International Aero Engines

SERVICE BULLETIN

ENGINE - FUEL AND CONTROL - MARKING OF THE EPR MODIFICATION CLASS NUMBER - CATEGORY CODE 5 - MOD.ENG-73-0025

1. Planning Information

A. Effectivity

(1) Aircraft: Airbus A320

(2) Engine: V2500-A1 Engine Serial Nos.V0017, V0019, V0023, V0025, V0029, V0031, V0033, V0037, V0039, V0041, V0045, V0047, V0055, V0059, V0063, V0065, V0071, V0075, V0079, V0081, V0083 and V0085

NOTE: Service Bulletin V2500-ENG-73-0015 must be done prior to or concurrently with this Bulletin.

B. Reason

(1) Condition

Some engines were wired with an EPR Modification Class that produced a slightly higher thrust than required. Some engines have an EPR Modification Class number marked on the DEP Backshell and the Engine Identification Plate that are not matched.

(2) Background

An incorrect EPR Modification Class number was selected for some engines which produced a slightly higher thrust than is required. To correct this condition, these engines will need to have the DEP rewired and the EPR Modification Class number on the backshell reidentified.

Those engines which have a mismatch of the EPR Modification Class number between the DEP Backshell and the Engine Identification Plate will be appropriately corrected to affect a match.

(3) Objective

To provide new pre-wired Connectors to correct EPR Modification Classes and to provide instructions to mark correct EPR Modifier Class Numbers on the DEP Backshells and Engine Identification Plates.

(4) Substantiation

None.

(5) Effects of Bulletin on Workshop Procedures:

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.

C. Description

(1) The following changes are made:

(a) Data Entry Plug Connectors are replaced.

(b) Data Entry Plug Backshells are marked with the correct EPR Modification Class Number.

(c) Engine Identification Plates are replaced with new ones that show the correct EPR Modification Class Number.

D. Approval

The part number changes and/or part modifications described in Sections 2 and 3 of this Service Bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the Engine Model listed.

E. Compliance

Category Code 5

Accomplish when the engine is disassembled sufficiently to afford access to the affected sub-assembly (i.e. modules, accessories, components, build groups) and to all affected spare sub-assemblies.

F. Manpower

Estimated manhours to incorporate the full intent of this Bulletin:

Venue	Estimated Manhours
(1) In service	Not applicable
(2) At overhaul	Not applicable
(3) In shop (Part 1)	TOTAL 10 minutes

(a) Remove and rework the data entry plug assemblies .. .. .. 5 minutes

(b) Identify and refit the data entry plug assemblies .. .. .. 5 minutes

Remarks: The time given is standard for the following engines: V0017, V0023, V0031, V0033, V0037, V0039, V0041, V0045, V0047, V0055, V0059, V0063, V0065, V0071, V0075, V0079, V0081, V0083, V0085.

(4) In shop (Part 2) TOTAL 5 minutes

(a) Remove and replace the engine identification plate .. .. 5 minutes

Remarks: The time given is standard for the following engines: V0019, V0025, V0029.

G. Material - Price and Availability

(1) Modification kit not required.

(2) See "Material Information" section for prices and availability of future spares.

H. Tooling - Price and Availability

The following tool is required to accomplish Sub-division 2 of this Service Bulletin:

Tool No.	Qty	Description	Function	Avail.
New tools required:				
IAE 1J12018	1	EEC Harness Wrench	Torque Data Entry Plug	(1)

(1) Indicates that Tool Design Aperture Cards are currently available from IAE.

I. Weight and Balance

(1) Weight change None

(2) Moment arm No effect

(3) Datum — Engine front mount centreline (Power Plant Station (PPS) 100)

J. Electrical Load Data

This Service Bulletin has no effect on the aircraft electrical load.

K. References

(1) Internal Reference No.

90VC031

(2) Other references

V2500 Engine Illustrated Parts Catalog.

V2500 Standard Practices Manual.

L. Other Publications Affected

(1) None.

