



# SERVICE BULLETIN REVISION NOTICE

NACELLE – EXHAUST – LUG, THRUST REVERSER LOWER OUTBOARD TRACK ASSEMBLY  
LANYARD ATTACH – MODIFICATION OF

Turbojet Engine Service Bulletin No. V2500-NAC-78-0225 Revision No. 1 dated May 9, 2017

## Revision History

Original Issue February 07, 2006

Revision 1 dated May 9, 2017

## Reason for the Revision

The information contained in this Service Bulletin has been superseded by the instructions provided in Boeing MD-90 Structural Repair Manual, Volume IV, Thrust Reverser Repairs, Section 54-30-03. It is no longer necessary to do this Service Bulletin or Original Issue of this Service Bulletin.

## Effect of Revision on Prior Compliance

None.

This is a Complete Revision (Not Applicable to the SGML version)

The format of this Service Bulletin has not been changed from the Original Issue. See Reason for the Revision above.

## MODEL APPLICATION

V2525-D5, V2528-D5

## BULLETIN ISSUE SEQUENCE

V2500 Series 78-0225

## Page

Summary

1 thru 14

## Revision No.

1

1

## Date

May 9/17

May 9/17

Page 1 of 1

05VN175

**A copy of this Revision Notice and any future revision notices must be filed as a permanent record with your copy of the subject bulletin.**

**NO TECHNICAL DATA SUBJECT TO THE EAR OR ITAR.**

# TRANSMITTAL

NACELLE - EXHAUST - LUG, THRUST REVERSER LOWER OUTBOARD TRACK ASSEMBLY LANYARD ATTACH  
- MODIFICATION OF

## SUMMARY

### 1. PLANNING

#### A. EFFECTIVITY

Boeing MD-90

V2500-D5 Engines

All V2500-D5 lower thrust reverser halves.

#### B. CONCURRENT REQUIREMENTS

Incorporation of this Service Bulletin must be accomplished only in conjunction with Boeing Aircraft Company Service Bulletin MD90 78-057 which received exclusive FAA approval for MD-90 Series aircraft.

#### C. REASON

##### PROBLEM

The lower thrust reverser outboard track assembly lanyard attach lug may exhibit cracking in service.

##### EVIDENCE

Repetitive openings of pressure relief door may reduce fatigue life of integral track lanyard attach lug.

##### OBJECTIVE

To provide additional support for lower thrust reverser outboard track assembly lanyard attach location.

##### SUBSTANTIATION

A satisfactory engineering analysis has been completed and the intent of this Service Bulletin has been accomplished on a number of MD90 aircraft delivered early in the program.

#### D. DESCRIPTION

The change introduced by this Bulletin is to remove the existing lug on lower outboard track assembly and install a fitting in its place.

#### E. COMPLIANCE

Category Code 8

© Rolls-Royce plc

Feb. 7/06

Revision 1 - May 9/17

# SUMMARY V2500-NAC-78-0225

IAE PROPRIETARY INFORMATION

Page 1 of 2

International Aero Engines AG (date as above). All rights reserved.  
Not subject to the EAR per 15 C.F.R. Chapter 1, Part 734.3(b)(3).

Accomplish based upon experience with the prior configuration.

F. MANPOWER

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

- (1) In service – Not applicable.
- (2) At overhaul – 4 Hours per nacelle

INTERCHANGEABILITY OF PARTS

Not affected.

2. MATERIAL INFORMATION

Modification Kit

- A. The parts to accomplish this Service Bulletin are available from the supplier as kits V2578225-551 and V2578225-553.

Operators should submit a 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:

Goodrich Aerostructures

850 Lagoon Drive

Chula Vista, CA 91910-2098

Attn: Customer Account Executives

(Ref. Service Bulletin No. V2500-NAC-78-0225)

NACELLE – EXHAUST – LUG, THRUST REVERSER LOWER OUTBOARD TRACK ASSEMBLY LANYARD ATTACH  
– MODIFICATION OF

1. Planning Information

A. Effectivity

- (1) Boeing MD-90
  - (a) V2500-D5 Engines
- (2) Nacelle
  - (a) All V2500-D5 Lower thrust reverser halves.

