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

International Aero Engines

400 MAIN STREET, MAIL STOP 121-10
EAST HARTFORD, CT 06108, USA.
TELEPHONE:- 860 565 5515
FAX:- 860 565 0600

P.O. BOX 31, DERBY
TELEGRAMS - 'ROYCAR' DERBY
TELEX - 37645
TELEPHONE:- 44 (0) 1332 242424
FAX:- 44 (0) 1332 249936

DATE: Jan.13/06

V2500-D5 SERIES NACELLE SERVICE BULLETIN

This document transmits the Initial Issue of Service Bulletin NV2500-78-0220

Bulletin Initial Issue

Remove	Incorporate	Reason for change
	Page 1 and 2 of the Summary	Initial issue
	Pages 1 to 14 of the Service Bulletin	Initial issue

V2500-NAC-78-0220

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 are as follows:

Page	Revision Number	Revision Date
Summary		
1		Jan.13/06
2		Jan.13/06
Bulletin		
1		Jan.13/06
2		Jan.13/06
3		Jan.13/06
4		Jan.13/06
5		Jan.13/06
6		Jan.13/06
7		Jan.13/06
8		Jan.13/06
9		Jan.13/06
10		Jan.13/06
11		Jan.13/06
12		Jan.13/06
13		Jan.13/06
14		Jan.13/06

International Aero Engines

SERVICE BULLETIN

EXHAUST – THRUST REVERSER – RIGHT THRUST REVERSER LOWER HALF – FIXED STRUCTURE – 7TH STAGE BLEED PORT MODIFICATION

SUMMARY

1. PLANNING

A. EFFECTIVITY

Airplane

Boeing MD-90

Nacelle

All V2500-D5 lower right thrust reverser halves.

B. CONCURRENT REQUIREMENTS

Incorporation of this Service Bulletin must be accomplished only in conjunction with Boeing Aircraft Company Service Bulletin MD90 78-056 which has received exclusive FAA approval for MD-90 Series aircraft.

C. REASON/PROBLEM

Problem

On V2500 thrust reverser; the right-hand lower thrust reverser half fixed structure inner bond panel can become damaged in the area immediately surrounding the 7C bleed port cut-out..

Evidence

Operators have reported damage to the right lower thrust reverser half fixed structure inner barrel at the 7C bleed port location. Damage found has varied from cracked potting compound to edge delamination of the 7C bleed port cut-out.

Substantiation

Installation of a cres metallic closure with fasteners and sealant will protect the bond panel edge potting from bleed valve impingement damage.

Objective

The changes in configuration recommended in this Service Bulletin are intended to maintain reliability of the nacelle by protecting the lower right-hand thrust reverser 7C bleed port edge potting from 7th stage bleed valve air.

D. DESCRIPTION

This Service Bulletin provides instructions for fabrication and installation of a metallic closure with mechanical fasteners and sealant to the 7C bleed port cut-out area of the lower inner bond panel of the right-hand lower thrust reverser half.

E. COMPLIANCE

Category 8

Accomplish based upon experience with the prior configuration.

F. MANPOWER

Estimated man-hours to incorporate the full intent of this Service Bulletin:

In Service

N/A

At overhaul

2.5 Hours per aircraft

G. INTERCHANGEABILITY OF PARTS

Not affected.

2. MATERIAL INFORMATION

A. PARTS PRICES

The parts to accomplish this Service Bulletin are to be fabricated/provided by the Operator. Operator to fabricate Closures as per Figure 3, from 321 Cres Sheet Annealed (SAE AMS 5510) or equivalent, 0.020in. thick x 3in. (76.2 mm) wide x 15in. (381 mm) long. Operator to provide (19) CR3523-4-3 Blind Rivet or equivalent.

No parts are required to be purchased from Goodrich Aerostructures.

International Aero Engines

SERVICE BULLETIN

EXHAUST – THRUST REVERSER – RIGHT THRUST REVERSER LOWER HALF – FIXED STRUCTURE – 7TH STAGE BLEED PORT MODIFICATION

1. Planning Information

A. Effectivity

(1) Airplane:

(a) Boeing MD-90

(2) Nacelle

(a) All V2500-D5 lower right thrust reverser halves.

B. Concurrent Requirements

Incorporation of this Service Bulletin must be accomplished only in conjunction with Boeing Aircraft Company Service Bulletin MD90 78-056 which has received exclusive FAA approval for MD-90 Series aircraft.

