

# SERVICE BULLETIN

ENGINE — BLADE, SECOND STAGE HIGH PRESSURE TURBINE (HPT) —  
INTRODUCTION OF, TO REDUCE CORROSION

## 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 72-0653

## ATA NUMBER

72-45-32

## IAE PROPRIETARY INFORMATION

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

## Compliance Category

7

February 25/15

**V2500-ENG-72-0653**

## Summary

The purpose of this Service Bulletin is to introduce new 2nd stage HPT blades. The 1st stage HPT blades have an internal and external coating that reduces corrosion. Coat the 2nd stage HPT blades with the same coating successfully used on the 1st stage HPT blades.

## Planning Information

### Effectivity Data

#### Engine Models Applicable

V2500-A1

Engine Serial Nos. V0001 thru V0361

V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2527M-A5, V2530-A5, V2533-A5

Engine Serial Nos. V10001 thru V13190

Engine Serial Nos. V15002 thru V17638\*

V2525-D5, V2528-D5

Engine Serial Nos. V20001 thru V20285

\* This estimate of engine serial numbers will be revised, if necessary, when parts are installed in engines in production.

### Concurrent Requirements

There are no concurrent requirements.

### Reason

1. Condition: Certain operators have experienced internal corrosion on the 2nd stage HPT blades.
2. Background: The 1st stage HPT blades have an internal and external coating that reduces corrosion.
3. Objective: Coat the 2nd stage HPT blades with the same coating successfully used on the 1st stage HPT blades.
  - A. Create new 2nd stage HPT blade part numbers with the new coating.
4. Substantiation: The changes introduced by this Service Bulletin were the subject of satisfactory engineering analysis and test. This Service Bulletin complies with the applicable engine certification basis.
5. Effects of Bulletin on:
  - Removal/Installation: Not affected.
  - Disassembly/Assembly: Not affected.
  - Cleaning: Affected.
  - Inspection/Check: Not affected.
  - Repair: Affected.
6. Supplemental Information
  - None.

### Description

Replace the 2nd stage HPT blades.

### Compliance

Category 7

Accomplish when supply of superseded parts has been depleted.

### 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.

### Manpower

1. In Service

..... Not Applicable.

2. At Overhaul

..... Not Applicable.

### 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

1. ATA Locator — 72-45-32.
2. V2500-A1 Series Illustrated Parts Catalog, P&W Ref. PN 2A4427, Chapter/Section 72-45-32.
3. V2500-A5 Series Illustrated Parts Catalogs, P&W Ref. PN 2A4428, Chapter/Section 72-45-32.
4. V2500-D5 Series Illustrated Parts Catalogs, P&W Ref. PN 2A4426, Chapter/Section 72-45-32.
5. V2500 A1/A5 Series Engine Manual, P&W Ref. PN 2A4407, Chapter/Section 72-45-32.
6. V2500-D5 Series Engine Manual, P&W Ref. PN 2A4416, Chapter/Section 72-45-32.