B. Concurrent Requirements

Incorporation of this Service Bulletin must be accomplished only in conjunction with Boeing Aircraft Company Service Bulletin MD90 78-057 which received exclusive FAA approval for MD-90 Series aircraft.

C. Reason

(1) Problem

The lower thrust reverser outboard track assembly lanyard attach lug may exhibit cracking in service.

(2) Evidence

Repetitive openings of pressure relief door may reduce fatigue life of integral track lanyard attach lug.

(3) Objective

To provide additional support for lower thrust reverser outboard track assembly lanyard attach location.

(4) Substantiation

A satisfactory engineering analysis has been completed and the intent of this Service Bulletin has been accomplished on a number of MD90 aircraft delivered early in the program.

(5) Effect of Bulletin on:

(a) Operation

Not Affected

(b) Maintenance

Not Affected

(c) Overhaul

Not Affected

(d) Repair Schemes

Not Affected

(e) Interchangeability

Not Affected

(f) Fits and Clearances

Not Affected

(6) Supplemental Information

None.

D. Description

The change introduced by this Bulletin is to remove the existing lug on lower outboard track assembly and install a fitting in its place.

E. Compliance

Category 8

Accomplish based upon experience with the prior configuration.

F. Approval

Incorporation of this Service Bulletin must be accomplished only in conjunction with Boeing Aircraft Company Service Bulletin MD90 78-057 which has received exclusive FAA approval for MD-90 Series aircraft.

G. Manpower

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

(1) In Service

Not Applicable

(2) At Overhaul

To modify

4 Hours per nacelle

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

#### H. Material Cost and Availability

(1) Modification Kit

(a) The parts to accomplish this Service Bulletin are available from the supplier as kits V2578225-551 and V2578225-553.

Operators should submit a 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:

Goodrich Aerostructures

850 Lagoon Drive

Chula Vista, CA 91910-2098

Attn: Customer Account Executives

(Ref. Service Bulletin No. V2500-NAC-78-0225)

#### I. Tooling Cost and Availability

No special tools are required

#### J. Industry Support Information

Not applicable

#### K. Weight and Balance

(1) Weight Change

No effect

(2) Moment Arm

No effect

(3) Datum

Engine Front Mount Centreline (Power Plant Station (PPS) 100)

L. Electrical Load Data

Not applicable

M. Software Accomplishment Summary

Not applicable

N. References

- (1) V2500 Standard Practices/Processes Manual 70-09-00
- (2) V2500 Standard Practices/Processes Manual 70-23-05
- (3) V2500 Standard Practices/Processes Manual 70-36-02
- (4) V2500 Standard Practices/Processes Manual 70-39-03
- (5) EC 05VN175

O. Other Publications Affected

None

P. Interchangeability of part

Not affected

## 2. Material Information

### A. Kits necessary for this Service Bulletin:

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

FIG- NUMBER	ITEM NUMBER	NEW PART NUMBER	QTY	PART TITLE	INSTR DISP
		V2578225 -551 (left hand) Consisting of:	1	Kit	(A)
		290M0003-3	2	Radius Block	
		290M0003-5	1	Fitting	
		HL48DU5-7	4	Pin	
		HL48DU5-4	2	Pin	
		HL78DU5	6	Collar	

FIG- NUMBER	ITEM NUMBER	NEW PART NUMBER	QTY	PART TITLE	INSTR DISP
		V2578225 -553 (right hand) Consisting of:	1	Kit	(A)
		290M0003-3	2	Radius Block	
		290M0003-6	1	Fitting	
		HL48DU5-7	4	Pin	
		HL48DU5-4	2	Pin	
		HL78DU5	6	Collar	

### B. Parts affected by this Bulletin:

None

### C. Instruction Disposition Codes:

(A) Kit will be available in April 2006.

