



ENGINE - REPLACE AN960 SERIES WASHERS - CATEGORY CODE 6 - MOD.ENG-72-0081

1. Planning Information

A. Effectivity

(1) Aircraft: Airbus A320

(2) Engine: V2500-A1 Engines Prior to Serial Number V0146.*

* NOTE: 1. Engine Serial Numbers V0146, V0148, V0150 and V0152 had the old standard of washers fitted at the following ATA locations:

73-12-41, 01-125; 73-13-42, 01-125; 79-21-43, 01-169.

(See Paragraph 3. for specific part number information.)

2. Engine Serial Number V0184 had the old standard of washer and Engine Serial Number V0142 had the new standard of washer fitted at the following ATA location:

72-32-83, 01-656.

(See Paragraph 3. for specific part number information.)

B. Reason

(1) Condition

The "AN960" series Part Number of Washers used to V2500 engines are to be replaced by a National Standard Part Number of IAE Part Number washers.

(2) Background

There is an inconsistency in the Part Number of "AN960" series Washers.

(3) Objective

To replace the "AN960" series Washers to ensure engine reliability.

(4) Substantiation

Substantiation test is not required.

(5) Effect of Bulletin on workshop procedure:



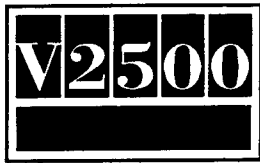
Removal/Installation	Not affected
Disassembly/Assembly	Not affected
Cleaning	Not affected
Inspection/Check	Not affected
Repair	Not affected
Testing	Not affected

(6) Supplemental Information

None.

D. Description

- (1) The changes introduced by this Service Bulletin are to replace the "AN960" series Washers with the National Standard Part Number or the IAE Part Number as follows:
- (a) At CP0796, AN960XC10L, EEC Fan Harness clipping Washer is replaced by 5W1086, Washer (see Fig.1).
 - (b) AN960C8, Washers which attach the EEC Core Harness to the NF Electrical Harness terminal are replaced by MS9321-08, Washers (see Fig.2).
 - (c) AN960C416L, Washers which attach the NF Electrical Harness to the Fan Frame Assembly are replaced by MS9321-10, Washers (see Fig.3).
 - (d) AN960C416, Washers which attach the No.1 and No.6 Struts Fairing Panels are replaced by MS9321-10, Washers (see Fig.4).
 - (e) AN960C10, Washers which attach the No.1 and No.6 Struts Fairing Panels are replaced by MS9321-09, Washers (see Fig.4).
 - (f) AN960C416, Washers which attach the Oil Jet and Oil Supply Tube are replaced by MS9321-10, Washers (see Fig.5).
 - (g) AN960C416, Washers which attach the No.1 Bearing Oil Jet are replaced by MS9321-10, Washers (see Fig.6).
 - (h) AN960C416, Washers which attach the Seal and the Seal Retainer are replaced by MS9321-10, Washers (see Fig.7).
 - (i) AN960C10, Washers which attach the LPC Rear Case A/O are replaced by MS9321-9, Washers (see Fig.8).
 - (j) AN960C416, Washers which attach the Fairing Panels supporting Brackets are replaced by MS9321-10, Washers (see Fig.9).
 - (k) AN960C516, Washers which attach the Adaptor Housing are replaced by MS9321-11, Washers (see Fig.10).



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- (l) AN960C416, Washers which attach the Fuel Diverter and Return Valve are replaced by MS9321-10, Washers (see Fig.11).
- (m) At CP1026, AN960XC10, Fuel System Air Tube clipping Washer is replaced by 5W1086, Washers (see Fig.12).
- (n) AN960C416, Washers which attach the Brackets on Air Cooled Oil Cooler (ACOC) are replaced by MS9321-10, Washers (see Fig.13).
- (o) AN960C416, Washers which attach the Bracket on ACOC and Inlet duct are replaced by MS9321-10, Washers (see Fig.13).
- (p) AN960C416, Washers which attach the Fuel Cooled Oil Cooler (FCOC) Cap are replaced by MS9321-11, Washers (see Fig.14).

(2) New washers will be available for future replacement purposes.

D. 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 Model listed.

E. Compliance

Category Code 6

Accomplish when the subassembly (i.e. Module, 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	Not applicable

Remarks: No additional time will be required to maintain the new configuration.

G. Material Price and Availability

- (1) Modification Kit not required. Parts supplied as single line items.
- (2) See "Material Information" section for prices and availability of future spares.

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H. Tooling Price and Availability

Special tools are not required to accomplish this Service Bulletin.

I. Weight and Balance

- | | | | | | |
|-----|---------------|----|----|----|---|
| (1) | Weight Change | .. | .. | .. | None |
| (2) | Moment Arm | .. | .. | .. | No effect |
| (3) | Datum | .. | .. | .. | Engine front mount centerline
(Power Plant Station (P.P.S.) 100) |

J. Electrical Load Data

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

K. References

- (1) Internal Reference No.

EC89VJ070

EC89VJ070A

EC89VJ070B

EC89VJ070C

EC89VJ070D

EC90VJ038

EC91VJ045

EC91VJ059

- (2) Other references

V2500 Engine Illustrated Parts Catalog, Chapter/Section 71-51-41, 71-52-43, 72-32-00, 72-32-03, 72-32-40, 72-32-42, 72-32-60, 72-32-83, 72-32-85, 73-12-41, 73-13-42, 73-22-49, 79-21-42, and 79-21-43.

V2500 Engine Manual, 72-00-32, Installation, 72-00-40, Installation, 72-00-60, Installation, 72-32-00, Assembly, 72-32-40, Assembly, and 72-32-80, Assembly.



L. Other Publications Affected

- (1) V2500 Engine Illustrated Parts Catalog, Chapter/Section 71-51-41, 71-52-43, 72-32-00, 72-32-03, 72-32-40, 72-32-42, 72-32-60, 72-32-83, 72-32-85, 73-12-41, 73-13-42, 73-22-49, 79-21-42, and 79-21-43 will be revised to show the new part numbers.
- (2) V2500 Power Plant Illustrated Parts Catalog, Chapter/Section 71-51-41, 71-52-43, 73-12-41, 73-13-42, 73-22-49, 79-21-42 and 79-21-43 will be revised to show the new part numbers.



2. Accomplishment Instructions

A. Rework Instructions

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

B. Assembly Instructions

Install the applicable new part number of Washers for replacement of "AN960" series Washers affected by this Service Bulletin as follows:

- (1) At CP0796, install the new 5W1086, Washer, to the EEC Fan Harness by the approved procedures in the Engine Manual, 72-00-32, Installation, TASK 72-00-32-420-004. (Refer to Fig.1, and 1.K. References (1) and (2)).
- (2) Install the six new MS9321-08, Washers, to attach the EEC Core Harness to the NF Electrical Harness terminal by the approved procedures in the Engine Manual, 72-00-40, Installation, TASK 72-00-40-420-006. (Refer to Fig.2, and 1.K. References (1) and (2)).
- (3) Install the three new MS9321-10, Washers, to attach the NF Electrical Harness to the Fan Frame Assembly by the approved procedures in the Engine Manual, 72-32-00, Assembly, TASK 72-32-00-430-004. (Refer to Fig.3, and 1.K. References (1) and (2)).
- (4) Install the four new MS9321-09, Washers and the three new MS9321-10, Washers to attach the No.6 Strut Fairing Panel to the Fan Frame Assembly, and install the four new MS9321-09, Washers, and each three new MS9321-10, Washers, to attach the No.1 Strut Fairing Panel to the Fan Frame Assembly, by the approved procedures in the Engine Manual, 72-32-00, Assembly, TASK 72-32-00-430-014. (Refer to Fig.4, and 1.K. References (1) and (2)).
- (5) Install the two new MS9321-10, Washers, to attach the Oil Jet and Oil Feed Tube to the No.1 Bearing Support assembly by the approved procedures in the Engine Manual, 72-32-40, Assembly, TASK 72-32-40-440-001. (Refer to Fig.5, and 1.K. References (1) and (2)).
- (6) Install the two new MS9321-10, Washer, to attach the No.1 Bearing Oil Jet to the Strainer Housing by the approved procedures in the Engine Manual, 72-32-40, Assembly, TASK 72-32-40-440-001. (Refer to Fig.6 and 1.K. References (1) and (2)).
- (7) Install the four new MS9321-10, Washers, to attach the Seal and the Seal Retainers to the LP Compressor Bleed Duct by the approved procedures in the Engine Manual, 72-32-00, Assembly, TASK 72-32-00-430-008. (Refer to Fig.7, and 1.K. References (1) and (2)).

