



ENGINE - MAIN GEARBOX ASSEMBLY - INCORPORATE A LAYSHAFT EXTENSION GEAR AND PMA DRIVE GEAR WITH INCREASED FACE WIDTH - CATEGORY CODE 4 - MOD.ENG-72-0070

1. Planning Information

A. Effectivity

- (1) Aircraft: Airbus A320
- (2) Engine: V2500-A1 Engines Serial No. V0014 through No. V0122

B. Reason

(1) Condition

Unacceptable wear may occur on existing PMA drive gears.

(2) Background

This condition has been observed in service.

(3) Objective

To prevent the early wear of the layshaft extension gear and PMA drive gear.

(4) Substantiation

Testing of the revised standard has proven the required PMA drive gear versus drive gear correct loads.

(5) Effects of bulletin on:

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

(6) Supplemental Information:

For the 4A0053 and 4A1100 Main Gearbox Assembly perform the SB No. V2500-ENG-72-0048, except steps (2), (4) and (5) of the para 2.B. (Rework Instruction), before carrying out this service bulletin.

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**C. Description**

- (1) The layshaft extension gear and the PMA drive gear with an increased face width are put in place of the old parts.
- (2) This Service Bulletin provide two alternative methods for replacement of the layshaft extension gear and the PMA drive gear.
 - (a) Section I of accomplishment instruction provide the procedure to replace the parts when the gearbox is in the shop.
 - (b) Section II of accomplishment instructions provides the procedure to replace the parts on wing. This method is to be used only by personnel specially trained by IAE.

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 Module listed.

E. Compliance

Category Code 4

Accomplish at the first visit of an engine or module to a maintenance base capable of compliance with the accomplishment instructions regardless of the planned maintenance action or reason for engine removal.

F. Manpower

Estimated man-hours to incorporate the intent of this Bulletin:

Venue	Estimated Manhours
(1) In service	5.00
(2) In Shop	
(a) Removal/Installation ..	6.00
(b) To return part to overhaul condition ..	12.00
Total	18 hours, 00 minutes

G. Material – Price and Availability

- (1) Modification Kit not required. Part supplied as single line item

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H. Tooling - Price and Availability

Tool No.	Qty	Description	Function	Avail
IAE1F10200	1	Base	Remove the roller bearing	(1)
IAE1F10244	1	Ring	Remove the roller bearing	(1)
IAE1F10245	1	Ring	Remove the roller bearing	(1)
IAE1F10236	1	Drift	Remove the roller bearing	(1)
IAE1F10237	1	Drift	Remove the roller bearing	(1)
IAE1F10193	1	Base	Install the roller bearing	(1)
IAE1F10194	1	Base	Install the roller bearing	(1)
IAE1F10190	1	Drift	Remove the roller bearing	(1)
IAE1F10185	1	Drift	Remove the roller bearing	(1)

I. Weight and Balance

- (1) Shows that the tool Design Aperture Cards are available at this time from IAE.
- (2) Weight change None
- (3) Moment arm No effect
- (4) Datum Engine front centerline

J. Electrical Load Data

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

K. References

- (1) Internal Reference No.

EC89VF015

EC89VF015A

EC89VF015B

EC89VF015-D

EC90VF804

- (2) Other References

IAE V2500 Service Bulletin Number:

V2500-ENG-72-0043 (Engine - Main Gearbox Assembly - Inspect the Dedicated Alternator Drive Gear)

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V2500-ENG-72-0048 (Engine - Main Gearbox Assembly - Incorporate a PMA drive gear assembly with decreased pinion tooth thickness).

V2500 Aircraft Maintenance Manual, 79-23-51, Removal/Installation.

V2500 Aircraft Maintenance Manual, 71-13-00, Maintenance Practices.

V2500 Aircraft Maintenance Manual, 12-13-79, Servicing.

V2500 Aircraft Maintenance Manual, 73-22-38, Removal/Installation.

V2500 Engine Manual, 72-00-60, Removal-02.

V2500 Engine Manual, 72-00-60, Installation-03.

V2500 Engine Manual, 72-00-60, Removal-04.

V2500 Engine Manual, 72-00-60, Installation-02.

V2500 Engine Manual, 72-00-60, Disassembly and Assembly.

V2500 Engine Manual, 72-60-33, Disassembly and Assembly.

L. Other Publications Affected

- (1) The V2500 Engine Illustrated Parts Catalog, 72-60-33.
- (2) The V2500 Engine Manual, 72-60-24, Inspection/Check.
- (3) The V2500 Engine Manual, 72-60-33, Inspection/Check.



2. Accomplishment Instructions

SECTION I

A. Prerequisite Instructions

WARNING: ALL ELECTRICAL POWER SUPPLY FROM THE ENGINE MUST BE DISCONNECTED.

- (1) Disconnect the power supply from the engine by opening all applicable circuit breakers.
- (2) Open the fan cowl panels to gain access to the gearbox, refer to Aircraft Maintenance Manual, 71-13-00.

WARNING: DO NOT GET ENGINE OIL ON YOUR SKIN FOR A LONG TIME. THE OIL IS POISONOUS AND CAN GO THROUGH YOUR SKIN AND INTO YOUR BODY.

NOTE: Position a container to catch the oil spill during the removal of the tubes and accessories.

- (3) Rework the 4A0800 and 4A1101 Main Gearbox Assembly.
 - (a) Remove the dedicated alternator stator, refer to Aircraft Maintenance Manual, 73-22-38.
 - (b) Remove the PMA drive gear assembly, refer to Service Bulletin No. V2500-ENG-72-0048.
 - (c) Remove the tubes and harness from the external gearbox, refer to Engine Manual, 72-00-60, Removal-02.
 - (d) Remove the External Gearbox, refer to Engine Manual, 72-60-00, Removal-04.
 - (e) Disassemble the external gearbox module, refer to Engine Manual, 72-60-00.

B. Rework Instructions

- (1) Remove the 4P0175 or 4P0294 layshaft extension gear from the gearbox

Procedure

Supplementary Information

- (a) Remove the 4W0002 nuts (16 off) 4W1249 bolt (1 off) and MS9321-10 washers (17 off)
- (b) Remove the 4B0062 angle gearbox support.

Refer to figure 1

Use the disassembly screw.

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- (c) Discard the AS3209-165 packings (2 off), AS3209-151 packing and AS3209-120 packing from the angle gearbox support.

- (d) Remove the two 4W0002 nuts and MS9321-10 washers and remove the 4B0292 (or 4B0143 pre SBE 72-0048) PMA drive housing

Refer to figure 2

- (e) Remove the AS3209-154 packing from the PMA drive housing.