### D. Consumable Material Required to Incorporate this Service Bulletin:

CoMat 01-001 Solvent

CoMat 02-099 Cloth

CoMat 07-071 Base

CoMat 07-067 Converter



CoMat 07-066 Thinner

CoMat 08-021 Adhesive

CoMat 08-032 Primer

CoMat 08-030 Sealant

**NOTE:** To identify the consumable materials, refer to the Overhaul Processes and Consumable Index PCI-V2500-11A.

Printed in Great Britain

### 3. Accomplishment Instructions

#### A. Rework Instructions

##### (1) Prerequisite Instructions

- (a) Carefully pull back insulation blanket on outboard track assembly of left hand lower thrust reverser to get access to rework area. Refer to Figure 1.
- (b) If installed, remove S700B0116-5C8 or S700B0116-5C16 bushing. Refer to Figure 2. Discard bushing.
- (c) If installed, remove 94-B043600-M angle bracket. Discard bracket.
- (d) Remove material from track assembly as shown in Figure 2.
- (e) Clean away metal chips or other unwanted material with dry air supply.

**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.

- (f) Clean the area with a lint-free cloth (CoMat 02-099) and Trichloroethane (CoMat 01-001). Wipe surface dry before solvent becomes dry.
- (g) Dye penetrant inspect the rework area. Apply penetrant locally. Refer to the Standard Practices/Processes Manual, Chapter 70-23-05.
- (h) Use a clean (CoMat 02-099) lint-free cloth and (CoMat 01-001) Trichloroethane to clean rework area to remove any remaining dye penetrant.

**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.

- (i) Mix 463-6-27 base (CoMat 07-071), X337 converter (CoMat 07-067), and TL52-66 thinner (CoMat 07-066) with manufacturers instructions.

© Rolls-Royce plc

Feb. 7/06

Revision 1 - May 9/17

IAE PROPRIETARY INFORMATION

International Aero Engines AG (date as above). All rights reserved.  
Not subject to the EAR per 15 C.F.R. Chapter 1, Part 734.3(b)(3).

# V2500-NAC-78-0225

Page 7

(j) Apply the primer with a brush to the repair surface.

(k) Cure the primer for seven hours at room temperature or for 40 minutes at 140–180F degrees (60–82C degrees) with an explosion-proof heat lamp.

#### B. Assembly Instructions

- (1) Make a mark for hole locations on 290M0003–5. Refer to Figure 3.
- (2) Attach with a clamp 290M0003–5 fitting and two 290M0003–3 radius blocks to lower track assembly. Refer to Figure 4.
- (3) Drill fastener holes through fittings, lower track assemblies, and radius blocks.

NOTE: Select drill size based on HL148–5 diameter fasteners.

- (4) Remove clamps, fittings, and radius blocks from lower track assemblies.
- (5) Remove burrs and clean away metal chips or other unwanted material with dry air supply.
- (6) Apply liquid shim (CoMat 08–021) to radius block and track assembly(s) mating surfaces. Refer to Standard Practices/Processes Manual, Chapter 70–36–02.
- (7) Install 290M0003–5 fitting and two 290M0003–3 radius blocks on LH lower track assembly with HL48DU5–7 pins, HL48DU5–4 pins, and HL78DU5 collars. Refer to Figure 5. Refer to Standard Practices/Processes Manual, Chapter 70–39–03.
- (8) Clean away any unwanted liquid shim with a lint-free cloth (CoMat 02–099) and Trichloroethane (CoMat 01–001). Wipe surface dry before solvent becomes dry.
- (9) Install insulation blanket to best fit around fittings
- (10) Remove any loose or unbonded sealant from insulation blanket and track assembly.

