V2500 Propulsion System - Nacelle

SERVICE BULLETIN

Date: January 21, 2000

Subject: Transmittal of Revision 1 to Service Bulletin Number V2500-NAC-78-0144

Service Bulletin Revision History:

Event	Date
Basic Issue	Sep. 09/99
Revision 1	Jan. 21/00

Reasons for issuance of Revision:

(1) To correct paragraph numbering errors and references in text.

Effect on Past Compliance:

(1) None.

List of Effective Pages:

Page No.	Rev No.	Date
1 and 2	1	Jan. 21/00
3 thru 10	Basic	Sep. 09/99
11 thru 13	1	Jan. 21/00
14 thru 18	Basic	Sep. 21/00
19	1	Jan. 21/00
20 thru 35	Basic	Sep. 21/99

V2500 Propulsion System - Nacelle

SERVICE BULLETIN

NACELLE - EXHAUST - ACTUATOR FAIRINGS, THRUST REVERSER - REPLACEMENT OF

MODEL APPLICATION

V2500-D5

BULLETIN INDEX LOCATOR

78-00-00

Compliance Category Code	Internal Reference No.
4	JG 96VN335C

1. Planning Information

A. Effectivity

(1) Aircraft

(a) Boeing MD90

(2) Nacelle: All V2500-D5 thrust reversers with serial numbers prior to 0701001 as follows:

R R (a) V2500-D5 thrust reversers with serial numbers prior to 0618001 require Paragraphs 2.A., B., C., and D. of this bulletin..

R R (b) V2500-D5 thrust reversers with serial numbers 0618001 thru 0700007 require paragraphs 2.A., C., and D of this bulletin.

B. Reason

(1) Condition

The thrust reverser actuator fairings can develop cracks in service.

(2) Background

Operators have experienced cracked thrust reverser actuator fairings. The cause has been determined to be vibration fatigue.

(3) Objective

Replace the existing thrust reverser actuator fairings with fairings of a design less susceptible to cracking.

(4) Substantiation

Tests of the new thrust reverser actuator fairings have been successful.

(5) Impact of the Bulletin on Workshop Procedures:

Removal/Installation	Affected
Disassembly/Assembly	Affected
Cleaning	Not Affected
Inspection/Repair	Not Affected
Repair	Not Affected
Testing	Not Affected

(6) Supplemental Information

None.

C. Description

The change introduced by this Bulletin is as follows:

For thrust reverser serial numbers prior to 0618001:

The thrust reverser actuators and actuator fairings are removed. The forward and aft attach points for the fairings are modified to accept the new fairings (which have one less attaching bolt at each end). The new actuator fairings are installed. The actuators are installed and the thrust reverser rigging is checked.

For thrust reverser serial numbers 0618001 through 0700007:

The thrust reverser actuators and actuator fairings are removed. The new actuator fairings are installed. The actuators are installed and the thrust reverser rigging is checked.

D. Approval

Incorporation of this service bulletin must be accomplished only in conjunction with Douglas Aircraft Company Service Bulletin MD-90-78-032 which has received exclusive FAA approval for MD-90 Series Aircraft.

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. Manpower

Estimated manhours to incorporate the full intent of this Bulletin for each nacelle:

VENUE		ESTIMATED MANHOURS
(1) In Service		
(a) To gain access		0.5 M/Hrs.
(b) To rework		1.0 M/Hrs.
(c) To check rigging		1.0 M/Hrs.
(d) To return to service		0.5 M/Hrs.
	Total	3.0 M/Hrs.
(2) In Shop		
(a) To Rework		1.0 M/Hrs.
(b) To check rigging		1.0 M/Hrs.
	Total	2.0 M/Hrs

NOTE: Estimated manhours provided for planning purposes only.

G. Material Cost and Availability

The parts to accomplish this Service Bulletin are available from the supplier as kit V2578144-551 at no cost to the operator.

Operators with units listed in Paragraph 1.A. should submit a no-charge purchase order for the applicable quantity of kits. The purchase order must specify this Service Bulletin number and only the kit part number listed herein. Operators will have one year from the issue date of the service bulletin to place an order. Upon receipt of purchase order, Rohr shall provide a delivery schedule for kits ordered. After one year, kits will no longer be available and Operators will have to order parts individually at catalog prices, if they desire to incorporate the change.

Direct Purchase Order to:
Rohr, Inc.
850 Lagoon Drive
Chula Vista, CA 91910-2098
U.S.A.

Attn: Airline Account Manager - MZ 107A
(Ref. Service Bulletin V2500-NAC-78-0144)

NOTE: Please do not send orders for service bulletin kits via Spec 2000 ordering system.

H. Tooling Cost and Availability

None required.

I. Weight and Balance

(1) Weight change ..... None

(2) Moment arm ..... No effect

(3) Datum ..... Engine Front Mount Centerline
.....(Powerplant Station PPS 100.00)

J. Electrical Load Data

Not affected.

K. Reference	Chapter/Section
MD-90 Aircraft Maintenance Manual	71-13-00 78-30-00 78-31-13 78-31-14 78-31-16 78-32-00
IAE V2500 Standard Practices/Processes Manual (SPP-V2500-1IA)	70-09-00

L. Other Publications Affected

MD90/V2500D5 Thrust Reverser Component Maintenance Manual (CMM-TR-V2500-3IA)	78-33-12
MD-90 Aircraft Maintenance Manual	78-33-12

2. Accomplishment Instructions

A. Pre-requisite Instructions

(1) Remove the thrust reverser actuators. Refer to Figure 1.

WARNING: YOU MUST DEACTIVATE THE THRUST REVERSER HYDRAULIC CONTROL UNIT (HCU) BEFORE YOU WORK ON OR AROUND THE THRUST REVERSER. IF YOU DO NOT DO THIS, THE THRUST REVERSER CAN OPERATE ACCIDENTALLY AND CAUSE INJURY OR DAMAGE.

(a) Deactivate the thrust reverser hydraulic control unit (HCU). Refer to the Aircraft Maintenance Manual, Chapter 78-30-00, Page Block 201.

(b) Open the upper and lower fan cowl doors. Refer to the Aircraft Maintenance Manual, Chapter 71-13-00, Page Block 201.

(c) Remove the screws and the actuator access doors.

(d) Put the locking actuators in the unlock position.

1 Move the lock levers to the rear.

2 Install the lock pins in the locking actuators to keep them in the unlock position.

(e) Manually extend the translating sleeve approximately 0.5 inch (12,7 mm) to decrease the load on the seals. Refer to the Aircraft Maintenance Manual, Chapter 78-30-00, Page Block 201.

(f) Remove the actuation system tubes, hoses, and flexshafts. Do not remove the unions from the tee piece. Refer to the MD-90 Aircraft Maintenance Manual, Chapter 78-31-16, Page Block 401.

(g) Disconnect the electrical connectors from the locking actuator.

(h) Install caps on the electrical connectors and on the receptacles on the locking actuator.

(i) Disconnect the actuators from the translating sleeve.

CAUTION: DO NOT TURN THE ACTUATOR ROD END. IF YOU TURN THE ACTUATOR ROD END, IT WILL CHANGE THE LENGTH OF THE ACTUATOR AND REQUIRE YOU TO COMPLETELY RIG THE THRUST REVERSER.

1 Remove the bolt, the bushings, washer, and nut that attach the actuator rod end to the translating sleeve.

(j) Disconnect the actuators from the forward support.

1 Remove the actuator retainer pins.

2 Remove the actuator pins that attach the actuator gimbal to the forward support.

(k) Disconnect the actuators from the aft support.

1 Remove the bolts, washers, cap halves, and shims from the aft support.

(l) Remove the actuators from the thrust reverser.

CAUTION: DO NOT TURN THE ACTUATOR ROD END. IF YOU TURN THE ACTUATOR ROD END, IT WILL CHANGE THE LENGTH OF THE ACTUATOR AND YOU WILL HAVE TO COMPLETELY RIG THE THRUST REVERSER.

1 Make a note of the position of the actuators on the thrust reverser. You must install the actuators in the same position from which you remove them. If you do not do this, you will have to rig the thrust reverser.

2 Move the actuators forward and pull them through the hole in the forward support.

(2) Remove the bolts, washers, and outboard thrust reverser actuator fairings. Discard the center NAS7503U4 bolt at each end of the fairings. Refer to Figure 2 (sheet 4).

(3) Remove the bolts, washers, and inboard thrust reverser actuator fairings. Discard the center NAS7503U4 bolt at each end of the fairings. Discard one NAS6303U4 and AN960C10L washer at each end of the fairings. Refer to Figure 2 (sheet 5).