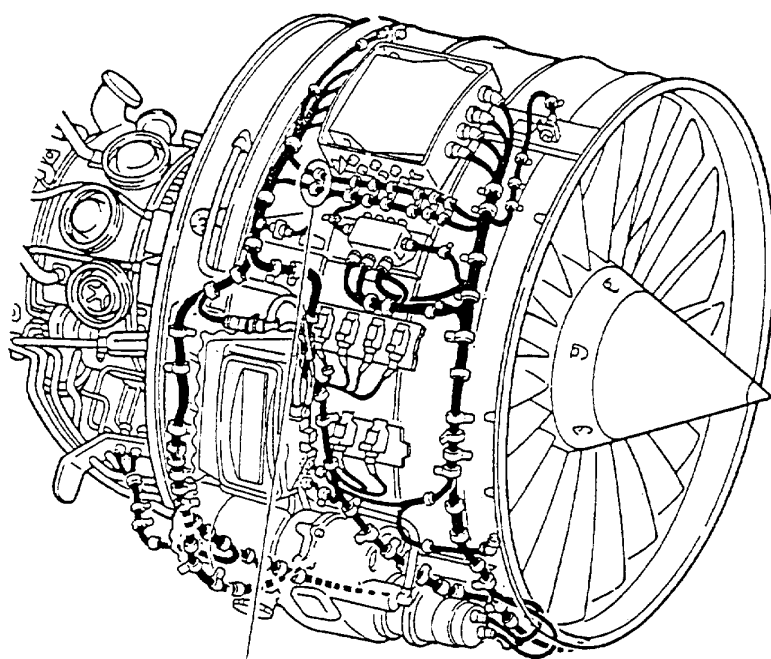
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- (8) Install the forty nine new MS9321-09, Washers, to attach the LPC Rear Case to the LPC Stage 2.0 Vane Assembly the the approved procedures in the Engine Manual, 72-32-80, Assembly, TASK 72-32-80-040-001. (Refer to Fig.8, and 1.K. References (1) and (2)).
- (9) Install each two new MS9321-10, Washers, to attach the Fairing Panel Supporting Brackets to the Fan Case by the approved procedures in the Engine Manual, 72-32-00, Assembly, TASK 72-32-00-430-014. (Refer to Fig.9, and 1.K. References (1) and (2)).
- (10) Install the four new MS9321-11, Washers, to attach the Adaptor Housing to the Gearbox Casing by the approved procedures in the Engine Manual, 72-00-60, Installation, TASK 72-00-60-420-001-002. (Refer to Fig.10, and 1.K. References (1) and (2)).
- (11) Install the two new MS9321-10, Washers, to attach the Fuel Diverter and Return Valve to the Fuel Cooled Oil Cooler (FCOC) by the approved procedures in the Engine Manual, 72-00-32, Installation, TASK 72-00-32-420-002. (Refer to Fig. 11, and see 1.K. References (1) and (2)).
- (12) At CP1026, install the new 5W1086, Washer, to clamp Fuel System Air Tube by the approved procedures in the Engine Manual, 72-00-32, Installation, TASK 72-00-32-420-003. (Refer to Fig.12, and 1.K. References (1) and (2)).
- (13) Install the twenty two new MS9321-10, Washers, to attach the Brackets to the Air Cooled Oil Cooler (ACOC). (Refer to Fig.13, and 1.K. References (1)).
- (14) Install the two new MS9321-10, Washers, to attach the Bracket to the ACOC and the Inlet Duct. (Refer to Fig.13, and 1.K. Reference (1)).
- (15) Install the five new MS9321-11, Washers, to attach the Cap A/O to the Fuel Cooled Oil Cooler (FCOC). (Refer to Fig.14, 1.K. Reference (1)).

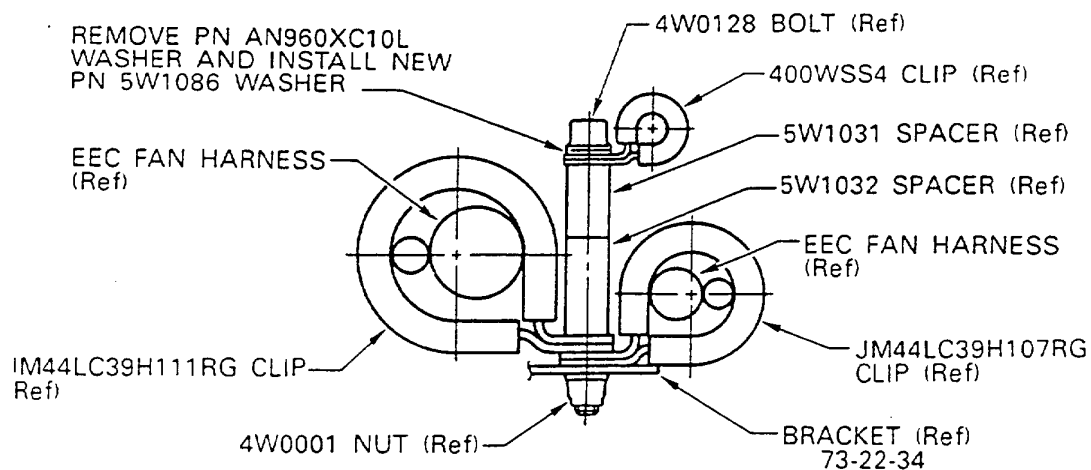
C. Recording Instructions

- (1) A record of accomplishment is necessary.



