V2500 International Aero Engines

V2500 Propulsion System — Nacelle

SERVICE BULLETIN

Date: May 26, 1999

Subject: Transmittal of Revision 5 to Service Bulletin Number V2500-NAC-78-0150

Service Bulletin Revision History:

Event	Date
Basic Issue	Jan. 28/98
Revision 1	Mar. 05/98
Revision 2	Apr. 17/98
Revision 3	May 22/98
Revision 4	Mar. 26/99
Revision 5	May 26/99

Reasons for Issuance of Revision

(1) To make minor dimensional changes to the size of the area of the translating sleeve to which the anti-chafe is applied.

Effect on Past Compliance

(1) None.

List of Effective Pages:

Page No.	Rev. No.	Date
1	5	May 26/99
2 thru 8	1	Mar. 05/98
9	2	Apr. 17/98
10 thru 15	1	Mar. 05/98
16 thru 20	5	May 26/99
21	1	Mar. 05/98
22 and 23	4	Mar. 26/99

V2500 International Aero Engines

V2500 Propulsion System — Nacelle

SERVICE BULLETIN

NACELLE — POWERPLANT - TRANSLATING SLEEVE, THRUST REVERSER - MODIFICATION OF

MODEL APPLICATION

V2500-D5

BULLETIN INDEX LOCATOR

78-00-00

Compliance Category Code

4

Internal Reference No.

JG 93VN302B

January 28, 1998

R Revision 5 - May 26, 1999

V2500-NAC-78-0150

1. Planning Information

A. Effectivity

(1) Airplane: MD90

(2) Nacelle: V2500-D5 thrust reverser serial numbers 0021001 through 0409001.

B. Reason

(1) Condition

The common nozzle assembly (CNA) seals can be damaged by
R the shims at the aft end of the lower translating sleeve.

(2) Background

In-service Damage to the CNA seals has been found to be
R caused by the shims at the aft end of the lower translating
R sleeve.

(3) Objective

To eliminate the possibility of damage to the CNA seals
R caused by the lower translating sleeve shims.

(4) Substantiation

Not applicable.

(5) Impact of the Bulletin on Workshop Procedures:

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

(6) Supplemental Information

None.

C. Description

The change introduced by this Bulletin is as follows:

The shims at the aft end of the lower translating sleeve are chamfered and then a layer of abrasion resistant material is applied to the shims to reduce friction between the shims and CNA seals. Abrasion resistant material is also applied to the inner surface of the aft edge of the upper translating sleeve.

D. Approval

Incorporation of this Service Bulletin must be accomplished only in conjunction with Douglas Aircraft Company Service Bulletin MD90-78-027 which has received exclusive FAA approval for MD-90 Series aircraft.

E. Compliance

Category 4

Accomplish at the first visit for 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 (to modifiy translating sleeves)	
	(a) To gain access	0.25 M/hours
	(b) To modify translating sleeves	2.50 M/hours
	(c) To return to service	0.25 M/hours
	Total	3.00 M/hours
(2)	In Service (to replace CNA lower outer seal)	
	(a) To replace CNA seal	1.00 M/hours
	Total	1.00 M/hours

The operators may submit a claim for labor hours used with the above labor requirements. This Service Bulletin and the Serial Numbers on which accomplished should be referenced.

Claims for labor will be accepted at the following reimbursement percentages:

(1) 100% for units within warranty at the time of service bulletin issuance.

(2) 50% for units outside warranty by less than one year.

(3) 25% for units outside the warranty by two years or less.

Operators have two years from issue date of Revision 1 of the Service Bulletin to accomplish effort and submit claims for reimbursement credit.

R Transmit claim to:

R Rohr, Inc.
R 850 Lagoon Drive
R Chula Vista, CA 91910-2098
R U.S.A.
R Attn: Warranty Claims Administrator, MZ 107A
R (Ref. Service Bulletin V2500-NAC-78-0150)

G. Material Cost and Availability

R Because it is possible the CNA lower outer duct seal may have
R already been damaged by the translating sleeve shims, it is
R recommended operators obtain one V2578150-551 kit for each
R nacelle from Rohr, Inc. before incorporation of this service
R bulletin.

R Operators with units shown in paragraph 1.A. should submit a
R purchase order for the applicable quantity of kits at the
R specified discounts shown below:

R NOTE: Full retail price for the V2578150-551 kit is $897.00 for
R calendar year 1998/1999.

R (1) 100% discount (free of charge) for units within warranty
R (6000 hours from initial delivery) at the time of initial
R service bulletin issuance.

R (2) 50% discount for units outside of warranty by less than
R 2000 hours at the time of initial service bulletin
R issuance.

R (3) 25% discount for units outside of warranty by less than
R 4000 hours at the time of initial service bulletin
R issuance.

R (4) Parts for units outside of the warranty by greater than
R 4000 hours at the time of initial service bulletin issuance
R are available at full retail price.

R Transmit purchase order to:

R Rohr, Inc.
R 850 Lagoon Drive
R Chula Vista, CA 91910-2098
R U.S.A.
R Attn: Airline Account Administrator, MZ 107A
R (Ref. Service Bulletin V2500-NAC-78-0150)

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 185.00)

J. Electrical Load Data

Not affected.

