ENGINE - LP TURBINE ASSEMBLY - REPLACEMENT OF LP TURBINE BLADES STAGE 3 - CATEGORY CODE 6 - MOD.ENG-72-0134

1. Planning Information

A. Effectivity

(1) Aircraft: Airbus A320

(2) Engine: V2500-A1 Engines prior to Serial Number V0266

B. Reason

(1) Condition

Turbine blade outer shroud overlap (shingling) may occur when handling or reassembling Stage 3 LP turbine rotor assemblies with used turbine blades.

(2) Background

This condition was observed during assembly of development engines. Outer shroud overlap (shingling) has not been reported in service. Undetected shroud overlap (shingling) may cause engine damage during subsequent engine test.

(3) Objective

To ensure the correct assembly of Stage 3 LP turbine rotor blades by introducing a blade outer shroud stop on existing blades.

(4) Substantiation

Engine testing has demonstrated the effectiveness of the new or reworked blades.

(5) Effects 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

C. Description

To increase shroud thickness locally.

D. Approval

The "Compliance" statement and the procedure described in Section 2 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 6

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

F. Manpower

Estimated Man-hours to incorporate the full intent of this Service Bulletin:

Venue		Estimated Man-hours
(1)	In Service	Not applicable
(2)	At Overhaul	
	NOTE: The parts affected by this Service BUlletin are accessible at Overhaul.	
	(a) Accomplish rework procedure	9,0 hours
	TOTAL	9,0 hours

G. Material - Price and Availability

(1) Modification Kit not required, rework parts supplied as single line items.

(2) See "Material Information" section for price and availability.

H. Tooling - Price and Availability

Tool No.	Qty	Description	Function	Availability
3M14382	1	Welding fixture	Welding of LP turbine blade, stage 3	1

(1) Indicates that Tool Design Aperture Cards are currently available from IAE.

I. Weight and Balance

(1) Weight change — None

(2) Moment arm — No effect

(3) Datum — Engine front mount centerline (Powerplant Station (PPS)100)

J. Electrical Load Data

This Service has no effect on the aircraft electrical load.

K. References

(1) Internal Reference No.

90VM021

(2) Other References

V2500 Engine Illustrated Parts Catalogue

V2500 Engine Manual

V2500 Standard Practice Manual

L. Other Publications Affected

(1) The V2500 Engine Illustrated Parts Catalogue, Chapter/Section 72-50-32, to add the new part.

(2) The V2500 Engine Manual, Chapter/Section 72-50-32 Cleaning, Inspection, Repair to add the new part number.

2. Accomplishment Instructions

A. Removal Instructions

Not applicable

B. Rework Instructions

(1) Do the rework of stage 3 LP turbine blade P/N 3A0883.

