International Aero Engines

SERVICE BULLETIN

POWER PLANT - EEC HARNESS FAN/CORE - DELETION OF CLIPPING AT VSVA AND PMA HARNESS CONNECTORS AND INTRODUCTION OF WIRE LOCKING TO SECURE CONNECTORS - V2500-A1=8 - V2500-A5=4 - MOD.ENG-71-0111

1. Planning Information

A. Effectivity

(1) Aircraft (a) Airbus A320
(b) Airbus A321

(2) Engine (a) V2500-A1 Engines prior to Serial No.V0332
(b) V2500-A5 Engines prior to Serial No.V10015

B. Concurrent Requirements

Service Bulletin V2500-ENG-71-0063 (see L.) is completely superseded on incorporation of this bulletin.

C. Reason

(1) Condition

It has been reported that assembly difficulties could result in deformation of the retaining clamps at the VSVA and PMA harness connectors.

(2) Background

To ensure the harness connectors at the VSVA and PMA did not become loose in service, back to back clamps were introduced by Service Bulletin V2500-ENG-71-0063.

During engine build it was highlighted that on assembly these clamps could possibly be deformed, which might result in poor retention and metal to metal contact between the clamps and connector.

(3) Objective

The incorporation of this Service Bulletin is designed to ensure positive locking of the connectors and eliminate back to back clipping.

(4) Substantiation

Wire-locking of components to prevent loosening is an accepted procedure and development testing is considered unnecessary.

(5) Effect of Bulletin on Workshop Procedures:

Removal/Installation	Affected (see Supplemental Information)
Disassembly/Assembly	Not affected
Cleaning	Not affected
Inspection/Check	Not affected
Repair	Not affected
Testing	Not affected

(6) Supplemental Information

The Removal/Installation will be revised to add new configuration of this Service Bulletin.

D. Description

(1) The changes introduced by this Service Bulletin are as follows:

(a) A new EEC fan harness and a new EEC core harness featuring wire locking holes in the connectors to the PMA and VSVA.

(b) At the PMA the connectors 4005EV-A and 4005EV-B are wire locked together and the clamps and attaching parts at CP 1094 are deleted.

(c) At the VSV actuator torque motor, connectors 4022KS-C and 4022KS-B are wire locked together and the clamps and attaching parts at CP 5798 are deleted.

(d) At the VSV actuator L.V.D.T. cover location, the connectors 4022KS-A and 4022KS-D are wire locked together and the clamps and associated support bracket, 5W2166, and attaching parts at CP 6060/6061 are deleted.

E. Approval

The part number changes and/or part modifications described in Section 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 Model listed.

F. Compliance

(For the V2500-A1 Engine Model)

Category Code 8

Accomplish based upon experience with the prior configuration.

(For the V2500-A5 Engine Model)

Category Code 4

Accomplish at the first visit of an engine or module to a maintenance base capable of compliance with the accompliment instructions regardless of the planned maintenance action or the reason for engine removal

G. Manpower

Estimated manhours to incorporate the full intent of this Bulletin:

(For the V2500-A1 Engine Model)

	Venue	Estimated Manhours
(1)	In Service	Not applicable
(2)	At Overhaul	1 hr 32 mins

(For the V2500-A5 Engine Model)

	Venue	Estimated Manhours
(1)	In Service	T.B.A.
(2)	At Overhaul	Not applicable

H. Material - Price and Availability

(1) Modification Kit not required.

(2) See "Material Information" section for prices and availability of future spares.

I. Tooling - Price and Availability

Special tools are not required.

J. Weight and Balance

(1)	Weight change	Minus 0.400 lb (0,181 kg)
(2)	Moment arm	2.400 in (60,96 mm) forward of datum
(3)	Datum	Engine front mount centerline (Power Plant Station (PPS) 100)

K. Electrical Load Data

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

L. References

(1) Internal Reference No.

EC92VR044

EC92VR365

EC92VR366

(2) Other References

V2500 Service Bulletin ENG-70-0156 (Electrical harness - Provide an alternative source for electrical harness connectors.)

V2500 Service Bulletin ENG-70-0157 (Electrical harness - Commonisation of Raychem sleeving part numbers.)

V2500 Service Bulletin ENG-71-0063 (EEC harness - Fan and EEC harness - Core - Introduction of additional support for electrical connectors.)

V2500 Service Bulletin ENG-71-0107 (Power plant - Incorporation of modification requirements for the EEC and ignition supply harness.)

A320/V2500 Aircraft Maintenance Manual.

A321/V2500 Aircraft Maintenance Manual.

