P U B L I C A T I O N T R A N S M I T T A L

RR-DERBY

V2500 International Aero Engines

400 MAIN STREET, MAIL STOP 121-10
EAST HARTFORD, CT 06108, USA.
TELEPHONE: 860 565 5515
FAX: 860 565 0600

P.O. BOX 31, DERBY
TELEGRAMS - 'ROYCAR' DERBY
TELEX - 37645
TELEPHONE - DERBY 242424

DATER Oct.31/02

V2500-A5 PROPULSION SYSTEM SERVICE BULLETIN

This document transmits Revision 2 to Service Bulletin EV2500-72-0314

Document History

Service Bulletin Revision Status		Supplement Revision Status
Initial Issue	Aug.31/98	
Revision 1	Dec.16/98	

Bulletin Revision 2

Remove	Incorporate	Reason for change
Pages 1 to 14 of the Service Bulletin	Pages 1 to 21 of the Service Bulletin	Category changed from 8 to 3, Effectivity, Mat. Info. and Accomplishment Insts. updated.

V2500-ENG-72-0314

CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED
If any have not been received please advise Publication Services, Rolls-Royce plc, Derby, England

LIST OF EFFECTIVE PAGES

The effective pages to this Service Bulletin following incorporation of Revision 2 are as follows:

	Page	Revision Number	Revision Date
	Bulletin		
R	1	2	Oct.31/02
R	2	2	Oct.31/02
R	3	2	Oct.31/02
R	4	2	Oct.31/02
R	5	2	Oct.31/02
R	6	2	Oct.31/02
R	7	2	Oct.31/02
R	8	2	Oct.31/02
R	9	2	Oct.31/02
R	10	2	Oct.31/02
R	11	2	Oct.31/02
R	12	2	Oct.31/02
R	13	2	Oct.31/02
R	14	2	Oct.31/02
R	15	2	Oct.31/02
R	16	2	Oct.31/02
R	17	2	Oct.31/02
R	18	2	Oct.31/02
R	19	2	Oct.31/02
R	20	2	Oct.31/02
R	21	2	Oct.31/02

ENGINE - CONVERSION - PROVIDE INSTRUCTIONS TO CHANGE THE V2500-A5 ENGINE START CRANK BY MODIFYING THE DATA ENTRY PLUG

1. Planning Information

A. Effectivity

R (1) Airbus A319

R V2522-A5, V2524-A5, V2527M-A5 All Engines.

R (2) Airbus A320

R V2527-A5, V2527E-A5 All Engines.

R (3) Airbus A321

R V2530-A5, V2533-A5 All Engines.

R CAUTION: THIS SERVICE BULLETIN DOES NOT PERMIT ENGINE RATING CHANGES

R B. Concurrent Requirements

R EEC Software Configuration A5 SCN12/Q or later must be installed to incorporate
R this revision.

C. Reason

(1) Condition:

Operators of V2500-A5 engine models may desire to reduce 50 second engine cranking from the start procedure.

(2) Background:

With the incorporation of EEC SCN12/Q, (SB V2500-ENG-73-0121), Start Crank options of 50 seconds or 30 seconds may be selected via the Data Entry Plug.

(3) Objective:

R To provide instructions for reducing 50 second start cranking for all
R V2500-A5 Engines by rewiring the Data Entry Plug.

(4) Substantiation

All of the listed V2500-A5 engine Variant No. configurations have been previously flight tested and certified.

R (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.

D. Description

(1) Confirm that EEC Software Configuration A5 SCN12/Q or later is installed.

(2) Determine the Data Entry Plug jumper connections for the desired Variant No. (Start Crank) from Table 1.

(3) Wire the current EEC Data Entry Plug to the appropriate Variant No.

(4) Mark the Data Entry Plug with the new Variant No.

(5) Install a NEW Engine Identification Plate with the new Variant No. and Engine Rating already marked.

R E. Compliance

R Category 3

R Accomplish by July 2003.

F. 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 E 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 technical information including design data contained in this Service Bulletin has been approved under the authority of DGAC Design Organisation Approval No. F.J.A.02.

G. Manpower

(1) In service

21 minutes

(2) At overhaul

21 minutes

(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

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

H. Material - Price and Availability

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

See Material Information section for prices and availability of future spares.

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.

R K. Software Accomplishment Summary

R Not applicable.

L. References

R (1) V2500-A5 Engine Illustrated Parts Catalogs (S-V2500-2IA, S-V2500-2IB, S-V2500-5IA, S-V2500-5IB, S-V2500-6IA, S-V2500-6IB, S-V2500-7IA and S-V2500-7IB), Chapter/Section 73-22-35 Fig. 01 Item 100, Chapter/Section 72-22-36 Fig. 01 Item 100 and Chapter/Section 72-22-85 Fig. 03 Item 120.

(2) Aircraft Maintenance Manual, Chapter/Section 73-22-35, Repairs, Replace the Jumpers, Contacts or Connector - VRS 3500, and Removal/Installation, Installation of the Data Entry Plug Assembly; and Chapter/Section, 73-22-34, Operational Test of the EEC.

(3) V2500 Standard Practices/Processes Manual (SSP-V2500-1IA), 70-09-00, Marking of Parts.

