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: Feb.17/10

V2500-A5/D5 SERIES PROPULSION SYSTEMS SERVICE BULLETIN

This document transmits the Initial Issue of Service Bulletin V2500-ENG-73-0215, the Initial Issue of the Supplement and the Initial Issue of Woodward Governor Company Service Bulletin 83724-73-0215.

Service Bulletin Initial Issue

Remove	Incorporate	Reason for change
	Pages 1 to 6 of the IAE Service Bulletin V2500-ENG-73-0215.	Initial Issue.
	Woodward Governor Company Service Bulletin 83724-73-0215.	Initial Issue.

Supplement Initial Issue

Remove	Incorporate	Reason for change
	Page 1 of the Supplement.	Initial Issue.

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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 METERING UNIT (FMU) – TURBINE OVER SPEED VALVE – INTRODUCTION OF A MODIFIED ELECTRO-HYDRAULIC SERVO VALVE COMPARTMENT HEAT SHIELD

1. Planning Information

A. Effectivity

(1) Airbus A319

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

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

(i) Fuel Metering Unit (FMU) P/N 8061-627, P/N 8061-633 and P/N 8061-636.

NOTE: Fuel Metering Unit (FMU) P/N 8061-627 is only applicable for V2522-A5 and V2524-A5 engines.

(2) Airbus A320

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

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

(i) Fuel Metering Unit (FMU) P/N 8061-632*, P/N 8061-633 and P/N 8061-636.

NOTE: * This FMU/Engine rating combination is subject to FAA NWM AD 2000-11-25.

(3) Airbus A321

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

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

(i) Fuel Metering Unit (FMU) P/N 8061-632 and P/N 8061-637.

(4) Boeing MD-90

(a) All V2525-D5, V2528-D5 Engines.

(i) Fuel Metering Unit (FMU) P/N 8061-626 and P/N 8061-632.

B. Concurrent Requirements

None.

C. Reason

(1) Problem

There have been several fractures of the turbine over speed valve switch activation rod resulting in Woodward Fuel Metering Unit (FMU) overspeed protection faults being set by the Engine Electronic Control (EEC). The condition is caused by insufficient clearance between the turbine over speed valve switch activation rod and the heat shield of the electro-hydraulic servo valve.

(2) Evidence

There have been EEC fault messages, which have caused the removal of the FMU.

(3) Objective

Incorporation of this Service Bulletin is designed to provide sufficient clearance between the turbine over speed valve switch activation rod and the heat shield of the electro-hydraulic servo valve compartment.

(4) Substantiation

The changes introduced by this Service Bulletin were the subject of satisfactory engineering analysis. This Service Bulletin complies with the applicable engine certification basis.

(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.

(f) Fits and Clearances

Not affected.

D. Description

This Service Bulletin introduces a FMU with a re-shaped heat shield for the electro-hydraulic servo valve compartment, to provide sufficient clearance for the operation of the turbine over speed valve activation rod.

E. Compliance

Category Code 6

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

F. Approval

The part modifications described in sections 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

(1) In Service

2 hours.

(2) At Overhaul

Applicable (hours not affected).

H. Material Price and Availability

Modification kit is not required; parts supplied as single line items.

For prices and availability of spares, refer to supplement to this Service Bulletin.

I. Tooling Price and Availability

Special tools are not required.

J. Industry Support Information

Not applicable.

K. Weight and Balance

(1) Weight Change

None.

(2) Moment Arm

No effect.

(3) Datum

ES2540 (PPS 100).

L. Electrical Load Data

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

M. Software Accomplishment Summary

Not applicable.

N. References

(1) IAE V2500 Engine Manual (E-V2500-1IA/3IA), Chapter 72-00-60.

(2) Internal Reference No.

Engineering Change No. 09VI007.

(3) ATA Locator - 73-22-52.

O. Other Publications Affected

None.

P. Interchangeability of Parts

Not affected.

2. Material Information

A. The kit required consists of the following parts:

None.

B. Parts to be reworked:

None.