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7. IAE V2500 Service Bulletin V2500-ENG-70-0154 (Information — HP Turbine Rotor And Stator Assembly — Introduce Revised Material Stage 2 Turbine Blade Assemblies).
8. IAE V2500 Service Bulletin V2500-ENG-70-0576 (Engine — HP Turbine Rotor And Stator Assembly — To Announce The Availability Of The Latest Stage 1 And 2 HPT Blade Assemblies).
9. IAE V2500 Service Bulletin V2500-ENG-72-0187 (Engine — HP Turbine Rotor And Stator Assembly — Provide A New Stage 2 Turbine Blade For Various Model Parts Commonality).
10. IAE V2500 Service Bulletin V2500-ENG-72-0220 (Engine — HP Turbine Rotor And Stator Assembly — Introduce New First And Second Stage Turbine Blades With More Durable Tips And Improved Repairability).
11. IAE V2500 Service Bulletin V2500-ENG-72-0267 (Engine — HP Turbine Rotor And Stator Assembly — Introduce New Second Stage Turbine Blades With More Durable Tips And Improved Repairability).
12. IAE V2500 Service Bulletin V2500-ENG-72-0302 (Engine — HP Turbine Rotor And Stator Assembly — Introduce First And Second Stage Turbine Blades Which Have Protective Coating In The Damper Pocket Area Under The Platform).
13. IAE V2500 Service Bulletin V2500-ENG-72-0321 (Engine — HP Turbine Rotor And Stator Assembly — Introduce New First And Second Stage Turbine Blades With Under Platform Coating).
14. IAE V2500 Service Bulletin V2500-ENG-72-0361 (Engine — HP Turbine Rotor Assembly — Introduce New First Stage Turbine Blades With Blade Root Attachment Coating).
15. IAE V2500 Service Bulletin V2500-ENG-72-0475 (Engine — HP Turbine Rotor Assembly — Introduce New First Stage Turbine Blades And Stage 1 HPT Cooling Duct Assembly With Decreased Flow).
16. IAE V2500 Service Bulletin V2500-ENG-72-0562 (Engine — High Pressure Turbine (HPT) — V2500 SelectOne Production And Retrofit — HPT Upgrade).
17. IAE V2500 Service Bulletin V2500-ENG-72-0575 (Engine — Rotor And Stator Assembly — Provide New SelectOne 2nd Stage High Pressure Turbine (HPT) Restaggered Blades).
18. IAE V2500 Service Bulletin V2500-ENG-72-0634 (Engine — Seals, Blade Outer Air (Duct Segments), 1st and 2nd Stage High Pressure Turbine (HPT) — Replace or modify to improve efficiency).

#### Other Publications Affected

1. V2500-A1 Series Illustrated Parts Catalogs, P&W Ref. PN 2A4427, Chapter/Section 72-45-32.
2. V2500-A5 Series Illustrated Parts Catalogs, P&W Ref. PN 2A4428, Chapter/Section 72-45-32.
3. V2500-D5 Series Illustrated Parts Catalogs, P&W Ref. PN 2A4426, Chapter/Section 72-45-32.
4. V2500 A1/A5 Series Engine Manual, P&W Ref. PN 2A4407, Chapter/Section 72-45-32 Cleaning, Inspection and Repair, to add the new part.

#### Interchangeability of Parts

Old and new parts are directly interchangeable.

Information in the Appendix

Alternate Accomplishment Instructions (No)

Progression Charts (Yes)

Added Data (Yes)

Revision to Table of Limits (No)

Inspection Procedures (No)

## Material Information

### Material — Price and Availability

1. Part price information is provided in the material data table for each engine.
2. Part availability information is provided in material data Instructions — Disposition.
3. V2500-A5 SelectOne™ retrofit kit 2A4373, introduced by Reference 18, Service Bulletin V2500-ENG-72-0634, will no longer be supplied. It is replaced with PN 2A4435 because of the new HPT Stage 2 Blade PN 2A4822 introduced by this Service Bulletin. HPT Stage 2 Blade PN 2A4422 is a detail of PN 2A4373 V2500-A5 SelectOne™ retrofit kit. HPT Stage 2 Blade PN 2A4822 is a detail of PN 2A4435 V2500-A5 SelectOne™ retrofit kit. There are no other changes to the content of the V2500-A5 SelectOne™ retrofit kit.

### 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
2A4622	72	6,759.00	BLADE — HPT, 2STG, ASSY OF	2A0402 (72-45-32-1-10)	(2)(F)(N)
			OR		
2A4622	72	6,759.00	BLADE — HPT, 2STG, ASSY OF	2A1102 (72-45-32-1-10)	(2)(F)(N)
			OR		
2A4622	72	6,759.00	BLADE — HPT, 2STG, ASSY OF	2A1102-001 (72-45-32-1-10)	(2)(F)(N)
			OR		
2A4622	72	6,759.00	BLADE — HPT, 2STG, ASSY OF	2A0402-001 (72-45-32-1-10)	(2)(F)(N)
			OR		
2A4622	72	6,759.00	BLADE — HPT, 2STG, ASSY OF	2A8602 (72-45-32-1-10)	(2)(F)(N)
			OR		
2A4622	72	6,759.00	BLADE — HPT, 2STG, ASSY OF	2A8902 (72-45-32-1-10)	(2)(F)(L)
			OR		
2A4622	72	6,759.00	BLADE — HPT, 2STG, ASSY OF	2A1102-002 (72-45-32-1-10)	(2)(F)(N)

