



Date: August 31, 2000

Subject: Transmittal of Revision 2 Service Bulletin Number V2500-NAC-78-0183

Service Bulletin History:

<u>Event</u>	<u>Date</u>
Basic Issue	May 19/00
Revision 1	July 6/00
Revision 2	Aug 31/00

Reasons for Issuance of Revision:

- (1) Revise the Material Information section to add parts to the Parts Affected by this Service Bulletin paragraph.
- (2) To remove Figure 2 (Thrust Reverser Latch Adjustment) from the bulletin and to reference the MD-90 Aircraft Maintenance Manual for check and adjustment of the fan cowl and thrust reverser latches.

Effect on Past Compliance:

- (1) None.

List of Effective Pages:

<u>Page No.</u>	<u>Rev No.</u>	<u>Date</u>
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Number: V2500-NAC-78-0183

Summary

Date: August 31, 2000

ATA System: 78-30

SUBJECT: THRUST REVERSER OUTER V-BLADE - APPLICATION OF DRY FILM LUBRICANT

BACKGROUND

GENERAL:

Thrust reversers have been found with cracks in the outer v-blade.

This service bulletin provides instructions to modify the v-blade to reduce wear between the engine v-groove and the v-blade.

ACTION:

Apply dry film lubricant to the entire length of the v-blade.

COMPLIANCE:

Category 4

Accomplish at the first visit of the nacelle or nacelle component to a maintenance base capable of compliance with the accomplishment instructions regardless of the planned maintenance action for the nacelle or nacelle component.

Re-apply dry film lubricant every "3A" check.

EFFECTIVITY:

All V2500-D5 thrust reversers (in-service and spares).

MANPOWER:

Manpower necessary to incorporate Service Bulletin is 3 manhours for each installed thrust reverser half and 2 manhours for each spare uninstalled thrust reverser half.

MATERIAL INFORMATION:

No parts are required to do this modification.



"MODIFICATION SERVICE BULLETIN" - "NACELLE - EXHAUST - OUTER V-BLADE, THRUST
REVERSER - APPLICATION OF DRY FILM LUBRICANT"

1. PLANNING INFORMATION

A. Effectivity

- (1) Airplane: MD-90
- (2) Nacelle: All V2500-D5 thrust reversers (in-service and spares).

B. Concurrent Requirements

- (1) You must inspect the outer v-blade as instructed in Service Bulletin V2500-NAC-78-A0182 before you do this Service Bulletin.
- (2) For in-service thrust reversers, you must do Service Bulletin V2500-ENG-72-0371 (which instructs application of dry film lubricant to the engine v-groove) before or at the same time you do this Service Bulletin.

C. Reason

- (1) Problem
 - (a) Thrust reverser outer v-blades have been found with cracks in service.
- (2) Cause
 - (a) The root cause is still under investigation.
- (3) Background
 - (a) Until this time, 5 thrust reverser outer v-blades have been found with cracks.
- (4) Objective
 - (a) The changes in configuration recommended in this Service Bulletin are intended to maintain reliability of the thrust reverser by reducing wear/fretting of the outer v-blade.



(5) Substantiation

(a) Not applicable.

D. Description

This service bulletin provides instructions for application of dry film lubricant to the entire length of the outer v-blade.

E. Compliance

Category 4

Accomplish at the first visit of the nacelle or nacelle component to a maintenance base capable of compliance with the accomplishment instructions regardless of the planned maintenance action for the nacelle or nacelle component.

Re-apply dry film lubricant every "3A" check.

F. Approval

Incorporation of this Service Bulletin must be accomplished in conjunction with Boeing Service Bulletin MD-90-78-042 which has received exclusive FAA approval for the MD-90 Series aircraft.

G. Manpower

Estimated manhours to incorporate the full intent of this Service Bulletin.

VENUE

EST'D MAN HOURS

(1) In Service

(a) To gain access 30 minutes

(b) To modify 2 hours

(c) To close up 30 minutes

Total 3 hours per thrust reverser
half (12 hours per aircraft)



VENUE

EST'D MAN HOURS

(2) In Shop

(a) To modify

2 hours

Total

2 hours per thrust reverser
half.

