V2500 International Aero Engines

V2500 Propulsion System — Nacelle

SERVICE BULLETIN

Date: June 15, 1996

Subject: Transmittal of Revision 1 to Service Bulletin Number V2500-NAC-78-0117

Service Bulletin Revision History:

Event	Date
Basic Issue	Dec. 15/95
Revision 1	Jun. 15/96

Reasons for Issuance of Revision

(1) To correct the figure/item information in 3. Material Information.

Effect on Past Compliance

(1) None.

List of Effective Pages:

Page No.	Rev. No.	Date
1	Rev 1	Jun. 15/96
2 thru 14	Basic	Dec. 15/95
15	Rev 1	Jun. 15/96
16	Basic	Dec. 15/95

V2500 International Aero Engines

V2500 Propulsion System — Nacelle

SERVICE BULLETIN

NACELLE - THRUST REVERSER - FAIRING ASSEMBLY, THRUST REVERSER ACTUATOR - MODIFICATION OF

MODEL APPLICATION

V2500-D5

BULLETIN INDEX LOCATOR

78-32-00

Compliance Category Code

5

Internal Reference No.

JG/DC 95VN316/01

December 15, 1995
June 15, 1996

V2500-NAC-78-0117

1. Planning Information

A. Effectivity

(1) Aircraft: MD-90

(2) Nacelle: V2500-D5 nacelles with serial numbers 0004001, 0005001, 0007001 through 0010001, and 0021001 through 0082001.

B. Reason

(1) Condition

Thrust reverser loading and vibration during thrust reverser deployment may cause an interference between the thrust reverser actuator fairing assemblies and the adjacent thrust reverser blank cascade. This interference may cause the actuator fairing to crack.

(2) Background

Operators have experienced thrust reverser actuator fairing assembly cracks due to interference with the adjacent thrust reverser blank cascade during thrust reverser deployment.

(3) Objective

Eliminate any possible interference between the thrust reverser actuator fairing assemblies and the adjacent thrust reverser cascades.

(4) Substantiation

A modified thrust reverser actuator fairing assembly was installed and successfully tested on a test unit.

(5) Impact of Bulletin on Workshop Procedures:

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

(6) Supplemental Information

None.

C. Description

Part 1 The thrust reverser inboard actuator fairing assemblies will be inspected for cracks caused from interference between the fairing assembly and the adjacent thrust reverser blank cascade.

Part 2 If cracks to the fairing are found, an interim repair can be done after the removal of the adjacent blank cascade for access. The repair will trim and blend the cracked area material as required and remove all sharp corners or edges. After the cracked material is removed, chemical conversion coating will be applied to the exposed edge followed by an application of primer. The blank cascade will then be reinstalled. A 90-day Continue-In-Service period is authorized following this repair, after which time a new fairing must be installed.

Part 3 If no damage is found, the modification can be done after the removal of the adjacent blank cascade for access. The modification will trim away 0.20 inch (5.08 mm) of material along the fairing length and 0.050in. (1.27 mm) from the fairing ends on the fairing/cascade mating edge. After trimming, chemical conversion coating will be applied to the exposed edge followed by an application of primer. The blank cascade will then be reinstalled. Refer to Figure 2, page 12.

D. Approval

Incorporation of this Service Bulletin must be accomplished only in conjuction with Douglas Aircraft Company Service Bulletin 78-009 which has received exclusive FAA approval for MD-90 Series aircraft.

E. Compliance

Category 5

Accomplish when the nacelle or system is disassembled sufficiently to afford access to the affected subassembly (i.e. accessories, components) and to all affected subassemblies.

F. Manpower

Estimated manhours per nacelle to incorporate Part One of this Bulletin:

VENUE		ESTIMATED MANHOURS
(1) In Service		
	(a) To gain access	0.5 M/Hrs.
	(b) To inspect	0.5 M/Hrs.
	(c) To return nacelle to service	0.5 M/Hrs.
	Total	1.5 M/Hrs

Estimated manhours per nacelle to incorporate Part Two or Part Three of this Bulletin:

VENUE		ESTIMATED MANHOURS
(1) In Service		
	(a) To gain access	0.5 M/Hrs.

