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V2500-A1 SERIES PROPULSION SYSTEMS SERVICE BULLETIN

This document transmits the Revision 1 to Service Bulletin V2500-NAC-71-0257.

Document History

Service Bulletin Revision Status

Initial Issue Aug. 8/00

Service Bulletin Revision 1

Remove	Incorporate	Reason for change
All pages of the Service Bulletin.	Pages 1 to 13 of the Service Bulletin.	To revise the approval statement, the Figures and apply SB style changes.

International Aero Engines

SERVICE BULLETIN

NACELLE - AIR INLET COWL - INSTALLATION OF A5 TAI OUTER DUCT AND ACCESS PANEL ON A1 AIR INLET COWLS

1. Planning Information

A. Effectivity

(1) Aircraft

(a) Airbus A320

(2) Nacelle

(a) All V2500-A1 Air Inlet Cowls

B. Concurrent Requirements

None.

C. Reason

(1) Condition

Production of the V2500-A1 standard of TAI (Thermal Anti-Ice) Access Panel and Outer Duct has stopped. To facilitate spares requirements, the V2500-A5 standard of TAI Access Panel and Outer Duct has been validated for use on the V2500-A1 Nacelle.

(2) Background

Not applicable.

(3) Objective

To provide TAI Access Panel and Outer Duct spares for the V2500-A1 Nacelle.

(4) Substantiation

This is a product improvement engineering change. The new TAI Access Panel and Outer Duct have been developed for the V2500-A5 Air Inlet Cowl to reduce the temperature effects of the hot air being exhausted from the TAI Access Panel Grille onto the Fan Cowl Door. The technical reasons for the introduction of the revised Access Panel do not apply to V2500-A1, as the bleed temperatures are lower and have no detrimental effect on the Fan Cowl Door.

(5) Effect of Bulletin on:

R (a) Operation

R Not affected.

R (b) Maintenance

R Not affected.

R (c) Overhaul

R Not affected.

R (d) Repair Scheme

R Not affected.

R (e) Interchangeability

R Not affected.

R (f) Fits and Clearances

R Not affected.

(6) Supplemental Information

None.

D. Description

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

(a) The TAI Access Panel is removed.

(b) The TAI Inner/Outer Duct Assembly is removed from the Air Inlet Cowl and the Outer Duct is removed and replaced with a new Outer Duct.

(c) The TAI Inner/Outer Duct Assembly is then installed to the Air Inlet Cowl.

(d) A new TAI Access Panel is fitted.

E. Compliance

Category 7

Accomplish when the supply of superseded parts has been depleted.

F. Approval

R The technical content of this Service Bulletin has been approved under the
R authority of the EASA Design Organization Approval No. EASA.21J.031.

R The authorizing IAE documents are ECs 94VN018C, 94VN018D and 94VN018E.

G. Manpower

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

(1) In Service

Not applicable.

(2) At Overhaul

2.5 M/Hrs.

R NOTE: The parts affected by this Service Bulletin are accessible at overhaul.

H. Material Price and Availability

Modification kit is not required.

I. Tooling Price and Availability

Special tools are not required.

J. Industrial Support Information

Not applicable.

K. Weight and Balance

(1) Weight Change

Plus 1.73 lbs (0,785 kg).

(2) Moment arm

No effect.

(3) Datum

Engine Front Mount Centreline (Powerplant Station PPS 100).

L. Electrical Load Data

Not affected.

M. Software Accomplishment Summary

Not applicable.

N. References

(1) Airbus A320/V2500-A1 Aircraft Maintenance Manual, Chapter/Section 71-13-00.

(2) IAE V2500 Engine Manual (E-V2500-1IA), Chapter/Section 71-11-11.

(3) IAE V2500 Standard Practices/Processes Manual (SPP-V2500-1IA), Chapter/Section 70-09-00.

R (4) Internal Reference No.

R Engineering Change No. 94VN018C, 94VN018D and 94VN018E.

R (5) ATA Locators - 30-21-49, 71-11-11

O. Other Publications Affected

(1) A320/V2500-A1 Engine Illustrated Parts Catalog (S-V2500-1IA), Chapter/Sections 30-21-49 and 71-11-11.

