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

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DATE: Sep.13/11

V2500-A5 PROPULSION SYSTEMS SERVICE BULLETIN

This document transmits the Initial Issue of Service Bulletin V2500-ENG-73-0226 and the Revision 1 of Hamilton Sundstrand Service Bulletin EEC150-40-73-24.

Service Bulletin Initial Issue

Remove	Incorporate	Reason for change
	Pages 1 to 5 of the IAE Service Bulletin V2500-ENG-73-0226.	Initial Issue.
	Page 1 of the Appendix.	Initial Issue.
	Pages 1 to 6 of the Hamilton Sundstrand Service Bulletin EEC150-40-73-24.	Revision 1.

V2500-ENG-73-0226
Transmittal - Page 1 of 1

CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED
If any have not been received please advise IAE International Aero Engines AG

SERVICE BULLETIN

ENGINE - FUEL AND CONTROL - CONTROL, ELECTRONIC ENGINE - REPLACEMENT OF THE CHANNEL A INTERCONNECT CIRCUIT CARD ASSEMBLY

1. Planning Information

A. Effectivity

(1) Airbus A319

V2522-A5, V2524-A5, V2527M-A5 (A5 Standard and A5 SelectOne™ Retrofit Standard).

Engine Serial Nos. - Any engine as applicable.

V2522-A5, V2524-A5, V2527M-A5 (A5 SelectOne™ Production Standard).

Engine Serial Nos. - Any engine as applicable.

(2) Airbus A320

V2527-A5, V2527E-A5 (A5 Standard and A5 SelectOne™ Retrofit Standard).

Engine Serial Nos. - Any engine as applicable.

V2527-A5, V2527E-A5 (A5 SelectOne™ Production Standard).

Engine Serial Nos. - Any engine as applicable.

(3) Airbus A321

V2530-A5, V2533-A5 (A5 Standard and A5 SelectOne™ Retrofit Standard).

Engine Serial Nos. - Any engine as applicable.

V2530-A5, V2533-A5 (A5 SelectOne™ Production Standard).

Engine Serial Nos. - Any engine as applicable.

B. Compliance

Category VB

Vendor Bulletin - See Reference 1, Hamilton Sundstrand Service Bulletin No. EEC150-40-73-24 for Compliance Category Code.

C. Approval Data

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.

D. References

(1) Hamilton Sundstrand Service Bulletin No. EEC150-40-73-24.

(2) V2500 Engine Illustrated Parts Catalogs (S-V2500-1IA, S-V2500-2IA, S-V2500-2IB, S-V2500-3IA, S-V2500-3IB, S-V2500-5IA, S-V2500-5IB, S-V2500-6IA, S-V2500-6IB, S-V2500-7IA and S-V2500-7IB), Chapter/Section 73-22-34.

(3) V2500 Engine Illustrated Parts Catalogs (S-V2500-2SA, S-V2500-2SB, S-V2500-5SA, S-V2500-5SB, S-V2500-6SA, S-V2500-6SB, S-V2500-7SA, S-V2500-7SB), Chapter/Section 73-22-34.

E. Information in the Appendix

Alternate Accomplishment Instructions (No)

Progression Charts (No)

Added Data (Yes)

Revision to Table of Limits (No)

Inspection Procedures (No)

2. Material Information

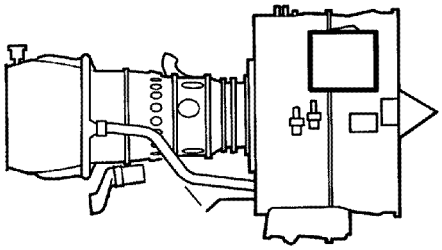
Not applicable.