R (4) IAE Service Bulletin:

R V2500-ENG-72-0378 - Engine - LP Compressor - To announce New Engine Identification Plate with Designation of All A5 Model Ratings.

(5) This Service Bulletin is subject to Aircraft Modification No. 27777 and is
R covered by A/C SB number A320-73-1062.

R (6) Internal Reference Nos - 98VC025, 98VZ003, 98VZ003-02, 99VZ005.

R (7) ATA Locator - 72-00-00.

M. Other Publications Affected

None.

R N. Interchangeability of Parts

R Old and new parts are directly interchangeable.

R O. Information in the Appendix

R Alternate Accomplishment Instructions (No)

R Progression Charts (No)

R Added Data (Yes)

R Revision to Table of Limits (No)

R Inspection Procedures (No)

Printed in Great Britain

2. Material Information

R A. Material - Price and Availability

R (1) Part prices were not available at the time of Service Bulletin
R publication. Contact IAE's Spare Part Sales Department for firm
R quotations.

R (2) There is no kit provided to do this Service Bulletin.

R (3) Part availability information is provided in material data Instructions -
R Disposition.

R B. Industry Support Program

R Not applicable.

R C. The material data that follows is for each engine

NOTE: The prices shown are for estimating purposes only and as such are given in good faith without commercial liability for advanced planning purposes only. Refer to IAE Spares and/or current Price Catalog for current prices.

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

New PN	Qty	Estimate of Unit Price ($)	Keyword	Old PN	Instructions-Disposition
5A1465	1	*	Engine Identification Plate	5A1465 (72-32-85-03-120)	(A)(B)
			OR		
5A1855	1		Engine Identification Plate	5A1465 (72-32-85-03-120)	(A)
5A1875	1		.Rivet, Engine Rating Indicator	(72-22-36-01-100)	(A)

D. Instructions/Disposition Code Statements:

R Parts Modification Conditions

R None.

R Spare Parts Availability

(A) The new Engine Identification Plate can be obtained through your International Aero Engines Representative.
(B) There is no difference between the old and new part number.

R E. Tooling - Price and Availability

	Tool No.	Qty	Description	Function	Available
R	IAE2P16369	1	Tester	Electrical test	(1)

R (1) Indicates that tool design aperture card is currently available from IAE.

R F. Reidentified Parts

R Not applicable.

R G. Other Material Information Data

R Not applicable.

3. Accomplishment Instructions

R A.

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

R NOTE: Confirm that EEC Software Configuration A5 SCN12/Q or later is
R installed.

R (1) Remove the Data Entry Plug by the procedure given in Reference (2),
R Chapter/Section 73-22-35, Repairs, VRS3500.

R (2) Disassemble the Data Entry Plug Assembly, PN 2A3106, (Reference (1),
R Chapter/Section 73-22-35, Figure/Item No. 01-100) by the procedure
R specified in Reference (2), Chapter/Section 73-22-35, Repairs, VRS3500 and
R Figure 2.

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

R (3) Make two copies of Figure 5, Contact Hole Locations.

R (a) Mark the existing jumper connections from the Data Entry Plug
R Connector on one copy of the figure.

R (b) Find the jumper pin connections, from Table 1, for the current Variant
R No. and highlight these on the copy made in A. (3).

R (c) Find the jumper pin connections, from Table 1, for the Variant No. for
R the target Start Crank and highlight these on the second copy of the
R figure.

R (d) Determine the jumper pin changes required from these two copies, for
R the target engine Variant No. and any new jumpers needed, (Reference
R (1), Chapter/Section 73-22-35, Figure/Item No. 01-100), and Figure 2.

R (4) Modify the Data Entry Plug Connector by the procedure specified in
R Reference (2), Chapter/Section 73-22-35, Repairs, VRS3500.

R (5) Assemble the Data Entry Plug Assembly by the procedure specified in
R Reference (2), Chapter/Section 73-22-35, Repairs, VRS3500 and Figure 2.

R (6) Do a check of the wiring, using electrical tester IAE 2P16369, by the
R procedure specified in Reference (2), Chapter/Section 73-22-35, Repairs,
R VRS3500.

R NOTE: A continuity check of the jumper pin connections can be used as an
R alternate means to do this check, if the IAE2P16369 Electrical
R Tester specified is not available.

R (7) Mark the Data Entry Plug Backshell with the new Variant No. by the procedure specified in Reference (3), Chapter/Section 70-09-00, Marking of Parts, and Figure 3. Use the vibration peen method.

R (8) Install the Data Entry Plug by the procedure specified in Reference (2), Chapter/Section 73-22-35, Repairs, VRS3500.

R (9) Install a replacement Engine Identification Plate, PN 5A1465 or PN 5A1855.

R 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).

R 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.

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

R B. If Engine Identification Plate PN 5A1465, (Reference (1), Chapter/Section 72-32-85, Figure Item No. 03-120), and attached Figure 4 Sheet 1, is being replaced by the same PN Plate:

R (1) Remove the four bolts (4W0102), that hold the Engine Identification Plate to the bracket.

R (2) Permanently deface the old Engine Identification Plate 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.

R (3) Get the new Engine Identification Plate from your IAE Representative.

R (4) Install the new Engine Identification Plate with the 4W0102 bolts (4 off).

R (5) Torque the 4W0102 Bolts between 36 - 45 lbfin (4,00 - 5,00 Nm).

