SERVICE BULLETIN REVISION NOTICE

ENGINE — CONVERSION — PROVIDE INSTRUCTIONS TO CHANGE THE V2500-A5 ENGINE RATING BY MODIFYING THE DATA ENTRY PLUG

Turbojet Engine Service Bulletin No. V2500-ENG-72-0285 Revision No. 12 dated March 30, 2016.

Revision History

Original Issue September 20, 1997
Revision 1 dated January 5, 1998
Revision 2 dated December 6, 1999
Revision 3 dated November 9, 2000
Revision 4 dated January 15, 2002
Revision 5 dated March 29, 2002
Revision 6 dated September 22, 2008
Revision 7 dated November 7, 2008
Revision 8 dated March 2, 2009
Revision 9 dated March 26, 2012
Revision 10 dated October 8, 2012
Revision 11 dated December 19, 2014
Revision 12 dated March 30, 2016

Reason for the Revision

To revise Description.

To delete Caution and Note in the Accomplishment Instructions.

To add additional Notes in the Tables and Accomplishment Instructions.

To revise the Accomplishment Instructions.

To revise the Tables 2, 5, 6, 8 and 9 in the Accomplishment Instructions.

To add Table 10 in the Accomplishment Instructions.

To add Figure 4, Sheet 5 in the Accomplishment Instructions.

To revise Figure 5 and Title of Figure 4, Sheet 3 in the Accomplishment Instructions.

To add Appendix 1.

To add Steps 1 thru 22 in Appendix 1.

Effect of Revision on Prior Compliance

None.

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

The format of this Service Bulletin has been changed from previous versions. This revision shows flow bars and the revision date on the bottom of every page. Technical changes incorporated in this revision are marked with revision bars. The contents are in accordance with the list of effective pages.

MODEL APPLICATION

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

BULLETIN ISSUE SEQUENCE

V2500 Series 72-0285

Page	Revision No.	Date
1 thru 44	12	March 30/16

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.

SERVICE BULLETIN

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MODEL APPLICATION

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

BULLETIN ISSUE SEQUENCE

V2500 Series 72-0285

ATA NUMBER

72-00-00

EAR Export Classification: ECCN 9E991

Compliance Category

8

P&W Distribution Code

V2500

Summary

The purpose of this Service Bulletin is to provide instructions for converting a V2500-A5 engine to a different engine model rating. Spare engines of a needed engine model may not always be available to operators of multiple V2500-A5 engine models.

Planning Information

Effectivity Data

Engine Models Applicable

V2522-A5, V2524-A5, V2527M-A5, V2527-A5, V2527E-A5, V2530-A5, V2533-A5
Engine Serial No. — All engines

NOTE: Conversion of V2500-A5 engines to a different model rating as described in this Service Bulletin can only be accomplished as per prior contractual agreement with IAE International Aero Engines AG.

NOTE: SelectOne™ retrofit and production engines are identified by an Installation Arrangement Number (IAN) of SQ02 or SQ03, located on the engine identification plate.

NOTE: V2500-A5 SelectTwo™ engine configurations are defined as Any SelectOne™ or SelectOne™ retrofit that incorporates SCN22.

Concurrent Requirements

CAUTION: THIS SERVICE BULLETIN DOES NOT PERMIT RATING CHANGES UP TO 33K ON PRE-V10198 STANDARD ENGINES. SEE REFERENCE 7, SERVICE BULLETIN NO. V2500-ENG-72-0438 FOR ADDITIONAL INFORMATION.

CAUTION: THIS SERVICE BULLETIN DOES NOT PERMIT RATING CHANGES TO 33K ON ENGINES THAT HAD THE LAST PERFORMANCE TEST, TEST NO. 10 CHAPTER 71-00-00-700-010-B00, RESULTING IN MAXIMUM TAKE-OFF THRUST AT BAND A BEING 30K.

CAUTION: ENGINES THAT HAVE BEEN OPERATED AT A HIGHER RATING MUST MAINTAIN THE LIFE LIMITED PARTS LIVES CURRENTLY ASSIGNED TO THE HIGHER RATING, EVEN IF THE ENGINE IS DOWNRATED TO A LOWER RATING.

CAUTION: CERTAIN FMU CONFIGURATIONS (AS LISTED IN TABLES 2, 3 AND 4) ARE SUBJECT TO REFERENCE 28, FAA NWM AD 2000-11-25.

CAUTION: IF RE-RATING IS REQUIRED CONTACT IAE CUSTOMER PROGRAMS & LOGISTICS SUPPORT FOR APPLICABILITY.

CAUTION: OPERATORS MUST APPLY REFERENCE 4, SERVICE BULLETIN NO. V2500-NAC-70-0614 WHEN CONVERTING AN ENGINE TO 33K RATING.

CAUTION: ONCE THE EEC IS UPGRADED TO SCN 22/AB SOFTWARE, ALLOWABLE DOWN CHANGE IS TO SCN 21/AA ONLY. SEE FIGURE 9.

Restrictions: See Tables 2, 3 and 4 for FMU part effectivity to determine which (if any additional) Service Bulletins must be incorporated into the subject engine before performing an engine model change.

Reason

1. Condition: Operators of multiple V2500-A5 engine models desire more flexibility with engine rating interchangeability.
2. Background: Spare engines of a needed engine model may not always be available to operators of multiple V2500-A5 engine models.
3. Objective: To provide instructions for converting a V2500-A5 engine to a different engine model rating.
4. Substantiation: All of the listed V2500-A5 engine model configurations have been previously flight tested and certified.
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

1. Determine if any Service Bulletin engine hardware and/or EEC software modifications are required prior to engine model conversion, from Tables 2, 3 and 4.
2. Determine the Data Entry Plug (DEP) jumper connections for the desired V2500-A5 engine model ratings.

   A. See Table 5 for wiring DEP Assembly, PN 2A3106 (odd parity) with corresponding engine variants.

   B. See Table 6 for wiring DEP Assembly, PN 2A4378 (even parity) with corresponding engine variants.
3. Wire the current EEC DEP to the appropriate engine model rating. Refer to Table 10 for equivalent rating number.
4. Mark the DEP with the new Variant Number and part number if applicable.
5. Install a new engine identification plate with the new Variant No. and engine rating already marked or re-locate the Engine Rating Indicator (IAE Rivet) on the existing reusable identification plate.
6. Refer to Table 6 for V2500-A5 engine variants that will enable Reduced Ground Idle (RGI) operation, and Table 7 for bump options that enable RGI operation.

   NOTE: Refer to Reference 27, Service Bulletin V2500-ENG-73-0239 (RGI Service Bulletin) for details.

Compliance

Category 8

Accomplish based upon experience with the prior configuration.

NOTE: Conversion of V2500-A5 engines to a different model rating as described in this Service Bulletin can only be accomplished as per prior contractual agreement with International Aero Engines.

NOTE: Conversion is optional and is to be accomplished only if the required engine model is not available.

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.

Manpower

1. In Service

   .....40 minutes.

2. At Overhaul

   .....40 minutes.

   NOTE: The parts affected by this Service Bulletin are accessible at overhaul.

3. To do a modification of the DEP Assembly. .....32 minutes
4. To identify DEP Assembly. .....3 minutes
5. To mark and install the Engine Identification Plate. .....5 minutes

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 — 72-00-00.
2. V2500 Standard Practices and Processes, P&W Ref. PN 2A4414, Chapter/Section 70-09-00, Marking of Parts.
3. V2500-A5 Series Illustrated Parts Catalog, P&W Ref. PN 2A4428, Chapter/Section 73-22-35, 73-22-36 and 72-32-85.
4. V2500 Service Bulletin V2500-NAC-70-0614 (Information — Nacelle — To Announce The Availability Of Heatshields For The Pressure Regulating Valve And The High Pressure Bleed Valve).
5. V2500 Service Bulletin V2500-ENG-72-0314 (Engine — Conversion — Provide Instructions To Change The V2500-A5 Engine Start Crank By Modifying The Data Entry Plug).
6. V2500 Service Bulletin V2500-ENG-72-0378 (Engine — LP Compressor — To Announce The Availability Of New Engine Identification Plate With Designation Of All A5 Model Ratings).
7. V2500 Service Bulletin V2500-ENG-72-0438 (Engine — Conversion — Definition Of Minimum Bill Of Material For Operations At 33,000 Lbs Thrust Rating).
8. V2500 Service Bulletin V2500-ENG-72-0560 (Engine — High Pressure (HP) Compressor — V2500 SelectOne™ Retrofit And Production — HP Compressor Upgrade).
9. V2500 Service Bulletin V2500-ENG-72-0562 (Engine — High Pressure Turbine (HPT) — V2500 SelectOne™ Production And Retrofit — HPT Upgrade).
10. V2500 Service Bulletin V2500-ENG-72-0565 (Engine — Provide The Requirements For Modification To The V2500 SelectOne™ Retrofit Standard).
11. V2500 Service Bulletin V2500-ENG-72-0584 (Engine — LP Compressor — To Apply The Multi-Rating Engine Identification Plate To All A5 Engine Models).
12. V2500 Service Bulletin V2500-ENG-73-0086 (Engine — Fuel And Control — To Provide A New Electronic Engine Control (EEC) With The A5 SCN11 Software Configuration).
13. V2500 Service Bulletin V2500-ENG-73-0127 (Engine Fuel And Control — Fuel Metering Unit — Introduction Of A Lucas Fuel Metering Unit With Revised Maximum Fuel Flow Stop (Airbus A319-131/132 And /133 Applications)), Reference Common FMU.
14. V2500 Service Bulletin V2500-ENG-73-0157 (Engine Fuel and Control — Fuel Metering Unit — Introduction Of A Woodward Governor Company Fuel Metering Unit With Revised Maximum Fuel Flow Stop (Airbus A320-232/233 Applications)), Reference Common FMU.
15. V2500 Service Bulletin V2500-ENG-73-0158 (Engine Fuel and Control — Fuel Metering Unit — Introduction Of A Woodward Governor Company Fuel Metering Unit With Revised Maximum Fuel Flow Stop (Airbus A319-131/132 And 133 Applications)), Reference Common FMU.
16. V2500 Service Bulletin V2500-ENG-73-0159 (Engine — Fuel And Control — To Provide A New ASSCN14/S Electronic Engine Control (EEC)).

