V2500 International Aero Engines

V2500 Propulsion System — Nacelle

SERVICE BULLETIN

NACELLE – INLET COWL – TAI INTERBULKHEAD DUCT AND ACCESS PANEL – REPLACEMENT OF

MODEL APPLICATION

V2522-A5
V2524-A5
V2527-A5
V2527E-A5
V2530-A5
V2533-A5

BULLETIN INDEX LOCATOR

71-00-00
30-00-00

COMPLIANCE CATEGORY CODE	INTERNAL REFERENCE No
R 4	94VN018, A, D, E

December 10, 1997
R Revision 1 - September 08, 1999

V2500-NAC-71-0184

1. Planning Information

A. Effectivity

(1) Aircraft:
- (a) Airbus A319
- (b) Airbus A320
- (c) Airbus A321

(2) Nacelle:
- (a) V2522-A5 Air Intake Cowls Prior to Serial Number 0543001
- (b) V2524-A5 Air Intake Cowls Prior to Serial Number 0543001
- (c) V2527-A5 Air Intake Cowls Prior to Serial Number 0543001
- (d) V2527E-A5 Air Intake Cowls Prior to Serial Number 0543001
- (e) V2530-A5 Air Intake Cowls Prior to Serial Number 0543001
- (f) V2533-A5 Air Intake Cowls Prior to Serial Number 0543001

B. Reason

(1) Condition

The Fan Cowl Door leading edge may experience excessive temperatures. In normal operation this will lead to local paint blistering adjacent to the TAI outlet. In extreme conditions this will weaken the door structure.

(2) Background

Several operators have reported instances of paint blistering on the forward edge of the Fan Cowl Door. A revised design has been introduced for thrust growth certifications and for all new production powerplants.

(3) Objective

To reduce Fan Cowl Door temperatures to levels acceptable for the material of the door in all certified flight conditions and to alleviate the paint blistering seen in service. This is to be achieved through fitment of a revised TAI exhaust duct and access panel.

(4) Substantiation

The revised Duct outlet and access panel has demonstrated acceptable fan cowl door temperatures and TAI performance during flight test trials.

(5) Effect of Bulletin on:

(a)	Removal/Installation	Not affected
(b)	Disassembly/Assembly	Not affected
(c)	Cleaning	Affected
(d)	Inspection/Check	Affected
(e)	Repair	Affected
(f)	Testing	Not affected

(6) Supplemental Information

None.

C. Description

(1) The changes introduced by this Service Bulletin are as follows:

(a) The TAI access panel is removed.

(b) The TAI interbulkhead duct assembly is removed and reworked to replace the outer duct.

(c) The reworked TAI interbulkhead duct assembly is installed.

(d) A new TAI access panel is installed.

D. Approval

The part number changes and/or part modifications described in paragraphs 2 and 3 of this Service Bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA approved for the equipment model(s) listed.

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 or the reason for the removal.

F. Manpower

Estimated man-hours to incorporate the intent of this Service Bulletin on each engine:

VENUE		ESTIMATED MAN-HOURS
(1)	In service	2.5 M/Hrs
(a)	To embody.....	Total 2.5 M/Hrs

G. Material Cost and Availability

The parts to accomplish this Service Bulletin are available from the supplier as Kit No V2571184-553 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 the parts listed herein. Operators will have one year from the issue date of this 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.

Direct request to:

Rohr Inc.
850 Lagoon Drive
Chula Vista, CA 91910-2098 USA

Attn: Airline Support Manager – MZ107A
(Service Bulletin No. V2500-NAC-71-0184)

H. Tooling - Cost and Availability

None required.

I. Weight and Balance

(1)	Weight change.....	+1.73lbs
(2)	Moment arm.....	No effect
(3)	Datum.....	Engine Front Mount Centreline (Powerplant Station PPS 100.00)

J. Electrical Load Data

Not Affected.

K. References

Publication	Chapter/Section
A320/V2500-A1,A319/A320/A321/V2500-A5 Engine Manual (E-V2500-1IA).	71-11-11
Standard Practices/Processes Manual (SPP-V2500-1IA)	70-09-00
A320/V2500-A1,A320/A321/V2500-A5 Aircraft Maintenance Manual (M-V2500-1IA)	71-13-00

L. Other Publications Affected

Publication	Chapter/Section
A320/A321/V2500-A5 Powerplant Illustrated Parts Catalog (All Models).	30-21-49 71-11-11
A320/V2500-A5 Engine Illustrated Parts Catalog (All Models).	30-21-49 71-11-11

2. Accomplishment Instructions

A. Pre-requisite Instructions

(1) Open the Right Fan Cowl Door as instructed in the A320/A321 Aircraft Maintenance Manual, Task 71-13-00-010-010.

