V2500 International Aero Engines

SERVICE BULLETIN

ENGINE - HP COMPRESSOR RING CASE - STAGE 10 CASE ASSEMBLY
WITH INCREASED NUMBER OF RIVETS

MODEL APPLICATION

V2500-A1
V2500-A5

BULLETIN INDEX LOCATOR

72-41-00

Compliance Category Code	Internal Reference No.
6	EC92VR131 EC92VR131A EC92VR143 EC92VR143A

ENGINE - HP COMPRESSOR RING CASE - STAGE 10 CASE ASSEMBLY
WITH INCREASED NUMBER OF RIVETS

1. Planning Information

A. Effectivity

(1) Aircraft

(a) Airbus A320

(b) Airbus A321

(2) Engine

(a) V2500-A1 Engines prior to Serial No.V0322

(b) V2500-A5 Engines prior to Serial No.V10006

B. Concurrent Requirements

V2500-A1 Engines

(1) Engine Serial Nos.V0003 to V0250 require Service Bulletin V2500-ENG-72-0141 to be incorporated prior to, or concurrently with Service Bulletin V2500-ENG-72-0154.

(2) Engine Serial Nos.V0251 to V0321 require Service Bulletin V2500-ENG-72-0154 incorporation only.

V2500-A5 Engines

None

C. Reason

(1) Condition

Instances have occurred where the front retainer of the stage 10 case assembly has been deflected forward following release of a number of its securing rivets.

(2) Background

It has been established that the rear outer casing can foul the seal assembly if it is not properly aligned during assembly. This may cause overstressing of the rivets when the outer casing is pulled into its location and lead to rivet release with attendant displacement of the seal.

(3) Objective

To prevent forward movement of the seal and maintain engine reliability.

(4) Substantiation

No testing is considered necessary. The increase in the number of rivets will reduce the individual rivet stress level at assembly and during engine running.

(5) Effect of Bulletin on Workshop Procedures:

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

(6) Supplemental Information

None

D. Description

The change introduced by this Service Bulletin is as follows:

The stage 10 case assembly has the quantity of rivets which secure the seal ring retainer increased from 48 to 96.

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

Category Code 6

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

G. Manpower

Estimated manhours to incorporate the full intent of this Bulletin:

	Venue	Estimated Manhours
(1)	In Service	Not applicable
(2)	At Overhaul	2 hours 10 minutes

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	None
(2)	Moment arm	No effect
(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) Service Bulletin V2500-ENG-72-0141 - Engine - HP Compressor - Stage 10 Case Assembly - Replacement of Stage 10 Piston Ring Seal Rivets.

(2) V2500 Standard Practices/Processes Manual (SPP-V2500-1IA), TASK 70-23-01-230-501, TASK 70-39-03-390-501 and TASK 70-09-00-400-501, SUBTASK 70-09-00-400-001.

(3) V2500 Engine Manual (E-V2500-1IA and E-V2500-2IA).

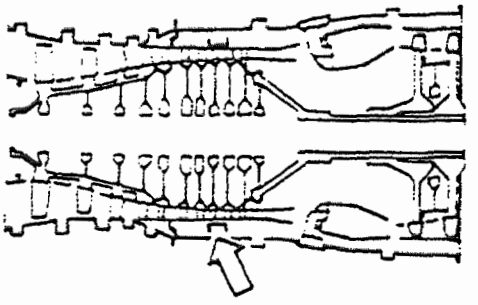
(4) V2500 Illustrated Parts Catalog (S-V2500-1IA and S-V2500-2IA).

M. Other Publications Affected

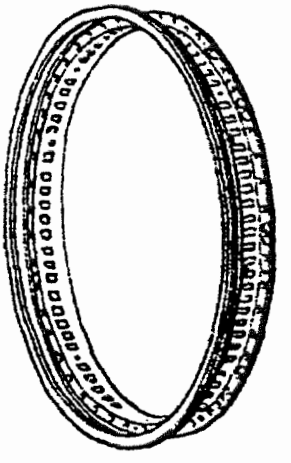
(1) V2500 Illustrated Parts Catalog (S-V2500-1IA and S-V2500-2IA), Chapter/Section 72-41-21.