CP0796

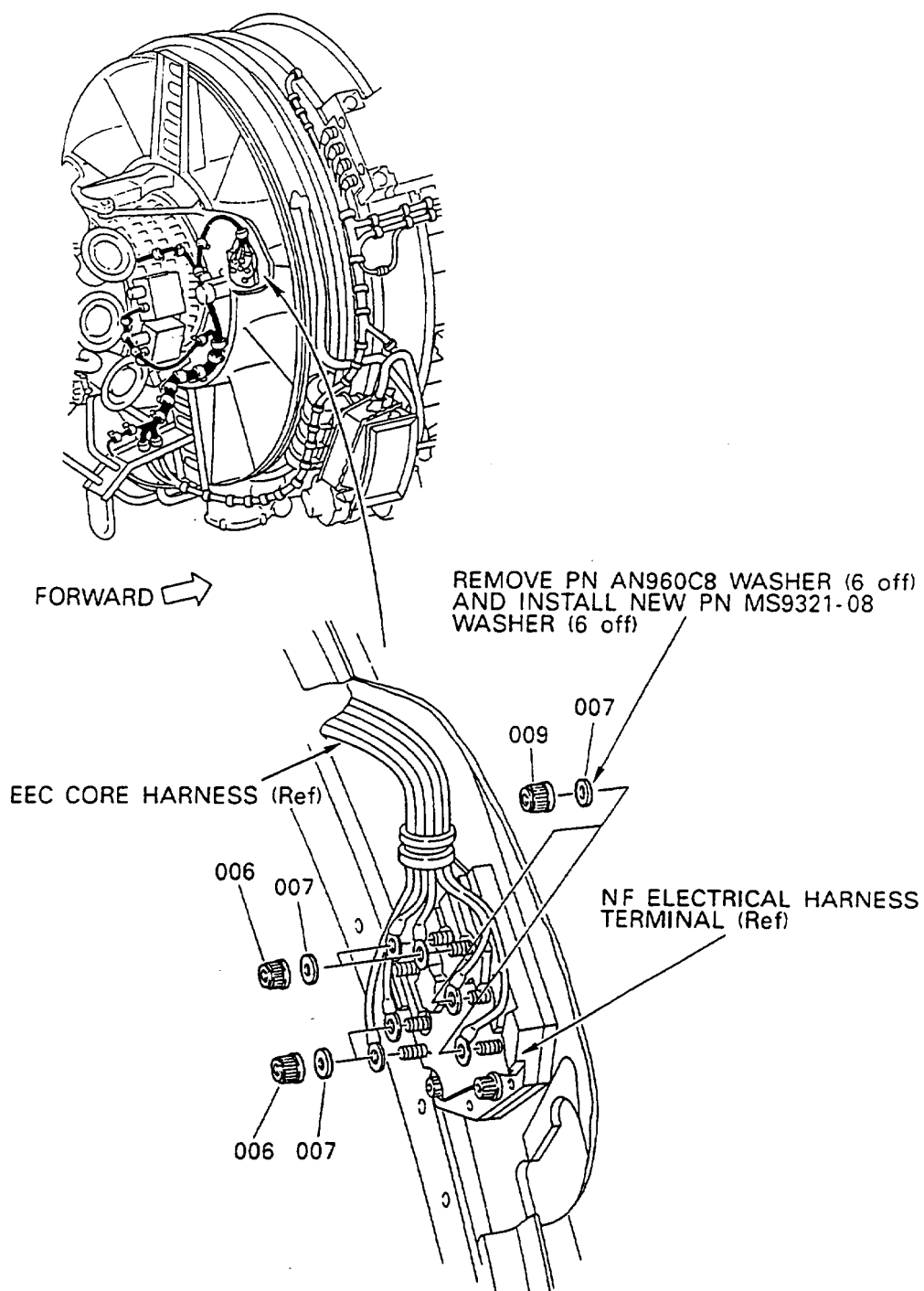
FORWARD →



CLIPPING DETAIL AT CP0796

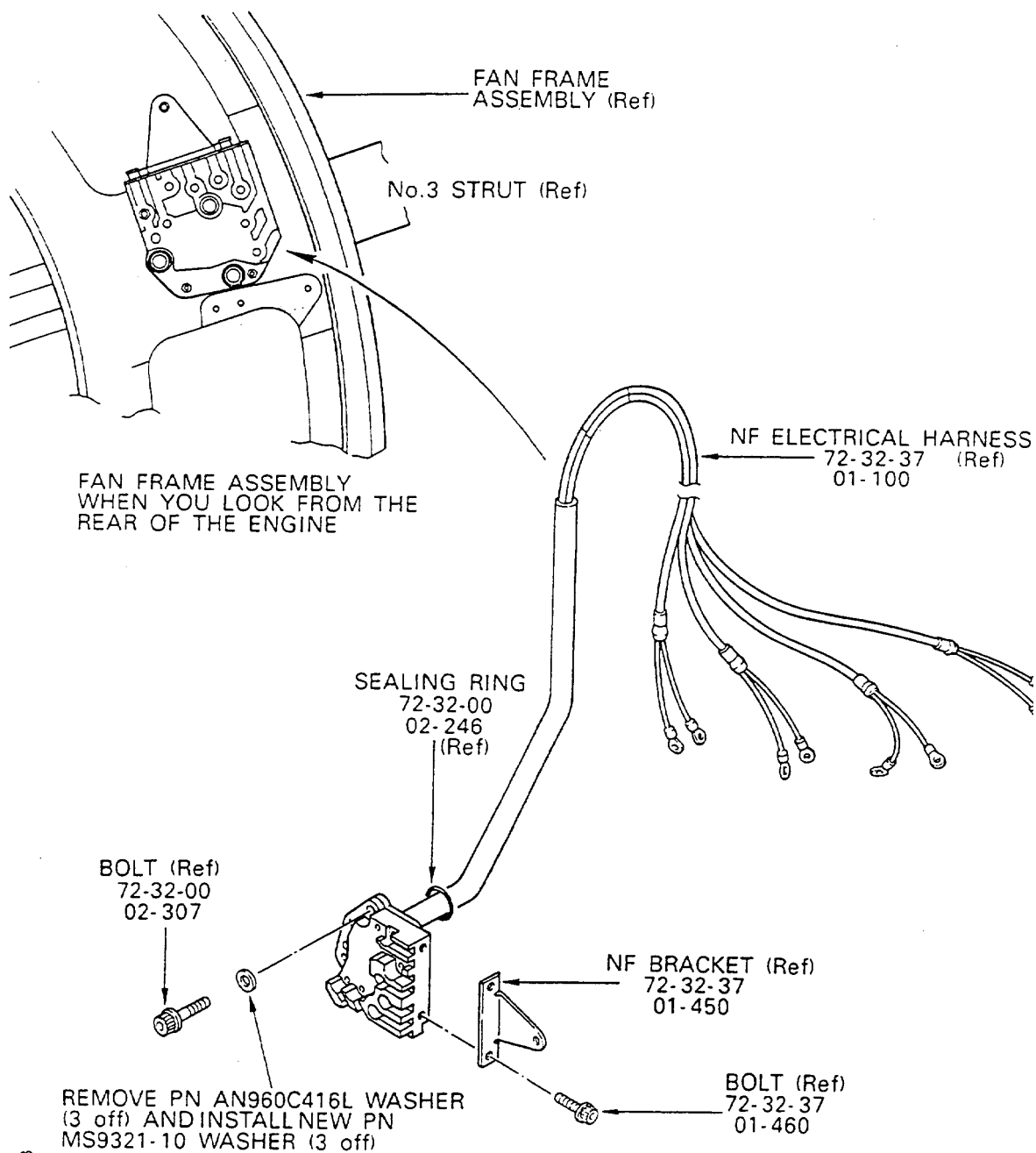
Replacement of Washer - EEC Fan Harness
Fig.1

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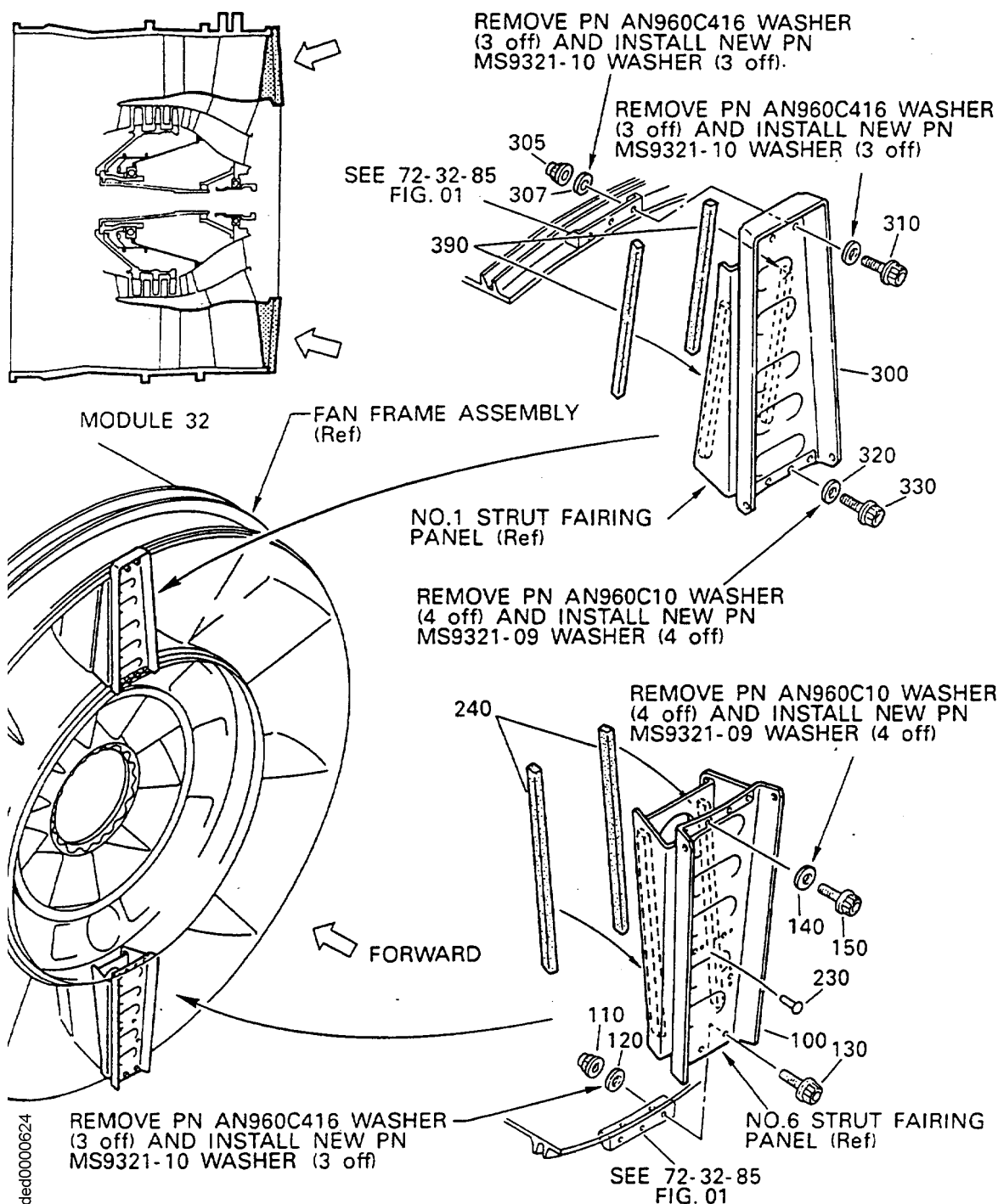
Replacement of Washers - EEC Core Harness
Fig.2