B. Rework Instructions

(1) Remove 23 off NAS7203U7 bolts to release the 740-3173-505 TAI access panel. Refer to Figure 1 Sheet 1.

(2) Remove 7 off NAS6303U7 bolts to release the 740-3181-503 half-locating plate. Remove the half-locating plate.

(3) Remove 7 off NAS6303U7 bolts to release the 740-3181-501 half-locating plate. Remove the half-locating plate.

(4) Put your hand into the air exhaust and hold the 740-3102-505 inner duct. Pull the inner/outer duct assembly away from the spray ring and remove from the inlet cowl. Discard the S13631-17 "D"-ring and put a blanking cap on the spray ring.

WARNING: PUT ON PROTECTIVE GOGGLES WHEN YOU CUT THE LOCKWIRE. PIECES OF THE LOCKWIRE CAN CAUSE DAMAGE TO YOUR EYES.

(5) Cut the lockwire and remove the 1-07597-00-00 TAI outer duct insulation from the inner/outer duct assembly. Refer to Figure 1 Sheet 3.

(6) Pull the 740-3102-505 inner duct away from the 740-3101-507 outer duct. Discard the 740-3101-507 outer duct, S13631-17 "D"ring, S16497-9 "D" ring and S13953-11 pack (3 ring). Refer to Figure 1 Sheet 1.

(7) Remove the blanking cap from the spray ring and install a new S13631-17 "D" ring as shown. Refer to Figure 1 Sheet 2.

(8) Install a new S13631-17 "D" ring to the aft end of the new 745-3101-501 Outer Duct as shown. Install a new S16497-9 "D"ring and a new S13953-11 pack (3 ring) to the forward end of the new 745-3101-501 Outer Duct .

(9) Put the 740-3102-505 Inner Duct into the new 745-3101-501 Outer Duct. Make sure the Inner Duct engages on the aft "D"ring.

(10) Install the 1-07597-00-00 Insulation on the new 745-3101-501 Outer Duct and secure as shown with lockwire (CoMat 02-126). (Refer to figure 1, Sheet 3).

(11) Put the inner/outer duct assembly into the inlet cowl as shown. Make sure the assembly is engaged on the spray ring and the forward bulkhead.

NOTE: Use TAI Access Panel in applicable steps.

(12) Install the 740-3181-501 and the 740-3181-503 half-locating plates to the rear bulkhead and new 745-3101-501 Outer Duct with 14 off NAS6303U7 bolts. Hand tighten the bolts at this stage.

(13) Put the new 745-3170-501U-access panel on the Inlet Cowl and make sure the seal on the access panel is engaged on the new 745-3101-501 Outer Duct assembly. Make a mark, if required, where the access panel comes into contact with the aperture. Remove the access panel.

(14) Trim the new 745-3170-501U-access panel, if required, to the marked lines. Use a file to remove any burrs.

(15) Make a mark of the hole pattern on the new 745-3170-501U-access panel identical to the hole pattern on the access panel aperture.

(16) Drill 23 off pilot holes 3/32 (2.4mm) diameter through the new 745-3170-501U-access panel.

(17) Enlarge the pilot holes to 0.19”(4.8mm) diameter on the access panel.

(18) Countersink the 23 holes on the outer surface of the access panel to suit the NAS1581C3T7 Bolts (100 degrees by 0.049”)(1.25mm) deep. Deburr all holes.

(19) Identify the 745-3170-501U-access panel as 745-3170-501. Use the metal stamp or vibro-etch method. Refer to the IAE V2500 Standard Practices/Processes Manual, Chapter 70-09-00.

(20) Remove the old jointing compound from the access panel aperture with a scraper.

WARNING: SOLVENT IS FLAMABLE AND THE VAPOUR IS HARMFUL. USE IN A WELL-VENTILATED AREA. AVOID PROLONGED BREATHING OF VAPOURS OR PROLONGED OR REPEATED CONTACT WITH SKIN. HIGH CONCENTRATIONS MAY CAUSE IMPAIRED JUDGEMENT. PROTECTIVE GLOVES SHOULD BE WORN DURING USE. MAY CAUSE DERMATITIS BY REMOVING SKIN OILS. PRIOR TO USE OF THIS PRODUCT, READ THE “MATERIAL SAFETY DATA SHEET” AND FOLLOW ALL LISTED SAFETY AND HEALTH PRECAUTIONS.

