

International Aero Engines
SERVICE BULLETIN

July 31/98

Subject: Transmittal of Revision 1 to Service Bulletin V2500-ENG-77-0075

Service Bulletin Revision History:

Event	Date
Basic Issue	Apr. 24/98.
Revision 1	July 31/98.

Reason for Revision:

(1) Correct SB numbers at 1. L. (1) (a) and (b).

Effect on Past Compliance:

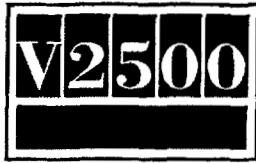
None.

List of Effective Pages:

Page No.	Revision No.	Effective Date
1 to 8	Revision 1	July 31/98.

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Transmittal
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AIR - HP COMPRESSOR VARIABLE STATOR VANE ACTUATOR - INTRODUCTION OF REVISED
TORQUE MOTOR STRAINERS

MODEL APPLICATION

V2500-A1
V2522-A5
V2524-A5
V2527-A5
V2527E-A5
V2530-A5
V2533-A5
V2525-D5
V2528-D5

BULLETIN INDEX LOCATOR

75-32-00

Compliance Category Code

6

Internal Reference No.

EC97VI010

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AIR - HP COMPRESSOR VARIABLE STATOR VANE ACTUATOR - INTRODUCTION OF REVISED TORQUE MOTOR STRAINERS

1. Planning Information

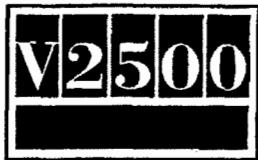
A. Effectivity

(1) Aircraft

- (a) Airbus A319
- (b) Airbus A320
- (c) Airbus A321
- (d) Boeing - Douglas MD-90

(2) Engines

- (a) V2500-A1 Engines prior to Serial No. V0362
- (b) V2522-A5 Engines prior to Serial No. V10425
- (c) V2524-A5 Engines prior to Serial No. V10425
- (d) V2527-A5 Engines prior to Serial No. V10425
- (e) V2527E-A5 Engines prior to Serial No. V10425
- (f) V2530-A5 Engines prior to Serial No. V10425
- (g) V2533-A5 Engines prior to Serial No. V10425
- (h) V2525-D5 Engines prior to Serial No. V20250
- (i) V2528-D5 Engines prior to Serial No. V20250



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B. Concurrent Requirements

None.

C. Reason

(1) Problem

Dual-channel track check faults can occur on the Variable Stator Vane Actuator (VSVA).

The problem is caused by fuel lacquer that blocks the supply port strainer of the affected VSVA torque motor.

(2) Evidence

This problem has been found on several occasions on in-service units. In extreme conditions it can result in an engine shut-down.

(3) Substantiation

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

(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

Not affected.

(d) Repair Schemes

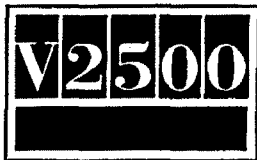
Not affected.

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(e) Interchangeability

Not affected.

(f) Fits and Clearances

Not affected.

D. Description

- (1) This modification contains the installation of a VSVA with the Lucas Aerospace Modification DTV-059. (Refer to 1. L).
- (2) The VSVA has changed as follows:
 - (a) The initial 40/50 μ m and 43 μ m strainers of the torque motor have been replaced by 70/80 μ m strainers in the supply, return and control ports.
- (3) The initial VSVA's can be reworked. (Refer to the Lucas Aerospace Service Bulletin given at 1. L.).
- (4) DTV-059 will be put on the modification plate of units that have this Service Bulletin incorporated.

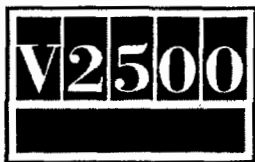
E. Compliance

CATEGORY 6

This Service Bulletin can be done when the subassembly, (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 models listed.



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G. Manpower

- (1) 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.

H. Material Price and Availability

- (1) A modification kit is not necessary.
- (2) Refer to 3. Material Information section for prices and availability of spares.

I. Tooling Price and Availability

Special tools are not necessary.

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

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

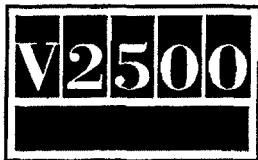
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Not subject to the EAR per 15 C.F.R. Chapter 1, Part 734.3(b)(3).



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L. References

(1) Refer to the Lucas Aerospace modification DTV 059:

R

(a) Lucas Service Bulletin 2607-75-003 (A5/D5)

R

(b) Lucas Service Bulletin 1685-75-009 (A1/A5/D5)

(2) Airbus Aircraft Modification No. 21820

(3) A1/A5/D5 Engine Manual (EM), Chapter/Section 72-00-40, Removal/Installation.

