



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

DATE: Mar.18/09

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

Printed in Great Britain

V2500-A5/D5 SERIES PROPULSION SYSTEMS SERVICE BULLETIN

This document transmits Revision 4 to Service Bulletin V2500-72-0534 and Revision 4 to the Supplement

Document History

Service Bulletin Revision Status

Initial Issue	May 4/07
Revision 1	Jun.12/07
Revision 2	May 13/08
Revision 3	Jan. 7/09

Supplement Revision Status

Initial Issue	May 4/07
Revision 1	Jun.12/07
Revision 2	May 13/08
Revision 3	Jan. 7/09

Service Bulletin Revision 4

Remove	Incorporate	Reason for change
All pages of the Service Bulletin	Pages 1 to 29 of the Service Bulletin	To provide correct part numbers, which had been transposed, in the Interchangeability of Parts section.
All pages of the Supplement	Page 1 of the Supplement	None.

V2500-ENG-72-0534

Transmittal - Page 1 of 1

CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED

If any have not been received please advise Customer Data Services, Rolls-Royce plc, Derby, England

© Rolls-Royce plc (date as above) Printed in Great Britain

ENGINE – PROVIDE NEW SECOND STAGE TURBINE AIR SEAL**1. Planning Information****A. Effectivity****(1) Airbus A319**

V2522-A5, V2524-A5, V2527M-A5

Engine Serial Nos. V10001 thru V12631, V12632, V12634, V12636, V12638, V12640 and V12642.

(2) For Airbus A320

V2527-A5, V2527E-A5

Engine Serial Nos. V10001 thru V12631, V12632, V12634, V12636, V12638, V12640 and V12642.

(3) For Airbus A321

V2530-A5, V2533-A5

Engine Serial Nos. V10001 thru V12631, V12632, V12634, V12636, V12638, V12640 and V12642.

(4) For Boeing MD-90

V2525-D5, V2528-D5

Engine Serial Nos. V20001 thru V20285

B. Concurrent Requirements

This Service Bulletin must be done at the same time or after Reference (4), Service Bulletin No. V2500-ENG-72-0239 and Reference (15), Service Bulletin No. V2500-ENG-72-0522.

NOTE: After incorporation of Service Bulletins V2500-ENG-72-0239, V2500-ENG-72-0522 and V2500-ENG-72-0534, the N2 vibration monitoring Service Bulletins V2500-ENG-72-0500 and V2500-ENG-72-0501 along with the seal replacement introduced by Service Bulletin V2500-ENG-72-0502 will no longer be required.

C. Reason**(1) Condition**

V2500A5/D5 Second Stage High Turbine Air Seal is experiencing cracking in the field. The fleet is being managed by a fleet management plan which includes vibration monitoring and replacing the seal per Service Bulletin 72-0500, 72-0501 and Service Bulletin 72-0502.

NOTE: The model V2500-A1 will be addressed in a separate task.

(2) Background

Root cause investigation has indicated hot gas path air is ingested into the Second Stage High Turbine seal cavity, which increases stress in the region of the fillet where the cracking occurs. Increasing cooling air and reducing leakage will reduce the amount of ingestion. Service Bulletin V2500-ENG-72-0522 (A5/D5 HPT Second Vane) provides for an increase in cooling air and reduces leakage. This Service Bulletin redesigns the A5/D5 Second Stage High Turbine seal by adding a compound radius in the fillet and increasing the forward flange thickness to reduce stress.

(3) Objective

Redesign the A5/D5 Second Stage high turbine Seal to reduce stress to meet the current B.1 certified life of 20,000 cycles. Incorporate a compound radius in the fillet and increase the thickness of the forward flange. Add sutton barrel finish requirement to fillet area.

(4) Substantiation

The Second Stage seal life is improved by reducing the stress in the fillet area.

(5) Effects of Bulletin on:

Removal/Installation: Not applicable.

Disassembly/Assembly: Not applicable.

Cleaning: Not applicable.

Inspection/Check: Not applicable.

Repair: Not applicable.

Testing: Not applicable.

(6) Supplemental Information

None.

D. Description

Replace the Second Stage High Turbine Seal.

E. Compliance

Category Code 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.

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

(1) In Service

Not Applicable.

(2) At Overhaul

Not Applicable.

H. Weight and Balance

(1) Weight Change

+ 0.225 lb. (0.10 kg)

(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 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)).
- (2) IAE V2500 Service Bulletin V2500-ENG-72-0207 (Engine - HP Turbine Rotor and Stator Assembly - Provide a New Stage 2 HPT Air Seal Assembly Featuring Recontoured Forward and Rearward Mating Surfaces and a Tapered Web).
- (3) IAE V2500 Service Bulletin V2500-ENG-72-0236 (Engine - HP Turbine Rotor and Stator Assembly - Provide A New Orifice Plate With An Increased Opening Size).
- (4) IAE V2500 Service Bulletin V2500-ENG-72-0239 (Engine - Diffuser and Combustor Group - Provide New Diffuser Group Adapters and Tube Assemblies).
- (5) IAE V2500 Service Bulletin V2500-ENG-72-0327 (Engine - High Pressure Turbine Rotor and Stator Assembly - Introduce New Rotating Parts with Potential for Increased Cyclic Life).
- (6) IAE V2500 Service Bulletin V2500-ENG-72-0240 (Engine - High Pressure Turbine Rotor and Stator Assembly - Provide a New Stage 2 HPT Air Seal and New Stage 1 High Pressure Turbine HPT Hub Metering Plugs).
- (7) IAE V2500 Service Bulletin V2500-ENG-72-0242 (Engine - HP Turbine Rotor and Stator Assembly - Provide a New Stage 1 HPT Blades).
- (8) IAE V2500 Service Bulletin V2500-ENG-72-0412 (Engine - Provide Additional Oil Drain Hole In Second Stage Turbine Air Seal).
- (9) IAE V2500 Service Bulletin V2500-ENG-72-0451 (Engine - High Pressure Turbine First Stage Disk Metering Plug Redesign).
- (10) 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).
- (11) IAE V2500 Service Bulletin V2500-ENG-72-0483 (Engine - New First Stage Duct Segments and HPT Vane Support).
- (12) IAE V2500 Service Bulletin V2500-ENG-72-0500 (Non - Modification Service Bulletin - N2 Vibration Monitoring For The High Pressure Turbine (HPT) Stage 2 Air Seal).

- (13) IAE V2500 Service Bulletin V2500-ENG-72-0501 (Non - Modification Service Bulletin - N2 Vibration Monitoring For The High Pressure Turbine (HPT) Stage 2 Air Seal).
- (14) IAE V2500 Service Bulletin V2500-ENG-72-0502 (Non-Modification Service Bulletin - Replacement Of High Pressure Turbine (HPT) Stage 2 Air Seal).
- (15) V2500 Service Bulletin V2500-ENG-72-0522 (Engine - Provide New Second Stage Vane with Increased Cooling Air).
- (16) V2500 Engine Illustrated Parts Catalogs (S-V2500-2IA, S-V2500-2IB, S-V2500-3IA, S-V2500-3IB, S-V2500-5IA, S-V2500-5IB, S-V2500-6IA, S-V2500-6IB, S-V2500-7IA and S-V2500-7IB).
- (17) V2500 Engine Manual (E-V2500-1I A and E-V2500-3IA).
- (18) V2500 Standard Practices/Processes Manual (E-V2500-1IA and E-V2500-3IA) 70-09-00 Marking of Parts.
- (19) Internal Reference No. - 06VA016, 06VA016F, 07VK001.
- (20) Internal Reference No. - EC 08VA058.
- (21) ATA Locator - 72-45-00.

L. Other Publications Affected

- (1) V2500 Engine Illustrated Parts Catalogs (S-V2500-2IA, S-V2500-2IB, S-V2500-3IA, S-V2500-3IB, S-V2500-5IA, S-V2500-5IB, S-V2500-6IA, S-V2500-6IB, S-V2500-7IA and S-V2500-7IB), Chapter/Section 72-45-00. To add the new part(s).
- (2) V2500 Engine Manuals (E-V2500-1IA and E-V2500-3IA), Chapter/Section 72-45-00 Cleaning, Inspection and Repair, to add the new part(s).

M. Interchangeability of Parts

Old and new parts are not interchangeable.

R The new seal, PN 2A4157 is only one-way interchangeable with the current seal,
R PN 2A3596. The new seal may be fitted in lieu of the old seal but not vice-versa.

Old Rotor and Stator Assembly, PN 2A9800 and new Rotor and Stator Assembly, PN 2A4310 are interchangeable.

This Service Bulletin must be done at the same time or after Reference (4), Service Bulletin No. V2500-ENG-72-0239 and Reference (15), Service Bulletin No. V2500-ENG-72-0522.

N. Information in the Appendix

Alternate Accomplishment Instructions (No)

Progression Charts (Yes)

Added Data (Yes)

Revision to Table of Limits (Yes)

Inspection Procedures (No)

2. Material Information

A. Material – Price and Availability

Modification kit is not required.

For Price and availability of spares refer to the supplement of this Service Bulletin.