B. Re-work The Forward and Aft Actuator Fairing Attach Points.

NOTE: Because the new actuator fairings have a different shape, and require fewer attach bolts, it is necessary to modify the attach points for the fairings.

NOTE: This procedure is the same for the left and right thrust reversers. The right thrust reverser part numbers are shown in parenthesis.

(1) Remove material from the aft cascade support ring fittings as shown in Figure 2 (sheet 6).

(2) Modify the outboard adapter plate assembly.

(a) Remove the center nutplate from each outboard adapter plate assembly. Refer to Figure 2 (sheet 7).

(3) Modify the inboard adapter plate assembly.

(a) Remove the rivets and the two NAS1779C3 nutplates from the inboard adapter plate assembly as shown in Figure 2 (sheet 8)

(b) Remove material from the inboard adapter plate assembly as shown in Figure 2 (sheet 8). Use the dimensions in the Figure for reference. Make sure to remove the two indicated rivet holes. Do not damage the structure under the adapter plate.

(c) Put the NAS1789C3 nutplates into position shown in Figure 2 (sheet 8) and drill new rivet holes.

WARNING: SOLVENT (COMAT 01-438) IS CLASSIFIED AS A HAZARDOUS MATERIAL WHICH 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.

(d) Clean the bare metal surfaces of the inboard adapter plate assembly with a lint free cloth (CoMat 02-099) and solvent (CoMat 01-438). Wipe the surfaces dry before the solvent becomes dry.

WARNING: CONVERSION COATING (COMAT 07-028) IS CLASSIFIED AS A HAZARDOUS MATERIAL WHICH 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.

(e) Apply the conversion coating (CoMat 07-028) to the bare aluminum surfaces of the inboard adapter plate assembly. Refer to the manufacturer's instructions.

WARNING: CATALYST (COMAT 07-139), EPOXY PRIMER (07-140), AND THINNER (COMAT 07-144) ARE CLASSIFIED AS HAZARDOUS MATERIALS WHICH MAY CAUSE INJURY OF ILLNESS IF NOT PROPERLY USED. THESE PRODUCTS SHOULD BE USED ONLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFIC SAFETY AND HEALTH RECOMMENDATIONS. PRIOR TO USE OF THESE PRODUCTS, CAREFULLY READ THE APPLICABLE "MATERIAL SAFETY DATA SHEET" AND FOLLOW ALL LISTED SAFETY AND HEALTH PRECAUTIONS.

(f) Mix the catalyst (CoMat 07-139), epoxy primer (CoMat 07-140), and the thinner (CoMat 07-144). Refer to the manufacturer's instructions.

(g) Apply the primer mix to the treated surfaces of the inboard adapter plate assembly.

(h) Cure the primer. Refer to the manufacturer's instructions.

(i) Fill the old nutplate rivet holes with MS20426AD3-3 rivets. Wet install the rivets with primer mix.

(j) Install the two NAS1789C3 nutplates with MS20426AD3-5 rivets as shown in Figure 2 (sheet 8). Wet install the rivets with primer mix.

R C. Post-requisite Instructions

(1) Install the new 290-0031-511 and 290-0031-513 thrust reverser outboard actuator fairings with the washers and bolts. Torque the bolts to 75-85 in-lbs (8,5-9,6 Nm). Refer to Figure 2 (sheets 2, 3, and 4).

(2) Install the new 280-0031-515 thrust reverser inboard actuator fairings with the washers and bolts. Torque the bolts to 75-85 in-lbs (8,5-9,6 Nm). Refer to Figure 2 (sheets 2, 3, and 5).

(3) Install the locking and non-locking actuators. Refer to Figure 1.

(a) Put the actuators through the holes in the thrust reverser forward support. Put the actuators into the same position from which they were removed. If you do not put the actuators into the same position from which they were removed, you will have to rig the thrust reverser.

(b) Push the actuators to the rear to compress the seal. Install the actuator pins that attach the actuators to the forward support. Install the retainer pins in the forward support.

(c) Attach the actuator rod ends to the translating sleeve with the bushings, washers, bolts, and nuts. Torque the nuts to 160-190 in-lbs (18,1-21,5 Nm).

(d) Attach the actuators to the aft support with the shims, cap halves, washers, and bolts. Put the clamp halves around the cushion on the actuators. Install shims to fill the gap between the lower cap half and the aft support. Torque the bolts to 20-25 in-lbs (2,3-2,8 Nm).

NOTE: A check of the thrust reverser actuators and translating sleeves rigging is recommended, but not required unless you have turned the actuator rod ends, twisted the flexshafts, or not installed the actuators in the same place from which they were removed. If you want to do this check, go to Paragraph 2.C.(8) now. If you do not want to do this check, follow the instructions in Paragraphs 2.C. (4), (5), (6), and (7) then go to Paragraph 2.D.

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(4) Install the actuator access doors with the screws.

(5) Connect the electrical connectors to the locking actuators.

(6) Install the actuation system flexshafts, tubes, and hoses.

Refer to the MD-90 Aircraft Maintenance Manual, Chapter 78-31-16, Page Block 401.

(7) Bleed the air from the thrust reverser hydraulic actuation system. Refer to the MD-90 Aircraft Maintenance Manual, Chapter 78-31-16, Page Block 401.

(8) Check the rigging of the thrust reverser actuators and translating sleeves.

NOTE: A check of the thrust reverser actuators and translating sleeves rigging is recommended, but not required unless you have turned the actuator rod ends, twisted the flexshafts, or not installed the actuators in the same place from which they were removed. If you do not want or need to do a rig check, go to Paragraph 2.D.

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NOTE: Part of this check is done with the thrust reverser half drive systems isolated from each other and the two actuators on each thrust reverser half isolated from each other. This isolation is done by not installing the crossover and thrust reverser flexshafts until instructed. It is necessary to connect the flexshaft tubes and hoses to the actuators so you can move the translating sleeve with hydraulic power.

(a) Disconnect the actuators from the translating sleeve.

CAUTION: DO NOT TURN THE ACTUATOR ROD END. IF YOU TURN THE ACTUATOR ROD END, IT WILL CHANGE THE LENGTH OF THE ACTUATOR AND REQUIRE YOU DO COMPLETELY RIG THE THRUST REVERSER.

1 Remove the bolt, the bushings, washers, and nuts that attach the actuator rod ends to the translating sleeve. Refer to Figure 1.

(b) Open the thrust reverser halves far enough to sepa-

rate the translating sleeve aft double latch and latch housing. Refer to the MD-90 Aircraft Maintenance Manual, Chapter 78-32-00, Page Block 201.

(c) Manually stow the locking and non-locking actuators.

CAUTION: YOU CANNOT PROPERLY RIG THE THRUST REVERSER IF YOU DO NOT KEEP THE ROD ENDS FROM TURNING.

1 With a 0.190 inch (3/16 inch)(4,83 mm) square drive in the flexshaft port of the actuator, turn the non-locking (inboard) actuator in the stow direction until the actuator bottoms out and the internal stop is contacted. Do not allow the actuator rod end to turn.

2 With the manual drive, turn the locking (outboard) actuator until the actuator bottoms out and the internal stop is contacted. Make sure the locking actuator lock lever moves forward to the locked position. Do not allow the actuator rod end to turn.

(d) Install the thrust reverser flexshafts, hydraulic hoses, and tubes. Do not install the crossover flexshaft. Do not rig the actuators and flexshafts and do not bleed the system at this time. Refer to the MD-90 Aircraft Maintenance Manual, Chapter 78-31-16, Page Block 401.

(e) Manually move the locking and non-locking actuators 2-3 inches (50,8-76,2 mm) from the fully stowed position then back to the fully stowed position.

1 Manually unlock the locking actuator. Refer to paragraph 2.A.(1)(d).

CAUTION: YOU CANNOT PROPERLY RIG THE THRUST REVERSER IF YOU ALLOW THE ACTUATOR ROD ENDS TO TURN.

2 Operate the manual drive in the deploy direction until the locking and non-locking actuators extend 2-3 inches (50,8-76,2 mm)from the fully stowed position then back to the fully stowed position. Do not allow the actuator rod ends to turn.

(f) Make sure the locking actuator lock lever moves forward to the locked position. Make sure on the non-locking actuator the distance between the piston rod end collar and the lock nut (dimension A)is 1.3 inch (33,02 mm) maximum as shown in Figure 2.

1 If the locking actuator lever does move to the locked position, and on the non-locking actuator the distance between the piston rod end collar and the lock nut is not more than 1.3 inch (33,02 mm), go to step (g).