2. Accomplishment Instructions

A. Rework Instructions (For Engine Serial Numbers V0033 and V0037)

(1) Remove the lockwire from the Data Entry Plug Backshell.

(2) Loosen the Backshell Nut, but do not remove the Backshell. Use a TG-70 Strap Wrench or equivalent.

(3) Disconnect the Data Entry Plug Assembly from the EEC. Use the IAE 1J12018 EEC Harness Wrench. Refer to Figure 1.

NOTE: Do not remove the Data Entry Plug Connecting Chain from Flange FC to do the modification specified.

(4) Do a modification to 5A0431 Data Entry Plug (See Reference (1), Chapter/Section 73-22-35, Fig/Item No.01-100) and identify as follows:

	Procedure	Supplementary Information
(a)	Remove the Connector Assembly from the Backshell	Refer to Figure 1, requirements
(b)	Remove the Anti-Vibration Rubber	Refer to Figure 1, requirements
(c)	Give the old Connector Assembly to your IAE Representative	
(d)	Get the new Connector Assembly from your IAE Representative	

CAUTION: MAKE SURE THE NEW CONNECTOR ASSEMBLY IS CORRECT FOR THE ENGINE YOU INSTALL IT ON. THE NEW CONNECTOR ASSEMBLY IS NOT IDENTIFIED WITH THE ENGINE SERIAL NUMBER.

(e)	Align and install the Anti-Vibration Rubber on the Jumper ends of the new Connector Assembly	Refer to Figure 1, requirements
(f)	Install the Connector Assembly and Anti-Vibration Rubber into the Backshell and tighten the Backshell Nut with your fingers	Refer to Figure 1, requirements

(g)	Identify the Data Entry Plug Backshell with the New EPR Modification Class Number as follows:	Refer to Figure 1, requirements
(i)	Mark out the EPR Modification Class Number from the Data Entry Plug Backshell. Use the vibration peen method	Use the procedure in Reference (2), Control No./TASK 70-09-00-400-501
(ii)	Mark EPR Class 06 on the Data Entry Plug Backshell, adjacent to the old EPR Class Number. Use the vibration peen method	Identify by the approved procedure in Reference (2), Control No./TASK 70-09-00-400-501
(h)	Connect the Data Entry Plug Assembly to the EEC	Refer to Figure 1
(i)	Tighten and torque the Data Entry Plug Assembly to 32 lbfin (3,6 Nm). Use the IAE 1J12018 EEC Harness Wrench	Use the procedure in Reference (2), Control No./TASK 70-41-00-400-501
(j)	Tighten and torque the Backshell to 53 - 58 lbfin (5,99 - 6,55 Nm) with a TG-70 Strap Wrench or equivalent	Use the procedure in Reference (2), Control No./TASK 70-41-00-400-501
(k)	Safety the Backshell to the Connector with CoMat 02-138 Lockwire	Use the procedure in Reference (2), Control No./TASK 70-40-11-911-012

B. Rework Instructions (For Engine Serial Numbers V0017, V0023, V0041, V0045, V0047, V0059 and V0083)

(1) Remove the lockwire from the Data Entry Plug Backshell.

(2) Loosen the Backshell Nut, but do not remove the Backshell. Use a TG-70 Strap Wrench or equivalent.

(3) Disconnect the Data Entry Plug Assembly from the EEC. Use the IE 1J12018 EEC Harness Wrench. Refer to Figure 1.

(4) Do a modification to 5A0431 Data Entry Plug (See Reference (1), Chapter/Section 73-22-35, Fig/Item, No.01-100) and identify as follows:

Procedure	Supplementary Information
(a) Remove the Connector Assembly from the Backshell	Refer to Figure 1, requirements
(b) Remove the Anti-Vibration Rubber	Refer to Figure 1, requirements
(c) Give the old Connector Assembly to your IAE Representative	
(d) Get the new Connector Assembly from your IAE Representative	

CAUTION: MAKE SURE THE NEW CONNECTOR ASSEMBLY IS CORRECT FOR THE ENGINE YOU INSTALL IT ON. THE NEW CONNECTOR ASSEMBLY IS NOT IDENTIFIED WITH THE ENGINE SERIAL NUMBER.

