

SERVICE BULLETIN REVISION NOTICE

ENGINE INDICATING — HARNESS AND JUNCTION BOX ASSEMBLY, EXHAUST GAS TEMPERATURE (EGT) — INTRODUCTION OF

Turbojet Engine Service Bulletin No. V2500-ENG-77-0012 Revision No. 1 dated July 19, 2017.

Revision History

Original Issue June 18, 2013

Revision 1 dated July 19, 2017

Reason for the Revision

To revise the Compliance Category for engines not installed on aircraft from Category 6 to 7.

To update the Planning Information section and Material Information section format.

To correct left and right designation within Figure 1.

To update References section to include all referenced material.

To add Vendor Services and Special Components section.

To remove Vendor Service Bulletin SB1-77-21-43 from the appendix, information for procuring a copy is listed within Vendor Services or Special Components section.

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.

Supplier Service Bulletin

(HARCO) Service Bulletin No. (SB1-77-21-43).

MODEL APPLICATION

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

BULLETIN ISSUE SEQUENCE

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Revision No.

1

Date

July 19/17

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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SERVICE BULLETIN

ENGINE INDICATING — HARNESS AND JUNCTION BOX ASSEMBLY, EXHAUST
GAS TEMPERATURE (EGT) — INTRODUCTION OF

MODEL APPLICATION

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

BULLETIN ISSUE SEQUENCE

V2500 Series 77-0012

ATA NUMBER

77-21-43

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Supplier Service Bulletin

HARCO Service Bulletin SB1-77-21-43

Compliance Category

7

P&W Distribution Code

V2500

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Summary

The purpose of this Service Bulletin is to supply a new EGT harness and junction box assembly which will address EGT indication issues and improve durability.

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

V10001 thru V13190

V15002 thru V16880

Engine Serial No. V16882

Engine Serial No. V16884

Engine Serial No. V16886

Engine Serial No. V16888

Concurrent Requirements

None.

NOTE: Engines that have incorporated Reference 9, Service Bulletin V2500-ENG-72-0063, if chafing issues were observed with the old EGT harness for a particular engine, then it is recommended to incorporate Reference 10, Service Bulletin V2500-ENG-73-0202 prior to this Service Bulletin.

Reason

1. Condition: Operators report faulty high, low, and erratic EGT readings. A review of field returned hardware showed a significant rate of No-Fault-Found (NFF) due to moisture collection in the EGT junction box and harness.
2. Background: The EGT harness and junction box may be sensitive to high humidity and moisture. If moisture enters the EGT harness and junction box assembly, it may cause shorting of the EGT signal resulting in faulty high, low, or erratic EGT readings.
3. Objective: A new EGT harness and junction box assembly featuring better moisture insulation, the addition of drip loops to divert water from the junction box, added sealants to the harness lugs and harness studs, and a redesigned junction box cover plate that adds moisture drainage capability. These items will improve the EGT indication system and overall durability of the EGT harness and junction box assembly.
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: Not Affected.
Inspection/Check: Not Affected.

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Repair: Not Affected.

Testing: Not Affected.

6. Supplemental Information

None.

Description

Replace the EGT harness and junction box assembly with the new design.

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.

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

+0.80 Lbs (+0.36 kg)

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 — 77-21-43.

2. Internal Reference No. — 11VZ006, 11VZ006-01, 11VZ006-02.

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3. V2500 Standard Practices and Processes, SPM, P&W Ref. PN 2A4414, Chapter/Section 70-41-00.
4. V2500-A1 Series Illustrated Parts Catalog, P&W Ref. PN 2A4427, Chapter/Section 77-21-43.
5. V2500-A5 Series Illustrated Parts Catalog, P&W Ref. PN 2A4428, Chapter/Section 77-21-43.
6. V2500 A1/A5 Series Engine Manual, EM, P&W Ref. PN 2A4407, Chapter/Section 72-00-50.
7. V2500 A1/A5 Series Aircraft Maintenance Manual, AMM, P&W Ref. PN 2A4407, Chapter/Section 77-21-15.
8. V2500 Service Bulletin V2500-ENG-72-0014 (Engine — Incorporate Rerouted EGT Harness Assembly).
9. V2500 Service Bulletin V2500-ENG-72-0063 (Engine — LP Turbine Rotor And Stator Assembly - Introduce New Tube Assemblies Required For Modified Turbine Exhaust Case).
10. V2500 Service Bulletin V2500-ENG-73-0202 (Engine — Fuel And Control — P4.9 Tube Assemblies, Pressure Control And Box And Cable, TC — Replace The P4.9 Tube Assemblies To Prevent Fractures And Reposition The Exhaust Gas Temperature (EGT) Cable To Prevent Chafing).
11. V2500 Service Bulletin V2500-ENG-77-0004 (Ignition — Incorporate An EGT Harness And Junction Box Featuring Improved Wiring Between The Electronic Engine Control (EEC) Channels).
12. V2500 Service Bulletin V2500-ENG-77-0009 (Engine — Provide New EGT Harness Junction Box Terminal Nuts).
13. HARCO Service Bulletin No. SB1-77-21-43, (Introduction Of V2500 EGT Probe Redesign).