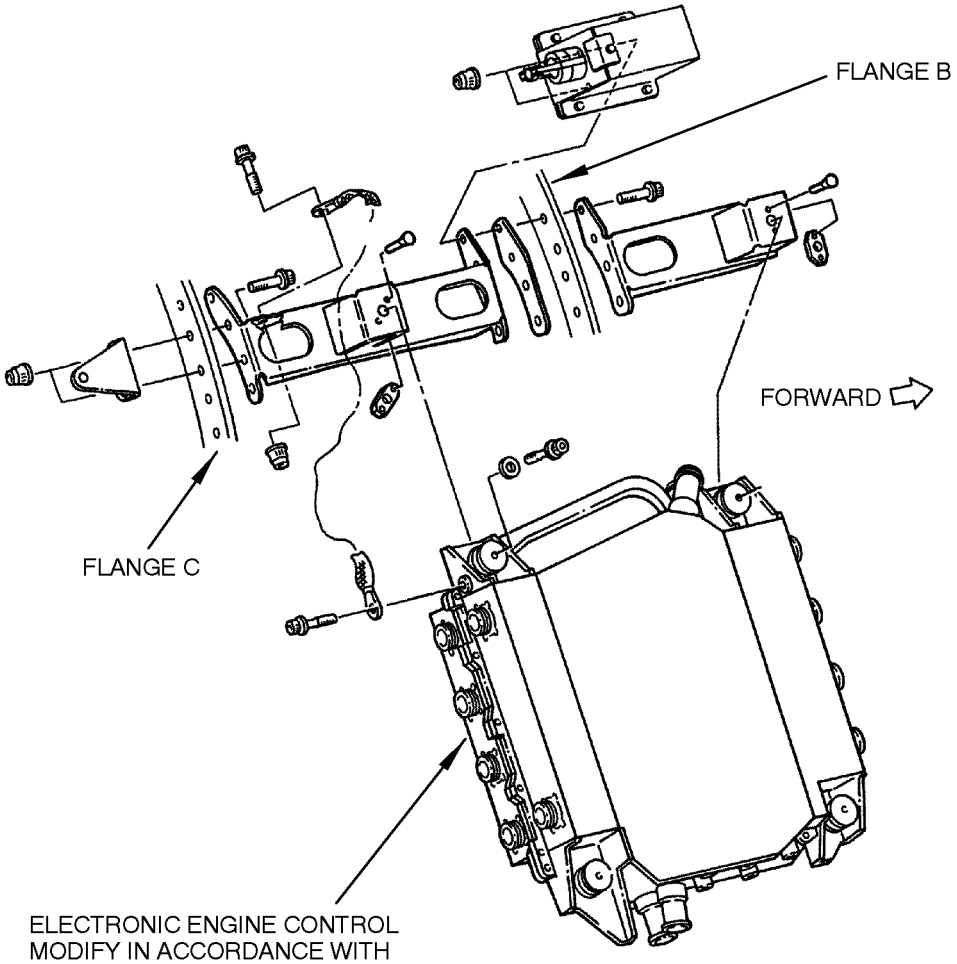
3. Accomplishment Instructions

(1) Modify your Electronic Engine Control (EEC) in accordance with Reference 1, Hamilton Sundstrand Service Bulletin No. EEC150-40-73-24. See Figure 1 for the location of the EEC.

(2) Recording Instructions

(a) A record of accomplishment is required.





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LOCATION OF THE ELECTRONIC ENGINE CONTROL
73-22-34
FIGURE 1

APPENDIX

Added Data

Internal Reference Information

Revision No.	Reference Document	Origination
Original	ECO8VAOO6A EA11VC135	DTL/JDH

Reference 1, Hamilton Sundstrand Service Bulletin No. EEC150-40-73-24 follows:

Hamilton Sundstrand
A United Technologies Company

SERVICE BULLETIN

ENGINE FUEL AND CONTROL - EEC150-40 ELECTRONIC ENGINE CONTROL - CHANNEL TO CHANNEL CONNECTOR

REVISIONS

Revision 1

This revision: (1) Removes serial numbers from Effectivity on page 2, (2) Changes connector nomenclature in Substantiation on page 3, (3) Revises Compliance on page 3 to add Code 4 if fault code is stored in EEC, and (4) Revises Accomplishment Instructions on page 6 to include option of Special Repair of channel A interconnect circuit card assembly, and added internal reference number. Units previously modified according to this bulletin do not require remodification according to this bulletin revision.

This bulletin has been reproduced in its entirety. Discard the bulletin you now have and replace it with this copy. The tabulation below is provided for record keeping and traceability of bulletin issues.

Issue	Date
Basic	Jan 23/09

1. Planning Information

A. Effectivity

(1) Hamilton Sundstrand EEC150-40 Electronic Engine Controls with part number 824972-X-YYY used on Airbus A319, A320 and A321 aircraft that use the IAE V2500-A5 engine.

NOTE: "X" identifies all available hardware configurations.

NOTE: "YYY" identifies all available software configurations.

B. Concurrent Requirements

(1) None

C. Reason

(1) Problem

(a) On the V2500 program (EEC150-40), there were issues with channel-to-channel loss of communication. These intermittent faults identified during production testing were attributed to the failure of an internal epoxy bond in a Blind Mate connector. This bond secures the insulator in a forward position within the connector shell.The 62 pin D-sub connector, part number 804887-1, is used in assembly 824955-1 on the EEC150-40 program.

