V2500 International Aero Engines

SERVICE BULLETIN

ENGINE - HP COMPRESSOR - INTRODUCE A NEW STAGE 12 LH LOCKING BLADE WITH AN INCREASED PLATFORM CROP

Printed in GI

MODEL APPLICATION

V2527-A5
V2530-A5
V2525-D5
V2528-D5

BULLETIN INDEX LOCATOR

72-41-00

Compliance Category Code	Internal Reference No.
6	94VR038

ENGINE - HP COMPRESSOR - INTRODUCE A NEW
STAGE 12 LH LOCKING BLADE WITH AN
INCREASED PLATFORM CROP

1. Planning Information

A. Effectivity

(1) Aircraft:

(a) Airbus A320

(b) Airbus A321

(c) McDonnell Douglas MD90

(2) Engine:

(a) V2527-A5 Engines prior to Serial No.V10176

(b) V2530-A5 Engines prior to Serial No.V10176

(c) V2525-D5 Engines prior to Serial No.V20033

(d) V2528-D5 Engines prior to Serial No.V20033

B. Concurrent Requirements

None

C. Reason

(1) Condition

HP compressor stage 12 left hand locking rotor blades have experienced platform corner cracking.

(2) Background

Isolated instances of stage 12 left hand locking rotor blade platform cracking has been found.

(3) Objective

To prevent the rotor blade platform cracking.

(4) Substantiation

Testing has confirmed that increasing the corner crop on the blade platform is an effective solution to reduce stresses and improve fatigue capability.

(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

This Bulletin introduces a stage 12 HP compressor left hand locking rotor blade with the platform axially cropped from the root of the locking slot to the rear face.

The platform is further reduced by dressing to remove the rear corner cusp created by machining.

Existing blades can be reworked by machining.

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 Models 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 parts 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	

NOTE: The parts affected by this Service Bulletin are accessible at overhaul.

(a) To rework the blades	50 minutes
Total:	50 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

Tool No.	Qty	Description	Function	Avail
IAE 3R19160	1	Grinding fixture	Rework blades	(1)

(1) Indicates that tool design aperture card is currently available from IAE.

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) V2500 Engine Manual, (E-V2500-1IA)

(2) V2500 Engine Manual, (E-V2500-3IA)

(3) Standard Practices/Processes Manual (SPP-V2500-1IA)

M. Other Publications Affected

(1) V2500 Illustrated Parts Catalog (S-V2500-2IA), Chapter/Section 72-41-15.

(2) V2500 Illustrated Parts Catalog (S-V2500-3IA), Chapter/Section 72-41-15.

(3) V2500 Engine Manual (E-V2500-1IA), 72-41-15, Cleaning -04 and Inspection/Check -10.

(4) V2500 Engine Manual (E-V2500-3IA), 72-41-15, Cleaning -04 and Inspection/Check -10.

(5) Repair Schemes VRS6018, VRS6058, VRS6074, VRS6150 and VRS6152 are affected by this Service Bulletin.

2. Accomplishment Instructions

A. Rework Instructions

(1) Rework the following parts:

6A4729, Blade, LH locking - HP compressor stage 12 (Refer to 72-41-15, Fig./Item 02-770).

Standard Equipment

Chemical cleaning equipment
0.118in (2,99mm) slip
Grinding machine
Standard workshop equipment
Penetrant crack test equipment
Vibro-engraving equipment

Consumable Materials

CoMat 06-022 Fluorescent penetrant

PROCEDURE	SUPPLEMENTARY INFORMATION
(a) Chemical clean the blade(s)	Use chemical cleaning equipment
(b) Install the fixture on to the machine	Use IAE 3R19160 fixture, grind, 1 off, with a grinding machine.
(c) Set the height of the grinding fixture	Use a 0.118in (2,99mm) slip.
(d) Install the rotor blade into the grinding fixture	Make sure the rotor blade is located correctly.