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
2A4722	72	8,390.00	BLADE — HPT, 2STG, ASSY OF	2A2202-002 (72-45-32-1-10)	(2)(B2)(N)
			OR		
2A4722	72	8,390.00	BLADE — HPT, 2STG, ASSY OF	2A2202-003 (72-45-32-1-10)	(2)(B2)(N)
			OR		
2A4722	72	8,390.00	BLADE — HPT, 2STG, ASSY OF	2A9002 (72-45-32-1-10)	(2)(B2)(L)
			OR		
2A4722	72	8,390.00	BLADE — HPT, 2STG, ASSY OF	2A2702-001 (72-45-32-1-10)	(2)(B2)(N)

The material data that follows is for each engine.

For V2500-A5 SelectOne™ Engines:

New PN	Qty	Estimate of Unit Price (\$)	Keyword	Old PN	Instructions — Disposition
2A4822	72	8,390.00	BLADE — HPT, 2STG, ASSY OF	2A4422 (72-45-32-1-10)	(2)(B1)(K)(L)

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
2A4722	72	8,390.00	BLADE — HPT, 2STG, ASSY OF	2A9002 (72-45-32-1-10)	(2)(B2)(L)
			OR		
2A4722	72	8,390.00	BLADE — HPT, 2STG, ASSY OF	2A2702-001 (72-45-32-1-10)	(2)(B2)(N)
			OR		
2A4722	72	8,390.00	BLADE — HPT, 2STG, ASSY OF	2A2202-002 (72-45-32-1-10)	(2)(B2)(N)
			OR		
2A4722	72	8,390.00	BLADE — HPT, 2STG, ASSY OF	2A2202-003 (72-45-32-1-10)	(2)(B2)(N)

#### 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.

(2) The new part is a replacement part only, and cannot be obtained by modification of the old part.

##### Spare Parts Availability

(B1) The new part will be available approximately March 1, 2015.

(B2) The new part will be available approximately May 1, 2015.

(K) PN2A4422 is a detail of 2A4373 V2500-A5 SelectOne™ retrofit kit. PN 2A4822 is a detail of 2A4435 V2500-A5 SelectOne™ retrofit kit.

(F) The new part will be supplied on a full manufacturing lead time quotation basis only.

(L) The old part will be supplied until the supply is fully used.

(N) The old part is not available.

