



400 MAIN STREET, MAIL STOP 121-10  
EAST HARTFORD, CT 06108, USA.  
TELEPHONE:- 860 565 5515  
FAX:- 860 565 0600

DATE: Mar.18/04

P.O. BOX 31, DERBY  
TELEGRAMS - 'ROYCAR' DERBY  
TELEX - 37645  
TELEPHONE:- 44 (0) 1332 242424  
FAX:- 44 (0) 1332 249936

## V2500-A5 SERIES PROPULSION SYSTEM SERVICE BULLETIN

Printed in Great Britain

This document transmits Revision 1 to Service Bulletin EV2500-72-0468

### Document History

Service Bulletin Revision Status  
Initial Issue Dec.22/03

Supplement Revision Status

### Bulletin Revision 1

Remove  
All pages of the  
Service Bulletin

Incorporate  
Pages 1 to 11 of the  
Service Bulletin

Reason for change  
To revise engine  
effectivity and update  
format.

# V2500-ENG-72-0468

Transmittal - Page 1 of 2

CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED  
If any have not been received please advise Publication Services, Rolls-Royce plc, Derby, England  
© Rolls-Royce plc (date as above) Printed in Great Britain

Not subject to the EAR per 15 C.F.R. Chapter 1, Part 734.3(b)(3).

# LIST OF EFFECTIVE PAGES

The effective pages to this Service Bulletin following incorporation of Revision 1 are as follows:

<u>Page</u>		<u>Revision Number</u>	<u>Revision Date</u>
	Bulletin		
R	1	1	Mar.18/04
R	2	1	Mar.18/04
R	3	1	Mar.18/04
R	4	1	Mar.18/04
R	5	1	Mar.18/04
R	6	1	Mar.18/04
R	7	1	Mar.18/04
R	8	1	Mar.18/04
R	9	1	Mar.18/04
R	10	1	Mar.18/04
R	11	1	Mar.18/04

Printed in Great Britain



NON - MODIFICATION SERVICE BULLETIN - INSPECTION OF NO. 3 BEARING PN 2A1170 FOR  
IMPROPER BREAK EDGE ON OIL FEED HOLES OF THE INNER BEARING RACE

1. Planning Information

A. Effectivity

(1) Airbus A319

Engine Models Applicable

V2522-A5, V2524-A5, V2527M-A5

V10051

V10619

V10646

V10692

V10711

V10771

V10818

V10911

V10922

V11011

V11084

V11115

V11223

V11225

V11586

V11591

V11592

(2) Airbus A320

Engine Models Applicable

V2527-A5, V2527E-A5

V10051

V10619

V10646

V10692

V10711

V10771

V10818

V10911

V10922

V11011

V11084

V11115

V11223



R V11225  
V11586  
V11591  
V11592

(3) Airbus A321

Engine Models Applicable

R V2530-A5, V2533A5

V10051  
V10619  
V10646  
V10692  
V10711  
V10771  
V10818  
V10911  
V10922  
V11011  
V11084  
V11115  
V11223  
V11225  
V11586  
V11591  
V11592

R

#### B. Concurrent Requirements

There are no concurrent requirements.

#### C. Reason

(1) Problem: A quality non-conformance has been reported involving No.3 bearings, PN 2A1170 from production where one or more oil holes in the inner race split ring may have received an improper break edge, leaving raised material around the oil hole. Raised material around an oil hole may cause scoring on the cage land area and /or the adjacent bearing components that may compromise the bearing integrity resulting in potential reduced bearing life.

(2) Evidence:

(a) One No. 3 bearing found at fan case production assembly with a "burr" on the OD of the inner ring radial oil hole.

(b) Another No. 3 bearing was found at engine overhaul assembly with a "burr" on the OD of the inner ring radial oil hole and cage scoring.



- (3) Root Cause: Inadequate process development and evaluation by manufacturing and quality assurance organizations on the significance of the edge break produced by an alternative cutting tool (carbide tool).
- (4) Corrective action:
  - (a) Clarify design guidelines, manufacturing instruction, tooling, and inspection methods.
  - (b) Review, locate and clear (remove as suspect) or replace/rework other suspect No.3 bearings produced by the manufacturer using alternative tooling that did not adequately break edge (deburr) the inner ring oil holes.
- (5) 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.
- (6) Supplemental Information
  - None.