V2500-ENG-72-0081

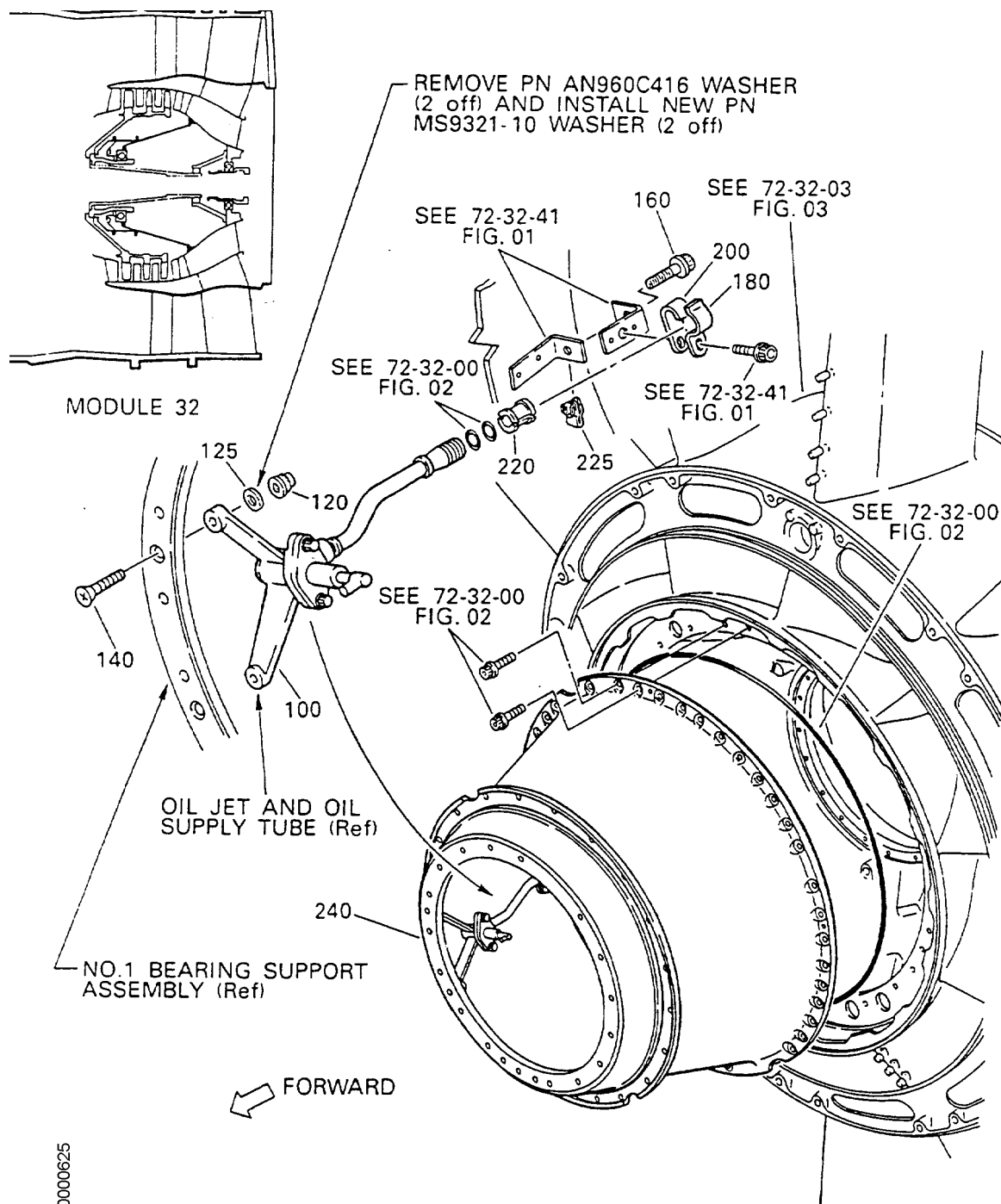


Replacement of Washers - LP Compressor/Intermediate Case Module
Fig.3

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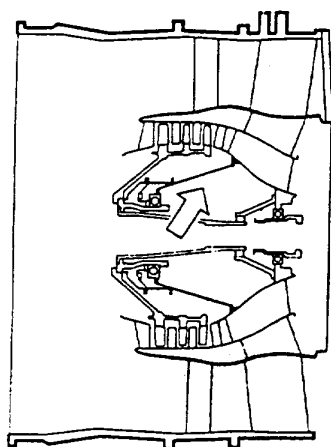


Replacement of Washers - Fan Frame Assembly
Fig.4



Replacement of Washers - No.1 Bearing Support Assembly
Fig.5

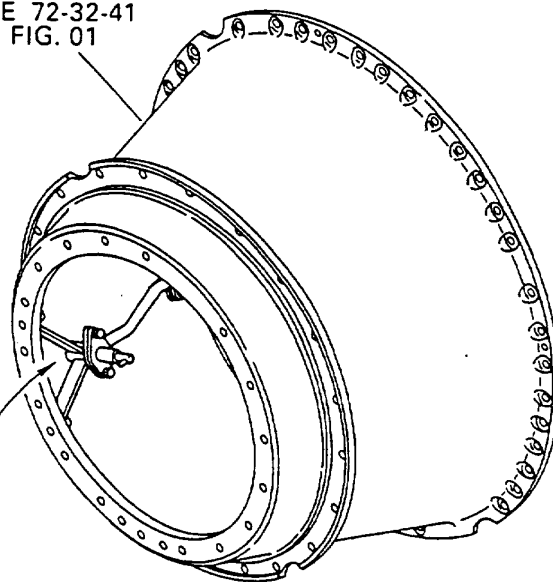
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MODULE 32

← FORWARD

SEE 72-32-41
FIG. 01



REMOVE PN AN960C416 WASHER
(2 off) AND INSTALL NEW PN
MS9321-10 WASHER (2 off)

STRAINER HOUSING
(Ref)

100

SEE 72-32-00
FIG. 02

NO.1 BEARING OIL
JET A/O (Ref)