##### 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

### For V2500-A1 Engines:

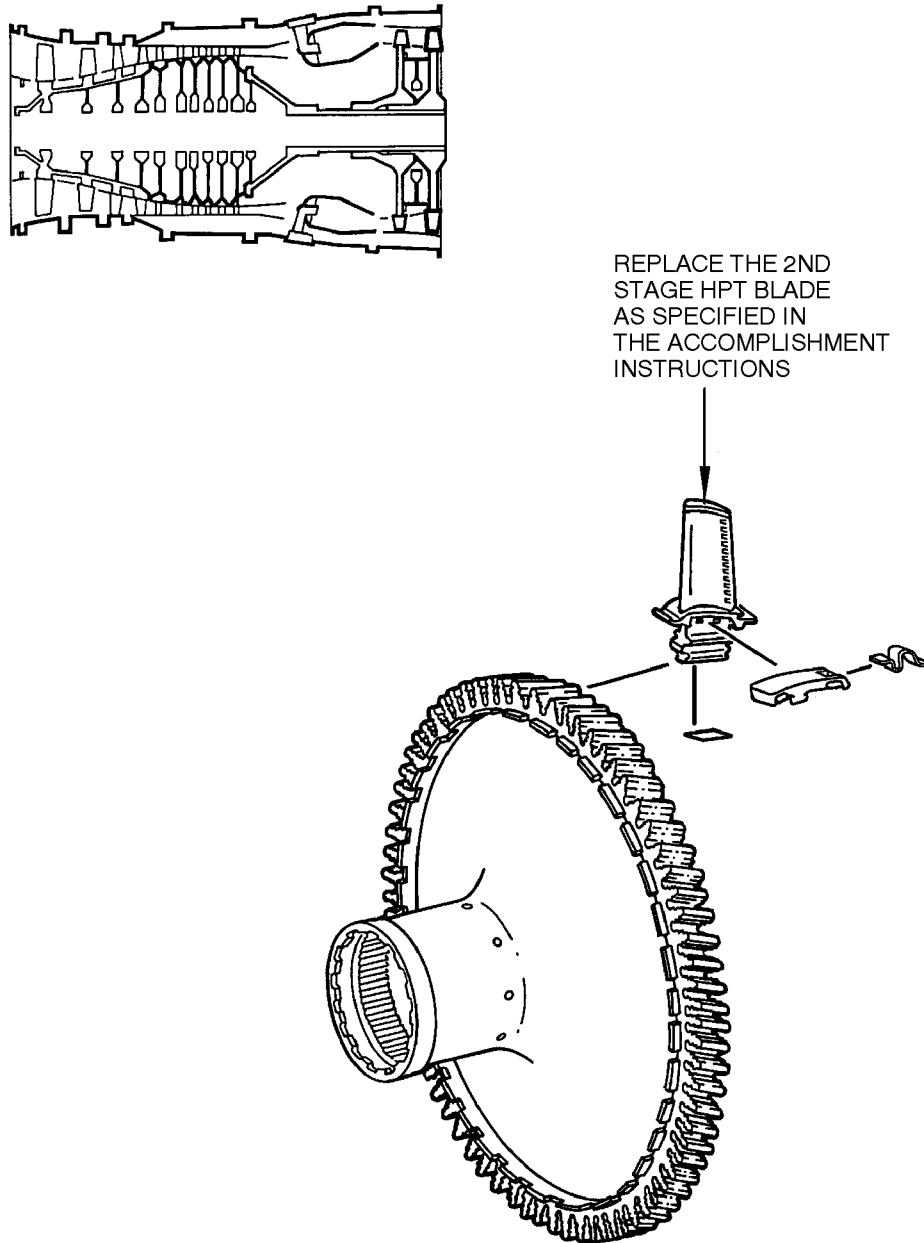
1. Replace the 72 2nd Stage HPT Blades, PN 2A0402, PN 2A1102, PN 2A1102-001, PN 2A0402-001, PN 2A8602, PN 2A8902 and PN 2A1102-002 with PN 2A4622. See Figure 1.
2. Recording Instructions
  - A. A record of accomplishment is required.

### For V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2527M-A5, V2530-A5, V2533-A5 and V2525-D5, V2528-D5 Engines:

1. Replace the 72 2nd Stage HPT Blades, PN 2A2202-002, PN 2A2202-003, PN 2A9002 and PN 2A2702-001 with PN 2A4722. See Figure 1.
2. Recording Instructions
  - A. A record of accomplishment is required.

### For V2500-A5 SelectOne™ Engines:

1. Replace the Kit, PN 2A4373 with PN 2A4435.
2. Replace the 72 2nd Stage HPT Blades, PN 2A4422 with PN 2A4822. See Figure 1.
3. Recording Instructions
  - A. A record of accomplishment is required.



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LOCATION OF THE 2ND STAGE HPT BLADE  
72-45-32  
FIGURE 1

