International Aero Engines

SERVICE BULLETIN

ENGINE - LP COMPRESSOR - REWORK THE NO.1 BEARING AND NO.3 BEARING SEAL SEATS TO INCORPORATE AN INCREASED HARDFACE THICKNESS AND A REVISED SURFACE FINISH REQUIREMENT - CATEGORY CODE 6 - MOD.ENG-72-0090

1. Planning Information

A. Effectivity

(1) Aircraft: Airbus A320

(2) Engine: V2500-A1 Engines before Serial No.V0180

B. Reason

(1) Condition

Hardface cracking and blistering could occur on existing Seal Plates.

(2) Background

Experimental engines and rig testing have shown cracking and blistering of hardface coating. In addition, a higher carbon seal wear rate was noted with the current hardface lapping requirements.

(3) Objective

To provide more durable Seal Plates for Carbon Seals.

(4) Substantiation

Operation of various experimental engines and all the experience collected from other engine programs.

(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

C. Description

(1) The coating thickness on the Seal Plate was increased and the finish requirement on the surface was revised.

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 Model listed.

E. Compliance

Category Code 6

Accomplish when the subassembly (i.e. modules accessories, components, build groups) is disassembled sufficiently to afford access to the affected part and to all affected spare parts.

F. Manpower

Estimated Manhours to incorporate the full intent of this Bulletin

Venue	Estimated Manhours
(1) In Service	Not applicable
(2) At Overhaul	TOTAL 2 hours 35 minutes
(a) To embody	
(i) Inspect	20 minutes
(ii) Machine	1 hour 6 minutes
(iii) Applying coating ..	Refer to local Union Carbide representative
(iv) Finish machine ..	1 hour 5 minutes
(v) Vibro peen new numbers	5 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

Special tools are not required

I. Weight and Balance

(1)	Weight change	No effect
(2)	Moment arm	No effect
(3)	Datum	Engine front mount centreline (Power Plant Station (PPS) 100)

J. Electrical Load Data

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

K. References

(1) Internal Reference No.

89VA184

(2) Other References

V2500 Engine Illustrated Parts Catalog

V2500 Engine Manual

V2500 Standard Practices Manual

L. Other Publications Affected

(1) The V2500 Engine Manual, Chapter/Section 72-32-25, Cleaning to add the new parts.

(2) The V2500 Engine Manual, Chapter/Section 72-32-53, Cleaning to add the new parts.

(3) The V2500 Engine Manual, Chapter/Section 72-32-25, Inspection/Check to add the new parts.

(4) The V2500 Engine Manual, Chapter/Section 72-32-53, Inspection/Check to add the new parts.

(5) The V2500 Engine Manual, Chapter/Section 72-32-25, Repair to add the new parts.

(6) The V2500 Engine Manual, Chapter/Section 72-32-53, Repair to add the new parts.

2. Accomplishment Instructions

A. Rework Instructions

(1) Do a modification of 2A1795 No.1 Bearing Seal Seat (See Reference (1), 72-32-53, Fig/Item No.01-450) and identify as follows:

Procedure	Supplementary Information
(a) Do an inspection of the No.1 Bearing Seal Seat	Refer to Figure 1. Refer to Reference (2), Chapter/Section 72-32-53, Inspection/Check-08
(b) If the hardface thickness and surface finish is in the limits specified identify with the new part number adjacent to the old part number. Use the vibration peen method	Old Part Number: 2A1795 — New Part Number: 2A2058 Refer to Reference (3), Control No./Task No.70-09-00-400-501

(c) If the Seat is not in the limits specified for the hardface thickness and surface finish do the steps which follow:

Procedure	Supplemetary Information
(i) Set-up and machine the No.1 Bearing Seal Seat	Refer to Figure 3
(ii) Hardface the enclosed area (view B) with chromium carbide coating. Overspray is not permitted	Refer to Figure 3, requirements, for coating location. Apply coating by the approved procedure in Reference (3), Control No./Task No. 70-34-02-340-501

NOTE: Chromium Carbide coating can be supplied by one of the approved companies given in the specified procedure.

