

**International  
Aero Engines**

V2500 Propulsion System — Nacelle

# SERVICE BULLETIN

Date: May 14, 1999

Subject: Transmittal of Revision 2 to Service Bulletin Number V2500-NAC-71-0231

Service Bulletin Revision History:

<u>Event</u>	<u>Date</u>
Basic Issue	Oct. 30/98
Revision 1	Dec. 11/98
Revision 2	May 14/99

Reasons for Issuance of Revision

- (1) To revise the service bulletin kit ordering contact information in the 'Material Cost and Availability' statement.

Effect on Past Compliance

- (1) None.

List of Effective Pages:

<u>Page No.</u>	<u>Rev. No.</u>	<u>Date</u>
1	2	May 14/99
2	1	Dec. 11/98
3 thru 5	2	May 14/99
6 thru 10	Basic	Oct. 30/98

**V2500-NAC-71-0231**

Transmittal

Page 1 of 1





International  
Aero Engines

V2500 Propulsion System — Nacelle

# SERVICE BULLETIN

NACELLE — POWERPLANT — UPPER FITTING, THRUST REVERSER OPENING ACTUATOR  
- REPLACEMENT OF

MODEL APPLICATION

V2500-D5

BULLETIN INDEX LOCATOR

71-00-00

Compliance Category Code

4

Internal Reference No.

JG 98VN306

October 30, 1998  
Revision 2 - May 14, 1999

V2500-NAC-71-0231  
Page 1 of 10



International  
Aero Engines

V2500 Propulsion System — Nacelle

# SERVICE BULLETIN

## 1. Planning Information

### A. Effectivity

(1) Airplane: MD90

(a) MD90 aircraft fuselage numbers prior to 2262.

NOTE: The intent of this service bulletin was incorporated on aircraft fuselage numbers 2259, 2260, and 2261 prior to delivery.

### B. Reason

(1) Condition

The pylon mounted upper fitting for the thrust reverser lower half opening actuator can become wider in service. This can allow the actuator pivot pins to disengage and result in the lower thrust reverser half swinging free when the thrust reverser is opened.

(2) Background

The configuration of the upper fitting does not allow the actuator to move freely through the full range of motion. The gimbal of the actuator interferes with the support bracket and causes it to become wider.

(3) Objective

To provide a new upper fitting that will not interfere with the actuator gimbal.

(4) Substantiation

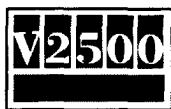
The new design upper fitting has been established by tolerance stack-ups and 3D modeling and has been shown by analyses to not interfere with the actuator gimbal.

October 30, 1998

Revision 1 - December 11, 1998

V2500-NAC-71-0231

Page 2



**International  
Aero Engines**

V2500 Propulsion System — Nacelle

# **SERVICE BULLETIN**

(5) Impact of the 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

The change introduced by this Bulletin is as follows:

Replaces the pylon mounted upper fitting with an improved configuration.

D. Approval

R

Incorporation of this Service Bulletin must be accomplished only in conjunction with Boeing Aircraft Company Service Bulletin MD90-71-008 which has received exclusive FAA approval for MD-90 Series aircraft.

E. Compliance

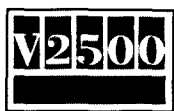
Category 4

Accomplish at the first visit of 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.

October 30, 1998  
Revision 2 - May 14, 1999

**V2500-NAC-71-0231**

Page 3



International  
Aero Engines

V2500 Propulsion System — Nacelle

# SERVICE BULLETIN

## F. Manpower

Estimated manhours to incorporate the full intent of this Bulletin for each nacelle:

### VENUE

### ESTIMATED MANHOURS

#### (1) In Service

(a)	To gain access	0.50 M/hour
(b)	To modify	1.00 M/hour
(c)	To return to service	<u>0.50 M/hour</u>

Total 2.00 M/hour

NOTE: Manhour estimate is provided for planning purposes only.

## G. Material Cost and Availability

The parts to accomplish this Service Bulletin are available from the supplier as kit V2571231-551 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.