B. Industry Support Program

Not Applicable.

C. The material data that follows is for each engine.

72-45-00

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

FIG- ITEM NUMBER	NEW PART NUMBER	QTY	PART TITLE	MAT	OLD PN	INSTR – DISP
01-001	2A4310	1	Rotor and Stator Assembly OR	-	2A9800	(2) (F) (N) (I)
01-001	2A7000-016	1	Rotor and Stator Assembly OR	-	2A4200	(1) (M) (I)
01-001	2A7000-016	1	Rotor and Stator Assembly OR	-	2A4200	(1) (M) (I)
01-001	2A7000-016	1	Rotor and Stator Assembly OR	-	2A4200-001	(1) (M) (I)
01-001	2A7000-016	1	Rotor and Stator Assembly OR	-	2A4200-002	(1) (M) (I)
01-001	2A7000-016	1	Rotor and Stator Assembly OR	-	2A4200-002	(1) (M) (I)
01-001	2A7000-016	1	Rotor and Stator Assembly OR	-	2A4200-002	(1) (M) (I)
01-001	2A7000-019	1	Rotor and Stator Assembly OR	-	2A4200-003	(1) (M) (I)
01-001	2A7000-019	1	Rotor and Stator Assembly OR	-	2A4200-004	(1) (M) (I)
01-001	2A9800-001	1	Rotor and Stator Assembly	-	2A4200-005	(1) (M) (I)

FIG- ITEM NUMBER	NEW PART NUMBER	QTY	PART TITLE	MAT	OLD PN	INSTR - DISP
01-001	2A7000-019	1	OR Rotor and Stator Assembly	-	2A4200-007	(1) (M) (I)
01-001	2A7000-016	1	OR Rotor and Stator Assembly	-	2A4200-009	(1) (M) (I)
01-001	2A7000-019	1	OR Rotor and Stator Assembly	-	2A4200-010	(1) (M) (I)
01-001	2A7000-016	1	OR Rotor and Stator Assembly	-	2A4200-011	(1) (M) (I)
01-001	2A9800-001	1	OR Rotor and Stator Assembly	-	2A4200-012	(1) (M) (I)
01-001	2A7000-016	1	OR Rotor and Stator Assembly	-	2A7000	(1) (M) (I)
01-001	2A7000-016	1	OR Rotor and Stator Assembly	-	2A7000	(1) (M) (I)
01-001	2A7000-016	1	OR Rotor and Stator Assembly	-	2A7000-001	(1) (M) (I)
01-001	2A7000-019	1	OR Rotor and Stator Assembly	-	2A7000-002	(1) (M) (I)
01-001	2A7000-019	1	OR Rotor and Stator Assembly	-	2A7000-003	(1) (M) (I)
01-001	2A7000-019	1	OR Rotor and Stator Assembly	-	2A7000-004	(1) (M) (I)
01-001	2A9800-001	1	OR Rotor and Stator Assembly	-	2A7000-005	(1) (M) (I)
01-001	2A9800-001	1	OR Rotor and Stator Assembly	-	2A7000-006	(1) (M) (I)
01-001	2A9800-001	1	OR Rotor and Stator Assembly	-	2A7000-007	(1) (M) (I)
01-001	2A7000-016	1	OR Rotor and Stator Assembly	-	2A7000-008	(1) (M) (I)
01-001	2A7000-019	1	OR Rotor and Stator Assembly	-	2A7000-009	(1) (M) (I)

Printed in Great Britain

FIG- ITEM NUMBER	NEW PART NUMBER	QTY	PART TITLE	MAT	OLD PN	INSTR - DISP
01-001	2A7000-019	1	OR Rotor and Stator Assembly	-	2A7000-010	(1) (M) (I)
01-001	2A7000-019	1	OR Rotor and Stator Assembly	-	2A7000-011	(1) (M) (I)
01-001	2A7000-016	1	OR Rotor and Stator Assembly	-	2A7000-012	(1) (M) (I)
01-001	2A9800-001	1	OR Rotor and Stator Assembly	-	2A7000-013	(1) (M) (I)
01-001	2A9800-001	1	OR Rotor and Stator Assembly	-	2A7000-014	(1) (M) (I)
01-001	2A9800-001	1	OR Rotor and Stator Assembly	-	2A7000-015	(1) (M) (I)
01-001	2A9300-006	1	OR Rotor and Stator Assembly	-	2A8400	(1) (M) (I)
01-001	2A9800-001	1	OR Rotor and Stator Assembly	-	2A8400-002	(1) (M) (I)
01-001	2A9800-001	1	OR Rotor and Stator Assembly	-	2A8400-003	(1) (M) (I)
01-001	2A9300-006	1	OR Rotor and Stator Assembly	-	2A8400-004	(1) (M) (I)
01-001	2A9300-006	1	OR Rotor and Stator Assembly	-	2A9300	(1) (M) (I)
01-001	2A9800-001	1	OR Rotor and Stator Assembly	-	2A9300-002	(1) (M) (I)
01-001	2A9300-006	1	OR Rotor and Stator Assembly	-	2A9300-003	(1) (M) (I)
01-001	2A9800-001	1	OR Rotor and Stator Assembly	-	2A9300-004	(1) (M) (I)
01-001	2A9800-001	1	OR Rotor and Stator Assembly	-	2A9800	(1) (M) (I)
01-080	2A4157	1	.Seal-Air, HPT, 2nd Stage	-	2A1160	(2) (B) (I)

FIG- ITEM NUMBER	NEW PART NUMBER	QTY	PART TITLE	MAT	OLD PN	INSTR - DISP
01-080	2A4157	1	OR .Seal-Air, HPT, 2nd Stage	-	2A3108	(2) (B) (I)
01-080	2A4157	1	OR .Seal-Air, HPT, 2nd Stage	-	2A3425	(2) (B) (I)
01-080	2A4157	1	OR .Seal-Air, HPT, 2nd Stage	-	2A3179	(2) (B) (I)
01-080	2A4157	1	OR .Seal-Air, HPT, 2nd Stage	-	2A3596	(2) (B) (C) (I)

For V2533-A5 Engines:

FIG- ITEM NUMBER	NEW PART NUMBER	QTY	PART TITLE	MAT	OLD PN	INSTR - DISP
01-001	2A4310	1	Rotor and Stator Assembly	-	2A9800	(2) (F) (N) (I)
01-001	2A7000-016	1	OR Rotor and Stator Assembly	-	2A4200	(1) (M) (I) (NR)
01-001	2A7000-016	1	OR Rotor and Stator Assembly	-	2A4200-001	(1) (M) (I) (NR)
01-001	2A7000-016	1	OR Rotor and Stator Assembly	-	2A4200-002	(1) (M) (I) (NR)
01-001	2A7000-019	1	OR Rotor and Stator Assembly	-	2A4200-003	(1) (M) (I) (NR)
01-001	2A7000-019	1	OR Rotor and Stator Assembly	-	2A4200-004	(1) (M) (I) (NR)
01-001	2A9800-001	1	OR Rotor and Stator Assembly	-	2A4200-005	(1) (M) (I) (NR)
01-001	2A7000-019	1	OR Rotor and Stator Assembly	-	2A4200-007	(1) (M) (I) (NR)
01-001	2A7000-016	1	OR Rotor and Stator Assembly	-	2A4200-009	(1) (M) (I) (NR)
01-001	2A7000-019	1	OR Rotor and Stator Assembly	-	2A4200-010	(1) (M) (I) (NR)

Printed in Great Britain

FIG- ITEM NUMBER	NEW PART NUMBER	QTY	PART TITLE	MAT	OLD PN	INSTR - DISP
01-001	2A7000-016	1	Rotor and Stator Assembly OR	-	2A4200-011	(1) (M) (I) (NR)
01-001	2A9800-001	1	Rotor and Stator Assembly OR	-	2A4200-012	(1) (M) (I) (NR)
01-001	2A7000-016	1	Rotor and Stator Assembly OR	-	2A7000	(1) (M) (I) (NR)
01-001	2A7000-016	1	Rotor and Stator Assembly OR	-	2A7000-001	(1) (M) (I) (NR)
01-001	2A7000-019	1	Rotor and Stator Assembly OR	-	2A7000-002	(1) (M) (I) (NR)
01-001	2A7000-019	1	Rotor and Stator Assembly OR	-	2A7000-003	(1) (M) (I) (NR)
01-001	2A7000-019	1	Rotor and Stator Assembly OR	-	2A7000-004	(1) (M) (I) (NR)
01-001	2A9800-001	1	Rotor and Stator Assembly OR	-	2A7000-005	(1) (M) (I) (NR)
01-001	2A9800-001	1	Rotor and Stator Assembly OR	-	2A7000-006	(1) (M) (I) (NR)
01-001	2A9800-001	1	Rotor and Stator Assembly OR	-	2A7000-007	(1) (M) (I) (NR)
01-001	2A7000-016	1	Rotor and Stator Assembly OR	-	2A7000-008	(1) (M) (I) (NR)
01-001	2A7000-019	1	Rotor and Stator Assembly OR	-	2A7000-009	(1) (M) (I) (NR)
01-001	2A7000-019	1	Rotor and Stator Assembly OR	-	2A7000-010	(1) (M) (I) (NR)
01-001	2A7000-019	1	Rotor and Stator Assembly OR	-	2A7000-011	(1) (M) (I) (NR)
01-001	2A9800-001	1	Rotor and Stator Assembly OR	-	2A7000-013	(1) (M) (I) (NR)
01-001	2A9800-001	1	Rotor and Stator Assembly OR	-	2A7000-014	(1) (M) (I) (NR)