- (f) Remove the starter idler gear from the gearbox.

- (g) Remove the 4P0175 or 4P0294 layshaft extension gear from the gearbox.

NOTE: Proceed from steps (h) to (j) only if the old inner races will not be reinstalled on the new layshaft extension gear.

- (h) Unlock and remove the three AS3100-10 bolts and 4T0210 washers.

Refer to figure 2

- (i) Remove the outer race of the 4T0043 roller bearing from the gearbox.

- (j) Remove the three 4W0002 nuts and remove the outer race of the 4T0053 roller bearing from the 4B0292 (or 4B0143 pre SBE 72-0048) PMA drive housing.

Refer to figure 2.

(2) Disassemble the layshaft extension gear

Procedure

Supplementary Information

- (a) Remove the inner race of the 4T0053 and 4T0043 roller bearings

Refer to figure 3.
Use the IAE1F10200 base IAE1F10244 ring, IAE1F10245 ring, IAE1F10236 drift and IAE1F10237 drift.



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- (b) Discard the 4P0175 or 4P0294 layshaft extension gear.

- (3) Assemble the new P/N 4B0285 or P/N 4P0287 layshaft extension gear.

CAUTION: MAKE SURE THAT THE INNER RACE HAS THE SAME SERIAL NUMBER OF THE RELATED OUTER RACE OF THE ROLLER BEARING.

Procedure

Supplementary Information

- | | |
|---|---|
| (a) Increase the temperature of the inner race of the 4T0053 and 4T0043 roller bearing to 250 deg F (121 deg C) maximum. | Refer to figure 4
Use an oven. |
| (b) Install the inner race of the roller bearing on the gear. | Refer to figure 4
Use IAE1F10193 base, IAE1F10194 base, IAE1F10190 drift and IAE1F10185 drift. |
| (c) Apply a load of 3372 lbf (1500 N) on the 4T0053 roller bearing and a load of 4047 lbf (1800 N) on the 4T0043 roller bearing | Use an arbor press or equivalent |
- (4) Install the outer race of the 4T0043 and 4T0053 roller bearing.

NOTE: Do this para only if a new roller bearing has been installed on the layshaft extension gear.

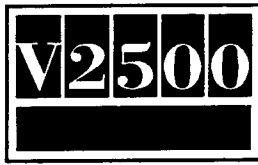
CAUTION: MAKE SURE THAT THE OUTER RACES OF THE ROLLER BEARINGS HAVE THE SAME SERIAL NUMBER OF THE RELATED INNER RACES INSTALLED ON ON THE LAYSHAFT EXTENSION GEAR.

Procedure

Supplementary Information

- | | |
|--|-------------------|
| (a) Install the outer race of the 4T0043 roller bearing on the gearbox. | Refer to figure 2 |
| (b) Install the three new 4T0210 washers and AS3100-10 bolts. Torque to 85 to 95 lbfin (0,9 to 1,07 mdaN). | |
| (c) Bend the tabs of the washers to lock the bolts. | |

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- (d) Install the outer race of the 4T0053 roller bearing on the PMA drive housing. Refer to figure 2
- (e) Install the three 4W0002 nuts. Torque to 85 to 95 lbfin (0,9 to 1,07 mdaN).
- (5) Install the 4B0285 or 4P0287 layshaft extension gear on the gearbox.

Procedure

Supplementary Information

- (a) Install the layshaft extension gear in to the gearbox. Refer to figure 2
- (b) Engage the gear with the adjacent oil scavenge pump gear drive.
- (c) Install the starter idler gear in to the gearbox. Refer to figure 1
- (d) Engage the gear with the adjacent drive gears.
- (6) Install the 4B0292 PMA drive housing on the gearbox.
- Procedure
- Supplementary Information
- (a) Install the new AS3209-154 packing on the housing. Refer to figure 2
- (b) Install the housing on the gearbox. Align the holes with the studs and the outer race with the inner race of the roller bearing. Make sure that the layshaft extension gear is correctly positioned in to the gearbox.
- (c) Install the two MS9321-10 washers and 4W0002 nuts on the two shorter studs. Torque 85 to 95 lbfin (0,96 to 1,07 mdaN). Check the axial backlash of the layshaft extension gear. It should be: 0.0039 to 0.0315in. (0,1 to 0,8 mm)
- (d) Release again the nuts. Torque these nut after the installation of the PMA drive gear assembly.
- (7) Install the 4B0062 angle gearbox support on the gearbox.



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- | Procedure | Supplementary Information |
|---|---|
| (a) Install the new AS3209-165 packing, AS3209-151 packing and AS3209-120 packing on the angle gearbox support. | Refer to figure 1 |
| (b) Install the angle gearbox support on the gearbox. | Make sure that the idler starter gear and the oil scavenge pump drive gear are correctly positioned on the gearbox. |
| (c) Install the 10 4W0002 nuts with 10 MS9321-10 washers which attach the support to the gearbox. | |
| (d) Install the 4W1249 bolt with MS9321-10 washer on the support. | |
| (e) Torque the bolt and the nuts to 85 to 95 lbfin (0,96 to 1,07 mdaN). | |
| (8) Remove the 4B0293 (or 4B0147 pre SBE 72-0048) PMA drive gear | |

NOTE: If the PMA support assembly (4B0253) have to be reworked refer to SBE. ENG-72-0048 Par.2.B.(3)

- | Procedure | Supplementary Information |
|--|---|
| (a) Disassemble the PMA drive gear. | Refer to Engine Manual TASK 72-60-33-040-001. up to SUBTASK 72-60-33-040-053 Par.5. |
| (b) Push the drift until the PMA drive gear is fully removed from the PMA drive shaft. | |
| (c) Discard 4B0293 (or 4B0147 pre SBE 72-0048) drive gear and the 4W0005 nut. | Refer to figure 5 |
| (9) Install 4B0286 PMA drive gear. | |

- | Procedure | Supplementary Information |
|---------------------------------------|---|
| (a) Push back the PMA shaft and rotor | Use a drift to support the inner race bearing close to the drive gear seat and push on the other side of the rotor. |

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- (b) Install the new 4B0286 drive gear and NAS1291C7 nut.

Refer to Engine Manual SUBTASK 72-60-33-440-055.

Pre SBE 72-0048.

Install in place of the old 4B0147 drive gear and the old 4W0005 nut.

Post SBE 72-0048.

Install in place of the old 4B0293 and 4W0005 nut.

CAUTION: THE NEW NAS1291C7 NUT MUST BE TORQUED TO 309 TO 395 lbfin (3,5 to 4,0 mdaN) INSTEAD OF 450 to 500 lbfin (5,08 to 5,65 mdaN) OF THE OLD 4W0005 NUT.