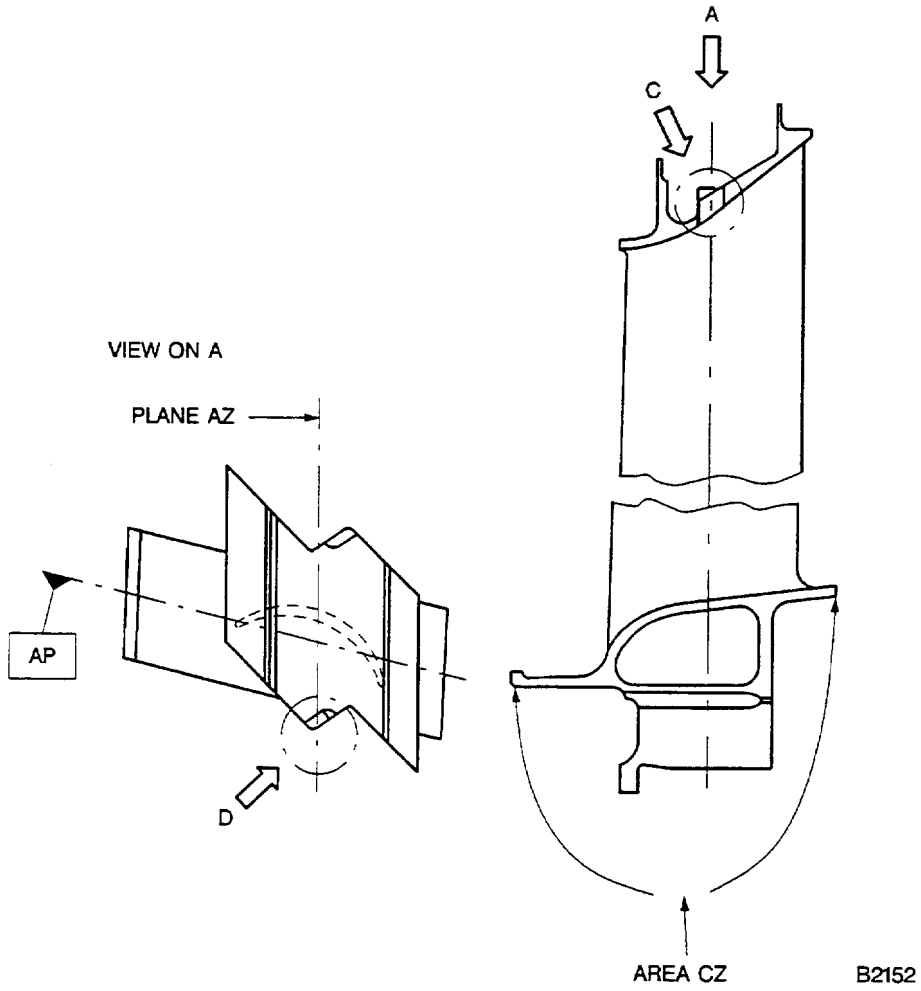
Procedure	Supplementary Information
(a) Identify stage 3 LP turbine blade part number 3A0883. Inspect LP turbine blade per Engine Manual	Refer to Reference (3), TASK 72-50-32-200-000, Table Inspection
(b) Repair the blade if applicable	
(c) Prepare the blade for build-up welding	Locally remove aluminide coating from shroud surface (refer to figure 1). Install the blade in to IAE 3M14382 welding fixture (1 off).
(d) Build up weld the shingling stop	Refer to Reference (4), TASK 70-31-08-310-501. Use CoMat 03-283 welding filler wire to the dimensions given in figure 2. Electrical contact in area CZ is permitted. No burning, no pitting, no selective attack are permitted.
(e) Check dimensions	Refer to requirements given in figure 2.
(f) Do a hardness check on the weld location	Minimum hardness 40 HRC.
(g) Do a crack test on the weld location	Refer to Reference (4), TASK 70-23-05-230-501. Discontinuities up to 0.016in. (0,4 mm) are permitted.
(h) Reidentify with new part number. Use roller stamp method or vibropeen method	Old Part Number 3A0883 — New Part Number 3A2053 Refer to Reference (4), TASK 70-09-00-400-501 (refer to figure 3).