C. Reason

(1) Problem

On V2500 thrust reverser; the right-hand lower thrust reverser half fixed structure inner bond panel can become damaged in the area immediately surrounding the 7C bleed port cut-out..

(2) Evidence

Operators have reported damage to the right lower thrust reverser half fixed structure inner barrel at the 7C bleed port location. Damage found has varied from cracked potting compound to edge delamination of the 7C bleed port cut-out.

(3) Substantiation

Installation of a cres metallic closure with fasteners and sealant will protect the bond panel edge potting from bleed valve impingement damage.

(4) Objective

The changes in configuration recommended in this Service Bulletin are intended to maintain reliability of the nacelle by protecting the lower right-hand thrust reverser 7C bleed port edge potting from 7th stage bleed valve air.

(5) Effect of Bulletin on:

(a) Operation

None

(b) Maintenance

None

(c) Overhaul

None

(d) Repair Scheme

Affected

(e) Interchangeability

None

(f) Fits and Clearances

None

(6) Supplemental

Not applicable

D. Description

This Service Bulletin provides instructions for fabrication and installation of a metallic closure with mechanical fasteners and sealant to the 7C bleed port cut-out area of the lower inner bond panel of the right-hand lower thrust reverser half.

E. Compliance

Category 8

Accomplish based upon experience with the prior configuration.

F. Approval

The authorizing document is EC 04VN800. 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 listed. Incorporation of this Service Bulletin must be accomplished only in conjunction with Boeing Aircraft Company Service Bulletin MD90 78-056 which has received exclusive FAA approval for MD-90 Series aircraft.

G. Manpower

Estimated man-hours to incorporate the full intent of this Service Bulletin.

(1) In Service

N/A

(2) At Overhaul

(a) To modify

2.5 hours per aircraft

NOTE: Manhour estimate is provided for planning purposes only. No labour reimbursement is provided under the terms of this service bulletin offering.

H. Material Cost and Avaialbility

Operator to procure

I. Tooling Price and Avaialbility

None

J. Industry Support Information

N/A

K. Weight and Balance

(1) Weight Change

+0.6 lbs (+0.27 kgs) per nacelle.

(2) Moment Arm

No effect.

(3) Datum

Engine front mount centreline (Power Plant Station (PPS) 100).

L. Electrical Load Data

N/A

M. Software Accomplishment Summary

N/A

N. References

(1) IAE Standard Practices/Processes Manual (SPP-V2500-1IA)

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

(3) IAE Engineering Change Number - 04VN800

(4) ATA Locator - 78-32-00

O. Other Publications Affected

(1) Thrust Reverser Component Maintenance Manual (CMM-TR-V2500-3IA) - 78-30-00

P. Interchangeability of Parts

N/A

2. Material Information

A. Material Requirements

(1) The parts to accomplish this Service Bulletin are to be fabricated/provided by the Operator. Operator to fabricate Closures as per Figure 3, from 321 Cres Sheet Annealed (SAE AMS 5510) or equivalent, 0.020in. thick x 3in. (76.2 mm) wide x 15in. (381 mm) long. Operator to provide (19) CR3523-4-3 Blind Rivet or equivalent.

B. Kits Associated with this Bulletin:

(1) N/A

C. Parts affected by this Bulletin:

78-32-23

FIG ITEM NUMBER	NEW PART NUMBER	QTY	PART TITLE	MAT	OLD PART NUMBER	INSTR/ DISPOS
40-225	290-0153-521	1	PANEL ASSY LWR RH		290-0153-519	(S1)
40-230	290-0153-3	2	CLOSURE		NONE	

D. Instructions/Disposition Code Statements

(S1) New part may be used in place of old part but not vice versa.

E. Consumable Materials Required to Incorporate this Service Bulletin:

CoMat 01-438	Solvent
CoMat 01-410	Isopropyl Alcohol
CoMat 02-002	Tape, Masking
CoMat 05-127	Pad, Scotchbrite
CoMat 07-028	Conversion Coating
CoMat 02-099	Lint Free Cloth
CoMat 06-073	Metal Marking Ink
CoMat 07-139	Catalyst (Dexter EC117)
CoMat 07-140	Epoxy Primer (Dexter 10-P4-2)
CoMat 07-144	Thinner (Dexter TR 19)
CoMat 08-032	Primer (Dow Corning DC 1204)
CoMat 08-092	Sealant (General Electric RTV 93-076)

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

3. Accomplishment Instructions

A. Rework Instructions

(1) Open the thrust reverser halves (Ref. MD-90 AMM, 78-32-00-010-801).