FIG- ITEM NUMBER	NEW PART NUMBER	QTY	PART TITLE	MAT	OLD PN	INSTR - DISP
01-001	2A9800-001	1	Rotor and Stator Assembly OR	-	2A7000-015	(1) (M) (I) (NR)
01-001	2A9300-006	1	Rotor and Stator Assembly OR	-	2A8400	(1) (M) (I)
01-001	2A9800-001	1	Rotor and Stator Assembly OR	-	2A8400-002	(1) (M) (I)
01-001	2A9800-001	1	Rotor and Stator Assembly OR	-	2A8400-003	(1) (M) (I)
01-001	2A9300-006	1	Rotor and Stator Assembly OR	-	2A8400-004	(1) (M) (I)
01-001	2A9300-006	1	Rotor and Stator Assembly OR	-	2A9300	(1) (M) (I)
01-001	2A9800-001	1	Rotor and Stator Assembly OR	-	2A9300-002	(1) (M) (I)
01-001	2A9300-006	1	Rotor and Stator Assembly OR	-	2A9300-003	(1) (M) (I)
01-001	2A9800-001	1	Rotor and Stator Assembly OR	-	2A9300-004	(1) (M) (I)
01-001	2A9800-001	1	Rotor and Stator Assembly	-	2A9800	(1) (M) (I)
01-080	2A4157	1	.Seal-Air, HPT, 2nd Stage OR	-	2A1160	(2) (B) (I)
01-080	2A4157	1	.Seal-Air, HPT, 2nd Stage OR	-	2A3108	(2) (B) (I)
01-080	2A4157	1	.Seal-Air, HPT, 2nd Stage OR	-	2A3425	(2) (B) (I)
01-080	2A4157	1	.Seal-Air, HPT, 2nd Stage OR	-	2A3179	(2) (B) (I)
01-080	2A4157	1	.Seal-Air, HPT, 2nd Stage	-	2A3596	(2) (B) (C) (I)

D. Instructions/Disposition Code Statements:

Parts Modification Conditions

- (1) The new part can be obtained by modification of the old part as specified in the Accomplishment Instructions.
 (2) The new part is a replacement part only, and cannot be obtained by modification of the old part.

Spare Parts Availability

- (B) The new part will be available approximately 22 May 2007.
 (C) The old part will continue to be supplied until the new part is available.
 (F) The new part will be available on a Full Manufacturing Lead time quote basis only.
 (M) It is possible to get the new part only by modification.
 (N) The old part is not available.
 (NR) Not 33K rated if the HPT stage 1 rotor assembly contains Stage 1 Hub, PN 2A2201 and/or any Stage 1 Blade, PN 2A8701-002, PN 2A8701-001, PN 2A8521-004, PN 2A8521-002, PN 2A8321-003, PN 2A8321-002, PN 2A8321-004.

Cleaning, Inspection and Repair Information

- (I) The cleaning, inspection and repair requirements are the same for the old and new part. The applicable engine manuals will be revised.

E. Tooling – Price and Availability

Special tools are not required to accomplish this Service Bulletin.

F. Reidentified Parts

New PN	Keyword	Old PN
2A7000-016	Rotor and Stator Assembly	2A4200
2A7000-016	Rotor and Stator Assembly	2A4200
2A7000-016	Rotor and Stator Assembly	2A4200-001
2A7000-016	Rotor and Stator Assembly	2A4200-002
2A7000-016	Rotor and Stator Assembly	2A4200-002
2A7000-016	Rotor and Stator Assembly	2A4200-002
2A7000-019	Rotor and Stator Assembly	2A4200-003

New PN	Keyword	Old PN
2A7000-019	Rotor and Stator Assembly	2A4200-004
2A9800-001	Rotor and Stator Assembly	2A4200-005
2A7000-019	Rotor and Stator Assembly	2A4200-007
2A7000-016	Rotor and Stator Assembly	2A4200-009
2A7000-019	Rotor and Stator Assembly	2A4200-010
2A7000-016	Rotor and Stator Assembly	2A4200-011
2A9800-001	Rotor and Stator Assembly	2A4200-012
2A7000-016	Rotor and Stator Assembly	2A7000
2A7000-016	Rotor and Stator Assembly	2A7000
2A7000-016	Rotor and Stator Assembly	2A7000-001
2A7000-019	Rotor and Stator Assembly	2A7000-002
2A7000-019	Rotor and Stator Assembly	2A7000-003
2A7000-019	Rotor and Stator Assembly	2A7000-004
2A9800-001	Rotor and Stator Assembly	2A7000-005
2A9800-001	Rotor and Stator Assembly	2A7000-006
2A9800-001	Rotor and Stator Assembly	2A7000-007
2A7000-016	Rotor and Stator Assembly	2A7000-008
2A7000-019	Rotor and Stator Assembly	2A7000-009
2A7000-019	Rotor and Stator Assembly	2A7000-010
2A7000-019	Rotor and Stator Assembly	2A7000-011
2A7000-016	Rotor and Stator Assembly	2A7000-012
2A9800-001	Rotor and Stator Assembly	2A7000-013
2A9800-001	Rotor and Stator Assembly	2A7000-014
2A9800-001	Rotor and Stator Assembly	2A7000-015

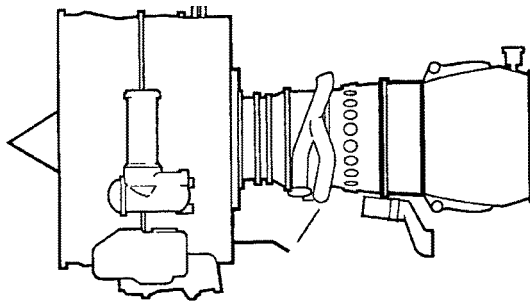
New PN	Keyword	Old PN
2A9300-006	Rotor and Stator Assembly	2A8400
2A9800-001	Rotor and Stator Assembly	2A8400-002
2A9800-001	Rotor and Stator Assembly	2A8400-003
2A9300-006	Rotor and Stator Assembly	2A8400-004
2A9300-006	Rotor and Stator Assembly	2A9300
2A9800-001	Rotor and Stator Assembly	2A9300-002
2A9300-006	Rotor and Stator Assembly	2A9300-003
2A9800-001	Rotor and Stator Assembly	2A9300-004
2A9800-001	Rotor and Stator Assembly	2A9800

G. Other Material Information Data

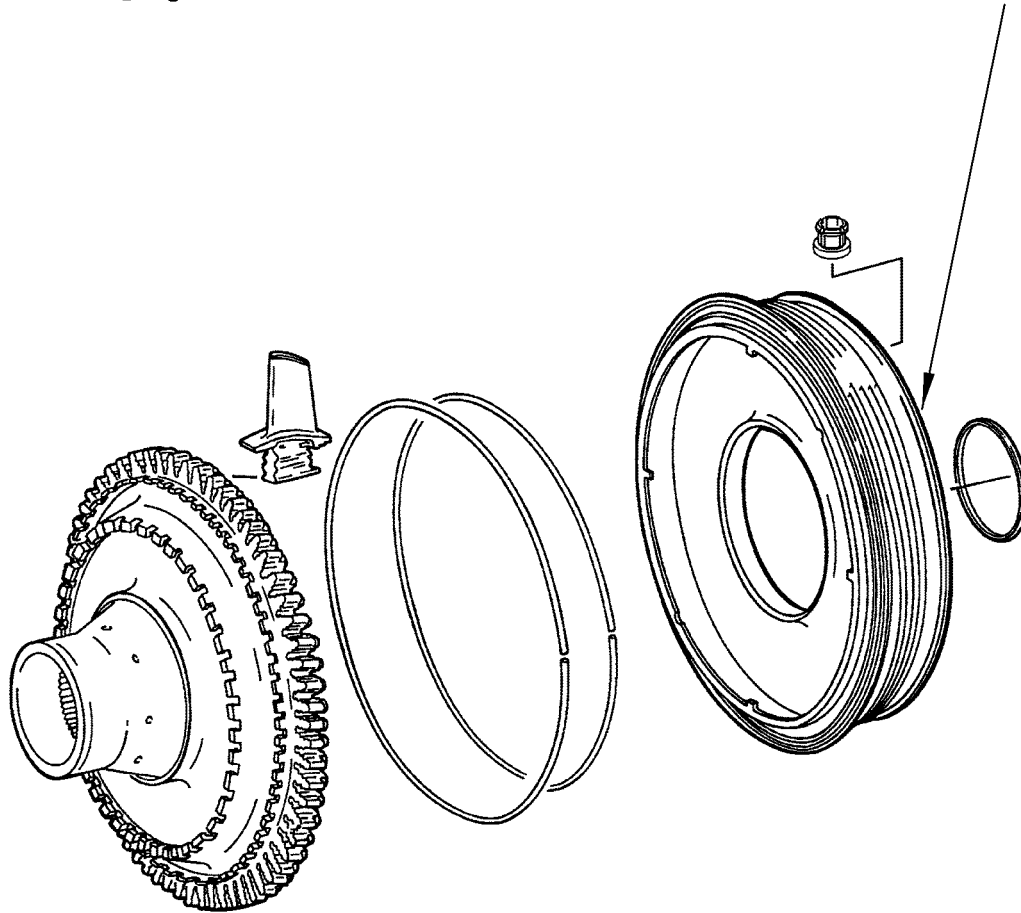
Not Applicable.