(b)	To rework	3.0 M/Hrs.
(c)	To return nacelle to service	0.5 M/Hrs.
	Total	4.0 M/Hrs

G. Material - Cost and Availability

No kit required.

Operators with units listed in paragraph 1.A. who discover cracked fairings should submit a warranty claim for a replacement fairing.

Direct Warranty Claim to:
Rohr, Inc.
P.O. Box 878
Chula Vista, CA. 91912
U.S.A.

Attn: Airline Support Manager, Bldg. 107A
(Service Bulletin V2500-NAC-78-0109)

H. Tooling - Cost and Availability

None required.

I. Weight and Balance

(1) Weight change .....None

(2) Moment arm .....None

(3) Datum .....Front Engine Mount Centerline

.....(Power Plant Station (PPS) 100.00)

J. Electrical Load Data

Not Applicable.

K. References

IAE V2500 Standard Practices/Processes Manual (SPP-V2500-1IA)	70-09-00
MD-90 Aircraft Maintenance Manual	78-32-15
Overhaul Processes and Consumable Index (PCI-V2500-1IA)	

L. Other Publications Affected

MD-90 Engine Illustrated Parts Catalog (S-V2500-3IA)	78-32-15
MD90/V2500D5 Thrust Reverser Component Maintenance Manual(CMM-TR-V2500-3IA)	78-32-15

2. Accomplishment Instructions

A. Prerequisite Instructions

(1) Extend the translating sleeve far enough to gain access to the non-locking actuator fairing. Refer to MD-90 Aircraft Maintenance Manual Chapter 78-32-00 , Page Block 201.

B. Rework or Modification Instructions - Part One

(1) Inspect the Non-Locking Actuator Fairing

NOTE: It is highly recommended that the operator, upon discovery of a damaged fairing, submit a no-charge purchase order with Rohr for a replacement part. This will ensure timely delivery of parts prior to the 90-day continue-in-service expiration.

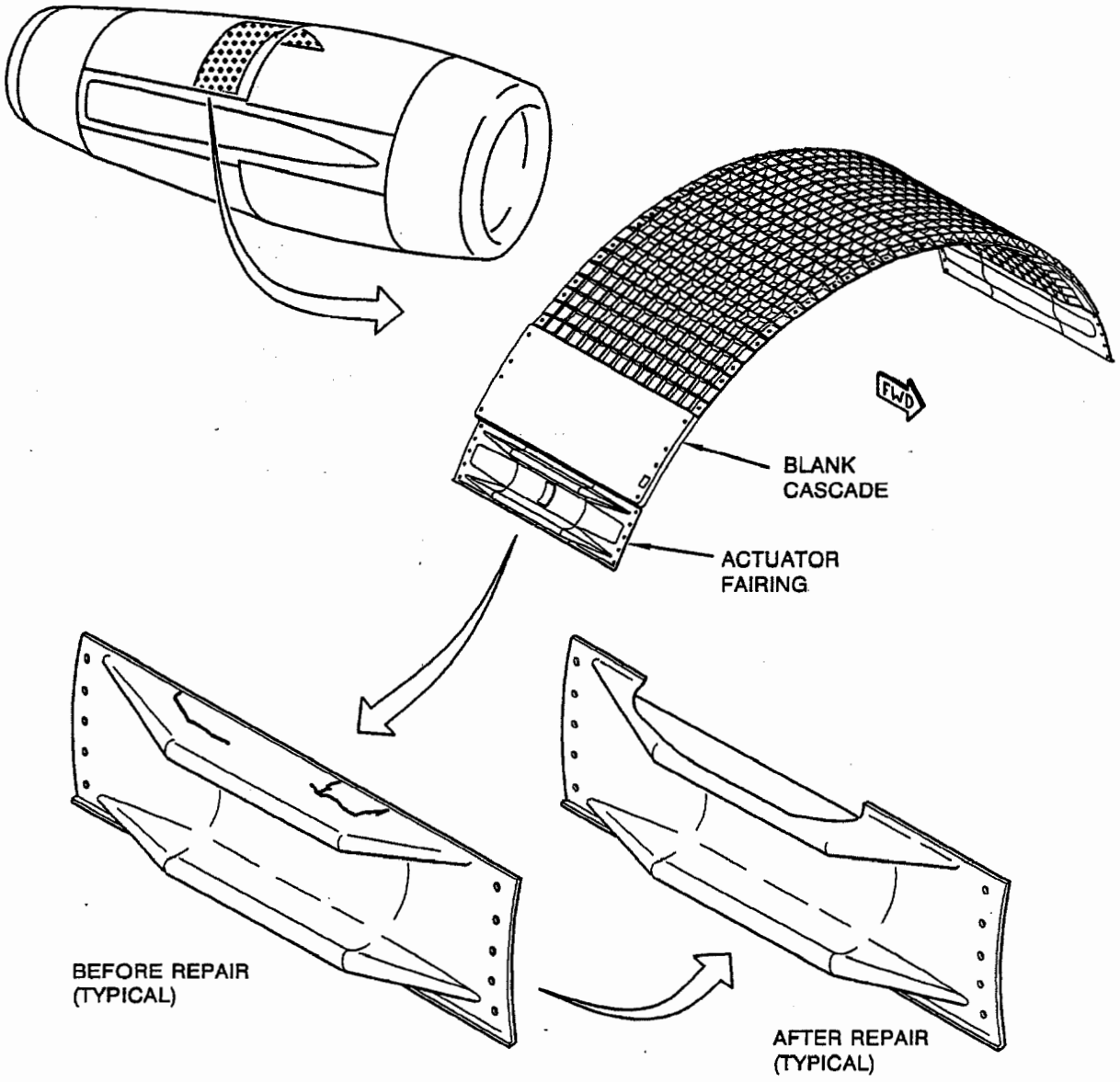
(a) Visually examine the 290-0031-503 non-locking (inboard) actuator fairing on the upper thrust reverser half for evidence of cracks. Pay particular attention to the fairing/cascade mating edge. If the fairing is cracked, do Rework or Modification Instructions - Part Two of this Service Bulletin. If the fairing is not cracked, do Rework or Modification Instructions - Part Three of this Service Bulletin.