(2) V2500 Engine Manual (E-V2500-1IA), 72-41-21, Cleaning-00 and -12, Inspection/Check -00 and -11, and Rework.

(3) Repair Schemes VRS6099, VRS6169, VRS6253 and VRS6331 are affected by this Service Bulletin.



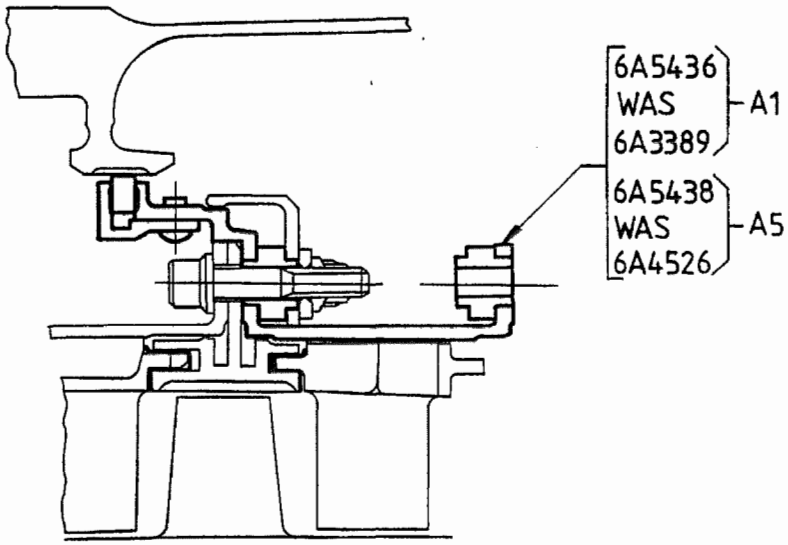
MODULE 40



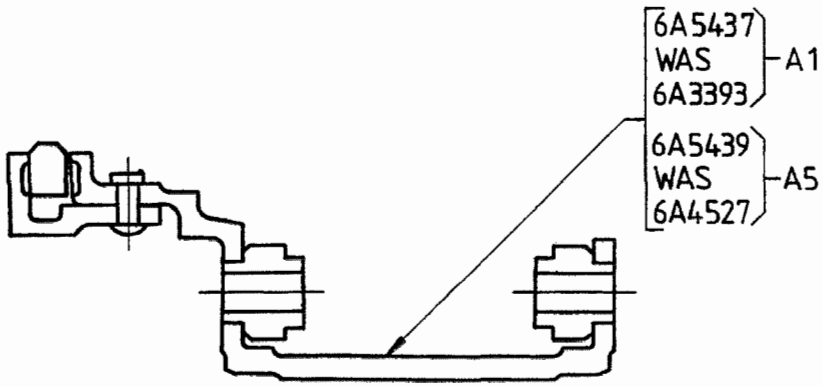
A1 MODEL	A5 MODEL
REMOVE 6A3389	REMOVE 6A4526
6A3393	6A4527
INSTALL 6A5436	INSTALL 6A5438
6A5437	6A5439

E1445

Location of stage 10 case assembly
Figure 1



SECTION THROUGH REAR H.P. COMPRESSOR
BEFORE AND AFTER ALTERATION



SECTION THROUGH STAGE 10 COMPRESSOR CASE ASSEMBLY.
BEFORE AND AFTER ALTERATION

Section through rear HP compressor and stage 10 compressor case assembly - Before and after alteration
Figure 2

2. Accomplishment Instructions

A. Rework Instructions

(1) Rework the following parts:

6A3389 and 6A4526, case assembly-stage 10 (Refer to 72-41-21, Fig./Item 04-350) and 6A3393 and 6A4527, case (Refer to 72-41-21, Fig./Item 04-370).

