



International Aero Engines SERVICE BULLETIN

ENGINE - FAN CASE REAR EXTENSION - INTRODUCTION OF ANTI-FRET COATING ON THE V-GROOVE

MODEL APPLICATION

V2525-D5

V2528-D5

BULLETIN INDEX LOCATOR

72-38-00

Compliance Category Code

5

Internal Reference No.

EC00VJ002

Apr.10/00

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ENGINE - FAN CASE REAR EXTENSION - INTRODUCTION OF ANTI-FRET COATING ON THE V-GROOVE

1. Planning Information

A. Effectivity

(1) Aircraft:

(a) Boeing MD-90

(2) Engine:

(a) V2525-D5 Engines prior to Serial Number V20286

(b) V2528-D5 Engines prior to Serial Number V20286

B. Concurrent Requirements

None.

C. Reason

(1) Condition

Cracks have been found on the V-groove on a small number of the Extension Fan Case on in service engines.

(2) Background

The cracks start from the fretting damage which is caused by rubbing between the V-groove and the V-blade on the Thrust Reverser.

(3) Objectives

The purpose of this Service Bulletin is to introduce the dry film lubricant on the V-groove surface to reduce extent of the fretting damage.

(4) Substantiation

The change introduced by this bulletin was analytically substantiated.



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(5) Effects of Bulletin on workshop procedure:

Removal/Installation	Not affected
Disassembly/Assembly	Not affected
Cleaning	Affected (See Supplemental Information)
Inspection/Check	Affected (See Supplemental Information)
Repair	Affected (See Supplemental Information)
Testing	Not affected

(6) Supplemental Information

- (a) The new cleaning procedure for dry film lubricant is introduced.
- (b) The new inspection procedure for dry film lubricant is introduced.
- (c) The new repair scheme for dry film lubricant is introduced.

C. Description

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

Dry film lubricant is applied to the V-groove of Extension Fan Case.

- (2) New part (P/N 5A1852) can be obtained only by rework of old part (P/N 5A1477). See Figure 2.
- (3) New part (P/N 5A1851) can be obtained by rework of old part (P/N 5A1637). See Figure 2.
- (4) For relationship with other Service Bulletins, see 1.K "References"
- (5) This Service Bulletin is comprised of the following two parts:
 - Part 1 - Rework of the Extension Fan Case in service.
 - Part 2 - Rework of the Extension Fan Case in shop.

D. Approval

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



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E. Compliance

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.

F. Manpower

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

<u>VENUE</u>	<u>EST'D MAN HOURS</u>
(1) In Service	
(a) To gain access.	0 hour, 18 minutes
(b) To embody	4 hour, 56 minutes
(c) To return engine to flyable status	<u>0 hours, 22 minutes</u>
Total:	5 hours, 36 minutes
(2) In Shop	
(a) To gain access	0 hour, 0 minutes
(b) To embody	11 hours, 56 minutes
(c) To return part to overhaul condition	<u>0 hour, 44 minutes</u>
Total:	12 hours, 40 minutes

G. Material - Price and Availability

(1) Modification kit not required.

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

H. Tooling - Price and Availability

Special tools are not required.



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I. Weight and Balance

- | | | | |
|-------------------|----|----|---|
| (1) Weight change | .. | .. | None |
| (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) V2500 Standard Practices/Processes Manual (SPM), Chapter/Section 70-09-00, Marking of parts, 70-11-26, Chemical Cleaning, 70-38-02, Surface Treating and 70-38-03, Surface Treating.
- (2) MD-90 Aircraft Maintenance Manual (AMM), Chapter/Section 78-32-00 and 78-38-28.
- (3) Service Bulletin V2500-NAC-78-A0182 Nacelle - Exhaust - Outer V-Blade, Thrust Reverser - Inspection for cracks and/or missing pieces.

