

International Aero Engines SERVICE BULLETIN

ENGINE FUEL AND CONTROL - FUEL METERING UNIT - INTRODUCTION OF A WOODWARD
GOVERNOR COMPANY FUEL METERING UNIT WITH REVISED MICROSWITCHES

MODEL APPLICATION

V2522-A5
V2524-A5
V2527-A5
V2527E-A5
V2527M-A5
V2530-A5
V2533-A5
V2525-D5
V2528-D5

BULLETIN INDEX LOCATOR

73-22-00

Compliance Category Code

6

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Internal Reference No.

EC98VI003

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ENGINE FUEL AND CONTROL - FUEL METERING UNIT - INTRODUCTION OF A WOODWARD GOVERNOR COMPANY FUEL METERING UNIT WITH REVISED MICROSWITCHES

1. Planning Information

A. Effectivity

(1) Aircraft:-

- (a) Airbus A319
- (b) Airbus A319CJ
- (c) Airbus A320
- (d) Airbus A321
- (e) Boeing-Douglas Product Division MD-90

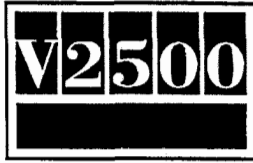
(2) Engines:-

- (a) V2522-A5 Engines prior to Serial Number V10650
- (b) V2524-A5 Engines prior to Serial Number V10650
- (c) V2527-A5 Engines prior to Serial Number V10650
- (d) V2527E-A5 Engines prior to Serial Number V10650
- (e) V2527M-A5 Engines prior to Serial Number V10650
- (f) V2530-A5 Engines prior to Serial Number V10650
- (g) V2533-A5 Engines prior to Serial Number V10650
- (h) V2525-D5 Engines prior to Serial Number V20286
- (i) V2528-D5 Engines prior to Serial Number V20286

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B. Reason

(1) Condition

Premature deterioration of the Fuel Metering Unit (FMU) Shut Off Valve (SOV) and/or Overspeed Valve (OSV) microswitch operating mechanism may occur.

The problem is attributed to lack of pre-load between the microswitch leaf spring assembly and the Vespel ball, also resonances in the leaf spring, allow the Vespel ball to vibrate in service, causing wear on the extension piece of the leaf spring assembly. The wear debris produced can inhibit movement of the ball in its guide, thus preventing correct operation of the microswitches.

(2) Background

The problems have been reported on in-service units.

(4) Objective

Incorporation of this modification is designed to maintain unit reliability.

(3) Substantiation

The changes introduced by this modification have been the subject of satisfactory engineering analysis and successful vendor rig testing.

(5) Effect of Bulletin on:

(a) Operation

Not affected

(b) Maintenance

Not affected

(c) Overhaul

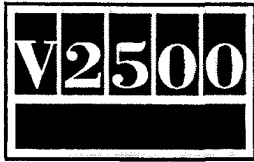
Not affected

(d) Repair Schemes

Not affected

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(e) Interchangeability

Not affected

(f) Fits and Clearances

Not affected

C. Description

- (1) This modification covers the fitment of an FMU incorporating Vendor Service Bulletin No. WG83724-73-0151.
- (2) The SOV and OSV microswitch pairs in the Woodward Governor Company FMU have been revised to reduce the potential for leaf spring assembly wear.
 - (a) The changes to the microswitch assemblies are:-
 - (i) The free height setting of the leaf spring assembly has been increased.
 - (ii) The number of spot welds attaching the extension piece to the leaf spring has been increased from 2 to 4, to increase stiffness.
 - (iii) The material of the leaf spring extension piece has been changed to provide increased wear resistance.
- (3) Existing FMU's may be reworked - Refer to vendor Service Bulletin.
- (4) Units incorporating this Service Bulletin will be identified by endorsement of the Service Bulletin plate with 73-0151.

D. Compliance

Category Code 6

Accomplish when the sub-assembly (i.e. modules, accessories, components, build groups) is disassembled sufficiently to afford access to the affected part and to all affected spare parts.

E. 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 Model Listed.

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F. Manpower

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

<u>Venue</u>	<u>Estimated Man-hours</u>
In Service	Not applicable
At overhaul	No more time is necessary to do this Service Bulletin.

NOTE: It is possible to get access to the parts affected by this Service Bulletin at overhaul.

G. Material Price and Availability

- (1) A modification kit is not necessary.
- (2) Refer to 2. Material Information section for prices and availability of spares.

H. Tooling - Price and Availability

Special tools are not required to accomplish this Service Bulletin.