17. V2500 Service Bulletin V2500-ENG-73-0172 (Engine Fuel And Control — Fuel Metering Unit — Introduction Of A Woodward Governor Company Switchable Fuel Metering Unit Suitable For All V2500-A5 Models), Reference Switchable FMU.
18. V2500 Service Bulletin V2500-ENG-73-0173 (Engine Fuel And Control — Fuel Metering Unit — Introduction Of A TRW Lucas Aerospace Switchable Fuel Metering Unit Suitable For All V2500-A5 Engine Models), Reference Switchable FMU.
19. V2500 Service Bulletin V2500-ENG-73-0209 (Engine — Fuel And Control — Introduction Of 33K Bump Rating, Modification Of The Data Entry Plug And New Engine Identification Plate).
20. V2500 Service Bulletin V2500-ENG-73-0210 (Engine — Fuel And Control — Plug, Data Entry — Modification To Increase The Thrust Level During Climb).
21. V2500 Service Bulletin V2500-ENG-73-0222 (Engine — Fuel And Control — Provide A New Electronic Engine Control (EEC) With SCN21/AA Software).
22. V2500 Service Bulletin V2500-ENG-73-0223 (Engine — Fuel Metering Unit (FMU) — Shut-Off Valve Modifications And Conversion Instructions Between Woodward Governor Fuel Metering Units 8061-639 And 8061-640).
23. V2500 Service Bulletin V2500-ENG-73-0225 (Engine — Fuel And Control — Plug, Data Entry — Modification To Permit A More Open Variable Stator Vane Schedule).
24. V2500 Service Bulletin V2500-ENG-73-0236 (Engine Fuel And Control — Control, Electronic Engine (EEC) — Replacement Or Modification Of, To Incorporate SCN22/AB Software Configuration).
25. V2500 Service Bulletin V2500-ENG-73-0237 (Engine Fuel And Control — Data Entry Plug (DEP) — Replacement Or Modification Of, To Provide SCN22/AB Software And Reduced Ground Idle (RGI) Capability).
26. V2500 Service Bulletin V2500-ENG-73-0238 (Engine — Fuel And Control — Operating Procedures For V2500 Software Loader (Software Loader And Data Entry Plug (DEP) Reader)).
27. V2500 Service Bulletin V2500-ENG-73-0239 (Engine Fuel And Control — Introduction Of A5 SelectTwo™ Engine With Reduced Ground Idle (RGI)).
28. FAA NWM AD 2000-11-25.
29. Aircraft Maintenance Manual, Chapter/Section 73-22-35, Repairs, Replace the Jumpers, Contacts or Connector — VRS3500, and Removal/Installation, Installation of the Data Entry Plug Assembly; and Chapter/Section, 73-22-34, Operational Test of the EEC.

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. 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)

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
5A1857 (73-22-36-01-100)	1	*	RIVET, ENGINE RATING INDICATOR		(3)(A)
5A1874	1	*	ENGINE IDENTIFICATION PLATE	5A1465 (72-32-85-03-120)	(3)(A)
			OR		
5A1875	1	*	ENGINE IDENTIFICATION PLATE, REUSABLE	5A1855 (72-32-85-03-120)	(3)(A)
			OR		
5A1942	1	*	ENGINE IDENTIFICATION PLATE, REUSABLE	5A1875 (72-32-85-03-120)	(3)(A)
2A3106	1	7,809.00	PLUG, KIT ASSY, DATA ENTRY	2A3106 (73-22-35-01-100)	(1)(A)
2A4378	1	7,809.00	PLUG, KIT ASSY, DATA ENTRY		(1)(A)
2A2315 (HAA18704) (73-22-35-01-145)	AR	*	.LEAD, ELECTRICAL		(A)(E)
2A2304 (HAA19931) (73-22-35-01-155)	AR	141.00	.LEAD, ELECTRICAL		(A)(E)

New PN	Qty	Estimate of Unit Price ($)	Keyword	Old PN	Instructions — Disposition
2A2305 (HAA19932) (73-22-35-01-165)	AR	179.00	.LEAD, ELECTRICAL		(A)(E)
2A2306 (HAA19933) (73-22-35-01-175)	AR	212.00	.LEAD, ELECTRICAL		(A)(E)
2A3104 (73-22-35-01-105)	1	519.00	.LEAD, ELECTRICAL		(A)(E)
2A4288 (73-22-35-01-190)	AR	5.65	.PLUG, OPTION		(A)(E)
2A2324 (73-22-35-01-210)	AR	2.78	.CONTACT		(A)(E)
2A2303 (347-020) (73-22-35-01-130)	1	372.00	.BACKSHELL, ASSEMBLY		(A)(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.

(3) The new Engine Identification Plate and Rivet can be obtained through your International Aero Engines AG Field Representative or Customer Fleet Director.

Spare Parts Availability

(A) The new part is available.

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

Vendor Services or Special Components/Materials

Not Applicable.

Tooling — Price and Availability

Refer to Reference 26, Service Bulletin V2500-ENG-73-0238 for tooling price and availability.

Reidentified Parts

Not Applicable.

Other Material Information Data

Not Applicable.

1. Verify the correct part number FMU is installed. Select the applicable FMU from Tables 2, 3 or 4 to determine which (if any) Service Bulletins must be incorporated into the subject engine before performing an engine model rating change.
2. Remove the DEP Assembly, PN 2A3106 or PN 2A4378 by the procedure given in Reference 29, Aircraft Maintenance Manual, Chapter/Section 73-22-35, Repairs, VRS3500.
3. Remove the backshell assembly to access the jumper wires by the procedures specified in Reference 29, Aircraft Maintenance Manual, Chapter/Section 73-22-35, Repairs, VRS3500 and Figure 2.

   NOTE: Do not remove the jumper pin connections at this time.
4. Make two copies of Figure 5, Contact Hole Locations. Mark one as 5A and one as 5B.
   A. Record the following information in the corresponding fields on Figure 5A from the DEP Connector:
      (1) Engine Serial Number
      (2) Bump Rating
      (3) Variant
      (4) EPR Modifier
      (5) Part Number
   B. Mark the existing DEP connections on the diagram in Figure 5A. After marking the existing DEP wiring in Figure 5A, make sure all the connections originate from the ground pin to the non-ground pin. If not, re-arrange the marking to meet this requirement. See Figure 7 for an illustration of which pins are the ground pins. See Figure 8 for an example of correcting the marking of the DEP diagram.

      NOTE: Jumper wires are utilized for the Variant, Engine Serial Number and EPR Modifier. Only the jumpers for the variant and EPR Modifier require removal. The other connections need to be maintained per Steps 4.C through 4.F below.
   C. Locate the current variant number in either Table 5 or Table 6. Make note of the pin connections for Channel A and B listed in this table. Highlight these pin connections in Figure 5A.
   D. Locate the current EPR modifier number and EPR class bias in either Table 8 or Table 9. Make note of the pin connections for Channel A and B listed in this table. Highlight these pin connections in Figure 5A.
   E. Using the same table from Step 4.C, locate the variant of the desired new engine thrust rating. Mark these pin connections on the diagram in Figure 5B.
   F. Now ignore the highlighted variant and EPR Modifier connections in Figure 5A (the old variant connections) and copy the rest of the connections to the diagram in Figure 5B.

G. Determine the jumper pin changes required from the differences between the diagrams in Figure 5A and 5B and any new jumpers needed. See Figure 2.

CAUTION: INSTALLATION OF AN INCORRECTLY WIRED DEP CAN LEAD TO OPERATIONAL ISSUES INCLUDING THE POSSIBILITY OF AN ENGINE SURGE.

5. Modify the DEP Connector by the procedure specified in Reference 29, Aircraft Maintenance Manual, Chapter/Section 73-22-35, Repairs.

6. Assemble the DEP Assembly by the procedure specified in Reference 29, Aircraft Maintenance Manual, Chapter/Section 73-22-35, Repairs, VRS3500 and Figure 2.

7. Do an electrical wiring test of DEP Assembly, PN 2A3106 or PN 2A4378 by the following method:

NOTE: A SelectOne™ engine can be identified by engine serial number V15001 and up or by an engine that has incorporated Reference 8, Service Bulletin V2500-ENG-72-0560 and Reference 9, Service Bulletin V2500-ENG-72-0562.

A. Do an electrical wiring test on DEP Assembly, PN 2A3106 or PN 2A4378. Use IAE Software Loader See Reference 26, Service Bulletin V2500-ENG-73-0238 as follows:

NOTE: If IAE Software Loader is not available, then a continuity check of the jumper pin connection can be used as an alternative to this check.

(1) Initial setup of IAE Software Loader

(a) Refer to Reference 26, Service Bulletin V2500-ENG-73-0238 for the instructions.

(2) Test data entry plug wiring

(a) Refer to Reference 26, Service Bulletin V2500-ENG-73-0238 for the instructions.

(3) Shut down IAE Software Loader

(a) Refer to Reference 26, Service Bulletin V2500-ENG-73-0238 for the instructions.

8. Mark the DEP backshell with the new Variant Number and Part Number if required by the procedure given in Reference 2, Standard Practices Manual, Chapter/Section 70-09-00, Marking of Parts and Figure 3. Use the vibration peen method.

9. Install the DEP by the procedure given in Reference 29, Aircraft Maintenance Manual, Chapter/Section 73-22-35, Repairs, VRS3500.

10. For SelectOne™ Retrofit re-identification procedure of the engine name plate: See Reference 10, Service Bulletin V2500-ENG-72-0565, Step 4.C.

11. For V2500-A5 re-identification procedure: Install a replacement Engine Identification Plate, PN 5A1874 or a reusable Engine Identification Plate PN 5A1942, with a new Engine Rating Indicator, PN 5A1857 (IAE Rivet). The reusable Engine Identification Plate, PN 5A1875 may be used on a non-SelectOne™ engine (Reference 10, Pre Service Bulletin V2500-ENG-72-0565). This can be determined by looking at the Installation Arrangement Number (IAN) field on the engine data plate. “AQ02” or “AQ03” indicates a non-SelectOne™ engine and PN 5A1875 can be used.

NOTE: If required, the replacement Engine Identification Plate MUST be obtained from your International Aero Engines Representative, and the old Engine Identification

Plate MUST be returned to this same Representative who shall in turn return the plate to the IAE Manager Production Certificate (via IAE Customer Support, if desired).

NOTE: Data Plates may only be replaced or remarked by persons working under the authority of a repair station certificate or an air carrier operating certificate, or by an IAE Product Support Representative.

NOTE: Ensure that your IAE Representative is aware of the change in Engine Rating.

NOTE: PN 5A1875 should be replaced if converting to SCN 22 and new variant options are needed. It is acceptable to re-identify fields in the DEP Part Number or EPR Modifier fields if the current plate does not contain any previous re-identification markings. If re-identification is acceptable follow Steps A.(1) thru A.(3).

A. If Engine Identification Plate, PN 5A1874 (see Figure 4, Sheet 1 and Figure 4, Sheet 5), is being remarked or replaced by the same part number plate:

It is acceptable to re-identify the plate if the current plate does not contain previous re-identification markings in the DEP Part Number, Variant, Rating-RGI/Bump (refer to Tables 7 and 10), or EPR Modifier fields. If re-identification is deemed acceptable do the steps that follow:

(1) General

(a) Obey all the WARNINGS and CAUTIONS in the procedures that are referred to.

(b) Consumable Materials

1 Refer to the table that follows:

Comat No.	Designation
05-126	Scotch Brite

NOTE: For the details of the consumable material given in the table above refer to the Overhaul Processes and Consumables Index.

(c) Tools and Equipment

1 Refer to the related Manual tasks given in this instruction.

2 To re-identify any of the fields on the engine identification plate (Refer to the Reference 1, Standard Practices/Processes Manual, Chapter/Section 70-09-00).

a Use vibro peen equipment to cross out the old information on the engine identification plate.

b Vibro peen the applicable new information on the engine identification plate adjacent to the old field being updated.

c Use Scotch Brite (CoMat 05-126) to remove any raised metal or burrs which have been produced during the re-identification procedure of the engine.

d Make sure that the engine identification plate has not been damaged and is clean and contains no unwanted material.

3 After this change has been completed, it is recommended that a new engine identification plate be ordered. This will aid if any future changes to the identification plate are performed.

If Engine Identification Plate, PN 5A1874 is being replaced:

4 Remove the four bolts (4W0102) that hold the Engine Identification Plate to the bracket.

5 Permanently deface the old Engine Identification Plate and return it to your IAE representative. Engine model and serial number must retain visible in order to allow verification by IAE Quality Assurance. Recommended technique is to vibro peen a wavy line through the Type Certificate and Production Certificate numbers.

