage 1	2A0488 (01-040)	(S1)(B)(C)
			..Seal-Air, HPT Stage 1	2A1105	(E)

C. Instruction/Disposition Code Statements:

- (S1) New Parts Coded (S1) must replace Old parts Coded (S1) as a COMPLETE SET per Engine, except as noted on page 6.
- (A) The assembly is a nonprovisioned item not normally stocked as a spare item.
- (B) New part is currently available.
- (C) Old part will no longer be available.
- (D) Old part will continue to be supplied due to interchangeability.
- (E) See Reference (1) for part information.

NOTE: The estimated 1989 unit prices shown are provided for planning purposes only and do not constitute a firm quotation. Contact IAE's Spare Parts Sales Department for information concerning firm prices.

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