International Aero Engines

SERVICE BULLETIN

ENGINE - NO.4 BEARING COMPARTMENT - REWORK NO.4 BEARING FRONT AND REAR SEAL SEATS TO INCORPORATE REVISED SURFACE FINISH AND HARDFACE THICKNESS - CATEGORY CODE 5 - MOD.ENG-72-0036

1. Planning Information

A. Effectivity

(1) Aircraft: Airbus A320

(2) Engine: V2500-A1 Engines prior to Serial No.V0093 and Engine Serial No.s V0098, V0112 and V0118 except Engine Serial No.V0088

B. Reason

(1) Condition

The plasma coat thickness now used on the No.4 Bearing Seal Seat is not sufficient to permit repair. When seals with this coat thickness are lapped the surface that results is not satisfactory.

(2) Background

During the experimental program it was found that when the seal seats were lapped after use, there was not enough plasma thickness necessary to meet the specification. It was also found during experimental testing that one of the two approved lapping methods led to accelerated wear of the carbon seal. The need for additional material thickness, for repair purposes, was not considered in the design. The deficiences in the lapping procedure were not understood.

(3) Objective

To provide a more durable carbon seal rubbing surface and prevent damage to the carbons.

(4) Substantiation

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

(5) Effect of Bulletin on the following shop functions:

Removal/Installation	Not Affected
Disassembly/Assembly	Not Affected
Cleaning	Not Affected
Inspection/Check	Not Affected
Repair	Not Affected
Tested	Not Affected

(6) Supplemental Information

None.

C. Description

The coating thickness on the seal plate was increased and the finish requirement on the face was revised.

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 5

Accomplish when the engine is disassembled sufficiently to afford access to the affected subassembly (ie modules, accessories, components, build groups) and to all affected spare subassemblies.

F. Manpower

Estimated Manhours to incorporate the full intent of this Bulletin:

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 rework on the No.4 Bearing Front (1 off) and Rear (1 off) Seal Seats	8 Hours
Total:	8 Hours

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	None
(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. Reference

(1) Internal Reference No.

89VA006

(2) Other References

V2500 Engine Illustrated Parts Catalog

V2500 Engine Manual

V2500 Standard Practices Manual

L. Other Publications Affected

(1) V2500 Engine Illustrated Parts Catalog, Chapter/Section 72-43-11 Figure 1, and Chapter/Section 72-43-14 Figure 1 to add the new parts.

(2) V2500 Engine Manual Chapter/Section 72-43-11 and Chapter/Section 72-43-14 Cleaning, to add the new parts.

(3) V2500 Engine Manual Chapter/Section 72-43-11 and Chapter/Section 72-43-14 Inspction/Check, to add the new parts.

(4) V2500 Engine Manual Chapter/Section 72-43-11 and Chapter/Section 72-43-14 Repair, to add the new parts.

2. Accomplishment Instructions

A. Removal Instructions

(1) Remove the 2A0066 and 2A0067 No.4 Bearing Front and Rear Seal Seats by the instructions given in Reference (2), Chapter/Section, 72-00-43 Removal. Refer to Figure 1.

B. Rework Instructions

(1) Do a modification of 2A0066 No.4 Bearing Front Seal Seat (See Reference (1), 72-43-11, Fig/Item No.01-010) and identify as follows:

	Procedure	Supplementary Information
(a)	Set-up and machine the No.4 Bearing Front Seal Seat	Refer to Figure 2, Sheets 1 and 2 requirements
(b)	Hardface the enclosed area (View E) with chromium carbide coating, Make sure that no overspray goes into the areas marked "no hardface"	Refer to Figure 2, Sheets 1 and 2 for coating location which is to be applied by Refernce (3), Control No./TASK 70-34-02-340-501
	NOTE: Chromium carbide coating can be applied by one of the aproved companies given in the specified procedure.	
(c)	Set-up and machine to the dimensions and surface finish specified	Refer to Figure 2, Sheets 1 and 2 requirements and References (3), Control No./TASK 70-35-09-350-501
(d)	Make a mark adjacent to the old part number to show the new part number. Use the vibration peen method	Old Part No. New Part No. 2A0066 2A1998 Refer to Reference (3), Control No./TASK 70-09-00-400-501