(2) Cause

(a) The internal bond in the Blind Mate connector does not secure the insulator in a forward position. The connector's insulator is designed to always fit within the connector's front and rear mounting shells. There is a gap of approximately 0.030 inches (0.762 mm) between the rear shell and the back of the insulator. When the bond fails, the insulator and the contacts are able to move approximately 0.030 inches (0.762 mm) backward while mating. The D-sub connector's contacts have 0.018 inches (0.4572 mm) minimum engagement, causing the loss of communication when the bond fails. The epoxy bond material is SR-1010 and (SR) stands for solder resist.

(3) Solution

(a) The insulator is secured with a structural adhesive, as opposed to the solder resist epoxy used in the current connector. This connector is a standard line, however Hamilton Sundstrand has maintained the blindmate chamfered mating shroud (same as the 804887-1). The contacts are supplied with the connector, epoxy sealed in position to increase pin engagement and prevent flux entrapment. The contacts are required to engage the mating connector 0.015 inches (0.381 mm) more than the governing military specification (M24308/4) requires. Replace current Blind mate connector part number 804887-1 with new and improved configuration part number 1012630-2. Create new Channel to Channel A interconnect assembly part number 824955-2 to incorporate new connector part number 1012630-2.

(4) Substantiation

(a) This change is being made to improve the connector's robustness by increasing pin engagement and eliminate assembly steps and a potential for flux entrapment. The new connector was tested to ensure it's structural integrity. Per the specification, the new connector's insulator should be built to withstand 60 psi (414 kPa) (approx. 70lbs (31.75 kg)). During Developmental Validation Testing the insulator ruptured at 620 psi (4275 kPa) (approx 724lbs (328.4 kg)). In addition, the new connector was successfully tested with no anomalies in an EEC150-40 host unit.

D. Description

(1) This Service Bulletin describes the procedure to replace the Channel A Interconnect Circuit Card Assembly.

E. Compliance

(1) If a crosslink fault code is stored in the EEC, incorporate this SB as a Code 4. If no crosslink fault code is stored in the EEC, incorporate this SB as a Code 6.

NOTE: Refer to the TESTING AND FAULT ISOLATION section of CMM 73-28-02 for fault code information.

(a) Code 4 - You can do this service bulletin the first time the EEC150-40 is at a maintenance base that can do the procedures regardless of other planned maintenance action.

(b) Code 6 - You can do this service bulletin when the EEC150-40 is disassembled and access is available to the necessary part. Do all spare EEC150-40 units.

F. Approval

(1) The repairs or modifications herein have been shown to comply with the applicable Federal Aviation Regulations and are FAA-approved for the EEC150-40 Electronic Engine Control listed.

G. Manpower

(1) Approximately 2.0 man-hours are required to do these Service Bulletin procedures when you do component maintenance. This estimate does not include any time for test.

H. Weight and Balance

(1) Not applicable

I. Electrical Load Data

(1) None

J. Software Accomplishment Summary

(1) None

K. References

(1) Component Maintenance Manual (CMM) 73-28-02

(2) Illustrated Parts Catalog (IPC) 73-28-02

L. Other Publications Affected

(1) None

M. Interchangeability or Intermixability of Parts

(1) End item interchangeability and intermixability is not affected.

2. Material Information

A. Material - Price and Availability

(1) Part availability = 75 days. Refer to Table 1 for part price.

B. Industry Support Information

(1) Repair orders to perform this procedure must refer to this Service Bulletin. This Service Bulletin will be done at the operator's expense. Return EEC150-40 units to the following address:

Hamilton Sundstrand Corporation
Windsor Locks Repair Station
One Hamilton Road
Dock W
Windsor Locks, CT 06096-1010
USA

FAA Repair Station License Number SI3R842L

C. Material Necessary for Each Component

(1) Material to be Purchased

(a) This Service Bulletin procedure will use the parts listed in Table 1 for each EEC150-40 unit that is modified.

(b) Any parts that are usually discarded when the EEC150-40 unit is disassembled are not listed in Table 1.

(c) In Table 1, the Key Word is the name of the part.

(d) In Table 1, the "Instruction Code" tells what to do with the part after removal.

(e) If you need more information, contact your Hamilton Sundstrand account representative.

(f) Address parts orders to:

Hamilton Sundstrand Corporation
A United Technologies Company
Attention: Manager, Commercial Spares Administration
Mail Stop: 236-6
4747 Harrison Avenue
P.O. Box 7002
Rockford, IL 61125-7002
USA
Facsimile (815) 226-2624

(g) Refer to Table 1.

Table 1. Parts to be Purchased

New Part Number	Qty	Estimated Unit Price	Key Word	Part Number before this SB	Instruction Code
824955-2	1	$12,733.00	Circuit Card Assembly	824955-1	A

- Instruction Code A: This Service Bulletin replaces the “Part Number before this SB” with the “New Part Number”.

