

CHAPTER

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NACELLES/PYLONS



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Strut Fireseal Depressor Inspection TASK 54-54-00-200-801			601	HAP ALL
Forward Strut Fireseal Inspection TASK 54-54-00-200-802			602	HAP ALL
<u>STRUT INSULATION BLANKETS - REMOVAL/INSTALLATION</u>	54-54-01		401	HAP ALL
Strut Forward Insulation Blanket Removal TASK 54-54-01-000-801			401	HAP ALL
Installation of Strut Forward Insulation Blankets TASK 54-54-01-400-801			402	HAP ALL
Strut Mid Insulation Blanket Removal TASK 54-54-01-000-802			404	HAP ALL
Installation of Strut Mid Insulation Blankets TASK 54-54-01-400-802			405	HAP ALL
Strut Aft Insulation Blanket Removal TASK 54-54-01-000-803			407	HAP ALL
Installation of Strut Aft Insulation Blankets TASK 54-54-01-400-803			408	HAP ALL

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CHAPTER 54
NACELLES/PYLONS

<u>Subject</u>	<u>Chapter Section Subject</u>	<u>Conf</u>	<u>Page</u>	<u>Effect</u>
<u>STRUT INSULATION BLANKETS - INSPECTION/CHECK</u>	54-54-01		601	HAP ALL
Strut Insulation Blankets Inspection TASK 54-54-01-200-801			601	HAP ALL
<u>STRUT INSULATION BLANKETS - REPAIR</u>	54-54-01		801	HAP ALL
Strut Insulation Blanket Repair On- Aircraft TASK 54-54-01-300-801			801	HAP ALL
Strut Insulation Blanket Repair Off- Aircraft TASK 54-54-01-300-802			804	HAP ALL
<u>AFT FAIRING INSULATION BLANKETS - INSPECTION/CHECK</u>	54-54-02		601	HAP ALL
Aft Fairing Insulation Blankets Inspection TASK 54-54-02-200-801			601	HAP ALL
<u>STRUT DRAINS - MAINTENANCE PRACTICES</u>	54-55-01		201	HAP ALL
Strut Forward Drain Clean TASK 54-55-01-100-801			201	HAP ALL
<u>AFT FAIRING STRUT DRAINS - MAINTENANCE PRACTICES</u>	54-55-02		201	HAP ALL
Aft Fairing Drain Tube and Sump Drain Clean TASK 54-55-02-100-801			201	HAP ALL
<u>AFT FAIRING STRUT DRAINS - INSPECTION/ CHECK</u>	54-55-02		601	HAP ALL
Aft Fairing Sump Drain Inspection TASK 54-55-02-100-802			601	HAP ALL
<u>AFT FAIRING STRUT DRAINS - REPAIRS</u>	54-55-02		801	HAP ALL
Aft Fairing Strut Drain - Permanent Repair TASK 54-55-02-310-801			801	HAP ALL

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<u>Subject</u>	<u>Chapter Section Subject</u>	<u>Conf</u>	<u>Page</u>	<u>Effect</u>
Aft Fairing Strut Drain - Temporary Repair TASK 54-55-02-390-801			803	HAP ALL

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NACELLES/PYLONS - STRUCTURAL INSPECTIONS - MAINTENANCE PRACTICES

TASK 54-05-03-210-801

1. EXTERNAL - GENERAL VISUAL: EXTERNAL - LEFT FORWARD ENGINE MOUNT ASSEMBLY

(Figure 201)

A. General

(1) This procedure is a scheduled maintenance task.

B. Inspection

SUBTASK 54-05-03-210-001

(1) Do the inspection.

————— **END OF TASK** —————

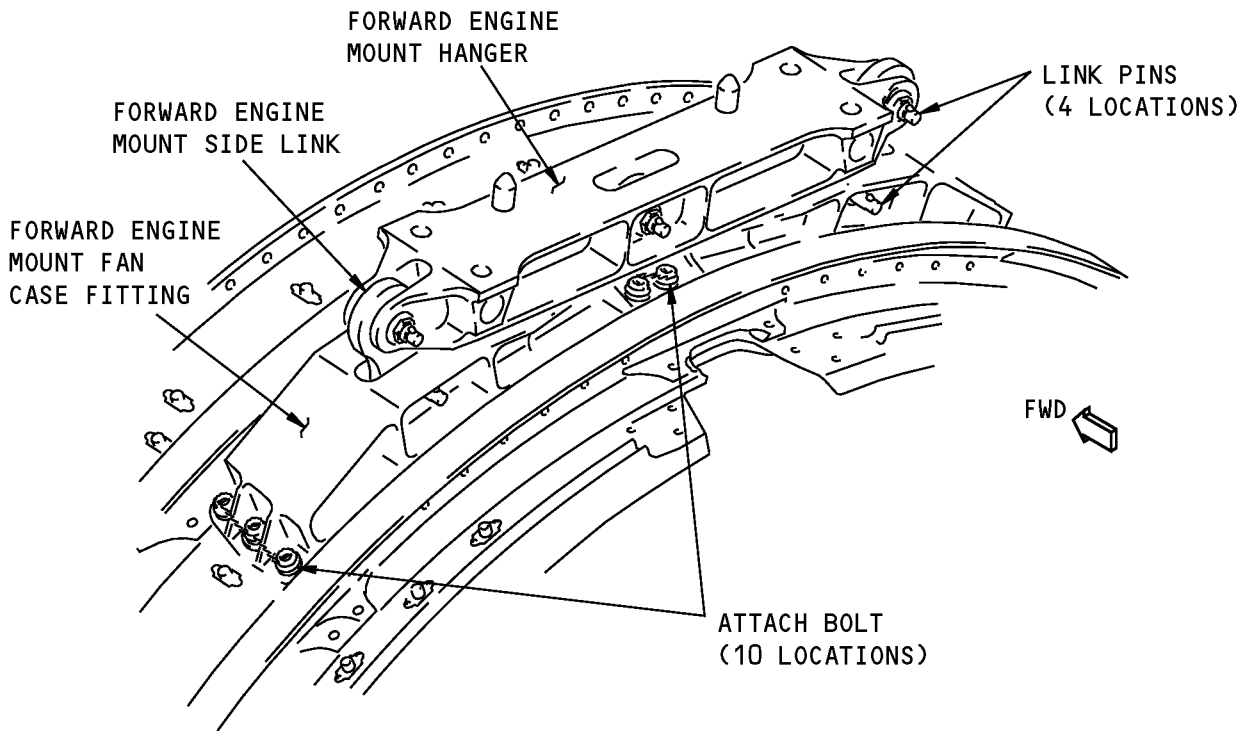
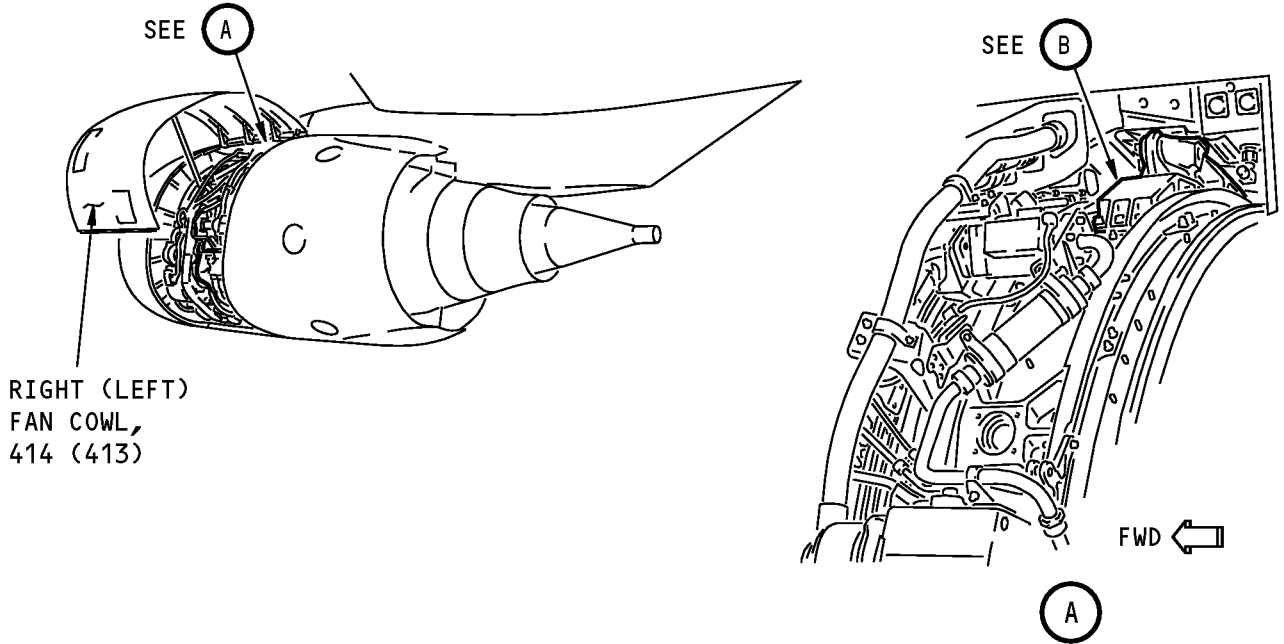
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FORWARD ENGINE MOUNT ASSEMBLY

MPD ITEM
54-010-01

B

**Left Strut Forward Engine Mount Assembly General Visual (External)
Figure 201/54-05-03-990-801**

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TASK 54-05-03-210-802

2. EXTERNAL - GENERAL VISUAL: EXTERNAL - RIGHT FORWARD ENGINE MOUNT ASSEMBLY

(Figure 202)

A. General

(1) This procedure is a scheduled maintenance task.

B. Inspection

SUBTASK 54-05-03-210-002

(1) Do the inspection.

————— **END OF TASK** —————

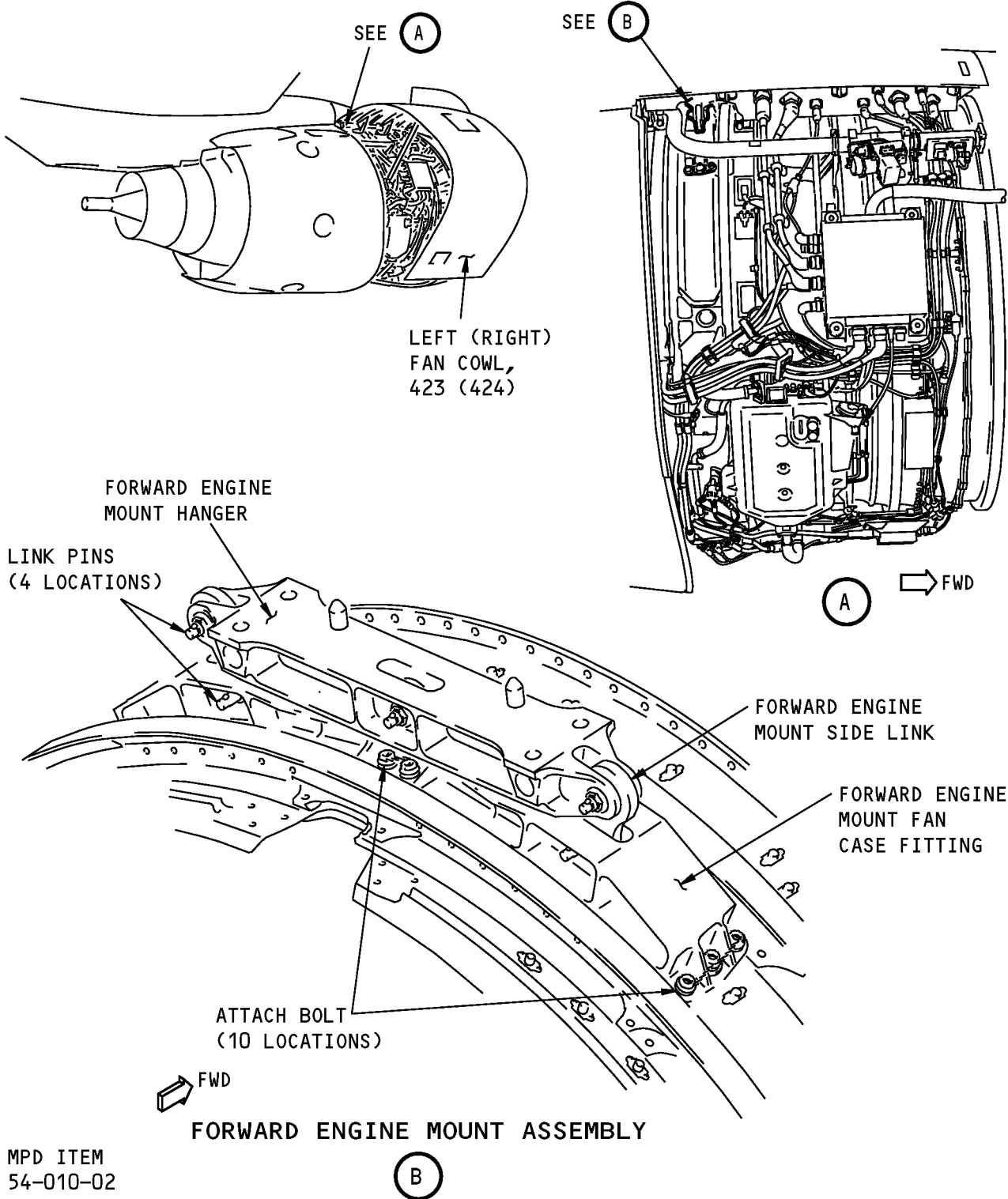
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MPD ITEM
54-010-02

**Right Strut Forward Engine Mount Assembly General Visual (External)
Figure 202/54-05-03-990-802**

EFFECTIVITY
HAP ALL

54-05-03



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TASK 54-05-03-210-803

3. INTERNAL - GENERAL VISUAL: INTERNAL - LEFT FORWARD ENGINE MOUNT ASSEMBLY

(Figure 203)

A. General

- (1) This procedure is a scheduled maintenance task.

B. Inspection

SUBTASK 54-05-03-210-003

- (1) Do the inspection.

————— **END OF TASK** —————

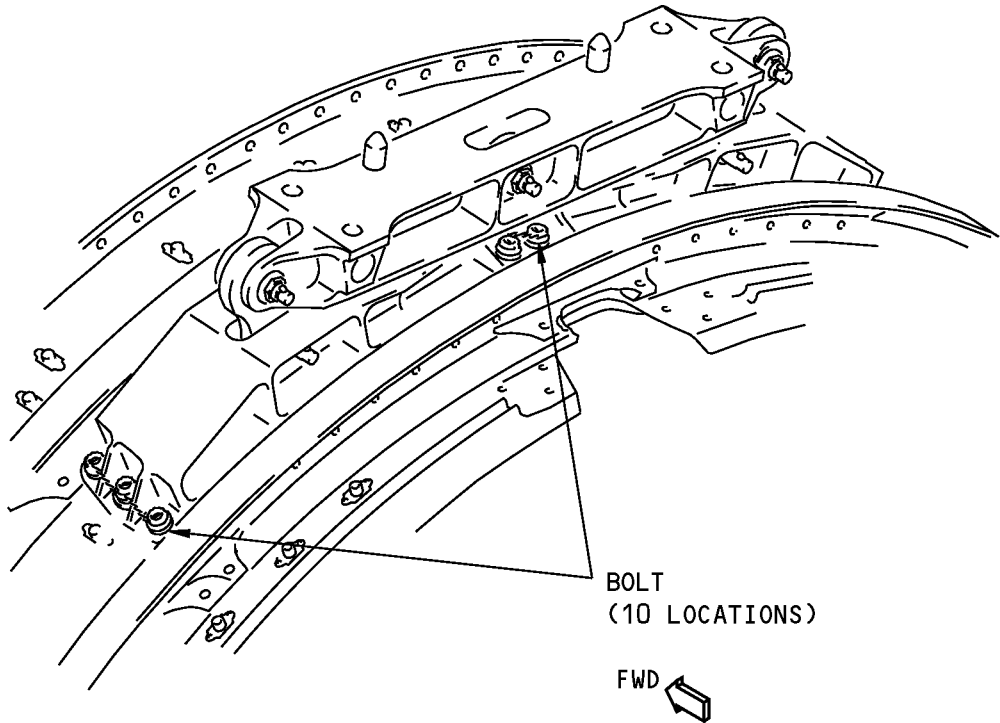
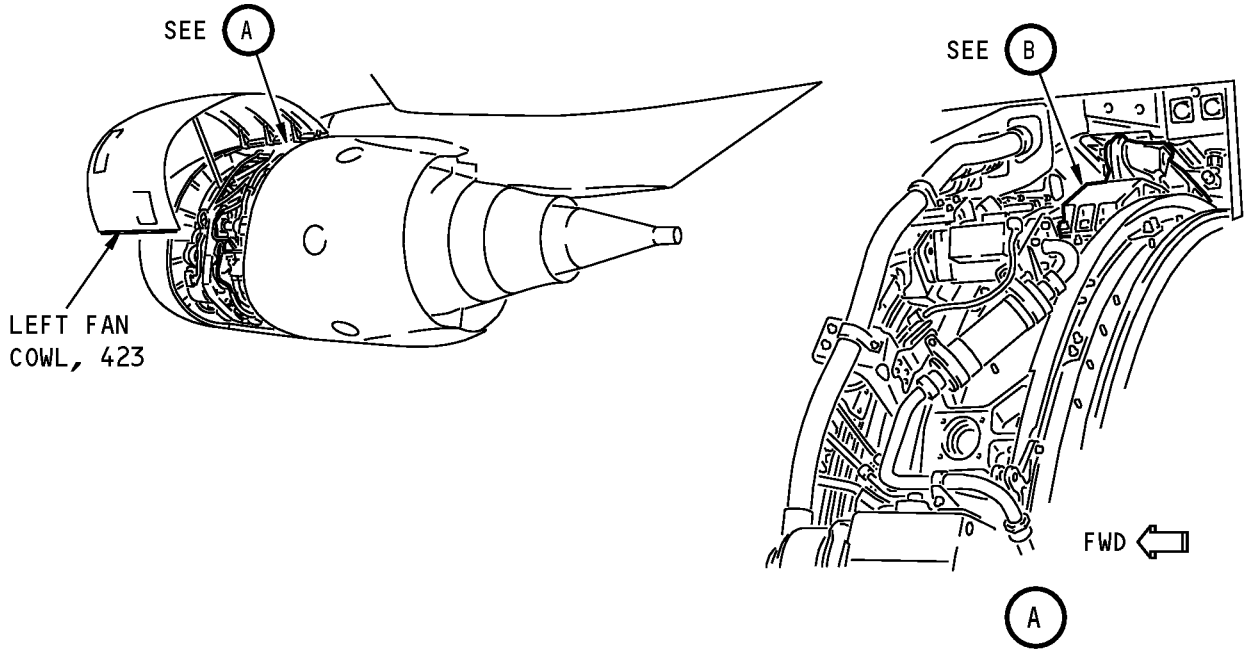
EFFECTIVITY
HAP ALL

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MPD ITEM
54-015-01 LEFT

**Forward Engine Mount Bolts - General Visual (Internal) Inspection
Figure 203/54-05-03-990-803**

EFFECTIVITY
HAP ALL

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TASK 54-05-03-210-804

4. INTERNAL - GENERAL VISUAL: INTERNAL - RIGHT FORWARD ENGINE MOUNT ASSEMBLY

(Figure 204)

A. General

(1) This procedure is a scheduled maintenance task.

B. Inspection

SUBTASK 54-05-03-210-004

(1) Do the inspection.

————— **END OF TASK** —————

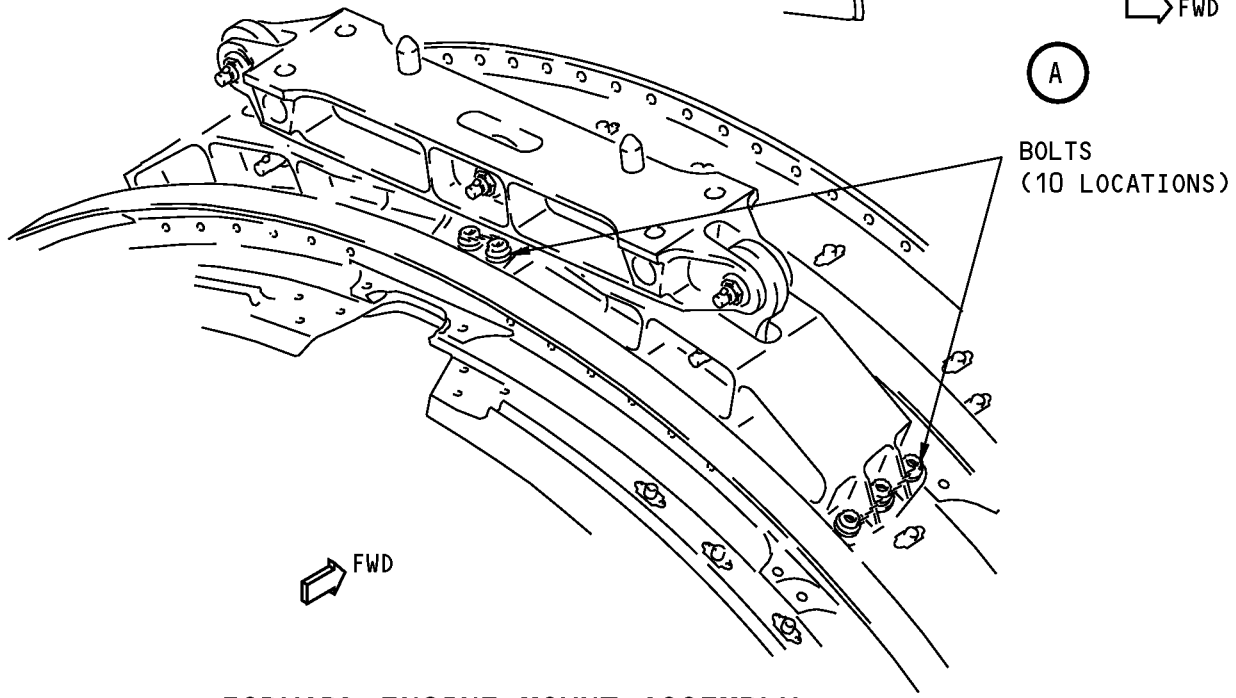
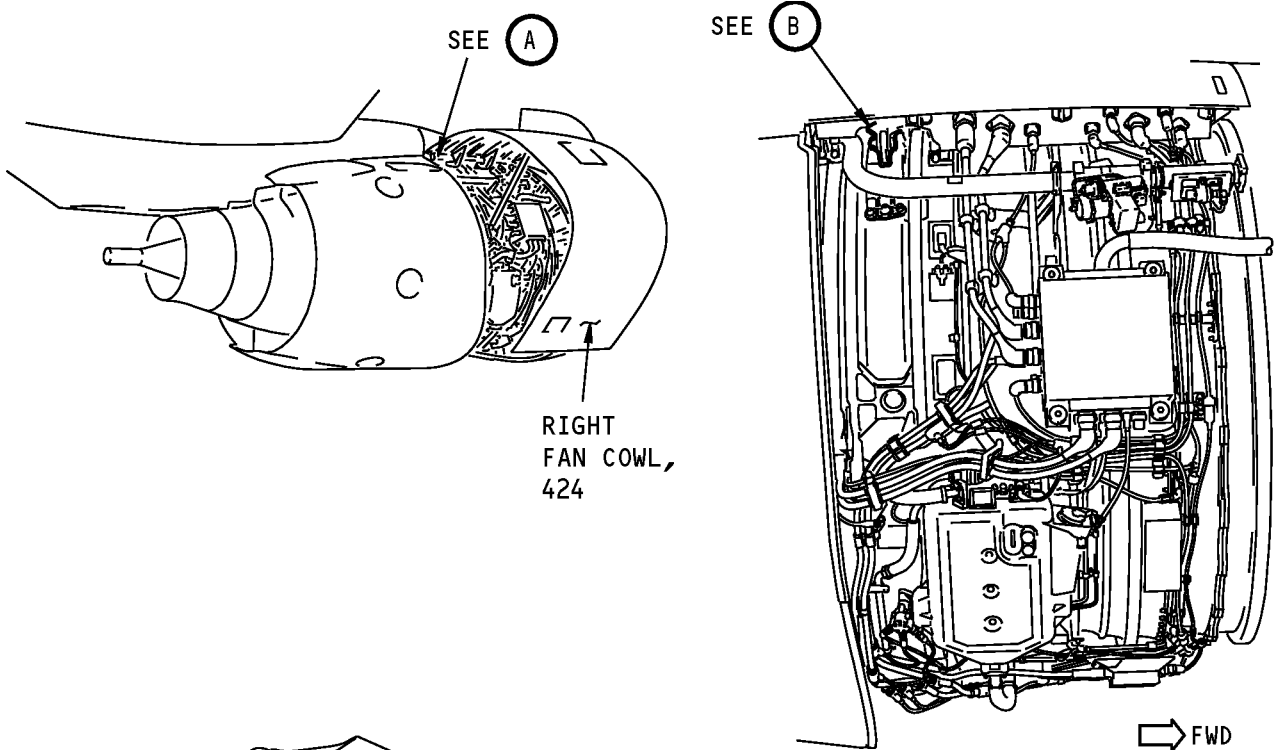
EFFECTIVITY
HAP ALL

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FORWARD ENGINE MOUNT ASSEMBLY

MPD ITEM
54-015-02

(B)

**Right Forward Engine Mount Bolts General Visual (Internal) Inspection
Figure 204/54-05-03-990-804**

EFFECTIVITY
HAP ALL

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AIRCRAFT MAINTENANCE MANUAL

TASK 54-05-03-210-805

5. INTERNAL - GENERAL VISUAL: INTERNAL - LEFT STRUT FORWARD AND AFT ENGINE MOUNT TO STRUT SHEAR PINS

(Figure 205)

A. General

- (1) This procedure is a scheduled maintenance task.

B. Inspection

SUBTASK 54-05-03-210-005

- (1) Do the inspection.

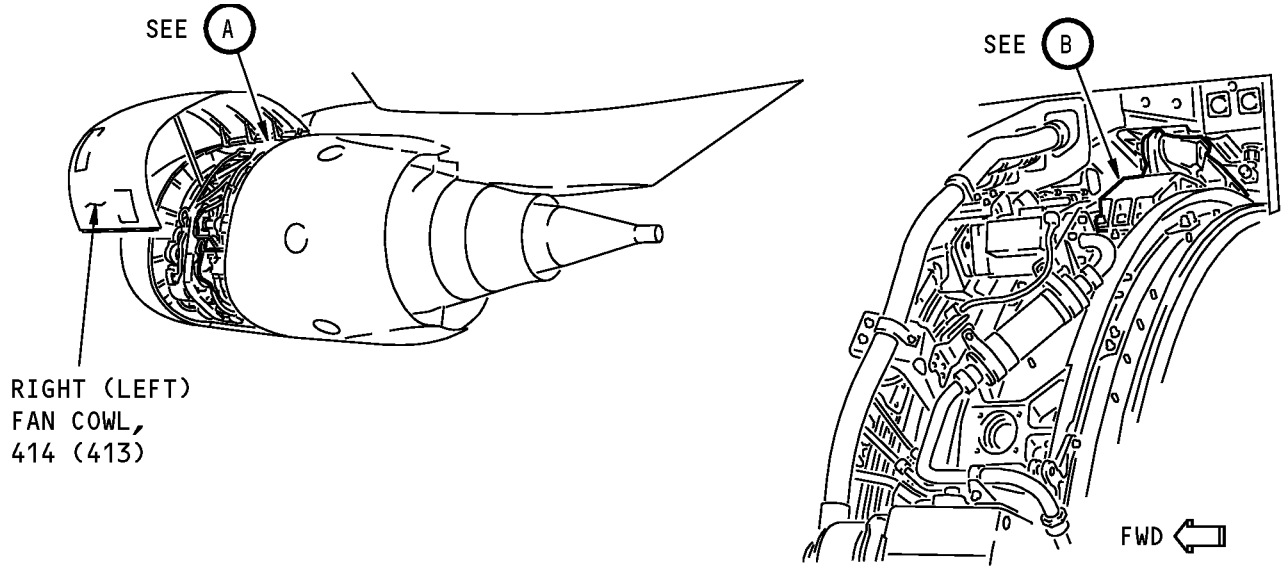
————— **END OF TASK** —————

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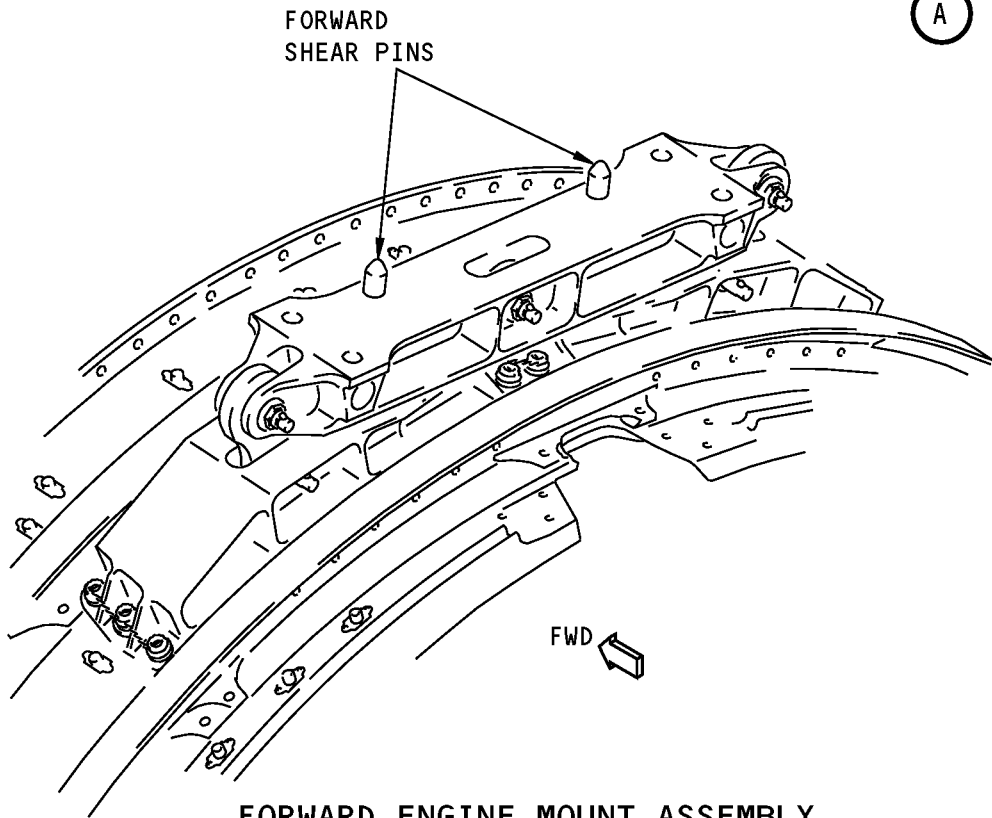
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RIGHT (LEFT)
FAN COWL,
414 (413)

FWD ←



FORWARD
SHEAR PINS

FWD →

FORWARD ENGINE MOUNT ASSEMBLY

MPD ITEM
54-020-01

**Left Strut Forward and Aft Engine Mount Assemblies General Visual (Internal)
Figure 205 (Sheet 1 of 2)/54-05-03-990-805**