D. Description

For engines "In-Service" Listed in Table 1:

- (1) Take appropriate action to provide scavenge filters and oil samples from the next two (2) consecutive "A" checks (500 hours)-or at next earliest opportunity to IAE engineering/Pratt & Whitney MPE labs to perform SOAP analysis of oil and SEM/EDS analysis of any debris extracted from filters for indications of silver, copper, and iron alloys. Acceptance Criteria is: "No Traces of" or "Decreasing Trend" of any silver, copper, or bearing material.

NOTE: For newly overhauled engines returned to service and not installed, an option is provided to expedite clearing of engines. See "Accomplishment" Instructions.



Table 1 Suspect No.3 Bearings

Engine Serial Number	Part Number	Part Serial Number
V10051	2A1170	PCWKAH6887
V01619	2A1170	PCWKAH6880
V10646	2A1170	PCWKAH6870
V10692	2A1170	PCWKAH6916
V10711	2A1170	PCWKAH6894
V10771	2A1170	PCWKAH6871
V10818	2A1170	PCWKAH6884
V10911	2A1170	PCWKAH6885
V10922	2A1170	PCWKAH6878
V11011	2A1170	PCWKAH6867
V11084	2A1170	PCWKAH6879
V11115	2A1170	PCWKAH6886
V11223	2A1170	PCWKAH6869
V11225	2A1170	PCWKAH6903
V11586	2A1170	PCWKAH6904
V11591	2A1170	PCWKAH6898
V11592	2A1170	PCWKAH6897

- (2) IAE Engineering will analyse the data and notify the operator of its finding and any follow up action, if required.

#### E. Compliance

##### Category 5

Accomplish when the engine is disassembled sufficiently to afford access to the affected subassembly (i.e., modules, accessories, components, build groups) and to all affected spare subassemblies.

#### 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.



G. Manpower

R (1) In Service

R Gain access

R 0.5 hour

R Obtain Samples

R 0.5 hour

R To Close up

R 0.5 hour

R Total

R 1.5 hour

R (2) At Overhaul

R Not Applicable.

R NOTE: The times listed are for inspection and handling.

H. Weight and Balance

R (1) Weight Change

R None.

R (2) Moment Arm

R No Effect.

R (3) Datum

R 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.

See Vendor Supplier Service Bulletin.



K. References

1. 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 Figure 1 Item 100.
2. Aircraft Maintenance Manual 79-00-00.
3. Aircraft Maintenance Manual 79-11-41.
4. Aircraft Maintenance Manual 79-22-44.
5. V2500 Engine Manual (E-V2500-1IA), Chapter/Section 71-00-00.
6. V2500 Engine Manual (E-V2500-1IA), Chapter/Section 72-00-00.
7. V2500 Engine Manual (E-V2500-1IA), Chapter/Section 72-00-60.
8. V2500 Standard Practices/Processes Manual (E-V2500-1IA).
- R 9. Internal Reference No. - 03VC247, 04VC044.
10. ATA Locator - 72-32-00.

L. 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. Material – Price and Availability

1. None.

B. Industry Support Program

Not Applicable.

C. 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) For Engines In Service; installed (having resumed revenue service) engines:
  - (a) Remove scavenge filter in accordance with the Aircraft Maintenance Manual (AMM) 79-00-00-200 at the first "A" check (or next earliest opportunity):
    - (i) Drain oil from filter drain plug per 79-22-44-000-010 and filter element through a clean, lint free cloth to collect any debris in oil. Place the filter element and the lint free cloth (with any debris) used to collect any debris into a clean bag and mark with Engine serial number, Time Since Last Shop Visit (TSLSV) and indicate "first"(1st) or "second (2nd) "A-check" as applicable.
    - (ii) Collect an oil sample (at least 30ml) from upper part of the oil tank (AMM 79-11-41-010) using a clean siphon. Place in a clean bottle and mark with Engine serial number, TSLSV and indicate "first" (1st) or "second" (2nd) "A"check as applicable.
    - (iii) Prepare to ship oil, filter and debris samples to IAE engineering per instruction provided in part C: Close Up Actions of this accomplishment section.
    - (iv) Install new scavenge filter and replace oil tank filler cap per AMM 79-00-000 and 79-22-44. Top off oil quantity as required per AMM.
  - (b) For the second (subsequent) "A" check inspection (or next earliest opportunity); repeat preceding steps 1. A. (1) through (4) and mark accordingly as second inspection.



(c) Close Up Actions

- (i) Oil samples, filters, oil sample cloth are to be shipped to either of the following addresses for evaluation:

NOTE: Oil samples, Filters, Oil sample Cloth should be labeled with the Engine Number and "NMSB 72-0468" and shipped to one of the following addresses.

