Date: February 26, 2001

Subject: Transmittal of Revision 1 Service Bulletin Number V2500-NAC-78-0186

Service Bulletin History:

Event	Date
Basic Issue	Oct 26/00
Revision 1	Feb 26/01

Reasons for Issuance of Revision:

(1) To add the following statement to the bulletin the requirement for replacement of the 290-1201-511 cover assembly with the 290-1201-519. This is necessary because the old cover assembly will not fully cover the enlarged ACAC exhaust area.

Effect on Past Compliance:

(1) Operators should place a free of charge order for one (1) 290-1201-519 Cover Assembly for each C.N.A on which this bulletin has been or will be done.

List of Effective Pages:

Page No.	Rev No.	Date
Summary	1	Feb 26/01
1 - 16	1	Feb 26/01

SERVICE BULLETIN

Number: V2500-NAC-78-0186, Revision No. 1

Summary

Date: February 26, 2001

ATA System: 78-11

SUBJECT: COMMON NOZZLE ASSEMBLY (CNA) ACAC EXHAUST EXIT AREA MODIFICATION/ THRUST RECOVERY DUCT MODIFICATION

BACKGROUND

GENERAL:

Due to pressure within the thrust reverser, the thrust reverser latch access door can open inadvertently.

This service bulletin provides instructions to enlarge the CNA ACAC exhaust exit area to reduce the pressure within the thrust reverser.

ACTION:

Enlarge the CNA ACAC exhaust exit area. Modify the CNA thrust recovery duct. Replace the ACAC exhaust area cover assembly.

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.

EFFECTIVITY:

All V2500-D5 CNAs with serial numbers prior to 0251007.

MANPOWER:

Manpower necessary to incorporate Service Bulletin is 1.5 man hours for each CNA.

MATERIAL INFORMATION:

The part required to accomplish this service bulletin is available from the manufacturer at no cost to the operator for a period of one year from the Revision 1 issue date of this service bulletin.

"MODIFICATION SERVICE BULLETIN" - "NACELLE - EXHAUST - COMMON NOZZLE ASSEMBLY (CNA) ACAC EXHAUST EXIT AREA MODIFICATION/THRUST RECOVERY DUCT MODIFICATION"

1. PLANNING INFORMATION

A. Effectivity

(1) Airplane: MD-90

(2) Nacelle: All V2500-D5 CNAs with serial numbers prior to 0251007.

B. Concurrent Requirements

(1) For installed CNAs, Service Bulletin V2500-NAC-78-0189 should be done before or at the same time as this service bulletin to gain maximum advantage from this change.

C. Reason

(1) Problem

(a) The thrust reverser latch access door can open inadvertently in flight.

(2) Cause

(a) Too much pressure within the thrust reverser.

(3) Background

(a) Thrust reverser latch access doors have inadvertently opened in flight.

(4) Objective

(a) The changes in configuration recommended in this Service Bulletin are intended to maintain reliability of the nacelle by reducing pressure within the thrust reverser.

(5) Substantiation

(a) Not applicable.

D. Description

R This service bulletin provides instructions for enlarging the CNA
R ACAC exhaust area, modifying the thrust recovery duct, and replacing
R the ACAC exhaust area cover assembly.

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.

F. Approval

Incorporation of this Service Bulletin must accomplished only in conjunction with Boeing Service Bulletin MD90-78-045 which has received exclusive FAA approval for 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 modify the C.N.A	1.5 hours
Total	1.5 hours per nacelle (3.0 hours per aircraft)

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

R The part required to accomplish this service bulletin is available
R from the manufacturer at no cost to the operator.
R
R Operators with units listed in Paragraph 1.A. should submit a no
R charge purchase order for one (1) 290-1201-519 cover assembly for
R each C.N.A. The purchase order must specify this service bulletin
R number and only the part numbers listed herein. Operators will have
R one year from the issue date of Revision 1 of this service bulletin
R to place an order. Upon receipt of purchase order, Rohr shall provide
R a delivery schedule for parts ordered. After one year, operators must
R purchase parts at catalog price if they wish to incorporate this
R service bulletin.
R
R Direct Purchase Order to:
R Rohr, Inc.
R 850 Lagoon Drive
R Chula Vista, CA 91910-2098
R U.S.A.
R
R Attn: Regional Account Manager - MZ 107A
R (Ref Service Bulletin No. V2500-NAC-78-0186)
R
R NOTE: Please do not submit orders for service bulletin parts via the
R Spec 2000 ordering system

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
MD-90 Service Bulletin V2500-NAC-78-0189	
IAE Standard Practices/Processes Manual (SPP-V2500-1IA)	70-09-00
Overhaul Processes and Consumable Index (PCI-V2500-1IA)	

L. Other Publications Affected

Publication	Chapter/Section
Common Nozzle Component Maintenance Manual (CMM-CN-V2500-3IA)	78-11-11

2. Material Information

A. Material Requirements

(1) The following is applicable to one CNA.