(iii) Set-up and machine to dimensions and surface finish specified	Refer to Figure 3, requirements and Reference (3), Control No./Task No.70-35-09-350-501
(iv) Identify with the new part number adjacent to the old part number. Use the vibration peen method	Old Part Number: 2A1795 — New Part Number: 2A2058 Refer to Reference (3), Control No./Task No.70-09-00-400-501

(2) Do a modification of 2A1796 No.3 Bearing Seal Seat (See Reference (1), 72-32-25, Fig/Item No.02-400) and identify as follows:

	Procedure	Supplementary Information
(a)	Do an inspection of the No.3 Bearing Seal Seat	Refer to Figure 2. Refer to Reference (2), Chapter/Section 72-32-25, Inspection/Check-08
(b)	If the hardface thickness and surface finish is in the limits specified identify with the new part number adjacent to the old part number. Use the vibration peen method	Old Part Number: 2A1796 — New Part Number: 2A1799 Refer to Reference (3), Control No./Task No.70-09-00-400-501

(c) If the Seat is not in the limits specified for the hardface thickness and surface finish do the steps which follow:

	Procedure	Supplemetary Information
(i)	Set-up and machine the No.3 Bearing Seal Seat	Refer to Figure 4
(ii)	Hardface the enclosed area (view D) with chromium carbide coating. Overspray is not permitted	Refer to Figure 4, requirements, for for coating location. Apply coating by the approved procedure in Reference (3), control No./Task No. 70-34-02-340-501

NOTE: Chromium Carbide coating can be applied by one of the approved companies given in the specified procedure.

(iii)	Set-up and machine to dimensions and surface finish specified	Refer to Figure 4, sheets 1 and 2 requirements and Reference (3), Control No./Task No.70-35-09-350-501
(iv)	Identify with the new part number adjacent to the old part number. Use the vibration peen method	Old Part Number: 2A1796 — New Part Number: 2A1799 Refer to Reference (3), Control No./Task No.70-09-00-400-501

B. Assembly Instructions

(1) Install the No.1 Bearing Seal Seat (1 off) by the instructions given in Reference (2), Chapter/Section 72-32-50, Assembly.

