

International Aero Engines

RR-DERBY

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DATER Feb.10/03

V2500-A1/A5 SERIES NACELLE SERVICE BULLETIN

This document transmits Revision 1 to Service Bulletin EV2500-79-0065

Document History

Service Bulletin Revision Status Initial Issue Jan.25/02 Supplement Revision Status

Bulletin Revision 1

Remove Incorporate
All pages of the Pages 1 to 7 of the
Service Bulletin Service Bulletin

Reason for change To reflect Revision 2 of Meggitt/Vibro-Meter Inc. vendor SB 79-31-15-01.

Printed in Great Britai

LIST OF EFFECTIVE PAGES

The effective pages to this Service Bulletin following incorporation of Revision 1 are as follows:

<u>Page</u>		<u>Revision Number</u>	Revision Date
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В	iccecin		
R	1	1	Feb.10/03
R	2	1	Feb.10/03
R	3	1	Feb.10/03
R	4	1	Feb.10/03
R	5	1	Feb.10/03
R	6	1	Feb.10/03
R	7	1	Feb.10/03

NACELLE - POWERPLANT - INTRODUCTION OF IMPROVED OIL QUANTITY TRANSMITTER

1. Planning Information

A. Effectivity

- (1) Aircraft:
 - (a) A319
 - (b) A320
 - (c) A321

(2) Nacelle:

- (a) All V2500-A1 Engines.
- (b) V2522-A5 Engines prior to Engine Serial Number V11160.
- (c) V2524-A5 Engines prior to Engine Serial Number V11160.
- (d) V2527-A5 Engines prior to Engine Serial Number V11160.
- (e) V2527E-A5 Engines prior to Engine Serial Number V11160.
- (f) V2527M-A5 Engines prior to Engine Serial Number V11160.
- (g) V2530-A5 Engines prior to Engine Serial Number V11160.
- (h) V2533-A5 Engines prior to Engine Serial Number V11160.

B. Concurrent Requirements

None.

C. Reason

(1) Problem

Several Operators have reprted incidents where the Oil Quantity Transmitter has given incorrect readings. Fluctuating or loss of oil tank contents have been reported from the flight deck of affected aircraft. Further investigation has revealed that the attaching wiring from the PCB through the flange can become loose and short circuit to the capacitance tube.

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Investigation by Meggit/Vibro-meter has shown that by replacing the current anodised tube with a new tin tube, and by improving the wire management and attachment to the circuit board the reliability of the Oil Quantity Transmitter has been improved.

(3) Substantiation

Airbus flight test of the improved Oil Quantity Transmitter has taken place and has proved to be satisfactory.

(4) Objective

To introduce a new Oil Quantity Transmitter with improved reliability characteristics. The improvements to the Oil Quantity Transmitter are as follows:

- (a) Introduction of a tin-plated tube that allows for the staking and soldering of the electrical connections.
- (b) A change to the PCB and Flange/Header Assembly to reduce the possibility of damaged wiring and electrical short circuits.
- (c) Direct soldering of the wires to the PCB to avoid stressing of the electrical connectors.
- (5) Effect of Bulletin on:
 - (a) Operation

Not affected

(b) Maintenance

Not affected

(c) Overhaul

Not affected

(d) Repair Schemes

Not affected

(e) Interchangeability

Not affected

(6) Supplemental Information

None.

D. <u>Description</u>

(1) The 4002EN-A connector is disconnected and the bolts that attach the 76-167-2 Oil Quantity Transmitter are removed. A new or replacement 76-167-4 Oil Quantity Transmitter and new Seal is then installed and reconnected.

E. Compliance

Category Code 7

Accomplish when the supply of superseded parts has been depleted.

F. Approval

The part number changes and/or part modification 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 Models listed.

G. Manpower

Estimated man-hours to incorporate the intent of this Service Bulletin on each engine:

- (1) In service
 - (a) To gain access

0.25 M/Hr

(b) To embody

0.75 M/Hr

Total - 1.00 M/Hr

NOTE: Man-hour estimate is provided for planning purposes only. No

labour reimbursement is provided under the terms of this

service bulletin.

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

overhaul.

H. Material Price and Availability

Refer to Section 2 Material Information for prices and availability of future spares.