K. Reference — Chapter/Section

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

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

L. Other Publications Affected

MD-90 Aircraft Maintenance Manual — 78-32-00

2. Accomplishment Instructions

A. Pre-requisite Instructions

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

B. Remove the aero-sealant from around the shims and the inside aft edge of the lower translating sleeve.

C. Chamfer the shims on the lower translating sleeve to the dimensions shown in Figure 1.

D. Prepare the Translating Sleeve-to-CNA Mating Surfaces of the Upper and Lower Translating Sleeves for Application of Abrasion Resistant Coating.

(1) Make the indicated areas of the upper and lower translating sleeve indicated in Figure 1 lightly rough with nylon scouring pads.

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

(2) Clean the modified areas of the translating sleeves with solvent (CoMat 01-438) and a lint free cloth (02-099). Wipe the surface dry before the solvent becomes dry.

WARNING: CONVERSION COATING (COMAT 07-106) 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.

(3) Apply conversion coating (CoMat 07-106) to the exposed aluminum in the modification area. Refer to the manufacturer's instructions.

WARNING: EPOXY PRIMER (COMAT 07-140), CATALYST (07-139), 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 PRECAUTIONS.

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

(5) Apply the primer to the treated surfaces in the modification area.

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

WARNING: AERO-SEALANT (COMAT 08-046) 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.

(7) Apply aero-sealant (CoMat 08-046) around the shims on the lower translating sleeve as shown in Figure 1.

(8) Cure the aero-sealant. Refer to the manufacturer's instructions.

R

E. Apply the Abrasion Resistant Coating.

WARNING: ANTI-CHAFE (COMAT 02-319) 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.

(1) Mix the anti-chafe (CoMat 02-319). Refer to the manufacturer's instructions.

(2) Apply the anti-chafe (CoMat 02-319) to the treated surfaces in the modification area.

(3) Cure the anti-chafe (CoMat 02-319). Refer to the manufacturer's instructions.

F. Post-requisite Instructions

R (1) Examine the 290-1206-1 lower outer duct seal for damage.
R Refer to Figure 2.

R (a) Abrasion

R 1 If the abrasion does not penetrate the cover of the
R seal, accept the seal.

R 2 If the abrasion does penetrate the cover of the
R seal, replace the seal.

R (b) Gouges, rips, tears

R 1 If no gouges, rips, or tears, accept the seal.

R 2 If any gouges, rips, or tears, replace the seal.

R (2) Replace the 290-1206-1 lower outer duct seal, if required.
R Refer to Figure 2.

R (a) Remove the damaged outer duct seal and old sealant
R from the seal carrier and adjacent T-seals.

R NOTE: The outer duct seal is bonded with adhesive to
R the seal carrier and adjacent T-seals. There
R is a 290-1220-3 plug at the joint between the
R outer duct seal and the T-seal at each end. Do
R not damage the T-seals when you remove the
R outer duct seal. If you damage the 290-1220-3
R plugs when you remove the outer duct seal, use
R new plugs when you install the replacement
R seal.

R (b) If necessary, remove material from the new seal to
R make it the correct length.

R (c) Make the mating surfaces of the outer duct seal and
R the seal carrier rough. Use silicon carbide abrasive
R paper (CoMat 05-073).

R (d) Clean the surfaces of the lower outer duct seal and
R the seal carrier with a lint free cloth (CoMat 02-099)
R and solvent (01-438).

R WARNING: PRIMER (COMAT 08-032) IS CLASSIFIED AS A
R HAZARDOUS MATERIAL WHICH MAY CAUSE INJURY OR
R ILLNESS IF NOT PROPERLY USED. THIS PRODUCT
R SHOULD BE USED ONLY IN ACCORDANCE WITH THE
R MANUFACTURER'S SPECIFIC SAFETY AND HEALTH
R RECOMMENDATIONS. PRIOR TO USE OF THIS PRODUCT,
R CAREFULLY READ THE APPLICABLE "MATERIAL SAFETY
R DATA SHEET" AND FOLLOW ALL LISTED SAFETY AND
HEALTH PRECAUTIONS.

R CAUTION: Do not apply primer (CoMat 08-032) to the lower
R outer duct seal.

R (e) Apply a thin layer of primer (CoMat 08-032) to the
R mating surface of the seal carrier. Refer to the
R manufacturer's instructions.

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

R WARNING: SILICONE RUBBER COMPOUND (COMAT 08-031) IS
R CLASSIFIED AS A HAZARDOUS MATERIAL WHICH MAY
R CAUSE INJURY OR ILLNESS IF NOT PROPERLY USED.
R THIS PRODUCT SHOULD BE USED ONLY IN ACCORDANCE
R WITH THE MANUFACTURER'S SPECIFIC SAFETY AND
R HEALTH RECOMMENDATIONS. PRIOR TO USE OF THIS
R PRODUCT, CAREFULLY READ THE APPLICABLE "MATERIAL
R SAFETY DATA SHEET" AND FOLLOW ALL LISTED SAFETY
R AND HEALTH PRECAUTIONS.

R (g) Apply the silicone rubber compound (CoMat 08-031) to
R the mating surfaces of the lower outer duct seal, the
R plugs, and the seal carrier. Refer to the
R manufacturer's instructions.

R R R (h) Install the lower outer duct seal in the seal carrier and on the plugs in the T-seals. Make sure the vent holes face forward.