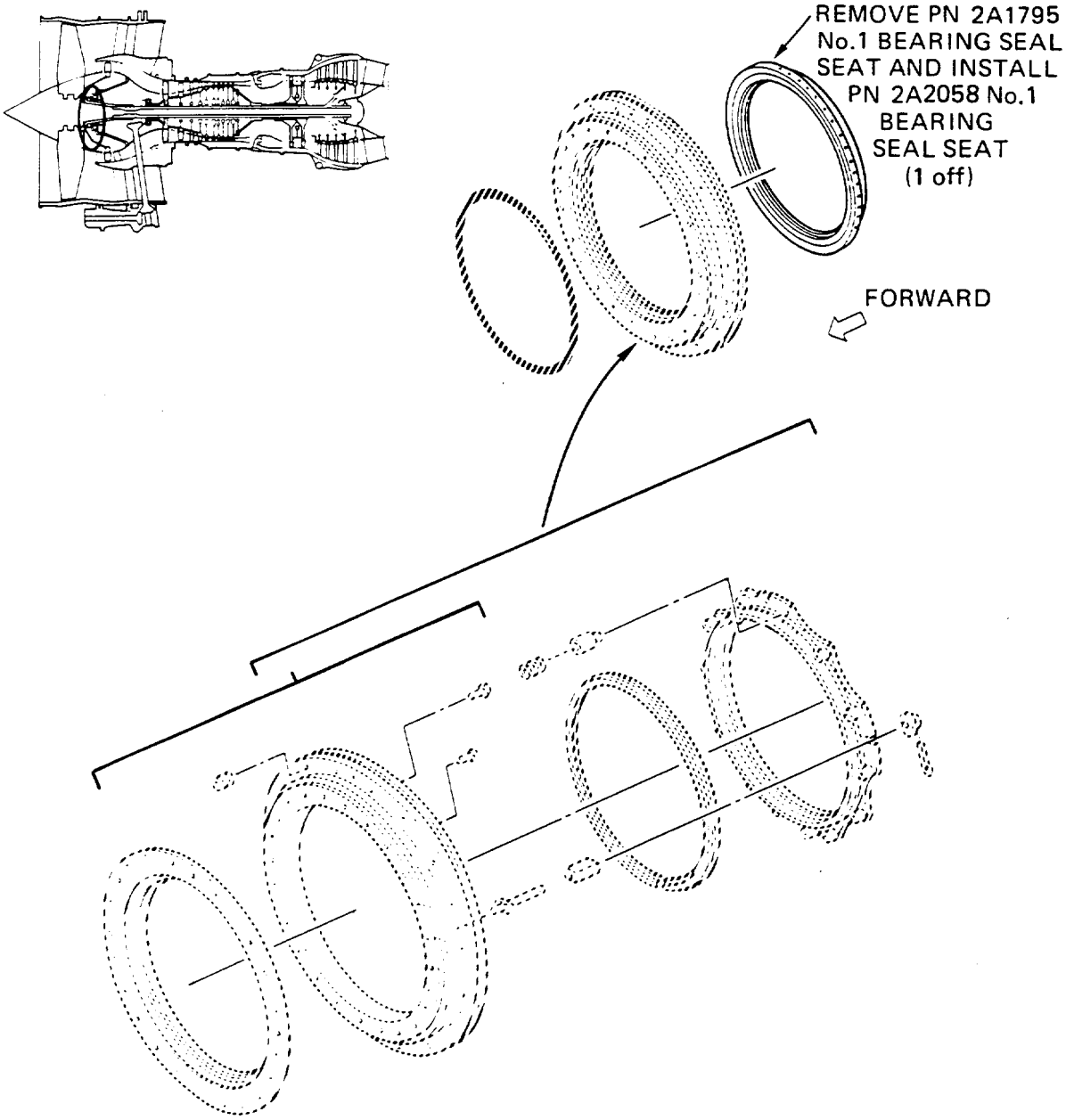
(a) Use 2A2058 No.1 Bearing Seal Seat.

(2) Install the No.3 Bearing Seal Seat (1 off) by the instructions given in Reference (2) Chapter/Section 72-32-20, Assembly.