C. Rework or Modification Instructions - Part Two

(1) Remove the blank cascade adjacent to the non-locking actuator fairing assembly. Refer to MD-90 Aircraft Maintenance Manual, Chapter 78-32-15, Page Block 401.

(2) Repair the 290-0031-503 non-locking actuator fairing assembly. Refer to Figure 1.

(a) Trim the fairing to remove damaged or cracked material as required and remove all sharp corners and edges.



Thrust Reverser Non-locking Actuator Fairing
Trim/Interim Repair - LH Upper Inbd Shown, Lower Inbd Opposite
Figure 1

WARNING: DO NOT GET THE CONVERSION COATING ON YOUR SKIN OR IN YOUR EYES. PUT ON PROTECTIVE CLOTHING, GOGGLES AND A FACE MASK. USE IN A WELL VENTILATED AREA. DO NOT BREATHE THE GAS. IF YOU GET THE CONVERSION COATING ON YOUR SKIN YOU MUST FLUSH IT AWAY WITH WATER IMMEDIATELY. IF YOU GET THE CONVERSION COATING IN YOUR EYES, FLUSH IT AWAY WITH WATER FOR AT LEAST 15 MINUTES, THEN GET MEDICAL AID IMMEDIATELY. DO NOT LET THE MATERIALS USED TO APPLY OR REMOVE THE CONVERSION COATING BECOME DRY BECAUSE THEY CAN CAUSE A FIRE. ALL SUCH MATERIALS MUST BE FULLY FLUSHED IN COLD WATER AND THEN DISCARDED.

(b) Mix the conversion coating in a ratio of 3.0 oz. conversion coating (CoMat 07-028) to 1.0 gal of demineralized water.

(c) Apply the conversion coating to the trimmed area on the 290-0031-503 actuator fairing for two to five minutes. Keep surface wet with fresh solution. Do not allow solution to dry.

NOTE: Retain remaining conversion coating for later use.

(d) Rinse conversion coating from all surfaces with clean water and dry with a clean lint free cloth (CoMat 02-099).

