International Aero Engines

SERVICE BULLETIN

ENGINE - HP TURBINE - PROVIDE A TURBINE CASE AND VANE ASSEMBLY THAT WILL ALLOW INDIVIDUAL FIRST STAGE DUCT REPLACEMENT - CATEGORY CODE 8 - MOD.ENG-72-0092

1. Planning Information

A. Effectivity

(1) Aircrft: Airbus A320

(2) Engine: V2500-A1 Engines before Serial No.V0140 except V0136 and V0138

B. Reason

(1) Condition

The present configuration does not facilitate individual replacement of the HPT Duct Support Segments.

(2) Background

The original Duct Support Segments could not be individually replaced.

(3) Objective

To improve the maintainability of the current configuration.

(4) Substantiation

Not considered necessary.

(5) Effects of Bulletin on Workshop Procedures:

Removal/Installation	No effect
Disassembly/Assembly	No effect
Cleaning	No effect
Inspection/Check	No effect
Repair	No effect
Testing	No effect

(6) Supplemental Information

None

C. Description

(1) This Service Bulletin permits the individual replacement of the Stage 1 HPT Duct Support Assemblies.

D. Approval

The Part Number Changes and/or part modification 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 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 Bulletin:

Venue	Estimated Manhours
(1) In Service	Not applicable
(2) At Overhaul	TOTAL 6 hours 39 minutes

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

(a) To embody	2 hours 28 minutes
(b) Elapsed time	4 hours 11 minutes
TOTAL	6 hours 39 minutes

NOTE: The time is estimated for a 75 per cent incidence note. For example: 25 per cent of the segments do not require machining as they are within the new dimension limits.

Assembly

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

The following tool is required to accomplish Sub-division 2 of this Service Bulletin:

Tool No.	Qty	Description	Function	Avail.
New tools required:				
3P16273	1	Grind Fixture	Hold Stage 1 HPT Duct Support Set or Segment	(1)

(1) Indicates that Tool Design Aperature Cards are currently available from IAE.

I. Weight and Balance

(1) Weight change — None

(2) Moment arm — No effect

(3) Datum — Engine front mount Centreline (Powerplant Station (PPS) 100)

J. Electrical Load Data

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

K. References

(1) Internal Reference No.

89VA229

(2) Other References

The V2500 Engine Illustrated Parts Catalog

The V2500 Standard Practices Manual

The V2500 Engine Manual

L. Other Publications Affected

(1) The V2500 Engine Illustrated Parts Catalog, Chapter/Section 72-45-22, Fig.1, to add the new parts.

(2) The V2500 Engine Manual, Chapter/Section 72-45-22, Cleaning, to add the new part.

(3) The V25000 Engine Manual, Chapter/Section 72-45-22, Inspection, to add the new parts.

(4) The V2500 Engine Manual, Chapter/Section 72-45-22, Repair VRS3379, VRS3213 and VRS3214, to add the new parts.

2. Accomplishment Instructions

A. Rework Instructions

(1) Do a modification of the HPT Duct Support Assembly (Reference (1) Fig./Item No. 01-010) and identify as follows:

Procedure	Supplementary Information
(a) Do an inspection of each segment for Dimension L	Refer to the requirements in Fig.1 and 2
(i) If the duct segment is in the limit, mark the new part number adjacent to the old part number. Use the vibration peen method	Old Part Number: 2A0178 — New Part Number: 2A1313 Refer to Reference (2) Control No./TASK No.70-09-00-400-501
(ii) If the duct segemnt is not in the limit, go to step (b)	
(b) For parts not in the llimit, do the modification which follows:	Refer to the requirements in Fig.1 and 2
(i) Machine surface B to get Dimension K. Remove the minimum amount of material and keep the maximum material thickness	Refer to the requirements in Fig.2. Use the IAE 3P16273 Grind Fixture
(ii) Coat by the procedure specified to get a 0.002 - 0.008in. (0,051 to 0,203 mm.) thickness after finish machining. No coat permitted in holes	Refer to the Reference (2) Control No./TASK No.70-34-03-340-501
(iii) Finish machine to the dimensions specified	Refer to the requirements in Fig.2. Use the IAE 3P16273 Grind Fixture
(iv) Mark the new part number adjacent to the old part number. Use the vibration peen method	Old Part Number: 2A0178 — New Part Number: 2A1313 Refer to References (2) Control No./TASK No.70-09-00-400-501