B. Parts Necessary for this Service Bulletin:

	NEW PNUMBER (ATA NUMBER)	QTY	ESTD UNIT PRICE	KEYWORD	OLD PNNUMBER (IPC NUMBER)	INSTR/ DISPOS
R	290-1201-519 (78-11-11)	1		Cover Assy	- - -	(A)

C. Parts affected by this Service Bulletin:

	NEW PNUMBER (ATA NUMBER)	QTY	ESTD UNIT PRICE	KEYWORD	OLD PNNUMBER (IPC NUMBER)	INSTR/ DISPOS
R	290-1201-517 (78-11-11)	1		Common Nozzle Assembly	290-1201-515 (05-05)	(1D)
R	290-1273-507 (78-11-11)	1		Thrust Recovery Duct	290-1273-505 (05-95)	(A)(B) (1D)
R	- - - (78-11-11)	4		Bolt	NAS8803-1 (05-100)	(2D)
R	290-1201-519 (78-11-11)	1		Cover Assy	290-1201-511 (05-30)	(A)(B)

D. Instructions/Disposition Codes:

(A) New part is available.

(B) Old part will no longer be available

(1D) Old part can be modified and identified as new part number.

(2D) Quantity is changed from 16 to 4.

E. Tooling - Price and Availability:

None.

F. Materials Required to do this Service Bulletin:

CoMat 01-438	Solvent
CoMat 02-099	Lint Free Cloth
CoMat 06-073	Metal Marking Ink
CoMat 08-032	Primer
CoMat 08-033	Sealant

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) Open the thrust reverser halves. Refer to the MD-90 Aircraft Maintenance Manual.

(2) Remove the bolts and thrust recovery duct from the CNA. Refer to Figure 1 (sheet 1).

R
R (3) For uninstalled CNAs, remove the bolts, washers and the 290-1201-511 cover from the opposite side of the CNA. Refer to Figure 1 (sheet 2).

(4) Remove the ACAC duct from the CNA (if necessary for access). Refer to Figure 2 (sheet 1).

a. For installed CNAs, remove the clamp, the seal, and the ACAC duct from the duct on the engine.

b. Remove the bolts, washers, spacers, and ACAC duct from the bracket.

c. Remove the clamp, the seal, and the ACAC duct from the CNA.

(5) Remove the bolts and the fairing and shim (if any)from the CNA.

B. Modify the Thrust Recovery duct. Refer to Figure 1 (sheet 3).

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 thrust recovery duct with solvent (CoMat 01-438) and a clean lint free cloth (CoMat 02-099). Wipe the thrust recovery duct dry before the solvent becomes dry.

(2) Remove the indicated material from the thrust recovery duct. Remove any burrs and sharp edges.

(3) Re-identify the 290-1273-505 thrust recovery duct as the 290-1273-507. Use a rubber stamp and ink (CoMat 06-073). Refer to the Standard Practices /Processes Manual, Chapter 70-09-00.

C. Make the CNA ACAC Exhaust Area Larger. Refer to Figure 2 (sheet 2).

NOTE: There are ACAC exhaust openings on both sides of the CNA. For installed CNAs, only one of the openings is accessible. This service bulletin is not considered fully accomplished until both sides of the CNA have been modified.

(1) Clean the CNA ACAC exhaust exit area with solvent (CoMat 01-438) and a clean lint free cloth (CoMat 02-099). Wipe the area dry before the solvent becomes dry.

CAUTION: THE MATERIAL REMOVAL DIMENSIONS SHOWN IN FIGURE 2 ARE APPROXIMATE. MAKE SURE YOU DO NOT DAMAGE THE FRAME THAT IS UNDER THE PANEL.

