P U B L I C A T I O N T R A N S M I T T A L

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DATER Mar.12/03

V2500-D5 NACELLE SERVICE BULLETIN

This document transmits Revision 1 to Service Bulletin NV2500-78-0170 and Revision 1 to the Supplement

Document History

Service Bulletin Revision Status		Supplement Revision Status	
Initial Issue	Oct.5/00	Initial Issue	Oct.5/00

Bulletin Revision 1

Remove	Incorporate	Reason for change
All pages of the Service Bulletin	Pages 1 to 40 of the Service Bulletin	To revise kit contents and make related changes to text and illustration.

Supplement Revision 1

Remove	Incorporate	Reason for change
All pages	Page 1	To revise kit contents and make related changes to text and illustration.

V2500-NAC-78-0170

CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED
If any have not been received please advise Publication Services, Rolls-Royce plc, Derby, England

LIST OF EFFECTIVE PAGES

The effective pages to this Service Bulletin following incorporation of Revision 1 to the Bulletin and Revision 1 to the Supplement are as follows:

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	Supplement		
R	1	1	Mar.12/03

NACELLE - EXHAUST - TRANSLATING SLEEVE AFT LATCH, HEAT SHIELD MODIFICATION/LATCH ACCESS DOOR HINGE MODIFICATION, THRUST REVERSER

1. Planning Information

A. Effectivity

(1) Aircraft:

(a) Boeing MD90

(2) Nacelle:

(a) V2500-D5 thrust reversers with serial numbers greater than 0044001 but less than 0701001 and translating sleeves with serial numbers greater than 0045001 but less than 0701001.

B. Concurrency Recommendations

(1) It is strongly recommended you do service bulletins V2500-NAC-78-0151 and V2500-NAC-78-0167 before or at the same time as this service bulletin. If
R you have not yet done V2500-NAC-0167, use the 290-0929-501 (-503) and 290-0929-502 (-504) seals from the V2578170-553 (-554) service bulletin kit instead of the 290-0140-17 (-18) and 290-0152-19 (-20) seals provided in the V2578167-553 (-554) service bulletin kit.

C. Reason

(1) Condition

Operators have found thrust reverser translating sleeves with heat damage in the area around the aft latch. One cause of this damage is hot air from the engine core section escaping through the aft latch and flowing over the translating sleeves.

Due to unexpectedly high temperatures, it is considered prudent to strengthen the latch access door hinges with steel stiffeners.

(2) Background

There is a requirement for more heat shielding in the aft latch area. There is a requirement for strengthening of the latch access door hinges.

(3) Objective

To provide improved heat shielding in the aft latch area. To strengthen the latch access door hinges.

(4) Substantiation

Flight tests have shown that the improved heat shielding provided by this service bulletin significantly reduces the amount of hot air that escapes through the aft latch.

Latch access door modification verified by analysis.

(5) Effect of Bulletin on:

(a) Removal/Installation

Not affected

(b) Disassembly/Assembly

Not affected

(c) Cleaning

Not affected

(d) Inspection/Check

Affected

(e) Repair

Affected

(f) Testing

Not affected

D. Description

New heat shields are installed over the aft latch on the inner surface of the translating sleeves. Steel stiffeners are installed on the latch access door hinges.

E. Approval

Incorporation of this Service Bulletin must be accomplished only in conjunction with Boeing Service Bulletin MD90 78-040 which has received exclusive FAA approval for MD-90 Series aircraft.

F. 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.

G. Manpower

(1) In Service

(a) To gain access - 1.0 M/Hrs

(b) To rework - 6.0 M/Hrs

(c) To return to service - 1.0 M/Hrs

Total - 8.0 M/Hrs

NOTE: Manhours 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 parts to accomplish this service bulletin are available from the supplier as kits V2578170-553 (left thrust reverser) and V2578170-554 (right thrust reverser).

Operators with units listed in Paragraph 1.A. should submit a charge purchase order for the applicable quantity of kits. The purchase order must specify this service bulletin number and only the parts listed herein. Operators will have one year from the issue date of the service bulletin to place an order. 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: Regional Business Manager - MZ 107A (Ref. Service Bulletin No. V2500-NAC-78-0170)

NOTE: Please do not submit orders for kits via Spec 2000 ordering system.

I. Tooling - Cost and Availability

None required.

J. Weight and Balance

(1) Weight change

Affected - Heat Shields and Latch Access Door Hinge Stiffeners - 3.8 lbs. per thrust reverser

(2) Moment arm

Not affected

(3) Datum

Engine Front Mount Centreline (Powerplant Station PPS 100.0)

K. Electrical Load Data

Not affected.

L. References

(1) MD90 Aircraft Maintenance Manual, Chapter/Section 78-32-00, 78-32-09, 78-32-10

(2) IAE V2500 Standard Practices/Processes Manual (SPP-V2500-1IA) Chapter/Section 70-09-00

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

(4) Service Bulletin V2500-NAC-78-0151

(5) Service Bulletin V2500-NAC-78-0167

(6) Internal Reference No. - 98VN808A/B/C/D/E

(7) ATA Locator - 78-00-00

M. Other Publications Affected

(1) MD90/V2500D5 Thrust Reverser Component Maintenance Manual (CMM-TR-V2500-3IA),Chapter/Section 78-32-10, 78-32-23

2. Material Information

A. Kits associated with this Bulletin:

None.

B. Kits Associated with this Bulletin:

Applicability: For each V2500-D5 thrust reverser to incorporate this Bulletin.

	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
	V2578170-553	1	Kit, LH Thrust Reverser		(A)
	Consisting of:				
	290-0003-7	1	Seal, Upper Heat Shield		
	290-0038-27	4	Doubler		
	290-0518-503	2**	Locating Pin		
	290-0547-503	4	Peel shim		
	290-0925-501	1	Support Bracket		
	290-0925-503	1	Support Bracket		
	290-0926-501	1	Support Bracket		
	290-0926-503	1	Support Bracket		
	290-0927-501	1	Heat Shield, Upper		
	290-0928-501	1	Heat Shield, Lower		
	290-0928-503	1	Latch Safety		
	290-0928-505	1	Access Panel		
	290-0929-501	1	Upper Track Seal		
	290-0929-503	1	Lower Track Seal		
	290-0930-501	1	Retainer		
R	HL12VAZ6-7	10	Pin		
R	HL70-6	10	Collar		
	MS21043L08	4	Nut		
	NAS1805-6	2	Nut		
	NAS1149C0332R	5	Washer		
	NAS1149CN832R	4	Washer		
	NAS1919M04S03	10*	Rivet		
	NAS1919M04S04	20*	Rivet		
	NAS8102U7	6	Screw		
	NAS8103U6	3	Screw		
R	MS20615-6M12	2	Rivet		

* More fasteners provided than necessary to incorporate this service bulletin.

** Part provided as replacement in case existing part is found worn or damaged.

	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
	V2578170-554	1	Kit, RH Thrust Reverser		(A)
	Consisting of:				
	290-0003-7	1	Seal, Upper Heat Shield		
	290-0038-27	4	Doubler		
	290-0518-503	2**	Locating Pin		
	290-0547-503	4	Peel shim		
	290-0925-502	1	Support Bracket		
	290-0925-504	1	Support Bracket		
	290-0926-502	1	Support Bracket		
	290-0926-504	1	Support Bracket		
	290-0927-502	1	Heat Shield, Upper		
	290-0928-502	1	Heat Shield, Lower		
	290-0928-504	1	Latch Safety		
	290-0928-506	1	Access Panel		
	290-0929-502	1	Upper Track Seal		
	290-0929-504	1	Lower Track Seal		
	290-0930-501	1	Retainer		
R	HL12VAZ6-7	10	Pin		
R	HL70-6	10	Collar		
	MS21043L08	4	Nut		
	NAS1805-6	2	Nut		
	NAS1149C0332R	5	Washer		
	NAS1149CN832R	4	Washer		
	NAS1919M04S03	10*	Rivet		
	NAS1919M04S04	20*	Rivet		
	NAS8102U7	6	Screw		
	NAS8103U6	3	Screw		
R	MS20615-6M12	2	Rivet		

* More fasteners provided than necessary to incorporate this service bulletin.

** Part provided as replacement in case existing part is found worn or damaged.

C. Parts affected by this Bulletin:

NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
290-0038-517 (78-32-10)	1	Door- Latch Access LH	290-0038-515 (01-010)	(B)(C) (1D)(D)
290-0038-518 (78-32-10)	1	Door- Latch Access RH	290-0038-516 (01-012)	(B)(C) (1D)(E)

NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
290-0003-7 (78-32-23)	1	Seal	--- (01-890)	(B)
290-0038-27 (78-32-10)	4	Doubler	--- (01-077)	(B)
290-0925-501 (78-32-23)	1	Bracket, Heat Shield Support LWR LH	--- (03-805)	(B)
290-0925-502 (78-32-23)	1	Bracket, Heat Shield Support LWR RH	--- (03-810)	(B)
290-0925-503 (78-32-23)	1	Bracket, Heat Shield Support UPR LH	--- (03-815)	(B)
290-0925-504 (78-32-23)	1	Bracket, Heat Shield Support UPR RH	--- (03-820)	(B)
290-0926-501 (78-32-23)	1	Bracket, Heat Shield Support	--- (01-900)	(B)
290-0926-502 (78-32-23)	1	Bracket, Heat Shield Support	--- (01-905)	(B)
290-0926-503 (78-32-23)	1	Bracket, Heat Shield Support	--- (01-910)	(B)
290-0926-504 (78-32-23)	1	Bracket, Heat Shield Support	--- (01-915)	(B)
290-0927-501 (78-32-23)	1	Heat Shield Assy	--- (01-835)	(B)
290-0927-502 (78-32-23)	1	Heat Shield Assy	--- (01-840)	(B)
290-0928-501 (78-32-23)	1	Heat Shield, Latch Safety LH	--- (03-785)	(B)
290-0928-502 (78-32-23)	1	Heat Shield, Latch Safety RH	--- (03-790)	(B)
290-0928-503 (78-32-23)	1	Heat Shield, Latch Safety LH	--- (03-765)	(B)
290-0928-504 (78-32-23)	1	Heat Shield, Latch Safety RH	--- (03-770)	(B)
290-0928-505 (78-32-23)	1	Heat Shield, Access Panel LH	--- (01-860) (03-755)	(B)
290-0928-506 (78-32-23)	1	Heat Shield, Access Panel RH	--- (01-865) (03-760)	(B)
290-0929-501 (78-32-23)	1	Seal Assy	290-0140-17 (16-256)	(B)
290-0929-502 (78-32-23)	1	Seal Assy	290-0140-18 (16-259)	(B)
290-0929-503 (78-32-23)	1	Seal	290-0152-19 (18-278)	(B)
290-0929-504 (78-32-23)	1	Seal	290-0152-20 (16-279)	(B)

	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
	290-0930-501	1	Retainer, seal	--- (01-895)	(B)
R	HL12VAZ6-7 (78-32-10)	10	Pin	--- (01-075)	(B)
R	HL70-6	10	Collar	--- (01-076)	(B)
	NAS1149CN832R (78-32-23)	4	Washer	--- (01-825)	(B)
	NAS1149C0332R (78-32-23)	5	Washer	--- (01-855) (03-750)	(B)
	NAS1200-3	4 6 4 6	Rivet	--- (01-875) (01-885) (03-780) (03-800)	(B)
	NAS1779C3	3	Nut Plate	--- (01-880) (03-795)	(B)
	NAS1779C08	2	Nut Plate	--- (01-870) (03-775)	(B)
	NAS1919M04S04 (78-32-23)	8	Rivet	--- (01-815) (03-740)	(B)
	NAS1919M04S03 (78-32-23)	3	Rivet	--- (01-820) (03-745)	(B)
R R	MS20615-6M12 (78-32-10)	2	Rivet	HL12VAZ6-7 (01-073)	(B)
	NAS8102U7 (78-32-23)	4 2 2	Screw	--- (01-810) (01-850) (03-735)	(B)
	NAS8103U6 (78-32-23)	3	Screw	--- (01-845) (03-730)	(B)
	MS21043L08 (78-32-23)	4	Nut	--- (01-830)	(B)
R R	--- (78-32-10)		Collar	HL70-6 (01-066)	(C)

D. Instructions/Disposition Code Statements:

(A) Kit will be available November 2000.

(B) New part is available.

(C) Old part will no longer be available.

(D) 290-0012-1N is optional to 290-0038-517

(E) 290-0012-2N is optional to 290-0038-518

(1D) Old part can be re-worked to the new part configuration.

E. Materials Required to Incorporate this Service Bulletin:

CoMat 01-438 - Solvent

CoMat 02-099 - Lint free cloth

CoMat 07-139 - Catalyst

CoMat 07-140 - Epoxy primer

CoMat 07-144 - Thinner

CoMat 08-030 - Sealant

CoMat 08-032 - Primer

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

3. Accomplishment Instructions

A. Modify the Upper Translating Sleeve Heat Shield. Refer to Figure 1.

NOTE: This procedure is the same for the left and right thrust reversers. Right thrust reverser parts are shown in parenthesis.

(1) Extend the translating sleeves to the deployed position. Refer to the MD-90 Aircraft Maintenance Manual, Chapter 78-32-00, Page Block 201.