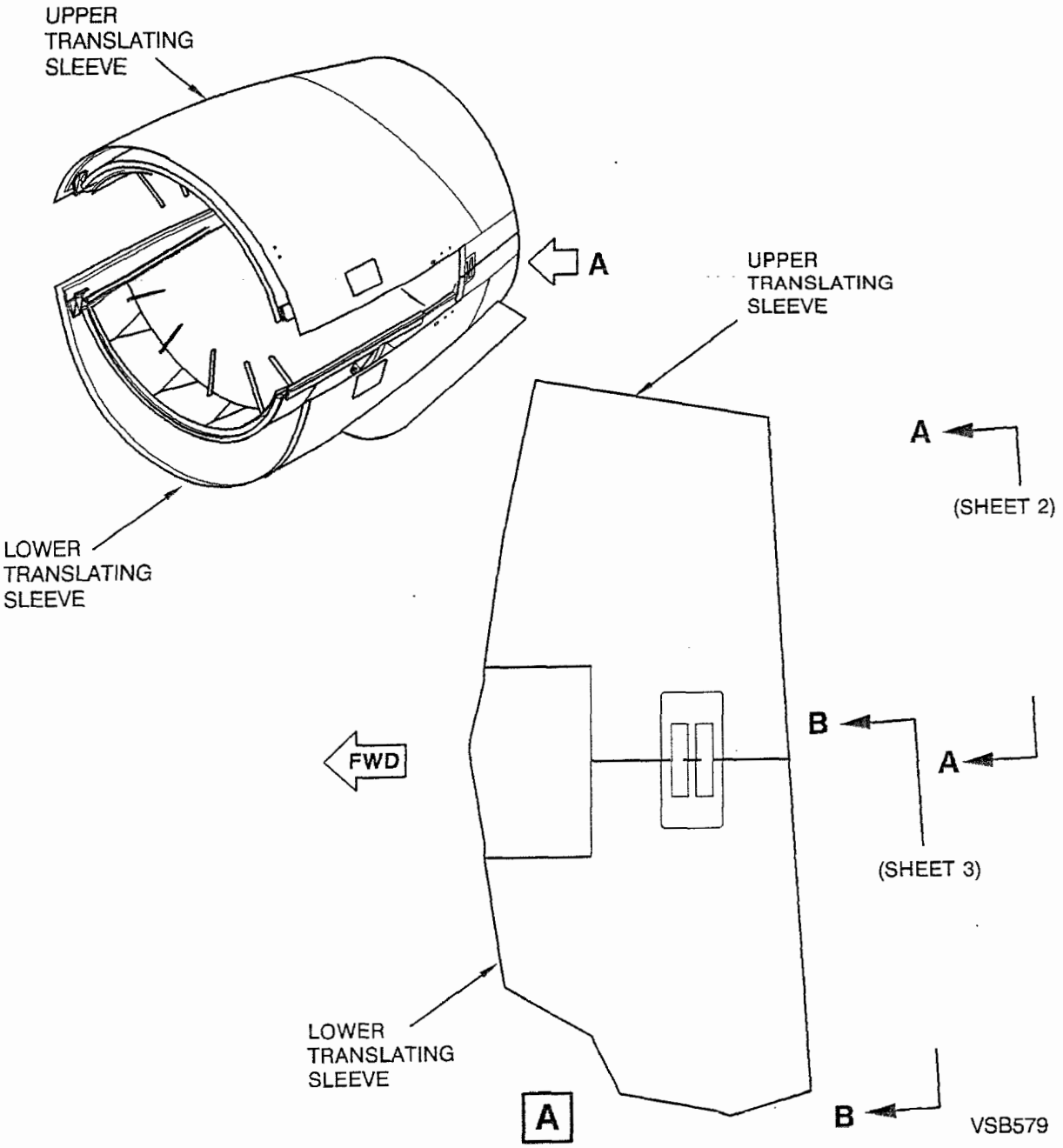
R R R (i) Remove unwanted silicone rubber compound with a lint free cloth (CoMat 02-099) made moist with solvent (CoMat 01-438).

R R (j) Cure the silicone rubber compound. Refer to the manufacturer's instructions.

