

SERVICE BULLETIN

ENGINE — FAN SPEED/TRIM BALANCE PROBES ELECTRICAL HARNESS —
INTRODUCTION OF A NEW PART NUMBER

MODEL APPLICATION

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

BULLETIN ISSUE SEQUENCE

V2500 Series 72-0683

ATA NUMBER

72-32-37

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Compliance Category

6

P&W Distribution Code

V2500

July 19/17

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Summary

The purpose of this Service Bulletin is to provide a new part number for the NF electrical harness, to be referred to as NF harness.

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

Engine Serial Nos. V15001 thru V18563

Concurrent Requirements

There are no concurrent requirements.

Reason

1. Condition: NF harness leads electrical signal from the NF probe on the front bearing chamber to the fan frame aft side. This Service Bulletin introduces a new part number 5A2211 instead of the current PN 5A0244. NF Harness PN 5A2211 is identical and re-numbered from NF Harness PN 5A0244 Rev.F.
2. Background: Many NF signal malfunctions have been reported at engine operations. After detailed investigations, NF Harness PN 5A0244 Rev.F (incorporated at EC13VJ012) has been found to be a definite solution for this issue.
3. Objective: To introduce a new part number for the NF harness.
4. Substantiation: 5A2211 is identical to 5A0244 Rev. F (incorporated at EC13VJ012) in actual hardware. Therefore, there is no impact on hardware function and integrity of the part.
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.

Description

Replace or re-identify NF harness.

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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.

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
..... 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

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 — 72-32-37.
2. Internal Reference No. — 13VJ012B.
3. V2500 Standard Practices and Processes, P&W Ref. PN 2A4414, Chapter/Section 70-09-00, 70-41-01, 70-42-05.
4. V2500-A1 Series Illustrated Parts Catalog, P&W Ref. PN 2A4427, Chapter/Section 72-32-37.
5. V2500-A5 Series Illustrated Parts Catalog, P&W Ref. PN 2A4428, Chapter/Section 72-32-37.

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6. V2500 A1/A5 Series Engine Manual, P&W Ref. PN 2A4407, Chapter/Section 72-32-00.
7. V2500-A1/A5 Series Component Maintenance Manual - Electrical Harness and Cables, P&W Ref. 2A4409, Chapter/Section 72-32-37.

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 72-32-37.
2. V2500-A5 Series Illustrated Parts Catalog, P&W Ref. PN 2A4428, Chapter/Section 72-32-37.

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. There is no new material cost to do this Service Bulletin when the part modification procedure is used.
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 V2500-A1 Engines:

New PN	Qty	Estimate of Unit Price (\$)	Keyword	Old PN	Instructions — Disposition
5A2211	1	25,670.00	ELECTRICAL - HARNESS NF	5A1361 (72-32-37-01-100)	(2)(A)(N)
	AR	*	Wire	4W2627	(E)
			OR		
5A2211	1	25,670.00	HARNESS - ELECTRICAL, NF	5A0244 (72-32-37-01-100A)	(1)(A)(N)
	AR	*	Wire	4W2627	(E)

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
5A2211	1	25,670.00	HARNESS - ELECTRICAL, NF	5A0244 (72-32-37-01-100)	(1)(A)(N)
	AR	*	Wire	4W2627	(E)

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.

- (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.

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Spare Parts Availability

- (A) The new part is available.
- (E) The old part is an expendable item necessary to do this bulletin.
- (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

For V2500-A1 Engines:

Reidentified Parts Data

New PN	Keyword	Old PN
5A2211	HARNESS - ELECTRICAL, NF	5A0244 (Rev.F) (72-32-37-01-100A)

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

Reidentified Parts Data

New PN	Keyword	Old PN
5A2211	HARNESS - ELECTRICAL, NF	5A0244 (Rev.F) (72-32-37-01-100)

Other Material Information Data

Not Applicable.