(4) A319/A320/A321 Aircraft Maintenance Manual (AMM), Chapter/Section 75-32-41, Removal/Installation.

(5) The MD-90 Aircraft Maintenance Manual (AMM), Chapter/Section 75-31-01, Removal/Installation.

M. Other Publications Affected

(1) Illustrated Parts Catalog (IPC), Chapter/Section 75-32-41



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2. Accomplishment Instructions

A. Rework Instructions

- (1) Refer to the vendor Service Bulletin given at 1. L.

B. Assembly Instructions

- (1) For the correct Removal/Installation procedures refer to the manuals that follow:

- (a) The applicable A1/A5/D5 Engine Manual (EM), Chapter/Section 72-00-40, Removal/Installation.
- (b) The A319/A320/A321 Aircraft Maintenance Manual (AMM), Chapter/Section 75-32-41, Removal/Installation.

or

- (c) The MD-90 Aircraft Maintenance Manual (AMM), Chapter/Section 75-31-01, Removal/Installation.

C. Recording Instructions

- (1) A record of accomplishment is necessary. Refer to the vendor Service Bulletin given at 1.L.

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3. Material Information

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

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 PAR (IPC No.)	INSTR DISP
------------------------------	-----	-----------------------------	------------	-------------------------	---------------

A1, A5 and D5 Models (but not incorporating ENG - 75-0052)

1685MK7 (75-32-41)	1	Note	Actuator - Variable Stator Vane (VK8081)	1685MK7 (01100)	(A)(S1)
-----------------------	---	------	---	--------------------	---------

A5 and D5 Models

2607MK2 (75-32-41)	1	Note	Actuator - Variable Stator Vane (VK8081)	2607MK2 (01100)	(A)(S1)
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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 Catalog or contact IAE's spare parts sale department.

C. Instruction/Disposition codes:

(A) New standard of unit will be available from August 1998.

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

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ENGINE COMPRESSOR CONTROL - VARIABLE STATOR VANE ACTUATOR INTRODUCTION OF TORQUE MOTOR WITH REVISED FILTRATION TO PREVENT BLOCKAGE WITH FUEL DEGRADATION PRODUCTS

(LUCAS AEROSPACE MOD. D.TV.059)

1. Planning Information

A. Effectivity

(1) Aircraft

(a) Airbus - A319, A320 and A321.

(b) McDonnell Douglas - MD90.

(2) Engine

(a) V2500 - A1 - A5 - D5.

(3) Equipment

(a) Variable Stator Vane Actuator - Type 1685 MK 6 and 1685 MK 7.

B. Reason

(1) Condition

The current standard of Torque Motor (in the Variable Stator Vane Actuator) is prone to blockage of the filters by fuel degradation products.

(2) Background

The condition was identified during the investigation of units returned from service.

(3) Objective

Incorporation of the changes introduced by this Service Bulletin (Modification) are designed to improve the reliability of the Torque Motor by revised filtration of the filter screen. This Service Bulletin (Modification) only affects filtration and not the number of filters in a Torque Motor.

(4) Substantiation

The changes introduced by this Service Bulletin (Modification) will enhance the reliability of the Torque Motor.

C. Description

This Service Bulletin (Modification) introduces a Torque Motor with revised filtration to prevent blockage by fuel degradation products.