(e) Align and install the Anti-Vibration Rubber on the Jumper ends of the new Connector Assembly	Refer to Figure 1, requirements
(f) Install the Connector Assembly and Anti-Vibration Rubber into the Backshell and tighten the Backshell Nut with your fingers	Refer to Figure 1, requirements
(g) Identify the Data Entry Plug Backshell with the New EPR Modification Class Number as follows:	Refer to Figure 1, requirements
(i) Mark out the EPR Modification Class Number from the Data Entry Plug Backshell. Use the vibration peen method	Use the procedure in Reference (2), Control No./TASK No.70-09-00-400-501
(ii) Mark EPR Class 07 on the Data Entry Plug Backshell, adjacent to the old EPR Class Number. Use the vibration peen method	Identify by the approved procedure in Reference (2) Control No./TASK No.70-09-00-400-501
(h) Connect the Data Entry Plug Assembly to the EEC	Refer to Figure 1

(i)	Tighten and torque the Data Entry Plug Assembly to 32 lbfin (3,6 Nm). Use the IAE 1J12018 EEC Harness Wrench	Use the procedure in Reference (2), Control No./TASK No.70-41-00-400-501
(j)	Tighten and torque the Backshell to 53 - 58 lbfin (5,99 - 6,55 Nm) with a TG-70 Strap Wrench or equivalent	Use the procedure in Reference (2), Control No./TASK No.70-41-00-400-501
(k)	Safety the Backshell to the Connector with CoMat 02-138 Lockwire	Use the procedure in Reference (2), Control No./TASK No.70-40-11-911-012

C. Rework Instructions (For Engine Serial Numbers V0031, V0063, V0065, V0071 and V0075)

(1) Remove the lockwire from the Data Entry Plug Backshell.

(2) Loosen the Backshell Nut, but do not remove the Backshell. Use a TG-70 Strap Wrench or equivalent.

(3) Disconnect the Data Entry Plug Assembly from the EEC. Use the IAE 1J12018 EEC Harness Wrench. Refer to Figure 1.

(4) Do a modification to 5A0431 Data Entry Plug (See Reference (1), Chapter/Section 73-22-35, Fig/Item No.01-100) and identify as follows:

	Procedure	Supplementary Information
(a)	Remove the Connector Assembly from the Backshell	Refer to Figure 1, requirements
(b)	Remove the Anti-Vibration Rubber	Refer to Figure 1, requirements
(c)	Give the old Connector Assembly to your IAE Representative	
(d)	Get the new Connector Assembly from your IAE Representative	

CAUTION: MAKE SURE THE NEW CONNECTOR ASSEMBLY IS CORRECT FOR THE ENGINE YOU INSTALL IT ON. THE NEW CONNECTOR ASSEMBLY IS NOT IDENTIFIED WITH THE ENGINE SERIAL NUMBER.

(e)	Align and install the Anti-Vibration Rubber on the Jumper ends of the new Connector Assembly	Refer to Figure 1, requirements
(f)	Install the Connector Assembly and Anti-Vibration rubber into the Backshell and tighten the Backshell Nut with your fingers	Refer to Figure 1, requirements
(g)	Identify the Data Entry Plug Backshell with the New EPR Modification Class Number as follows:	Refer to Figure 1, requirements
(i)	Mark out the EPR Modification Class Number from the Data Entry Plug Backshell. Use the vibration peen method	Use the procedure in Reference (2), Control No./TASK No.70-09-00-400-501
(ii)	Mark EPR Class 08 on the Data Entry Plug Backshell, adjacent to the old EPR Class Number. Use the vibration peen method	Identify by the approved procedure in Reference (2), Control No./ TASK No.70-09-00-400-501
(h)	Connect the Data Entry Plug Assembly to the EEC	Refer to Figure 1
(i)	Tighten and torque the Data Entry Plug Assembly to 32 lbfin (3,6 Nm). Use the IAE 1J12018 EEC Harness Wrench	Use the procedure in Reference (2), Control No./TASK No.70-41-00-400-501
(j)	Tighten and torque the Backshell to 53 - 58 lbfin (5,99 - 6,55 Nm) with a TG-70 Strap Wrench or equivalent	Use the procedure in Reference (2), Control No./TASK No.70-41-00-400-501
(k)	Safety the Backshell to the Connector with CoMat 02-138 Lockwire	Use the procedure in Reference (2), Control No./TASK No.70-40-11-911-012

