

#### International Aero Engines

## SERVICE BULLETIN

## <u>AIR - ENGINE - DEDICATED ALTERNATOR - COOLING AIR SUPPLY - CATEGORY CODE 5 - MOD.ENG-75-0010</u>

#### 1. Planning Information

#### **Effectivity**

(1) Aircraft: Airbus A320

(2) Engine: V2500-A1 Engine Serial No. prior to V0122

#### B. Reason

(1) Condition

Potential overheating of the dedicated alternator.

(2) Background

Engine flight and supplier rig testing has shown that the temperatures being reached by the dedicated alternator stator windings are higher than the continuous rated temperature of the bonding material used.

(3) Objective

To maintain the temperature of the dedicated alternator at an acceptable level.

(4) Substantiation

The changes introduced by this modification have been shown by over 500 hours of development testing to achieve the required reduction in temperature.

(5) Effect of bulletin on workshop procedures

Removal/Installation Affected
Disassembly/Assembly Not affected
Cleaning Affected
Inspection/Check Affected
Repair Not affected
Testing Not affected

(6) Supplemental Information

None



#### C. <u>Description</u>

- (1) The changes introduced by this Service Bulletin are as follows:
  - (a) A new dedicated alternator is introduced having an integral cooling air manifold.
  - (b) A new, 5 piece, cooling air supply tube is introduced to supply air from the number 1 strut diagnostic air tapping point to the manifold.
  - (c) A new, double ended, number 1 strut diagnostic air tapping connector is introduced to connect the new cooling air system.

### D. Approval

The part number changes 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 model listed.

#### E. Compliance

Category Code 5

Accomplish when the engine is disassembled sufficiently to afford access to the affected sub-assembly (i.e. modules, accessories, components, build groups) and to all affected spare sub-assemblies.

#### F. Manpower

Estimated manhours to incorporated the full intent of this bulletin.

Venue

Estimated Manhours

(1) In service

TOTAL 1 hour 7 minutes

- (a) To gain access
  - (i) Open fan cowl doors .. 7 minutes
- (b) To embody
  - (i) Refer to Estimated
    Manhours quoted for

Overhaul .. .. 52 minutes

- (ii) Reworking of EDA to air
  - cooled standard .. Refer to Dowty Smiths Service Bulletin 1664-73-001
- (c) To return engine to flyable status



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(i) Close fan cowl doors .. 8 minutes

(2) At overhaul

TOTAL 52 minutes

- (a) To gain access
  - (i) Remove engine dedicated alternator ... 6 minutes
- (ii) Remove fan exist pressure boss and prepare fan case flange for new bracketry .. .. 11 minutes

TOTAL 17 minutes

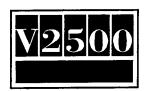
- (b) To embody Not applicable (No rework required)
- (c) To return to modular condition
- (i) Install new pressure boss and cooling air supply tubes .. .. 28 minutes
- (ii) Install engine dedicated alternator .. . 7 minutes

TOTAL 35 minutes

- G. Material Price and Availability
- (1) Details of the Modification kit, allowing reworking of an EDA, can be seen in Dowty Smiths Service Bulletin 1664-73-001.
- (2) See 3. 'Material Information' for prices and availability of future spares.
- H. Tooling Price and Availability

Special tools are not required.

- I. Weight and Balance
  - (1) Weight change .. .. Plus 3.5 lb (1,59 kg.)
  - (2) Momemt arm .. .. 6.300in. (160 mm.) forward of datum
  - (3) Datum .. .. .. Engine front mount centre line (Power Plant Station (P.P.S. 100))



### J. Electrical Load Data

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

#### K. References

(1) Internal Reference No.

ECM89VR011

ECM89VR011A

(2) Other References

A320 Aircraft Maintenance Manual

IAE V2500 Service Bulletin Number

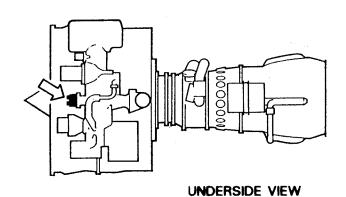
V2500-ENG-71-0065.

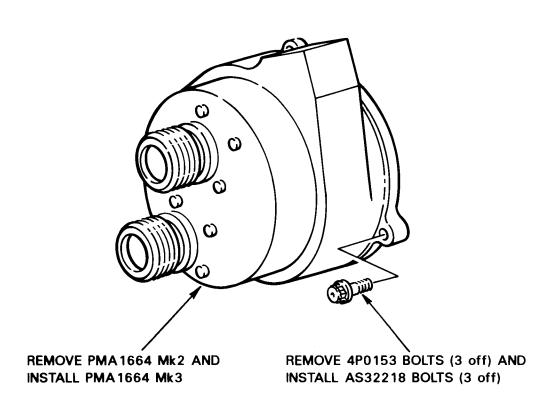
Dowty Smiths Service Bulletin Number 1664-73-001

### L. Other Publications Affected

- (1) V2500 Illustrated Parts Catalog, 71-51-41, 71-51-43, 72-32-85, 73-11-47, 73-22-38, 75-22-49, 79-22-49.
- (2) V2500 Engine Manual, 72-00-32, Removal-02, 03 and 05, Installation 01, 03 and 04, 72-00-60, Removal-02 and 05, Installation 03 and 05.
- (3) V2500 Engine Maintenance Manual, 73-22-38, Removal/Installation.
- (4) V2500 Component Maintenance Manual, 72-51-41, 73-11-47, 75-22-49, Cleaning and Inspection/Check.