(2) Inspect the area around the R/H thrust reverser 7C bleed port cut-out to make sure there is no damage (loss of edge filler, skin disbond, etc.) on the inboard side, outboard side, or the edge of the cut-out. If damaged, refer to the Structural Repair Manual (SRM).

B. Prerequisite Instructions

(1) Install metallic closure on the 7C bleed port cut-out.

NOTE: There are heatshields on the inboard side of the bond panel in proximity of the 7C bleed port valve cut-out. It may be necessary to remove the heatshields to gain sufficient access to affected areas. Carefully remove heatshields.

(2) Remove 7C bleed seal land, part number 290-0166-504 (Ref. CMM-78-32-23 Figure 9, Item 270) by carefully removing fasteners. Discard fasteners.

(3) Make a 0.11 inch (2,79 mm) x 45-degree chamfer around the inboard side of the 7C bleed port cut-out. Remove all burrs.

WARNING:

BEFORE YOU USE CHEMICALS, READ, UNDERSTAND AND OBEY ALL SAFETY INSTRUCTIONS FOR THE CHEMICALS. THESE INSTRUCTIONS INCLUDE INSTRUCTIONS FROM THE MANUFACTURER, THE MATERIAL SAFETY DATA SHEET (MSDS), AND GOVERNMENT REGULATIONS. CHEMICALS MAY CAUSE INJURY TO YOU OR MAKE YOU SICK WHEN SAFETY INSTRUCTIONS ARE NOT OBEYED. AN MSDS GIVES INSTRUCTIONS ON HOW YOU MUST SAFELY USE, KEEP AND DISCARD CHEMICALS. GET INSTRUCTIONS FROM YOUR EMPLOYER ON HOW YOU MUST SAFELY USE, KEEP AND DISCARD CHEMICALS.

(4) Apply conversion coating (CoMat 07-028) to the cut edge of the inboard solid skin. Refer to the manufacturer's instructions.

WARNING:

BEFORE YOU USE CHEMICALS, READ, UNDERSTAND AND OBEY ALL SAFETY INSTRUCTIONS FOR THE CHEMICALS. THESE INSTRUCTIONS INCLUDE INSTRUCTIONS FROM THE MANUFACTURER, THE MATERIAL SAFETY DATA SHEET (MSDS), AND GOVERNMENT REGULATIONS. CHEMICALS MAY CAUSE INJURY TO YOU OR MAKE YOU SICK WHEN SAFETY INSTRUCTIONS ARE NOT OBEYED. AN MSDS GIVES INSTRUCTIONS ON HOW YOU MUST SAFELY USE, KEEP AND DISCARD CHEMICALS. GET INSTRUCTIONS FROM YOUR EMPLOYER ON HOW YOU MUST SAFELY USE, KEEP AND DISCARD CHEMICALS.

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

(6) Apply the primer mix to the exposed edges of the inboard solid skin. Allow the primer to cure. Refer to the manufacturer's instructions.

(7) Fabricate metallic heat shield closure(s) (two halves) per Figure 3. Trim to fit at installation.

(8) Position both metallic Closure halves onto the mounting surface; maintain a .06 in. (1.524 mm) gap between them. Ensure the closure(s) sits as best as possible on the mating surface and is centred within the 7C bleed port cut-out. Use CoMat 02-002 masking tape secure closure into place. Mark areas to be trimmed per Figure 4.

(9) Remove parts and trim areas marked. Remove all burrs from the Closure(s).

(10) Drill 15 pilot holes as shown in Figure 4 through the closure(s) and inner bond panel skin. Use a No.30 drill (0.129 - 0.132 in. dia (3,28 mm - 3,35 mm dia)).

(11) Remove both drilled parts from the mounting surface. Remove all burrs from the Closure(s).

(12) Remove any loose honeycomb core in the new holes drilled in the bond panel to allow for proper seating of 15 CR3523-4-03 rivets.

(13) Prepare surface for bonding. Abrade all the faying surfaces using CoMat 05-127 Scotchbrite pads and dust blast. Do not expose bare metal.

NOTE: If bare metal is exposed, apply conversion coating and prime affected area per steps (5) and (6) noted above.

(14) Clean all the mating surfaces with isopropyl alcohol (CoMat 01-410). Wipe the surfaces dry before the alcohol becomes dry.