R P. Interchangeability of Parts

R Affected. (Refer to Section 2. Material Information)

2. Material Information

R A. The Kit required consists of the following parts:

None.

R B. Parts to be reworked:

R None.

R C. New production parts:

Applicability: For each V2500-A1 Nacelle to incorporate this Service Bulletin.

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
30-21-49						
03-100	745-3101 -501	1	.Duct, Outer TAI		740-3101 -507	(A)(S1)
03-110	S13953-11	1	.Pack, 3-Ring		S13953-11	(A)(S1)
03-120	S16497-9	1	.'D' Ring		S16497-9	(A)(S1)
03-510	S13631-17	2	.'D' Ring		S13631-17	(A)(S1)
71-11-11						
01-080	745-3170 -501	1	.Panel, Anti-ice Access		740-3173 -505	(S1)
01-085	745-3170 -501U	1	..Panel, Anti-ice Access		-	(A)(S2)
01-090	NAS1581 C3T7	23	..Bolt		NAS7203U7	(A)(S1)

D. Redundant Parts

Not Applicable.

E. Instructions/Dispositions Code Statements

(A) New part is currently available.

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

(S2) New parts must be installed and reidentified as instructed in this Service Bulletin.

F. Materials required to incorporate this 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.

3. Accomplishment Instructions

A. Pre-requisite Instructions

(1) None.

B. Rework Instructions

(1) Remove the 23 NAS7203U7 Bolts to release the 740-3173-505 TAI Access Panel. Remove the Access Panel. Refer to Figure 1.

(2) Remove seven NAS6303U7 Bolts to release the 740-3181-503 Half Locating Plate. Remove the Half Locating Plate.

(3) Remove seven NAS6303U7 Bolts from the 740-3181-501 Half Locating Plate. Remove the Half Locating Plate.

(4) Put your hand into the Air Inlet Cowl Aperture and hold the 740-3102-505 Inner Duct. Pull the Inner/Outer Duct Assembly away from the Spray Ring and remove from the Air 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 Outer Duct.

(6) Pull the 740-3102-505 Inner Duct away from the 740-3101-507 Outer Duct. Discard the S13631-17 'D' Ring, S16497-9 'D' Ring and S13953-11 3-Ring Pack.

(7) Install a new S13631-17 'D' Ring to the aft end of the new 745-3101-501 Outer Duct as shown.

(8) Install a new S16497-9 'D' Ring and a new S13953-11 3-Ring Pack to the forward end of the 745-3101-501 Outer Duct as shown.

(9) Put the 740-3102-505 Inner Duct into the 745-3101-501 Outer Duct. Make sure the Inner Duct engages on the S13631-17 'D' Ring.

(10) Secure the 1-07597-00-00 TAI Outer Duct Insulation on the 745-3101-501 Outer Duct with lockwire (CoMat 02-126), as shown.

(11) Remove the old Jointing Compound from the Inlet Cowl Aperture with a Scraper.

(12) Remove the Blanking Cap from the Spray Ring and install a new S13631-17 'D' Ring to the Spray Ring as shown.

(13) Put your hand into the air exhaust of the Inner/Outer Duct Assembly and install to the Air Inlet Cowl as follows:

(a) Put the Inner/Outer Duct Assembly into the Inlet Cowl through the aperture.

(b) Push the two Ducts of the Inner/Outer Duct Assembly into the Spray Ring.

(c) Make sure that the Inner Duct is correctly engaged with the two S13631-17 'D' Rings.

(d) Make sure that the Spray Ring is correctly engaged with the S16497-9 'D' Ring and the S13953-11 3-Ring Pack.

(e) Install the 740-3181-501 Half Locating Plate to the rear bulkhead with seven NAS6303U7 Bolts. Make sure the Half Locating Plate is engaged in the Outer Duct. Hand tighten the Bolts.

(f) Install the 740-3181-503 Half Locating Plate to the rear bulkhead with seven NAS6303U7 Bolts. Make sure the Half Locating Plate is engaged in the Outer Duct. Hand tighten the Bolts.

NOTE: The new Access Panel may need to be trimmed to fit in the Inlet Cowl Aperture correctly and to engage on the new 745-3101-501 Outer Duct.