V2500 Component Maintenance Manual (CMM-EHC-V2500-1IA).

M. Other Publications Affected

(1) V2500 Engine Illustrated Parts Catalog (S-V2500-1IA), Chapter/Section 71-51-41 and 71-52-43.

(2) V2500 Engine Illustrated Parts Catalog (S-V2500-2IA), Chapter/Section 71-51-41 and 71-52-43.

(3) V2500 Engine Manual (E-V2500-1IA), 72-00-40, Removal-02, Config-1 and Config-2 and Installation-09, Config-1 and Config-2.

(4) V2500 Engine Manual (E-V2500-1IA), 72-00-60, Removal-05, Config-1 and Config-2 and Installation-05, Config-1 and Config-2.

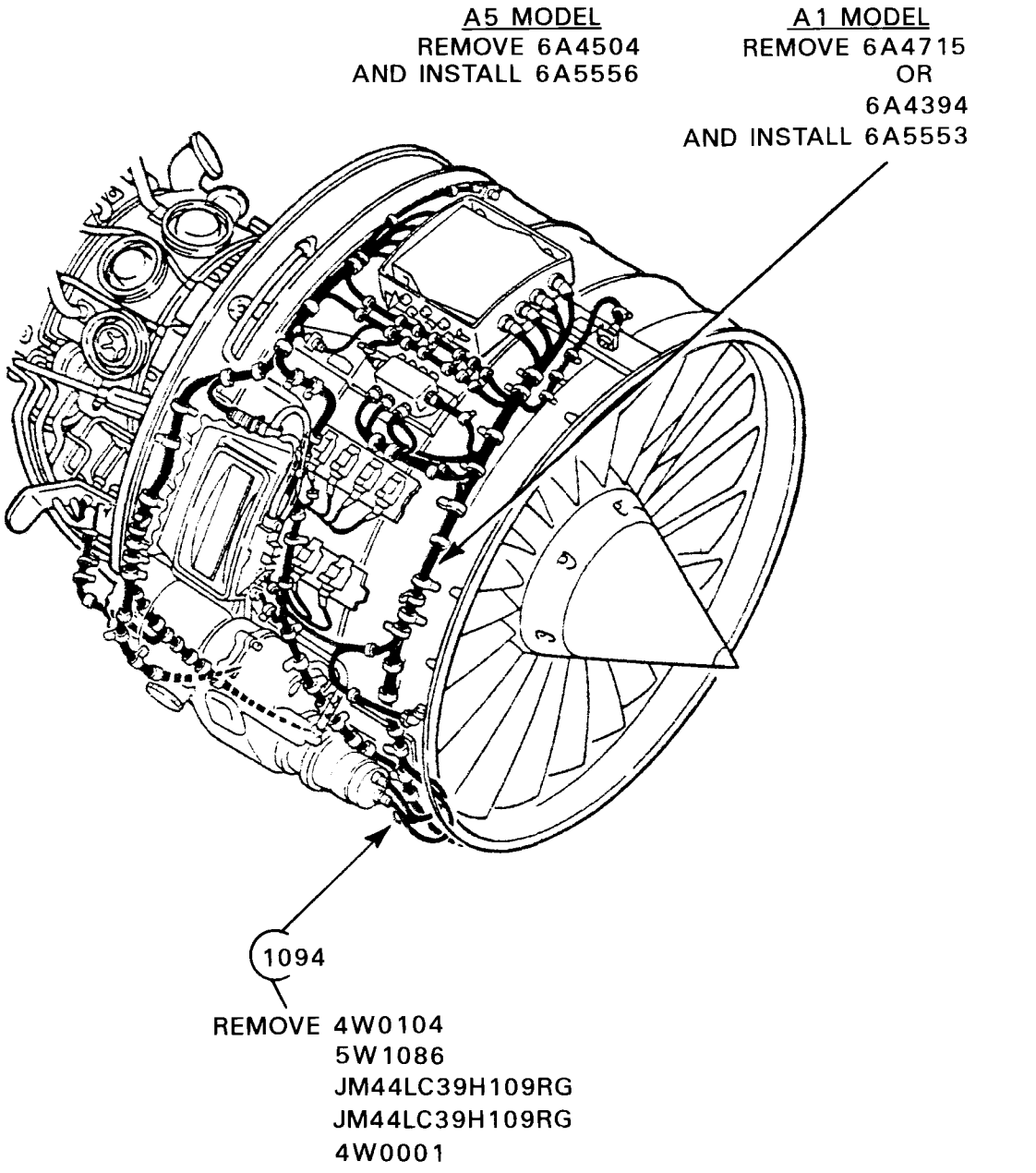
(5) V2500 Component Maintenance Manual (CMM-EHC-V2500-1IA), 71-51-41, Cleaning-00 and -01, Inspection/Check-00 and -01.