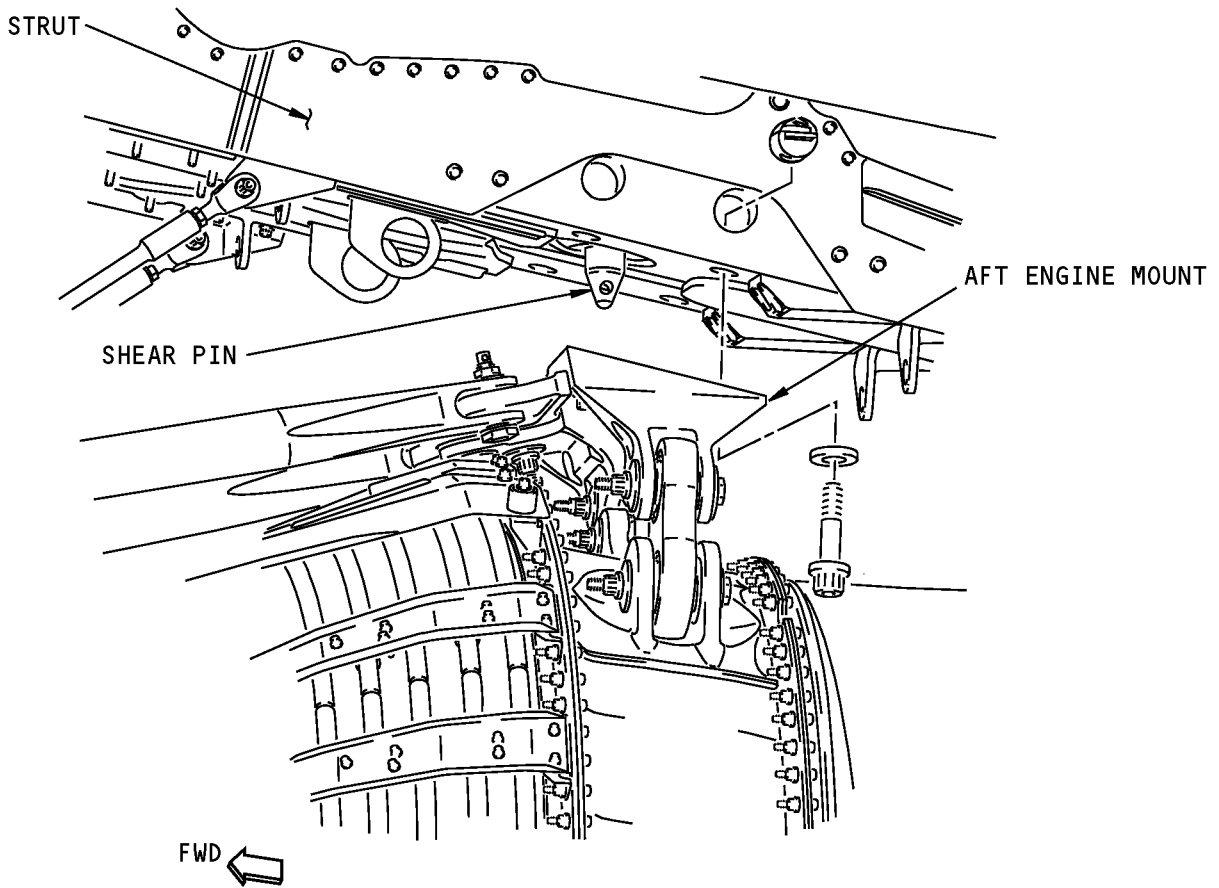
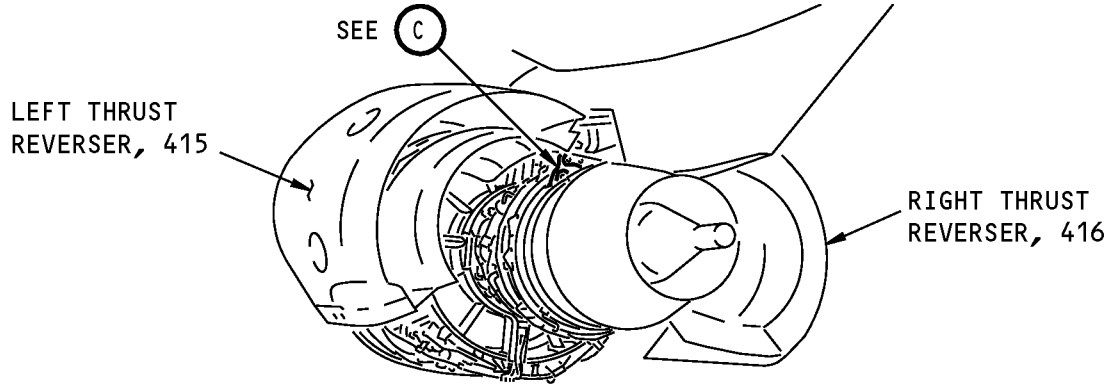
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AFT ENGINE MOUNT ASSEMBLY

(C)

MPD ITEM
54-020-01

Left Strut Forward and Aft Engine Mount Assemblies General Visual (Internal)
Figure 205 (Sheet 2 of 2)/54-05-03-990-805

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TASK 54-05-03-210-806

6. INTERNAL - GENERAL VISUAL: INTERNAL - RIGHT STRUT FORWARD AND AFT ENGINE MOUNT TO STRUT SHEAR PINS

(Figure 206)

A. General

- (1) This procedure is a scheduled maintenance task.

B. Inspection

SUBTASK 54-05-03-210-006

- (1) Do the inspection.

————— **END OF TASK** —————

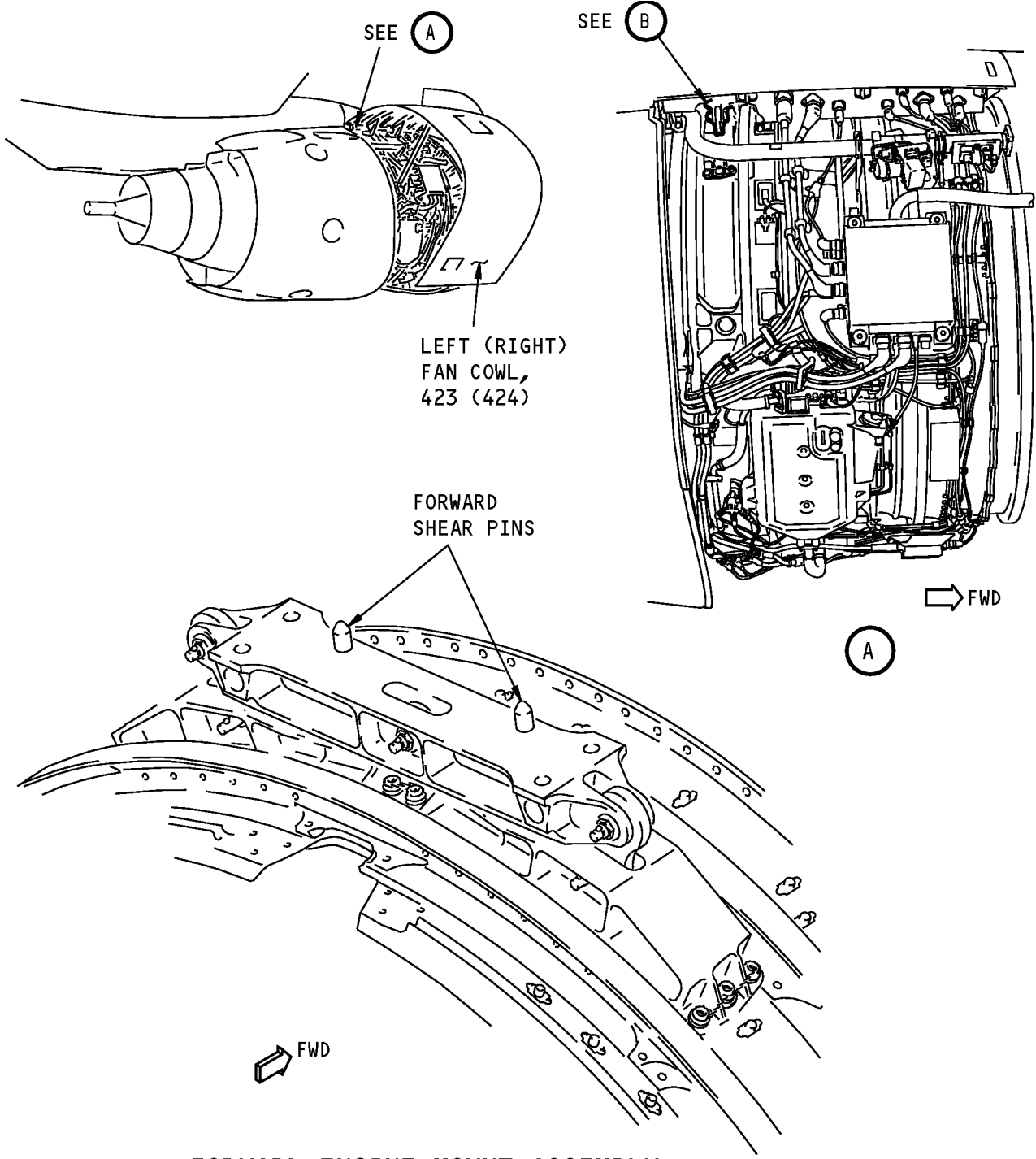
EFFECTIVITY
HAP ALL

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FORWARD ENGINE MOUNT ASSEMBLY

MPD ITEM
54-020-02

Right Strut Forward and Aft Engine Mount Assemblies General Visual (Internal)
Figure 206 (Sheet 1 of 2)/54-05-03-990-806

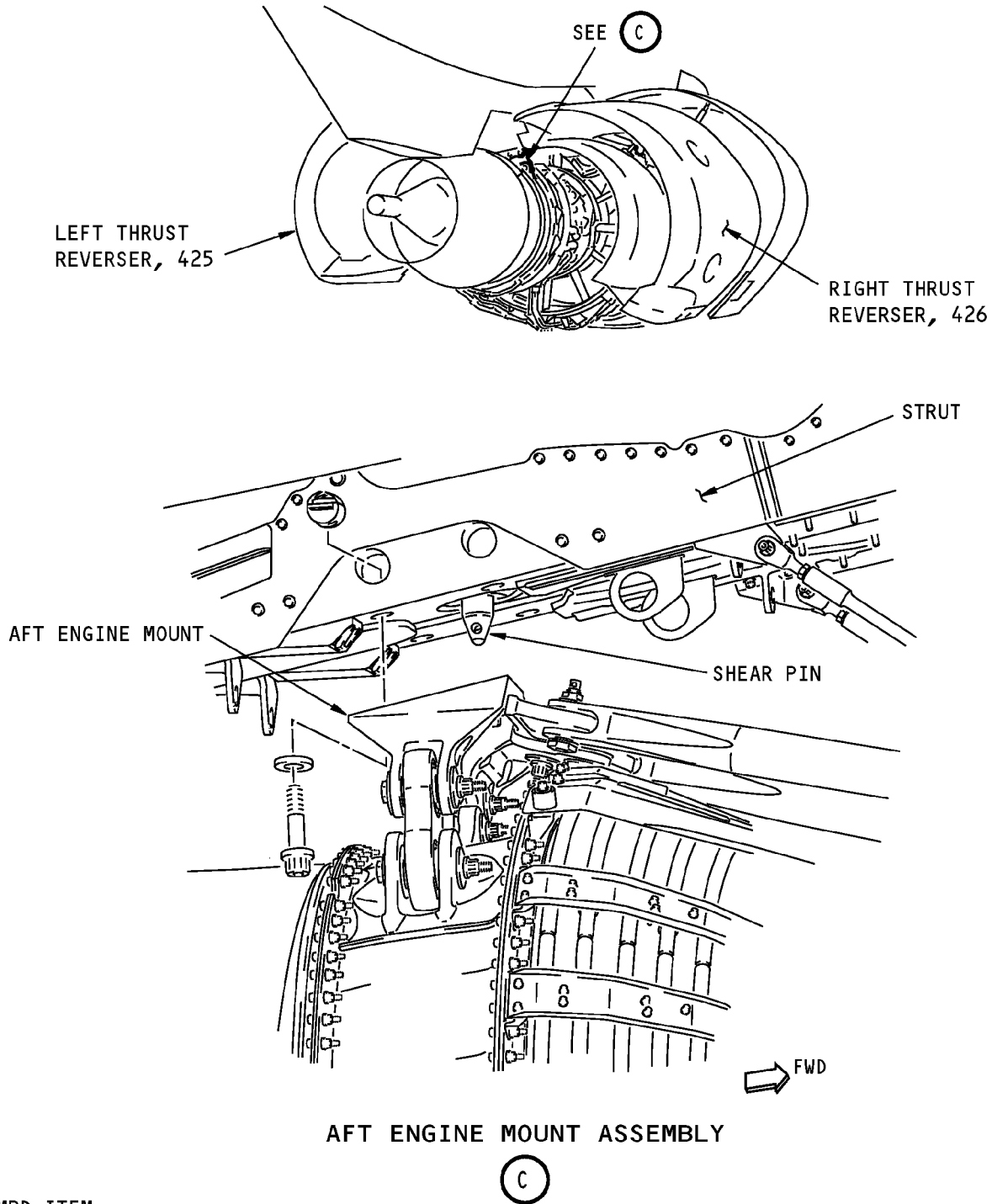
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MPD ITEM
54-020-02

**Right Strut Forward and Aft Engine Mount Assemblies General Visual (Internal)
Figure 206 (Sheet 2 of 2)/54-05-03-990-806**

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TASK 54-05-03-210-807

7. EXTERNAL - GENERAL VISUAL: EXTERNAL - LEFT STRUT AFT ENGINE MOUNT ASSEMBLY

A. General

(1) This procedure is a scheduled maintenance task.

B. Inspection

SUBTASK 54-05-03-210-007

(1) Do the inspection.

————— **END OF TASK** —————

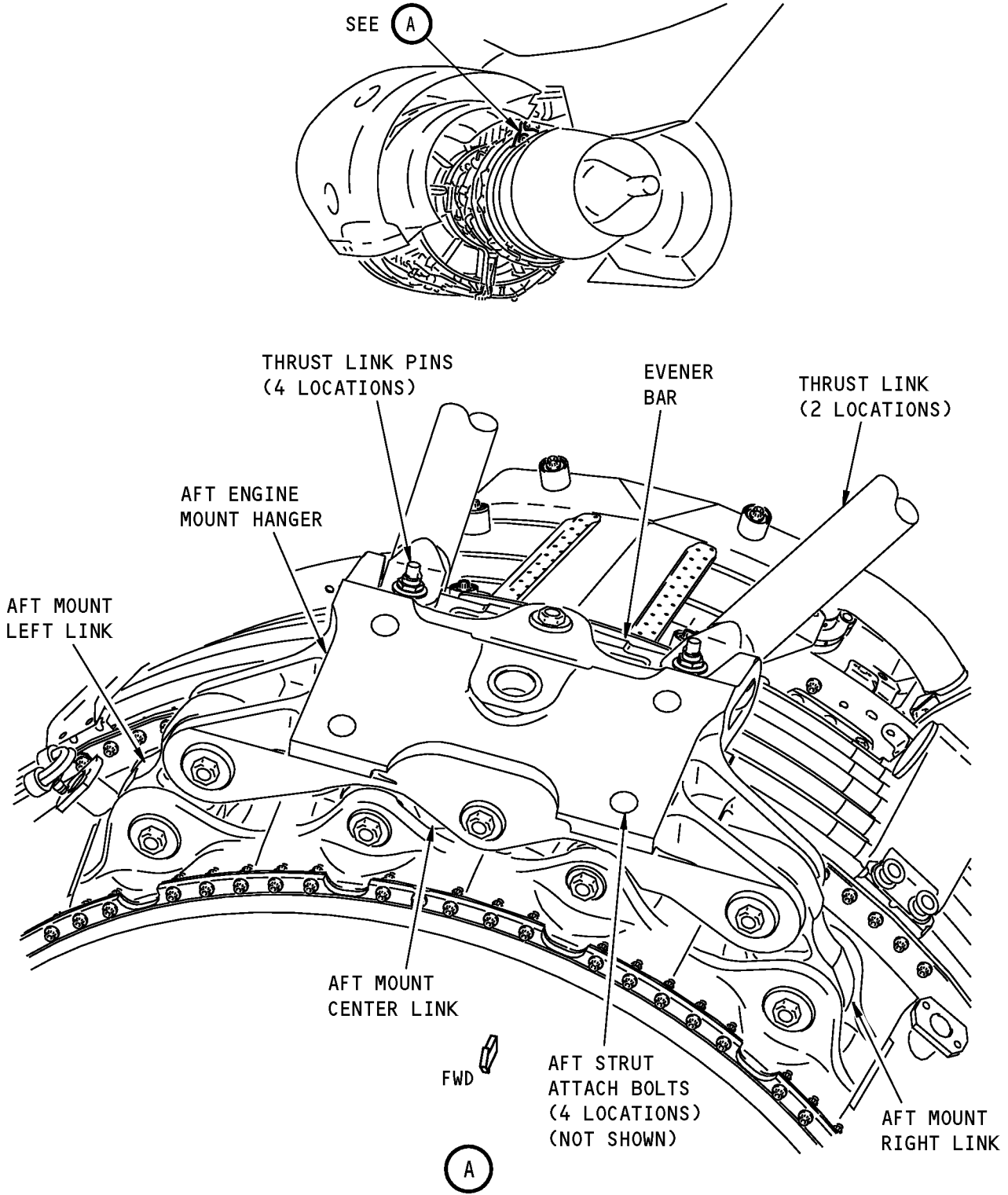
EFFECTIVITY
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Left Aft Engine Mount
Figure 207/54-05-03-990-811

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HAP ALL

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TASK 54-05-03-210-808

8. EXTERNAL - GENERAL VISUAL: EXTERNAL - RIGHT STRUT AFT ENGINE MOUNT ASSEMBLY

A. General

(1) This procedure is a scheduled maintenance task.

B. Inspection

SUBTASK 54-05-03-210-008

(1) Do the inspection.

————— **END OF TASK** —————

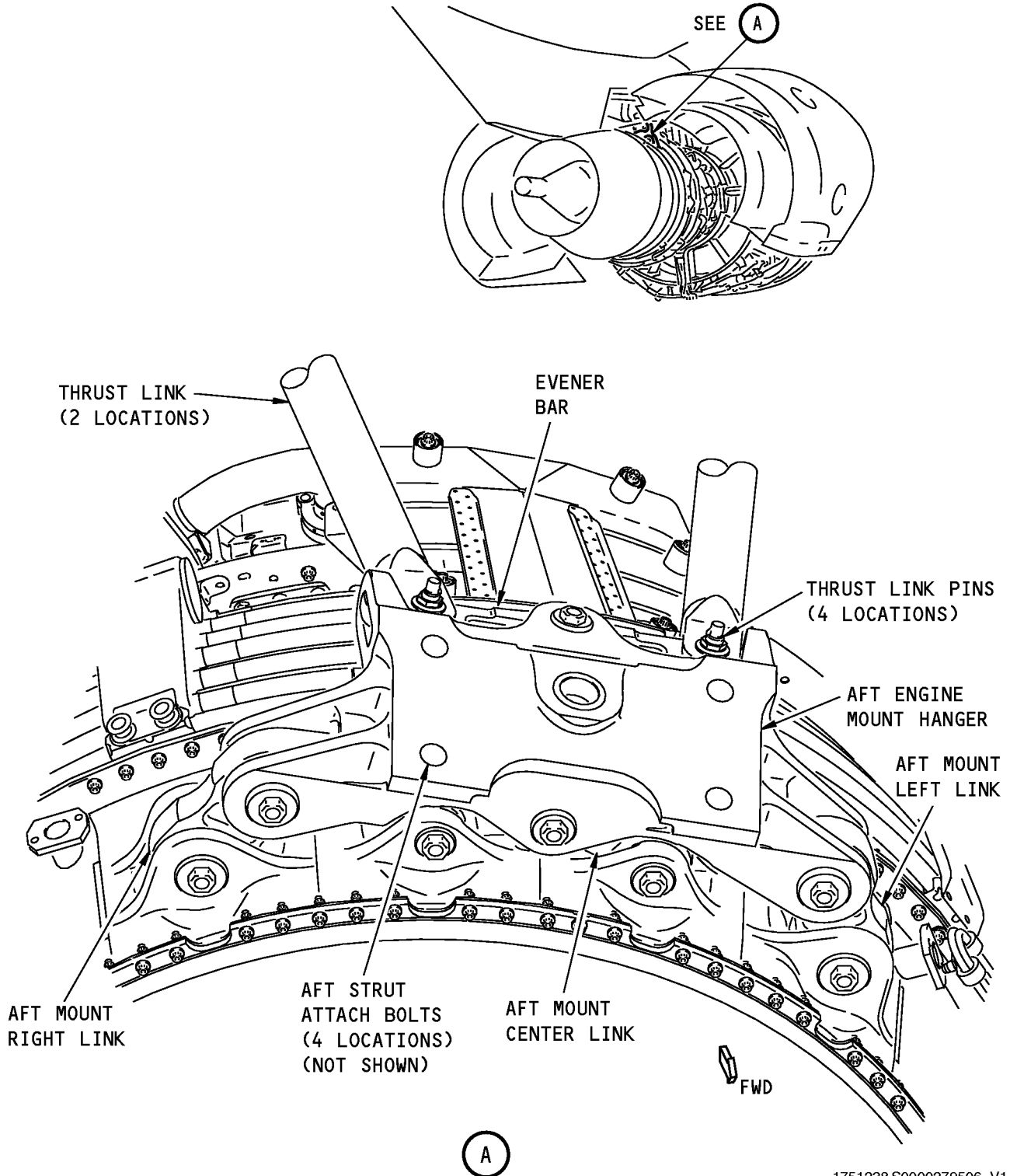
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**Right Aft Engine Mount
Figure 208/54-05-03-990-821**

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TASK 54-05-03-210-809

9. INTERNAL - GENERAL VISUAL: INTERNAL - LEFT STRUT TO WING ATTACHMENTS

(Figure 209)

A. General

(1) This procedure is a scheduled maintenance task.

B. Inspection

SUBTASK 54-05-03-210-009

(1) Do the inspection.

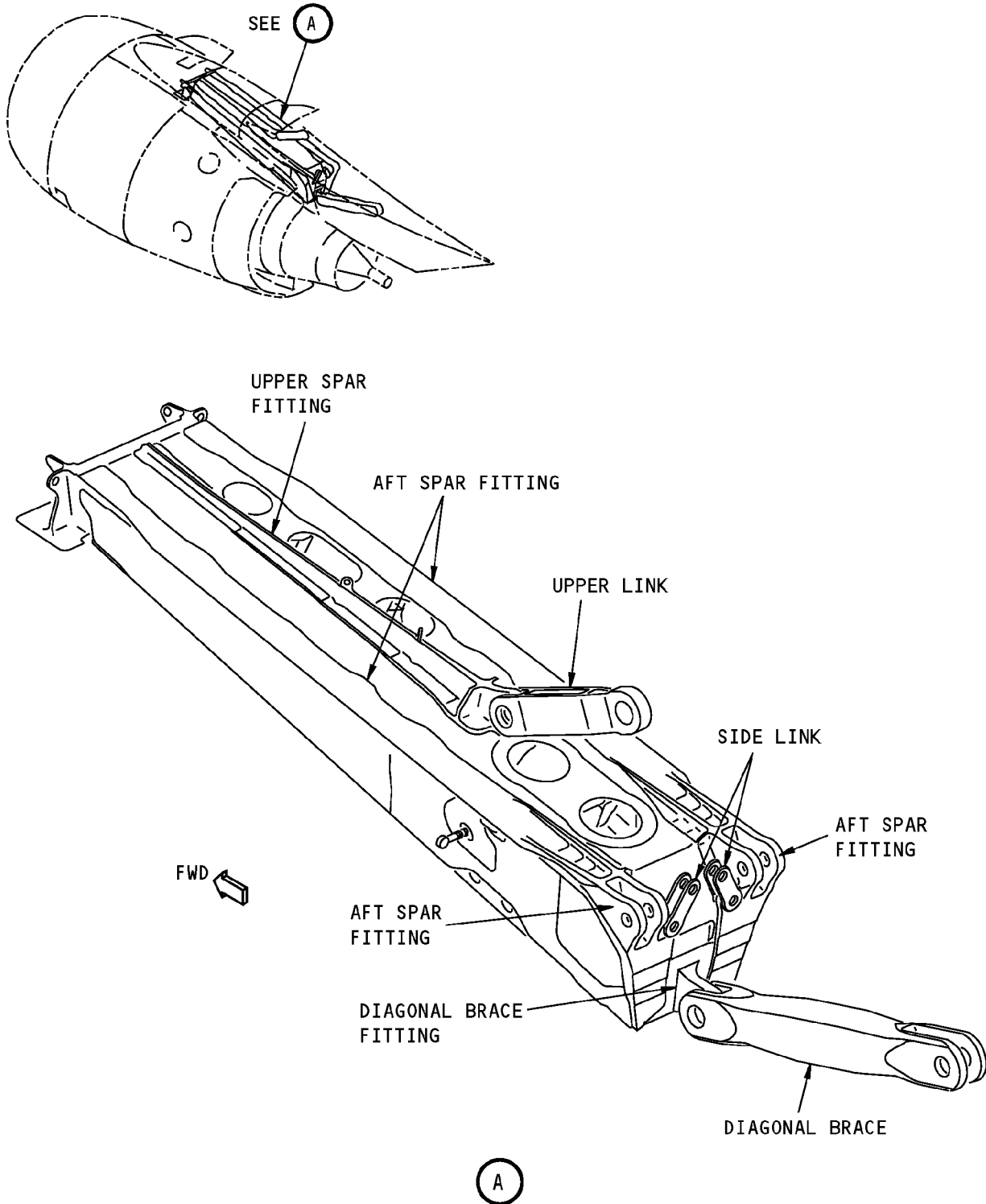
————— **END OF TASK** —————

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HAP ALL

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**Engine Strut-to-Wing Attachments
Figure 209/54-05-03-990-807**

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HAP ALL

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TASK 54-05-03-210-810

10. INTERNAL - GENERAL VISUAL: INTERNAL - RIGHT STRUT TO WING ATTACHMENTS

(Figure 210)

A. General

(1) This procedure is a scheduled maintenance task.

B. Inspection

SUBTASK 54-05-03-210-010

(1) Do the inspection.

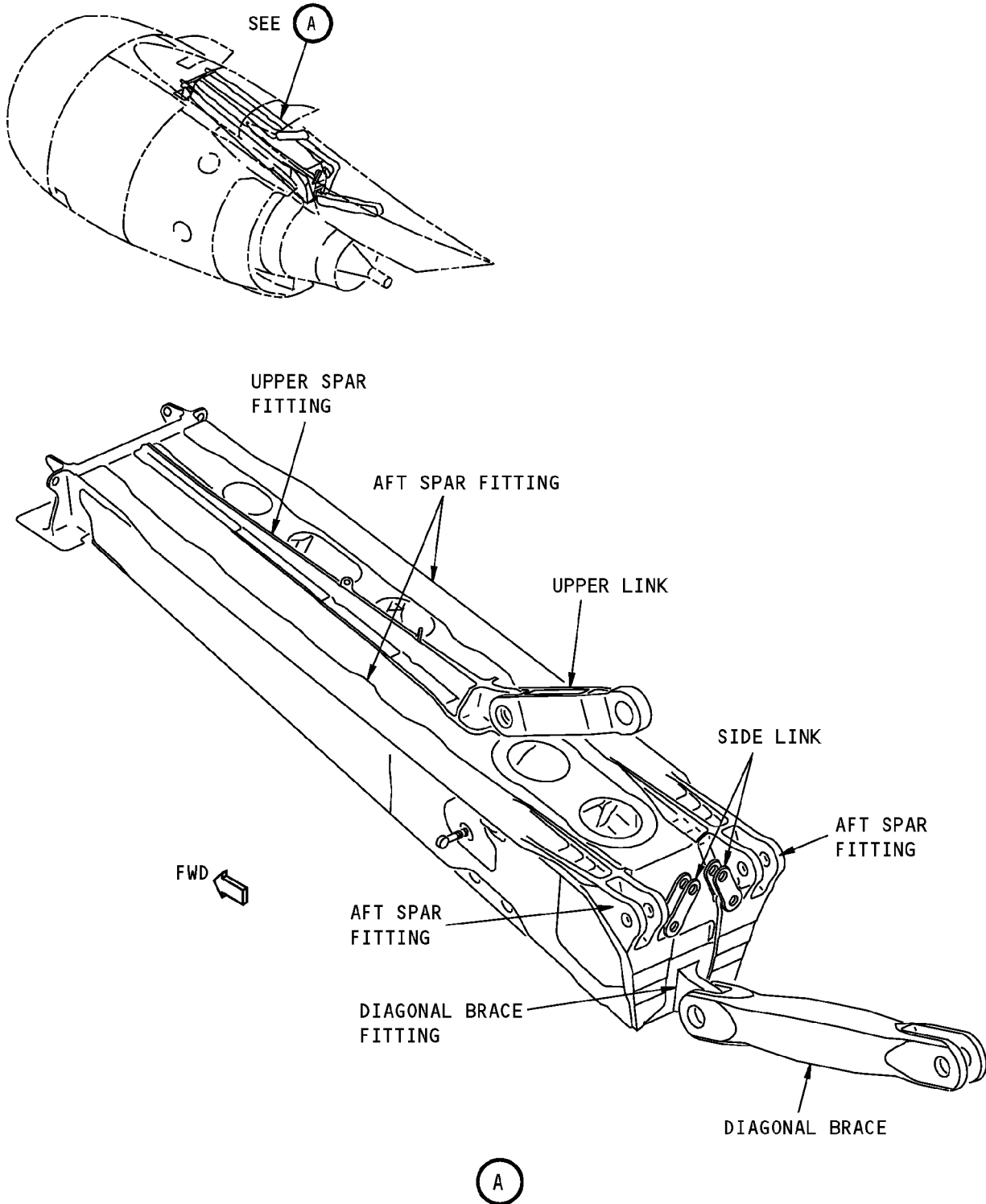
————— **END OF TASK** —————

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**Engine Strut-to-Wing Attachments
Figure 210/54-05-03-990-808**

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TASK 54-05-03-211-801

11. INTERNAL - DETAILED: INTERNAL - LEFT STRUT TO WING ATTACHMENTS - PINS AND FUSE PINS

(Figure 211)

A. General

(1) This procedure is a scheduled maintenance task.

B. Inspection

SUBTASK 54-05-03-211-001

(1) Do the inspection.

