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V2500-A5 SERIES PROPULSION SYSTEM SERVICE BULLETIN

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Remove	Incorporate	Reason for change
	Pages 1 to 7, 9 and 11 of the Service Bulletin	Initial issue

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International Aero Engines

SERVICE BULLETIN

NON - MODIFICATION - ENGINE - MAGNETIC CHIP DETECTOR (MCD) INSPECTIONS FOR ENGINE SERIAL NUMBERS V10600 TO V11250 INCLUSIVE WITH (FAG) PN 2A1165 NO. 3 BEARINGS INSTALLED WITH BEARING BALLS PROVIDED FROM AN ALTERNATE SUPPLIER.

1. Planning Information

A. Effectivity

(1) Engine Models Applicable

Airbus A319

V2522-A5, V2524-A5, V2527M-A5

Engine Serial Nos. V10600 thru V11250*

* Inclusive with (FAG) part number 2A1165 bearing installed.

(2) Engine Models Applicable

For Airbus A320

V2527-A5, V2527E-A5

Engine Serial Nos. V10600 thru V11250*

* Inclusive with (FAG) part number 2A1165 bearing installed.

(3) Engine Models Applicable

Airbus A321

V2530-A5, V2533-A5

Engine Serial Nos. V10600 thru V11250*

* Inclusive with (FAG) part number 2A1165 bearing installed.

B. Concurrent Requirements

There are no concurrent requirements.

C. Reason

(1) Problem: A sub population of No. 3 bearings, PN 2A1165 have been identified installed on V2500 engine serial numbers V10600 to V11250 inclusive at new production that have bearing balls provided from an alternate supplier and that have shown no service events. These engines are currently subject to a decreased repeat MCD inspection interval no greater than 125 hours as recommended in NMSB 72-0452.

(2) Background: IAE engineering root cause investigation has determined that this sub population of bearings installed on engines listed in Appendix 1 table 1, do not suffer from near surface tensile residual stress identified as root cause for 2A1165 bearing fractures that have occurred in population V10600 to V11250 inclusive. The bearing ball characteristic found in this sub-population is consistent with engines that have number 3 bearing part number PN 2A1170 installed.

(3) Objective: Engines listed in Appendix 1 table 1 to be returned to standard AMM MCD (Magnetic Chip Detector) inspection at A-check (600 hours) and 2A check (1200 hours) until removal at the next shop visit.

(4) Effects of Bulletin on:

Removal/Installation: Not affected.

Disassembly/Assembly: Not affected.

Cleaning: Not affected.

Inspection/Check: Not affected.

Repair: Not affected.

Testing: Not affected.

(5) Supplemental Information

None.

D. Description

This service bulletin recommends that engines listed in Appendix 1 table 1 be returned to standard AMM MCD (Magnetic Chip Detector) inspection intervals at A-check (600 hours) and 2A check (1200 hours) until removal at the next shop visit.

E. Compliance

Category 3

Accomplish at A check (600 hours)and 2A check (1200 hours).

(1) Inspect Magnetic Chip Detector(s) at each A-check (600 hours) and 2A check (1200 hours) per Airbus Maintenance Manual (AMM) and Maintenance Planning Document (MPD).

(a) IAE recommends that the engines listed in appendix 1, table 1 be returned to routine Magnetic Chip Detector inspection intervals at A-check (600 hours) and 2A check (1200 hours) following AMM procedures until the No.3 bearing (2A1165) is replaced at next shop visit in accordance with NMSB 72-0459.

F. Approval Data

The part number changes and/or part modifications specified in the Accomplishment Instructions and Material Information sections of this Service Bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the engine model(s) given.

The compliance statement and the procedures described in this Service Bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the Engine Model listed.

This Non-Modification Service Bulletin is approved by the Manager, Engine Certification Office, ANE-140, by letter dated February 11, 2005 as an Alternate Means of Compliance (AMOC) to FAA Airworthiness Directive 2003-11-23

G. Manpower

(1) In Service

Not Applicable.

(2) At Overhaul

Not Applicable.

H. Weight and Balance

(1) Weight Change

None.

(2) Moment Arm

No Effect.

(3) Datum

Engine Front Mount Centerline (Power Plant Station (PPS) 100)

I. Electrical Load Data

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

J. Software Accomplishment Summary

Not Applicable.

