

International  
Aero Engines

V2500 Propulsion System — Nacelle

# SERVICE BULLETIN

Date: Sep. 26/96

Subject: Transmittal of Revision 2 to Service Bulletin Number  
V2500-NAC-78-0099

Service Bulletin Revision History:

<u>Event</u>	<u>Date</u>
Basic Issue	Jun. 30/95
Revision 1	Oct. 12/95
Revision 2	Sep. 26/96

Reasons for Issuance of Revision

(1) To revise the Other Publications Affected and IPC locations of Parts Affected by This Bulletin sections.

Effect on Past Compliance

None

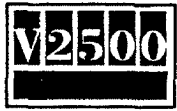
List of Effective Pages:

<u>Page No.</u>	<u>Rev. No.</u>	<u>Date</u>
1	2	Sep. 26/96
2 and 3	1	Oct. 12/95
4	Basic	Jun. 30/95
5	2	Sep. 26/96
6 thru 9	Basic	Jun. 30/95
10 and 11	2	Sep. 26/96
12	Basic	Jun. 30/95

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Transmittal

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# **SERVICE BULLETIN**

**NACELLE - EXHAUST - ACTUATORS AND MANIFOLDS, THRUST REVERSER DOOR  
OPENING - REPLACEMENT OF**

**MODEL APPLICATION**

**V2500-D5**

**BULLETIN INDEX LOCATOR**

**78-30-00**

**Compliance Category Code**

**4**

**Internal Reference No.**

**11/AC 93VN980D**

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## 1. Planning Information

### A. Effectivity

- (1) Aircraft: MD90
- (2) Nacelle: V2500-D5 Thrust Reverser serial numbers 0021001 through 0040001.

### B. Reason

#### (1) Condition

Door opening actuators may bottom out in compression during extreme engine mount isolator deflection.

#### (2) Background

Engine mount isolator deflects more than predicted.

#### (3) Objective

Increase actuator stroke travel capability.

#### (4) Substantiation

Qualification test of new actuator and hydraulic manifolds was successful.

#### (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

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(6) Supplemental Information

None.

C. Description

The change introduced by this Bulletin is to replace the thrust reverser C-duct door opening actuators and hydraulic manifolds.

D. Approval

Incorporation of this Service Bulletin must be accomplished only in conjunction with Douglas Aircraft Company Service Bulletin MD90 78-001 R01 which has received exclusive FAA approval for MD-90 Series aircraft.

E. Compliance

Category 4

Accomplish at the first visit of the 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 on one V2500-D5 thrust reverser:

VENUE

ESTIMATED MAN HOURS

(1) In Service

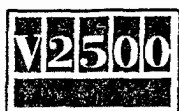
(a) To get access	0.25	M/Hrs
(b) To rework	2.00	M/Hrs
(c) To put nacelle to service	0.25	M/Hrs

Total 2.50 M/Hrs

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## G. Material Cost and Availability

The parts to accomplish this Service Bulletin are available from the supplier as kit V2578099-551 at no cost to the operator.

Operators with units listed in Paragraph 1.A should submit a no-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.

P.O. Box 878

Chula Vista, CA 91912

U.S.A.

Attn: Airline Support Manager - Bldg. 107A  
(Ref. Service Bulletin No. V2500-NAC-78-0099)

## H. Tooling Cost and Availability

Not applicable.

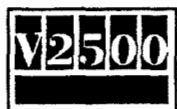
## I. Weight and Balance

- (1) Weight change .....Minus 1.42 lb (0.6 kg)
- (2) Moment arm .....No effect
- (3) Datum .....Front Engine Mount Centerline  
.....(Power Plant Station (PPS) 95.1)

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J. Electrical Load Data

Not affected.

K. Reference

Chapter/Section

MD-90 Aircraft Maintenance Manual

78-32-00

78-35-11

78-35-12

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

70-09-00

70-11-03

L. Other Publications Affected

MD-90 Engine Illustrated Parts Catalog  
(S-V2500-3IA)

78-35-11

78-35-12

MD90/V2500D5 Thrust Reverser Component  
Maintenance Manual (CMM-TR-V2500-3IA)

78-35-12

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## 2. Accomplishment Instructions

### A. Prerequisite Instructions

- (1) Open the upper and lower thrust reversers. Refer to the Aircraft Maintenance Manual, Chapter 78-32-00.

### B. Rework or Modification Instructions

**NOTE:** The procedure below gives the replacement procedure for the thrust reverser door opening actuators and the hydraulic manifolds. This procedure applies to left hand and right hand engines.

- (1) Remove B55800-2 and B55816-2 upper and lower thrust reverser opening actuators. Refer to the Aircraft Maintenance Manual, Chapter 78-35-11.

