

# SERVICE BULLETIN REVISION NOTICE

NON-MODIFICATION SERVICE BULLETIN - ENGINE - SHAFT, ASSEMBLY, REAR HIGH  
PRESSURE COMPRESSOR - REMOVAL AND REPLACEMENT

Turbojet Engine Service Bulletin No. V2500-ENG-72-0639 Revision No. 1 dated January 6, 2017.

## Revision History

Original Issue November 17, 2016

Revision 1 dated January 6, 2017

## Reason for the Revision

To change engine serial number in Table 2 from 200042 to 20042.

## Effect of Revision on Prior Compliance

None.

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

The contents are in accordance with the list of effective pages. All pages have the current revision number. Technical changes are marked with black bars.

## MODEL APPLICATION

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

## BULLETIN ISSUE SEQUENCE

V2500 Series 72-0639

## Page

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## Revision No.

1

## Date

January 6/17

**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.**

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PRESSURE COMPRESSOR - REMOVAL AND REPLACEMENT

## MODEL APPLICATION

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

## BULLETIN ISSUE SEQUENCE

V2500 Series 72-0639

## ATA NUMBER

72-41-13

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## Compliance Category

6

## P&W Distribution Code

V2500

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## Summary

The purpose of this Non-Modification Service Bulletin (NMSB) is to remove from service and dispose of certain suspect High Pressure Compressor (HPC) rear shaft assemblies. HPC rear shaft assemblies with an accepted oversized spigot diameter can potentially have an adverse effect on the cyclic life of the mating HPC 9-12 disc. Investigation revealed a total of twenty (20) HPC rear shafts were accepted at manufacture with an oversized spigot diameter. Applicable HPC rear shafts must be rejected and non-conforming parts removed from service per this NMSB. Reference 8, Alert Non-Modification Service Bulletin - Engine - Disc, High Pressure Compressor 9-12, Assembly Of - Removal Of, gives instructions for the removal of the affected HPC 9-12 disc.

## Planning Information

### Effectivity Data

#### Engine Models Applicable

V2522-A5, V2524-A5, V2527M-A5, V2527-A5, V2527E-A5, V2530-A5, V2533-A5 with a HPC rear shaft serial number listed in Table 1 currently installed.

Any engine as applicable.

V2525-D5, V2528-D5 with a HPC rear shaft serial number listed in Table 1 currently installed.

Any engine as applicable.

### Concurrent Requirements

There are no concurrent requirements.

### Reason

1. Condition: HPC rear shaft assemblies with a previously accepted oversized spigot diameter can potentially have an adverse effect on the cyclic life of the mating HPC 9-12 disc.
2. Background: Investigation revealed a total of twenty (20) HPC rear shafts were accepted at manufacture with an oversized spigot diameter. The resultant fit with the mating HPC 9-12 disc may affect the cyclic life of the disc. Reference 8, Alert Non-Modification Service Bulletin - Engine - Disc, High Pressure Compressor 9-12, Assembly Of - Removal Of, gives instructions for the removal of the affected HPC 9-12 discs.
3. Objective: Applicable HPC rear shafts must be rejected per this NMSB.
4. Substantiation: Finite element analysis was performed to assess the effect of the interface fits between the spigot diameter of the HPC disc(s) and the oversized HPC rear shaft(s). Analysis revealed a potential cyclic life debit to the HPC 9-12 discs mated to the oversized shafts.
5. Effects of Bulletin on:
  - Removal/Installation: Not Affected.
  - Disassembly/Assembly: Not Affected.
  - Cleaning: Not Affected.
  - Inspection/Check: Not Affected.
  - Repair: Not Affected.

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Testing: Not Affected.

6. Supplemental Information

None.

Description

Reject the applicable HPC rear shafts at an overhaul/shop visit.

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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.

Table 1

HPC Rear Shaft Serial No.			
RCQYX0448	RCQYX0542	RCQYX1466	RCQYX2052
RCQYX0450	RCQYX0554	RCQYX1883	RCQYX2546
RCQYX0464	RCQYX0788	RCQYX1885	RCQYX3095
RCQYX0469	RCQYX0794	RCQYX1943	RCQYX3703
RCQYX0473	RCQYX0811	RCQYX2043	RCQYX3772

NOTE: The serial numbers listed above can be applicable to the following HPC Rear Shafts, PN 6A4157, PN 6A5867, PN 6A7711, PN 6A7713 and PN 6B1426.

NOTE: It is possible that the serial numbers listed above are additionally marked by “/A”. This only indicates “Assembly” and has no impact on the applicability of this Service Bulletin.

Approval Data

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.

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

Manpower

1. In Service

..... Not Applicable.

2. At Overhaul

..... Not Applicable.

Weight and Balance

1. Weight Change

None.

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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 — 72-41-13.
2. Internal Reference No. — 15VC414.
3. V2500 Standard Practices and Processes, P&W Ref. PN 2A4414, Chapter/Section 70-41-00.
4. V2500-A5 Series Illustrated Parts Catalog, P&W Ref. PN 2A4428, Chapter/Section 72-41-13.
5. V2500-D5, Series Illustrated Parts Catalog, P&W Ref. PN 2A4426, Chapter/Section 72-41-13.
6. V2500 A1/A5 Series Engine Manual, P&W Ref. PN 2A4407, Chapter/Section 72-41-10 and 72-41-13.
7. V2500-D5 Series Engine Manual, P&W Ref. PN 2A4416, Chapter/Section 72-41-10 and 72-41-13.
8. V2500 Service Bulletin V2500-ENG-72-A0652 Alert Non-Modification Service Bulletin - Engine - Disc, High Pressure Compressor 9-12, Assembly Of - Removal Of.

Other Publications Affected

None.