2 If the locking actuator lever does not move to the locked position, or on the non-locking actuator the distance between the piston rod end collar and the lock nut is more than 1.3 inch (33,02 mm), you must rig the locking and non-locking actuators and the flexshaft between them as follows:

a Remove the deploy tube and flexshaft between the locking and non-locking actuator. Refer to the MD-90 Aircraft Maintenance Manual, Chapter 78-31-16, Page Block 401.

CAUTION: YOU CANNOT PROPERLY RIG THE THRUST REVERSER IF YOU DO NOT KEEP THE ACTUATOR ROD ENDS FROM TURNING.

b With a 0.190 inch (3/16 inch)(4,83 mm) square drive in the flexshaft port of the actuator, turn the non-locking (inboard) actuator in the stow direction until the actuator bottoms

out and the internal stop is contacted. Do not allow the actuator rod end to turn.

c Turn the manual drive in the stow direction until the locking actuator lock lever moves forward to the locked position. Do not allow the actuator rod end to turn.

d Install the flexshaft and the deploy tube between the locking and non-locking actuators Refer to the MD-90 Aircraft Maintenance Manual, Chapter 78-31-16, Page Block 401.

(g) Manually move the locking and non-locking actuators 2-3 inches (50,8-76,2 mm) from the fully stowed position.

1 Manually unlock the locking actuator. Refer to paragraph 2.A.(1)(d).

CAUTION: YOU CANNOT PROPERLY RIG THE THRUST REVERSER IF YOU DO NOT KEEP THE ACTUATOR ROD ENDS FROM TURNING.

2 Hold the actuator rod ends so they cannot turn and operate the manual drive in the deploy direction until the actuators are 2-3 inches (50.8-76.2 mm) from the fully stowed position.

3 Move the translating sleeve forward until one or both of the actuator rod ends can be put in the translating sleeve mounting brackets. If only one actuator rod end can be put in the mounting brackets, you must adjust the other rod end as necessary. Refer to the MD-90 Aircraft Maintenance Manual, Chapters 78-31-13 or 78-31-14, Page Block 401.

4 Connect the actuators to the translating sleeve with the bushings, washers, bolts, and nuts. Torque the nuts to 160-190 in-lbs (18,1-21,5 Nm).

5 Use the manual drive to deploy, then stow the translating sleeve. The sleeve must move smoothly without binding. Refer to the MD-90 Aircraft Maintenance Manual, Chapter 78-32-00, Page Block 201.

(h) With the thrust reverser halves open far enough to completely disengage the translating sleeve aft double latch shear pins, extend then completely retract both translating sleeves with hydraulic power. Refer to the MD-90 Aircraft Maintenance Manual, Chapter 78-32-00, Page Block 201.

NOTE: Because the translating sleeves are not connected by the latches or the crossover flexshaft, they will not extend and retract at the same time. Both translating sleeves must be completely retracted (stowed) before you install the crossover flexshaft.

(i) Install the crossover flexshaft. Refer to the MD-90 Aircraft Maintenance Manual, Chapter 78-31-16, Page Block 401.

(j) Rig the actuator length and translating sleeve position.

1 Close the thrust reverser halves. Refer to the MD-90 Aircraft Maintenance Manual, Chapter 78-32-00, Page Block 201. Make sure the shear pins on the translating sleeve aft double latches align with their mating holes. If they do not align, you must adjust the length of both actuators on the same translating sleeve by the same amount.

2 Close and latch the fan cowls. Refer to the MD-90, Chapter 71-13-00, Page Block 201.

3 Measure the distance between the translating sleeve leading edge and the fan cowl aft edge. The distance must be equal to 0.030-0.250 inch (0,76-6,36 mm) for at least 80% of the measurements and 0.030-0.310 inch (0,76-7,87 mm) for no more than 20% of the measurements. Refer to Figure 4.

CAUTION: THE GAP MEASUREMENTS NOTED IN THE PREVIOUS STEP WILL ONLY APPLY IF THE THRUST REVERSER IS STOWED WITH HYDRAULIC POWER. IF THE THRUST REVERSER IS STOWED MANUALLY, THE GAP WILL BE LARGER AND THE ABOVE REQUIREMENTS DO NOT APPLY.

4 If the distance does not meet the requirements, adjust the actuator length as necessary. Refer to the MD-90 Aircraft Maintenance Manual, Chapters 78-31-13 or 78-31-14, Page Block 401.

CAUTION: YOU CANNOT PROPERLY RIG THE THRUST REVERSER IF YOU DO NOT KEEP THE ACTUATOR ROD ENDS FROM TURNING.

NOTE: If actuator length adjustment is required, you must adjust the length of all four actuators by the same amount. This will ensure that the sleeve alignment with the tracks is not effected and that the translating sleeve double latch shear pins will also align correctly.

NOTE: Adjustment of the actuator rod end will change the actuator length. The actuator rod end can be adjusted $\pm$ 0.25 inch (6,35 mm) from it's factory set length. Make sure you do not exceed this limit (the distance from the face of the actuator piston to the center of the rod end, as shown in Figure 2, must be 2.52$\pm$0.028 inch (64$\pm$0,71 mm)).

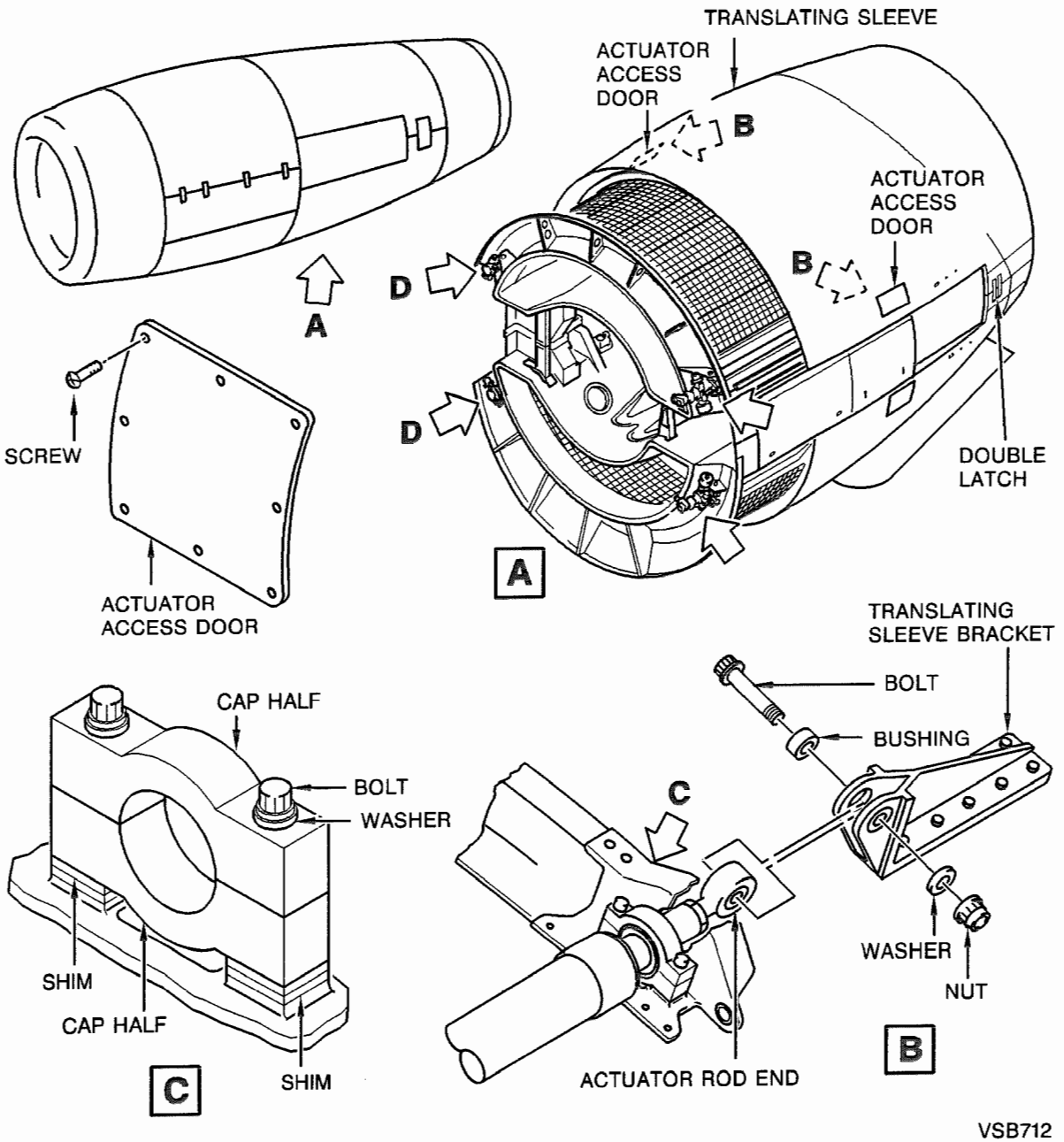
NOTE: One full turn of the rod end, while you hold the piston rod, will change the actuator overall length ± 0.056 inch (1,42 mm) or a half turn will change the length ± 0.028 inch (0,71 mm).

