V2500 International Aero Engines

V2500 Propulsion System — Nacelle

SERVICE BULLETIN

Date: November 20, 1996

Subject: Transmittal of Revision 2 to Service Bulletin Number V2500-NAC-71-0168

Service Bulletin Revision History:

Event	Date
Basic Issue	Dec. 22/95
Revision 1	Sep. 26/96
Revision 2	Nov. 20/96

Reasons for Issuance of Revision

(1) To correct the quantity of 290-4004-19 shims in the Service Bulletin kit parts listing on page 11.

Effect on Past Compliance

(1) None.

List of Effective Pages:

Page No.	Rev. No.	Date
1	2	Nov. 20/96
2 thru 10	1	Sep. 26/96
11	2	Nov. 20/96
12	1	Sep. 26/96

V2500 International Aero Engines

V2500 Propulsion System — Nacelle

SERVICE BULLETIN

NACELLE – POWER PLANT - OUTER BREATHER MAST, LOWER FAN COWL DOOR - REPLACEMENT OF

MODEL APPLICATION

V2500-D5

BULLETIN INDEX LOCATOR

71-13-00

Compliance Category Code

5

Internal Reference No.

LL/AC 94VN302B

December 22, 1995
Revision 2 - November 20, 1996

V2500-NAC-71-0168

1. Planning Information

A. Effectivity

(1) Airplane: MD90

(2) Nacelle: V2500-D5 lower fan cowl door serial numbers 0008001 through 0039001.

B. Reason

(1) Condition

Existing weight and aerodynamic drag of outer mast assembly can be reduced.

(2) Background

Performance improvement can be realized with improved design of mast assembly.

(3) Objective

Reduce weight and aerodynamic drag of outer mast assembly.

(4) Substantiation

Weight reduction and aerodynamic analysis of improved outer mast assembly 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

(6) Supplemental Information

None.

C. Description

The change introduced by this Bulletin is to replace the existing outer mast assembly with a lighter and aerodynamically modified assembly.

D. Approval

Incorporation of this Service Bulletin must be accomplished only in conjunction with Douglas Aircraft Company Service Bulletin 71-001 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 spare part subassemblies.

F. Manpower

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

VENUE		ESTIMATED MANHOURS
(1) In Service		Not Applicable
(2) In shop		
(a) To rework		1.5 M/Hrs.
	Total	1.5 M/Hrs.

G. Material Cost and Availability

The parts to accomplish this Service Bulletin are available from the manufacturer as kit V2571168-551 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 reference this service bulletin number with applicable Operator serial numbers and list only the parts shown in reference kit. 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 price, if they desire to incorporate the change.

Direct Purchase order to:
Rohr, Inc.
R 850 Lagoon Drive
R Chula Vista, CA. 91910-2098
U.S.A.

Attn: Airline Support Manager, Bldg. 107A
(Service Bulletin V2500-NAC-71-0168)

H. Tooling Cost and Availability

Not applicable.

I. Weight and Balance

(1) Weight change ..... -0.9 LB/NAC

(2) Moment arm ..... No effect

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

..... (Power Plant Station (PPS) 95.1)

J. Electrical Load Data

Not affected.

K. References

		Chapter/Section
	V2500 Standard Practices/Processes Manual (SPP-V2500-1IA)	70-09-00
	Overhaul Processes and Consumable Index (PCI-V2500-1IA)	

L. Other Publications Affected

	V2500/MD90 Cowl Doors Component	71-13-03
R	Maintenance Manual (CMM-CD-V2500-3IA)	71-13-04
	V2500/MD90 Engine Illustrated	71-13-03
R	Parts Catalog (S-V2500-3IA)	71-13-04

2. Accomplishment Instructions

A. Prerequisite Instructions

None.

