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DATE: Aug. 1/03

V2500-D5 SERIES NACELLE SERVICE BULLETIN

Printed in Great Britain

This document transmits the Initial Issue of Service Bulletin NV2500-71-0287

Bulletin Initial Issue

Remove

Incorporate
Pages 1 to 13 of the
Service Bulletin

Reason for change
Initial issue

V2500-NAC-71-0287
Transmittal - Page 1 of 2

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

The effective pages to this Service Bulletin are as follows:

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MODIFICATION SERVICE BULLETIN – NACELLE – PYLON – UPPER AND LOWER FITTINGS, THRUST
REVERSER – ADDITION OF ACTUATOR PIN RETAINER

1. Planning Information

A. Effectivity

- (1) Aircraft
 - (a) MD90
- (2) Nacelle: All MD90 fuselage numbers.

B. Concurrent Requirements

You must do Service Bulletin V2500-NAC-71-0231 before or at the same time as you do this Service Bulletin.

C. Reason

- (1) Problem
 - (a) If the safety or cotter pins that prevent the opening actuator pins from falling out become lost, the opening actuator pins can fall out and the thrust reverser half can swing free when the thrust reverser is opened.
- (2) Evidence
 - (a) Thrust reverser opening actuator pins have been found missing in service.
- (3) Substantiation
 - (a) Not applicable.
- (4) Objective
 - (a) The changes in configuration recommended in this Service Bulletin are intended to maintain reliability of the thrust reverser by modification of the upper and lower opening actuator fittings to prevent loss of the opening actuator pins.
- (5) Effect of Bulletin on:
 - (a) Operation
 - Not affected



(b) Maintenance

Affected

(c) Overhaul

Not affected

(d) Repair Scheme

Affected

(e) Interchangeability

Affected

(f) Fits and Clearances

Not affected

D. Description

This service bulletin provides instructions for the addition of actuator pin retainers to the upper and lower opening actuator fittings.

E. Compliance

Category 6

Accomplish when the nacelle subassembly is disassembled sufficiently to afford access to the affected part and all affected spare parts.

F. Approval

The part number changes and/or part modifications described in sections 2 and 3 of this Service Bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the Engine Model(s) listed.

G. Manpower

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

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

(1) In Service

Not applicable



(2) At Overhaul

1 hour

H. Material Cost and Availability

The parts to accomplish this service bulletin are available from the manufacturer as kit V2571287-551. Operators with units listed in Paragraph 1.A. should submit a 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 this 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 this 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-71-0287)

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

I. Tooling and Availability

No special tools are required.

J. Industry Support Information

(1) Not applicable.

K. Weight and Balance

(1) Weight Change

None

(2) Moment Arm

No effect

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(3) Datum

Engine front mount centreline (Powerplant Station PS 100)

L. Electrical Load Data

Not applicable

M. Software Accomplishment Summary

Not applicable

N. References

Publication	Chapter/Section
IAE V2500 Standard Practices/Processes Manual (SPP-V2500-1IA)	70-09-00
Overhaul Processes and Consumable Index (PCI-V2500-1IA)	
Pylon Component Maintenance Manual (CMM-PY-V2500-1IA)	71-14-03
Aircraft Illustrated Parts Catalog (PSR-V2500-1IA)	71-14-03 78-32-00 78-35-11
Service Bulletin V2500-NAC-71-0231	
Engineering Change Number	02VN803
ATA Locator	71-14-03

O. Other Publications Affected

None.

P. Interchangeability of Parts

Affected.



2. Material Information

A. Part and Kit Prices

Part Number	QTY	Estimated Unit Price US Dollars
V2571287-551	1	
290-0403-515	1	
290-0403-516	1	
290-0403-517	1	
290-0403-518	1	
290-5172-501	2	
NASM21060L3	4	
92391A014	2	

B. Material Requirements

(1) The following is applicable to one thrust reverser.

