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**V2500-A5 PROPULSION SYSTEM SERVICE BULLETIN**

Printed in Great Britain

This document transmits the Initial Issue of Service Bulletin EV2500-73-0182

Bulletin Initial Issue

Remove

Incorporate  
Pages 1 to 10 of the  
Service Bulletin

Reason for change  
Initial issue

**V2500-ENG-73-0182**  
Transmittal - Page 1 of 2

CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED  
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# LIST OF EFFECTIVE PAGES

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ENGINE FUEL AND CONTROL – FUEL METERING UNIT – INTRODUCTION OF A WOODWARD AIRCRAFT  
ENGINE SYSTEMS (WAES) FMU WITH REVISED TAMPER PROOFING FOR THE FUEL METERING VALVE  
(FMV) MAX. FUEL FLOW STOP AND THE FMU NAMEPLATE

1. Planning Information

A. Effectivity

- (1) Airbus A319

V2522-A5, V2524-A5, V2527M-A5 Engines prior to Serial No.V11375

- (2) Airbus A320

V2527-A5, V2527E-A5 Engines prior to Serial No.V11375

- (3) Airbus A321

V2530-A5, V2533-A5 Engines prior to Serial No.V11375

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

B. Concurrent Requirements

None.

C. Reason

- (1) Condition

The current standard of Fuel Metering Unit (FMU) employs anti-tamper features for the Fuel Metering Valve (FMV) switchable max. fuel flow stop and FMU nameplate. To meet the service entry date demanded by Airbus, interim standard anti-tamper features were adopted. The Vendor has now made available a revised standard of the above unit with improved anti-tamper features.

- (2) Background

See (1) above.

- (3) Objective

Incorporation of this Service Bulletin (Modification) is designed to optimise unit tamper proofing.

- (4) Substantiation

The changes introduced by this Service Bulletin have been the subject of satisfactory engineering analysis and successful vendor trials.



(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

- (1) This Service Bulletin covers the fitment to engines of a FMU supplied by Woodward (WAES) incorporating design changes to improve unit tamper proofing.
- (2) A revised Woodward (WAES) FMU is introduced similar to the existing unit except for the following changes to the locking wire, in order to optimise the routing:
  - (a) Two locking wire holes are introduced onto the hexagon of the unit switchable assembly.
  - (b) One locking wire hole is introduced onto the FMU body.
  - (c) Optional safety cable is introduced to tamper proof the switchable assembly.
- (3) Existing units may be returned to the vendor and reworked to incorporate this modification.
- (4) Units incorporating this Service Bulletin (Modification) will be identified by endorsement of the modification plate with 73-0182.



E. Compliance

Category Code 7

Accomplish when supply of superseded parts has been depleted.

F. Approval

The part number changes and/or 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

In service

Not affected.

At overhaul

Not affected.

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

H. Material Price and Availability

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

I. Tooling Price and Availability

Special tools are not required.

J. Industry Support Information

None.

K. Weight and Balance

(1) Weight Change

None.

(2) Moment Arm

No effect.

(3) Datum

Engine Front Mount Centreline (Power Plant Station - PPS 100).



L. Electrical Load Data

The aircraft electrical load is not affected by this Service Bulletin.

M. Software Accomplishment Summary

Not applicable.

N. References

- (1) Aircraft Maintenance Manual, 73-22-52 (A5) (Airbus).
- (2) Woodward CMM 73-28-06.
- (3) Woodward Aircraft Engine Systems Service Bulletin 83724-73-0182.
- (4) Airbus Aircraft Modification No. 32648.
- (5) Internal reference number 01VI009.

O. Other Publications Affected

- (1) Illustrated Parts Catalogue (IPC) S-V2500-2IB, 5IB, 6IB and 7IB, Chapter/Section 73-22-52 will be revised.
- (2) Aircraft Maintenance Manual, 73-22-52 Config-02, Adjustment/Test (A5) (Airbus).
- (3) Woodward Component Maintenance Manual, 73-28-06.

P. Interchangeability of Parts

Not affected.



## 2. Material Information

### A. Prices and availability:

For prices and availability of parts refer to Woodward Aircraft Engine Systems Service Bulletin 83724-73-0182.