(2) Do a modification of the 2A0067 No.4 Bearing Rear Seat (See Reference (1) 72-43-14, Fig/Item No.01-020) and identify as follows:

	Procedure	Supplementary Information
(a)	Set-up and machine the No.4 Bearing Rear Seal Seat	Refer to Figure 3, Sheets 1 and 2 requirements

(b)	Hardface the enclosed area (View G) with chromium carbide coating. Make sure that no overspray goes into the areas marked "no hardface"	Refer to Figure 3, Sheets 1 and 2 for coating location which is to be applied by Reference (3), Control No./TASK 70-34-02-340-501

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

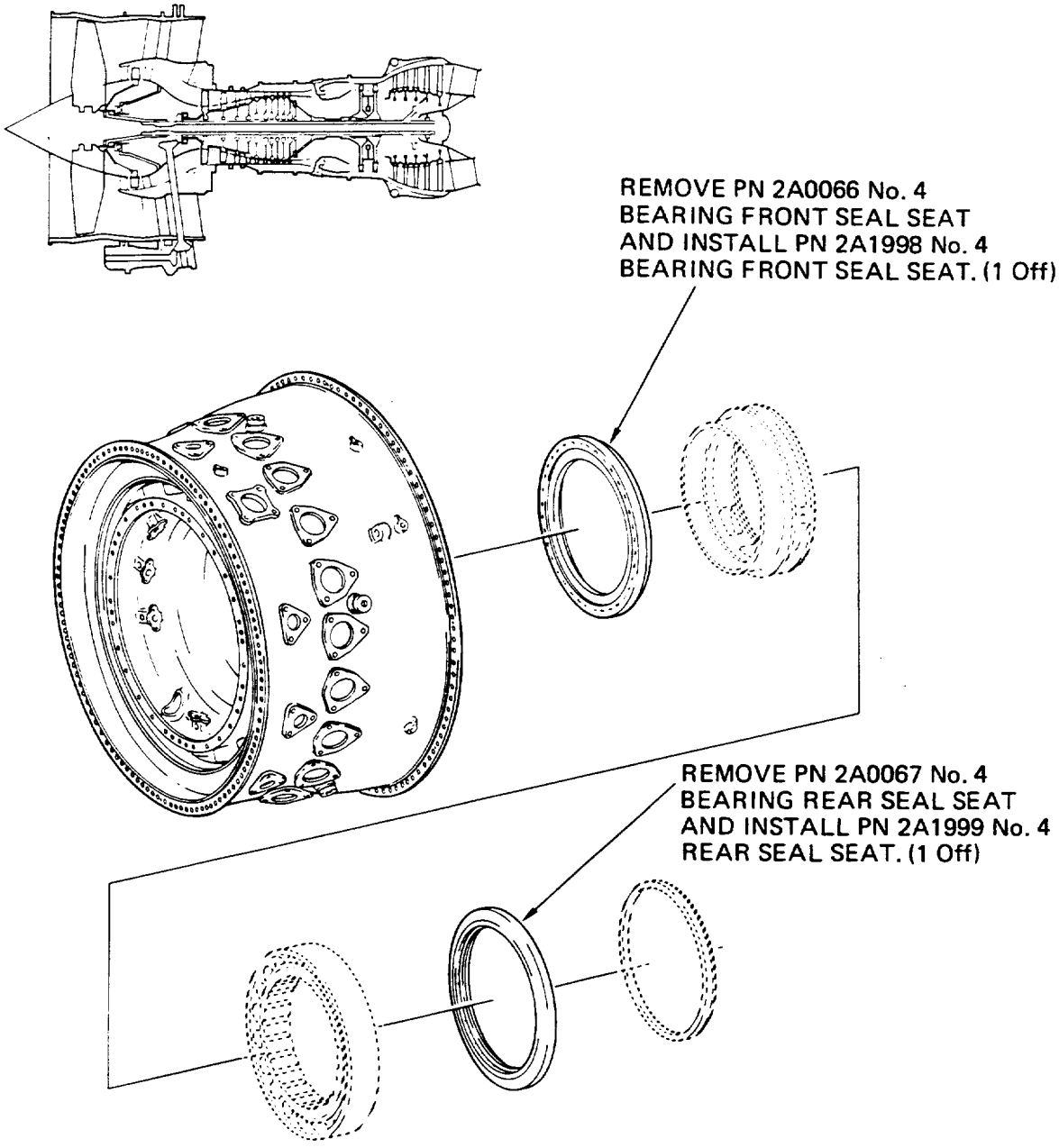
(c)	Set-up and machine to the dimensions and surface finish specified	Refer to Figure 3, Sheets 1 and 2 requirements and Reference (3), Control No./TASK 70-35-09-350-501
(d)	Make a mark adjacent to the old part number to show the new part number. Use the vibration peen method	Old Part No. 2A0067 — New Part No. 2A1999 Refer to Reference (3), Control No./TASK 70-09-00-400-501