R C. If Engine Identification Plate PN 5A1465, (Reference (1), Chapter/Section 72-32-85, Figure Item No. 03-120), and attached Figure 4 Sheet 1, is being replaced by reusable Engine Identification Plate PN 5A1855 (Reference (1), Chapter/Section 72-32-85, Figure Item No. 03-120, and attached Figure 4 Sheet 2:

R (1) Remove the old Engine Identification Plate and bracket from the Fan case as per SB V2500-ENG-72-0378 (Reference 4).

R (2) Permanently deface the old Engine Identification Plate PN 5A1465 (and
R Bracket) and return it to your IAE Representative. Engine model and serial
R number must remain visible in order to allow verification by IAE Quality
R Assurance. Recommended technique is to vibropeen a wavy line through the
R Type Certificate and Production Certificate numbers.

R (3) Get the new reusable Engine Identification Plate PN 5A1855 and bracket
R from your IAE Representative.

R (4) Get the Engine Rating Indicator (IAE Rivet) PN 5A1875 (Reference (1),
R Chapter/Section 72-22-36, Figure Item No. 01-100), and attached Figure 4
R Sheet 3.

R (5) Install the Engine Rating Indicator in the reusable Engine Identification
R Plate at the appropriate 'TAKE-OFF RATING/VARIANT' position, as per SB
R V2500-ENG-72-0378 (Reference 4).

R (a) Drill a hole 0.098 - 0.101 inch (2,5 - 2,56 mm) diameter at the circle
R marked on the Engine Identification Plate at the designated rating,
R and deburr.

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

R (6) Install the reusable Engine Identification Plate and bracket as per SB
R V2500-ENG-72-0378 (Reference 4).

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

R (b) Torque the 4W0102 Bolts between 36 - 45 lbfin (4,00 - 5,00 Nm).

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

R (d) Torque the 4W0164 Bolts between 85 - 105 lbfin (10,00 - 12,00 Nm).

R D. If reusable Engine Identification Plate PN 5A1855, (Reference (1),
R Chapter/Section 72-32-85, Figure Item No. 03-120), and attached Figure 4 Sheet
R 2, is being replaced by the same PN plate:

R (1) Remove the reusable old Engine Identification Plate from the Fan case as
R per SB V2500-ENG-72-0378 (Reference 4).

R (2) Permanently deface the old reusable Engine Identification Plate PN 5A1855
R (and Bracket) and return it to your IAE Representative. Engine model and
R serial number must remain visible in order to allow verification by IAE
R Quality Assurance. Recommended technique is to vibropeen a wavy line
R through the Type Certificate and Production Certificate numbers.

R (3) Get the new reusable Engine Identification Plate PN 5A1855 from your IAE Representative.

R (4) Get the Engine Rating Indicator (IAE Rivet) PN 5A1875 (Reference (1), Chapter/Section 72-22-36, Figure Item No. 01-100), and attached Figure 4 Sheet 3.

R (5) Install the Engine Rating Indicator in the reusable Engine Identification Plate at the appropriate 'TAKE-OFF RATING/VARIANT' position, as per SB V2500-ENG-72-0378 (Reference 4).

R (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.

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

R (6) Install the reusable Engine Identification Plate as per SB V2500-ENG-72-0378 (Reference 4).

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

R (b) Torque the 4W0102 Bolts between 36 - 45 lbfin (4,00 - 5,00 Nm).

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

R (d) Torque the 4W0164 Bolts between 85 - 105 lbfin (10,00 - 12,00 Nm).

E. Check the data entry plug 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 (2), Chapter/Section 73-22-35, Installation and Figure 6.

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

F. Do an operational test of the EEC by the procedure given in Reference (2), Chapter/Section 73-22-34, Operational Test of the EEC.

R G. Recording Instructions

R A record of accomplishment is required.

For DEP part Number 2A3106 (CL 01)

Variant No.	Engine Rating	Thrust Level	Bump No.	Crank (sec)	Channel A	Channel B	Jumper Type	No. Req	**EEC Software
00	2	33K	00	50	b* to F	h* to S	2 pin	2 pin: 2	SCN11/0
02	2	33K	00	30	Z* to D	g* to f	2 pin	2 pin: 2	SCN12/Q
10	3	30K	00	50	b* to F	h* to S	2 pin		SCN9A
					Y to C	N to q	2 pin		
					Z* to D	g* to f	2 pin	2 pin: 6	
12	3	30K	00	30	b* to F	h* to S	2 pin	2 pin: 2	SCN12/Q
					Y to C,X	N to q,M	3 pin	3 pin: 2	
30	6	27K	00	50	b* to F	h* to S	2 pin		SCN9A
					Y to B,C,X	N to e,q,M	4 pin	4 pin: 2	
					Z* to D	g* to f	2 pin	2 pin: 4	
32	6	27K	00	30	Y to A	N to L	2 pin	2 pin: 2	SCN12/Q
35	7	27EK	00	50	Y to A	N to L	2 pin	2 pin: 2	SCN10A
					Z* to D,E	g* to f,R	3 pin	3 pin: 2	
37	7	27EK	00	30	Y to A,X	N to L,M	3 pin	3 pin: 2	SCN12/Q
					Z* to E	g* to R	2 pin	2 pin: 2	
40	8	24K	00	50	b* to F	h* to S	2 pin	2 pin: 2	SCN11/0
					Y to A,C	N to L,q	3 pin	3 pin: 2	
42	8	24K	00	30	Z* to D	g* to f	2 pin	2 pin: 2	SCN12/Q
					Y to A,C	N to L,q	3 pin	3 pin: 2	
n/a	9	27MK	00	50	n/a				
47	9	27MK	00	30	Z* to D,E	g* to f,R	3 pin	3 pin: 2	SCN14/S
					Y to A,C,X	N to L,q,M	4 pin	4 pin: 2	
50	10	22K	00	50	Y to A,B	N to L,e	3 pin	3 pin: 2	SCN11/0
					Z* to D	g* to f	2 pin	2 pin: 2	
52	10	22K	00	30	Y to A,B,X	N to L,e,M	4 pin	3 pin: 2	SCN12/Q