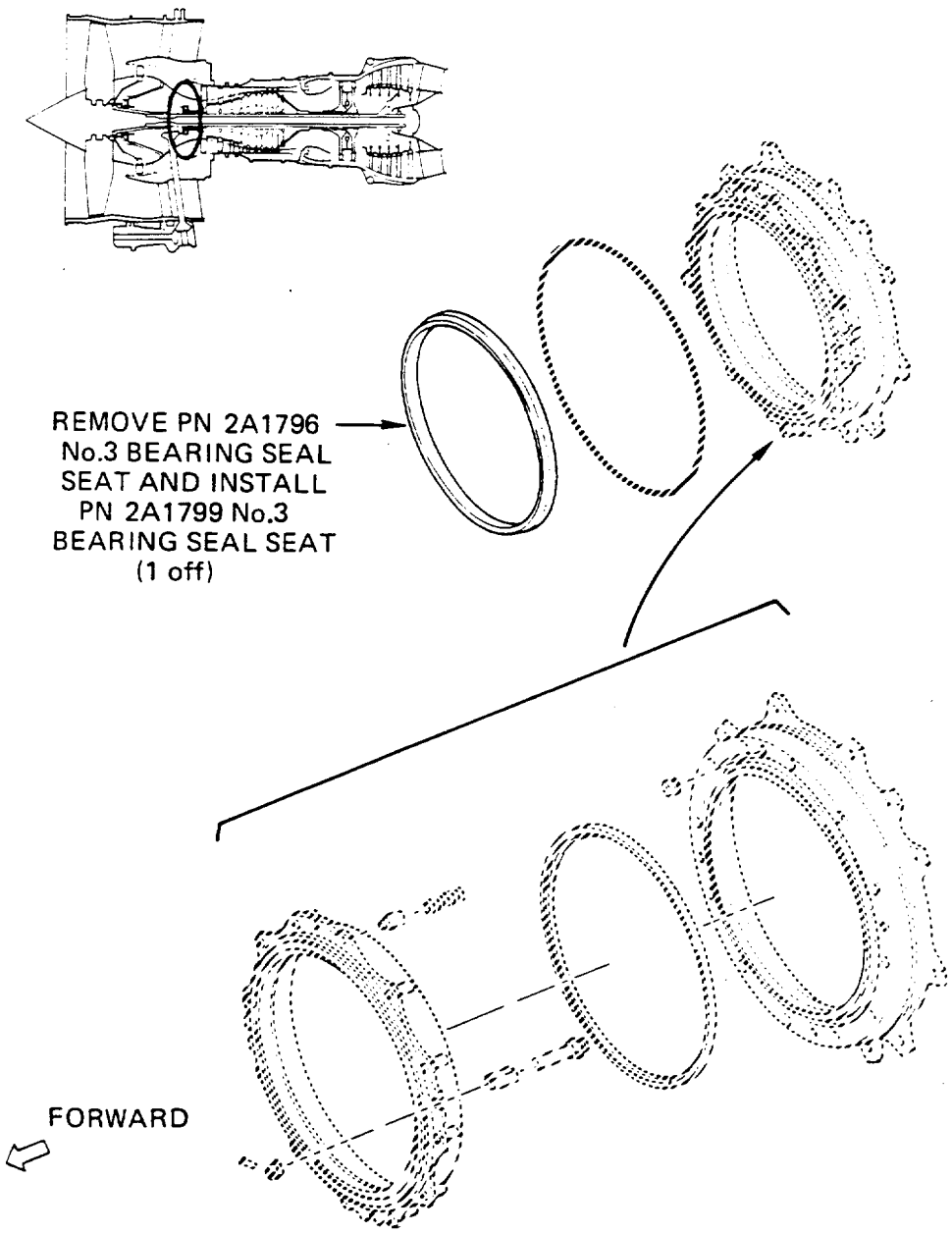
(a) Use 2A1799 No.3 Bearing Seal Seat.