6 Get the new Engine Identification Plate from your IAE Representative.

7 Install the new Engine Identification Plate with the four bolts (4W0102).

8 Torque the four bolts (4W0102) between 36 – 45 lbf in. (4.0 – 5.0 N-m)

B. If Engine Identification Plate, PN 5A1874 is being replaced by reusable Engine Identification Plate, PN 5A1875 (see Figure 4, Sheet 2 and Figure 4, Sheet 4):

(1) Remove the old Engine Identification Plate and bracket from the fan case as specified in Reference 6, Service Bulletin V2500-ENG-72-0378.

(2) Permanently deface the old Engine Identification Plate, PN 5A1874 (and Bracket) and return it to your IAE Representative. Engine model and serial number must remain visible in order to allow verification by IAE Quality Assurance. Recommended technique is to vibropeen a wavy line through the Type Certificate and Production Certificate numbers.

(3) Get the new re-usable Engine Identification Plate, PN 5A1875 and bracket from your IAE Representative.

(4) Get the Engine Rating Indicator, PN 5A1857 (IAE Rivet), and attached Figure 4 Sheet 3.

(5) Install the Engine Rating Indicator, PN 5A1857 (IAE Rivet) in the re-usable Engine Identification Plate, PN 5A1875 at the appropriate 'TAKE-OFF RATING/VARIANT' position, as specified in Reference 6, Service Bulletin V2500-ENG-72-0378.

(a) Drill a hole 0.098 – 0.101 inch (2.5 – 2.56 mm) diameter at the circle marked on the Engine Identification Plate at the designated rating, and deburr the hole.

(b) Install the Engine Rating Indicator, PN 5A1857 (IAE Rivet) through the Engine Identification Plate, PN 5A1875 at the designated rating and squeeze with the power riveter.

(6) Install the re-usable Engine Identification Plate and the bracket as specified in Reference 6, Service Bulletin V2500-ENG-72-0378.

(a) Install the Engine Identification Plate with the 4W0102 bolts (4 off) and the 4W0001 nuts (4 off).

(b) Torque the four bolts (4W0102) between 36 – 45 lbf in. (4.0 – 5.0 N-m).

(c) Install the bracket with the 4W0164 bolts (2 off).

(d) Torque the two bolts (4W0164) between 85 – 105 lbf in. (10.0 – 12.0 N-m).

C. If reusable Engine Identification Plate, PN 5A1875 is already installed (see Figure 4, Sheet 2 and Figure 4, Sheet 4):

(1) Remove the two bolts (4W0164), that hold the bracket to the fan case.

(2) Remove the four bolts (4W0102), that hold the re-usable Engine Identification Plate to the bracket.

(3) Get a new Engine Rating Indicator, PN 5A1857 (IAE Rivet) and attached Figure 4, Sheet 3.

(4) Remove the old Engine Rating Indicator from the Engine Identification Plate and either destroy it or return it to your IAE Representative.

(5) Install the new Engine Rating Indicator in the re-usable Engine Identification Plate at the appropriate 'TAKE-OFF RATING/VARIANT' position, as specified in Reference 6, Service Bulletin V2500-ENG-72-0378.

(a) Drill a hole 0.098 – 0.101 inch (2.5 – 2.56 mm) diameter at the circle marked on the Engine Identification Plate at the designated rating, and deburr the hole.

(b) Install the Engine Rating Indicator, PN 5A1857 (IAE Rivet) through the Engine Identification Plate at the designated rating and squeeze with the power riveter.

(6) Install the re-usable Engine Identification Plate and the bracket as specified in Reference 6, Service Bulletin V2500-ENG-72-0378.

(a) Install the Engine Identification Plate with the 4W0102 bolts (4 off) and the 4W0001 nuts (4 off).

(b) Torque the four bolts (4W0102) between 36 – 45 lbf in. (4.0 – 5.0 N-m)

(c) Install the bracket with the 4W0164 bolts (2 off).

(d) Torque the two bolts (4W0164) between 85 – 105 lbf in. (10.0 – 12.0 N-m)

D. If re-useable Engine Identification Plate, PN 5A1942 is being used then follow installation instructions in Reference 11, Service Bulletin V2500-ENG-72-0584. This plate has blank field for marking of the DEP Variant and Enhancement/Bump Rating (see Figure 4, Sheet 4).

NOTE: For PN 5A1942 it is acceptable to re-identify fields if the current plate does not contain any previous re-identification markings and updates can be distinguished. If re-identification is acceptable follow Steps A.(1) thru A.(3).

12. Check the DEP wiring by interrogating the MCDU and comparing the output EEC configuration information output to the Data Plate information, when the EEC and DEP are installed on the aircraft. Use the procedure specified in Reference 29, Aircraft Maintenance Manual, Chapter/Section 73-22-35, Installation and Figure 6.

NOTE: If this does not agree, the DEP must be corrected or replaced; until then the aircraft can not be dispatched.

13. Do an operational test of the EEC by the procedure given in Reference 29, Aircraft Maintenance Manual, Chapter/Section 73-22-34, Operational Test of the EEC.

14. Recording Instructions:

A. IAE must be informed of all rating changes.

B. A record of accomplishment is required.

CAUTION: THIS TABLE DOES NOT PERMIT A RATING CHANGE UP TO 33K ON ENGINES BEFORE SERIAL NUMBER V10198.

CAUTION: THIS TABLE ONLY PERMITS A RATING CHANGE UP TO 33K ON ENGINE SERIAL NUMBER V10198 AND SUBSEQUENT IF THE HARDWARE IS MAINTAINED AT A 33K STANDARD.

Table 2 — ORIGINAL FMU — V2500-A5 Part Effectivity and Service Bulletin Incorporation Requirements for Engine Model

		Part Effectivity			
Target Model	A/C Model	ESN	ORIGINAL FMU		with EEC
			TRW (Lucas)	W/Ward	
V2522	A319	All	540Mk2 or 550MK1	8061-627	A
V2524	A319	All	540Mk2 or 550MK1	8061-627	A
V2527M	A319CJ	All	N/A	N/A	
V2527	A320	All	550Mk1 or 530MK2	8061-633 or 8061-627	
V2527E	A320	All	550Mk1 or 530Mk2	8061-633	
V2530	A321	All	530Mk2*	8061-632* (or) 8061-638	
V2533	A321	>V10197	530Mk2*	8061-632* (or) 8061-638	
* : This FMU/Engine rating combination is subject to Reference 28, FAA NWM AD 2000-11-25. Designated FMU's can no longer be used on low thrust engines.					
A : EEC Software Standard — A5 SCN11/0 or later must be installed (Reference 12, Service Bulletin V2500-ENG-73-0086).					

NOTE: 1. The parts listed in this table and the referenced Service Bulletin as denoted by the letter A must be incorporated before changing the engine model rating.

2. Engines that have been operated at the V2533K rating must maintain the life limited parts lives currently assigned to the V2533K rating even if the engine is downrated to a lower rating.

NOTE: Before installing the FMU, refer to the FMU chart above to prevent the installation of an incorrect FMU.

NOTE: Before installing the FMU, make sure that the part number and manufacturer is the same or equivalent as the removed FMU. If the part number and/or FMU manufacturer are changed the engine configuration will also change and remarking of the engine data plate is required.

NOTE: For FMU switching applications and procedures, please reference the latest FMU Service Bulletins.

CAUTION: THIS TABLE DOES NOT PERMIT A RATING CHANGE UP TO 33K ON ENGINES BEFORE SERIAL NUMBER V10198.

CAUTION: THIS TABLE ONLY PERMITS A RATING CHANGE UP TO 33K ON ENGINE SERIAL NUMBER V10198 AND SUBSEQUENT IF THE HARDWARE IS MAINTAINED AT A 33K STANDARD.

Table 3 — COMMON FMU — V2500-A5 Part Effectivity and Service Bulletin Incorporation Requirements for Engine Model

		Part Effectivity			
Target Model	A/C Model	ESN	COMMON FMU		with EEC
			TRW (Lucas)	W/Ward	
V2522	A319	All	550Mk1	8061-633	B
V2524	A319	All	550Mk1	8061-633	B
V2527M	A319CJ	All	550Mk1	8061-633	B
V2527	A320	All	550Mk1	8061-633	
V2527E	A320	All	550Mk1	8061-633	
V2530	A321	All	N/A	N/A	
V2533	A321	>V10197	N/A	N/A	
B : EEC Software Standard — A5 SCN14/S or later must be installed (Reference 16, Service Bulletin V2500-ENG-73-0159).					

NOTE: 1. The parts listed in this table and the referenced service bulletin as denoted by the letter B must be incorporated before changing the engine model rating.

2. Engines that have been operated at the V2533K rating must maintain the life limited parts lives currently assigned to the V2533K rating even if the engine is downrated to a lower rating.

NOTE: Before installing the FMU, refer to the FMU chart above to prevent the installation of an incorrect FMU.

NOTE: Before installing the FMU, make sure that the part number and manufacturer is the same or equivalent as the removed FMU. If the part number and/or FMU manufacturer are changed the engine configuration will also change and remarking of the engine data plate is required.

NOTE: For FMU switching applications and procedures, please reference the latest FMU Service Bulletins.

CAUTION: THIS TABLE DOES NOT PERMIT A RATING CHANGE UP TO 33K ON ENGINES BEFORE SERIAL NUMBER V10198.

CAUTION: THIS TABLE ONLY PERMITS A RATING CHANGE UP TO 33K ON ENGINE SERIAL NUMBER V10198 AND SUBSEQUENT IF THE HARDWARE IS MAINTAINED AT A 33K STANDARD.

Table 4 — SWITCHABLE FMU — V2500-A5 Part Effectivity and Service Bulletin Incorporation Requirements for Engine Model

		Part Effectivity			
Target Model	A/C Model	ESN	SWITCHABLE FMU**		with EEC
			TRW (Lucas)	W/Ward	
V2522	A319	All	560Mk1	8061-636 (or) 8061-639	B
V2524	A319	All	560Mk1	8061-636 (or) 8061-639	B
V2527M	A319CJ	All	560Mk1	8061-636 (or) 8061-639	B
V2527	A320	All	560Mk1	8061-636 (or) 8061-639	
V2527E	A320	All	560Mk1	8061-636 (or) 8061-639	
V2530	A321	All	570MK1	8061-637 (or) 8061-640	
V2533	A321	>V10197	570MK1	8061-637 (or) 8061-640	
** : For FMU switching applications and procedures, please see reference FMU service bulletins.					
B : EEC Software Standard — A5 SCN14/S or later must be installed (Reference 16, Service Bulletin V2500-ENG-73-0159).					

NOTE: 1. The parts listed in this table and the referenced service bulletin as denoted by the letter B must be incorporated before changing the engine model rating.

2. Engines that have been operated at the V2533K rating must maintain the life limited parts lives currently assigned to the V2533K rating even if the engine is downrated to a lower rating.

NOTE: Before installing the FMU, refer to the FMU chart above to prevent the installation of an incorrect FMU.

NOTE: Before installing the FMU, make sure that the part number and manufacturer is the same or equivalent as the removed FMU. If the part number and/or FMU manufacturer are changed the engine configuration will also change and remarking of the engine data plate is required.

NOTE: For FMU switching applications and procedures, please reference the latest FMU Service Bulletins.

CAUTION: REFERENCE 5, SERVICE BULLETIN V2500-ENG-72-0314 REVISION 2 ONLY PERMIT A START CRANK OF 30 SECONDS.

CAUTION: IF ENGINE IS BEING RATED TO 33K, THE IAE FLEET PROGRAMS FIELD REPRESENTATIVE MUST BE CONTACTED TO VERIFY THE PROPER VARIANT. VARIANTS 01 AND 11 ACTIVATE THE MORE OPEN VSV SCHEDULE IN REFERENCE 21, POST SERVICE BULLETIN V2500-ENG-73-0222 SOFTWARE WHILE VARIANTS 00 AND 02 DO NOT. REFERENCE 23, SERVICE BULLETIN NO. V2500-ENG-73-0225 INTRODUCED THE MORE OPEN VSV SCHEDULE.