NOTE: * In some cases, connector holes b and h are used in engine serial number wiring, and connector holes q and Z are used in EPR modifier wiring. Determine which holes are to be connected for serial number, EPR modifier and variant number wiring before you select jumpers.

NOTE: ** Indicated EEC Software Standard or Later must be installed.

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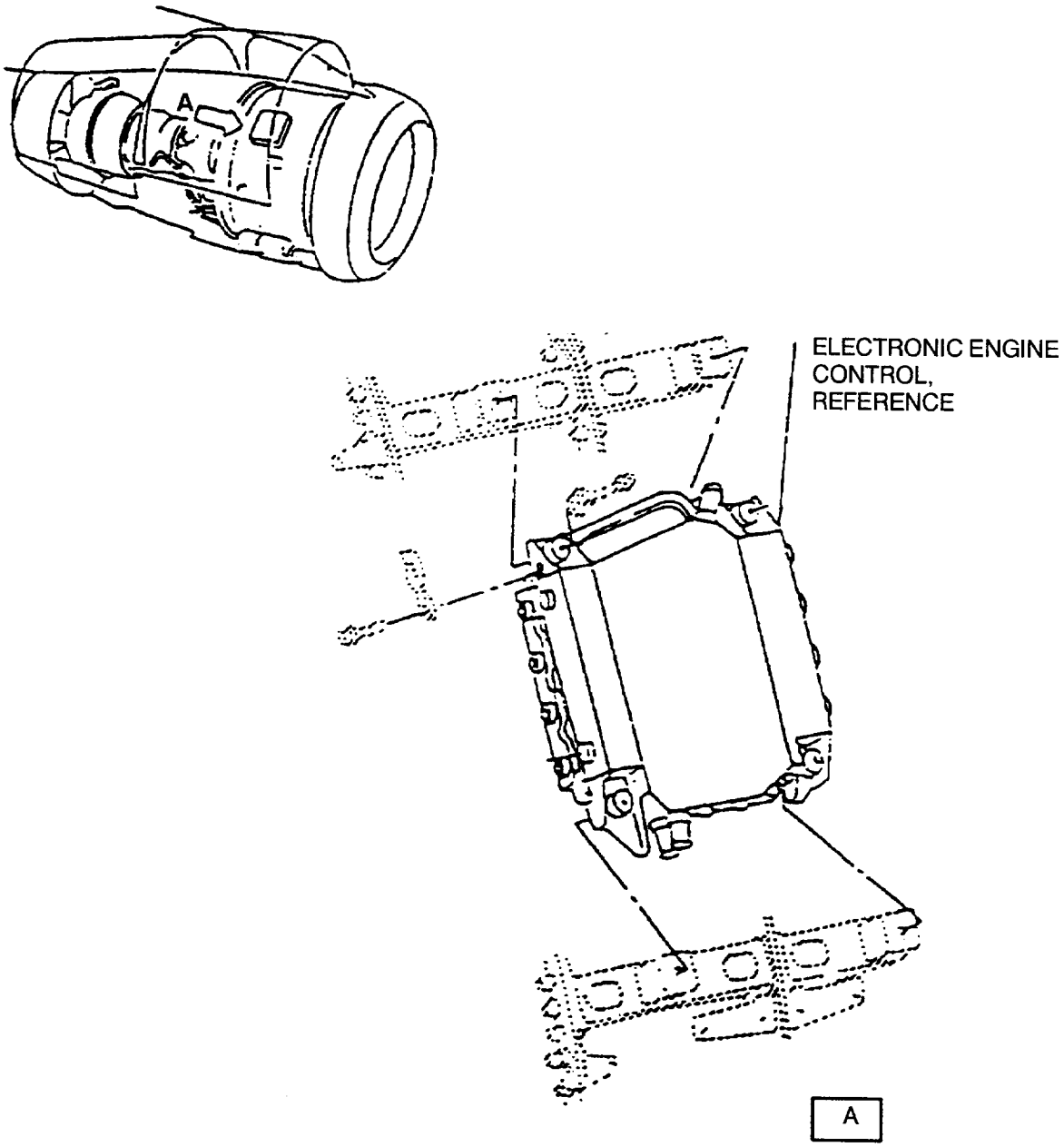
R Data entry plug pin selection procedure for Engine Variant - Bump No. - Crank
R Fig 71-00-00-900-112-001
R Table 1