(g) 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. Make a mark, if required, on the Access Panel where it may need trimmed to enable to fit in the Inlet Cowl Aperture correctly and to engage on the new 745-3101-501 Outer Duct. Remove the Access Panel.

(14) If required, trim the new 745-3170-501U Access Panel as marked to enable the correct fit in the Inlet Cowl Aperture.

(15) Make a mark of the hole pattern on the new 745-3170-501U Access Panel identical to the hole pattern on the Inlet Cowl Aperture.

(16) Drill 23 pilot holes 3/32" (2,4 mm) diameter through the 745-3170-501U Access Panel.

(17) Enlarge the pilot holes to 0.19" (4,8 mm) diameter on the Access Panel.

(18) Countersink the 23 holes on the outer surface of the Access Panel to suit NAS1581C3T7 Bolts. 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.

WARNING: SOLVENT IS FLAMMABLE 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.

(20) Remove any Jointing Compound, dirt or grease from around Inlet Cowl Aperture with solvent (CoMat 01-438) and lint free cloth (CoMat 02-099). Wipe the area with a clean piece of lint free cloth before the solvent dries.

WARNING: OBEY THE PRECAUTIONS THAT FOLLOW WHEN YOU USE JOINTINGS COMPOUNDS :

- USE SAFETY GOGGLES
- PUT ON PROTECTIVE CLOTHING
- DO NOT LET JOINTING COMPOUND TOUCH YOUR SKIN, EYES AND 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

(21) Apply a thin layer of the Jointing Compound (CoMat 08-024) to the Inlet Cowl Aperture.

(22) Apply a thin layer of Petroleum Jelly (CoMat 10-038) to the surface of the 745-3170-501 TAI Access Panel where it interfaces with the Inlet Cowl.

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

(24) Install the 745-3170-501 TAI Access Panel to the Inlet Cowl with the 23 NAS1581C3T7 Bolts. Make sure the Seal on the Access Panel is engaged on the new 745-3101-501 Outer Duct.

(25) Do a dimensional check of the Access Panel aerodynamic clearances as instructed in the V2500 A1/A5 Engine Manual, Chapter 71-11-11, subtask 71-11-11-220-052.

(26) Let the Access Panel remain in place for 30 minutes or until the Jointing Compound has set.

(27) Remove the 745-3170-501 TAI Access Panel.

WARNING: SOLVENT IS FLAMMABLE 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.

(28) Remove any traces of Petroleum Jelly from the Access Panel, Inlet Cowl aperture and Bolts with solvent (CoMat 01-438) and lint free cloth (CoMat 02-099). Wipe the area with a clean piece of lint free cloth before the solvent dries.

(29) Remove any unwanted Jointing Compound.

(30) Hold the 740-3102-505 Inner Duct and move it forward and rearward. Make sure there is a minimum movement of 0.25 in. (6 mm). If you cannot achieve a minimum movement of 0.25 in. (6 mm), remove and install the Inner/Outer Duct Assembly as described above.

(31) Align the Inner/Outer Duct Assembly to the Access Panel to enable the correct engagement of the Seal on the Access Panel to the Outer Duct. Torque the 14 NAS6303U7 Bolts at the Half Locating Plates to 26 lbf in. (3 Nm).

(32) Install the 745-3170-501 TAI Access Panel with 23 NAS1581C3T7 Bolts as shown. Torque the Bolts to 26 lbf in. (3 Nm).