Accomplishment Instructions

1. For engines at module level maintenance for the Front Bearing Compartment (FBC).
 - A. When access to the LPC intermediate case module at the engine or module level, do the following. Refer to Figure 3 and Figure 4.
 - (1) Remove the bracket from terminal block of NF harness as follows.
 - (a) If necessary, remove the electrical wires to remove the bracket from terminal block. Reference 6, Engine Manual Chapter/Section 72-00-40-020-002, Removal-002.
 - (b) Remove and retain the bolt (71-52-43-01-316), the washer (71-52-43-01-319), the clip (71-52-43-01-321), the spacer (71-52-43-01-323) and the clip nut (71-52-43-01-325) from the clip position 5733. Refer to Figure 3. Reference 6, Engine Manual Chapter/Section 72-00-40-020-002, Removal-002.
 - (c) Remove and discard the lockwire.
 - (d) Remove and retain two bolts (72-32-37-01-460) and the bracket (72-32-37-01-450) from terminal block. Refer to Figure 4.
 - (2) Check the existing part number of terminal block.

NOTE: The part number of terminal block is written on the contact surface with the bracket.

 - (a) If the part number is "5A2198", only do the steps 1.A.(3) and 1.A.(4).
 - (b) If the part number is not "5A2198", only do the steps 1.A.(5), 1.A.(6) and 1.A.(7) to replace the NF harness.
 - (3) Reinstall the bracket to terminal block of NF harness.
 - (a) Reinstall the bracket with two bolts (72-32-37-01-460) to terminal block (72-32-37-01-450) and torque to 36 - 45 lbf.in. (4 - 5 N.m). Reference 3, SPM Chapter/Section 70-41-01-400-501.
 - (b) Safety the two bolts (72-32-37-01-460) with CoMat 02-141 LOCKWIRE or CoMat 02-146 as an alternative. Reference 3, SPM Chapter/Section 70-42-05-400-501.
 - (c) Reinstall the bolt (71-52-43-01-316), the washer (71-52-43-01-319), the clip (71-52-43-01-321), the spacer (71-52-43-01-323) and the clip nut (71-52-43-01-325) to the clip position 5733 and torque to 36 - 45 lbf.in. (4 - 5 N.m). Reference 6, Engine Manual Chapter/Section 72-00-40-00-420-006, Installation-006.
 - (d) Reinstall the electrical wires to terminal block, if removed. Reference 6, Engine Manual Chapter/Section 72-00-40-420-006, Installation-006.
 - (4) Reidentify the part number of the NF harness.

NOTE: This procedure can be accomplished at the convenient opportunity when the NF harness is disassembled at the next shop visit or later.