L. Other Publications Affected

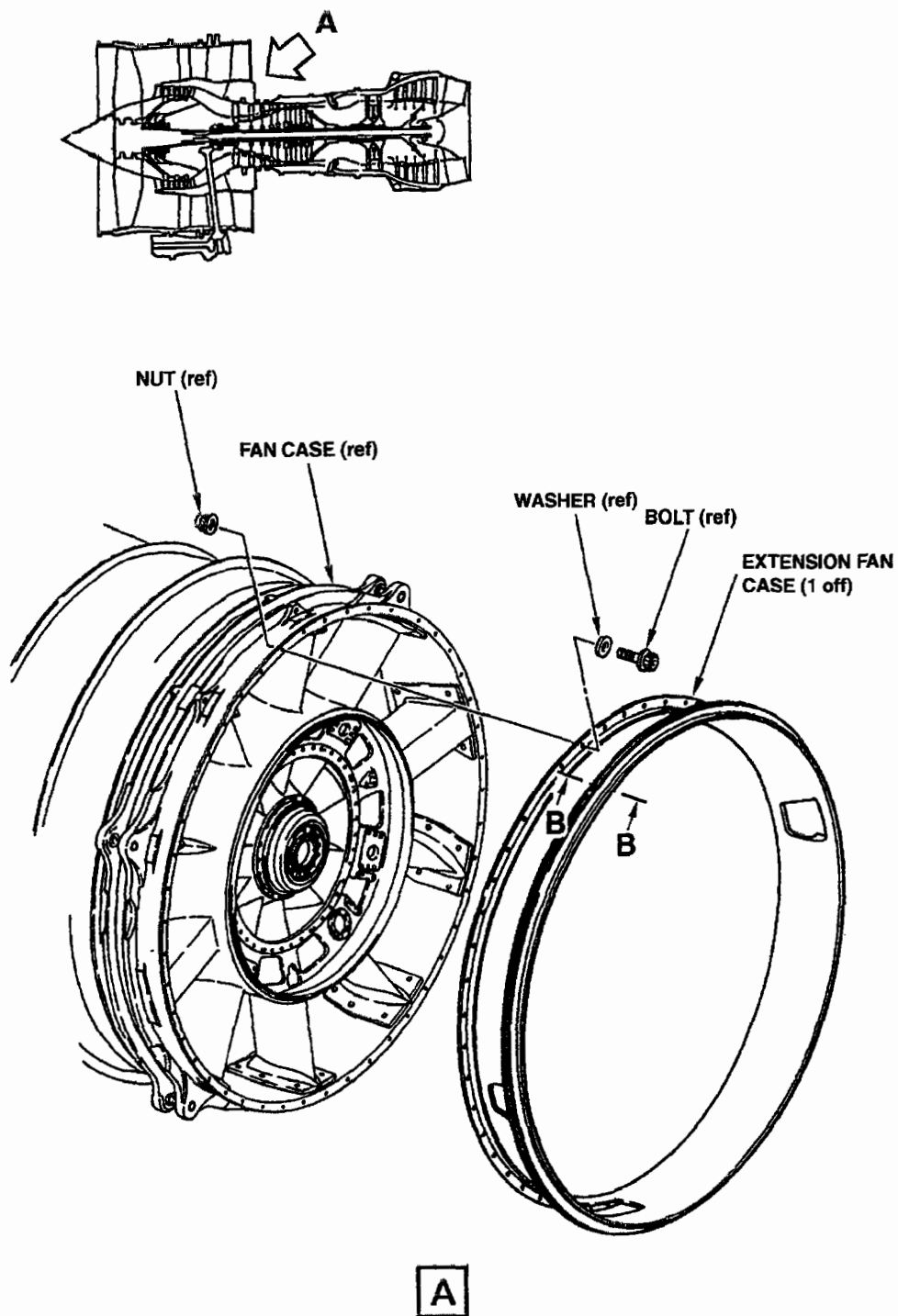
- (1) V2500 Engine Illustrated Parts Catalog.
- (2) V2500 Engine Manual (E-V2500-3IA), Chapter/Section 72-38-28, Cleaning-01, Config-01.
- (3) V2500 Engine Manual (E-V2500-3IA), Chapter/Section 72-38-28, Inspection/Check-01, Config-01.
- (4) The following Repair Scheme will be revised to include the new part introduced by this Service Bulletin.