### B. Vendor units affected by this bulletin:

Applicability: - For each V2500 engine to incorporate this bulletin

The type of equipment affected by this Service Bulletin (Modification) is listed below for information only:

V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2527M-A5 models only

73-22-52

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
01100	8061-636	1	.Meter, fuel (V66503)	-	8061-636	(A)(S1)(1D)

V2530-A5 and V2533-A5 models only

73-22-52

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
01100	8061-637	1	.Meter, fuel (V66503)	-	8061-637	(A)(S1)(1D)

### C. Instructions disposition codes:

(A) New standard of unit will be made available from August 2002.

(S1) Old and new units are freely and fully interchangeable.

(1D) Old standard of unit may be reworked.



### 3. Accomplishment Instructions

#### A. Rework Instructions

Units are reworked by vendor, Woodward Aircraft Engine Systems.

#### B. Assembly Instructions

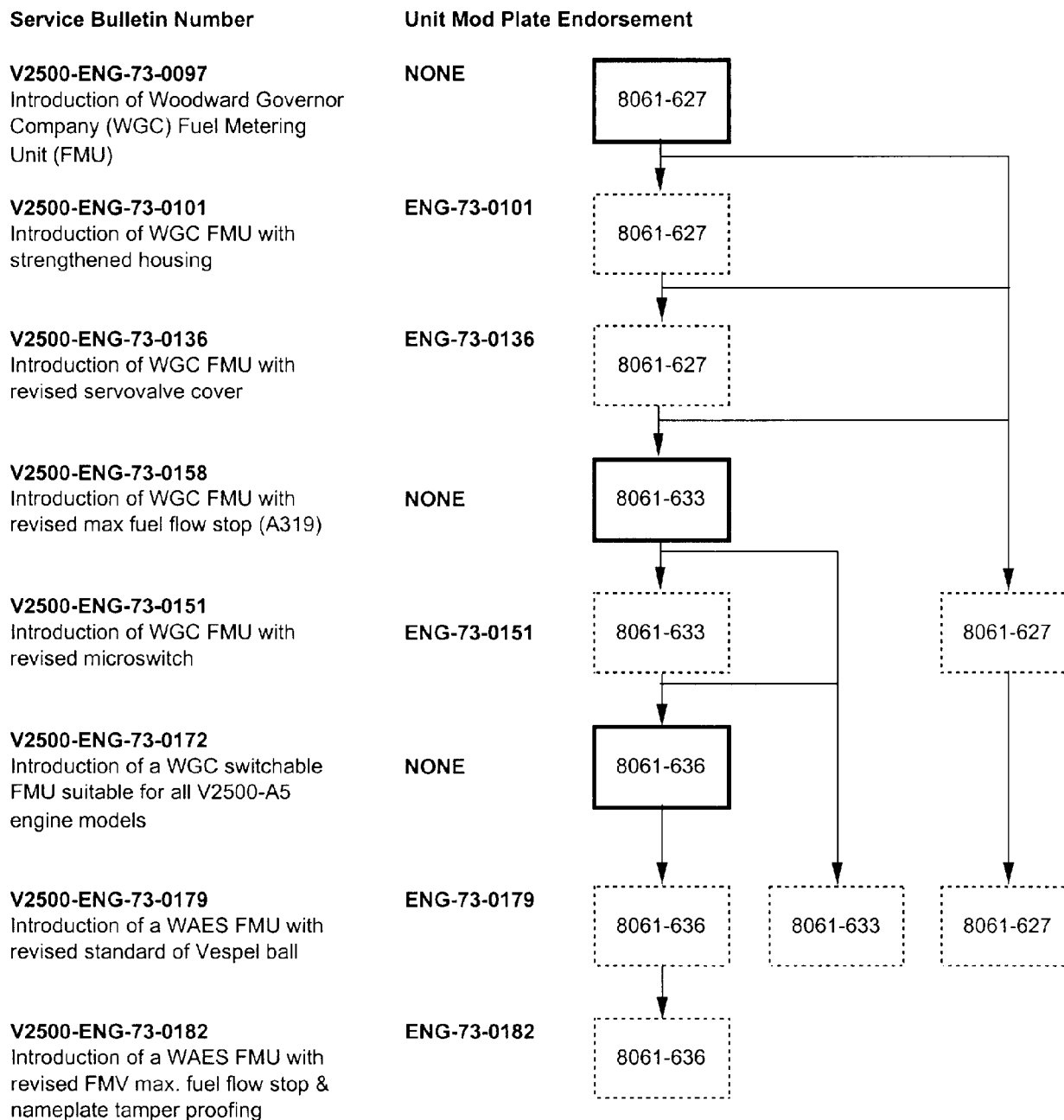
The revised FMU introduced by this Service Bulletin is freely and fully interchangeable with the existing. Remove and install in accordance with current overhaul procedures and maintenance practices (Engine Manual, 72-00-60 Config-02, Removal-06/Installation-06, Aircraft Maintenance Manual, 73-22-52 Config-02, Removal/Installation).