210

212

250

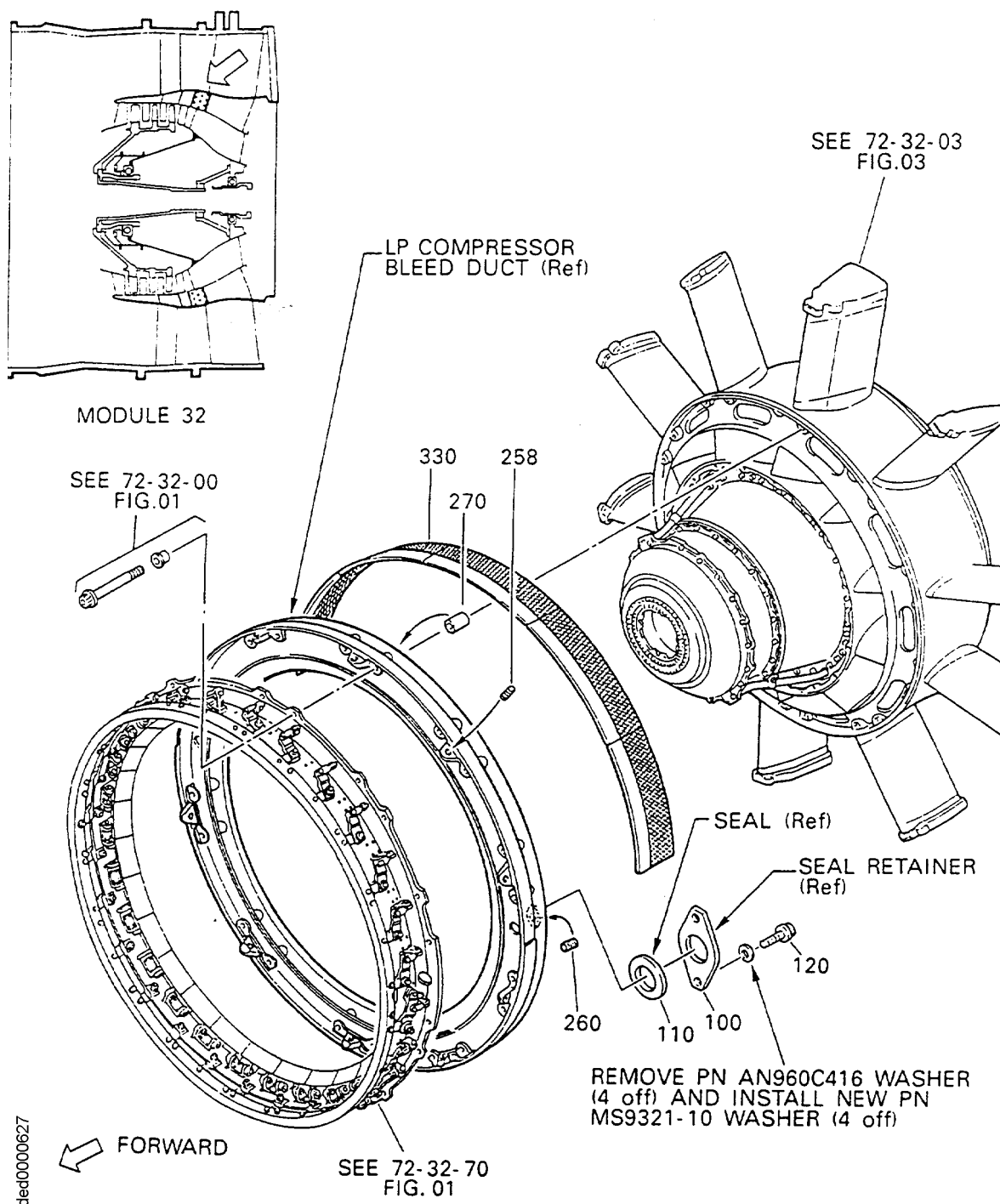
200

220

450

ded00000626

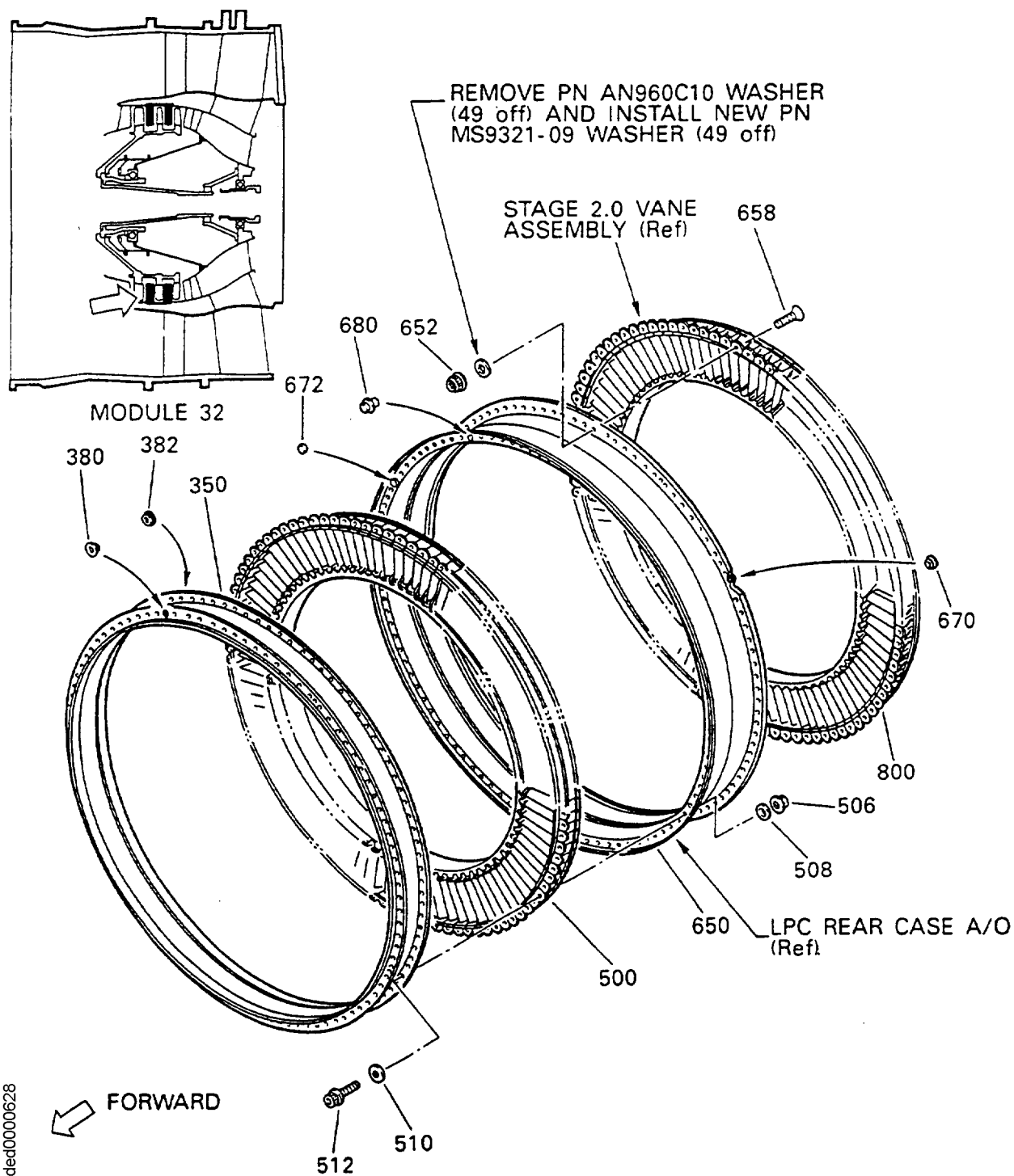
Replacement of Washers - Oil Jet and Oil Supply Tube
Fig.6