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I. Tooling Price and Availability

Special tools are not required.

J. Weight and Balance

(1) Weight Change

None.

(2) Moment Arm

No effect.

(3) Datum

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

K. Electrical Load Data

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

L. <u>Software Accomplishment Summary</u>

Not applicable.

M. References

- (1) A320/V2500-A1 A319/A320/A321/V2500-A5 Aircraft Maintenance Manual (M-V2500-1IA) 79-31-15
- (2) IAE Engineering Change EC OOVN752A
- (3) Meggitt/Vibro-Meter Service Bulletin 79-31-15-01 Rev 2
 - (4) Airbus Aircraft Modification No. 21820
 - (5) ATA Locator 79-00-00

N. Other Publications Affected

(1) A319/A320/A321/V2500-A1 Engine Illustrated Parts Catalogue - all models - 79-31-15

0. Interchangeability of Parts

(1) Not affected.

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2. Material Information

A. Material Cost and Availability

None.

B. <u>Kits associated with this Bulletin:</u>

None.

C. Parts affected by this Bulletin:

79-31-15

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
01-030	76-167-4	1	Transmitter, Oil Qty	-	76-167-2	(A)(S1) (S2)(1D)
01-040	AS43013-145	1	Seal	-	AS43013-145	

D. <u>Instruction/Disposition Codes</u>

- (A) New part is currently available.
- (S1) New part coded (S1) must replace old part coded (S1) as a complete set.
- (S2) New parts coded (S2) are fully interchangeable physically with old parts coded (S2).
- (1D) Return old part to the following address:
- R Vibro-Meter Inc
- R 10 Ammon Drive
- R Manchester, NH 03109
- R Attention: Repair Department
 - (2D) Discard old part.
 - E. <u>Materials Required to Incorporate this Service Bulletin:</u>

None.

F. Tooling - Cost and Availability

None required.

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3. Accomplishment Instructions

A. Rework/Modification Instructions

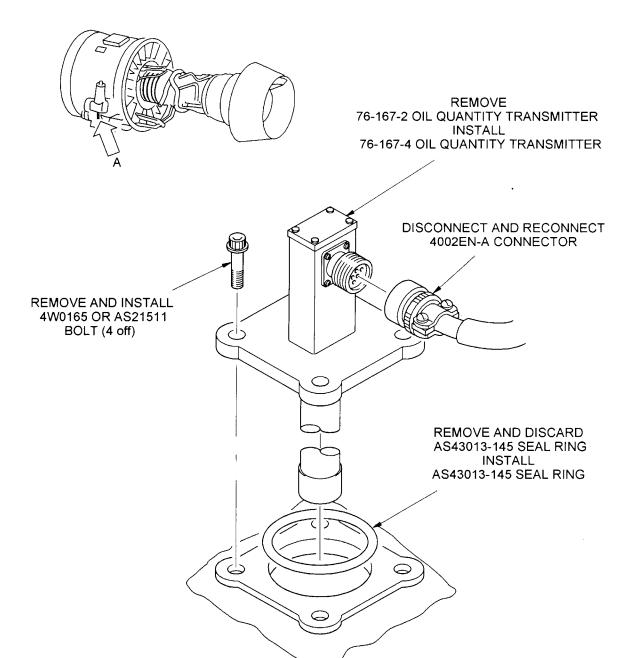
- (1) Remove the Oil Quantity Transmitter 76-167-2 as instructed in the Aircarft Maintenance Manual, Chapter Section 79-31-15 Removal/Installation. (Refer to Figure 1)
- R (2) Return the Oil Quantity Transmitter 76-167-2 to Vibro-Meter Inc. for re-work in accordance with Meggitt/Vibro-Meter Service Bulletin 79-31-15-01 Rev 2. Refer to Section 2.D. for shipping details.
 - (3) Install the new 76-167-04 Oil Quantity Transmitter as instructed in the Aircraft Maintenance Manual, Chapter Section 79-31-15 Removal/Installation.

B. Recording Instructions

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(1) Record in the aircraft log or other records that Service Bulletin V2500-ENG-79-0065 Revision 1 has been incorporated.

