ENGINE - INLET CONE - INTRODUCTION OF SEALS ON THE INLET CONE FAIRING - [C]CATEGORY CODE 8 - CATEGORY CODE 5 - MOD.ENG-72-0318

1. Planning Information

A. Effectivity

(1) Aircraft:
(a) Airbus A319
(b) Airbus A321
(c) Boeing-Douglas Product Division MD-90

(2) Engine:
(a) V2500-A1 Engines prior to Serial Number V0362
(b) V2522-A5 Engines prior to Serial Number V10420
(c) V2524-A5 Engines prior to Serial Number V10420
(d) V2527-A5 Engines prior to Serial Number V10420
(e) V2527E-A5 Engines prior to Serial Number V10420
(f) V2530-A5 Engines prior to Serial Number V10420
(g) V2533-A5 Engines prior to Serial Number V10420
(h) V2525-D5 Engines prior to Serial Number V20232
(i) V2528-D5 Engines prior to Serial Number V20232

B. Reason

(1) Condition

Operators have reported cracking around the bolt hole location on the inlet cone fairing (Part Number 5A0017). In the majority of instances, the fairing has been assembled to a post Service Bulletin No.V2500-ENG-70-0484 inlet cone (Part Number 5A1733).

(2) Background

Analysis shows that the cracking is high cycle fatigue in nature and is caused by the fairing vibrating against the inlet cone flange seating. The driving force for the vibration is airflow entering under the forward lip and exiting through the rear of the fairing causing excitation (Flow patterns have been seen on the fairing underside).

(3) Objective

The purpose is to reduce air entering under the forward lip and to reduce fairing vibration.

(4) Substantiation

The change recommended in this Service Bulletin has been subjected to rig test and engine cyclic test. The tests have been successfully completed.

(5) Effects of Bulletin on workshop procedure:

Removal/Installation	Affected (Refer to (6) (a))
Disassembly/Assembly	Not affected
Cleaning	Affected (Refer to (6) (b))
Inspection/Check	Affected (Refer to (6) (b))
Repair	Not affected
Testing	Not affected

(6) Supplemental Information

(a) Removal/Installation of the post-service bulletin configuration requires revised instruction for installing the inlet cone fairing.

(b) Cleaning and Inspection/Check procedures in the Engine Manual will be revised to include this part.

C. Description

(1) The changes introduced by this Service Bulletin are as follows;

A new inlet cone fairing which has strip seals is introduced.

(2) The modification is accomplished when the six strip seals are installed at the forward lip of the inlet cone fairing. The existing inlet cone faring can be reworked, see Figure 2. The 5A1255 strip seal is necessary to do the modification.

(3) New inlet cone faring will be available for replacement purposes.

D. 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(s) listed.

E. Compliance

(For the V2522-A5, V2524-A5, V2527-A5, V2527E-A5, V2530-A5 and V2533-A5 Engine Models)

Category Code 5

Accomplish when the engine is disassembled sufficiently to access to the affected subassembly (i.e. Modules, Accessories, Components, Build Groups) and to all affected spare subassemblies.

(For the V2500-A1, V2525-D5 and V2528-D5 Engine Models)

Category Code 8

Accomplish based upon experience with the prior configuration.

F. Manpower

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

	Venue	Estimated Man-hours
(1)	In service	Not applicable
(2)	At overhaul	
	(a) Rework the Inlet Cone Fairing ..	3 hours 00 minutes
	TOTAL	3 hours 00 minutes

NOTE: It is possible to get access to the parts affected by this Service Bulletin at overhaul.

G. Material - Price and Availability

(1) Modification kit is not required.

(2) Part details required to accomplish this modification are listed in the "Material Information" section and are available FOC for engines identified in this Service Bulletin that are subject to Compliance Category Code No.5(V10198 to V10419 Inclusive).

Following confirmation of parts availability from IAE Spares, customers should submit a FOC Purchase Order for the required quantity, stating affected Engine Serial Numbers and the IAE Tracking No.s 337 UI on all correspondence.

Purchase Orders should be forwarded to-

IAE Spares Division
400 Main Street M/S121-10
East Hartford CT 06108
USA

A thirty day lead time can be expected for all purchase orders.