CAUTION: CARE MUST BE TAKEN TO ENSURE THAT NO WITNESS OF THE PLATFORM MACHINING APPEARS ON THE ROTOR BLADE DOVETAIL.

(e) Grind back the rotor blade(s) platform, where shown	Refer to Figures 2 and 4. Use a grinding machine.

(f)	Remove sharp edges	Refer to Figures 2, 3 and 4. Use standard workshop equipment.
(g)	Cold ferric chloride etch the repaired area	Refer to SPM TASK 70-11-39-300-503, SUBTASK 70-11-39-300-001. Use chemical cleaning equipment.
(h)	Do a local penetrant crack test on the repaired area	Refer to SPM TASK 70-23-05-230-501. Use CoMat 06-022 fluorescent penetrant, with penetrant crack test equipment. Cracks are not permitted
(i)	Measure the dimensions	Refer to Figures 2, 3 and 4.
(j)	Cancel the old part number and identify with the new part number	OLD PART NO. 6A4729 NEW PART NO. 6A5947 Refer to SPM TASK 70-09-00-400-501, SUBTASK 70-09-00-400-001. Use vibro-engraving equipment.

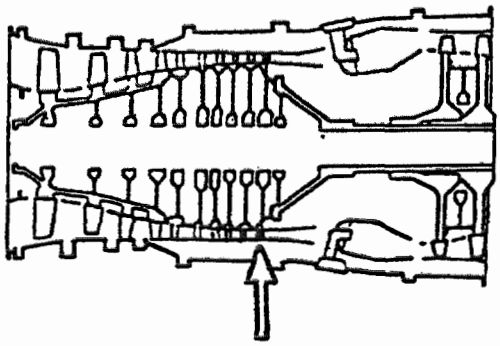
B. Assembly Instructions

(1) The new 6A5947 stage 12 HPC rotor blades introduced by this Service Bulletin must be fitted as a COMPLETE SET in place of old parts.

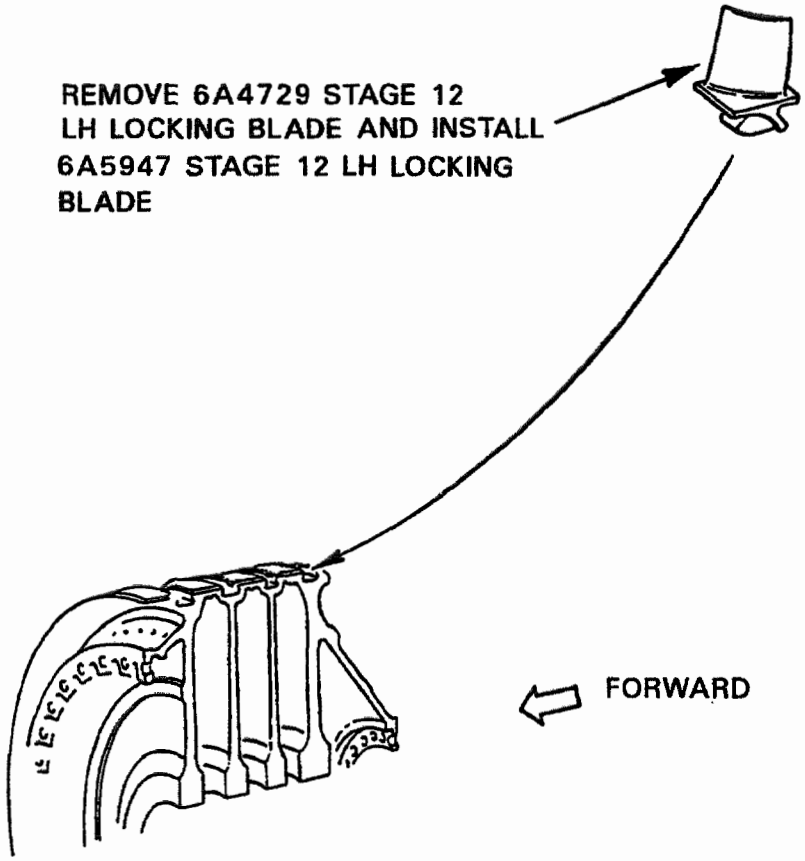
(2) Assemble new or reworked 6A5947 stage 12 HPC rotor blades by use of approved procedures, Engine Manual, 72-41-10 Assembly.