C. Assembly Instructions

(1) Install the 2A1998 and 2A1999 No.4 Bearing Front (1 off) and Rear (1 off) Seal Seats by the instructions given in Reference (2), Chapter/Section, 72-00-43 Installation.

D. Recording Instructions

(1) A record of accomplishment is required.



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Location of No.4 bearing front and rear seal seats
Fig.1

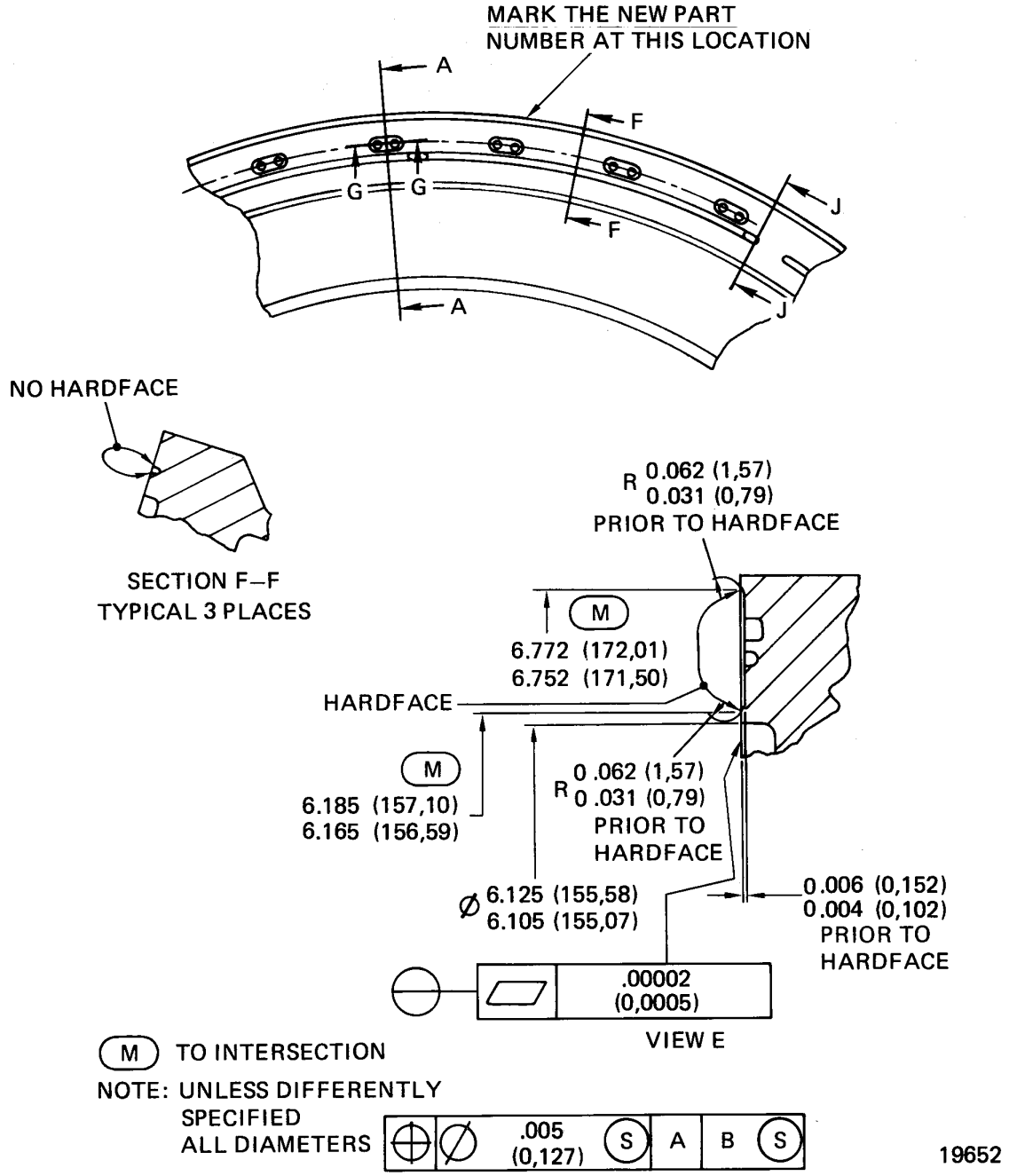

Fig.2 (Sheet 1 of 2)

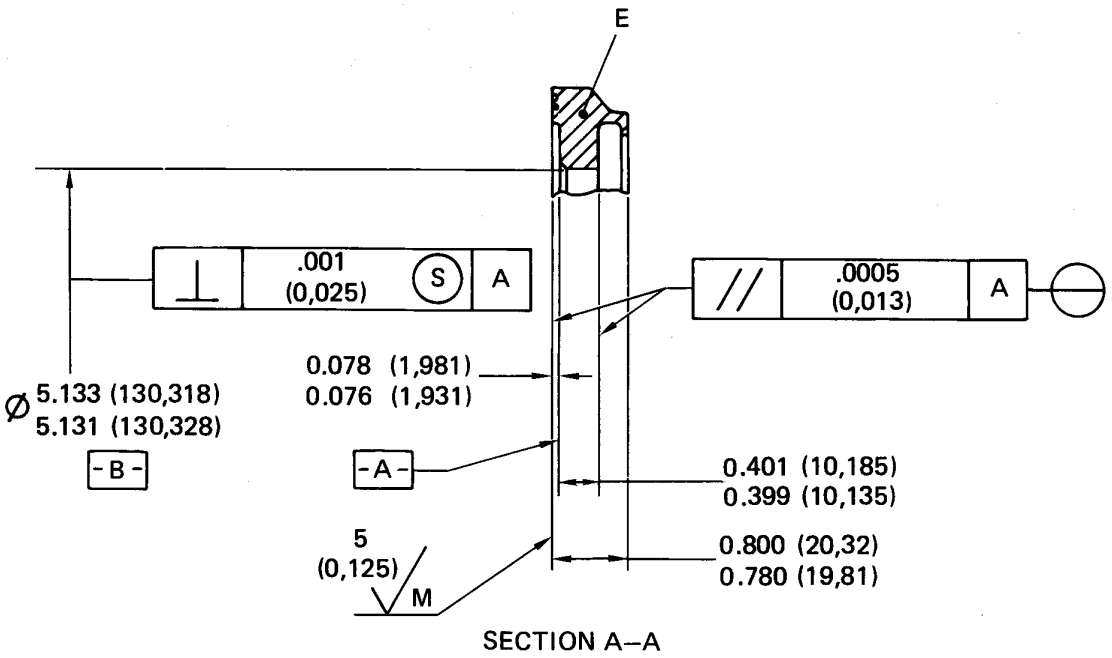

Fig.2 (Sheet 2 of 2)