The availability of FOC parts will be from August 1998 until June 2000

H. Tooling - Price and Availability

Special tools are not required to accomplish this Service Bulletin.

I. Weight and Balance

(1) Weight change .. .. Plus 0.15 lb(0.07 kg)

(2) Moment arm .. .. Not affected

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

J. Electrical Load Data

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

K. References

(1) Internal Reference No.

EC98VJ006
ECM98VJ006-01
ECM98VJ006-02

(2) Other References

V2500 Engine Manuals (E-V2500-1IA and E-V2500-3IA)

V2500 Standard Practices/Process Manual (SPP-V2500-1IA)

V2500 Overhaul Processes and Consumable Index (PCI-V2500-1IA)

IAE Service Bulletin No. V2500-ENG-70-0484, To Introduce Alternative Inlet Cone Assembly.

L. Other Publications Affected

(1) V2500 Engine Illustrated Parts Catalog (EIPC) (S-V2500-1IA, 2IA, 3IA, 4UAL, 5IA, 6IA), Chapter/Section 72-38-11.

(2) V2500 Powerplant Illustrated Parts Catalog (PIPC) (PIP-V2500-1IA, 2IA, 3IA, 4UAL, 5IA, 6IA), Chapter/Section 72-38-11.

(3) V2500 Engine Manual (EM) (E-V2500-1IA, 3IA), Chapter/Section 72-38-11, Installation.

(4) V2500 Engine Manual (EM) (E-V2500-1IA, 3IA), Chapter/Section 72-38-11, Cleaning.

(5) V2500 Engine Manual (EM) (E-V2500-3IA), Chapter/Section 72-38-11, Inspection/Chedk.

(6) A320 Aircraft Maintenance Manual, Chapter/Section 72-38-11, Inspection/Check.

(7) MD90 Aircraft Maintenance Manual, Chapter/Section 72-38-11, Inspection/Check.

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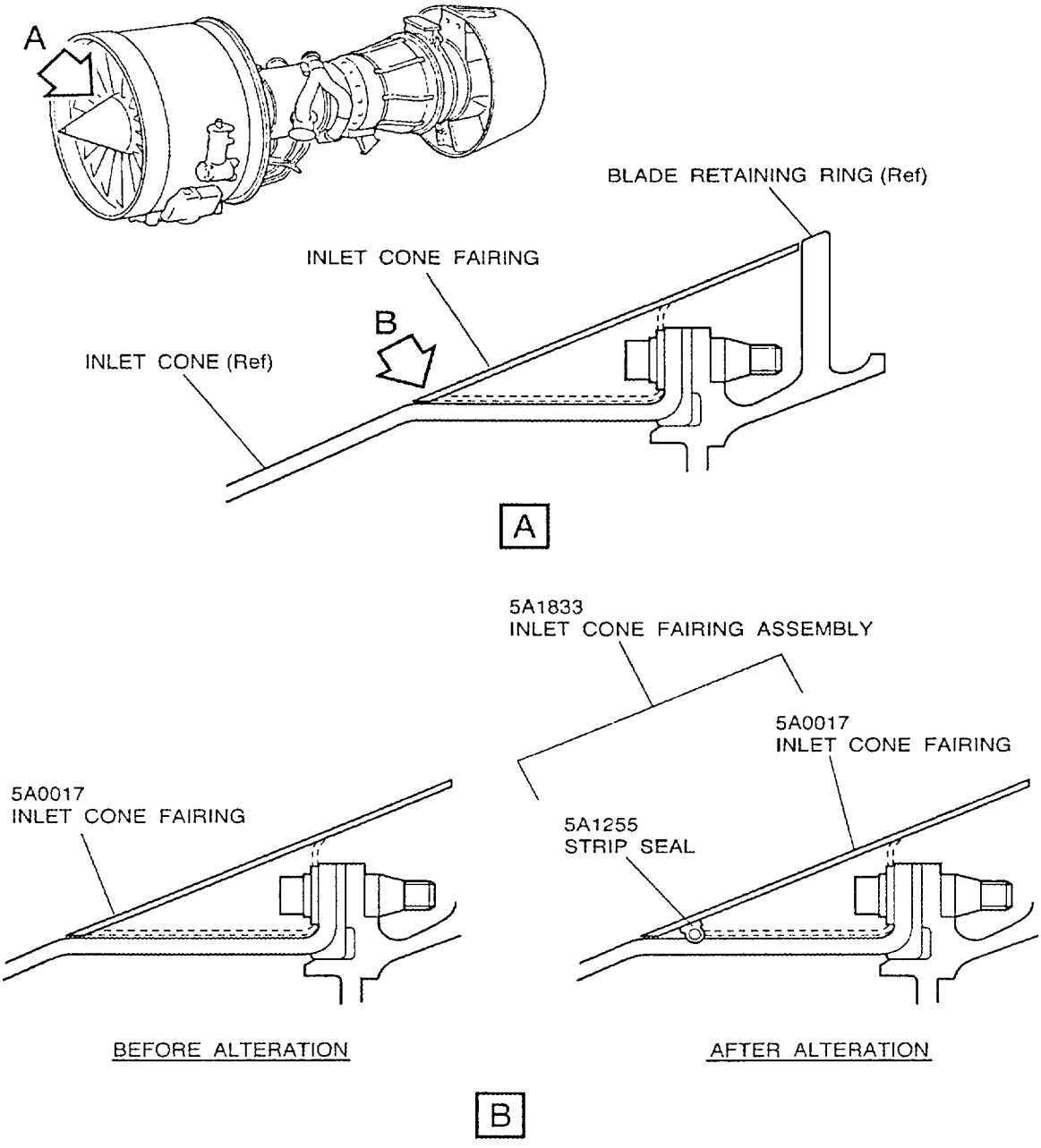

