# SERVICE BULLETIN REVISION NOTICE

ENGINE — HIGH PRESSURE (HP) COMPRESSOR DISCS — INTRODUCTION OF SILVER FREE NUTS

Turbojet Engine Service Bulletin No. V2500-ENG-72-0632 Revision No. 1 dated March 23, 2016.

Revision History

Original Issue December 20, 2012

Revision 1 dated March 23, 2016

Reason for the Revision

To add the Summary.

To correct the Effectivity.

To modify the Description.

To add a tool option.

To revise the assembly instructions for multiple tool options.

Effect of Revision on Prior Compliance

None

This is a Complete Revision (Not Applicable to the SGML version)

The format of this Service Bulletin has been changed from previous versions. This revision shows flow bars and the revision date on the bottom of every page. Technical changes incorporated in this revision are marked with revision bars. The contents are in accordance with the list of effective pages.

MODEL APPLICATION

V2500-A1, V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2527M-A5, V2530-A5, V2533-A5, V2525-D5, V2528-D5

BULLETIN ISSUE SEQUENCE

V2500 Series 72-0632

| Page | Revision No. | Date |
|---|---|---|
| 1 thru 17 | 1 | March 23/16 |

**A copy of this Revision Notice and any future revision notices must be filed as a permanent record with your copy of the subject bulletin.**

# SERVICE BULLETIN

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MODEL APPLICATION

V2500-A1, V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2527M-A5, V2530-A5, V2533-A5, V2525-D5, V2528-D5

BULLETIN ISSUE SEQUENCE

V2500 Series 72-0632

ATA NUMBER

72-41-12



Compliance Category

6

P&W Distribution Code

V2500

## Summary

The purpose of this Service Bulletin is to introduce a silver free nut for installation during the assembly of the HPC rotor assembly. Previous standards of this nut were fully or partially coated with silver which can form silver chloride during operating conditions and adhere to the cavity between the stage 7 and stage 8 discs of the HP compressor 3 to 8 drum assembly.

## Planning Information

### Effectivity Data

#### Engine Models Applicable

V2500-A1
Engine Serial Nos. V0001 thru V0361

V2522-A5, V2524-A5, V2527M-A5, V2527-A5, V2527E-A5, V2530-A5, V2533-A5
Engine Serial Nos. V10001 thru V13190

V2522-A5, V2524-A5, V2527M-A5, V2527-A5, V2527E-A5, V2530-A5, V2533-A5
Engine Serial Nos. V15001 thru V16706

V2522-A5, V2524-A5, V2527M-A5, V2527-A5, V2527E-A5, V2530-A5, V2533-A5
Engine Serial Nos. V16708 thru V16728

V2522-A5, V2524-A5, V2527M-A5, V2527-A5, V2527E-A5, V2530-A5, V2533-A5
Engine Serial Nos. V16869

V2525-D5, V2528-D5
Engine Serial Nos. V20001 thru V20285

### Concurrent Requirements

There are no concurrent requirements.

### Reason

1. Condition: Silver plating is used as a lubricant on the threads of the nuts at the flange joint between the 3 to 8 and the 9 to 12 High Pressure (HP) compressor drum assemblies.
2. Background: Service inspections and laboratory investigation have shown that under particular operating conditions and in contact with chlorides, the silver plating can form silver chloride which is caught in the interdisc cavity between the stage 7 and stage 8 discs of the 3 to 8 HP compressor drum assembly. Silver chloride is known to contribute to stress corrosion when in contact with titanium at elevated temperature, which can result in the formation of cracks at this location.
3. Objective: Incorporation of this Service Bulletin is designed to maintain reliability.
4. Substantiation: The changes introduced by this Service Bulletin were the subject of satisfactory engineering analysis. This Service Bulletin complies with the applicable engine certification basis.
5. Effects of Bulletin on:

   Operation: Not affected.

   Maintenance: Not affected.

   Overhaul: Affected (Refer to Other Publications Affected).

Repair Schemes: Not affected.

Interchangeability: Not affected.

Fits and Clearances: Not affected.

6. Supplemental Information

None.

Description

The changes introduced with this Service Bulletin are as follows:

A new silver free nut at the flange joint between the 3 to 8 and the 9 to 12 High Pressure (HP) compressor drum assemblies is introduced.

