International Aero Engines

SERVICE BULLETIN

ENGINE - PROVIDE INSTRUCTIONS TO CHANGE THE DATA ENTRY PLUG ASSEMBLY AND THE ELECTRONIC ENGINE CONTROL TO OBTAIN A V2527E-A5 RATING - CATEGORY CODE 8 - MOD.ENG-72-0231

1. Planning Information

A. Effectivity

(1) Aircraft: Airbus A320, A321

(2) Engine: V2527-A5 and V2530-A5 Engines (Any Engine as Applicable)

NOTE: Reference (1), V2500-ENG-73-0080 must be incorporated before or at the same time as this Service Bulletin.

B. Reason

(1) Condition:

Insufficient thrust in the V2527-A5 rating as high altitude airport operations

(2) Background:

Operators of the V2500 at the V2527-A5 rating have requested additional thrust at high altitude airport operations in order to maintain their typical route structure and payload capacity.

(3) Objective:

Create a V2527E-A5 thrust rating that uses the V2530-A5 maximum take-off thrust rating at altitude while retaining the current V2527-A5 maximum take-off thrust limit at sea level as an absolute thrust limit. There is no increase in either maximum climb or maximum continuous ratings associated with the V2527E-A5 rating. The V2527E-A5 rating for maximum take-off thrust is the same as the V2527-A5 rating at sea level for all ambient temperatures and Mach numbers. However, as altitude increases above sea level, the maximum take-off thrust for the V2527E-A5 rating decreases less rapidly than the V2527-A5 rating or stays constant until it intersects and then follows the V2530-A5 maximum take-off thrust rating. For example, at ambient conditions of ISA + 15 degC and below, 0.20 Mach number, V2527E-A5 maximum take-off thrust is nearly constant from sea level to 6000 feet altitude. Above 6000 feet it follows the V2530-A5 maximum take-off thrust rating.

(4) Substantiation

This configuration was flight tested in Engines V10003 and V10004

(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) Wire the Data Entry Plug Assembly to the No. 35 Variant.

(2) Install an SCN-10A Electronic Engine Control by Reference (1), V2500-ENG-73-0080.

(3) Install a new Engine Identification Plate.

D. Approval

The Part Number Changes and/or part modifications described in Section 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.

The 'compliance' statement and the procedures described in paragraph F 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 8

Accomplish based upon experience with the prior configuration.

F. Manpower

Estimated Manhours to incorporate the full intent of this Bulletin:

Venue	Estimated Manhours
(1) In Service	Not applicable
(2) At overhaul	21 minutes

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

(a)	To do a modification of the Data Entry Plug Assembly	13 minutes
(b)	To identify Data Entry Plug Assembly	3 minutes
(c)	To mark and install the Engine Identification Plate	5 minutes
	TOTAL	21 minutes

G. Material - Price and Availability

(1) Modification kit not required. Parts are supplied as single line items.

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

H. Tooling - Price and Availability

Special tools are not required to accomplish this Service Bulletin.

I. Weight and Balance

(1)	Weight change	None
(2)	Moment arm	No effect
(3)	Datum	Engine Front mount Centerline (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.

EC 95VC071

(2) Other References

IAE Service Bulletin:

V2500-ENG-73-0080 - Engine - Fuel And Control - To Provide New Electronic Engine Control (EEC) With The SCN10A Software Configuration Version 026/026 Trims

V2500-A5 Engine Illustrated Parts Catalog (S-V2500-2IA), Chapter/Section 72-32-00

V2500 Engine Manual (E-V2500-1I-A), 71-00-00, Testing; 72-00-32, Removal and Installation.

V2500 Component Maintenance Manual (Miscellaneous Mechanical), 73-22-35, Repair 001, Config-2.

L. Other Publications Affected

(1) V2500-A5 Engine Illustrated Parts Catalog (S-V2500-2IA), Chapter/Section 72-32-00

(2) V2500 Engine Manual (E-V2500-1I-A), 71-00-00, Testing; 72-00-32, Removal and Installation

(3) V2500 Component Maintenance Manual - Miscellaneous Mechanical (CMM-MECH-V2500-1IA), 73-22-35, Repair-001 (VRS 3500).