C. Recording Instructions

(1) A record of accomplishment is necessary.



MODULE 40



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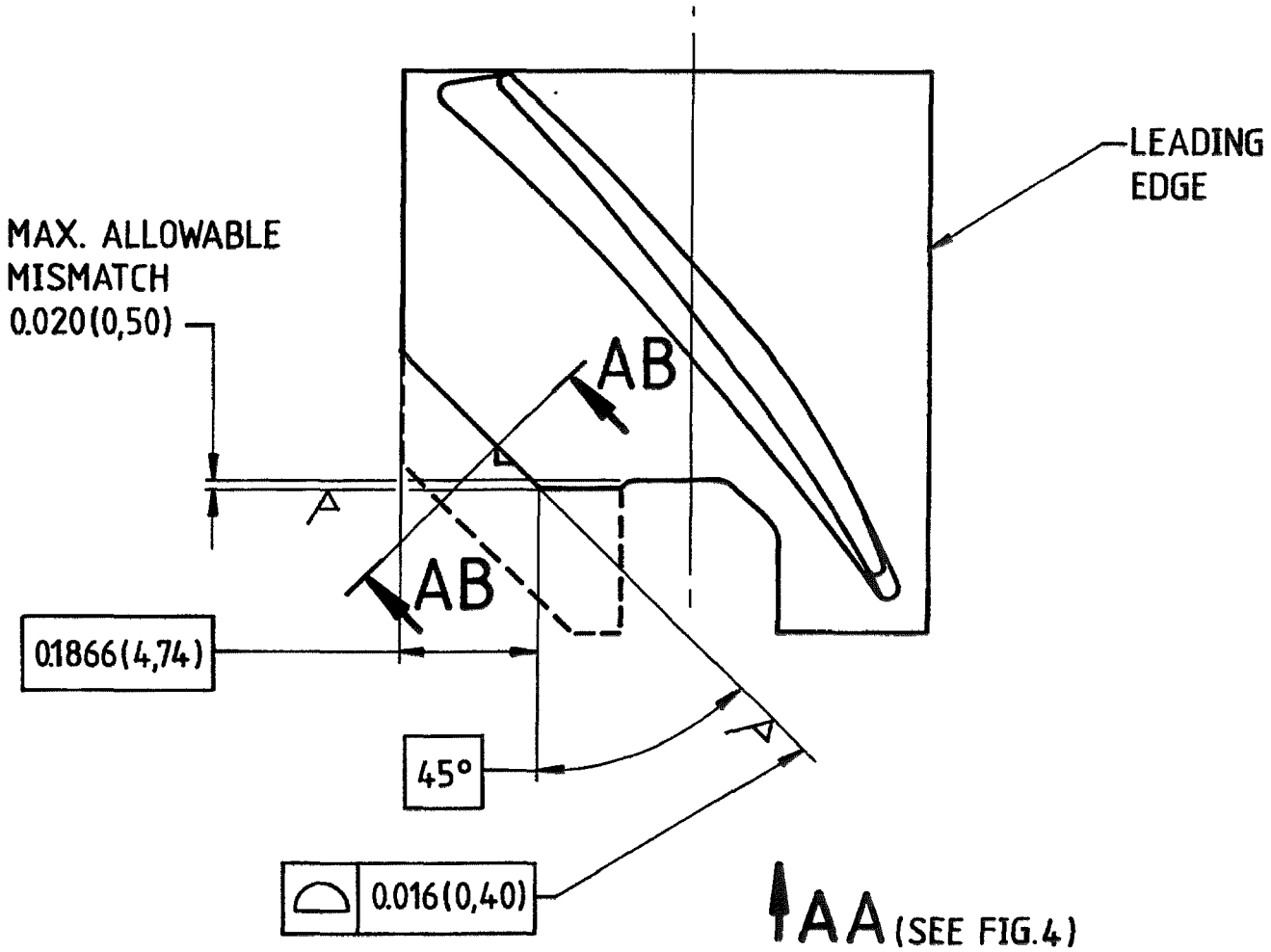
Location of Stage 12 HP Compressor Rotor Blade