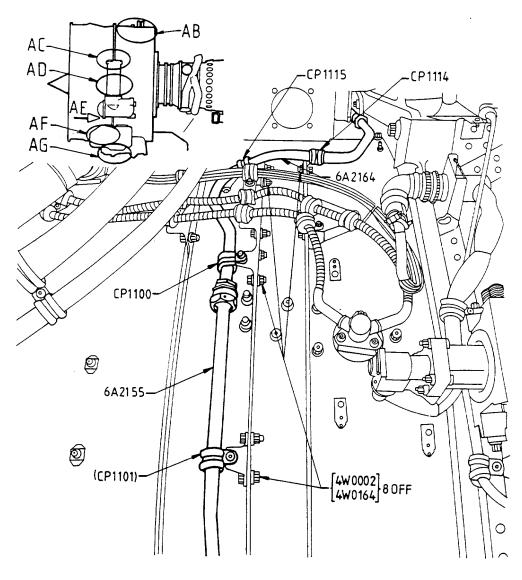






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Location of dedicated alternator (stator) Fig.1

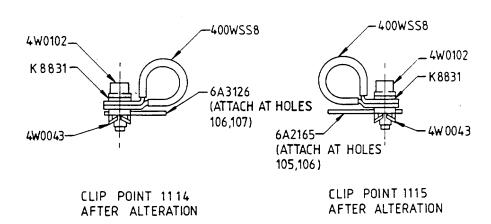


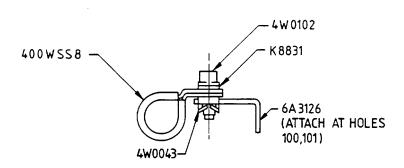
VIEW AT AB AFTER ALTERATION

View sharing air cooling tubes and clipping points — After alteration Fig.2

V2500-ENG-75-0010

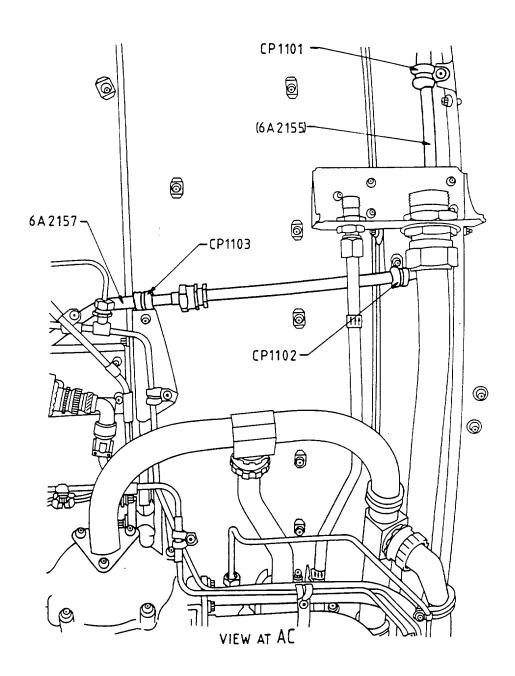




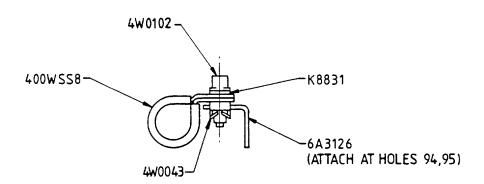


CLIP POINT 1100

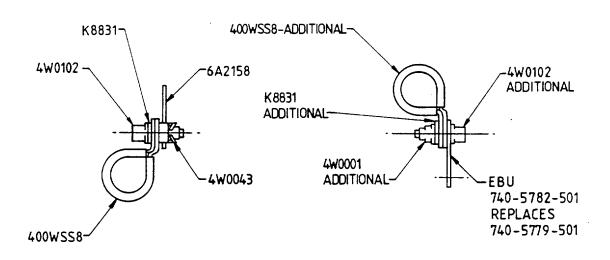
Clipping points - After alteration Fig.3



View showing air cooling tubes and clipping points — After alteration Fig.4  $\,$ 