D. Compliance

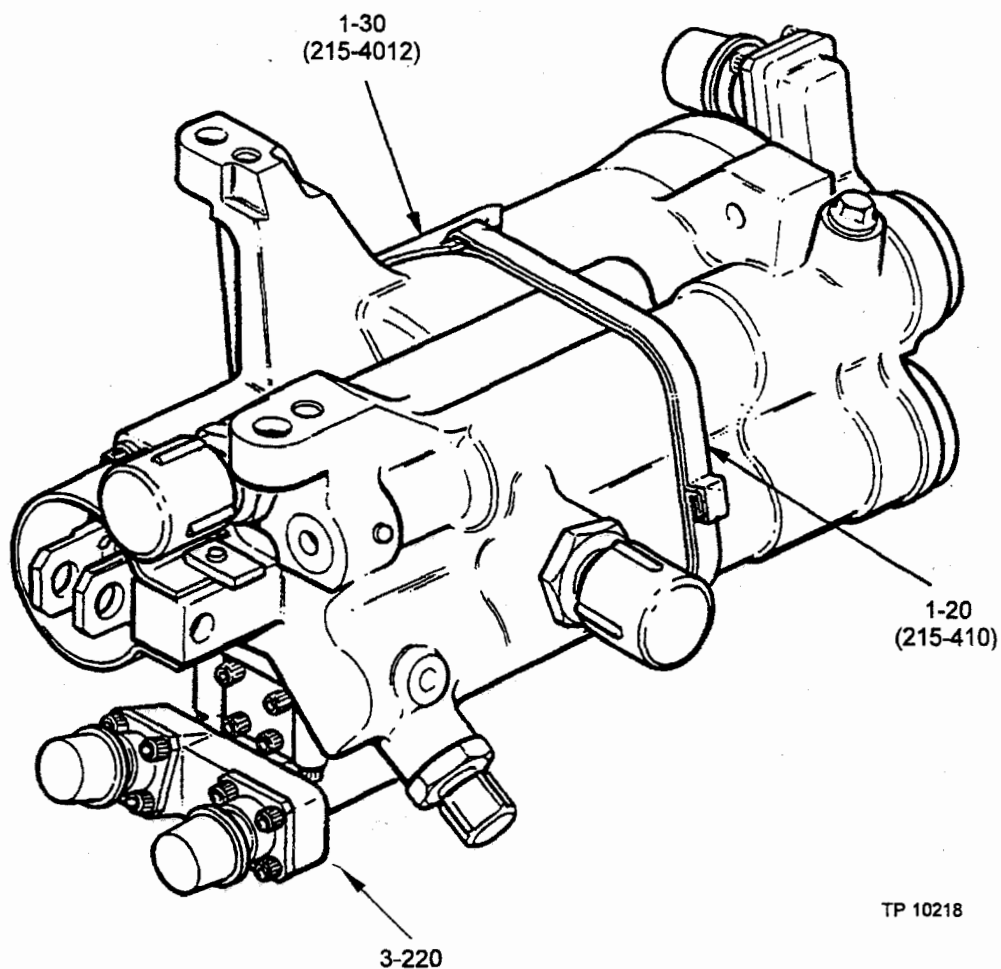
Category Code 6

Accomplish when the sub-assembly (i.e. Modules, Accessories, Components or Build Groups) is disassembled sufficiently to afford access to the affected part and to all affected spare parts.

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VSVA Identification
Figure 1

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E. Approval

Service Bulletin No. 1685-75-009 (Mod. D.TV.059), was technically approved by IAE on Apr 15/98. The part number changes and/or part modifications described in this Service Bulletin have been shown to comply with the appropriate Federal Aviation Administration (FAA), Regulations and are FAA approved for those units listed in this Bulletin.

F. Manpower

Not Applicable.

G. Material - Price and Availability

See the Supplement to this Bulletin.

H. Tooling - Price and Availability

(1) Additional tools

None.

(2) Tools made redundant

None.

I. Weight and Balance

(1) Weight change Nil.

(2) Moment arm No effect.

(3) Datum Engine front mount centerline (Power Plant Station (PPS) 100).

J. References

(1) Lucas Aerospace, Component Maintenance Manual 75-32-41.

(2) Lucas Aerospace Mod. D.TV.059.

(3) IAE Service Bulletin V2500 ENG 75-0075.

K. Other Publications Affected

Nil.

2. Accomplishment Instructions (Fig 1)

Install the Torque Motor in accordance with the Component Maintenance Manual. Existing Torque Motors can be reworked by the manufacturer (Moog Controls Ltd).

A. Replace the Torque Motor Pre SB 1685-75-001

(1) If the Torque Motor (3-220) part no. 1655-4009 is to be modified, remove it from the disassembled kit of parts and either:

- Send the torque motor for rework and install the modified unit, part number 2607-9000

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- Install a previously modified unit, part number 2607-9000, 2607-9001 or 2607-9002.

B. Replace the Torque Motor Post SB 1685-75-001, Pre SB 1685-75-005

- (1) If the torque motor (3-220A) part no. 1685-4016 is to be modified, remove it from the disassembled kit of parts and either:
 - Send the torque motor for rework and install the modified unit, part number 2607-9001
 - Install a previously modified unit, part number 2607-9001 or 2607-9002.

C. Replace the Torque Motor Post SB 1685-75-005

- (1) If the torque motor (3-220B) part no. 1685-4045 is to be modified, remove it from the disassembled kit of parts and either:
 - Send the torque motor for rework and install the modified unit, part number 2607-9002
 - Install a previously modified unit, part number 2607-9002.

D. Re-identify the Actuator

- (1) When ASSEMBLY is complete, get the new identification plate (1-30) part no. 215-4012 and strap (1-20) part no. 215-410 supplied with the Mod. Kit.
- (2) Refer to the information marked on the first identification plate (1-30) and mark the new identification plate as follows (use 1/16in. (1,6mm), letter/number stamps). Use the stamps with the identification plate held on a flat surface:

TYPE No.	MARK: 1685 Mk 7	(SB1685-75-007 (D.TV.055) must be incorporated at the same time if the unit is a Mark 6.	
SERIAL No.	Mark as on the original plate		
MOD No.	Mark on the plate:	Installed Unit	Replacement Unit
	D.TV.059	1655-4009	2607-9000
	D.TV.016, D.TV.059	1655-4009	2607-9001
	D.TV.016, D.TV.046, D.TV.059	1655-4009	2607-9002
	D.TV.016, D.TV.059	1685-4016	2607-9001
	D.TV.016, D.TV.046, D.TV.059	1685-4016	2607-9002
	D.TV.016, D.TV.046, D.TV.059	1685-4045	2607-9002
INSP.	Keep blank		
TEST	Keep blank		

- (3) Fill the stamped letters and numbers with black paint and wipe away the surplus.
- (4) Install the new identification plate (1-30) on the unit with the new strap (1-20).
- (5) Discard the first identification plate.