NOTE: Man hour estimate is provided for planning purposes only. No labor reimbursement is provided under the terms of this service bulletin offering.

H. Material Cost and Availability

No parts are required to accomplish this service bulletin.

I. Tooling

None.

J. Weight and Balance

- | | | |
|----|---------------|--|
| 1) | Weight change | None |
| 2) | Moment Arm | No effect |
| 3) | Datum | Engine front mount centreline
(Powerplant Station PS 100) |



K. References

Publication	Chapter/Section
Service Bulletin V2500-NAC-78-A0182	78-32-00
IAE Standard Practices/Processes Manual (SPP-V2500-1IA)	70-09-00
Service Bulletin V2500-ENG-72-0371	

L. Other Publications Affected

Publication	Chapter/Section
Thrust Reverser Assembly Component Maintenance Manual (CMM-TR-V2500-3IA)	78-32-23

2. Material Information

A. Material - Price and Availability

None.

B. Material Requirements

(1) The following is applicable to a thrust reverser half.

C. Kits necessary for this Service Bulletin:

None.



D. Parts Affected by this Service Bulletin:

NEW PNUMBER (ATA NUMBER)	QTY	ESTD UNIT PRICE	KEYWORD	OLD PNUMBER (IPC NUMBER)	INSTR/ DISPOS
290-0093-513 (78-32-23)	1		V-blade (-513 is opt to -517)	290-0093-505 (45-205)	(A)(B) (C)
290-0093-514 (78-32-23)	1		V-blade (-514 is opt to -518)	290-0093-506 (45-210)	(A)(B) (C)
290-0093-515 (78-32-23)	1		V-blade (-515 is opt to -519)	290-0093-507 (46-205)	(A)(B) (C)
290-0093-516 (78-32-23)	1		V-blade (-516 is opt to -520)	290-0093-508 (46-210)	(A)(B) (C)
290-0093-517 (78-32-23)	1		V-blade	290-0093-509 (45-205)	(A)(B) (C)
290-0093-518 (78-32-23)	1		V-blade	290-0093-510 (45-210)	(A)(B) (C)
290-0093-519 (78-32-23)	1		V-blade	290-0093-511 (46-205)	(A)(B) (C)
290-0093-520 (78-32-23)	1		V-blade	290-0093-512 (46-210)	(A)(B) (C)

E. Instructions/Disposition Codes:

(A) New part is available.

(B) Old part number will no longer be available.

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R (C) New part can replace old part but not vice versa.

F. Tooling - Price and Availability:

None.

G. Materials Required to do this Service Bulletin:

CoMat 01-438 Solvent

CoMat 02-099 Lint Free Cloth

CoMat 10-005 Dry Film Lubricant

NOTE: To identify the consumable materials, refer to the Overhaul Processes and Consumable Index PCI-V2500-1IA.



3. Accomplishment Instructions

A. Pre-requisite Instructions

(1) Inspect the thrust reverser outer v-blade for cracks and missing pieces as instructed in Service Bulletin V2500-NAC-78-A0182.

a. If the v-blade has cracks and/or missing pieces beyond the limits in Service Bulletin V2500-NAC-78-A0182, do not do this service bulletin. Follow the instructions in Service Bulletin V2500-NAC-78-A0182.

b. If the v-blade is not cracked or can be made serviceable with the instructions in Service Bulletin V2500-NAC-78-A0182, complete the instructions in this service bulletin.

B. Apply dry film lubricant to the entire length of the outer v-blade.

NOTE: Re-apply dry film lubricant every "3A" check.

WARNING: SOLVENT (COMAT 01-438) IS CLASSIFIED AS A HAZARDOUS MATERIAL AND MAY CAUSE INJURY OR ILLNESS IF NOT PROPERLY USED. THIS PRODUCT SHOULD BE USED ONLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFIC SAFETY AND HEALTH RECOMMENDATIONS. PRIOR TO USE OF THIS PRODUCT, CAREFULLY READ THE APPLICABLE "MATERIAL SAFETY DATA SHEET" AND FOLLOW ALL LISTED SAFETY AND HEALTH PRECAUTIONS.

(1) Clean the entire length of the outer v-blade with solvent (CoMat 01-438) and a lint free cloth (CoMat 02-099). Wipe the surface dry before the solvent becomes dry.