<u>ATA No.</u>	<u>Repair Scheme No.</u>	<u>Title</u>
72-38-28	VRS1922	REPAIR THE SURFACE DAMAGE OF THE EXTENSION FAN CASE

- (5) The new Repair Scheme will be introduced to include new procedure.



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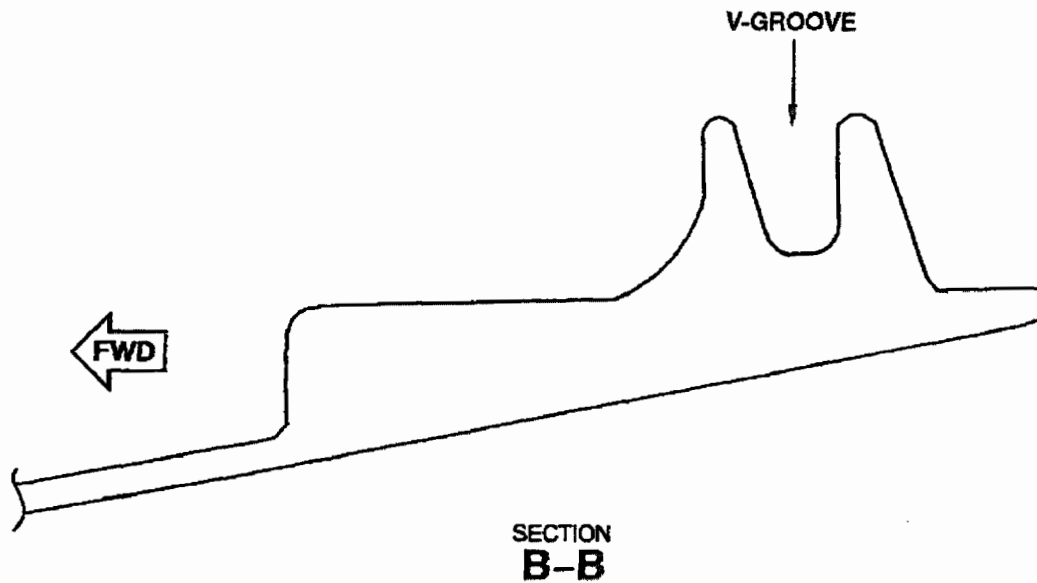


Location of V-groove of Extension Fan Case
Figure 1 (Sheet 1 of 2)

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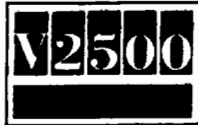
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Location of V-groove of Extension Fan Case
Figure 1 (Sheet 2 of 2)

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2. Accomplishment Instructions

PART 1: For in service

A. Job Set-up Instructions

Open the thrust reverser halves. For the correct procedures, refer to the MD-90 Aircraft Maintenance Manual (AMM), Chapter/Section 78-32-00, Page 201.

B. Rework Instructions

(1) Consumable Materials

V01-124 Isopropyl alcohol

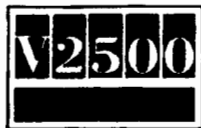
V02-018 Brush

V02-099 Lint free cloth

V10-005 Colloidal molybd.disulph.in toluen - Molydag 709

- (2) Apply dry film lubricant to the V-groove on the 5A1447 or 5A1637 Extension Fan Case and reidentify as follows and refer to Figure 2.

<u>Procedure</u>	<u>Supplementary Information</u>
(a) Do a visual inspection on the V-groove surface.	Refer to AMM, Chapter/Section 72-38-28 Inspection, Page 601.
(b) If there is damage, remove the damage from the V-groove surface If there is not damage, go to Step (e).	Refer to AMM, Chapter/Section 72-38-28 Repair VRS 1929.
(c) Do a local penetrant crack test on the repaired area of the V-groove.	Refer to AMM, Chapter/Section 72-38-28 Repair VRS 1929.
(d) Apply the surface protection to the repaired area of the V-groove.	Refer to AMM, Chapter/Section 72-38-28 Repair VRS 1929.
(e) Clean the V-groove all around.	Use V01-124 isopropyl alcohol and V02-099 lint free cloth.