(k) Install the actuator access doors with the screws.

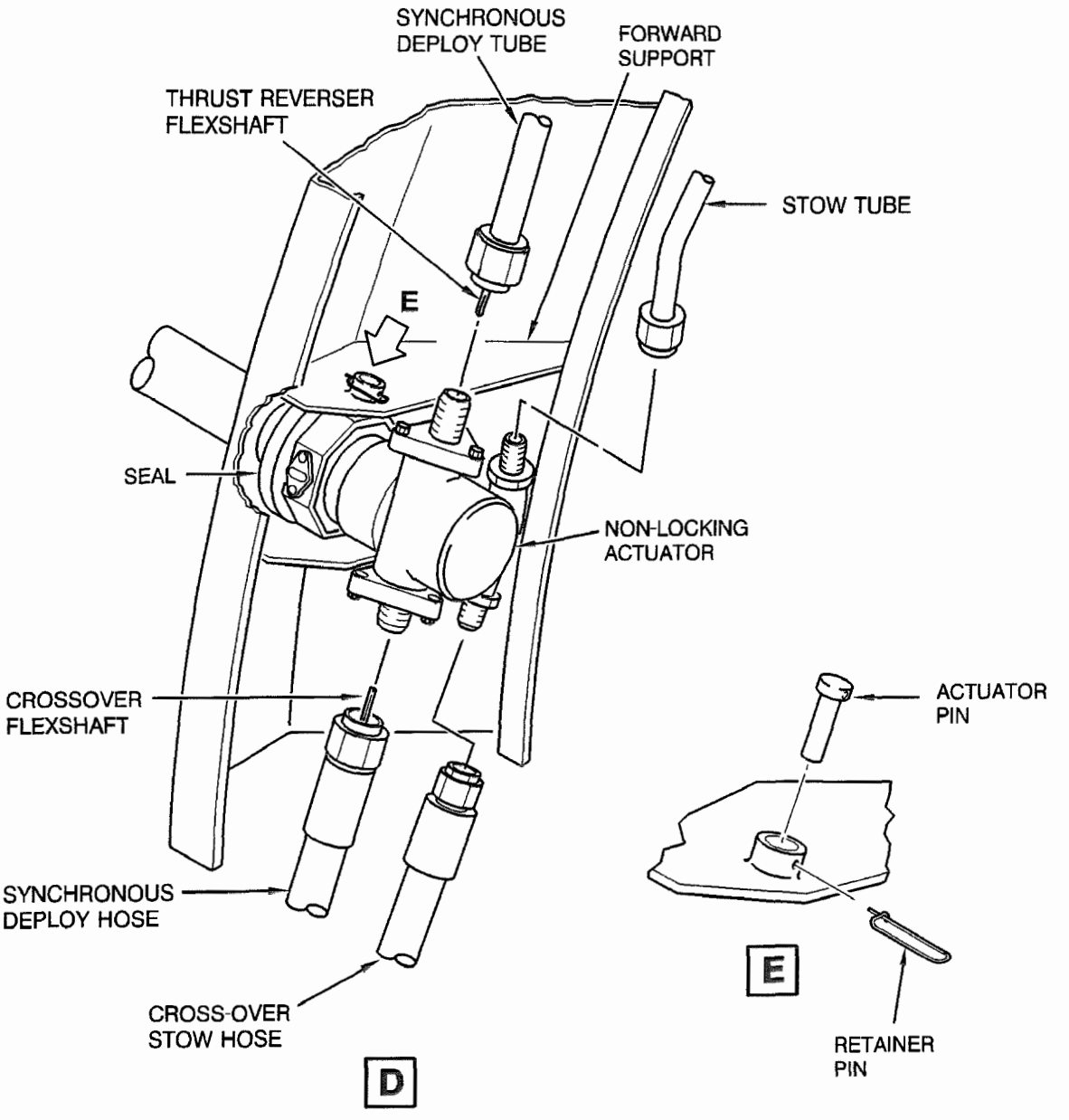
(l) Bleed the air from the thrust reverser hydraulic actuation system. Refer to the MD-90 Aircraft Maintenance Manual, Chapter 78-31-16, Page Block 401.

R D. Recording Instructions

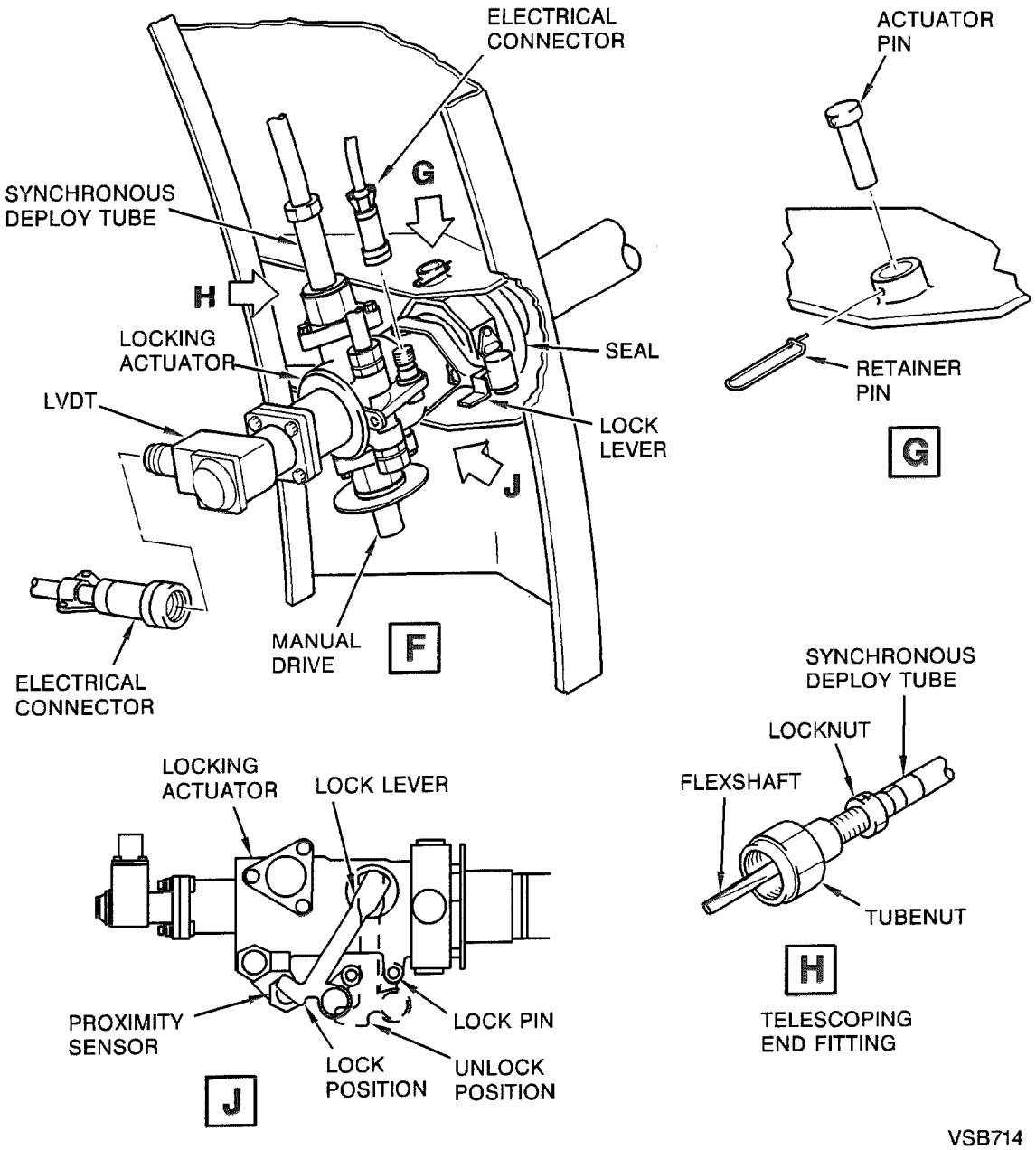
(1) A record of accomplishment is necessary. Write in the applicable records and metal stamp, vibroetch, or electro etch on the thrust reverser data plate that Service Bulletin V2500-NAC-78-0144 has been done. Refer to IAE V2500 Standard Practices/Processes Manual, Chapter 70-09-00.