(21) Use a clean piece of lint free cloth (CoMat 02-099) made moist with solvent (CoMat 01-438) to remove dirt and grease from the access panel aperture . Wipe the area dry before the solvent becomes dry.

WARNING: OBEY THE PRECAUTIONS THAT FOLLOW WHEN YOU USE JOINTING COMPOUNDS:
-USE SAFETY GOGGLES
-PUT ON PROTECTIVE CLOTHING
-DO NOT LET THE JOINTING COMPOUND TOUCH YOUR SKIN, EYES OR MOUTH
-DO WORK IN AN AREA THAT HAS A GOOD FLOW OF AIR
-OBEY THE MANUFACTURER'S INSTRUCTIONS
-GET MEDICAL AID IF IRRITATION OCCURS
JOINTING COMPOUNDS CAN CAUSE INJURIES.

(22) Apply a thin layer of jointing compound (CoMat 08-024) to the interface aperture.

(23) Apply a thin layer of Petroleum Jelly (CoMat 10-038) to the interface surface of the new 745-3170-501 access panel.

(24) Apply a thin layer of Petroleum Jelly (CoMat 10-038) to the 23 off NAS1581C3T7 bolts.

(25) Align the new 745-3170-501-access panel with the inner/outer duct assembly and install with the NAS1581C3T7 bolts. Let the access panel remain in place for 30 minutes or until the jointing compound has set.

(26) Remove the new 745-3170-501-access panel.

(27) Remove any traces of Petroleum Jelly from the access panel and bolts with solvent (CoMat 01-438) and lint free cloth (CoMat 02-099).

(28) Wipe the area with a clean piece of lint free cloth before the solvent becomes dry.

(29) Remove any unwanted jointing compound from the access panel aperture.

(30) Align the inner/outer duct assembly to the new 745-3170-501 access panel and torque the 14 off NAS6303U7 bolts on the half locating plates to 26 lbin (3Nm).

(31) Hold the 740-3102-505 inner duct and move it forward and rearward. Make sure there is a minimum movement of 0.25 in (6mm). If you cannot achieve a minimum movement of 0.25 in (6mm) remove and install the inner/outer duct assembly as described above. Make sure the inner duct engages on the "D" ring (S13631-17).

(32) Install the new 745-3170-501-access panel with 23 off NAS1581C3T7 bolts as shown. Torque the bolts to 26 lbin (3Nm).