J. Weight and Balance

- | | |
|-------------------|---|
| (1) Weight Change | None |
| (2) Moment arm | No effect |
| (3) Datum | Engine front mount centerline (Powerplant Station-P.P.S. 100) |

K. Electrical Load Data

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

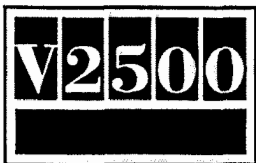
M. References

- (1) IAE V2500 Service Bulletin:

ENG-73-0108	Engine Fuel and Control - Fuel Metering Unit - Commonisation of Woodward Governor Company fuel meter.
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ENG-73-0157 Engine Fuel and Control - Fuel Metering Unit - Introduction of a Woodward Governor Company fuel metering unit with revised maximum fuel flow stop (Airbus A320-232/233 applications).

ENG-73-0158 Engine Fuel and Control - Fuel Metering Unit - Introduction of a Woodward Governor Company fuel metering unit with revised maximum fuel flow stop (Airbus A319-131/132 and A319CJ-131/132 applications).

(2) Vendor Service Bulletin

83724-73-0151 Fuel and Control – Fuel metering unit (FMU) – Replacement of switches, P/N 1715-254

(3) Refer to Airbus Aircraft Modification 21820.

(4) A5 Engine Manual (EM), Chapter/Section 72-00-60, Removal-06 CONFIG-02 and Installation-06 CONFIG-02.

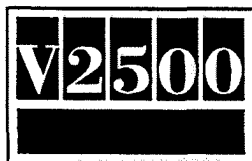
(5) D5 Engine Manual (EM), Chapter/Section 72-00-60, Removal/Installation-06.

(6) A319/A320/A321 Aircraft Maintenance Manual (AMM), Chapter/Section 73-22-52, Removal/Installation CONFIG-02.

(7) MD-90 Aircraft Maintenance Manual (AMM), Chapter/Section 73-21-52, Removal/Installation

N. Other Publications Affected

(1) Illustrated Parts Catalogue (IPC), Chapter/Section 73-22-52.



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2. Material Information

Applicability : For each V2500 engine to incorporate this Bulletin.

A. Kits associated with this Bulletin:-

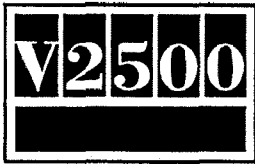
None.

B. Units affected by this Bulletin:-

NEW PART No. (ATA No.)	QTY	EST'D UNIT PRICE (\$)	PART TITLE	OLD PART No. (IPC No.)	INSTR DISP
<u>V2522-A5, V2524-A5, V2527-A5, V2527E-A5 and V2527M-A5 Models only</u>					
8061-633 (73-22-52)	1		.Meter, fuel (V66503)	8061-633 (01-100)	(A)(S1)(1D)
<u>V2530-A5, V2533-A5, V2525-D5 and V2528-D5 Models only</u>					
8061-632 (73-22-52)	1		.Meter, fuel (V66503)	8061-632 (01-100)	(A)(S1)(1D)
<u>For V2522-A5 and V2524-A5 Models pre-service bulletin ENG-73-0158</u>					
8061-627 (73-22-52)	1		.Meter, fuel (V66503)	8061-627 (01-100)	(A)(S1)(1D)
<u>For V2527-A5 and V2527E-A5 Models pre-service bulletin ENG-73-0157</u>					
8061-632 (73-22-52)	1		.Meter, fuel (V66503)	8061-632 (01-100)	(A)(S1)(1D)
<u>For V2525-D5 and V2528-D5 Models pre-service bulletin ENG-73-0108</u>					
8061-626 (73-22-52)	1		.Meter, fuel (V66503)	8061-626 (01-100)	(A)(S1)(1D)

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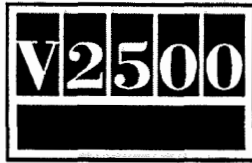


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NOTE: The unit prices, if shown, are an estimate and they are given for the purpose of planning only.
For actual prices, refer to IAE Price Catalog or contact IAE's spare parts sales department.

C. Instruction/Disposition Code Statements

- (A) New standard of unit will be available from September 1999.
- (S1) Old and new standards of unit are freely and fully interchangeable.
- (1D) Old standard of unit may be reworked.



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3. Accomplish Instructions

A. Rework Instructions

Refer to vendor Service Bulletin (reference 1.M(2))

B. Assembly Instructions

None

C. Recording Instructions

- (1) A record of accomplishment is necessary. Refer to vendor service bulletin.

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