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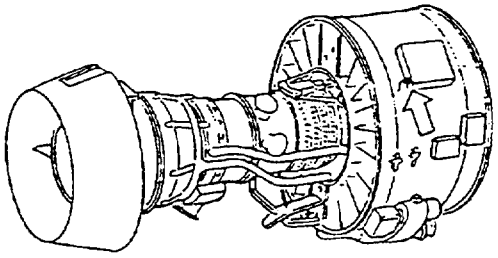
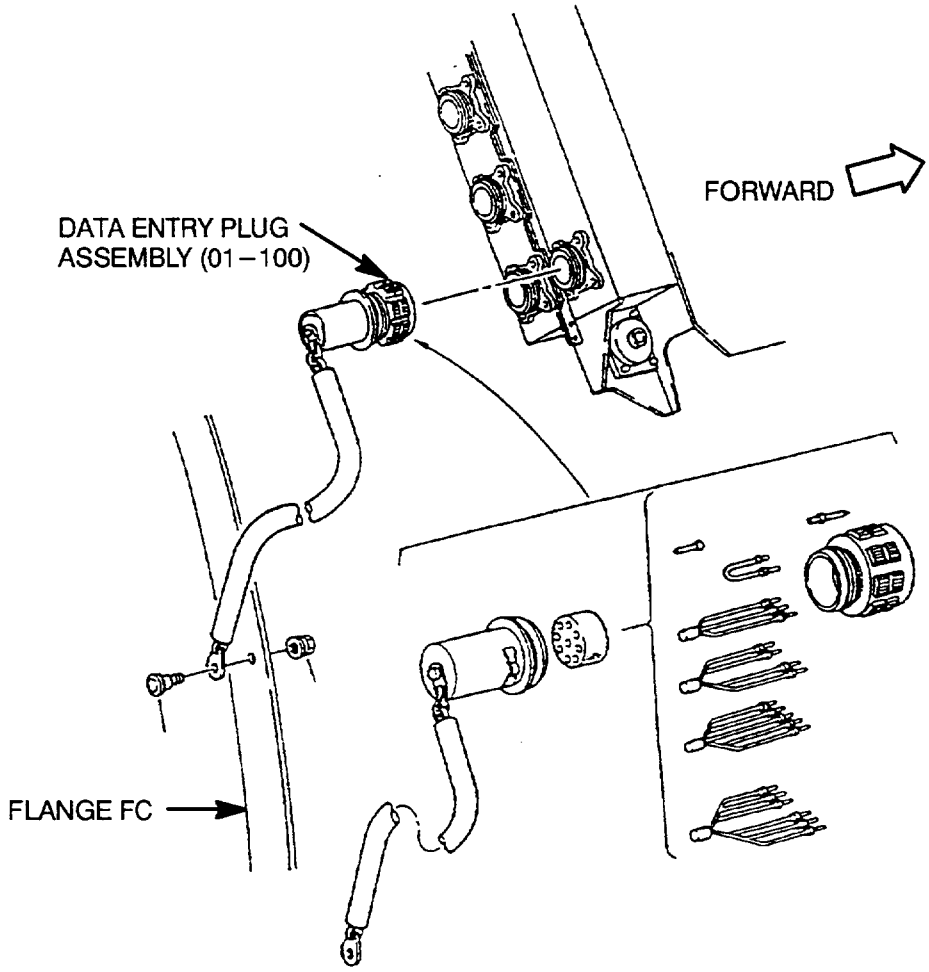
Location of the Electronic Engine Control
Figure 1



STARBOARD UPPER REAR



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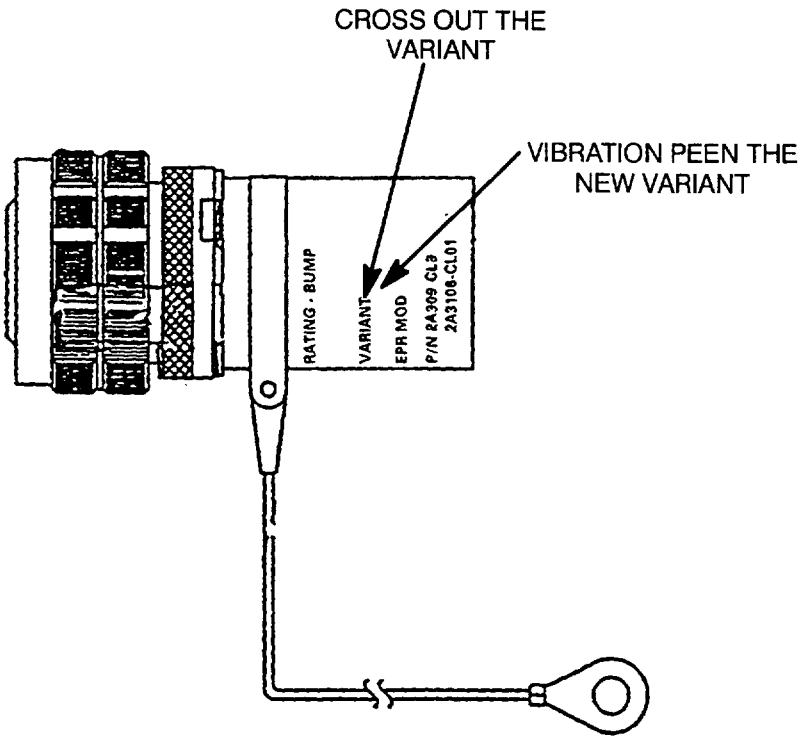
Data Entry Plug Assembly
Figure 2