(6) V2500 Component Maintenance Manual (CMM-EHC-V2500-1IA), 71-52-43, Cleaning-00 and -01, Inspection/Check-00 and -01.

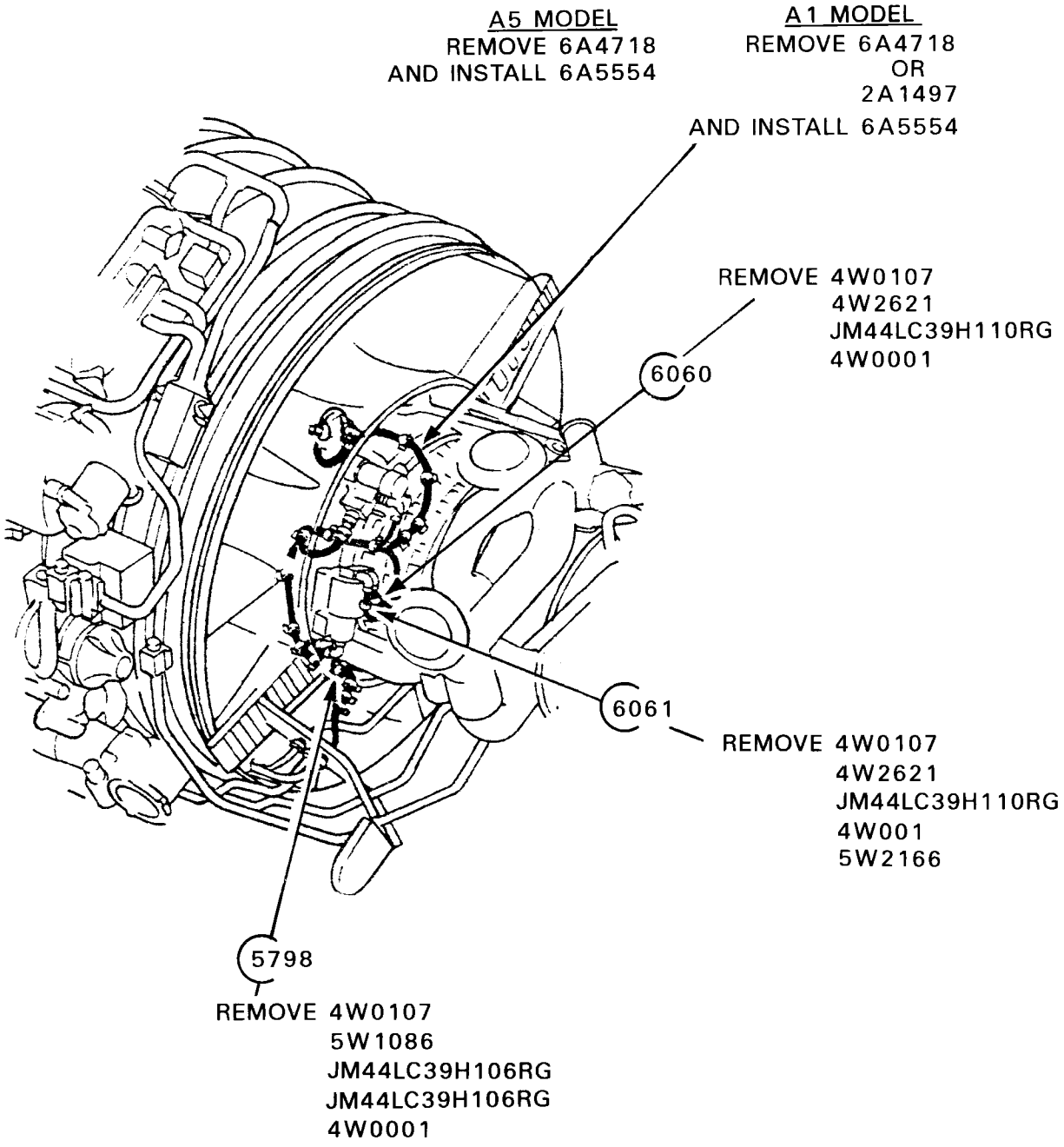
(7) V2500 Engine Maintenance Manual (M-V2500-1IA), 73-22-38, Removal/Installation, Config-1 and Config-2.

(8) V2500 Engine Maintenance Manual (M-V2500-1IA), 75-32-41, Removal/Installation.