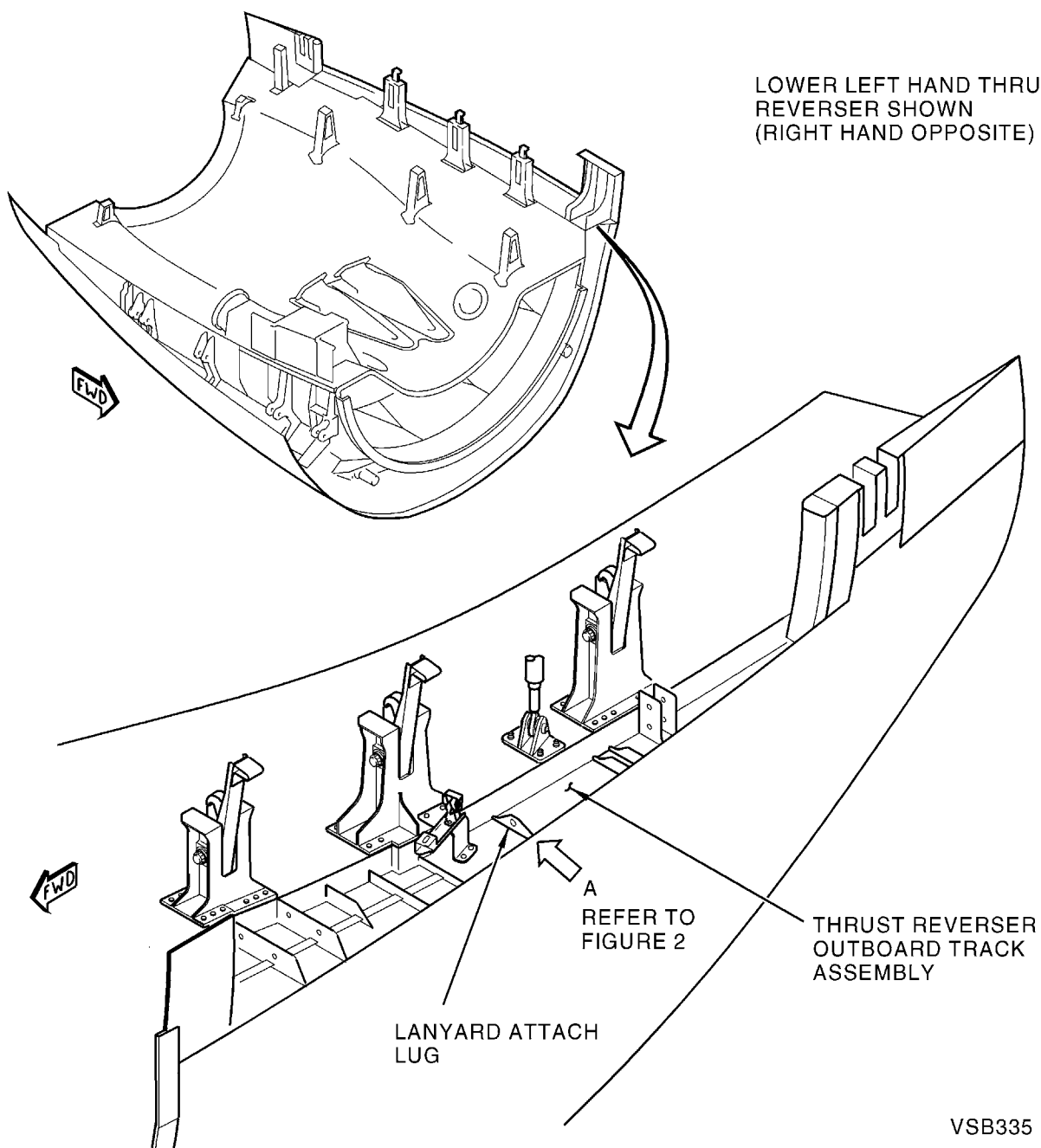
- (11) Apply a thin layer of primer (CoMat 08-032) to outer edge of insulation blanket and fittings where sealant will be applied. Let primer dry a minimum of 30 minutes before sealant is applied.

**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.

- (12) Use manufacturers instructions to mix sealant (CoMat 08-030).
- (13) Fill gaps and seams between track assemblies, fittings, and insulation blankets with sealant.
- (14) Repeat steps (1) through (13) above for right hand thrust reverser.

#### C. Recording Instructions

- (1) A record of accomplishment is necessary. Write in engine log and metal stamp, vibroetch, or electroetch on thrust reverser data plate that Service Bulletin V2500-NAC-78-0225 has been done. Refer to IAE V2500 Standard Practices Manual, Chapter 70-09-00.