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

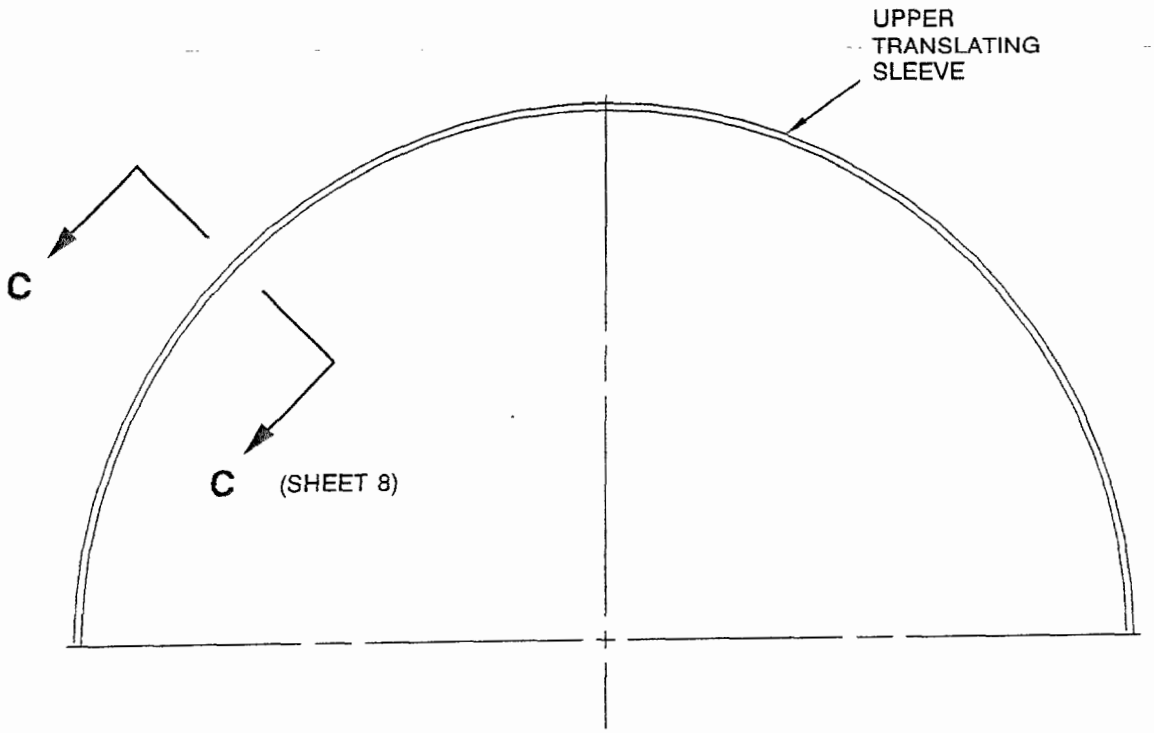
G. Recording Instructions

(1) A record of accomplishment is necessary. Write in the applicable records and metal stamp, electroetch, or vibroetch on the thrust reverser data plate that Service Bulletin V2500-NAC-78-0150 has been done. Refer to the IAE V2500 Standard Practices/Processes Manual, Chapter 70-09-00.



Translating Sleeve Modification
Figure 1 (Sheet 1)

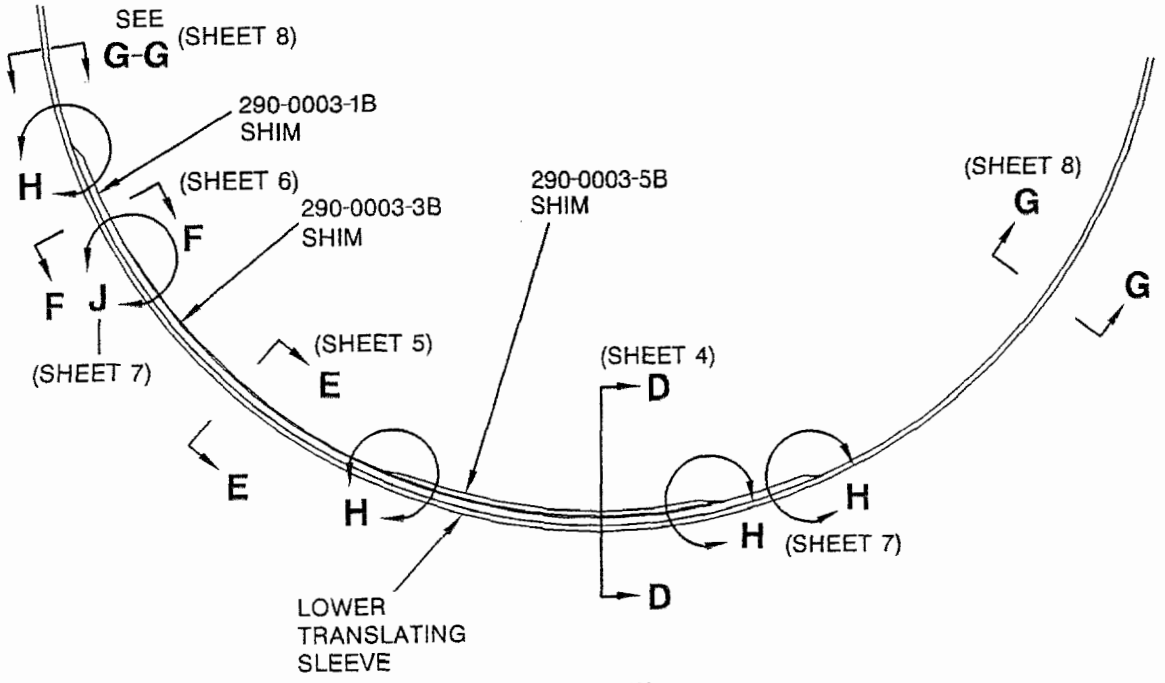
January 28, 1998
R Revision 1 - March 5, 1998