## CLIP POINT 1101 AFTER ALTERATION

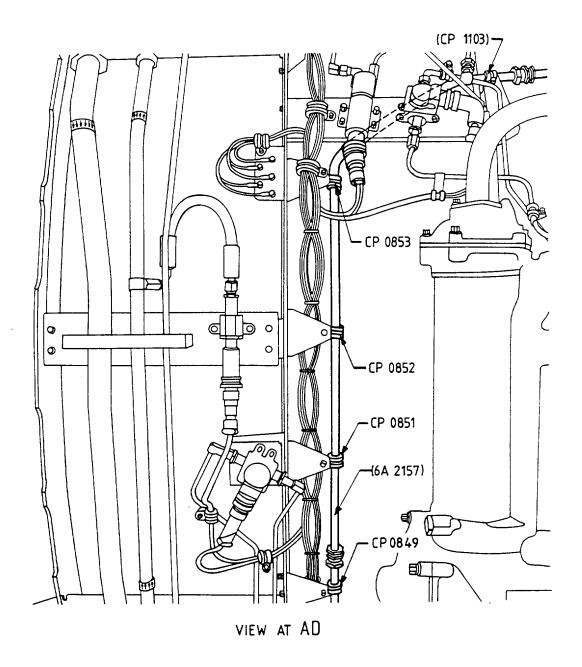


**CLIP POINT 1102** 

CLIP POINT 1103

Clipping points - Before and after alteration Fig.5

V2500-ENG-75-0010

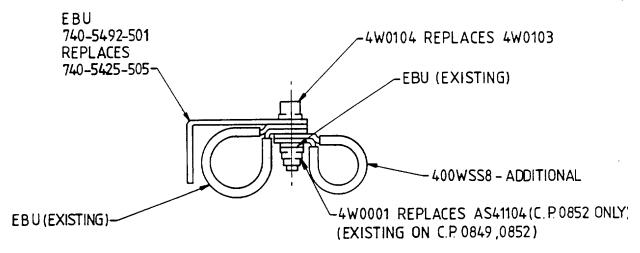


View showing air cooling tube and clipping points - After alteration Fig.6

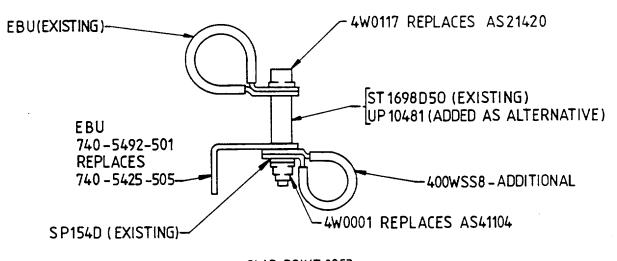


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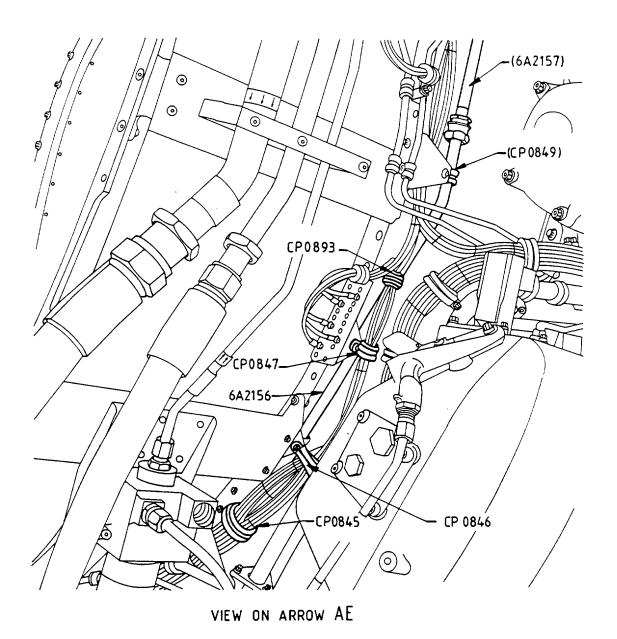
CLIP POINTS 0849 0851 & 0852 BEFORE AND AFTER ALTERATION



CLIP POINT 0853

Clipping points - Before and after alteration Fig.7

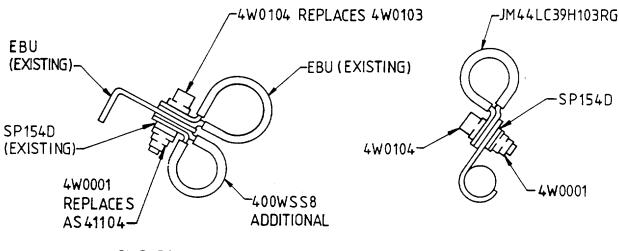
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View showing air cooling tubes and clipping points — After alteration Fig.8

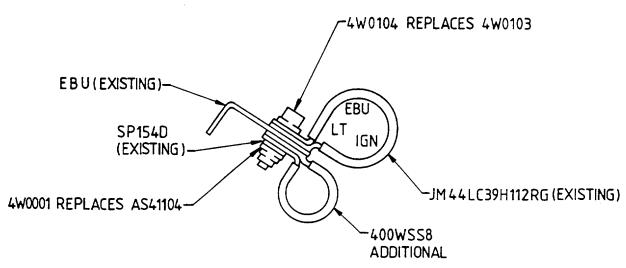
V2500-ENG-75-0010





CLIP POINT 0847
BEFORE AND AFTER ALTERATION

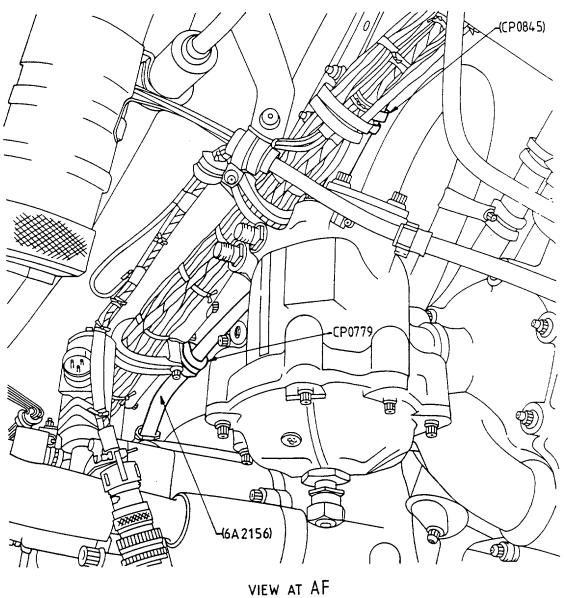
CLIP POINT 0893
AFTER ALTERATION



CLIP POINT 0846

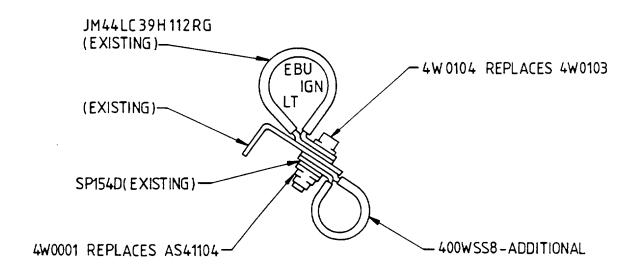
Clipping points - Before and after alteration Fig.9

