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:- 44 (0) 1332 242424
FAX:- 44 (0) 1332 249936

DATE: Oct.18/05

# V2500-A5/D5 SERIES PROPULSION SYSTEMS SERVICE BULLETIN



This document transmits Revision 1 to Service Bulletin EV2500-73-0113 and the Initial Issue of the Supplement

Document History

| Service Bulletin Revision Status | | Supplement Revision Status |
|---|---|---|
| Initial Issue | Jul.18/97 | |

Bulletin Revision 1

| Remove | Incorporate | Reason for change |
|---|---|---|
| | Page 1 and 2 of the Summary | To add reference to vendor service bulletin and to revise to latest format. |
| Pages 1 to 5 of the Service Bulletin | Pages 1 to 6 of the Service Bulletin | To add reference to vendor service bulletin and to revise to latest format. |

Supplement Initial Issue

| Remove | Incorporate | Reason for change |
|---|---|---|
| | Page 1 | To add reference to vendor service bulletin and to revise to latest format. |

LIST OF EFFECTIVE PAGES

The effective pages to this Service Bulletin following incorporation of Revision 1 to the Bulletin and the Initial Issue of the Supplement are as follows:

| | Page | Revision Number | Revision Date |
|---|---|---|---|
| | Summary | | |
| R | 1 | 1 | Oct.18/05 |
| R | 2 | 1 | Oct.18/05 |
| | Bulletin | | |
| R | 1 | 1 | Oct.18/05 |
| R | 2 | 1 | Oct.18/05 |
| R | 3 | 1 | Oct.18/05 |
| R | 4 | 1 | Oct.18/05 |
| R | 5 | 1 | Oct.18/05 |
| R | 6 | 1 | Oct.18/05 |
| | Supplement | | |
| | 1 | | Oct.18/05 |

International Aero Engines

SERVICE BULLETIN

ENGINE FUEL AND CONTROL - FUEL FLOWMETER - INTRODUCTION OF REVISED FUEL FLOW TRANSMITTER WITH INCREASED ELECTRICAL RECEPTACLE CLEARANCE

# SUMMARY

R 1. PLANNING

R A. EFFECTIVITY

R (1) Aircraft: (a) Airbus A319
R (b) Airbus A320
R (c) Airbus A321
R (d) Boeing - Longbeach Division MD-90

R (2) Engines: (a) V2522-A5 Engines prior to Serial No.V10277
R (b) V2524-A5 Engines prior to Serial No.V10277
R (c) V2527-A5 Engines prior to Serial No.V10277
R (d) V2530-A5 Engines prior to Serial No.V10277
R (e) V2533-A5 Engines prior to Serial No.V10277
R (f) V2525-D5 Engines prior to Serial No.V20171
R (g) V2528-D5 Engines prior to Serial No.V20171

R B. CONCURRENT REQUIREMENTS

R None.

R C. REASON

R Condition

R The clearance between the body of the fuel flow transmitter and the engine
R harness connector is not sufficient. This condition can stop full engagement
R of the electrical harness connector with the flowmeter mounted electrical
R receptacle. The problem is caused by different sizes of connector supplied by
R different manufacturers.

R Background

R The problem has been found on engine build.

R Objective

R The purpose of this modification is to make unit installation easier.

R Substantiation

R The changes contained in this modification have been the subject of
R satisfactory engineering analysis. Satisfactory rig tests of a configuration
R almost the same as the one in this Service Bulletin have been done by the
R vendor.

R

R D. DESCRIPTION

R The changes introduced are to the Fuel Flow Transmitter. The height of the
R units electrical cavity has been increased. This moves the position of the
R electrical receptacle away from the flowmeter body, which provides additional
R clearance between the body and the electrical harness connector.

R Units which have this modification will be identified by a new type number (see
R Section 3.(B).

R E. COMPLIANCE

R Category Code 7

R This Service Bulletin can be done when there are no initial parts remaining.

R F. MANPOWER

R In service - Not applicable.

R At overhaul - Not affected.

R G. INTERCHANGEABILITY OF PARTS

R Not affected.