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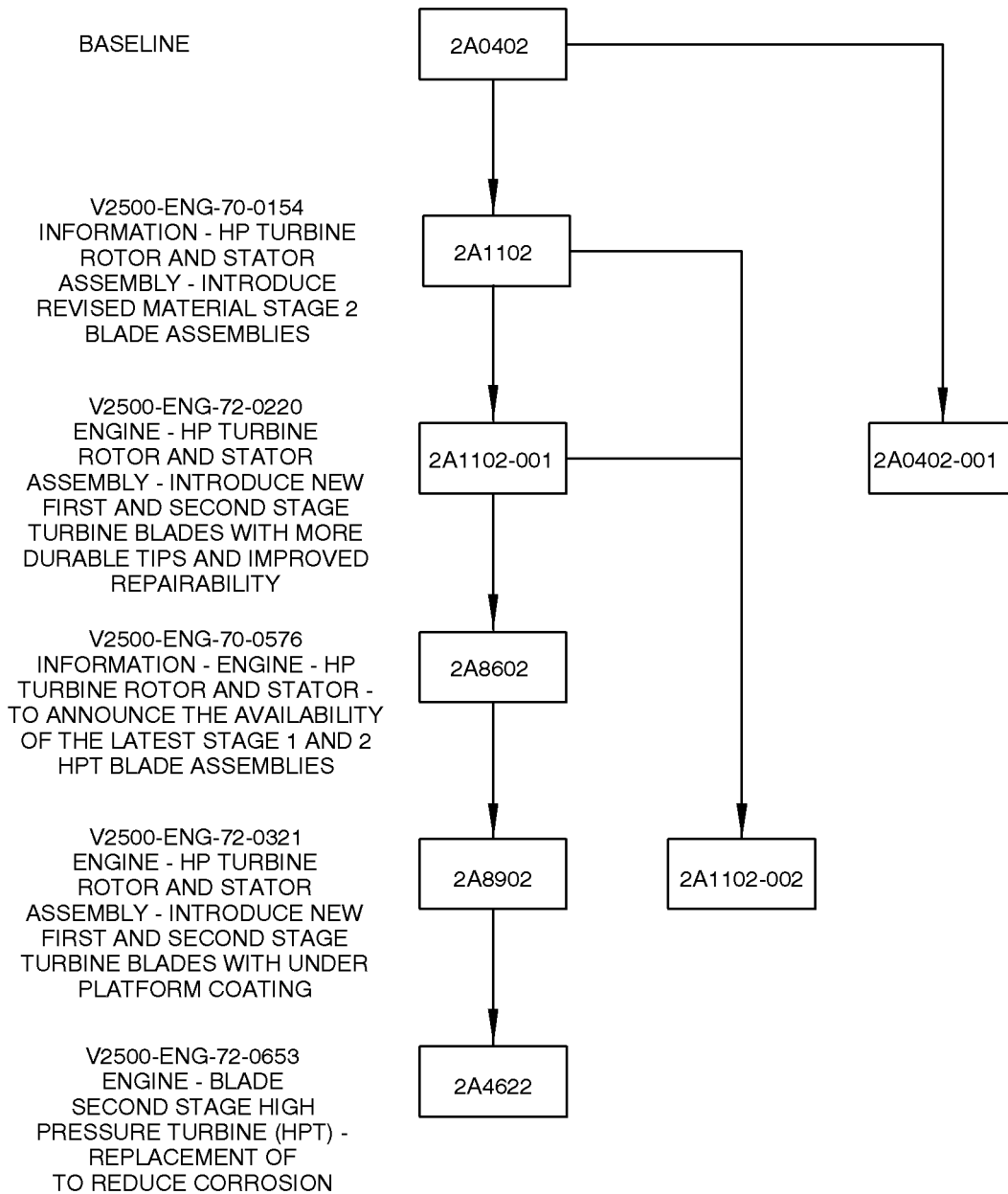
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Appendix