- (c) Renumber by the vibro-peen adjacent to the existing part number.

Old Part Number	New Part Number
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Pre SBE 72-0048:

4A0268	4A0295
--------	--------

Post SBE 72-0048:

4A0284	4A0295
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- (d) Assemble the PMA drive gear assembly.

Refer to Engine Manual TASK 72-60-33-440-001.

- (10) Renumber the gearbox assembly.

Procedure

Supplementary Information

- (a) Identify the main gearbox assembly part number (written down by a pencil on the gearbox casting

Old Part Number	New Part Number
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Pre SBE 72-0048

4A0053	4A0801 or 4A0801A
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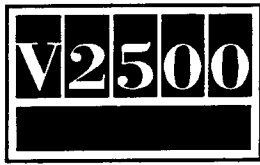
or

4A1100	4A1102 or 4A1102A
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NOTE: the letter A means that the layshaft extension is one piece casting

Post SBE 72-0048

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4A0800	4A0801 or 4A0801A
or 4A1101	4A1102 4A1102A

NOTE: the letter A means that the layshaft extension is one piece casting

- (b) Identify the module accessory gearbox part number (written down on two plates: one at the bottom of the gearbox casting and the other one on the angle gearbox) Use two blank plates and write on them by vibro-peen

Old Part Number	New Part Number
Pre SBE 72-0048	
4A1050 or 4A0504	4A1050C 4A0701
Post SBE 72-0048	
4A1050B or 4A0700	4A1050C 4A0701

C. Assemble Instructions

- (1) Assemble the external gearbox module, refer to Engine Manual, 72-00-60
- (2) Install the external gearbox, refer to Engine Manual, 72-00-60, Installation-02.
- (3) Install the tubes and harness to the external gearbox, refer to Engine Manual, 72-00-60, Installation-03.
- (4) Install the 4A0295 PMA drive gear assembly, refer to SBE No. V2500-ENG-72-0048.
- (5) Install the dedicated alternator stator, refer to Aircraft Maintenance Manual, 73-22-38.
- (6) Reconnect the power supply.
- (7) Prime the engine oil system, refer to Aircraft Maintenance Manual, 12-13-79.
- (8) Close the fan cowl panels, refer to Aircraft Maintenance Manual, 71-13-00.
- (9) Do a leak check of the engine oil system after the first ground run.

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D. Recording Instruction

- (1) A record of accomplishment is necessary

SECTION II

A. Prerequisite Instructions

WARNING: ALL ELECTRICAL POWER SUPPLY FROM THE ENGINE MUST BE R DISCONNECTED.

- (1) Disconnect the power supply from the engine by opening all applicable circuit breakers.
- (2) Open the fan cowl panels to gain access to the gearbox, refer to Aircraft Maintenance Manual, 71-13-00.

WARNING: DO NOT GET ENGINE OIL ON YOUR SKIN FOR A LONG TIME. THE OIL IS POISONOUS AND CAN GO THROUGH YOUR SKIN AND IN TO YOUR BODY.

NOTE: Position a container to catch the oil spill during the removal of the tubes and accessories.

- (3) Rework the 4A0800 or 4A1101 Main Gearbox Assembly.
- (a) Remove the dedicated alternator stator, refer to Aircraft Maintenance Manual, 73-22-38.
- (b) Remove the PMA drive gear assembly, refer to Service Bulletin No. V2500-ENG-72-0048.

B. Rework Instructions

- (1) Replace the 4P0175 or 4P0294 layshaft extension gear, refer to IAE Authorization Document 90VF804
- (2) Remove the 4B0293 (or 4B0147 pre SBE 72-0048) PMA drive gear

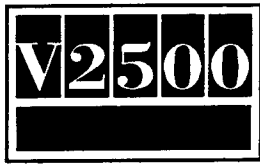
NOTE: If the PMA support assembly (4B0253) have to be reworked refer to SBE. ENG-72-0048 Par.2.B.(3)

Procedure

Supplementary Information

- | | |
|--|---|
| (a) Disassemble the PMA drive gear. | Refer to Engine Manual
TASK 72-60-33-040-001. up to
SUBTASK 72-60-33-040-053 Par.5. |
| (b) Push the drift until the PMA drive gear is fully removed from the PMA drive shaft. | |

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- (c) Discard 4B0293 (or 4B0147 pre SBE 72-0048 drive gear and the 4W0005 nut.

Refer to figure 5

- (3) Install 4B0286 PMA drive gear.

Procedure

Supplementary Information

- (a) Push back the PMA shaft and rotor
- (b) Install the new 4B0286 drive gear and NAS1291C7 nut.

Use a drift to support the inner race bearing close to the drive gear seat and push on the outer side of the rotor.

Refer to Engine Manual SUBTASK 72-60-33-440-055.

Pre SBE 72-0048.
Install in place of the old 4B0147 drive gear and the old 4W0005 nut.
Post SBE 72-0048.
Install in place of the old 4B0293 and 4W0005 nut.

CAUTION: THE NEW NAS1291C7 NUT MUST BE TORQUED TO 309 TO 395 lbfin (3,5 to 4,0 mdaN) INSTEAD OF 450 to 500 lbfin (5,08 to 5,65 mdaN) OF THE OLD 4W0005 NUT.

- (c) Renumber by the vibro-peen adjacent to the existing part number.

Old Part Number	New Part Number
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Pre SBE 72-0048: 4A0268	4A0295
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Post SBE 72-0048: 4A0284	4A0295
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- (d) Assemble the PMA drive gear assembly.

Refer to Engine Manual TASK 72-60-33-440-001.

- (4) Renumber the gearbox assembly.

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Procedure	Supplementary Information	
(a) Identify the main gearbox assembly part number (written down by a pencil on the gearbox casting	Old Part Number	New Part Number
	Pre SBE 72-0048	
	4A0053	4A0801 or 4A0801A
	or 4A1100	4A1102 or 4A1102A
	NOTE: the letter A means that the layshaft extension is one piece casting	
	Post SBE 72-0048	
(b) Identify the module accessory gearbox part number (written down on two plates: one at the bottom of the gearbox casting and the other one on the angle gearbox). Use two blank plates and write on them by vibro-peen	4A0800	4A0801 or 4A0801A
	or 4A1101	4A1102 4A1102A
	NOTE: the letter A means that the layshaft extension is one piece casting	
	Post SBE 72-0048	
	4A0800	4A0801 or 4A0801A
	or 4A1101	4A1102 4A1102A
(b) Identify the module accessory gearbox part number (written down on two plates: one at the bottom of the gearbox casting and the other one on the angle gearbox). Use two blank plates and write on them by vibro-peen	NOTE: the letter A means that the layshaft extension is one piece casting	
	Old Part Number	New Part Number
	Pre SBE 72-0048	
	4A1050	4A1050C
	or 4A0504	4A0701
	Post SBE 72-0048	
	4A1050B	4A1050C
	or 4A0700	4A0701