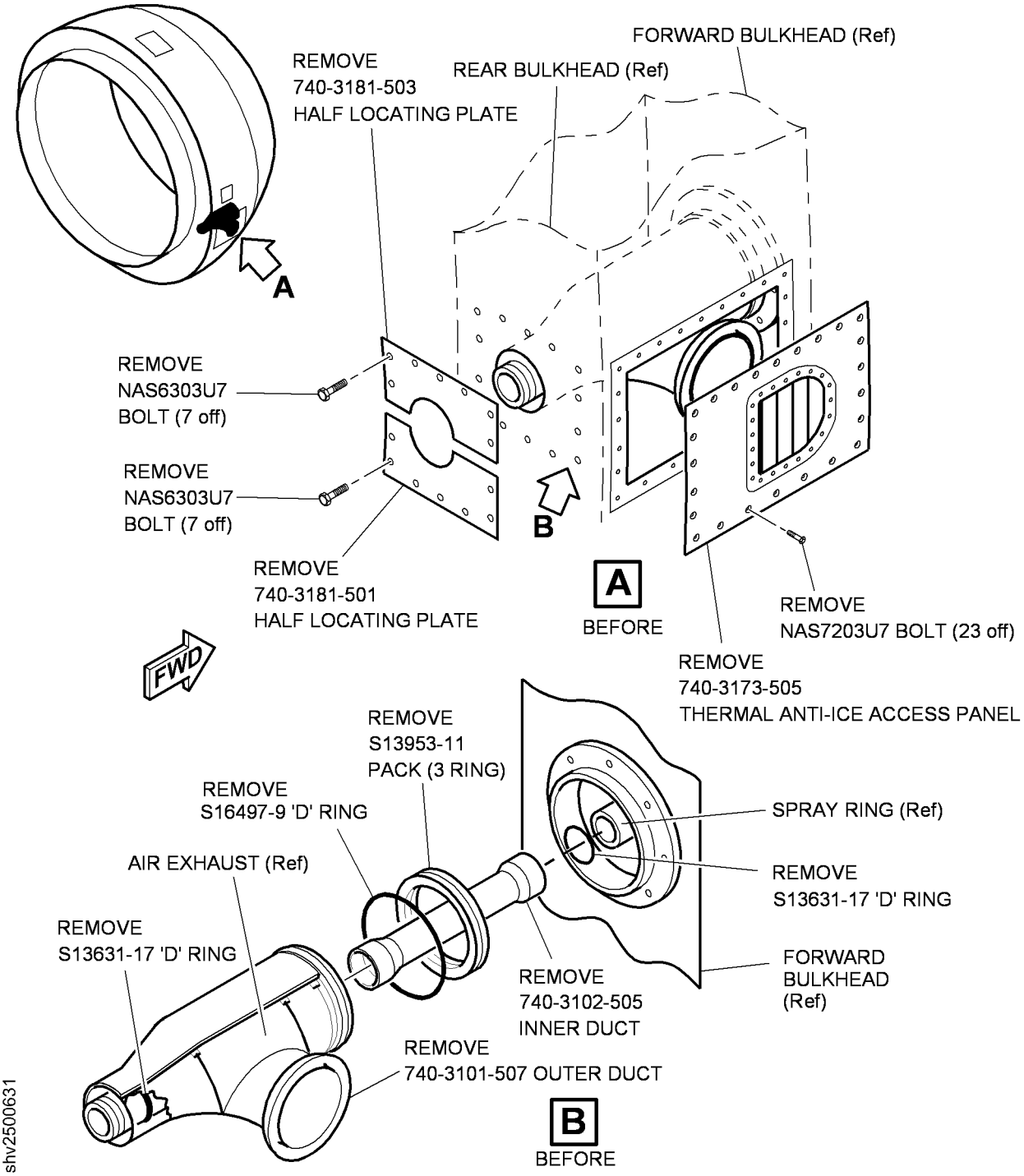
C. Post-requisite Instructions

(1) None.