Table 5 — DEP Assembly, PN 2A3106 Reference 27, Pre Service Bulletin V2500-ENG-73-0237

Variant number	Thrust Level A5-Configuration	Bump number**	Crank (sec)	Channel A	Channel B	Minimum EEC Software
00	V2533 Standard	00	50	b to F	h to S	SCN-11/O
01*	V2533 Standard	00	30	Z to E	g to R	SCN-21/AA
02	V2533 Standard	00	30	Z to D	g to f	SCN-12/Q
03	V2533 Standard	01	30	b to F Z to D, E	h to s g to f, R	SCN20A/Z
04	V2533 Standard	02	30	Y to X	N to M	SCN19/X
06	V2533 SelectOne	00	30	b to F, Y to X, Z to D	h to S, N to M, g to f	SCN 20A/Z
07	V2533 SelectOne	01	30	Y to X Z to D, E	N to M, g to f, R	SCN 20A/Z
08	V2533 SelectOne	02	30	Y to C	N to q	SCN 20A/Z
09	V2533 SelectOne	03	30	b to F, Y to C, Z to E	h to S, N to q, g to R	SCN 20A/Z
10	V2530 Standard	00	50	b to F, Y to C, Z to D	h to S, N to q, g to f	SCN 9A
11*	V2533 Standard	02	30	Y to C, Z to D, E	N to q, g to f, R	SCN-21/AA
12	V2530 Standard	00	30	b to F, Y to C, X	h to S, N to q, M	SCN-12/Q
14	V2530 SelectOne	00	30	Y to C, X Z to D	N to q, M, g to f	SCN 20A/Z
30	V2527 Standard	00	50	b to F, Y to B, C, X, Z to D	h to S, N to e, q, M, g to f	SCN 9A

Variant number	Thrust Level A5-Configuration	Bump number**	Crank (sec)	Channel A	Channel B	Minimum EEC Software
32	V2527 Standard	00	30	Y to A	N to L	SCN-12/Q
34	V2527 SelectOne	00	30	b to F, Y to A, Z to D	h to S, N to L, g to f	SCN 20A/Z
35	V2527E Standard	00	50	Y to A, Z to D, E	N to L, g to f, R	SCN 10A
37	V2527E Standard	00	30	Y to A, X, Z to E	N to L , M, g to R	SCN-12/Q
40	V2524 Standard	00	50	b to F, Y to A, C	h to S, N to L, q	SCN 11/O
42	V2524 Standard	00	30	Y to A, C, Z to D	N to L, q, g to f	SCN-12/Q
47	V2527M Standard	00	30	Y to A, C, X, Z to D, E	N to L, q, M, g to f, R	SCN14/S
49	V2527M SelectOne	00	30	Y to A, B, Z to E	N to L, e, g to R	SCN 20A/Z
50	V2522 Standard	00	50	Y to A, B, Z to D	N to L, e, g to f	SCN 11/O
52	V2522 Standard	00	30	Y to A, B, X	N to L, e, M	SCN-12/Q
54	V2522 SelectOne	00	30	b to F, Y to A, B, X, Z to D	h to S, N to L, e, M, g to f	SCN 20A/Z
55	V2524 SelectOne	00	30	Y to A, B, X, Z to D, E	N to L,e, M, g to f, R	SCN 20A/Z
59	V2527E SelectOne	00	30	Y to A, B, C, Z to D, E	N to L, e, q, g to f, R	SCN 20A/Z
60	V2527E SelectOne	01	30	b to F Y to A, B, C, X	h to S N to L, e, q, M	SCN 21/AA

NOTE: * : Variants 01 and 11 activate a more open VSV schedule with SCN 21 software.

NOTE: ** Refer Table 7

Table 6 — DEP Assembly, PN 2A4378 Reference 27, Post Service Bulletin V2500-ENG-73-0237

Variant number	Thrust Level A5-Configuration	Bump number**	Crank (sec)	RGI Capable	Channel A	Channel B	Minimum EEC Software
01*	V2533 Standard	00	30	No	b to F, Z to E	h to S, g to R	SCN 22/AB
02	V2533 Standard	00	30	No	b to F, Z to D	h to S, g to f	SCN 22/AB
04	V2533 Standard	02	30	No	b to F, Y to X	h to S, N to M	SCN 22/AB
06	V2533 SelectTwo	00	30	No	Y to X, Z to D	N to M, g to f	SCN 22/AB
07	V2533 SelectTwo	01	30	No	b to F, Y to X, Z to D, E	h to S, N to M, g to f, R	SCN 22/AB
08	V2533 SelectTwo	02	30	No	b to F, Y to C	h to S, N to q	SCN 22/AB
09	V2533 SelectTwo	03	30	No	Y to C, Z to E	N to q, g to R	SCN 22/AB
11*	V2533 Standard	02	30	No	b to F, Y to C, Z to D, E	h to S, N to q, g to f, R	SCN 22/AB
12	V2530 Standard	00	30	No	Y to C, X	N to q, M	SCN 22/AB
14	V2530 SelectTwo	00	30	No	b to F, Y to C, X, Z to D	h to S, N to q, M, g to f	SCN 22/AB
15	V2533 SelectTwo	10	30	Yes	Y to C, X, Z to D, E	N to q, M, g to f, R	SCN 22/AB
16	V2533 SelectTwo	12	30	Yes	b to F, Y to B	h to S, N to e	SCN 22/AB
17	V2533 SelectTwo	11	30	Yes	Y to B, Z to E	N to e, g to R	SCN 22/AB
18	V2533 SelectTwo	13	30	Yes	Y to B, Z to D	N to e, g to f	SCN 22/AB
19	V2530 SelectTwo	10	30	Yes	b to F, Y to B, Z to D, E	h to S, N to e, g to f, R	SCN 22/AB
20	V2527 SelectTwo	10	30	Yes	Y to B, X	N to e , N to M	SCN 22/AB

Variant number	Thrust Level A5-Configuration	Bump number**	Crank (sec)	RGI Capable	Channel A	Channel B	Minimum EEC Software
21	V2527E SelectTwo	10	30	Yes	b to F, Y to B, X, Z to E	h to S, N to e, M, g to R	SCN 22/AB
22	V2527E SelectTwo	11	30	Yes	b to F, Y to B, X, Z to D	h to S, N to e, M, g to f	SCN 22/AB
23	V2527M SelectTwo	10	30	Yes	Y to B, X, Z to D, E	N to e, M, g to f, R	SCN 22/AB
24	V2524 SelectTwo	10	30	Yes	Y to B, C	N to e, q	SCN 22/AB
25	V2522 SelectTwo	10	30	Yes	b to F, Y to B, C, Z to E	h to S, N to e, q, g to R	SCN 22/AB
32	V2527 Standard	00	30	No	b to F, Y to A	h to S, N to L	SCN 22/AB
34	V2527 SelectTwo	00	30	No	Y to A, Z to D	N to L, g to f	SCN 22/AB
37	V2527E Standard	00	30	No	b to F, Y to A, X, Z to E	h to S, N to L, M, g to R	SCN 22/AB
42	V2524 Standard	00	30	No	b to F, Y to A, C, Z to D	h to S, N to L, q, g to f	SCN 22/AB
47	V2527M Standard	00	30	No	b to F, Y to A, C, X, Z to D, E	h to S, N to L, q, M, g to f, R	SCN 22/AB
49	V2527M SelectTwo	00	30	No	b to F, Y to A, B, Z to E	h to S, N to L, e, g to R	SCN 22/AB
52	V2522 Standard	00	30	No	b to F, Y to A, B, X	h to S, N to L, e, M	SCN 22/AB
54	V2522 SelectTwo	00	30	No	Y to A, B, X, Z to D	N to L, e, M, g to f	SCN 22/AB

Variant number	Thrust Level A5-Configuration	Bump number**	Crank (sec)	RGI Capable	Channel A	Channel B	Minimum EEC Software
55	V2524 SelectTwo	00	30	No	b to F, Y to A, B, X, Z to D, E	h to S, N to L, e, M, g to f, R	SCN 22/AB
59	V2527E SelectTwo	00	30	No	b to F, Y to A, B, C, Z to D, E	h to S, N to L, e, q, g to f, R	SCN 22/AB
60	V2527E SelectTwo	01	30	No	Y to A, B, C, X	N to L, e, q, M	SCN 22/AB

NOTE: * : Variants 01 and 11 activate a more open VSV schedule with SCN 22 software.

NOTE: ** Refer Table 7

CAUTION: INSTALLATION OF A SELECTONE™ DEP ON A NON-SELECTONE™ ENGINE CAN LEAD TO OPERATIONAL ISSUES INCLUDING THE POSSIBILITY OF AN ENGINE SURGE.

Table 7 — DEP Enhancements/Bump Designations

Bump Number	Description
00	No Bump
01	Bump Available for Take Off
02	MCL Activated
03	Bump for Take Off and MCL (both available)
10	RGI with no Bump
11	RGI with Bump Available for Take Off
12	RGI with MCL Activated
13	RGI with Bump for Take Off and MCL (both available)

NOTE: The following EPR modifier jumper connections Tables 8 and 9 and Engine Serial Number (ESN) calculations are provided for reference when complete DEP wiring is required, such as solutions for a new blank DEP.

NOTE: When Table and Text files are available for use when drafting the the following changes.

Table 8 — EPR Modifier Jumper Connections DEP Assembly, PN 2A4378

EPR Modifier Number	EPR Class Bias	Channel A	Channel B	Jumper	Jumper Quantity	**EEC Software
04	00	No Jumper	No Jumper	0	0	SCN22/AB
05	00	Z* to a	g* to r	2 pin	2	SCN22/AB
06	00	Z* to m	g* to r	2 pin	2	SCN22/AB
07	00	Z* to m, c* to a	No Jumper	2 pin	2	SCN22/AB
08	00	No Jumper	g* to r, j* to P	2 pin	2	SCN22/AB
09	00	Z* to a	g* to P	2 pin	2	SCN22/AB
10	00	Z* to m	g* to P	2 pin	2	SCN22/AB
11	00	Z* to m, c* to a	g* to r, j* to P	2 pin	4	SCN22/AB
05	01	Z* to a	h* to T	2 pin	2	SCN22/AB
06	01	Z* to m	h* to T	2 pin	2	SCN22/AB
07	01	Z* to m, c* to a	g* to r, h* to T	2 pin	4	SCN22/AB
08	01	No Jumper	h* to T, g* to P	2 pin	2	SCN22/AB

EPR Modifier Number	EPR Class Bias	Channel A	Channel B	Jumper	Jumper Quantity	**EEC Software
09	01	Z* to a	g* to r, h* to T, j* to P	2 pin	4	SCN22/AB
10	01	Z* to m	g* to r, h* to T, j* to P	2 pin	4	SCN22/AB
11	01	Z* to m, c* to a	h* to T, g* to P	2 pin	4	SCN22/AB
06	02	b* to G, Z* to m	No Jumper	2 pin	2	SCN22/AB
07	02	b* to G, Z* to m, c* to a	g* to r	2 pin	4	SCN22/AB
08	02	b* to G	g* to P	2 pin	2	SCN22/AB
09	02	b* to G, Z* to a	g* to r, j* to P	2 pin	4	SCN22/AB
10	02	b* to G, Z* to m	g* to r, j* to P	2 pin	4	SCN22/AB
11	02	b* to G, Z* to m, c* to a	g* to P	2 pin	4	SCN22/AB

NOTE: * : In some cases, connector holes g and Z are used in the variant number wiring and connector holes c and j are used in the engine serial number wiring. Find which holes are to be connected for engine serial number, EPR modifier, and variant number wiring before you choose the necessary jumpers.