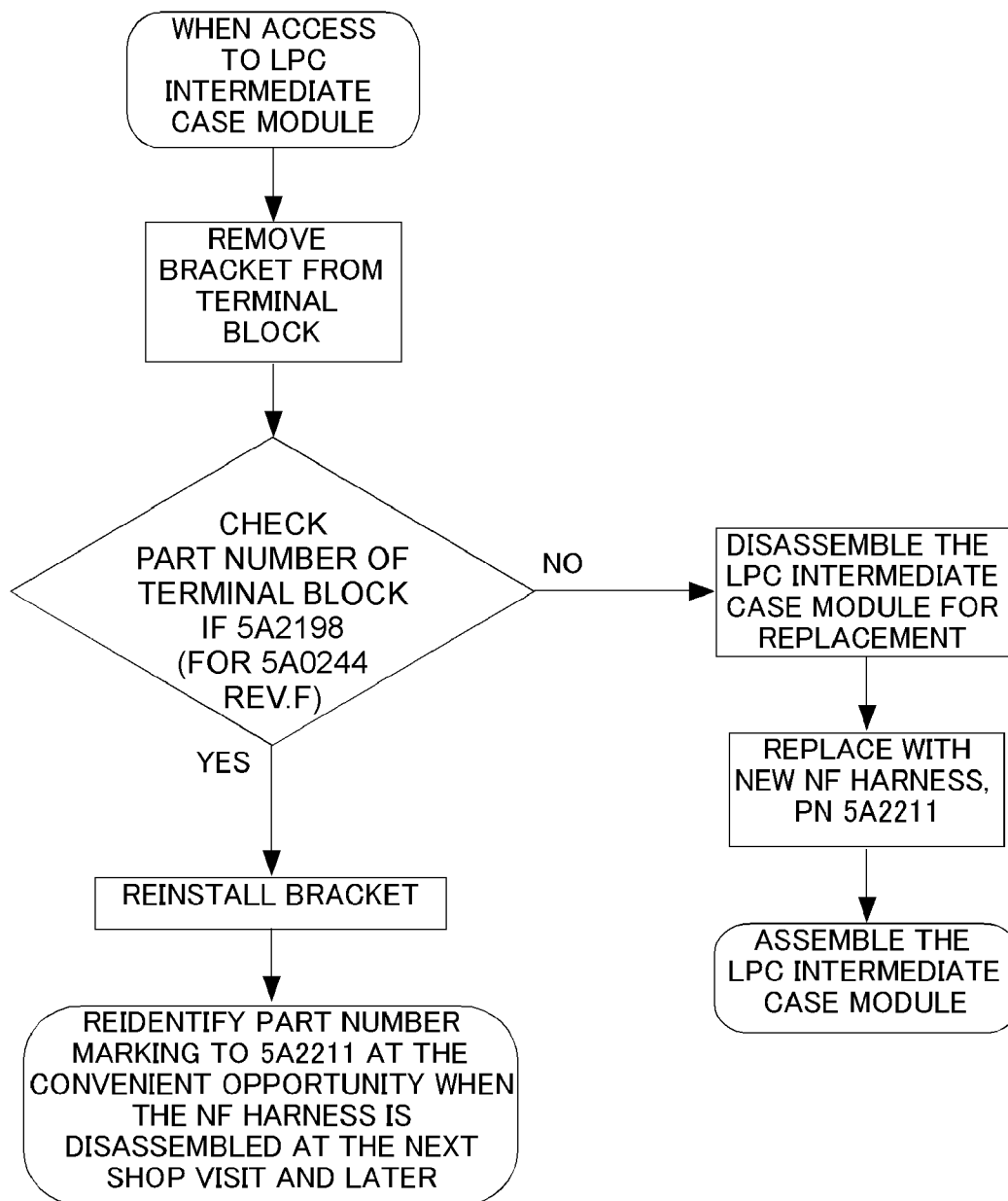
 - (a) Cross the existing part number "5A0244" and change letter.

- (b) Use vibro-peen and mark the part with the new part number "5A2211" adjacent to the crossed out part number. See Reference 3, SPM Chapter/Section 70-09-00-400-501.
- (5) Disassemble the LPC intermediate case module for NF harness replacement.
 - (a) Remove the LPC Booster Stage Assembly. Reference 6, Engine Manual Chapter/Section 72-32-00-030-006, Disassembly-006.
 - (b) Remove the No.1 Bearing Support Assembly. Reference 6, Engine Manual, Chapter/Section 72-32-00-030-011, Disassembly-011.
- (6) Replace the NF harness
 - (a) Remove the existing NF harness. Reference 6, Engine Manual Chapter/Section 72-32-00-030-012, Disassembly-012
 - (b) Install a new NF harness, part number 5A2211. Reference 6, Engine Manual Chapter/Section 72-32-00-430-004, Assembly-004.
 - (c) Do an Electrical Resistance Check for Loops of the Harness and the Probes. Reference 6, Engine Manual Chapter/Section 72-32-00-430-004, Assembly-004.
- (7) Assemble the LPC intermediate case module.
 - (a) Install the No.1 Bearing Support Assembly. Reference 6, Engine Manual Chapter/Section 72-32-00-430-005, Assembly-005.
 - (b) Install the LPC Booster Stage Assembly. Reference 6, Engine Manual Chapter/Section 72-32-00-430-010, Assembly-010.
- 2. For piece part level maintenance for the FBC.
 - A. Check the existing part number and change letter of NF harness.