B. Assembly Instructions

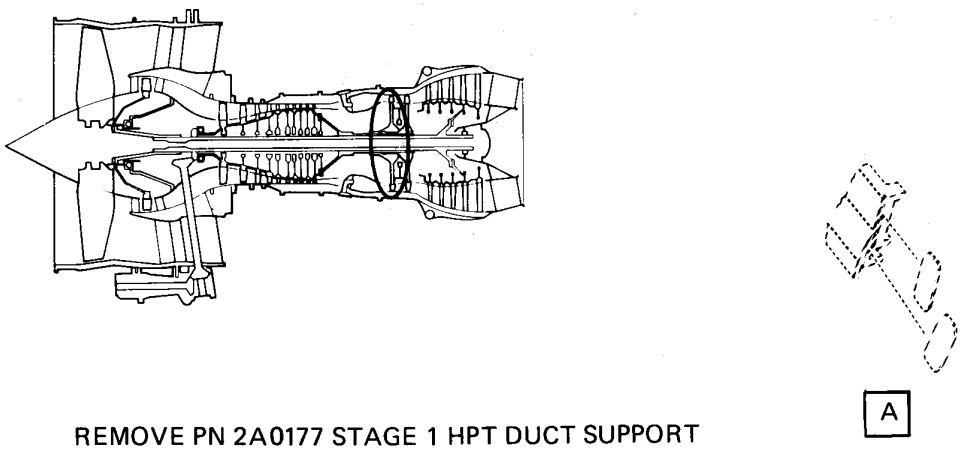
(1) When the Turbine Case and Vane Assembly is assembled by Reference (3) Chapter/Section 72-45-20 Assembly-01, use the 2A1313 Stage 1 HPT Duct Support Assemblies (19 off).

(2) Identify the new Turbine Case and Vane Assembly part number as given below. Use the vibration peen method given in Refererences (2) Chapter/Section 70-09-00, Marking of Parts.

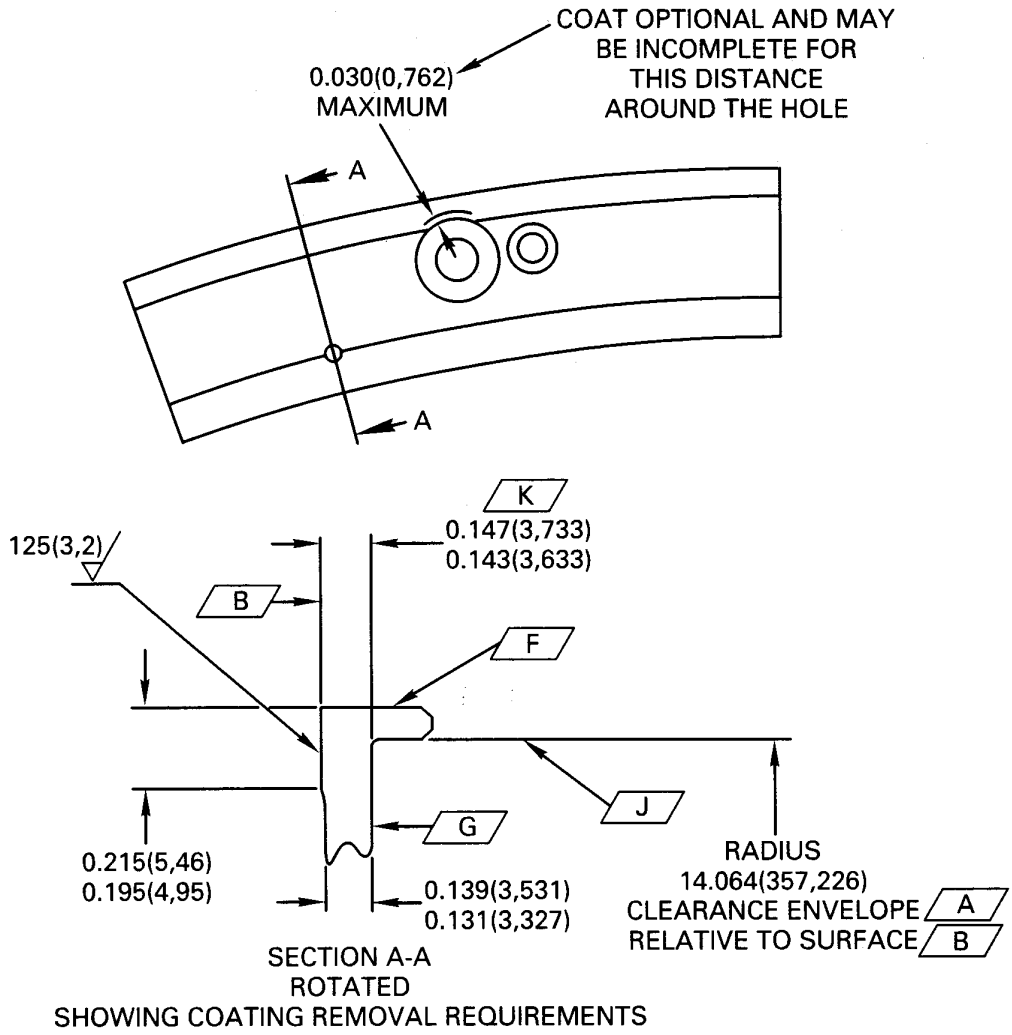
Old Part Number	New Part Number
2A1357	2A1764

