International Aero Engines

SERVICE BULLETIN

ENGINE - OIL - INTRODUCE A NEW OIL PRESSURE PUMP OUTLET-TO-ACOC TUBE SEALING RING - CATEGORY CODE 5 - MOD.ENG-79-0039

1. Planning Information

A. Effectivity

(1) Aircraft:
(a) Airbus A320
(b) Airbus A321
(c) McDonnell Douglas MD-90

(2) Engine:
(a) V2500-A1 Engines prior to Serial No.V0361
(b) V2527-A5 Engines prior to Serial No.V10092
(c) V2530-A5 Engines prior to Serial No.V10092
(d) V2525-D5 Engines prior to Serial No.V20012
(e) V2528-D5 Engines prior to Serial No.V20012

B. Concurrent Requirements

None

C. Reason

(1) Condition

Static oil leakage from the oil pressure pump and filter casing outlet.

(2) Background

Instances of static oil leakage from the pressure pump and filter casing have occurred in service. On inspection the preformed packing appeared deformed.

(3) Objective

To prevent possible static oil leakage.

(4) Substantiation

A satisfactory trial build was carried out on a Class III mock-up engine using a new sealing ring with improved radial nip on assembly.

(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

None

D. Description

The changes introduced by this Service Bulletin are as follows:

(1) A redesigned sealing ring with a better fit and improved material.

E. 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 Models listed.

F. Compliance

Category Code 5

Accomplish when the engine is disassembled sufficiently to afford access to the affected sub-assembly (i.e. modules, accessories, components, build groups) and to all affected spare sub-assemblies.

G. Manpower

Estimated manhours to incorporate the full intent of this Bulletin:

Venue	Estimated Manhours
V2500-A1 Engines	
(1) In Service	Not applicable
(2) At Overhaul	
Note: The parts affected by this Service Bulletin are accessible at Overhaul.	
(a) To remove the old preformed packing	5 minutes

(b) To install the new sealing ring — 6 minutes

Total: 11 minutes

V2500-A5 Engines

(1) In Service — Not applicable

(2) At Overhaul

Note: The parts affected by this Service Bulletin are accessible at Overhual.

(a) To remove the old preformed packing — 5 minutes

(b) To install the new sealing ring — 6 minutes

Total: 11 minutes

V2500-D5 Engines

(1) In service — Not applicable

(2) At Overhaul

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

(a) To remove the old preformed packing — 5 minutes

(b) To install the new sealing ring — 6 minutes

Total: 11 minutes

H. Material - Price and Availability

(1) Modification Kit not required.

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

I. Tooling - Price and Availability

Special tools are not required.

J. Weight and Balance

(1)	Weight change	None
(2)	Moment arm	No effect
(3)	Datum	Engine front mount centerline (Power Plant Station (PPS)100)

K. Electrical Load Data

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

L. References

(1) Internal Reference No.