NOTE: The part number and change letter of NF harness is written on the metal tube.

 - (1) If the part number and change letter is "5A0244" and revision "F", only do steps 2.B and 2.C to reidentify the part number.
 - (2) If the part number and change letter is "5A0244" prior to revision "F", only do step 2.D to replace the NF harness
 - B. Do the piece part inspection for the NF harness. Reference 7, Component Maintenance Manual Chapter/Section 72-32-37-200-301, Inspection-001.
 - C. Reidentify the part number of the NF harness.
 - (1) Cross the existing part number "5A0244" and change letter.
 - (2) Use vibro-peen and mark the part with the new part number "5A2211" adjacent to the crossed out part number. See Reference 3, SPM Chapter/Section 70-09-00-400-501.
 - D. Replace the NF harness.
 - (1) Remove the existing NF harness. Reference 6, Engine Manual Chapter/Section 72-32-00-030-012, Disassembly-012.
 - (2) Install a new NF harness, part number 5A2211. Reference 6, Engine Manual Chapter/Section 72-32-00-430-004, Assembly-004.

- (3) Do an Electrical Resistance Check for Loops of the Harness and the Probes.
Reference 6, Engine Manual Chapter/Section 72-32-00-430-004, Assembly-004.
- 3. Recording Instructions
 - A. A record of accomplishment is required.



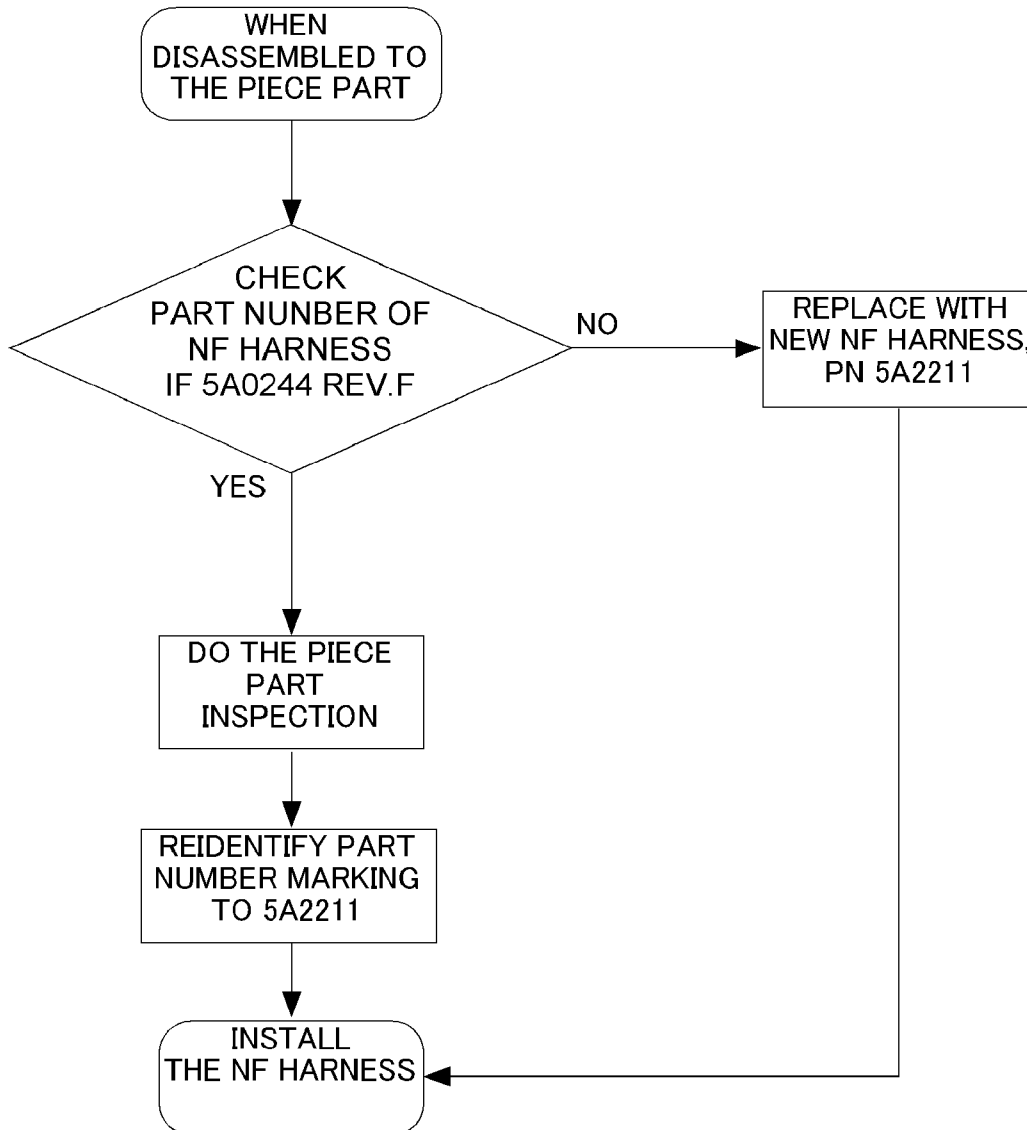
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WORK FLOW FOR ENGINES AT MODULE LEVEL MAINTENANCE FOR THE
FRONT BEARING COMPARTMENT (FBC)
FIGURE 1