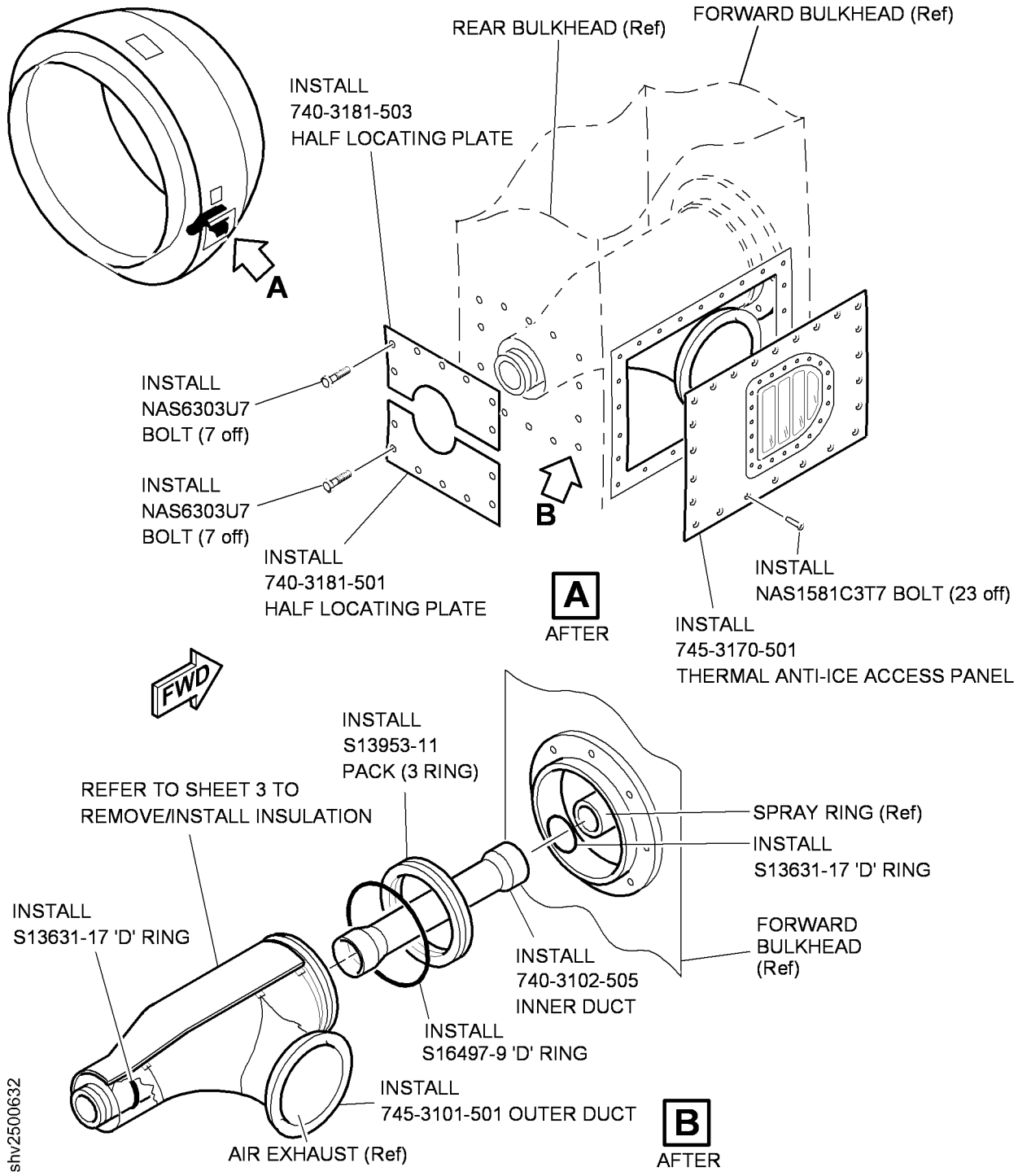
D. Recording Instructions

(1) Write in the Aircraft Log Book and metal stamp, vibroetch or electroetch on the Air Inlet Cowl data plate that Service Bulletin V2500-NAC-71-0257 has been done. Refer to the IAE V2500 Standard Practices/Processes Manual, Chapter 70-09-00.