(2) Remove material from the upper translating sleeve thermal blanket to make room for the new seals and support brackets.

(3) Remove four rivets from the 290-0528 deflector.

(4) Install the 290-0003-7 seal and 290-0930-501 retainer on the 290-0927-501 (-502) heat shield with NAS8102U7 screws, NAS1149CN832R washers, and MS30142L08 nuts. Do not torque the nuts at this time.

(5) Put the 290-0927-501 (-502) heat shield and the 290-0926-501 (-502) and 290-0926-502 (-504) support brackets into position on the translating sleeve.

NOTE: It is acceptable to enlarge the clearance holes in the 290-0927-501 (-502) heat shield if necessary to achieve proper alignment of the parts.

(6) Match drill the four holes from the 290-0528 deflector into the 290-0927-501 (-502) heat shield.

(7) Match drill the eight pilot holes from the 290-0926-501 (-501) and 290-0926-503 (-504) support brackets through the 290-0927-501 (-502) heat shield, the latch housing, and the inner skin of the bond panel.

WARNING:

CATALYST (COMAT 07-139), EPOXY PRIMER (COMAT 07-140), AND THINNER (COMAT 07-144) ARE CLASSIFIED AS HAZARDOUS MATERIALS WHICH MAY CAUSE INJURY OR 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 RECOMMENDATIONS.

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

(9) Install the 290-0927-501 (-502) heat shield and support brackets 290-0926-501 (-502) and 290-0926-503 (-504) on the translating sleeve with eight NAS1919M04S04 rivets and four NAS1919M04S03 rivets. Wet install the rivets with primer mix.

WARNING:

PRIMER (COMAT 08-032) 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 RECOMMENDATIONS.

(10) Apply primer (CoMat 08-032) to the cut edges of the thermal blanket and the area between the thermal blanket and the support brackets.

WARNING:

SEALANT (COMAT 08-030) 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 RECOMMENDATIONS.

(11) Apply sealant (CoMat 08-030) to the cut edges of the thermal blanket and the area between the thermal blanket and the support brackets to make a heat barrier.

(12) Cure the sealant. Refer to the manufacturer's instructions.

(13) Mark next to the part number on the translating sleeve that Service Bulletin V2500-NAC-78-0170 has been done.

B. Modify the Lower Translating Sleeve Heat Shield. Refer to Figure 2.

NOTE: This procedure is the same for the left and right thrust reversers. Right thrust reverser parts are shown in parenthesis.

(1) Extend the translating sleeves to the deployed position. Refer to the MD-90 Aircraft Maintenance Manual, Chapter 78-32-00, Page Block 201.

(2) Remove the nuts, washers, locating pins, shims and latch safety from the latch housing. Keep the washers. Discard the latch safety, the shims, and any damaged nuts or locating pins.

(3) Remove material from the lower translating sleeve thermal blanket to make room for the new heat shield and support brackets.

(4) Remove four rivets from the 290-0529 deflector.

(5) Put the 290-0928-501 (-502) heat shield and the 290-0925-501 (-502) and 290-0925-503 (-504) support brackets into position on the translating sleeve.

(6) Match drill the four holes from the 290-0529 deflector into the 290-0928-501 (-502) heat shield.

(7) Match drill the eight pilot holes from the 290-0925-501 (-502) and 290-0925-503 (-504) support brackets through the 290-0928-501 (-502) heat shield, the latch housing, and the inner skin of the bond panel.

WARNING:

CATALYST (COMAT 07-139), EPOXY PRIMER (COMAT 07-140), AND THINNER (COMAT 07-144) ARE CLASSIFIED AS HAZARDOUS MATERIALS WHICH MAY CAUSE INJURY OR 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 RECOMMENDATIONS.

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

(9) Install the 290-0928-501 (-502) heat shield and support brackets 290-0925-501 (-501) and 290-0925-503 (-504) on the translating sleeve with eight NAS1919M04S04 rivets and four NAS1919M04S03 rivets. Wet install the rivets with primer mix.

NOTE: It is acceptable to enlarge the clearance holes in the 290-0928-501 (-502) heat shield if necessary to achieve proper alignment of the parts.

(10) Install the 290-0928-503 latch safety, 290-0518-503 locating pins, AN960C616L washers, and NAS1805-6 nuts on the lower translating sleeve latch housing. Do not install the shims at this time. Tighten but do not torque the nuts at this time.

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 RECOMMENDATIONS.

(11) Clean the cut edges of the thermal blanket, support brackets, and the area between the thermal blanket and the support brackets with a lint free cloth (CoMat 02-099) made moist with solvent (CoMat 01-438). Wipe the surfaces dry before the solvent becomes dry.

WARNING:

PRIMER (COMAT 08-032) 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 RECOMMENDATIONS.

(12) Apply primer (CoMat 08-032) to the cut edges of the thermal blanket and the area between the thermal blanket and the support brackets.

WARNING:

SEALANT (COMAT 08-030) 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 RECOMMENDATIONS.

(13) Apply sealant (CoMat 08-030) to the cut edges of the thermal blanket and the area between the thermal blanket and the support brackets to make a heat barrier.

(14) Cure the sealant. Refer to the manufacturer's instructions.

(15) Mark next to the part number on the translating sleeve that Service Bulletin V2500-NAC-78-0170 has been done.

C. Remove and Install the Translating Sleeve Track Beam Seals. Refer to Figure 3.

NOTE: If you have not yet done service bulletin V2500-NAC-78-0167 or have installed the 290-0929-501 (-502) and 290-0929-503 (-504) seals, do not do this procedure.

(1) Remove the 290-0140-17 (-18) seals from the upper track beam. Discard the seal. Keep the attaching hardware.

(2) Remove the 290-0152-19 (-20) seals from the lower track beam. Discard the seal. Keep the attaching hardware.

(3) Install the 290-0929-501 (-502) seal on the upper track beam. Do not tighten the attaching hardware.

(4) Install the 290-0929-503 (-504) seal on the lower track beam. Do not tighten the attaching hardware.

(5) Retract the translating sleeves to the stowed position. Refer to the MD-90 Aircraft Maintenance Manual, Chapter 78-32-00, Page Block 201.

(6) Move the 290-0929-501 (-502) and 290-0929-503 (-504) seals until they are 10% to 30% compressed against the translating sleeve.

(7) Torque the MS21042L04 nuts to 12 to 16 in-lbs.

D. Adjust the Translating Sleeve Latch Closing Force. Refer to Figure 4.

(1) Remove the screws, washers, and access cover from the lower translating sleeve latch heat shield.

(2) Make sure there are no shims installed with the aft latch locating pins.

(3) Close the thrust reverser. Refer to the MD90 Aircraft Maintenance Manual, Chapter 78-32-00, Page Block 201.

(4) Make sure the translating sleeve aft double latch closing force is 45 to 55 lbs. (200 to 240 N). Use the push pull gage. Adjust the keepers or latches as necessary to get the correct closing force.

E. Measure and adjust the space between the translating sleeve aft double latch housings. Refer to Figure 4.

(1) Find the amount of shim needed at the translating sleeve aft double latch locating pins.

(a) With the translating sleeve double latch properly adjusted and closed, measure and make a record of the spaces (dimension 'X') between the lower surface of the upper translating sleeve latch housing and the shoulders of the locating pins on the lower translating sleeve latch housing.

(b) Add the two measurements from step E.(1)(a) together and divide the total by two to determine the average space dimension. Then add 0.070 inch (1,78 mm.) to the average. This total is the thickness of shim you need to install under the shoulders of each of the locating pins.

(2) Install the shims between the latch safety and the locating pins.

(a) Remove the nuts, washers and locating pins.

(b) Install the 290-0547 shims, 290-0158-503 locating pins, AN960C616L washers, and NAS1805-6 nuts. Install any extra shims under the nuts.

F. Install the 290-0928-505 (-506) access panels on the upper and lower translating sleeve latch heat shields with the NAS1149C0332R washers, NAS8102U7 screws, and NAS8103U6 screws.

G. Adjust the 290-0003 seal on the upper translating sleeve heat shield until it is compressed 10% to 30% against the latch safety on the lower translating sleeve. Tighten the nuts.

H. Install the doublers on the latch access door hinges. Refer to Figure 5.

NOTE: This procedure is the same for the 'skin-and-stringer' and the 'machined' latch access doors.

(1) Remove the thrust reverser latch access door. Refer to the MD90 Aircraft Maintenance Manual, Chapter 78-32-09, Page Block 401.

R (2) Put the 290-0038-27 doublers into position on the latch access door hinges and drill the holes for the 3/16 diameter HL12VAZ-6-7 pins and MS20615-6M12 rivets.

(3) Clean the hinges and the doublers with a lint free cloth (CoMat 02-099) made moist with solvent (CoMat 01-438). Wipe the surfaces dry before the solvent becomes dry.

WARNING:

CATALYST (COMAT 07-139), EPOXY PRIMER (COMAT 07-140), AND THINNER (COMAT 07-144) ARE CLASSIFIED AS HAZARDOUS MATERIALS WHICH MAY CAUSE INJURY OR 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 RECOMMENDATIONS.

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

(5) Apply the primer mix to the mating surface of the doublers.

(6) Allow the primer mix to dry. Refer to the manufacturer's instructions.

R (7) Install two 290-0038-27 doublers on each hinge with the HL12VAZ-6-7 pins,
R HL70-6 collars and MS20615-6M12 rivet. Wet install the fasteners with primer mix.

(8) Re-identify the latch access door as follows:

NEW PART NUMBER	OLD PART NUMBER
290-0012-1N	290-0003-1V
290-0012-2N	290-0003-2V
290-0038-517	290-0038-515
290-0038-518	290-0038-516

Use a rubber stamp and ink (CoMat 06-073). Refer to the IAE V2500 Standard Practices/Processes Manual, Chapter 70-09-00.

(9) Install the latch access door. Refer to the MD90 Aircraft Maintenance Manual, Chapter 78-32-09, Page Block 401. Make sure all the track beam bushings and door installation bushings are present and installed correctly. Refer to Figure 6.

(10) Check for too much looseness or 'free-play' at the latch access door attach points.

CAUTION:

TOO MUCH LOOSENESS OR 'FREE-PLAY' AT THE LATCH ACCESS DOOR ATTACH POINTS MAY CAUSE PREMATURE WEAR OF THE DOOR AND/OR THE LATCH LAND AND IMPAIR DOOR FUNCTION.

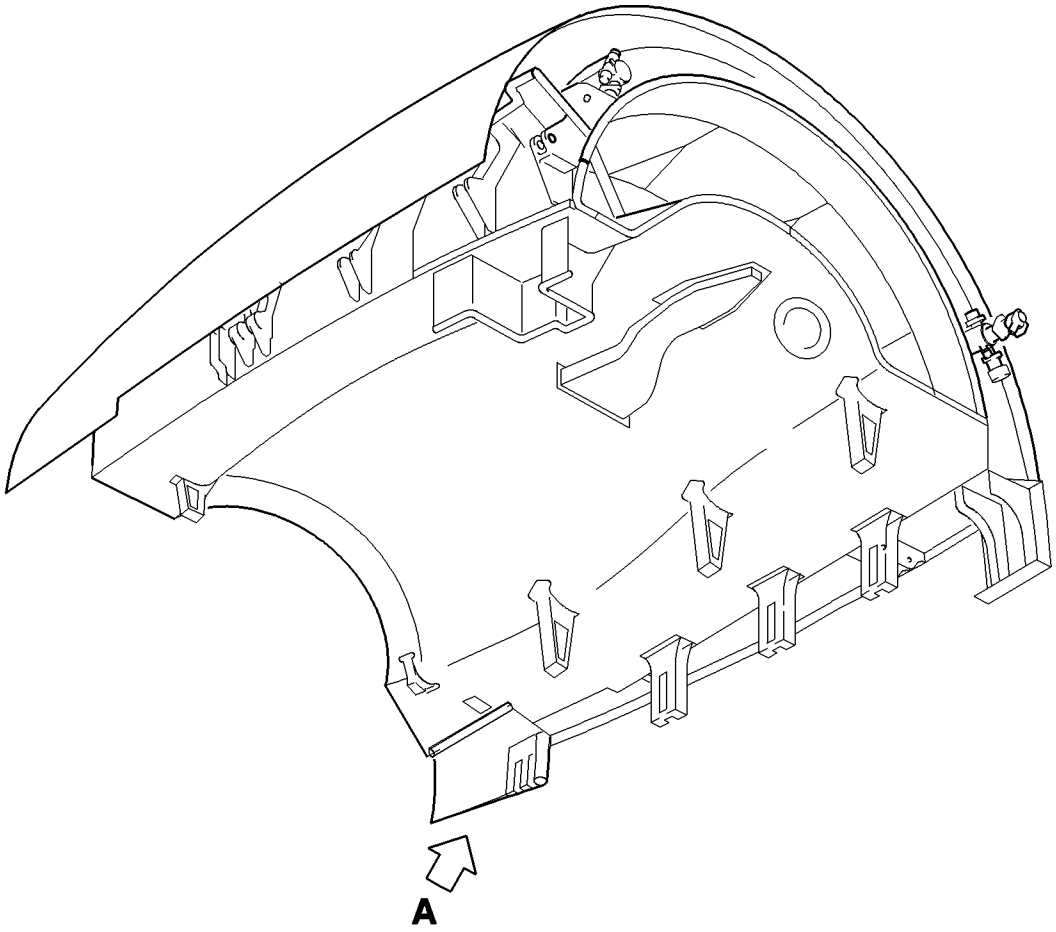
(a) If there is too much looseness or 'free-play', check for proper installation of the attach hardware and replace any worn, damaged, or missing bushings. Refer to Figure 6.