#### C. Recording Instructions

A record of accomplishment is necessary. Refer to vendor Service Bulletin, Woodward Aircraft Engine Systems 83724-73-0182.



### **V2522-A5 and V2524-A5 FMU Family Tree \***



\* This family tree is not intended to represent the combination of modifications fitted to units in service

Family Tree  
Fig.1

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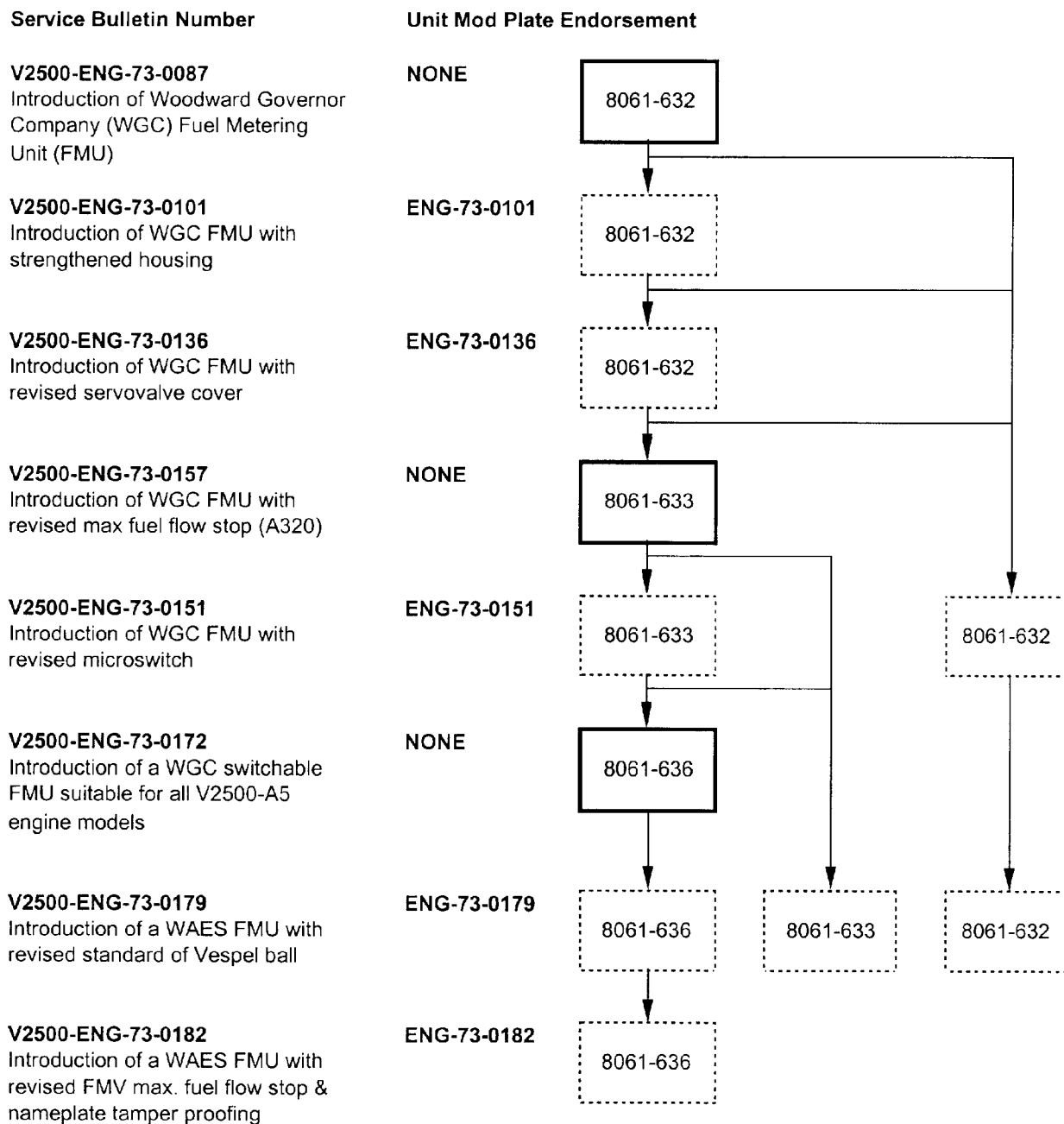
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Not subject to the EAR per 15 C.F.R. Chapter 1, Part 734.3(b)(3).