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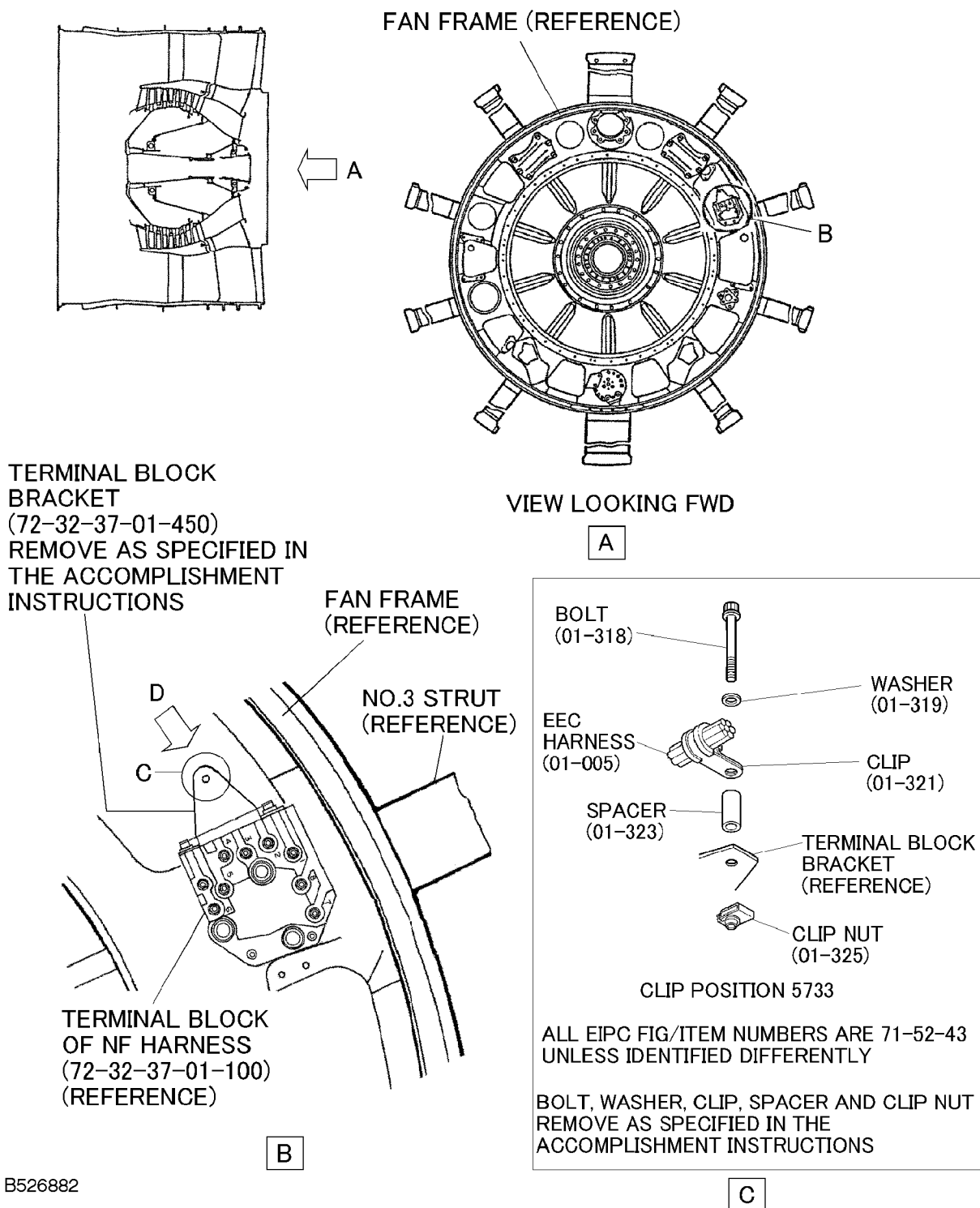
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WORK FLOW FOR PIECE PART LEVEL MAINTENANCE FOR THE FBC
FIGURE 2