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Removal and Installation of Oil Quantity Transmitter Figure 1

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V2500-ENG-79-0065

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CHAPTER 79 - OIL PRODUCT IMPROVEMENT MODIFICATIONS

IAE V2500 A1/A5 Engines

OIL QUANTITY TRANSMITTERS

Part Number : 76-167-2

1. PLANNING INFORMATION

A. Effectivity

- (1) This modification affects the Oil Quantity Transmitter (OQT) installed on IAE V2500 A1/A5 engines as follows:
- (2) Part Number: 76-167-2.
- (3) The objective of this modification is to provide a more reliable OQT, that provides a more consistent indication on cockpit displays.

B. Concurrent Requirement

(1) None

C. Reason

- (1) Operators have found that the oil quantity indication has been inconsistent on the cockpit display.
- (2) It has been found by Vibro-Meter Inc, that the method of attaching wiring from the PCB through the flange and to the tube can become loose and may cause a short to the capacitance tube.
- (3) This problem is solved by two possible modifications, at operators' choice :
 - (a) Modification into -2 "N" configuration: Through improved wire management and replacement of anodized tubes with tin-plated tubes that allow for better solder adhesion operators can expect original design expectations for the transmitter.
 - (b) **Modification into -4 configuration :** The -4 configuration incorporates all the design improvements resulting from Vibro-Meter's lessons learned on all oil quantity transmitters currently in service. Operators

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incorporating the full upgrade to the current -4 configuration can expect a longer service life resulting from incorporation of all the design improvements.

D. Description

- (1) The various configurations of the OQT are shown in Figure 1 : Serial Number Description, page 3.
- (2) For more details, refer to section H., or get in contact with one of the Vibro-Meter Customer Support Centers as follows:

Support for Europe, Africa, Asia and Australasia:

Vibro-Meter SA Phone : + 41 (26) 407 15 47 Route de Moncor, 4 Fax : + 41 (26) 407 15 55

CH - 1701 FRIBOURG SITA : ZRHVM8X

SWITZERLAND

Attn: Marc Duchesne, E-mail: marc.duchesne@vibro-meter.com

Aerospace Customer Support

Manager

Support for North, Central and South America:

Luis Reyes Phone : + 1 (626) 852 94 03 Vibro-Meter Division Fax : + 1 (626) 852 94 06

1822 East Rte. 66 Street

PMB 209

Glendora, CA 91740

USA

Attn: Luis Reyes, E-mail: luisvmla@aol.com

Field Support Manager

E. Approval

(1) The part number changes and/or part modifications described in this service bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA approved for the equipment models listed.

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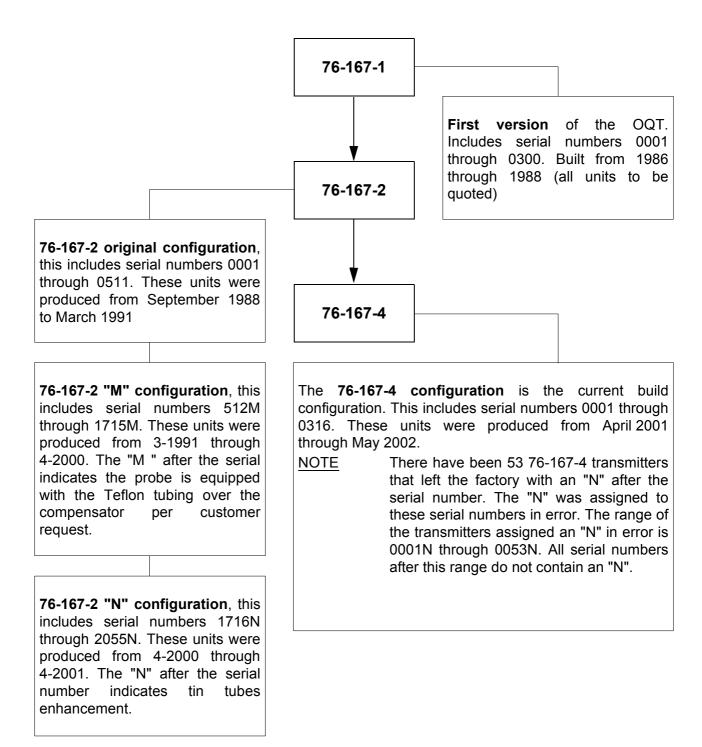


Figure 1: Serial Number Description

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F. Compliance

(1) Compliance is at customer's convenience, but this service bulletin recommends that operators comply with the programs shown in section H.