B. Rework or Modification Instructions

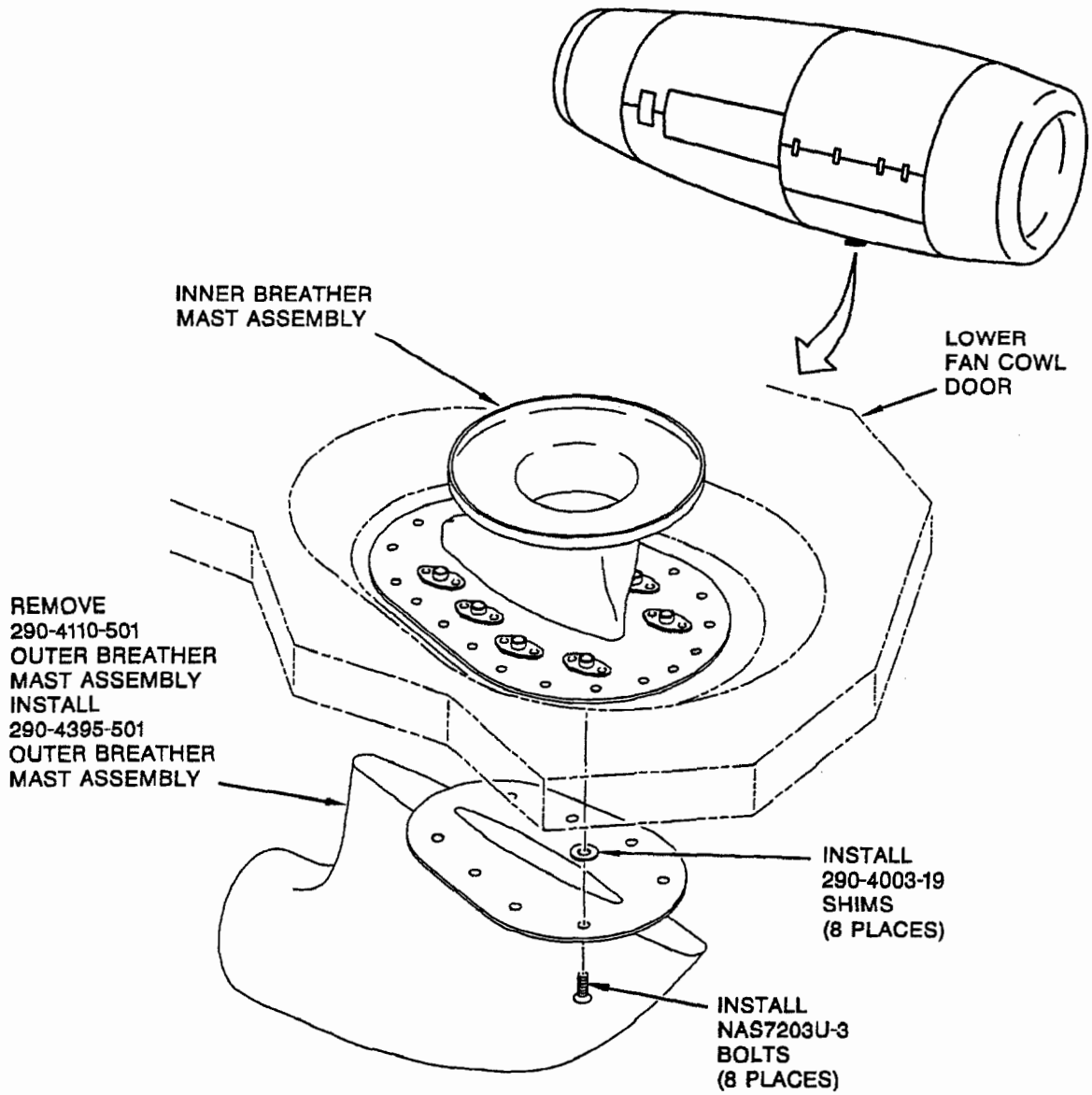
(1) Remove eight NAS7203U3 bolts, eight 290-4003-19 shims, and 290-4110-501 outer mast assembly from left lower fan cowl door. Refer to Figure 1. Keep bolts. Discard outer mast assembly and shims.

(2) With non-metallic tools, remove any loose or unwanted sealant from mast mating surface on lower fan cowl door.

R WARNING: TRICHLOROETHANE (COMAT 01-001 IS CLASSIFIED AS A
R HAZARDOUS MATERIAL WHICH MAY CAUSE INJURY OR ILLNESS IF
R NOT PROPERLY USED. THIS PRODUCT SHOULD BE USED ONLY IN
R ACCORDANCE WITH THE MANUFACTURER'S SPECIFIC SAFETY AND
R HEALTH RECOMMENDATIONS. PRIOR TO USE OF THIS PRODUCT,
R CAREFULLY READ THE APPLICABLE "MATERIAL SAFETY DATA
R SHEET" AND FOLLOW ALL LISTED SAFETY AND HEALTH
R RECOMMENDATIONS.

