International Aero Engines

SERVICE BULLETIN

ENGINE - MAIN GEARBOX ASSEMBLY - INSPECT THE DEDICATED ALTERNATOR DRIVE GEAR - CATEGORY CODE 3 - MOD.ENG-72-0043

1. Planning Information

A. Effectivity

(1) Aircraft: Airbus A320

(2) Engine: A11 V2500-A1 Engines (Pre-SBE 72-0070)

B. Reason

(1) Condition

Dedicated alternator pinion wear caused by loss of teeth clearance in operation can occur.

(2) Background

Engine development testing has shown that this condition could occur.

(3) Objective

To verify the dedicated alternator gear condition by inspection.

(4) Substantiation

None.

(5) Effect of Bulletin on:

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

(6) Supplemental Information

None.

C. Description

The dedicated alternator stator is removed, a rigid borescope with 90 deg view is used to inspect the condition of the pinion and the gear teeth.

D. Approval

The "Compliance" statement, and the inspection requirements contained in Paragraph 2. 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 3

To be carried out repetively within 400 hours on engines which have accumulated less than 50 hours running time prior to embodiment of SBE 72-0048.

To be carried out ripetitively within 200 hours on engines which have accumulated more than 50 hours running time prior to embodiment of SBE 72-0048

F. Manpower

Estimated Manhours to incorporate the full intent of this Bulletin:

Venue	Estimated Manhours
(1) In Service	1 hr

G. Material - Price and Availability

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

H. Tooling - Price and Availability

Tool No.	Qty	Description	Function	Avail.
New tools required:				
IAE6F10056	1	Boroscope	Check the gear conditions	(1)

(1) Shows that the Tool Design Aperture Cards are available at this time from IAE.

I. Weight and Balance

(1) Weight change	None
(2) Moment arm	No effect
(3) 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.

89VF820

89VF820A

89VF820B

(2) Other References

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

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

V2500 Aircraft Maintenance Manual, 73-22-30, Removal/Installation.

L. Other Publications Affected

None

2. Accomplishment Instructions

A. Prerequisite Instructions

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

(1) Disconnect 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.

(3) Remove the P.M.A stator, refer to Aircraft Maintenance Manual, 73-22-38.

(4) Remove the two P/N 4W0002 nuts and P/N MS9321-10 washers. Remove the P/N 4P0084 crank cover from the external gearbox. Remove and discard the P/N AS3209-122 packing, Ref Figure 1.

(5) Install a standard wrench on the gear starter idler and turn the gear train of the gearbox as required to view the gear teeth in turn.

(6) Insert IAE1F10056 in to the P.M.A. support through one of the oil passages, Ref Figure 2.

(7) Inspect all of the 23 teeth of the crown Ref IPC 72-60-24-01-140. Refer to the following applicable limits for action.

(8) Inspect all of the 14 teeth of the pinion Ref IPC 72-60-33-01-120. Refer to the following applicable limits for action.

(9) Inspect non-functional surfaces for damage, Ref Figure 3.

(a) Dents, nicks and scratches are acceptable.

(b) Chipped edges are acceptable.

(c) Any damage extending in to the rolling contact area not exceeding 0.03in (0,75 mm) is acceptable.

Note. For any damage above these limits contact the IAE Customer Representative.

(10) Inspect the pinion (14 teeth) P/N 4B0293 (Post SBE 72-0048), Ref Figure 3.

(a) Abrasive wear at bottom end of the rolling contact area and/ or pitting in the rolling contact area	Inspect again within 200 hrs
(b) Grooves at the bottom end of the contact area more than 0.006in. (0,15 mm) deep	Replace the pinion

(1) Inspect the crown (23 teeth) P/N 4P0294, Ref Figure 3

(a) Wear in the contact zone more than 25 per cent of the contact area	Inspect again within 400 hrs Replace the part in case of pinion replacement
(b) Material removal leading to alter the tooth profile, Ref Figure 3	Replace the part if material removal exceeds 0.006in. (0.15 mm.)

Note. To establish the wear progression it is essential to monitor the change in visual appearance.

B. Assembly Instruction

(1) Install the P/N 4P0084 crank cover, Ref Figure 1.

(a) Install the new P/N AS3209-122 packing on the crank cover.

(b) Install the crank cover on the gearbox and safety with the two P/N MS9321-10 washers and P/N 4W0002 nuts.