NOTE: ** : Indicated EEC software standard or later must be installed.

Table 9 — EPR Modifier Jumper Connections DEP Assembly, PN 2A3106

EPR Modifier Number	EPR Class Bias	Channel A	Channel B	Jumper	Jumper Quantity	**EEC Software
04	00	No Jumper	g* to r	2 pin	1	SCN9/A
05	00	Z* to a	No Jumper	2 pin	1	SCN9/A
06	00	Z* to m	No Jumper	2 pin	1	SCN9/A
07	00	Z* to m, c* to a	g* to r	2 pin	3	SCN9/A
08	00	No Jumper	g* to P	2 pin	1	SCN9/A
09	00	Z* to a	g* to r, j* to P	2 pin	3	SCN9/A
10	00	Z* to m	g* to r, j* to P	2 pin	3	SCN9/A
11	00	Z* to m, c* to a	g* to P	2 pin	3	SCN9/A
05	01	Z* to a	g* to r, h* to T	2 pin	3	SCN20/Y
06	01	Z* to m	g* to r, h* to T	2 pin	3	SCN20/Y

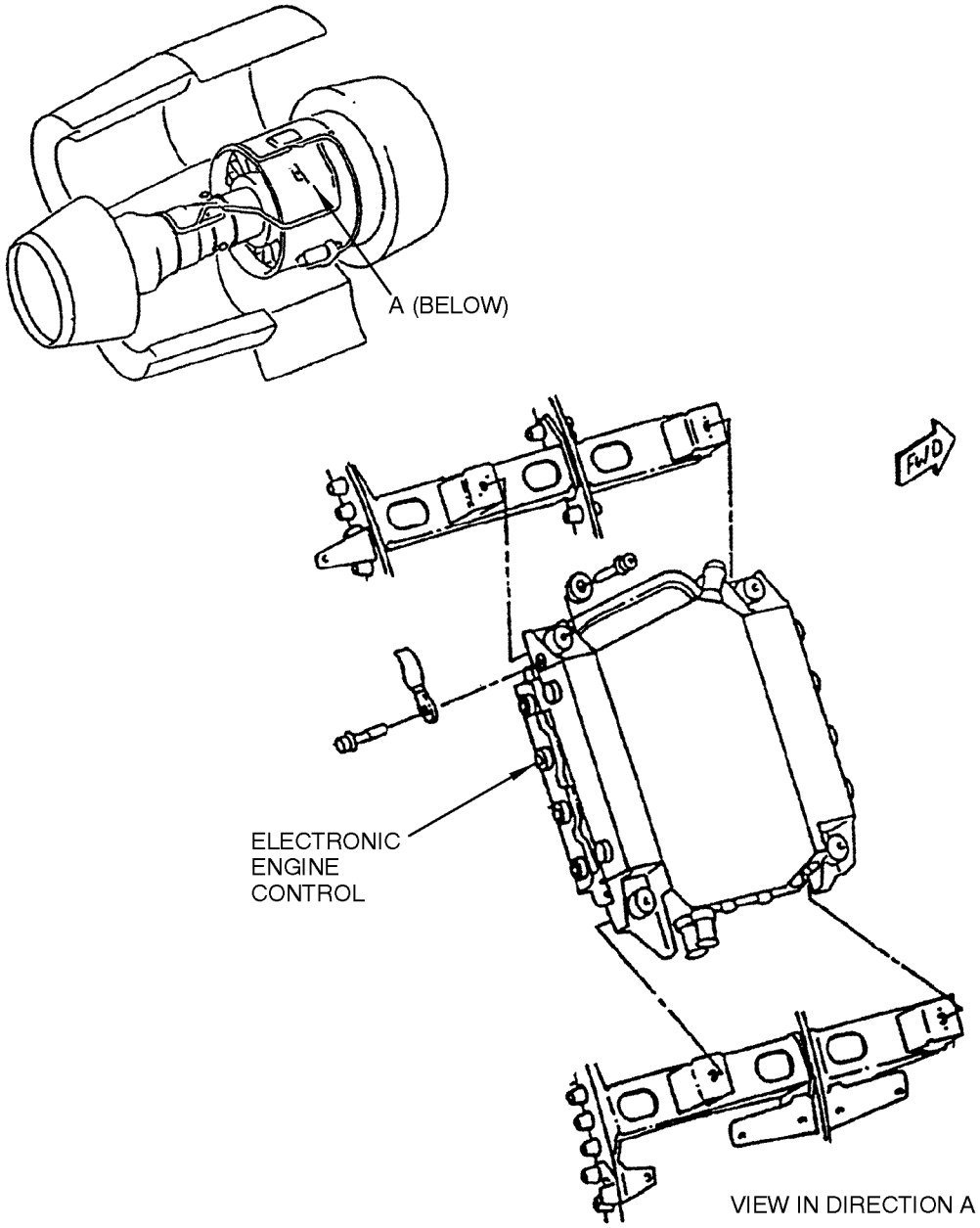
EPR Modifier Number	EPR Class Bias	Channel A	Channel B	Jumper	Jumper Quantity	**EEC Software
07	01	Z* to m, c* to a	h* to T	2 pin	3	SCN20/Y
08	01	No Jumper	g* to r, h* to T, j* to P	2 pin	3	SCN20/Y
09	01	Z* to a	h* to T, j* to P	2 pin	3	SCN20/Y
10	01	Z* to m	h* to T, j* to P	2 pin	3	SCN20/Y
11	01	Z* to m, c* to a	g* to r, h* to T, j* to P	2 pin	5	SCN20/Y
06	02	b* to G, Z* to m	g* to r	2 pin	3	SCN20/Y
07	02	b* to G, Z* to m, c* to a	No Jumper	2 pin	3	SCN20/Y
08	02	b* to G	g* to r, j* to P	2 pin	3	SCN20/Y
09	02	b* to G, Z* to a	j* to P	2 pin	3	SCN20/Y
10	02	b* to G, Z* to m	j* to P	2 pin	3	SCN20/Y
11	02	b* to G, Z* to m, c* to a	g* to r, j* to P	2 pin	5	SCN20/Y

NOTE: * : In some cases, connector holes g and Z are used in the variant number wiring and connector holes c and j are used in the engine serial number wiring. Find which holes are to be connected for engine serial number, EPR modifier, and variant number wiring before you choose the necessary jumpers.

NOTE: ** : Indicated EEC software standard or later must be installed.

Table 10 — Rating and Thrust Level Equivalents:

Engine Rating	Thrust Level
2	33K
3	30K
6	27K
7	27EK
8	24K
9	27MK
10	22K



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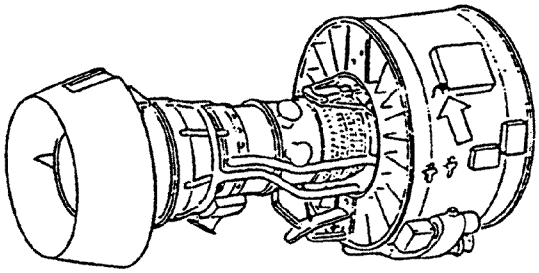
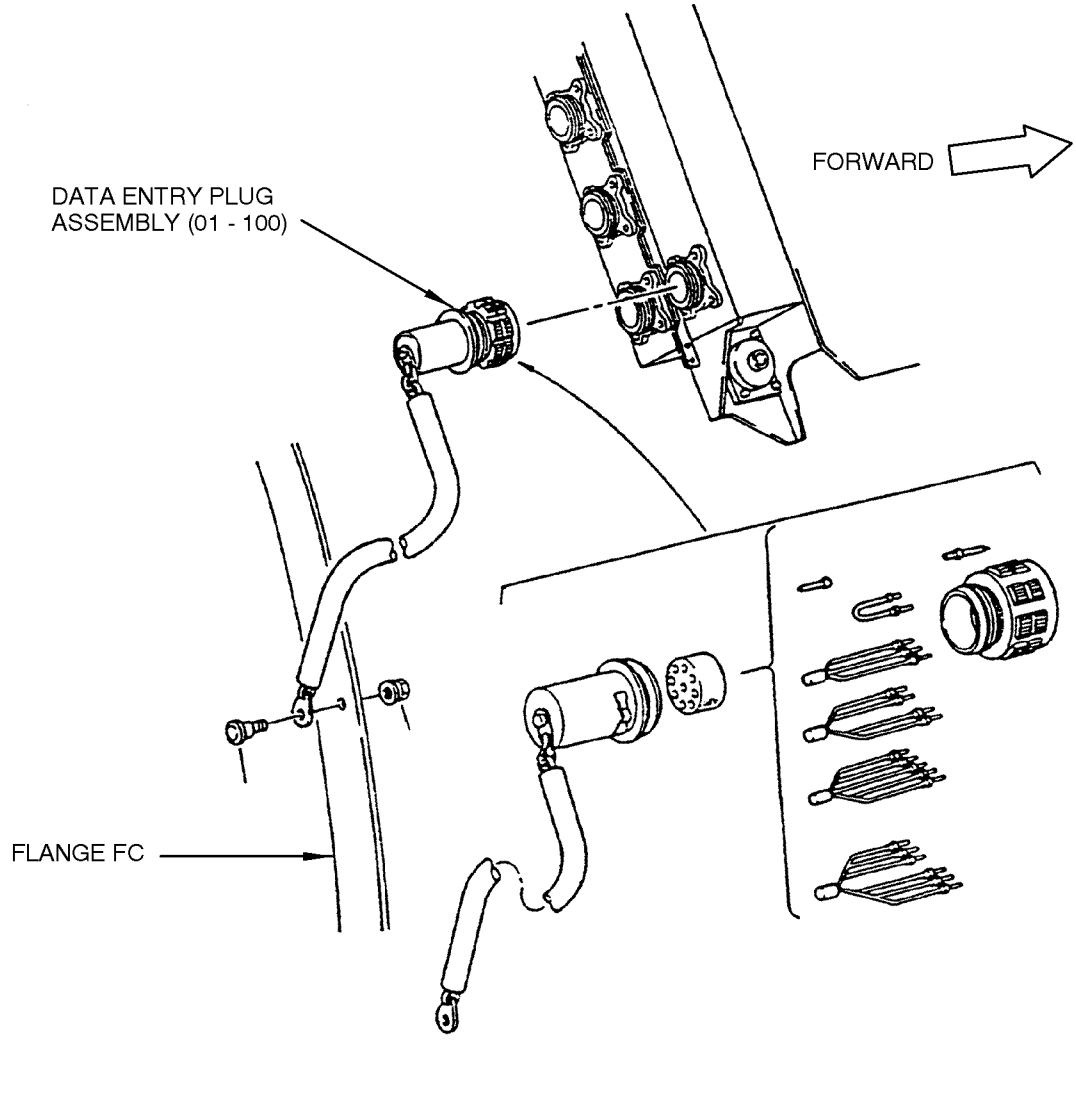
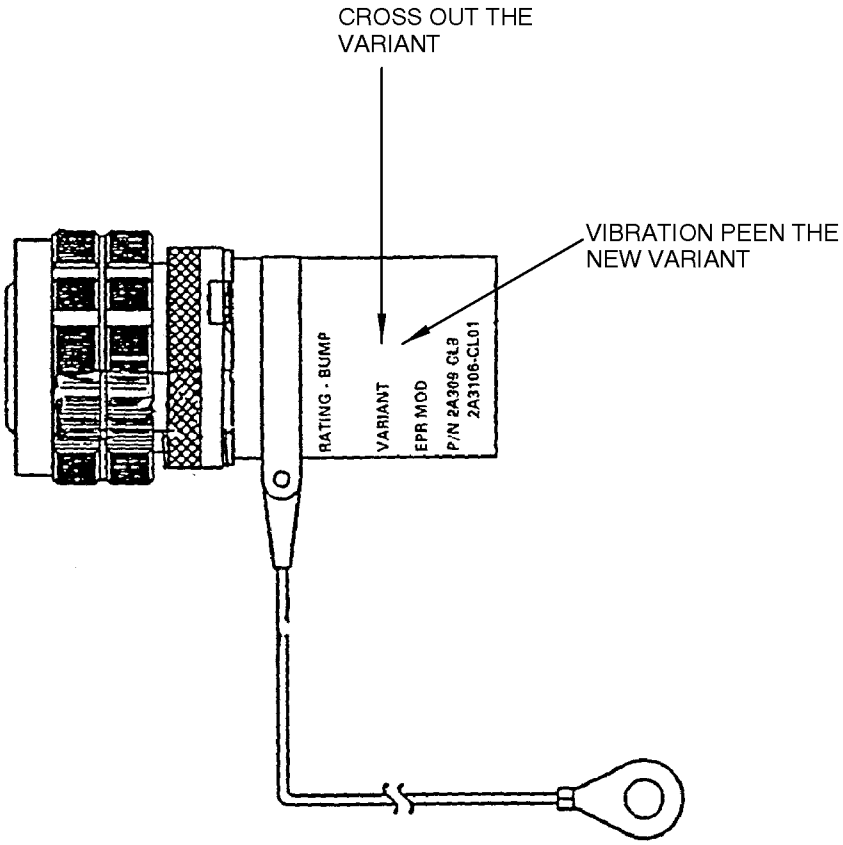
LOCATION OF THE ELECTRONIC ENGINE CONTROL
FIGURE 1





