P U B L I C A T I O N T R A N S M I T T A L

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V2500-A1 SERIES PROPULSION SYSTEM SERVICE BULLETIN

This document transmits Revision 1 to Service Bulletin EV2500-72-0463

Document History

Service Bulletin Revision Status	Supplement Revision Status
Initial Issue Jan.9/04	

Bulletin Revision 1

Remove	Incorporate	Reason for change
All pages of the Service Bulletin	Pages 1 to 12 of the Service Bulletin	Correction to page dates which were incorrectly set at initial issue.

V2500-ENG-72-0463

CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED
If any have not been received please advise Publication Services, Rolls-Royce plc, Derby, England

LIST OF EFFECTIVE PAGES

The effective pages to this Service Bulletin following incorporation of Revision 1 are as follows:

	Page	Revision Number	Revision Date
	Bulletin		
R	1	1	Jan.9/04
	2		Jan.9/04
	3		Jan.9/04
	4		Jan.9/04
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ENGINE - HP COMPRESSOR RING CASES - INCREASE IN TIP CLEARANCE TO STAGE 6 AND STAGE 7 ROTOR PATHS

1. Planning Information

A. Effectivity

Airbus A320

V2500-A1 Engines prior to Serial No.V0362

B. Concurrent Requirements

None.

C. Reason

(1) Problem

Premature deterioration of the HP Compressor stage 6 and stage 7 blades may occur.

The problem has been attributed to relative movement between the HP rotor and the front case that exceeds the running blade tip clearances on stages 6 and 7 at engine sub-idle speed.

(2) Background

The problem has been experienced on some engines in service.

(3) Substantiation

The changes introduced by this modification have been the subject of satisfactory engineering analysis and development engine testing.

(4) Objective

Incorporation of this modification is designed to maintain reliability.

(5) Effect of Bulletin on:

(a) Operation

Not affected.

(b) Maintenance

Not affected.

(c) Overhaul

Affected (see 1.M. Other Publications Affected).

(d) Repair Schemes

Not affected.

(e) Interchangeability

Not affected.

(f) Fits and Clearances

Affected.

D. Description

(1) The changes introduced are:

A trench has been introduced to the HP Compressor Stage 6 and Stage 7 Rotor paths across the full axial width of the liners to a nominal depth of 0.018in (0,45mm) and 0.008in (0,20mm), respectively.

(2) This modification is in parts as follows:

Part 1 Covers embodiment of HP Compressor Stage 6.

Part 2 Covers embodiment of HP Compressor Stage 7.

E. Compliance

Category Code 8

Accomplish based upon experience with the prior configuration.

F. Approval

The part number changes and/or part modifications 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 models listed.

G. Manpower

In service

Not applicable.

At overhaul

Not affected.

H. Material Price and Availability

Not applicable.

I. Tooling Price and Availability

New setting equipment is required for the revised rotor path diameter, as follows:

Tool No. IAE 1R18535	Set Up Drawing (Front Case)	Change Letter C
Tool No. IAE 1R18536	Set Up Drawing (Rear Case)	Change Letter C
Tool No. IAE 1R18537	Indexing Plate	Change Letter D

J. Weight and Balance

(1) Weight Change

Minus 0.3lb (0.12kg)

(2) Moment Arm

15.9in (404mm) rearwards of datum

(3) Datum

Engine Front Mount Centreline (Power Plant Station PPS100).

K. Electrical Load Data

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

L. References

(1) It is recommended that the opportunity is taken to incorporate the following Service Bulletin when embodying this change:

ENG-72-0243

ENGINE - HP COMPRESSOR BLADES - INTRODUCTION OF INCREASED STAGE 3 TO 6 ROTOR TIP CLEARANCES.

It is recommended that the following Service Bulletins are fitted prior to or concurrently with this change:

ENG-73-0069

ENGINE - FUEL AND CONTROL - PROVIDE A NEW ELECTRONIC ENGINE CONTROL (EEC) WITH THE SCN12C SOFTWARE CONFIGURATION.

ENG-79-0070

OIL - PRESSURE OIL TUBES - ENGINE - INTRODUCTION OF REVISED OIL FEED SYSTEM RESTRICTORS.

ENG-79-0071

ENGINE - OIL - INTRODUCE AN UPGRADED OIL PRESSURE PUMP.

(2) Engineering Change Number - 03VR008.

(3) ATA locator - 72-41-00.

M. Other Publications Affected

(1) Engine Manual, Chapter/Section 72-41-20, Assembly.