(2) Remove the indicated material from the CNA. Remove any burrs and sharp edges. Remove all particles and debris.

(3) Clean the modified area of the CNA with solvent (CoMat 01-438) and a clean lint free cloth (CoMat 02-099). Wipe the area dry before the solvent becomes dry.

WARNING: PRIMER (COMAT 08-032) 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.

(4) Apply primer (CoMat 08-032) to the exposed core in the modified area of the CNA. Refer to the manufacturer's instructions.

WARNING: SEALANT (COMAT 08-033) 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.

(5) Apply sealant (CoMat 08-033) to the exposed core in the modified area of the CNA. Refer to the manufacturer's instructions.

(6) Re-identify the 290-1201-515 common nozzle assembly as the 290-1201-517. Use metal stamp, vibroetch or electroetch method. Refer to the IAE V2500 Standard Practices/Processes Manual, Chapter 70-09-00.

D. Post-requisite Instructions

(1) Install the fairing and shim (if any)on the CNA with the bolts. Refer to Figure 2 (sheet 1).

(2) Install the ACAC duct (if removed). Refer to Figure 2 (sheet 1).

a. Attach the ACAC duct to the C.N.A. with the bolts, washers, and spacers.

b. Attach the ACAC duct to the C.N.A. with the clamp, bolts, washers, and nuts.

c. For installed CNAs, attach the ACAC duct to the duct on the engine with the seal and the clamp.

d. Torque the clamp to 115-125 inlb (13-14 N.m).

e. Tap around the outside of the clamp with a soft faced hammer.

f. Torque the clamp again to 115-125 inlb (13-14 N.m).

g. Tap around the outside of the clamp with a soft faced hammer.

h. Torque the clamp again to 115-125 inlb (13-14 N.m).

i. Torque the bolts to 20-25 inlb (2-3 N.m).

(3) Install the thrust recovery duct. Refer to Figure 1 (sheet 4).

a. Apply primer (CoMat 08-032) to the mating surfaces of the 290-1273-507 thrust recovery duct and the CNA. Refer to the manufacturer’s instructions.

b. Apply sealant (CoMat 08-033) to the mating surfaces of the thrust recovery duct and the CNA. Refer to the manufacturer’s instructions.

c. Install the thrust recovery duct on the CNA with the bolts.

d. Apply primer (08-032) to the edges of the thrust recovery duct. Refer to the manufacturer’s instructions.

e. Apply sealant (CoMat 08-033) to the edges of the thrust recovery duct. Refer to the manufacturer’s instructions.

(4) For uninstalled CNAs, install the 290-1201-519 cover on the opposite side of the CNA with the washers and bolts. Refer to Figure 1 (sheet 4).