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Modification of the Inlet Cone Fairing
Fig.1

2. Accomplishment Instructions

A. Rework Instructions

(1) Consumable Materials

CoMat 01-076 Methyl ethyl ketone
CoMat 05-016 Garnet paper
CoMat 05-017 Garnet paper
CoMat 08-013 Cold curing silicone compound
CoMat 08-014 Primer
CoMat 10-038 Petroleum jelly
CoMat 10-077 Approved engine oils

(2) Do a modification on the 5A0017, Inlet Cone Fairing and reidentify to the new part number 5A1833 as follows:

Caution: YOU HAVE TO MAKE SURE THE STANDARD PRACTICES/PROCESSES MANUAL (SPM) TASK 70-03-00-100-501, SPECIAL HANDLING OF MATERIALS AND SOLUTIONS-01 BEFORE YOU DO STEP (b) BECAUSE THE PART MATERIAL IS TITANIUM ALLOY.

	Procedure	Supplementary Information
(a)	Prepare the six strip seals.	Use the 5A1255 strip seal. Cut the strip seals and adjust the length. Refer to Figure 2.
(b)	Hand clean the fairing surfaces which the strip seals are attached on.	Use CoMat 05-016 garnet paper or CoMat 05-017 garnet paper.
(c)	Degrease the fairing surfaces.	Use CoMat 01-076 methyl ethyl ketone CH3C0 C2 H5. Refer to SPM Task 70-36-02-360-501.

NOTE: The primer must be applied immediately after the surfaces are degreased.

(d)	Apply a thin layer of primer on the fairing surfaces, where the strip seals will be attached.	Use CoMat 08-014 primer. Refer to SPM Task 70-36-02-360-501. Dry in the air for 30 minutes.
(e)	Apply silicone compound on the mating surface of each strip seal.	Use a spatula and CoMat 08-013 cold curing silicone compound. Refer to SPM Task 70-36-02-360-501.

NOTE: Attach the strip seals to the fairing within three minutes after the compound is applied.