Parts Progression To Show the Changed Part in Relation to Other Parts

MODIFICATIONS

PART NUMBER CHANGE



B525511

## 2ND STAGE HPT BLADE FOR A1 ENGINES CHART A

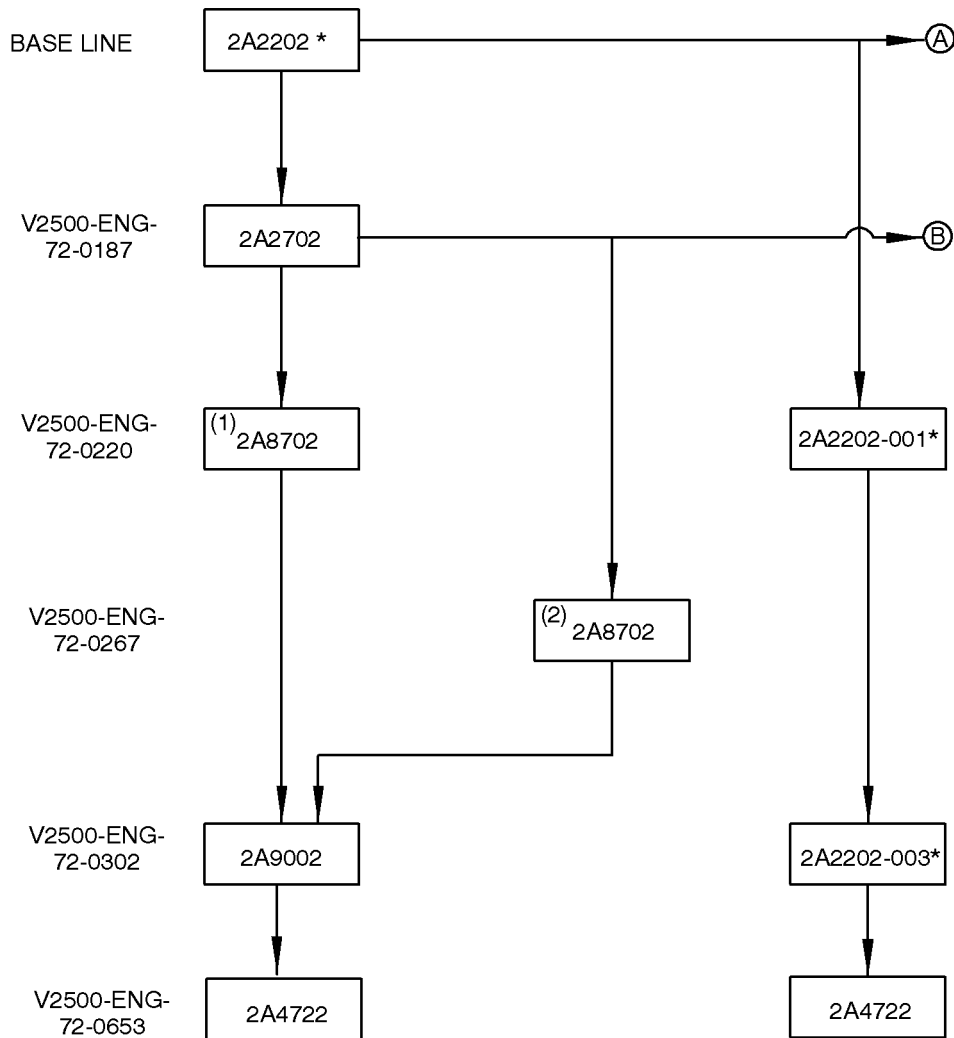
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MODIFICATIONS