C. Kits associated with this Bulletin:

Part Number	QTY	Nomenclature
V2571287-551	1	Kit (A)
consisting of:		
NASM21060L3	8	Nutplate
CCR264CS-3-03	16	Rivet
S700P0580-1	4	Pin, Solid
290-5172-501	4	Bracket, Retaining
NAS6303-4	8	Bolt
MS14226-32C10	8	Washer

**D. Parts affected by this Service Bulletin:**

Applicability: For each thrust reverser to incorporate this Bulletin.

FIG ITEM UNIT	NEW PART NO	QTY	PART TITLE	MAT	OLD PART NO	INSTR DISP
(71-14-03) (10-015)	290-0403-517	1	Fitting Assy,Upper LH		290-0403-513	(B) (1D) (S1)
(71-14-03) (10-016)	290-0403-518	1	Fitting Assy,Upper RH		290-0403-514	(B) (1D) (S1)
(71-14-03) (10-35)	290-0403-515	1	Fitting assy,Lower LH		290-0403-509	(B) (1D) (S1)
(71-14-03) (10-36)	290-0403-516	1	Fitting Assy,Lower RH		290-0403-510	(B) (1D) (S1)
	NASM2106L3	8	Nutplate		- - -	(B) (S1)
	CCR264CS-3-03	16	Rivet		- - -	(B) (S1)
	S700P0580-1	4	Pin,Solid		- - -	(B) (S1)
	290-5172-501	4	Bracket, Retaining		- - -	(B) (S1)
	NAS6303-4	8	Bolt		- - -	(B) (S1)
	MS214226-32C10	8	Washer		- - -	(B) (S1)
	92391A014	4	Pin, Hitch,Cotter		- - -	(B) (S1)

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E. Instructions/Disposition Codes:

(A) Kit will be available TBD.

(B) Parts will be available TBD.

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

(S1) Old and new parts coded (S1) must be installed as a set.



F. Materials Required to do this Service Bulletin:

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

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 upper and lower thrust reverser halves. Refer to the MD90 Aircraft Maintenance Manual, chapter 78-32-00, Page Block 201.
- (2) Remove the upper and lower thrust reverser half opening actuators. Refer to the MD90 Aircraft Maintenance Manual, Chapter 78-35-11, Page Block 401. Discard the hardware that attaches the actuators to the upper and lower fittings except the 290-5174-503 pins. Refer to Figure 1 (sheet 1).

B. Remove the Opening Actuator Upper and Lower Fittings. Refer to Figure 1 (sheet 1).

NOTE: These procedures are the same for the left and right pylon. Right pylon part numbers are shown in parenthesis.

- (1) Remove the NAS6304U6 bolts, NAS6304U5 bolts, AN960C416L washers and the 290-0403-513 (-514) upper fitting from the pylon.
- (2) Remove the NAS6304U6 bolts, NAS6304U5 bolts, AN960C416L washers and the 290-0403-509 (-510) lower fitting from the pylon.

C. Modify the Opening Actuator Upper and Lower Fittings. Refer to Figure 1 (sheets 3 and 4).

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 fittings with a lint free cloth (CoMat 02-099) made moist with solvent (CoMat 01-438). Wipe the surfaces dry before the surfaces become dry.
- (2) Make the nutplate attach fastener and bolt holes in the fittings.

WARNING:

PRIMER (COMAT 07-140), CATALYST (COMAT 07-139), AND THINNER (COMAT 07-144) ARE CLASSIFIED AS HAZARDOUS MATERIALS AND 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 PRECAUTIONS.



- (3) Mix the primer (CoMat 07-140), catalyst (CoMat 07-139), and thinner (CoMat 07-144). Refer to the manufacturer's instructions.
- (4) Install the nutplates on the fittings with the rivets. Wet install the rivets with primer.
- (5) Re-identify the upper and lower fittings as indicated below. Use a rubber stamp and ink (CoMat 06-075). Refer to the IAE V2500 Standard Practices/Processes Manual, Chapter 70-09-00.

OLD PART NUMBER	NEW PART NUMBER
290-0403-509	290-0403-515
290-0403-510	290-0403-516
290-0403-513	290-0403-517
290-0403-514	290-0403-518

- D. Install the Opening Actuator Upper and Lower Fittings. Refer to Figure 1 (sheet 2).