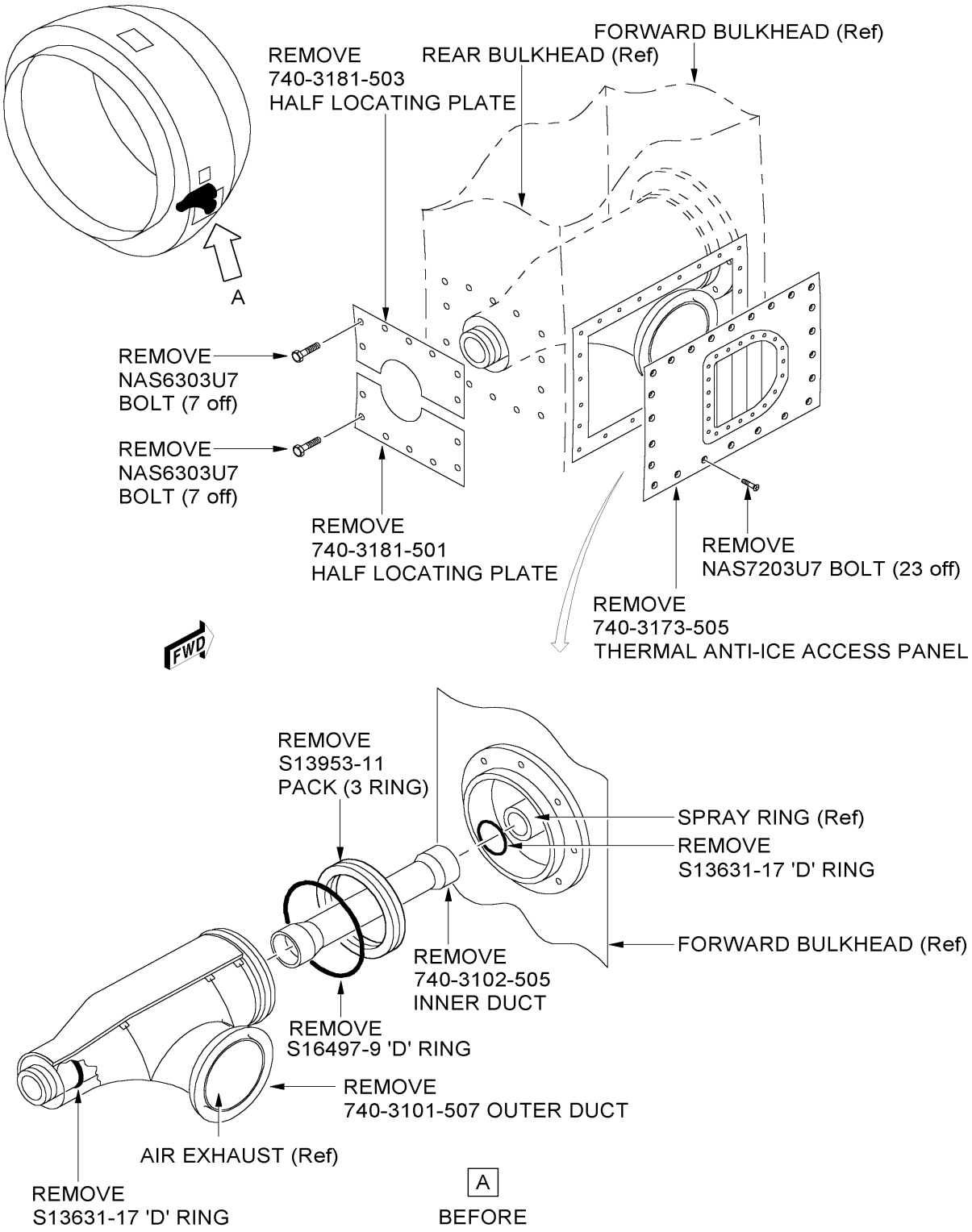
(33) Identify the 745-3000-503 Air Inlet Cowl as 745-3000-507, or identify the 745-3000-9503 Air Inlet Cowl as 745-3000-9511. Use the metal stamp or vibro-etch method. Refer to the IAE V2500 Standard Practices/Processes Manual, Chapter 70-09-00.

C. Post-requisite Instructions

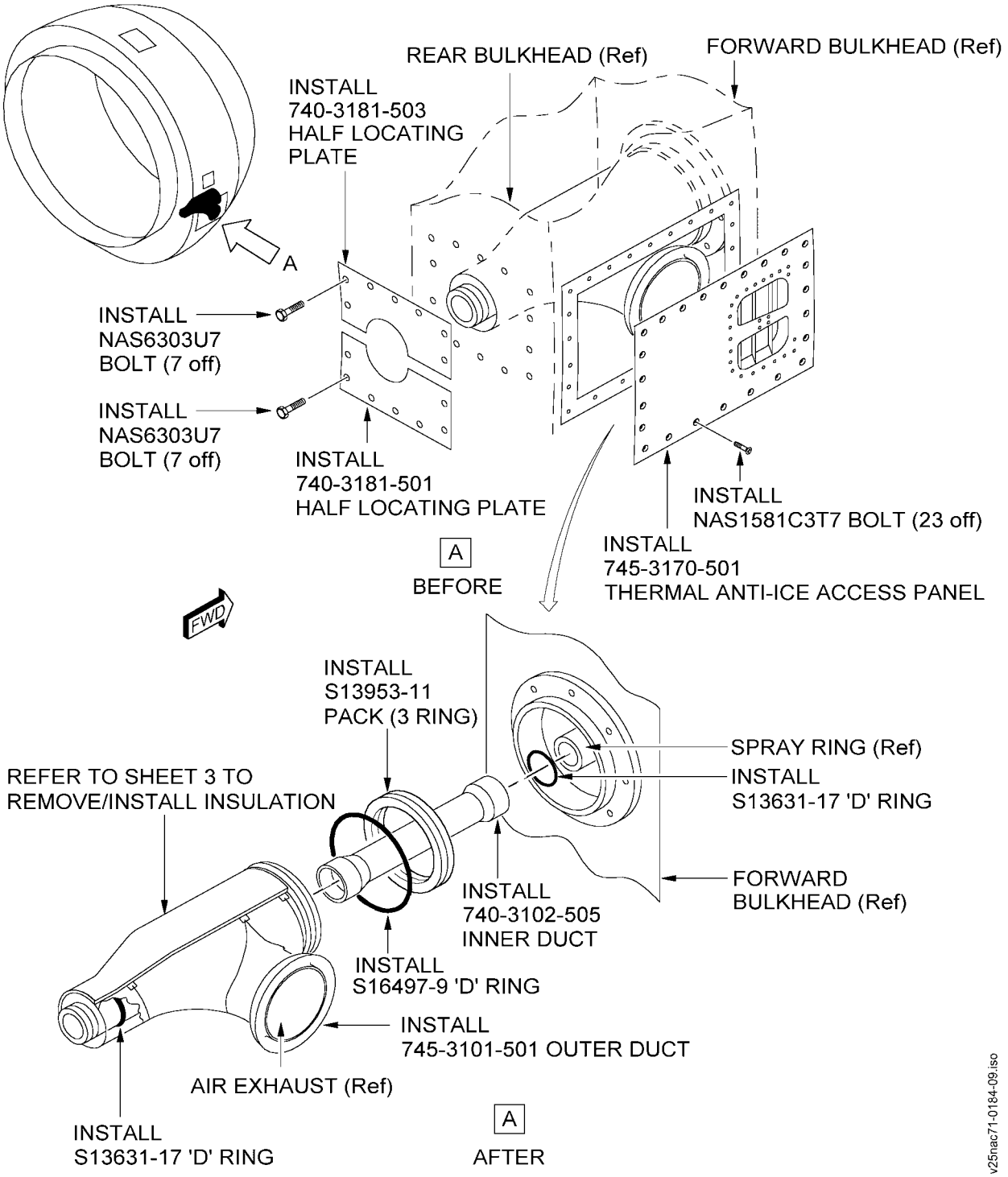
(1) Close the Right Fan Cowl Door as instructed in the A320/A321 Aircraft Maintenance Manual, Task 71-13-00-410-010.