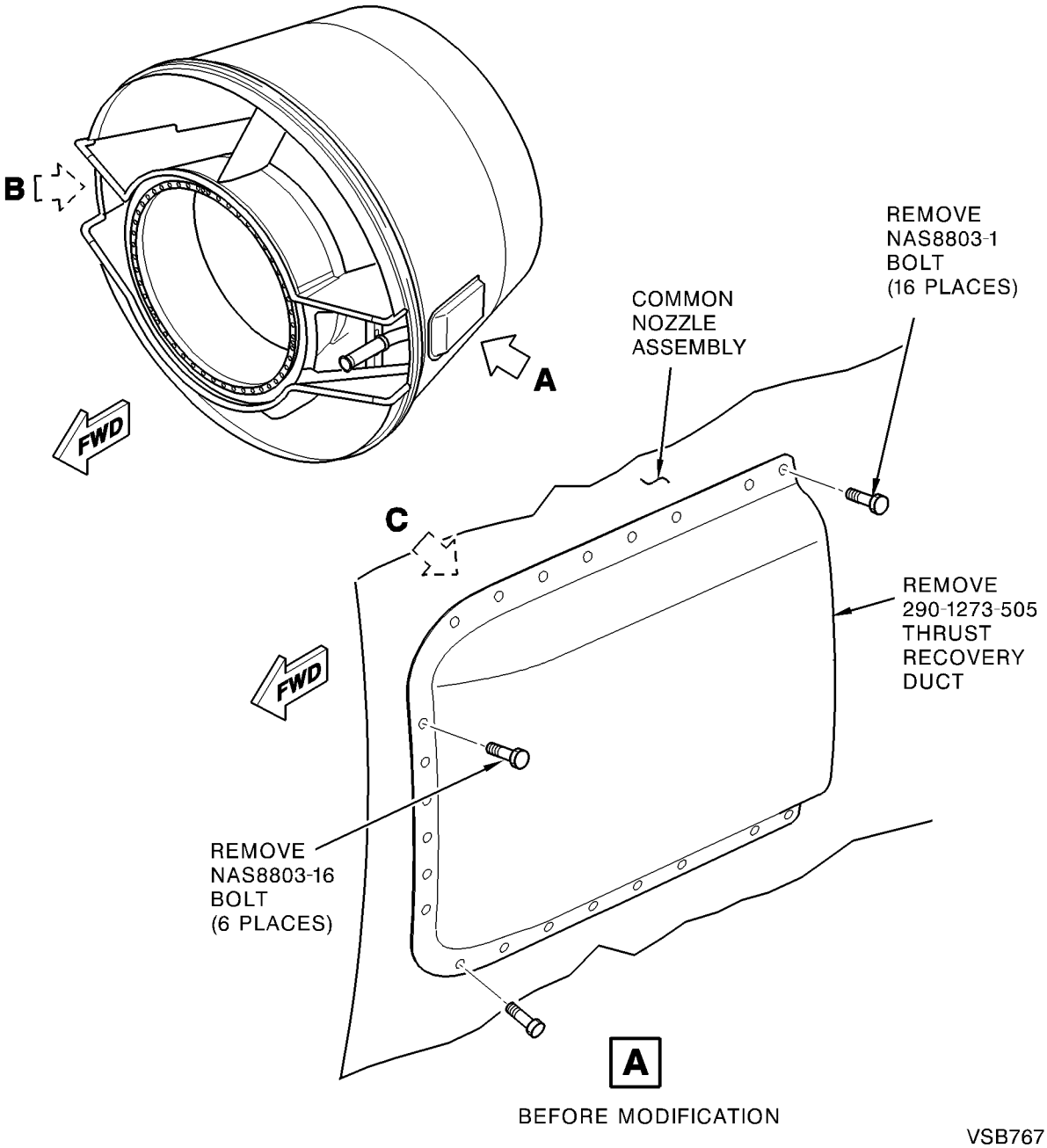
R (5) Fill the unused attach holes with sealant. Refer to Figure 1 R (sheet 4).

a. Apply primer (CoMat 08-032) to the unused attach holes. Refer to the manufacturer’s instructions.

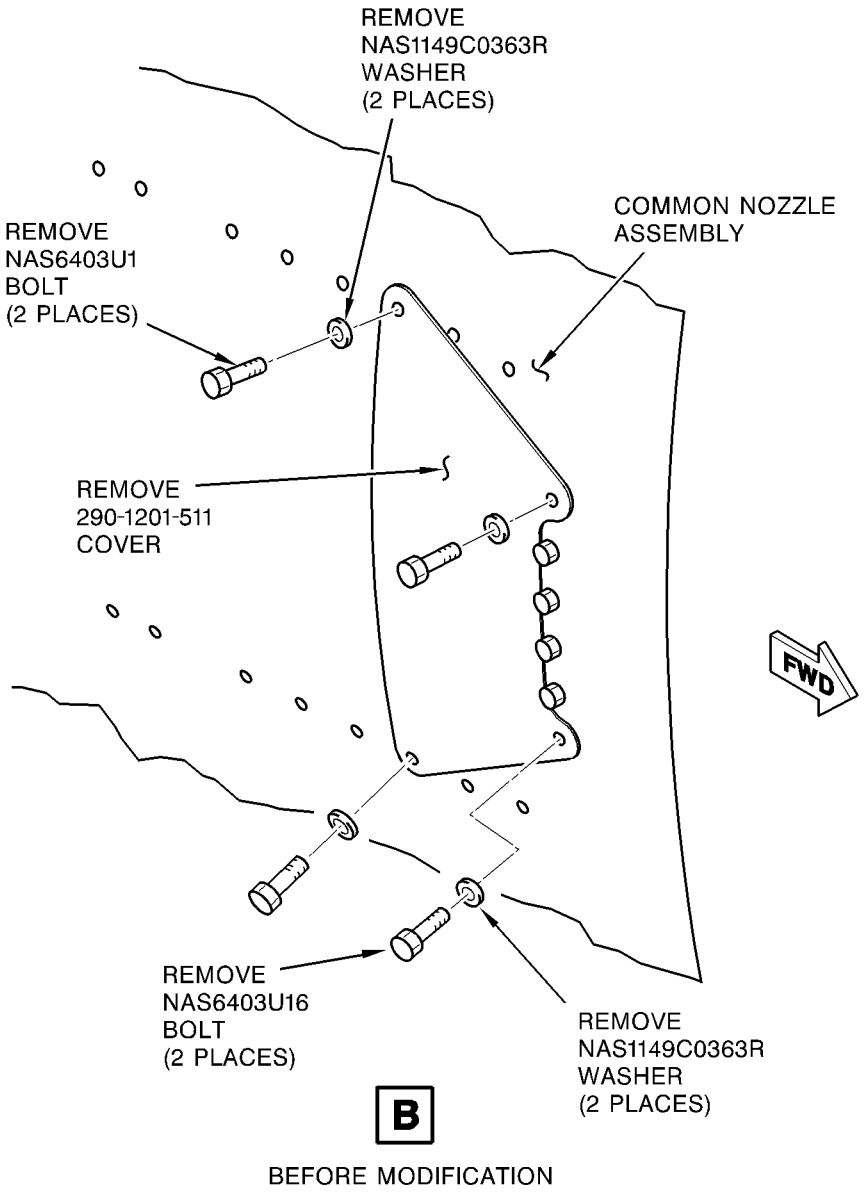
b. Fill the unused attach holes with sealant (CoMat 08-033). Refer to the manufacturer’s instructions. Refer to Figure 1.