(11) Adjust the latch access door aft seal. Refer to Figure 5.

(a) Loosen the nuts and move the 290-0038-23 aft seal until it is compressed 10% to 30% against the translating sleeve when the latch access door is closed. Tighten the nuts.

I. Recording Instructions

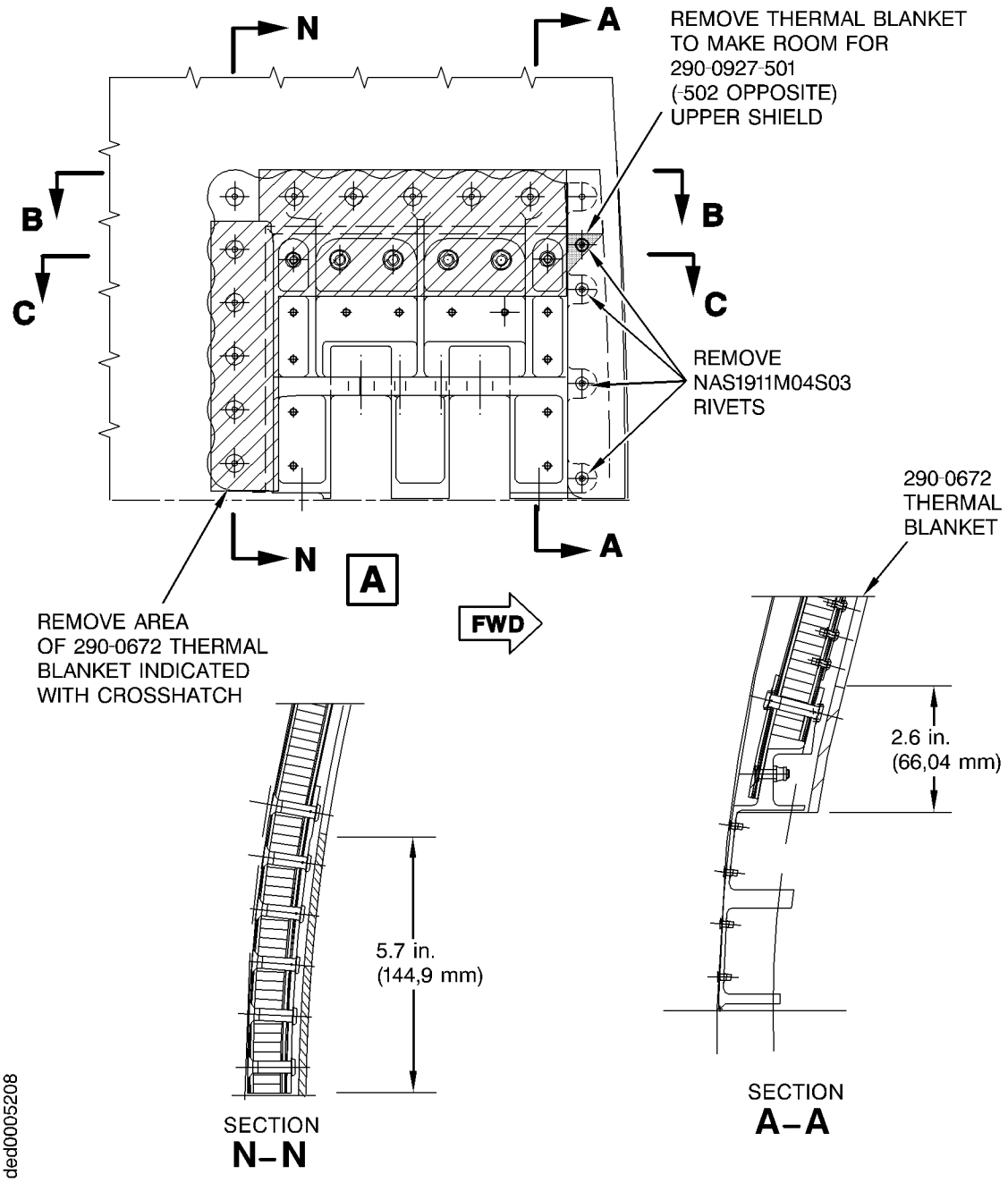
A record of accomplishment is necessary. Write in the applicable records and metal stamp, vibroetch, or electro etch on the thrust reverser assembly data plate that Service Bulletin V2500-NAC-78-0170 has been done. Refer to IAE V2500 Standard Practices/Processes Manual, Chapter 70-09-00.



UPPER LH REVERSER
LOOKING OUTBOARD

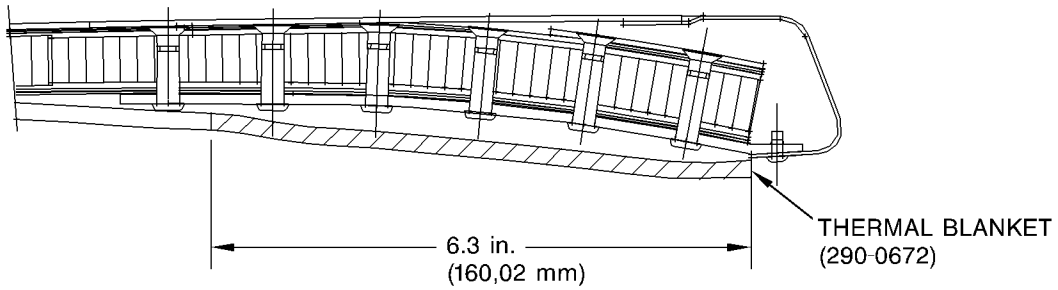
ded0005221

Upper Translating Sleeve Latch Heat Shield Installation
Figure 1 (Sheet 2)

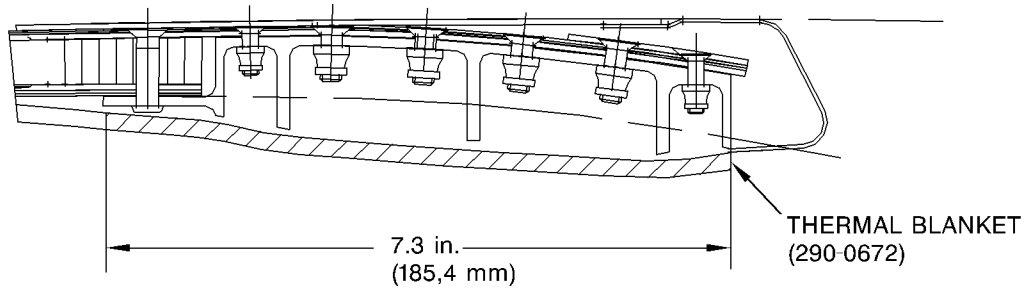


ded0005208

Upper Translating Sleeve Latch Heat Shield Installation
Figure 1 (Sheet 2)



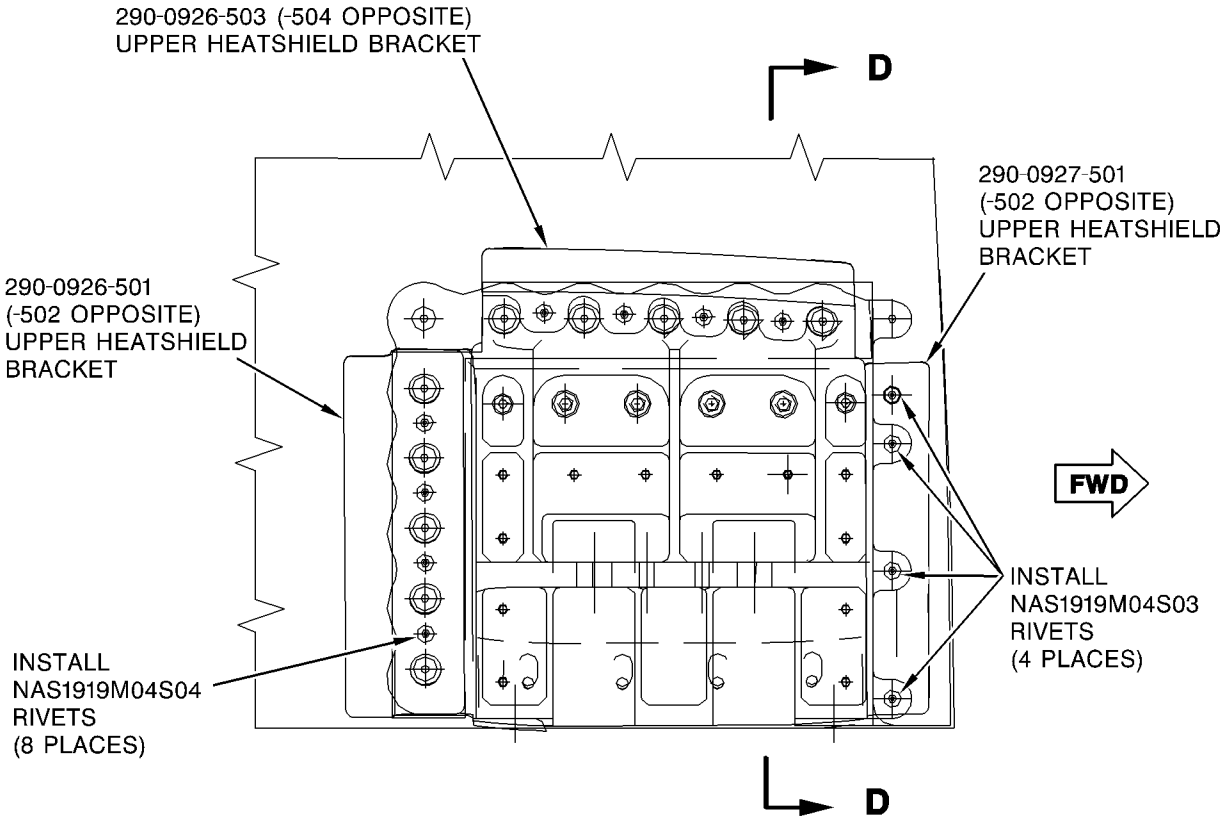
SECTION
B–B



SECTION
C–C

ded0005209

Upper Translating Sleeve Latch Heat Shield Installation
Figure 1 (Sheet 3)



NOTE: REFER TO FIGURE 1 (SHEET 7)
FOR THREE DIMENSIONAL VIEW
OF HEAT SHIELD INSTALLATION.

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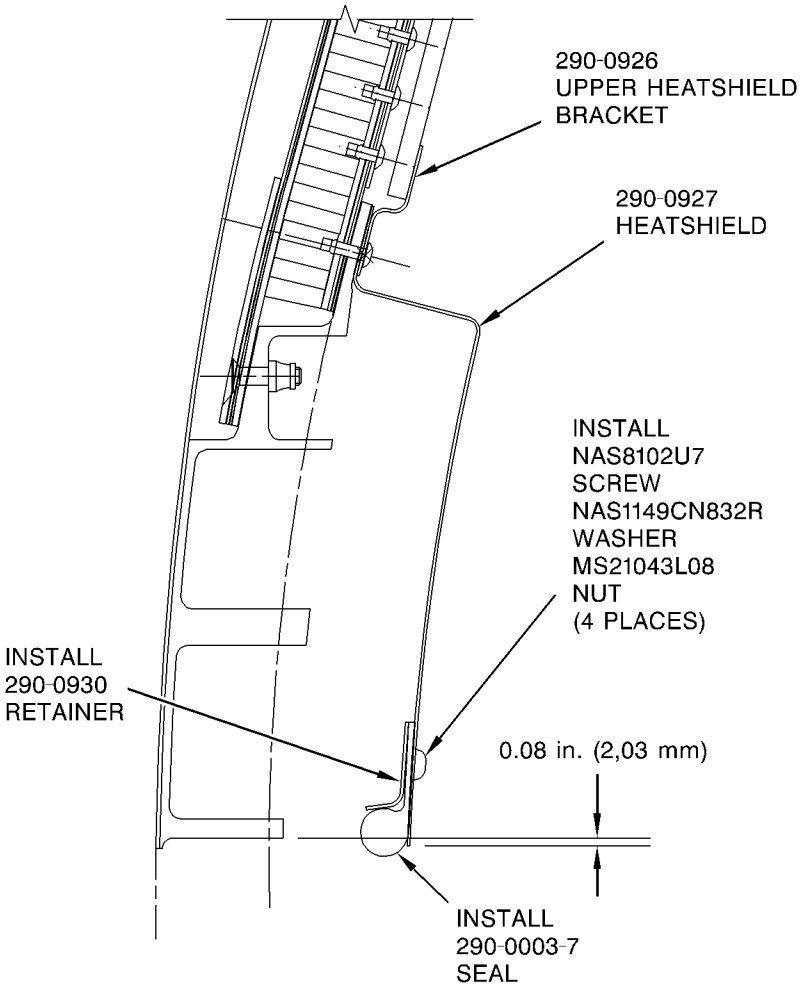
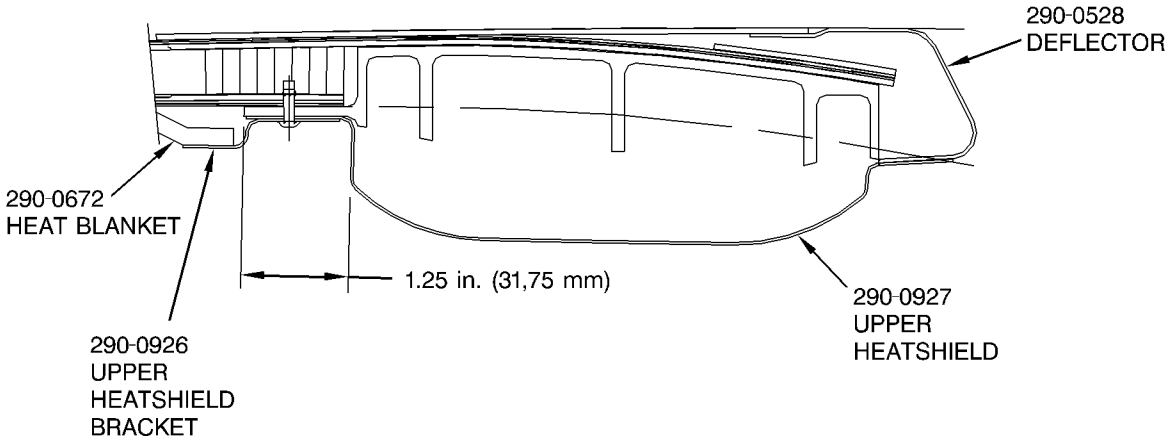
Upper Translating Sleeve Latch Heat Shield Installation
Figure 1 (Sheet 4)