D. Recording Instructions

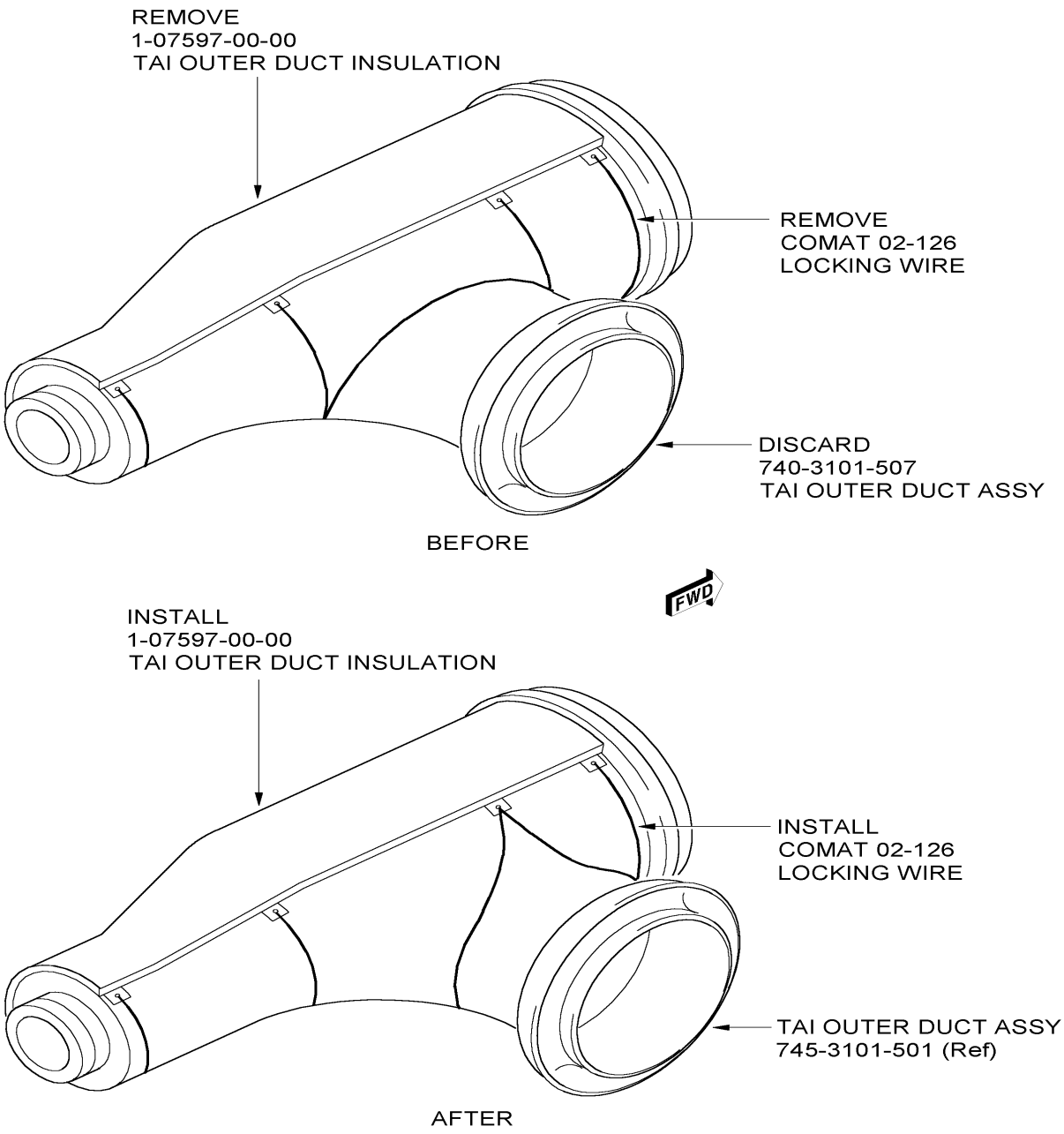
(1) Write in the Aircraft logbook and metal stamp, vibroetch or electroetch on the Inlet Cowl data plate that Service Bulletin V2500-NAC-71-0184 has been done. Refer to the IAE V2500 Standard Practices/Processes Manual, Chapter 70-09-00.