VSB335

OUTBOARD TRACK ASSEMBLY LANYARD ATTACH LUG  
Fig.1

© Rolls-Royce plc

**V2500-NAC-78-0225**

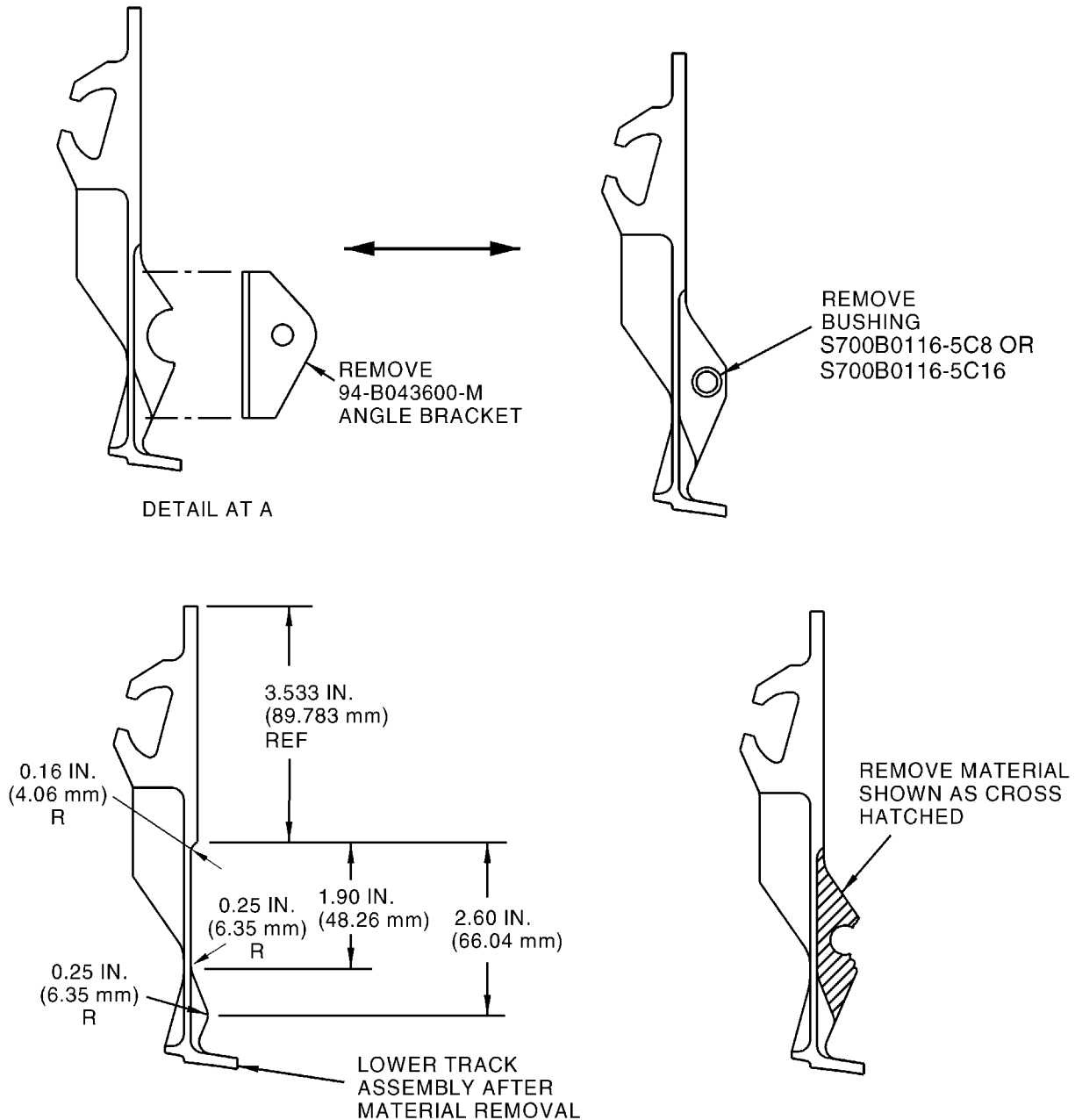
Feb. 7/06

Revision 1 - May 9/17

IAE PROPRIETARY INFORMATION

Page 10

© IAE International Aero Engines AG (date as above). All rights reserved.  
Not subject to the EAR per 15 C.F.R. Chapter 1, Part 734.3(b)(3).