Compliance

Category 6

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

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 aircraft Type Certificate (TC) holder has been informed of this change.

Manpower

1. In Service

..... Not Applicable.

2. At Overhaul

..... Applicable (Hours not affected).

Weight and Balance

1. Weight Change

None.

2. Moment Arm

No Effect.

3. Datum

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

Electrical Load Data

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

Software Accomplishment Summary

Not Applicable.

References

NOTE: In 2014 IAE converted the V2500 Technical Publications to a new system. As a result of the conversion, some manuals were consolidated. All manuals received new P&W part numbers. To facilitate the use of this Service Bulletin, a Technical Publications conversion table is provided in the Appendix.

1. ATA Locator — 72-41-12.
2. V2500-A1 Series Illustrated Parts Catalog, P&W Ref. PN 2A4427, Chapter/Section 72-41-12.
3. V2500-A5 Series Illustrated Parts Catalog, P&W Ref. PN 2A4428, Chapter/Section 72-41-12.
4. V2500-D5, Series Illustrated Parts Catalog, P&W Ref. PN 2A4426, Chapter/Section 72-41-12.
5. V2500 A1/A5 Series Engine Manual, P&W Ref. PN 2A4407, Chapter/Section 72-00-40, 72-00-41, 72-41-00 and 72-41-10.
6. V2500-D5 Series Engine Manual, P&W Ref. PN 2A4416, Chapter/Section 72-00-40, 72-00-41, 72-41-00 and 72-41-10.

Other Publications Affected

NOTE: In 2014 IAE converted the V2500 Technical Publications to a new system. As a result of the conversion, some manuals were consolidated. All manuals received new P&W part numbers. To facilitate the use of this Service Bulletin, a Technical Publications conversion table is provided in the Appendix.

1. V2500-A1 Series Illustrated Parts Catalog, P&W Ref. PN 2A4427, Chapter/Section 72-41-12.
2. V2500-A5 Series Illustrated Parts Catalog, P&W Ref. PN 2A4428, Chapter/Section 72-41-12.
3. V2500-D5, Series Illustrated Parts Catalog, P&W Ref. PN 2A4426, Chapter/Section 72-41-12.
4. V2500 A1/A5 Series Engine Manual, P&W Ref. PN 2A4407, Chapter/Section 72-41-10.
5. V2500-D5 Series Engine Manual, P&W Ref. PN 2A4416, Chapter/Section 72-41-10.

Interchangeability of Parts

Affected (Refer to Instruction disposition codes).

Information in the Appendix

Alternate Accomplishment Instructions (No)

Progression Charts (No)

Added Data (Yes)

Revision to Table of Limits (No)

Inspection Procedures (No)

Material Information

Material — Price and Availability

1. There is no kit provided to do this Service Bulletin.
2. Part availability information is provided in material data Instructions — Disposition.

Industry Support Program

Not Applicable.

The material data that follows is for each engine.

For V2500-A1 Engines:

| New PN | Qty | Estimate of Unit Price ($) | Keyword | Old PN | Instructions — Disposition |
|---|---|---|---|---|---|
| U755872 | 34 | 36.20 | .NUT | AS64367 (72-41-12-01-602) | (A)(S1) |
| UP10894 | 34 | 10.30 | .PLATE | UP10894 (72-41-12-01-604) | (A) |
| BLT5368 | 34 | 39.70 | .BOLT | BLT5368 (72-41-12-01-608) | (A) |
| 6A3795 | 17 | 32.70 | .PLATE | 6A3795 (72-41-12-01-610) | (A) |

The material data that follows is for each engine.

For V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2527M-A5, V2530-A5, V2533-A5 Engines:

| New PN | Qty | Estimate of Unit Price ($) | Keyword | Old PN | Instructions — Disposition |
|---|---|---|---|---|---|
| U755872 | 34 | 36.20 | .NUT | AS64367 (72-41-12-01-602) | (A)(S1) |
| UP10894 | 34 | 10.30 | .PLATE | UP10894 (72-41-12-01-604) | (A) |
| BLT5368 | 34 | 39.70 | .BOLT | BLT5368 (72-41-12-01-608) | (A) |
| 6A3795 | 17 | 32.70 | .PLATE | 6A3795 (72-41-12-01-610) | (A) |

The material data that follows is for each engine.