VIEW
A-A
(SHEET 1)
LOOKING FORWARD

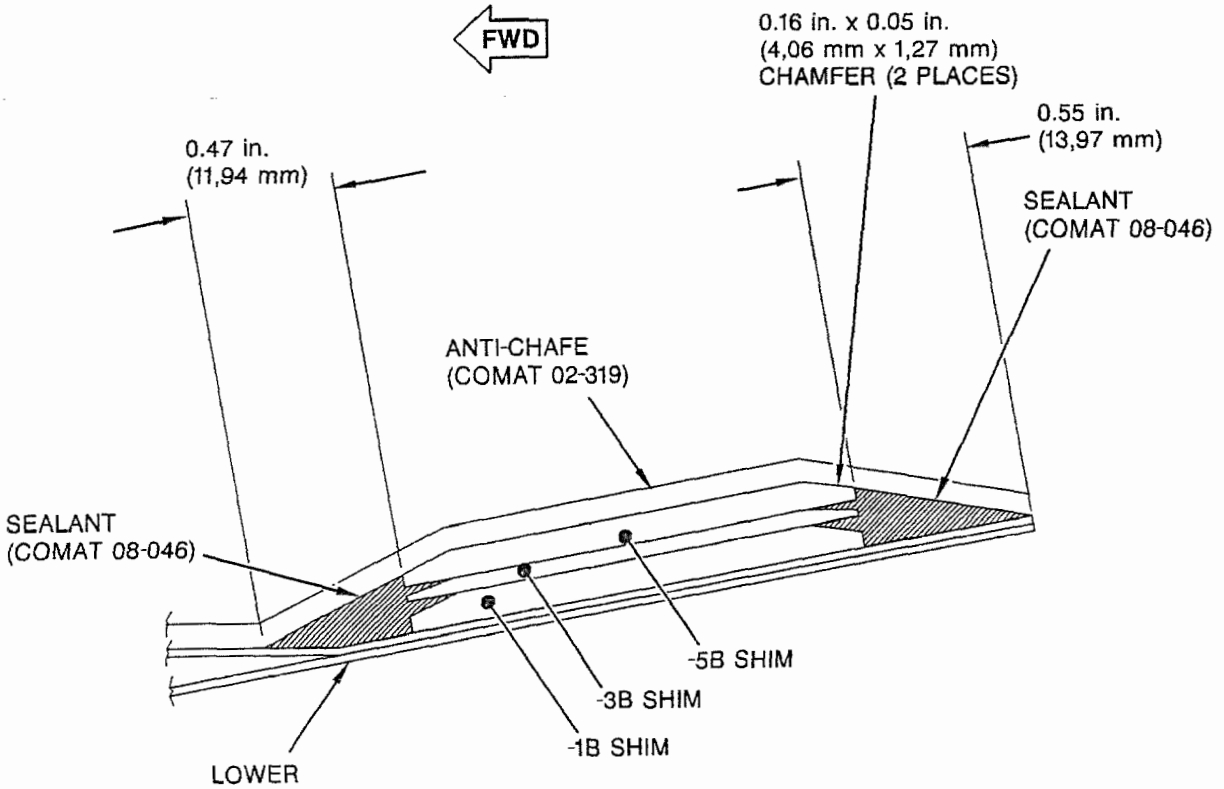
VSB581

Translating Sleeve Modification
Figure 1 (Sheet 2)



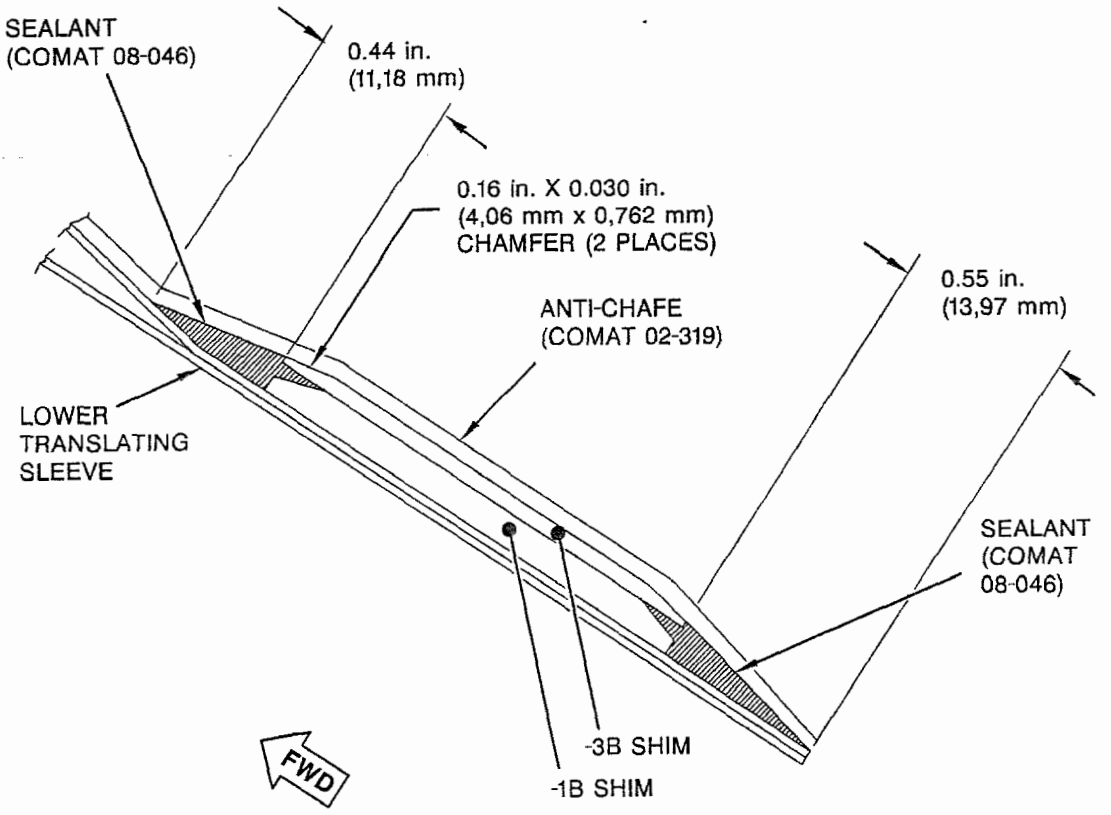
VSB582

Translating Sleeve Modification
Figure 1 (Sheet 3)