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C. Assemble Instructions

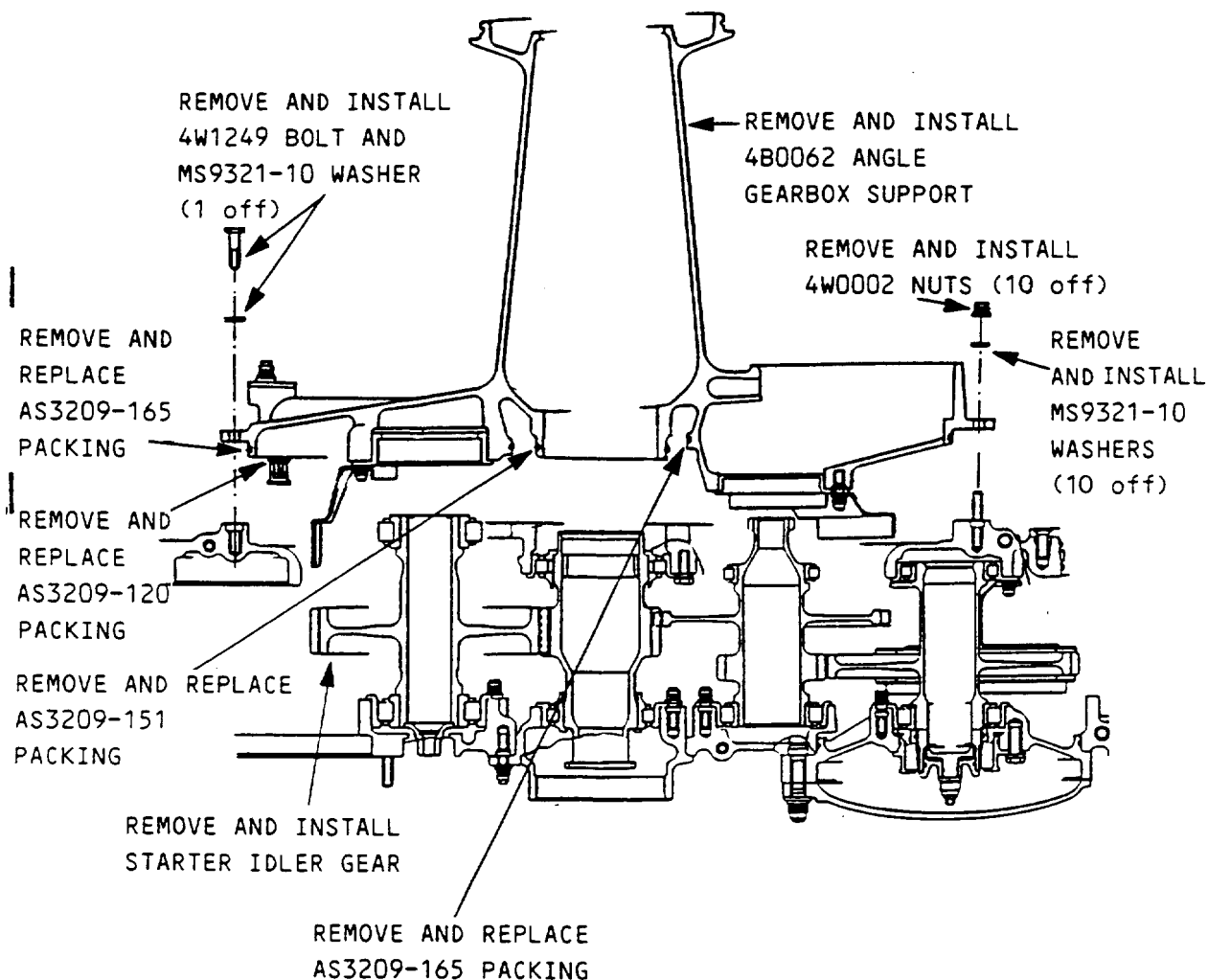
- (1) Install the 4A0295 PMA drive gear assembly, refer to SBE No. V2500-ENG-72-0048.
- (2) Install the dedicated alternator stator, refer to Aircraft Maintenance Manual, 73-22-38.
- (3) Reconnect the power supply.
- (4) Prime the engine oil system, refer to Aircraft Maintenance Manual, 12-13-79.
- (5) Close the fan cowl panels, refer to Aircraft Maintenance Manual, 71-13-00.
- (6) Do a leak check of the engine oil system after the first ground run.

D. Recording Instruction

- (1) A record of accomplishment is necessary

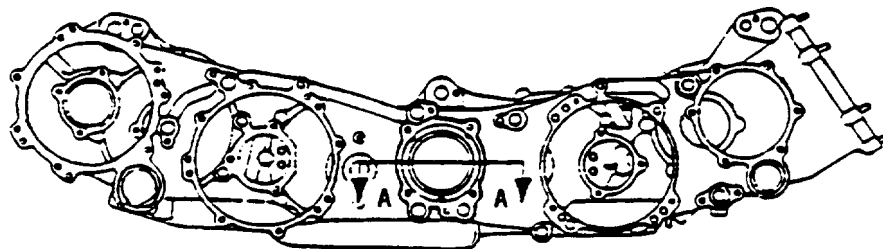


SERVICE BULLETIN



Remove and Install the angle gearbox support
Fig.1

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MAIN GEARBOX FRONT VIEW

REMOVE AND INSTALL
4T0043 ROLLER BEARING

REMOVE 4P0175 OR
4P0294 LAYSHAFT
EXTENSION GEAR
INSTALL 4B0285 OR
4P0287 LAYSHAFT
EXTENSION GEAR

REMOVE AND INSTALL
4W0002 NUT (3 off)

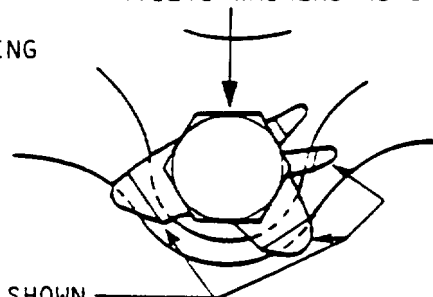
REMOVE AND REPLACE
AS3209-154 PACKING

REMOVE AND
INSTALL
4W0002 NUTS (2 off)
AND MS9321-10
WASHERS (2 off)