WARNING:

BEFORE YOU USE CHEMICALS, READ, UNDERSTAND AND OBEY ALL SAFETY INSTRUCTIONS FOR THE CHEMICALS. THESE INSTRUCTIONS INCLUDE INSTRUCTIONS FROM THE MANUFACTURER, THE MATERIAL SAFETY DATA SHEET (MSDS), AND GOVERNMENT REGULATIONS. CHEMICALS MAY CAUSE INJURY TO YOU OR MAKE YOU SICK WHEN SAFETY INSTRUCTIONS ARE NOT OBEYED. AN MSDS GIVES INSTRUCTIONS ON HOW YOU MUST SAFELY USE, KEEP AND DISCARD CHEMICALS. GET INSTRUCTIONS FROM YOUR EMPLOYER ON HOW YOU MUST SAFELY USE, KEEP AND DISCARD CHEMICALS.

(15) Apply primer (CoMat 08-032) to the faying surfaces. Refer to the manufacturer's instructions.

WARNING:

BEFORE YOU USE CHEMICALS, READ, UNDERSTAND AND OBEY ALL SAFETY INSTRUCTIONS FOR THE CHEMICALS. THESE INSTRUCTIONS INCLUDE INSTRUCTIONS FROM THE MANUFACTURER, THE MATERIAL SAFETY DATA SHEET (MSDS), AND GOVERNMENT REGULATIONS. CHEMICALS MAY CAUSE INJURY TO YOU OR MAKE YOU SICK WHEN SAFETY INSTRUCTIONS ARE NOT OBEYED. AN MSDS GIVES INSTRUCTIONS ON HOW YOU MUST SAFELY USE, KEEP AND DISCARD CHEMICALS. GET INSTRUCTIONS FROM YOUR EMPLOYER ON HOW YOU MUST SAFELY USE, KEEP AND DISCARD CHEMICALS.

(16) Bond Closure(s) using CoMat 08-092 (keep centred in the 7C bleed port cut-out) to the mounting surface of the inner bond panel, maintain a .06 in. (1,524 mm) gap between them, applying pressure (use 'C' clamps) while sealant cures.

(17) Wet install 15 CR3523-4-3 blind rivets using sealant (CoMat 08-092) in the 15 previously drilled holes through the Closure(s), and inner bond panel skin. Ref. Figure 4.

(18) Fill the gap between the Closure(s) and the edge of the bond panel cut-out with CoMat 08-092 sealant (DC 93-076) mixing and curing of the sealant per the manufacturer's instructions.

(19) Using CoMat 08-092, bond 290-0166-504 seal land to the mounting surface of the inner bond panel, applying pressure (use 'C' clamps) while sealant cures.

WARNING:

BEFORE YOU USE CHEMICALS, READ, UNDERSTAND AND OBEY ALL SAFETY INSTRUCTIONS FOR THE CHEMICALS. THESE INSTRUCTIONS INCLUDE INSTRUCTIONS FROM THE MANUFACTURER, THE MATERIAL SAFETY DATA SHEET (MSDS), AND GOVERNMENT REGULATIONS. CHEMICALS MAY CAUSE INJURY TO YOU OR MAKE YOU SICK WHEN SAFETY INSTRUCTIONS ARE NOT OBEYED. AN MSDS GIVES INSTRUCTIONS ON HOW YOU MUST SAFELY USE, KEEP AND DISCARD CHEMICALS. GET INSTRUCTIONS FROM YOUR EMPLOYER ON HOW YOU MUST SAFELY USE, KEEP AND DISCARD CHEMICALS.

(20) Apply primer (CoMat 08-032) to the faying surfaces of the seal land and bond panel. Refer to the manufacturer's instructions.

WARNING:

BEFORE YOU USE CHEMICALS, READ, UNDERSTAND AND OBEY ALL SAFETY INSTRUCTIONS FOR THE CHEMICALS. THESE INSTRUCTIONS INCLUDE INSTRUCTIONS FROM THE MANUFACTURER, THE MATERIAL SAFETY DATA SHEET (MSDS), AND GOVERNMENT REGULATIONS. CHEMICALS MAY CAUSE INJURY TO YOU OR MAKE YOU SICK WHEN SAFETY INSTRUCTIONS ARE NOT OBEYED. AN MSDS GIVES INSTRUCTIONS ON HOW YOU MUST SAFELY USE, KEEP AND DISCARD CHEMICALS. GET INSTRUCTIONS FROM YOUR EMPLOYER ON HOW YOU MUST SAFELY USE, KEEP AND DISCARD CHEMICALS.