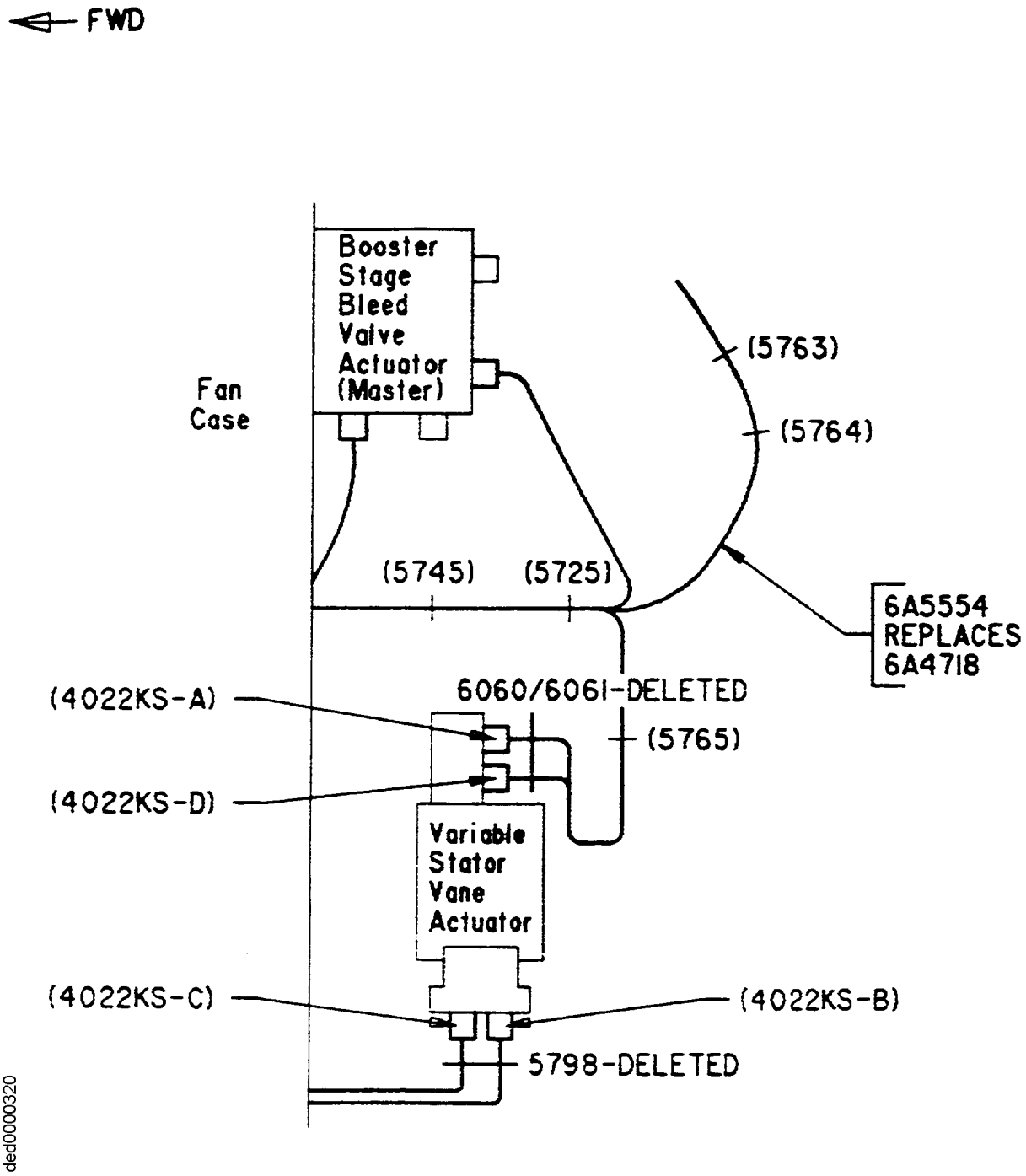
Printed in Great Britain



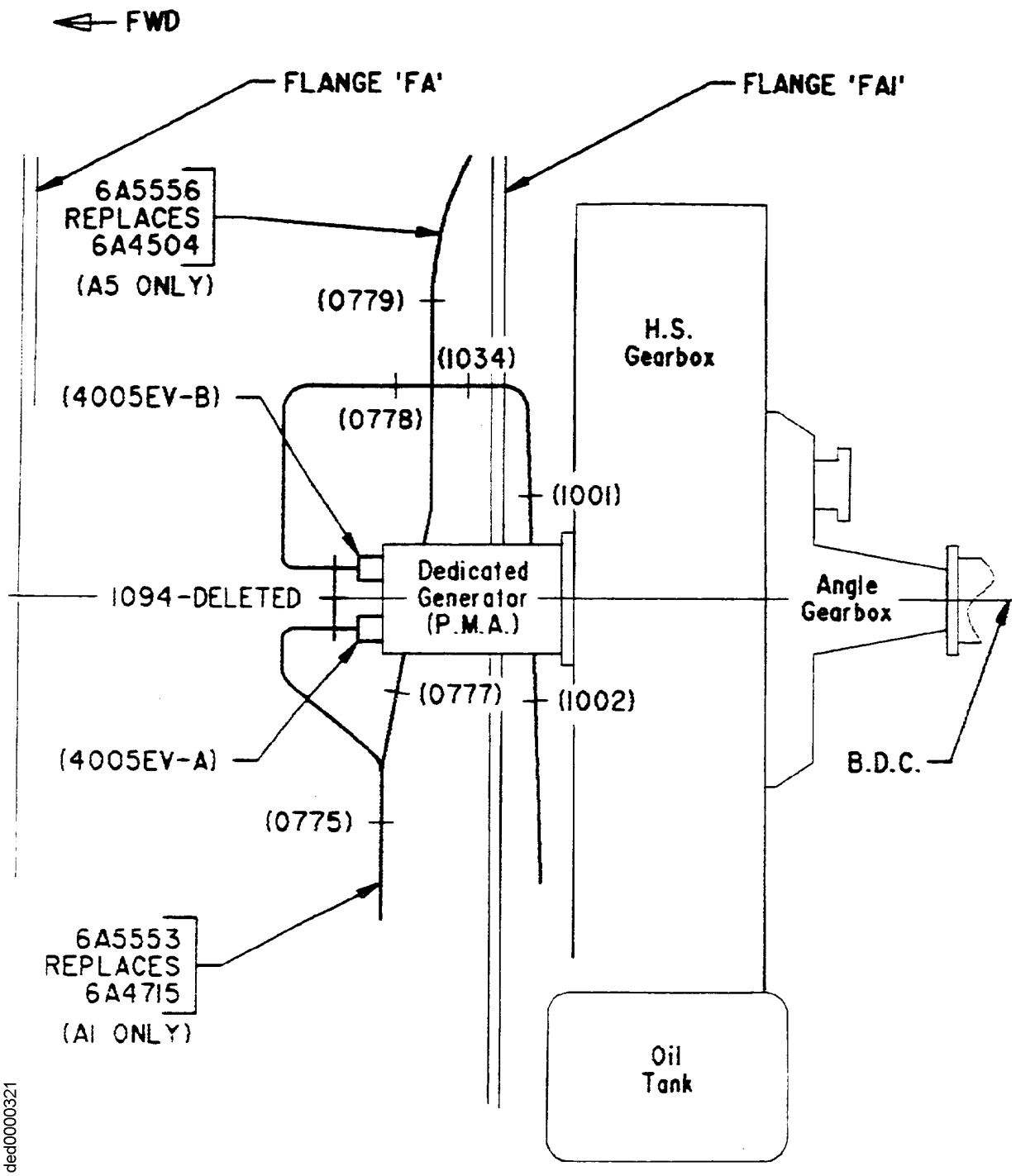
Location of EEC fan harness and clipping position 1094
Fig.1, Sheet 1 of 2



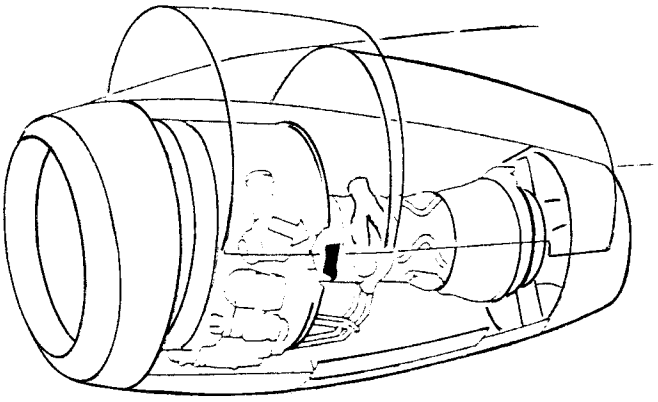
Location of EEC core harness and clipping positions 5798 and 6060/6061
Fig.1, Sheet 2 of 2