Replacement of Washers - Booster Stage Bleed Valve Outlet Case
Fig.7

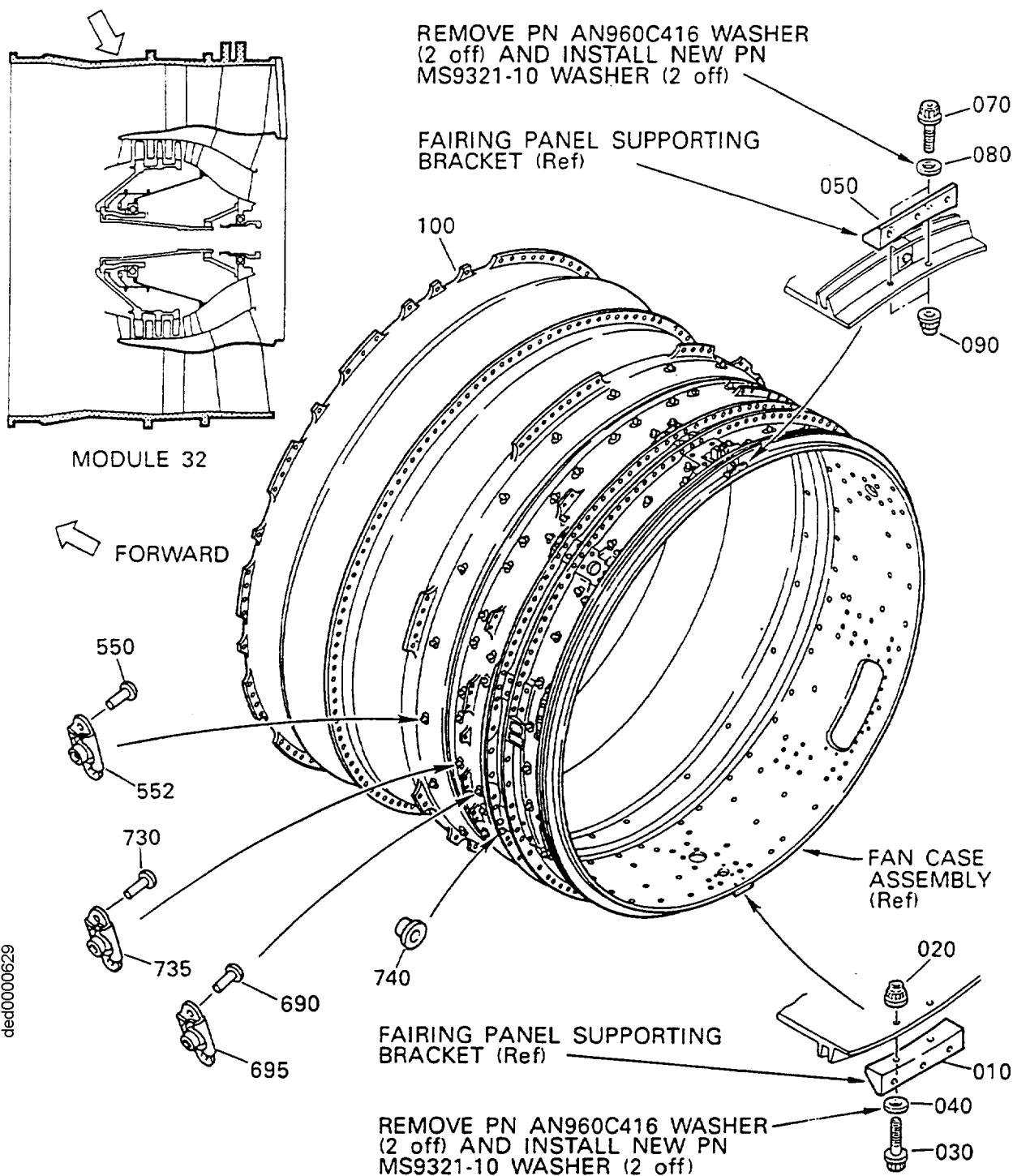
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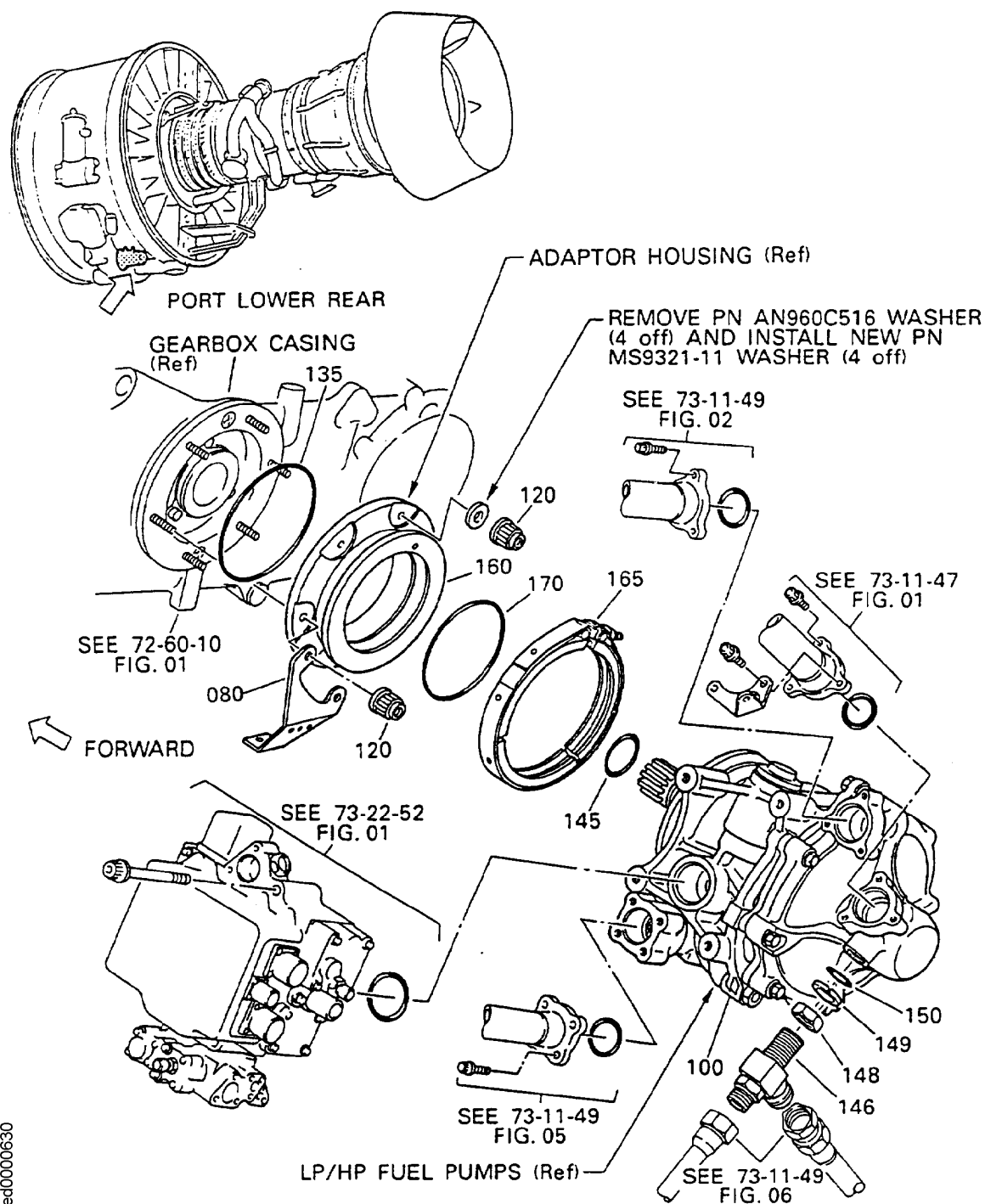
Replacement of Washers - LP Compressor Stage 1.5 and 2 Vanes
Fig.8