E. A record of accomplishment is required.

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F. Torque Motor Disposal Instructions

- (1) Inhibit and pack the torque motor in accordance with ASSEMBLY in the Component Maintenance Manual.
- (2) Return the torque motor to Moog Controls at the following address:

Moog Controls Ltd
Ashchurch
Tewkesbury
Gloucestershire, GL20 8NA
England
(For the attention of the Repair Co-ordinator)

3. Material Information

A. Modification Kit

See the Supplement to this Bulletin.

B. Parts to be Re-worked

<u>Keyword</u>	<u>Old Part No</u>
Motor, Torque	1655-4009
Motor, Torque	1685-4016
Motor, Torque	1685-4045

C. New Production Parts

The following new part(s) will be available as spares:

<u>New Part No</u>	<u>Qty</u>	<u>Keyword</u>	<u>Old Part No</u>
2607-9000	1	Motor, Torque	1655-4009
2607-9001	1	Motor, Torque	1685-4016
2607-9002	1	Motor, Torque	1685-4045
STD831-10	4	Ring, sealing, toroidal	STD831-10
215-4012	1	Plate, identification	215-4012
215-410	1	Strap, label, retaining	215-410

D. Redundant Parts

<u>IPL Fig/Item No</u>	<u>Keyword</u>	<u>Old Part No</u>
3-220	Motor, Torque	1655-4009 (Pre SB1685-75-001)
3-220A	Motor, Torque	1685-4016 (SB1685-75-001)
3-220B	Motor, Torque	1685-4045 (SB1685-75-005)

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E. Identification of Units

The type of equipment affected by this Service Bulletin (Modification) is:

Unit

Type No.

Variable Stator Vane Actuator

1685 MK 6 and 1685 MK 7 (After modification, become 1685 MK 7).

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SB 1685-75-009 (SUPPLEMENT)

ENGINE COMPRESSOR CONTROL - VARIABLE STATOR VANE ACTUATOR
INTRODUCTION OF TORQUE MOTOR WITH REVISED FILTRATION
TO PREVENT BLOCKAGE WITH FUEL DEGRADATION PRODUCTS

(LUCAS AEROSPACE MOD. D.TV.059)

(IAE SB V2500-ENG-75-0075)

1. Modification Kit

Modification kit D.TV.059 comprises the parts given in Para. 2.

2. New Production Parts

<u>Part No.</u>	<u>Qty per Unit</u>	<u>Keyword</u>	<u>Gross World List Price</u> <u>(US Dollars)</u>	<u>Availability on</u> <u>Receipt of Order</u>
2607-9000	1	Motor, Torque	TBA	
2607-9001	1	Motor, Torque	TBA	
2607-9002	1	Motor, Torque	TBA	
STD831-10	4	Ring, sealing, toroidal	TBA	
215-4012	1	Plate, identification	TBA	
215-410	1	Strap, label, retaining	TBA	

3. New Tooling

None.

4. Spare Parts Supply

Spares distribution and Customer Service is available from the following Lucas Aerospace Customer Support Centres:

<u>REGION</u>	<u>ADDRESS</u>	<u>COMMUNICATION</u>	
AMERICAS	LUCAS AEROSPACE CUSTOMER SUPPORT 30 VAN NOSTRAND AVENUE ENGLEWOOD NEW JERSEY 07631 USA.	PHONE	(1) 201 567 6400
		FAX	(1) 201 894 1965
		AOG	(1) 201 567 6411
		SITA/ARINC	EWR LU7X
EUROPE/MIDDLE EAST/AFRICA	LUCAS AEROSPACE CUSTOMER SUPPORT STRATFORD ROAD SOLIHULL, B90 4LA ENGLAND.	PHONE	(44) (0)121 451 5999
		FAX	(44) (0)121 451 5881
		AOG	(44) (0)121 451 5904
		SITA/ARINC	BHX LW7X
ASIA/PACIFIC	LUCAS AEROSPACE CUSTOMER SUPPORT 35 - 37 LOYANG WAY SINGAPORE 508733.	PHONE	(65) 545 9975
		FAX	(65) 545 9965
		AOG	(65) 545 6253
		SITA/ARINC	SIN LU7X

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SUF