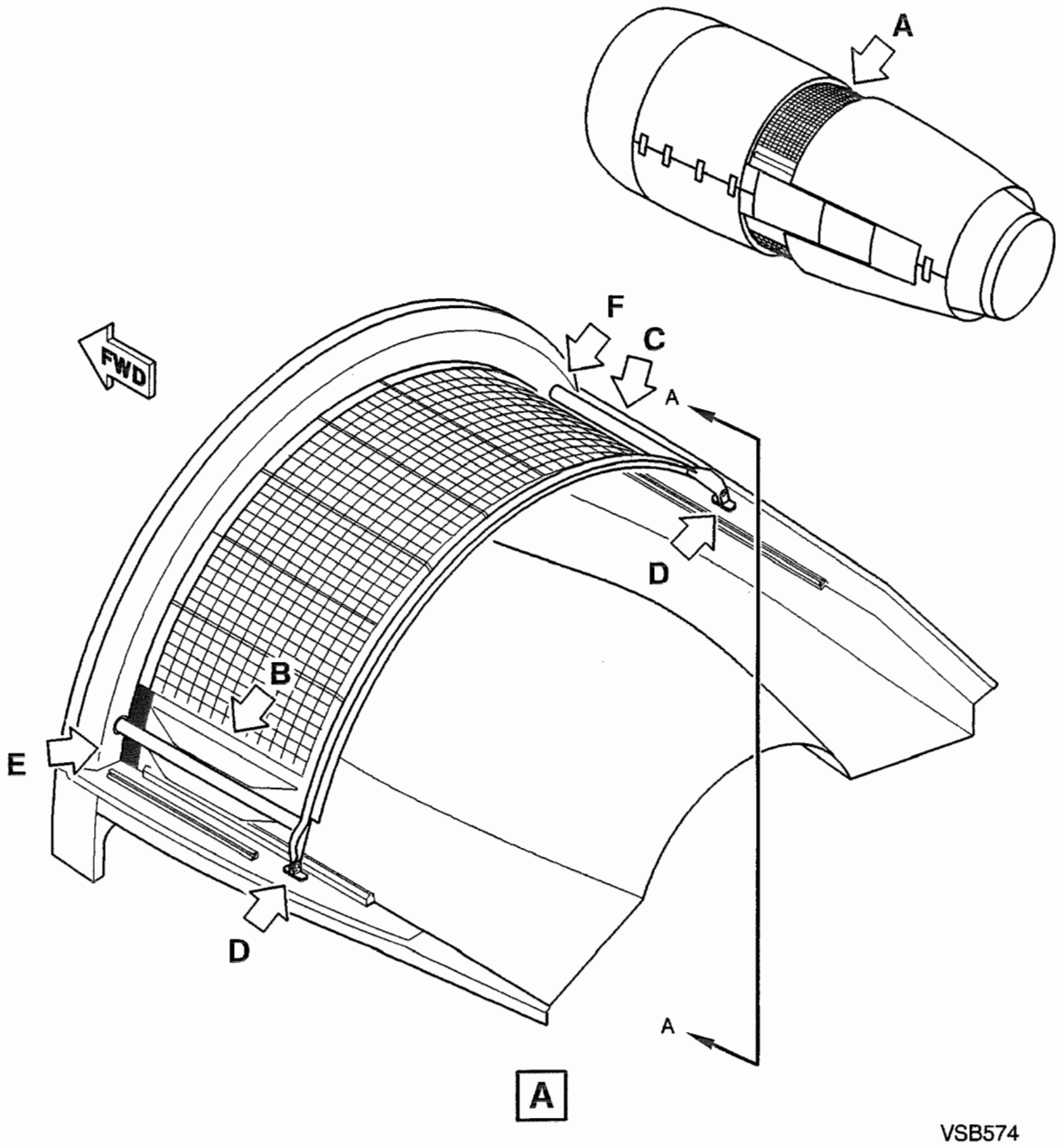
Actuator Removal and Installation
Figure 1 (Sheet 1)



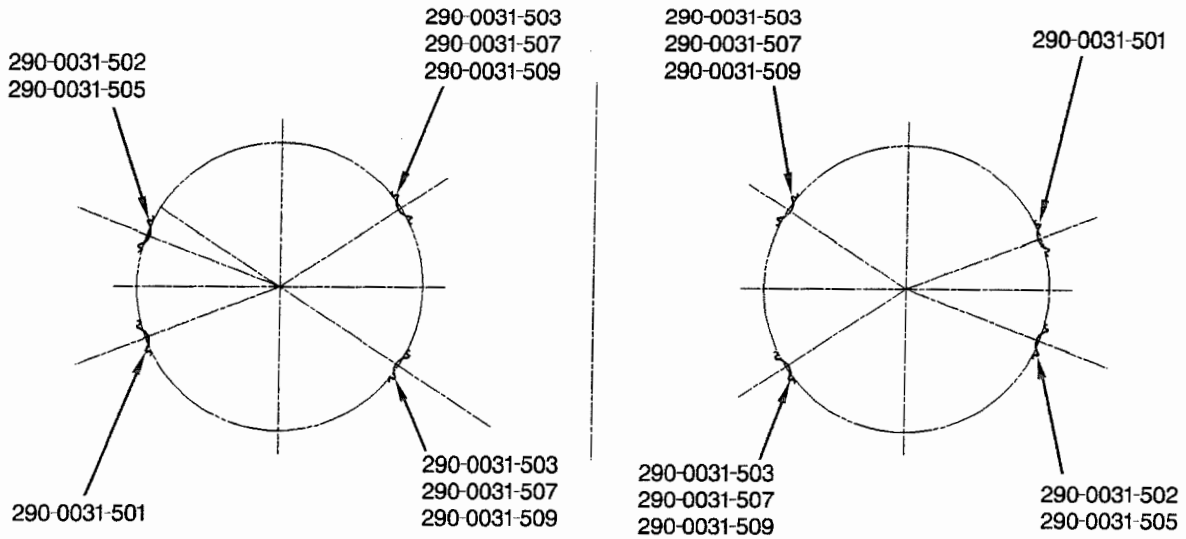
Actuator Removal and Installation
Figure 1 (Sheet 2)



Actuator Removal and Installation
Figure 1 (Sheet 3)



Actuator Fairing Replacement and Installation Modification
Figure 2 (Sheet 1)

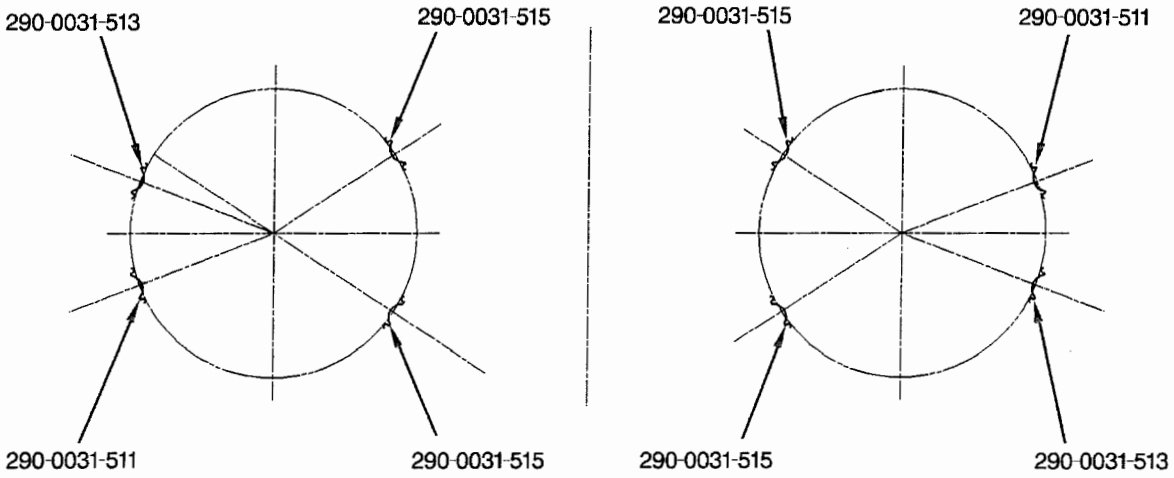


BEFORE MODIFICATION

VIEW LOOKING FORWARD
A-A

VSB642

Actuator Fairing Replacement and Installation Modification
Figure 2 (Sheet 2)