WARNING: 463-6-27 BASE, X337 CONVERTER, AND TL52-66 THINNER ARE FLAMMABLE AND VAPOR IS HARMFUL. INHALATION OF SPRAY MIST MAY CAUSE SERIOUS BODILY HARM. AVOID SOURCES OF IGNITION. USE ONLY IN AREAS WITH ADEQUATE VENTILATION. WORK PERFORMED IN CONFINED AREA REQUIRES THE USE OF ADDITIONAL FORCED MECHANICAL VENTILATION. AVOID BREATHING OF VAPOR AND CONTACT WITH SKIN AND EYES. MAY CAUSE IRRITATION TO SKIN AND EYES. SEVERE OVEREXPOSURE MAY CAUSE FATIGUE, WEAKNESS, CONFUSION, HEADACHE, DIZZINESS, DROWSINESS, AND IMPAIRED JUDGMENT. USE REGULATORY AGENCY APPROVED RESPIRATORY PROTECTION FOR SPRAY APPLICATIONS. THIS PRODUCT CONTAINS LEAD, A CUMULATIVE POISON. WASH HANDS WELL BEFORE EATING, DRINKING, OR SMOKING. PROTECTIVE GLOVES SHOULD BE WORN DURING MIXING APPLICATION. PROLONGED OR REPEATED CONTACT WITH THIS EPOXY PRIMER MAY RESULT IN A PERMANENT SKIN ALLERGY TO 463-6-27 BASE AND X337 CONVERTER. PRIOR TO USE OF THIS PRODUCT, CAFEFULLY READ THE "MATERIAL SAFETY DATA SHEET" AND FOLLOW ALL LISTED SAFETY AND HEALTH PRECAUTIONS.

(e) Mix primer base (CoMat 07-071), primer converter (CoMat 07-067), and thinner (CoMat 07-066). Refer to the manufacturer's instructions.

(f) Apply primer to the trimmed area of the fairing.

(g) Mark the fairing to indicate interim repair of Service Bulletin V2500-NAC-78-0117 (Part Two) has been accomplished and the date with rubber stamp and black ink (CoMat 06-073). Refer to IAE V2500 Standard Practices/Processes Manual, Chapter 70-09-00.

(3) Reinstall the Blank Cascade. Refer to MD-90 Aircraft Maintenance Manual, Chapter 78-32-15, Page Block 401.

(4) Return to Paragraph 2.B. and perform this Service Bulletin

for the 290-0031-503 non-locking (inboard) actuator fairing on the lower thrust reverser half.

D. Rework or Modification Instructions - Part Three

(1) Remove the blank cascade adjacent to the non-locking actuator fairing assembly. Refer to MD-90 Aircraft Maintenance Manual, Chapter 78-32-15, Page Block 401.

(2) Rework the 290-0031-503 Non-locking Actuator Fairing Assembly.

a. Trim the fairing to the dimension shown in Figure 2.