PART NUMBER CHANGE



\* DO NOT USE IN V2533-A5 ENGINES

(1) FOR MODELS V2522-A5, V2524-A5, V2527E-A5, V2527M-A5, V2530-A5

(2) FOR MODEL V2533-A5

B525512

2ND STAGE HPT BLADE FOR A5 AND D5 ENGINES CHART B  
CHART B

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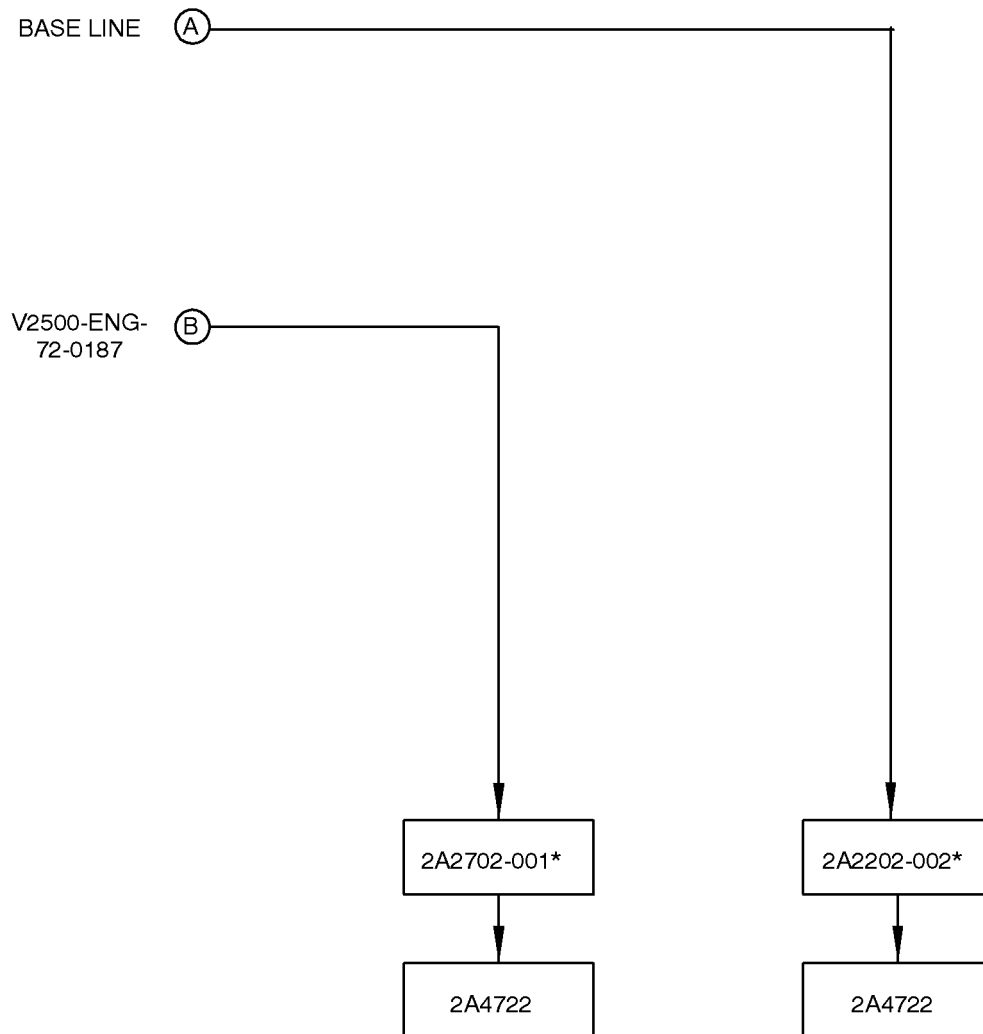
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MODIFICATIONS

PART NUMBER CHANGE



\* DO NOT USE IN V2533-A5 ENGINES

B525513

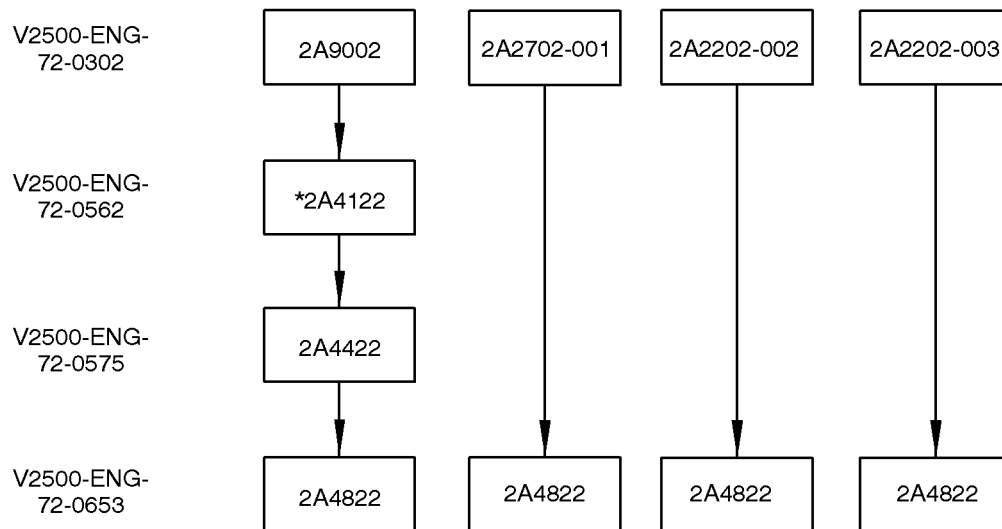
2ND STAGE HPT BLADE FOR A5 AND D5 ENGINES  
CHART C

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MODIFICATIONS      PART NUMBER CHANGE



\* FOR ENGINES V15001 AND V15002 ONLY.

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2ND STAGE HPT BLADE FOR A5 SELECTONE™ ENGINES  
CHART D

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## Added Data

### Internal Reference Information

Revision No.	Reference Document	Origination
Original	EC13VA038	BB/IEL

**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



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	