DEP ASSEMBLY
FIGURE 2



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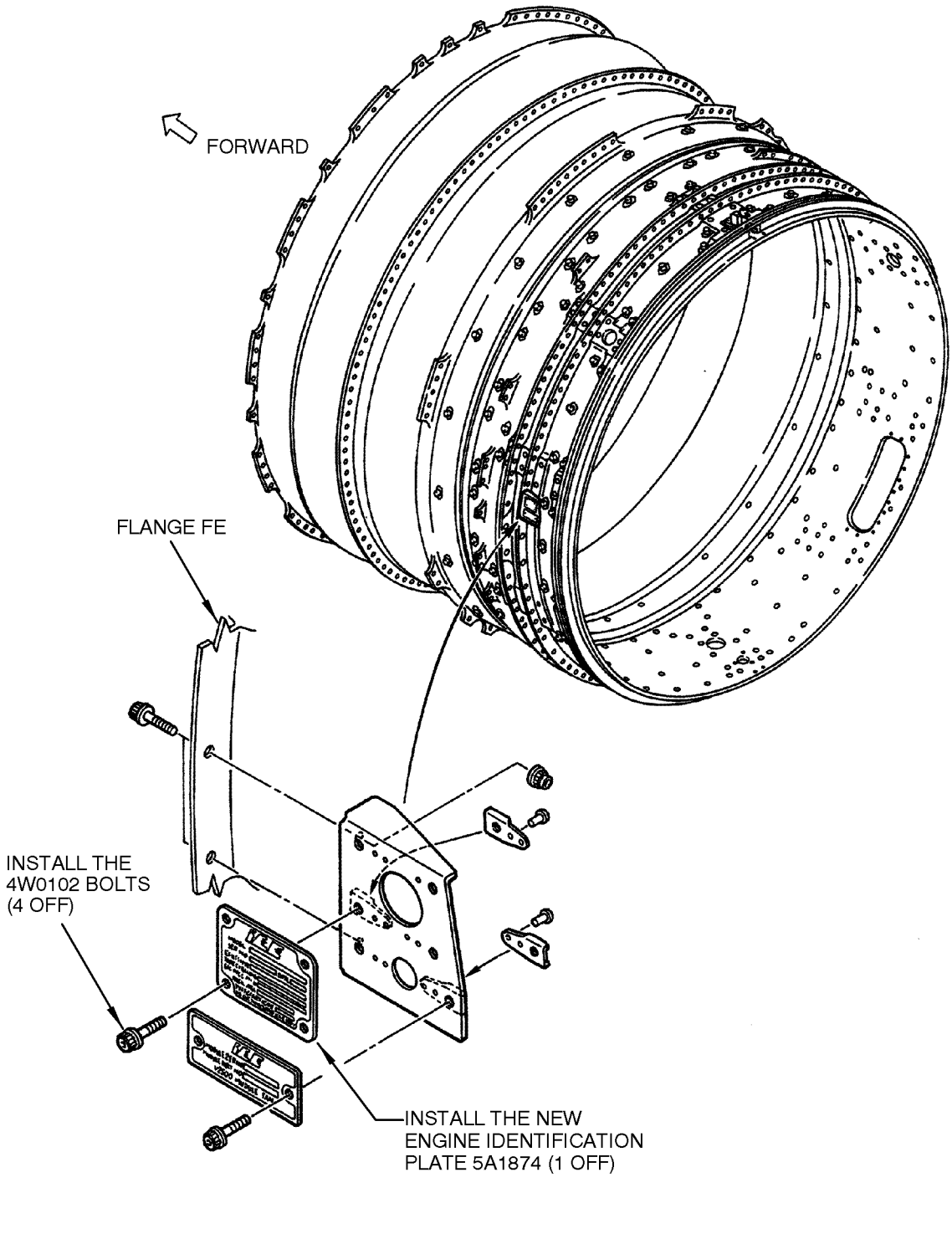
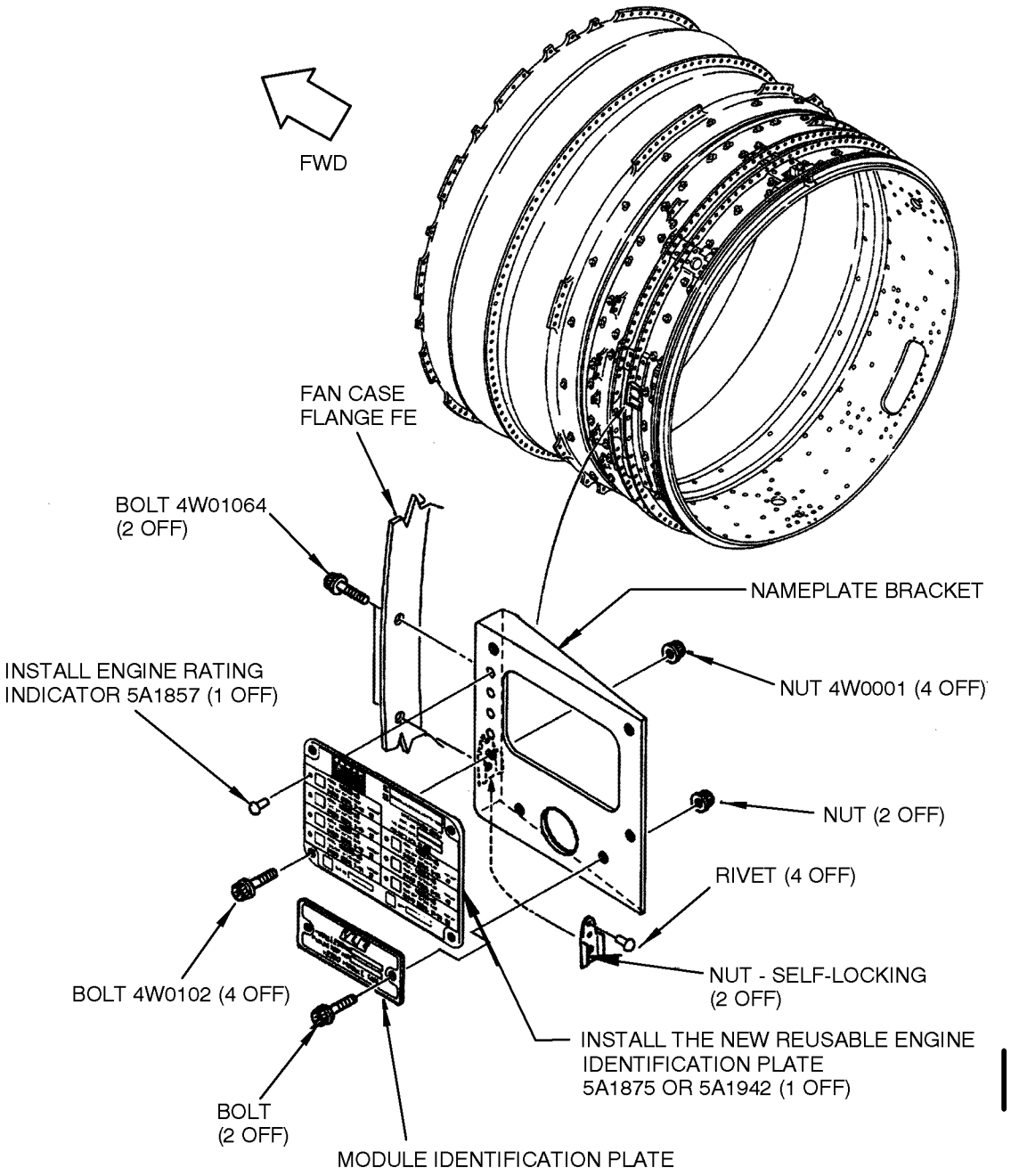
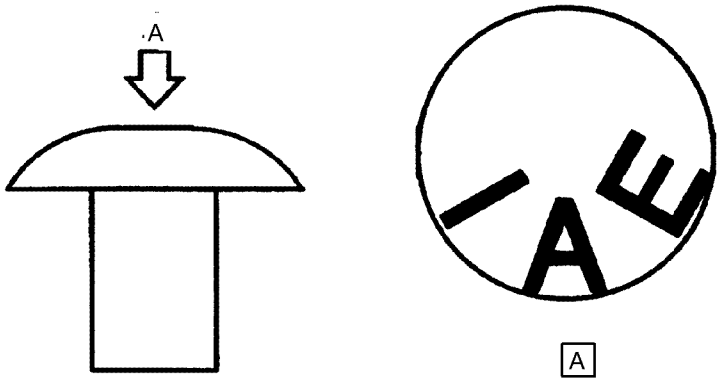
IDENTIFICATION OF THE DEP ASSEMBLY TO THE NEW PART NUMBER
FIGURE 3



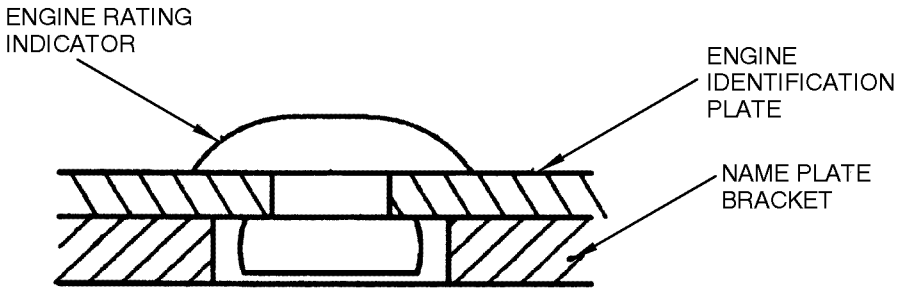
ENGINE IDENTIFICATION PLATE
FIGURE 4, SHEET 1