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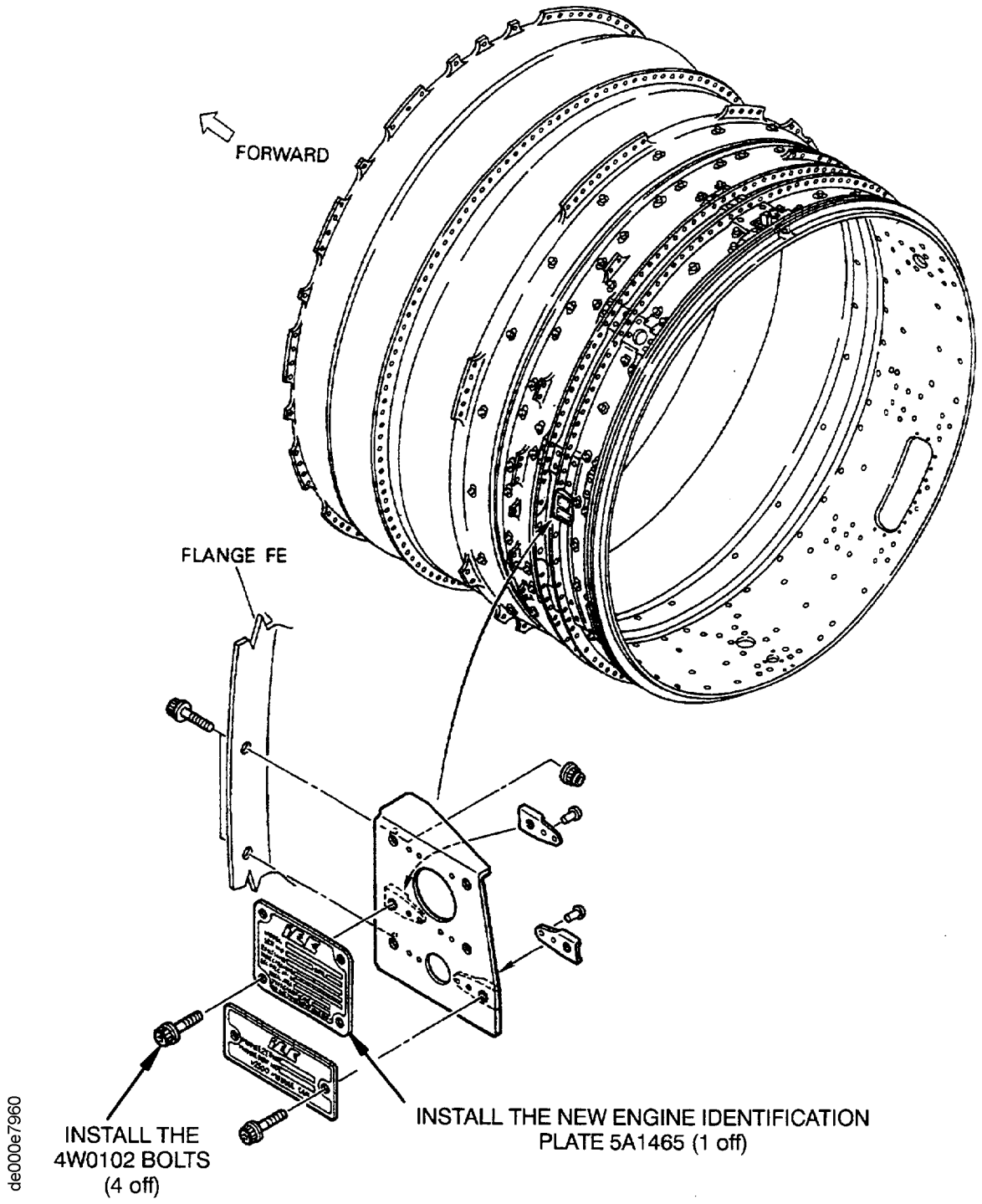
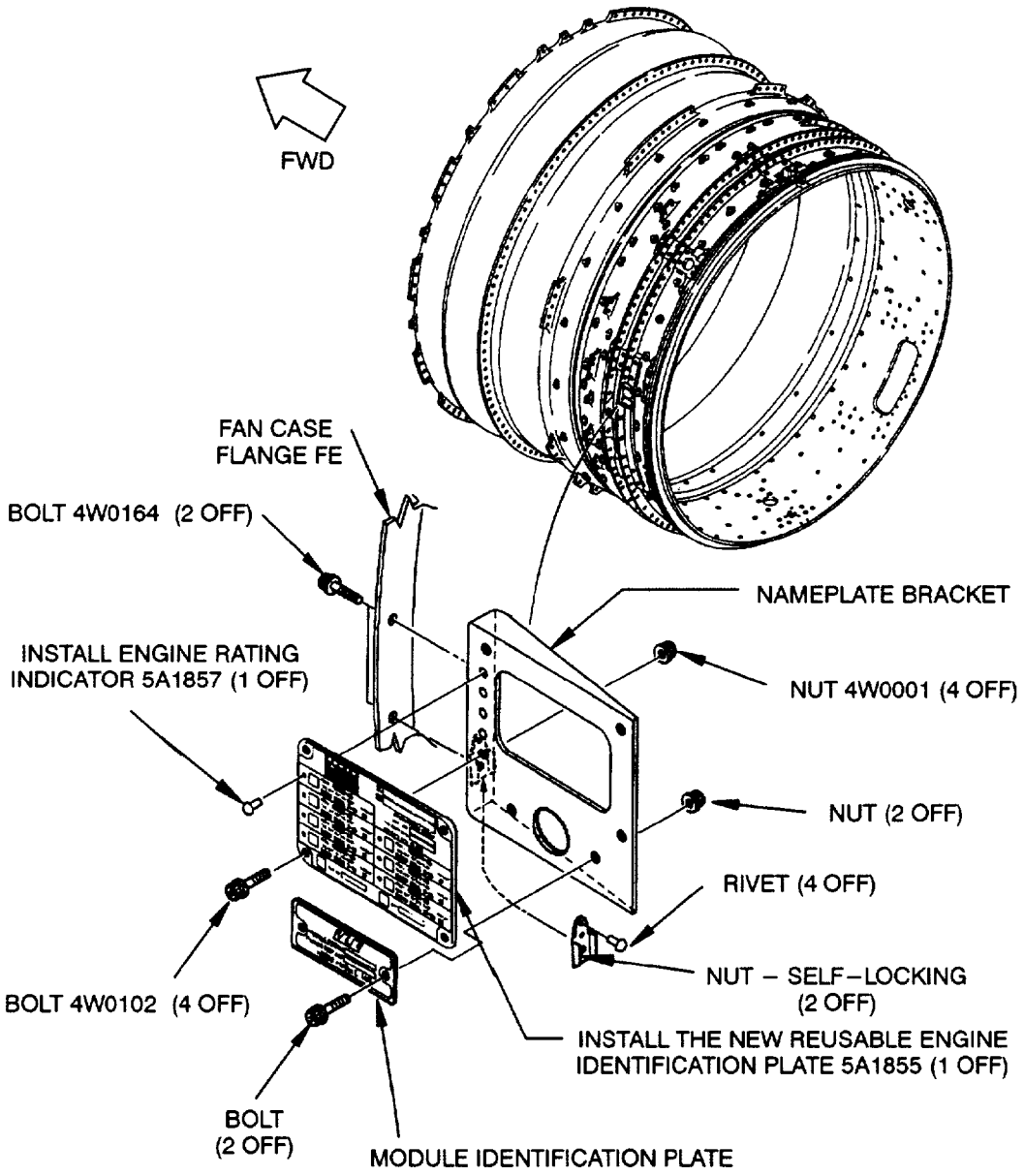
Identification of the Data Entry Plug Assembly to the new Part Number
Figure 3