V2500-ENG-72-0081

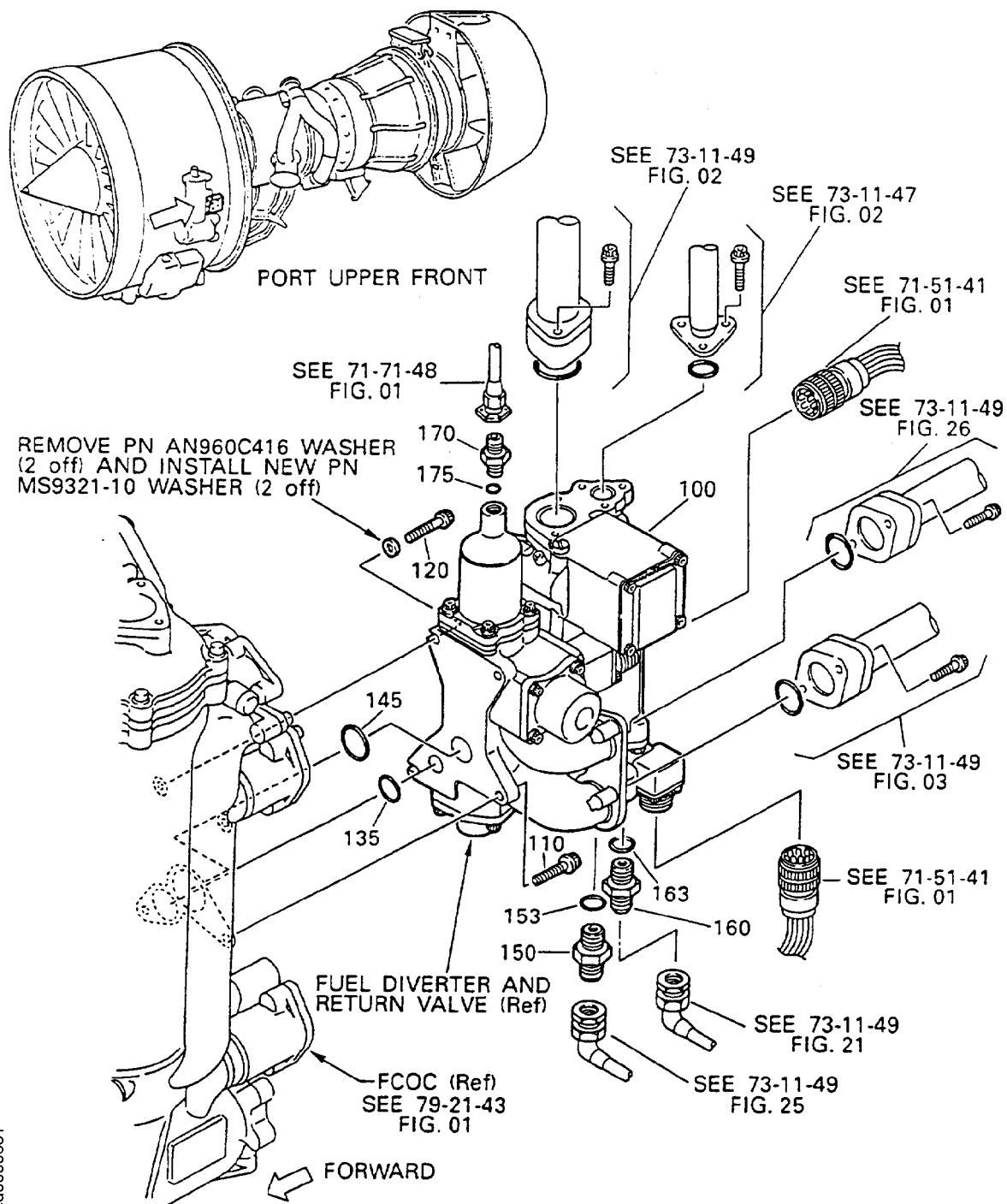


Replacement of Washers - Fan Case
Fig.9

V2500-ENG-72-0081

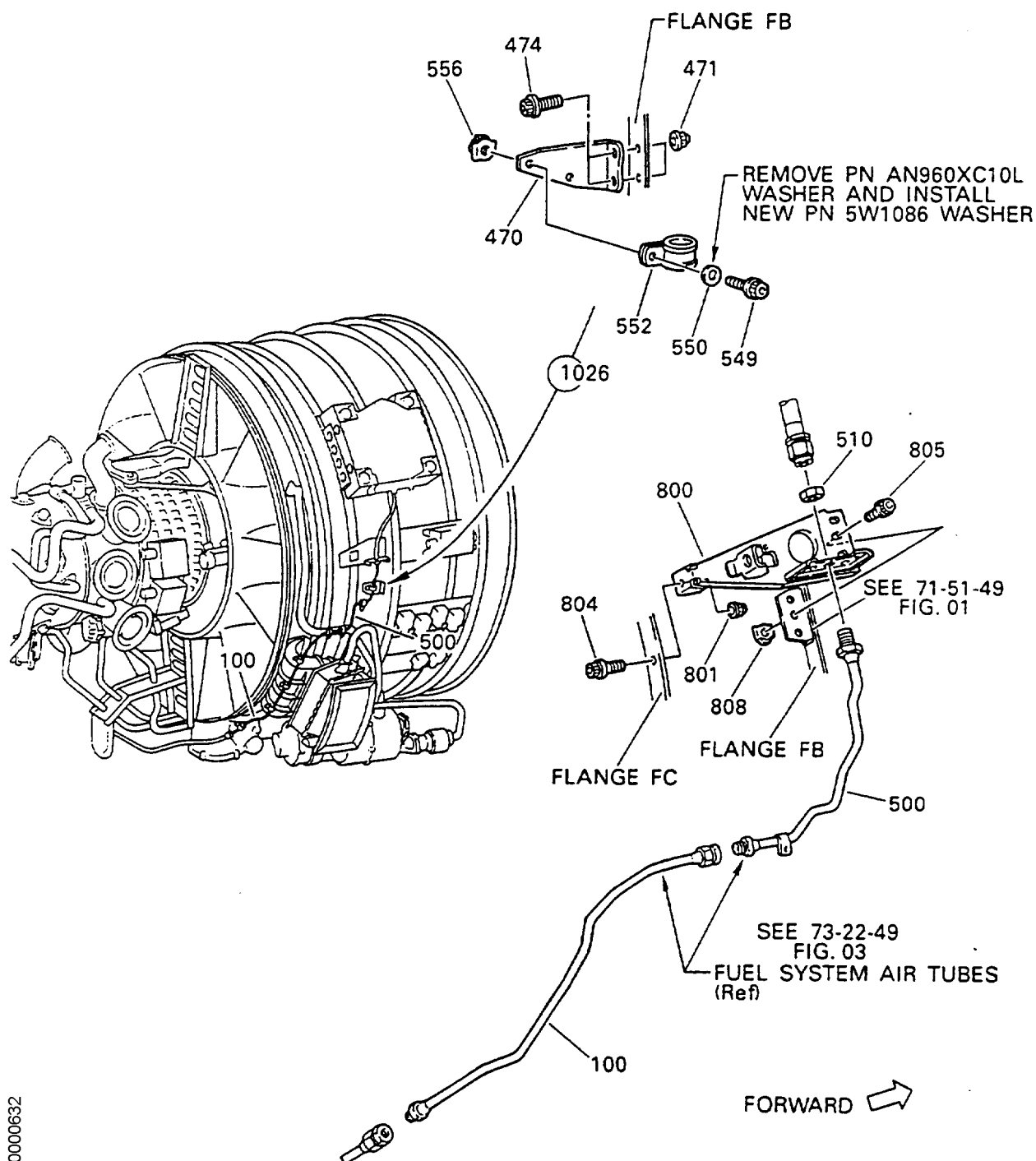


Replacement of Washers - LP/HP Fuel Pumps
Fig.10



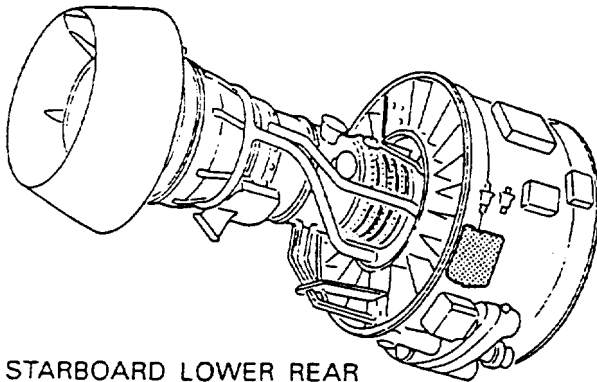
Replacement of Washers - Fuel Diverter and Return Valve
Fig.11