2. Accomplishment Instructions

A. Disassemble the Data Entry Plug Assembly, PN 2A3106, by the procedure specified in Reference (4), Chapter Section 73-22-35, Disassembly, and Figure 2.

NOTE: The Data Entry Plug Assembly can be disassembled as necessary to permit the installation of the necessary jumper wires.

B. Modification instructions for V2527-A5 and V2530-A5 Engines (as applicable).

(1) Do a modification to the Data Entry Plug Assembly, PN 2A3106 (1 off) (Reference (2), Chapter/Section 73-22-35, Figure/Item No. 01-100) by Figure 4 and the procedure that follows:

	Procedure	Supplementary Information
(a)	Remove the Sealing Plugs, Contacts and Jumper Pins necessary to permit you to wire the No. 35 variant	Refer to Figure 4. Use the approved procedure in Reference (4), Chapter/Section 73-22-35, Repair-001 (VRS 3500).
(b)	Install the applicable jumper assembly in the pin holes specified in Table 1.	Refer to Figure 4. Use the approved procedure in Reference (4), Chapter/Section 73-22-35, Repair-001 (VRS 3500).

Connections		Jumper Assembly Required
A-Y	(Channel A)	HAA18704
D-Z-E	(Channel A)	HAA19931 or HAA19932 (See Note)
N-L	(Channel B)	HAA18704
f-g-R	(Channel B)	HAA19931 or HAA19932 (See Note)

Table 1

NOTE: The pin connections for the variant No. are the only connections that are changed when you do this Service Bulletin. The pin connections for the EPR modifier and the engine serial No. DO NOT CHANGE. However, in some cases, connector holes g and Z are used in the EPR modifier wiring. When this occurs, use jumper assembly HAA19932 instead of HAA19931 to obtain variant No. 35 while retaining the same EPR modifier. (Determine current EPR modifier pin connections by referring to Reference (3), Chapter/Section 71-00-00 Testing-11, Config-2.)

(c)	Install the Sealing Plugs and Contacts in any connector holes that are open after you do the jumper installation.	Use the approved procedure in Reference (4), Chapter/Section 73-22-35, Assembly.

C. Assemble the Data Entry Plug Assembly by the procedure specified in Reference (4), Chapter Section 73-22-35, Assembly, and Figure 2.

D. Do a check of the wiring by the procedure specified in Reference (4), Chapter/Section 73-22-35, Assembly.

E. Mark the Data Entry Plug Assembly by the procedure specified in Reference (4), Chapter/Section 73-22-35, Assembly, and Figure 2.