VS336

LANYARD ATTACH LUG REWORK  
Fig.2

© Rolls-Royce plc

Feb. 7/06

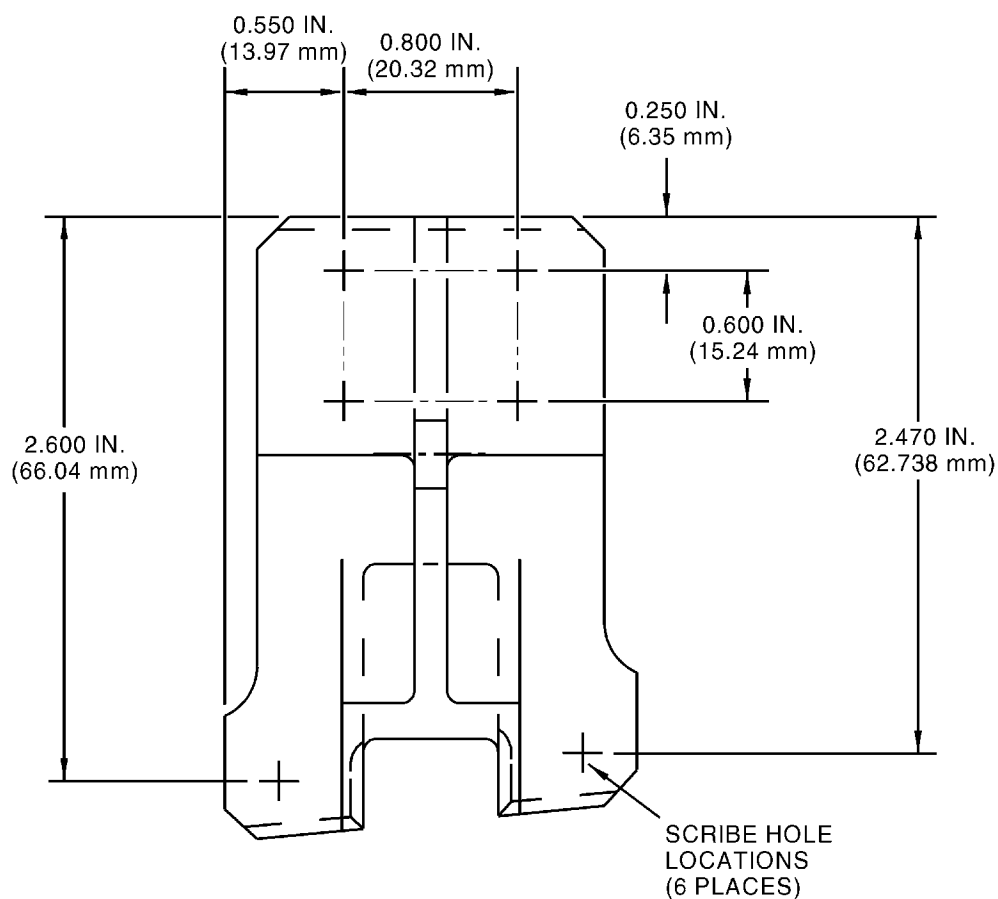
Revision 1 - May 9/17

**V2500-NAC-78-0225**

Page 11

IAE PROPRIETARY INFORMATION

International Aero Engines AG (date as above). All rights reserved.  
Not subject to the EAR per 15 C.F.R. Chapter 1, Part 734.3(b)(3).