(f)	Attach the strip seals on the fairing.	Put force to the strip seal. Make sure of the bonding condition.
(g)	Use adhesive tape and hold the six strip seals.	Use an applicable adhesive tape.
(h)	Remove unwanted compound material.	Use a scrapper or an equivalent hand tool.
(i)	Cure the compound at room temperature for 48 hours.	
(j)	Remove the adhesive tape.	
(k)	Mark the re-number adjacent to the existing part number of inlet cone fairing. Use the Electrolytic etch method if available. Alternatively make a mark with ink.	Existing 5A0017 Refer to the SPM TASK 70-09-00-400-501 Re-number 5A1833

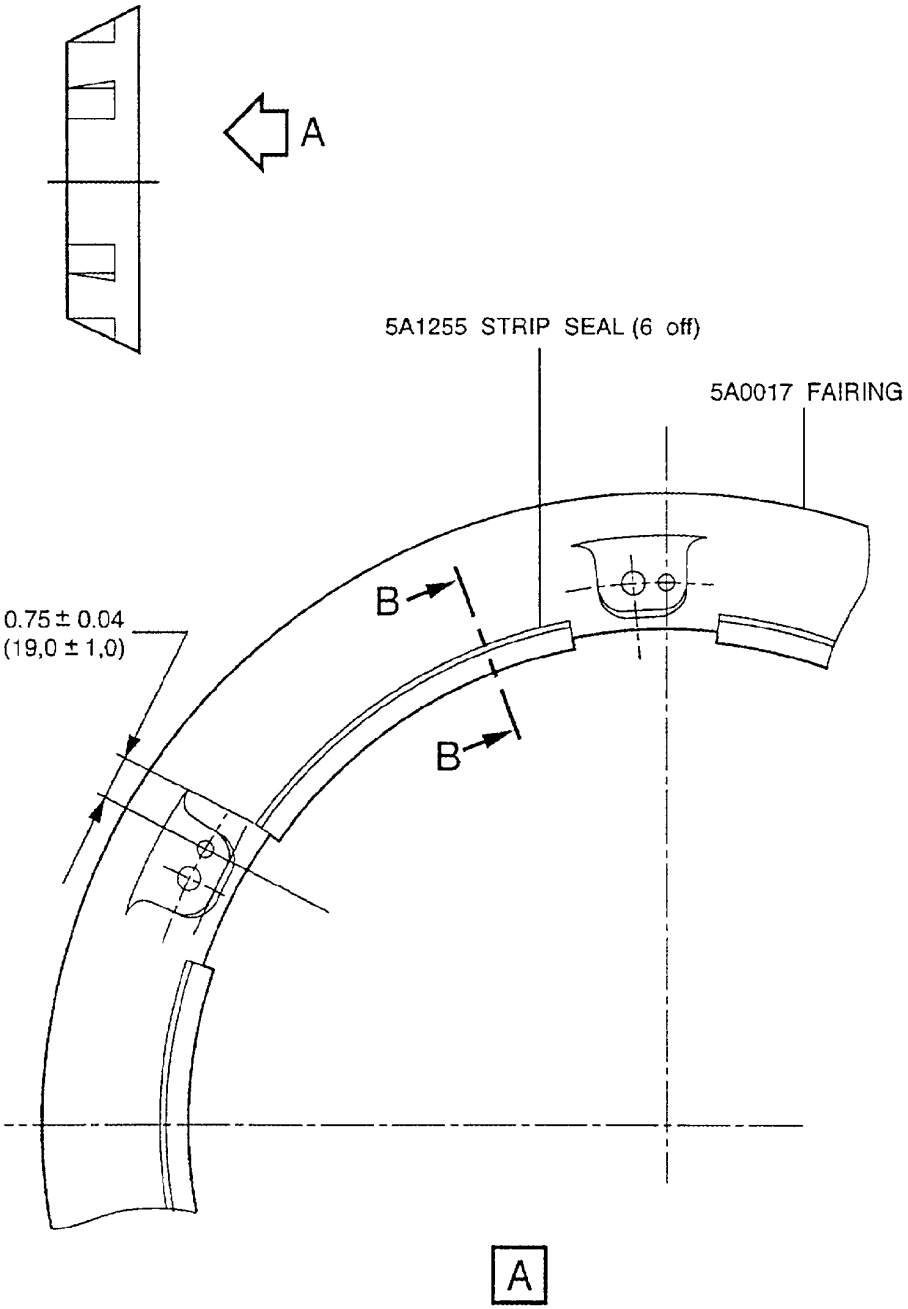
B. Assembly Instructions

(1) Lubricate the strip seal of the new 5A1833 Inlet Cone Fairing with CoMat 10-038 petroleum jelly or CoMat 10-077 approved engine oil.