VSB583

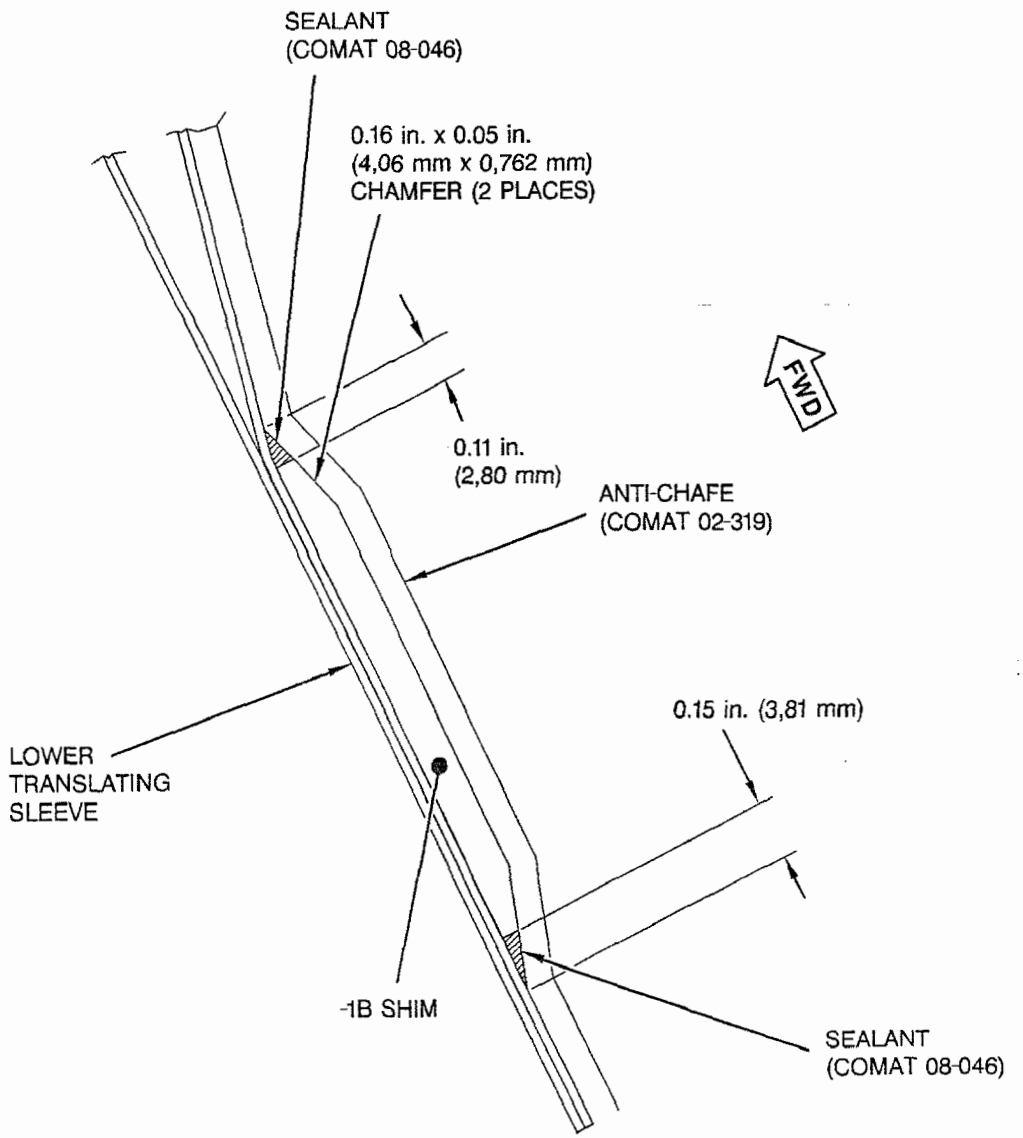
Translating Sleeve Modification
Figure 1 (Sheet 4)



VIEW
E-E
(SHEET 3)

VSB584

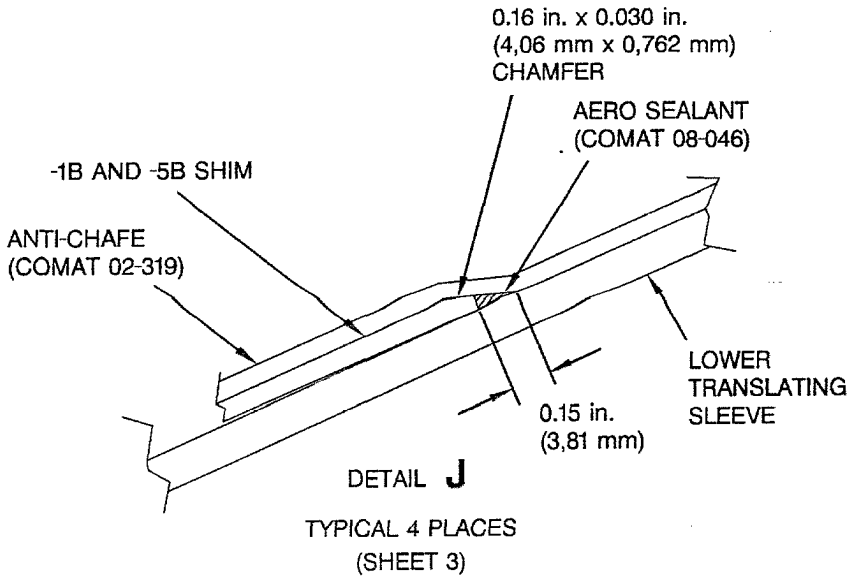
Translating Sleeve Modification
Figure 1 (Sheet 5)