ENGINE IDENTIFICATION PLATE
FIGURE 4, SHEET 2



ENGINE RATING INDICATOR AS SUPPLIED BY IAE



ENGINE RATING INDICATOR AS PLACED ON THE ENGINE IDENTIFICATION PLATE

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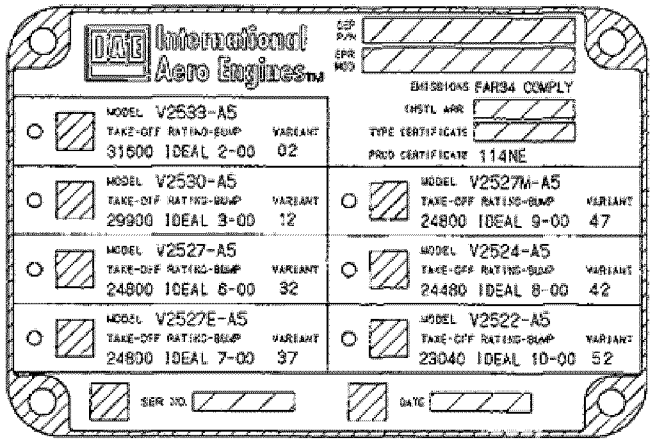
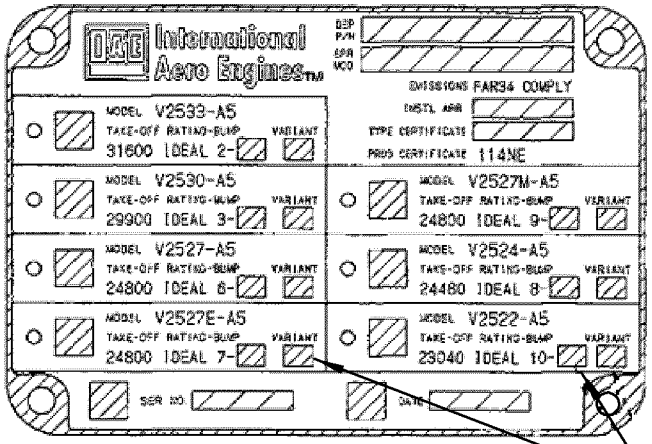
ENGINE RATING INDICATOR
FIGURE 4, SHEET 3



ENGINE IDENTIFICATION PLATE (PN 5A1875)



ENGINE IDENTIFICATION PLATE (PN 5A1942)

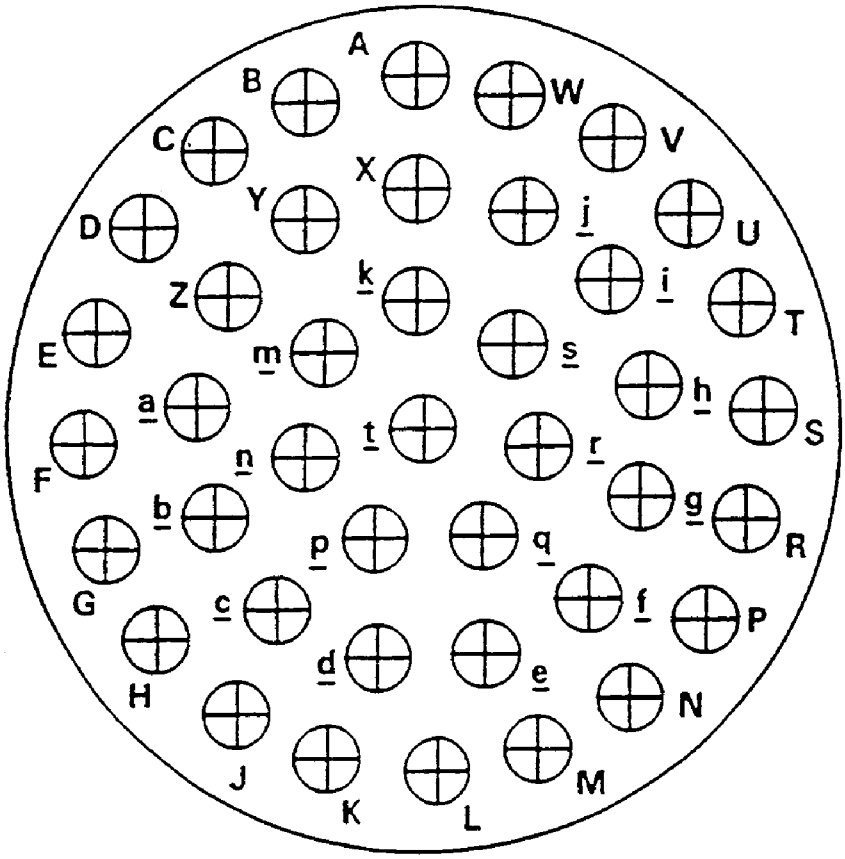
BLANK FOR MARKING OF DEP VARIANT AND ENHANCEMENT/BUMP RATING

B526331

ENGINE IDENTIFICATION PLATE
FIGURE 4, SHEET 4

B526077

ENGINE IDENTIFICATION PLATE
FIGURE 4, SHEET 5



NOTE: Upper case I, O, and Q are not used.
Lower case l and O are not used.

ENGINE NO. _____

RATING - BUMP _____

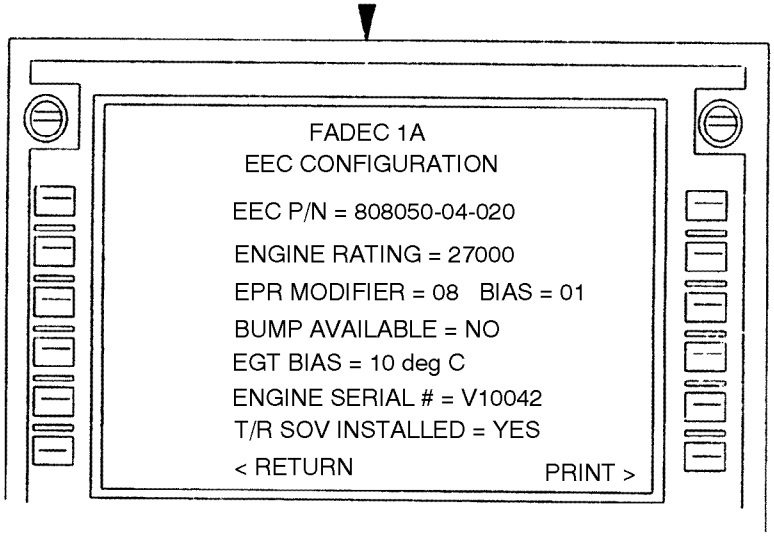
VARIANT _____

EPR MOD. _____

P/N _____

B526327

CONTACT HOLE LOCATIONS
FIGURE 5



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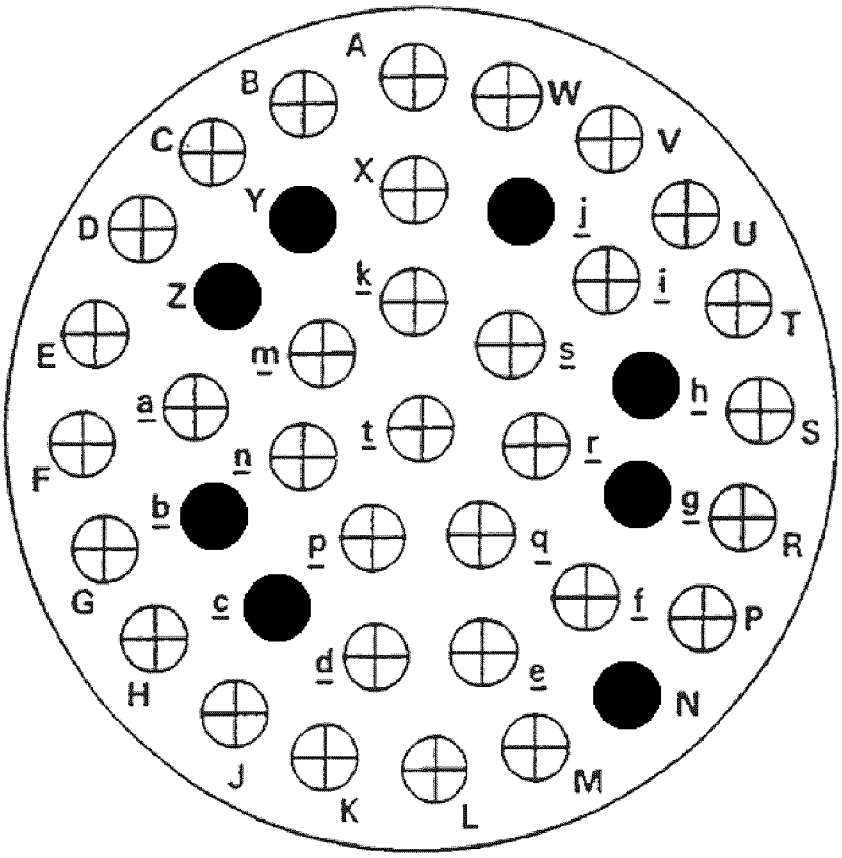
MCDU INTERROGATION OF EEC CONFIGURATION
FIGURE 6

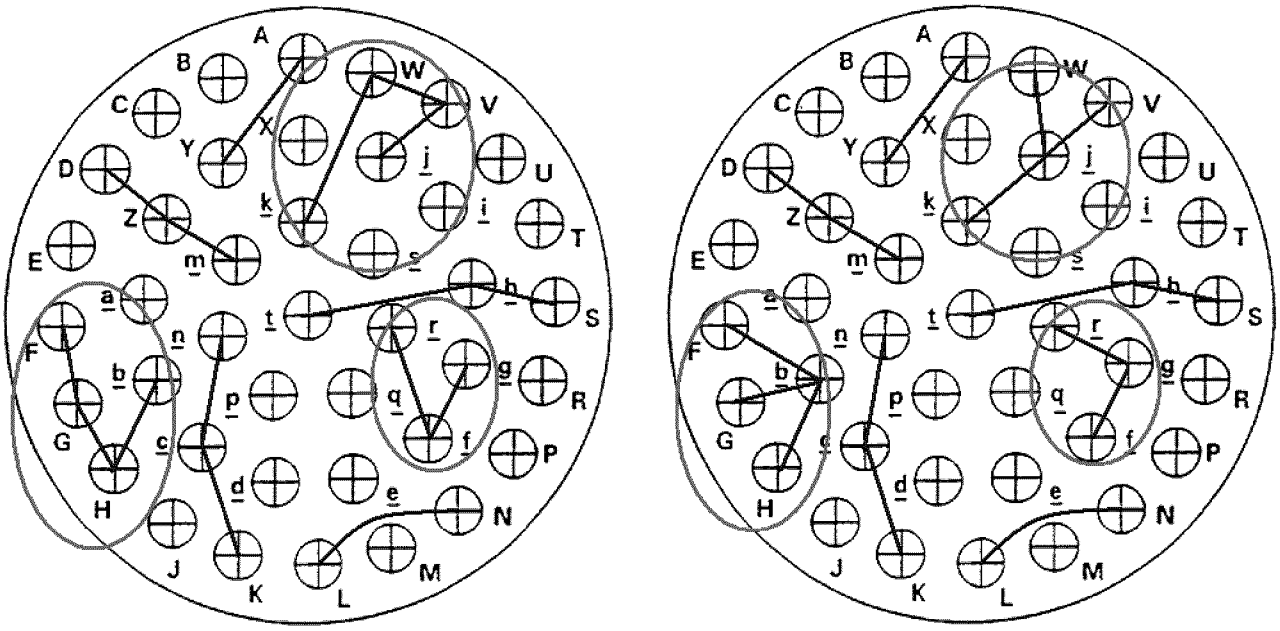


NOTE: The black dotted letters - Y, Z, b, c, j, h, g & N are ground pins

NOTE: While re-wiring the DEP for a new engine variant, make sure that the jumper pins are connected to its corresponding ground pins

