International Aero Engines

SERVICE BULLETIN

AIR – H.P. COMPRESSOR VARIABLE STATOR VANE ACTUATOR – INTRODUCTION OF A STATOR VANE ACTUATOR WITH IMPROVED TORQUE MOTOR WIRE SEPARATION – CATEGORY CODE 7 – MOD.ENG-75-0007

1. Planning Information

A. Effectivity

(1) Aircraft: Airbus A320

(2) Engine: V2500 A1 Engines prior to Serial No.V0140.

B. Reason

(1) Condition

Sufficient separation should exist between dual electrical control lanes to prevent one lane having an adverse effect on the other. Currently the wires for control lanes A and B of the stator vane actuator (S.V.A.) torque motor may not be adequately separated.

(2) Background

The condition was identified during development testing of the unit.

(3) Objective

Incorporation of the changes introduced by this modification are designed to give satisfactory separation between the SVA control lanes.

(4) Substantiation

The changes recommended in this Service Bulletin (Modification) have been shown by detailed engineering analysis to correct the condition.

(5) Effects of Service Bulletin on workshop procedures:

None

(6) Supplemental Information

See D.S.I.C Service Bulletin 1685-75-001, MOD.DTV016.

C. Description

The modification contained in D.S.I.C. Service Bulletin 1685-75-001, Mod.DTV016 allows for the wire for control lanes A and B to be adequately separated by adding a non-metallic insert between the armature and the electrical receptacles in the cap of the torque motor.

D. Approval

The part number changes and/or part modification described in sections 2 and 3 of this modification bulletin have been shown to comply with the applicable Federal Aviation Regulations ane are FAA - APPROVED for the engine model listed.

E. Compliance

Category code 7

Accomplish when supply of superseded parts has been depleted.

F. Manpower

Estimated manhours to incorporated the full intent of this bulletin

Venue	Estimated Manhours
(1) In service	Not applicable
(2) At overhaul	Not affected

G. References

(1) Internal Reference No.

EC89VR001

ECM89VR001-02

89VR002-03

(2) Other References

A320 Engine Manual

D.S.I.C. Service Bulletin 1685-75-001, Mod.DTV016

H. Other Publications Affected

(1) 75-32-41 Venor Manual

3. Material Information

New Part No. (ATA No.)	Qty	Est'd Unit Price ($)	Keyword	Old Part No. (IPC No.)	Instructions Disposition
Applicability: All engines					
A. Vendor units affected by this modification:					
1685MK4 (75-32-41)	1	*	Actuator, stator Vane	- (01100)	(1D)
B. Instruction/Disposition code statements:					
(1D) Old and new parts are freely and fully interchangeable. Units incorporating this modification will be identified by DTV016 marked on the modification plate.					
* Refer to Vendor Service Bulletin for price information					

DSIC

SERVICE BULLETIN

1685-75-001

ENGINE COMPRESSOR CONTROL - VARIABLE STATOR VANE ACTUATOR. INTRODUCTION OF TORQUE MOTOR WITH COIL LEAD, LANE SEPARATION INSERT

(IAE SB V2500-ENG-75-0007)
(DSIC MOD.DTV.016)

1. Planning Information

A. Effectivity

(1) Airbus - A320

V2500 - A1100000, Serial numbers V0001 through V0122

(2) Variable Stator Vane Actuators

This bulletin applies to new manufacture; the point of embodiment is unit serial number 1685167.

No 1685 Mk4 unit up to, and including, serial number 1685166 has this bulletin incorporated.

B. Reason

(1) Condition

Sufficient separation should exist between dual electrical control lanes to prevent one lane having an adverse effect on the other. Currently, the wires for control lanes A and B of the stator vane actuator (SVA), torque motor may not be adequately separated.

(2) Background

The condition was identified during development testing of the unit.

(3) Objective

Incorporation of the changes introduced by this Service Bulletin (Modification), are designed to give satisfactory separation between the SVA control lanes.