C. New production parts:

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
73-22-52						
A5 Models						
01-100	8061-627	1	.Fuel Metering Unit (FMU)	-	8061-627	(A)
01-100	8061-632	1	.Fuel Metering Unit (FMU)	-	8061-632	(A)
01-100	8061-633	1	.Fuel Metering Unit (FMU)	-	8061-633	(A)
01-100	8061-636	1	.Fuel Metering Unit (FMU)	-	8061-636	(A)
01-100	8061-637	1	.Fuel Metering Unit (FMU)	-	8061-637	(A)
D5 Models						
01-100	8061-626	1	.Fuel Metering Unit (FMU)	-	8061-626	(A)
01-100	8061-632	1	.Fuel Metering Unit (FMU)	-	8061-632	(A)

D. Redundant parts:

None.

E. Instruction disposition codes:

(A) Part number not changed with this Service Bulletin.

3. Accomplishment Instructions

A. Rework Instructions

(1) Refer to the attached Woodward Governor Company Service Bulletin 83724-73-0215.

B. Assembly Instructions

(1) Make a check that the Fuel Metering Unit (FMU) data plate does not contain V2500-ENG-73-0215.

(2) For the correct Removal/Installation procedure of the FMU, refer to one of the manuals that follow:

(a) A319/320/321 Aircraft Maintenance Manual, Chapter/Section 73-22-52, Removal/Installation.

(b) MD90 Aircraft Maintenance Manual, Chapter/Section 73-21-52, Removal/Installation.

(c) IAE V2500-A5/D5 Engine Manual, Chapter/Section 72-00-60, Removal/Installation.

(i) Refer to the related Manual tasks given in this instruction.

(3) Remove the old FMU and return it to the manufacturer or authorised repair facility for modification in accordance with the attached Woodward Governor Company Service Bulletin 83724-73-0215.

(4) Install a FMU modified in accordance with Service Bulletin V2500-ENG-73-0215.

(5) For further information, refer to the attached Woodward Governor Company Service Bulletin 83724-73-0215.

C. Recording Instructions

(1) A record of accomplishment is required.

SERVICE BULLETIN

ENGINE – FUEL METERING UNIT (FMU) – TURBINE OVER SPEED VALVE – INTRODUCTION OF A MODIFIED ELECTRO-HYDRAULIC SERVO VALVE COMPARTMENT HEAT SHIELD

SUPPLEMENT – PRICES AND AVAILABILITY

The prices (if 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 catalogue for current prices.

1. Modification Kit:

Not applicable.

2. New Production Parts:

Part No.	Description	Unit Price US Dollars
8061-626	.Fuel Metering Unit (FMU)	P.O.A.
8061-627	.Fuel Metering Unit (FMU)	P.O.A.
8061-632	.Fuel Metering Unit (FMU)	P.O.A.
8061-633	.Fuel Metering Unit (FMU)	P.O.A.
8061-636	.Fuel Metering Unit (FMU)	P.O.A.
8061-637	.Fuel Metering Unit (FMU)	P.O.A.

3. Tools

None.

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SERVICE BULLETIN

ENGINE FUEL AND CONTROL - FUEL METERING UNIT (FMU) - Incorporation of Electrical Cover

1. Planning Information

A. Effectivity

This Service Bulletin affects the following Fuel Metering Units manufactured by Woodward Aircraft Engine Systems: 8061-626, 8061-627, 8061-632, 8061-633, 8061-636 and 8061-637.

The V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2527M-A5, V2530-A5, V2533-A5, V2525-D5, and V2528-D5 engines are affected.

B. Concurrent Requirements

Not applicable.

C. Reason

Objective: To inform users a product improvement is being introduced for overspeed fault reduction.

Condition: Several field returns for overspeed faults have been attributed to the overspeed valve switch activation rod (3100-1025).

Cause: Interference between the overspeed valve switch activation rod and the electrical cover (4061-330) results in cracking and separation of the switch rod head from the body. The separation of the head on the switch rod prevents switch activation which results in an EEC fault. Except for the switch indication, no other overspeed functions are affected.

Improvement: A new electrical cover (3550-1563) has been released and includes a new raised feature above the switch activation rod to alleviate all interference potential.