3. Accomplishment Instructions

- (1) This Service Bulletin must be done at the same time or after Reference (4), Service Bulletin No. V2500-ENG-72-0239 (No. 4 Bearing Tube) and Reference (15) , Service Bulletin No. V2500-ENG-72-0522.
- (2) Clean per SPM Chapter/Section 70-10-00-100-501.
- (3) Inspect and repair per the Engine Manual Chapter/Section 72-45-20-100 and 72-45-24-100.
- (4) Install a new 2A4157 Stage 2 High Pressure Turbine Air Seal when you assemble the High Pressure Turbine Rotor And Stator Assembly by the procedure given in Reference (17), Engine Manual, Chapter/Section 72-45-00-430, Assembly. See Figure 1.
- (5) When you assemble the new High Pressure Turbine Rotor and Stator Assembly identify it by the procedure given in Reference (18), Chapter/Section 70-09-00 Marking of Parts.
- (6) Recording Instructions
 - (a) A record of accomplishment is required.



INSTALL THE 2A4157
STAGE 2 HIGH PRESSURE
TURBINE AIR SEAL (1OFF)

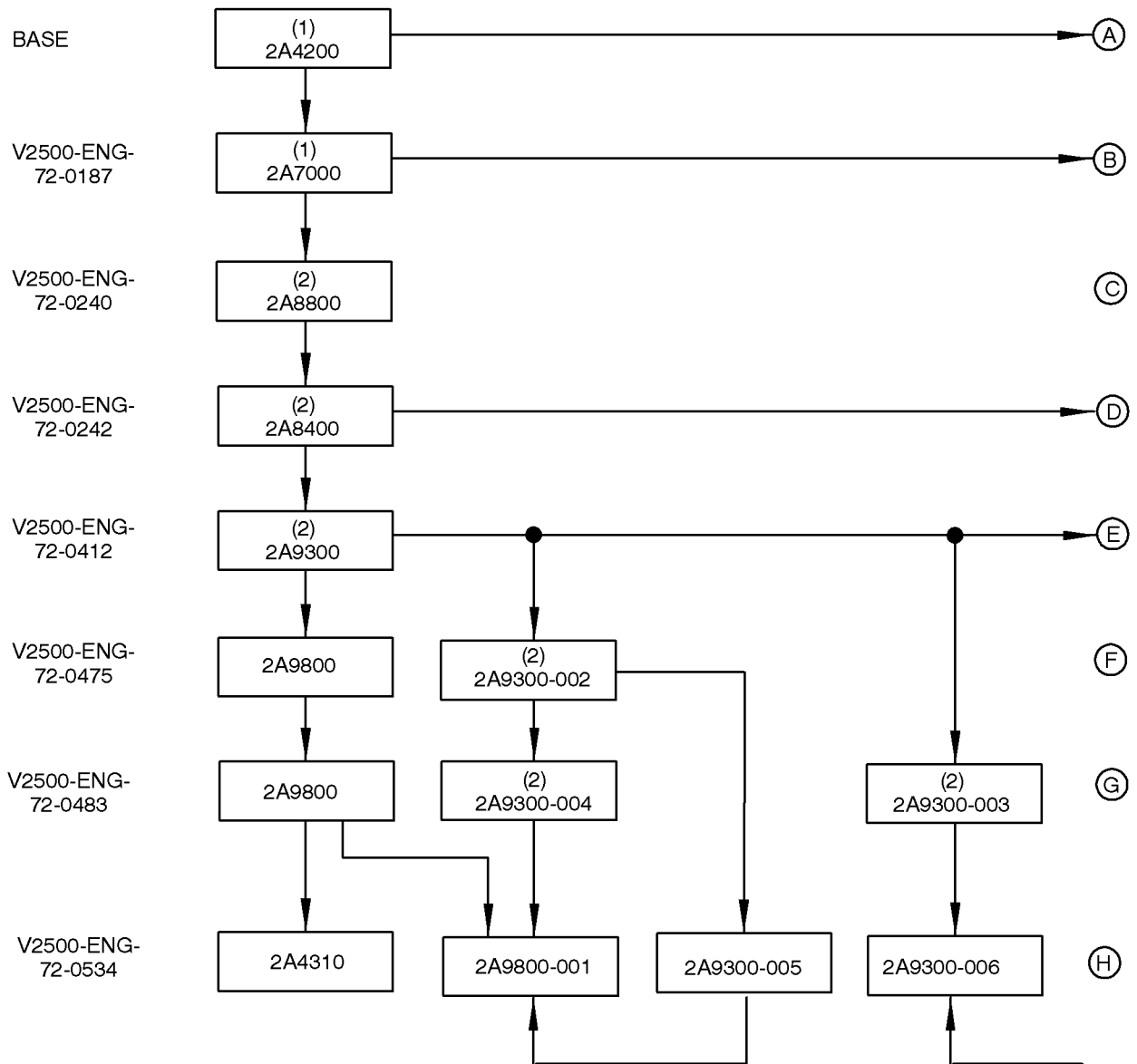


pw0b519177

LOCATION OF THE STAGE 2 HIGH PRESSURE TURBINE AIR SEALS
Figure 1

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

Printed in Great Britain



(1) NOT 33K RATED.

(2) NOT 33K RATED IF THE HPT STAGE 1 ROTOR ASSEMBLY CONTAINS STAGE 1 HUB PN 2A2201 AND/OR ANY STAGE 1 BLADE PN 2A8701-002, 2A8701-001, 2A8521-004, 2A8521-002, 2A8321-004, 2A8321-003, 2A8321-002.

pw0b519178B

FAMILY TREE - ROTOR AND STATOR ASSEMBLY REF. CATALOG SEQUENCE NO. 72-45-00 FIGURE
01 ITEM 001
CHART A (Sheet 1 of 9)