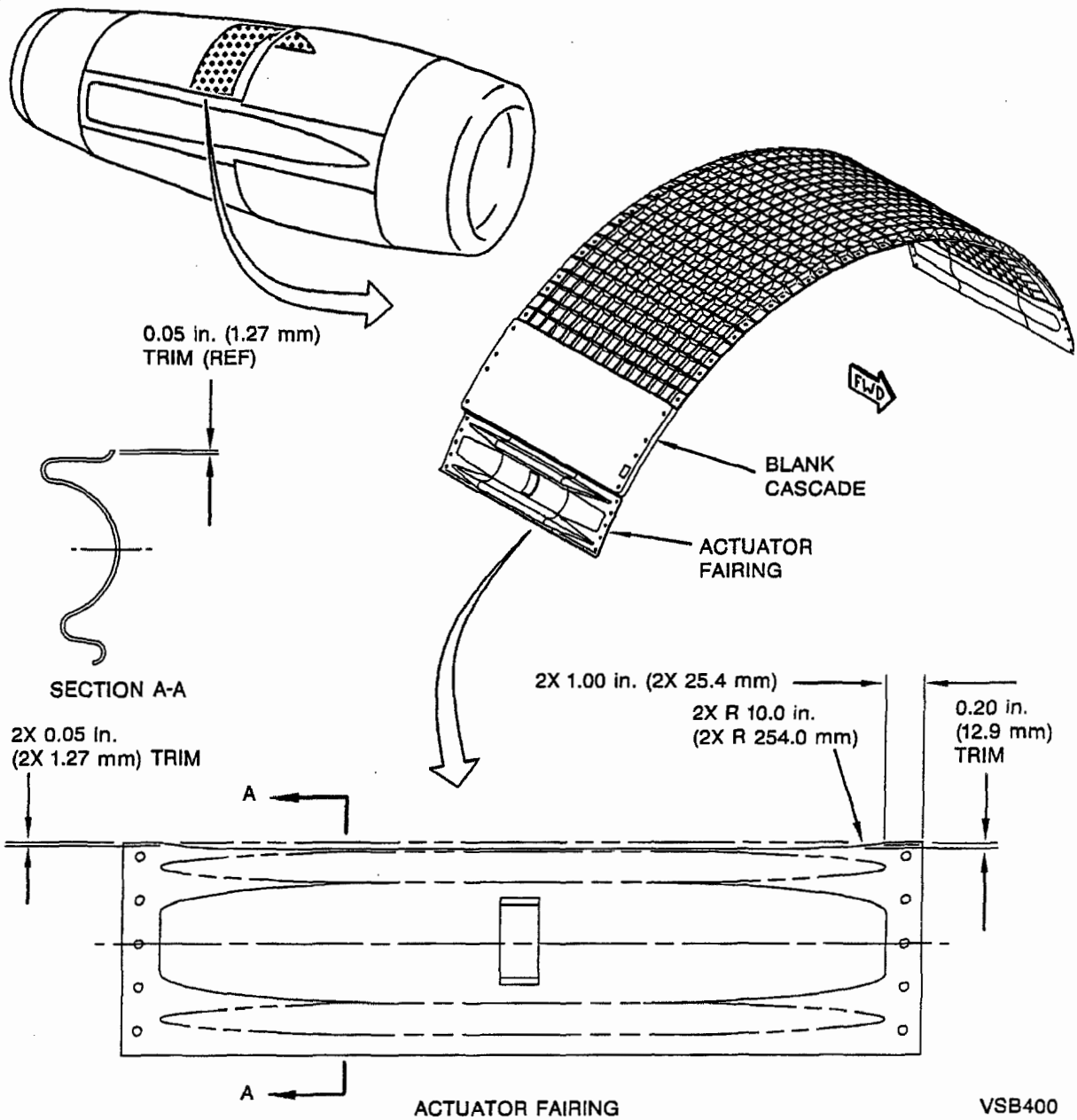
b. Break any sharp edges after trim (0.015in. max) (0.381 mm max).

WARNING: DO NOT GET THE CONVERSION COATING ON YOUR SKIN OR IN YOUR EYES. PUT ON PROTECTIVE CLOTHING, GOGGLES AND A FACE MASK. USE IN A WELL VENTILATED AREA. DO NOT BREATHE THE GAS. IF YOU GET THE CONVERSION COATING ON YOUR SKIN YOU MUST FLUSH IT AWAY WITH WATER IMMEDIATELY. IF YOU GET THE CONVERSION COATING IN YOUR EYES, FLUSH IT AWAY WITH WATER FOR AT LEAST 15 MINUTES, THEN GET MEDICAL AID IMMEDIATELY. DO NOT LET THE MATERIALS USED TO APPLY OR REMOVE THE CONVERSION COATING BECOME DRY BECAUSE THEY CAN CAUSE A FIRE. ALL SUCH MATERIALS MUST BE FULLY FLUSHED IN COLD WATER AND THEN DISCARDED.

(c) Mix the conversion coating in a ratio of 3.0 oz. conversion coating (CoMat 07-028) to 1.0 gal of demineralized water.

(d) Apply the conversion coating to the trimmed area on the 290-0031-503 actuator fairing for two to five minutes. Keep surface wet with fresh solution. Do not allow solution to dry.

NOTE: Retain remaining conversion coating for later use.