V2500-ENG-75-0010

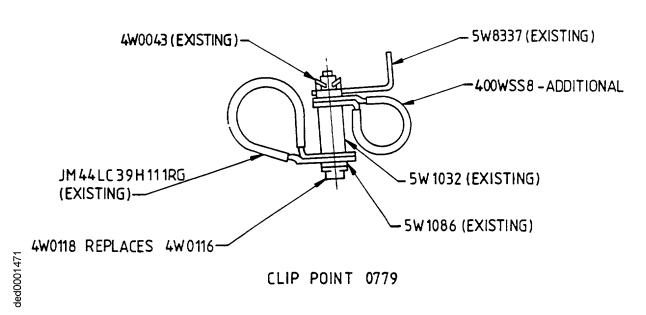


View showing air cooling tube and clipping points - After alteration Fig.10



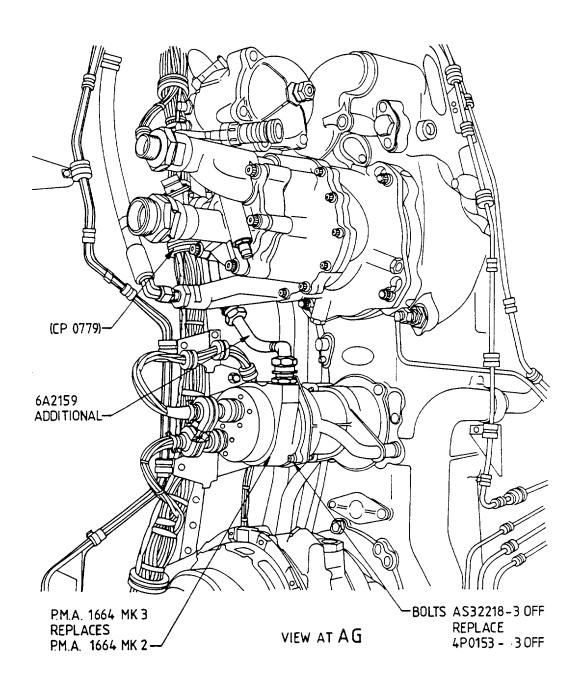


CLIP POINT 0845
BEFORE AND AFTER ALTERATION



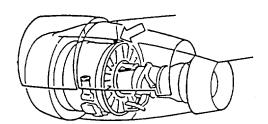
Clipping points - Before and after alteration Fig.11

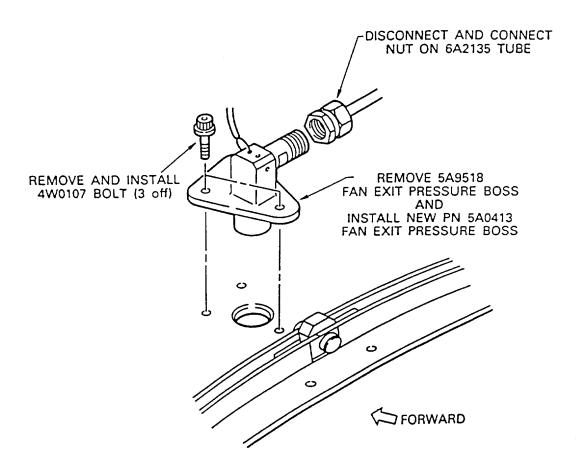




View showing the dedicated alternator — Before and after alteration Fig.12

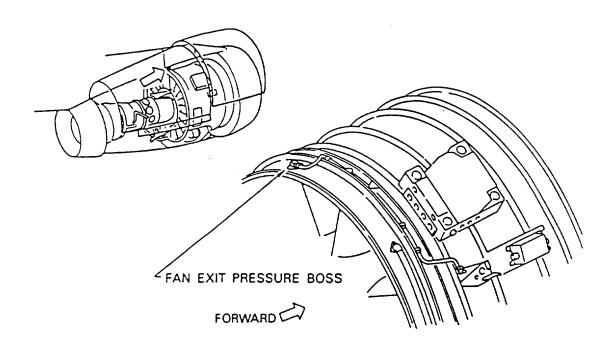


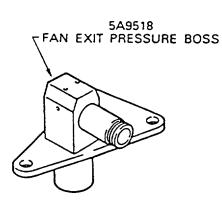


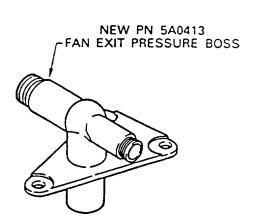


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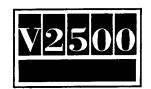
Fan exit pressure boss - Before alteration Fig.13







Fan exit pressure boss - Before and after alteration Fig.14



### 2. Accomplishment Instructions

### A. Prerequisite Instructions

(1) Open the fan cowls in accordance with the instructions in the A320 Aircraft Maintenance Manual, 71-13-00-010.

#### B. Removal Instructions

- (1) Remove the engine dedicated alternator (E.D.A.) stator 1664 Mk2 as instructed in the Aircraft Maintenance Manual, TASK 73-22-38-000-010.
- (2) Disconnect the nut connecting tube 6A2135 to the fan exit pressure boss 5A9518, remove the bolts 4W0107 (3 off) securing the fan exit pressure boss to the fan case (refer to Figure 13) and remove the fan exit pressure boss.

#### C. Rework Instructions

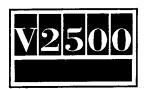
(1) Reworking of an EDA to air cooled standard is described in detail in Dowty Smiths Service Bulletin 1664-73-001.