NOTE: These procedures are the same for the left and right pylon. Right pylon part numbers are shown in parenthesis.

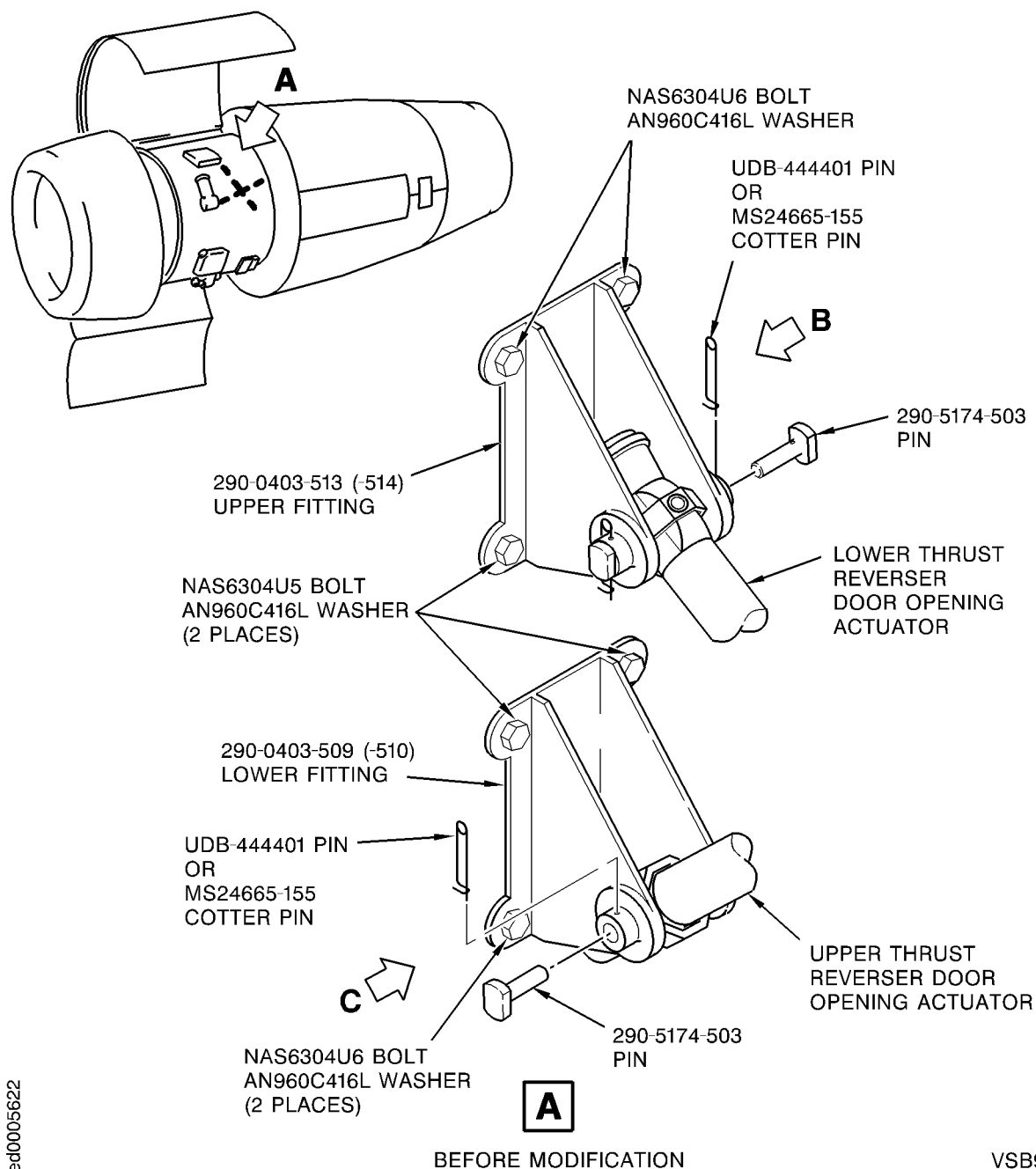
- (1) Install the AN960C416L washers, NAS6304U6 bolts, NAS6304U5 bolts, and the 290-0403-517 (-518) upper fitting on the pylon. Torque the bolts to 63-70 inlbs (7-8 Nm).
- (2) Install the AN960C416L washers, NAS6304U6 bolts, NAS6304U5 bolts, and the 290-0403-515 (-516) lower fitting on the pylon. Torque the bolts to 63-70 inlbs (7-8 Nm).