SECTION
D-D

ded0005211

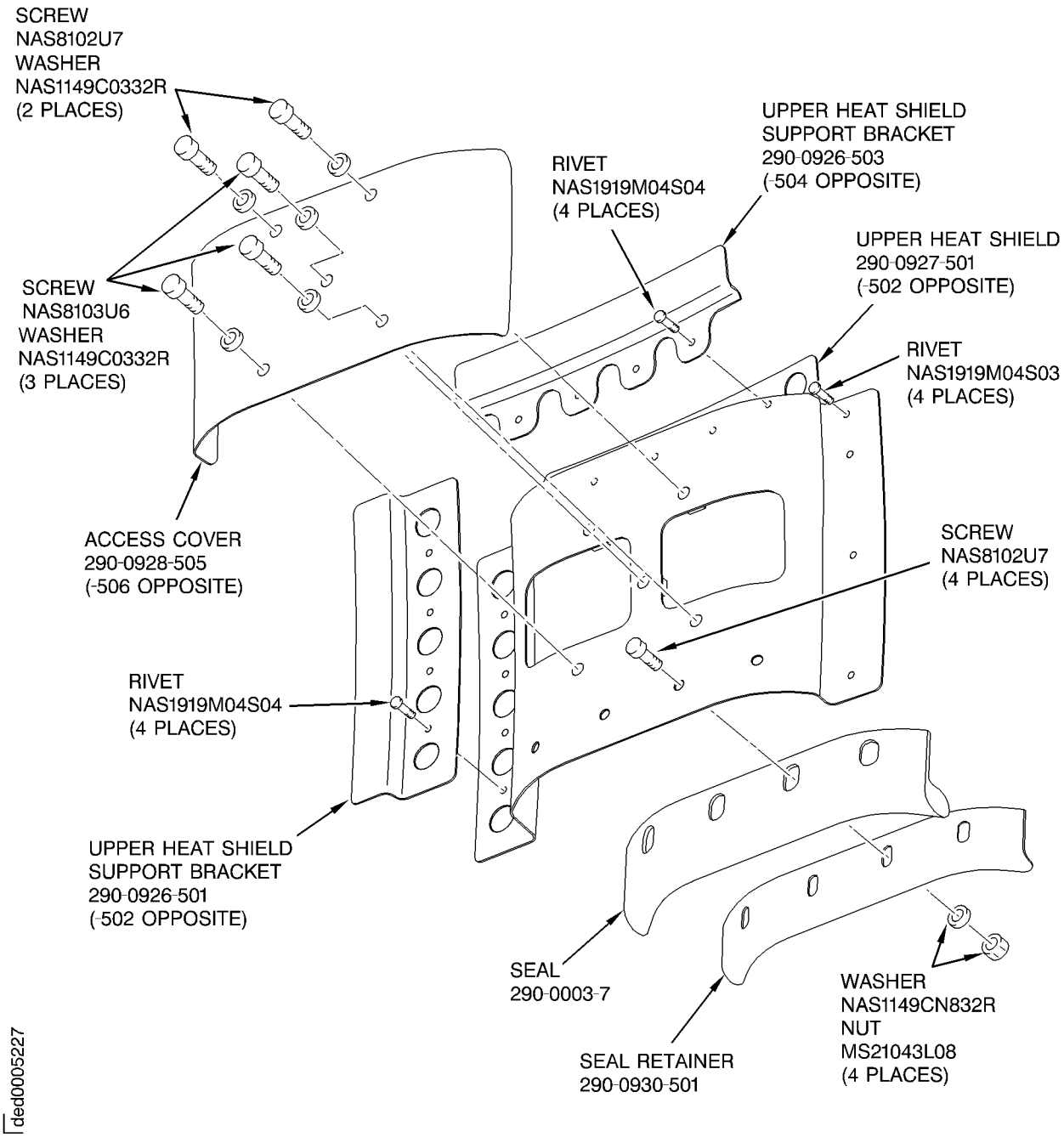
Upper Translating Sleeve Latch Heat Shield Installation
Figure 1 (Sheet 5)



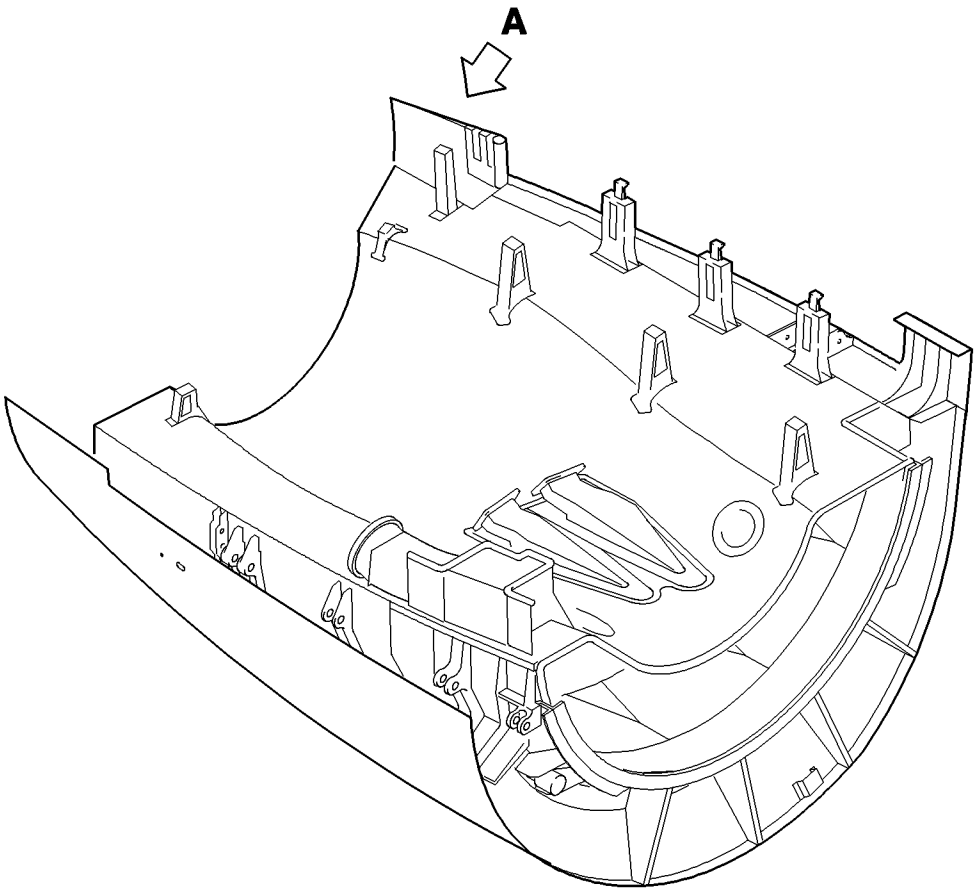
SECTION
E-E

ded0005212

Upper Translating Sleeve Latch Heat Shield Installation
Figure 1 (Sheet 6)



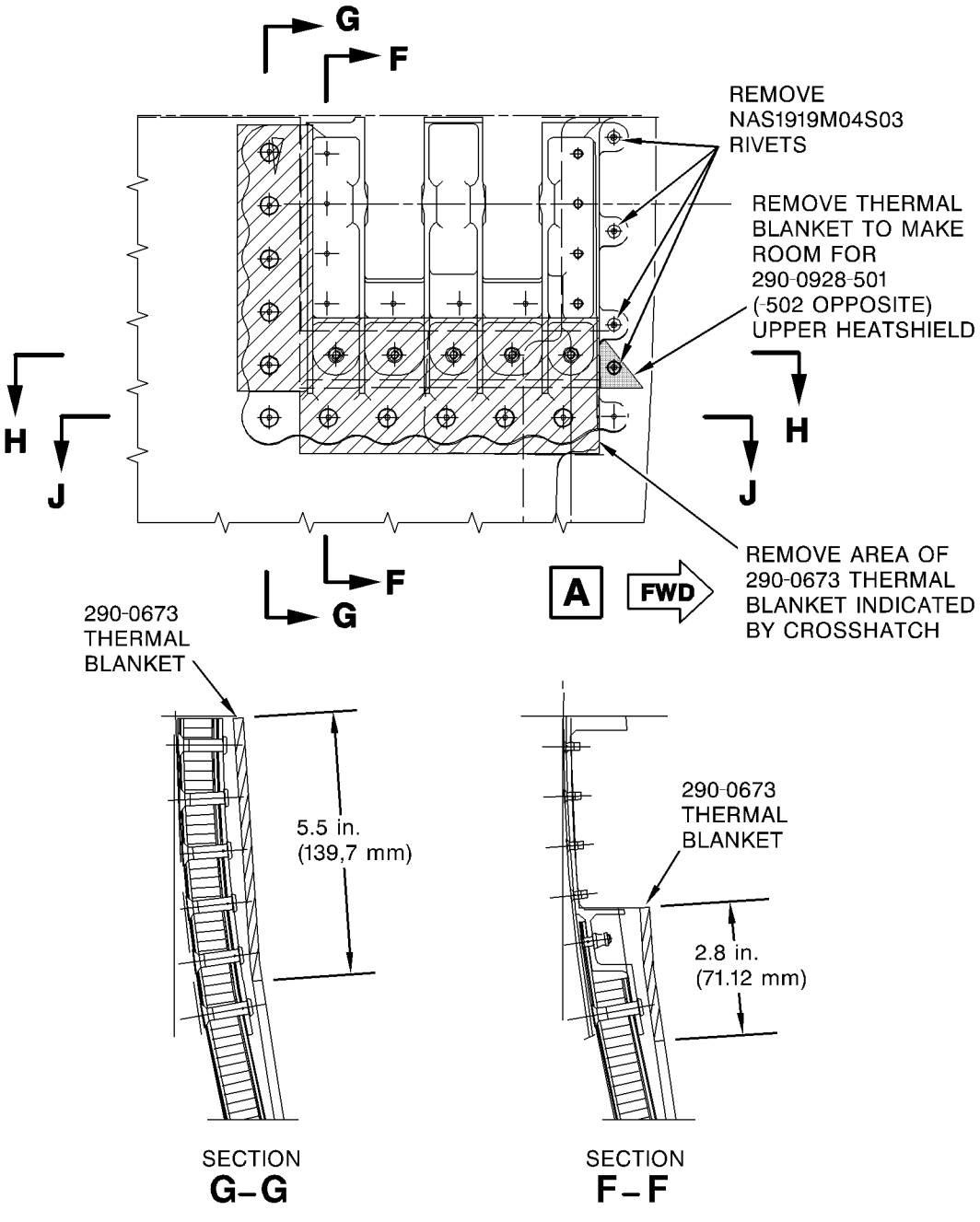
Upper Translating Sleeve Latch Heat Shield Installation
Figure 1 (Sheet 7)