(3) With a clean lint-free cloth (CoMat 02-099) and trichloroethane (CoMat 01-001), clean mast mating surface on lower fan cowl door. Wipe solvent before it becomes dry.

R (4) Put 290-4395-501 outer mast assembly and eight replacement 290-4003-19 shims on lower fan cowl door. Install and hand-tighten eight NAS7203U3 bolts. Refer to Figure 1.



OUTER BREATHER MAST ASSEMBLY REMOVAL/INSTALLATION
FIGURE 1

(5) Measure step between outer mast assembly base plate and fan cowl door outer surface. Steps should be no more than 0.025 inch (0,635 mm) into wind, 0.040 inch (1,016 mm) out of wind, and 0.040 inch (1,016 mm) streamwise. Refer to Figure 2.

(6) Remove eight NAS7203U3 bolts, outer mast assembly, and eight laminated shims. If necessary, peel excess thicknesses from eight 290-4003-19 laminated shims to get proper aerodynamic step requirements from paragraph 2.B.(5).

R WARNING: CATALYST (COMAT 07-139), EPOXY PRIMER (COMAT 07-140), AND THINNER (COMAT 07-116) ARE CLASSIFIED AS HAZARDOUS MATERIALS WHICH MAY CAUSE INJURY OR ILLNESS IF NOT PROPERLY USED. THESE PRODUCTS SHOULD BE USED ONLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFIC SAFETY AND HEALTH RECOMMENDATIONS. PRIOR TO USE OF THESE PRODUCTS, CAREFULLY READ THE APPLICABLE "MATERIAL SAFETY DATA SHEET" AND FOLLOW ALL LISTED SAFETY AND HEALTH RECOMMENDATIONS.

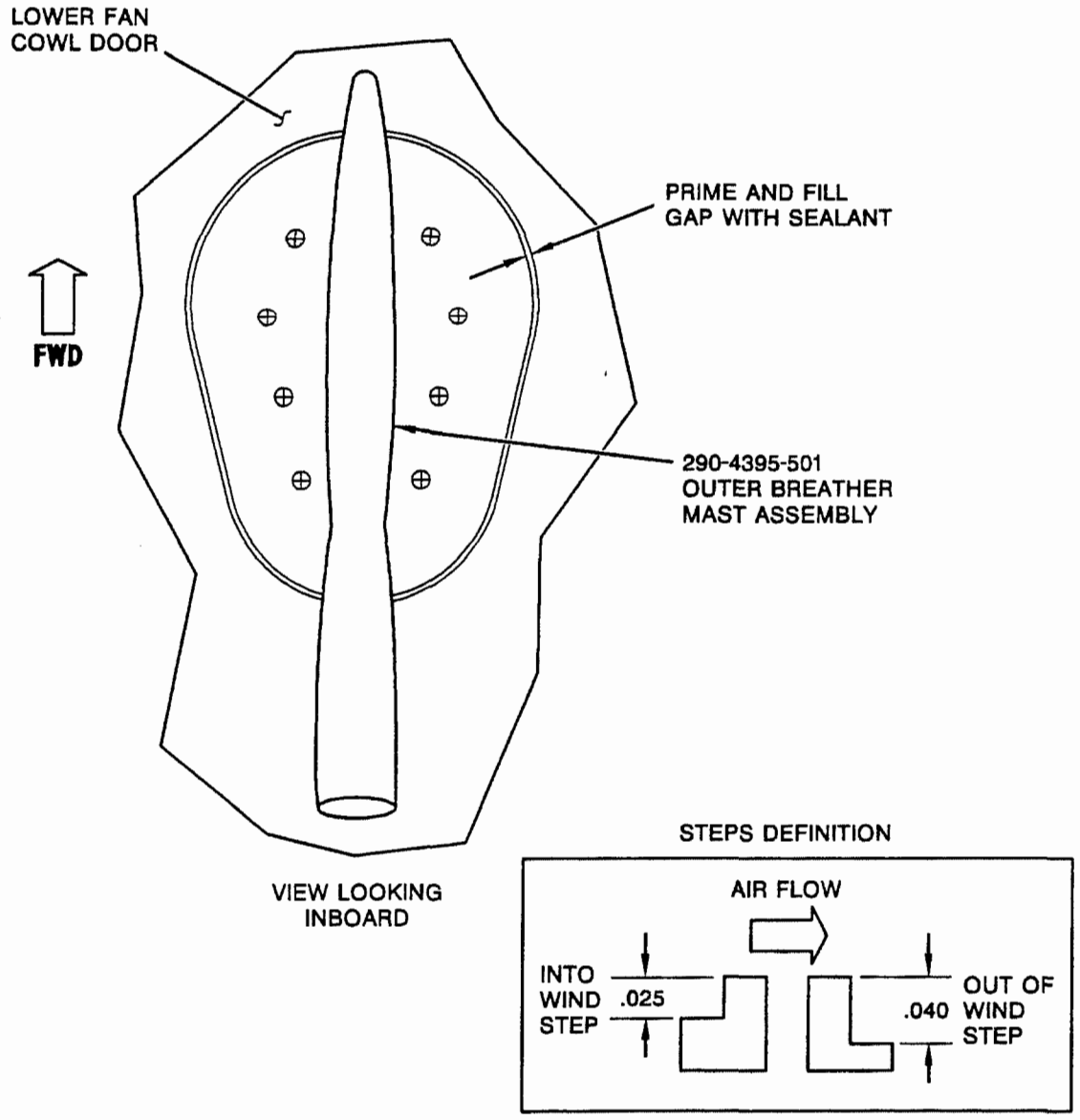
R (7) Mix catalyst (CoMat 07-139), epoxy primer (CoMat 07-140) and thinner (CoMat 07-116). Refer to the manufacturer's instructions.