(2) Engine Manual, Chapter/Section 72-41-30, Assembly-02 Config-01 and Assembly-09 Config-01.

N. Interchangeability of Parts

Not affected.

2. Material Information

A. The kit required consists of the following parts:

None.

B. Parts to be reworked:

None.

C. New production parts:

None.

D. Reference instructions:

All Engines

Part 1

72-41-15

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
99301	6A8291	Ref	Instruction, setting	-	6A8140	-
99302	6A8292	Ref	Drawing, HPC clearance	-	6A8141	-

72-41-21

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
99151	6A8288	Ref	Instruction, machining	-	6A8138	-
99151	6A8290	Ref	Instruction, machining	-	6A8139	-
99302	6A8292	Ref	Drawing, HPC clearance	-	6A8141	-

72-41-22

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
99302	6A8292	Ref	Drawing, HPC clearance	-	6A8141	-

72-41-32

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
99302	6A8292	Ref	Drawing, HPC clearance	-	6A8141	-

All Engines

Part 2

72-41-00

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
99150	6A8289	Ref	Instruction, machining	-	6A6404	-

72-41-15

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
99301	6A8291	Ref	Instruction, setting	-	6A8140	-
99302	6A8292	Ref	Drawing, HPC clearance	-	6A8141	-

72-41-21

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
99150	6A8289	Ref	Instruction, machining	-	6A6404	-
99302	6A8292	Ref	Drawing, HPC clearance	-	6A8141	-

72-41-22

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
99150	6A8289	Ref	Instruction, machining	-	6A6404	-
99302	6A8292	Ref	Drawing, HPC clearance	-	6A8141	-

72-41-32

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
99302	6A8292	Ref	Drawing, HPC clearance	-	6A8141	-

3. Accomplishment Instructions

A. Rework Instructions

None.

B. Assembly Instructions

For the correct assembly instructions refer to the Engine Manual (EM), Chapter/Section 72-41-20, Assembly and Chapter/Section 72-41-30, Assembly (see NOTE below)

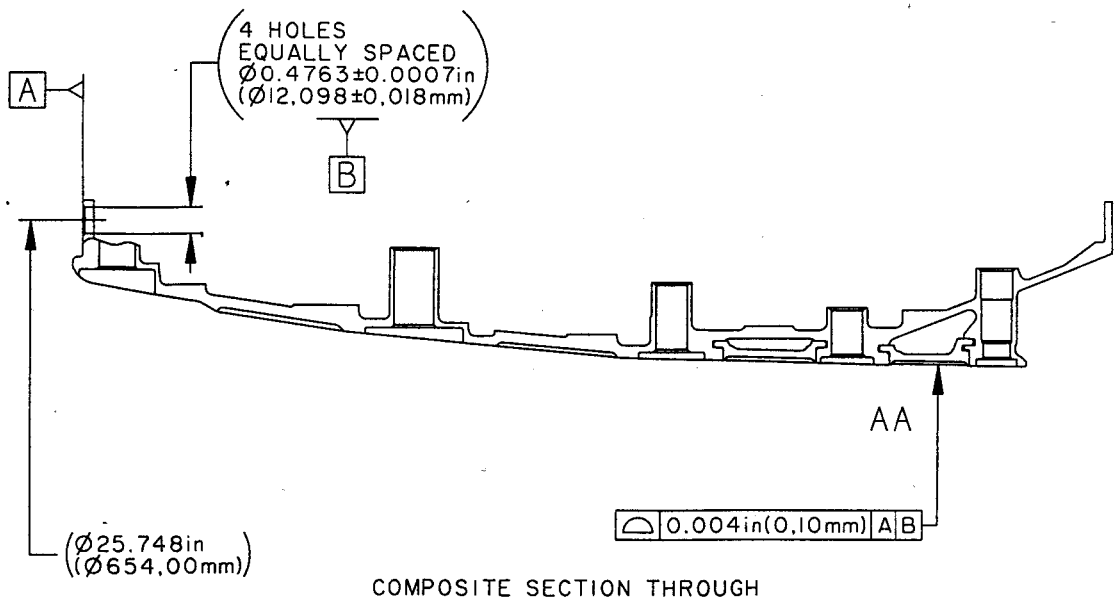
NOTE: For SUBTASK 72-41-30-324-052-A000 Para 13.E, refer to Figure 1 and Figure 2 of this Service Bulletin for dimensional profile of Stage 6 Rotor Path.