Consumable Materials

None

Standard Equipment

Vertical boring machine with indexing table
Standard workshop equipment
Penetrant crack test equipment
Vibro-engraving equipment

	Procedure	Supplementary Information
(a)	Install the casing onto the indexing table of an applicable vertical boring machine	Use standard workshop equipment
(b)	Install drill into the vertical boring machine	Use standard workshop equipment and a 0.098 to 0.101 in.(2,50 to 2,56 mm.) drill
(c)	Align one of the initial rivets below the drill point	Use the indexing table of the vertical boring machine
(d)	Index the table 3.75 degrees	Use the indexing table of the vertical boring machine
(e)	Drill one hole to size	Refer to Figure 3. Use a 0.098 to 0.101in. (2,50 to 2,56 mm.) drill
(f)	Index the table 7.5 degrees	Use the indexing table of the vertical boring machine
(g)	Drill one hole to size	Refer to Figure 3. Use a 0.098 to 0.101in. (2,50 to 2,56mm.) drill

Procedure	Supplementary Information
(h) Do operations (f) and (g) again until 48 holes have been drilled	
(i) Remove all sharp edges from the new holes	Use standard workshop equipment
(j) Crack test the affected areas	Refer to SPM TASK 70-23-01-230-501 Use penetrant crack test equipment
(k) Install the rivets into the holes at 48 positions	Use AS16247 rivet, solid, 48 off
(l) Cold squeeze the rivets into place	Refer to SPM TASK 70-39-03-390-501 Use standard workshop equipment
(m) Examine	Make sure the rivets are tight
(n) Do a penetrant crack test on the new rivets	Refer to SPM TASK 70-23-01-230-501 Use penetrant crack test equipment. Discard cracked rivet(s)
(o) Cancel the old part number and identify with the new part number	Old part no. / New part no. 6A3389 / 6A5436 6A4526 / 6A5438 6A3393 / 6A5437 6A4527 / 6A5439 Refer to SPM TASK 70-09-00-400-501 SUBTASK 70-09-00-400-001 Use vibro-engraving equipment