#### D. Assembly Instructions

- (1) Install and secure the new fan exit pressure boss 5AO413 and connect the tube 6A2135 (refer to Figure 13).
- (2) Install the tube 6A2164; support at CP1114, CP1115 and CP1100 (refer to Figures 2 and 3) and connect to the exit pressure boss.
- (3) Install the tube 6A2155; support at CP1101 and CP1102 (refer to Figures 2, 4 and 5) and connect to tube 6A2164.
- (4) Install the tube 6A2157; support at CP1103, CP0853, CP0852 and CP0851 (refer to Figures 4, 5, 6 and 7) and connect to tube 6A2155.
- (5) Install the tube 6A2156; support at CPO849, CPO893, CPO847, CPO846, CPO845 and CPO779 (refer to Figures 7, 8, 9, 10 and 11) and connect to tube 6A2157.
- (6) Install the tube 6A2159 (refer to Figure 12) and connect to tube 6A2156.
- (7) Install the engine dedicated alternator stator 1664 Mk3 as instructed in the Aircraft Maintenance Manual, TASK 73-22-38-400-010 and connect tube 6A2159 (refer to Figure 12).

### E. Post Requisite Instructions

(1) Close the fan cowls in accordance with the instructions in the A320 Aircraft Maintenance Manual, 71-13-00-410-010.



- F. Recording Instructions
  - (1) Record in the Engine Log that this Service Bulletin has been incorporated.



## 3. Material Information

Applicability: For each V2500 Engine to incorporate this Bulletin.

## A. <u>Kits associated with this Bulletin:</u>

(1) Dowty Fuel Systems Modification kit DTV020 (parts detailed in Dowty Smiths Service Bulletin 1664-73-001).

## B. Parts affected by this Bulletin:

New Part No. (ATA No.)	Qty	Est'd Unit Price (\$)	Keyword	Old Part No. (IPC No.)	
4W0118 (71-51-41)	1	2.19	Bolt, bihex hd (0.190 dia x 1.438) CP0779	4W0116 (01-790)	(A)(D)
4W0104 (71-51-43)	1	3.30	Bolt, bihex hd (0.190 dia x 0.562) CP0845	4W0103 (01-214)	(A)(D)
4W0001 (71-51-43)	1	5.37	Nut, bihex (0.190 dia) CP0845	AS41104 (01-221)	(A)(D)
4W0104 (71-51-43)	1	3.30	Bolt, bihex hd (0.190 dia x 0.562) CP0846	4W0103 (01-222)	(A)(D)
4W0001 (71-51-43)	1	5.37	Nut, bihex (0.190 dia) CP0846	AS41104 (01-229)	(A)(D)
4W0104 (71-51-43)	1	3.30	Bolt, bihex hd (0.190 dia x 0.562) CP0847	4W0103 (01-230)	(A)(D)
4W0001 (71-51-43)	1	5.37	Nut, bihex (0.190 dia) CP0847	AS41104 (01-237)	(A)(D)
4W0104 (71-51-43)	1	3.30	Bolt, bihex hd (0.190 dia x 0.562) CP0849	4W0103 (01-246)	(A)(D)
4W0104 (71-51-43)	1	3.30	Bolt, bihex hd (0.190 dia x 0.562) CP0851	4W0103 (01-262)	(A)(D)
4W0104 (71-51-43)	1	3.30	Bolt, bihex hd (0.190 dia x 0.562) CP0852	4W0103 (01-270)	(A)(D)
4W0001 (71-51-43)	1	5.37	Nut, bihex (0.190 dia) CP0852	AS41104 (01-277)	(A)(D)
4W0117 (71-51-43)	1	7.16	Bolt, bihex hd (0.190 dia x 1.375)	AS21420 (01-278)	(A)(D)



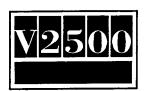
			CP0853		
UP10481	1	_	Spacer (20 mm.)	_	(A)(C)(E)
(71-51-43			CP0853	(01-283)	
4W0001	1	5.37	Nut, bihex	AS41104	(A)(D)
(71-51-43)			(0.190 dia)	(01-285)	
			CP0853		
4W0104	1	3.30	Bolt, bihex hd	-	(A)(C)
(71-51-43)			(0.190 dia x 0.562)	(01-470)	
			CP0893		
SP154D	1	-	Washer	-	(A)(C)
(71–51–43)			CP0893	(01-471)	
JM44LC39H1	1	3.03	Clip, loop	-	(A)(C)
03RG			CP0893	(01-473)	
(71–51–43)					
4w0001	1	5.37	Nut, bihex	-	(A)(C)
(71-51-43)			(0.190 dia)	(01-477)	
			CP0893		
740-5492-	4	-	Bracket	-	(A)(C)
501			CP0849, CP0851, CP0852,	(05-800)	
(71–51–43)			CP0853		
AS20625	2	1.60	Nut, bihex	-	(F)
(71-51-43)			(0.250 dia)	(05-801)	
			CP0849		
AS21510	4	3.76	Bolt, bihex hd	-	(F)
(71–51–43)			(0.250 dia x 0.625)	(05-804)	
			CP0849, CP0851		
<del>-</del>	1		Nut, bihex	AS20625	(F)
(71–51–43)			(0.250 dia)	(05-871)	
	_		CP1103		4-5
-	1		Washer	SP155E	(F)
(71–51–43)			CP1103	(05-872)	<b>.</b> ->
-	1		Bolt, bihex hd	AS21512	(F)
(71–51–43)			(0.250 dia x 0.750)	(05-874)	
	,		CP1103	7/0 5/05	(0)
-	4		Bracket	740-5425-	(G)
(71–51–43)			CP0849, CP0851, CP0852	505	
	2		CP0853	(05-970)	(5) (11) (5)
-	2		Nut, bihex	AS20625	(D)(H)(F)
(71–51–43)			(0.250 dia)	(05-971)	
	,		CP0849	4024540	(5)(11)(5)
- (71 E4 /7)	4		Bolt, bihex hd	AS21510	(D)(H)(F)
(71–51–43)			(0.250 dia x 0.625)	(05-974)	
EAO/17	1		CP0849, CP0851	E A O E 4 O	(D)(A)
5A0413	1	_	Boss, pressure cooling	5A9518	(D)(A)
(72-32-85)			air fan exit	(02-100)	