Substantiation: Engineering evaluation has confirmed that the proposed design will provide sufficient clearance for the overspeed switch activation rod with no change to the function and reliability of the electrical cover.

D. Description

This Service Bulletin introduces a new replacement electrical cover for all Woodward V2500 FMU's.

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USA

E. Compliance

Category 6 - Accomplish when the subassembly (i.e. modules, accessories, components, build groups) is disassembled sufficiently to afford access to the affected spare parts.

F. Approval

S/B 83724-0215 has been technically approved by IAE on October 1, 2009 in accordance with appropriate FAR regulations and the technical data is FAA approved for those units listed herein.

G. Manpower

An estimated 1.5 hours, not including test, is required to perform this service bulletin.

H. Weight and Balance

Nominally the new cover P/N 3550-1563 is approximately .001 lbs. heavier than the previous cover P/N 4061-330. All other affected components are unchanged. Because dimensional tolerance factor of the cover is much greater than the increase in weight nominally, the changes in weight and balance are negligible.

I. Electrical Load Data

Not applicable.

J. Software Accomplishment Summary

Not applicable.

K. References

Woodward Aircraft Engine Systems Component Maintenance Manual 73-28-06.

Woodward Aircraft Engine Systems Engineering Change E/C R- 1126996 (for internal use only).

Woodward Aircraft Engine Systems service bulletin 83724-73-0191.

L. Other Publications Affected

Not applicable.

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2. Material Information

A. Material - Price and Availability

Contact Woodward Aircraft Engine Systems for part availability and pricing.

Woodward Aircraft Engine Services
5001 North Second Street
P.O. Box 7001
Rockford, IL 61125-7001
USA
Telephone: 815-877-7441

B. Industry Support Information

Not applicable.

C. Material Necessary for Each Aircraft/Engine/Component

Part Name	Replacement Part Number	IPL Figure and Item Number	Number of Replacement Parts Needed for Each Affected Component
Electrical Cover	3550-1563	1 070	1
Cover Packing	1355-794	1 100	1
Overspeed Valve Switch Activation Rod	3100-1025	1 010A	1
Overspeed Valve Dry Drain Seals	1391-332	6 110 6 140	2
Overspeed Valve Dry Drain Packing	182658	6 120 6 150	2

D. Material Necessary for Each Spare

Part Name	Replacement Part Number	IPL Figure and Item Number	Number of Replacement Parts Needed for Each Affected Component
Electrical Cover	3550-1563	1 070	1
Cover Packing	1355-794	1 100	1
Overspeed Valve Switch Activation Rod	3100-1025	1 010A	1

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Part Name	Replacement Part Number	IPL Figure and Item Number	Number of Replacement Parts Needed for Each Affected Component
Overspeed Valve Dry Drain Seals	1391-332	6 110 6 140	2
Overspeed Valve Dry Drain Packing	182658	6 120 6 150	2

E. Reidentified Parts

Part Name	Old Part Number	Replacement Part Number
Electrical Cover	4061-330	3550-1563

F. Tooling - Price and Availability

Not applicable.

3. Accomplishment Instructions

NOTE: It is recommended that service bulletin 83724-73-0191 be completed prior to completion of service bulletin 83724-73-0215.

(1) Remove electrical cover P/N 4061-330, as specified in CMM 73-28-06, to gain access to the overspeed valve switch activation rod P/N 3100-1025.

(2) Check cover for marks associated with rod and cover interference similar to figure below (see Figure below).

- If interference exists, continue to step 3.
- If interference does not exist, continue to step 8.