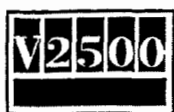
**NOTE:** MS21902J4 unions and MS28778-4 O-rings installed on existing actuators and manifolds are not used with new actuators and manifolds.

- (2) Install the 1211443-001 and 1211444-001 replacement upper and lower thrust reverser opening actuators. Refer to the Aircraft Maintenance Manual, Chapter 78-35-11.
- (3) Remove two B55818-2 hydraulic manifolds. Refer to the Aircraft Maintenance Manual, Chapter 78-35-12.
- (4) Remove indicated material from hydraulic manifold brackets. See Figure 1.
- (5) Clean the rework surface. Refer to the Standard Practices/Processes Manual, Chapter 70-11-03.

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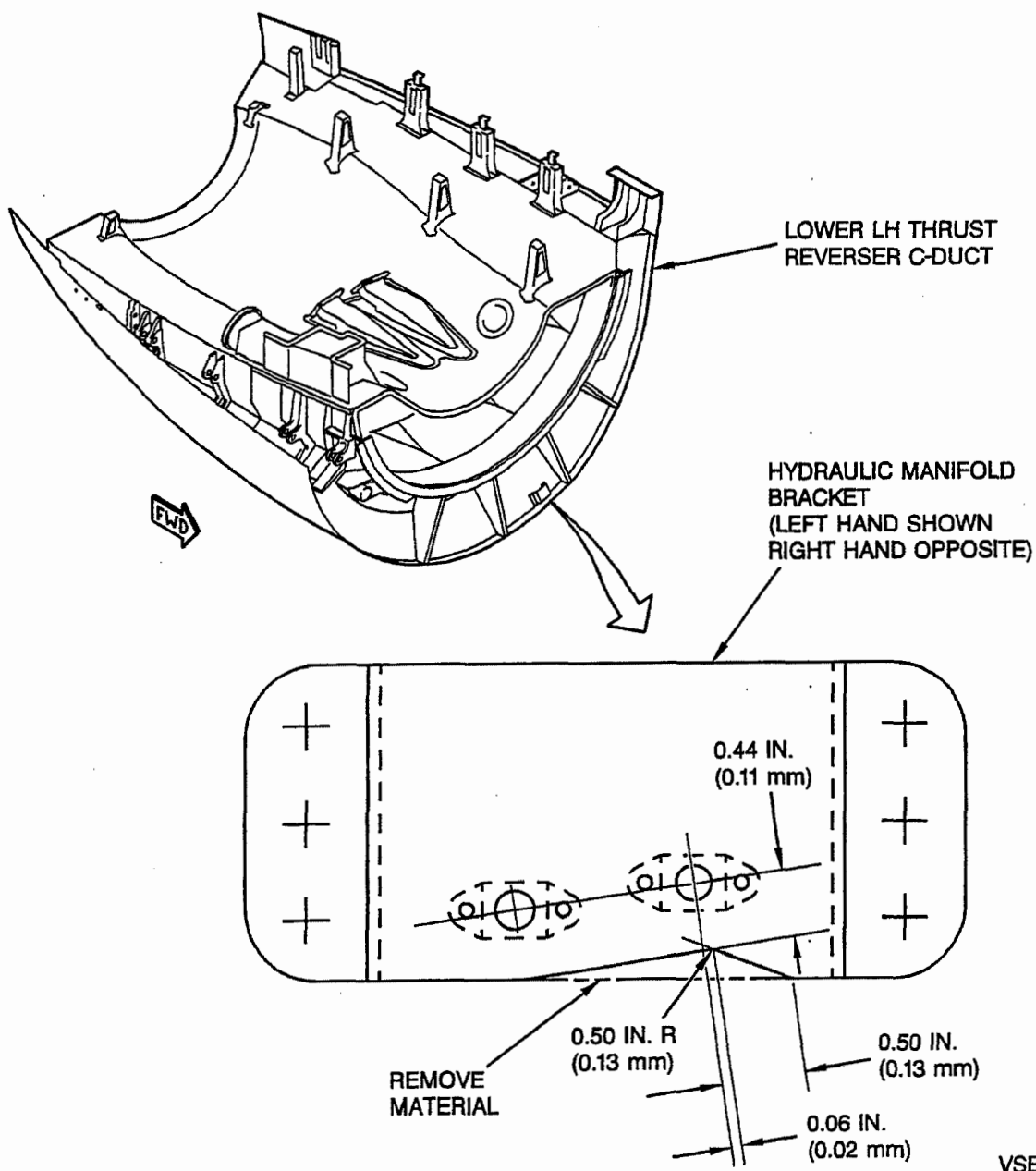
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HYDRAULIC MANIFOLD BRACKET REWORK.  
FIGURE 1

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- (6) Prime the rework surface.