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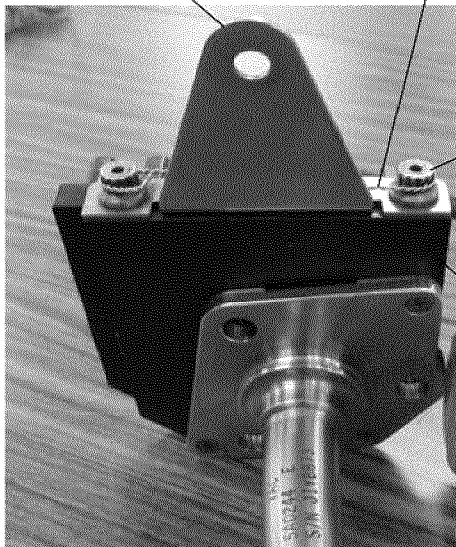


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ACCESS TO TERMINAL BLOCK OF NF HARNESS
FIGURE 3

TERMINAL BLOCK BRACKET
(72-32-37-01-450)
(REFERENCE)

LOCK WIRE
REPLACE AS SPECIFIED IN THE
ACCOMPLISHMENT INSTRUCTIONS



BOLTS
(72-32-37-01-460)
2 LOCATIONS
REMOVE AS SPECIFIED IN
THE ACCOMPLISHMENT
INSTRUCTIONS

TERMINAL BLOCK OF NF HARNESS
(72-32-37-01-100)
(REFERENCE)

INSPECT FOR TERMINAL
BLOCK PART NUMBER
AS SPECIFIED IN THE
ACCOMPLISHMENT
INSTRUCTIONS



D

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LOCATION OF THE TERMINAL BLOCK PART NUMBER
FIGURE 4

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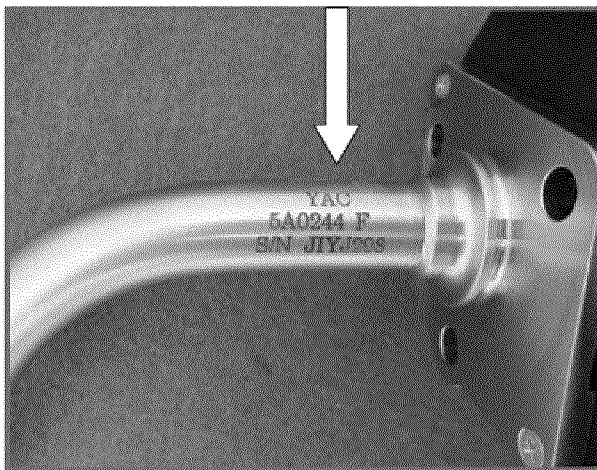
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NF HARNESS (72-32-37-01-100)
(REFERENCE)