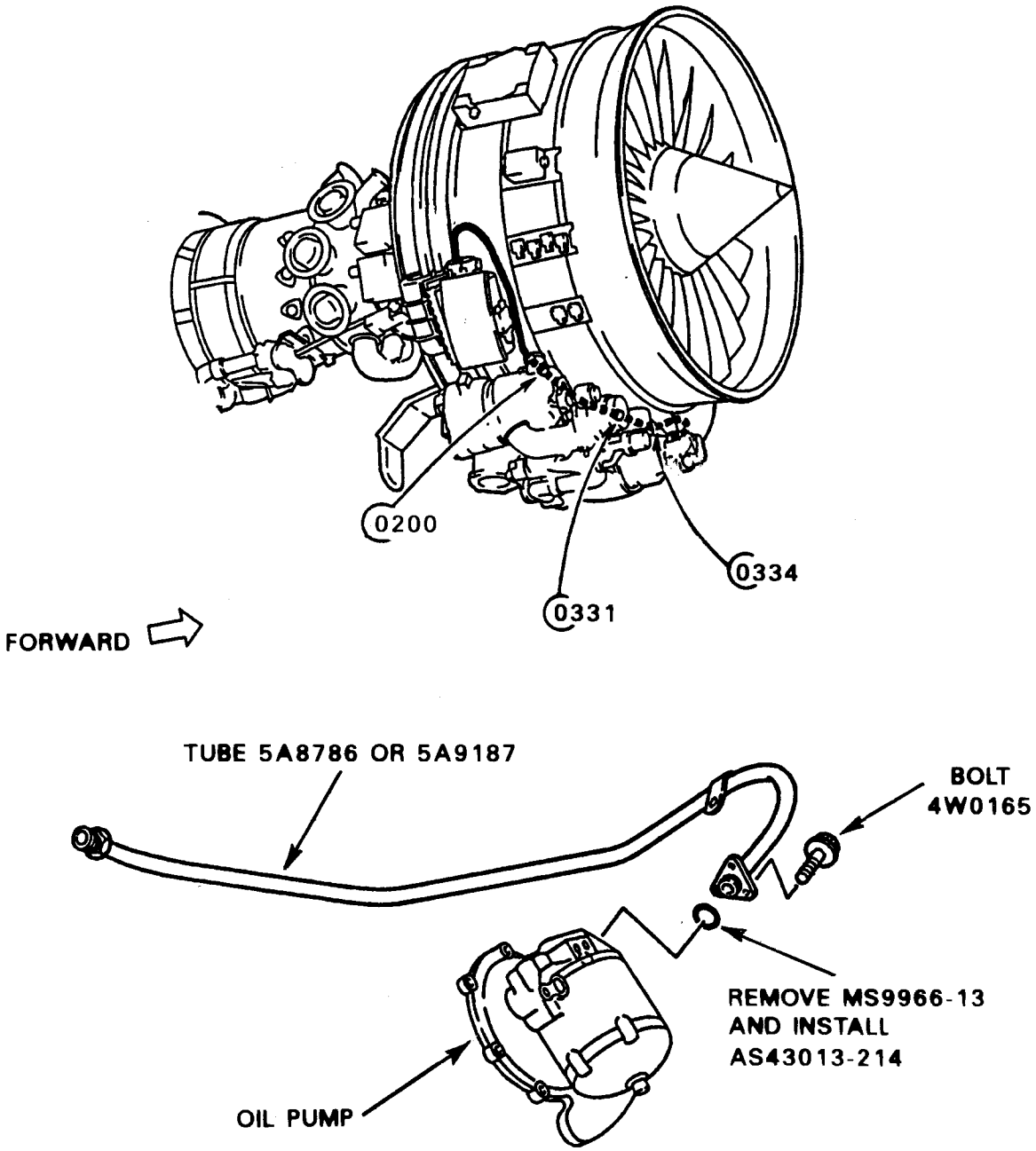
94VR002

M. Other Publications Affected

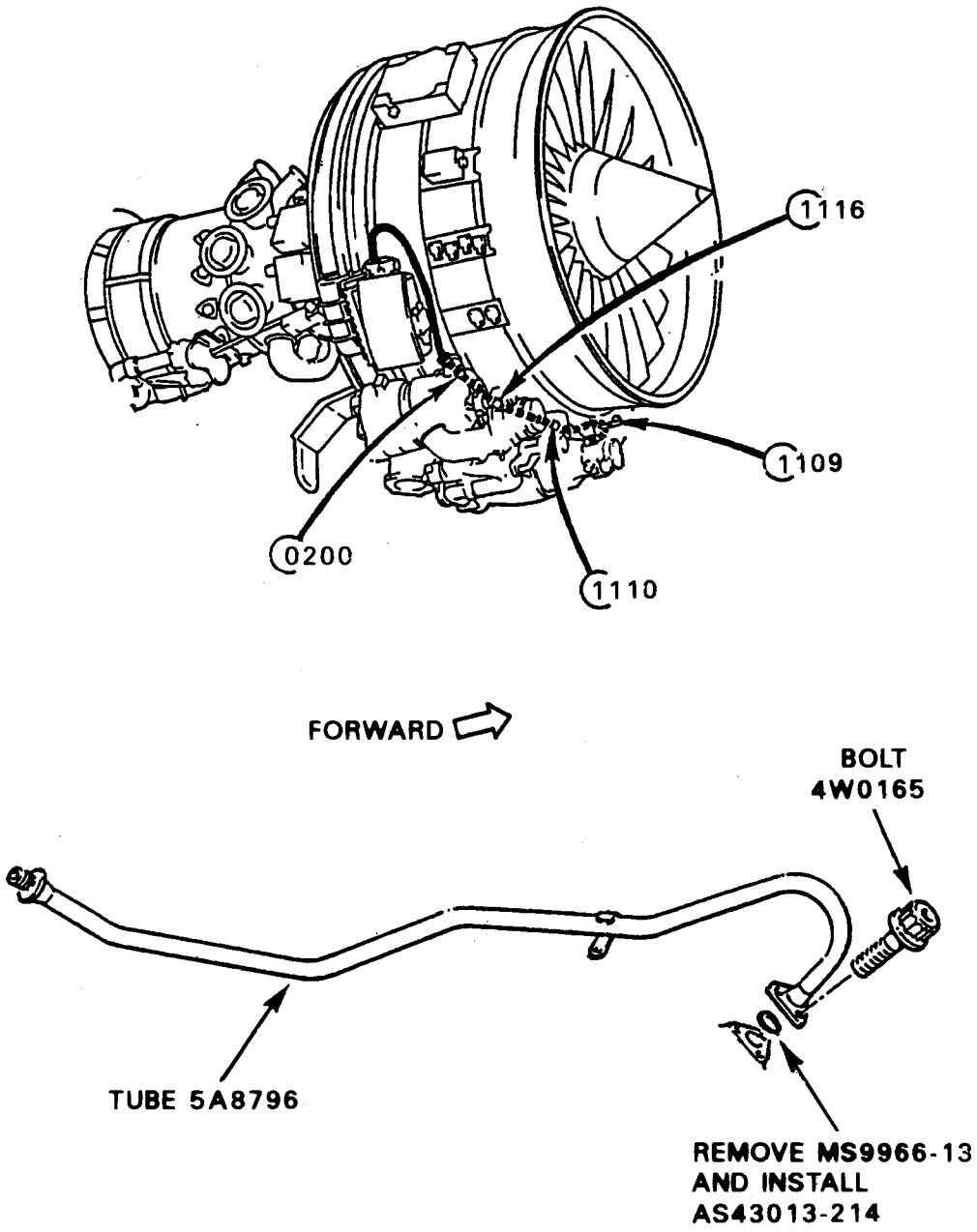
(1) V2500 Engine Illustrated Parts Catalog (S-V2500-1IA), Chapter/Section 79-21-49.

(2) V2500 Engine Illustrated Parts Catalog (S-V2500-2IA), Chapter/Section 79-21-49.