D. Rework Instructions (For Engine Serial Number V0079)

(1) Remove the lockwire from the Data Entry Plug Backshell.

(2) Loosen the Backshell Nut, but do not remove the Backshell. Use a TG-70 Strap Wrench or equivalent.

(3) Disconnect the Data Entry Plug Assembly from the EEC. Use the IAE 1J12018 EEC Harness Wrench. Refer to Figure 1.

(4) Do a modification to 5A0431 Data Entry Plug (See Reference (1), Chapter/Section 73-22-35, Fig/Item No.01-100) and identify as follows:

	Procedure	Supplementary Information
(a)	Remove the Connector Assembly from the Backshell	Refer to Figure 1, requirements
(b)	Remove the Anti-Vibration Rubber	Refer to Figure 1, requirements
(c)	Give the old Connector Assembly to your IAE Representative	
(d)	Get the new Connector Assembly from your IAE Representative	

CAUTION: MAKE SURE THE NEW CONNECTOR ASSEMBLY IS CORRECT FOR THE ENGINE YOU INSTALL IT ON. THE NEW CONNECTOR ASSEMBLY IS NOT IDENTIFIED WITH THE ENGINE SERIAL NUMBER.

(e)	Align and install the Anti-Vibration Rubber on the Jumper ends of the new Connector Assembly	Refer to Figure 1, requirements
(f)	Install the Connector Assembly and Anti-Vibraion Rubber into the Backshell and tighten the Backshell Nut with your fingers	Refer to Figure 1, requirements
(g)	Identify the Data Entry Plug Backshell with the New EPR Modification Class Number as follows:	Refer to Figure 1, requirements
(i)	Mark out the EPR Modification Class Number from the Data Entry Plug Backshell. Use the vibration peen method	Use the procedure in Reference (2), Control No./TASK No.70-09-00-400-501

(ii)	Mark EPR Class 09 on the Data Entry Plug Backshell, adjacent to the old EPR Class Number. Use the vibration peen method	Identify by the approved procedure in Reference (2), Control No./ TASK No.70-09-00-400-501
(h)	Connect the Data Entry Plug Assembly to the EEC	Refer to Figure 1
(i)	Tighten and torque the Data Entry Plug Assembly to 32 lbfin (3,6 Nm). Use the IAE 1J12018 EEC Harness Wrench	Use the procedure in Reference (2), Control No./TASK No.70-41-00-400-501
(j)	Tighten and torque the Backshell to 53 - 58 lbfin (5,99 - 6,55 Nm) with a TG-70 Strap Wrench or equivalent	Use the procedure in Reference (2), Control No./TASK No.70-41-00-400-501
(k)	Safety the Backshell to the Connector with CoMat 02-138 Lockwire	Use the procedure in Reference (2), Control No./TASK No.70-40-11-911-012

E. Rework Instructions (For Engine Serial Number V0019, V0025 and V0029)

(1) Replace the 5A9036 Engine Identification Plate (See Reference (1), Chapter/Section 72-32-85, Fig/Item No.03-120) as follows:

Procedure		Supplementary Information
(a)	Remove the four bolts that hold the Engine Identification Plate to the bracket located on the fan case at the 9 o'clock position	Refer to Figure 2, requirements
(b)	Give the old Engine Identification Plate to your IAE Representative	
(c)	Get the new 5A9036 Engine Identification Plate from your IAE Representative	Refer to Figure 2, requirements

CAUTION: MAKE SURE THE DATA ON THE NEW ENGINE IDENTIFICATION PLATE IS CORRECT FOR THE ENGINE YOU INSTALL IT ON.