(2) Install the inlet cone fairing on to the inlet cone by the approved procedure in Engine Manual (E-V2500-1IA and E-V2500-3IA), Chapter/Section 72-38-11 Installation.

C. Recording Instructions

A record of accomplishment is necessary.



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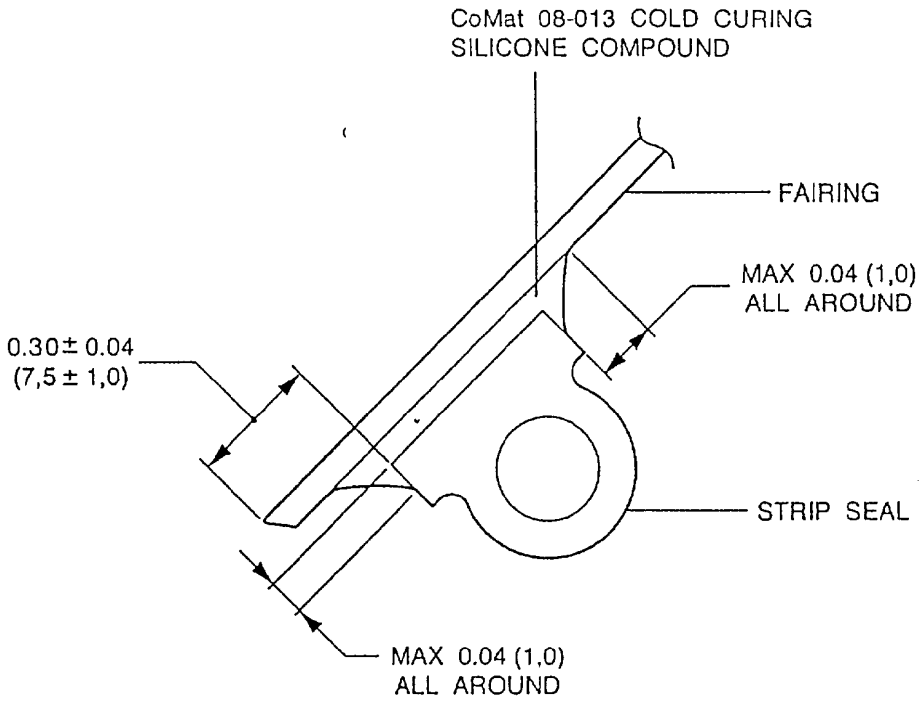
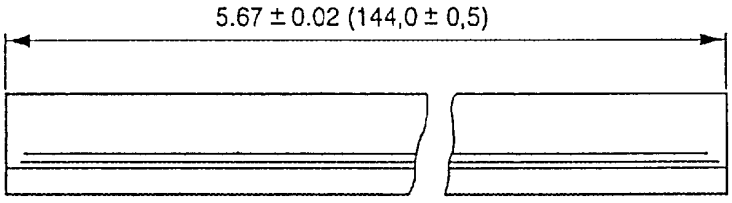
ALL DIMENSIONS IN IN. (MM)

Rework of the Inlet Cone Fairing
Fig.2 (Sheet 1 of 2)



SECTION
B-B



LENGTH OF STRIP SEAL

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ALL DIMENSIONS IN IN. (MM)

Rework of the Inlet Cone Fairing
Fig.2 (Sheet 2 of 2)

3. Material Information

Applicability: For each V2500 engine to incorporate this Service Bulletin.

A. Kits necessary for this Service Bulletin:

None.

B. Parts affected by this Service Bulletin:

New Part No. (ATA No.)	Qty	Est'd Unit Price ($)	Keyword	Old Part No. (IPC No.)	Instruction /Disposition
5A1833 (72-38-11)	1		.Fairing, A/O Inlet Cone	5A0017 (01-100)	(A)(B)(S1) (1D)
5A1255 (72-38-11)	A/R		..Seal, Strip	- (01-110)	(A)(2D)

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

C. Instruction/Disposition Code Statements:

(A) New part is currently available for sale.
(B) Old part will no longer be available for sale.
(S1) Old and new part is freely and fully interchangeable, both physically and functionally.
(1D) Old part can be reworked and reidentified to the new part number.
(2D) Additional Part. This part have a total length 39.4 inches (1000 millimeters).