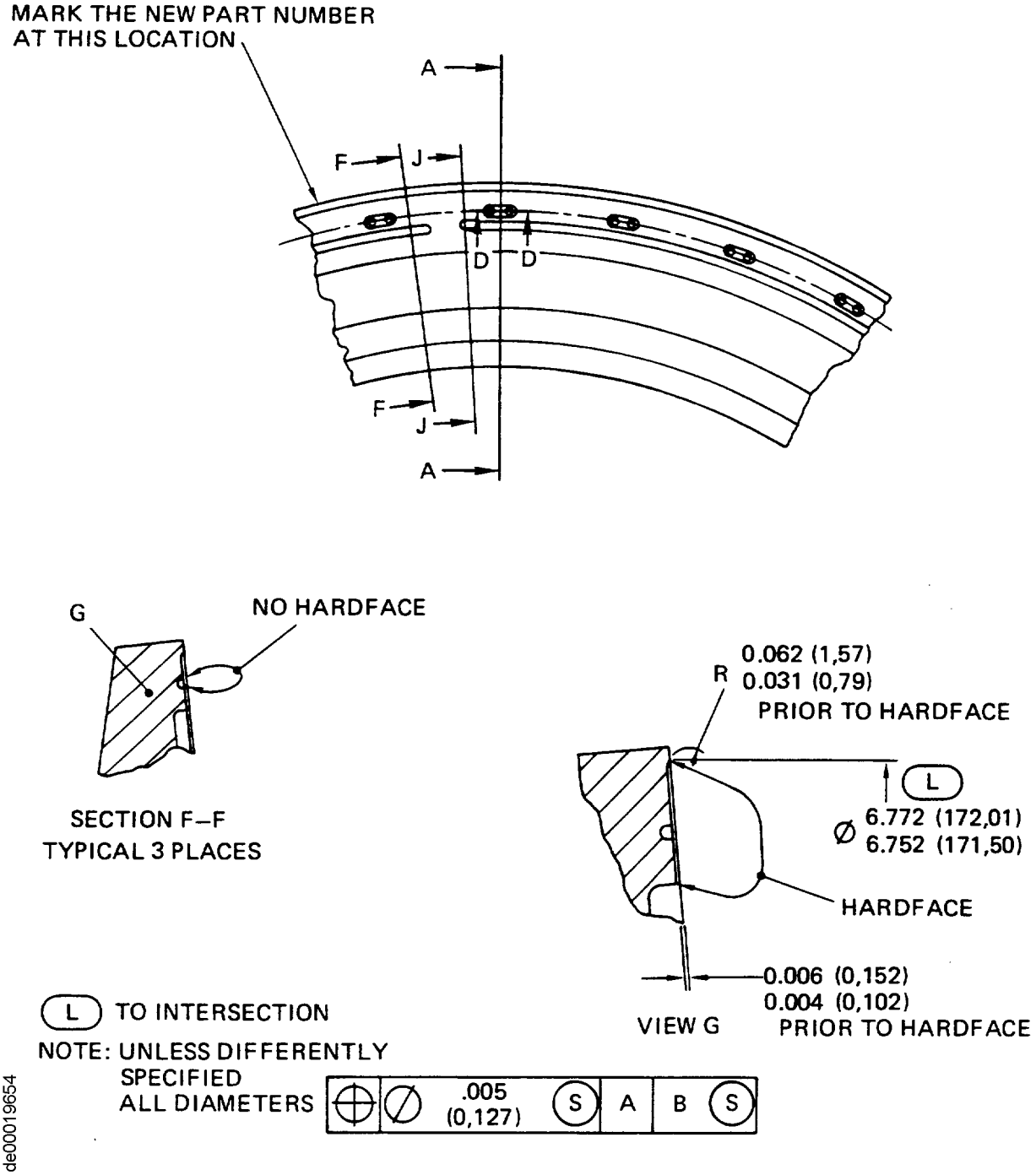

Fig.3 (Sheet 1 of 2)