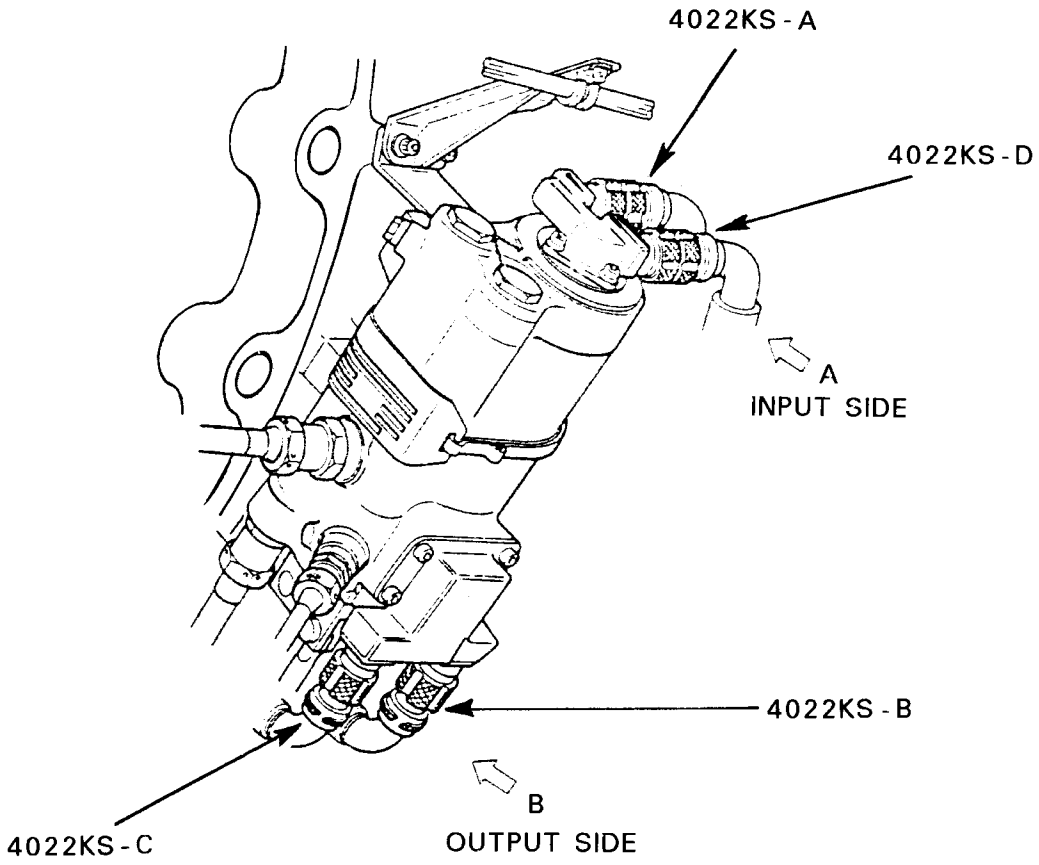
Schematic view of core harness showing location of deleted clipping positions 5798 and 6060/6061
Fig.2



Schematic view of fan harness showing location of deleted clipping position 1094
Fig.3



CONNECTOR	TORQUE TIGHTEN TO
4022KS-A	12lbf/ins
4022KS-B	8lbf/ins
4022KS-C	8lbf/ins
4022KS-D	12lbf/ins



E1491

View showing VSVA connectors
Fig.4

2. Accomplishment Instructions

A. Prerequisite Instructions

(1) On the aircraft panel 115VU put a warning notice to tell persons not to start the engine.

(2) Make sure that the engine has been shutdown for at least 5 minutes.

(3) On the aircraft panel 50VU make sure that the ON legend of the ENG FADEC GND PWR push button switch is OFF and install a warning notice.

(4) Open the left and right fan cowl doors with the instructions given in the A320 Aircraft Maintenance Manual or the A321 Aircraft Maintenance Manual, TASK 71-13-00-010-010.

(5) Open the left and right thrust reverser halves with the instructions given in the A320 Aircraft Maintenance Manual or the A321 Aircraft Maintenance Manual, TASK 78-32-00-010-010.

B. Removal Instructions

(1) Locate the back to back clipping arrangement at the VSVA clipping positions 5798, 6060/6061 and the PMA clipping position 1094.

(2) Remove the 4W0001 nut, 4W0107 bolt, two 5W1086 washers and two JM44LC39H106RG clamps from the VSVA harness backshells at clipping position 5798. Refer to Figures 1 and 2.

(3) Remove the two 4W0001 nuts, two 4W0107 bolts, four 4W2621 washers, 5W2166 bracket and two JM44LC39H110RG clamps from the VSVA harness backshells at clipping position 6060/6061. Refer to Figures 1 and 2.