REMOVE AND INSTALL
4B0292 PMA DRIVE
HOUSING

SECTION A-A
REMOVE AND INSTALL
4T0053 ROLLER BEARING

REMOVE AND INSTALL
AS3100-10 BOLTS
(3 off) AND
4T0210 WASHERS (3 off)

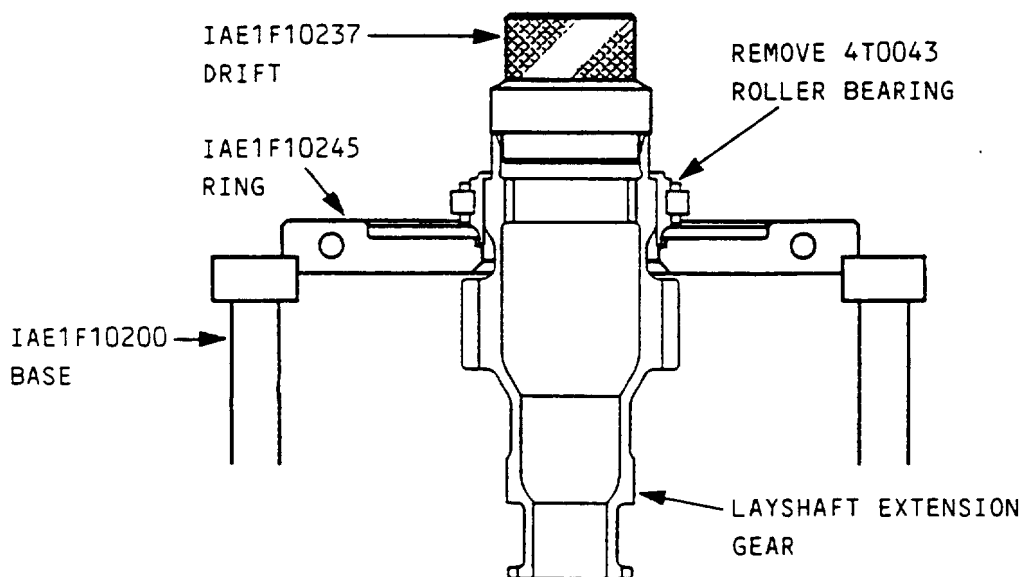
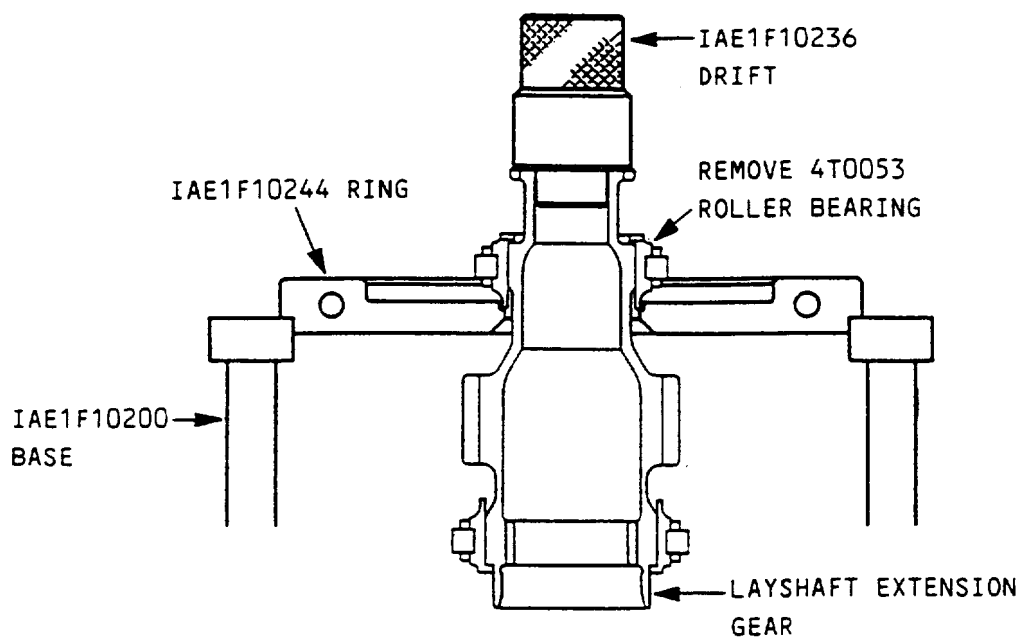


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VIEW ON B

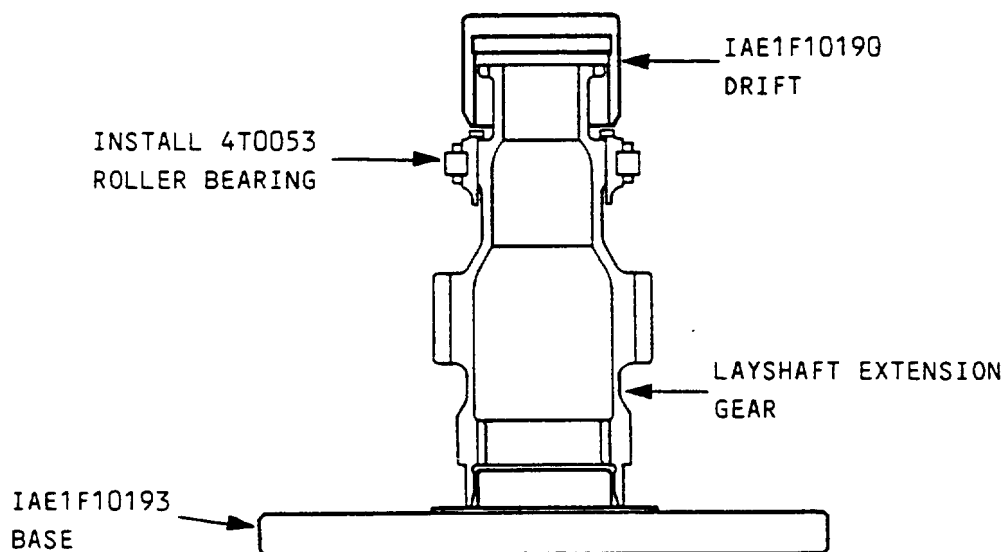
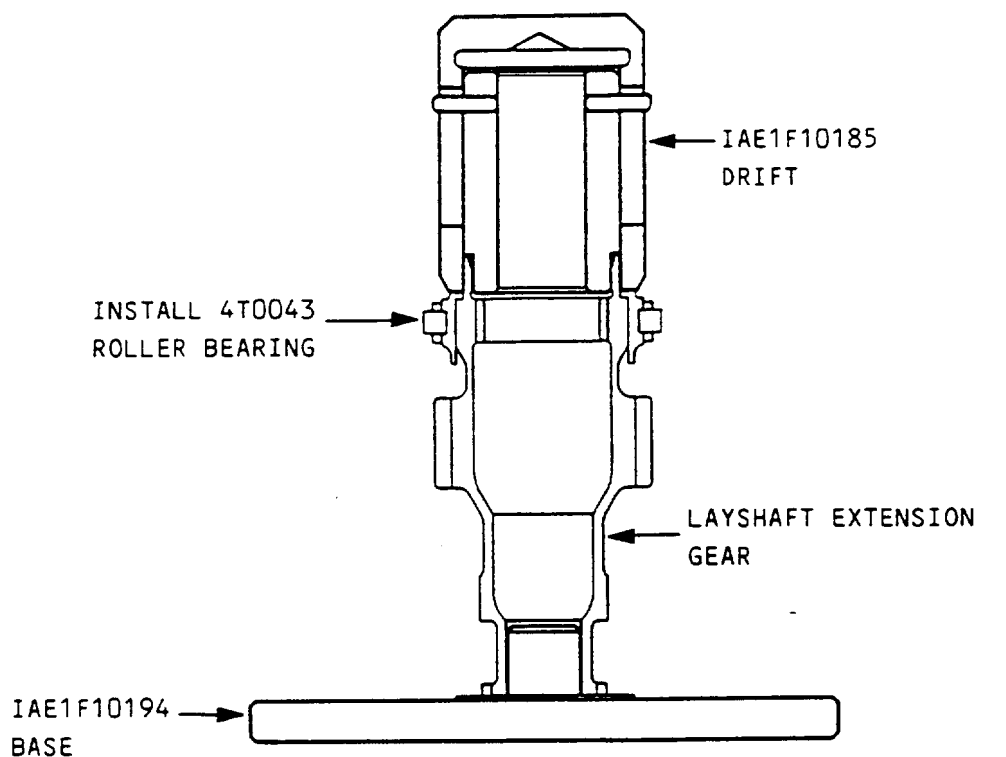
Remove and install the PMA drive housing and the layshaft extension gear
Fig.2