C. Recording Instructions

(1) A record of accomplishment is necessary.



Location of Stage 1 HPT Duct Support Assembly
Fig.1



NOTE: UNLESS DIFFERENTLY SPECIFIED ALL DIMENSIONS APPLY WHEN SURFACE G IS ▱ .002 (0,051) AND CLEARANCE ENVELOPE A IS HELD, IN A FREE STATE OR WITH A FIXTURE. THE FIXTURE CAN ONLY TOUCH THE PART ON SURFACES J, B, F AND G

UNLESS DIFFERENTLY SPECIFIED ALL SURFACES ▽

UNLESS DIFFERENTLY SPECIFIED BREAK EDGES 0.003 - 0.015(0,08 - 0,38)

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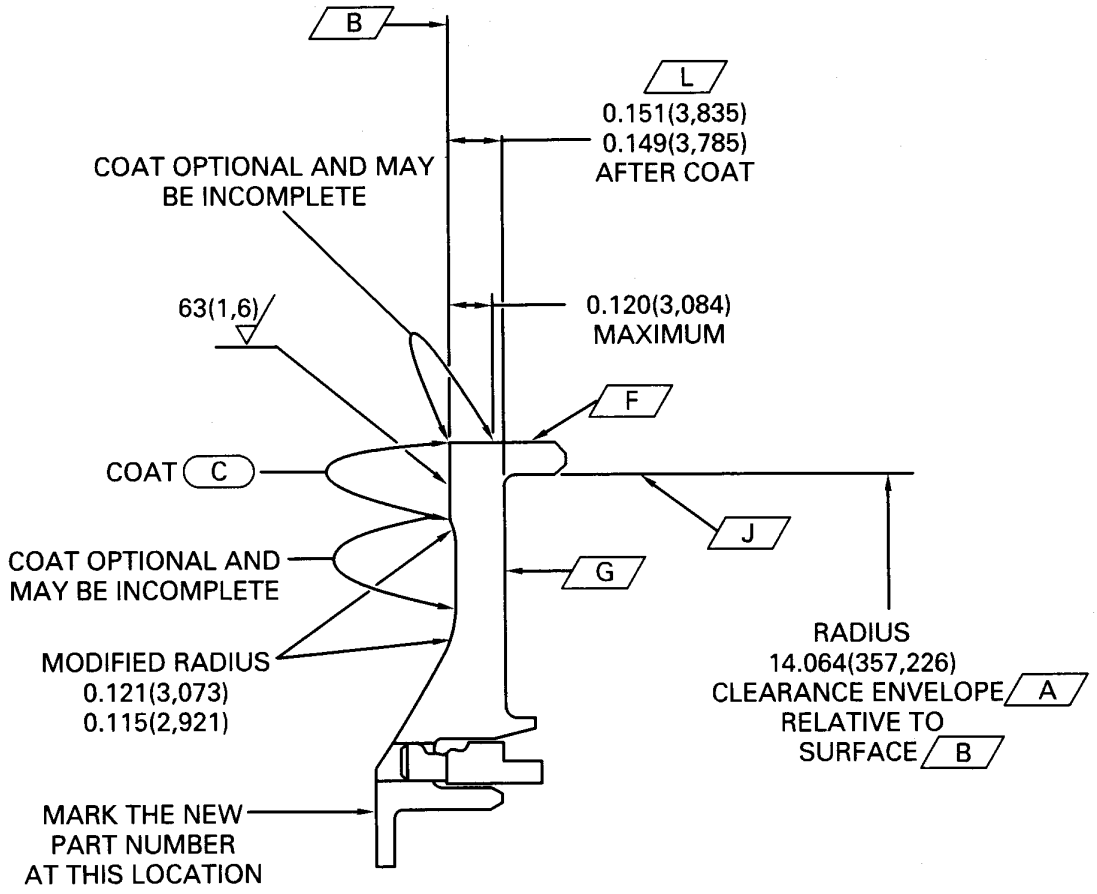
Modification of Stage 1 HPT Duct Support Assembly
Fig.2 (Sheet 1 of 2)