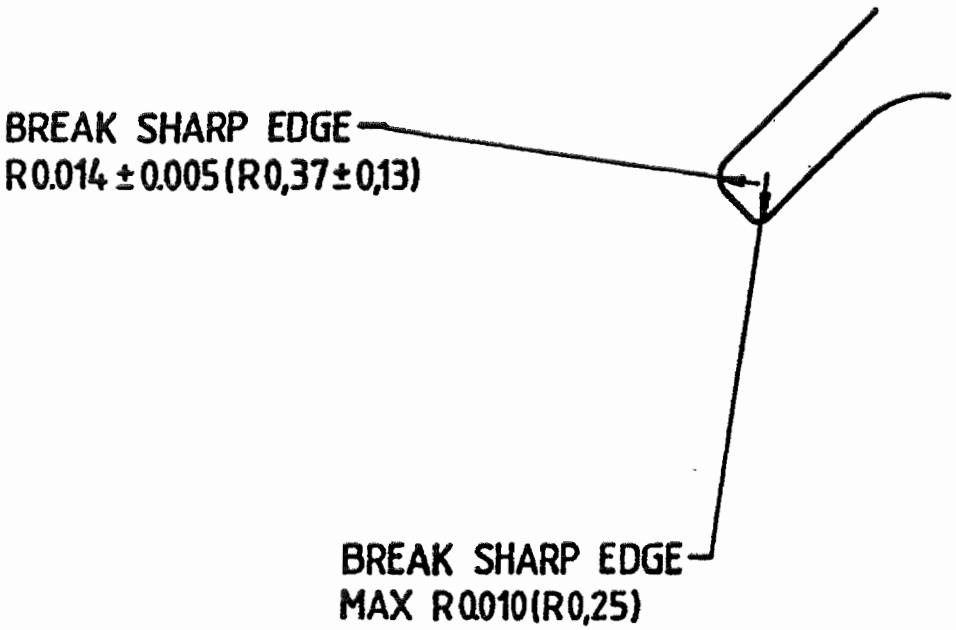
Figure 1



ALL DIMENSIONS ARE IN INCHES(MILLIMETRES).
ANGULAR DIMENSIONS ARE IN DEGREES AND DECIMAL PARTS OF A DEGREE.
MACHINE SURFACE FINISH TO BE 125 MICROINCHES(3,2 MICROINCHES) U.O.S.
MACHINE WHERE MARKED ✓
BREAK SHARP EDGES 0.012(0,30) ± 0.008(0,20) U.O.S.