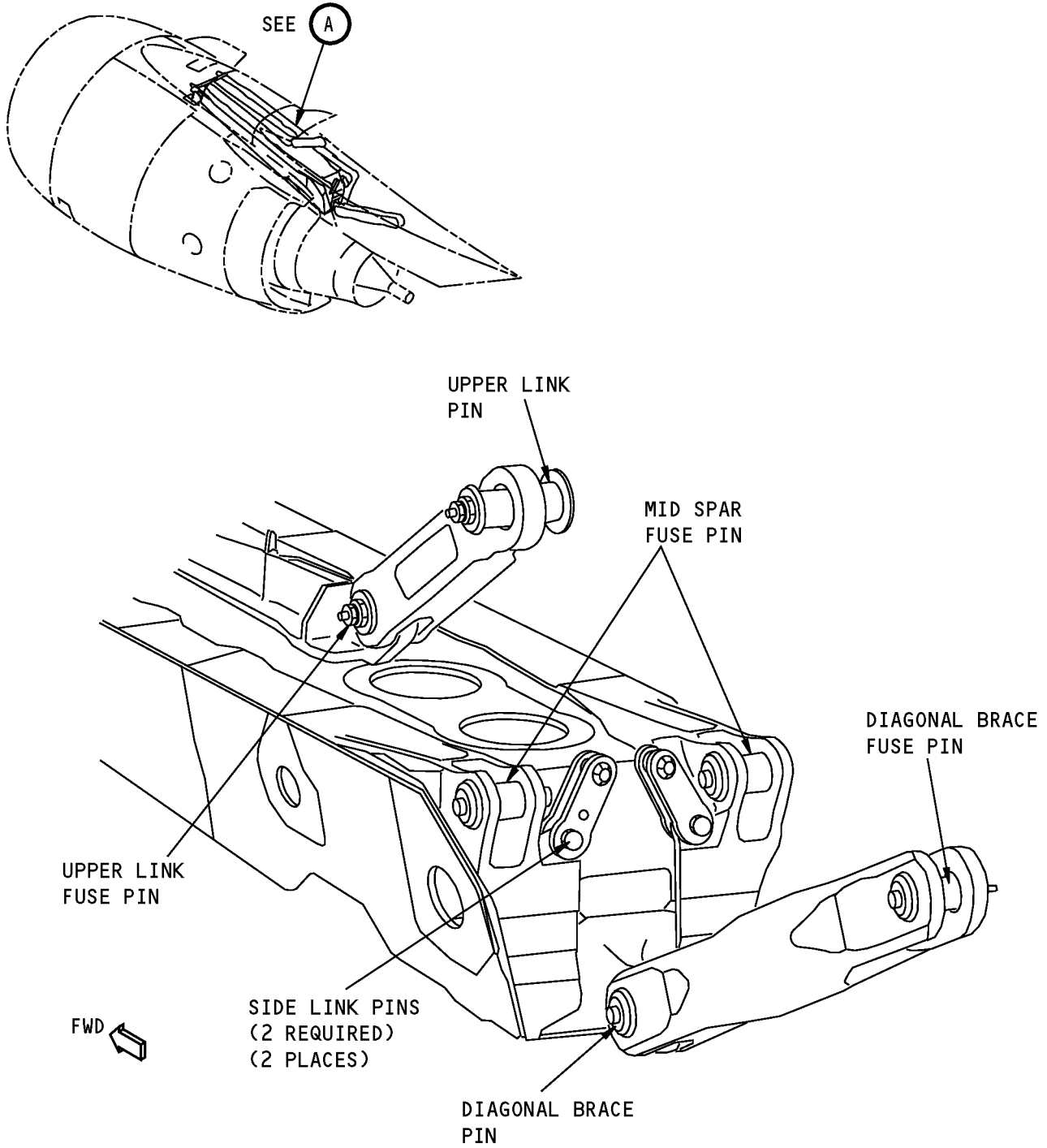
————— **END OF TASK** —————

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HAP ALL

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(A)

Engine Strut-to-Wing Pins
Figure 211/54-05-03-990-809

EFFECTIVITY
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TASK 54-05-03-211-802

12. INTERNAL - DETAILED: INTERNAL - RIGHT STRUT TO WING ATTACHMENTS - PINS AND FUSE PINS

(Figure 212)

A. General

(1) This procedure is a scheduled maintenance task.

B. Inspection

SUBTASK 54-05-03-211-002

(1) Do the inspection.

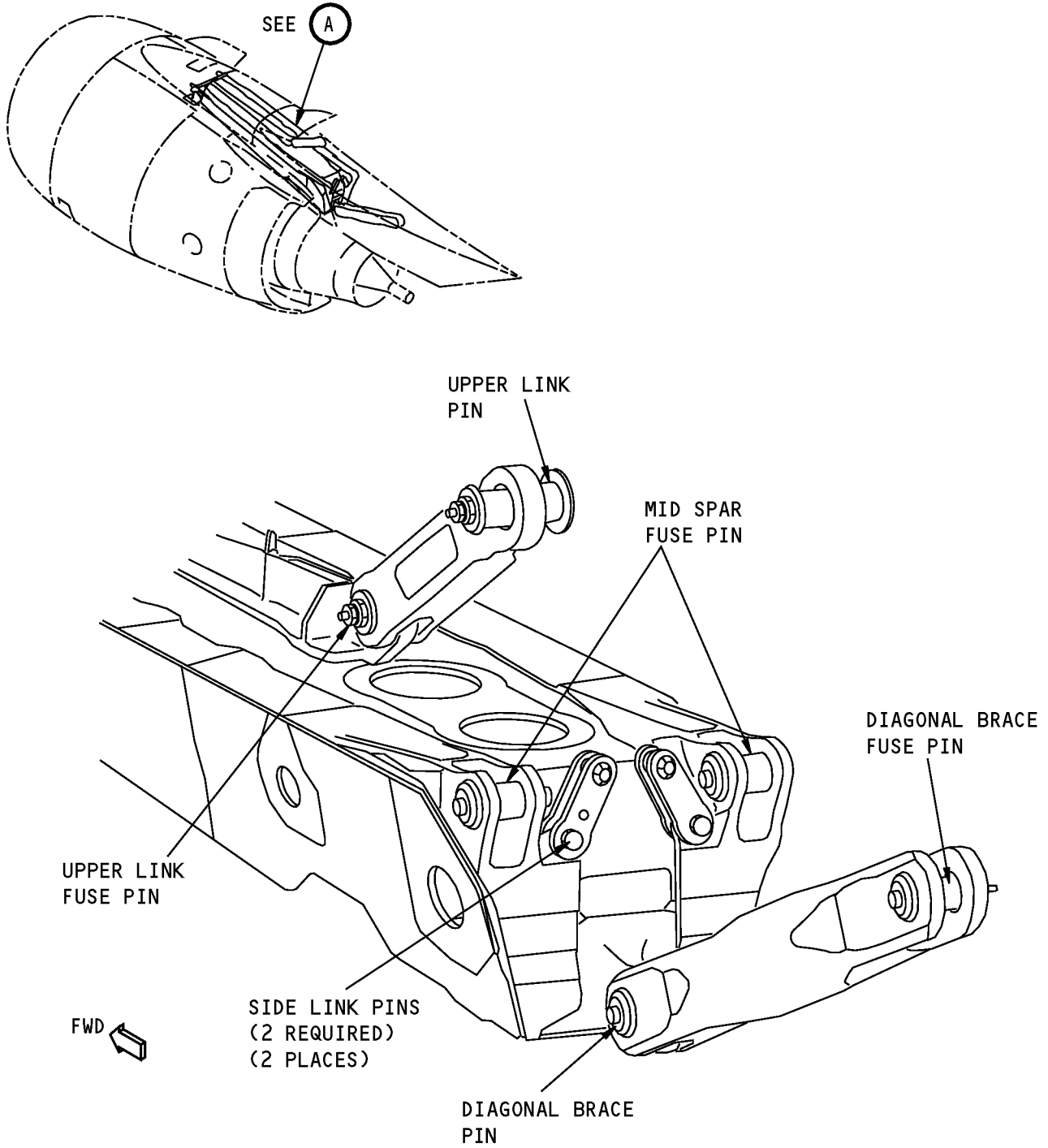
————— **END OF TASK** —————

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(A)

Engine Strut-to-Wing Pins
Figure 212/54-05-03-990-810

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TASK 54-05-03-211-803

13. INTERNAL - DETAILED: INTERNAL - LEFT STRUT TO WING ATTACHMENTS

A. General

(1) This procedure is a scheduled maintenance task.

B. Inspection

SUBTASK 54-05-03-211-003

(1) Do the inspection.

————— **END OF TASK** —————

EFFECTIVITY
HAP ALL

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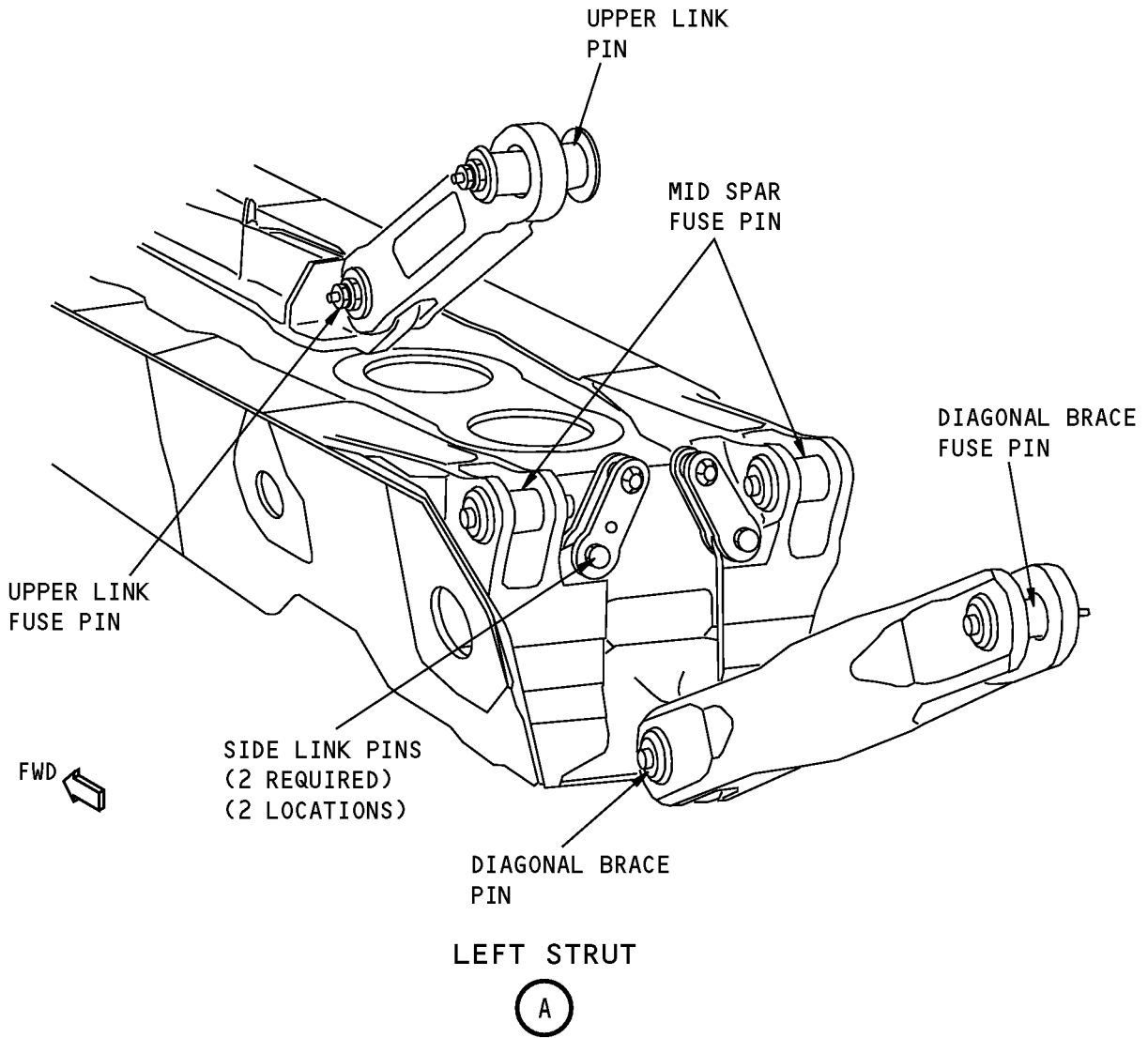
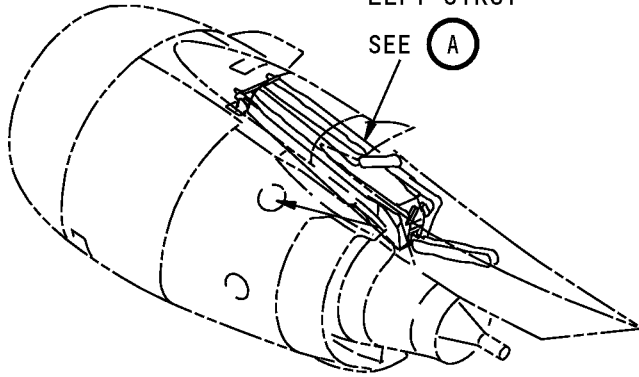
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LEFT STRUT

SEE (A)



Left Strut-To-Wing Pins
Figure 213/54-05-03-990-820

EFFECTIVITY
HAP ALL

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TASK 54-05-03-211-804

14. INTERNAL - DETAILED: INTERNAL - RIGHT STRUT TO WING ATTACHMENTS

A. General

(1) This procedure is a scheduled maintenance task.

B. Inspection

SUBTASK 54-05-03-211-004

(1) Do the inspection.

————— **END OF TASK** —————

EFFECTIVITY
HAP ALL

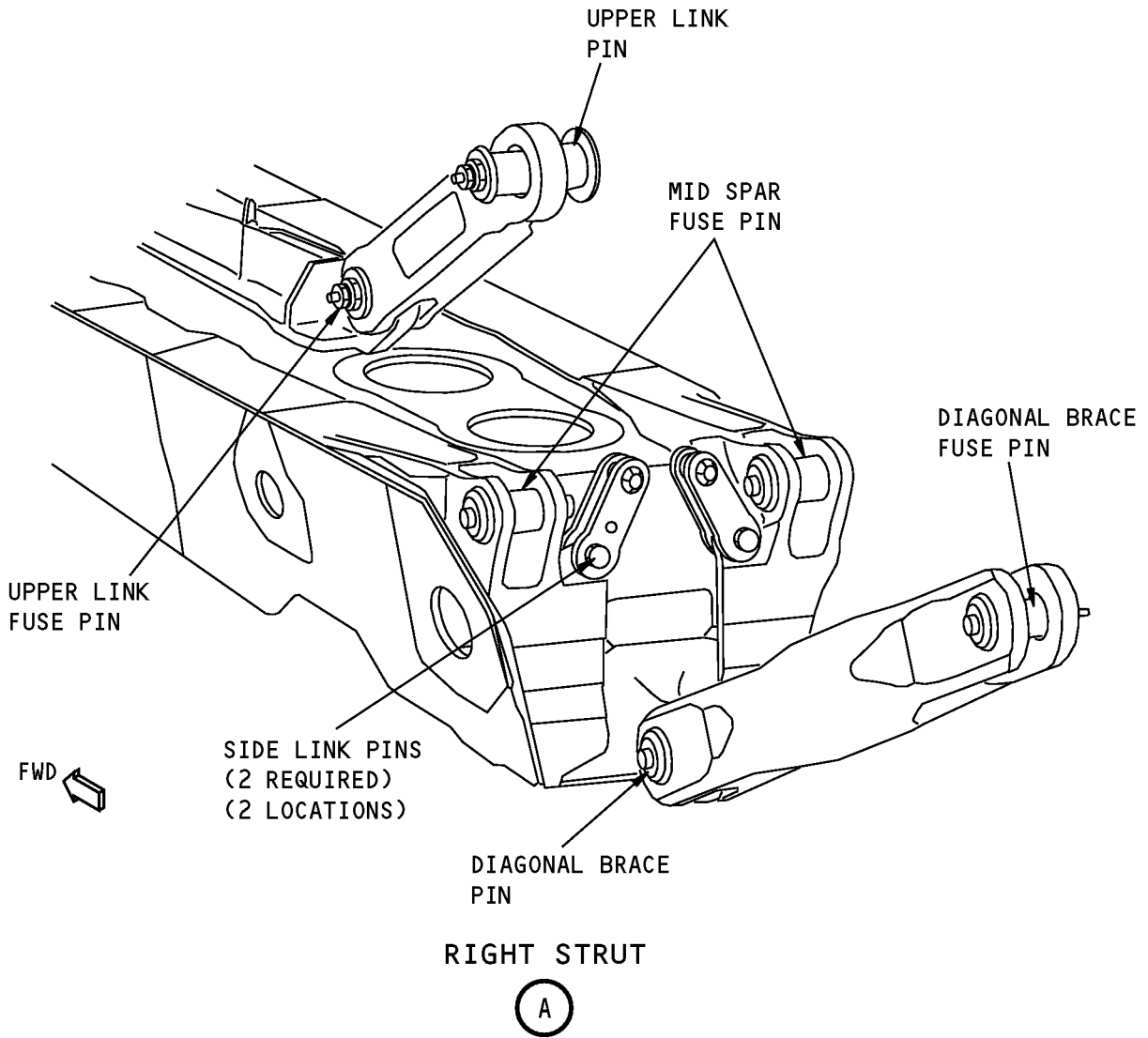
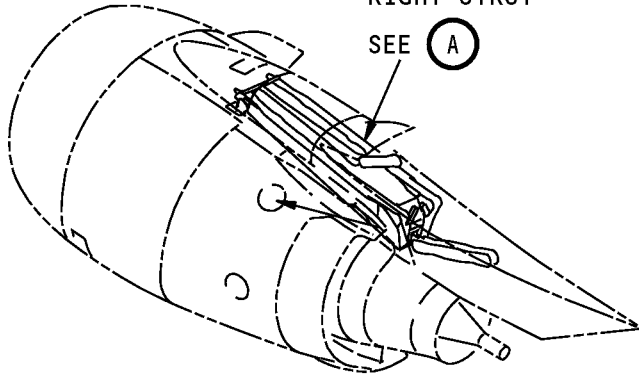
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AIRCRAFT MAINTENANCE MANUAL

RIGHT STRUT



Right Strut-To-Wing-Pins
Figure 214/54-05-03-990-819

EFFECTIVITY
HAP ALL

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TASK 54-05-03-210-811

15. INTERNAL - GENERAL VISUAL: EXTERNAL - LEFT STRUT BOX

A. General

(1) This procedure is a scheduled maintenance task.

B. Inspection

SUBTASK 54-05-03-210-011

(1) Do the inspection.

————— **END OF TASK** —————

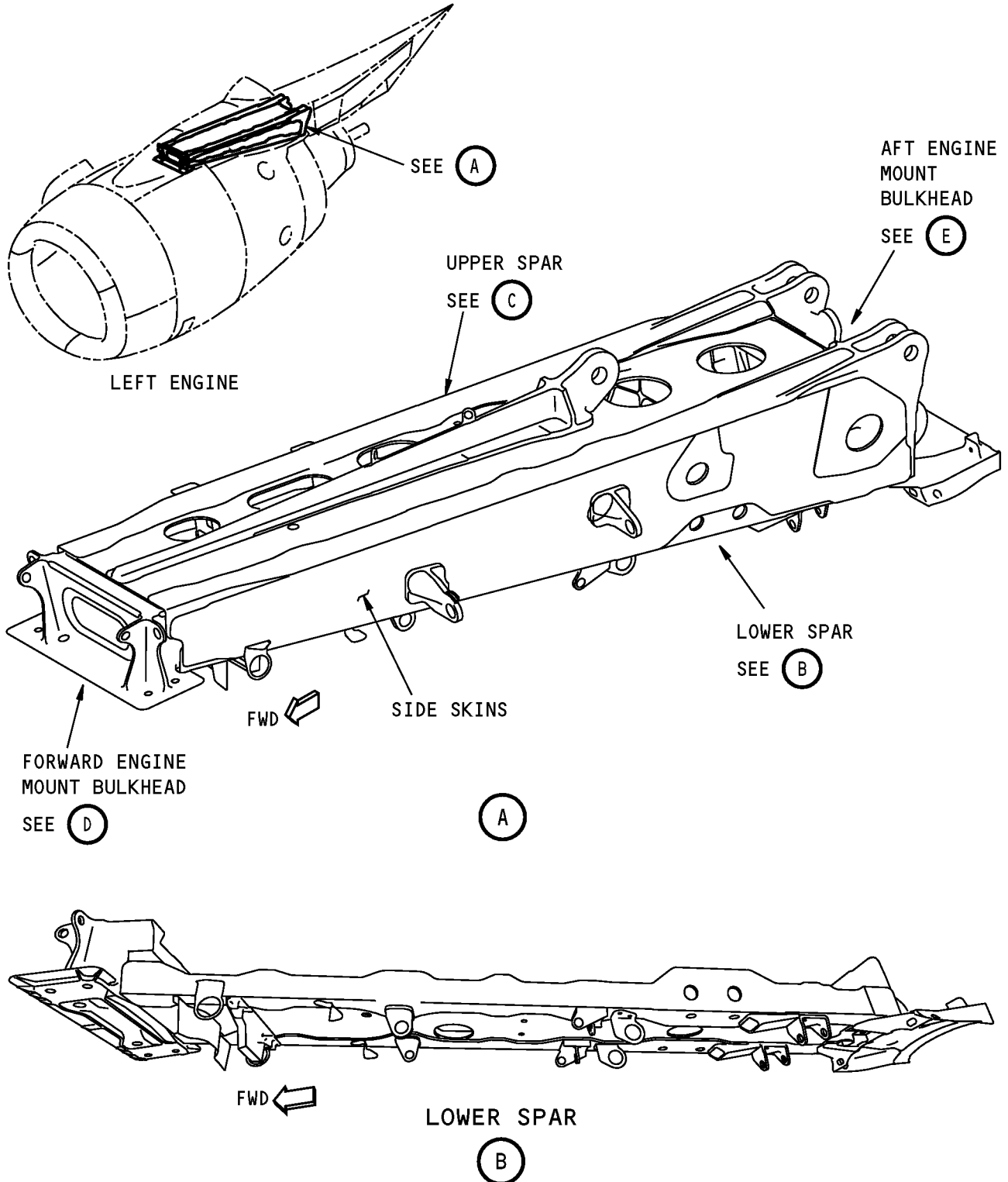
EFFECTIVITY
HAP ALL

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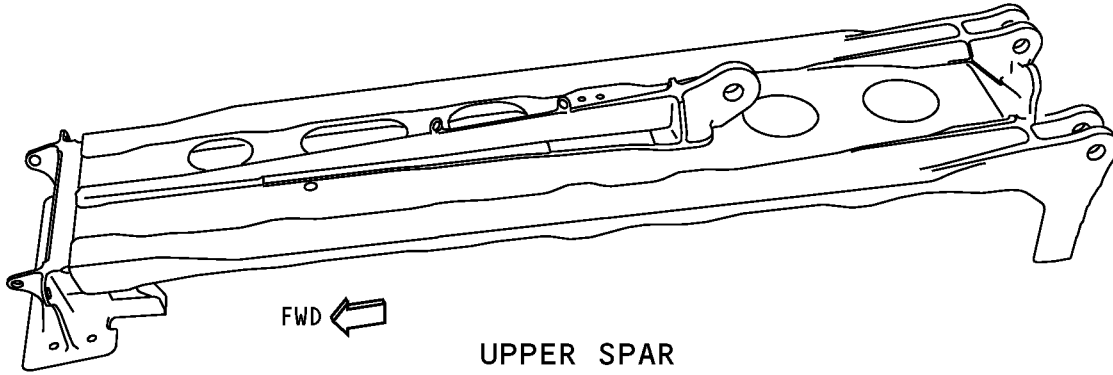
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**Left Strut Box - General Visual (Internal)
Figure 215/54-05-03-990-815**

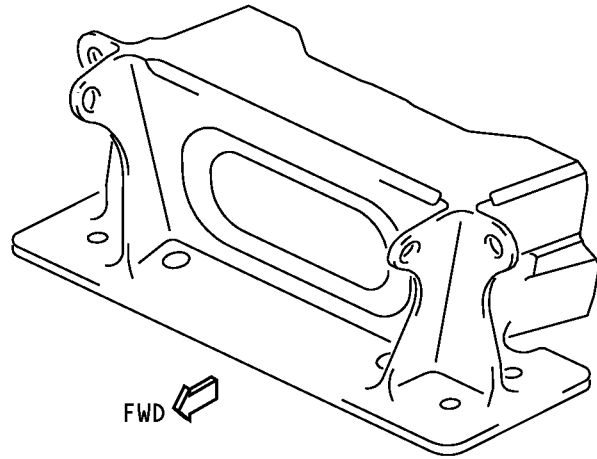
EFFECTIVITY
HAP ALL

54-05-03



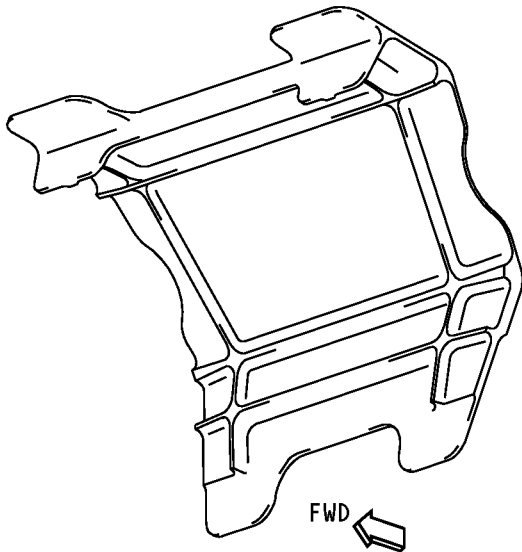
UPPER SPAR

(C)



FORWARD ENGINE MOUNT BULKHEAD

(D)



AFT BULKHEAD

(E)

**Left Strut Box - General Visual (Internal)
Figure 216/54-05-03-990-816**

EFFECTIVITY
HAP ALL

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AIRCRAFT MAINTENANCE MANUAL

TASK 54-05-03-210-812

16. INTERNAL - GENERAL VISUAL: EXTERNAL - RIGHT STRUT BOX

A. General

(1) This procedure is a scheduled maintenance task.

B. Inspection

SUBTASK 54-05-03-210-012

(1) Do the inspection.

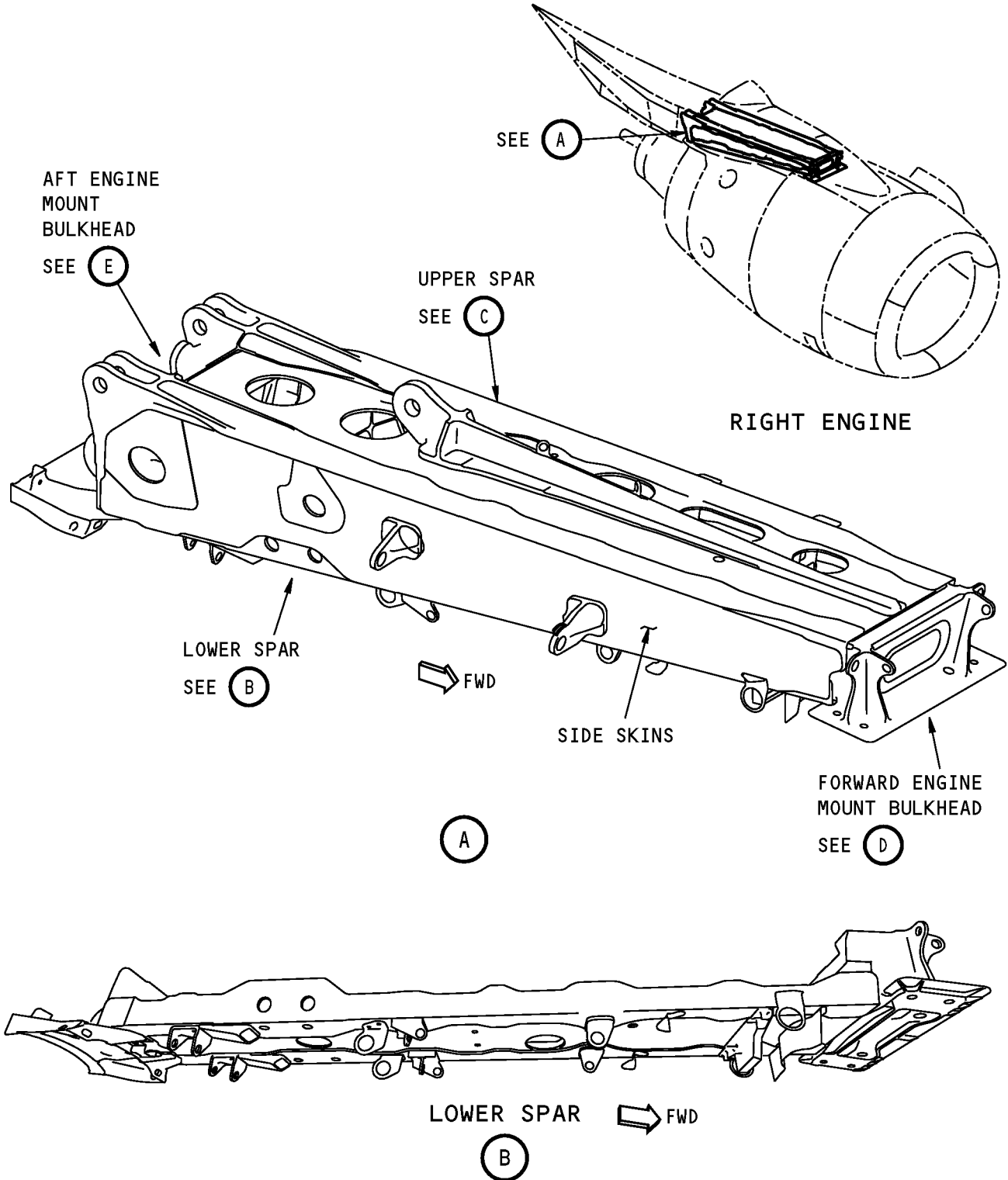
————— **END OF TASK** —————

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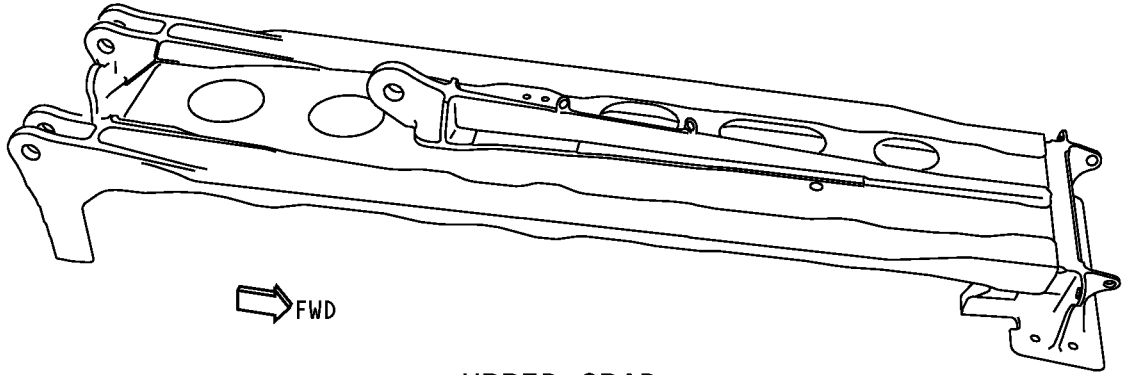
**Right Strut Box - General Visual (Internal)
Figure 217/54-05-03-990-817**

EFFECTIVITY
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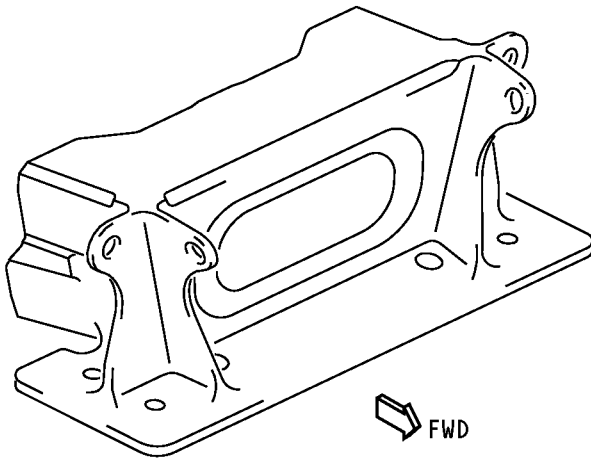
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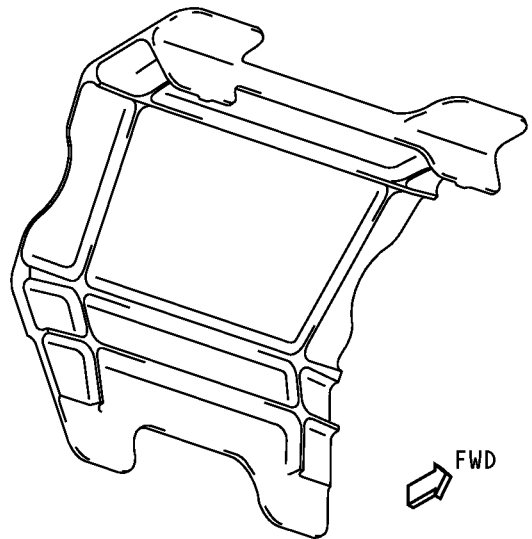
UPPER SPAR

(C)



FORWARD ENGINE MOUNT BULKHEAD

(D)



AFT BULKHEAD

(E)

**Right Strut Box - General Visual (Internal)
Figure 218/54-05-03-990-818**

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TASK 54-05-03-210-813

17. INTERNAL - GENERAL VISUAL: INTERNAL - LEFT STRUT BOX

A. General

(1) This procedure is a scheduled maintenance task.