G. Manpower

(1) The modification of the OQT being done at one of the Vibro-Meter's AMO Centers, no operator additional manpower is necessary.

H. Material Cost and Availability

- (1) All 76-167-2 transmitters returned that are the "original" or the "M" configuration regardless of warranty status, will be upgraded to the "N" configuration free of charge. This modification will restore the transmitter's initial design reliability.
- (2) All 76-167-2 transmitters that are received within the original factory warranty period will be upgraded to the -4 configuration free of charge. All 76-167-2 transmitters returned that are out of the original warranty period will be charged \$1700.00 USD for the upgrade to the 76-167-4 configuration. This includes transmitters that are the original, "M", and "N" configuration. This will upgrade the transmitter to optimum reliability achievable through Vibro-Meter's lessons learned.

NOTE 1: Units that have been previously upgraded to the free of charge "N" configuration are not eligible for warranty free of charge upgrade to the 76-167-4 configuration. Only

transmitters that are under the original manufacture warranty are eligible for the free of charge upgrade.

NOTE 2: All programs will be valid until December of 2005. All units received after this date will be quoted accordingly.

I. Tooling - Price and Availability

(1) No special tooling is required to perform this modification.

J. Weight and Balance

(1) This modification has no effect on weight and balance.

K. Electrical Load Data

(1) Not affected.

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L. References

(1) IAE Service Bulletin: V2500-ENG-7900-65

(2) Component Maintenance Manual: 79-31-15

M. Other Publications Affected

(1) CMM 79-31-15 will be revised to incorporate this modification.

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2. **ACCOMPLISHMENT INSTRUCTIONS**

Α. **Shipment**

(1) Prepare the OQT for shipment in proper shipping materials.

(2) Ship the OQT to one of the Vibro-Meter AMO Centers as follows:

Support for Europe, Africa, Asia and Australasia:

Vibro-Meter SA Phone: + 41 (26) 407 15 47 Fax : + 41 (26) 407 15 55 SITA : ZRHVM8X Route de Moncor, 4

CH - 1701 FRIBOURG

SWITZERLAND

E-mail: repairs.ch@vibro-meter.com Attn: Nicola Aloe,

Repair Station Manager

Support for North, Central and South America:

Vibro-Meter Inc. Phone: + 1 (603) 669 0940 (ext. 294)

10 Ammon Drive Fax : +1 (603) 666 3711

MANCHESTER

E-mail: New Hampshire repairs.us@vibro-meter.com

03103-7406

U.S.A

Attn: Mike Demers

Technical Support Manager

В. **Recording Instructions**

All 76-167-2 transmitters (original configuration or "M" configuration) that are returned to Vibro-Meter Inc. for repair will receive tin tubes free of charge. These modified transmitters will receive an "N" stamped after the transmitter's serial number. Operators who wish to incorporate the full upgrade to a 76-167-4 will receive the transmitter with a new part number and new serial number.

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3. MATERIAL INFORMATION

A. Modification of a P/N 76-167-2 to the "N" Configuration

(1) The material required for the modification of a 76-167-2 transmitter to the "N" configuration is given in

Table 1: Material for the Modification of a 76-167-2 Transmitter

Description	Old P/N	New P/N
Anodized Tube	76-167-1103	76-167-3103

B. Full Upgrade of a P/N 76-167-2 to the P/N 76-167-4 Configuration

(1) The material required for the full upgrade of a 76-167-2 transmitter to the 76-167-4 configuration is given in

Table 2: Material for the Full Upgrade to P/N 76-167-4

Description	Old P/N	New P/N	
РСВ	76-167-1170	76-167-4170	
Flange	76-167-2102 ^a	76-167-4102	
Header	EJH618/40W-HS-4A	H618R/40W-PP-4A	
Wires	24 gauge	22 Gauge	
Nameplate	MDP914-8	MDP914-12	

a. Flange part number changing from 76-167-2102 to 76-167-4102 reflects the replacement of the header part number EJH618/40W-HS-4A to H618R/40W-PP-4A . This upgrade does not include a new flange for the transmitter.

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