International Aero Engines

SERVICE BULLETIN

ENGINE - HP COMPRESSOR DISCS (STAGES 9-12) - INTRODUCTION OF A REVISED HP COMPRESSOR STAGE 9-12 DISC ASSEMBLY - CATEGORY CODE 4 - CATEGORY CODE 6, CATEGORY CODE 7 - MOD.ENG-72-0273

1. Planning Information

A. Effectivity

(1) Aircraft:
(a) Airbus A319
(b) Airbus A320
(C) Airbus A321
(d) McDonnell Douglas MD-90

(2) Engines:
(a) V2522-A5 Engines prior to Serial No.V10253
(b) V2524-A5 Engines prior to Serial No.V10253
(c) V2527-A5 Engines prior to Serial No.V10253
(d) V2530-A5 Engines prior to Serial No.V10253
(e) V2533-A5 Engines prior to Serial No.V10253
(f) V2525-D5 Engines prior to Serial No.V20142
(g) V2528-D5 Engines prior to Serial No.V20142

B. Concurrent Requirements

None.

C. Reason

(1) Condition

A stress analysis of the Stage 9-12 discs of the HP Compressor has shown that high stresses can occur in the stage 12 disc. This occurs during high thrust operations. It is recommended that design changes be made.

(2) Background

(See Condition)

(3) Objective

The purpose of this Service Bulletin is designed to maintain component life.

(4) Substantiation

A satisfactory engineering analysis and successful mechanical rig tests have been done on the changes contained in this Service Bulletin.

(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

(1) A design analysis has been done on the Stage 9-12 discs of the HP Compressor. This has shown that it is possible to get the necessary disc life by strengthening the discs at strategic locations.

The changes are as follows:

(a) The thickness of the diaphragm has been increased and the rear diaphragm face has been re-shaped. This has decreased the radius of the rear bolt flange.

(b) The hub/bore thickness and radial length have both been increased.

(c) To remove any underbead defects, the welds are machined. As a result there is an undercut on the underside of the front flange which goes in to the front diaphragm.

(d) The quality specification of the weld has been changed to decrease the maximum weld porosity limit.

(2) For effect on declared life see Time Limits Manual 5-10-01.

Approval

The part number changes and/or part modification are given in Section 2 and 3 of this Service Bulletin. They obey the applicable Federal Aviation Regulations and are FAA-APPROVED for the engine model listed.

F. Compliance

V2522-A5, V2524-A5, V2527-A5, V2530-A5 Engines

Category Code 6

This Service Bulletin can be done when the subassembly (that is modules, accessories, components, build groups) is disassembled sufficiently to get access to the affected parts.

V2533-A5 Engines

Category Code 4

This Service Bulletin can be done at the first visit of an engine or module to a maintenance base which can obey the accomplishment instructions. It must be done no matter what the planned maintenance action is or what the reason for removal is.

V2525-D5, V2528-D5 Engines

Category Code 7

Do this Service Bulletin when there are no initial parts remaining.

G. Manpower

Estimate of man-hours necessary to do this Service Bulletin in full:

Venue	Estimated Man-hours
(1) In service	Not applicable
(2) At overhaul	
(a) V2522/24/27/30-A5 engines	61 hours
(b) V2533-A5 engines	306 hours
(c) V2525/28-D5 engines ..	Not applicable

NOTE: It is possible to get access to the affected parts for D5 engines.

H. Material - Price and Availability

(1) A modification kit is not necessary.

(2) See "Material Information" section for prices and availability of spares.

I. Tooling - Price and Availability

Special tools are not necessary.

J. Weight and Balance

(1) Weight change .. .. .. Plus 1,63 Kg (3.6 lb)

(2) Moment arm .. .. .. 627 mm (24.7 in.) rearwards

(3) Datum .. .. Engine front mount centreline
(Power Plant Station - PPS 100)

K. Electrical Load Data

This Service Bulletin has no effect on the aircraft electrical load data.

L. References

(1) Internal Reference No.

EC96VR036

M. Other Publications Affected

(1) Illustrated Parts Catalog (IPC), Chapter/Section 72-41-12

(2) Time Limits Manual (TLM), Chapter/Section 05-10-01

(3) Engine Manual (EM), Chapter/Section 72-41-10, Assembly/Disassembly and 72-41-12, Inspection/Check and Repair

(4) Repair Schemes, VRS6008, VRS6087, VRS6134, VRS6135, VRS6136, VRS6137 and VRS6513.

2. Accomplishment Instructions

A. Rework Instructions

None.

B. Assembly Instructions

For the correct assembly/disassembly procedures refer to the applicable Engine Manual (EM), Chapter/Section 72-41-10.

C. Recording Instructions

(1) A record of accomplishment is necessary.

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
6A6546 (72-41-12)	1	171866.00	Disc assy of - Stage 9-12 - HPC	6A4156 (01-600)	(A)(B)(S1)

NOTE: The 1997 unit prices shown are an estimate and they are given for the purpose of planning only. For information about actual prices, refer to the IAE Price Catalog or contact IAE's Spare Parts Sales Department.

C. Instructions Disposition Codes:

(A) New part is currently available
(B) Old part will be discontinued.
(S1) Old and new parts are freely and fully interchangeable.