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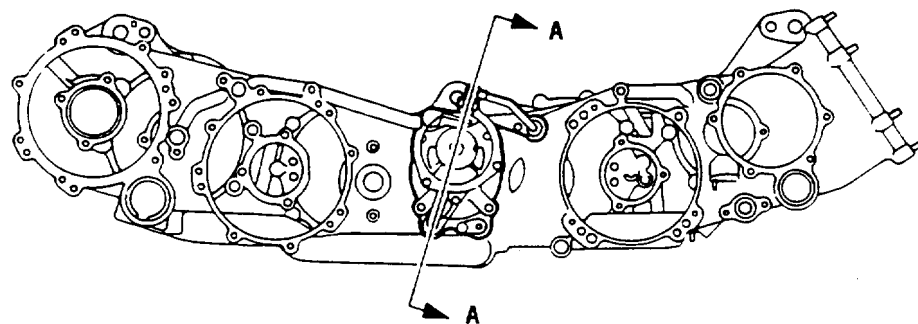
Disassemble of the layshaft extension gear
Fig.3

V2500-ENG-72-0070

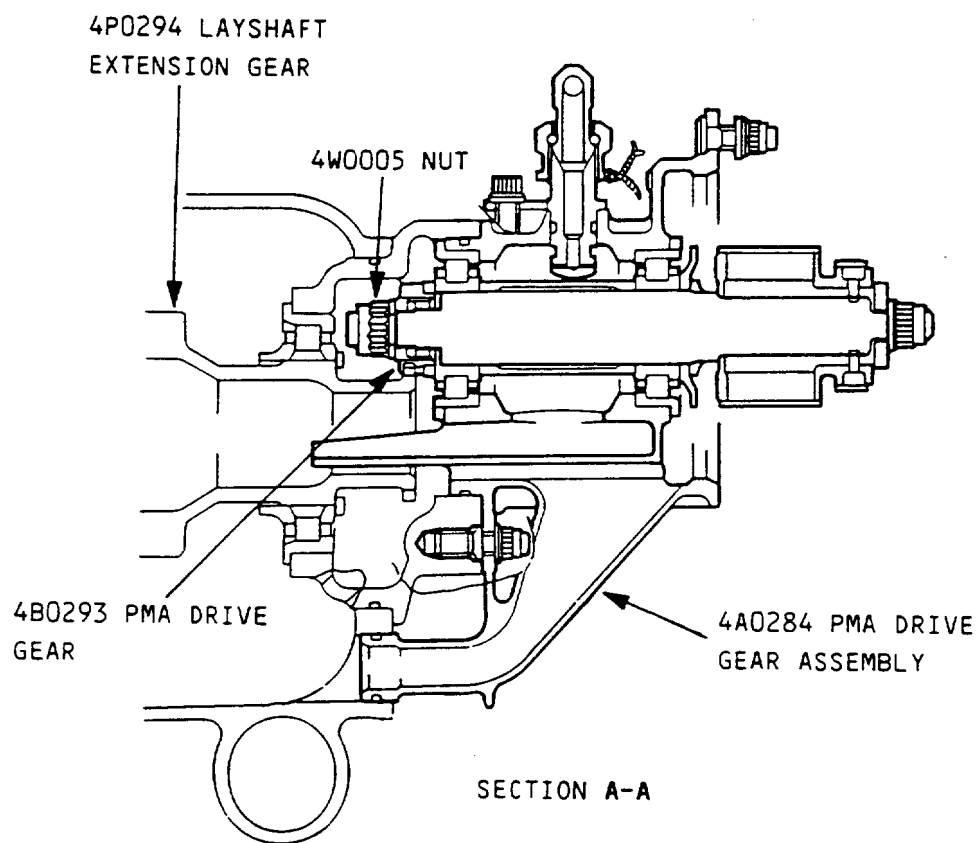


Assemble the layshaft extension gear
Fig.4

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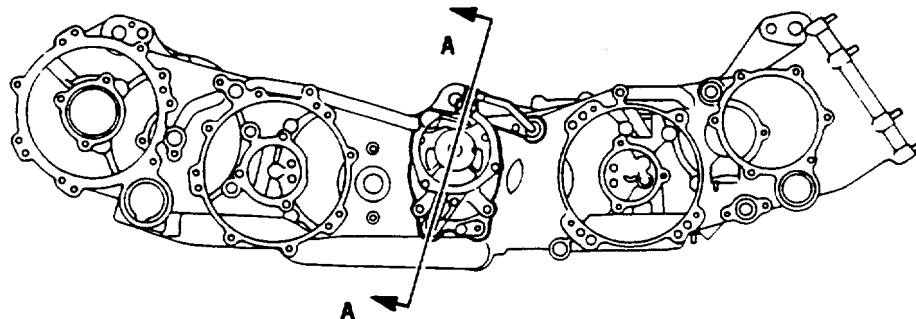
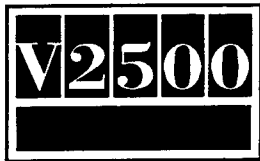