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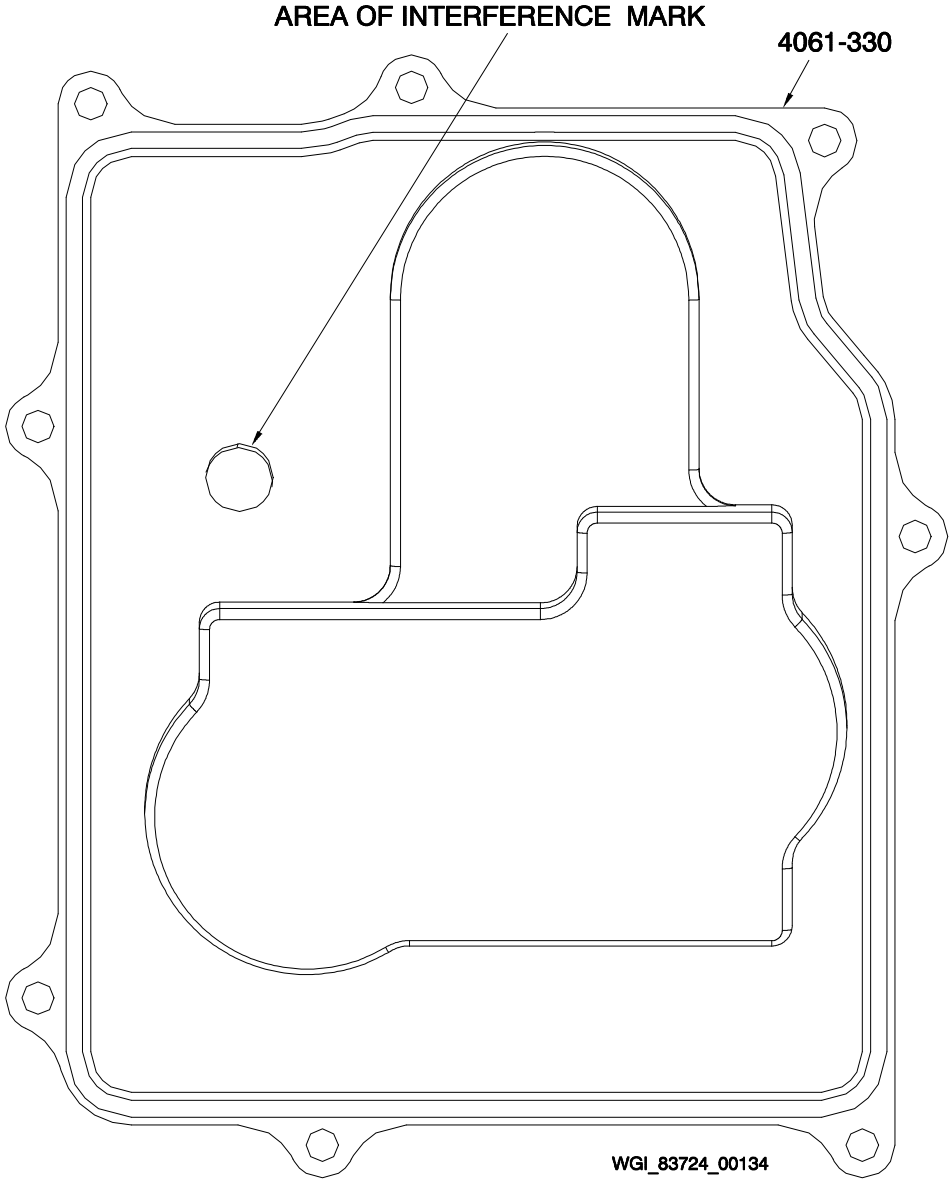

Cover Interference Marks
(Sheet 1 of 1)

(3) Remove the overspeed valve switch activation rod P/N 3100-1025 and discard.

(4) Disassemble the FMU to gain access to the overspeed valve dry drain seals P/N 1391-332 (quantity 2) and P/N 182658 (quantity 2).

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(5) Remove and discard the overspeed valve dry drain seals P/N 1391-332 (quantity 2) and P/N 182658 (quantity 2).

(6) Install replacement overspeed valve dry drain seals P/N 1391-332 (quantity 2) and P/N 182658 (quantity 2).

(7) Install replacement overspeed valve switch activation rod P/N 3100-1025.

(8) Install replacement cover packing P/N 1355-794 and new electrical cover P/N 3550-1563.

(9) Discard old cover P/N 4061-330 and cover packing P/N 1355-796.

(10) Finish assemble the FMU.

(11) Test the FMU as specified in TESTING AND FAULT ISOLATION.

(12) Mark the Service Bulletin dataplate 73-0215.