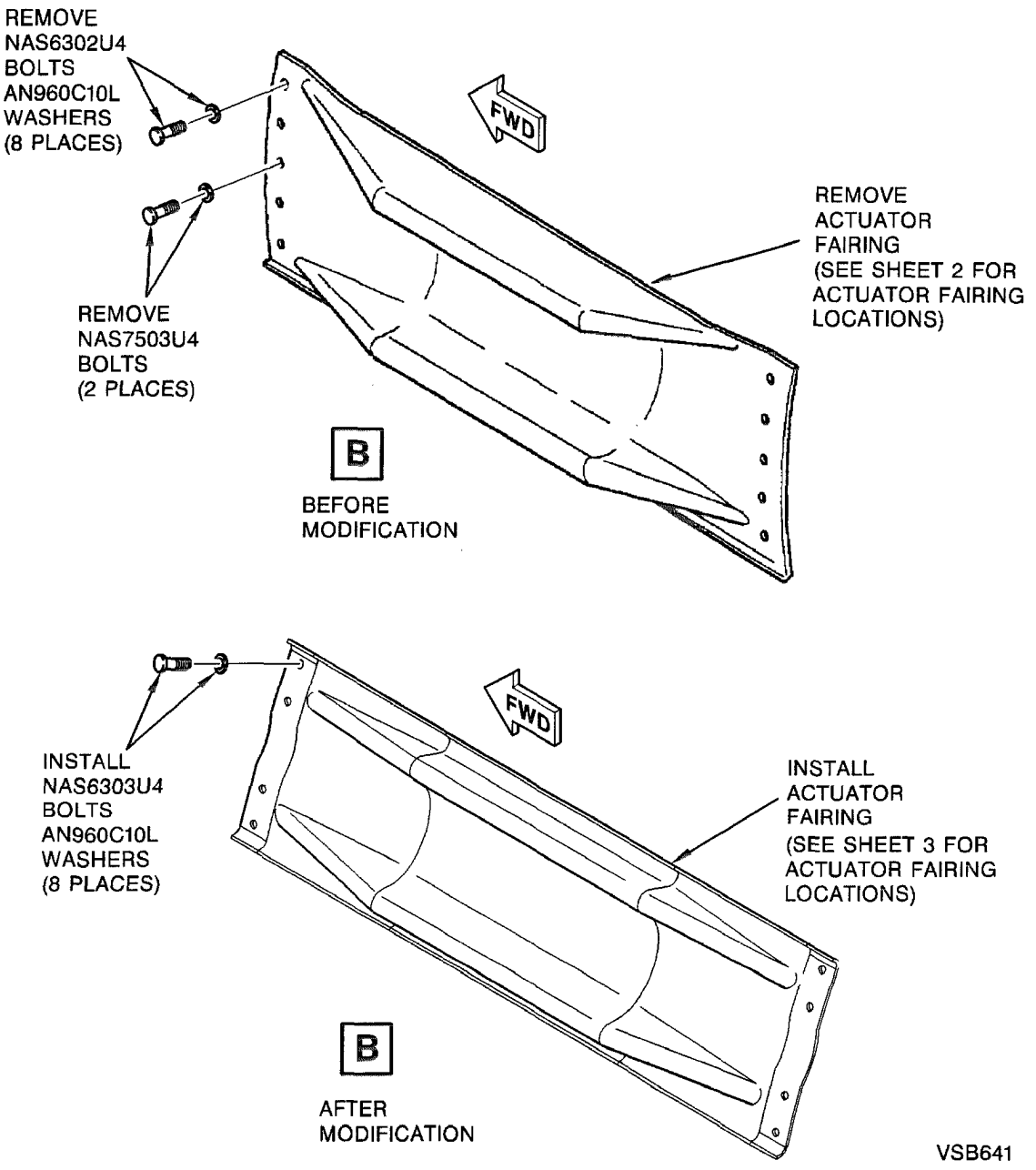


AFTER MODIFICATION

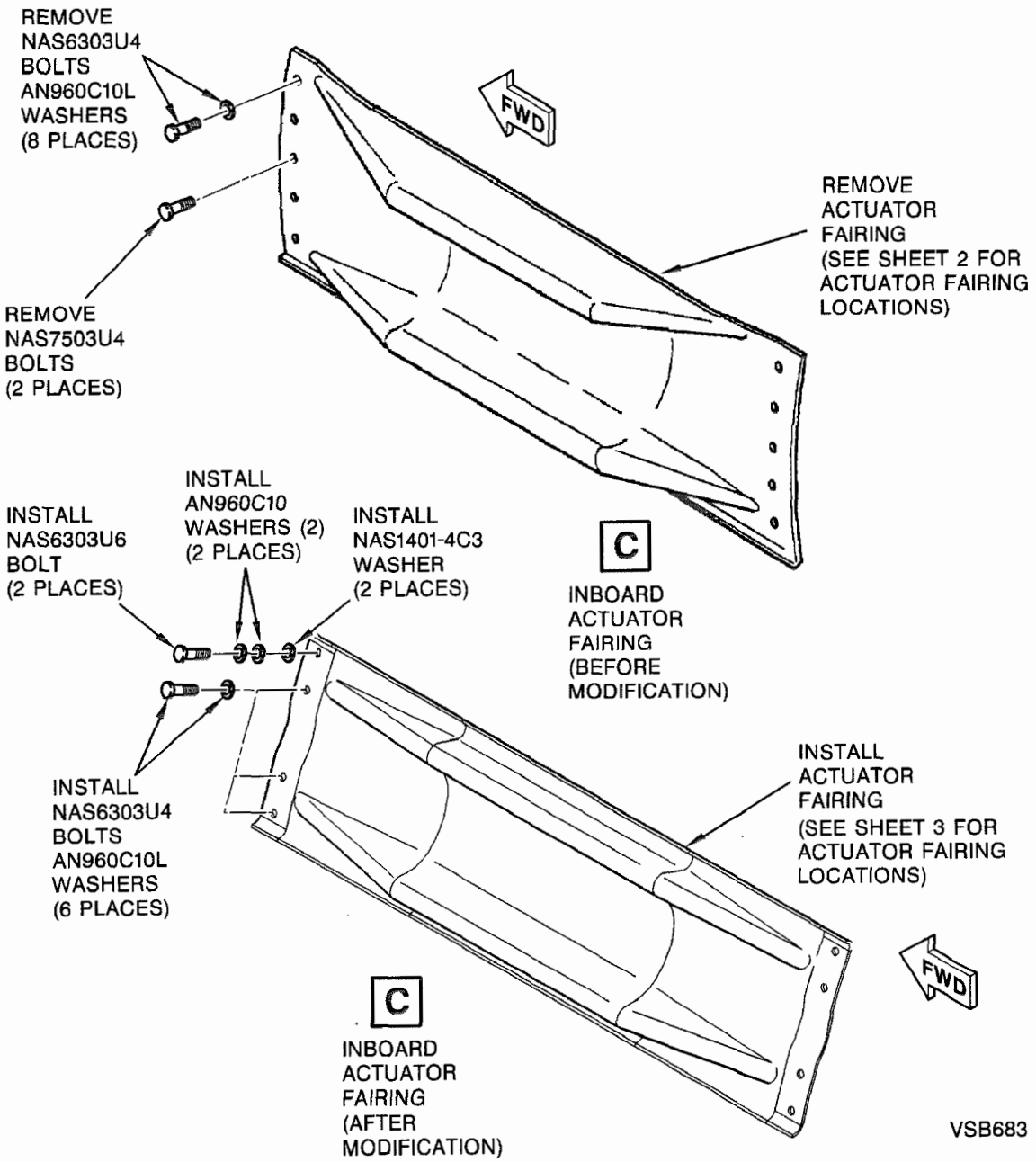
VIEW LOOKING FORWARD
A-A

VSB643

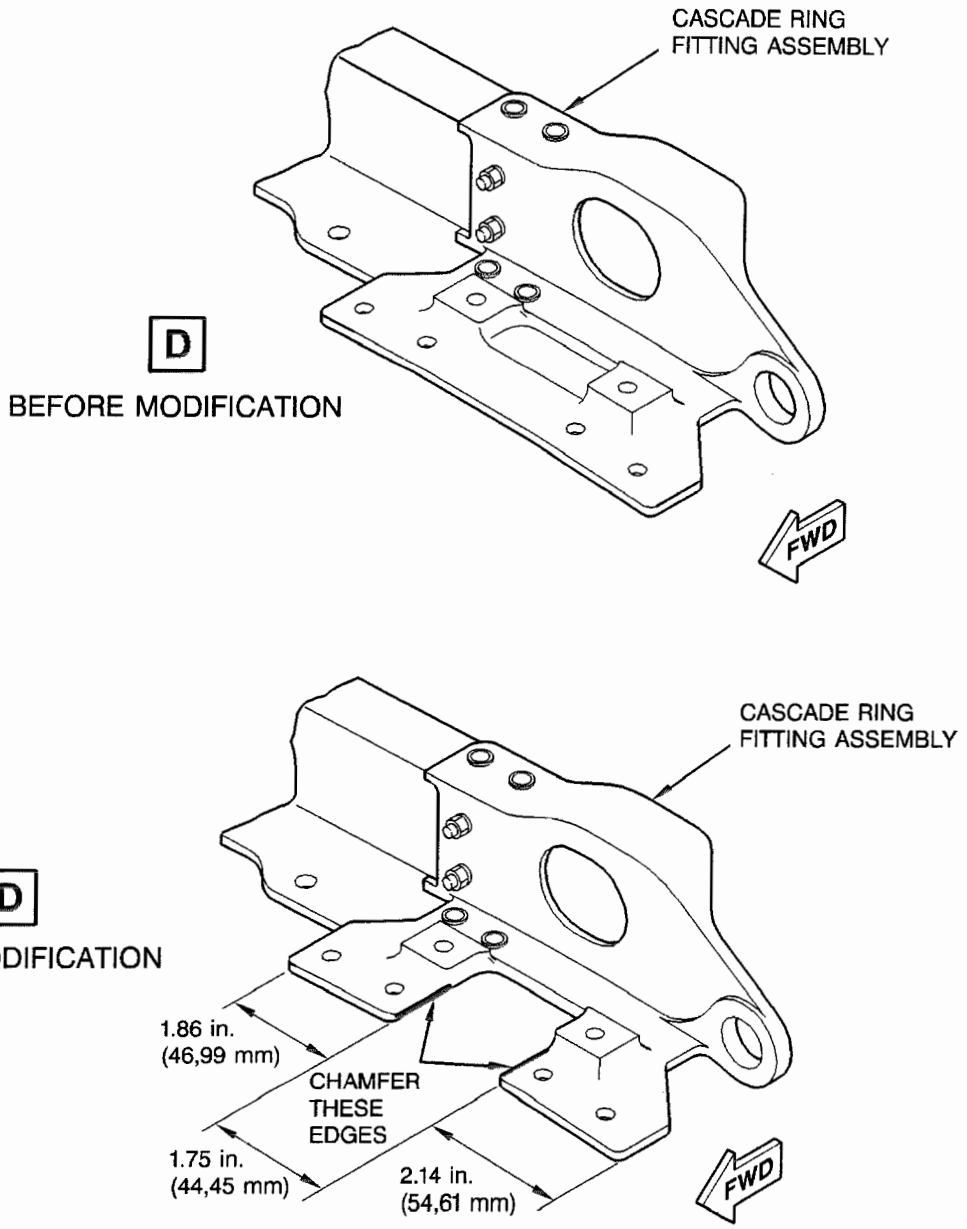
Actuator Fairing Replacement and Installation Modification
Figure 2 (Sheet 3)



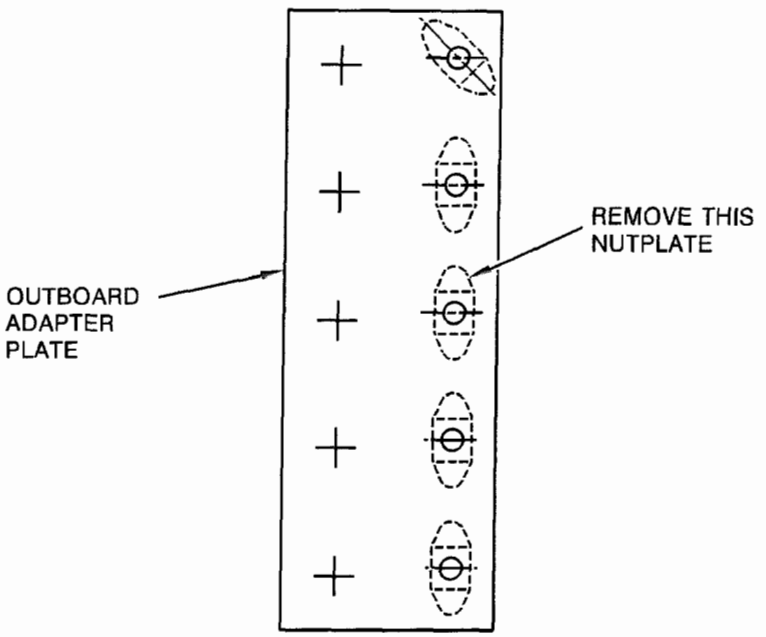
Actuator Fairing Replacement and Installation Modification
Figure 2 (Sheet 4)