MAIN GEARBOX FRONT VIEW

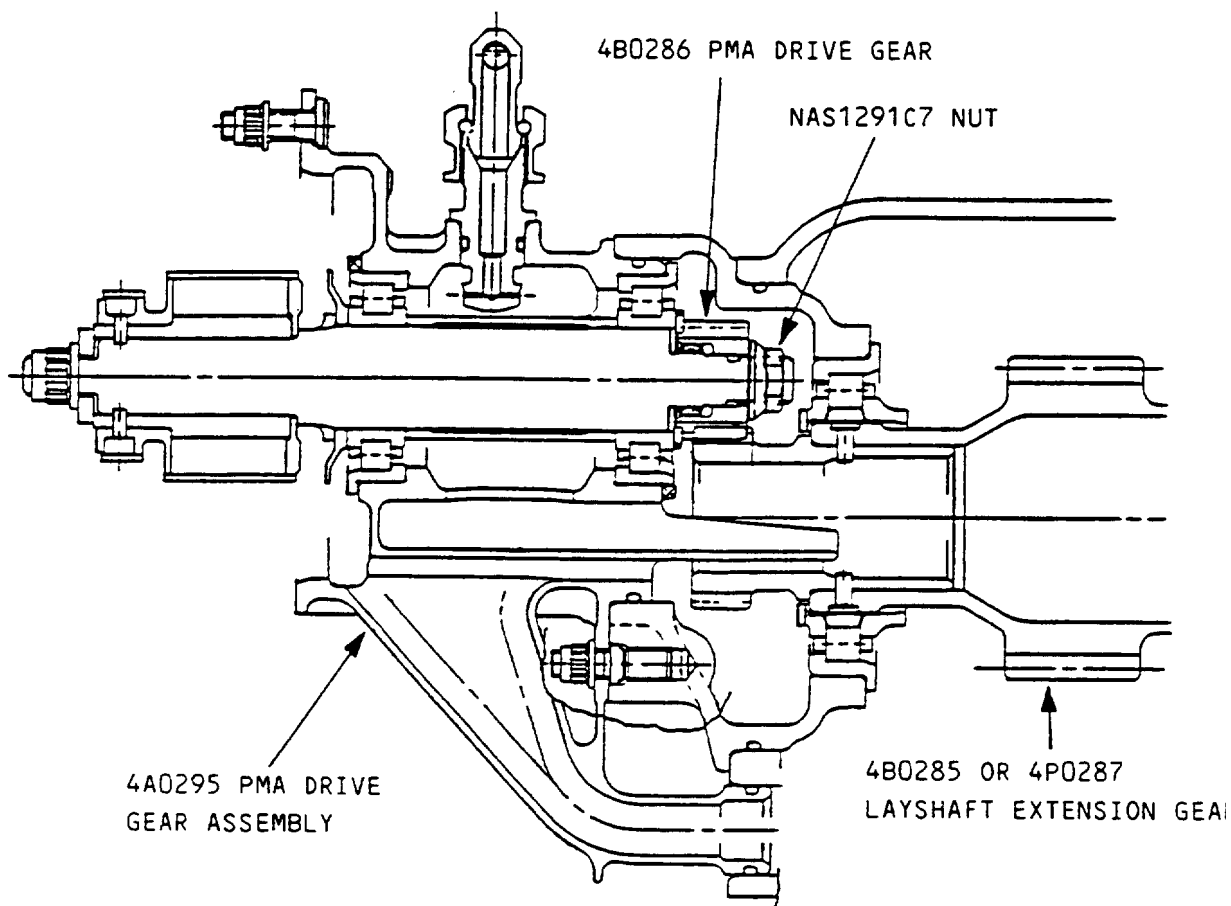


PMA drive gear assembly (Before alterations)
Fig.5

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MAIN GEARBOX FRONT VIEW



SECTION A-A

PMA drive gear assembly (After alterations)
Fig.6

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SERVICE BULLETIN

3. Material Information

Applicability: for each V2500 Engine to incorporate this Bulletin.

A. Kits associated with this Bulletin

None

B. Parts affected by Section I if this Service Bulletin

New Part No. (ATA No.)	Qty	Est'd Unit Price (\$)	Keyword	Old Part No. (IPC No.)	Instructions Disposition
4A0801 or 4A0801A (72-60-10) or 4A1102 or 4A1102A (72-60-10) or 4A0801 or 4A0801A (72-60-10) or 4A1102 or 4A1102A (72-60-10) 4A1050C (72-60-00) or 4A0701 (72-60-00) or 4A1050C (72-60-00) or 4A0701 (72-60-01) 4A0295 (72-60-33) 4B0286 (72-60-33) 4B0285 (72-60-24) or 4P0287 (72-60-24) NAS1291C7 (72-60-33)	1	-	Main Gearbox Assembly	4A0053 (01-001) 4A1100 (01-001) 4A0800 (01-001) 4A1101 (01-001) 4A1050 (01-001) 4A0504 (01-001) 4A1050B (01-001) 4A0700 (01-001) 4A0284 (01-001) 4B0293 (01-120) 4P0294 (01-140) or 4P0175 (01-140) 4W0005 (01-100)	(S1)(1D)(A) (S1)(1D)(A) (S1)(1D)(A) (S1)(1D)(A) (S1)(1D)(A) (S1)(1D)(A) (S1)(1D)(A) (S1)(1D)(A) (S1) (1D) (A) (B) (S1) (A) (B) (S1) (S2) (2D) (A) (B) (S1) (S2) (2D) (A) (B) (S3) (A)

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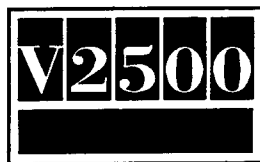