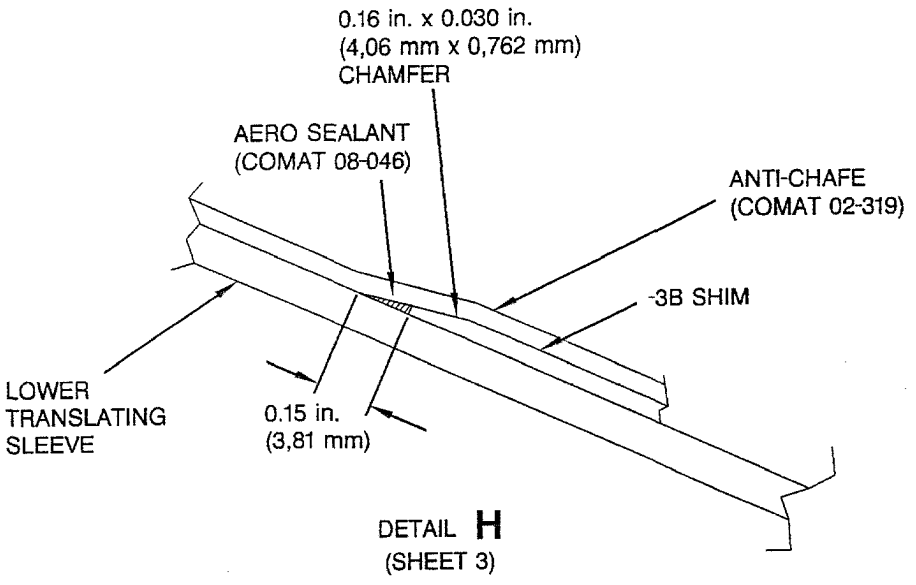


VIEW
F-F
(SHEET 3)

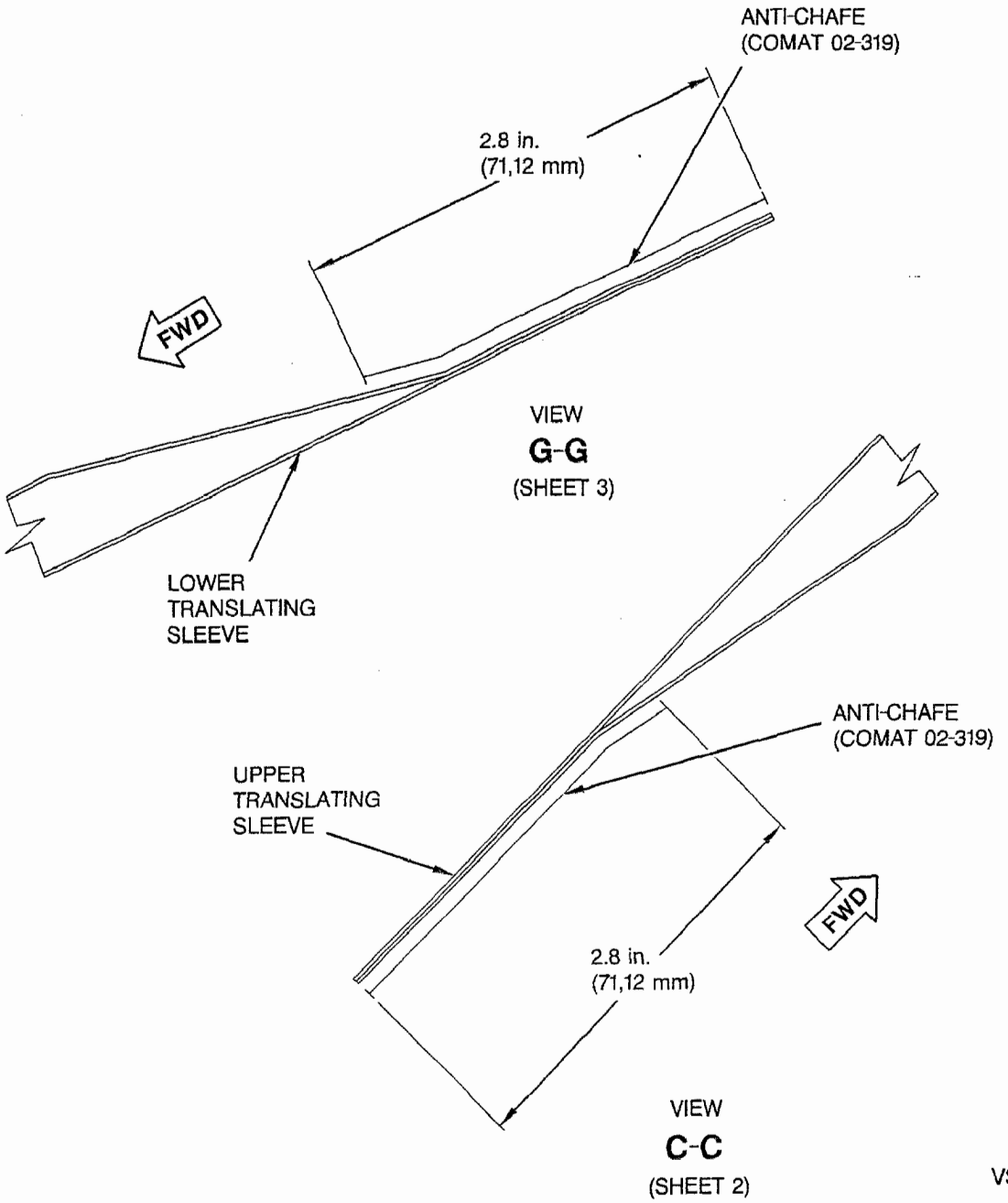
VSB585

Translating Sleeve Modification
Figure 1 (Sheet 6)