B. Inspection

SUBTASK 54-05-03-210-013

(1) Do the inspection.

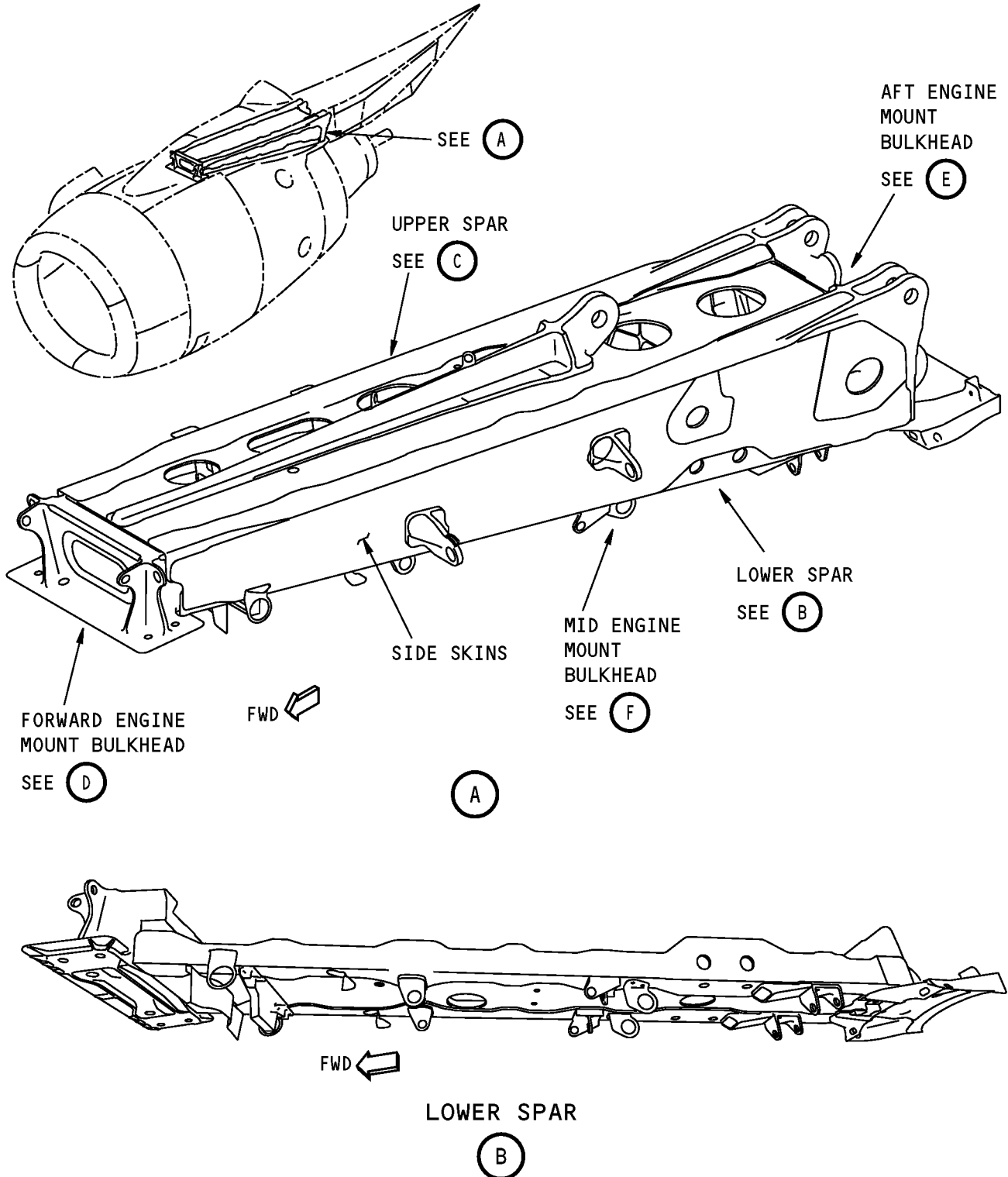
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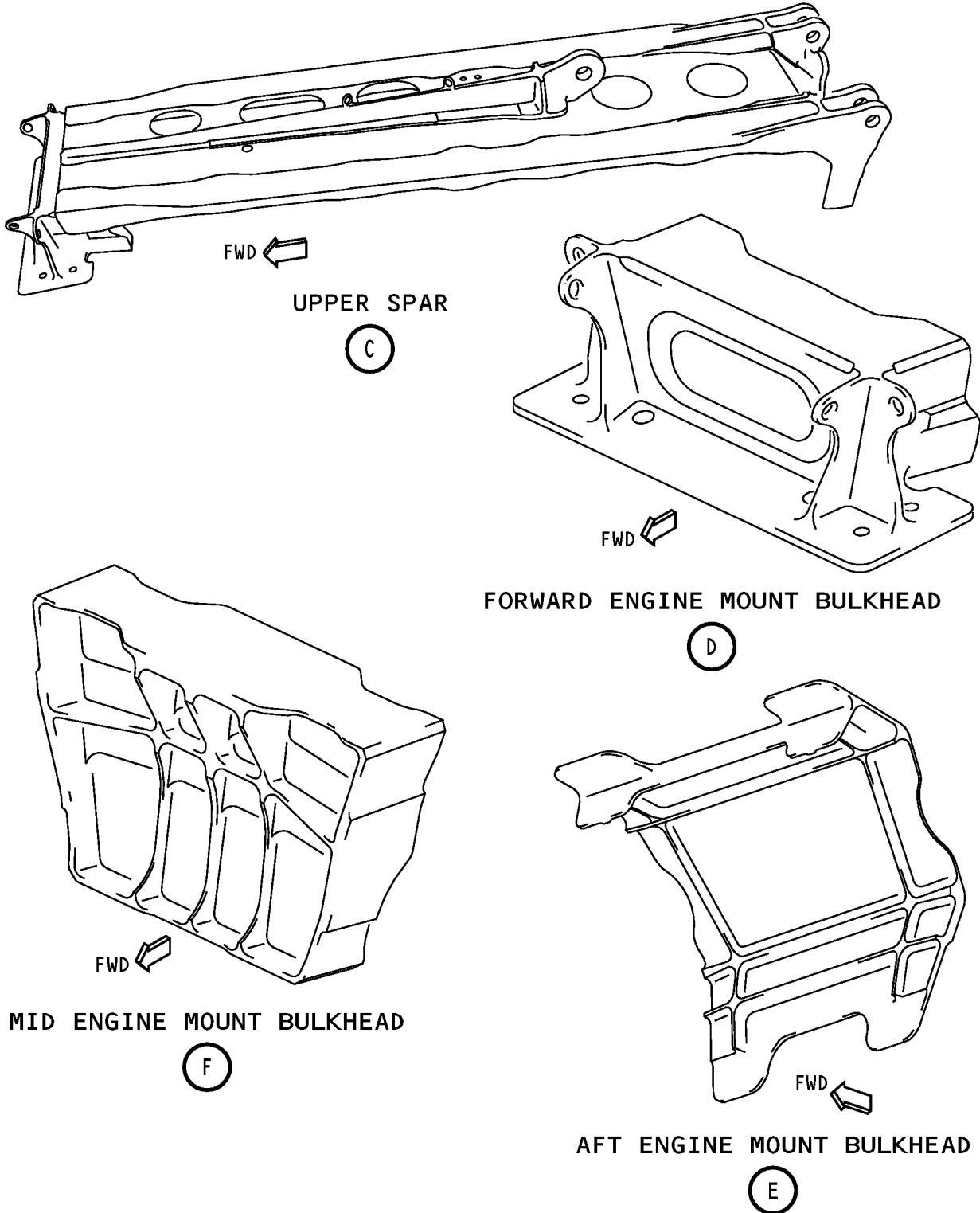
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**Left Strut Box
Figure 219 (Sheet 1 of 2)/54-05-03-990-812**

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Left Strut Box
Figure 219 (Sheet 2 of 2)/54-05-03-990-812

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TASK 54-05-03-210-814

18. INTERNAL - GENERAL VISUAL: INTERNAL - RIGHT STRUT BOX

A. General

(1) This procedure is a scheduled maintenance task.

B. Inspection

SUBTASK 54-05-03-210-014

(1) Do the inspection.

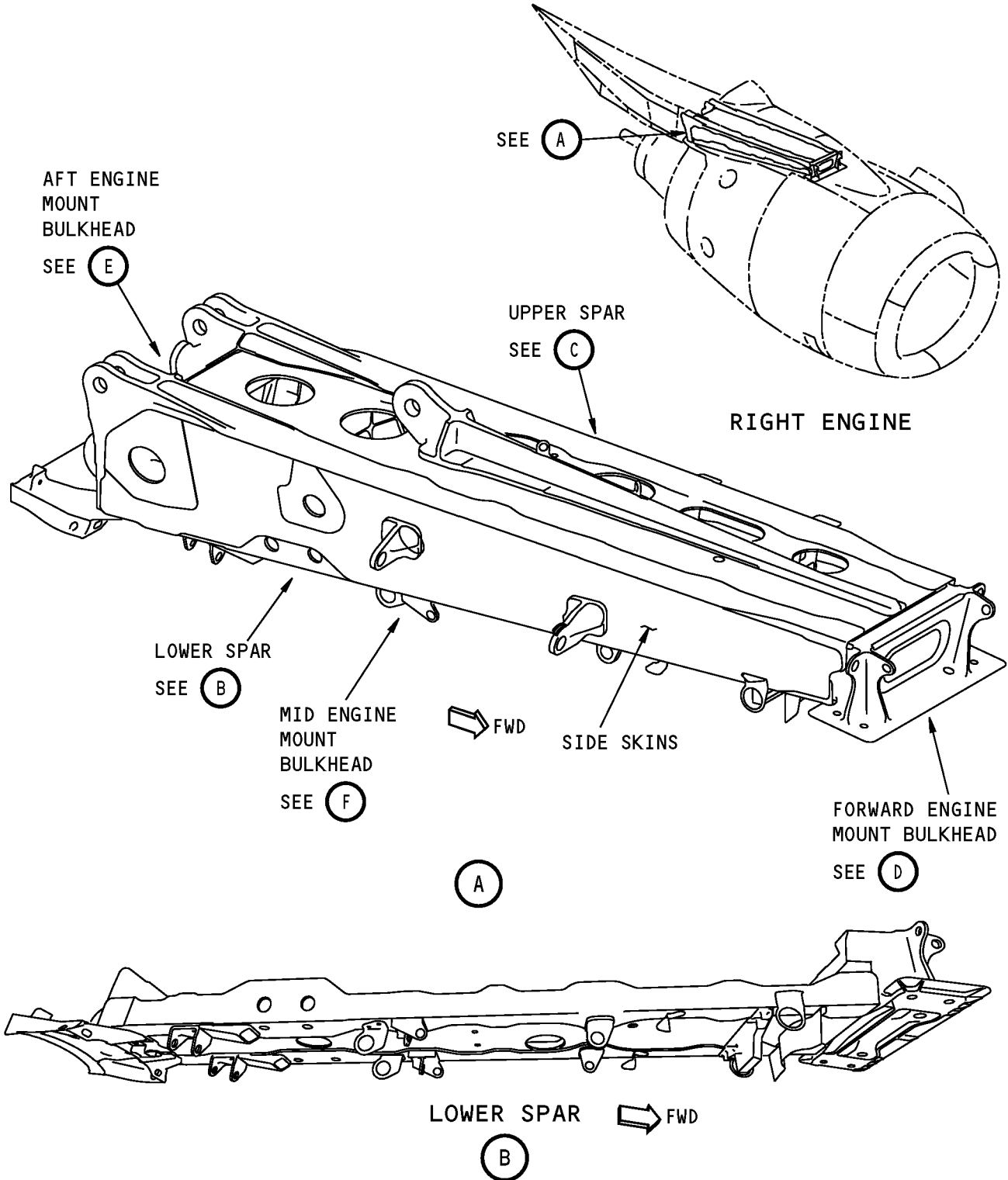
————— **END OF TASK** —————

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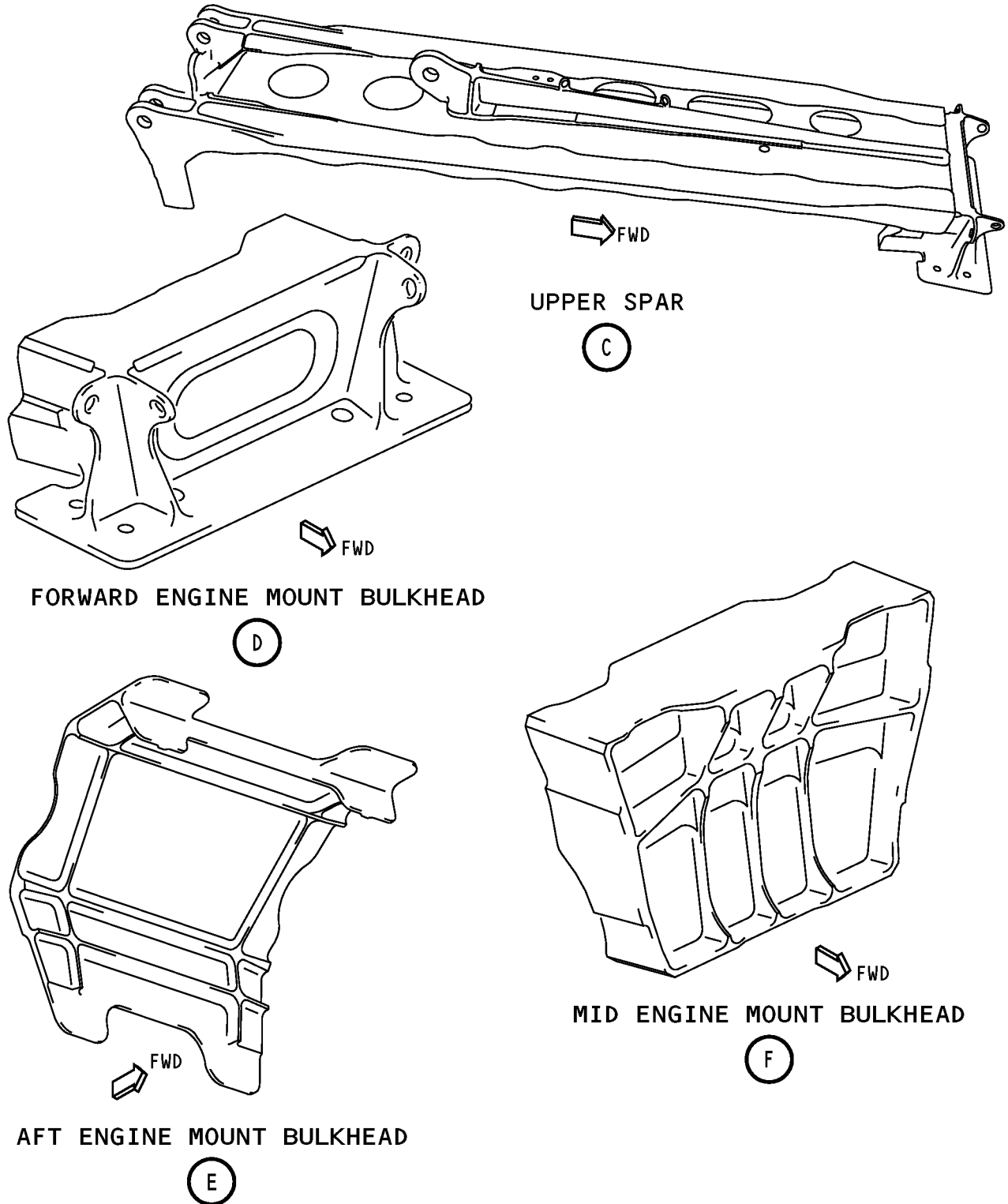
**Right Strut Box - General Visual (Internal)
Figure 220/54-05-03-990-813**

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**Right Strut Box - General Visual (Internal)
Figure 221/54-05-03-990-814**

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NACELLE STRUT - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

- (1) Prepare the strut for maintenance operations.
- (2) Put the strut back to its usual condition.
- (3) Support the strut with the engine installed.
- (4) Remove support from the strut with the engine installed.
- (5) Support the strut with the engine removed.
- (6) Remove support from the strut with the engine removed.

TASK 54-51-01-040-801

2. Prepare the Strut for Maintenance Operations

A. General

- (1) This task prepares the strut for maintenance operations. Always do this task when you do maintenance operations on or near the nacelle strut.
- (2) This task has these steps:
 - (a) Make the airplane statically grounded.
 - (b) Deactivate the leading edge flaps and slats.
 - (c) Deactivate the thrust reversers.

B. References

Reference	Title
20-40-11-910-801	Static Grounding (P/B 201)
27-81-00-040-801	Deactivate the Leading Edge Flaps and Slats (P/B 201)
78-31-00-040-802-F00	Thrust Reverser Deactivation For Ground Maintenance (P/B 201)

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Prepare the Strut for Maintenance Operations

SUBTASK 54-51-01-910-001

- (1) Do this task: Static Grounding, TASK 20-40-11-910-801.

SUBTASK 54-51-01-040-001

WARNING: MAKE SURE THAT ALL PERSONS AND EQUIPMENT ARE CLEAR OF THE LE FLAPS, TE FLAPS, AND FLAP DRIVE MECHANISMS BEFORE YOU MOVE THE FLAP CONTROL LEVER. WITH HYDRAULIC POWER REMOVED, THE FLAPS WILL MOVE AUTOMATICALLY BY ELECTRICAL POWER WHEN YOU MOVE THE FLAP CONTROL LEVER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

- (2) Do this task: Deactivate the Leading Edge Flaps and Slats, TASK 27-81-00-040-801.

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SUBTASK 54-51-01-040-002

WARNING: DO THE DEACTIVATION PROCEDURE TO PREVENT THE OPERATION OF THE THRUST REVERSER. THE ACCIDENTAL OPERATION OF THE THRUST REVERSER CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

- (3) To deactivate the thrust reversers, do this task: Thrust Reverser Deactivation For Ground Maintenance, TASK 78-31-00-040-802-F00.

————— **END OF TASK** —————

TASK 54-51-01-440-801

3. Put the Strut Back to its Usual Condition

A. General

- (1) This task puts the strut back to its usual condition after maintenance operations. Always do this task when all maintenance operations on the nacelle strut are complete.
- (2) This task has these steps:
 - (a) Activate the thrust reversers.
 - (b) Activate the leading edge flaps and slats.
 - (c) Remove the static ground from the airplane.

B. References

Reference	Title
27-81-00-440-801	Reactivate the Leading Edge Flaps and Slats (P/B 201)
78-31-00-440-803-F00	Thrust Reverser Activation After Ground Maintenance (P/B 201)

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Put the Strut Back to its Usual Condition

SUBTASK 54-51-01-440-001

- (1) Do this task: Thrust Reverser Activation After Ground Maintenance, TASK 78-31-00-440-803-F00.

SUBTASK 54-51-01-440-002

- (2) Do this task: Reactivate the Leading Edge Flaps and Slats, TASK 27-81-00-440-801.

SUBTASK 54-51-01-910-002

- (3) If all maintenance operations are complete, remove the static ground from the airplane.

————— **END OF TASK** —————

TASK 54-51-01-580-801

4. Support the Strut with the Engine Installed

A. General

- (1) When you remove a strut attach pin, use this procedure to remove the load from the strut pin.
- (2) This task has these steps:

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- (a) Prepare the strut for maintenance operations.
- (b) Remove the fan cowl panels.
- (c) Remove the thrust reverser panels.
- (d) Install the engine support sling.
- (e) Carefully lift the engine to remove the load from the pin (that you will remove).

B. References

Reference	Title
71-11-02-000-801-F00	Remove the Fan Cowl Panel (Selection) (P/B 401)
78-31-00-010-804-F00	Close the Thrust Reverser (Selection) (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2024	Sling - Equipment, Strut Fuse Pin Removal/Installation, CFM56-7 (Part #: C54010-26, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

D. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

E. Prepare to Support the Engine

SUBTASK 54-51-01-040-003

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-51-01-010-001

- (2) Do this task: Remove the Fan Cowl Panel (Selection), TASK 71-11-02-000-801-F00.

SUBTASK 54-51-01-010-003

- (3) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-804-F00.

F. Install the Strut Support Sling

SUBTASK 54-51-01-480-003

CAUTION: THRUST REVERSERS MUST BE IN THE CLOSED POSITION WHEN USING EQUIPMENT. DAMAGE TO EQUIPMENT CAN OCCUR.

- (1) Install the engine fitting assemblies on the engine fan case.

NOTE: The latches on the thrust reversers do not need to be in the closed position.

NOTE: The fittings are at approximately NAC STA 195, at the 10 o'clock and 2 o'clock positions.

- (a) Attach the sling, SPL-2024 to an overhead lifting device with a minimum capacity of 10,000 pounds (4,536 kg).
- (b) Attach the chain hoists, dynamometers, and C-beams, to the sling assembly.

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CAUTION: USE TETHER LINES AS THE SLING ASSEMBLY IS POSITIONED ABOVE THE ENGINE AND LOWERED. THE C-BEAMS CAN CAUSE DAMAGE TO THE ENGINE OR THE STRUT.

- (c) Put the sling assembly above the engine.
- (d) Attach the C-beams to the engine fittings at approximately NAC STA 195.
- (e) Use the chain hoists to put the chain in tension.

G. Remove the Load from the Strut Pin

SUBTASK 54-51-01-580-001

CAUTION: DO NOT LIFT THE ENGINE WITH A FORCE WHICH IS MORE THAN NECESSARY TO PERMIT THE PIN TO TURN WHEN YOU APPLY 125 POUND-INCHES (14.1 NEWTON-METERS) MAXIMUM TORQUE. DO NOT APPLY A TOTAL LOAD OF MORE THAN 10,000 POUNDS OR 4,536 KILOGRAMS (MORE THAN THE WEIGHT OF THE EQUIPMENT). DO NOT APPLY A LOAD OF MORE THAN 6,500 POUNDS OR 2,948 KILOGRAMS AT ONE ATTACH POINT. DO NOT APPLY A LOAD WITH A DIFFERENCE BETWEEN THE TWO SIDES OF MORE THAN 3,000 POUNDS OR 1,360 KILOGRAMS. LIFT THE ENGINE VERTICALLY ALONG THE CENTERLINE OF THE ENGINE AND THE STRUT. THIS CENTERLINE IS NOT A 90 DEGREE ANGLE FROM THE GROUND FLOOR. THERE IS A SIX DEGREE WING DIHEDRAL. IF YOU LIFT THE ENGINE WITH TOO MUCH FORCE, OR A FORE/AFT ANGLE OF MORE THAN FIVE DEGREES, DAMAGE TO THE ENGINE AND/OR STRUT CAN OCCUR.

- (1) Do these steps to remove the load from the pin (that you will remove):
 - (a) Slowly increase the load until you can turn the pin (that you will remove) with a maximum torque of 125 pound-inches (14.1 Nm).

NOTE: If the fuse pin does not turn before the maximum allowable load is applied, it may be necessary to decrease the load on the inboard side then increase the load on the outboard side to free the pin.
 - (b) Make sure the load on the engine support sling is kept the same until you install the pin again.

————— END OF TASK —————

TASK 54-51-01-580-802

5. Remove Support from the Strut with the Engine Installed

A. General

- (1) This task has these steps:
 - (a) Remove the load from the engine support sling.
 - (b) Remove the engine support sling.
 - (c) Put the airplane back to its usual condition.

B. References

Reference	Title
71-11-02-400-801-F00	Install the Fan Cowl Panel (Selection) (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

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Reference	Description
SPL-2024	Sling - Equipment, Strut Fuse Pin Removal/Installation, CFM56-7 (Part #: C54010-26, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

D. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

E. Remove the Support from the Engine

SUBTASK 54-51-01-210-001

CAUTION: DO NOT REMOVE THE LOAD ON THE ENGINE SUPPORT SLING UNTIL THE WORKSTANDS ARE CLEAR. IF YOU DO NOT REMOVE THE WORKSTANDS, DAMAGE TO THE STRUT, WING STRUCTURE, OR WORKSTANDS CAN OCCUR.

- (1) Make sure the workstands are clear of the airplane.

SUBTASK 54-51-01-580-002

- (2) Slowly remove the load from the sling, SPL-2024.

SUBTASK 54-51-01-080-001

- (3) Remove the sling from the engine.

F. Put the Airplane Back to its Usual Condition

SUBTASK 54-51-01-410-002

- (1) Install the fan cowl panels, do this task: Install the Fan Cowl Panel (Selection), TASK 71-11-02-400-801-F00.

SUBTASK 54-51-01-440-003

- (2) If all maintenance operations on the strut are complete, do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— END OF TASK —————

TASK 54-51-01-580-803

6. Support the Strut with the Engine Removed

A. General

- (1) When you remove a strut attach pin, use this procedure to remove the load from the strut pin.
- (2) This task has these steps:
 - (a) Prepare the strut for maintenance operations.
 - (b) Remove the engine.
 - (c) Install the strut support sling.
 - (d) Carefully lift the strut to remove the load from the pin (that you will remove).

B. References

Reference	Title
71-00-02-000-801-F00	Power Plant Removal (P/B 401)

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C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-6248	Tool - Removal/Installation, CFM56-7 Engine Strut (Part #: C54011-59, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

D. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

E. Prepare to Support the Strut

SUBTASK 54-51-01-040-004

(1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-51-01-000-001

(2) Do this task: Power Plant Removal, TASK 71-00-02-000-801-F00.

SUBTASK 54-51-01-480-002

(3) Install the sling, tool, SPL-6248, to support the strut.

- (a) Find the aft mount bulkhead and do these steps:
 - 1) Find Ground Support Equipment (GSE) attach point behind the aft mount bulkhead and pin aft beam assembly in place with the ball lock pins.
 - 2) The center beam assembly holes will face forward.
 - 3) Put the pin in the forward beam where lynch pins will secure the pin.
- (b) Put brace beam into sling aft beam assembly.
 - 1) Put the shaft through the keyhole slot.
 - 2) Rotate ninety degrees until brace beam engages sling forward beam.
 - 3) Pin into place and secure with lynch pins.
- (c) On the outboard side of the strut, pin the center beam assembly at the forward fitting, and secure with lynch pins.
- (d) Attach chain hoists to sling bridal.
- (e) Attach sling bridal to overhead hoist.
- (f) Position sling assembly over strut and attach to center beam assembly.
- (g) Use hoist to lift strut and position strut to necessary dihedral of wing.

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F. Remove the Load from the Strut Pin

SUBTASK 54-51-01-580-003

CAUTION: DO NOT EXCEED THE UPLOAD OR DOWNLOAD NECESSARY TO PERMIT THE PIN TO TURN WHEN YOU APPLY 125 POUND-INCHES (14.1 NEWTON-METERS) MAXIMUM TORQUE. DO NOT LIFT THE STRUT OR PULL DOWN ON THE STRUT WITH MORE THAN 2,000 POUNDS (907 KILOGRAMS) OF FORCE. APPLY THE LOAD VERTICALLY. IF YOU LIFT UP OR PULL DOWN ON THE STRUT WITH TOO MUCH FORCE, OR AT AN INCORRECT ANGLE, DAMAGE TO THE AIRPLANE CAN OCCUR.

- (1) Do these steps to remove the load from the pin (that you will remove):
 - (a) Slowly increase the load until you can turn the pin (that you will remove) with a maximum torque of 125 pound-inches (14.1 Nm).
 - (b) Make sure the load on the strut sling is kept the same until you install the pin again.

————— **END OF TASK** —————

TASK 54-51-01-580-804

7. Remove Support from the Strut with the Engine Removed

A. General

- (1) This task has these steps:
 - (a) Remove the load from the strut support sling.
 - (b) Remove the strut support sling.
 - (c) Install the engine.
 - (d) Put the airplane back to its usual condition.

B. References

Reference	Title
71-00-02-400-801-F00	Power Plant Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-6248	Tool - Removal/Installation, CFM56-7 Engine Strut (Part #: C54011-59, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

D. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

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E. Remove the Support from the Strut

SUBTASK 54-51-01-210-002

CAUTION: DO NOT REMOVE THE LOAD ON THE STRUT SUPPORT SLING UNTIL THE WORKSTANDS ARE CLEAR. IF YOU DO NOT REMOVE THE WORKSTANDS, DAMAGE TO THE STRUT, WING STRUCTURE, OR WORKSTANDS CAN OCCUR.

(1) Make sure the workstands are clear of the airplane.

SUBTASK 54-51-01-580-004

(2) Slowly remove the load from the sling, tool, SPL-6248.

SUBTASK 54-51-01-080-002

(3) Remove the sling from the strut.

(a) Remove the C-beam assembly from the sling assembly and the A-beam assembly.

(b) Remove the A-beam assembly from the engine strut.