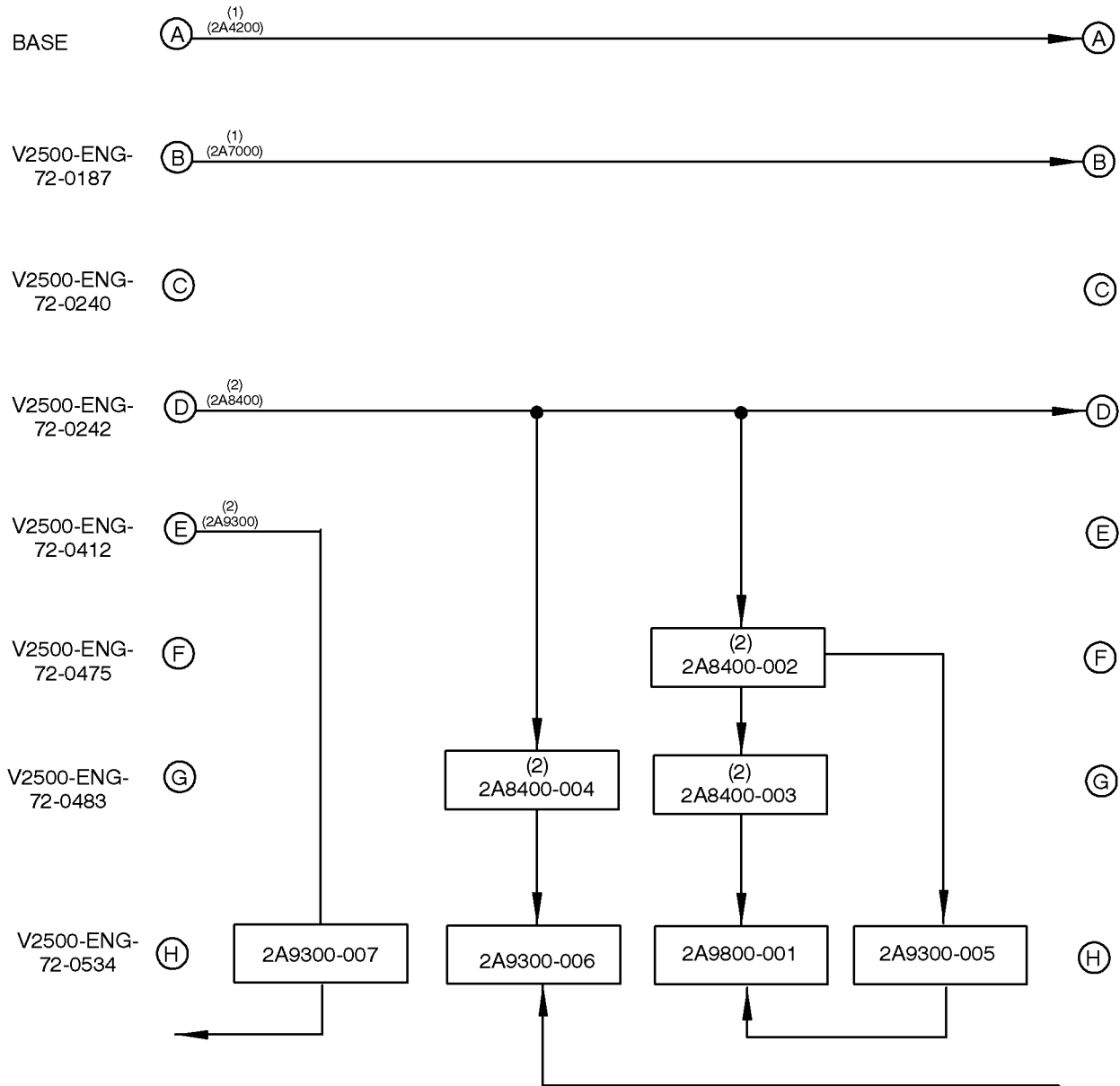
May 4/07
Mar.18/09 Revision 4

V2500-ENG-72-0534
Page 19

© Rolls-Royce plc

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

R



(1) NOT 33K RATED.

(2) NOT 33K RATED IF THE HPT STAGE 1 ROTOR ASSEMBLY CONTAINS
STAGE 1 HUB PN 2A2201 AND/OR ANY STAGE 1 BLADE PN 2A8701-002,
2A8701-001, 2A8521-004, 2A8521-002, 2A8321-004, 2A8321-003, 2A8321-002.

pw0b519179B

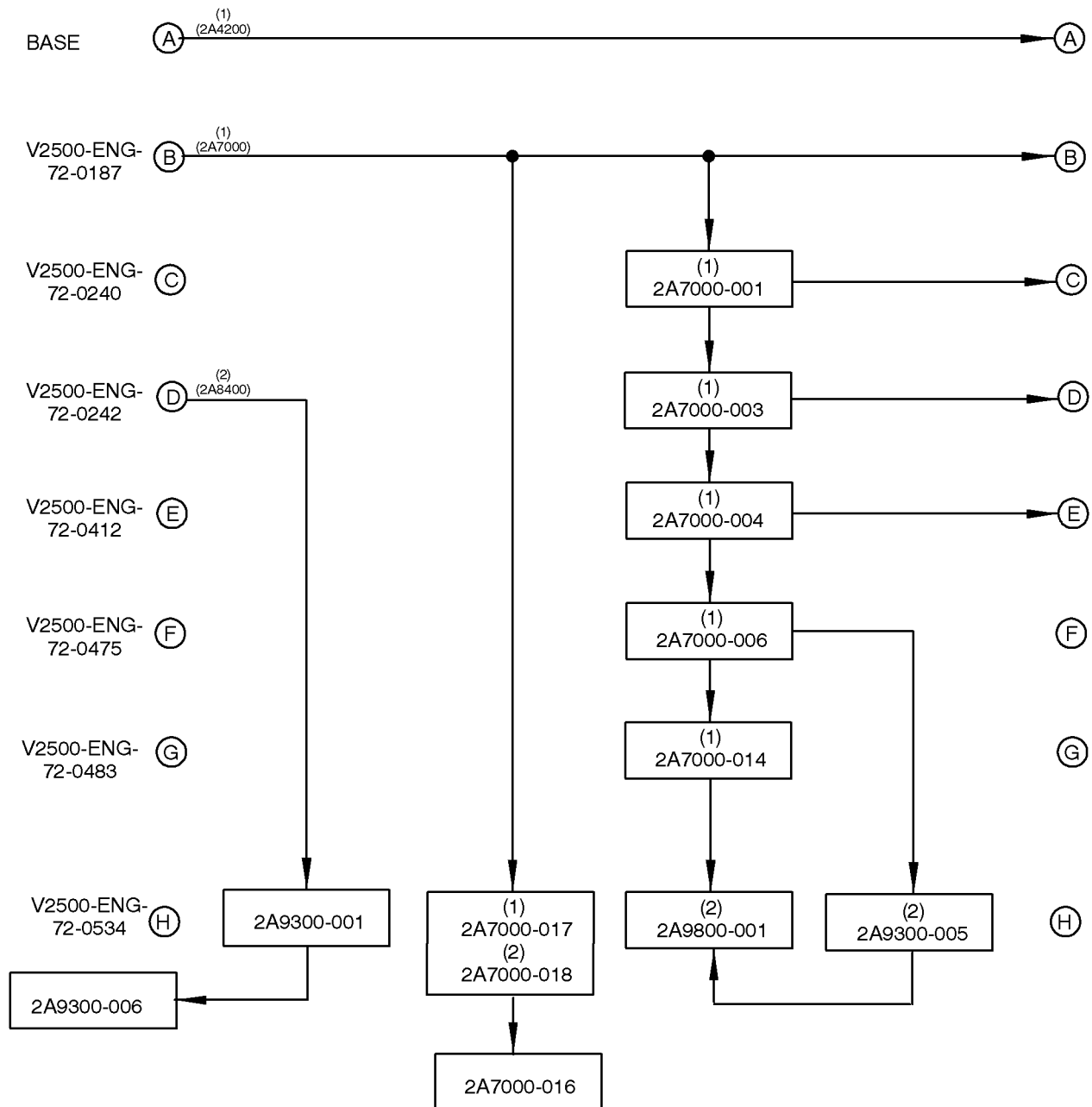
R

R

FAMILY TREE – ROTOR AND STATOR ASSEMBLY REF. CATALOG SEQUENCE NO. 72-45-00 FIGURE
01 ITEM 001
CHART A (Sheet 2 of 9)

Printed in Great Britain

R



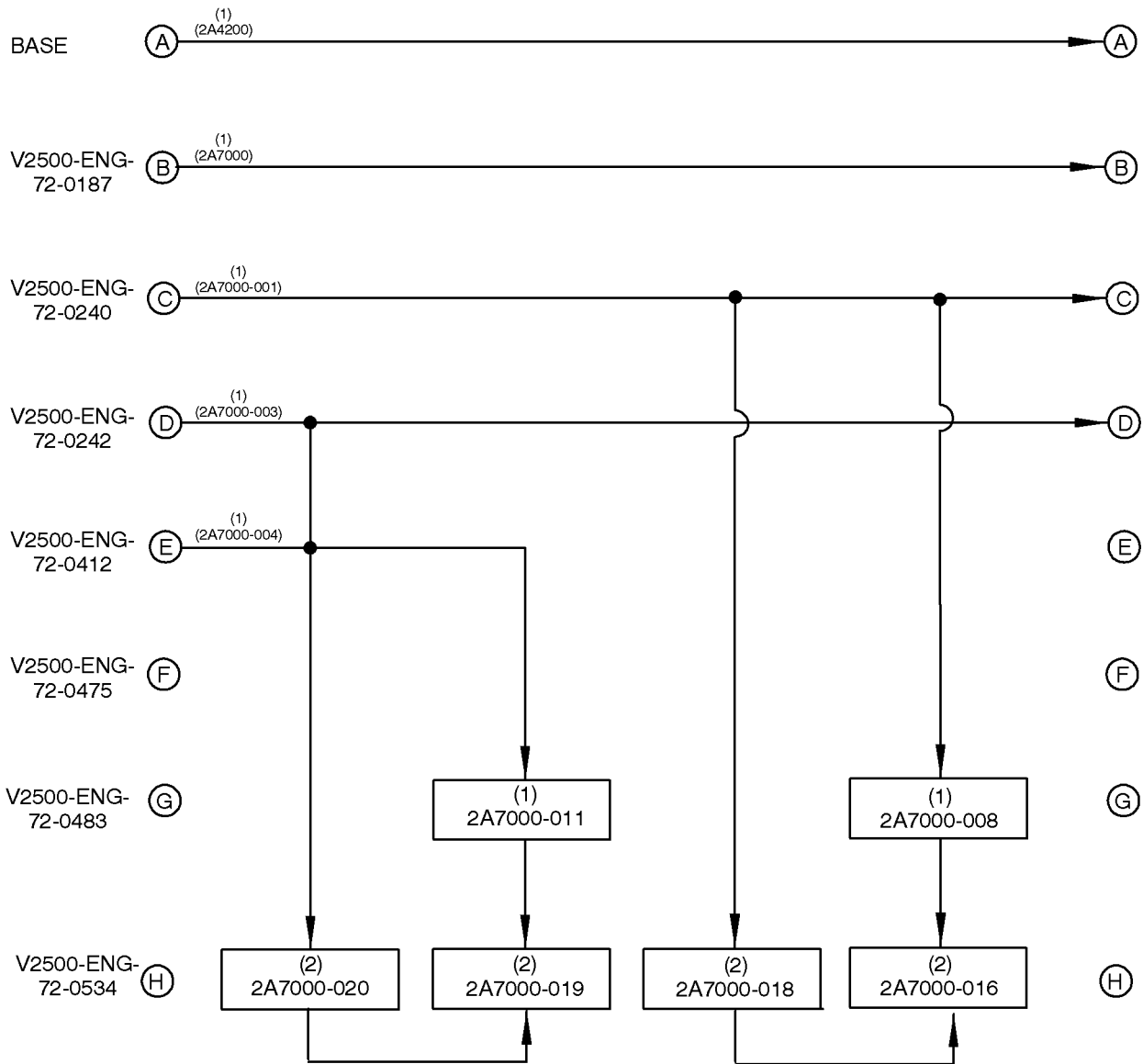
(1) NOT 33K RATED.