C. Recording Instructions

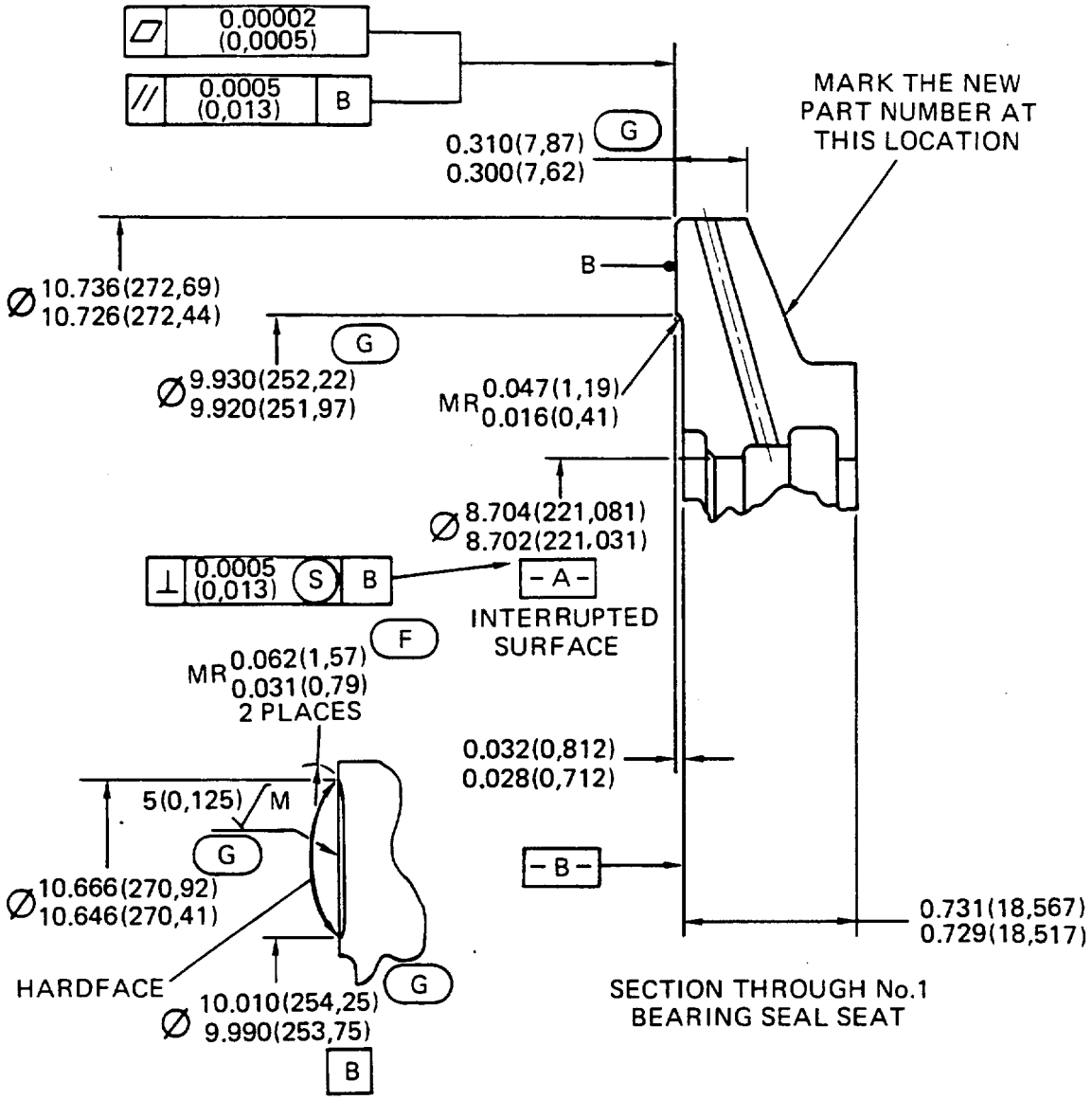
(1) A record of accomplishment is necessary.