F. Put the Airplane Back to its Usual Condition

SUBTASK 54-51-01-400-001

(1) Do this task: Power Plant Installation, TASK 71-00-02-400-801-F00.

SUBTASK 54-51-01-440-004

(2) If all maintenance operations on the strut are complete, do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— **END OF TASK** —————

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NACELLE STRUT - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

- (1) A removal of the nacelle strut.
- (2) An installation of the nacelle strut.

TASK 54-51-01-000-801

2. Nacelle Strut Removal

A. General

(1) This task has these steps:

- (a) Prepare for the removal.
- (b) Remove the power plant.
- (c) Disconnect the strut systems.
- (d) Remove the strut.

B. References

Reference	Title
24-22-00-860-812	Remove Electrical Power (P/B 201)
29-09-00-860-802	Hydraulic Reservoirs Depressurization (P/B 201)
29-11-01-860-802	Hydraulic Reservoirs Depressurization (P/B 201)
36-00-00-860-806	Remove Pressure from the Pneumatic System (P/B 201)
36-13-01-000-803	Wing Leading Edge Duct Removal (P/B 401)
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-580-803	Support the Strut with the Engine Removed (P/B 201)
54-51-02-000-803	Remove the Midspar Fuse Pin (P/B 401)
54-51-03-000-802	Upper Link Fuse Pin Removal (P/B 401)
54-51-04-000-801	Diagonal Brace Removal (P/B 401)
54-51-05-000-802	Lower Shoulder Bolt Removal (P/B 401)
54-52-03-010-801	Wing Junction Fairing Removal (P/B 401)
54-52-04-010-801	Aft Fairing Removal (Engine Removed) (P/B 401)
54-52-09-000-801	Leading Edge Gap Covers Removal (P/B 401)
71-00-02-000-801-F00	Power Plant Removal (P/B 401)
78-31-01-000-801-F00	Thrust Reverser Removal (P/B 401)

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Access Panels

Number	Name/Location
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
431DL	Forward Strut Fairing, Left Underwing Fairing, Strut 1

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Number	Name/Location
431DR	Forward Strut Fairing, Right Underwing Fairing, Strut 1
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2
441DL	Forward Strut Fairing, Left Underwing Fairing, Strut 2
441DR	Forward Strut Fairing, Right Underwing Fairing, Strut 2
511BT	Inboard Leading Edge, Upper Removable Access Panel
521AT	Outbd Leading Edge - Gap Cover Access
611BT	Inboard Leading Edge, Upper Removable Access Panel
621AT	Outbd Leading Edge - Gap Cover Access

E. Prepare for the Removal

SUBTASK 54-51-01-040-007

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-51-01-010-004

- (2) Open these access panels:

Wing Junction Fairing Removal, TASK 54-52-03-010-801

Number	Name/Location
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
431DL	Forward Strut Fairing, Left Underwing Fairing, Strut 1
431DR	Forward Strut Fairing, Right Underwing Fairing, Strut 1
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2
441DL	Forward Strut Fairing, Left Underwing Fairing, Strut 2
441DR	Forward Strut Fairing, Right Underwing Fairing, Strut 2

SUBTASK 54-51-01-010-011

- (3) Open these access panels:

Leading Edge Gap Covers Removal, TASK 54-52-09-000-801

Number	Name/Location
511BT	Inboard Leading Edge, Upper Removable Access Panel
521AT	Outbd Leading Edge - Gap Cover Access
611BT	Inboard Leading Edge, Upper Removable Access Panel
621AT	Outbd Leading Edge - Gap Cover Access

SUBTASK 54-51-01-010-005

- (4) Do this task: Thrust Reverser Removal, TASK 78-31-01-000-801-F00.

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F. Power Plant Removal

SUBTASK 54-51-01-000-002

- (1) Do this task: Power Plant Removal, TASK 71-00-02-000-801-F00.

G. Strut Systems Disconnection

SUBTASK 54-51-01-040-008

- (1) Make sure the Pneumatic System has been depressurized, do this task: Remove Pressure from the Pneumatic System, TASK 36-00-00-860-806.

SUBTASK 54-51-01-000-003

- (2) Remove the pneumatic duct [1] or [2] between the wing and the strut, do this task: Wing Leading Edge Duct Removal, TASK 36-13-01-000-803.

- (a) Remove the coupling [5] and coupling [6], (Figure 401).
- (b) Carefully remove the applicable pneumatic duct [1] or [2] and seal [7].

SUBTASK 54-51-01-000-004

- (3) To remove the Wing Thermal Anti-Ice (TAI) Duct [3] or [4] between the wing and the strut, do these steps, (Figure 401):

- (a) Remove the two couplings [8] and [9] at either end of the duct.
- (b) Carefully remove the Wing TAI duct [3] or [4] and seal [10].

SUBTASK 54-51-01-040-009

- (4) Make sure that electrical power has been removed, do this task: Remove Electrical Power, TASK 24-22-00-860-812.

NOTE: The removal of electrical power is necessary to disconnect the electrical connectors.

SUBTASK 54-51-01-020-001

CAUTION: MAKE SURE THE ELECTRICAL CONNECTORS ARE CLEAN BEFORE YOU DISCONNECT THEM. THE CONTAMINATION OF THE ELECTRICAL CONNECTORS CAN CAUSE DAMAGE TO THE EQUIPMENT.

BE CAREFUL WITH THE POWER FEEDER CABLES. DO NOT BEND OR WIND THE CABLES INTO COILS TOO TIGHTLY. IF YOU DO NOT OBEY THESE INSTRUCTIONS, YOU CAN CAUSE DAMAGE TO THE CABLES.

- (5) Disconnect the IDG power feeder cable and the strut wire bundles at the wing forward spar disconnect panel as follows:
 - (a) Put a tag on the wire bundles at the AW0258L (left strut) or AW0258R (right strut) Disconnect Panel to identify their positions for installation, (Figure 402).
 - (b) Disconnect the IDG power feeder and wire bundles at the wing forward spar disconnect panel.
 - (c) Install the caps on the connectors and the receptacles.
 - (d) Attach the IDG power feeder cable and the wire bundle ends to the top of the strut for temporary storage.

SUBTASK 54-51-01-040-010

- (6) Prepare the hydraulic system for strut removal:
 - (a) For removal of the left strut (Engine 1), depressurize the system "A" and "B" hydraulic reservoirs, do this task: Hydraulic Reservoirs Depressurization, TASK 29-11-01-860-802 or Hydraulic Reservoirs Depressurization, TASK 29-09-00-860-802.

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- (b) For removal of the right strut (Engine 2), depressurize the system "B" hydraulic reservoir, do this task: Hydraulic Reservoirs Depressurization, TASK 29-11-01-860-802 or Hydraulic Reservoirs Depressurization, TASK 29-09-00-860-802.

SUBTASK 54-51-01-020-002

- (7) Remove the thrust reverser hydraulic tubes that are on the applicable strut, (Figure 403):
- (a) Disconnect the two thrust reverser hydraulic tubes at the "Disconnect Panel".
 - 1) On the left strut, disconnect hydraulic tubes [27] and [28].
 - 2) On the right strut, disconnect hydraulic tubes [41] and [44].
 - (b) Remove the support clamps attached to the middle of the hydraulic tubes for the applicable strut:
 - 1) On the left strut, remove the clamp band [21], the clampshell [22], the clamp band [25], the clampshell [26], the screws [23], and the washers [24] that hold the thrust reverser hydraulic tubes.
 - 2) On the right strut, remove the clamp assembly [42], the screws [43], the washers [24], the clamp assembly [45], the screws [43], the washers [24] that hold the thrust reverser hydraulic tubes.
 - (c) Disconnect the hydraulic tubing at the forward end.
 - (d) Remove the two pieces of hydraulic tubing:
 - 1) On the left strut, remove hydraulic tubes [27] and [28].
 - 2) On the right strut, remove hydraulic tubes [41] and [44].
 - (e) Keep the two pieces of hydraulic tubing in storage until installation.

SUBTASK 54-51-01-680-001

CAUTION: BE CAREFUL WHEN YOU DISCONNECT THE FUEL LINE. A SMALL AMOUNT OF FUEL CAN COLLECT IN THE FUEL LINE. MOVE TO A POSITION WHERE FUEL CANNOT GET ON YOU. IF FUEL GETS ON YOU, INJURY CAN OCCUR.

- (8) Disconnect the aft end of the fuel hose from the wing by the following steps, (Figure 403):
- (a) Remove the clamp assembly that holds the fuel hose to the strut.
 - 1) On the left strut, remove the screw [30], the washers [24], and the clamp [29].
 - 2) On the right strut, remove the screw [30], the washers [24], and the clamp [29].
 - (b) Disconnect the aft end of the fuel hose that goes into the wing.
 - (c) Temporarily attach the loose end of the fuel hose to the strut.

SUBTASK 54-51-01-000-005

- (9) Remove the screw [31], the washers [33], the split washer [32], and the nut [34] which attach the bonding jumper to the wing.

NOTE: Keep the end of the bonding jumper clean.

SUBTASK 54-51-01-010-006

- (10) Do this task: Aft Fairing Removal (Engine Removed), TASK 54-52-04-010-801.

SUBTASK 54-51-01-010-007

- (11) Remove the four pieces of tubing that go aft through the vapor barrier of the strut, (Figure 403):
- (a) Disconnect the four tubing connections on the forward side of the vapor barrier as shown (Figure 403).
 - 1) On the left strut, disconnect the forward end of the hydraulic tube [37], hydraulic tube [38], hydraulic tube [40], and the fire extinguishing tube [36].

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- 2) On the left strut, disconnect the forward end of the hydraulic tube [47], hydraulic tube [48], hydraulic tube [49], and the fire extinguishing tube [46].
- (b) Remove the clamp block [35] and clamp block [39] on the forward side of the vapor barrier, (Figure 403).
- (c) At the aft end of the strut, disconnect the four tubes at the connections, (Figure 404).
NOTE: These connections are forward of the clamp block that holds all four of the tubes.
- (d) Disassemble the top half of the clamp block that is adjacent to the side links, (Figure 404).
NOTE: This allows removal of two hydraulic tube pieces.
- (e) Remove the four pieces of tubing:
 - 1) On the left strut: the hydraulic tube [37], hydraulic tube [38], hydraulic tube [40], and the fire extinguishing tube [36].
 - 2) On the left strut: the hydraulic tube [47], hydraulic tube [48], hydraulic tube [49], and the fire extinguishing tube [46].
- (f) Keep the three hydraulic tubes and the fire extinguishing tube in storage until installation of the strut.
- (g) Reassemble the clamp block that is between the lower bolts of the side links.
NOTE: Do this for support of the strut drain tubing and to keep parts.

H. Remove the Nacelle Strut

SUBTASK 54-51-01-000-006

- (1) Do this task: Diagonal Brace Removal, TASK 54-51-04-000-801.

SUBTASK 54-51-01-000-007

- (2) To remove the lower bolt from the two side link assemblies, do this task: Lower Shoulder Bolt Removal, TASK 54-51-05-000-802.

NOTE: It is not necessary to remove the side links from the under wing fitting.

- (a) Use some tape to temporarily attach the lower end of the side links to the bottom of the wing.

SUBTASK 54-51-01-480-004

- (3) Do this task: Support the Strut with the Engine Removed, TASK 54-51-01-580-803.

SUBTASK 54-51-01-000-008

- (4) Do this task: Upper Link Fuse Pin Removal, TASK 54-51-03-000-802.

- (a) Temporarily tie the upper link to the wing leading edge.

SUBTASK 54-51-01-000-009

- (5) To remove the two midspar fuse pins, do this task: Remove the Midspar Fuse Pin, TASK 54-51-02-000-803.

SUBTASK 54-51-01-580-005

- (6) Carefully, lower the strut with the strut removal sling.

————— **END OF TASK** —————

TASK 54-51-01-400-801

3. Nacelle Strut Installation

A. General

- (1) This task is the installation of the nacelle strut.

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- (2) This task has these steps:
(a) Install the nacelle strut.
(b) Connect the strut systems.
(c) Install the power plant.
(d) Test the strut systems.
(e) Put the airplane back to its usual condition.

B. References

Table with 2 columns: Reference and Title. Lists various maintenance tasks and their corresponding reference numbers.

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Table with 2 columns: Reference and Description. Lists tool part numbers and their descriptions.

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D. Consumable Materials

Reference	Description	Specification
A00160	Sealant - Firewall - Hydraulic Fluid Resistant	BMS5-63
A00436	Sealant - Fuel Tank	BMS5-45 (Supersedes BMS 5-26)

E. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

F. Access Panels

Number	Name/Location
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
431DL	Forward Strut Fairing, Left Underwing Fairing, Strut 1
431DR	Forward Strut Fairing, Right Underwing Fairing, Strut 1
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2
441DL	Forward Strut Fairing, Left Underwing Fairing, Strut 2
441DR	Forward Strut Fairing, Right Underwing Fairing, Strut 2
511BT	Inboard Leading Edge, Upper Removable Access Panel
521AT	Outbd Leading Edge - Gap Cover Access
611BT	Inboard Leading Edge, Upper Removable Access Panel
621AT	Outbd Leading Edge - Gap Cover Access

G. Install the Nacelle Strut

SUBTASK 54-51-01-210-003

- (1) Make sure that the upper link is installed as follows:
 - (a) Make sure the aft pin is installed in the upper link.
 - (b) Make sure that the upper link is temporarily tied to the wing leading edge.

SUBTASK 54-51-01-210-004

- (2) If the side links are installed, make sure that they are temporarily attached to the bottom of the wing with some tape.

SUBTASK 54-51-01-500-001

- (3) Carefully, lift the strut to the wing with the strut installation sling, tool, SPL-6248.

SUBTASK 54-51-01-400-002

- (4) To install the two midspar fuse pins, do this task: Install the Midspar Fuse Pin, TASK 54-51-02-400-803.

SUBTASK 54-51-01-400-003

- (5) Do this task: Upper Link Fuse Pin Installation, TASK 54-51-03-400-802.

SUBTASK 54-51-01-080-003

- (6) Remove the strut installation sling, tool, SPL-6248.

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SUBTASK 54-51-01-400-004

- (7) To install the lower bolts in the side links, do this task: Lower Shoulder Bolt Installation, TASK 54-51-05-400-803

SUBTASK 54-51-01-400-005

- (8) Do this task: Diagonal Brace Installation, TASK 54-51-04-400-801.

H. Connect the Strut Systems

SUBTASK 54-51-01-400-006

- (1) Install the strut bonding jumper to the wing, (SWPM 20-20-00).
- (a) Apply a solvent, see, do this task: General Cleaning of Metal (Series 80), TASK 20-30-80-910-801
to remove any grease, oil, corrosion inhibiting compound (CIC), or other compounds.
- (b) Install the screw [31], the washers [33], the split washer [32], and the nut [34] which attach the bonding jumper to the wing, (Figure 403).
NOTE: The split washer [31] is installed under the screw head, while the washers [33] are installed on either side of the wing structure.
- (c) Apply sealant, A00160 to the area of the bonding contact.
- (d) Make sure that the maximum resistance is 0.001 ohms or less, do this task: Measurement of Airplane Electrical Resistance to Ground, TASK 20-40-11-760-802.

SUBTASK 54-51-01-010-008

- (2) Install the four pieces of tubing that go through the vapor barrier of the strut, (Figure 404):
- NOTE: On the left strut: the hydraulic tube [37], hydraulic tube [38], hydraulic tube [40], and fire extinguishing tube [36].
- NOTE: On the right strut: the hydraulic tube [47], hydraulic tube [48], hydraulic tube [49], and fire extinguishing tube [46].
- (a) Disassemble the top half of the clamp block that is between the lower bolts of the side links.
NOTE: This clamp block will be without two pieces of tubing.
- (b) On the left strut, assemble the clamp block [35] and [39] with the hydraulic tube [37] and hydraulic tube [38].
1) Tighten the bolts to 50-75 in-lb (5.6-8.5 Nm).
- (c) On the right strut, assemble the clamp block [35] and [39] with the hydraulic tube [47] and hydraulic tube [48].
1) Tighten the two bolts to 50-75 in-lb (5.6-8.5 Nm).
- (d) Install the aft end of the four tube pieces to the applicable connections on the underside of the wing as follows:
NOTE: These connections are forward of the clamp block that holds all four of the tubes.
1) Tighten the 1 inch (25 mm) diameter connection to 750 in-lb (84.7 Nm).
NOTE: On the left strut, this tube is the hydraulic supply tube [38].
NOTE: On the right strut, this tube is the hydraulic supply tube [48].
2) Tighten the 0.75 inch (19 mm) diameter connection to 900 in-lb (102 Nm).
NOTE: On the left strut, this tube is the hydraulic tube [40].
NOTE: On the right strut, this tube is the hydraulic tube [49].

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- 3) Tighten the 0.625 inch (15.9 mm) diameter connection to 360 in-lb (40.7 Nm).

NOTE: On the left strut, this tube is the fire extinguishing tube [36].

NOTE: On the right strut, this tube is the fire extinguishing tube [46].

- 4) Tighten the 0.375 inch (9.53 mm) diameter connection to 170 in-lb (19.2 Nm).

NOTE: On the left strut, this tube is the hydraulic tube [37].

NOTE: On the right strut, this tube is the hydraulic tube [47].

- (e) Connect the four tubing connections on the forward side of the vapor barrier, (Figure 403).

NOTE: These four connections are aft of where the thrust reverser stow/deploy hydraulic tubing are installed.

- (f) Install the clamp block [35] and clamp block [39] on the forward side of the vapor barrier.

1) Apply sealant, A00160 to the two clamp blocks.

2) After inserting the tubes, tighten the bolts on the clamps.

SUBTASK 54-51-01-420-001

- (3) Do this task: Aft Fairing Installation (Engine Removed), TASK 54-52-04-410-801.

SUBTASK 54-51-01-680-002

WARNING: BE CAREFUL WHEN YOU RECONNECT THE FUEL LINE. A SMALL AMOUNT OF FUEL CAN COLLECT IN THE FUEL LINE. MOVE TO A POSITION WHERE FUEL CANNOT GET ON YOU. IF FUEL GETS ON YOU, INJURY CAN OCCUR.

- (4) Reconnect the fuel hose by the following steps, (Figure 403):

(a) Position the fuel hose into its appropriate position.

(b) Loosely install the clamp [29], screws [30], and washers [24] that hold the middle of the fuel hose.

CAUTION: MAKE SURE TO TIGHTEN THE FUEL LINE TO 750 LB-IN (84.7 NM). DAMAGE TO THE EQUIPMENT MAY OCCUR THROUGH A FUEL LEAK.

(c) Tighten the aft end connection of the fuel hose to 750 in-lb (84.7 Nm).

(d) Loosen the torque on the connection to relieve tension in the hose.

(e) Again, tighten the aft end connection of the fuel hose to 750 in-lb (84.7 Nm).

(f) Install the screws [30], washers [24], and the clamp [29] that hold the middle of the fuel hose to the wing leading edge structure.

1) Apply sealant, A00436 between the clamp and the mounting bracket.

2) Tighten the screws [30] on the clamp.

SUBTASK 54-51-01-420-002

- (5) Install the thrust reverser hydraulic tubing, (Figure 403, Figure 404):

(a) Connect the hydraulic tubes at the "Disconnect Panel" as follows:

1) Tighten the forward end connection of the thrust reverser hydraulic tube [28] (left strut) or [41] (right strut) to 500 lb-in (56.5 Nm).

2) Tighten the forward end connection of the thrust reverser hydraulic tube [27] (left strut) or [44] (right strut) to 700 lb-in (79.1 Nm).

(b) Connect the other two ends of the hydraulic tubes to the other connections near the forward upper link pin fitting on the strut as follows:

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- 1) Tighten the aft end connection of the thrust reverser hydraulic tube [28] (left strut) or [41] (right strut) to 500 lb-in (56.5 Nm).
- 2) Tighten the aft end connection of the thrust reverser hydraulic tube [27] (left strut) or [44] (right strut) to 700 lb-in (79.1 Nm).
- (c) If working on the left strut, install the clamp band [21], clamp shell [22], clamp band [25], clamp shell [26], screws [23], washers [24] that hold the thrust reverser hydraulic tubes [28] and [27].
 - 1) Put the clamp band [21], clamp shell [22], clamp band [25], clamp shell [26] over the tubes.
 - 2) Apply sealant, A00436 between the clamp assemblies and the mounting bracket.
 - 3) Install the screws [23] and the washers [24].
- (d) If working on the right strut, install the clamp assembly [42], clamp assembly [45], screws [43], washers [24] that hold the thrust reverser hydraulic tubes [41] and [44].
 - 1) Put the clamp assembly [42] and the clamp assembly [45] over the tubes.
 - 2) Apply sealant, A00436 between the clamp assemblies and the mounting bracket.
 - 3) Install the screws [43] and the washers [24].

SUBTASK 54-51-01-040-011

- (6) Make sure that electrical power has been removed, as specified in this task: Remove Electrical Power, do this task: Remove Electrical Power, TASK 24-22-00-860-812.

NOTE: The removal of electrical power is necessary to connect the electrical connectors.

SUBTASK 54-51-01-420-003

CAUTION: BE CAREFUL WITH THE POWER FEEDER CABLES. DO NOT BEND OR WIND THE CABLES INTO COILS TOO TIGHTLY. IF YOU DO NOT OBEY THESE INSTRUCTIONS, YOU CAN CAUSE DAMAGE TO THE CABLES.

- (7) Connect the IDG power feeder and the strut wire bundles at the wing forward spar disconnect panel as follows, (Figure 402):
 - (a) Remove the caps from the electrical connectors.

CAUTION: MAKE SURE THE ELECTRICAL CONNECTORS ARE CLEAN BEFORE YOU CONNECT THEM. THE CONTAMINATION OF THE ELECTRICAL CONNECTORS CAN CAUSE DAMAGE TO THE EQUIPMENT.

- (b) Make sure that all of the electrical connectors are clean.
 - 1) If the connectors are not clean, do this task: Cleaning of Electrical Connectors (SWPM 20-60-01).
- (c) Install the connectors in the AW0258L (left) or AW0258R (right) wing forward spar disconnect panel as specified in this procedure: Electrical Connector Installation (SWPM 20-60-06).

SUBTASK 54-51-01-400-007

- (8) To install the Wing Thermal Anti-Ice (TAI) Duct between the strut and the wing, do these steps, (Figure 401):
 - (a) Examine the seal [10].
 - 1) Make sure the seal [10] does not have cracks, dents, or other damage.
 - 2) Replace the seal [10] if it is damaged.
 - (b) Put the Wing TAI duct with the seal [10] into its position.

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- (c) Install the coupling [8] and coupling [9].
 - 1) Carefully align the coupling [9] so that alignment pins fall in the gap between the two coupling halves.
NOTE: This is to align the duct correctly.
 - 2) Tighten the coupling [9] to the torque range specified on the part.
 - 3) Lightly tap the outer periphery of the coupling [9] with a rubber mallet.
 - 4) Tighten the coupling [9] again to the torque range specified on the part.
- (d) Tighten the trunnion nut on the coupling [8] to 40-50 lb-in (4.5-5.6 Nm).

SUBTASK 54-51-01-400-008

- (9) Install the pneumatic duct [1] or [2] between the strut and the wing, do this task: Wing Leading Edge Duct Installation, TASK 36-13-01-400-801.
 - (a) Examine the seal [7], (Figure 401).
 - 1) Make sure the seal [7] does not have cracks, dents, or other damage.
 - 2) Replace the seal [7] if it is damaged.
 - (b) Put the pneumatic duct [1] or [2] with the seal [7] into its position.
 - (c) Install the coupling [6].
 - 1) Tighten the coupling [6] to the torque range specified on the part.
 - 2) Lightly tap the outer periphery of the coupling [6] with a rubber mallet.
 - 3) Tighten the coupling [6] again to the torque range specified on the part.
 - (d) Tighten the coupling [5] to 40-50 lb-in (4.5-5.6 Nm).
NOTE: This coupling is near the "Disconnect Panel".
 - (e) Make sure that the coupling [5] is aligned so that a minimum clearance of 0.50 inch (12.7 mm) is maintained after installation of the bonding jumper for the overwing fairing.

I. Power Plant Installation

SUBTASK 54-51-01-000-010

- (1) Do this task: Power Plant Installation, TASK 71-00-02-400-801-F00.

SUBTASK 54-51-01-010-009

- (2) Do this task: Thrust Reverser Installation, TASK 78-31-01-400-801-F00.

SUBTASK 54-51-01-010-010

- (3) If you did not do a Fan Cowl Installation on the applicable engine, do this task: Install the Fan Cowl Panel (Selection), TASK 71-11-02-400-801-F00

J. Test the Operation of Strut Systems

SUBTASK 54-51-01-200-008

- (1) If you did not pressurize the Main Hydraulic System when you installed the power plant, do this task: Hydraulic System A or B Pressurization, TASK 29-11-00-860-801.
 - (a) Do this task: Operational Test of the Hydraulic Systems A and B, TASK 29-11-00-700-801.
 - (b) Examine the hydraulic system connections in the strut and aft fairing for leaks.
 - (c) Examine the seals where the hydraulic tubes go through the strut aft vapor barrier for leaks.

SUBTASK 54-51-01-200-009

- (2) Do this task: Engine Fire Extinguishing Discharge Line Flow Test, TASK 26-21-00-720-801.

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SUBTASK 54-51-01-200-010

- (3) Do this task: Engine Fire Extinguishing Discharge Line Pressure Test, TASK 26-21-00-730-803.

SUBTASK 54-51-01-200-011

- (4) Do this task: Engine Fire Detection Circuit - System Test, TASK 26-11-00-730-802.

SUBTASK 54-51-01-200-012

- (5) If you did not do an EEC System Test when you installed the power plant, do this task: FADEC System Test, TASK 73-21-00-700-802-F00.

SUBTASK 54-51-01-200-013

- (6) If you did not do an Idle-Power Leak Check when you installed the power plant, do this task: Test 3A - Idle-Power Leak Check, TASK 71-00-00-700-801-F00.

NOTE: Thrust reversers must be closed for this test.

- (a) Do a check of the engine and strut drains for signs of leakage.
- (b) Examine the fuel line between the wing and the engine for leaks.
- (c) If you installed the left strut, do the Load Test for the left IDG, as specified in this task: Operational Test for the Left IDG, do this task: Operational Test For Number 1 IDG, TASK 24-11-00-700-802.
- (d) If you installed the right strut, do the Load Test for the right IDG, as specified in this task: Operational Test for the Right IDG, do this task: Operational Test For Number 2 IDG, TASK 24-11-00-700-803.

SUBTASK 54-51-01-200-014

- (7) Do this task: Engine Bleed Air Crossover Operational Test, TASK 36-11-00-710-801.

SUBTASK 54-51-01-200-015

- (8) Do this task: Engine Cowl Anti-Icing - Operational Test, TASK 30-21-00-710-801.

K. Put the Airplane Back to its Usual Condition

SUBTASK 54-51-01-410-003

- (1) Do these steps to close access to the strut systems:
 - (a) Examine the applicable strut areas for leaks.

CAUTION: MAKE SURE THAT THE PNEUMATIC DUCT COUPLING AT THE "DISCONNECT PANEL" HAS A MINIMUM CLEARANCE OF 0.50 INCH (12.7 MM) WITH THE BONDING JUMPER ADJACENT TO IT. THE BONDING JUMPER IS CONNECTED TO THE INBOARD OVERWING FAIRING. IF THIS CLEARANCE IS NOT MAINTAINED, DAMAGE TO THE STRUT AND WING MAY OCCUR.