Actuator Fairing Replacement and Installation Modification
Figure 2 (Sheet 5) .



Actuator Fairing Replacement and Installation Modification
Figure 2 (Sheet 6)



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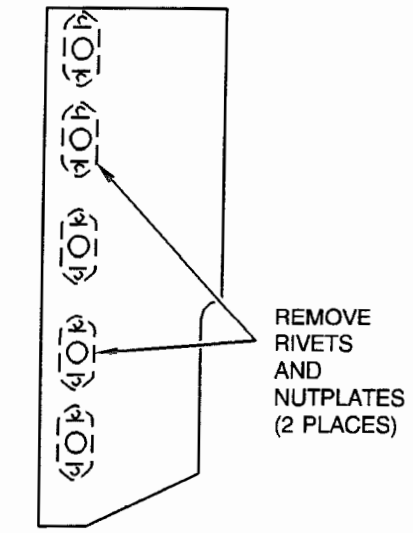
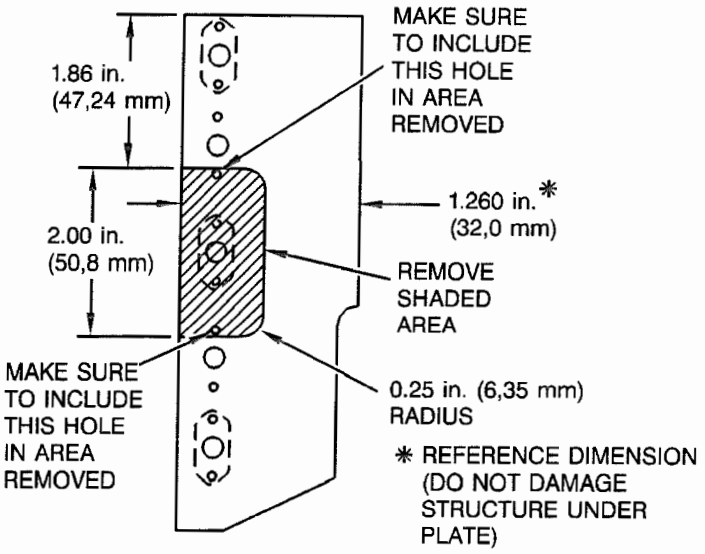
VSB644

Actuator Fairing Replacement and Installation Modification
Figure 2 (Sheet 7)