(c) Torque the nuts to 85 to 95 lbfin (9,604 to 10,734 Nm).

(2) Install the P.M.A. stator, refer to Aircraft Maintenance Manual, 73-22-38.

(3) Reconnect the power supply

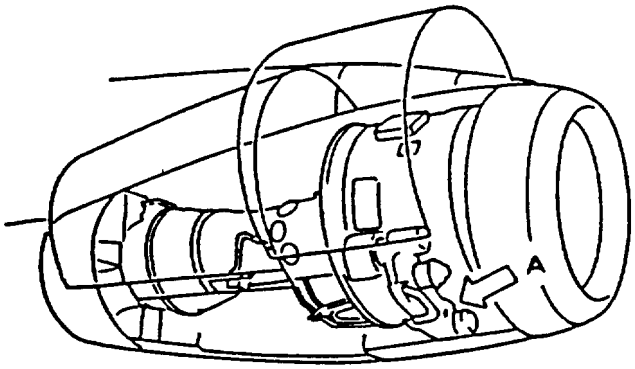
(4) Prime the engine oil system, refer to Aircraft Maintenance Manual, 12-13-79.

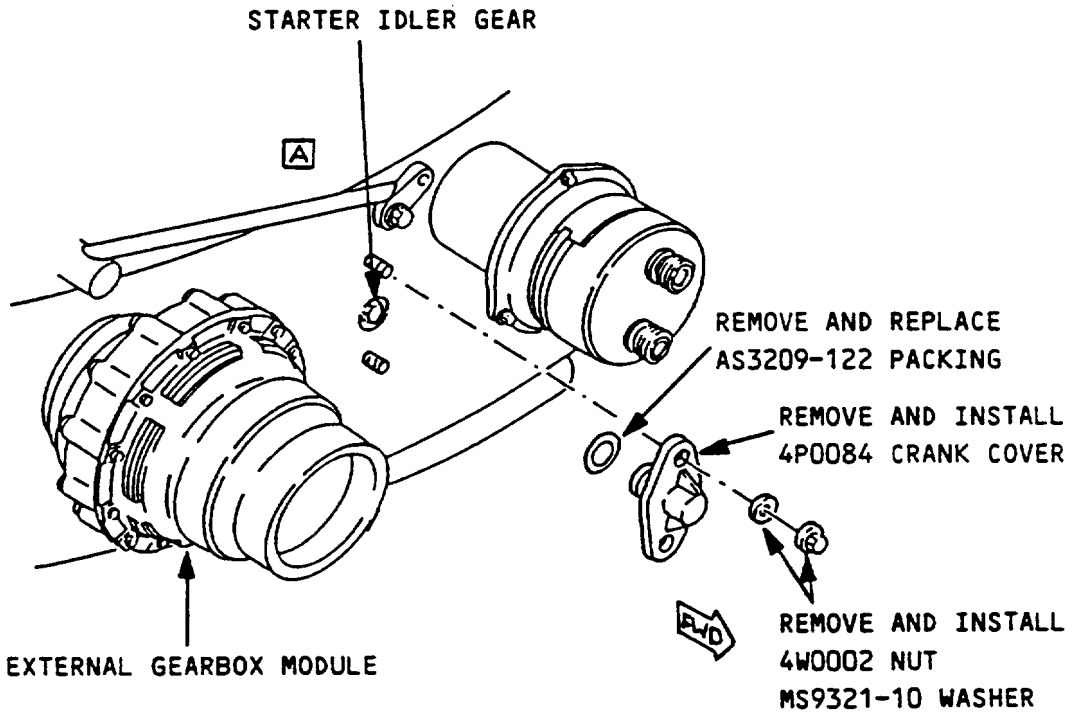
(5) Close the fan cowl panels, refer to Aircraft Maintenance Manual, 71-13-00.

(6) Do a leak check of the engine oil system after the first ground run.