LOWER LH REVERSER
LOOKING OUTBOARD

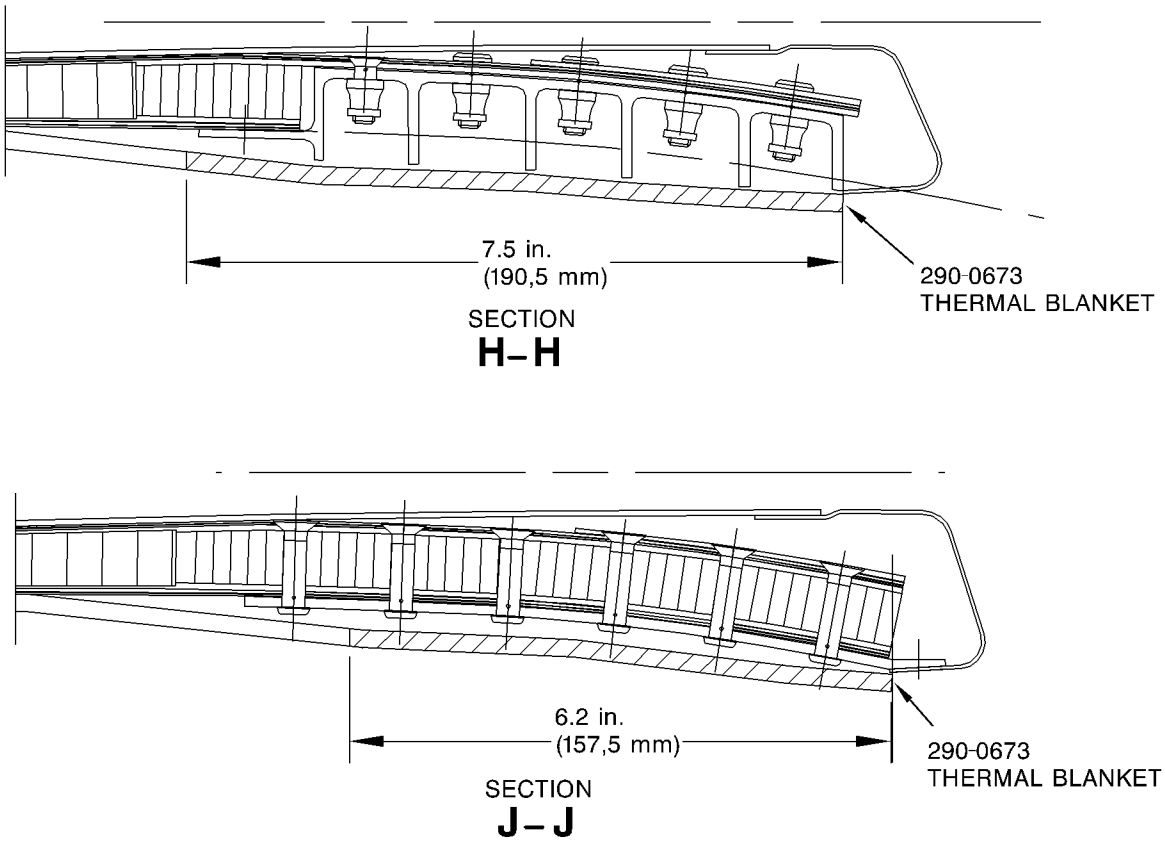
ded0005220

Lower Translating Sleeve Latch Heat Shield Installation
Figure 2 (Sheet 1)



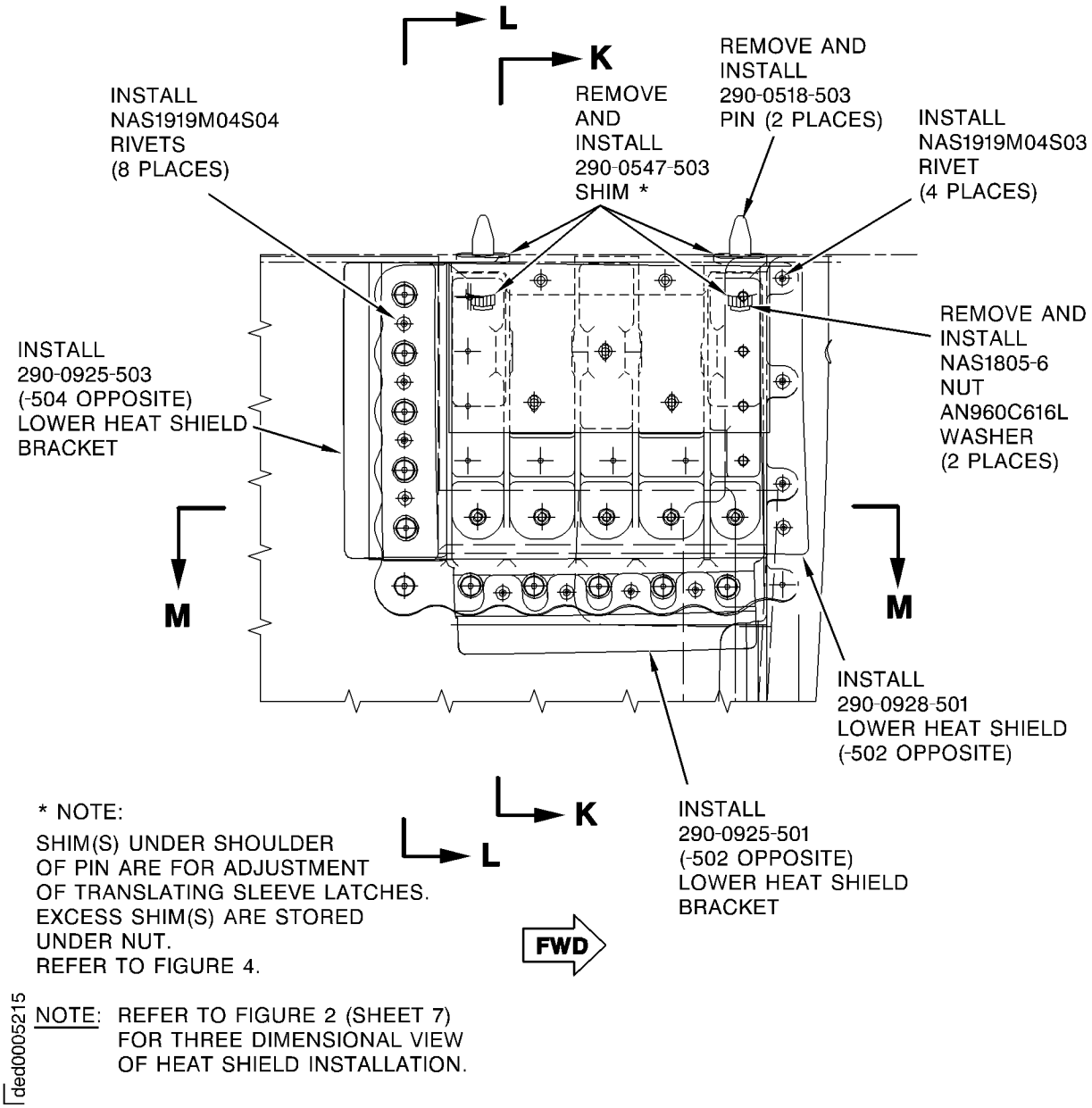
ded0005213

Lower Translating Sleeve Latch Heat Shield Installation
Figure 2 (Sheet 2)

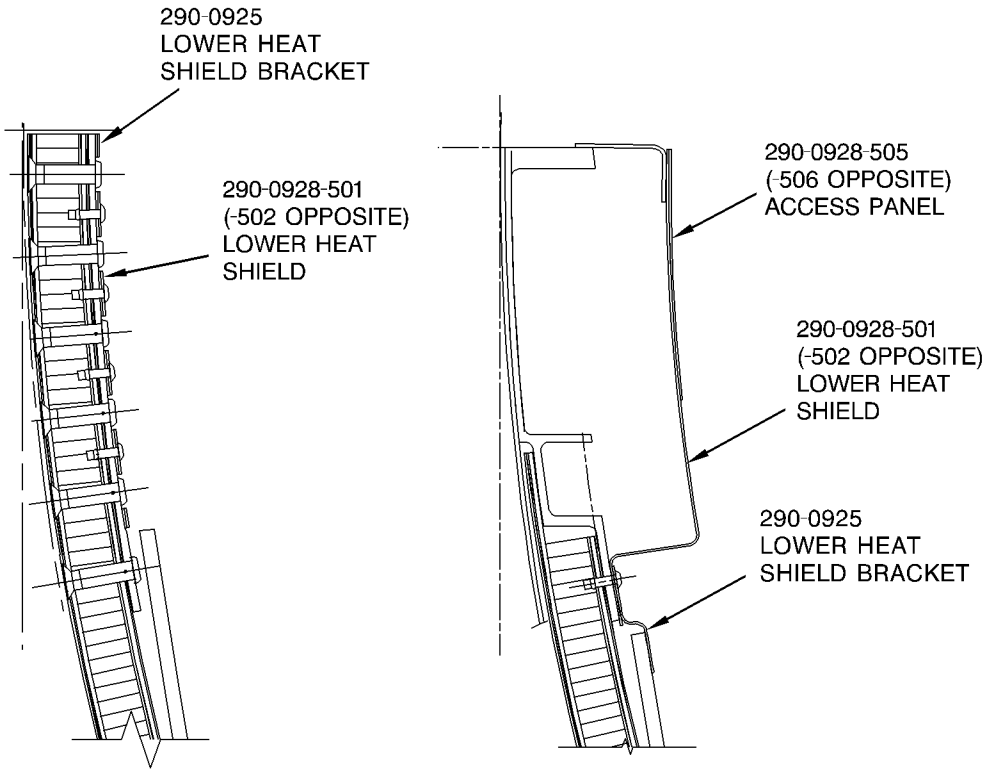


ded0005214

Lower Translating Sleeve Latch Heat Shield Installation
Figure 2 (Sheet 3)

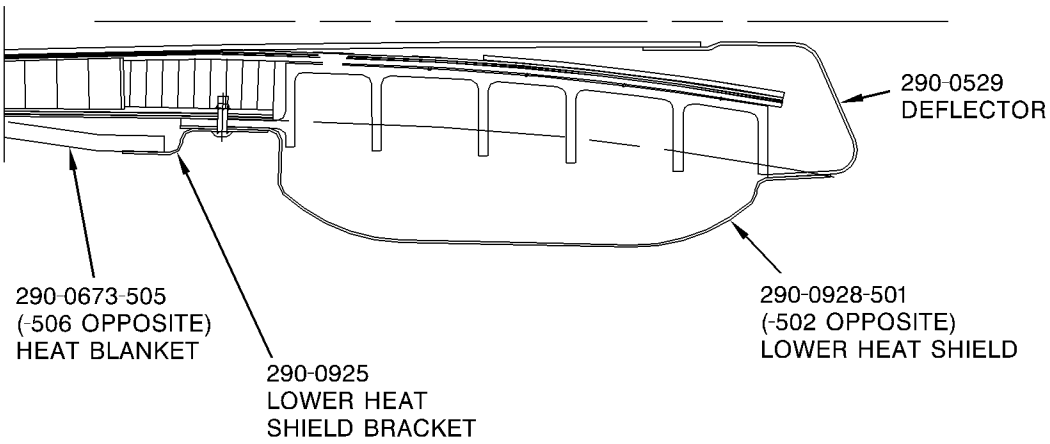


Lower Translating Sleeve Latch Heat Shield Installation
Figure 2 (Sheet 4)



ded0005216

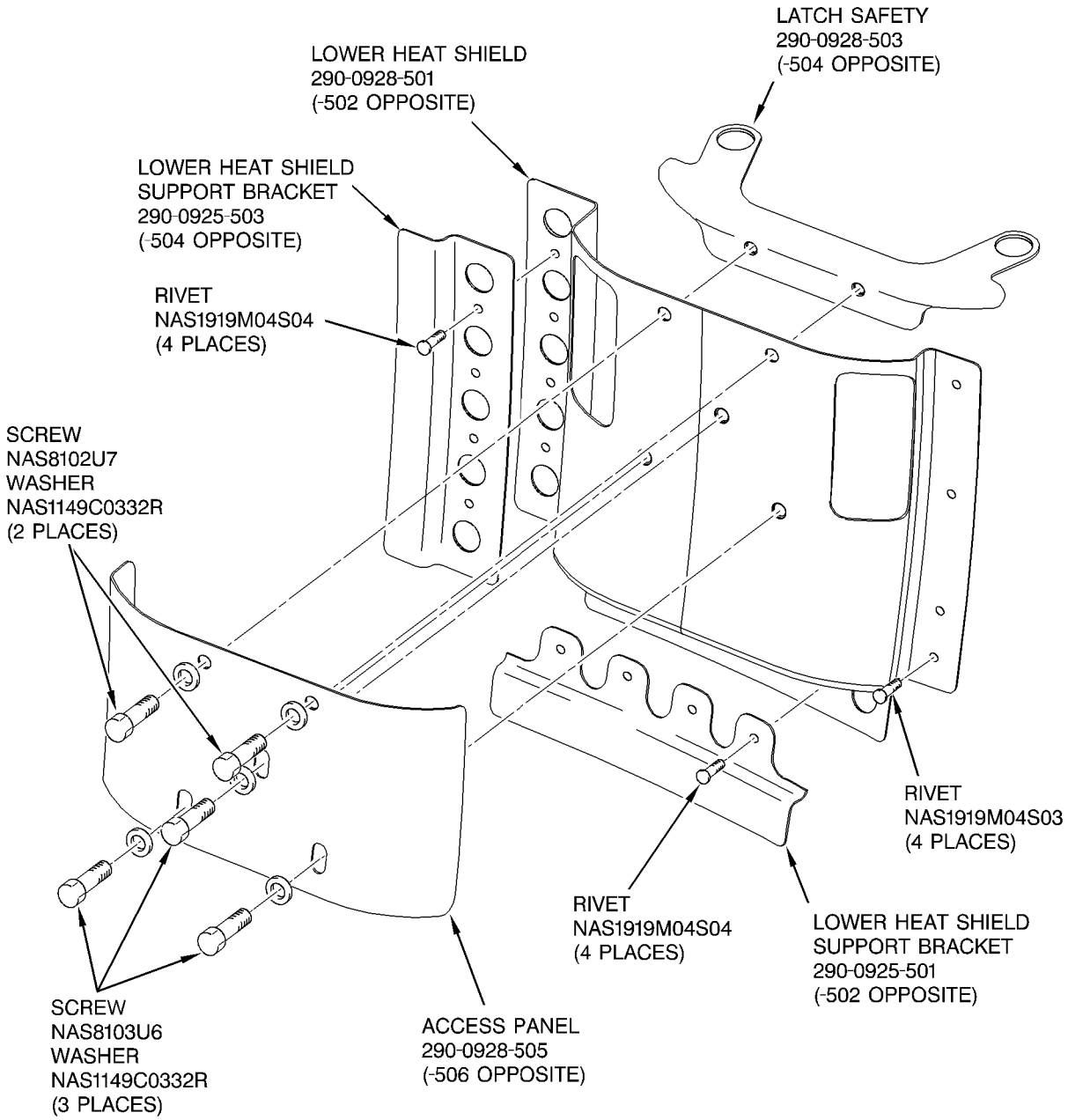
Lower Translating Sleeve Latch Heat Shield Installation
Figure 2 (Sheet 5)