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### V2527-A5 and V2527E-A5 FMU Family Tree \*



\* This family tree is not intended to represent the combination of modifications fitted to units in service

Family Tree  
Fig.2

**V2527M-A5 FMU Family Tree \***

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**Service Bulletin Number****Unit Mod Plate Endorsement****V2500-ENG-73-0158**

Introduction of Woodward Governor Company (WGC) Fuel Metering Unit (FMU) with revised max fuel flow stop (A319)

**NONE****V2500-ENG-73-0151**

Introduction of a WGC FMU with revised microswitch

**ENG-73-0151****V2500-ENG-73-0172**

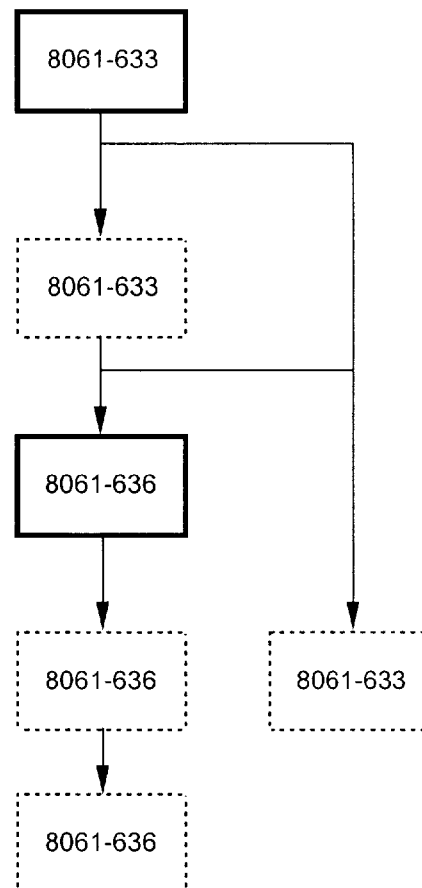
Introduction of a WGC switchable FMU suitable for all V2500-A5 engine models

**NONE****V2500-ENG-73-0179**

Introduction of a WAES FMU with revised standard of Vespel ball

**ENG-73-0179****V2500-ENG-73-0182**

Introduction of a WAES FMU with revised FMV max. fuel flow stop & nameplate tamper proofing

**ENG-73-0182**

\* This family tree is not intended to represent the combination of modifications fitted to units in service

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Family Tree  
Fig.3

**V2530-A5 and V2533-A5, FMU Family Tree \***

**Service Bulletin Number**

**Unit Mod Plate Endorsement**

**V2500-ENG-73-0087**

Introduction of Woodward Governor Company (WGC) Fuel Metering Unit (FMU)