October 30, 1998

V2500-NAC-71-0231

R Revision 2 - May 14, 1999

Page 4



International  
Aero Engines

V2500 Propulsion System — Nacelle

# SERVICE BULLETIN

- R 1. Order on-line via ATA Spec 2000 or Boeing Part Page
- R 2. FAX to (206) 662-7145.
- R 3. Spares Customer Support Data Processing  
R MS 36-65  
R Boeing Spares Department  
R P.O. Box 3707  
R Seattle, Washington 98124-2207  
R (Service Bulletin MD90-71-008)

## 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 100.00)

## J. Electrical Load Data

Not affected.

## K. References

### Chapter/Section

MD90 Aircraft Maintenance Manual	78-32-00
	78-35-11

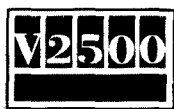
## L. Other Publications Affected

MD90/V2500D5 Engine Illustrated Parts Catalog (S-V2500-3IA)	78-35-11
--	----------

October 30, 1998  
Revision 2 - May 14, 1999

V2500-NAC-71-0231

Page 5



International  
Aero Engines

V2500 Propulsion System — Nacelle

# SERVICE BULLETIN

## 2. Accomplishment Instructions

### A. Pre-requisite Instructions

**WARNING:** USE EXTREME CAUTION WHEN YOU OPEN THE LOWER THRUST REVERSER HALF. DO NOT STAND BETWEEN THE THRUST REVERSER HALF AND THE FUSELAGE. MAKE SURE YOU ENGAGE THE THRUST REVERSER HOLD OPEN RODS BEFORE YOU WORK ON THE THRUST REVERSER.

- (1) Open the thrust reverser halves. Refer to the MD90 Aircraft Maintenance Manual, Chapter 78-32-00, Page Block 201.
- (2) Remove the lower thrust reverser half opening actuator. Refer to the MD90 Aircraft Maintenance Manual, Chapter 78-35-11, Page Block 401.

### B. Replace the Opening Actuator Upper Fitting

**NOTE:** This procedure is the same for the left and right pylon. The data for the right pylon is shown in parenthesis.

- (1) Remove the NAS6304U6 bolts, NAS6304U5 bolts, AN960C416L washers, and 290-0403-511 (-512) upper fitting from the pylon. Refer to Figure 1.
- (2) Install the 290-0403-513 (-514) upper fitting on the pylon with the AN960C416L washers, NAS6304U5 bolts, and NAS6304U6 bolts. Torque the bolts to 63-70 inlbs (7-8 Nm).

### C. Post-requisite Instructions

- (1) Install the lower thrust reverser half opening actuator. Refer to the MD90 Aircraft Maintenance Manual, Chapter 78-35-11, Page Block 401.
- (2) Close the thrust reverser halves. Refer to the MD90 Aircraft Maintenance Manual, Chapter 78-32-00, Page Block 201.

October 30, 1998

V2500-NAC-71-0231

Page 6





**International  
Aero Engines**

V2500 Propulsion System — Nacelle

# **SERVICE BULLETIN**

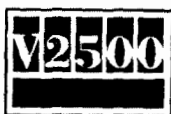
## **D. Recording Instructions**

- (1) A record of accomplishment is necessary. Write in the applicable records that Service Bulletin V2500-NAC-71-0231 has been done. Refer to the IAE V2500 Standard Practices/Processes Manual, Chapter 70-09-00.