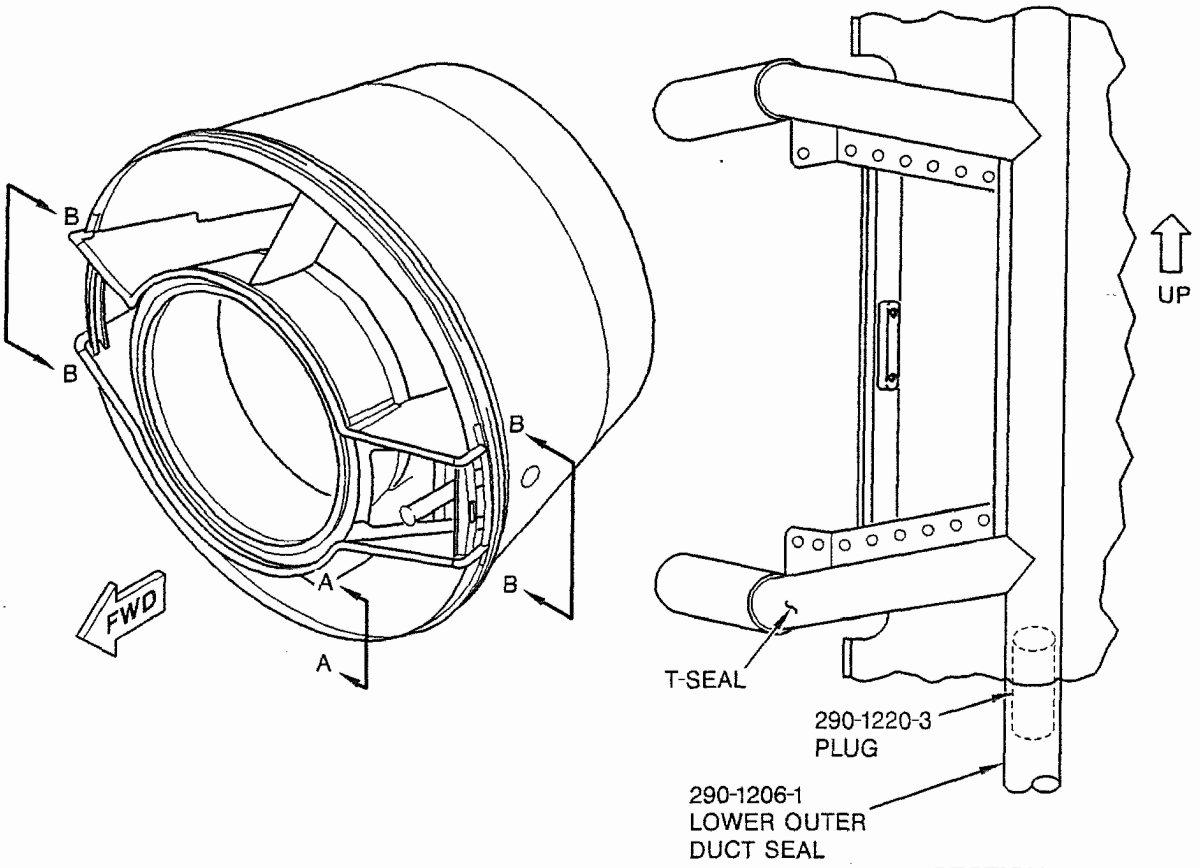




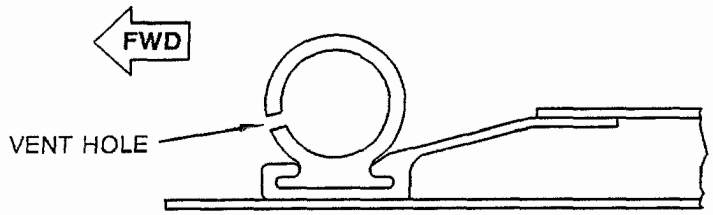
Translating Sleeve Modification
Figure 1 (Sheet 7)



Translating Sleeve Modification
Figure 1 (Sheet 8)



SECTION
B-B
VIEW LOOKING INBOARD
(TYPICAL BOTH
SIDES OF CNA)



SECTION
A-A

VSB630

Common Nozzle Assembly Lower Outer Duct Seal Inspection/Replacement
Figure 2

3. Material Information

Applicability: For each V2500-D5 Nacelle 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
V2578150-551 consisting of:	1		Kit		
290-1206-1	1		Seal		
290-1220-3	2		Plug		

B. Parts Affected by this Bulletin:

None.

C. Materials Required to Incorporate this Service Bulletin:

CoMat 01-438	Solvent
CoMat 02-099	Lint Free Cloth
CoMat 02-319	Anti-chafe
CoMat 05-073	Silicon Carbide Abrasive Paper
CoMat 07-106	Chromate Conversion Coating for Aluminum
CoMat 07-139	Catalyst
CoMat 07-140	Epoxy Primer
CoMat 07-144	Thinner
CoMat 08-031	Silicone Rubber Compound
CoMat 08-032	Primer
R CoMat 08-046	Aero-sealant (PR-1750-2 long cure,
R	PR-1826B-1/4 short cure)
R	PRC-Desoto International
R	5454 San Fernando Road
R	Glendale, CA 91209
R	(818) 240-2060 - phone
R	(818) 549-7771 - fax

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