Other Publications Affected

1. V2500-A1 Series Illustrated Parts Catalog, P&W Ref. PN 2A4427, Chapter/Section 77-21-43.
2. V2500-A5 Series Illustrated Parts Catalog, P&W Ref. PN 2A4428, Chapter/Section 77-21-43

Interchangeability of Parts

Old and new parts are interchangeable only in full sets.

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 kit provided to do this Service Bulletin.
2. Part availability information is provided in material data Instructions — Disposition.
3. Pricing information is provided in Reference 13, HARCO Service Bulletin No. SB1-77-21-43.

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
2A4337 (30040-000)	1	*	BOX, CABLE, TC ASSEMBLY	2A3580 (77-21-43-01-010)	(2)(A)(S)
2A4338 (30043-000)	1	*	.JUNCTION BOX	(77-21-43-01-530)	(2)(D)(S)
2A4339 (30041-000)	1	*	.WIRING HARNESS, RIGHT	(77-21-43-01-510)	(2)(D)(S)
2A4340 (30042-000)	1	*	.WIRING HARNESS, LEFT	(77-21-43-01-520)	(2)(D)(S)

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
2A4337 (30040-000)	1	*	BOX, CABLE, TC ASSEMBLY	2A3580 (77-21-43-01-010)	(2)(A)(S)
2A4338 (30043-000)	1	*	.JUNCTION BOX	(77-21-43-01-530)	(2)(D)(S)
2A4339 (30041-000)	1	*	.WIRING HARNESS, RIGHT	(77-21-43-01-510)	(2)(D)(S)
2A4340 (30042-000)	1	*	.WIRING HARNESS, LEFT	(77-21-43-01-520)	(2)(D)(S)

Instructions/Disposition Code Statements:

Parts Modification Conditions

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

Spare Parts Availability

- (A) The new part is available.
- (D) The new part is a detail of the assembly.
- (L) The old part will be supplied until the supply is fully used.
- (S) Procure the part directly from the Vendor referenced in Vendor Services or Special Components.

Vendor Services or Special Components/Materials

Vendor Services or Special Components/Materials

P&W Designation	Vendor Designation	Name	Vendor Name & Address
2A4337	30040-000	BOX, CABLE, TC ASSEMBLY	HARCO LABORATORIES, INC. 186 Cedar St. Branford, CT, 06405-0010 USA www.harcosemco.com
2A4338	30043-000	JUNCTION BOX	
2A4339	30041-000	WIRING HARNESS, RIGHT	
2A4340	30042-000	WIRING HARNESS, LEFT	
	SB1-77-21-43	SERVICE BULLETIN	
Vendor Manufacturer's Code: 00060 See Illustrated Parts Catalog Vendor Manufacturer's Code List			

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

NOTE: Service bulletin incorporation on engines installed on aircraft may be desirable and should be individually evaluated.

CAUTION: THE NEW EGT HARNESS INTRODUCED BY THIS SERVICE BULLETIN IS NOT INTENDED TO ADDRESS ANY CHAFING ISSUES THAT MIGHT HAVE BEEN OBSERVED WITH THE OLD EGT HARNESS. IF CHAFING WAS OBSERVED WITH THE OLD EGT HARNESS, THEN IT IS RECOMMENDED TO INCORPORATE REFERENCE 10 SERVICE BULLETIN V2500-ENG-73-0202 PRIOR TO THIS SERVICE BULLETIN.