For SUBTASK 72-41-30-324-052-B000 Para 14.E, refer to Figure 1 and Figure 2 of this Service Bulletin for dimensional profile of Stage 6 Rotor Path.

For SUBTASK 72-41-20-324-052 Para 13.F, refer to Figure 3 and Figure 4 of this Service Bulletin for dimensional profile of Stage 7 Rotor Path.

C. Recording Instructions

A record of accomplishment is necessary.



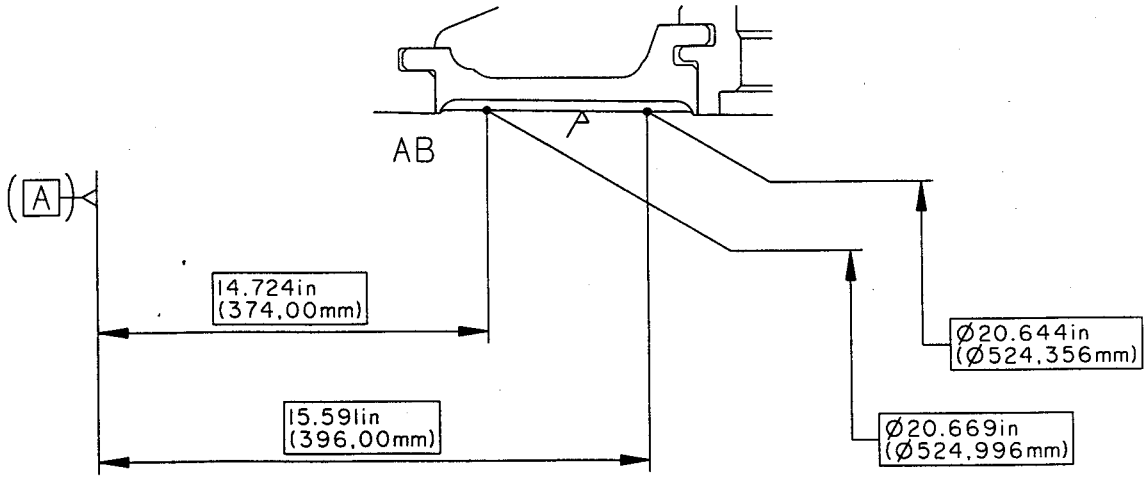
COMPOSITE SECTION THROUGH
FRONT H.P. COMPRESSOR CASING.

dem0001568

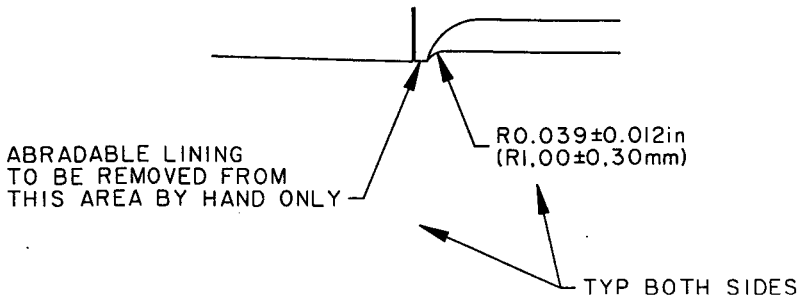
MACHINE WHERE MARKED ☑.
MACHINED SURFACE FINISH TO BE 125 MICROINCHES(3,2 MICROMETRES).
THE GEOMETRIC SYMBOLS ARE AS GIVEN IN THE ISO MANUAL (R1101).