K. References

1. IAE V2500 Non-Modification Service Bulletin V2500-ENG-72-0452 Revision 3 (Engine - Magnetic Chip Detector (MCD) inspections for engines High Pressure Compressor (HPC) Stubshafts installed with low energy standard of coating - Non-Modification Service Bulletin).

2. IAE V2500 Non-Modification Service Bulletin V2500-ENG-72-0459 Revision 2 (Engine - In shop action for engines with P/N 2A1165 (FAG) Number 3 Bearings installed with a (Low Energy Standard of Hard Face Coating) High Pressure Compressor (HPC) StubshafT).

3. IAE V2500 Non-Modification Service Bulletin V2500-ENG-72-0460 Revision 2 (Engine - In shop action for engines with P/N 2A1170 (MRC) Number 3 Bearings installed with a (Low Energy Standard of Hard Face Coating) High Pressure Compressor (HPC) Stubshaft).

4. V2500 Engine Illustrated Parts Catalogs (S-V2500-2IA, S-V2500-2IB, S-V2500-5IA, S-V2500-5IB, S-V2500-6IA, S-V2500-6IB, S-V2500-7IA, and S-V2500-71B), Chapter/Section 72-32-24-01-100.

5. V2500 Aircraft Maintenance Manual (AMM) 79-00-00, Inspection/Check.

6. V2500 Maintenance Planning Document (MPD) 792000-14-1.

7. Internal Reference No. - 05VC022.

8. ATA Locator - 72-32-20.

L. Other Publications Affected

Not Required.

M. Interchangeability of Parts

Old and new parts are directly interchangeable.

N. Information in the Appendix

Alternate Accomplishment Instructions (No)

Progression Charts (No)

Added Data (No)

Revision to Table of Limits (No)

Inspection Procedures (No)

2. Material Information

A. Industry Support Program

Not Applicable.

B. Instructions/Disposition Code Statements:

Not applicable.

C. Tooling - Price and Availability

Special tools are not required to accomplish this Service Bulletin.

D. Reidentified Parts

Not Applicable.

E. Other Material Information Data

Not Applicable.

3. Accomplishment Instructions

NOTE: Service bulletin incorporation on engines installed on aircraft may be desirable and should be individually evaluated.

(1) Examine the MCD for debris in accordance with Airbus Maintenance Manual and Maintenance Planning Document 792000-14-1.

(a) Remove and examine the Master MCD at each A-check (600 hours). Refer to Aircraft Maintenance Manual (AMM) TASK 79-00-00.

(b) Remove and inspect all MCD at each 2A check (1200 hours) for debris. Refer to Aircraft Maintenance Manual (AMM) TASK 79-00-00.

NOTE: For guidance of best practices for inspection of MCD and for further sources of reference regarding inspection techniques/findings refer to Appendix 2.

(2) Recording Instructions

(a) A record of accomplishment is required.

APPENDIX

Appendix 1

Table 1: List of identifying engine within the engine range V10600 to V11250 inclusive, known to have (FAG) 2A1165 bearing installed at new production build which have bearing balls from an alternative supplier. (These engines are installed with either low or high energy coated HPC stubshafts).

Table 1.
V10600, V10628, V10633, V10634, V10650, V10711, V11186, V11190, V11195, V11197, V11200, V11211, V11219, V11221, V11226, V11230, V11231, V11234, V11236, V11237, V11238, V11239, V11241, V11242, V11243, V11244, V11245, V11246, V11247, V11248, V11250

APPENDIX

Appendix 2

1. Magnetic Chip Detector (MCD) Inspection Guidelines

A. It is advised to use main base experienced inspection personnel to avoid variation in the interpretation of results and maintain a 'consistent' inspection technique.

B. If it is not possible to always inspect at main base, limit stations involved and coordinate findings. Return all debris back to main base to enable a complete assessment.

C. Avoid 'non-scheduled' inspections by personnel not familiar with the inspection of the MCD.

NOTE: For further information on inspecting MCD and for examples of bearing material findings refer to the guide booklet 'Early detection of transmission failures through oil system debris assessment'. This document is available from the following sources

Your IAE service representative
IAE Technical Services
The IAE Technical Services Intranet - this is available at the following address,
http://iaewww.iaev2500.com/Eng/tech_svc/TSMCD.shtml.