October 30, 1998

**V2500-NAC-71-0231**

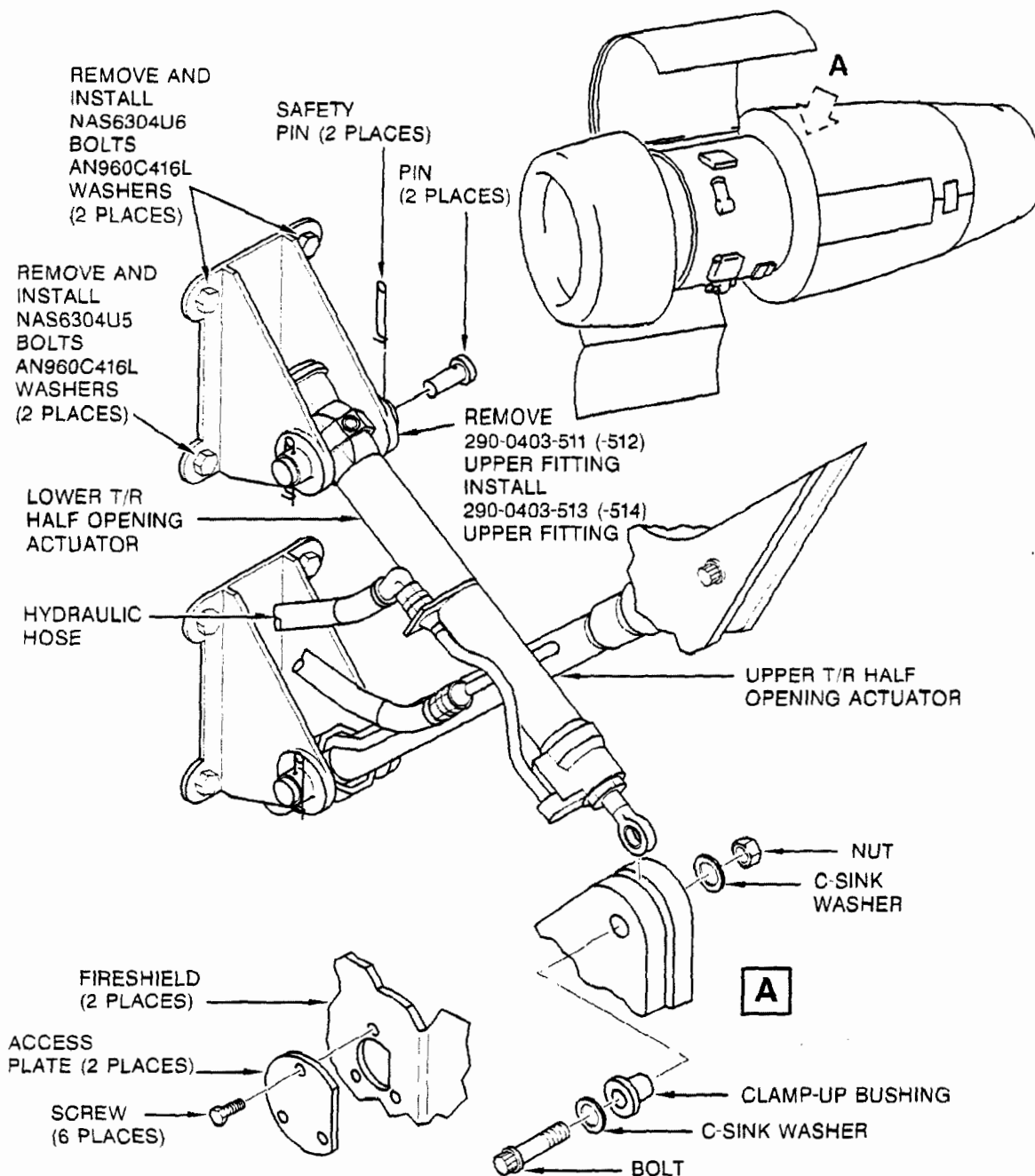
Page 7



International  
Aero Engines

V2500 Propulsion System — Nacelle

# SERVICE BULLETIN



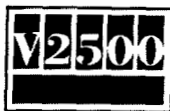
VSB652

Thrust Reverser Opening Actuator Upper Fitting Assembly Replacement  
Figure 1

October 30, 1998

V2500-NAC-71-0231

Page 8



International  
Aero Engines

V2500 Propulsion System — Nacelle

# SERVICE BULLETIN

### 3. Material Information

Applicability: For each V2500-D5 aircraft 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>
V2571231-551	1		Kit		(A)
Consisting of:					
290-0403-513	1		Fitting Assy		
290-0403-514	1		Fitting Assy		

#### 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>
290-0403-513 (71-14-03)	1		Fitting Assy, Upper LH	290-0403-511 (10-015)	(1D)(S1) (B)(C)
290-0403-514 (71-14-03)	1		Fitting Assy, Upper RH	290-0403-512 (10-016)	(1D)(S1) (B)(C)

#### C. Instruction/Disposition Code Statements

- (A) Kit available October 1998.
- (B) New part available October 1998.
- (C) Old part will no longer be available.
- (1D) Discard old part.

October 30, 1998

V2500-NAC-71-0231

Page 9



**International  
Aero Engines**

V2500 Propulsion System — Nacelle

# **SERVICE BULLETIN**

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

**D. Materials Required to Incorporate this Service Bulletin:**

**None.**

October 30, 1998

**V2500-NAC-71-0231**

**Page 10**