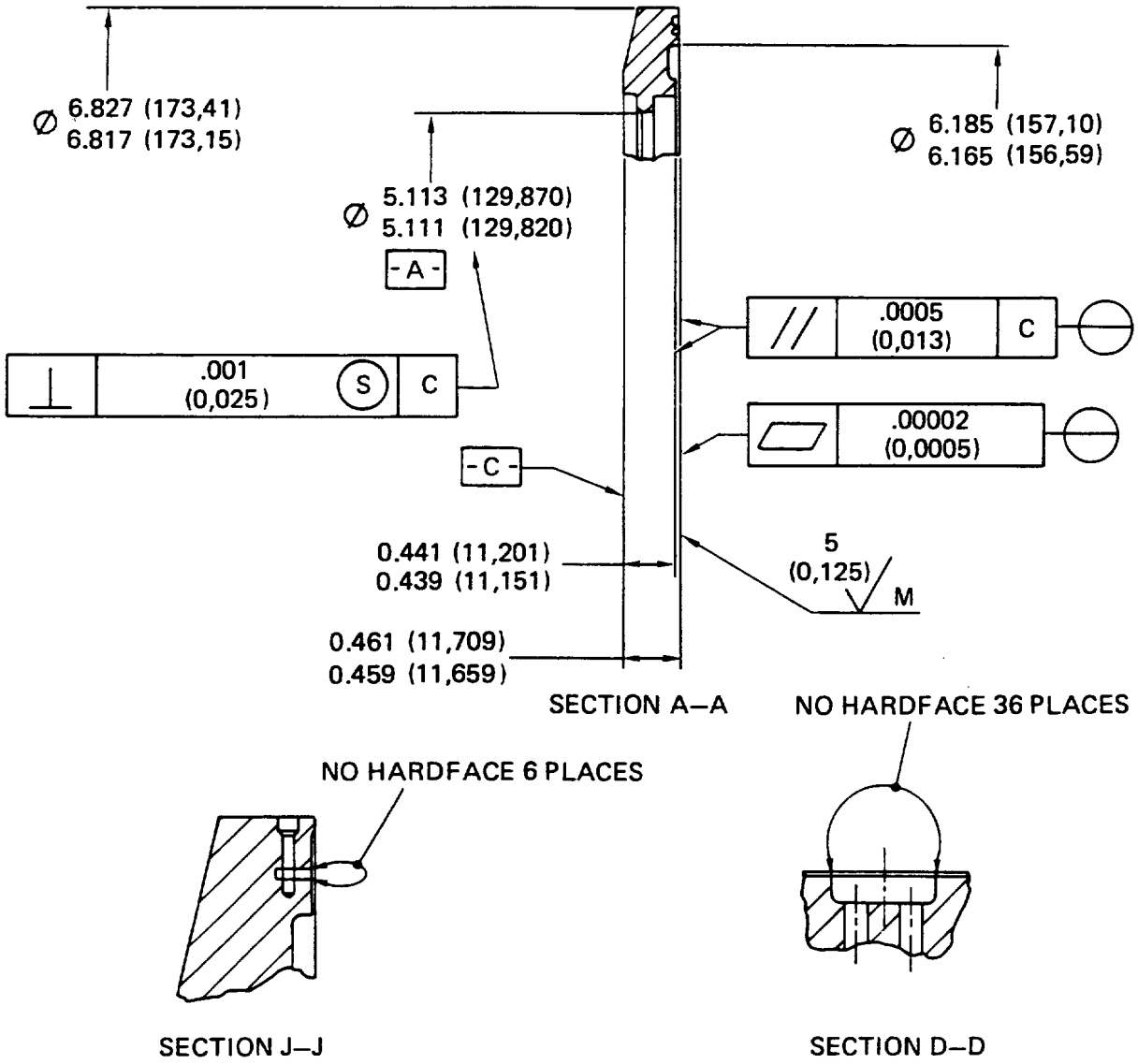

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Fig.3 (Sheet 2 of 2)

3. Material Information

New Part No. (ATA No.)	Qty	Est'd Unit Price ($)	Keyword	Old Part No. (IPC No.)	Instructions Disposition
Applicability: For each V2500 Engine to incorporate this Bulletin.					
A. Kits associated with this Bulletin:					
None					
B. Parts affected by this Bulletin:					
2A1998 (72-43-11	1	1663.00	Seat - No.4 Bearing Seal, Front	2A0066 (01-010)	(1D)(A)(C)
2A1999 (72-43-14)	1	1663.00	Seat - No.4 Bearing Seal, Rear	2A0067 (01-020)	(2D)(A)(C)

C. Instruction/Disposition Code Statements:

(1D) The old part can be modified and identified to the new part number. (See Figure 2).
(2D) The old part can be modified and identified to the new part number. (See Figure 3).
(A) New part is currently available.
(C) Old Part will no longer be available.

NOTE: The estimated 1990 Unit Price shown is provided for planning purposes only and does not constitute a firm quotation. Consult the IAE Price Catalog or contact IAE's Spare Parts Sales Department for information concerning firm prices.