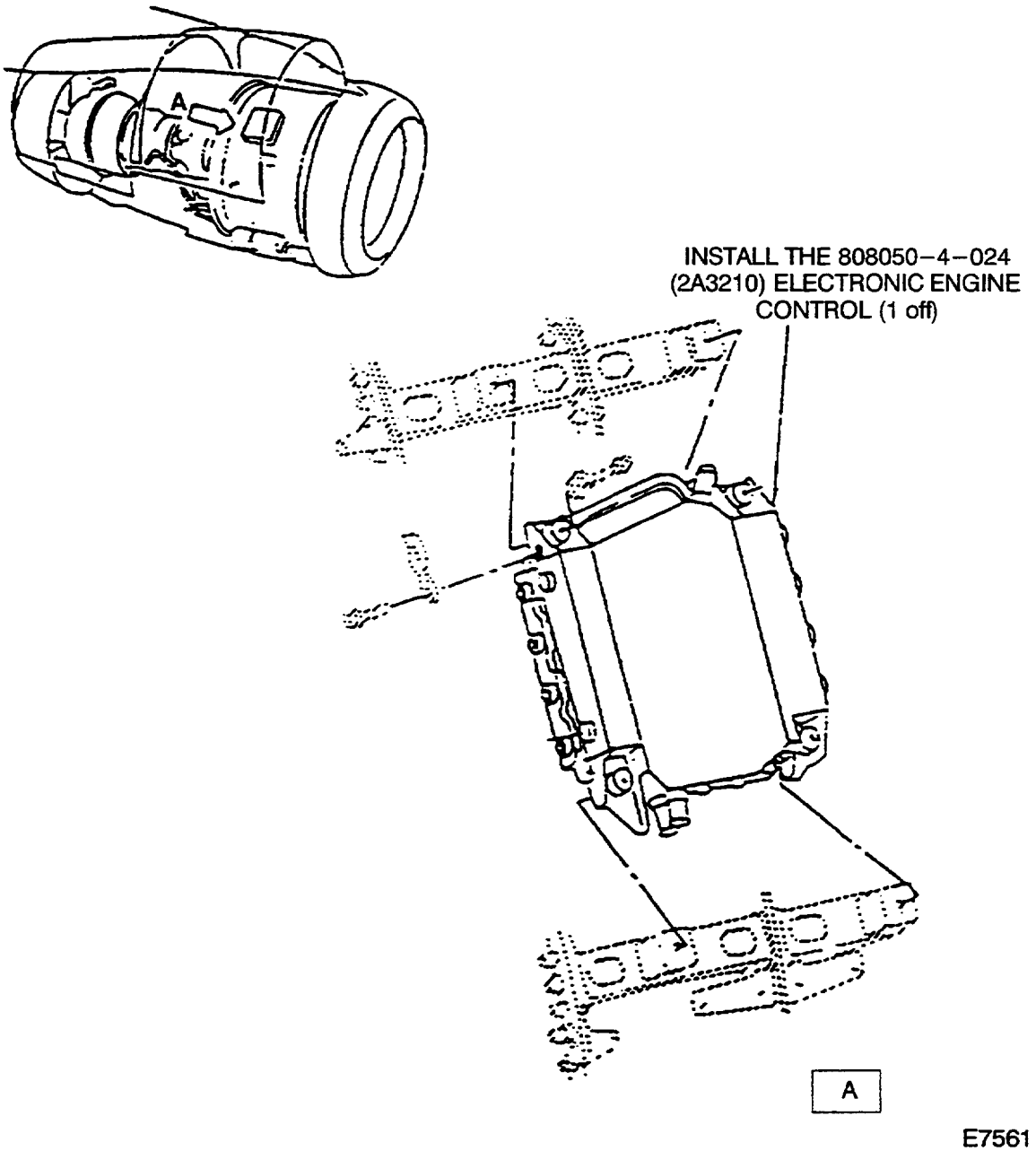
F. Install the Data Entry Plug Assembly by the procedure given in Reference (3), Chapter/Section 72-00-32, Installation-30, Config-2.