Jet-Care International, Inc.  
3 Saddle Rd.  
Cedar Knolls  
NJ 07927 U.S.A.  
Attn: Alison Hadowanetz  
Tel: 1-877 JET CARE

Spectro  
Palace Gate  
Odiham  
Hampshire  
RG29 1 NP  
UK  
Attn: Alan Baker Tel:  
Tel: +44-0-1256-704000

- (ii) Provide laboratory analysis to IAE Engineering/Technical Support for final assessment and recommendation located at the following address:

IAE Engineering/Technical Support  
Pratt & Whitney Aircraft  
400 Main Street  
East Hartford, Ct. 06108  
Attn: Gary Fountain M/S 165-15  
Tel: 860-565-9198  
Fax: 860-565-0161  
Email: gfountain@iaev2500.com



(2) For operators that have new / or newly overhauled engines under this suspect population – not yet installed on wing; the following option is provided:

(a) Perform "back to back" (two engine run) test in a test cell as follows:

- (i) Install new scavenge filter per Engine Manual (EM) 71-00-00/(AMM 79-22-44), service oil and perform initial wet motor leak/priming check per EM 71-00-00. Collect an oil sample (at least 30ml) from upper part of the oil tank (AMM 79-11-41-010) using a clean siphon. Place in a clean bottle and mark with Engine serial number, TSLSV and indicate "Pre-1st test".
- (ii) Perform engine test No.12 per EM 71-00-00-700-012 B00, section 9, item 4 through 17.
- (iii) After engine test, collect an oil sample (at least 30ml) from upper part of the oil tank (AMM 79-11-41-010) using a clean siphon. Place in a clean bottle and mark with Engine serial number, TSLSV and indicate, "Post 1st test". Sample to be sent out for SOAP analysis.
- (iv) Drain oil from filter drain plug and filter element per EM 72-00-00 and 72-00-60 through a clean, lint free cloth to collect any debris in oil. Remove scavenge filter per EM 71-00-00.
- (v) Prepare to ship oil, filter, and debris samples to IAE engineering per instruction provided in part B: Close Up Actions of this accomplishment section.
- (vi) Install new scavenge filter per EM 71-00-00/(AMM 79-22-44).

NOTE: As long as oil is not required to be added prior to second engine test run, then a 2nd "Pre-test" oil sample is not needed. If oil is required to be added then obtain a 2nd "Pre-test" oil sample per step 2. A. (1) and indicate sample as "Pre 2nd test".

- (vii) Perform engine test No.12 per EM 71-00-00-700-012 B00, section 9, item 4 through 17.
- (viii) After engine test, collect an oil sample (at least 30ml) from upper part of the oil tank (AMM 79-11-41-010) using a clean siphon. Place in a clean bottle and mark with Engine serial number, TSLSV and indicate, "Post 2nd test". Sample to be sent out for SOAP analysis. Drain oil from filter drain plug and filter element per EM 72-00-00 and 72-00-60 through a clean, lint free cloth to collect any debris in oil.

# V2500-ENG-72-0468



- (ix) Prepare to ship oil, filter and debris samples to IAE engineering per instruction provided in part B: Close Up Actions of this accomplishment section
- (x) Install new scavenge filter and replace oil tank filler cap per EM 71-00-00.

(b) Close Up Actions

- (i) Oil samples, filters, oil sample cloth are to be shipped to either of the following addresses for evaluation:

NOTE: Oil samples, Filters, Oil sample Cloth should be labeled with the Engine Number and "NMSB 72-0468" and shipped to one of the following addresses.

Jet-Care International, Inc.  
3 Saddle Rd.  
Cedar Knolls  
NJ 07927 U.S.A.  
Attn: Alison Hadowanetz  
Tel: 1-877 JET CARE

Spectro  
Palace Gate  
Odiham  
Hampshire  
RG29 1 NP  
UK  
Attn: Alan Baker Tel:  
Tel: +44-0-1256-704000

- (ii) Provide laboratory analysis to IAE Engineering/Technical Support for final assessment and recommendation located at the following address:

IAE Engineering/Technical Support  
Pratt & Whitney Aircraft  
400 Main Street  
East Hartford, Ct. 06108  
Attn: Gary Fountain M/S 165-15  
Tel: 860-565-9198  
Fax: 860-565-0161  
Email: gfountain@iaev2500.com

(3) Recording Instructions

- (a) A record of accomplishment is required.