Location of No.1 Bearing Seal Seat
Fig.1



Location of No.3 Bearing Seal Seat
Fig.2



G TO INTERSECTION

F DIMENSIONS ARE BEFORE HARDFACE

NOTE : UNLESS DIFFERENTLY SPECIFIED ALL DIAMETERS ⌖ Ø 0.005 (0,127) S A B S

NOTE : UNLESS DIFFERENTLY SPECIFIED DIMENSIONS ARE AFTER HARDFACE

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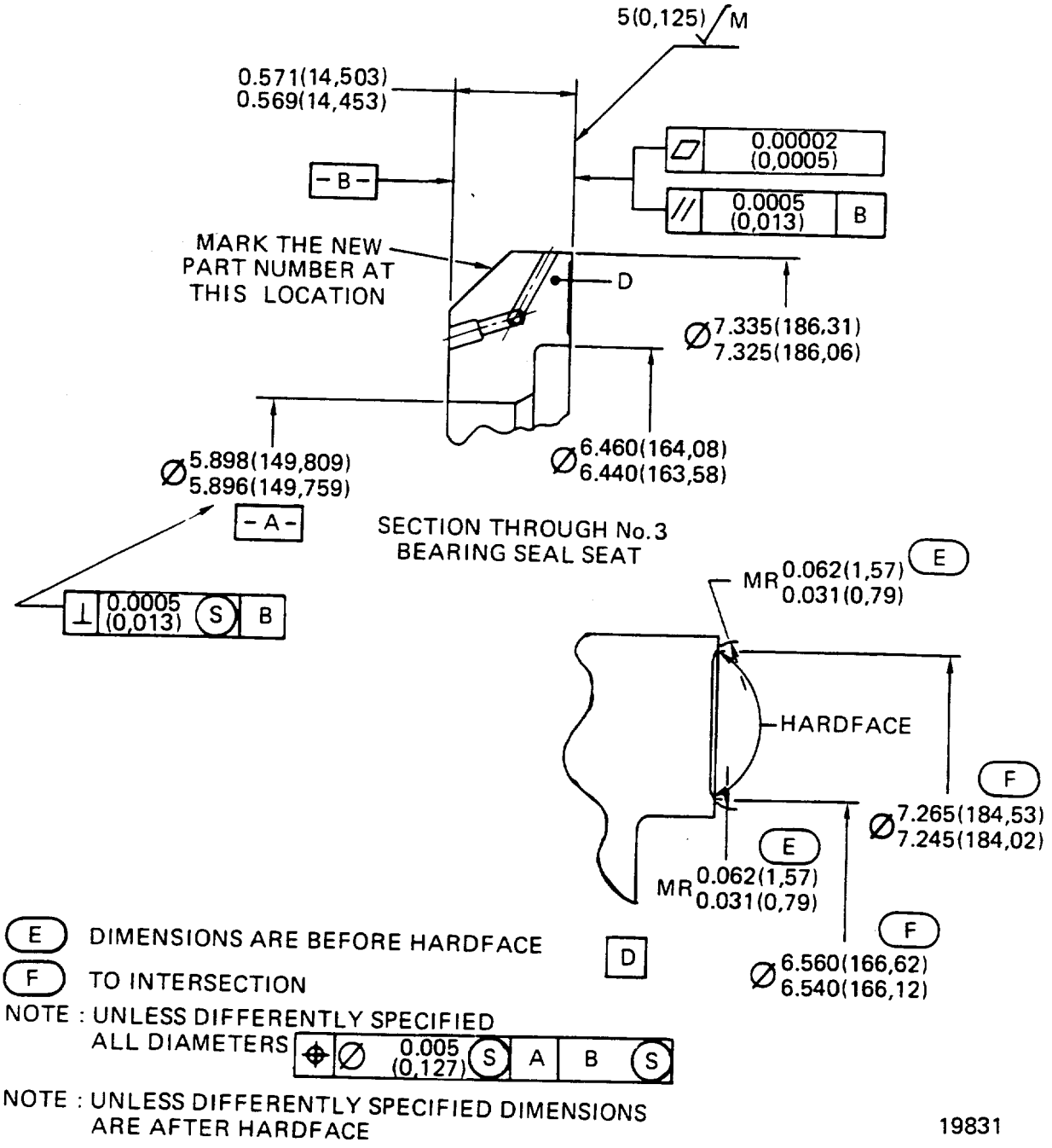
Modification of No.1 Bearing Seal Seat
Fig.3



Modification of No.3 Bearing Seal Seat
Fig.4

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
2A1799 (72-32-25)	1		Seat - No.3 Bearing Seal	2A1796 (02-400)	(1D)(A)(B)
2A2058 (72-32-53)	1		Seat - No.1 Bearing Seal	2A1795 (01-450)	(1D)(A)(B)

C. Instruction/Disposition Code Statements:

(1D) Old Part can be modified and identified as the New Part Number (See Figures 2 and 3).
(A) New part is currently available.
(B) Old part will no longer be available.

NOTE: The estimated 1990 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 Department for information concerning firm prices.