E. Recording Instructions

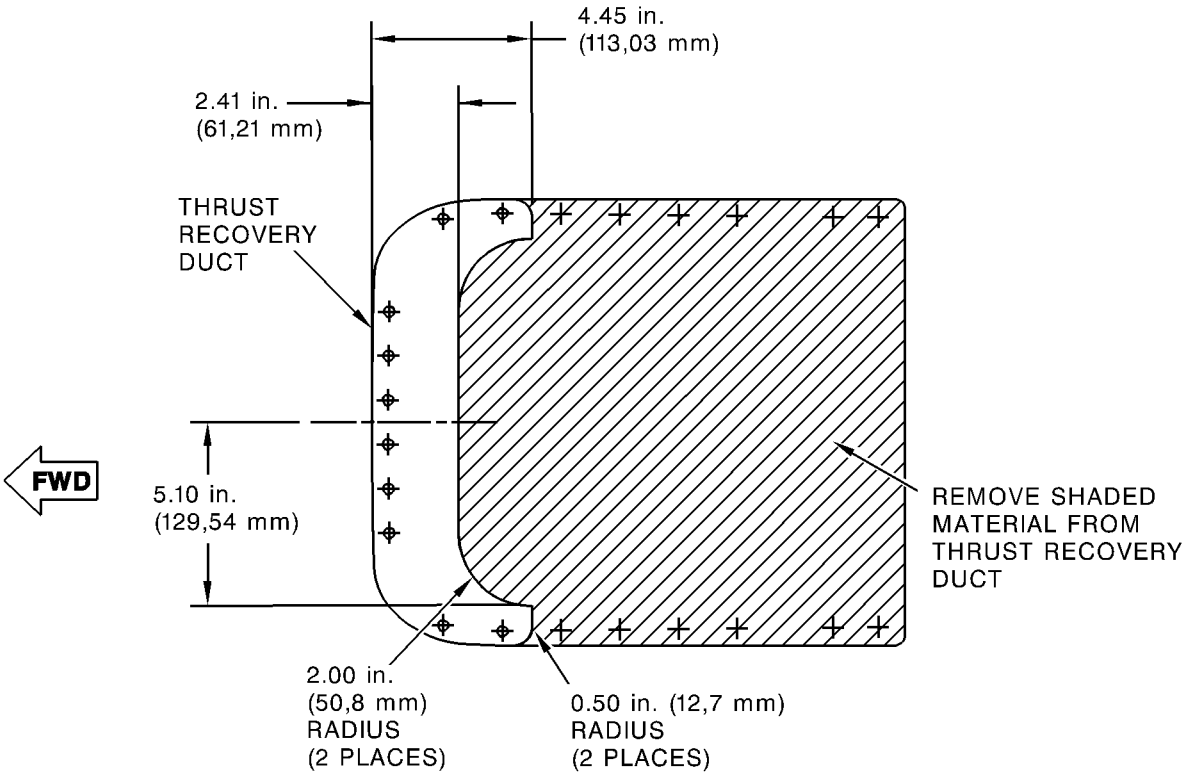
(1) A record of accomplishment is required. Write in the applicable records and metal stamp, electroetch, or vibroetch on the CNA data plate that Service Bulletin V2500-NAC-78-0186 has been done. Refer to the Standard Practices/Processes Manual (SPP-V2500-1IA), Chapter 70-09-00.