Thrust Reverser Non-locking Actuator Fairing
Trim/Modification - LH Upper Shown, Lower Opposite
Figure 2

(e) Rinse conversion coating from all surfaces with clean water and dry with a clean lint free cloth (CoMat 02-099).

WARNING: 463-6-27 BASE, X337 CONVERTER, AND TL52-66 THINNER ARE FLAMMABLE AND VAPOR IS HARMFUL. INHALATION OF SPRAY MIST MAY CAUSE SERIOUS BODILY HARM. AVOID SOURCES OF IGNITION. USE ONLY IN AREAS WITH ADEQUATE VENTILATION. WORK PERFORMED IN CONFINED AREA REQUIRES THE USE OF ADDITIONAL FORCED MECHANICAL VENTILATION. AVOID BREATHING OF VAPOR AND CONTACT WITH SKIN AND EYES. MAY CAUSE IRRITATION TO SKIN AND EYES. SEVERE OVEREXPOSURE MAY CAUSE FATIGUE, WEAKNESS, CONFUSION, HEADACHE, DIZZINESS, DROWSINESS, AND IMPAIRED JUDGMENT. USE REGULATORY AGENCY APPROVED RESPIRATORY PROTECTION FOR SPRAY APPLICATIONS. THIS PRODUCT CONTAINS LEAD, A CUMULATIVE POISON. WASH HANDS WELL BEFORE EATING, DRINKING, OR SMOKING. PROTECTIVE GLOVES SHOULD BE WORN DURING MIXING APPLICATION. PROLONGED OR REPEATED CONTACT WITH THIS EPOXY PRIMER MAY RESULT IN A PERMANENT SKIN ALLERGY TO 463-6-27 BASE AND X337 CONVERTER. PRIOR TO USE OF THIS PRODUCT, CAFEFULLY READ THE "MATERIAL SAFETY DATA SHEET" AND FOLLOW ALL LISTED SAFETY AND HEALTH PRECAUTIONS.

(f) Mix primer base (CoMat 07-071), primer converter (CoMat 07-067), and thinner (CoMat 07-066). Refer to the manufacturer's instructions.

(g) Apply primer to the trimmed area of the fairing.

(h) Reidentify the reworked 290-0031-503 fairing assembly to 290-0031-507 with a rubber stamp and black ink (CoMat 06-073). Refer to IAE V2500 Standard Practices/Processes Manual, Chapter 70-09-00.

(3) Reinstall the blank cascade. Refer to MD-90 Aircraft Maintenance Manual, Chapter 78-32-15, Page Block 401.

(4) Return to Paragraph 2.B. and perform this Service Bulletin for the 290-0031-503 non-locking inboard actuator fairing on the lower thrust reverser half.

E. Post-requisite Instructions

(1) Move the translating sleeve to the stowed position. Refer to MD-90 Aircraft Maintenance Manual, Chapter 78-32-00, Page Block 201.

F. Recording Instructions

A record of accomplishment is necessary. Write in applicable records and metal stamp, vibroetch, or electroetch on thrust reverser data plate that Service Bulletin V2500-NAC-78-0117 has been done. Refer to IAE V2500 Standard Practices/Processes Manual, Chapter 70-09-00.

3. Material Information

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

A. Kits associated with this Bulletin:

None.

B. Parts affected by this Bulletin:

	NEW PART NO (ATA NO)	QTY	EST'D UNIT PRICE	KEYWORD	OLD PART NO (IPC NO)	INSTR/ DISPOS
R	290-0031-507 (78-32-15)	2		Fairing	290-0031-503 (01-175) (02-150	(A)(B) (1D)(S1)

C. Instructions/Disposition Code Statements:

(A) New part will be available November 30, 1995.

(B) Old part will no longer be available.

(1D) Rework old part to new configuration.

(S1) New part number is acceptable replacement for the old or new part number.

D. Materials Required to Incorporate This Bulletin

CoMat 02-099	Lint Free Cloth
CoMat 06-073	Metal Marking Ink
CoMat 07-028	Chromate Conversion Coating for Aluminum
CoMat 07-066	Thinner
CoMat 07-067	Primer Converter
CoMat 07-071	Primer Base

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