B. Assembly Instructions

(1) V2500 - A1 Engine Model

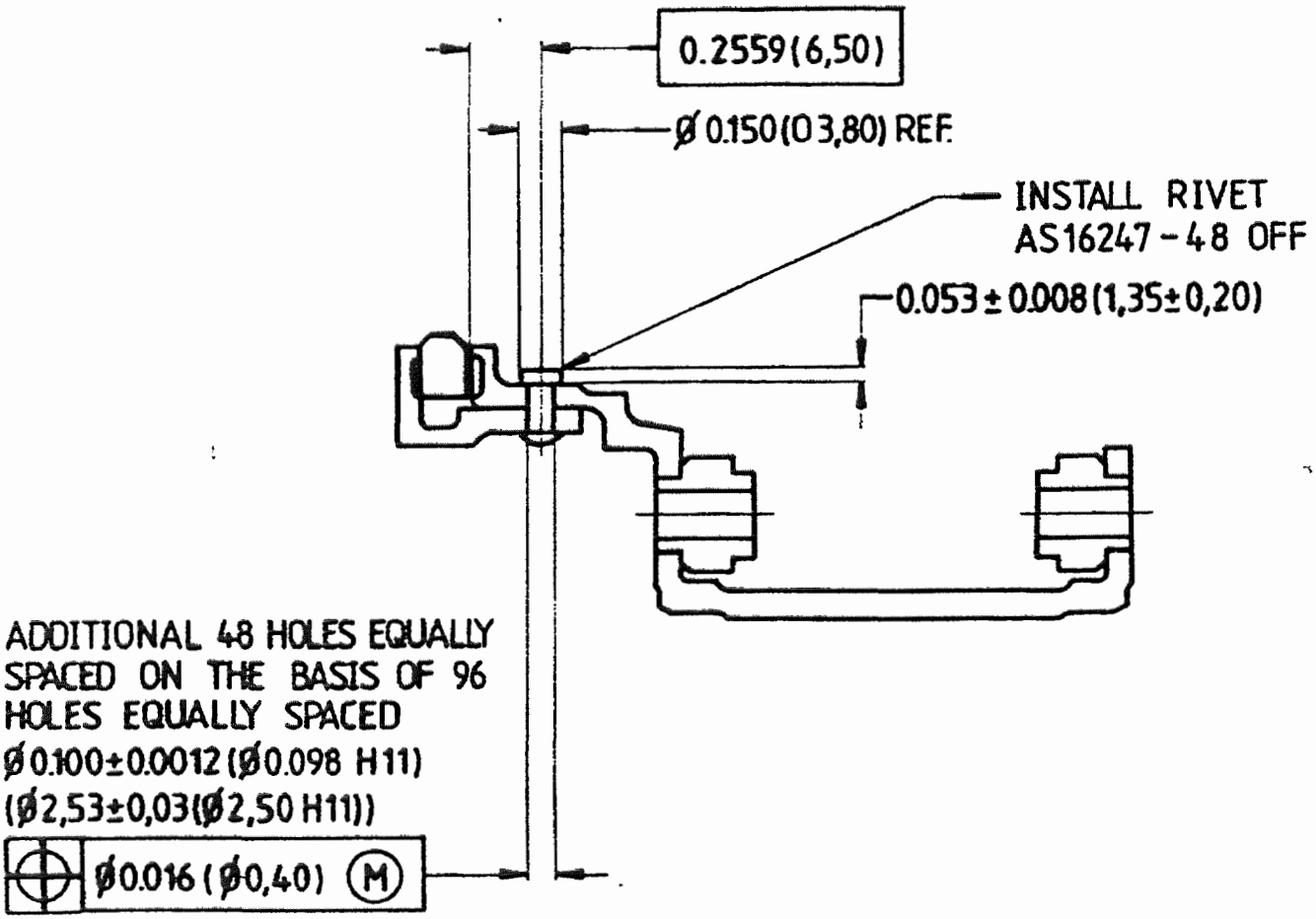
Assemble new or re-identified 6A5436 stage 10 HP compressor case assembly by use of approved procedures, Engine Manual, 72-41-10 Assembly.

(2) V2500 - A5 Engine Model

Assemble new or re-identified 6A5438 stage 10 HP compressor case assembly by use of approved procedures, Engine Manual, 72-41-10 Assembly.

C. Recording Instructions

(1) A record of accomplishment is necessary.



ALL DIMENSIONS ARE IN INCHES (MILLIMETRES)
BREAK SHARP EDGES 0.012(0,30)±0.008(0,20) U.O.S.

REWORKING OF EXISTING STAGE 10 COMPRESSOR CASE ASSEMBLY.

Rework of existing stage 10 compressor case assembly
Figure 3

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					
6A5436 (72-41-21)	1		Case assy - Stage 10	6A3389 (04-350)	(A)(B) (1D)(S1)
6A5437 (72-41-21)	1		Case	6A3393 (04-370)	(1D)
AS16247 (72-41-21)	48		Rivet, solid	- (04-401)	(A)(C)
A5 Model					
6A5438 (72-41-21)	1		Case assy - Stage 10	6A4526 (04-350)	(A)(B) (1D)(S1)
6A5439 (72-41-21)	1		Case	6A4527 (04-370)	(1D)
AS16247 (72-41-21)	48		Rivet, solid	- (04-401)	(A)(C)

C. Instructions/Disposition Code Statements:

(A) New part is currently available for sale

(B) Old part will be discontinued

(C) New part required for rework of case assemblies

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

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

NOTE: The estimated 1994 unit prices 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.