For V2525-D5, V2528-D5 Engines:

| New PN | Qty | Estimate of Unit Price ($) | Keyword | Old PN | Instructions — Disposition |
|---|---|---|---|---|---|
| U755872 | 34 | 36.20 | .NUT | AS64367 (72-41-12-01-602) | (A)(S1) |

| New PN | Qty | Estimate of Unit Price ($) | Keyword | Old PN | Instructions — Disposition |
|---|---|---|---|---|---|
| UP10894 | 34 | 10.30 | .PLATE | UP10894 (72-41-12-01-604) | (A) |
| BLT5368 | 34 | 39.70 | .BOLT | BLT5368 (72-41-12-01-608) | (A) |
| 6A3795 | 17 | 32.70 | .PLATE | 6A3795 (72-41-12-01-610) | (A) |

Instructions/Disposition Code Statements:

Spare Parts Availability

(S1) The old and new parts are not interchangeable and must be replaced as a complete set.

(A) This part is now a mandatory replaceable part.

Vendor Services or Special Components/Materials

Not Applicable.

Tooling — Price and Availability

The tooling required to complete this Service Bulletin are as follows:

| Tool No. | Designation |
|---|---|
| IAE1R19895 OR IAE1P16616 | HPC-Rotor Assembly Kit |

For price and availability of the tool given in the table, submit an email to: PWTOOLS@pw.utc.com.

Return details will be provided by e-mail.

Reidentified Parts

Not Applicable.

Other Material Information Data

Not Applicable.

Accomplishment Instructions

1. Rework Instructions

   A. None.

2. Assembly Instructions

   Applicable For Engines 'At Overhaul'

   A. General

      (1) Obey all the warnings and cautions in the procedures that are referred to.

      (2) Consumable Materials

         (a) Refer to the related manual tasks given in this instruction and to the table below.

| Comat No. | Designation |
|---|---|
| 10-142 | Anti-Seize Paste |

      (3) Tools and Equipment

         (a) Refer to the related manual tasks given in this instruction and to the table below.

| Tool No. | Designation |
|---|---|
| IAE1R19895<br>OR<br>IAE1P16616 | HPC-Rotor Assembly Kit |

   B. Get access to the High Pressure (HP) compressor.

   C. Remove the HP system module (Refer to the Engine Manual, Chapter/Section 72-00-40).

   D. Remove the HP compressor assembly (Refer to the Engine Manual, Chapter/Section 72-00-41).

   E. Disassemble the HP compressor assembly (Refer to the Engine Manual, Chapter/Section 72-41-00).

   F. Disassemble the HP compressor rotor assembly (Refer to the Engine Manual, Chapter/Section 72-41-10).

      (1) Remove and discard the 34 old nuts (72-41-12, 01-602), PN AS64367.

      (2) Remove and discard the 34 used anti score plates (72-41-12, 01-604), PN UP10894.

      (3) Remove and discard the 17 used anti frettage plates (72-41-12, 01-610), PN 6A3795 together with the 34 used bolts (72-41-12, 01-608), PN BLT5368.

   G. Assemble the HP compressor rotor assembly (Refer to the Engine Manual, Chapter/Section 72-41-10).

(1) Check each of the 34 new bolts (72-41-12, 01-608) for damage and reject if necessary.

NOTE: This additional check is required to prevent the potential of bolt rejections during the assembly process.

(2) Install the 17 new anti frettage plates (72-41-12, 01-610), PN 6A3795 and the 34 new bolts (72-41-12, 01-608), PN BLT5368.

NOTE: The anti frettage plates and the bolts are now defined as mandatory replaceable part.

(3) Install the 34 new anti score plates (72-41-12, 01-604), PN UP10894.

NOTE: The anti score plates are now defined as mandatory replaceable part.

(4) Install the 34 new nuts (72-41-12, 01-602), PN U755872.

NOTE: The nuts are now defined as mandatory replaceable part.

CAUTION: TOOLING MUST BE FREE OF SILVER OR SILVER CONTAMINATION. SILVER CAN CAUSE DAMAGE TO THE HP COMPRESSOR ROTOR ASSEMBLY.