(d)	Install the new Engine Identification Plate to the bracket with the 4W0102 Bolts (4 off)	Refer to Figure 2, requirements
(e)	Torque the bolts between 32 - 36 lbfin (3,61 - 4,07 Nm)	Refer to Figure 2, requirements

F. Rework Instructions (For Engine Serial number V0039, V0081, and V0085)

(1) Disconnect the Data Entry Plug Assembly from the EEC. Use the IAE 1J12018 EEC Harness Wrench. Refer to Figure 1.

(2) Identify the Data Entry Plug Backshell with the New EPR Modification Class Number as follows:

	Procedure	Supplementary Information
(a)	Mark out the EPR Modification Class Number from the Backshell. Use the vibration peen method	Use the procedure in Reference (2), Control No./TASK No.70-09-00-400-501
(b)	Mark EPR Class 07 on the Backshell, adjacent to the old EPR Class Number. Use the vibration peen method	Identify by the approved procedure in Reference (2), Control No./TASK No.70-09-00-400-501
(c)	Connect the Data Entry Plug Assembly to the EEC	Refer to Figure 1
(d)	Tighten and torque the Data Entry Plug Assembly to 32 lbfin (3,6 Nm). Use the IAE 1J12018 EEC Harness Wrench	Use the procedure in Reference (2), Control No./TASK No.70-41-00-400-501

G. Rework Instructions (for Engine Serial Number V0055)

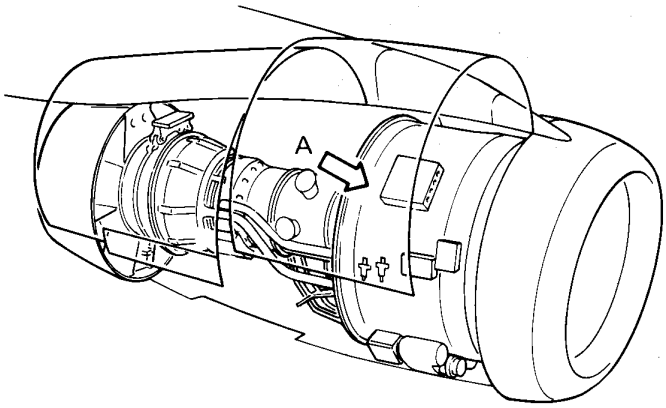
(1) Disconnect the Data Entry Plug Assembly from the EEC. Use the IAE 1J12018 EEC Harness Wrench. Refer to Figure 1.