G. Incorporate the intent of Reference (1), V2500-ENG-73-0080, if this was not done before.

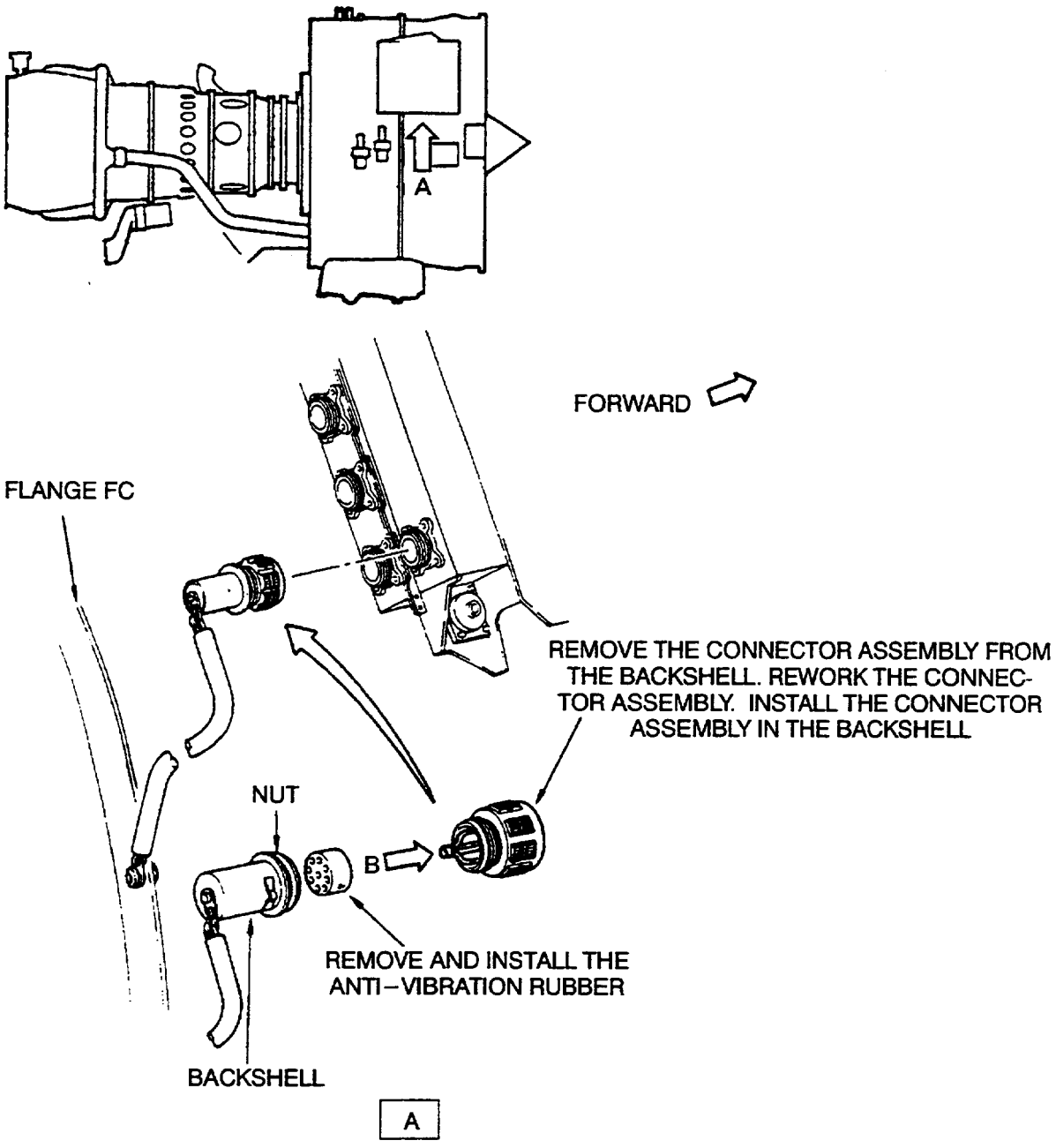
H. Do the applicable engine test by the procedure specified in Reference (3), Chapter/section 71-00-00, Testing 11, Config-2.

I. Install the new engine Identification Plate by the instructions given in Reference (3), Chapter/Section 71-00-00, Testing-11, Config-2.