R 2. MATERIAL INFORMATION

R A. PARTS PRICES

R For prices and availability of future spares see Crane ELDEC Corporation
R Service Bulletin 9-217-73-18.

International Aero Engines

SERVICE BULLETIN

# ENGINE FUEL AND CONTROL - FUEL FLOWMETER - INTRODUCTION OF REVISED FUEL FLOW TRANSMITTER WITH INCREASED ELECTRICAL RECEPTACLE CLEARANCE



## 1. Planning Information

### A. Effectivity

(1) Aircraft:
- (a) Airbus A319
- (b) Airbus A320
- (c) Airbus A321
- R (d) Boeing - Longbeach Division MD-90

(2) Engines:
- (a) V2522-A5 Engines prior to Serial No.V10277
- (b) V2524-A5 Engines prior to Serial No.V10277
- (c) V2527-A5 Engines prior to Serial No.V10277
- (d) V2530-A5 Engines prior to Serial No.V10277
- (e) V2533-A5 Engines prior to Serial No.V10277
- (f) V2525-D5 Engines prior to Serial No.V20171
- (g) V2528-D5 Engines prior to Serial No.V20171

### B. Concurrent Requirements

None

### C. Reason

(1) Condition

The clearance between the body of the fuel flow transmitter and the engine harness connector is not sufficient. This condition can stop full engagement of the electrical harness connector with the flowmeter mounted electrical receptacle. The problem is caused by different sizes of connector supplied by different manufacturers.

(2) Background

The problem has been found on engine build.

(3) Objective

The purpose of this modification is to make unit installation easier.

(4) Substantiation

The changes contained in this modification have been the subject of satisfactory engineering analysis. Satisfactory rig tests of a configuration almost the same as the one in this Service Bulletin have been done by the vendor.

R (5) Effect of Bulletin on:

R (a) Operation

R Not affected.

R (b) Maintenance

R Not affected.

R (c) Overhaul

R Not affected.

R (d) Repair Schemes

R Not affected.

R (e) Interchangeability

R Not affected.

R (f) Fits and Clearances

R Not affected.

(6) Supplemental Information

None

D. Description

(1) The changes introduced are:

(a) The Fuel Flow Transmitter has changed. The height of the units electrical cavity has been increased. This moves the position of the electrical receptacle away from the flowmeter body, which provides additional clearance between the body and the electrical harness connector.

(2) Units which have this modification will be identified by a new type number
R (see Section 3.(B).

E. Approval

The part number changes and/or part modification are given in Section 2 and 3 of this Service Bulletin. They obey the applicable Federal Aviation Regulations and are FAA-APPROVED for the Engine Model Listed.

F. Compliance

Category Code 7.

This Service Bulletin can be done when there are no initial parts remaining.



G. Manpower

Estimate of man-hours necessary to do this Service Bulletin in full.

R (1) In Service

R Not applicable.

R (2) At overhaul

R Not affected.

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

H. Material - Price and Availability

(1) A Modification kit is not necessary.

R (2) For prices and availability of spares, see Crane ELDEC Corporation Service
R Bulletin 9-217-73-18.

I. Tooling - Price and Availability

Special tools are not required.

J. Weight and Balance

R (1) Weight Change

R 0.011 lb

R (2) Moment Arm

R No effect

R (3) Datum

R Engine front mount centreline (Power Plant Station (PPS) 100).

K. Electrical Load Data

This modification has no effect on the aircraft electrical load.

L. References

R (1) Internal Reference No. - EC97VI002

R (2) ATA Locator - 73-00-00.

R (3) Crane ELDEC Corporation Service Bulletin, 9-217-73-18.

M. Other Publications Affected

(1) Illustrated parts catalog (IPC), Chapter/Section 73-31-17.

2. Material Information

A. Kits associated with this Bulletin:

None

B. Vendor Units affected by this Bulletin:

R Applicability: For each V2500 Engine to incorporate this Bulletin.