- (b) Install the applicable overwing fairings, do this task:
Wing Junction Fairing Installation, TASK 54-52-03-410-801

<u>Number</u>	<u>Name/Location</u>
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
431DL	Forward Strut Fairing, Left Underwing Fairing, Strut 1
431DR	Forward Strut Fairing, Right Underwing Fairing, Strut 1
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2

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<u>Number</u>	<u>Name/Location</u>
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2
441DL	Forward Strut Fairing, Left Underwing Fairing, Strut 2
441DR	Forward Strut Fairing, Right Underwing Fairing, Strut 2

SUBTASK 54-51-01-010-012

- (2) Remove the applicable inboard and outboard leading edge gap covers, do this task:

Leading Edge Gap Covers Removal, TASK 54-52-09-000-801

<u>Number</u>	<u>Name/Location</u>
511BT	Inboard Leading Edge, Upper Removable Access Panel
521AT	Outbd Leading Edge - Gap Cover Access
611BT	Inboard Leading Edge, Upper Removable Access Panel
621AT	Outbd Leading Edge - Gap Cover Access

SUBTASK 54-51-01-040-012

- (3) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

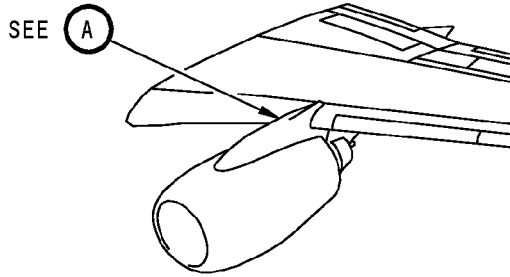
————— **END OF TASK** —————

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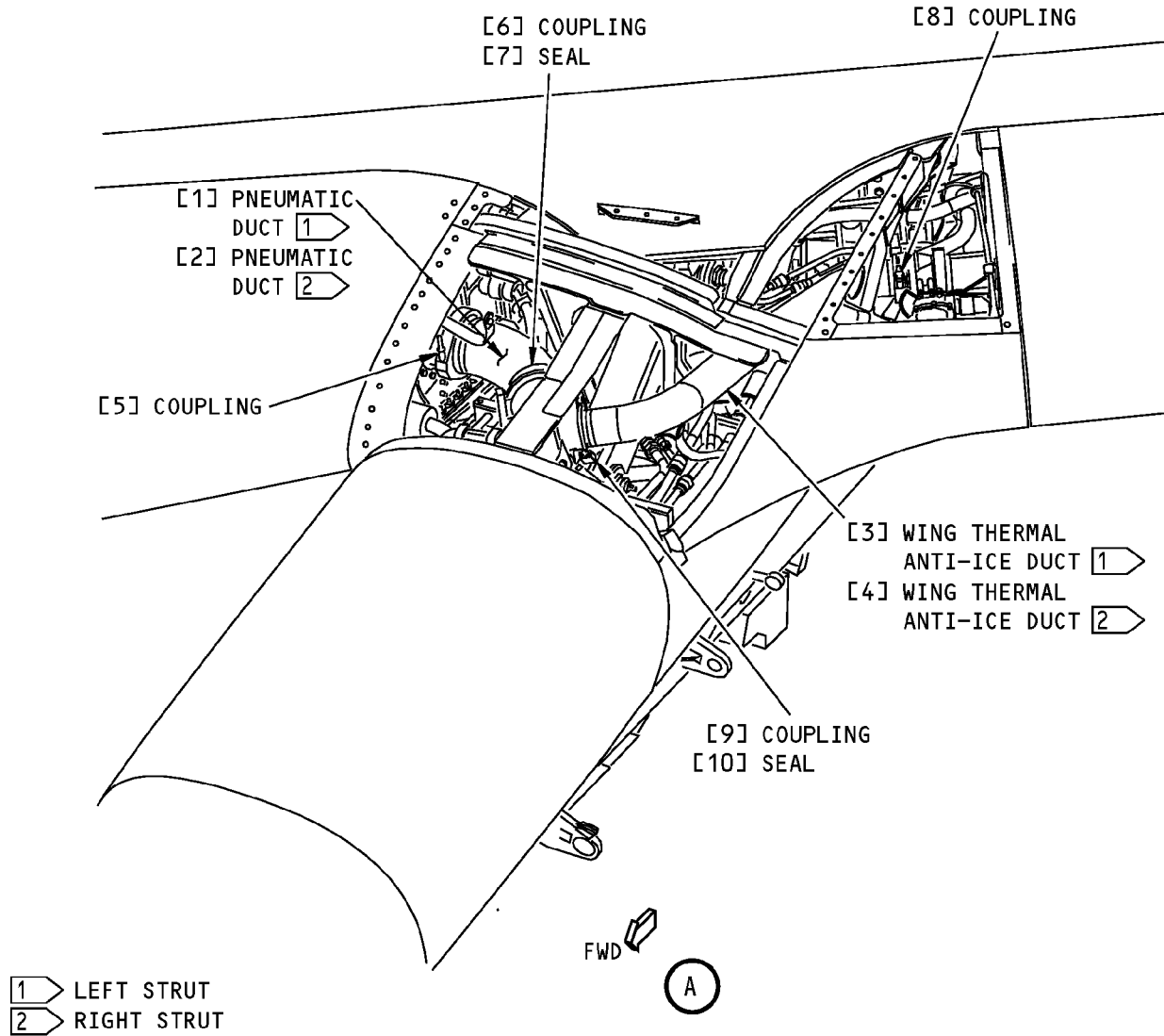
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**LEFT STRUT
(RIGHT STRUT IS OPPOSITE)**



**Strut Duct Installation
Figure 401/54-51-01-990-801**

EFFECTIVITY
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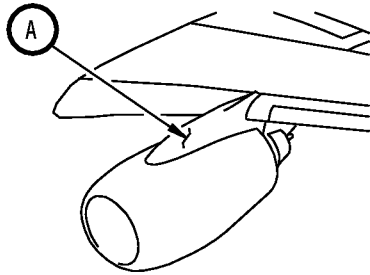
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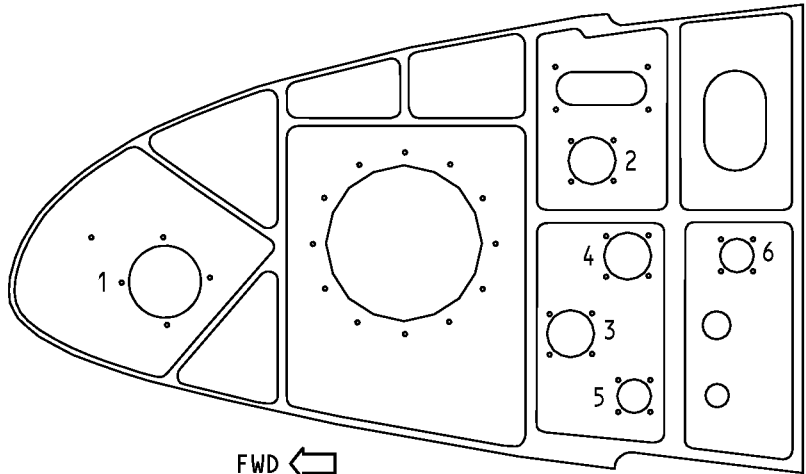
AIRCRAFT MAINTENANCE MANUAL

STRUT

SEE (A)



POSITION	STRUT (LEFT)	
	DISC	W/B
1	D08094P	286A1162
2	D30042	286A1172
3	D30084	286A1168
4	D30016	286A1164
5	D30064	286A1166
6	D08056P	286A1170

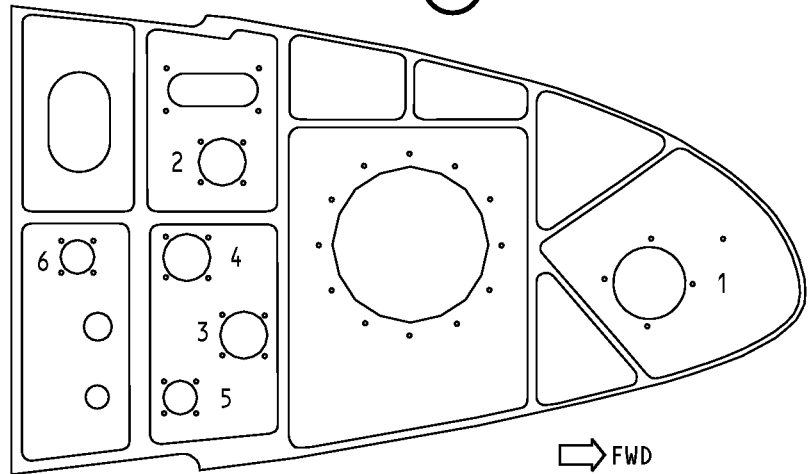


DISCONNECT PANEL AW0258L

LEFT STRUT

(A)

POSITION	STRUT (RIGHT)	
	DISC	W/B
1	D08194P	286A1262
2	D30142	286A1272
3	D30184	286A1268
4	D30116	286A1264
5	D30164	286A1266
6	D08156P	286A1270



DISCONNECT PANEL AW0258R

RIGHT STRUT

(A)

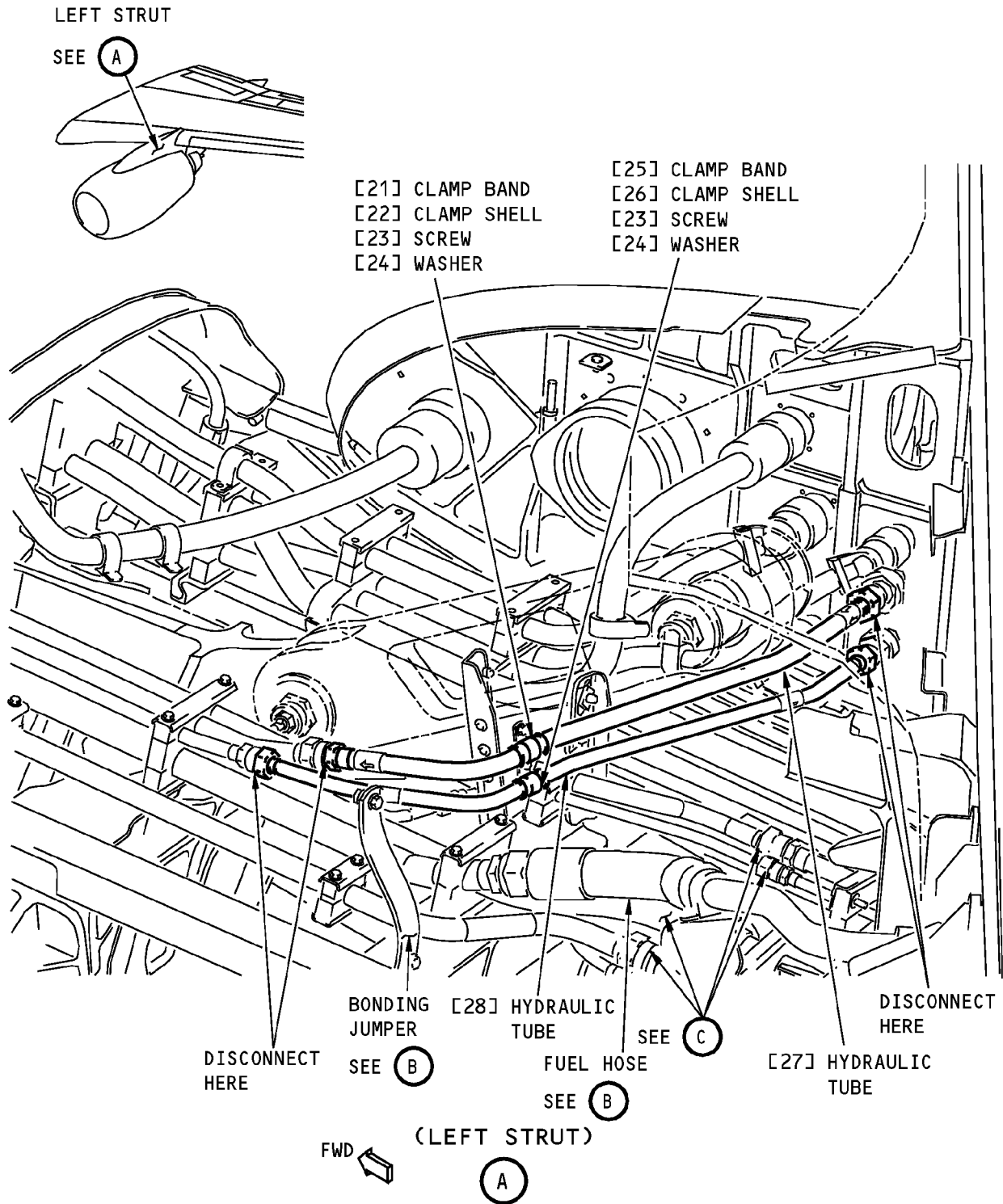
Strut Electrical Disconnects
Figure 402/54-51-01-990-802

EFFECTIVITY
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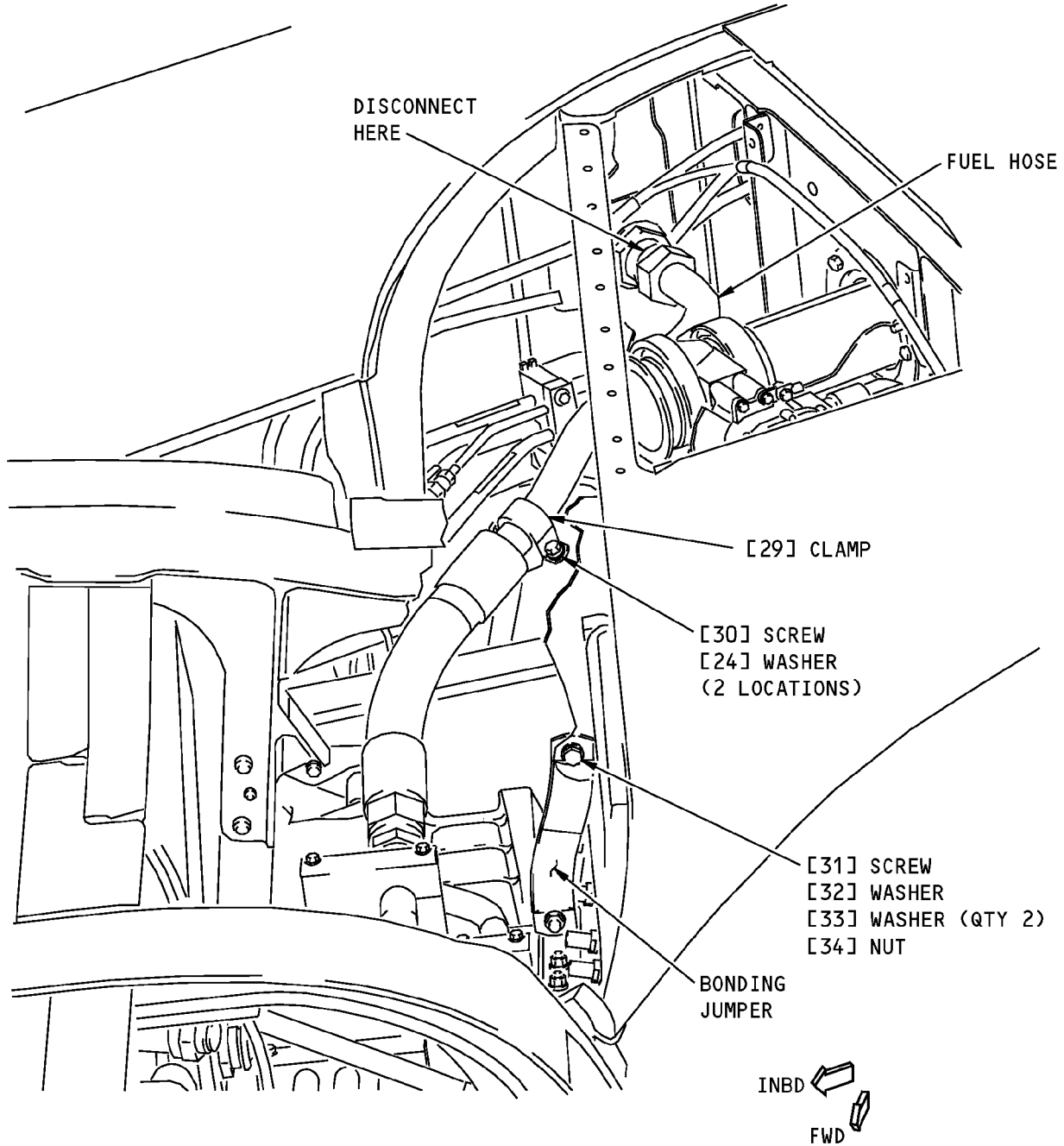
**737-600/700/800/900
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**Strut Hydraulic and Fire Extinguishing Installation
Figure 403 (Sheet 1 of 6)/54-51-01-990-803**

EFFECTIVITY
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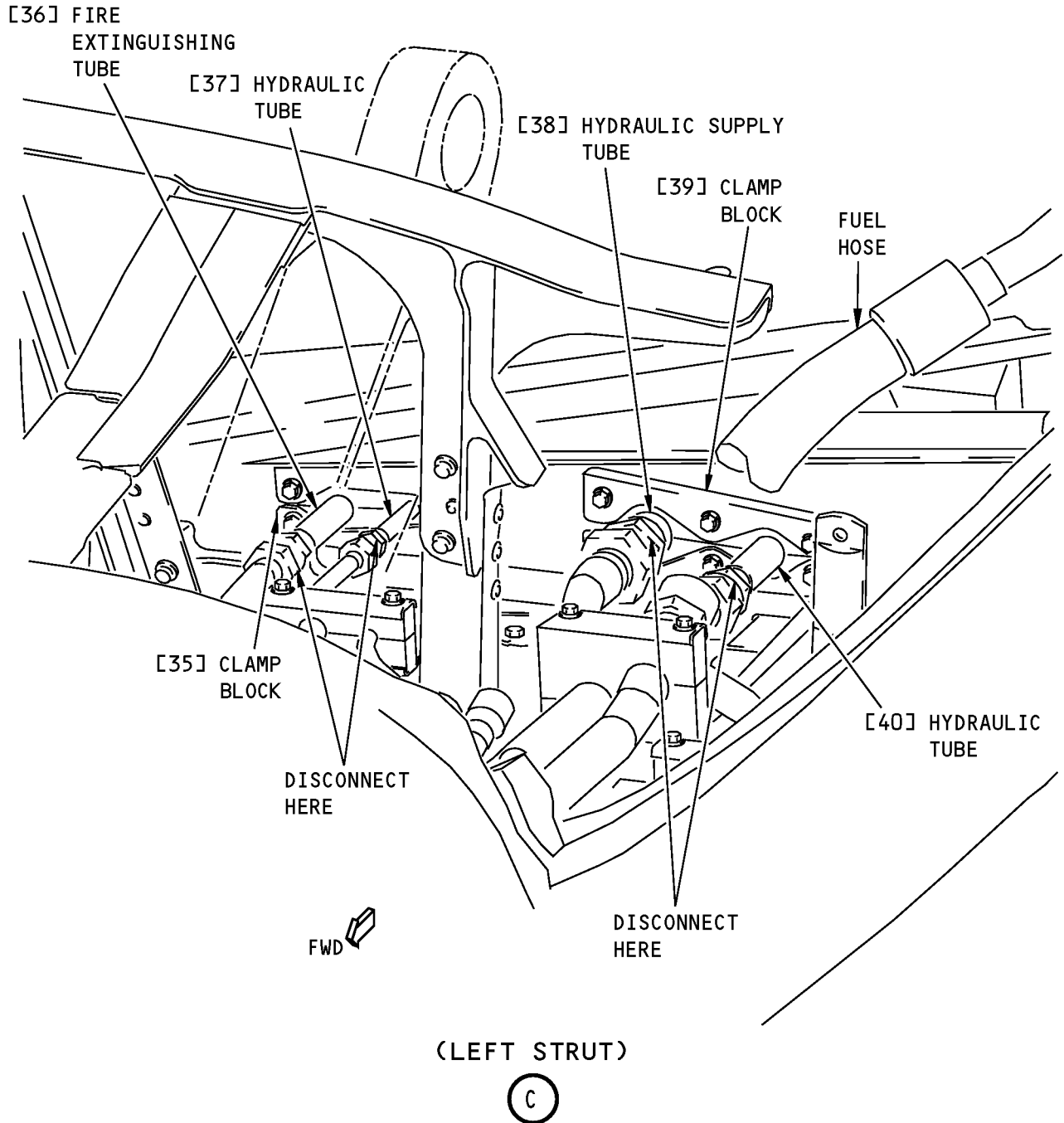
**FUEL HOSE AND BONDING JUMPER
(LEFT STRUT)**

B

**Strut Hydraulic and Fire Extinguishing Installation
Figure 403 (Sheet 2 of 6)/54-51-01-990-803**

EFFECTIVITY
HAP ALL

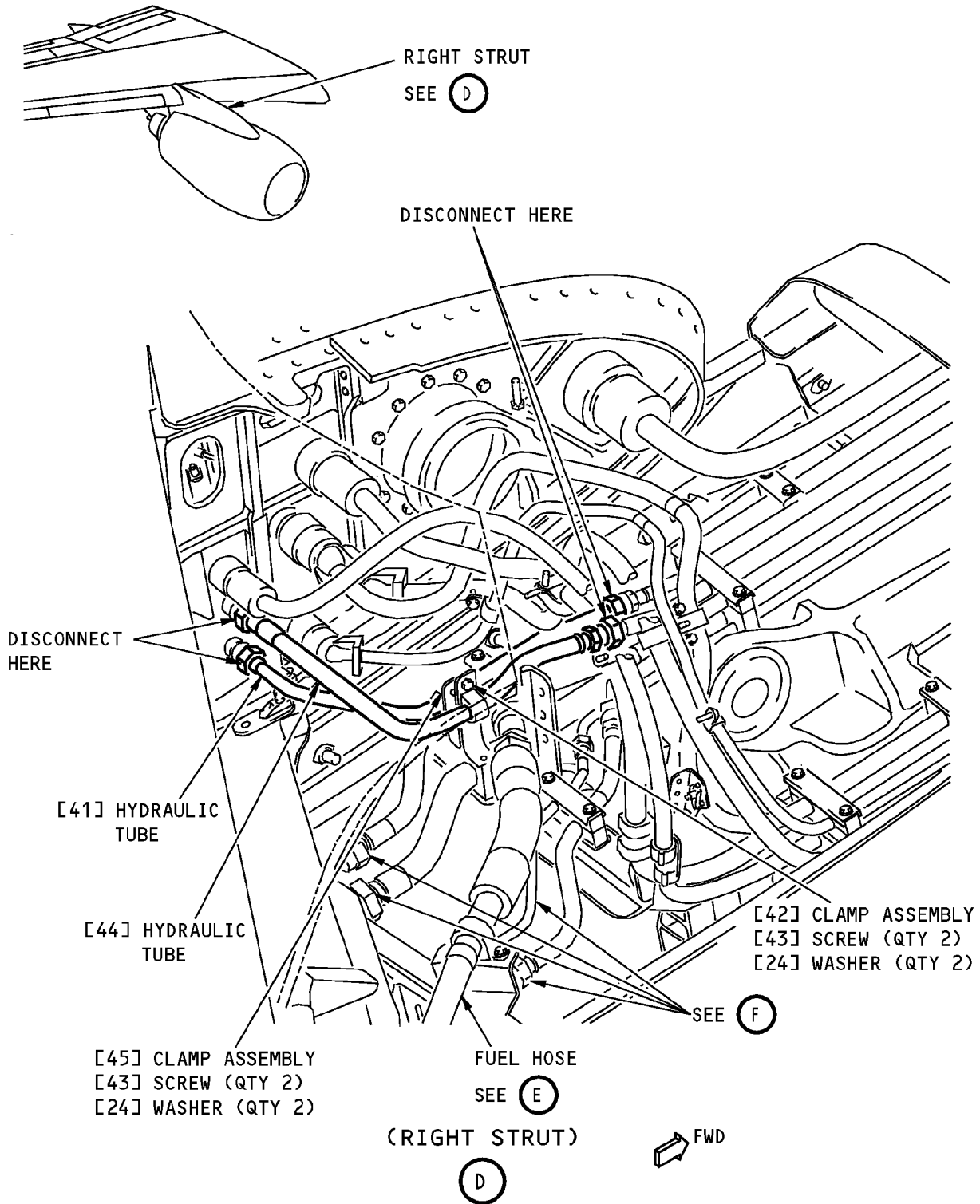
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Strut Hydraulic and Fire Extinguishing Installation
Figure 403 (Sheet 3 of 6)/54-51-01-990-803

EFFECTIVITY
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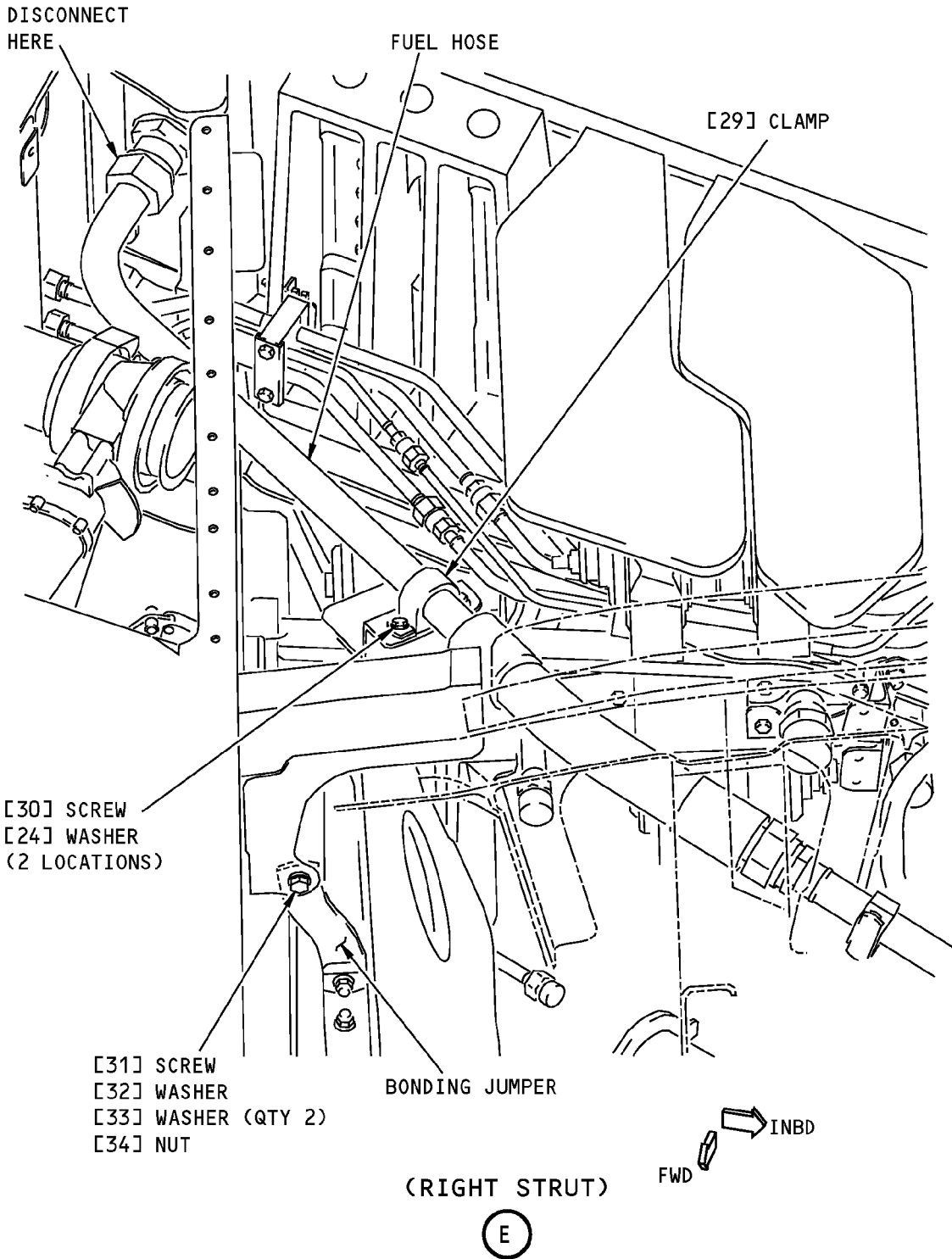
**Strut Hydraulic and Fire Extinguishing Installation
Figure 403 (Sheet 4 of 6)/54-51-01-990-803**

EFFECTIVITY
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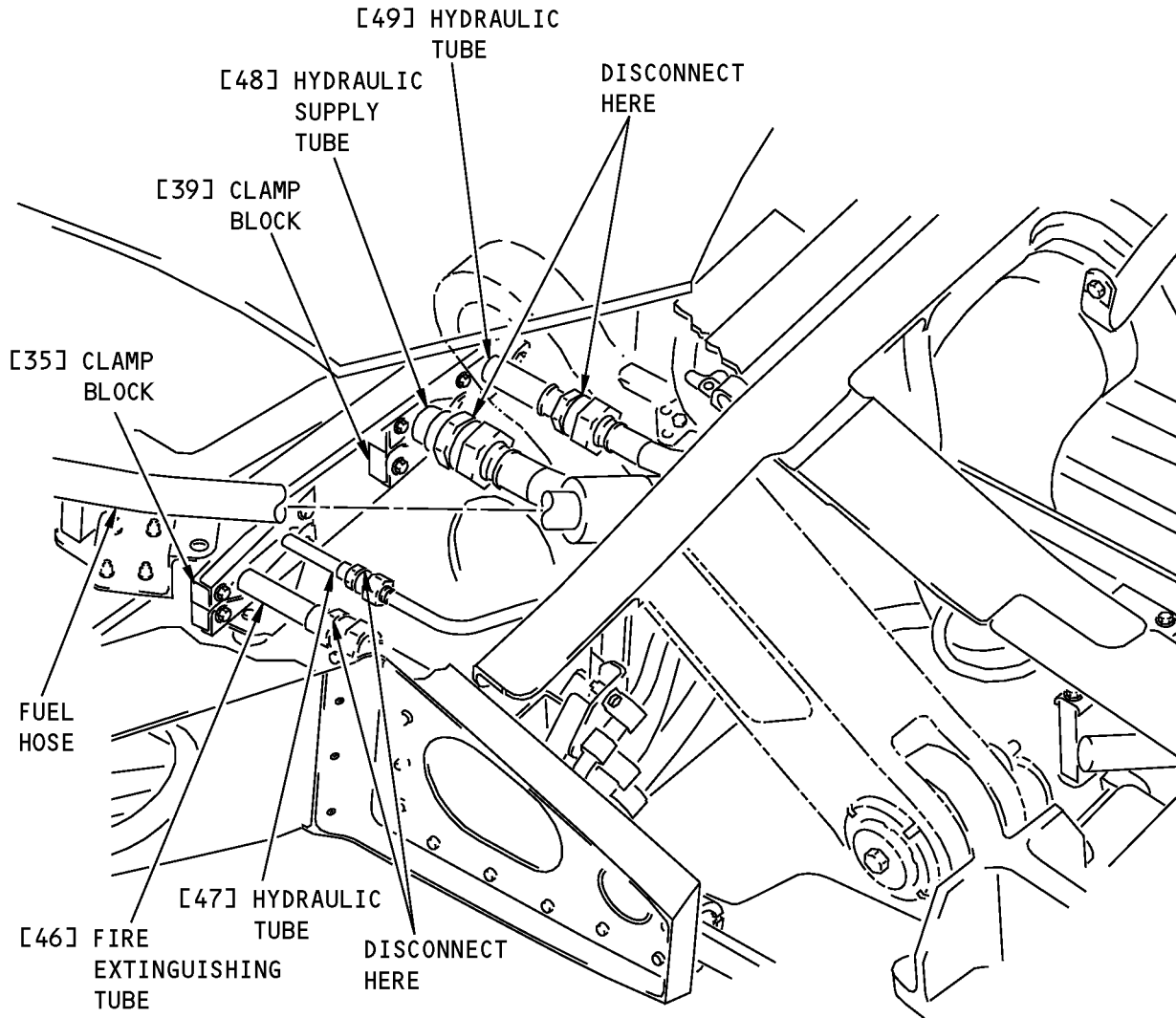
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**Strut Hydraulic and Fire Extinguishing Installation
Figure 403 (Sheet 5 of 6)/54-51-01-990-803**

EFFECTIVITY
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➔ FWD

(RIGHT STRUT)