C. Recording Instructions

(1) A record of accomplishment is necesary





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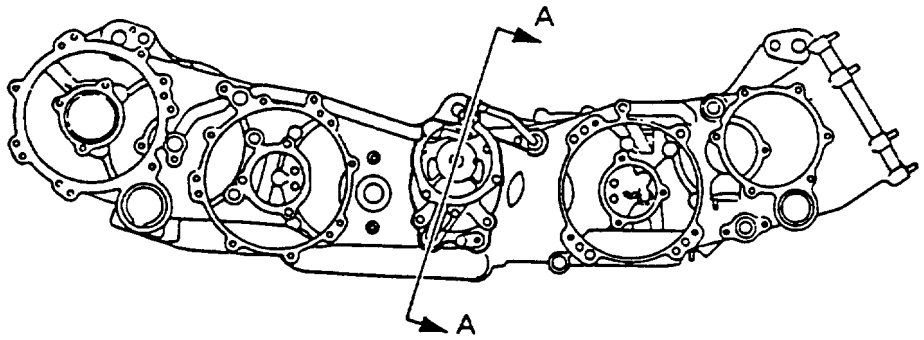
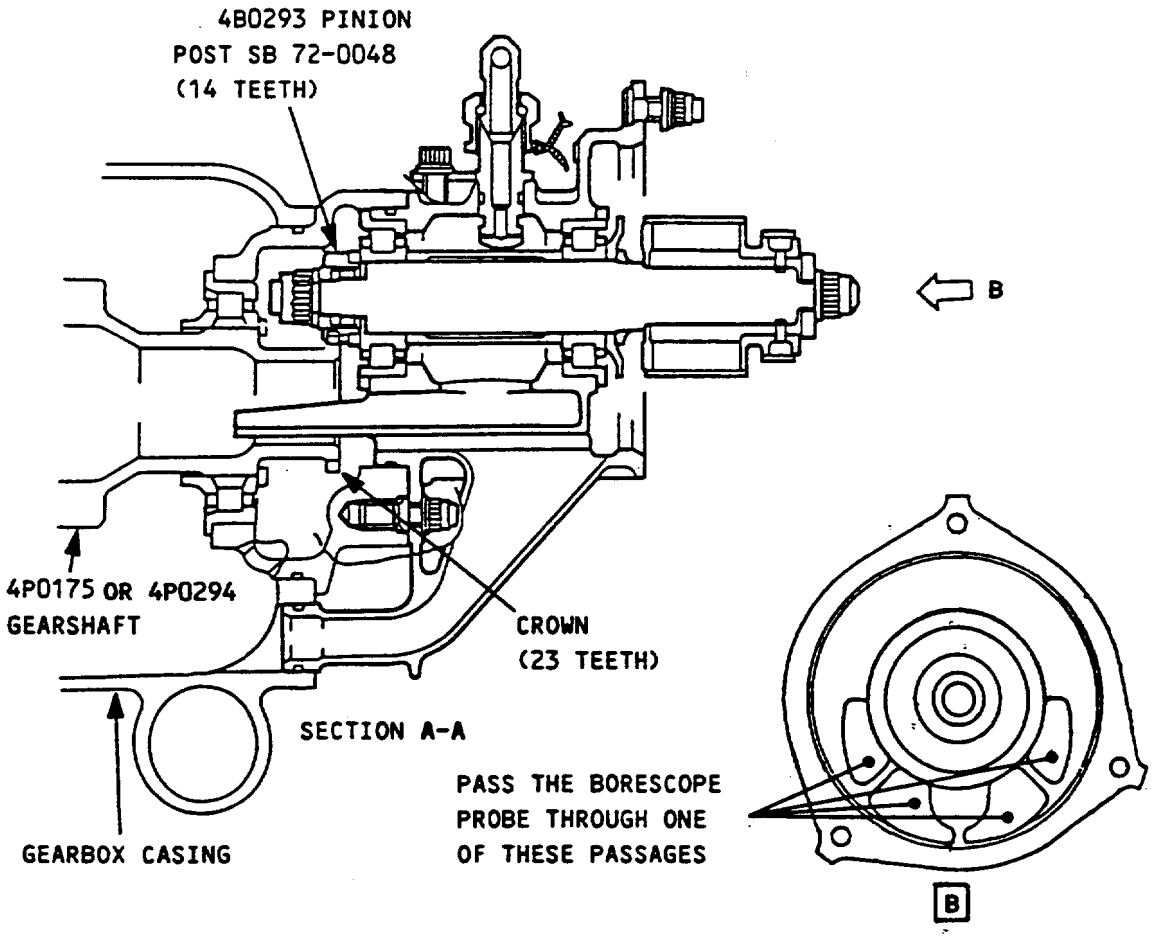
Remove/Install the Crank Cover
Fig.1