(2) NOT 33K RATED IF THE HPT STAGE 1 ROTOR ASSEMBLY CONTAINS STAGE 1 HUB PN 2A2201 AND/OR ANY STAGE 1 BLADE PN 2A8701-002, 2A8701-001, 2A8521-004, 2A8521-002, 2A8321-004, 2A8321-003, 2A8321-002.

pw0b519180B

FAMILY TREE – ROTOR AND STATOR ASSEMBLY REF. CATALOG SEQUENCE NO. 72-45-00 FIGURE 01 ITEM 001
CHART A (Sheet 3 of 9)

R



(1) NOT 33K RATED.

(2) NOT 33K RATED IF THE HPT STAGE 1 ROTOR ASSEMBLY CONTAINS STAGE 1 HUB PN 2A2201 AND/OR ANY STAGE 1 BLADE PN 2A8701-002, 2A8701-001, 2A8521-004, 2A8521-002, 2A8321-004, 2A8321-003, 2A8321-002.

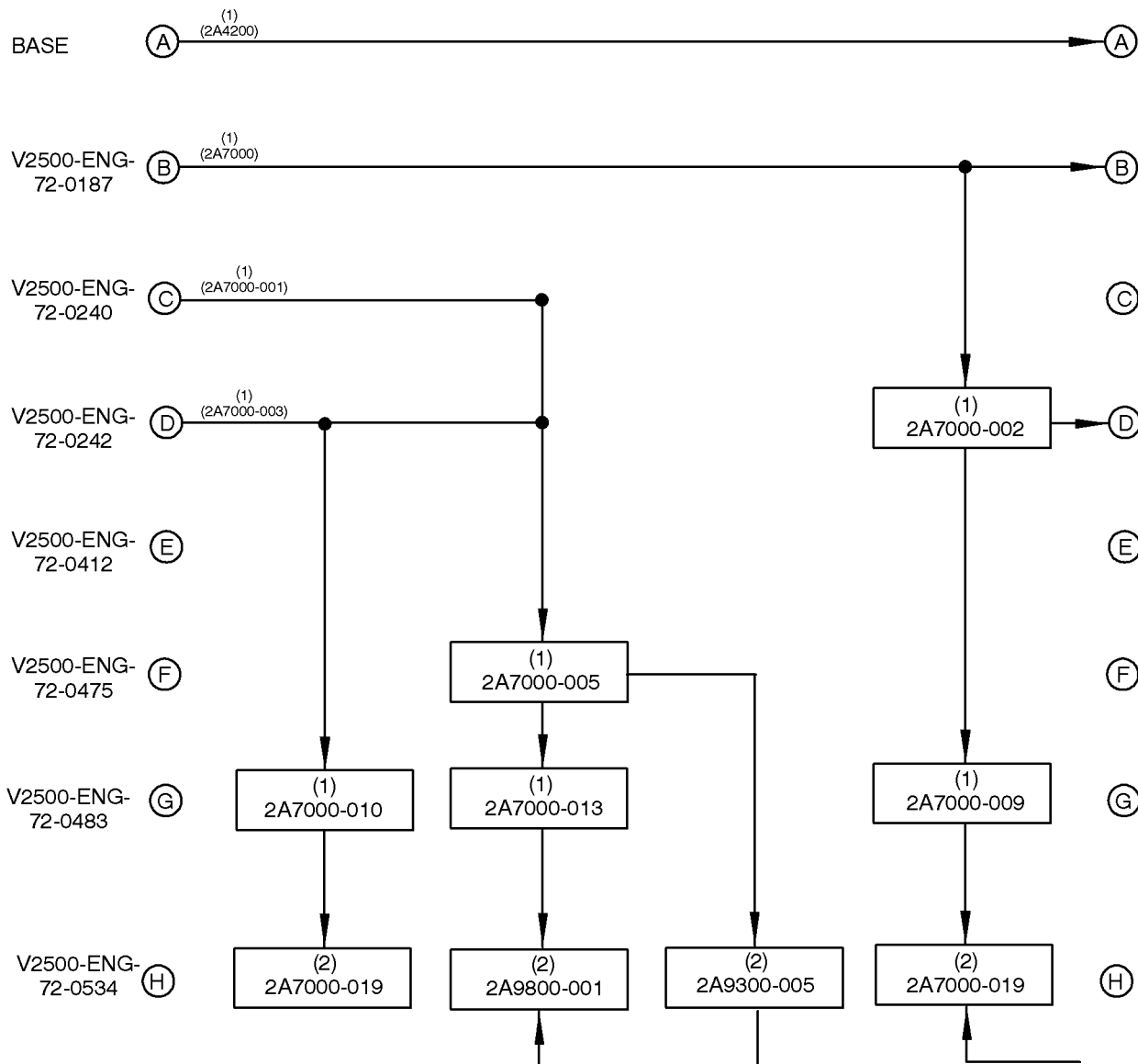
pw0b519181B

R

R

FAMILY TREE – ROTOR AND STATOR ASSEMBLY REF. CATALOG SEQUENCE NO. 72-45-00 FIGURE 01 ITEM 001
CHART A (Sheet 4 of 9)

R



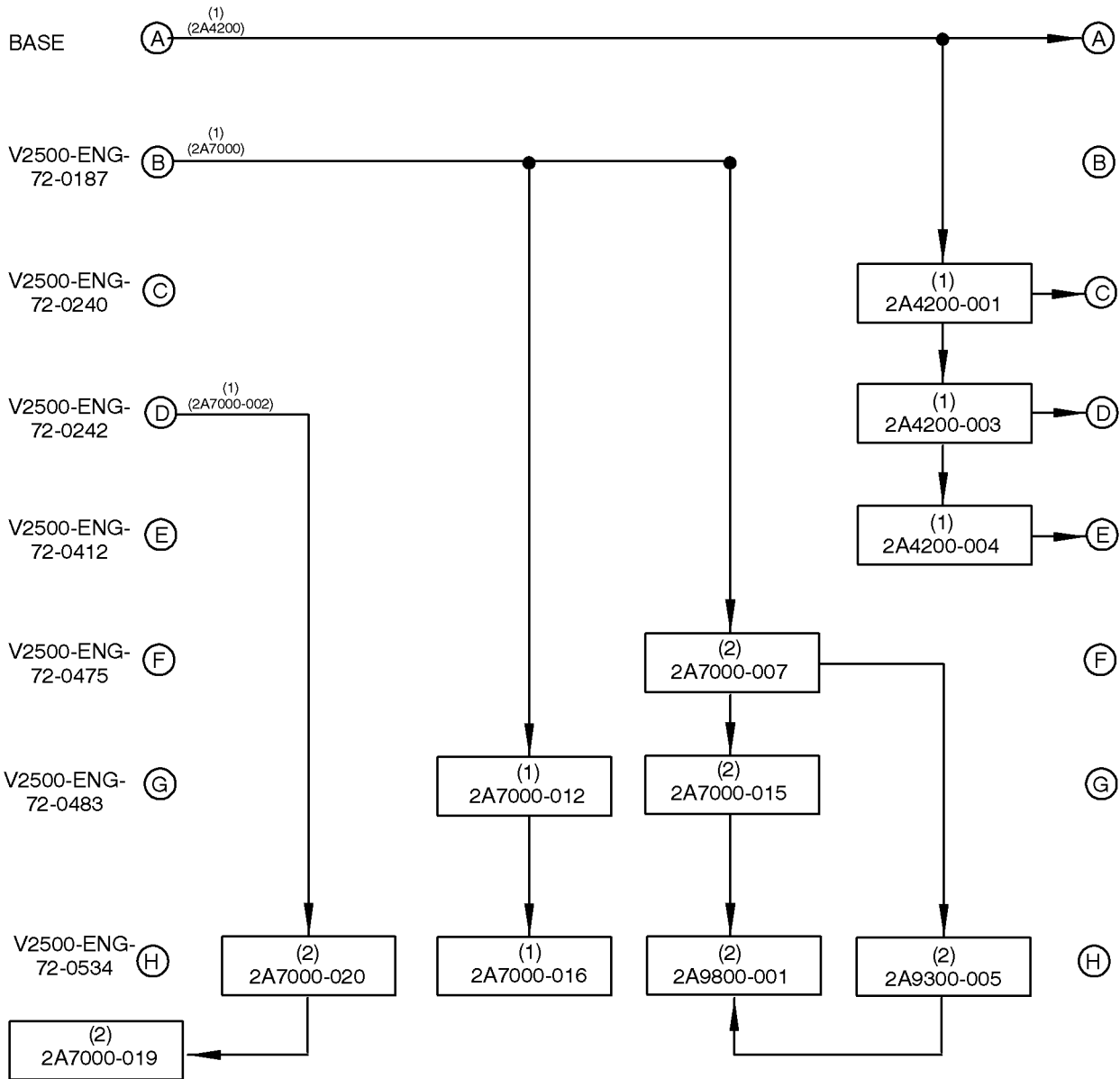
(1) NOT 33K RATED.