C. Assembly Instructions

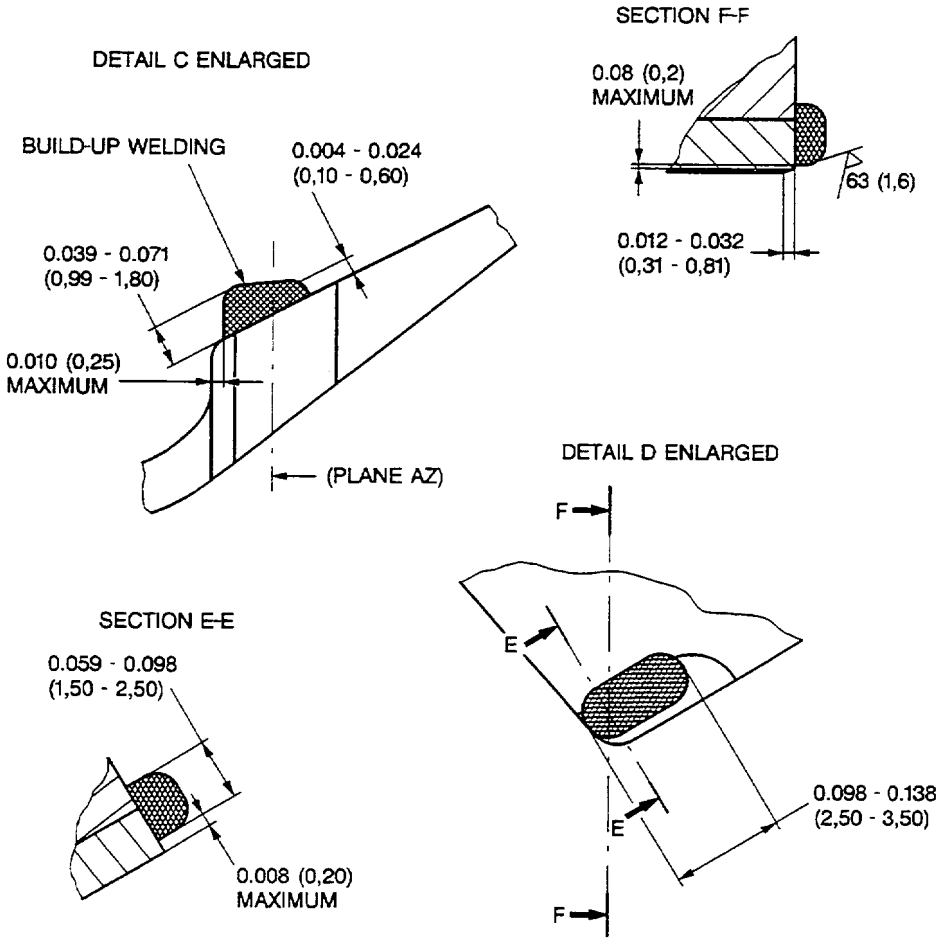
(1) Not applicable

D. Recording Instructions

(1) A record of accomplishment is necessary.



Shingling of LP turbine stage 3 rotor blades - preparation of build up welding
Fig.1



NOTE: 1. All dimensions are in in. (mm)
2. Roughness rates are in microinch and in micrometer

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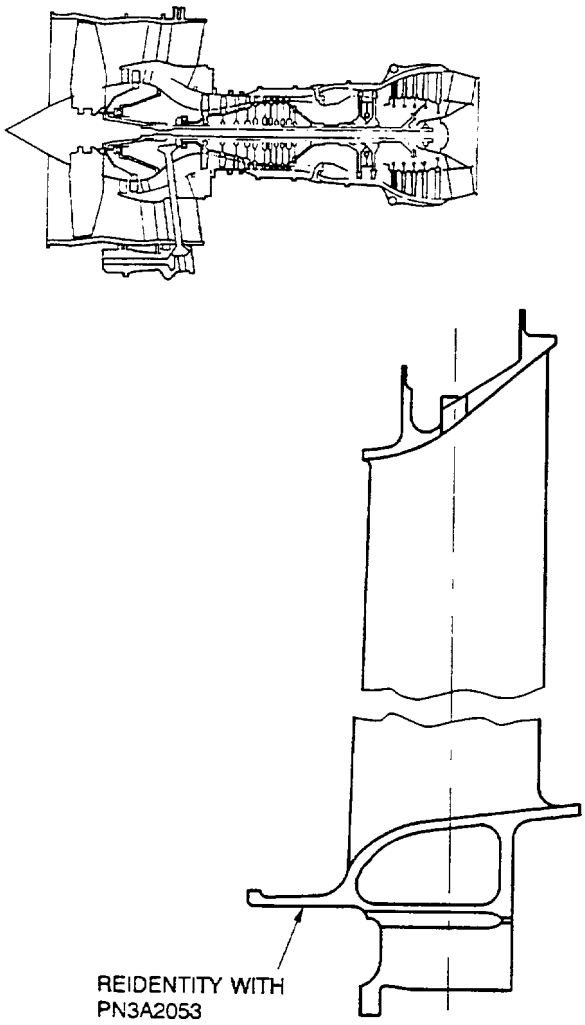
LP turbine stage 3 rotor blades - Build up welding dimensions
Fig.2



Reidentification of LP turbine stage 3 rotor blades
Fig.3

3. Material Information

Applicability: For each V2500 Engine to incorporate this Service 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
3A2053 (72-50-32)	97	769.00	Blade Turbine Stage 3	3A0883 (01-200)	(A)(B)S1)(1D)

C. Consumables required to incorporate this Service Bulletin

CoMat 03-283 Welding Filler Wire

D. Instruction/Disposition Code Statements:

(A) Old part no longer available for sale

(B) New part available for sale

(S1) Old and reworked parts are interchangeable in sets only

(1D) Old part can be removed and reidentified to the 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.