- E. Post-requisite Instructions. Refer to Figure 1 (sheet 2).

- (1) Install the upper and lower thrust reverser half opening actuators but do not install the hardware that attaches the actuators to the upper and lower fittings. Refer to the MD90 Aircraft Maintenance Manual, Chapter 78-35-11, Page Block 401.
- (2) Install the solid pins and the cotter hitch pins.
- (3) Install the actuator pin retainers on the fittings with the bolts and washers. Torque the bolts to 30-35 inlbs (3,39-3,96 Nm).
- (4) Close the upper and lower thrust reverser halves. Refer to the MD90 Aircraft Maintenance Manual, chapter 78-32-00, Page Block 201.

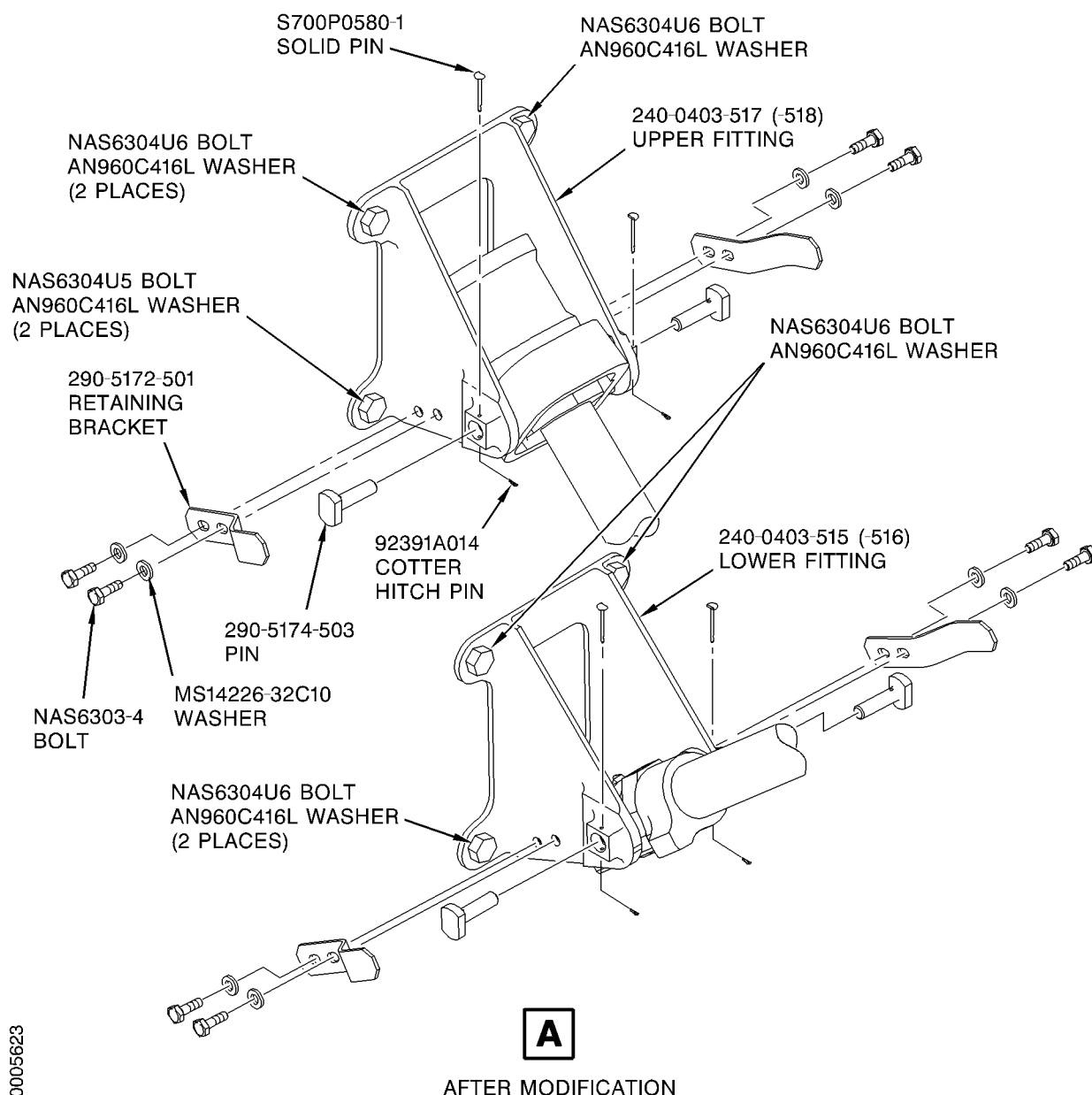