R 73-31-17

| R | FIG ITEM NO. | NEW PART NO. | QTY | PART TITLE | MAT | OLD PART NO. | INSTR DISP |
|---|---|---|---|---|---|---|---|
| R | 01-100 | 9-217-59 | 1 | Transmitter, Fuel Flow (V08748) | - | 9-217-46 | (A)(B) (S1) |

C. Instructions Disposition Codes

(A) Old part will be discontinued.
(B) New part is currently available.
(S1) Old and new parts are freely and fully interchangeable.

3. Accomplishment Instructions

A. Rework Instructions

None

B. Assembly Instructions

For the correct procedures refer to the applicable Engine Manual (EM), Chapter/Section 72-00-32 or the applicable Aircraft Maintenance Manual (AMM), Chapter/Section 73-31-17 (A1/A5) and 73-31-02 (D5).

C. Recording Instructions

R (1) A record of accomplishment is necessary. Refer to Crane ELDEC Corporation
R Service Bulletin 9-217-73-18.

International Aero Engines

SERVICE BULLETIN

# ENGINE FUEL AND CONTROL – FUEL FLOWMETER – INTRODUCTION OF REVISED FUEL FLOW TRANSMITTER WITH INCREASED ELECTRICAL RECEPTACLE CLEARANCE

R

## SUPPLEMENT – PRICES AND AVAILABILITY

R NOTE: For prices and availability of future spares see Crane ELDEC Corporation
R Service Bulletin 9-217-73-18.

# SERVICE BULLETIN

**ENGINE FUEL AND CONTROL — FUEL FLOW**

**PRODUCT IMPROVEMENT**

**ELDEC DOCUMENT NUMBER SB9-217-73-18**

1. Summary

This service bulletin provides information about a product improvement that replaces the Fuel Flow Transmitter body. The new body places the electrical connector in a slightly different location. The new electrical connector location gives clearance for a larger electrical connector. This service bulletin modifies ELDEC Fuel Flow Transmitter 9-217-46 to part number 9-217-59.

2. Planning Information

A. Effectivity

This service bulletin applies to ELDEC Part Number 9-217-46 Fuel Flow Transmitter used on IAE V2500 Aircraft Engines.

All serial numbers are affected.

B. Concurrent Requirements

None.

C. Reason

To improve the location of the electrical connector and to allow a larger electrical connector to be used.

D. Description

The affected assemblies are given below.

| AFFECTED ASSEMBLIES | | |
|---|---|---|
| NEW ASSEMBLY | NOMENCLATURE | MADE FROM ASSEMBLY |
| 9-217-59 | Fuel Flow Transmitter | 9-217-46 |

E. Compliance

ELDEC recommends compliance whenever the unit requires service.

# SERVICE BULLETIN – Continued

F. Approval

This service bulletin contains no modification information that revises the approved configuration and, therefore, does not require FAA or other regulatory approval.

G. Manpower

| | |
|---|---|
| Identify and remove unit from aircraft - | 0.3 hours |
| Perform modifications - | 5.0 hours |
| Install and test unit in aircraft - | 1.0 hours |

H. Weight and Balance

The weight of the transmitter increases by 0.011 lb. Balance is not affected.

I. Electrical Load Data

Not changed.

J. Software Accomplishment Summary

Not applicable.

K. References

ELDEC Drawing 9-217-59
ELDEC Parts List 9-217-59
ELDEC ATP 9-217-59

L. Other Publications Affected

CMM ATA 73-38-01

M. Interchangeability or Inter-mixability of Parts

Part number 9-217-59 is interchangeable with part number 9-217-46.

3. Material Information

A. Material — Price and Availability

(1) Units returned to ELDEC will be modified at the cost of labor and materials; call ELDEC for a quotation (see paragraph 5.B.).

(2) To ensure timely service, operators should request a return rate schedule within 30 days of the date of this bulletin.

(3) Operators may purchase the necessary parts to perform this modification; call ELDEC for a quotation (see paragraph 5.B.).

# SERVICE BULLETIN – Continued

B. Industry Support Information

Not applicable.