PART 1 OF MOD

HP Compressor Stage 6 Rotor Path
Figure 1



VIEW AT AA

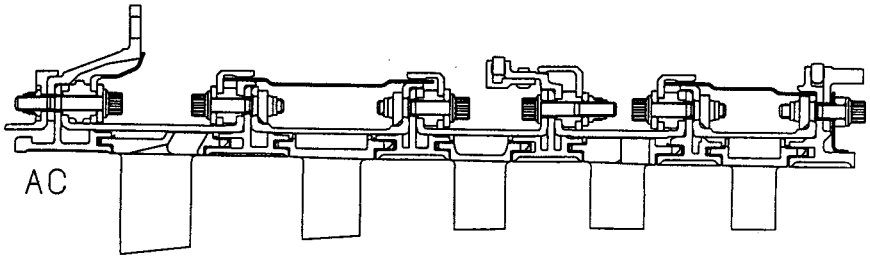


VIEW AT AB

dem0001569

PART 1 OF MOD

Dimensional Profile of HP Compressor Stage 6 Rotor Path
Figure 2



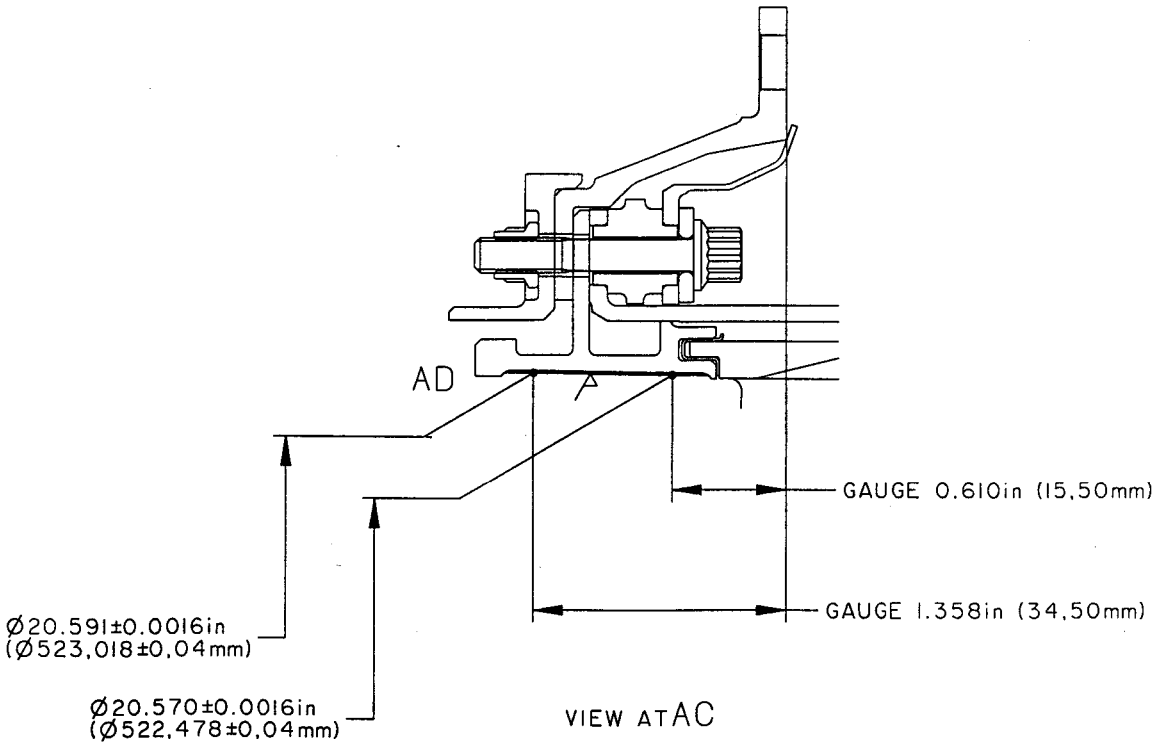
COMPOSITE SECTION THROUGH
REAR H.P. COMPRESSOR CASING.

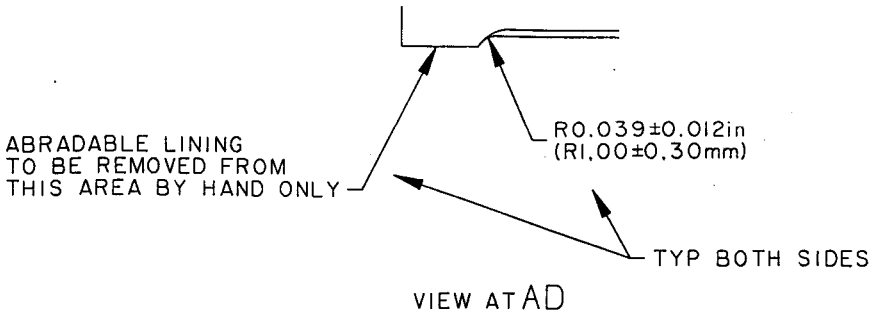
dem0001570

MACHINE WHERE MARKED ☑.
MACHINED SURFACE FINISH TO BE 125 MICROINCHES(3,20 MICROMETRES).
THE GEOMETRIC SYMBOLS ARE AS GIVEN IN THE ISO MANUAL (R1101).

PART 2 OF MOD

HP Compressor Stage 7 Rotor Path
Figure 3





PART 2 OF MOD

dem0001571

Dimensional Profile of HP Compressor Stage 7 Rotor Path
Figure 4