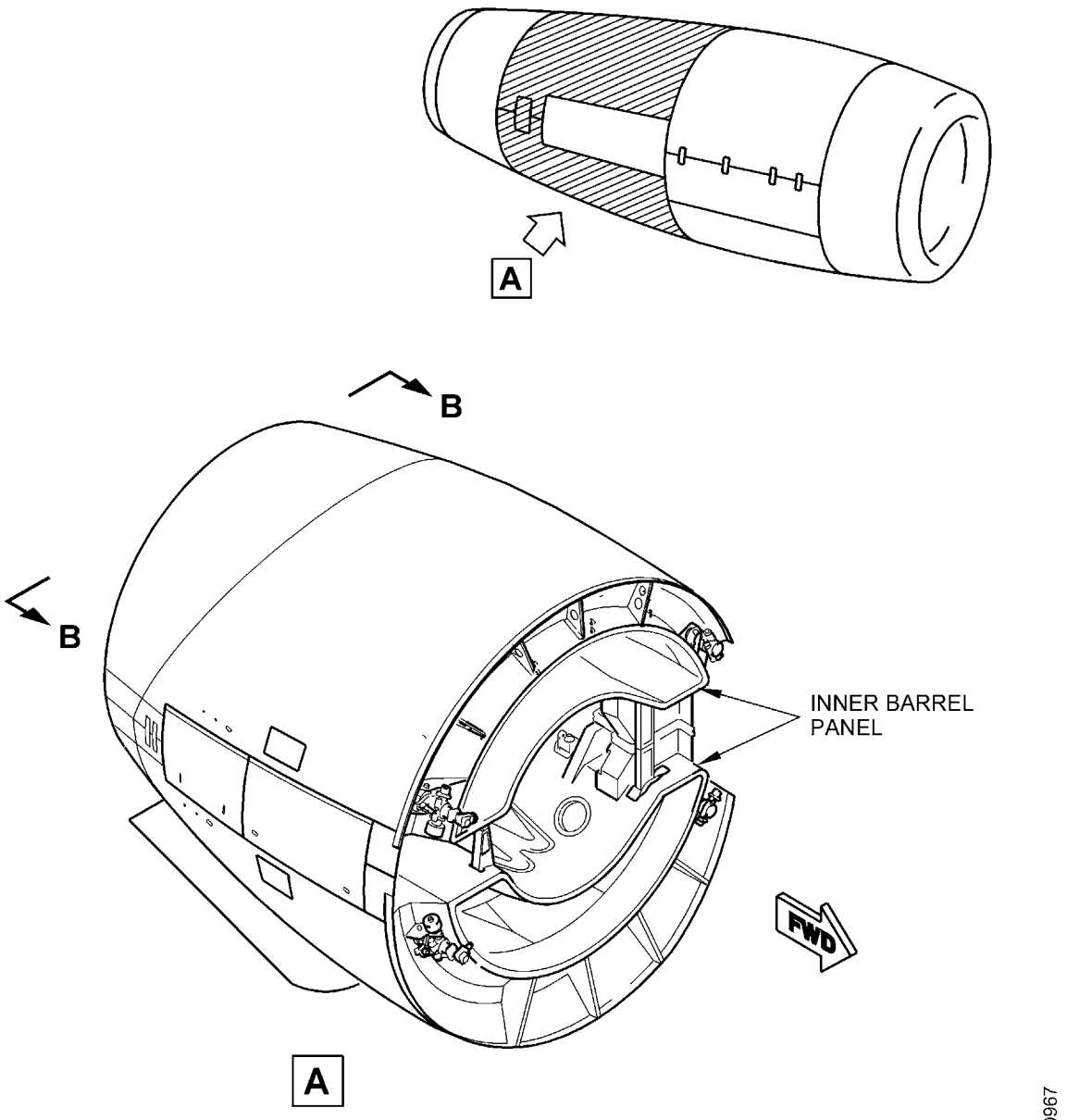
(21) Apply sealant (CoMat 08-092) to the faying surfaces of 290-0166-504 seal land and the existing bond panel. Refer to the manufacturer's instructions.

(22) Wet install 20 CR3523-4-2 blind rivets using sealant (CoMat 08-092) in the 20 previously drilled holes through the 290-0166-504 seal land, and inner bond panel skin. Use CR3533-4-2 blind rivets for any oversized holes. Ref. Figure 4.