(4) Remove the 4W0001 nut, 4W0104 bolt, two 5W1086 washers and two JM44LC39H109RG clamps from the PMA harness backshells at clipping position 1094. Refer to Figures 1 and 3.

(5) Remove the connectors at the input and output sides of the VSVA and at the PMA.

C. Rework Instructions (A1 Models)

(1) Replace the four VSVA connector assemblies, using VRS1074, Repair 003 TASK 71-51-43-300-003. Test for continuity, TASK 71-52-43-700-301, SUBTASK 71-52-43-750-054.

(2) Replace the two PMA connector assemblies, using VRS1032, Repair 002 TASK 71-51-41-300-002. Test for continuity, TASK 71-51-41-700-301, SUBTASK 71-51-41-750-052.

D. Rework Instructions (D5 Models)

(1) Replace the four VSVA connector assemblies, using VRS3902 TASK 71-50-00-300-014.

(2) Replace the two PMA connector assemblies, using VRS3902 TASK 71-50-00-300-014.

E. Installation Instructions (A1 Models)

(1) Install the input and output side connectors to the VSVA and tighten the retaining collar on each connector to the required torque value. Refer to Figure 4.

(2) Install the connectors to the PMA and tighten the retaining collar on each connector as instructed in the Aircraft Maintenance Manual, TASK 73-22-38-400-010, SUBTASK 73-22-38-430-401.

(3) Safety the four VSVA connectors and the two PMA connectors with CoMat 02-126 lockwire, as instructed in the Aircraft Maintenance Manual, TASK 70-40-11-911-012, Example 22.

F. Installation Instructions (D5 Models)

(1) Install the input and output side connectors to the VSVA and tighten the retaining collar on each connector as instructed in the Aircraft Maintenance Manual, TASK 75-32-41-400-010, SUBTASK 75-32-41-430-406.

(2) Install the connectors to the PMA and tighten the retaining collar on each connector as instructed in the Aircraft Maintenance Manual, TASK 73-22-38-400-010, SUBTASK 73-22-38-430-401.

(3) Safety the four VSVA connectors and the two PMA connectors with CoMat 02-126 lockwire, as instructed in the Aircraft Maintenance Manual, TASK 70-40-11-911-012, Example 22.

G. Post-requisite Instructions

(1) Close the left and right thrust reverser halves with the instructions given in the A320 Aircraft Maintenance Manual or the A321 Aircraft Maintenance Manual, TASK 78-32-00-410-010.

(2) Close the left and right fan cowl doors with the instructions given in the A320 Aircraft Maintenance Manual or the A321 Aircraft Maintenance Manual, TASK 71-13-00-410-010.

(3) Remove the warning notices from the aircraft panels 115VU and 50VU.

H. Test

(1) Check on CFDS if no fault is present concerning dedicated alternator.

(2) Do a test of the engine dedicated alternator (Ref 71-00-00-710-017).

(3) Do a test of the VSV actuator (Ref 71-00-00-710-017).

I. Recording instructions

(1) A record of accomplishment is necessary.

3. Material Information

Applicability: For each V2500 Engine to incorporate this Bulletin.

A. Kits associated with this Bulletin:

None

B. Parts affected by this Bulletin:

New Part No. (ATA No.)	Qty	Est'd Unit Price ($)	Keyword	Old Part No. (IPC No.)	Instructions Disposition
A1 Model					
6A5553 (71-51-41)	1	42000.00	Harness assembly, EEC fan	6A4715 (01-005) (SBE70-0156)	(A)(B) (1D)(S1)
6A5553 (71-51-41)	1		Harness assembly, EEC fan	6A4394 (01-005) (SBE71-0107)	(A)(B) (1D)(S1)
A5 Model					
6A5556 (71-51-41)	1	49610.00	Harness assembly, EEC fan	6A4504 (01-005)	(A)(B) (1D)(S1)
A1 and A5 Models					
Containing:					