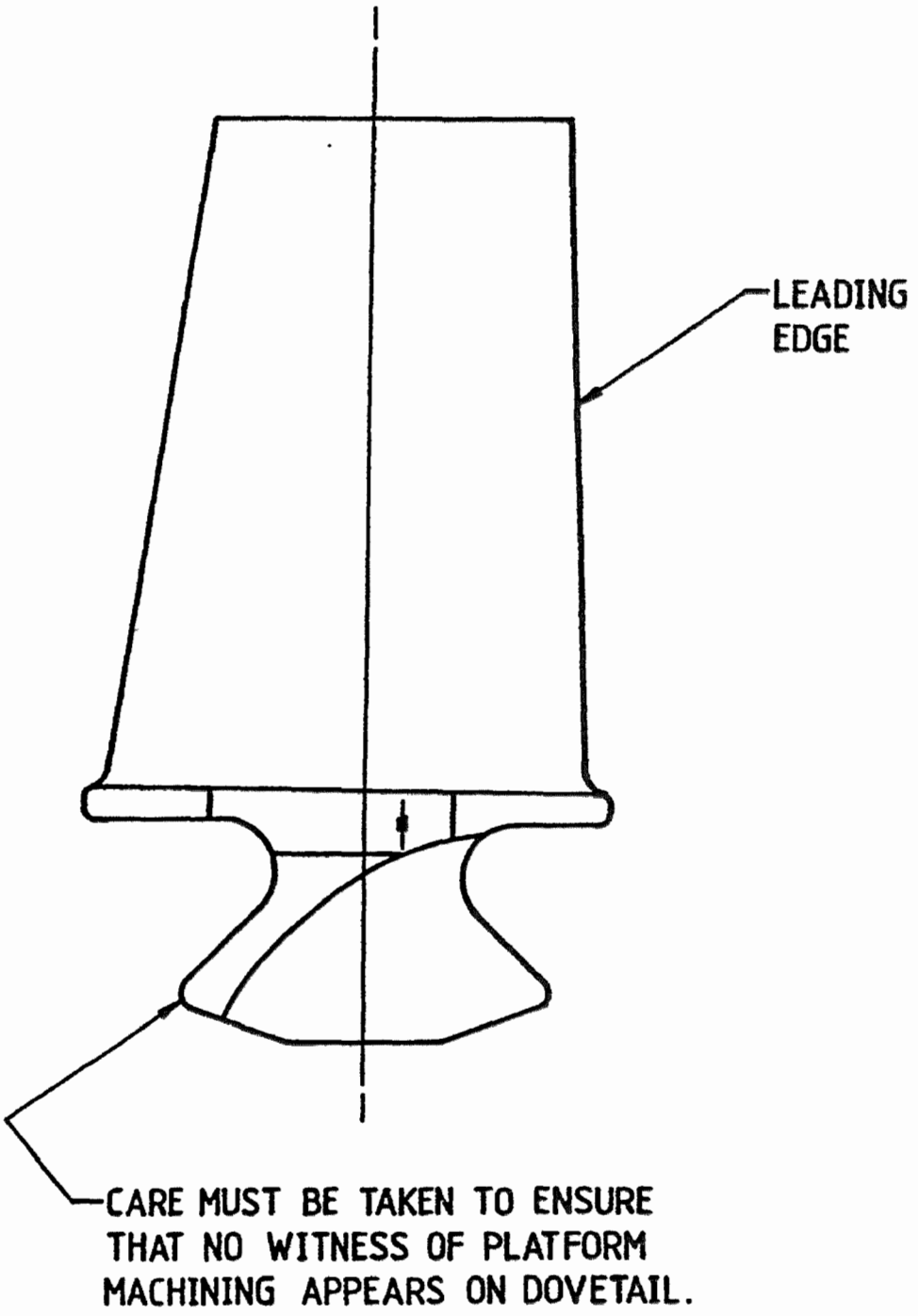
Reworking of Existing HP Compressor
Stage 12 LH Locking Blades

Figure 2



Section AB (See Figure 2)

Figure 3



View on Arrow AA (See Figure 2)

Figure 4

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
6A5947 (72-41-15)	2	301.00	Blade, LH locking - HP compressor stage 12	6A4729 (02-770)	(A)(B) (S1)(1D)

C. Instructions/Disposition Code Statements:

(A) New parts are currently available.

(B) Old parts are no longer available.

(S1) New parts coded (S1) must replace old parts coded (S1) as a COMPLETE SET per engine.

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

NOTE: The estimated 1995 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.