F

**Strut Hydraulic and Fire Extinguishing Installation
Figure 403 (Sheet 6 of 6)/54-51-01-990-803**

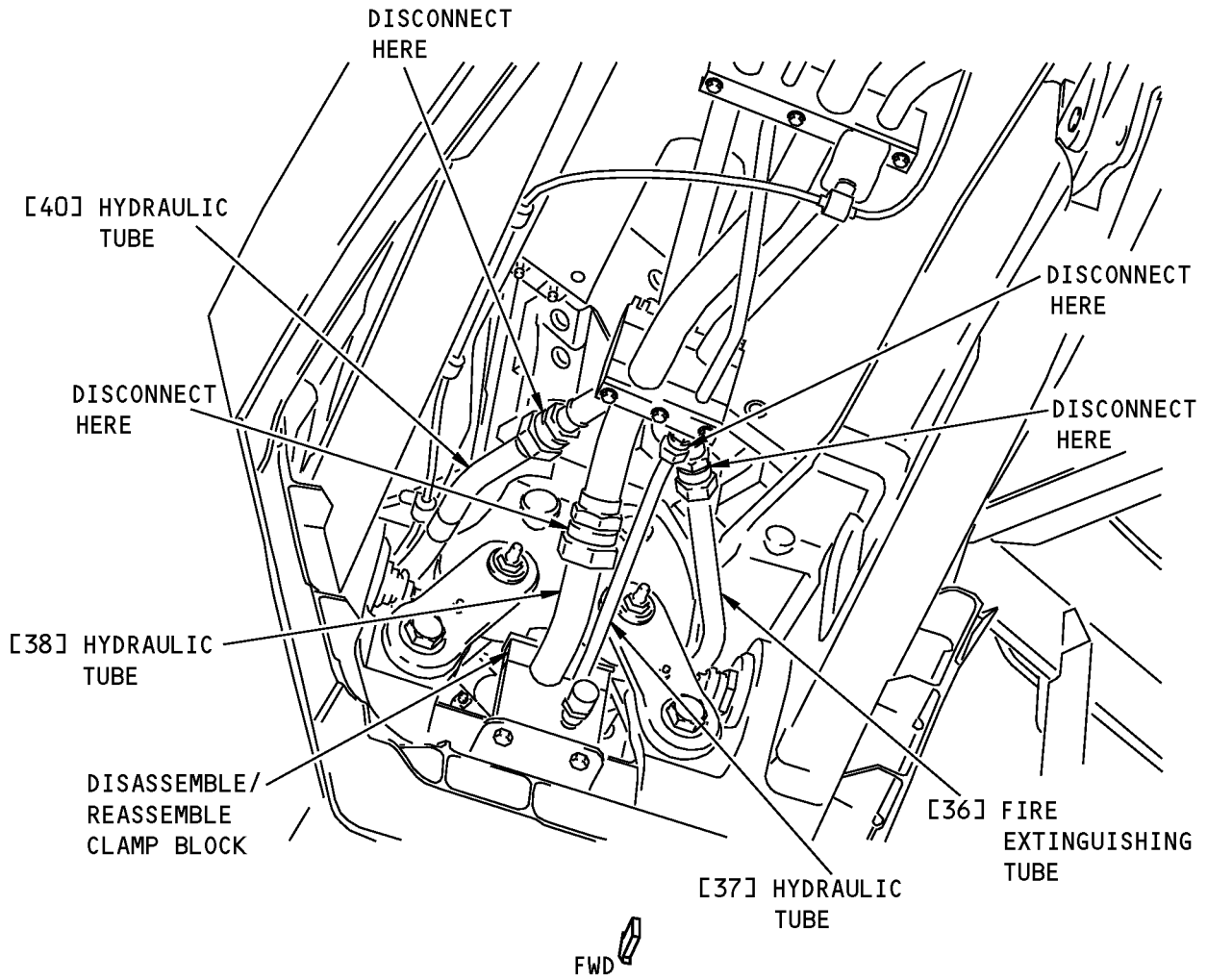
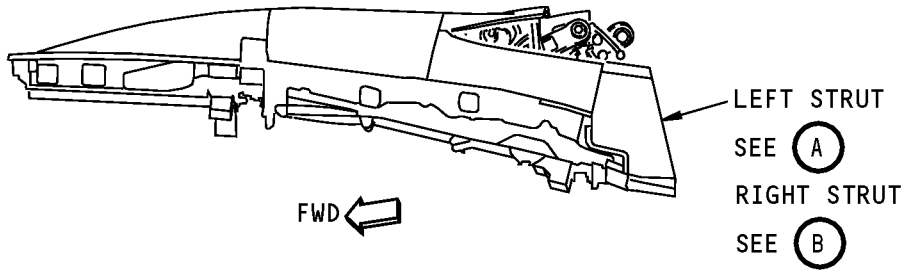
EFFECTIVITY
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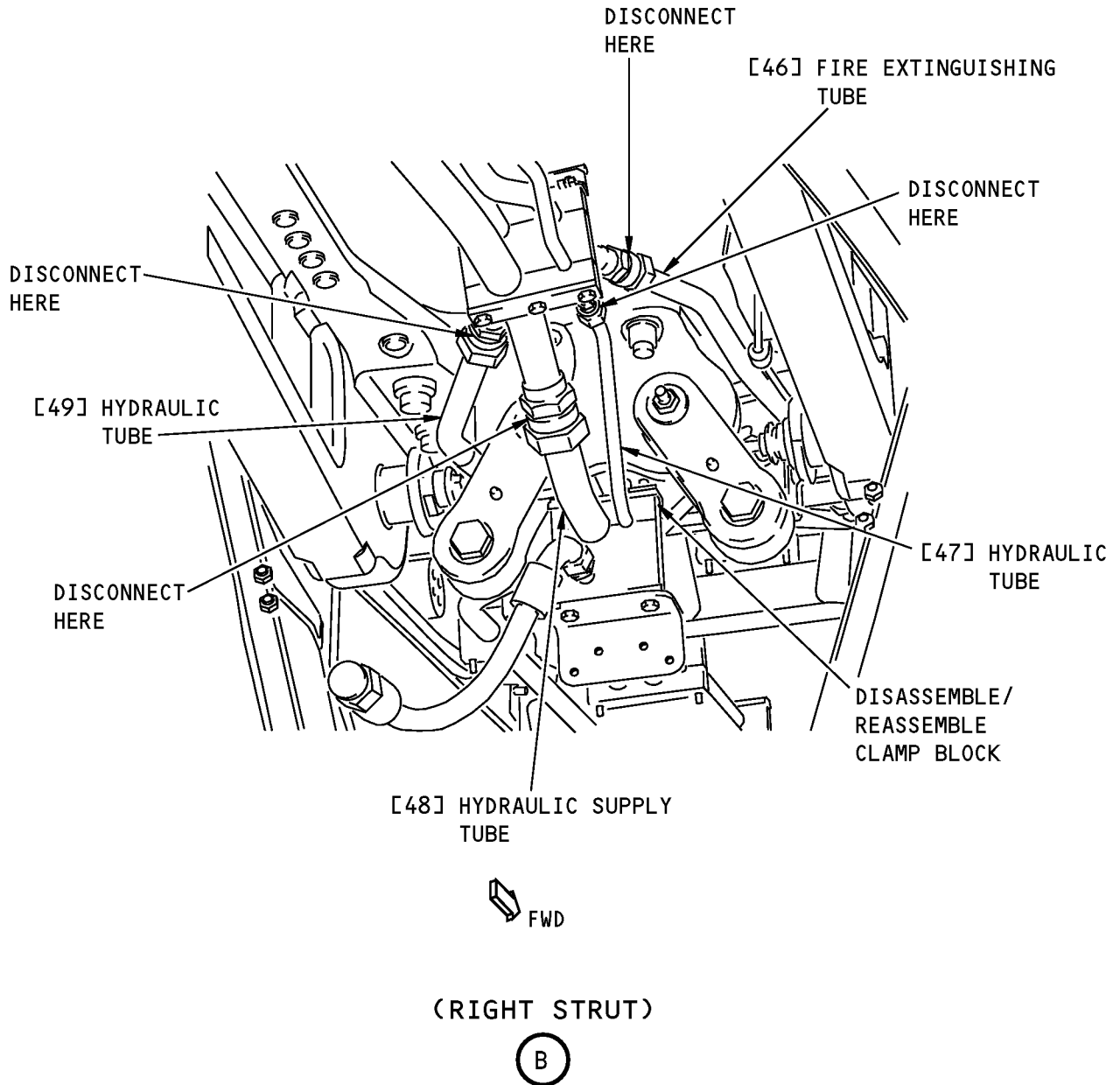
(LEFT STRUT)

(A)

**Aft Fairing Hydraulic and Fire Extinguishing Installation
Figure 404 (Sheet 1 of 2)/54-51-01-990-804**

EFFECTIVITY
HAP ALL

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**Aft Fairing Hydraulic and Fire Extinguishing Installation
Figure 404 (Sheet 2 of 2)/54-51-01-990-804**

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NACELLE STRUT - INSPECTION/CHECK

1. General

A. This procedure has these tasks:

- (1) Visually examine the strut for worn areas or damage.
- (2) Examine the bushings in the strut fittings for worn areas.
- (3) Examine the strut for corrosion.

TASK 54-51-01-200-801

2. Nacelle Strut Examination

A. General

- (1) This task examines the strut for worn areas or damage. Interference between the wing leading edge and the nacelle strut can cause damage to the wing and the strut. To prevent damage to the airplane structure in this area, examine the wing leading edge structure and the strut skin for interference damage.

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-52-03-010-801	Wing Junction Fairing Removal (P/B 401)
54-52-03-410-801	Wing Junction Fairing Installation (P/B 401)
SRM 54-50-70	Structural Repair Manual

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Strut Examination

SUBTASK 54-51-01-040-005

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-51-01-200-001

- (2) Examine the wing leading edge and strut underwing fairings for worn areas or damage.
 - (a) If it is necessary to get access to the damaged area, (TASK 54-52-03-010-801).
 - (b) Look for signs of damage caused by interference between the strut and the wing during flight.
 - (c) If you find nicks, gouges, abrasion, or worn areas, repair as specified in this procedure: (SRM 54-50-70).
 - (d) If you removed the underwing fairings, (TASK 54-52-03-410-801).

SUBTASK 54-51-01-040-006

- (3) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

END OF TASK

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TASK 54-51-01-200-802

3. Strut Bushing Examination

A. General

- (1) This task examines the bushings in the strut fittings for worn areas. This task also examines the bushings in the wing forward spar and underwing attach fittings for worn areas.
- (2) For each strut fitting location that you will examine, this task has these steps:
 - (a) Remove the attach pin.
 - (b) Measure the bushing or bearing dimensions.
 - (c) Make sure the dimensions are in the tolerances.
 - (d) Replace the bushings or bearings, if it is necessary.
 - (e) Install the attach pin.
- (3) You can only examine the bushings in one strut fitting at a time, unless you remove the strut.

B. References

Reference	Title
54-51-02-220-805	Midspar Fuse Pin and Bushing Examination (P/B 601)
54-51-03-220-801	Upper Link Forward Fuse Pin and Bushing Examination (P/B 601)
54-51-03-220-802	Upper Link Aft Pin and Bushing Examination (P/B 601)
54-51-04-220-801	Diagonal Brace Aft Fuse Pin and Bushing Examination (P/B 601)
54-51-04-220-802	Diagonal Brace Forward Pin and Bushing Examination (P/B 601)
54-51-05-220-801	Strut Side Link Examination (P/B 601)

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Strut Bushing Examination

SUBTASK 54-51-01-200-002

- (1) To examine the bushings in the strut upper spar fitting, do this task: Upper Link Forward Fuse Pin and Bushing Examination, TASK 54-51-03-220-801.

SUBTASK 54-51-01-200-003

- (2) To examine the bushings in the wing forward spar fitting, do this task: Upper Link Aft Pin and Bushing Examination, TASK 54-51-03-220-802.

SUBTASK 54-51-01-200-004

- (3) To examine the bushings in the strut lower spar fitting, do this task: Diagonal Brace Forward Pin and Bushing Examination, TASK 54-51-04-220-802.

SUBTASK 54-51-01-200-005

- (4) To examine the bushings in the aft underwing fitting, do this task: Diagonal Brace Aft Fuse Pin and Bushing Examination, TASK 54-51-04-220-801.

SUBTASK 54-51-01-200-006

- (5) To examine the fuse pin bushings in the midspar fittings and the forward underwing fittings, do this task: Midspar Fuse Pin and Bushing Examination, TASK 54-51-02-220-805.

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SUBTASK 54-51-01-200-007

- (6) To examine the side link bearing races in the midspar fittings and the center underwing fittings, do this task: Strut Side Link Examination, TASK 54-51-05-220-801.

————— **END OF TASK** —————

TASK 54-51-01-200-803

4. Corrosion Prevention - Nacelle Strut

A. General

- (1) This task examines the strut for corrosion. Corrosion can occur on the engine nacelle support fitting. Make regular inspections to prevent or find the start of corrosion. Missing fasteners, white powdery, or other corrosion deposits are signs of corrosion. Initiate the corrosion prevention practices to decrease the occurrence of corrosion..

B. References

Reference	Title
51-21-91 P/B 701	CORROSION INHIBITING COMPOUND - CLEANING/PAINTING

C. Consumable Materials

Reference	Description	Specification
G00009	Compound - Organic Corrosion Inhibiting	BMS3-23

D. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

E. Corrosion Examination

SUBTASK 54-51-01-200-016

- (1) Following cleaning of suspected areas, a visual inspection using bright lighting and mirror is effective for finding corrosion.

SUBTASK 54-51-01-200-017

- (2) Where corrosion exists it will produce noticeable bulges of the skin or white deposits of corrosion products at fastener heads.

SUBTASK 54-51-01-200-018

- (3) For minor corrosion, to minimize the downtime of the airplane, the corrosion products should be cleaned off, followed by the application of a corrosion inhibiting compound into the affected area to decrease the corrosion process. Refer to PAGEBLOCK 51-21-91/701 for details on applying corrosion inhibiting compound. The finish system should be repaired at the first opportunity consistent with the maintenance schedule.

SUBTASK 54-51-01-200-019

(4) Frequency of Application

- (a) Periodic inspection is required in areas identified as susceptible to corrosion and should be consistent to the schedules specified in the Maintenance Planning Document. Operators must be aware of reported problems and areas of occurrences.

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- (b) Periodic application of corrosion inhibiting compound, G00009 is necessary to areas identified and should be consistent to the schedule specified in the Maintenance Planning Document.

————— **END OF TASK** —————

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MID SPAR FUSE PIN - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

- (1) A removal of the midspar fuse pin
- (2) An installation of the midspar fuse pin

TASK 54-51-02-000-803

2. Remove the Midspar Fuse Pin

(Figure 401)

A. General

- (1) If you will remove a midspar fuse pin, you must have the two upper link pins and the two diagonal brace pins installed (unless you will remove the strut).
- (2) You will remove only one midspar fuse pin at a time (unless you will remove the strut)
- (3) You can remove the two upper link pins or the two diagonal brace pins at the same time, but you can only have one link free at a time (unless you will remove the strut)

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-580-801	Support the Strut with the Engine Installed (P/B 201)
54-51-01-580-803	Support the Strut with the Engine Removed (P/B 201)
54-52-06-010-801	Aft Fairing Access Panel Removal (P/B 401)
54-53-02-000-802	Forward Strut Fairing Panel (Thrust Reverser Strut Fairing) Removal (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1731	Equipment - Torque Wrench, Rudder PCU Attachment (Part #: C27042-1, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-2020	Kit - Fuse Pin, Removal/Installation (Part #: C54009-27, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

D. Consumable Materials

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33

E. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

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F. Access Panels

Number	Name/Location
431EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 1
431ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 1
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
441EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 2
441ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 2
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2

G. Prepare for the Removal

SUBTASK 54-51-02-040-003

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-51-02-010-005

- (2) To get access to the midspar fuse pin, do these steps to remove the applicable access panels:

- (a) Remove the applicable strut access panels:

(TASK 54-53-02-000-802)

Number	Name/Location
431EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 1
431ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 1
441EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 2
441ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 2

- (b) Remove the applicable aft fairing access panels:

(TASK 54-52-06-010-801)

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2

H. Remove the Midspar Fuse Pin

SUBTASK 54-51-02-000-007

- (1) Remove these parts:

CAUTION: MAKE SURE PAWL ON BOLT IS PRESSED DOWN WHILE REMOVING NUT. DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (a) Remove the nut [27], bolt [22] and end cap [23].
- (b) Remove the nut [24] and end cap [25].

SUBTASK 54-51-02-000-008

- (2) If the strut will stay installed, do these steps to remove the fuse pin:

- (a) Support the strut as follows:

- 1) If you will remove the fuse pin with the engine installed, do this task: Support the Strut with the Engine Installed, TASK 54-51-01-580-801.

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- 2) If you will remove the fuse pin with the engine removed, do this task: Support the Strut with the Engine Removed, TASK 54-51-01-580-803.

CAUTION: MAKE SURE ALL THE UPPER LINK PINS, DIAGONAL BRACE PINS, AND THE OTHER MIDSPAR FUSE PIN ARE INSTALLED. DAMAGE TO THE STRUCTURE CAN OCCUR.

- (b) Use the torque wrench equipment, SPL-1731 and the adapter kit, tool, SPL-2020 to make sure the fuse pin turns easily.

- 1) When the load is correctly removed, the fuse pin will turn with 125 pound-inches maximum torque.

CAUTION: MAKE SURE YOU USE A BRASS SLUG TO PUSH OUT THE FUSE PIN. IF YOU DO NOT USE A BRASS SLUG, THE CLEVIS MAY NOT STAY ALIGNED WITH THE LUG. DAMAGE TO THE BUSHINGS OR STRUCTURE CAN OCCUR.

- (c) Use a brass slug from the pin removal kit, tool, SPL-2020, with grease, D00633, to push out the fuse pin [26].

NOTE: Make sure the clevis and the flange stay aligned.

- 1) Keep the support load on the strut until you install a fuse pin at this location.

NOTE: The hydraulic system in the crane can bleed which can cause the load to change.

SUBTASK 54-51-02-000-009

- (3) If you will remove the strut, do this step to remove the fuse pin:

- (a) Do this task: Support the Strut with the Engine Removed, TASK 54-51-01-580-803.

- (b) Use the torque wrench equipment, SPL-1731 and the adapter kit, tool, SPL-2020 to make sure the fuse pin turns easily.

- 1) When the load is correctly removed, the fuse pin will turn with 125 pound-inches (14.1 newton-meters) maximum torque.

- (c) Use the pin removal kit, tool, SPL-2020, to remove the fuse pin [26].

————— **END OF TASK** —————

TASK 54-51-02-400-803

3. Install the Midspar Fuse Pin

(Figure 401)

A. General

- (1) This task installs a midspar fuse pin.
- (2) This task has these steps:
 - (a) Make sure there is no corrosion on the fuse pin
 - (b) If you did not remove the strut, make sure there is no load on the brass slug
 - (c) Install the fuse pin with grease
 - (d) Install the end caps, bolt, and nuts
 - (e) Remove the support from the strut
 - (f) If you will do no more maintenance operations on the strut, put the airplane back to its usual condition.

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B. References

Reference	Title
12-21-32-600-801	Lubricate the Strut Attach Fittings (P/B 301)
51-31-00-390-804	Fillet Seal Application (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-51-01-580-802	Remove Support from the Strut with the Engine Installed (P/B 201)
54-51-01-580-804	Remove Support from the Strut with the Engine Removed (P/B 201)
54-51-02-220-805	Midspar Fuse Pin and Bushing Examination (P/B 601)
54-52-06-410-801	Aft Fairing Access Panel Installation (P/B 401)
54-53-02-410-801	Forward Strut Fairing Panel (Thrust Reverser Strut Fairing) Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2020	Kit - Fuse Pin, Removal/Installation (Part #: C54009-27, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-11064	FEELER GAGE - CFM56-7 STRUT TO WING (Part #: C54007-1, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

D. Consumable Materials

Reference	Description	Specification
D00006	Compound - Antiseize Pure Nickel Special - Never-Seez NSBT-8N	MIL-PRF-907F
D00633	Grease - Aircraft General Purpose	BMS3-33

E. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

F. Access Panels

Number	Name/Location
431EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 1
431ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 1
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
441EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 2
441ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 2
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2

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G. Install the Midspar Fuse Pin

SUBTASK 54-51-02-200-005

- (1) Do this task: Midspar Fuse Pin and Bushing Examination, TASK 54-51-02-220-805.

SUBTASK 54-51-02-210-005

- (2) Do a check that the fuse pin [26], end cap [25], nut [27], end cap [23], and bolt [22], nut [21] are free from corrosion.
- (a) Include the interior of the fuse pin.

SUBTASK 54-51-02-210-006

- (3) If you removed the strut, do a check that the interior of the bushings at the installation fittings are free from corrosion.

SUBTASK 54-51-02-300-003

- (4) Do these steps if you find corrosion:
- (a) To remove corrosion, refer to the Corrosion Prevention Manual (CPM, D6-41910).
- (b) To repair or replace the corroded part, contact Boeing for corrective action.

SUBTASK 54-51-02-390-003

- (5) Make sure all flanged bushings at the installation fittings are sealed from corrosion.
- (a) To do this, do this task: Fillet Seal Application, TASK 51-31-00-390-804 to apply sealant to the bushings.
- (b) Apply a fillet seal to the flanged end of all bushings.

SUBTASK 54-51-02-400-009

- (6) If you did not remove the strut, install the fuse pin [26] as follows:
- (a) Make sure that the brass slug is unloaded.
- (b) Apply a thin layer of grease, D00633, to the fuse pin that you will install.
- (c) Use the pin installation kit, tool, SPL-2020, to push out the brass slug with the fuse pin.

NOTE: For the inboard midspar fuse pin, put the head of the fuse pin on the inboard side of the midspar fitting. For the outboard midspar fuse pin, put the head of the fuse pin on the outboard side of the midspar fitting.

SUBTASK 54-51-02-400-010

- (7) If you removed the strut, install the fuse pin [26] as follows:
- (a) Apply a thin layer of grease, D00633, to the fuse pin to be installed.
- (b) Use the pin installation kit, tool, SPL-2020, to install the fuse pin.
- NOTE:** For the inboard midspar fuse pin, put the head of the fuse pin on the inboard side of the midspar fitting. For the outboard midspar fuse pin, put the head of the fuse pin on the outboard side of the midspar fitting.

SUBTASK 54-51-02-400-011

- (8) Install these parts:
- (a) Install the end cap [25].
- (b) Apply Never-Seez NSBT-8N compound, D00006, to the threads of the nut [24].
- (c) Do a check of the run-on torque of the self locking nut [24]. If the run-on torque is not 70 in-lb (8 N·m) to 600 in-lb (68 N·m), replace the nut and do the check again.
- (d) Tighten the nut [24] to 900 ± 100 in-lb (102 ± 12 N·m).

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SUBTASK 54-51-02-400-012

(9) Install these parts:

NOTE: For the inboard midspar bolt, put the head of the bolt on the inboard side of the midspar fitting. For the outboard midspar bolt, put the head of the bolt on the outboard side of the midspar fitting.

- (a) Install the bolt [22] and end cap [23].
- (b) Apply Never-Seez NSBT-8N compound, D00006, to the threads of the nut [27].
- (c) Do a check of the run-on torque of the self locking nut [27]. If the run-on torque is not 9.50 in-lb (1.07 N·m) to 80 in-lb (9 N·m), replace the nut and do the check again.
- (d) Tighten the nut [27] to 175 ±25 in-lb (20 ±3 N·m).
- (e) Make sure the spring loaded pawl on the bolt [22] fully extends when you tighten the nut [27].

SUBTASK 54-51-02-200-006

(10) Make sure that all parts are firmly seated.

SUBTASK 54-51-02-200-007

(11) Use a feeler gage, SPL-11064 to check the gap between the strut and wing fitting.

SUBTASK 54-51-02-640-002

(12) To inject grease, D00633 into the midspar grease fittings, do this task: Lubricate the Strut Attach Fittings, TASK 12-21-32-600-801.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 54-51-02-580-003

(1) Remove the support from the strut as follows:

- (a) If you installed the fuse pin with the engine installed, do this task: Remove Support from the Strut with the Engine Installed, TASK 54-51-01-580-802.
- (b) If you installed the fuse pin with the engine removed, do this task: Remove Support from the Strut with the Engine Removed, TASK 54-51-01-580-804.

SUBTASK 54-51-02-410-001

(2) Install the aft fairing access panels:

(TASK 54-52-06-410-801)

<u>Number</u>	<u>Name/Location</u>
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2

SUBTASK 54-51-02-410-002

(3) Install these strut access panels:

(TASK 54-53-02-410-801)

<u>Number</u>	<u>Name/Location</u>
431EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 1
431ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 1
441EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 2

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(Continued)

<u>Number</u>	<u>Name/Location</u>
441ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 2

SUBTASK 54-51-02-440-003

- (4) If you will do no more maintenance operations on the strut, do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

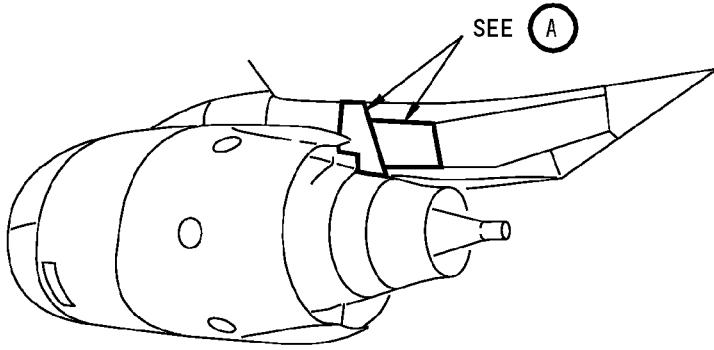
————— **END OF TASK** —————

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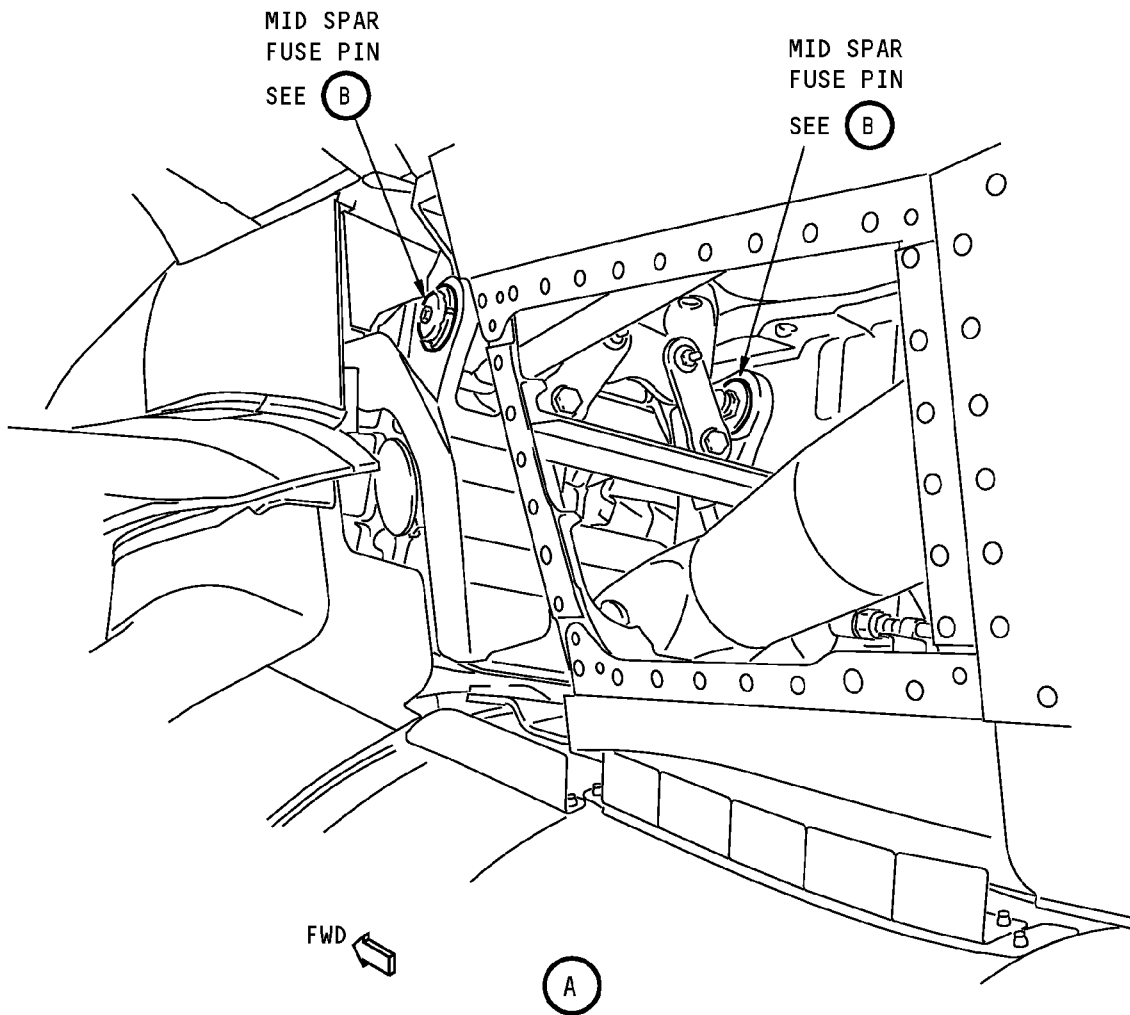
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**LEFT STRUT
(RIGHT SIDE IS OPPOSITE)**



**Mid Spar Fuse Pin Installation
Figure 401 (Sheet 1 of 2)/54-51-02-990-801**

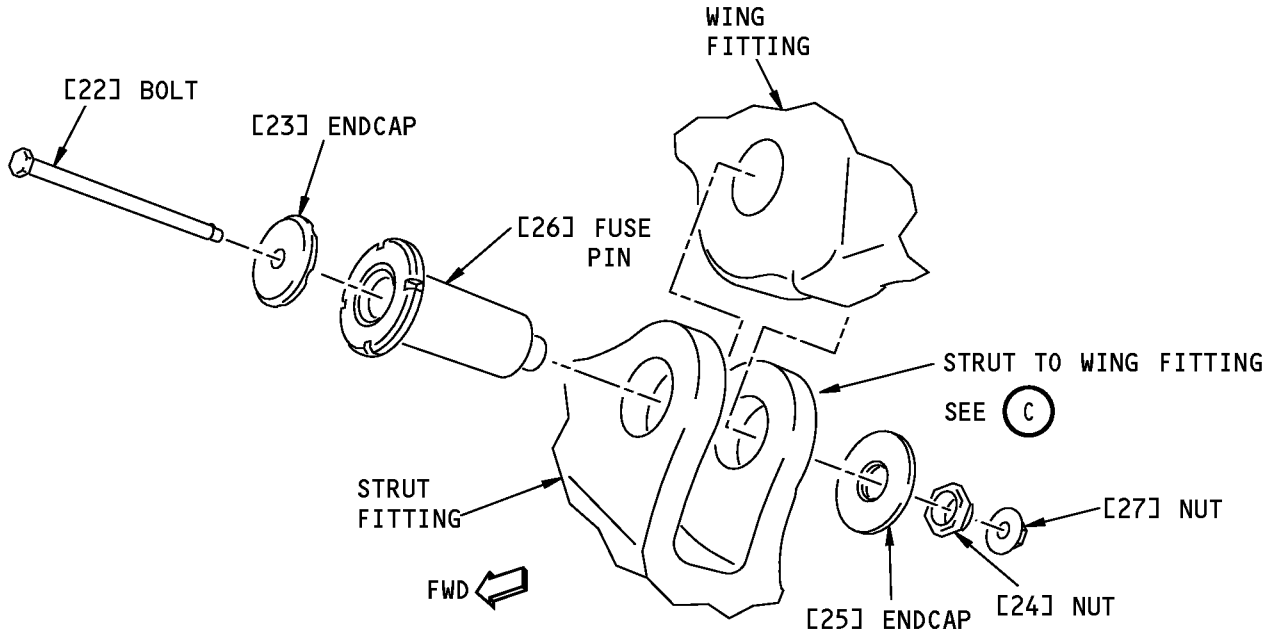
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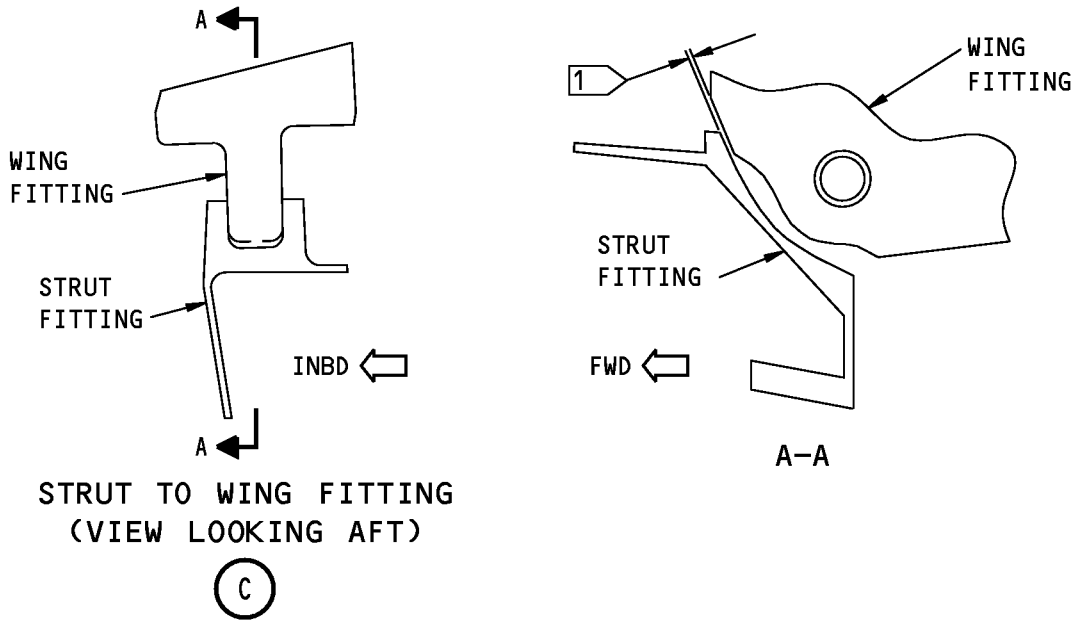
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**LEFT MID SPAR FUSE PIN
(RIGHT MID SPAR FUSE PIN IS OPPOSITE)**

(B)



1 MINIMUM .05 GAP REQUIRED BETWEEN STRUT AND WING FITTINGS IN AREA SHOWN. APPLIES TO INBD WING AND STRUT FITTINGS ONLY.

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**Mid Spar Fuse Pin Installation
Figure 401 (Sheet 2 of 2)/54-51-02-990-801**

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MIDSPAR FUSE PIN - INSPECTION/CHECK

1. General

A. This procedure has this task:

- (1) Examine the midspar fuse pins and bushings.