GEARBOX FRONT VIEW



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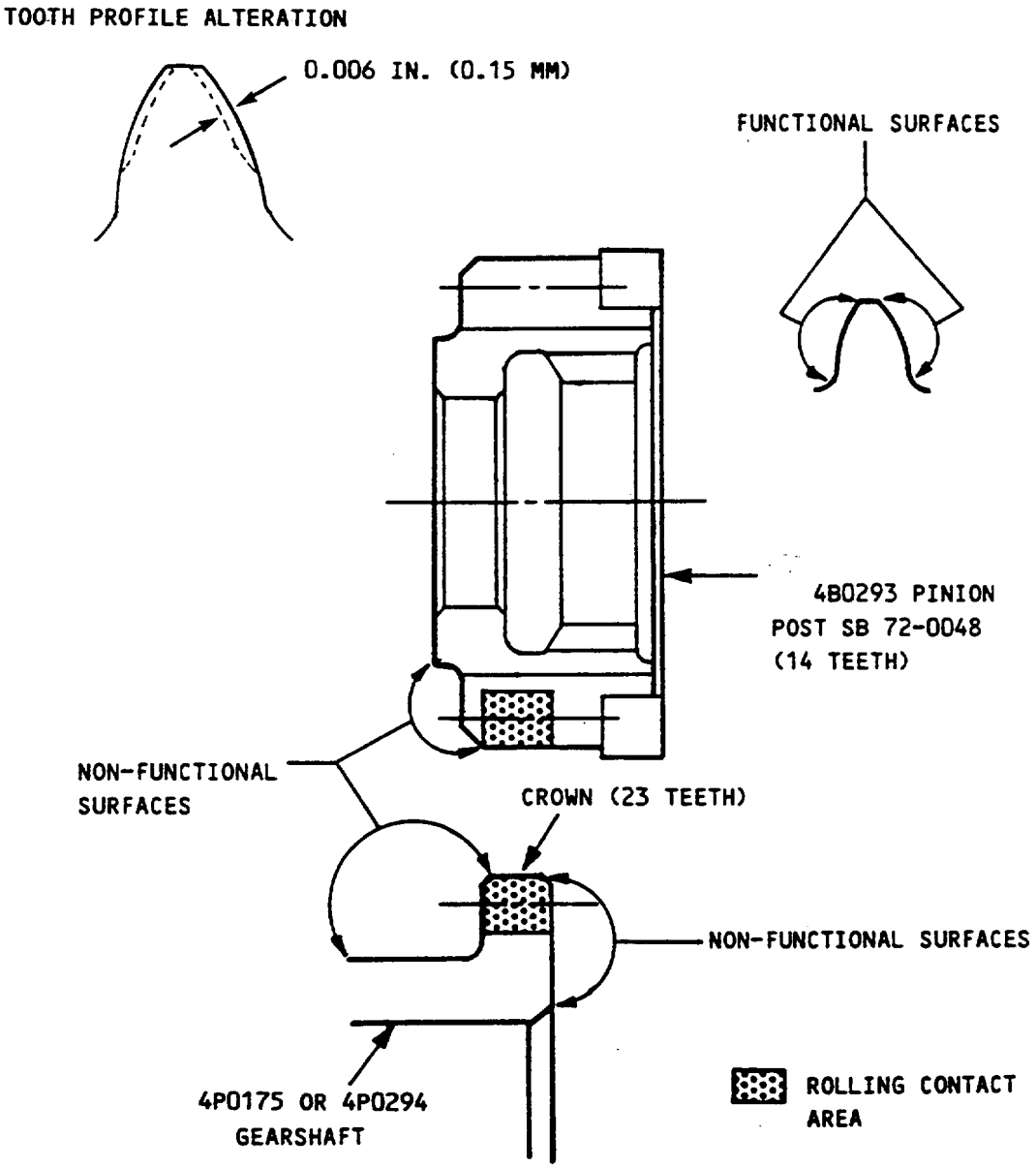
Borescope Access
Fig.2



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Examine the Dedicated Alternator Drive Gear
Fig.3

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
	1	-	Packing	AS3209-122 (01-280)	
(72-60-21)					
	1	-	Packing	AS43013-153 (01-110)	
(73-22-38)					

C. Instruction/Disposition Code Statements:

none