REPLACEMENT OF TAI ACCESS PANEL AND OUTER DUCT
FIGURE 1 SHEET 1 OF 3



REPLACEMENT OF TAI ACCESS PANEL AND OUTER DUCT
FIGURE 1 SHEET 2 OF 3.



REMOVAL/INSTALLATION OF DUCT INSULATION
FIGURE 1 SHEET 3 OF 3

3. Material Information

Applicability: For each V2500 Air Inlet Cowl to incorporate this Bulletin.

A. Kit associated with this Bulletin:

NEW PART No (ATA No)	QTY	EST'D UNIT PRICE ($)	KEYWORD	OLD PART No (IPC No)	INSTR/DISPOS
R V2571184-553	1		MOD KIT		(C)
Consisting of:					
S16497-9	1		D-ring dia 5.35in		
R S13631-17	2		D-ring dia 2.25in		
S13953-11	1		Pack,3-ring		
745-3101-501	1		Duct, Assy outer TAI		
745-3170-501U	1		Panel, Anti-ice access		
NAS1581C3T7	23		Bolt		

B. Parts affected by this Bulletin

NEW PART No (ATA No)	QTY	EST'D UNIT PRICE ($)	KEYWORD	OLD PART No (IPC No)	INSTR/DISPOS
745-3000-507 (71-11-11)	1		.Cowl, Air intake	745-3000-503 (01-005)	(A)(1D)
R 745-3000-9511 (71-11-11)	1		.Cowl, Air intake	R 745-3000-9503 (01-005)	(A)(1D)
745-3101-501 (30-21-49)	1		.Duct, Assy outer TAI	740-3101-507 (03-100)	(A)(S1)
745-3170-501 (71-11-11)	1		.Panel, Anti-ice access	740-3173-505 (01-080)	(A)(S1)(B)
NAS1581C3T7 (71-11-11)	23		..Bolt	NAS7203U7 (01-090)	(A)(S1)

C. Instructions/Dispositions Code Statements:

(A) New part is currently available.

R (B) Part number 745-3170-501U will be supplied when 745-3170-501 is ordered. This part number will revert back to 745-3170-501 when installed as instructed in this Service Bulletin.

(C) Kit will be available February 1998.

(S1) New parts coded (S1) must replace old parts coded (S1) as a complete set per nacelle.

(1D) Old part number may be reworked to new part number.

NOTE: The estimated 1998 Unit Price shown is provided for planning purposes only and does not constitute a firm quotation. Consult the Rohr Price Catalog or contact Rohr's Spares Parts Sales Department for information concerning firm prices.

D. Materials required to incorporate this Service Bulletin:

CoMat 01-438	Solvent
CoMat 02-099	Lint free cloth
CoMat 02-126	Locking wire
CoMat 08-024	Jointing compound
CoMat 10-038	Petroleum Jelly

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