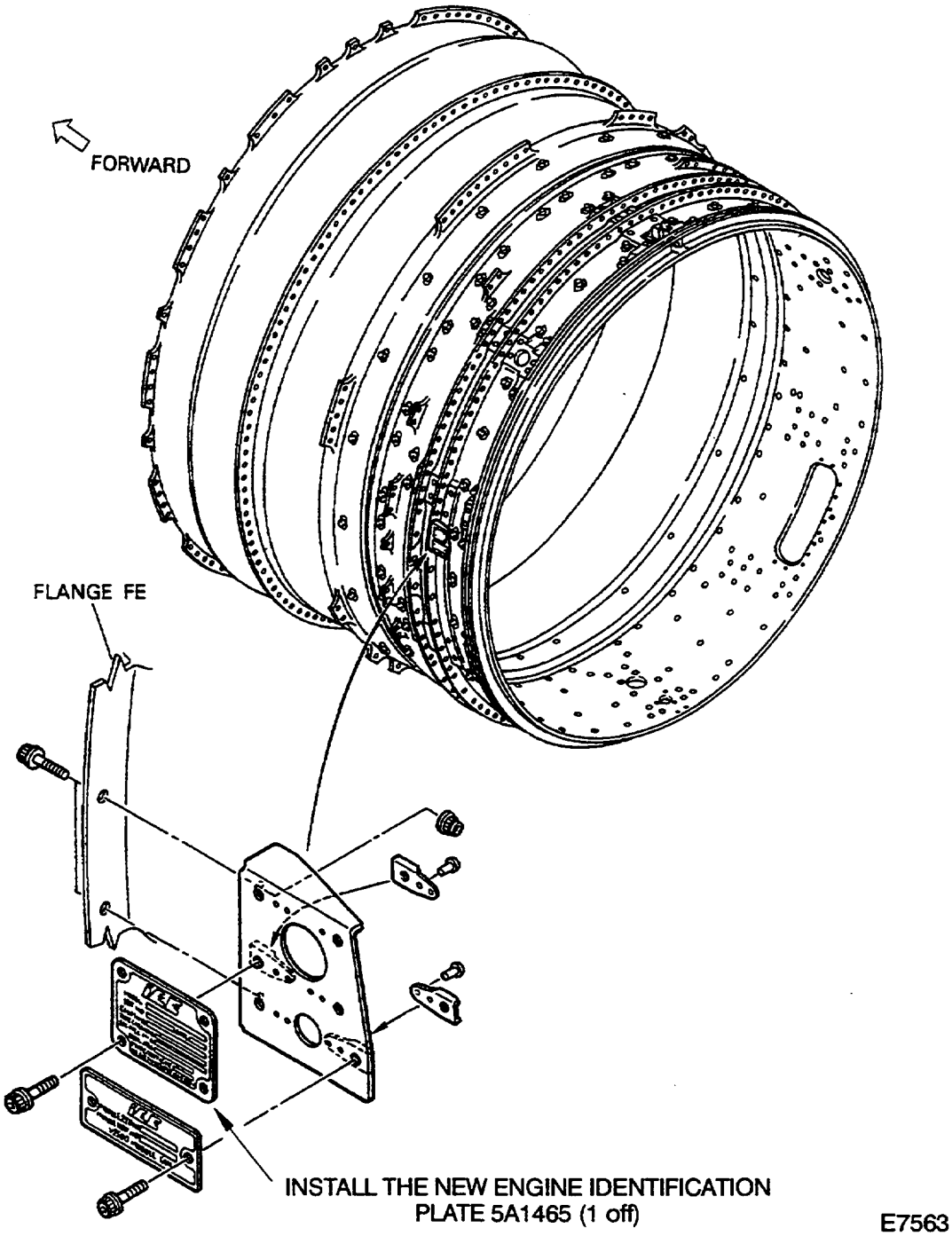
NOTE: The new Engine Identification Plate can be obtained through your International Aero Engines Representative.