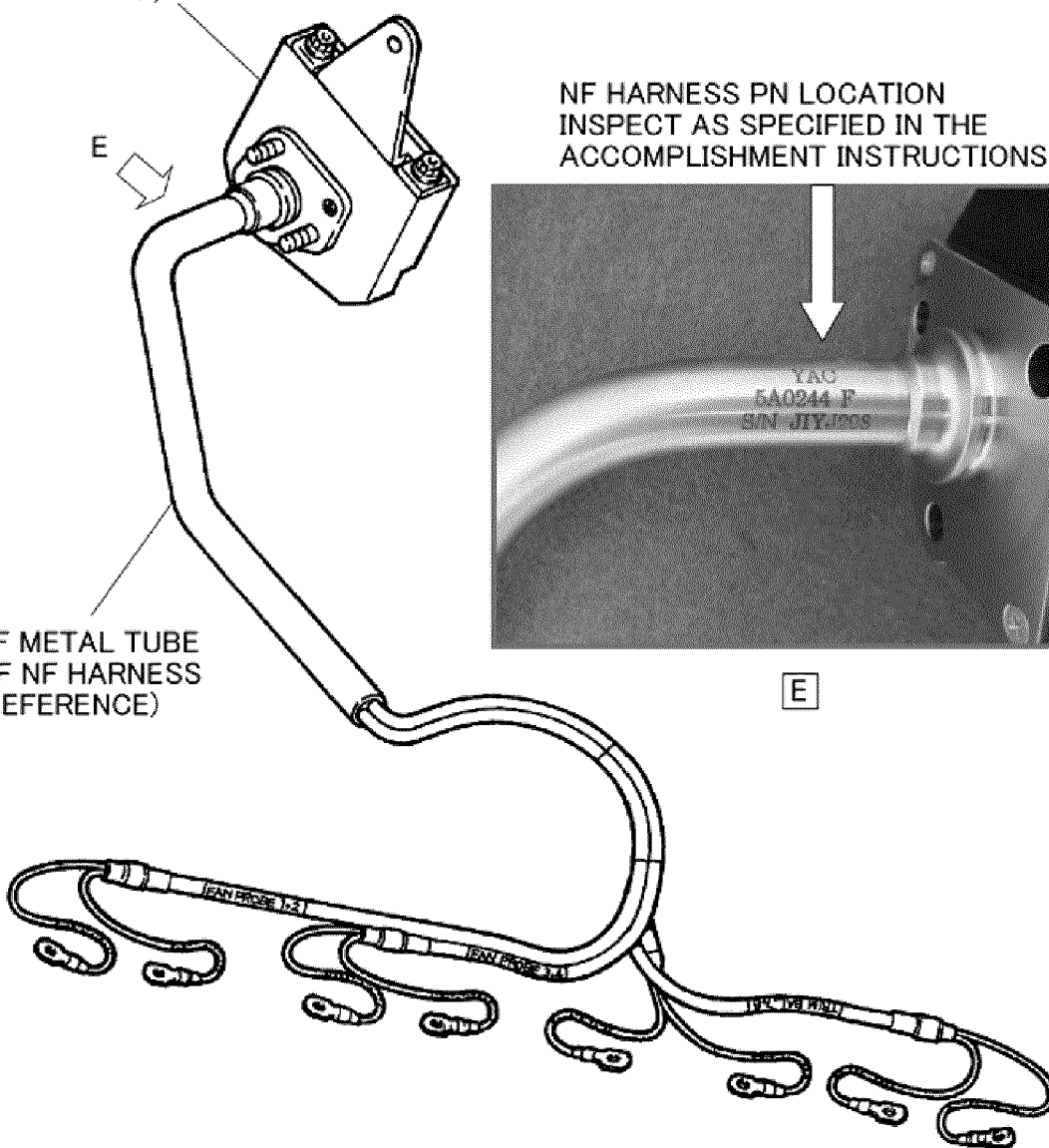
E

NF HARNESS PN LOCATION
INSPECT AS SPECIFIED IN THE
ACCOMPLISHMENT INSTRUCTIONS



E

NF METAL TUBE
OF NF HARNESS
(REFERENCE)