V2500-ENG-72-0081

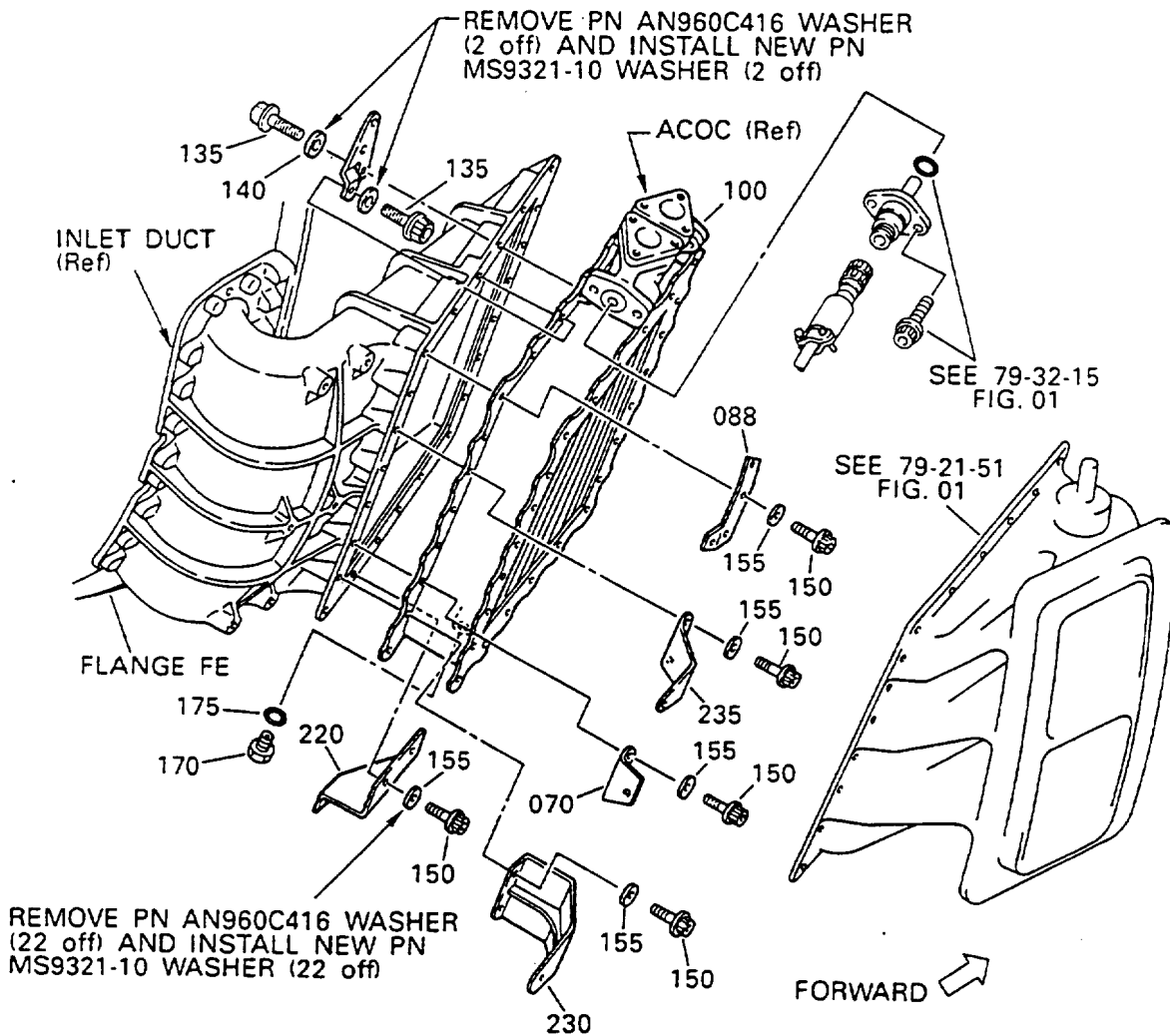


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Replacement of Washers - Fuel system Air Tubes
Fig.12

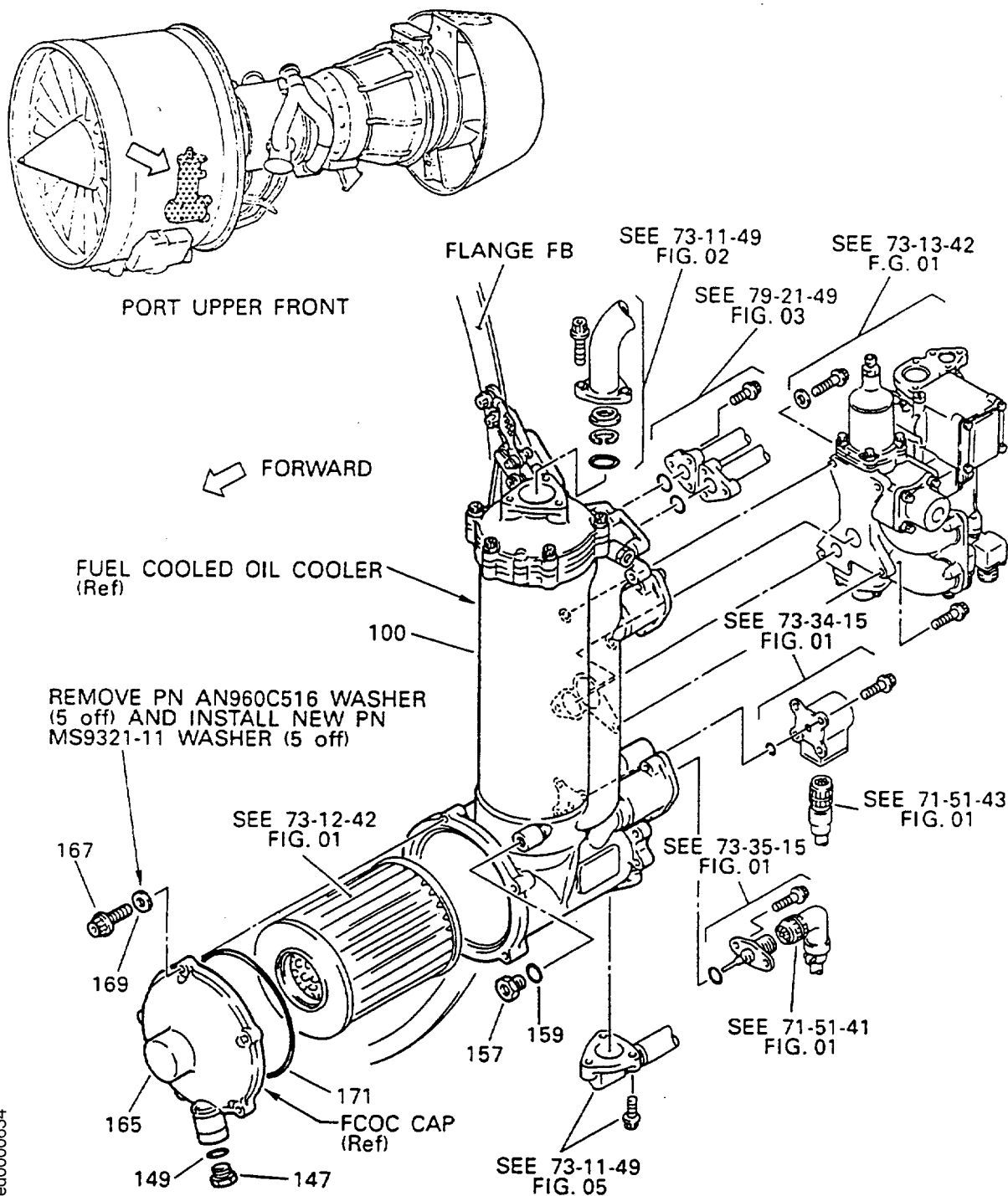


STARBOARD LOWER REAR



Replacement of Washers - Air Cooled Oil Cooler

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Replacement of Washers - Air Cooled Oil Cooler
Fig.14



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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
5W1086 (71-51-41)	1	0.29	.Washer, CP0796	AN960XC10L (01-919)	(A)(B)(S1)
MS9321-08 (71-52-43)	6	0.46	.Washer	AN960C8 (01-007)	(A)(B)(S1)
MS9321-10 (72-32-00)	3	0.03	.Washer	AN960C416L (02-308)	(A)(B)(S1)
MS9321-10 (72-32-03)	3	0.03	.Washer	AN960C416 (02-120)	(A)(B)(S1)
MS9321-09 (72-32-03)	4	0.15	.Washer	AN960C10 (02-140)	(A)(B)(S1)
MS9321-10 (72-32-03)	3	0.03	.Washer	AN960C416 (02-307)	(A)(B)(S1)
MS9321-10 (72-32-03)	3	0.03	.Washer	AN960C416 (02-315)	(A)(B)(S1)
MS9321-09 (72-32-03)	4	0.15	.Washer	AN960C10 (02-320)	(A)(B)(S1)
MS9321-10 (72-32-40)	2	0.03	.Washer	AN960C416 (01-125)	(A)(B)(S1)
MS9321-10 (72-32-42)	2	0.03	.Washer	AN960C416 (01-212)	(A)(B)(S1)
MS9321-10 (72-32-60)	4	0.03	.Washer	AN960C416 (01-130)	(A)(B)(S1)
MS9321-09 (72-32-83)	49	0.15	.Washer	AN960C10 (01-656)	(A)(B)(S1)
MS9321-10 (72-32-85)	2	0.03	.Washer	AN960C416 (01-040)	(A)(B)(S1)
MS9321-10 (72-32-85)	2	0.03	.Washer	AN960C416 (01-080)	(A)(B)(S1)
MS9321-11 (73-12-41)	4	0.22	.Washer	AN960C516 (01-125)	(A)(B)(S1)
MS9321-10 (73-13-42)	2	0.03	.Washer	AN960C416 (01-125)	(A)(B)(S1)
5W1086 (73-22-49)	1	0.29	.Washer CP1026	AN960XC10L (03-550)	(A)(B)(S1)
MS9321-10 (79-21-42)	2	0.03	.Washer	AN960C416 (01-140)	(A)(B)(S1)

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MS9321-10 (79-21-42)	22	0.03	.Washer	AN960C416 (01-155)	(A)(B)(S1)
MS9321-11 (79-21-43)	5	0.22	.Washer	AN960C516 (01-169)	(A)(B)(S1)

C. Instruction/Disposition Code Statements:

- (A) New parts will be available approximately October 1990.
- (B) Old part will no longer be available for sale.
- (S1) Old and new parts are freely and fully interchangeable, both physically and functionally.

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.