- F. Recording Instructions

- (1) A record of accomplishment is required. Write in the applicable records that Service Bulletin V2500-NAC-71-0287 has been done.



VSB939

Install the Opening Actuators in the Fittings - Before Modification
Figure 1 (sheet 1)



AFTER MODIFICATION

VSB940

Install the Opening Actuators in the Fittings - After Modification
Figure 1 (sheet 2)

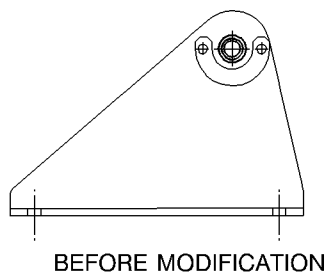
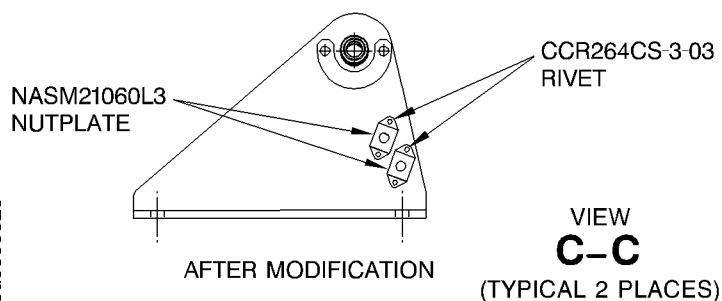
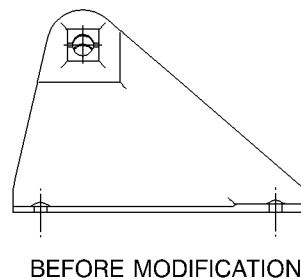
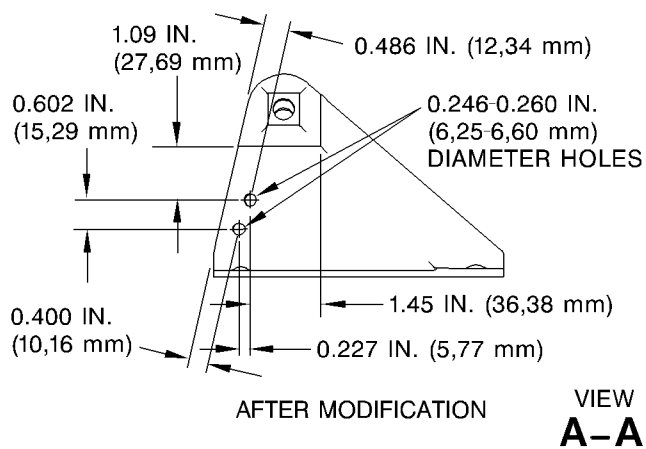
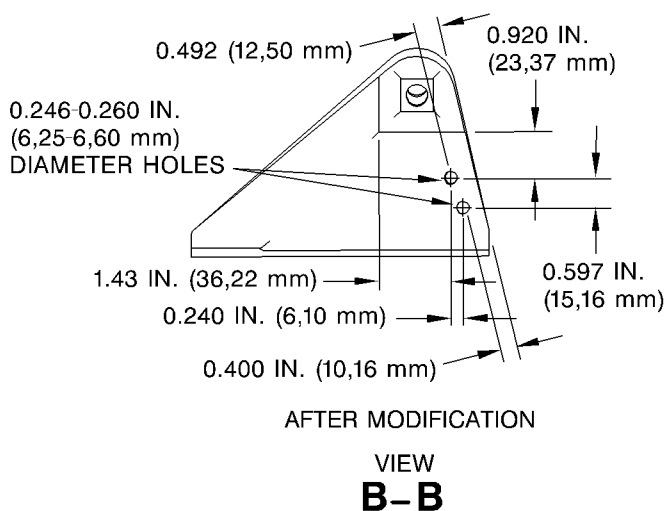
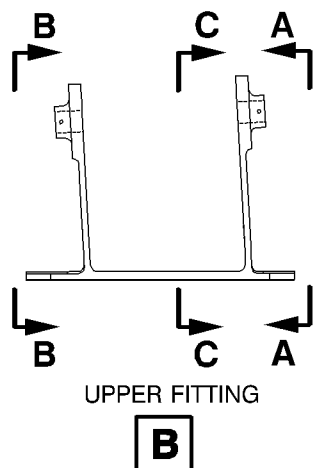
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VSB945