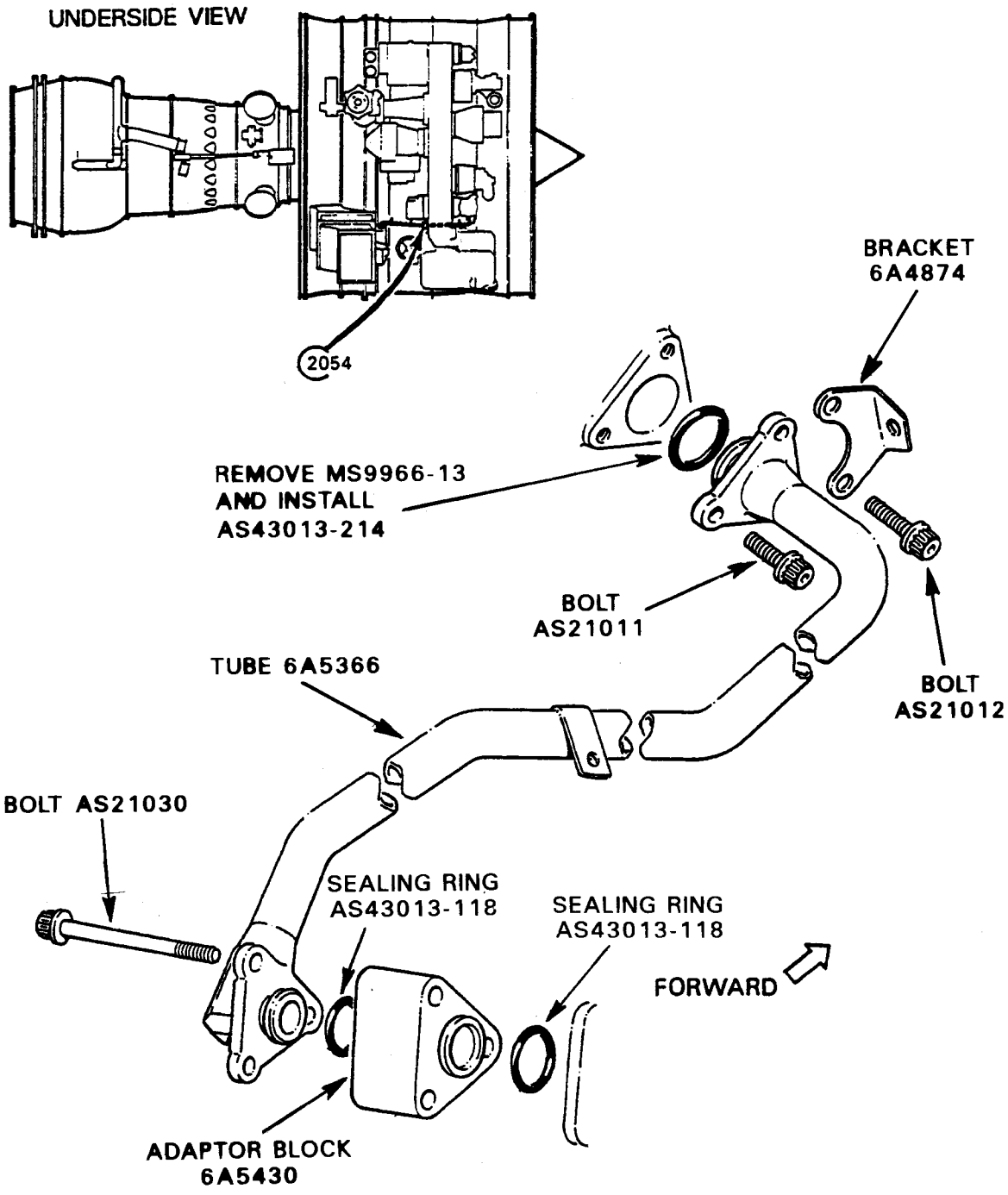
(3) V2500 Engine Illustrated Parts Catalog (S-V2500-3IA), Chapter/Section 79-21-49.