SECTION A-A
ROTATED
SHOWING AFTER COAT REQUIREMENTS

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Modification of Stage 1 HPT Duct Support Assembly
Fig.2 (Sheet 2 of 2)

3. Material Information

Applicability: For each V2500 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
2A1764 (72-45-20)	1	-	Case and Vane Assembly - Turbine	2A1357 (01-005)	(S1)(1D)(A) (B)
- (72-45-22)	1	-	Support Set - HPT Duct Stage 1	2A0177 (01-010)	(B)
- (72-45-22)	19	-	Support Assembly - HPT Duct, Stage 1	2A0178 (01-020)	(S1)(1D)(B)
2A1313 (72-45-22)	19	1324.00	Support Assembly - HPT Duct Stage 1	- (01-010)	(S1)(1D)(A)

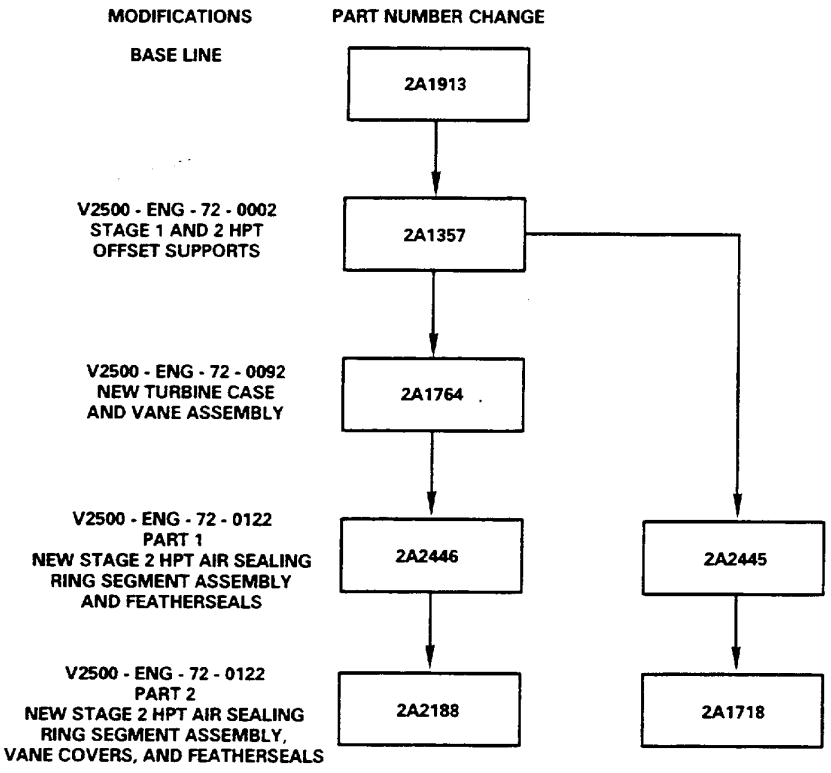
C. Consumables Required to Incorporte this Bulletin:

CoMat 02-047 Heat reflective tape
CoMat 02-052 High temperature tape
CoMat 03-067 Plasma spray powder

D. Instruction/Disposition Code Statements:

(S1) New parts coded (S1) must replace old parts coded (S1) in a complete set per engine.
(1D) Do a modification to the old part number and identify it as the new part number.
(A) New Part is currently available.
(B) Old Part will no longer be available.

NOTE: The estimated 1991 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.



Family Tree - Turbine Case and Vane Assembly
Fig.3

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