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V2500-A1/A5 SERIES PROPULSION SYSTEMS NON-MODIFICATION SERVICE BULLETIN

This document transmits the Revision 4 of Non-Modification Service Bulletin V2500-ENG-72-0380.

Document History

Non-Modification Service Bulletin Revision Status

| | |
|---------------|-----------|
| Initial Issue | Jul.10/00 |
| Revision 1 | Oct.23/00 |
| Revision 2 | Sep. 4/02 |
| Revision 3 | Mar.10/06 |

Non-Modification Service Bulletin Revision 4

| Remove | Incorporate | Reason for change |
|---|--|--|
| All Pages of the Non-Modification Service Bulletin. | Pages 1 to 5 of the Non-Modification Service Bulletin. | To update the Effectivity. To update the Compliance. To update the Accomplishment Instructions. To update format and style. |

V2500-ENG-72-0380

Transmittal - Page 1 of 1

CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED
 If any have not been received please advise IAE International Aero Engines AG

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NON-MODIFICATION SERVICE BULLETIN – PERMANENT MAGNET ALTERNATOR (PMA) DRIVE GEAR
ASSEMBLY RETENTION NUT LOOSENING – REPLACEMENT OF THE NUT

1. Planning Information

A. Effectivity

(1) Airbus A319/A320/A321

R (a) V2500-A1 Engines – Post Service Bulletin V2500-ENG-72-0070 and Pre
R Service Bulletin V2500-ENG-72-0616.

R (b) V2500-A5 Engines – Pre Service Bulletin V2500-ENG-72-0616.

R NOTE: For an Engine not to require a nut replacement in accordance
R with this Non-Modification Service Bulletin, Service Bulletin
R V2500-ENG-72-0616 must be incorporated.

B. Reason

(1) Condition

R On engines of Pre-SBE V2500-ENG-72-0616 standard, instances of Permanent
R Magnet Alternator (PMA) drive gear retention nut loosening have been found
R in service.

(2) Background

R There have been instances where the PMA drive gear retention nut became
R loose. This resulted in a wear of the PMA rotor shaft splines and drive
R gear to an extent where the drive to the PMA has been lost. As a
R consequence, the EEC fails to receive the N2 signal, but the engine will
R continue operation in flight using a synthesized N2 signal (from N1). Loss
R of drive to the PMA will cause ECAM Class 1, FADEC ALTERNATOR, OVERSPEED
R PROT and SENSOR FAULT messages.

(3) Objective

R The purpose of this Non-Modification Service Bulletin is to take action to
R prevent the loosening of the Pre-SBE V2500-ENG-72-0616 PMA retention nut
R (72-60-33, 01-100).

C. Compliance**Category 4**

R The actions detailed in the accomplishment instructions must be accomplished at
R every visit of the engine, gearbox module or PMA drive gear assembly (72-60-33,
R 01-001) in an overhaul shop regardless of the planned overhaul actions.

R **NOTE:** Incorporation of Service Bulletin V2500-ENG-72-0616 makes compliance of
R this Non-Modification Service Bulletin no longer required.

D. Approval

R The Compliance statement and the procedures given in section 3. Accomplishment
R Instructions of this Non-Modification Service Bulletin, comply with the Federal
R Aviation Regulations and are FAA-APPROVED for the engine models listed.

R E. Manpower**(1) In Service**

Not applicable.

(2) At overhaul

R Applicable (Hours not affected).

R **NOTE:** The parts affected by this Non-Modification Service Bulletin are
accessible at overhaul.

F. References

R (1) Service Bulletins V2500-ENG-72-0070 and V2500-ENG-73-0093.

R (2) Internal Reference: 00VF814B, 00VF814C and 12VF806.

R (3) V2500 Engine Manual.

R (4) ATA Locator - 72-60-33.

G. Other Publications Affected

None.

2. Material information

A. Tooling – Price and Availability

- R The following tools are required to accomplish this Non-Modification Service Bulletin when you check the nut of the PMA drive gear assembly

| Tool Number | Qty | Description | Function | Availability |
|-------------|-----|------------------|----------------|--------------|
| 1F10170 | 1 | Base | Install/Remove | (1) |
| 1F10218 | 1 | Reaction spanner | Install/Remove | (1) |
| 1P16486 | 1 | Reaction spanner | Install/Remove | (1) |

- R (1) Indicates that the Tool Design Aperture Cards are currently available from IAE. An alternative reaction spanner (1P16486) is recommended for operators in high temperature/high humidity environments.

3. Accomplishment Instructions

A. Prerequisite Instructions

R (1) Remove the Dedicated Alternator Stator (EDA) (73-22-38, 01-100) from the
R external gearbox (72-60-00, 01-001). Refer to the Engine Manual (EM), Task
R 72-00-60-050-001.

R (2) Remove the Permanent Magnet Alternator (PMA) drive gear assembly
R (72-60-33, 01-001) from the external gearbox (72-60-00, 01-001). Refer to
R the Engine Manual (EM), Task 72-00-60-050-012.

R B. Replace the PMA drive gear retention nut (72-60-33, 01-100)

R (1) Install the base IAE 1F10170 on a swivel vice.

R (2) Install the PMA drive gear assembly (72-60-33, 01-001) on the base with
R the PMA drive gear (72-60-33, 01-120) to the top.

R (3) Safety the PMA drive gear assembly (72-60-33, 01-001) with the special
R screws to the base.

R (4) Install the reaction spanner IAE 1F10218 or IAE 1P16486 on the PMA drive
R gear (72-60-33, 01-120).

R (5) Hold the PMA drive shaft and rotor (72-60-33, 01-180) with the reaction
spanner.

R (6) Loosen the retention nut (72-60-33, 01-100).

R (7) Remove and discard the retention nut (72-60-33, 01-100).

R (8) Install a new retention nut (72-60-33, 01-100) and torque it to the
R required value. Check and record the self-locking torque value.

R (a) If the torque value is between 15 and 89 lbfin (1,6 to 10 Nm), accept
R the retention nut (72-60-33, 01-100).

R (b) If the torque value is less than 15 lbfin (1,6 Nm), reject the
R retention nut (72-60-33, 01-100).

R (9) Torque the retention nut (72-60-33, 01-100). Check and record the final
R torque value.

R (a) Torque the retention nut (72-60-33, 01-100) to between 310 and 354
R lbfin (35 to 40 Nm).

R (10) Remove the reaction spanner from the PMA drive gear (72-60-33, 01-120).

R (11) Remove the special screws.

- R (12) Remove the PMA drive gear assembly (72-60-33, 01-001) from the base.
- R C. Install the PMA drive gear assembly (72-60-33, 01-001) on the external gearbox
R (72-60-00, 01-001). Refer to the Engine Manual (EM), Task 72-00-60-450-012.
- R D. Install the Dedicated Alternator Stator (EDA) (73-22-38, 01-100) on the
R external gearbox (72-60-00, 01-001). Refer to the Engine Manual (EM), Task
R 72-00-60-450-001.
- E. Recording Instructions
- R (1) A record of accomplishment is required.



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| Planning Information Section: | | Material Information Section: | Accomplishment Instruction Section: |
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Explanatory notes:

| | |
|-------------|----------------|
| Operator: | Overhaul Site: |
| Name/Title: | Date: |

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