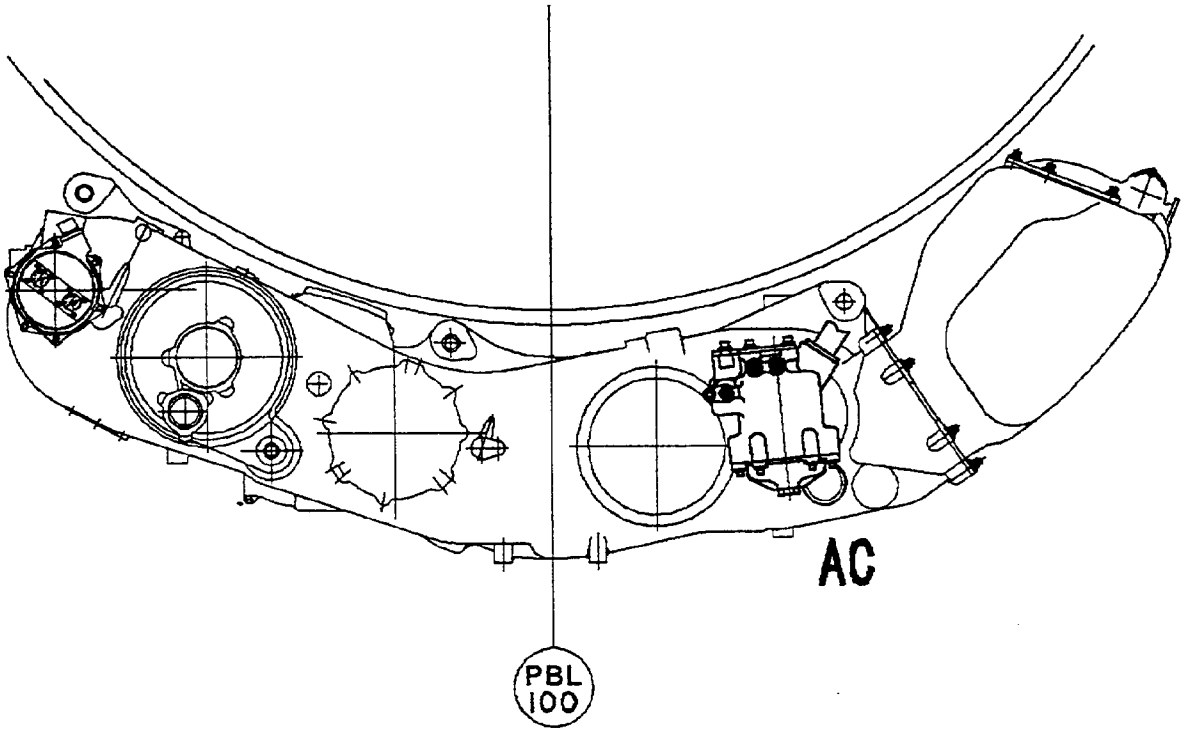
Location of Pressure Oil Tube (A1 Engines of PRE-SBE 71-0110 standard)
Fig.1 (Sheet 1 of 3)



Location of Pressure Oil Tube (A1 Engines of SBE 71-0110 standard and A5 Engines)
Fig.1 (Sheet 2 of 3)



Location of Pressure Oil Tube (D5 Engines)
Fig.1 (Sheet 3 of 3)