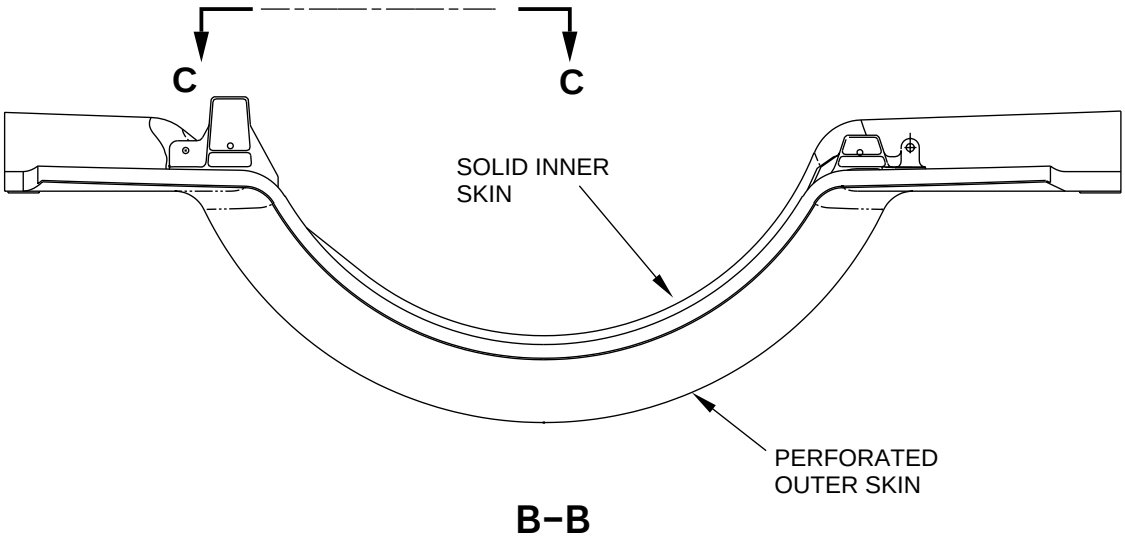
NOTE: If any heatshields were removed to gain access during this modification, carefully re-install all heatshields per AMM/CMM procedures prior to completing the Recording Instructions.

C. Recording Instructions

(1) A record of accomplishment is required. Write in the applicable records and metal stamp, electroetch, or vibroetch on the thrust reverser data plate that Service Bulletin V2500-NAC-78-0220 has been done. Refer to the Standard Practices/Processes Manual (SPP-V2500-1IA), Chapter 70-09-00.

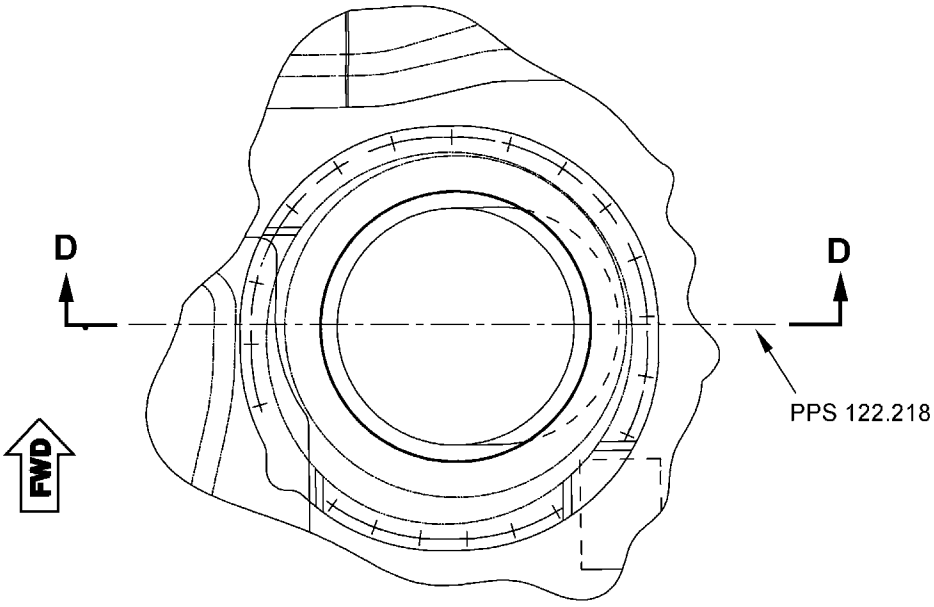


Thrust Reverser 7C Bleed Port Modification
Figure 1 (Sheet 1)