SERVICE BULLETIN

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-	1	-	.Packing,	MS9966-13	(C)
(79-21-49)			Preformed	(01-096)	
-	1	-	.Packing,	AS3209-162	(C)
(72-60-00)			Preformed	(01-240)	
-	1	-	.Packing	AS3209-151	(C)
(72-60-10)				(01-850)	
-	2	-	.Packing	AS3209-165	(C)
(72-60-10)				(01-845)	
-	1	-	.Packing	AS3209-114	(C)
(72-60-10)				(01-650)	
-	1	-	.Packing	AS3209-151	(C)
(72-60-10)				(01-645)	
-	1	-	.Packing	AS3209-154	(C)
(72-60-10)				(01-685)	
-	16	-	.Washer	S9321-10	(C)
(72-60-10)				(01-830)	
-	1	-	.Washer	MS9321-10	(C)
(72-60-10)				(01-840)	
-	3	-	.Washer	4T0210	(C)
(72-60-24)				(01-320)	
-	1	-	.Packing	AS3209-120	(C)
(72-60-32)				(01-169)	
-	1	-	.Gasket	747247	(C)
(24-21-41)				(01-020)	
-	1	-	.Gasket	S700M0986	(C)
(29-11-51)				(01-030)	
-	1	-	.Ring	5A2138	(C)
(72-32-00)				(01-120)	
-	1	-	.Packing	AS3209-122	(C)
(72-60-21)				(01-280)	
-	1	-	.Packing	AS3209-226	(C)
(72-61-49)				(01-030)	
-	1	-	.Ring	AS43013-124	(C)
(73-11-47)				(01-104)	
-	1	-	.Ring	AS43013-112	(C)
(73-11-47)				(02-108)	
-	1	-	.Ring	AS43013-128	(C)
(73-11-49)				(05-108)	
-	1	-	.Ring	AS43013-124	(C)
(73-11-49)				(05-116)	
-	1	-	.Ring	AS43013-116	(C)
(73-11-49)				(07-108)	
-	1	-	.Ring	AS43013-112	(C)
(73-11-49)				(10-108)	
-	1	-	.Ring	AS43013-112	(C)
(73-11-49)				(20-516)	
-	2	-	.Sealing Ring	AS43013-214	(C)
(73-11-49)				(26-098)	
-	1	-	.Ring	AS43013-120	(C)
(73-11-49)				(26-108)	
-	1	-	.Ring	AS43013-120	(C)

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(73-11-49)				(26-116)
-	1	-	.Seal ring	M83248-1-216 (C)
(73-12-41)				(01-145)
-	1	-	.Sealing ring	M25988-1-155 (C)
(73-12-41)				(01-170)
-	1	-	.Packing	AS3209-226 (C)
(79-11-41)				(01-760)
-	2	-	.Packing	AS3209-157 (C)
(79-22-41)				(01-034)
-	2	-	.Packing	AS3209-120 (C)
(79-22-41)				(01-850)
-	1	-	.Packing	4P0125 (C)
(79-22-48)				(01-100)
-	1	-	.Packing	AS3209-217 (C)
(79-22-48)				(01-160)
-	1	-	.Packing	4P0042 (C)
(79-22-48)				(02-100)
-	1	-	.Packing	AS3209-115 (C)
(79-22-48)				(02-150)
-	1	-	.Packing	AS3209-120 (C)
(79-22-48)				(02-220)
-	1	-	.Packing	AS3209-217 (C)
(79-22-48)				(03-130)
-	1	-	.Packing	AS3209-217 (C)
(79-22-48)				(03-160)
-	1	-	.Packing	AS3209-217 (C)
(79-22-48)				(05-530)
-	1	-	.Packing	AS3209-217 (C)
(79-22-48)				(05-560)
-	1	-	.Ring, retaining	MS16625 (C)
(79-21-49)				-4056
-	1	-	.Packing	(06-478)
(79-22-48)				AS3209-115 (C)
-	1	-	.Packing	(04-130)
(79-22-49)				MS9966-10 (C)
-	1	-	.Sealing ring	(02-516)
(79-22-49)				AS43013-123 (C)
-	2	-	.Sealing ring	(07-096)
(79-22-49)				AS43013-153 (C)
-	1		.Ring	(07-098)
(79-22-49)				MS9967-218 (C)
-	1	-	.Ring	(07-516)
(79-22-49)				MS9967-218 (C)
-	1	-	.Seal	(10-516)
(80-13-49)				NK103102 (C)
-	1	-	.Seal	-040
(80-13-51)				(01-520)
-	1	-	.Ring	NK103102 (C)
				-040
				(01-220)
				AS43013 (C)

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(73-22-38)				-153	
				(01-110)	
-	1	-	.Plate	4T0215	(C)
(72-60-00)				(01-260)	
-	1	-	.Plate	4P0260	(C)
(72-60-00)				(01-222)	

C. Parts affected by Section II of this Service Bulletin

New Part No. (ATA No.)	Qty	Est'd Unit Price (\$)	Keyword	Old Part No. (IPC No.)	Instructions Disposition
4B0286 (72-60-33)	1	-	.Gear, A/O PMA Drive	4B0293 (01-120)	(S1) (A) (B)
NAS1291C7 (72-60-33)	1	-	.Nut	4W0005 (01-100)	(S3) (A)
4B0285 (72-60-24)	1	-	.Gearshaft	4P0294 (01-140)	(S1) (S2) (2D) (A) (B)
or				or	
4P0287 (72-60-24)	1	-	.Gearshaft Input Drive	4P0175 (01-140)	(S1) (S2) (2D) (A) (B)
- (73-22-38)	1	-	.Ring	AS43013 -153 (01-110)	(C)
- (72-60-10)	1	-	.Packing	AS3209-114 (01-650)	(C)
- (72-60-10)	1	-	.Packing	AS3209-151 (01-645)	(C)
- (72-60-10)	1	-	.Packing	AS3209-154 (01-685)	(C)
- (72-60-10)	1	-	.Packing	AS3209-113 (01-171)	(C)
- (72-60-10)	1	-	.Packing	AS3209-110 (01-174)	(C)
- (72-60-10)	1	-	.Packing	AS3209-113 (01-251)	(C)
- (72-60-10)	1	-	.Packing	AS3209-110 (01-254)	(C)
- (72-60-00)	1	-	.Plate	4T0215 (01-260)	(C)
- (72-60-00)	1	-	.Plate	4P0260 (01-222)	(C)

D. Instrumentation/Disposition Code Statements

(S1) Old and new parts coded (S1) are directly interchangeable.

(S2) New parts coded (S2) are physically and functionally interchangeable.

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- (S3) Old part coded (S3) is not interchangeable with new parts coded (S1).
- (1D) New parts number may be obtained by rework and reidentification.
- (2D) Old part must be returned to IAE for reworking.
- (A) New part is currently available.
- (B) Old part will no longer be available.
- (C) These expendable parts are required for assembly of the new configuration.

NOTE: The estimated 1992 Unit Price shown are provided for planning purpose only and do not constitute a firm quotation. Contact IAE's Spare Parts Sales Department for information concerning firm prices.