6A2158 (73-11-47)	1	7.46	Bracket CP1102	- (01-940)	(A)(C)
1664 Mk.3 (73-22-38)	1		Stator - Dedicated alternator	1664 Mk.2 (01-100)	(B)
AS32218 (73-22-38)	3		Bolt, 'D' head (0.250 dia x 1.125)	4P0153 (01-106)	(A)(D)
6A3126 (75-22-49)	3	5.50	Bracket CP1100, CP1101, CP1114	- (15-070)	(A)(C)
4W0002 (75-22-49)	6	6.63	Nut, bihex (0.250 dia) CP1100, CP1101, CP1114	(15-071)	(A)(C)
4W0164 (75-22-49)	6	3.76	Bolt, bihex hd (0.250 dia x 0.625) CP1100, CP1101, CP1114	- (15-074)	(A)(C)
6A2165 (75-22-49)	1	6.67	Bracket (0.250 dia) CP1115	- (15-080)	(A)(C)
4W0002 (75-22-49)	2	6.63	Nut, bihex (0.250 dia) CP1115	(15-081)	(A)(C)
4W0164 (75-22-49)	2	3.76	Bolt, bihex hd (0.250 dia x 0.625) CP1115	- (15-084)	(A)(C)
6A2164 (75-22-49)	1	688.00	Tube a/o, cooling air	- (15-100)	(A)(C)
4W0102 (75-22-49)	1	3.30	Bolt, bihex hd (0.190 dia x 0.438) CP1100	- (15-141)	(A)(C)
K8831 (75-22-49)	1	0.13	Washer CP1100	- (15-142)	(A)(C)
400WSS8 (75-22-49)	1	5.21	Clip, loop type CP1100	- (15-144)	(A)(C)
4W0043 (75-22-49)	1	1.76	Nut, clip (0.190 dia) CP1100	- (15-148)	(A)(C)
4W0102 (75-22-49)	1	3.30	Bolt, bihex hd (0.190 dia x 0.438) CP1114	- (15-149)	(A)(C)
K8831 (75-22-49)	1	0.13	Washer CP1114	- (15-150)	(A)(C)
400WSS8 (75-22-49)	1	5.21	Clip, loop type CP1114	- (15-152)	(A)(C)
4W0043 (75-22-49)	1	1.76	Nut, clip (0.190 dia) CP1114	- 15-156)	(A)(C)
4W0102 (75-22-49)	1	3.30	Bolt, bihex hd (0.190 dia x 0.438) CP1115	- (15-157)	(A)(C)
K8831 (75-22-49)	1	0.13	Washer CP1115	- (15-158)	(A)(C)



400WSS8 (75-22-49)	1	5.21	Clip, loop type CP1115	- (15-160)	(A)(C)
4W0043	1	1.76	Nut, clip	_	(A) (C)
(75-22-49) 6A2155	1	459.00	(0.190 dia) CP1115 Tube a/o, cooling air	(15-164) -	(A)(C)
(75-22-49) 4W0102	1	3.30	Bolt, bihex hd	(15-500) -	(A)(C)
(75-22-49)			(0.190 dia x 0.438) CP1101	(15-525)	
K8831	1	0.13	Washer	-	(A)(C)
(75-22-49) 400WSS8	1	5.21	CP1101 Clip, loop type	(15-526) -	(A)(C)
(75–22–49)			CP1101	(15-528)	
4W0043 (75-22-49)	1	1.76	Nut, clip (0.190 dia) CP1101	- (15-532)	(A)(C)
4W0102	1	3.30	Bolt, bihex hd	-	(A)(C)
(75-22-49)	•		(0.190 dia x 0.438) CP1102	(15-533)	
K8831	1	0.13	Washer	_	(A)(C)
(75-22-49)			CP1102	(15-534)	
400WSS8	1	5.21	Clip, loop type	-	(A)(C)
(75-22-49) 4W0043	1	1.76	CP1102 Nut, clip	(15–536) –	(A)(C)
(75-22-49)	Ī	1.70	(0.190 dia) CP1102	(15-540)	(A)(C)
6A2157	1	505.00	Tube a/o, cooling air	-	(A)(C)
(75-22-49)				(16-100)	
4W0102	1	3.30	Bolt, bihex	_	(A)(C)
(75–22–49)			(0.190 dia x 0.438) CP1103	(16–125)	
K8831	1	0.13	Washer	_	(A)(C)
(75-22-49)	-	01.0	CP1103	(16-126)	
400WSS8	1	5.21	Clip, loop type	_	(A)(C)
(75-22-49)	_		CP1103	(16–128)	
4W0001 (75-22-49)	1	5.37	Nut, bihex (0.190 dia) CP1103	- (16-132)	(A)(C)
400WSS8	1	5.21	Clip, loop type	(10-132)	(A)(C)
(75-22-49)	•	J.L.	CP0853	(16-136)	(/// (0)
400WSS8	1	5.21	Clip, loop type	_	(A)(C)
(75-22-49)			CP0852	(16-144)	
400WSS8	1	5.21	Clip, loop type	-	(A)(C)
(75-22-49) 6A2156	1	595.00	CPO851 Tube a/o, cooling air	(16–152) –	(A)(C)
(75-22-49)	•	J/J.00	rabe are, cooring an	(16-500)	(4/(6/
400WSS8	1	5.21	Clip, loop type	_	(A)(C)
(75-22-49)			CP0849	(16-528)	