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Procedure

(f) Apply three coats of dry film lubricant to the area AA of the V-groove to give a final thickness of 0.00099-0.00196 in. (0,025-0,050 mm). Ensure that a minimum time of ten minutes drying time is allowed between each application.

(g) Cure the dry film lubricant by allowing it to air dry for a minimum of one hour before closing the thrust reverser halves.

(h) Examine the layer of dry film lubricant on the area AA. Make sure the layer is equal in color on all the surface. The layer must be smooth and bonded correctly to the surface. The layer must not have any cracks or flakes.

(i) Make a mark of the new part No. on the Extension Fan Case adjacent to the old part No., make a line (-) on the old part No. to erase it.

Supplementary Information

Use V02-018 brush and V10-005 molydag 709.

Area AB and AC are optional coating area.

Refer to Figure 2. Use the Vibro-Peen.

<u>Old Part No.</u>	<u>New Part No.</u>
5A1447	5A1852
5A1637	5A1851

C. Job Close-down Instructions

Close the thrust reverser halves. For the correct procedures, refer to the MD-90 Aircraft Maintenance Manual (AMM), Chapter/Section 78-32-00, Page Block 201.

D. Record Instructions

A record of accomplishment is necessary.



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PART 2: For in shop

A. Rework Instructions

(1) Consumable Materials

CoMat 01-124 Isopropyl alcohol
CoMat 02-099 Lint free cloth
CoMat 10-005 Colloidal molybd.disulph.in toluen - Molydag 709

- (2) Apply dry film lubricant to V-groove on the 5A1447 or 5A1637 Extension Fan Case and reidentify as follows and refer to Figure 2

Procedure

Supplementary Information

- (a) Clean the V-groove all around.

Refer to SPM TASK
70-11-26-300-503. Use
CoMat 01-124 Isopropyl
alcohol and CoMat 02-099
lint free cloth.

- (b) Apply three coats of dry film lubricant to the area AA of the V-groove to give a final thickness of 0.00099-0.00196 in. (0,025-0,050 mm). Ensure that a minimum time of ten minutes drying time is allowed between each application.

Refer to SPM TASK
70-38-03-380-501. Use
CoMat 10-005 Molydag 709.
Area AB is optional coating area.

WARNING: Do not stove the dry film lubricant (Air dry only).

- (c) Cure the dry film lubricant.

Air dry for eight hours
minimum.

- (d) Examine the layer of dry film lubricant.

Refer to SPM TASK
70-38-03-380-501.

- (e) Make a mark of the new part No. on the Extension Fan Case adjacent to the old part No., make a line (-) on the old part No. to erase it.

Refer to SPM TASK
70-09-00-400-501. Use the
Vibro-Peen.

<u>Old Part No.</u>	<u>New Part No.</u>
5A1447	5A1852
5A1637	5A1851

B. Assembly Instructions

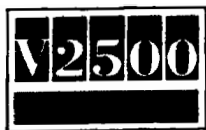
None.