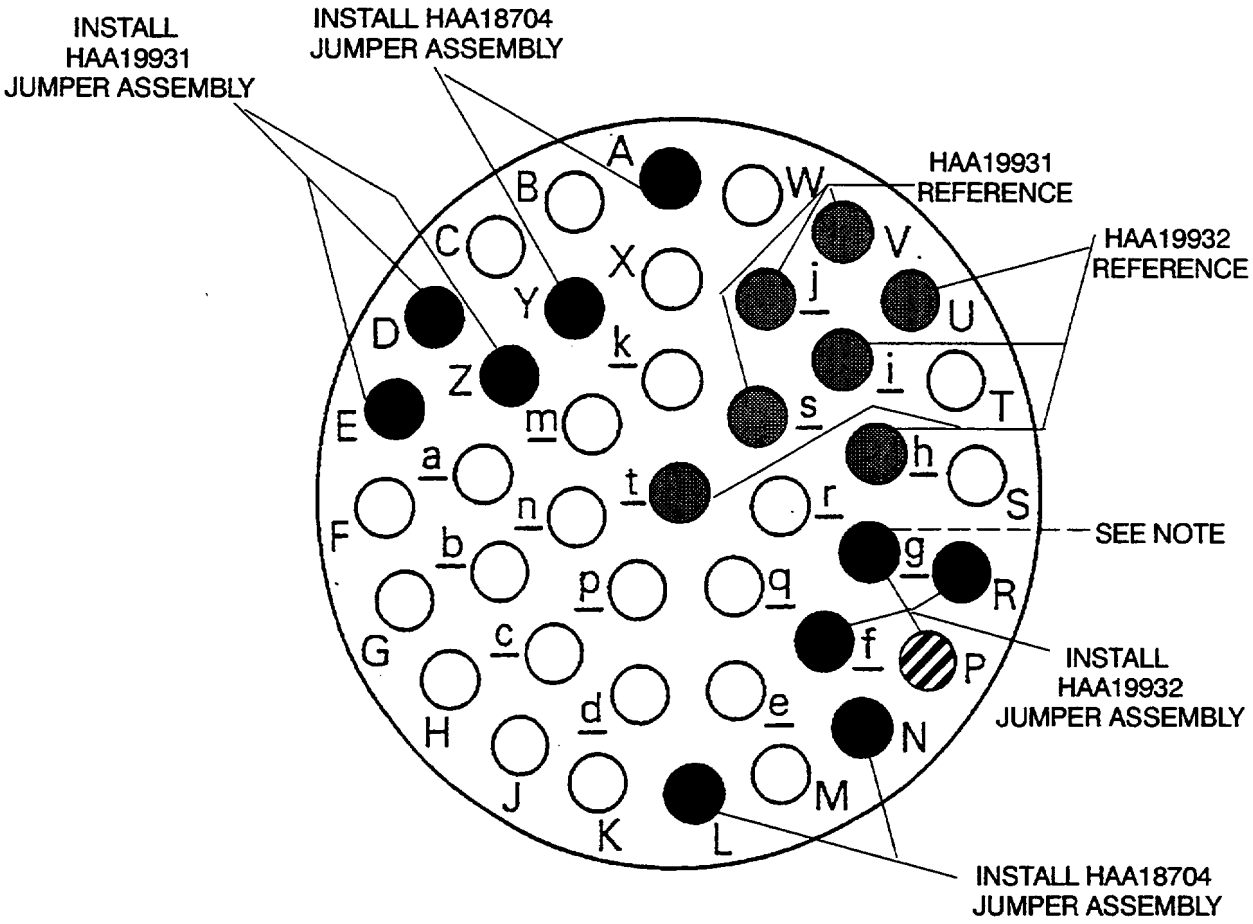
Location of the Electronic Engine Control
Fig.1



Location of the Data Entry Plug Assembly
Fig.2



Location of the Engine Identification Plate
Fig.3



VIEW OF PIN CONNECTIONS FOR ENGINE SERIAL NO. V10122 , VARIANT NO. 35 AND EPR MOD 08

NOTE: FOR THIS CONFIGURATION PIN CONNECTOR g IS USED FOR BOTH THE ENGINE SERIAL NUMBER AND THE EPR MODIFIER.