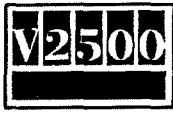
**WARNING** 463-6-27 BASE, X337 CONVERTER, AND TL52-66 THINNER ARE FLAMMABLE AND VAPOR IS HARMFUL. INHALATION OF SPRAY MIST MAY CAUSE SERIOUS BODILY HARM. AVOID SOURCES OF IGNITION. USE ONLY IN AREAS WITH ADEQUATE VENTILATION. WORK PERFORMED IN CONFINED AREA REQUIRES THE USE OF ADDITIONAL FORCED MECHANICAL 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, CAREFULLY READ THE "MATERIAL SAFETY DATA SHEET" AND FOLLOW ALL LISTED SAFETY AND HEALTH PRECAUTIONS.

- (a) Mix 463-6-27 primer (CoMat 07-071), X-337 converter (CoMat 07-067), and TL 52-66 thinner (CoMat 07-066) with manufacturer's instructions.
  - (b) Apply the primer with a brush to the repair surface.
  - (c) Cure the primer for seven hours at room temperature or for 40 minutes at 140°-180°F (60°-82°C) with an explosion-proof heat lamp.
- (7) Install two 0111160-001 hydraulic manifolds. Refer to the Aircraft Maintenance Manual, Chapter 78-35-12.
- (8) Make sure the work area is clean and clear of tools and other items.

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## C. Post-requisite Instructions

- (1) Close the upper and lower thrust reversers. Refer to the Aircraft Maintenance Manual, Chapter 78-32-00.

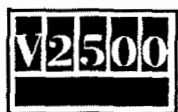
## D. Recording Instructions

A record of accomplishment is necessary. Write in aircraft log and metal stamp, electroetch, or vibroetch on thrust reverser data plate that Service Bulletin V2500-NAC-78-0099 has been done. Refer to IAE V2500 Standard Practices/Processes Manual, Chapter 70-09-00.

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## 3. Material Information

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

### A. Kits associated with this Bulletin:

<u>NEW PART NO</u> <u>(ATA NO)</u>	<u>QTY</u>	<u>EST'D</u> <u>UNIT</u> <u>PRICE</u>	<u>KEYWORD</u>	<u>OLD PART NO</u> <u>(IPC NO)</u>	<u>INSTR/</u> <u>DISPOS</u>
V2578099-551	1		Kit		(A)
Consisting of:					
1211443-001	1		Upper		
(290D8014-513)			Actuator		
1211444-001	1		Lower		
(290D8014-515)			Actuator		
0111160-001	2		Manifold		
(290D8014-517)					

### B. Parts affected by this Bulletin:

<u>NEW PART NO</u> <u>(ATA NO)</u>	<u>(QTY)</u>	<u>EST'D</u> <u>UNIT</u> <u>PRICE</u>	<u>KEYWORD</u>	<u>OLD PART NO</u> <u>(IPC NO)</u>	<u>INSTR/</u> <u>DISPOS</u>
1211443-001	1		Actuator	B55800-2	(B)(2D)
(78-35-11)				(01-10)	(S1)
1211444-001	1		Actuator	B55816-2	(B)(2D)
(78-35-11)				(01-80)	(S1)
0111160-001	2		Manifold	B55818-2	(B)(2D)
(78-35-12)				(01-360)	(S1)
				(02-360)	
- - -	1		Union	MS21902J4	(1D)
(78-35-11)				(01-150)	
				(01-200)	
- - -	1		O-Ring	MS28778-4	(1D)
(78-35-11)				(01-160)	
				(01-205)	

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NEW PART NO (ATA NO)	QTY	EST'D UNIT PRICE	KEYWORD	OLD PART NO (IPC NO)	INSTR/ DISPOS
- - - (78-35-12)	2		Union	MS21902J4 (01-340) (02-340)	(1D)
- - - (78-35-12)	2		O-Ring	MS28778-4 (01-350) (02-350)	(1D)

C. Instructions/Disposition Code Statements:

- (A) Kit will be available July 1995.
- (B) Part supplied as a detail of the kit.
- (1D) Old part may be used in other aircraft installations.
- (2D) Discard old part.
- (S1) New parts must be fitted as a set. Mixing of old and new parts is not permissible.

NOTE: The estimated 1995 unit prices shown are provided for planning purposes only and do not constitute a firm quotation. Consult the Rohr Price Catalog or contact Rohr's Customer Support Department for information concerning firm prices.

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- D. The following material is to be procured by the operator or obtained from their stock.

<u>Part Number</u>	<u>Keyword</u>	<u>Qty</u>	<u>Source</u>	<u>Code</u>
463-6-27 (CoMat 07-071)	Base	AR	Akzo Coatings America	98502
X337 (CoMat 07-067)	Converter	AR	Sikkens Aerospace Finishes Division	
TL52-66 (CoMat 07-066)	Thinner	AR	20846 S. Normandie Avenue, Torrance, CA 90502-1601	

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