SECTION
M–M

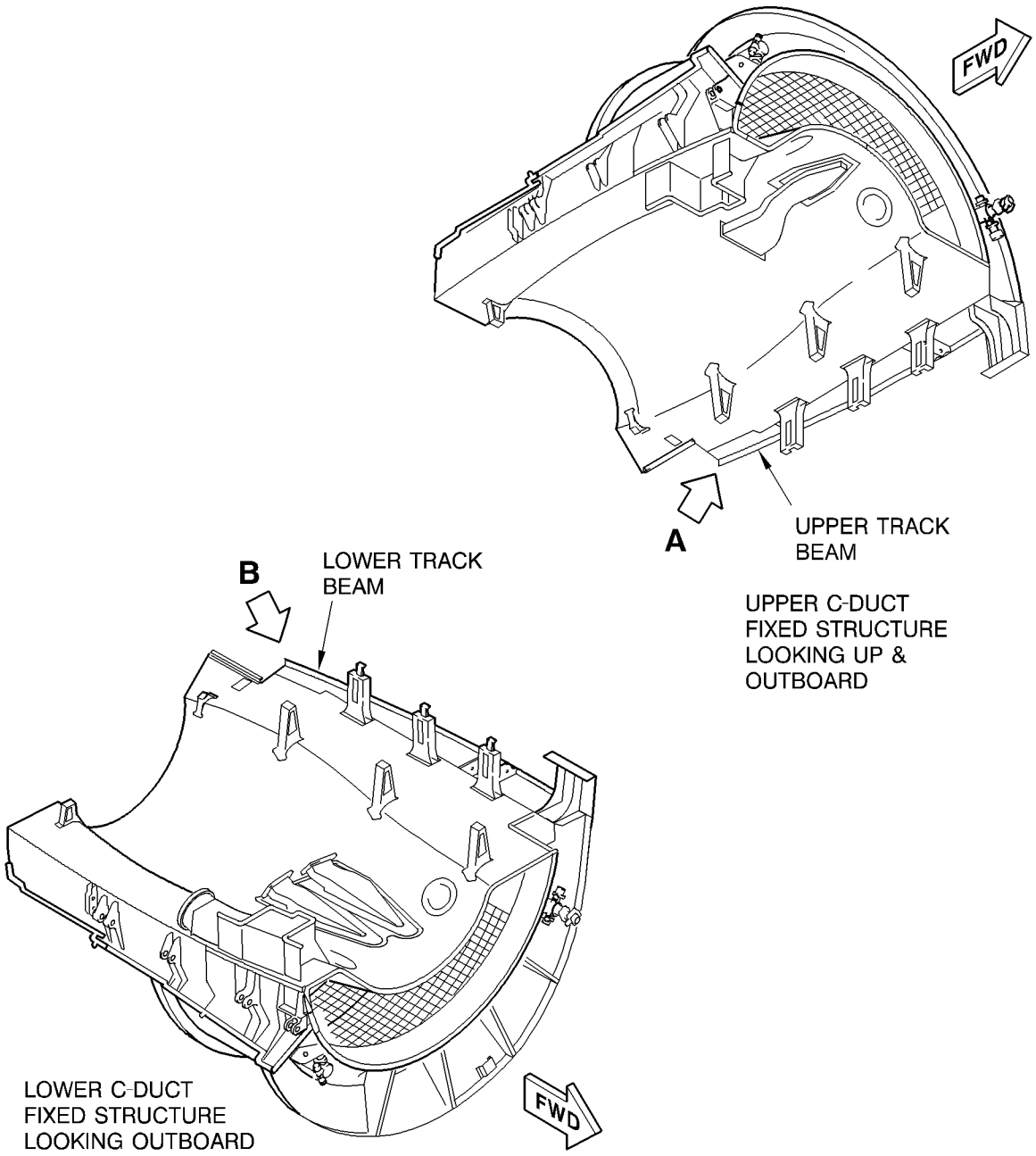
ded0005217

Lower Translating Sleeve Latch Heat Shield Installation
Figure 2 (Sheet 6)

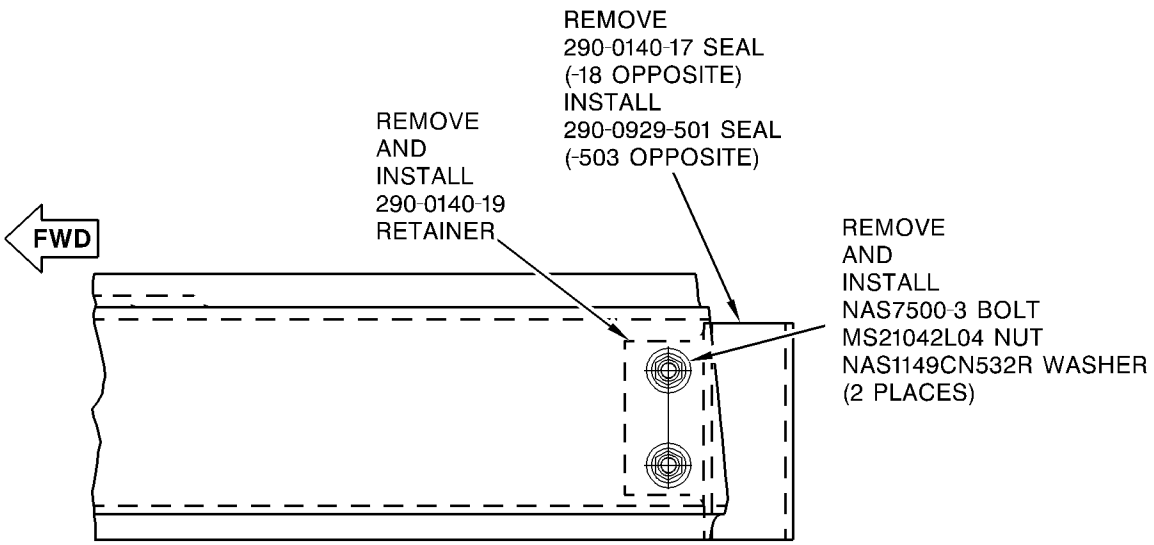


ded0005226

Lower Translating Sleeve Latch Heat Shield Installation
Figure 2 (Sheet 7)

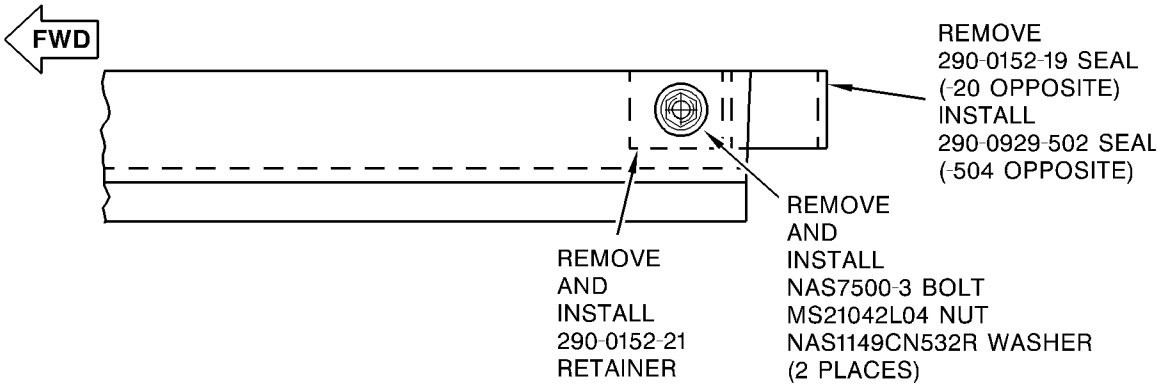


Track Beam Seal Installation
Figure 3 (Sheet 1)