NOTE: Sockets must be cleaned before each assembly procedure.

All other tool components must be cleaned before each assembly procedure.

Cleaned tools cannot be used on other nut standards.

Lubricants used in tool heads must be free of silver, copper, cadmium, chloride, fluoride and MoS2.

During the assembly, it has to be ensured that no silver can reach this area.

(5) During the installation of the nuts (72-41-12, 01-602) and anti score plates (72-41-12, 01-604) obey the new instructions that follow:

CAUTION: DO NOT USE EQUIPMENT WITH AN OUTDATED CALIBRATION.

CAUTION: MAKE SURE THAT ALL TOOLS ARE AVAILABLE AND IN A WORKABLE CONDITION.

(a) Determine if the tool PN IAE1R19895 or IAE1P16616 will be used.

(b) Refer the V2500 Engine Manual, Chapter/Section 72-41-10 for tool assembly instructions.

H. Assemble the HP compressor assembly (Refer to the Engine Manual, Chapter/Section 72-41-10).

I. Install the HP compressor assembly (Refer to the Engine Manual, Chapter/Section 72-00-41).

J. Install the HP system module (Refer to the Engine Manual, Chapter/Section 72-00-40).

K. Make sure that the work area is clean and clear of tools, equipment and other unwanted materials.

3. Recording Instructions

   A. A record of accomplishment is required.

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FROM THIS SERVICE BULLETIN

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Appendix

Added Data

Internal Reference Information

| Revision No. | Reference Document | Origination |
|---|---|---|
| Original | EC12VR002 | RR |
| 1 | EA15VC723 | MM/IEL |

Number values shown in parentheses adjacent to U.S. values are International System of units (SI) equivalents.

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Technical Publications Cross Reference Table

| Publication | Engine Model(s) | IAE IETM Pub Ref | P&W Part Number |
|---|---|---|---|
| ENGINE MANUAL — A1, A5 | All | E-V2500-1IA | 2A4407 |
| ENGINE MANUAL — D5 | All | E-V2500-3IA | 2A4416 |
| EIPC — A1 | V2500-A1102Q00 | S-V2500-1IA | 2A4427 |

| Publication | Engine Model(s) | IAE IETM Pub Ref | P&W Part Number |
|---|---|---|---|
| EIPC — A5 | V2522/V2524/V2527M-AQ02 | S-V2500-6IA | 2A4428 |
| | V2522/V2524/V2527M-AQ03 | S-V2500-6IB | |
| | V2522/V2524/V2527M-SQ02 | S-V2500-6SA | |
| | V2522/V2524/V2527M-SQ03 | S-V2500-6SB | |
| | V2522/V2524/V2527M-SQ04 | S-V2500-6NA | |
| | V2522/V2524/V2527M-SQ05 | S-V2500-6NB | |
| | V2527/V2527E-AQ02 | S-V2500-7IA | |
| | V2527/V2527E-AQ03 | S-V2500-7IB | |
| | V2527/V2527E-SQ02 | S-V2500-7SA | |
| | V2527/V2527E-SQ03 | S-V2500-7SB | |
| | V2527/V2527E-SQ04 | S-V2500-7NA | |
| | V2527/V2527E-SQ05 | S-V2500-7NB | |
| | V2530-AQ02 | S-V2500-2IA | |
| | V2530-AQ03 | S-V2500-2IB | |
| | V2530-SQ02 | S-V2500-2SA | |
| | V2530-SQ03 | S-V2500-2SB | |
| | V2530-SQ04 | S-V2500-2NA | |
| | V2530-SQ05 | S-V2500-2NB | |
| | V2533-AQ02 | S-V2500-5IA | |
| | V2533-AQ03 | S-V2500-5IB | |
| | V2533-SQ02 | S-V2500-5SA | |
| | V2533-SQ03 | S-V2500-5SB | |
| | V2533-SQ04 | S-V2500-5NA | |
| | V2533-SQ05 | S-V2500-5NB | |
| EIPC — D5 | V2525/V2528-AQ02 | S-V2500-3IA | 2A4426 |
| | V2525/V2528-AQ03 | S-V2500-3IB | |
| | V2525/V2528-AQ04 | S-V2500-3IC | |