(2) Material Supplied by the Operator

(a) None

D. Material Necessary for Spare

(1) Material to be Purchased

(a) None

(2) Material Supplied by the Operator

(a) None

E. Reidentified Parts

(1) Refer to paragraph 3.

F. Tooling

(1) None

3. Accomplishment Instructions

A. The user should obtain the material safety data sheets [Occupational Safety and Health Act (OSHA) Form 20 or equivalent] from the manufacturers or suppliers of materials to be used. The user must become completely familiar with the manufacturer/supplier information and adhere to the procedures, recommendations, warnings, and cautions of the manufacturer/supplier for the safe use, handling, storage, and disposal of these materials. The user should also read the long version of the warnings contained in this service bulletin. The long version warnings are contained in Hamilton Sundstrand Warnings Registry 341-006 available free of charge to all organizations that are on distribution for this Service Bulletin. The Warnings Registry 341-006 is also available at www.hsvas.com.

CAUTION: READ REPAIR GENERAL IN CMM 73-28-02 BEFORE YOU TOUCH THE EEC150-40 ELECTRONIC ENGINE CONTROL. OBEY THE INSTRUCTIONS IN THE 20-00-02 STANDARD ELECTRONIC PRACTICES MANUAL WHEN YOU TOUCH THE EEC150-40 OR ITS COMPONENTS. IT IS AN ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) DEVICE. IT CAN BE DAMAGED BY ELECTROSTATIC DISCHARGE, WHICH CAN BE TRANSMITTED BY TOUCH.

B. Refer to the 20-00-02 Standard Electronic Practices Manual to do the procedure unless otherwise noted.

C. Disassemble the EEC150-40 in accordance with the DISASSEMBLY section of CMM 73-28-02 to remove the channel A interconnect circuit card assembly (Item 85, IPC Figure 2).

D. Repair of the EEC150-40 channel to channel interconnect circuit card assembly is Hamilton Sundstrand proprietary. The following options are available:

(1) The EEC150-40 channel A interconnect circuit card assembly (Item 85, IPC Figure 2) can be replaced by purchasing a new one.

(2) The EEC 150-40 channel A interconnect circuit card assembly (Item 85, IPC Figure 2) is Hamilton Sundstrand proprietary (Special Repair SR-1062-10239). Contact Hamilton Sundstrand World Wide Repair at www.hamiltonsundstrand.com for a quote.

E. Assemble the EEC150-40 in accordance with the ASSEMBLY section of CMM 73-28-02 replacing the channel A interconnect circuit card assembly (Item 85, IPC Figure 2) with new part number 824955-2.

F. Test the EEC150-40 in accordance with the TESTING and FAULT ISOLATION section of CMM 73-28-02.

G. To show this Service Bulletin was done mark “L14” in the MOD DATA section of the unit identification plate in accordance with Section VI, Task 1 of 20-00-02. Mark “L14” on the applicable Circuit Card Assembly using the ink mark method in accordance with Section X, Task 7 of 20-00-02.

SERVICE BULLETIN FEEDBACK FORM

Please use this form to give feedback on the quality of this Service Bulletin. The input you provide will be used to analyse areas of improvement and to take action to further improve on the quality of our Service Bulletins.

We thank you for the time you spent in completing this form.

Please rate on a scale of 1 to 5, with 5 being the highest score:

- General quality rating of this Service Bulletin	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
- Quality rating of the Accomplishment Instructions	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
- Quality rating of the Illustration	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
- Is this Service Bulletin easy to understand ?	☐ Yes ☐ No

If you have had difficulties to perform this Service Bulletin please quote below the area(s) and give a short description of the issue:

Planning Information Section:		Material Information Section:	Accomplishment Instruction Section:
☐ 1.A.	☐ 1.I.	☐ 2.A.	☐ General
☐ 1.B.	☐ 1.J.	☐ 2.B.	☐ Get Access
☐ 1.C.	☐ 1.K.	☐ 2.C.	☐ Removal/Installation
☐ 1.D.	☐ 1.L.	☐ 2.D.	☐ Inspection
☐ 1.E.	☐ 1.M.	☐ 2.E.	☐ Test
☐ 1.F.	☐ 1.N.	☐ 2.F.	☐ Close the Access
☐ 1.G.	☐ 1.O.		☐ Log Book Entry
☐ 1.H	☐ 1.P.		

Explanatory notes:

Operator:	Overhaul Site:
Name/Title:	Date:

Please send the completed Service Bulletin Feedback Form to IAE, Customer Support.
Email: GPIAECUSTCOM@IAEV2500.COM