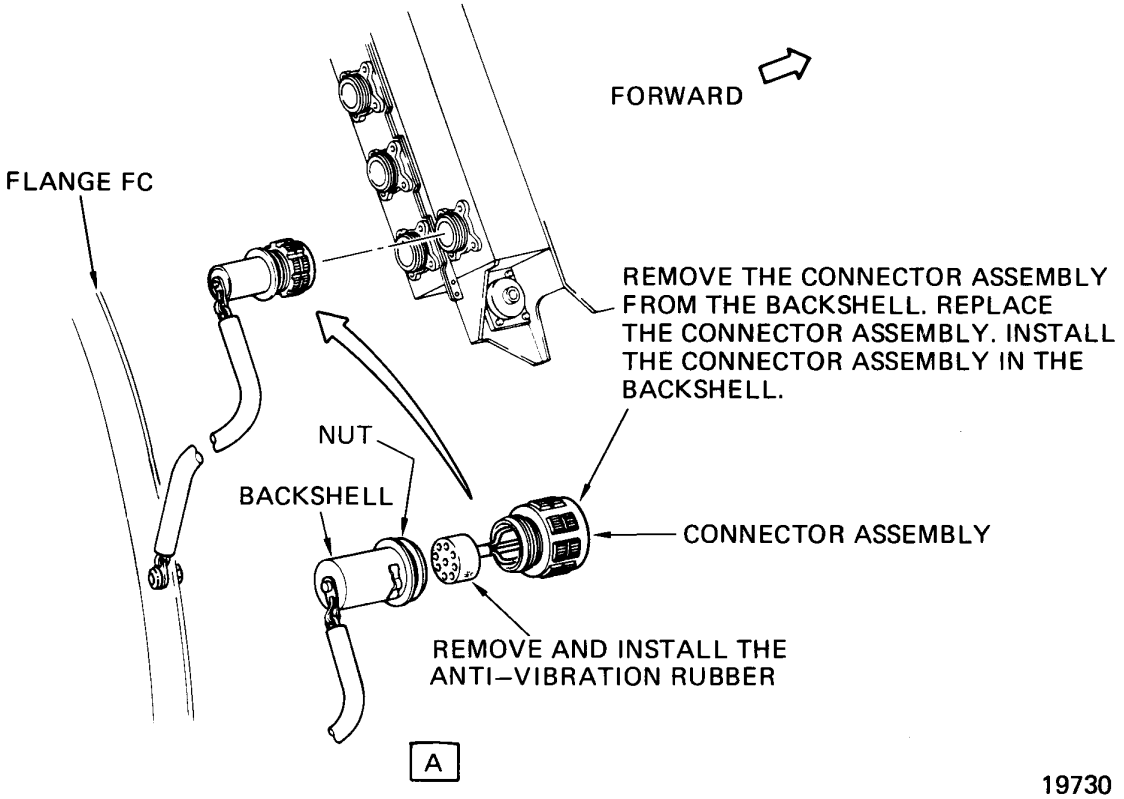
(2) Identify the Data Entry Plug Backshell with the New EPR Modification Class Number as follows:

Procedure		Supplementary Information
(a)	Mark out the EPR Modification Class Number from the Backshell. use the vibration peen method	Use the procedure in Reference (2), Control No./TASK No.70-09-00-400-501
(b)	Mark EPR Class 08 on the Backshell, adjacent to the old EPR Class Number. Use the vibration peen method	Identify by the approved procedure in Reference (2), Control No./TASK No.70-09-00-400-501
(c)	Connect the Data Entry Plug Assembly to the EEC	Refer to Figure 1
(d)	Tighten and torque the Data Entry Plug Assembly to 32 lbfin (3,6 Nm). Use the IAE 1J12018 EEC Harness Wrench	Use the procedure in Reference (2), Control No./TASK No.70-41-00-400-501