Thrust Recovery Duct Modification and New Cover
Figure 1



Thrust Recovery Duct Modification and New Cover
Figure 1 (sheet 2)



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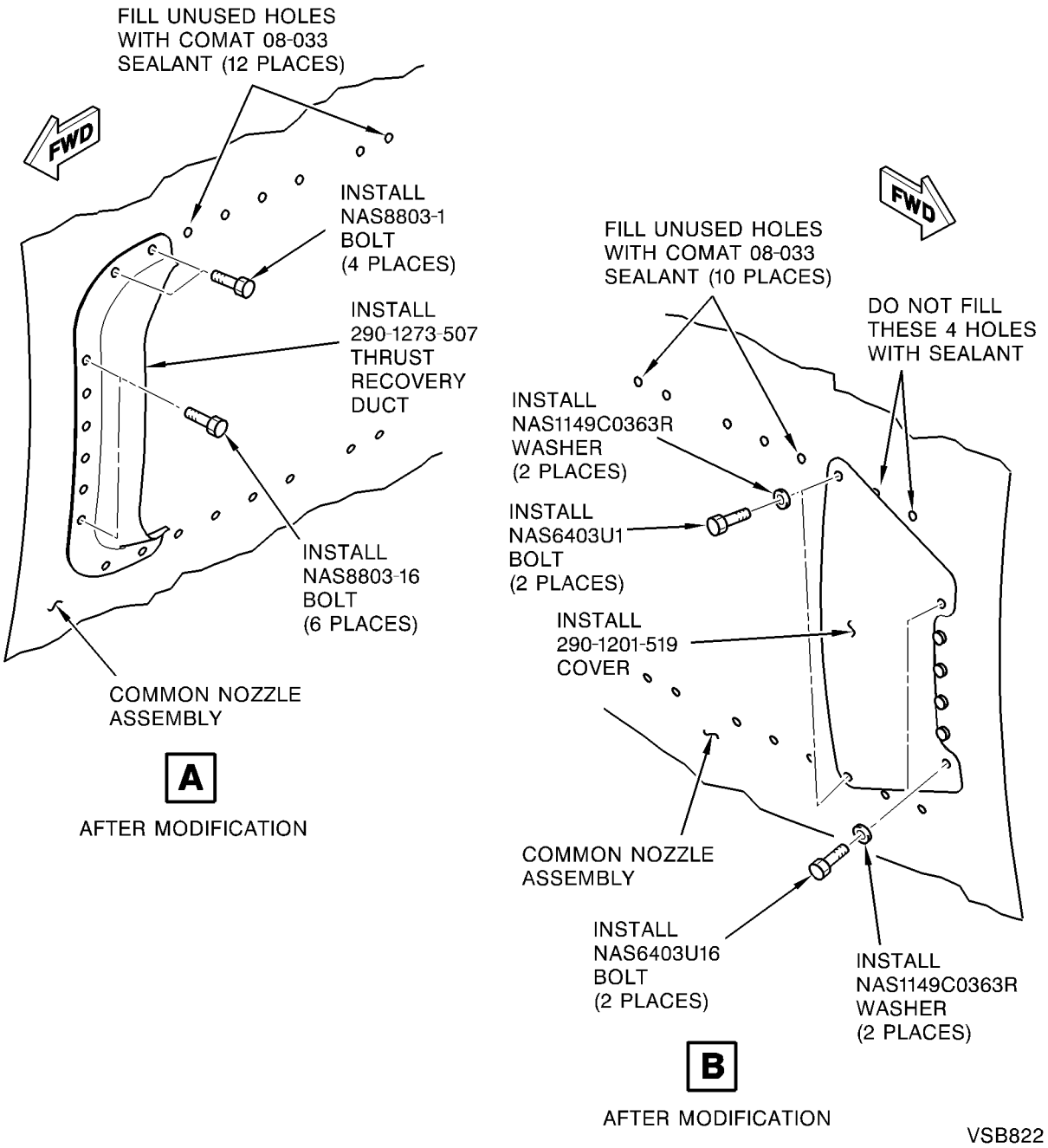
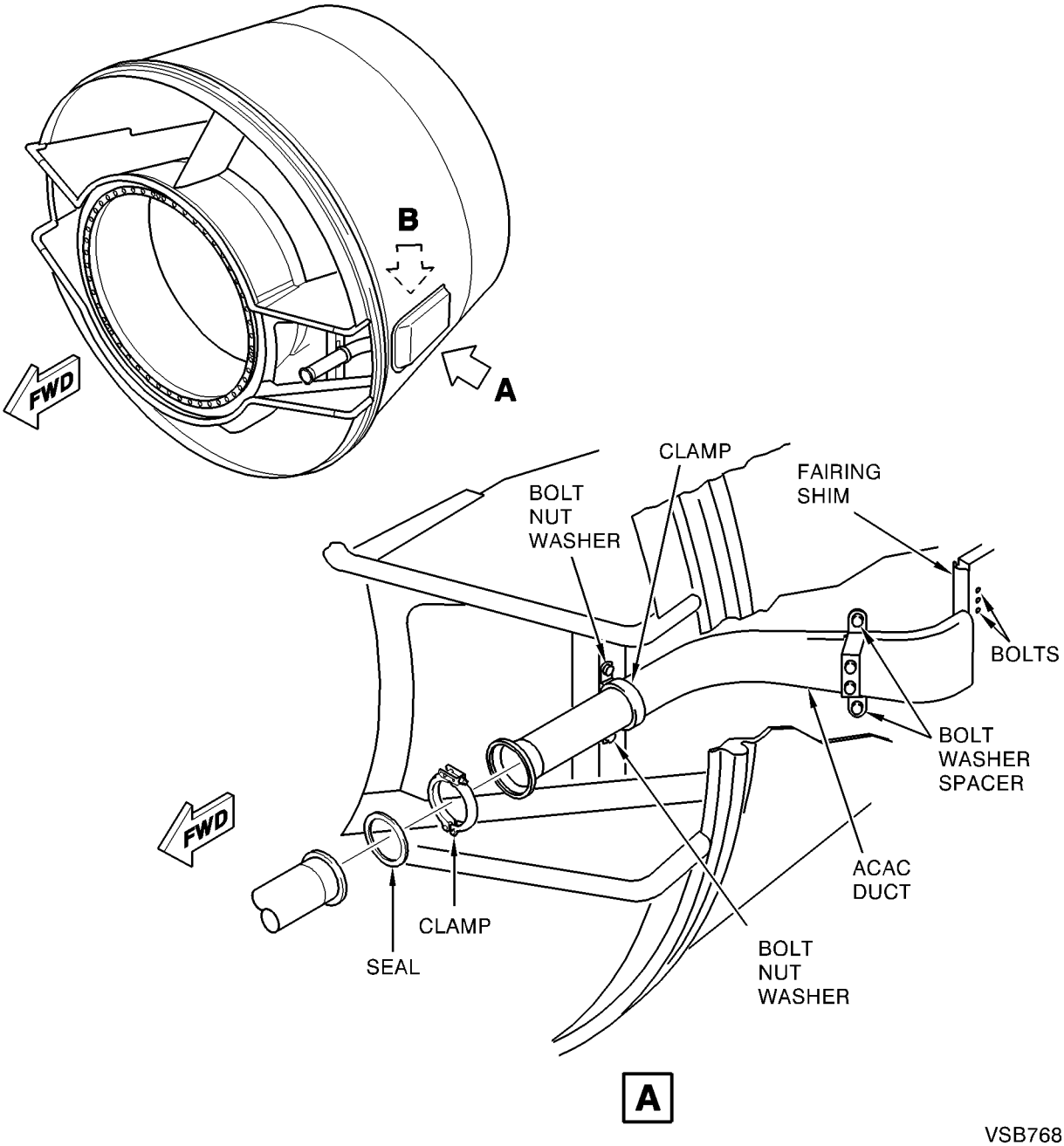
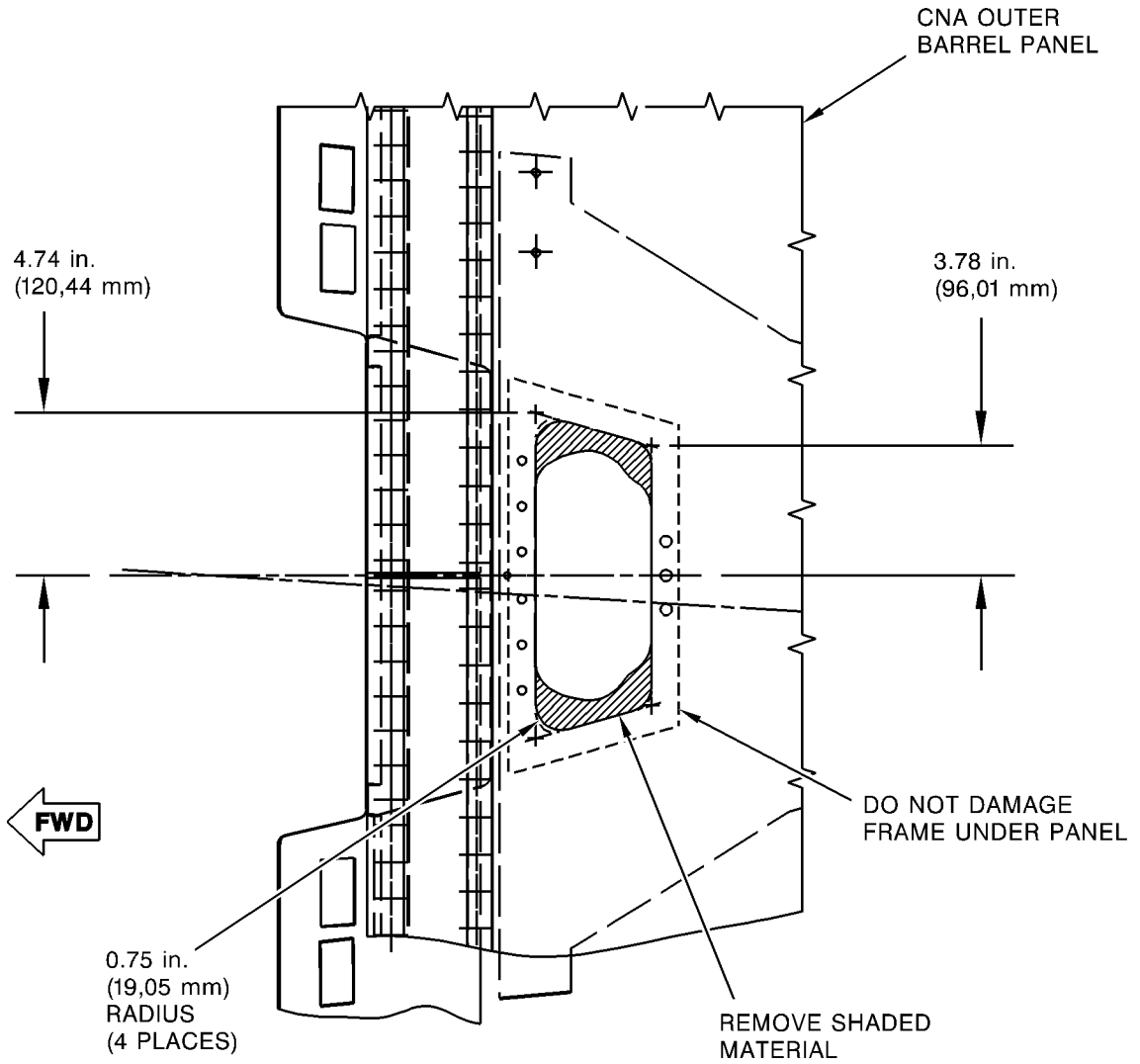
Thrust Recovery Duct Modification and New Cover
Figure 1 (sheet 3)



Thrust Recovery Duct Modification and New Cover
Figure 1 (sheet 4)



CNA ACAC Exhaust Area Modification
Figure 2 (sheet 1)



CNA ACAC Exhaust Area Modification
Figure 2 (sheet 2)