B524087

GROUND PIN LOCATIONS
FIGURE 7



Incorrect Marking

Correct Marking

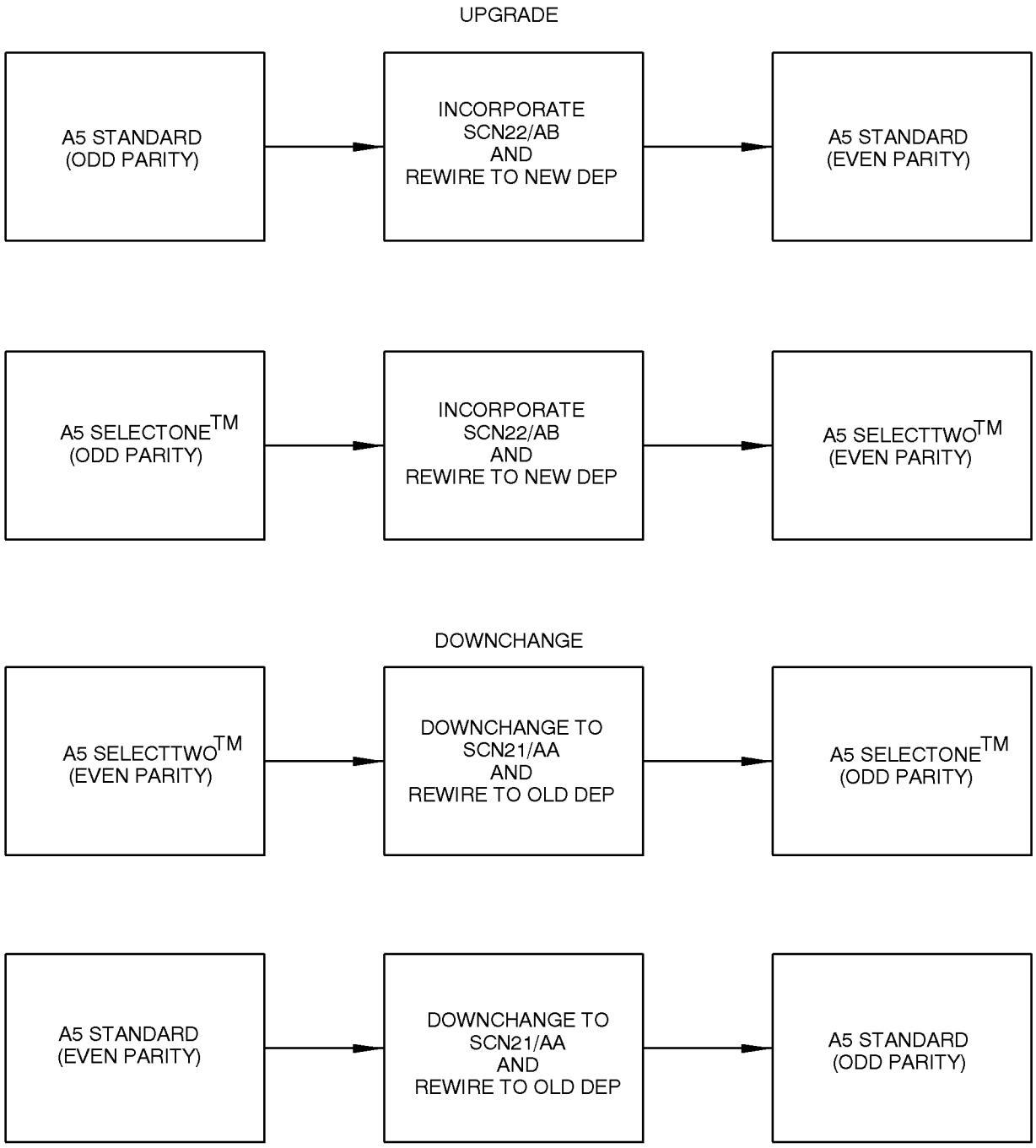
NOTE: The above illustration (left side) shows the incorrect marking between ground pins b, g, and J, and non-ground pins. The right side shows correct marking.

NOTE: Upper Case letters - I, O, and Q are not used.
Lower Case Letters I, and O are not used.

ENGINE NO.	V15319
RATING - BUMP	27k
VARIANT	34
EPR - MOD	06-02
PN	2A3106-CL01

B524089A

CORRECT MARKING EXAMPLE
FIGURE 8



B525537

UPGRADE AND DOWNCHANGE INSTRUCTIONS
FIGURE 9

Appendix

Added Data

Internal Reference Information

Revision No.	Reference Document	Origination
Original	EC97VI001	DTL/JDH
1-10	EC97VI001 EC97VI001A EC97VI001C EC97VI001D EC97VI001E EC07VZ009 EC07VZ009C EC08VA070 IEN09VC031 EC10VA014 EA12VC173 EA12VC173A EC08VA076 EC08VJ021 EC09VJ002 EC08VJ021A	DL/TR/DL/JDH/DTL/JDH/DTL/CMS
11	EC08VA076F EC11VZ008 EC11VZ009 EC11VA031 EA14VC204	DL/IEL
12	EA15VC265	PSO/IEL

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

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
SPPM (SPM) — A1, A5, D5	All	SPP-V2500-1IA	2A4414

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	

Appendix 1

DEP blank or Overhaul rewrite instructions

1. Configuration shall be defined by three terms: Engine Serial Number, Variant, and EPR Modifier.
2. Explanation of Engine Serial Number:
   A. Upper line "H J n ... k V W" are pins used for engine serial number wiring.
      The lower line labeled connectors are grounding connector holes.
      “b, c, h, j” conections are specified by reading in vertical lines down the table.

UPPER LINE	H	J	n	p	d	K	t	U	i	s	k	V	W
LOWER LINE	b	b	c	c	c	c	h	h	h	j	j	j	j
NV	4096	2048	1024	512	256	128	64	32	16	8	4	2	1

B. Holes listed in the upper line are wired to holes in the lower line. Each combination of connected holes has a Numerical Value (NV).

C. The Numerical Value (NV) to be wired is determined as follows:

For Engine Serial Numbers 10001 to 18190: NV = Engine Serial Number — 10000

For Engine Serial Numbers 18191 to 19999: NV = Engine Serial Number — 15000

Example No.1:

Wiring for Engine Serial Number 13189:

NV = Engine Serial Number — 10000 = 13189–10000 = 3189

NV = 3189 = 2048 + 1024 + 64 + 32 + 16 + 4 + 1

Placing the results into the table defines lower line connections

UPPER LINE	H	J	n	p	d	K	t	U	i	s	k	V	W
LOWER LINE	OP	b	c	OP	OP	OP	h	h	h	OP	j	OP	j
NV	4096	2048	1024	512	256	128	64	32	16	8	4	2	1

Therefore, Hole J is connected to b, Hole n is connected to c, Hole t is connected to h, Hole U is connected to h, Hole i Is connected to h, Hole k is connected to j, and Hole W is connected to j. All other holes are left unconnected (OP = Open).

Example No. 2:

Wiring for Engine Serial Number 19027:

NV = Engine Serial Number — 15000 = 19027–15000 = 4027

NV = 4027 = 2048 + 1024 + 512 + 256 + 128 + 32 + 16 + 8 + 2 + 1

Placing the results into the table defines lower line connections

UPPER LINE	H	J	n	p	d	K	t	U	i	s	k	V	W
LOWER LINE	OP	b	c	c	c	c	OP	h	h	j	OP	j	j
NV	4096	2048	1024	512	256	128	64	32	16	8	4	2	1

Therefore, Hole J is connected to b, Hole n is connected to c, Hole d is connected to c, Hole K is connected to c, Hole U is connected to h, Hole i is connected to h, Hole s is connected to j, V is connected to j, and Hole W is connected to j. All other holes are left unconnected (OP = Open).

3. Explanation of variant for DEP Assembly, PN 2A4378

   A. To determine the required leads to wire the variant, EPR Modifier, and Engine Serial Number, all three items must be reviewed for common connector holes. In some cases, connector holes are used for wiring more than one item. connector holes b and h are used for variant, EPR Modifier, and Engine Serial Number. Connector Holes g and Z are used for variant and EPR Modifier. Connector Holes c and j are used for EPR Modifier and Engine Serial Number. See example below.

   B. Upper most line "F A B ..." and "S L e ..." used for variant wiring are the labeled connector holes to be wired to grounding connector Holes “b, Y, Z, h, N, g” specified by reading in vertical lines down the tables.

   C. Variant No. 06 for DEP Assembly, PN 2A4378 (Refer Table 6) as an example:

CONNECTOR HOLE	F	A	B	C	X	D	E	....	S	L	e	q	M	f	R
VARIANT NO. 06	OP	OP	OP	OP	Y	Z	OP	....	OP	OP	OP	OP	N	g	OP

   D. This means that Hole X is connected to Y and Hole D is connected to Z for Channel A. Also Hole M is connected to N and Hole f is connected to g for Channel B. The other connector Holes F, A, B, C, E, S, L, e, q, R are left unconnected (OP = Open). This method also applies for the wiring of DEP Assembly, PN 2A4378 EPR Modifier (reference Table 8).

4. Example for complete jumper selection the following is considered:

   A. Engine Serial Number No.13189 using steps 1 through 22 below, the following holes are connected: J-b, n-c, t-h, U-h, i-h, k-j, W-j.

   Variant No. 06, The following holes are connected: X-Y, D-Z, M-N, and f-g.

   EPR Modifier 08-00 (Refer Table 8) the following holes are connected r-g, P-j

   B. A review of the required wiring shows the following leads should be used:

   Lead PN 2A2315 is required to connect n-c, J-b, M-N, D-Z, and X-Y.

   Lead PN 2A2304 is required to connect f-r-g.

   Lead PN 2A2305 is required to connect k-P-W-j, and i-t-U-h.

   Step 1. Engine Serial Number is 13189

   Step 2. NV = Engine Serial Number minus 10000 (NV = 13189 – 10000 = 3189)

   Step 3. The largest NV that is not more than 3189 is 2048

   Step 4. Pin combination (J to b) is recorded

   Step 5. Subtract 3189 minus 2048 = 1141

   Step 6. The largest NV that is not more than 1141 is 1024

   Step 7. Pin combination (n to c) is recorded

   Step 8. Subtract 1141 minus 1024 = 117

   Step 9. The largest NV that is not more than 117 is 64

   Step 10. Pin combination (t to h) is recorded

Step 11. Subtract 117 minus 64 = 53

Step 12. The largest NV that is not more than 53 is 32

Step 13. Pin combination (U to h) is recorded

Step 14. Subtract 53 minus 32 = 21

Step 15. The largest NV that is not more than 21 is 16

Step 16. Pin combination (i to h) is recorded

Step 17. Subtract 21 minus 16 = 5

Step 18. The largest NV that is not more than 5 is 4

Step 19. Pin combination (k to j) is recorded

Step 20. Subtract 5 minus 4 = 1

Step 21. The largest NV that is not more than 1 is 1

Step 22. Final Engine Serial Number Pin combination (W to j) is recorded