## International Aero Engines

## **SERVICE BULLETIN**

400WSS8 (75-22-49)	1	5.21	Clip, loop type CP0847	- (16-536)	(A)(C)
400WSS8	1	5.21	Clip, loop type	-	(A)(C)
(75-22-49) 400WSS8	1	5.21	CPO846 Clip, loop type	(16-544) -	(A)(C)
(75-22-49)	4	F 24	CP0845	(16-552)	(4)(0)
400WSS8 (75-22-49)	1	5.21	Clip, loop type CPO779	- (16-560)	(A)(C)
6A2159	1	377.00	Tube a/o, cooling air	_	(A)(C)
(75-22-49) 740-5782	1	_	Bracket	(17-100) 740-5779-	(A)(D)
501	•		CP1103	501	(A)(D)
(79-22-49)				(13-900)	

### C. <u>Instructions/Disposition Code Statements</u>

- (A) New parts coded (A) are currently available for sale.
- (B) Refer to Dowty Smiths Service Bulletin 1664-73-001.
- (C) Additional part.
- (D) Old parts can be used at other applications.
- (E) Added as alternative to ST1698D50 (Refer to SB71-0065).
- (F) Indicates item no. change only.
- (G) Leaves 7 required.
- (H) Leaves 12 required.

NOTE: The estimated 1991 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 information concerning firm prices.



## 1664-73-001

ENGINE DEDICATED ALTERNATOR-STATOR
UNIT. INTRODUCTION OF AIR COOLING
TO ALTERNATOR STATOR.

(IAE SB V2500-ENG-75-0010) (DSIC MOD. D.TV.020)

## 1. Planning Information

## A. Effectivity

(1) <u>Airbus - A320</u>

V2500-A1100000. All 1664 Mk2 Units.

(2) Stator Units

This bulletin applies to new manufacture; the point of embodiment is unit serial number 1664200.

## B. Reason

## (1) Condition

The current standard of Alternator runs with a Stator Unit winding temperature of approximately 245°C. This temperature exceeds the continuous functional capability of the slot liner material which causes material shrinkage. This causes a slow and continuous increase in winding temperature which can result in an electrical failure.

#### (2) Background

The condition was identified during reliability testing of the unit.

#### (3) Objective

Incorporation of the changes introduced by this Service Bulletin (Modification), are designed to reduce the initial winding temperature to less than 215°C. This will prevent material degradation and extend stator life.

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## (4) Substantiation

The changes introduced by this Service Bulletin (Modification), have been shown by extended testing, to alleviate the condition.

## C. <u>Description</u>

- (1) This Service Bulletin (Modification) introduces an aluminium shroud over the existing Stator Unit body. Air is supplied tangentially into the shroud, flows over the body and is then vented through a gap between the shroud and the body.
- (2) Control of the air flow is by a choke orifice at the inlet to the shroud. The air flow helps heat movement from the body and causes a winding temperature of less than 215°C.
- (3) This Service Bulletin is in two parts. Part 1 is to accomplish this Service Bulletin on-wing. Part 2 is to accomplish this Service Bulletin by unit replacement.

## D. Compliance

Category Code 5.

Accomplish when the engine is disassembled sufficiently to afford access to the affected subassembly (i.e. Module, Accessory, Component, Build Group) and to all affected spare subassemblies.

## E. <u>Approval</u>

Service Bulletin No. 1664-73-001 (Mod.DTV.020), (IAE SB V2500-ENG-75-0010), was technically approved by IAE on Sep.4/90. The part number changes and/or part modifications described in this Service 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

0.5 additional man hours are necessary to incorporate this Service Bulletin (Modification), at Engine Maintenance level (on-wing).

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- G. Material - Price and Availability
  - (1)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 chan	je	257g (9.1oz.)
			increase

- (2) Moment arm ..... .... No effect
- ... Engine front (3) Datum ...... mount centerline. (Power Plant Station(PPS)100)

#### J. References

- Dowty & Smiths Industries Controls Limited, component maintenance manual 73-22-38.
- IAE Service Bulletin V2500-ENG-75-0010. (2)
- Dowty/Smiths Mod.DTV.020. (3)
- K. Other Publications Affected

Nil.

#### 2. Accomplishment Instructions

This Service Bulletin can be accomplished on-wing or by unit replacement. 2.A are the on-wing accomplishment instructions. 2.B are the unit replacement instructions.