CAUTION: IF AN AIRLINE IS EXPERIENCING EGT INDICATION ISSUES IT IS HIGHLY RECOMMENDED TO SWITCH THE EGT HARNESS FROM THE OLD DESIGN TO THE NEW DESIGN ON WING AND NOT WAIT UNTIL THE NEXT SHOP VISIT.

For Engines Installed On Aircraft

1. Replace the EGT Harness and Junction Box Assembly, PN 2A3580 (25975-000) with PN 2A4337 (30040-000) per the procedure that follows.

NOTE: Refer to Reference 13, HARCO Service Bulletin No. SB1-77-21-43.

- A. Remove the EGT Harness and Junction Box Assembly, PN 2A3580 (25975-000) from the turbine exhaust case assembly per Reference 7, AMM, TASK 77-21-43-000-010.
- B. Install the EGT Harness and Junction Box Assembly, PN 2A4337 (30040-000) on the turbine exhaust case assembly by the following procedure:

CAUTION: DO NOT USE LUBRICATION ON THE STUD THREADS (ALUMEL AND CHROMEL STUDS) OF THE THERMOCOUPLE CONNECTIONS. ENGINE OIL CAN CONTAMINATE THE EGT HARNESS INSULATION MATERIAL AND RESULT IN ERRATIC OR UNRELIABLE EGT INDICATION.

- (1) Refer to Reference 7, AMM, TASK 77-21-43-400-010 for installation procedure with the following requirements:
 - (a) While securing the EGT harness lugs to the EGT thermocouple, torque the alumel connection nut (larger stud) to 18.0 – 22.0 lbf-in (2.034 – 2.486 Nm) as specified in Reference 3, SPM, Chapter/Section 70-41-00.
 - (b) While securing the EGT harness lugs to the EGT thermocouple, torque the chromel connection nut (smaller stud) to 15.0 – 18.0 lbf-in (1.695 – 2.034 Nm) as specified in Reference 3, SPM, Chapter/Section 70-41-00.
 - (c) While installing the EGT core harness to the junction box, use the procedure that is applicable for Post Reference 12, V2500 Service Bulletin V2500-ENG-77-0009.

NOTE: The new EGT Harness has an additional feature called 'drip loops'. See Figure 1.

- C. Recording Instructions

- (1) A record of accomplishment is required.

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For Engines Not Installed On Aircraft

1. Replace the EGT Harness and Junction Box Assembly, PN 2A3580 (25975-000) with PN 2A4337 (30040-000) per the procedure that follows.

NOTE: Refer to Reference 13, HARCO Service Bulletin No. SB1-77-21-43.

- A. Remove the EGT Harness and Junction Box Assembly, PN 2A3580 (25975-000) from the turbine exhaust case assembly per Reference 6, EM, TASK 72-00-50-050-002-A00 for A1 Engines and TASK 72-00-50-050-002-B00 for A5 Engines.
- B. Install the EGT Harness and Junction Box, PN 2A4337 (30040-000) on the turbine exhaust case assembly by the following procedure:

CAUTION: DO NOT USE LUBRICATION ON THE STUD THREADS (ALUMEL AND CHROMEL STUDS) OF THE THERMOCOUPLE CONNECTIONS. ENGINE OIL CAN CONTAMINATE THE EGT HARNESS INSULATION MATERIAL AND RESULT IN ERRATIC OR UNRELIABLE EGT INDICATION.

- (1) Refer to Reference 6, EM, TASK 72-00-50-450-002-A00 for A1 Engines and TASK 72-00-50-450-002-B00 for A5 Engines for installation procedure with the following requirements:

- (a) While securing the EGT harness lugs to the EGT thermocouple, torque the alumel connection nut (larger stud) to 18.0 – 22.0 lbf-in (2.034 – 2.486 Nm) as specified in Reference 3, SPM, Chapter/Section 70-41-00.
- (b) While securing the EGT harness lugs to the EGT thermocouple, torque the chromel connection nut (smaller stud) to 15.0 – 18.0 lbf-in (1.695 – 2.034 Nm) as specified in Reference 3, SPM, Chapter/Section 70-41-00.
- (c) While installing the EGT core harness to the junction box, use the procedure that is applicable for Post Reference 12 V2500 Service Bulletin V2500-ENG-77-0009.