LEFT HAND UPPER THRUST REVERSER TRACK BEAM
LOOKING INBOARD

A

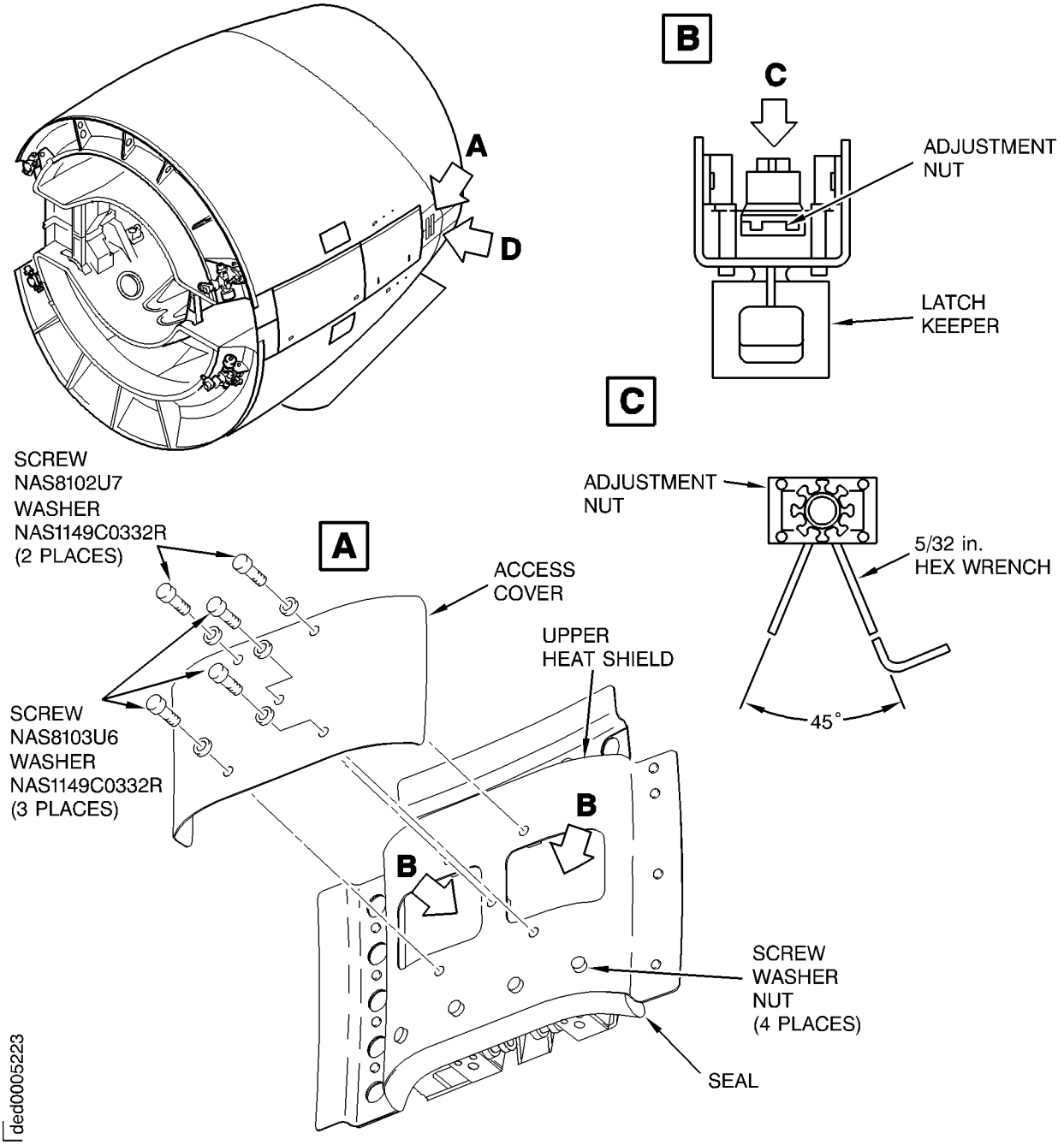


LEFT HAND LOWER THRUST REVERSER TRACK BEAM
LOOKING INBOARD

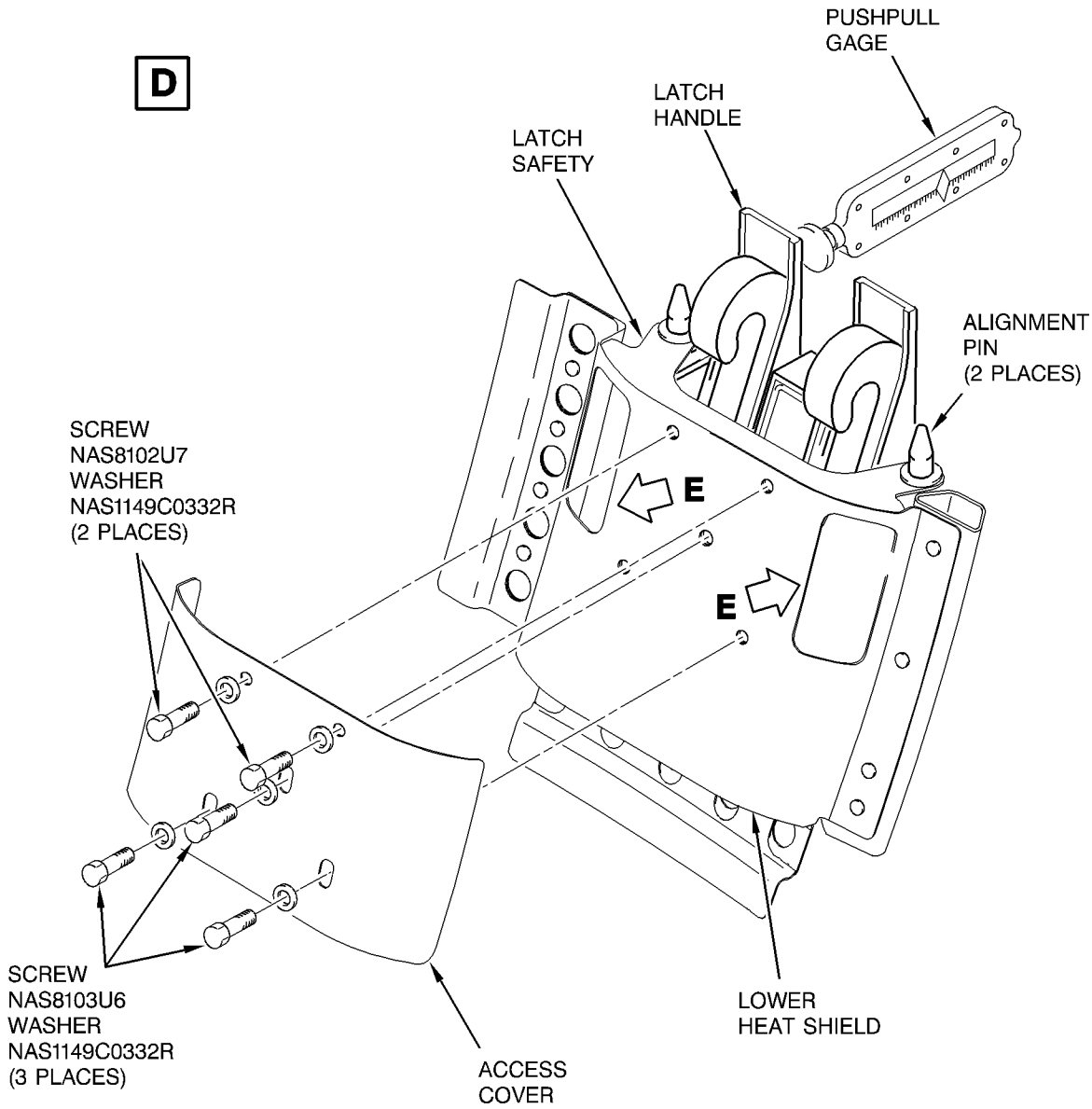
B

ded0005218

Track Beam Seal Installation
Figure 3 (Sheet 2)



Translating Sleeve Double Latch Closing Force and Gap Adjustment
Figure 4 (Sheet 1)



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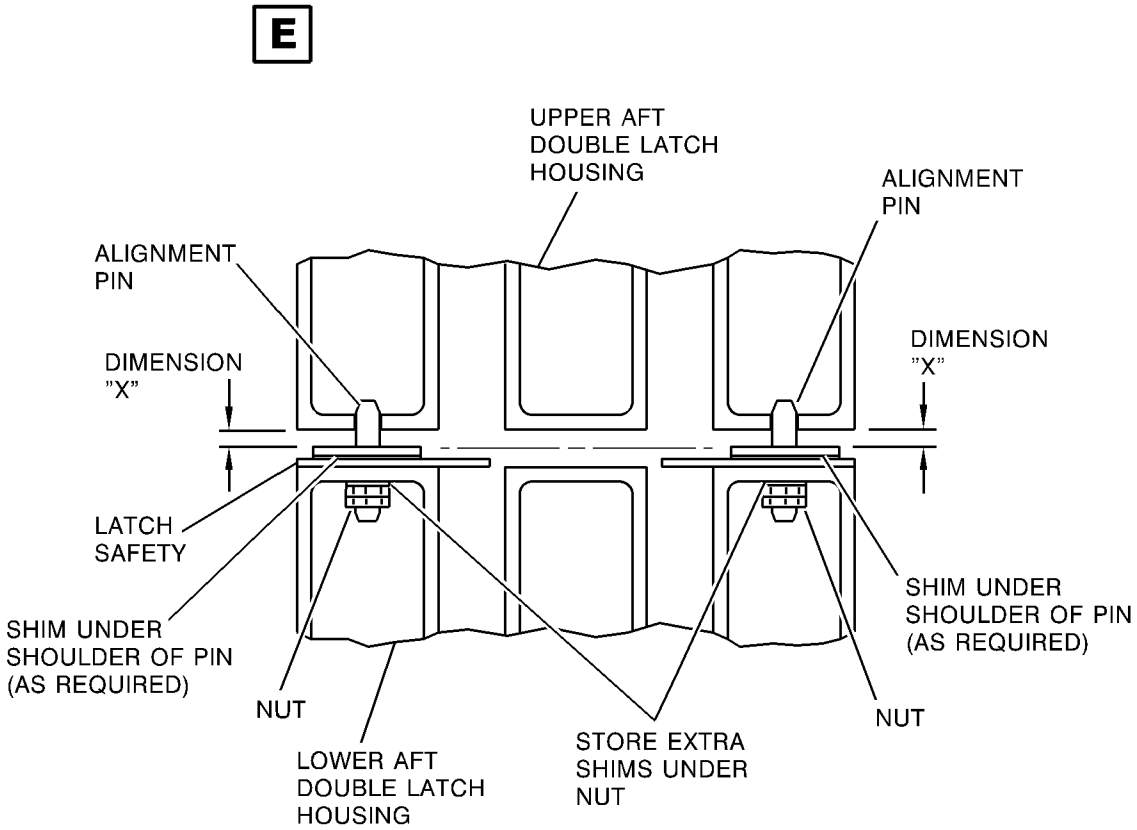
Translating Sleeve Double Latch Closing Force and Gap Adjustment
Figure 4 (Sheet 2)



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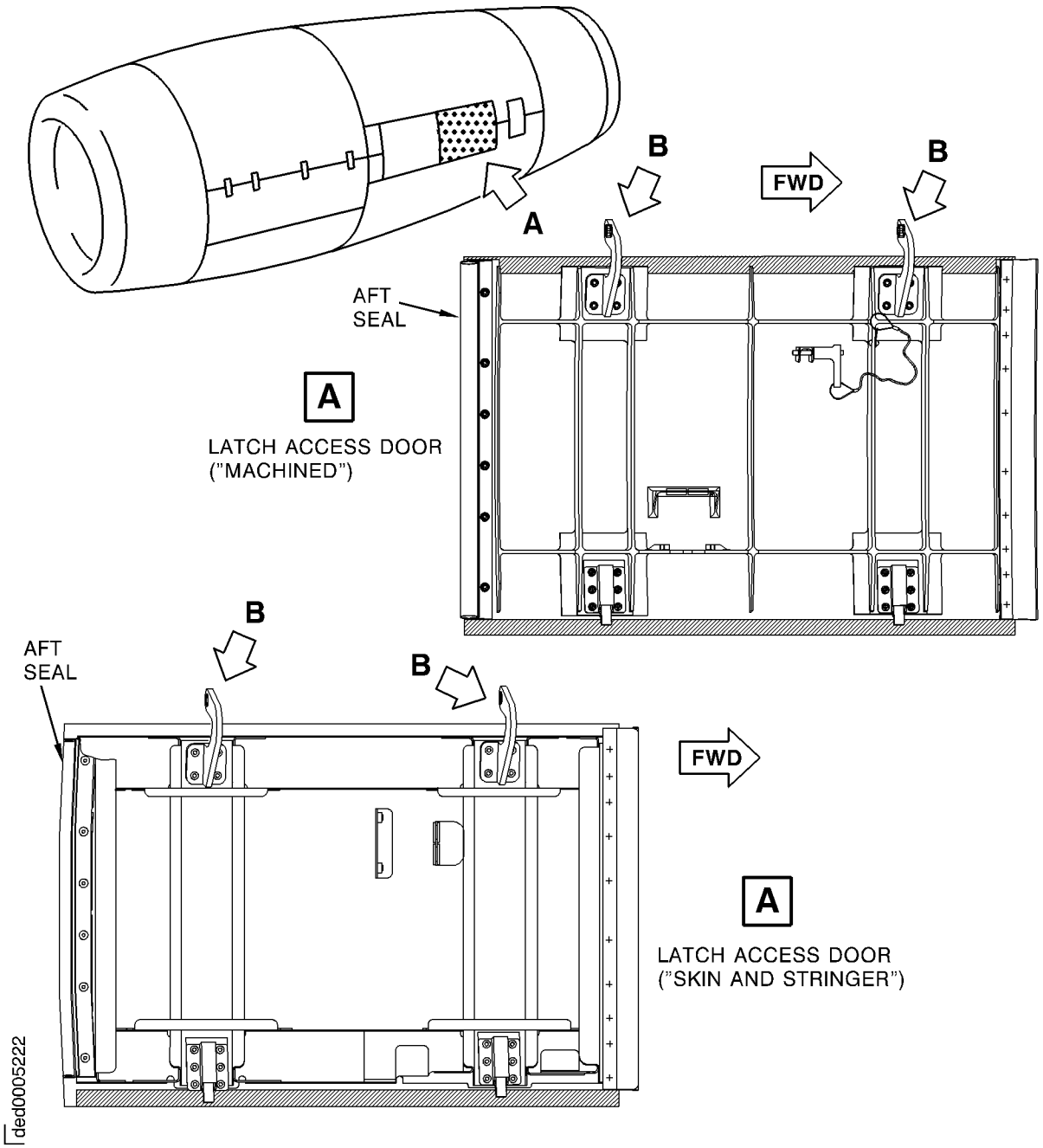
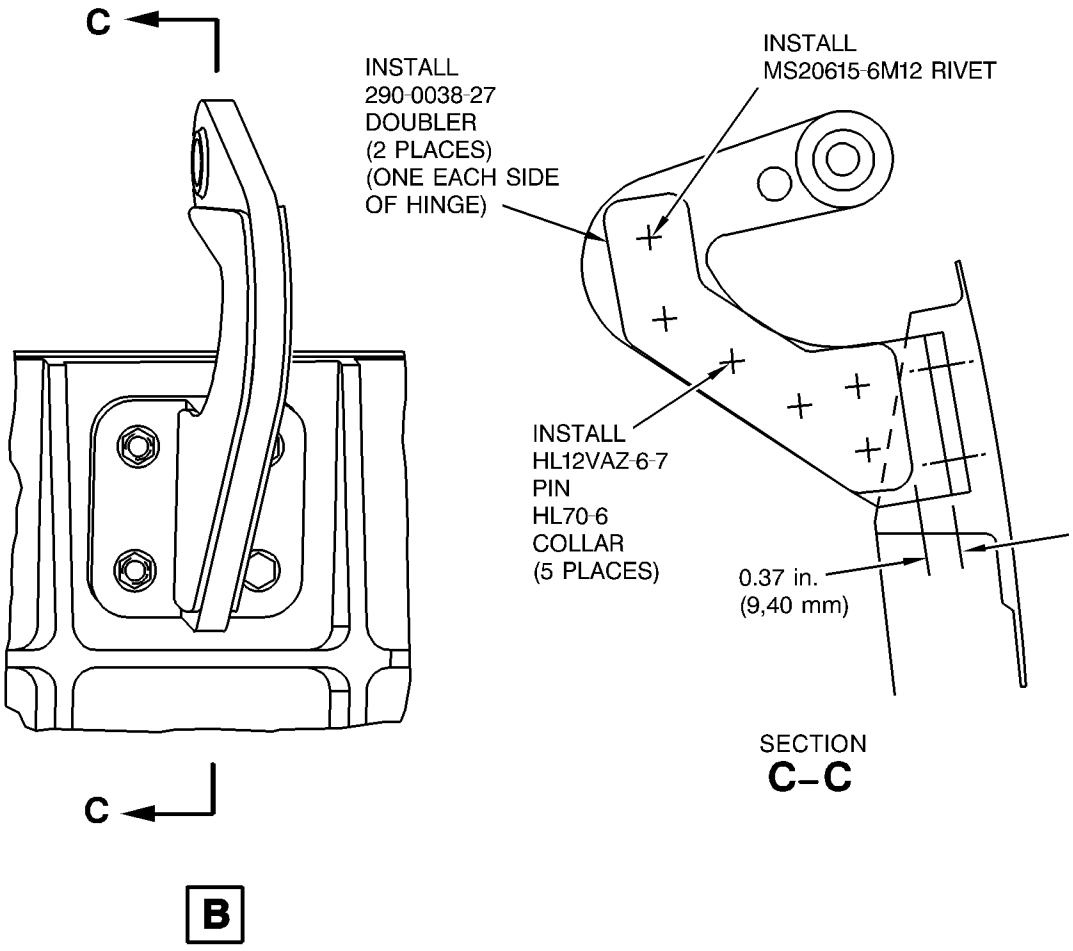
Translating Sleeve Double Latch Closing Force and Gap Adjustment
Figure 4 (Sheet 3)