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LOCATION OF THE NF HARNESS PART NUMBER
FIGURE 5

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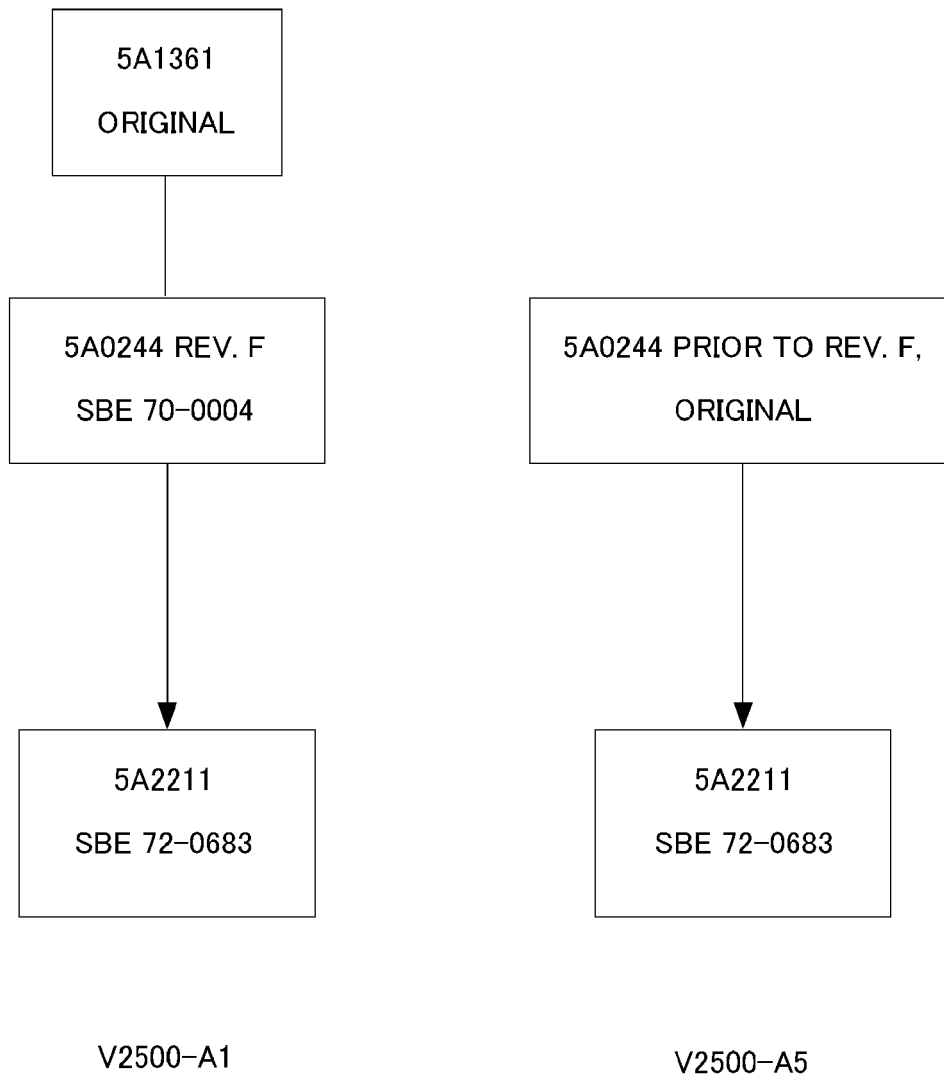
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Appendix

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

See Figure 6.



NF HARNESS

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NF HARNESS
FIGURE 6

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Added Data

Internal Reference Information

Revision No.	Reference Document	Origination
Original	EC 13VJ012B	JAEC

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
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
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	