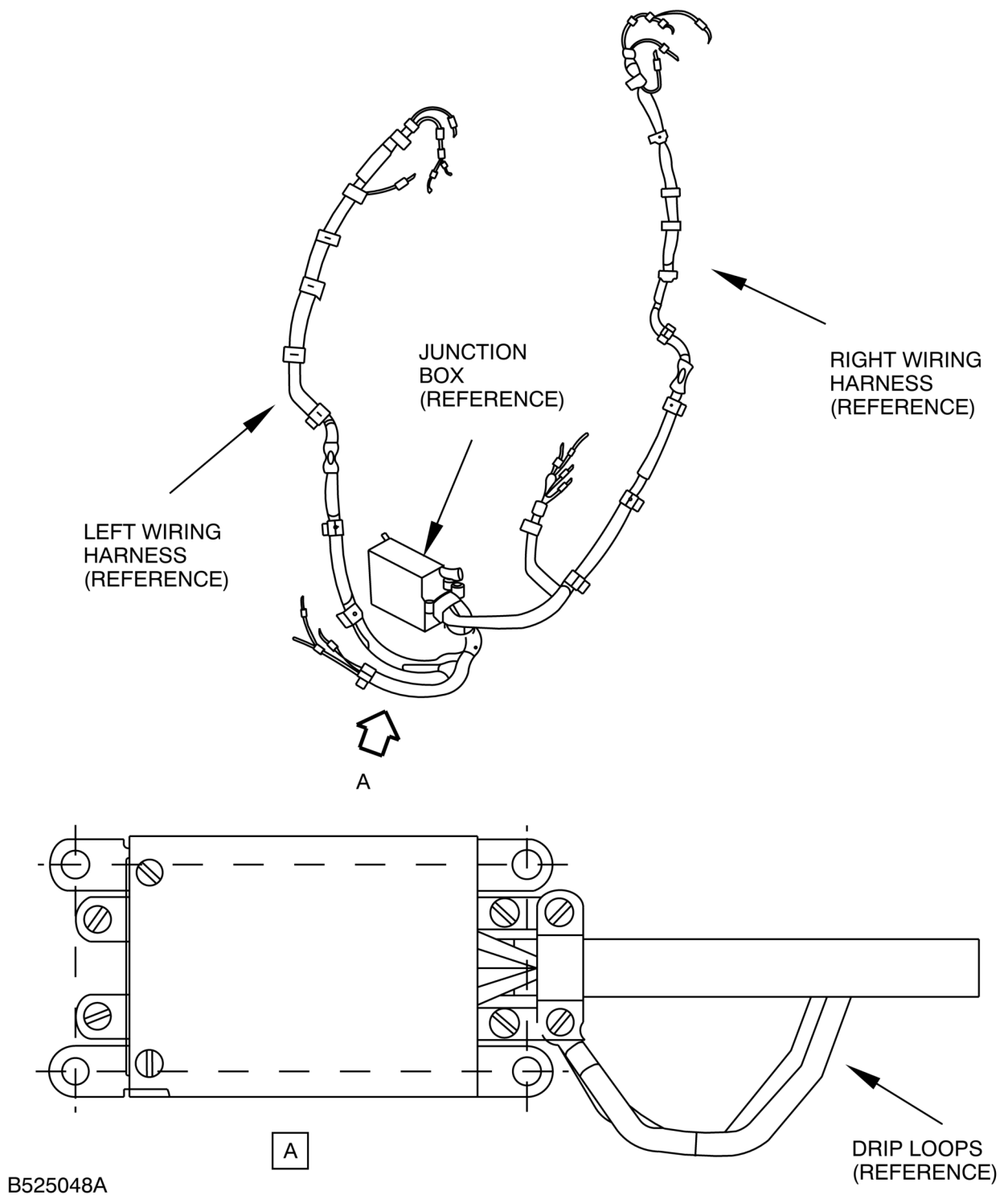
1 Final torque the larger thread (0.190-32) diameter nut to 25 – 30 lbf-in (2.82 – 3.39 Nm) as specified in Reference 3, SPM, Chapter/Section 70-41-00.

2 Torque the four screws that attach the cover to the junction box to 16 – 22 lbf-in (1.08 – 2.49 Nm) as specified in Reference 3, SPM, Chapter/Section 70-41-00.

NOTE: The new EGT Harness has an additional feature called 'drip loops'. See Figure 1.

- C. Recording Instructions

- (1) A record of accomplishment is required.