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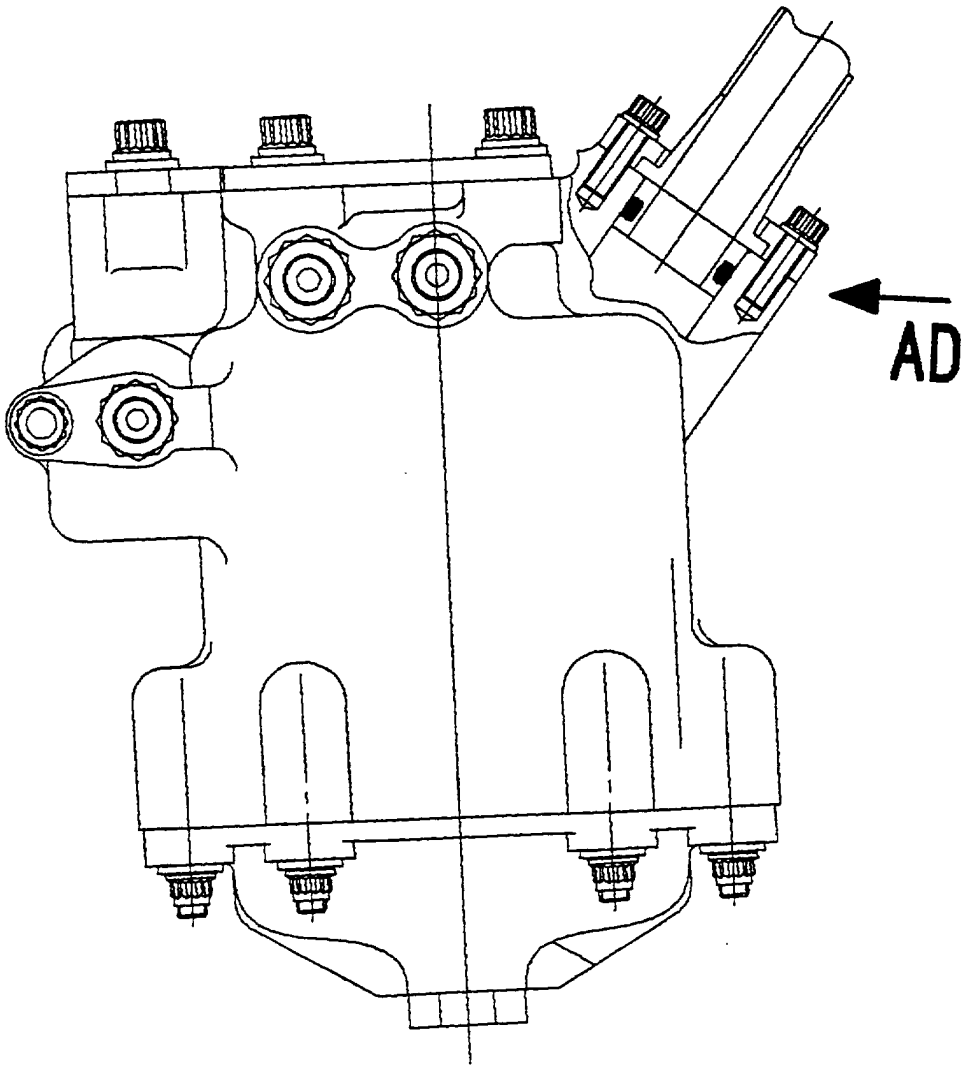
View at AC
Fig.2



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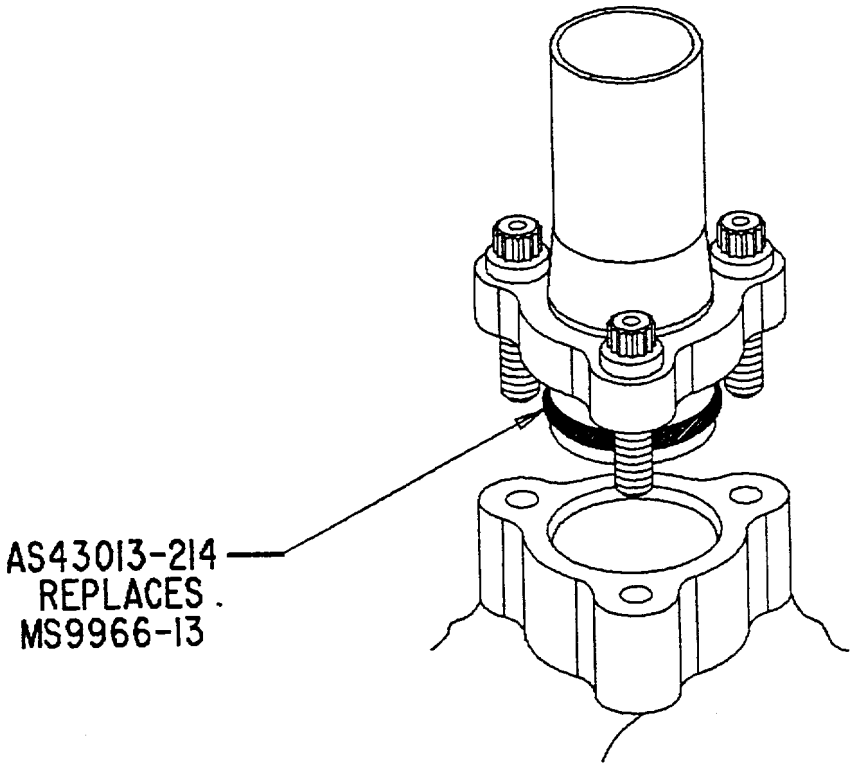
Enlarged view at AC showing Filter Housing Outlet
Fig.3



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Enlarged view at AD showing Oil Sealing Ring - Before and after alteration
Fig.4

2. Accomplishment Instructions

A. Removal/Disassembly Instructions

(1) For V2500-A1 Engines not incorporating SBE 71-0110.