Modify the Upper Opening Actuator Fitting
Figure 1 (sheet 3)

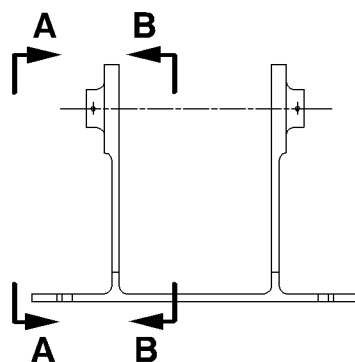
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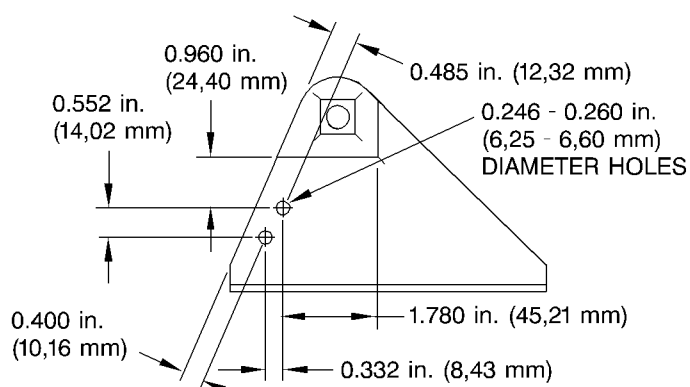
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LOWER FITTING

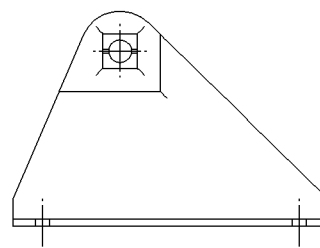
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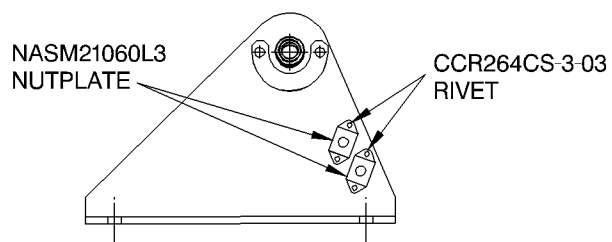
AFTER MODIFICATION

VIEW
A-A

(TYPICAL 2 PLACES)



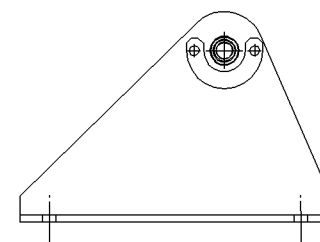
BEFORE MODIFICATION



AFTER MODIFICATION

VIEW
B-B

(TYPICAL 2 PLACES)



BEFORE MODIFICATION

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VSB941

Modify the Lower Opening Actuator Fitting
Figure 1 (sheet 4)

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