WARNING: DRY FILM LUBRICANT (COMAT 10-005) IS CLASSIFIED AS A HAZARDOUS MATERIAL AND MAY CAUSE INJURY OR ILLNESS IF NOT PROPERLY USED. THIS PRODUCT SHOULD BE USED ONLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFIC SAFETY AND HEALTH RECOMMENDATIONS. PRIOR TO USE OF THIS PRODUCT, CAREFULLY READ THE APPLICABLE "MATERIAL SAFETY DATA SHEET" AND FOLLOW ALL LISTED SAFETY AND HEALTH PRECAUTIONS.

- (2) Apply dry film lubricant (CoMat 10-005) to the entire length of the v-blade. Do not apply dry film lubricant to the radius of the v-blade. Refer to Figure 1.

NOTE: It is important to avoid application of dry film lubricant to the radius of the v-blade. Dry film lubricant in the radius will interfere with inspection of the v-blade.

NOTE: To ease application of the lubricant to installed v-blades, use a paint roller. Modify the roller to get the required coverage and avoid application of the lubricant to the radius of the v-blade. Refer to Figure 1.

- a. Protect the areas to which you do not want to apply dry film lubricant.
- b. Apply four layers of dry film lubricant to the v-blade. Allow the lubricant to cure for a minimum of 10 minutes after you apply each layer.
- c. Cure the dry film lubricant.
 1. Allow the dry film lubricant to become dry-to-touch. Cure may be accelerated with a heat gun or heat lamp at 200 degrees F.

C. Check the Closing Force of the Thrust Reverser and Fan Cowl Latches.

- (1) Close the thrust reverser halves. Refer to the MD-90 Aircraft Maintenance Manual, Chapter 78-32-00, page block 201.