(2) NOT 33K RATED IF THE HPT STAGE 1 ROTOR ASSEMBLY CONTAINS STAGE 1 HUB PN 2A2201 AND/OR ANY STAGE 1 BLADE PN 2A8701-002, 2A8701-001, 2A8521-004, 2A8521-002, 2A8321-004, 2A8321-003, 2A8321-002.

pw0b519182B

FAMILY TREE - ROTOR AND STATOR ASSEMBLY REF. CATALOG SEQUENCE NO. 72-45-00 FIGURE 01 ITEM 001
CHART A (Sheet 5 of 9)

R



(1) NOT 33K RATED.

(2) NOT 33K RATED IF THE HPT STAGE 1 ROTOR ASSEMBLY CONTAINS
STAGE 1 HUB PN 2A2201 AND/OR ANY STAGE 1 BLADE PN 2A8701-002,
2A8701-001, 2A8521-004, 2A8521-002, 2A8321-004, 2A8321-003, 2A8321-002.

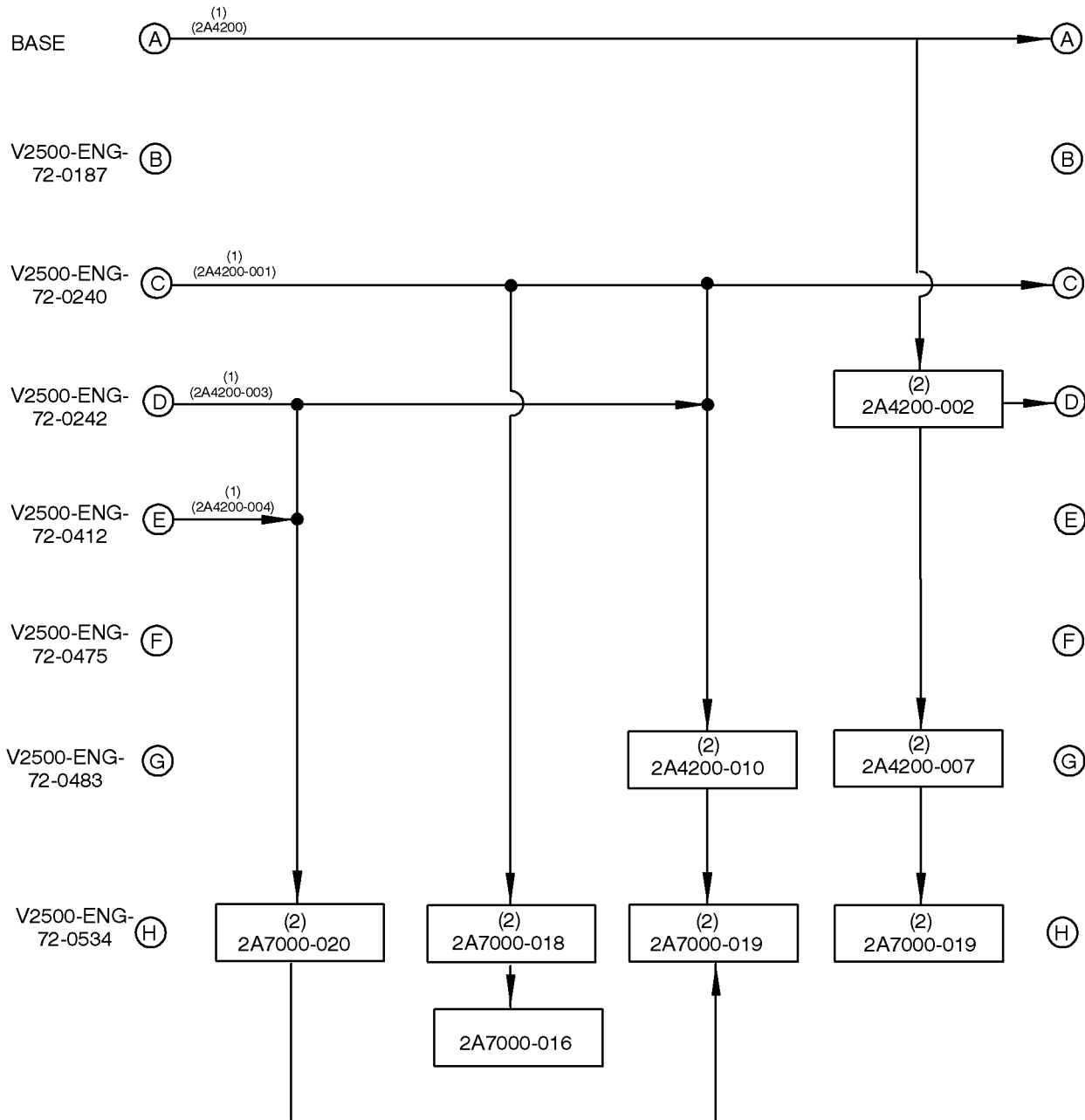
pw0b519183B

FAMILY TREE – ROTOR AND STATOR ASSEMBLY REF. CATALOG SEQUENCE NO. 72-45-00 FIGURE
01 ITEM 001
CHART A (Sheet 6 of 9)

R
R

Printed in Great Britain

R



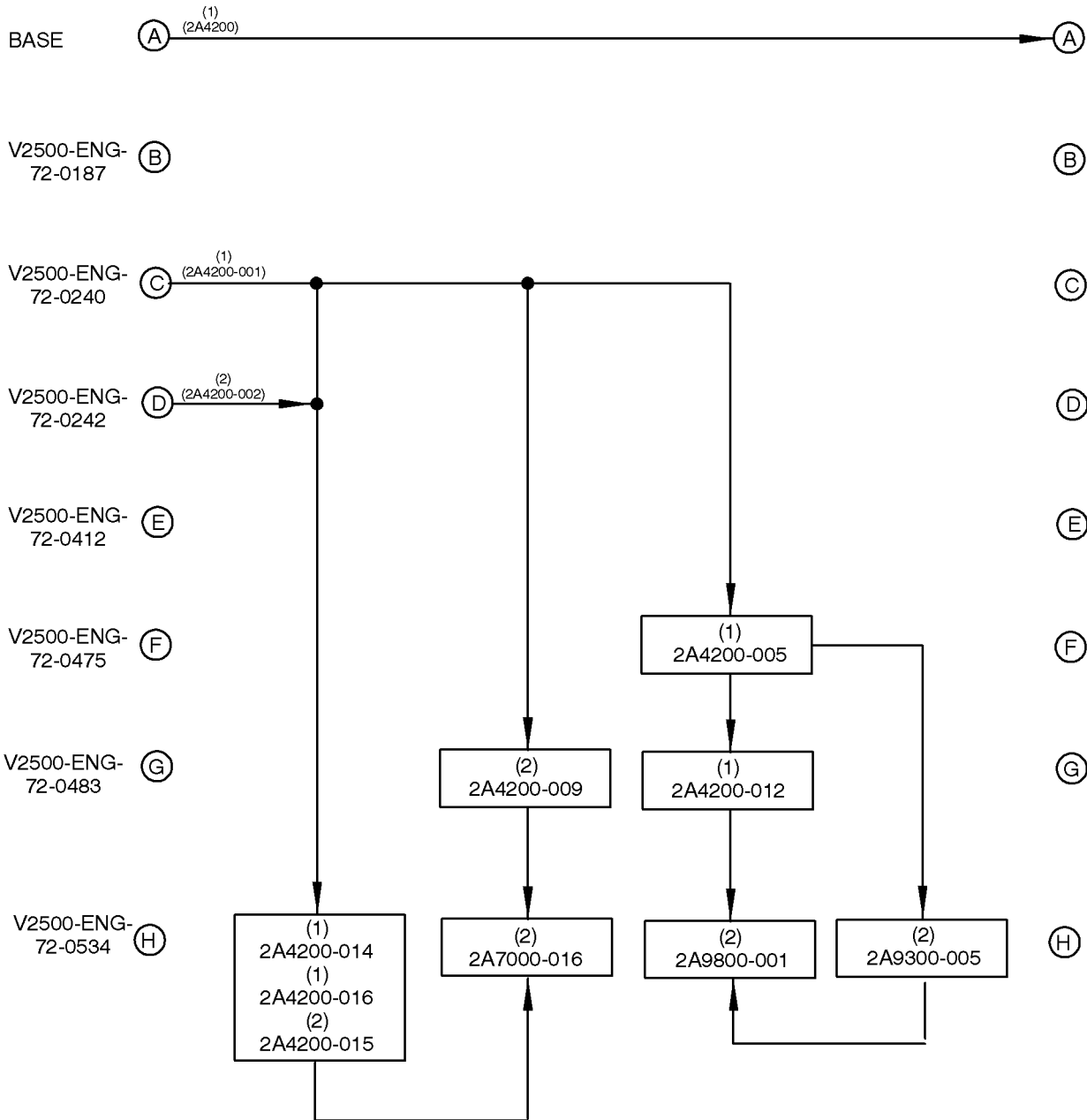
(1) NOT 33K RATED.