(4) Substantiation

The changes introduced by this Service Bulletin (Modification), have been shown by detailed engineering analysis to correct the condition.

C. Description

(1) The modification introduces a torque motor which has a plastic insert fitted in the housing cavity; the plastic insert physically prevents contact between the wires.

D. Compliance

Category Code 7

Accomplish when the supply of superseded parts has been depleted.

E. Approval

Service Bulletin 1685-75-001 (Mod. DTV016), (IAE SB V2500-ENG-75-0007), was technically agreed by IAE on Apr 7/90. The part number changes and/or part modifications described in this bulletin have been shown to comply with the appropriate Federal Aviation Regulations and are FAA approved for those units listed in this bulletin.

F. Manpower

No additional man hours are necessary to incorporate this Service Bulletin (Modification), at Component Maintenance Level.

G. Material - Price and Availability

(1) The following parts are required:

Part No.	Keyword	Qty
1685-4016	Motor, torque	1
STD831-10	Ring, sealing	4

(2) For 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 ..... None

(2) Moment arm ..... Not affected

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

J. References

(1) Dowty and Smiths Industries Controls Limited, component maintenance manual 75-32-41.

(2) IAE Service Bulletin V2500-ENG-75-0007.

(3) Dowty/Smiths Mod. DTV 016.

K. Other Publications Affected

Nil.

2. Accomplishment Instructions

A. Remove the torque motor (75-32-41).

(1) Remove the lockwire that secures the four socket head screws (3-220).

(2) Remove the four socket head screws (3-220) that secure the torque motor (3-210) to the actuator body (4-420). Remove the torque motor (3-210) from the actuator body (4-420) and remove the four toroidal sealing rings (3-230).

(3) Discard the following components:

IPL Fig./Item	Part No.	Keyword	Qty
3-210	1655-4009	Motor, torque	1
3-230	STD831-10	Ring, sealing	4

B. Assemble replacement torque motor (75-32-41).

(1) Assemble four new sealing rings (3-230) to the four locations in the face of the torque motor (3-210). Assemble the torque motor to the actuator body (4-420) and assemble four socket head screws (3-220). Torque tighten the screws (3-220) to 2,3 Nm (20 lbf.in).

(2) Wirelock the four socket head screws as shown in Fig. 709.

C. Variable Stator Vane Actuator, Performance Check (75-32-41)

(1) Perform tests in accordance with 75-32-41 to check that actuator operates correctly.

D. A record of accomplishment is required.

3. Material Information

A. Modification Kit

No kit is required.

B. Parts to be Re-worked

None.

C. New Production Parts

The following new part will be available as a spare:

New Part No.	Qty.	Keyword	Old Part No.
1685-4016	1	Motor, torque	1655-4009

D. Redundant Parts

IPL Fig./Item	New Part No.	Qty.	Keyword	Old Part No.
3-210	-	1	Motor, torque	1655-4009

E. Identification of Units

The type of equipment affected by this Mod. is:

Unit	Type No.
Stator Vane Actuator	1685 Mk4

DSIC

SERVICE BULLETIN

1685-75-001 (SUPPLEMENT)

ENGINE COMPRESSOR CONTROL - VARIABLE STATOR VANE ACTUATOR. INTRODUCTION OF TORQUE MOTOR WITH COIL LEAD, LANE SEPARATION INSERT

(IAE SB V2500-ENG-75-0007)
(DSIC MOD.DTV.016)

1. Modification Kit

No modification kit is required.

2. New Production Parts

Part No.	Qty per Unit	Keyword	Gross World List Price (Dollars)	Availability on Receipt of Order
1685-4016	1	Motor, torque	$7,910.08 each	130 days
STD831-10	4	Ring, sealing	$ 25.48 each	80 days

3. New Tooling

None.

SUPPLEMENT
1685-75-001