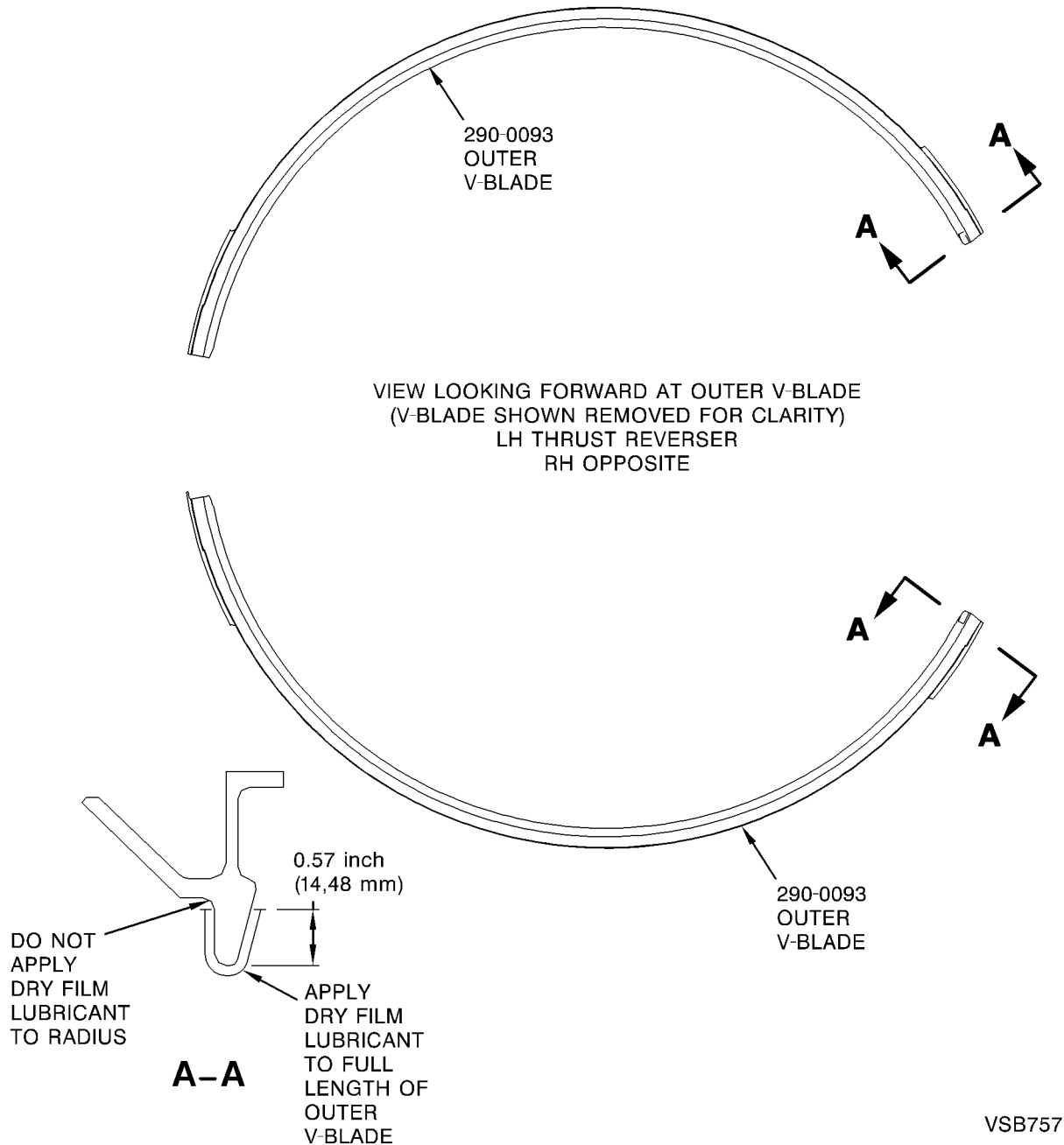


CAUTION: IT IS NECESSARY THAT THE CLOSING FORCE OF EACH THRUST REVERSER AND FAN COWL LATCH IS PROPERLY ADJUSTED. GIVE PARTICULAR ATTENTION TO THE THRUST REVERSER NUMBER 1 (V-GROOVE) LATCH.

- (2) Check and adjust the closing force of each of the thrust reverser and translating sleeve latches. Refer to the MD-90 Aircraft Maintenance Manual.

D. Recording Instructions

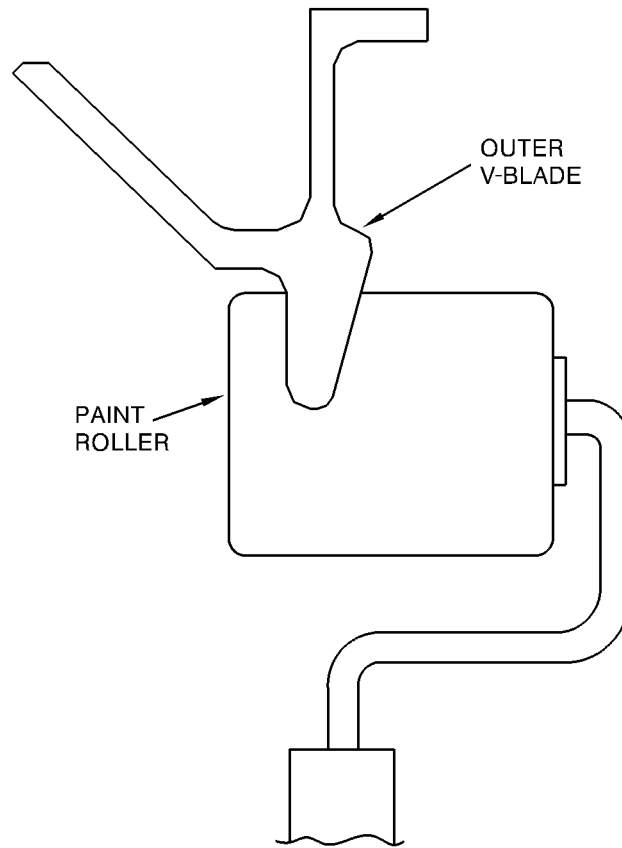
- (1) A record of accomplishment is required. Write in the applicable records and metal stamp, electroetch, or vibroetch on the thrust reverser data plate that Service Bulletin V2500-NAC-78-0183 has been done. Refer to the Standard Practices/Processes Manual (SPP-V2500-1IA), Chapter 70-09-00.



Thrust Reverser Outer V-Blade Modification
Figure 1 (Sheet 1)

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Outer V-Blade Modification
Figure 1 (Sheet 2)

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