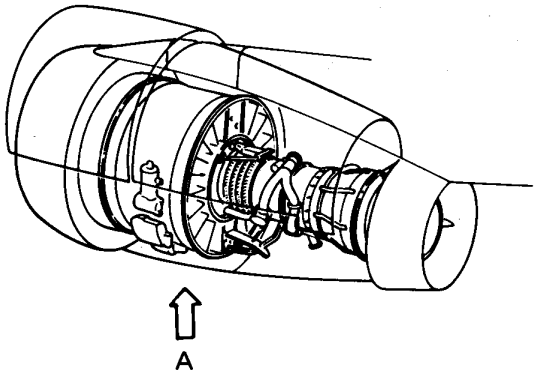
H. Recording Instructions

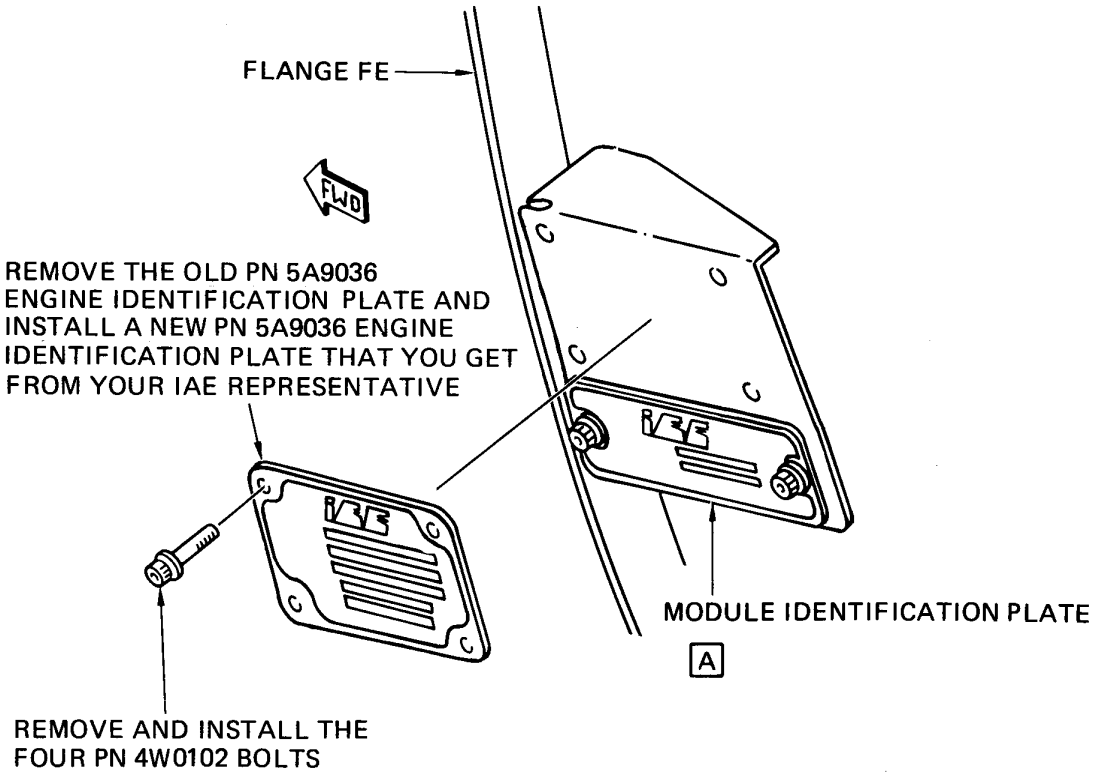
(1) A record of accomplishment is necessary.





Modification and identification of data entry plug assembly
Fig.1





Location of the engine identification plate
Fig.2

3. Material Information

Applicability: For each V2500 Engine to incorporate this Bulletin.

A. Kits associated with this Bulletin:

None

B. Parts affected by this Bulletin:

New Part No. (ATA No.)	Qty	Est'd Unit Price ($)	Keyword	Old Part No. (IPC No.)	Instructions Disposition
5A9288 (73-22-35)	As required		Contact	- (01-210)	(A)(B)(C)
5A9209 (73-22-35)	1		Connector	- (01-200)	(A)(B)(C)
MS27488-20 (73-22-35)	As required		Plug, Sealing	- (01-190)	(A)(B)(C)
5A9214 (73-22-35)	As required		Jumper, A/O (4)	- (01-175)	(A)(B)(C)
5A9213 (73-22-35)	As required		Jumper, A/O (3)	- (01-165)	(A)(B)(C)
5A9212 (73-22-35)	As required		Jumper, A/O (2)	- (01-155)	(A)(B)(C)
5A9211 (73-22-35)	As required		Jumper, A/O (1)	- (01-145)	(A)(B)(C)
Expendable Parts:					
5A9036 (73-32-85) (03-120)	1		Plate, Engine Identification		(A)(B)

C. Instruction/Disposition Code Statements:

(A) Return the Old Part to your IAE Representative.
(B) Get the New Part from your IAE Representative.
(C) Parts will be obtained as a Connector Assembly which is pre-wired.

NOTE: The estimated 1991 unit prices shown are provided for planning purposes only and do not constitute a firm quotation. Consult the IAE Price Catalog or contact IAE's Spare Parts Sales Department for information concerning firm prices.