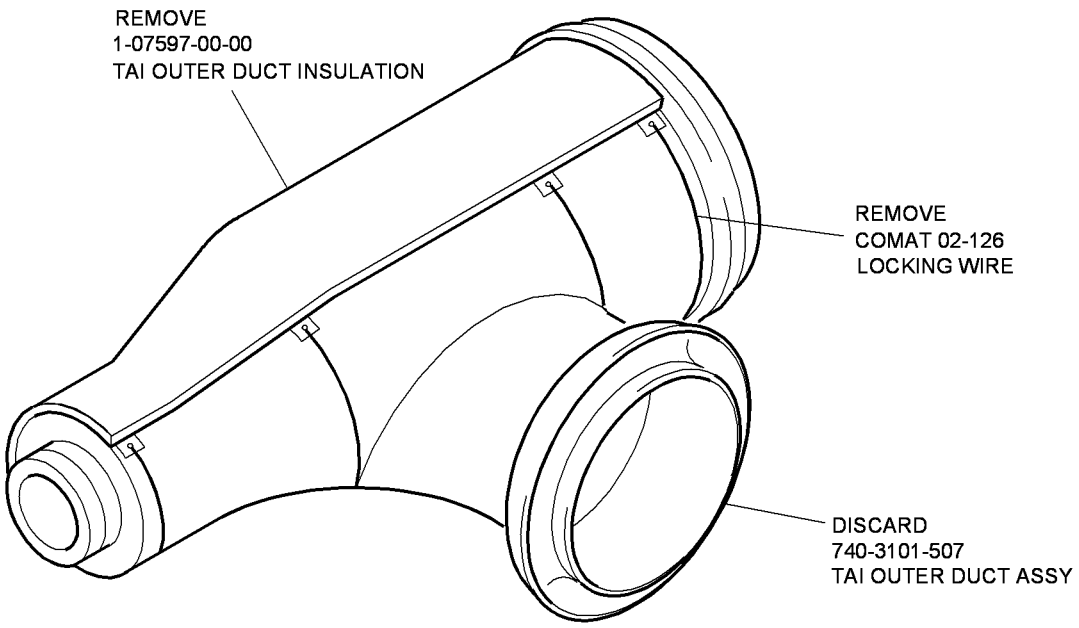
R



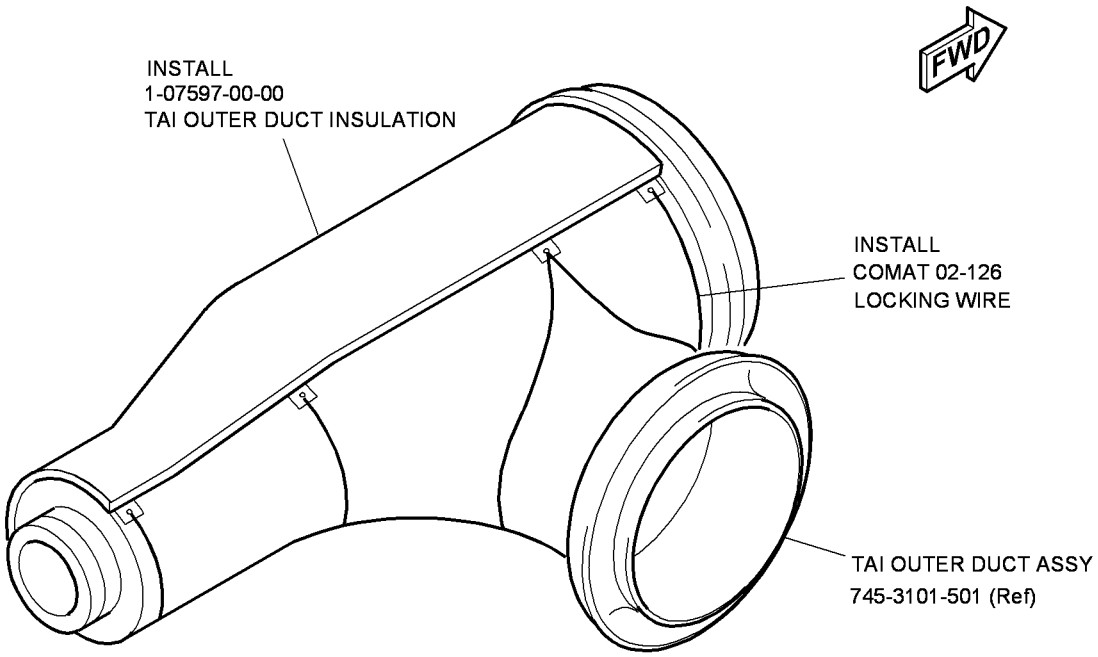
R Replacement of TAI Access Panel and Outer Duct
R Figure 1, Sheet 1 of 3



R Replacement of TAI Access Panel and Outer Duct
R Figure 1, Sheet 2 of 3



R BEFORE



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AFTER

R Removal/Installation of Duct Insulation
R Figure 1, Sheet 3 of 3