C. Material Necessary for Each Component

(1) Material necessary to modify each Fuel Flow Transmitter:

| New P/N | Nomenclature | Old P/N | Qty | Unit List Price | Special Instructions/ Disposition |
|---|---|---|---|---|---|
| 9-217757-03 | Body Assembly | 9-217757-02 | 1 | See Para 3.A. | None |
| 9-217650-06 | Nameplate | 9-217650-05 | 1 | See Para 3.A. | None |
| KT96-03 | Drive Screw | KT96-03 | 4 | See Para 3.A. | None |
| M25988-4-036 | O-ring | M25988-4-036 | 1 | See Para 3.A. | None |
| M25988-4-011 | O-ring | M25988-4-011 | 1 | See Para 3.A. | None |

(2) Material Necessary for Each Spare

Same as above.

D. Re-identified Parts

After being modified, each 9-217-46 Fuel Flow Transmitter will be re-identified as a 9-217-59 Fuel Flow Transmitter.

E. Tooling — Price and Availability

No special tooling is required for this modification, except as given in CMM 73-38-01.

4. Accomplishment Instructions

A. Look at the nameplate to make sure the part number is 9-217-46.

B. If the part number is correct, remove the 9-217-46 Fuel Flow Transmitter from the aircraft as given in the Aircraft Maintenance Manual.

C. Perform either Paragraph 4. C. (1) or Paragraph 4. C. (2):

(1) Return the removed Fuel Flow Transmitter to ELDEC for incorporation of this Service Bulletin. See Section 5.C., Shipping Address.

ELDEC will perform the procedures referenced in Paragraph 4. C. (2).

# SERVICE BULLETIN – Continued

(2) Modify the Fuel Flow Transmitter as given in the CMM 73-38-01 procedures referenced below. These procedures may be combined with other required maintenance actions.

(a) Disassemble the transmitter as given in DISASSEMBLY, paragraphs 2.A., 2.B., and 2.C.

(b) Clean, check, and repair the transmitter as given in CLEANING, CHECK, and REPAIR.

NOTE: The existing transmitter body, PN 9-217757-02, and attached nameplate, PN 9-217650-03, will not be re-used, so no repairs are required for these components. Dispose of these components in an appropriate aluminum recycling container.

NOTE: Mark and attach the new nameplate before installing other components in the transmitter body.

(c) Mark the new nameplate with part number 9-217-59 and with the serial number from the old nameplate.

(d) Attach the new nameplate, PN 9-217650-06, to the new body, PN 9-217757-03, with new drive screws.

(e) Assemble the Fuel Flow Transmitter, using the new body and nameplate, as given in the ASSEMBLY section of the CMM. Use new O-rings as required by the ASSEMBLY procedure.

(f) Calibrate and test the Fuel Flow Transmitter as given in ASSEMBLY, TESTING AND FAULT ISOLATION, and other CMM sections as required.

D. Install Fuel Flow Transmitter 9-217-59 on the aircraft as given in the Aircraft Maintenance Manual, or store until needed.

5. Further Information

A. Warranty

The Fuel Flow Transmitter warranty is not affected by incorporation of this modification.

B. Repair Status and Price Information

For repair status and price information please contact:

| Customer | ELDEC Contact | Telephone | Facsimile |
|---|---|---|---|
| Airlines/Operators | Mary Halford | 425-743-8155 | 425-787-4223 |

# SERVICE BULLETIN – Continued

C. Shipping Address

Customers shall return the Fuel Flow Transmitters to the address below, with a shipper of their choice:

ELDEC Corporation
Warranty and Repair Dept.
16706 13th Ave. West
Lynnwood, WA 98037-8597
U.S.A.

Telephone: 425-743-8151

For international returns that must clear customs, please use the information that follows:

Airport of Destination: SEA

Customs Broker:
UPS Supply Chain Solutions
Auburn, WA 98001
U.S.A.

Telephone: 253-872-4241

D. Technical Information

For technical questions please contact the Product Support Representative at:

ELDEC Corporation
PO Box 97027
Lynnwood, WA 98046-9727
U.S.A.

Telephone: 425-743-8168
Facsimile: 425-743-8234
Email: pubs@eldec.com
Internet: http://www.eldec.com