T3K121398SN1259		159.00		)	5A9276	(A)(B)
(71-51-41)			Connector assy	) 4005EV-A	(04-490)	(S1)(S2)
MT938T13K98S901				)	MT938T13K98S	(A)(B)
(71-51-41)	Ref		Connector assy	)	(04-490)	(S1)(S2)
T3K121398SA1259		159.00		)	5A9300	(A)(B)
(71-51-41)	1		Connector assy	)	(04-510)	(S1)(S3)
1017689			Connector assy	) 4005EV-B	MT938T13K98SA	(A)(B)
(71-51-41)	Ref			)	(04-510)	(S1)(S3)
-	1		Bolt	)	4W0104	(2D)
(71-51-41)				)	(02-405)	
				)		
-	2		Washer	)	5W1086	(2D)
(71-51-41)				)	(02-406)	
				)		
-	1		Clamp	) CP 1094	JM44LC39H109RG	(2D)
(71-51-41)				)	(02-407)	
				)		
-	1		Clamp	)	JM44LC39H109RG	(2D)
(71-51-41)				)	(02-408)	
				)		
-	1		Nut	)	4W0001	(2D)
(71-51-41)				)	(02-412)	
A1 Model						
6A5554	1		Harness assembly, EEC		6A4718	(A)(B)
(71-52-43)			Core		(01-005)	(1D)(S1)
					(SBE 70-0156)	
6A5554	1		Harness assembly, EEC		2A1497	(A)(B)
(71-52-43)			core		(01-005)	(1D)(S1)
					(SBE 70-0157)	
A5 Model						
6A5554	1		Harness assembly, EEC		6A4718	(A)(B)
(71-52-43)			core		(01-005)	(1D)(S1)

A1 and A5 Models

Containing:

T3K121198SB1259		124.00		)	T3K1211-98SB	(A)(B)
(71-52-43)	1		Connector assy	) 4022KS-A	(04-110)	(S1)(S4)
1017687			Connector assy	)	MT938T11K98SB	(A)(B)
(71-52-43)	Ref				(04-110)	(S1)(S4)
T3K121198SA1259		124.00		)	T3K1211-98SA	(A)(B)
(71-52-43)	1		Connector assy	)	(04-130)	(S1)(S5)
1017685			Connector assy	) 4022KS-D	MT938T11K98SA	(A)(B)
(71-52-43)	Ref			)	(04-130)	(S1)(S5)
T3K120998SN1259		120.00		)	T3K1209-98SN	(A)(B)
(71-52-43)	1		Connector assy	) 4022KS-C	(04-150)	(S1)(S6)
MT938T09K98S901				)	MT938T09K98SN	(A)(B)
(71-52-43)	Ref		Connector assy	)	(04-150)	(S1)(S6)
T3K120998SA1259		120.00		)	T3K1209-98SA	(A)(B)
(72-52-43)	1		Connector assy	)	(04-170)	(S1)(S7)
1017684			Connector assy	) 4022KS-B	MT938T09K98SA	(A)(B)
(72-52-43)	Ref			)	(04-170)	(S1)(S7)
-	1		Bolt	)	4W0107	(2D)
(71-52-43)				)	(01-486)	
				)		
-	2		Washer	)	5W1086	(2D)
(71-52-43)				)	(01-487)	
				)		
-	1		Clamp	) CP 5798	JM44LC39H106RG	(2D)
(71-52-43)				)	(01-488)	
				)		
-	1		Clamp	)	JM44LC39H106RG	(2D)
(71-52-43)				)	(01-489)	
				)		
-	1		Nut	)	4W0001	(2D)
(71-52-43)				)	(01-493)	
-	1		Bolt	)	4W0107	(2D)
(71-52-43)				)	(01-502)	
				)		
-	2		Washer	) CP 6060	4W2621	(2D)
(71-52-43)				)	(01-503)	
				)		
-	1		Clamp	)	JM44LC39H110RG	(2D)
(71-52-43)				)	(01-505)	
				) CP 6060		
-	1		Nut	)	4W0001	(2D)
(71-52-43)				)	(01-509)	

- (71-52-43)	1	Bolt	)))	4W0107 (01-510)	(2D)
- (71-52-43)	2	Washer	)))	4W2621 (01-511)	(2D)
- (71-52-43)	1	Clamp	) CP 6061)))	JM44LC39H11ORG (01-513)	(2D)
- (71-52-43)	1	Nut	))	4W0001 (01-517)	(2D)
- (71-52-43)	1	Bracket		5W2166 (05-940)	(2D)

C. Instructions/Disposition Code Statements

(A) New part is currently available for sale

(B) Old part will be discontinued

(1D) Old part can be reworked and re-identified to the new part number.

(2D) Retain for spares as old part can be used up on other applications.

(S1) New part may be used in place of old part, but not vice versa.

(S2) New parts are alternative

(S3) New parts are alternative

(S4) New parts are alternative

(S5) New parts are alternative

(S6) New parts are alternative

(S7) New parts are alternative

NOTE: The estimated 1996 unit prices shown are provided for planning purposes only and do not constitute a firm quotation. Consult the IAE Price Catalog or contact IAE's Spare Parts Sales Department for information concerning firm prices.

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