PIN CONNECTIONS FOR VARIANT NO.35. THESE MUST BE WIRED TO COMPLETE THIS SERVICE BULLETIN

PIN CONNECTIONS FOR ENGINE SERIAL NO. V10122 (EXAMPLE ONLY) NO CHANGE

PIN CONNECTIONS FOR EPR MODIFIER 08 (EXAMPLE ONLY) NO CHANGE

E7564

Modification of the Data Entry Plug Assembly To Obtain The V2527E-A5 Rating
Fig.4

3. Material Information

A. Kit 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
Applicability: For each V2527-A5 or V2530-A5 Engine to incorporate this Service Bulletin					
5A1465 (72-32-85)	1		Engine Identification Plate	5A1465 (03-120)	(A)
808050-4-024 2A3210 (73-22-34)	1		Electronic Engine Control	80805050-4-020 2A3098 (03-280)	(S1)(1D)(B)(C)
HAA18704 (73-22-35)	A/R		Lead, Jumper Assembly	HAA18704 (01-145)	(B)
HAA19931 (73-22-35)	A/R		Lead, Jumper Assembly	HAA19931 (01-155)	(B)
HAA19932 (73-22-35)	A/R		Lead, Jumper Assembly	HAA19932 (01-165)	(B)

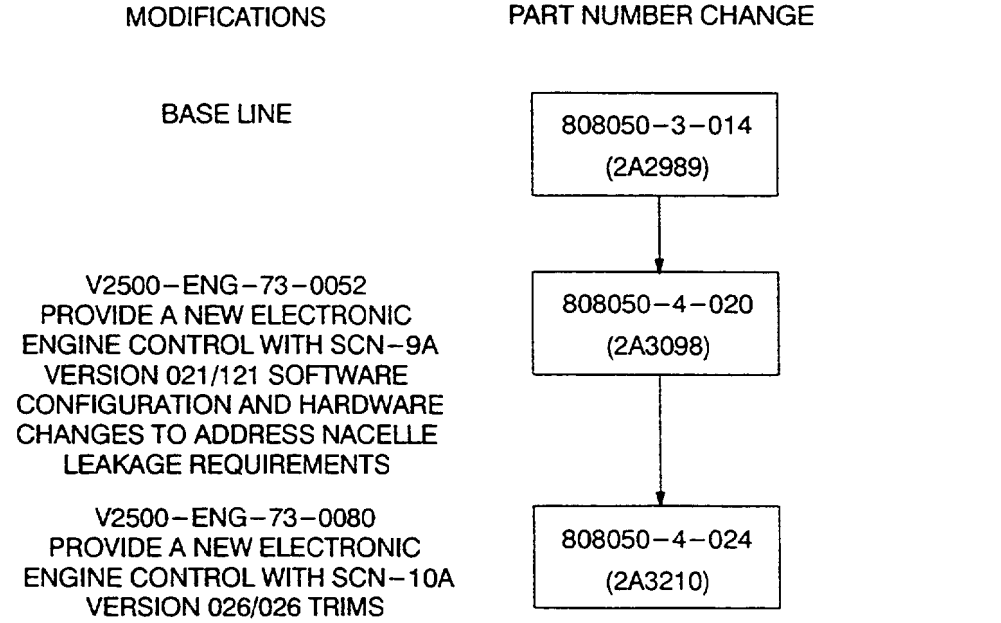
A/R - as required

B. Consumable Materials

D. Instruction/Disposition Code Statements:

(S1) The correct Electronic Engine Control must be installed on the engine and the Data Entry Plug must be correctly configured to operate at the desired rating.
(1D) You can obtain the new part by modification of the old part and identification to the new part number by procedure given in Reference (1), V2500-ENG-73-0080.
(A) The new Engine Identification Plate can be obtained through your International Aero Engines Representative.
(B) The new part is currently available.
(C) The Old part number will no longer be supplied.

NOTE: The estimated 1995 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.



Family Tree - Electronic Engine Control Ref. Catalog Sequence No. 73-22-34 Fig. 01
Item 100
Fig.5

MODIFICATIONS	PART NUMBER CHANGE
BASE LINE	2A2309
V2500–ENG–73–0055 REPLACE THE DATA ENTRY PLUG ASSEMBLY WITH A NEW ONE THAT HAS A REVISED WIRING SCHEME	2A3106

E7560

Family Tree – Data Entry Plug Assembly Ref. Catalog Sequence No. 73-22-35 Fig. 01 Item Fig.6

Printed in Great Britain