(2) NOT 33K RATED IF THE HPT STAGE 1 ROTOR ASSEMBLY CONTAINS STAGE 1 HUB PN 2A2201 AND/OR ANY STAGE 1 BLADE PN 2A8701-002, 2A8701-001, 2A8521-004, 2A8521-002, 2A8321-004, 2A8321-003, 2A8321-002.

pw0b519184B

FAMILY TREE - ROTOR AND STATOR ASSEMBLY REF. CATALOG SEQUENCE NO. 72-45-00 FIGURE 01 ITEM 001
CHART A (Sheet 7 of 9)

R



(1) NOT 33K RATED.

(2) NOT 33K RATED IF THE HPT STAGE 1 ROTOR ASSEMBLY CONTAINS
STAGE 1 HUB PN 2A2201 AND/OR ANY STAGE 1 BLADE PN 2A8701-002,
2A8701-001, 2A8521-004, 2A8521-002, 2A8321-004, 2A8321-003, 2A8321-002.

pw0b519185B

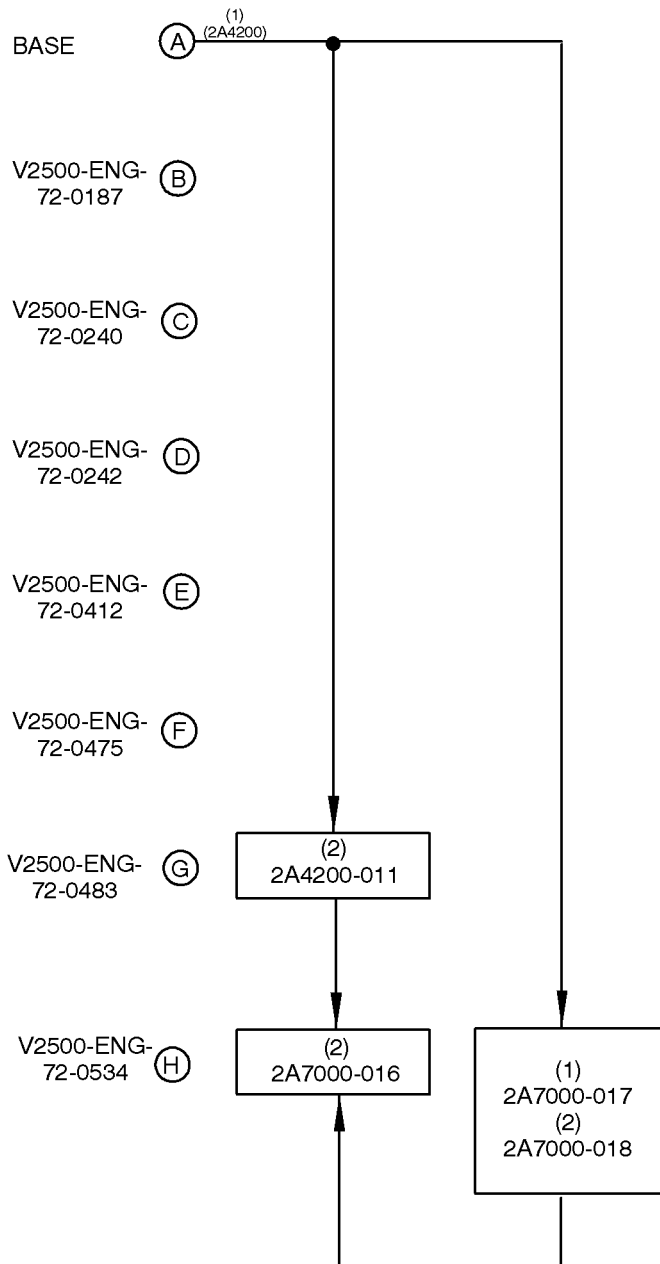
R

R

FAMILY TREE – ROTOR AND STATOR ASSEMBLY REF. CATALOG SEQUENCE NO. 72-45-00 FIGURE
01 ITEM 001
CHART A (Sheet 8 of 9)

Printed in Great Britain

R



(1) NOT 33K RATED.

(2) NOT 33K RATED IF THE HPT STAGE 1 ROTOR ASSEMBLY CONTAINS STAGE 1 HUB PN 2A2201 AND/OR ANY STAGE 1 BLADE PN 2A8701-002, 2A8701-001, 2A8521-004, 2A8521-002, 2A8321-004, 2A8321-003, 2A8321-002.

pw0b519186B

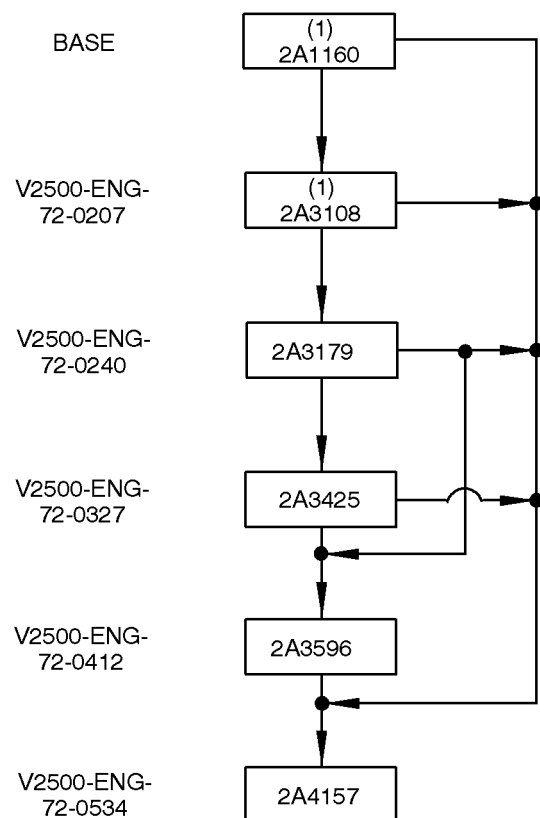
R

R

FAMILY TREE – ROTOR AND STATOR ASSEMBLY REF. CATALOG SEQUENCE NO. 72-45-00 FIGURE 01 ITEM 001
CHART A (Sheet 9 of 9)

MODIFICATIONS

PART NUMBER CHANGE



Printed in Great Britain

(1) NOT 33K RATED

pw0b519187

FAMILY TREE – ROTOR AND STATOR ASSEMBLY REF. CATALOG SEQUENCE NO. 72-45-00 FIGURE
01 ITEM 082
CHART B

Added Data

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.

Internal Reference Information

Revision No.	Reference Document	Origination
3	EC 08VA058	BB/TR
4	EC 08VA058	BB/JDH

Revision to Table of Limits

Engine Manual(s), Chapter/Section 05-10-01, A1/A5 Revision 69 and D5 Revision 49, dated August 1, 2007 is scheduled to incorporate the Part Service Life Limits related to this Service Bulletin and will take precedence over the Service Bulletin.

Revision to Table of Limits life cycles is as follows:

CL	REF	AFFECTED PARTS	PART # / CL	MODEL	REPLACE IF EITHER LIMIT EXCEED CYCLE MAX HRS MAX
W	1602	SEAL - AIR, HPT, 1 - 2A1161 2 STG	2A1161	V2500-A5/D5	15,000
			2A3107	V2500-A5/D5	15,000
			2A3179	V2500-A5/D5	15,000
			2A3425	V2500-A5/D5	20,000
			2A3596	V2500-A5/D5	20,000
			2A4157	V2500-A5/D5	20,000

ENGINE – PROVIDE NEW SECOND STAGE TURBINE AIR SEALSupplement

V2500 ALL

1. Modification Kit

A. There is no kit provided to do this Service Bulletin.

2. Material Cost

NOTE: The prices shown are for estimating purposes only and as such are given in good faith without commercial liability for advanced planning purposes only. Refer to IAE Spares and/or current Price Catalog for current prices.

A. The estimated price of new material is \$ 106,380.00 to do this Service Bulletin when the part modification procedure is used.

B. There is no kit provided to do this Service Bulletin.

3. New Production Parts

New Production Part Number	Description	Unit Price US Dollars
2A4310	Rotor and Stator Assembly	Contact IAE
2A4157	Seal – Air, HPT 2nd Stage	106,380.00