Latch Access Door Hinge Doubler Installation
Figure 5 (Sheet 1)



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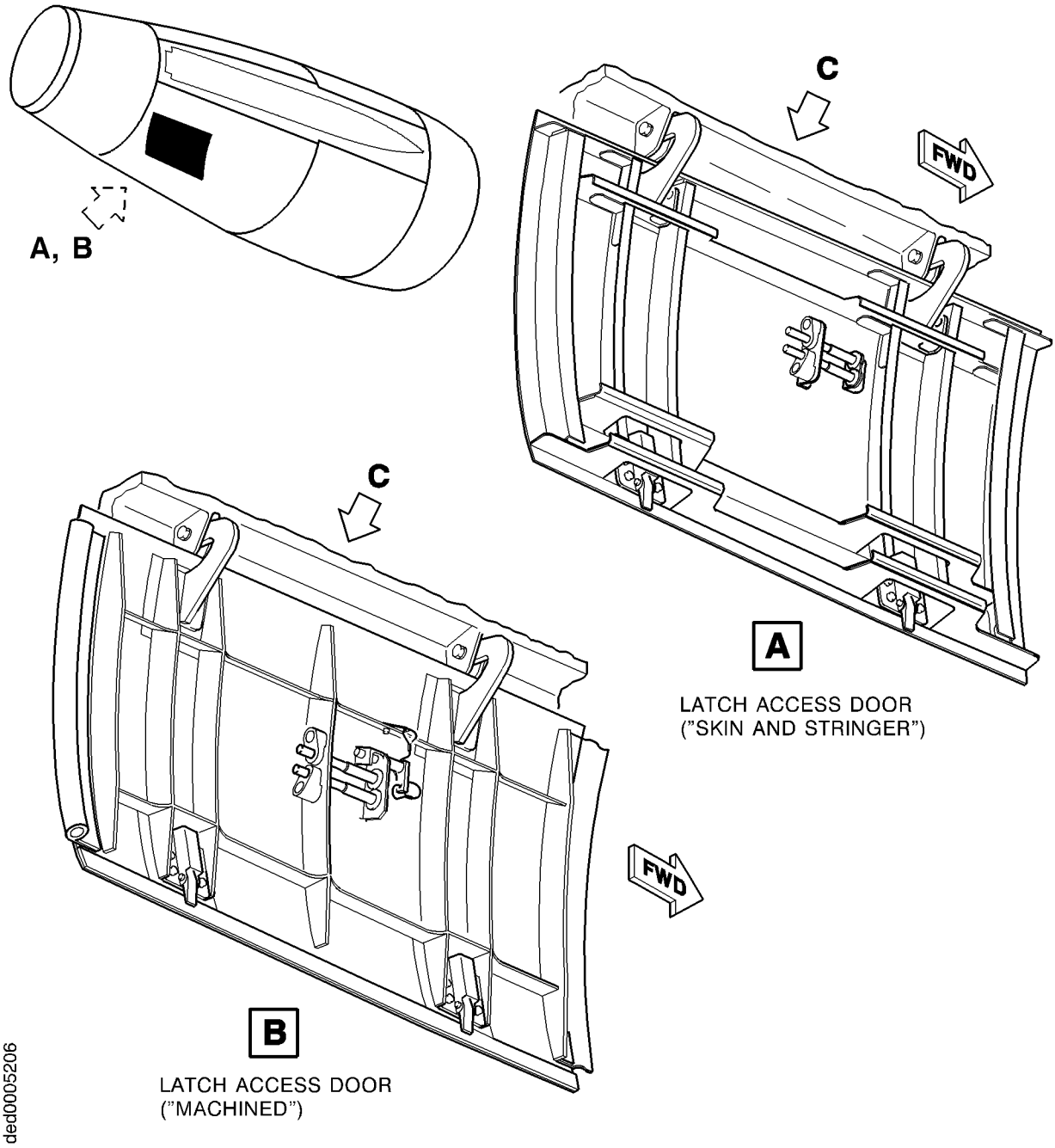
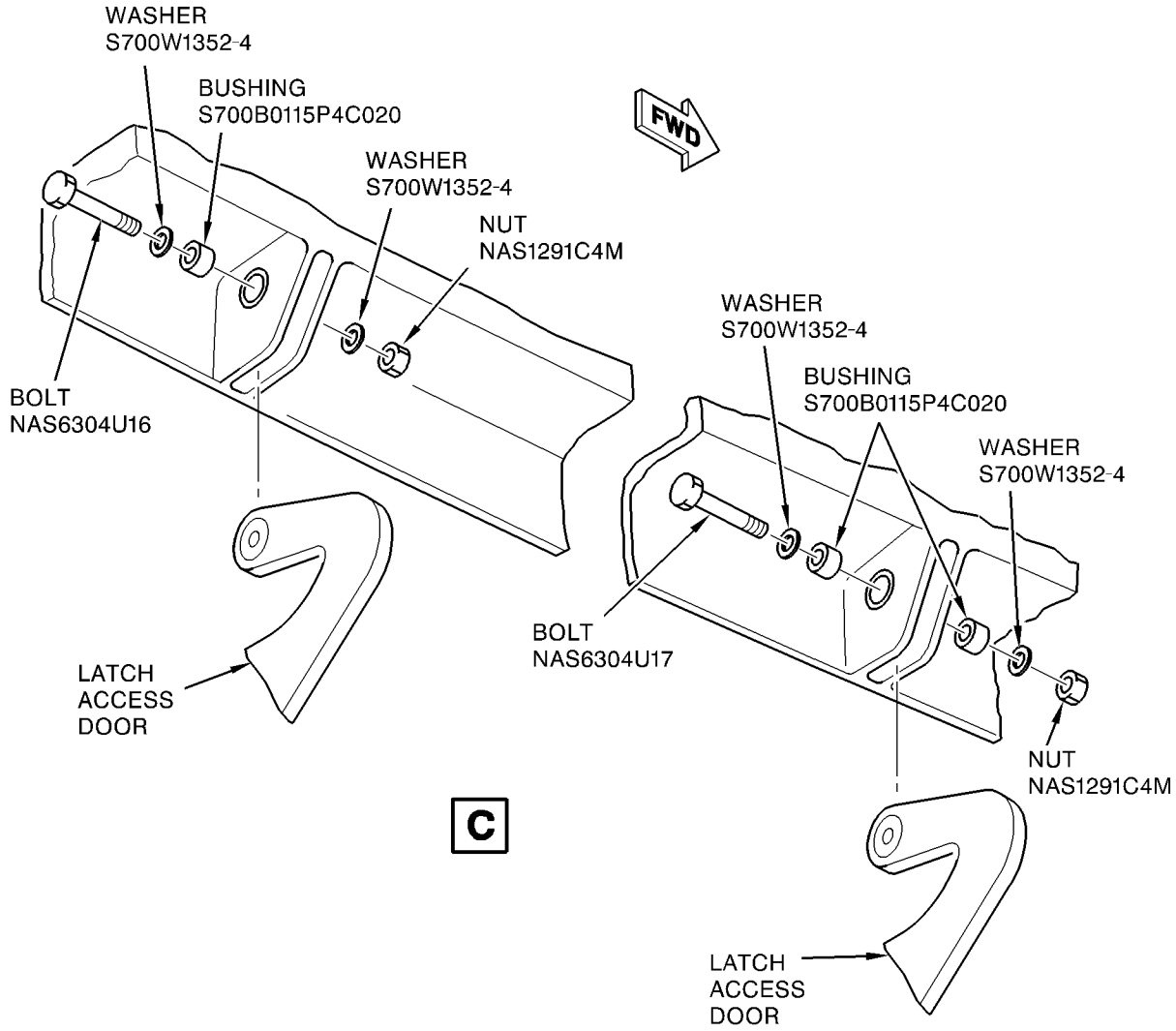
Latch Access Door Hinge Doubler Installation
Figure 5 (Sheet 2)



ded0005206

Latch Access Door Hinge Point Attach Hardware
Figure 6 (Sheet 1)



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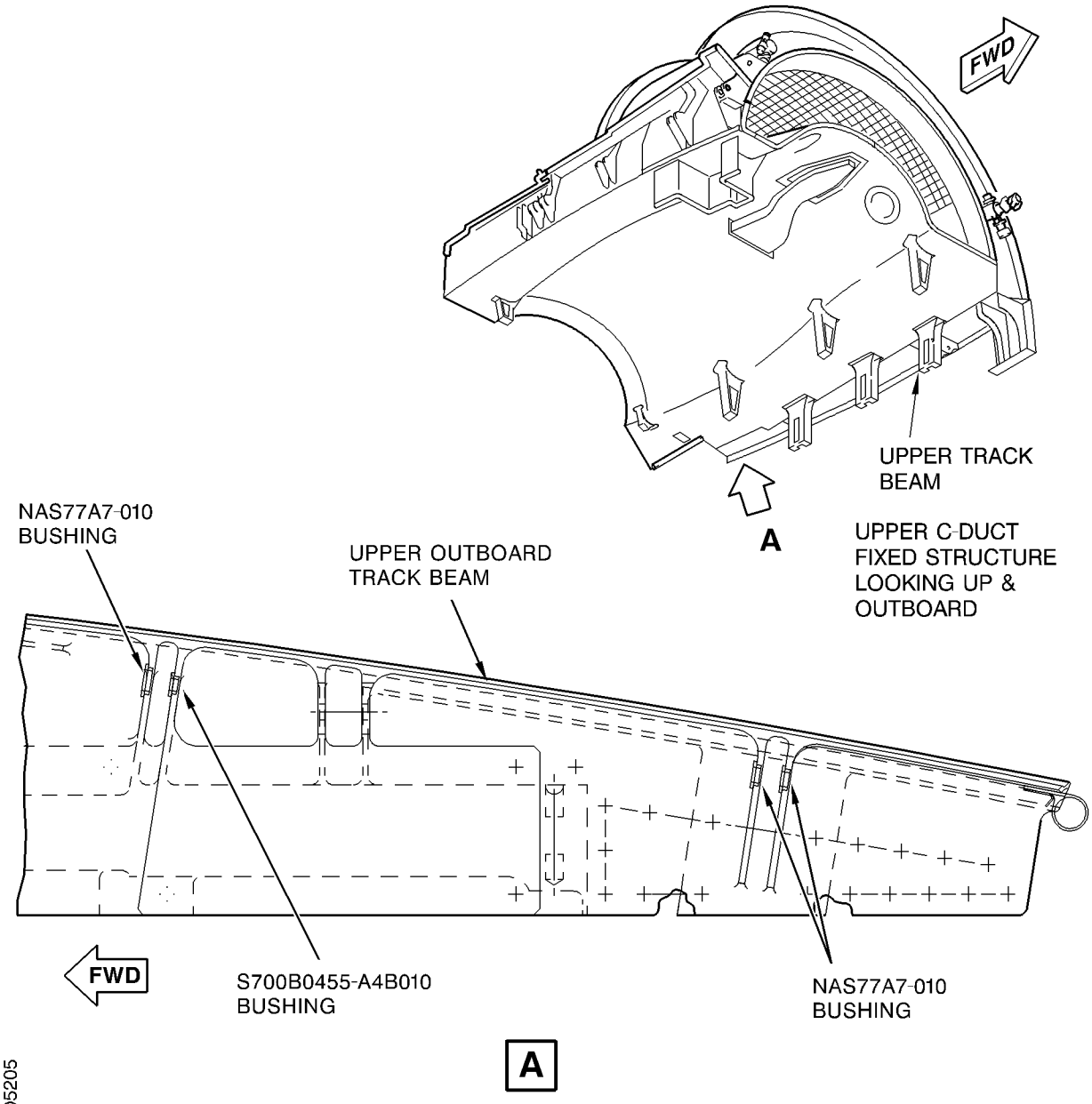
Latch Access Door Hinge Point Attach Hardware
Figure 6 (Sheet 2)



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Latch Access Door Hinge Point Attach Hardware
Figure 6 (Sheet 3)

NACELLE - EXHAUST - TRANSLATING SLEEVE AFT LATCH, HEAT SHIELD MODIFICATION/LATCH ACCESS DOOR HINGE MODIFICATION, THRUST REVERSER

SUPPLEMENT - PRICES AND AVAILABILITY

The prices if shown are for estimating purposes only and as such are given in good faith, without commercial liability for advanced planning purposes only. Refer to IAE Spares and/or current price catalogue for current prices.

1. Modification Kits:

Part No.	Desc.	Unit Price US Dollars
V2578170-553	Kit, LH Thrust Reverser	11,920.00
V2578170-554	Kit, RH Thrust Reverser	11,920.00