(a) Find the 5A9187 or 5A8786 oil tube. Refer to Figure 1.

(b) Remove the 4W0165 bolts (3 off) that attach the 5A9187 or 5A8786 oil tube to the oil pump. Remove the tube and retain the 4W0165 bolts. Refer to Figures 1, 2 and 3.

(c) Cut the lockwire and disconnect the union connecting the 5A9187 or 5A8786 oil tube to the 5A8773 oil tube.

(d) Disassemble clipping points CP0200, CP0331 and CP0334 sufficiently to allow movement of 5A9187 or 5A8786 oil tube, retain all parts.

(e) Remove the MS9966-13 preformed packing from the 5A9187 or 5A8786 oil tube. Refer to Figure 4.

(2) For V2500-A1 Engines incorporating SBE 71-0110

(a) Find 5A8796 oil tube. Refer to Figure 1.

(b) Remove the 4W0165 bolts (3 off) that attach the 5A8796 oil tube to the oil pump. Remove the tube and retain the 4W0165 bolts. Refer to Figures 1, 2 and 3.

(c) Cut the lockwire and disconnect the union connecting the 5A8796 oil tube to the 5A8773 oil tube.

(d) Disassemble clipping points CP1109, CP1110, CP1116 and CP0200 sufficiently to allow movement of 5A8796 oil tube, retain all parts.

(e) Remove the MS9966-13 preformed packing from the 5A8796 oil tube. Refer to Figure 4.

(3) For V2527-A5 and V2530-A5 Engines

(a) Find 5A8796 oil tube. Refer to Figure 1.

(b) Remove the 4W0165 bolts (3 off) that attach the 5A8796 oil tube to the oil pump. Remove the tube and retain the 4W0165 bolts. Refer to Figures 1, 2 and 3.

(c) Cut the lockwire and disconnect the union connecting the 5A8796 oil tube to the 5A8773 oil tube.

(d) Disassemble clipping points CP1109, CP1110, CP1116 and CP0200 sufficiently to allow movement of 5A8796 oil tube, retain all parts.

(e) Remove the MS9966-13 preformed packing from the 5A8796 oil tube. Refer to Figure 4.

(4) For V2525-D5 and V2528-D5 Engines

(a) Find 6A5366 oil tube. Refer to Figure 1.

(b) Remove the AS21011 bolt (1 off), AS21012 bolts (2 off) and 6A4874 bracket that attach the 6A5366 oil tube to the oil pump. Remove the tube and retain the parts. Refer to Figures 1, 2 and 3.

(c) Remove the AS21030 bolts (3 off) and 6A5430 adaptor block that attach the 6A5366 oil tube to the air cooled oil cooler.

(d) Disassemble clipping point CP2054 from bracket assembly and retain AS20907 bolt.

(e) Remove the MS9966-13 preformed packing and the AS43013-118 sealing ring from the 6A5366 oil tube.

(f) Remove the AS43013-118 sealing ring from the 6A5430 adaptor block.

B. Rework Instructions

(1) There are no rework instructions necessary to accomplish this Service Bulletin.

C. Assembly/Installation Instructions

(1) For V2500-A1 Engines not incorporating SBE 71-0110.

(a) Lubricate a new AS43013-214 sealing ring with CoMat 10-077 approved engine oils and install the sealing ring to the 5A9187 or 5A8786 oil tube.

(b) Using the 4W0165 bolts (3 off) removed in step A.(1)(b) install the 5A9187 or 5A8786 oil tube to the oil pump. Torque the bolts to 85 to 105 lbfin (10 to 12 Nm).

(c) Connect the 5A9187 or 5A8786 oil tube union to the 5A8773 oil tube and torque the nut to 478 to 513 lbfin (54 to 58 Nm).