290M0003-5 FITTING  
290M0003-6 OPPOSITE

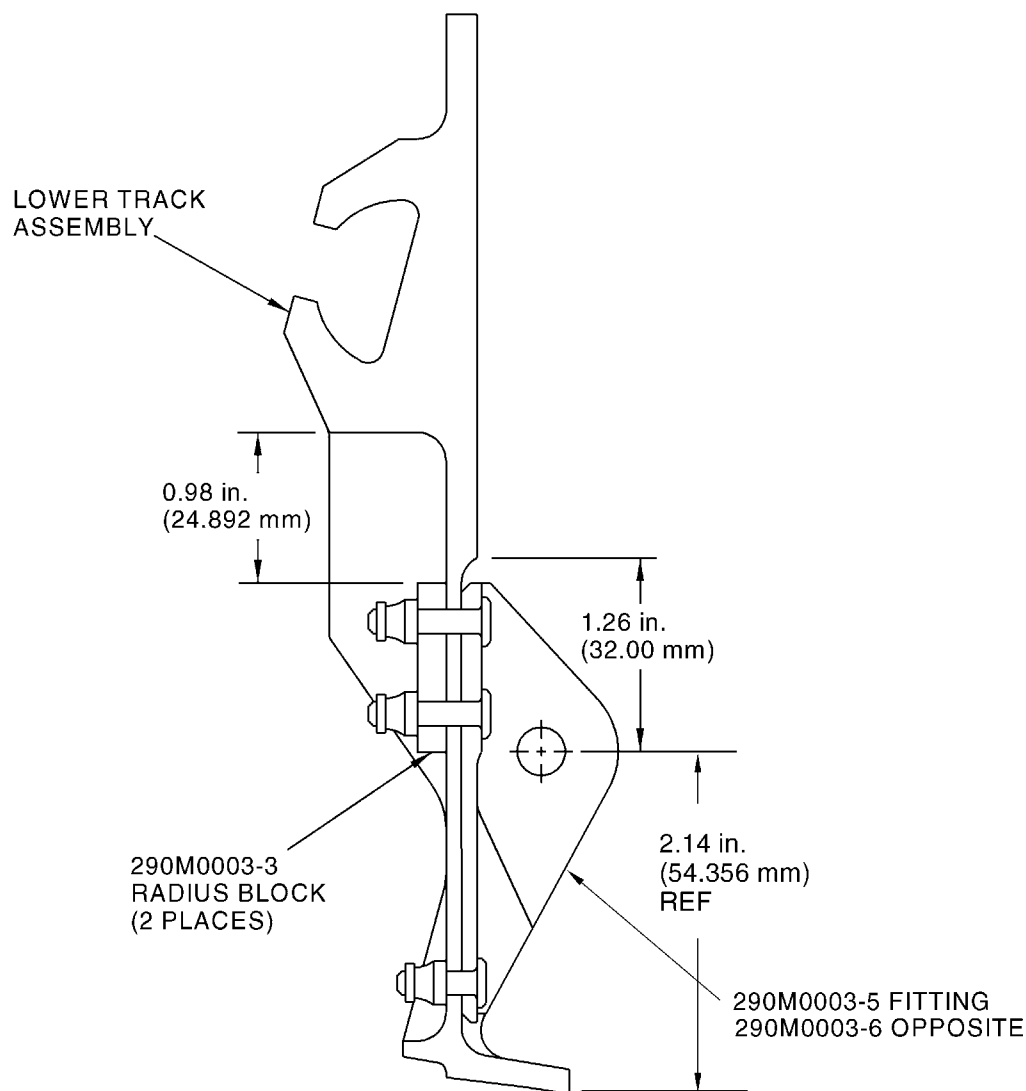
VSB337

LANYARD FITTING HOLE LOCATIONS  
Fig.3

© Rolls-Royce plc

Feb. 7/06  
Revision 1 - May 9/17

**V2500-NAC-78-0225**  
Page 12



VSB338

**FITTING AND RADIUS BLOCK PLACEMENT**  
**Fig.4**

© Rolls-Royce plc

Feb. 7/06

**Revision 1 - May 9/17**

**V2500-NAC-78-0225**

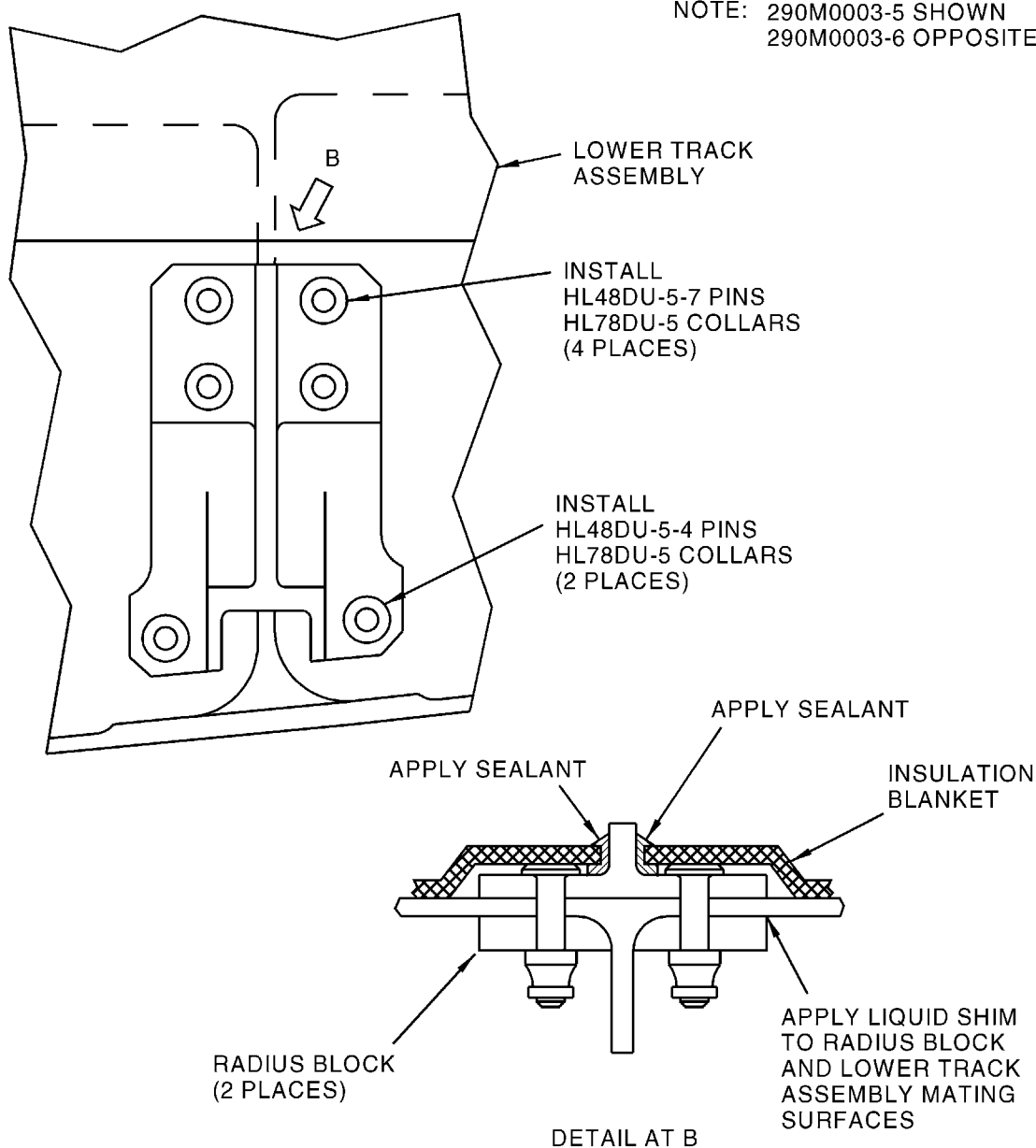
Page 13

IAE PROPRIETARY INFORMATION

International Aero Engines AG (date as above). All rights reserved.  
Not subject to the EAR per 15 C.F.R. Chapter 1, Part 734.3(b)(3).



NOTE: 290M0003-5 SHOWN  
290M0003-6 OPPOSITE



VSB354

FITTING AND RADIUS BLOCK INSTALLATION  
Fig.5

© Rolls-Royce plc

Feb. 7/06

Revision 1 - May 9/17

**V2500-NAC-78-0225**

Page 14

IAE PROPRIETARY INFORMATION

© IAE International Aero Engines AG (date as above). All rights reserved.  
Not subject to the EAR per 15 C.F.R. Chapter 1, Part 734.3(b)(3).