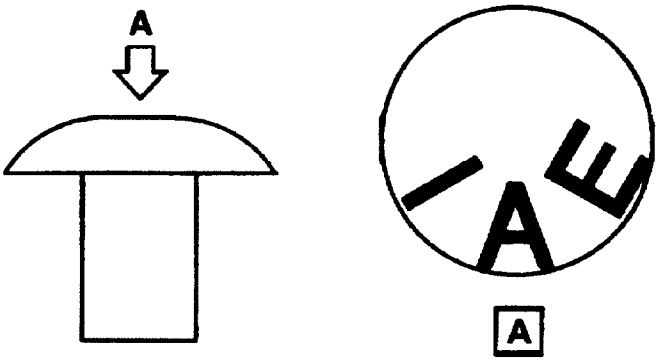


R Engine Identification Plate
R Figure 4 (Sheet 1)

R

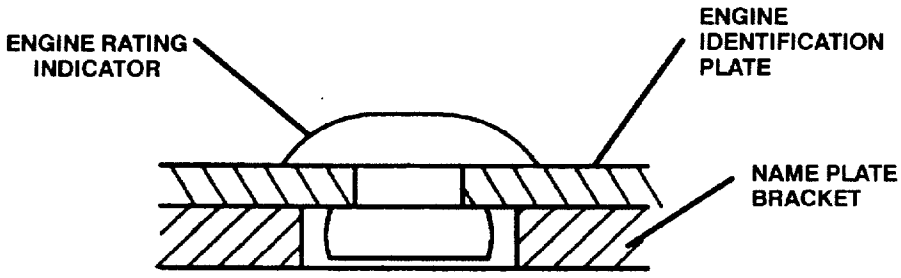


R R Engine Identification Plate
Figure 4 (Sheet 2)