(d) At existing clipping points CP0200, CP0331 and CP0334 secure the 5A9187 or 5A8786 oil tube using the parts removed in step A.(I)(d). Torque the bolts and nuts to 36 to 45 lbfin (4 to 5 Nm).

(e) Safety the oil tube union with CoMat 02-126 lockwire.

(2) For V2500-A1 Engines incorporating SBE 71-0110

(a) Lubricate a new AS43013-214 sealing ring with CoMat 10-077 approved engine oils and install the sealing ring to the 5A8796 oil tube.

(b) Using the 4W0165 bolts (3 off) removed in step A.(2)(b) install the 5A8796 oil tube to the oil pump. Torque the bolts to 85 to 105 lbfin (10 to 12 Nm).

(c) Connect the 5A8796 oil tube union to the 5A8773 oil tube and torque the nut to 478 to 513 lbfin (54 to 58 Nm).

(d) At existing clipping points CP1109, CP1110, CP1116 and CP0200 secure the 5A8796 oil tube using the parts removed in step A.(2)(d). Torque the bolts and nuts to 36 to 45 lbfin (4 to 5 Nm).

(e) Safety the oil tube union with CoMat 02-126 lockwire.

(3) For V2527-A5 and V2530-A5 engines

(a) Lubricate a new AS43013-214 sealing ring with CoMat 10-077 approved engine oils and install the sealing ring to the 5A8796 oil tube.

(b) Using the 4W0165 bolts (3 off) removed in step A.(3)(b) install the 5A8796 oil tube to the oil pump. Torque the bolts to 85 to 105 lbfin (10 to 12 Nm).

(c) Connect the 5A8796 oil tube union to the 5A8773 oil tube and torque the nut to 478 to 513 lbfin (54 to 58 Nm).

(d) At existing clipping points CP1109, CP1110, CP1116 and CP0200 secure the 5A8796 oil tube using the parts removed in step A.(3)(d). Torque the bolts and nut to 36 to 45 lbfin (4 to 5 Nm).

(e) Safety the oil tube union with CoMat 02-126 lockwire.

(4) For V2525-D5 and V2528-D5 engines

(a) Lubricate a new AS43013-214 sealing ring with CoMat 10-077 approved engine oils and install the sealing ring to the 6A5366 oil tube at the oil pump filter end location.

(b) Lubricate a new AS43013-118 sealing ring with CoMat 10-077 approved engine oils and install the sealing ring to the 6A5366 oil tube at the air cooled oil cooler end connection.

(c) Lubricate a new AS43013-118 sealing ring with CoMat 10-077 approved engine oils and install the sealing ring to the 6A5430 adaptor block.

(d) Using the AS21030 bolts (3 off) removed in step A.(4)(c) install the 6A5366 oil tube and the 6A5430 adaptor block to the air cooled oil cooler. Torque the bolts to 85 to 105 lbfin (10 to 12 Nm).

(e) Using the AS21011 bolt (1 off), AS21012 bolts (2 off) and the 6A4874 bracket removed in step A.(4)(b) install the 6A5366 oil tube to the oil pump. Torque the bolts to 85 to 105 lbfin (10 to 12 Nm).

(f) At existing clipping point CP2054 secure 6A5366 oil tube using the AS20907 removed in step A.(4)(d). Torque the bolt to 36 to 45 lbfin (4 to 5 Nm).

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
AS43013-214 (79-21-49)	1	4.14	Ring, Sealing	MS9966-13 (01-096)	(A)(B)(S1)

C. Instructions/Disposition Code Statements:

(A) New part is currently available
(B) Old part will no longer be available
(S1) New part may be used in place of old parts, but not vice versa

Note: The estimated 1994 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.

D. Expendable Parts (D5 engines)

Part No.	ATA/IPC No.	Qty	Keyword
AS43013-118	79-21-49, 01-092	1	Sealing Ring
AS43013-118	79-21-49, 01-114	1	Sealing Ring

E. Consumable Materials

CoMat 02-126 Lockwire
CoMat 10-077 Approved engine oils