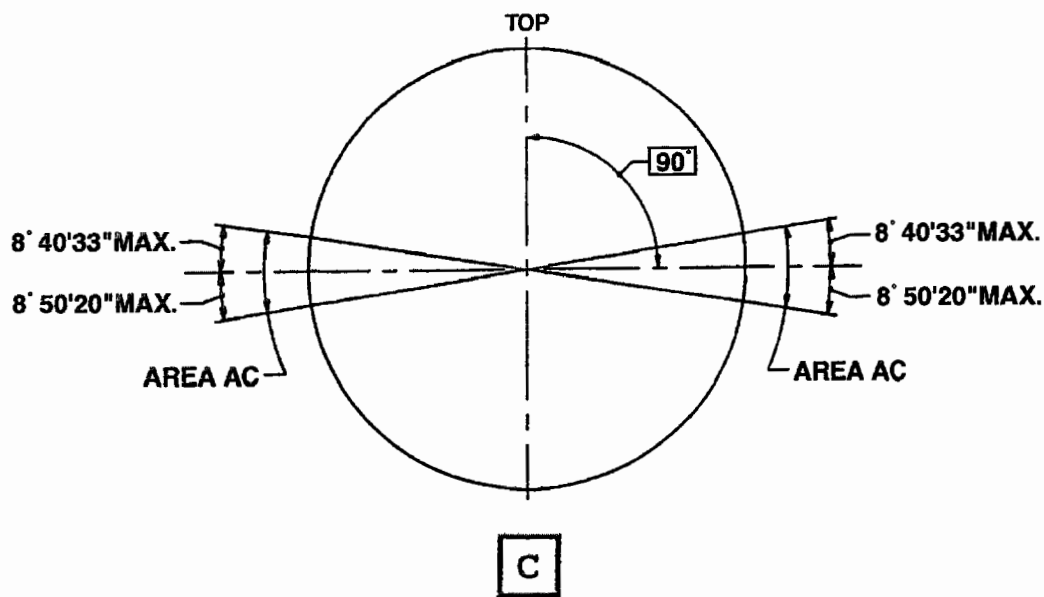
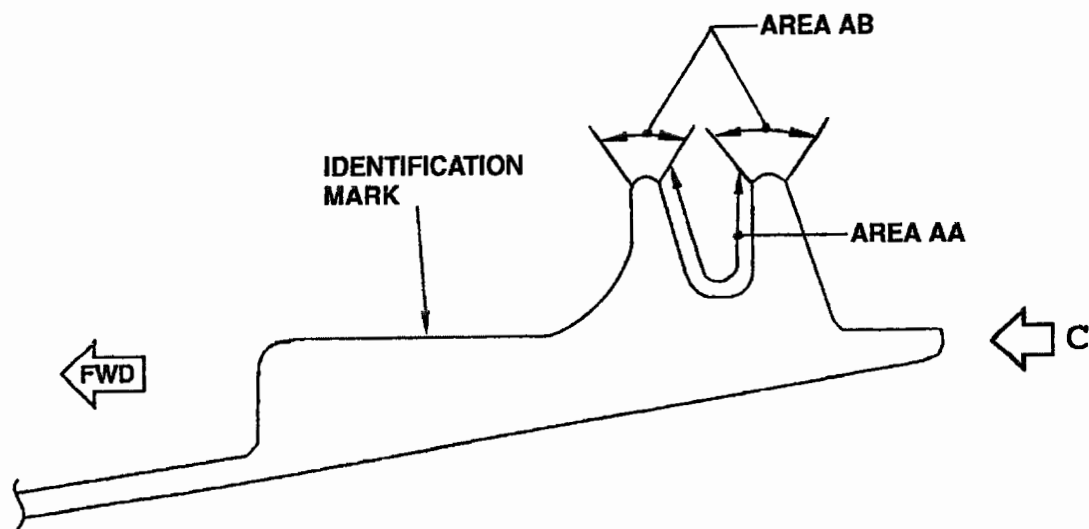
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C. Record Instructions

A record of accomplishment is necessary.



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Application of dry film lubricant on V-groove
and reidentification of Extension Fan Case
Figure 2



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3. Material Information

Application: For each V2500 engine for which this Service Bulletin is applicable.

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.)	Instr. Disp.
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For V2525-D5 and V2528-D5 engines.

5A1852 (72-38-28)	1		.CASE, EXTENSION FAN	5A1447 (01-100)	(A) (C) (1D) (S1) (S3)
5A1851 (72-38-28)	1		.CASE, EXTENSION FAN	5A1637 (01-100)	(B) (C) (2D) (S1) (S2)

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:

- (A) New part is non saleable item.
- (B) New part will be available in June 2000.
- (C) Old part will no longer be available.
- (1D) New part can only be obtained from rework and reidentification of old part.
- (2D) New part can be obtained from rework and reidentification of old old part.
- (S1) Old and new parts are freely and fully interchangeable, both physically and functionally.
- (S2) New parts can be used instead of old parts coded(S3), but not vice-versa.