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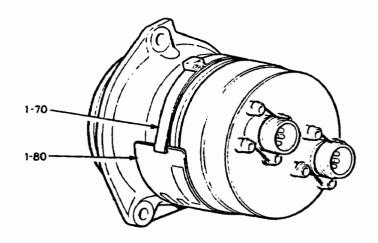
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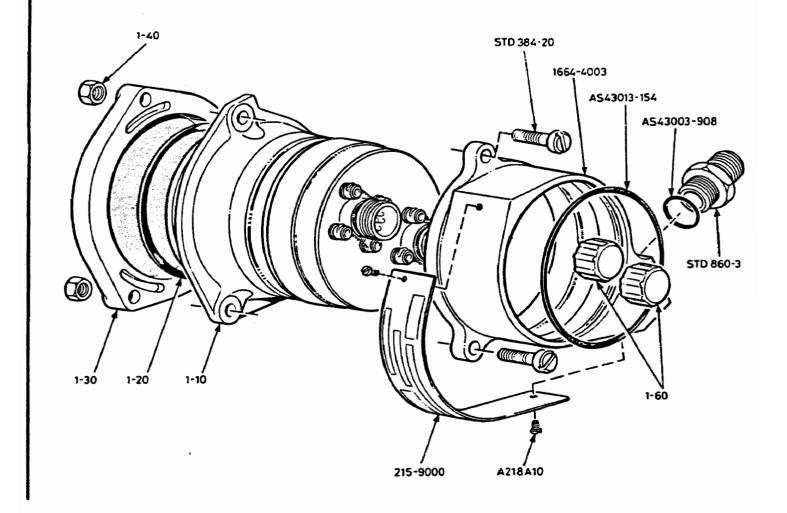
- A. The on-wing accomplishment instructions (Part 1), of this Service Bulletin are as follows:
  - (1) Remove the Engine Dedicated Alternator (EDA), Stator Unit as instructed by IAE Service Bulletin V2500-ENG -75-0010.
  - (2) Refer to 73-22-38 and Figure 1 of this Service Bulletin and release the bonding strip (1-70); remove the bonding strip (1-70) and the identification plate (1-80) from the stator unit.
  - (3) Discard the bonding strip (1-70) but keep the identification plate (1-80) until the Service Bulletin accomplishment (Part 1), is complete.
  - (4) Install the toroidal sealing ring (AS43003-908) onto the smaller threaded end of the stepped union (STD 860-3).
  - (5) Assemble the stepped union (STD860-3) to the threaded bore in the shroud and inserts assembly (1664-4003). Hold the shroud and inserts assembly in a soft-jawed vice and torque tighten the stepped union to 40.5 to 49.5 Nm (360 to 440 lbf.in.). Remove the shroud and inserts assembly from the vice.
  - (6) Install the toroidal sealing ring (AS43013-154) into the groove inside the shroud and inserts assembly.
  - (7) Assemble the shroud and inserts assembly (1664-4003) over the body of the stator unit (1-10). Align the holes in the flange of the shroud and inserts assembly with the holes in the flange of the stator unit body.
  - (8) If it has been removed, install the toroidal sealing ring (1-20) to the groove on the stator unit body. Fit the transport cover (1-30) to the stator unit body; assemble the three bolts (STD384-20) and the three nuts (1-40) to keep the components in place.
  - (9) Get the new data plate (215-9000) (supplied with the Mod. kit).

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Assembly of the Cooling Shroud 1664-73-001

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(10) 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), with the identification plate held on a flat surface:

TYPE NO. - Mark 1664 Mk3M

SERIAL NO. - Mark as on the original plate

VOCAB NO. - Keep blank

MOD. NO. - Mark DTV020

Note: The <u>M</u> against the Mk3 number shows that the unit has been modified in the field (Part 1), not by unit replacement (Part 2).

- (11) Where possible, fill in the stamped letters/numbers with black paint and wipe away the surplus.
- (12) Destroy the first identification plate.
- (13) Carefully bend the new identification plate to the shape of the shroud and inserts assembly, as shown in Figure 1.
- (15) Line up the holes in the identification plate with the holes in shroud and inserts assembly; install the two panhead screws (A218A10). Torque tighten the panhead screws to 0.72 to 0.88 Nm (6.3 to 7.7 lbf.in.).
- (16) Install the EDA, Stator Unit as instructed by IAE Service Bulletin V2500-ENG-75-0010.
- (17) A record of accomplishment is required.
- B. Part 2 of this Service Bulletin is by unit replacement only:
  - (1) Remove the Engine Dedicated Alternator (EDA), Stator Unit as instructed by IAE Service Bulletin V2500-ENG -75-0010.

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Note: Removed stator units should be returned to:

Dowty Fuel Systems
Arle Court
Cheltenham
Glos GL51 OTP,
England.
(For the attention of the Customer Support Engineer).

(2) Install the replacement EDA Stator Unit as instructed by IAE Service Bulletin V2500-ENG-75-0010.

The part number identification, 1664 Mk3, will show that this Service Bulletin has been incorporated.

(3) A record of accomplishment is required.

## 3. Material Information

A. Modification Kit

Modification kit D.TV.020 (comprises the parts given in Para. C.).

B. Parts to be Re-worked

None.

C. New Production Parts

The following new parts will be available as spares:

New Part No.	<u>Oty</u>		d Part No.
1664-4003	1	Shroud & inserts	
		assy of	-
STD860-3	1	Union, stepped	-
AS43013-154	1	Ring, sealing	-
AS43003-908	1	Ring, sealing	-
215-9000	1	Plate, identificatio	n 215-386
A218A10	2	Screw, panhead	-
STD384-20	3	Screw, machine	STD384-15

#### D. Redundant Parts

<u>IPL</u> Fig./Item	New Part No.	Oty	Keyword (	old Part No.
1-50	STD384-20	3	Bolt	STD384-15
1-70	_	1	Strip, bonding	215-410
1-80	215-9000	1	Plate,	
			identification	1 215-386

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#### E. Identification of Units

The type of equipment affected by this Modification is:

Unit

Type No.

Stator Unit 1664 Mk2 (Becomes 1664 Mk3).

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## 1664-73-001 (SUPPLEMENT)

## ENGINE DEDICATED ALTERNATOR - STATOR UNIT. INTRODUCTION OF AIR COOLING TO ALTERNATOR STATOR

## (IAE SB V2500-ENG-75-0010) (DSIC MOD.DTV.020)

## 1. Modification Kit

Modification kit D.TV.020 comprises the parts given in Para. 2.

## 2. New Production Parts

Part No.	Oty per unit	Keyword	Gross World List Price (Dollars)	Availability on Receipt of Order
1664-4003	1	Shroud & inser		
		assy. of	\$591.65	90 days
STD860-3	1	Union, stepped	\$ 62.92	90 days
AS43013-154	1	Ring, sealing		90 days
AS43003-908	1	Ring, sealing	\$ 6.15	90 days
215-9000	1	Plate,	•	
		identification	\$ 26.50	90 days
A218A10	2	Screw, panhead	•	90 days
STD384-20	3	Screw, machine	\$ 18.07 ea.	90 days

## 3. New Tooling

None.

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