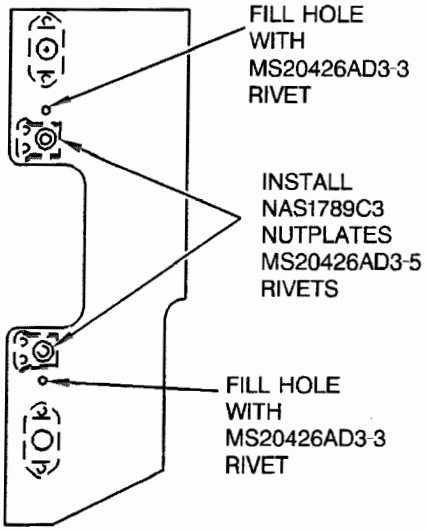


REMOVE NUTPLATES



REMOVE MATERIAL FROM FITTING

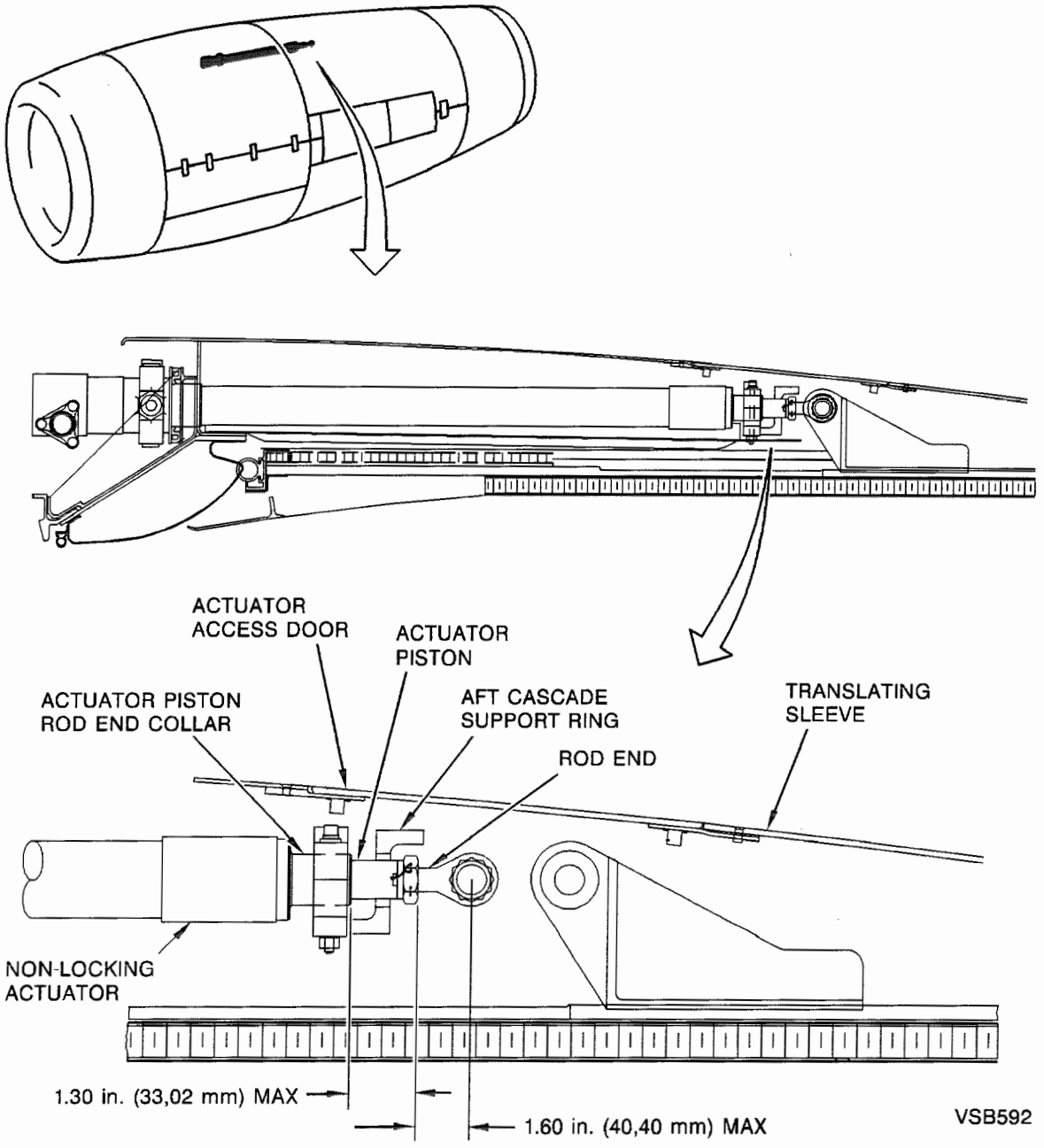
F



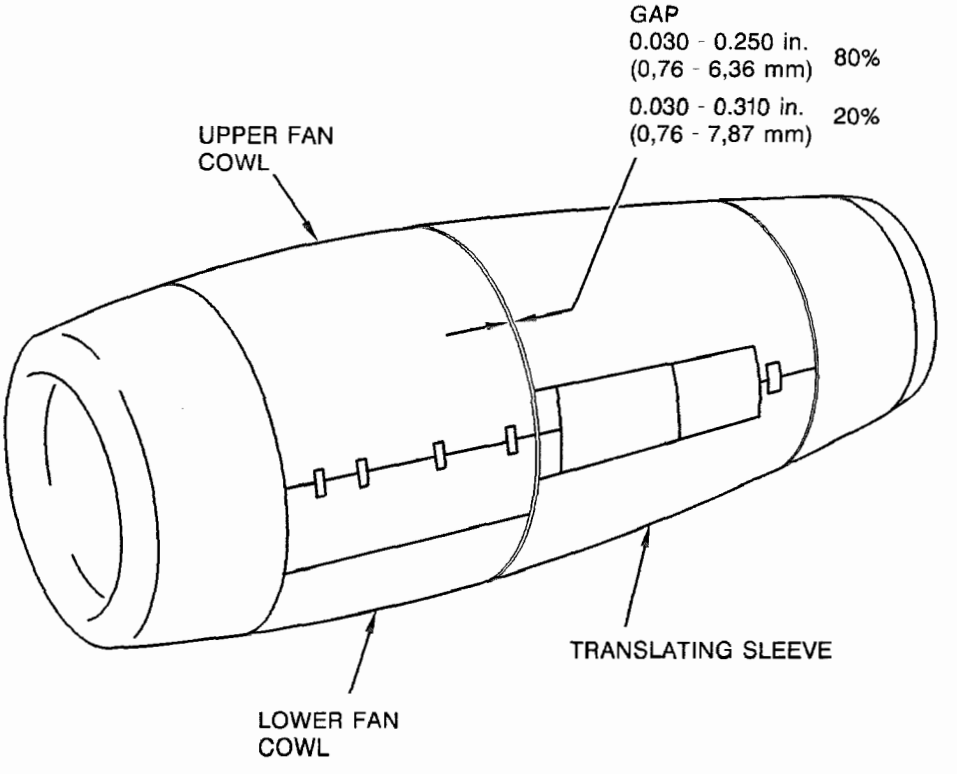
INSTALL NUTPLATES AND RIVETS

VSB576

Actuator Fairing Replacement and Installation Modification
Figure 2 (Sheet 8)



Thrust Reverser Non-Locking Actuator Rig Check
Figure 3



VSB645

Thrust Reverser Translating Sleeve-to-Fan Cowl Gap
Figure 4

3. Material Information

Applicability: For each MD-90 thrust reverser to incorporate this Bulletin.

A. Kits associated with this Bulletin:

NEW PART NO. (ATA NO.)	QTY	EST'D UNIT PRICE	KEYWORD	OLD PART NO. (IPC NO.)	INSTR/ DISPOS
V2578144-551	1	$8218.00	Kit		(A)
Consisting of:					
290-0031-511	1		Fairing Assy		
290-0031-513	1		Fairing Assy		
290-0031-515	2		Fairing Assy		
AN960C10	8		Washer		
MS20426AD3-3	4		Rivet		(D)
MS20426AD3-5	8		Rivet		
NAS1401-4C3	4		Washer		
NAS1789C3	4		Nutplate		(D)
NAS6303U6	4		Bolt		

B. Parts Affected by this Bulletin:

NEW PART NO. (ATA NO.)	QTY	EST'D UNIT PRICE	KEYWORD	OLD PART NO. (IPC NO.)	INSTR/ DISPOS
290-0031-513 (78-32-15)	1		Fairing Assy, Actuator Outbd	290-0031-505 (01-150) (04-175)	(B)(C) (S1)
290-0031-515 (78-32-15)	2		Fairing Assy, Actuator Inbd	290-0031-509 (01-175) (02-150) (03-175) (04-150)	(B)(C) (S1)
290-0031-511 (78-32-15)	1		Fairing Assy, Actuator Outbd	290-0031-501 (02-175)	(B)(C) (S1)

NEW PART NO. (ATA NO.)	QTY	EST'D UNIT PRICE	KEYWORD	OLD PART NO. (IPC NO.)	INSTR/ DISPOS
--- (78-32-15)			Bolt	NAS7503U4 (01-172) (01-192) (02-172) (02-192) (03-172) (03-192) (04-172) (04-192)	S1
290-0017-505 (78-32-23)	1		Ring Assy, Aft Cascade	290-0017-503 (01-020) (03-020)	(C) (S1)

C. Instruction/Disposition Code Statements

(A) Kit will be available October 1999.

(B) New part will be available October 1999.

(C) Old part will no longer be available.

(D) These parts are not required for thrust reversers with serial numbers 0614001 through 0669001.

(S1) Old and new parts coded (S1) must be used in complete sets. Mixing of old and new parts is not allowed.

NOTE: The estimated 1999 unit prices shown are provided for planning purposes only and do not constitute a firm quotation . Consult the Rohr Price Catalog or contact Rohr's Customer Support Department for information concerning firm prices.

D. Materials Required to Incorporate This Bulletin:

CoMat 01-438	Solvent
CoMat 02-099	Lint Free Cloth
CoMat 07-028	Chromate Conversion Coating for Aluminum
CoMat 07-116	Thinner
CoMat 07-139	Catalyst
CoMat 07-140	Epoxy Primer
CoMat 07-144	Thinner

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