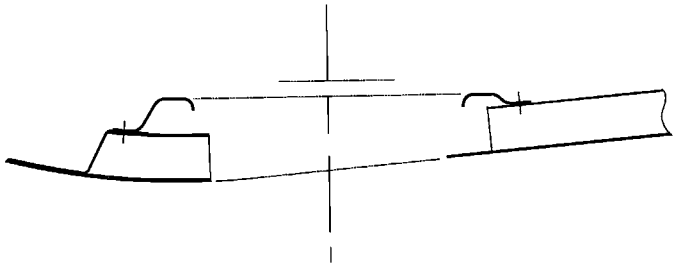


gc0vsb0968

Thrust Reverser 7C Bleed Port Modification
Figure 1 (Sheet 2)



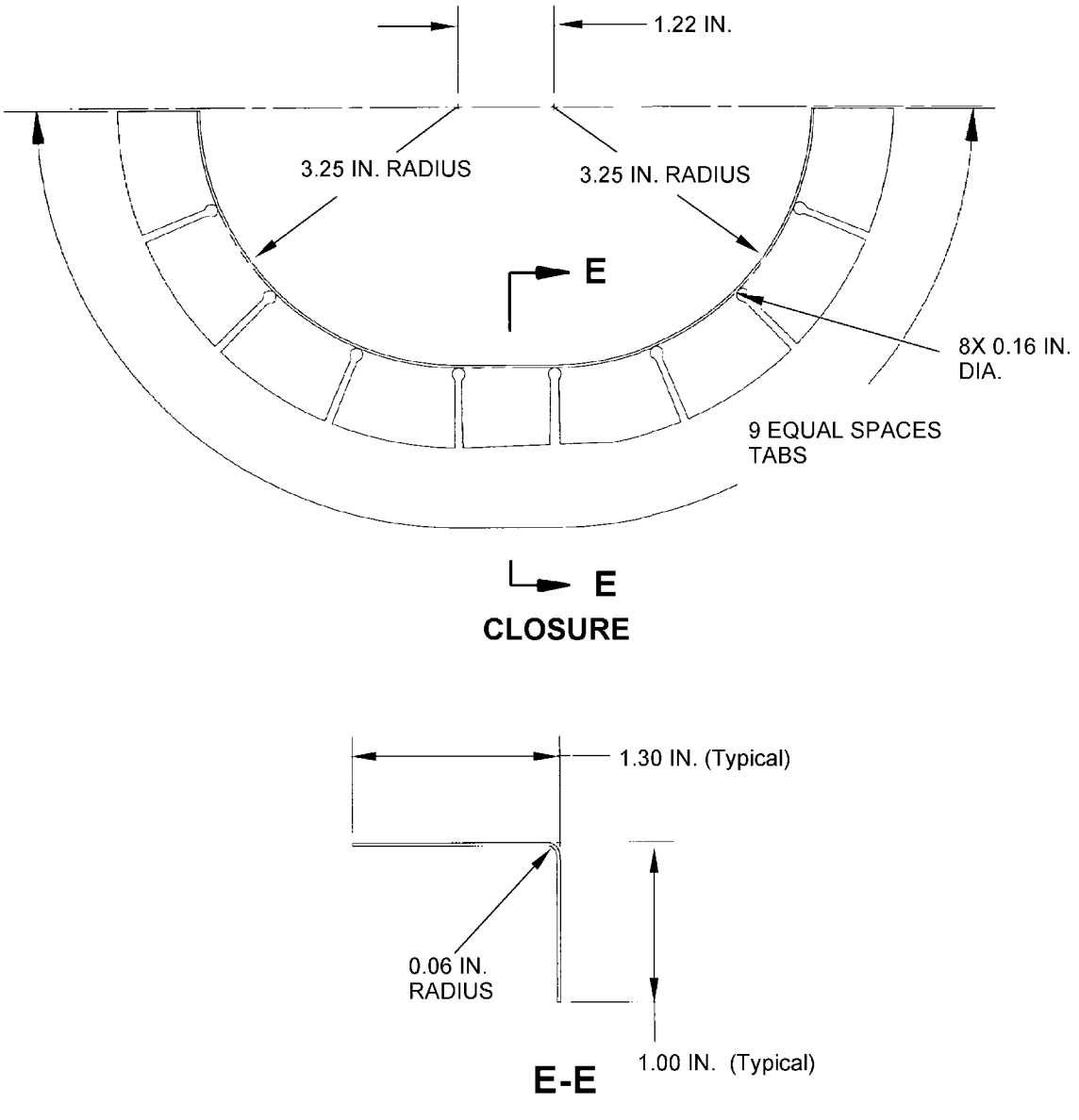
C-C
BEFORE MODIFICATION



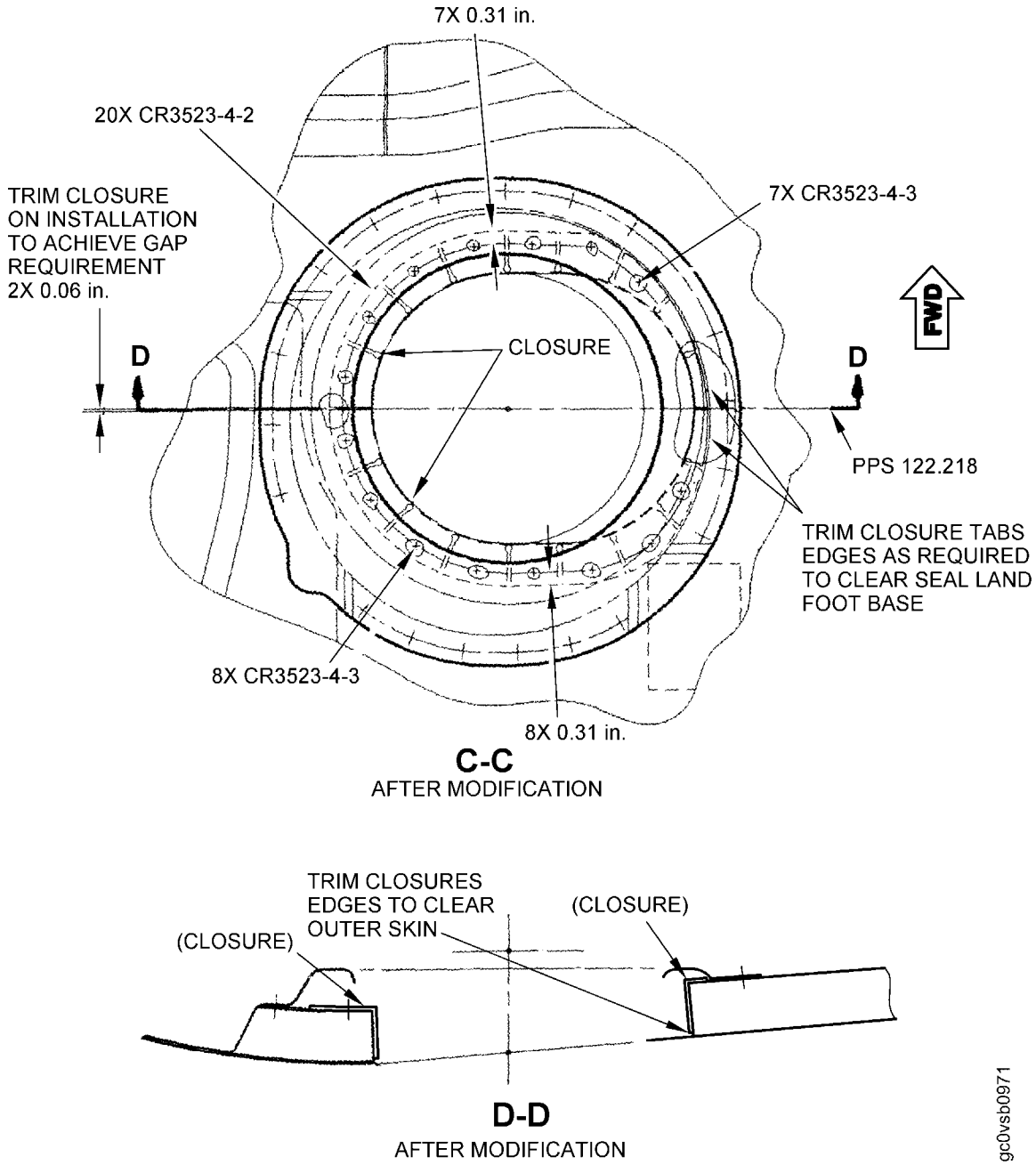
D-D
BEFORE MODIFICATION

gv0vsb09669

Thrust Reverser 7C Bleed Port Modification
Figure 2



Thrust Reverser 7C Bleed Port Modification
Figure 3 (Fabricate Closure)



Thrust Reverser 7C Bleed Port Modification
Figure 4