ENGINE RATING INDICATOR AS SUPPLIED BY IAE

R



ENGINE RATING INDICATOR AS PLACED ON THE ENGINE IDENTIFICATION PLATE

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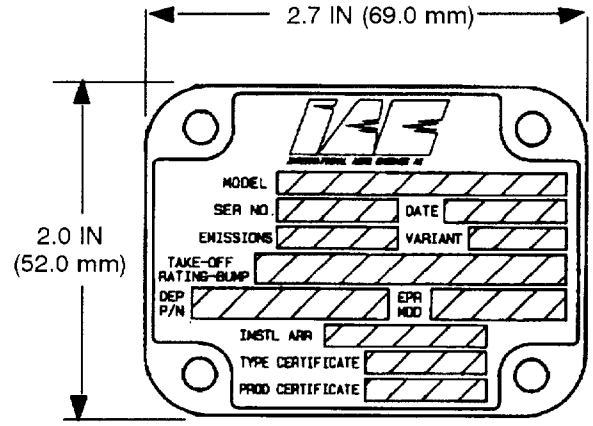
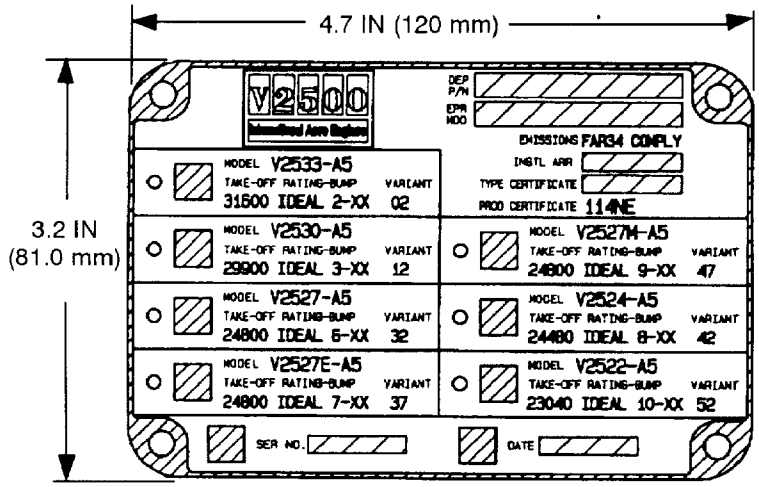
R Engine Identification Plate
R Figure 4 (Sheet 3)



PART NUMBER 5A1465 ORIGINAL ENGINE IDENTIFICATION PLATE

R



PART NUMBER 5A1855 REUSABLE ENGINE IDENTIFICATION PLATE

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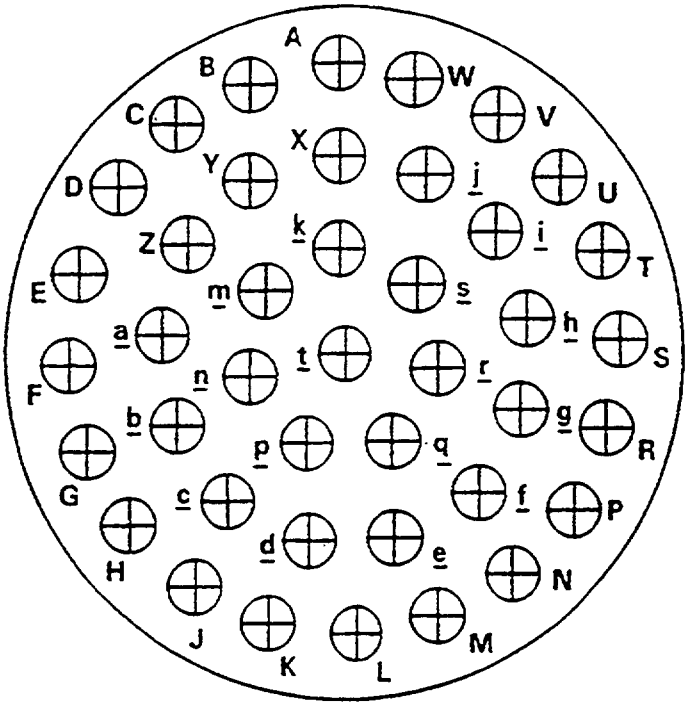
R Engine Identification Plate
R Figure 4 (Sheet 4)



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 2A3106– CL01

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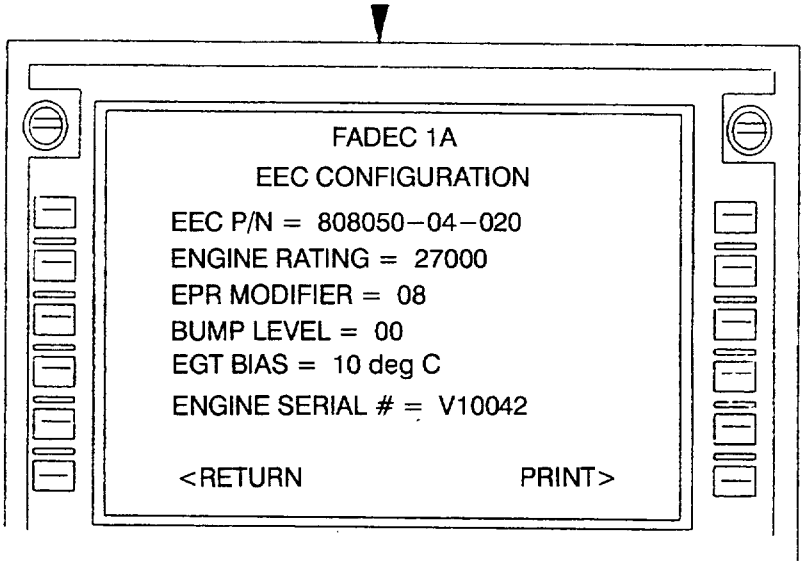
Contact Hole Locations
Figure 5



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MCDU Interrogation of EEC Configuration
Figure 6