(8) Install eight 290-4003-19 laminated shims, and
R 290-4395-501 outer mast assembly on lower fan cowl door with eight NAS7203U3 bolts wet with primer. Tighten bolts to a torque of 20-25 in-lbs. (2.28-2.83 Nm). Wipe any unwanted primer with a clean cloth.

(9) Paint the heads and exposed threads of NAS7203U3 bolts and any interior lower fan cowl door paint damage with primer.

(10) Seal aerodynamic gaps on exterior surface of lower fan cowl door.

(a) Clean gaps with a clean lint-free cloth (CoMat 02-099) and trichloroethane (CoMat 01-001). Wipe unwanted solvent before it becomes dry.



AERODYNAMIC GAP REQUIREMENTS
FIGURE 2

(b) Apply DC 1200 primer (CoMat 08-032) to gaps using manufacturer's instructions.

(c) Mix DC 93-006 sealant (CoMat 08-033) using manufacturer's instructions.

(d) Fill gaps with sealant. Wipe any unwanted sealant with a clean cloth. Make sure filled gaps agree with areodynamic step requirements.

(11) Do steps (1) through (10) above for right lower fan cowl door.

C. Post-requisite Instructions

None.

D. Recording Instructions

A record of accomplishment is necessary. Write in applicable records and metal stamp, vibroetch, or electroetch on fan cowl data plate that Service Bulletin V2500-NAC-71-0168 has been done. Refer to IAE V2500 Standard Practices/Processes Manual, Chapter 70-09-00.

3. Material Information

Applicability: For each V2500-D5 lower fan cowl door to incorporate this Bulletin.

A. Kits Associated with this Bulletin:

	NEW PART NO. (ATA NO.)	QTY	EST'D UNIT PRICE	KEYWORD	OLD PART NO. (IPC NO.)	INSTR/ DISPOS
	V2571168-551 Consisting of:	1		Kit		(A)
	290-4395-501	1		Mast Assy, Outer		
R	290-4003-19	16*		Shim		
R	*includes extras					

B. Parts Affected by this Bulletin:

NEW PART NO. (ATA NO.)	QTY	EST'D UNIT PRICE	KEYWORD	OLD PART NO. (IPC NO.)	INSTR/ DISPOS
290-4395-501	1		Mast	290-4110-501	(1D)
(71-13-03)				(01-390)	(S1)
(71-13-04)				(01-390)	
290-4003-19	8		Shim	290-4003-19	(2D)
(71-13-03)				(01-400)	
(71-13-04)				(01-400)	

C. Instruction/Disposition Code Statements

(A) Kit available October 1995.

(1D) Discard old part.

(2D) Replace used part with new part of like part number.

(S1) Old part number may be used as a replacement only where old part number was installed. New part number is acceptable replacement for the old or new part number.

D. Materials Required to Incorporate This Bulletin:

	CoMat 01-001	Trichloroethane
	CoMat 02-099	Lint Free Cloth
R	CoMat 07-116	Thinner
R	CoMat 07-139	Catalyst
R	CoMat 07-140	Epoxy Primer
	CoMat 08-032	Primer
	CoMat 08-033	Sealant

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