Interchangeability of Parts

Not Applicable.

Information in the Appendix

Alternate Accomplishment Instructions (No)

Progression Charts (No)

Added Data (Yes)

Revision to Table of Limits (No)

Inspection Procedures (No)

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## Material Information

### Material — Price and Availability

1. Part prices were not available at the time of Service Bulletin publication. Contact IAE Spares Management & Logistics for firm quotations.
2. There is no kit provided to do this Service Bulletin.
3. 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 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
	1	*	SHAFT - ASSY, REAR HPC	6A4157 (72-41-13-01-850)	(5)(X)
	1	*	SHAFT - ASSY, REAR HPC	6A5867 (72-41-13-01-850)	(5)(X)
	1	*	SHAFT - ASSY, REAR HPC	6A7711 (72-41-13-01-850)	(5)(X)
	1	*	SHAFT - ASSY, REAR HPC	6A7713 (72-41-13-01-850)	(5)(X)
	1	*	SHAFT - ASSY, REAR HPC	6B1426 (72-41-13-01-850)	(5)(X)

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
	1	*	SHAFT - ASSY, REAR HPC	6A4157 (72-41-13-01-850)	(5)(X)
	1	*	SHAFT - ASSY, REAR HPC	6A5867 (72-41-13-01-850)	(5)(X)
	1	*	SHAFT - ASSY, REAR HPC	6A7711 (72-41-13-01-850)	(5)(X)
	1	*	SHAFT - ASSY, REAR HPC	6A7713 (72-41-13-01-850)	(5)(X)
	1	*	SHAFT - ASSY, REAR HPC	6B1426 (72-41-13-01-850)	(5)(X)

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Instructions/Disposition Code Statements:

Parts Modification Conditions

Estimated part prices are provided when they are available at time of publication. The Estimate of Unit Price is only for planning purposes and does not constitute a firm quotation. An asterisk (\*) is shown where part pricing information was unavailable. In either case, contact IAE Spares for firm quotations.

(5) Do an inspection for the listed Serial Numbers as specified in Compliance and replace as specified in Accomplishment Instructions if applicable.

Spare Parts Availability

(X) See Reference 4 or 5 for applicable part replacement.

Vendor Services or Special Components/Materials

Not Applicable.

Tooling — Price and Availability

Special tools are not required to accomplish this Service Bulletin.

Reidentified Parts

Not Applicable.

Other Material Information Data

Not Applicable.

## Accomplishment Instructions

1. Perform a check of current and past engine records for HPC rear shaft serial numbers listed within Table 1 of Compliance.

A. For all HPC rear shaft serial numbers listed within Table 1:

- (1) Remove and discard the HPC rear shaft. Refer to Reference 6 or 7, Engine Manual, Chapter/Section 72-41-10 and 72-41-13.

**NOTE:** Refer to Table 2 for reference to engines to which the HPC rear shafts were fitted at production. It is possible that the HPC rear shafts are or have been installed in other engines. It is possible that the HPC rear shafts have been installed with other HPC 9-12 discs.

Table 2

Original Production Engine Serial Number	HPC Rear Shaft Serial No.
V10108	RCQYX0448
V10107	RCQYX0450
V10096	RCQYX0464
V10097	RCQYX0469
Spare	RCQYX0473
V20042	RCQYX0542
V10150	RCQYX0554
V10253	RCQYX0788
V10278	RCQYX0794
V10357	RCQYX0811
V10865	RCQYX1466
V10875	RCQYX1883
No Record	RCQYX1885
V10932	RCQYX1943
V11029	RCQYX2043
V10718	RCQYX2052
V10199	RCQYX2546
V11792	RCQYX3095
V12344	RCQYX3703
V10086	RCQYX3772

- B. For HPC rear shaft serial numbers RCQYX0448, RCQYX0450, RCQYX0464, RCQYX0469, RCQYX0473, RCQYX1885, or RCQYX2052.

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- (1) If any of the above listed HPC rear shaft serial numbers has been installed, also accomplish Reference 8, Alert Non-Modification Service Bulletin - Engine - Disc, High Pressure Compressor 9-12, Assembly Of - Removal Of.

NOTE: No additional action is required if the above listed HPC rear shaft serial numbers have not been mated to an HPC 9-12 disc.

2. Recording Instructions

- A. A record of accomplishment is required.

## Appendix

### Added Data

#### Internal Reference Information

Revision No.	Reference Document	Origination
Original	EA15VC414	MJM/JAC
1	EA15VC414	MJM/JAC

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

To calculate part life, include the hours and/or cycles since the part was made. Use the total hours or cycles to calculate life limits that are the result of part modification, a part used in an engine with different thrust, or for some other reason.

**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, the following Technical Publications cross reference table is provided.

#### 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
CMM-EHC — A1, A5	All	EHC-V2500-1IA	2A4409
CMM-FN — A1, A5	All	FN-V2500-1IA	2A4410
CMM-MMC — A1, A5	All	MECH-V2500-1IA	2A4411
CMM-THD — A1, A5	All	THD-V2500-1IA	2A4412
TLM — A1, A5	All	T-V2500-1IA	2A4408
ENGINE MANUAL — D5	All	E-V2500-3IA	2A4416
CMM-EHC — D5	All	EHC-V2500-3IA	2A4418
CMM-FN — D5	All	FN-V2500-3IA	2A4419
CMM-MMC — D5	All	MECH-V2500-3IA	2A4420
CMM-THD — D5	All	THD-V2500-3IA	2A4423
TLM — D5	All	T-V2500-3IA	2A4417
SPPM (SPM) — A1, A5, D5	All	SPP-V2500-1IA	2A4414
EIPC — A1	V2500-A1102Q00	S-V2500-1IA	2A4427

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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	

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