NONE

**V2500-ENG-73-0101**

Introduction of WGC FMU with strengthened housing

ENG-73-0101

**V2500-ENG-73-0136**

Introduction of WGC FMU with revised servovalve cover

ENG-73-136

**V2500-ENG-73-0151**

Introduction of WGC FMU with revised microswitch

ENG-73-0151

**V2500-ENG-73-0172**

Introduction of WGC switchable FMU suitable for all V2500-A5 engine models

NONE

**V2500-ENG-73-0179**

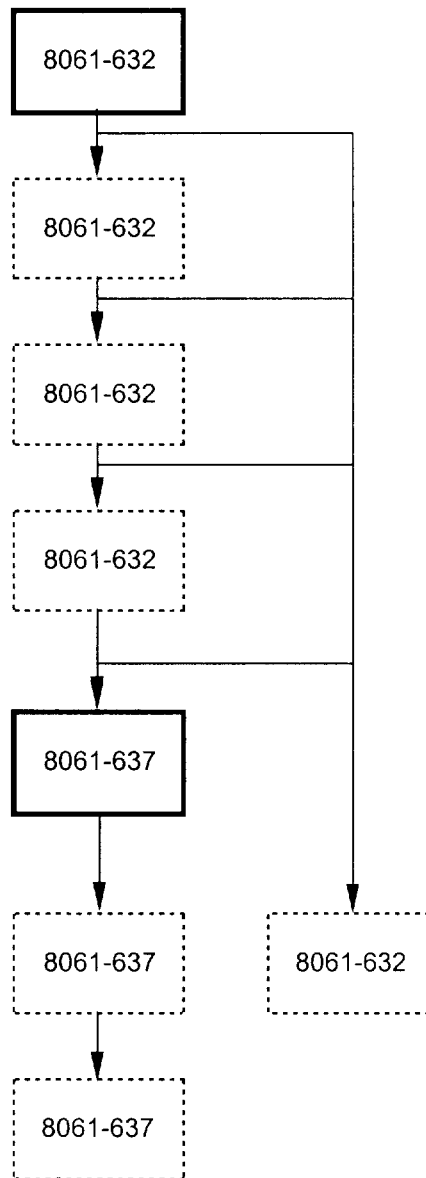
Introduction of a WAES FMU with revised standard of Vespel ball

ENG-73-0179

**V2500-ENG-73-0182**

Introduction of a WAES FMU with revised FMV max. fuel flow stop & nameplate tamper proofing

ENG-73-0182



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\* This family tree is not intended to represent the combination of modifications fitted to units in service

Family Tree  
Fig.4

**ENGINE FUEL and CONTROL - FUEL METERING UNIT (FMU) - Incorporation of Improved Tamper proofing for the Switchable FMU.**

1. Planning Information

A. Effectivity

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

The following V2500 engine models are affected:

- V2500-A5: V2522, V2524, V2527, V2527M, V2527E, V2530, and V2533.

B. Concurrent Requirements

Not applicable.

C. Reason

This Service Bulletin introduces an improved method of tamper proofing the nameplate and the maximum flow setting for the Switchable FMU.

D. Description

An improved method of tamper proofing has been introduced for FMU Models 8061-636 and 8061-637. The new method will improve installation of safety wire/safety cable in the nameplate and the maximum flow setting for the Switchable FMU.

E. Compliance

Category 7 - Accomplish when supply of superseded parts has been depleted.

F. Approval

S/B 83724-73-0182 has been technically approved by IAE on (Insert date) in accordance with appropriate FAR regulations and is FAA approved for those units listed herein.

G. Manpower

After removal of the FMU from the engine, an estimated 8 hours, not including rework machining, is required to perform this service bulletin.

H. Weight and Balance

There is no change in weight and balance.

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-1035447 (for internal use only).

IAE V2500 Service Bulletin Number V2500-ENG-73-0182

L. Other Publications Affected

Not applicable.

2. Material Information

A. Material - Price and Availability

Contact Woodward Aircraft Engine Systems for part availability and pricing.

B. Industry Support Information

Not applicable.

C. Material Necessary for Each Aircraft/Engine/Component

Appropriate fixtures, tooling and cutters for the machining of safety wire/safety cable holes as described below.

D. Material Necessary for Each Spare

# **WOODWARD**

## **SERVICE BULLETIN**

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WOODWARD GOVERNOR COMPANY  
One Woodward Way  
P.O. Box 405  
Rockton, Illinois 61072-0405  
USA

Appropriate fixtures, tooling and cutters for the machining of safety wire/safety cable holes as described below.

E. Reidentified Parts

Not applicable.

F. Tooling - Price and Availability

Not applicable.

3. Accomplishment Instructions

- (1) Remove the FMU from the engine and return to the address shown below:

Woodward Aircraft Engine Systems  
One Woodward Way  
Rockton, IL 61072-0405  
USA

- (2) Disassemble the FMU as told in CMM 73-28-06 in order to remove the Fuel Metering hex plug, P/N 4063-156.

CAUTION: SUFFICIENTLY COVER AND MASK OFF ALL OPENINGS IN THE HOUSING ASSEMBLY TO BE SURE THAT THE HOUSING ASSEMBLY WILL BE KEPT CLEAN DURING THE REWORK.

- (3) Rework housing, P/N 4034-692, per E/C R-1035447 (for internal use only).
- (4) Rework hex plug, P/N 4063-156 per E/C R-1035447 (for internal use only).
- (5) Assemble the FMU as told in CMM 73-28-06.
- (6) Test the FMU as told in CMM 73-28-06 TESTING AND FAULT ISOLATION.
- (7) Mark the Service Bulletin dataplate 73-0182.