ENGINE - FUEL AND CONTROL - FUEL METERING UNIT (FMU) - INTRODUCTION OF LUCAS FMU WITH REVISED MICROSWITCH MECHANISM AND OSV/PRSOV PUSH RODS - LUCAS AEROSPACE SB 500-73-6935 - CATEGORY CODE 6 - MOD.ENG-73-0122

See Vendor Bulletin 500-73-6935

1. Planning Information

A. Effectivity

(1) Aircraft (a) Airbus A320

(2) Engines (a) V2500-A1 Engines prior to Serial No. V0362

B. Concurrent Requirements

This Service Bulletin must only be installed to units which have had either Lucas Aerospace Service Bulletin 500-73-6935 or IAE V2500 Service Bulletin ENG 73-0091 embodied. (Refer to 1.L.).

C. Reason

(1) Problem

(a) Faults can occur with the single and dual channel microswitches of the fuel metering unit (FMU).

(b) The problem is caused by a build-up of wear debris in the plain bearings of the pivoting levers. This causes stiction of the pivoting levers that operate the microswitches.

(c) During FMU operation, wear debris from inside the FMU can damage the microswitch pushrods and seals of the OSV and PRSOV. This results in fuel leaks from the FMU.

(2) Evidence

The problems have been found on in-service units.

(3) Substantiation

A satisfactory engineering analysis and vendor rig tests have been done on the changes contained in this Service Bulletin.

In addition, several of the features contained in this Service Bulletin have been successfully installed on other V2500 models.

(4) Objective

The purpose of this Service Bulletin is to maintain unit reliability.

(5) Effect of Service Bulletin on:

(a) Operation

Not affected.

(b) Maintenance

Not affected.

(c) Overhaul

Affected.

(d) Repair Schemes

Not affected.

(e) Interchangeability

Not affected.

(f) Fits and Clearances

Not affected.

D. Description

(1) This Service Bulletin contains the installation of an FMU which has the Lucas Aerospace modification CP8062.

(2) The FMU has changed as follows:

(a) The changes that follow have been made to the microswitch operating mechanism.

(i) The pivoting levers are deleted and the microswitches are now operated directly by a Tophat shaped tappet which prevents lever stiction.

(ii) The guide bushes for the mechanism pushrods are now made from PTFE/Carbon.

(iii) The force of the return springs has increased.

(b) To restore the correct force balance on the PRSOV, the force of the PRSOV valve spring has been reduced.

(c) Larger microswitches are introduced, with increased mounting hole centres to match the revised mechanism. (Refer to (a)).

(d) To match the the revised mechanism (a) and microswitches (c), the microswitch covers and gaskets have also changed.

(i) Because the microswitches have been turned relative to the valves, the OSV cover and the PRSOV retaining block and cover have also changed.

(e) To increase the clearance between the PRSOV drain union and the tappet assemblies, the radial position of the union has changed and the standard of the union has also changed.

(f) A tungsten carbide coating has been applied to the sealing surfaces of the OSV/PRSOV microswitch actuation pushrods.

(i) Because of machining requirements, the diameter of the PRSOV pushrod has increased.

(g) The PRSOV spring seat has changed to match the increased diameter pushrod head.

(h) To reduce a source of debris, the shim pack under the PRSOV spring seat is replaced by a steel spacer.

(i) A Shamban Plus Seal II is introduced to replace the existing Shamban Glydring.

(3) CP8062 will be put on the modification plate of units that have had this Service Bulletin embodied.

E. Compliance

Compliance Code 6.

This Service Bulletin must be accomplished when the sub-assembly (That is modules, accessories, components, build groups) is disassembled sufficiently to get access to the affected parts.

F. Approval

The part number changes and/or 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.

G. Manpower

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

Venue	Estimated Man-hours
In Service	Not applicable

At Overhaul	No more time is necessary to embody this Service Bulletin

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

H. Material Price and Availability

(1) A modification kit is not necessary.

(2) Refer to the Material Information section for the prices and availability of future spares.

I. Tooling Price and Availability

Special tools are not necessary.

J. Weight and Balance

(1) Weight Change

Plus 0,14kg(0.3lb).

(2) Moment Arm

419mm (16.5 in) foreward of datum.

(3) Datum

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

K. Electrical Load Data

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

L. References

(1) Internal Reference No.

EC97VI005

(2) Other References

Lucas Aerospace Service Bulletin:

500-73-6935	ENGINE - FUEL AND CONTROL - FMU - INTRODUCTION OF AN OVERSPEED VALVE WITH A REDUCED LEAKAGE PATH FROM THE HP LATCHING PORTS

IAE V2500 Service Bulletin:

ENG 73-0091 ENGINE - FUEL AND CONTROL - FMU - INTRODUCTION OF A REVISED OVERSPEED VALVE WITH INCREASED BYPASS FLOW

A1 Engine Manual (EM), Chapter/Section 72-00-60, Removal/Installation-06

The Aircraft Maintenance Manual (AMM), Chapter/Section 73-22-52, Removal/Installation CONFIG-01.

Airbus Aircraft Modification No.21820.

M. Other Publications Affected

Lucas Aerospace FMU 530 Component Maintenance Manual (CMM), Chapter/Section 73-28-02.

2. Accomplishment Instructions

A. Rework Instructions

None.

B. Assembly Instructions

(1) For the correct removal/installation procedures refer to the manuals that follow:

(a) The A1 Engine Manual (EM), Chapter/Section 72-00-60, Removal/Installation-06

or

(b) The Aircraft Maintenance Manual (AMM), Chapter/Section 73-22-52, Removal/Installation CONFIG-01.

C. Recording Instructions

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

3. Material Information

Applicability: For each V2500 engine for which this Service Bulletin is applicable.

A. Kits necessary for this Service Bulletin:

None.

B. Vendor unit affected by this Service Bulletin:

NEW PART No. (ATA No.)	QTY	EST'D UNIT PRICE ($)	PART TITLE	OLD PART No. (IPC No.)	INSTR DISP
FMU500MK4 (73-22-52)	1		Meter, unit, fuel (VU4271)	FMU500MK4 (01-100)	(A)(B)(S1)

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

C. Instruction/Disposition Codes:

(A) New standard of unit will be available from July 1998.
(B) Old standard of unit will be discontinued.
(S1) Old and new units are freely and fully interchangeable.