LOCATION OF THE EGT HARNESS AND JUNCTION BOX ASSEMBLY

77-21-43
FIGURE 1

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Appendix

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

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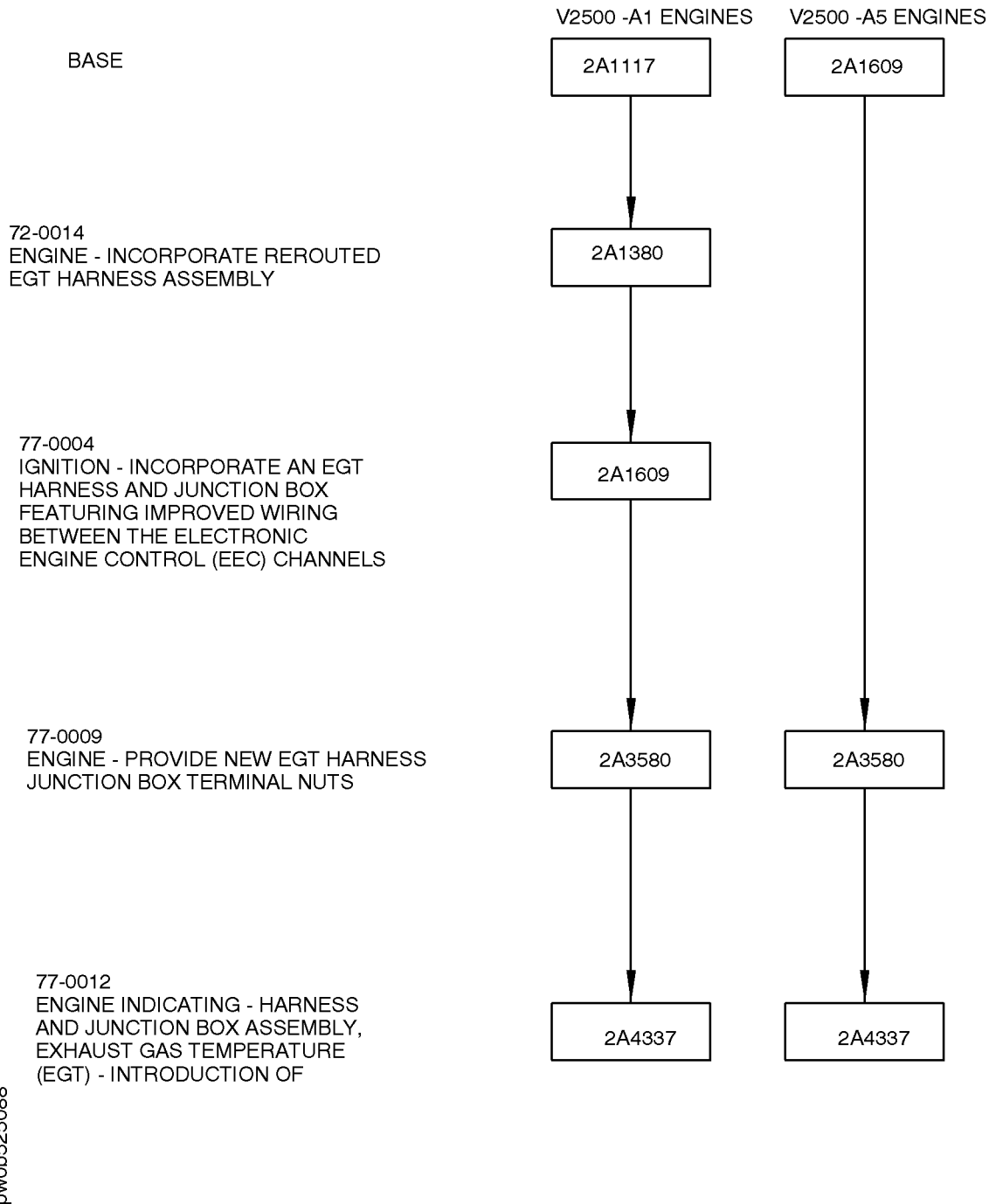
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EGT HARNESS AND JUNCTION BOX ASSEMBLY
CHART A

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Added Data

Added Data

Internal Reference Information

Revision No.	Reference Document	Origination
Original	EC11VZ006, EC11VZ006-01	HTB/CMS
1	EC11VZ006-02	HTB/RCM

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

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