TASK 54-51-02-220-805

2. Midspar Fuse Pin and Bushing Examination

(Figure 601)

A. General

- (1) This task examines the midspar fuse pin for worn areas. This task also examines the bushings in the strut midspar attach fittings for worn areas.
- (2) This task has these steps:
 - (a) Remove the midspar fuse pin.
 - (b) Measure the midspar fuse pin and bushing dimensions.
 - (c) Make sure the dimensions are in the tolerances.
 - (d) Replace the midspar fuse pin or bushings, if it is necessary.
 - (e) Install the midspar fuse pin.
- (3) You can examine only one midspar fuse pin at a time. Both diagonal brace pins, and both upper link pins, and one midspar fuse pin must stay installed, unless you remove the strut.

B. References

Reference	Title
54-51-02-000-803	Remove the Midspar Fuse Pin (P/B 401)
54-51-02-400-803	Install the Midspar Fuse Pin (P/B 401)
SRM 54-50-90	Structural Repair Manual

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Prepare for the Examination

SUBTASK 54-51-02-000-020

- (1) Do this task: Remove the Midspar Fuse Pin, TASK 54-51-02-000-803.

E. Fuse Pin and Bushing Examination

SUBTASK 54-51-02-220-005

- (1) Measure these dimensions:
 - (a) Measure the outside diameter of the midspar fuse pin.
 - (b) Measure the inside diameter of the bushings in the forward underwing fitting.
 - (c) Measure the inside diameter of the bushings in the strut midspar fitting.

SUBTASK 54-51-02-300-010

- (2) Make sure the dimensions are in the tolerances as specified in Table 601.

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Table 601/54-51-02-993-811 Mid Spar Fuse Pin Wear Limits

INDEX NO.	NAME OF THE PARTS THAT ARE IN CONTACT	DIM.	DIAMETER DESIGN LIMITS		WEAR LIMITS	
			MINIMUM inches/mm	MAXIMUM inches/mm	PERMITTED WEAR DIMENSIONS	MAX CLEARANCE
1	BUSHING	I.D.	1.6515 in 41.948 mm	1.6523 in 41.968 mm	1.6546 in 42.027 mm	0.0046 in
	FUSE PIN	O.D.	1.6500 in 41.910 mm	1.6505 in 41.922 mm	1.6477 in 41.851 mm	0.117 mm
2	BUSHING	I.D.	1.6515 in 41.948 mm	1.6523 in 41.968 mm	1.6546 in 42.027 mm	0.0046 in
	FUSE PIN	O.D.	1.6500 in 41.910 mm	1.6505 in 41.922 mm	1.6477 in 41.851 mm	0.117 mm

- (a) If the fuse pin dimensions are not in the tolerances, replace the fuse pin.
- (b) If the bushing dimensions in the forward underwing fitting are not in the tolerances, replace the bushings as specified in this procedure: (SRM 54-50-90).
- (c) If the bushing dimensions in the strut midspar fitting are not in the tolerances, replace the bushings as specified in this procedure: (SRM 54-50-90).

F. Put the Airplane Back to its Usual Condition

SUBTASK 54-51-02-400-025

- (1) Do this task: Install the Midspar Fuse Pin, TASK 54-51-02-400-803.

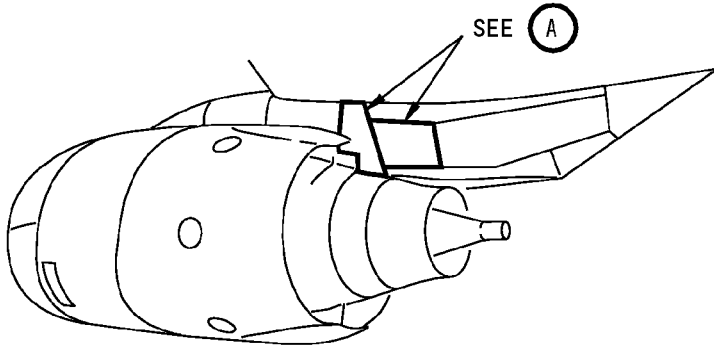
————— **END OF TASK** —————

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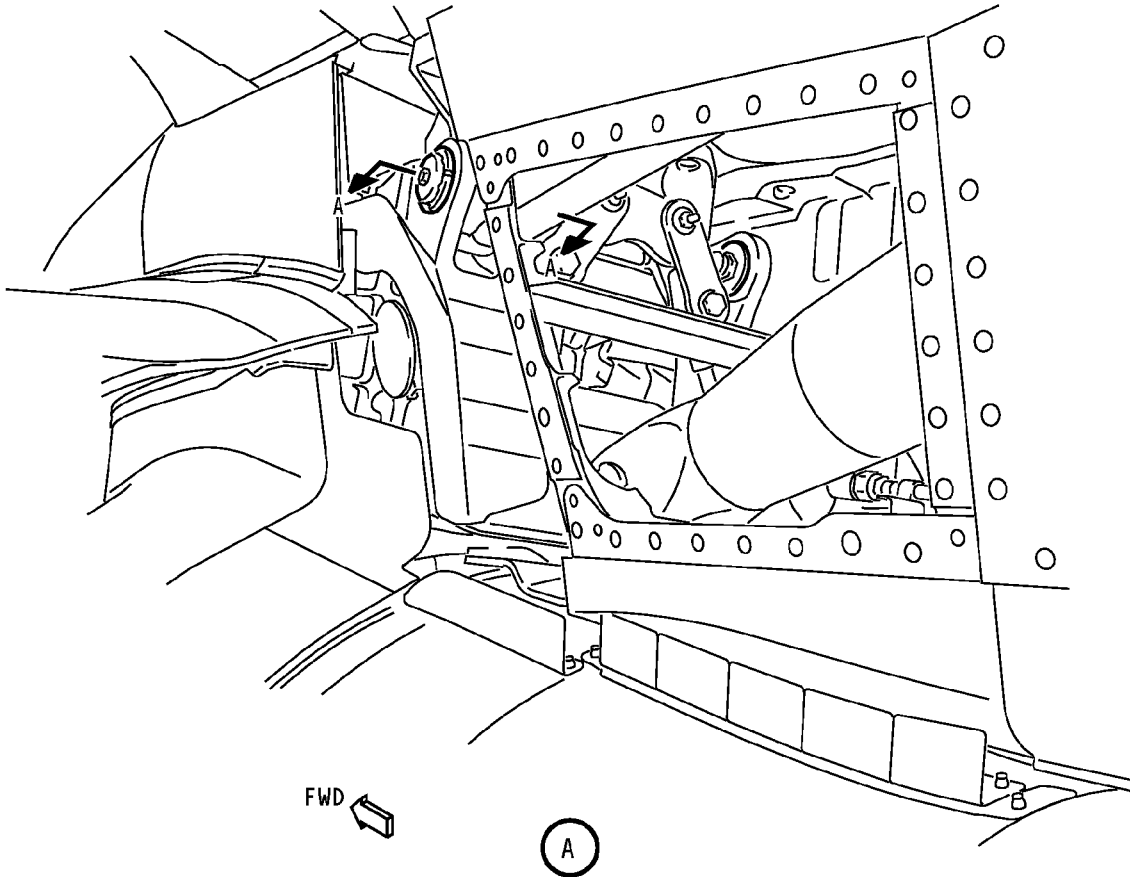
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**LEFT STRUT
(RIGHT STRUT IS OPPOSITE)**



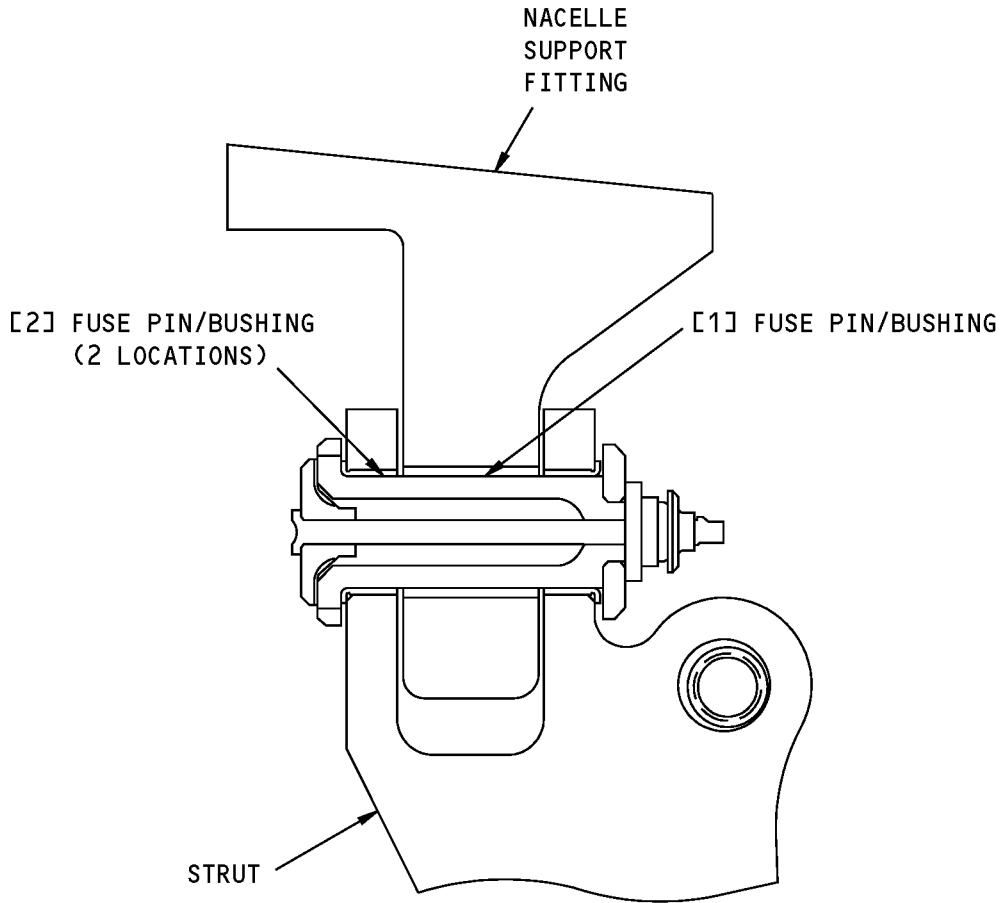
**Midspar Examination
Figure 601 (Sheet 1 of 2)/54-51-02-990-811**

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(LEFT SIDE IS SHOWN,
RIGHT SIDE IS OPPOSITE)
A-A

Midspar Examination
Figure 601 (Sheet 2 of 2)/54-51-02-990-811

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UPPER LINK - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

- (1) A removal of the upper link,
- (2) An installation of the upper link,
- (3) A removal of the upper link forward or aft fuse pin,
- (4) An installation of the upper link forward or aft fuse pin,

TASK 54-51-03-000-801

2. Upper Link Removal

(Figure 401, Figure 402, Figure 403)

A. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-580-801	Support the Strut with the Engine Installed (P/B 201)
54-51-01-580-803	Support the Strut with the Engine Removed (P/B 201)
54-52-03-010-801	Wing Junction Fairing Removal (P/B 401)

B. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

C. Access Panels

Number	Name/Location
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2

D. Prepare for the Removal

SUBTASK 54-51-03-040-001

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-51-03-010-001

- (2) To get access to the upper link aft and forward fuse pins, do this step(TASK 54-52-03-010-801):

Open the applicable access panels:

Number	Name/Location
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2

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SUBTASK 54-51-03-980-001

- (3) Do one of these following procedures, as applicable:
 - (a) Do this task: Support the Strut with the Engine Installed, TASK 54-51-01-580-801.
 - (b) Do this task: Support the Strut with the Engine Removed, TASK 54-51-01-580-803.

E. Upper Link Removal

SUBTASK 54-51-03-020-002

- (1) Carefully remove the upper link [1] from the strut.

————— **END OF TASK** —————

TASK 54-51-03-400-801

3. Upper Link Installation

(Figure 401, Figure 402, Figure 403)

A. References

Reference	Title
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-51-01-580-802	Remove Support from the Strut with the Engine Installed (P/B 201)
54-51-01-580-804	Remove Support from the Strut with the Engine Removed (P/B 201)
54-51-03-220-801	Upper Link Forward Fuse Pin and Bushing Examination (P/B 601)
54-51-03-220-802	Upper Link Aft Pin and Bushing Examination (P/B 601)
54-52-03-410-801	Wing Junction Fairing Installation (P/B 401)

B. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

C. Access Panels

Number	Name/Location
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2

D. Upper Link Installation

SUBTASK 54-51-03-200-001

- (1) Do these examinations of the upper link pins:
 - (a) Do this task: Upper Link Forward Fuse Pin and Bushing Examination, TASK 54-51-03-220-801.
 - (b) Do this task: Upper Link Aft Pin and Bushing Examination, TASK 54-51-03-220-802.

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SUBTASK 54-51-03-020-003

CAUTION: MAKE SURE THAT THE UPPER LINK IS IN THE CORRECT POSITION. DAMAGE TO THE STRUT CAN OCCUR IF IT IS NOT IN THE CORRECT POSITION.

(2) To install the forward or aft pin on the upper link [1], do this task: (TASK 54-51-03-400-802).

NOTE: Determine the correct installation of the upper link ramp feature as shown by the UP arrow in Figure 401

E. Put the Airplane Back to Its Usual Condition

SUBTASK 54-51-03-980-002

(1) Do one of these applicable procedures:

- (a) Do this task: Remove Support from the Strut with the Engine Installed, TASK 54-51-01-580-802.
- (b) Do this task: Remove Support from the Strut with the Engine Removed, TASK 54-51-01-580-804.

SUBTASK 54-51-03-010-002

(2) Close the applicable panels:

(TASK 54-52-03-410-801)

<u>Number</u>	<u>Name/Location</u>
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2

SUBTASK 54-51-03-440-001

(3) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

END OF TASK

TASK 54-51-03-000-802

4. Upper Link Fuse Pin Removal

(Figure 402, Figure 403)

A. General

- (1) This task removes the forward/aft fuse pin from the upper link.
 - (a) The procedure and torque values for forward and aft fuse pin removal are the same.
- (2) You can remove the two upper link pins at the same time. But you may not remove any additional strut attach pin, while the upper link pins are removed. Only one link can be free at a time (unless you will remove the strut).

B. References

<u>Reference</u>	<u>Title</u>
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-580-801	Support the Strut with the Engine Installed (P/B 201)
54-51-01-580-803	Support the Strut with the Engine Removed (P/B 201)
54-52-03-010-801	Wing Junction Fairing Removal (P/B 401)

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C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1731	Equipment - Torque Wrench, Rudder PCU Attachment (Part #: C27042-1, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-2020	Kit - Fuse Pin, Removal/Installation (Part #: C54009-27, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

D. Consumable Materials

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33

E. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

F. Access Panels

Number	Name/Location
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2

G. Prepare for the Removal

SUBTASK 54-51-03-040-002

(1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-51-03-010-003

(2) To get access to the upper link forward fuse pin, do this step (TASK 54-52-03-010-801):

Open these access panels:

Number	Name/Location
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2

H. Forward/Aft Fuse Pin Removal

SUBTASK 54-51-03-000-003

(1) Remove these parts:

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CAUTION: MAKE SURE PAWL ON BOLT IS PRESSED DOWN WHILE YOU REMOVE THE NUT. DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (a) Remove the nut [21] or [41], bolt [22] or [42], and end cap [23] or [43].
- (b) Remove the nut [24] or [44] and end cap [25] or [45].

SUBTASK 54-51-03-000-004

(2) If the strut will stay installed, do these steps to remove the fuse pin:

- (a) Support the strut as follows:
 - 1) If you will remove the fuse pin with the engine installed, do this task: Support the Strut with the Engine Installed, TASK 54-51-01-580-801.
 - 2) If you will remove the fuse pin with the engine removed, do this task: Support the Strut with the Engine Removed, TASK 54-51-01-580-803.

CAUTION: MAKE SURE ALL THE DIAGONAL BRACE PINS AND MIDSPAR FUSE PINS ARE INSTALLED. DAMAGE TO THE STRUCTURE CAN OCCUR.

- (b) Use the torque wrench equipment, SPL-1731 and the adapter kit, tool, SPL-2020 to make sure the fuse pin turns easily.
 - 1) When the load is correctly removed, the fuse pin will turn with 125 pound-inches (14.1 newton-meters) maximum torque.

CAUTION: MAKE SURE YOU USE A BRASS SLUG TO PUSH OUT THE FUSE PIN. IF YOU DO NOT USE A BRASS SLUG, THE CLEVIS MAY NOT STAY ALIGNED WITH THE LUG. DAMAGE TO THE BUSHINGS OR STRUCTURE CAN OCCUR.

- (c) Use a brass slug from the pin removal kit, tool, SPL-2020, with grease, D00633, to push out the fuse pin [26] or [46].

NOTE: Make sure the clevis and the flange stay aligned.

- 1) Keep the support load on the strut until you install a fuse pin at this location.

NOTE: The hydraulic system in the crane can bleed which can cause the load to change.

SUBTASK 54-51-03-000-005

(3) If you will remove the strut, do this step to remove the fuse pin:

- (a) Do this task: Support the Strut with the Engine Removed, TASK 54-51-01-580-803.
- (b) Use the torque wrench equipment, SPL-1731 and the adapter kit, tool, SPL-2020 to make sure the fuse pin turns easily.
 - 1) When the load is correctly removed, the fuse pin will turn with 125 pound-inches (14.1 newton-meters) maximum torque.
- (c) Use the pin removal kit, tool, SPL-2020, to remove the fuse pin [26] or [46].

————— **END OF TASK** —————

TASK 54-51-03-400-802

5. Upper Link Fuse Pin Installation

(Figure 402)

A. General

- (1) This task installs the forward/aft fuse pin to the upper link.

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B. References

Reference	Title
51-31-00-390-804	Fillet Seal Application (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-51-01-580-802	Remove Support from the Strut with the Engine Installed (P/B 201)
54-51-01-580-804	Remove Support from the Strut with the Engine Removed (P/B 201)
54-51-03-220-801	Upper Link Forward Fuse Pin and Bushing Examination (P/B 601)
54-52-03-410-801	Wing Junction Fairing Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2020	Kit - Fuse Pin, Removal/Installation (Part #: C54009-27, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

D. Consumable Materials

Reference	Description	Specification
D00006	Compound - Antiseize Pure Nickel Special - Never-Seez NSBT-8N	MIL-PRF-907F
D00633	Grease - Aircraft General Purpose	BMS3-33

E. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

F. Access Panels

Number	Name/Location
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2

G. Fuse Pin Installation

SUBTASK 54-51-03-210-001

- (1) Do this task: Upper Link Forward Fuse Pin and Bushing Examination, TASK 54-51-03-220-801.
 - (a) Do a check that the fuse pin [26] or [46], end cap [25] or [45], nut [21] or [41], end cap [23] or [43], retention bolt [22] or [42], and nut [24] or [44] are free from corrosion.
 - (b) Include the interior of the fuse pin.

SUBTASK 54-51-03-210-002

- (2) If you removed the upper link, make sure the interior of the bushings at the installation fittings are free from corrosion.

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SUBTASK 54-51-03-300-003

- (3) Do these steps if you find corrosion:
- (a) To remove corrosion, refer to the Corrosion Prevention Manual (CPM, D6-41910).
 - (b) To repair or replace the corroded part, contact Boeing for corrective action.

SUBTASK 54-51-03-390-001

- (4) Make sure all flanged bushings at the installation fittings are sealed from corrosion.
- (a) Do this task (TASK 51-31-00-390-804) to apply sealant to the bushings.
 - (b) Apply a fillet seal to the flanged end of all bushings.

SUBTASK 54-51-03-400-003

- (5) If you did not remove the strut, install the fuse pin [26] or [46] as follows:
- (a) Make sure that the brass slug is unloaded.
 - (b) Apply a thin layer of grease, D00633, to the fuse pin to be installed.
 - (c) Use the pin installation kit, tool, SPL-2020, to push out the brass slug with the fuse pin [26] or [46].

NOTE: For the left strut, put the head of the forward fuse pin [26] on the inboard side of the installation fitting. For the right strut, put the head of the forward fuse pin [26] on the outboard side of the installation fitting. Put the head of the aft fuse pin [46] on the inboard side of the installation fitting for both left and right struts.

SUBTASK 54-51-03-400-004

- (6) If you removed the strut, install the fuse pin [26] or [46] as follows:
- (a) Apply a thin layer of grease, D00633, to the fuse pin to be installed.
 - (b) Use the pin installation kit, tool, SPL-2020, to install the fuse pin [26] or [46].

NOTE: For the left strut, put the head of the forward fuse pin [26] on the inboard side of the installation fitting. For the right strut, put the head of the forward fuse pin [26] on the outboard side of the installation fitting. Put the head of the aft fuse pin [46] on the inboard side of the installation fitting for both left and right struts.

SUBTASK 54-51-03-400-005

- (7) Install these parts:
- (a) Install the end cap [25] or [45].
 - (b) Apply Never-Seez NSBT-8N compound, D00006, to the threads of the nut [24] or [44].
 - (c) Do a check of the run-on torque of the self locking nut.
 - 1) If the run on torque is not 70 in-lb (8 N·m) to 600 in-lb (68 N·m), replace the nut [24] or [44].
 - 2) Do the check again.
 - (d) Tighten the nut [24] or [44] to 900 ± 100 in-lb (102 ± 12 N·m).

SUBTASK 54-51-03-400-006

- (8) Install these parts:
- (a) Install the bolt [22], and end cap [23].

NOTE: For the left strut, put the head of the bolt [22] on the inboard side of the installation fitting. For the right strut, put the head of the bolt [22] on the outboard side of the installation fitting.

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- (b) Install the bolt [42], and end cap [43].

NOTE: For both left and right struts, put the head of the bolt [42] on the inboard side of the installation fitting.

- (c) Apply Never-Seez NSBT-8N compound, D00006, to the threads of the nut [21] or [41].
- (d) Do a check of the run-on torque of the self locking nut [21] or [41]. If the run-on torque is not 9.50 in-lb (1.07 N·m) to 80.00 in-lb (9.04 N·m), replace the nut and do the check again.
- (e) Tighten the nut [21] or [41] to 175 ±25 in-lb (20 ±3 N·m).
- (f) Make sure the spring loaded pawl on the bolt fully extends after the nut is tightened.

SUBTASK 54-51-03-200-005

- (9) Make sure that all parts are firmly seated.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 54-51-03-580-001

- (1) Remove the support from the strut as follows:
 - (a) If you installed the fuse pin with the engine installed, do this task: Remove Support from the Strut with the Engine Installed, TASK 54-51-01-580-802.
 - (b) If you installed the fuse pin with the engine removed, do this task: Remove Support from the Strut with the Engine Removed, TASK 54-51-01-580-804.

SUBTASK 54-51-03-010-004

- (2) To close the access to the upper link forward fuse pin, do this task (TASK 54-52-03-410-801):

Close these access panels:

<u>Number</u>	<u>Name/Location</u>
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2

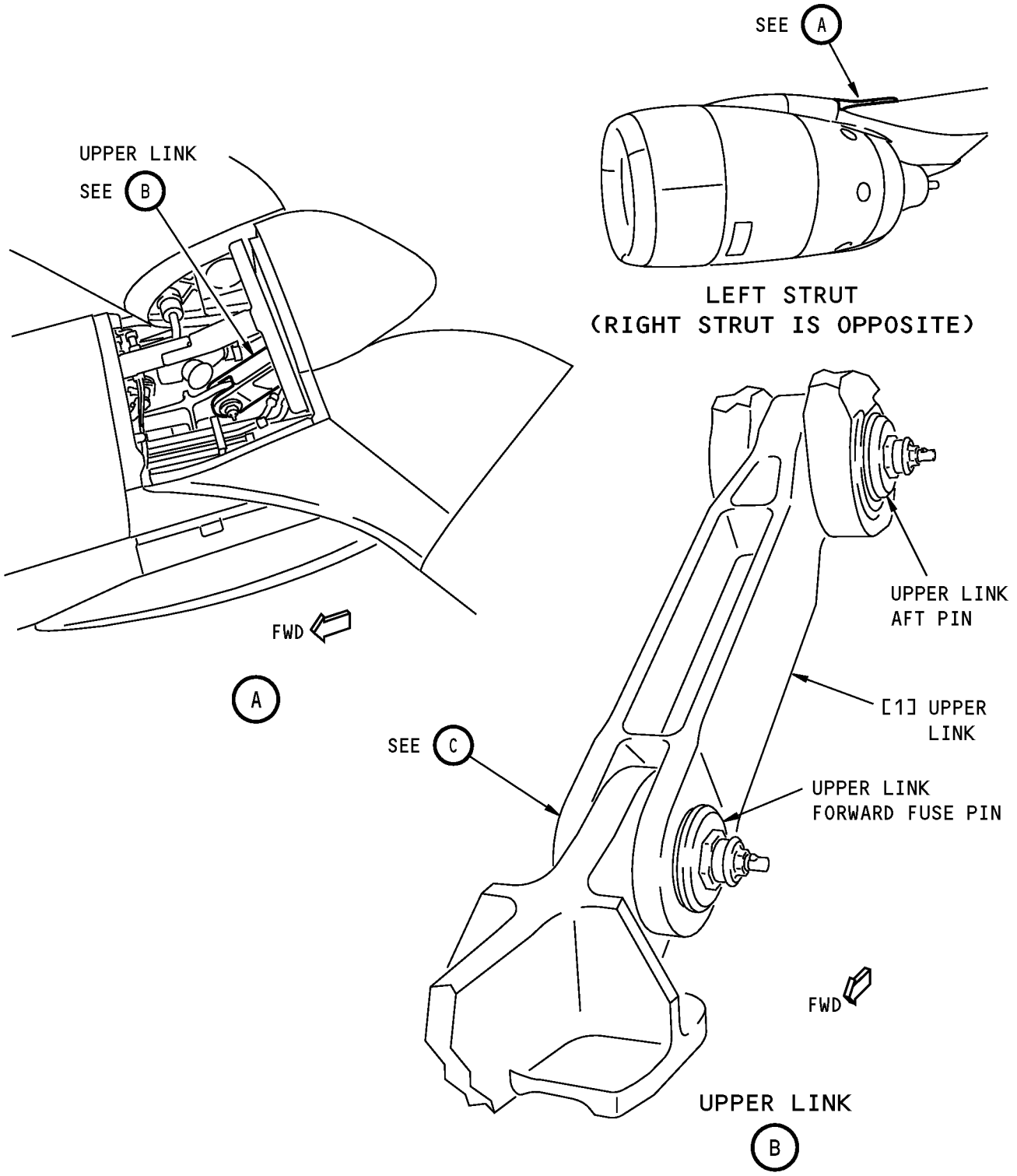
SUBTASK 54-51-03-440-002

- (3) If you will do no more maintenance operations on the strut, do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— END OF TASK —————

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**Upper Link Installation
Figure 401 (Sheet 1 of 2)/54-51-03-990-801**

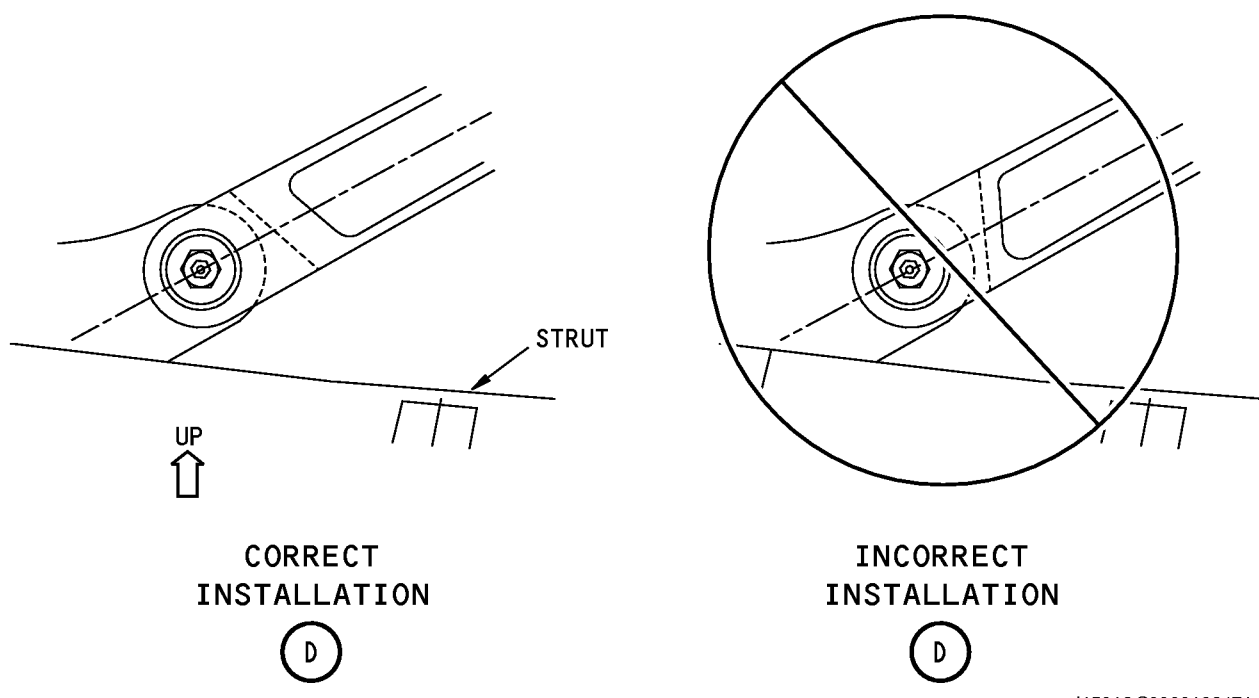
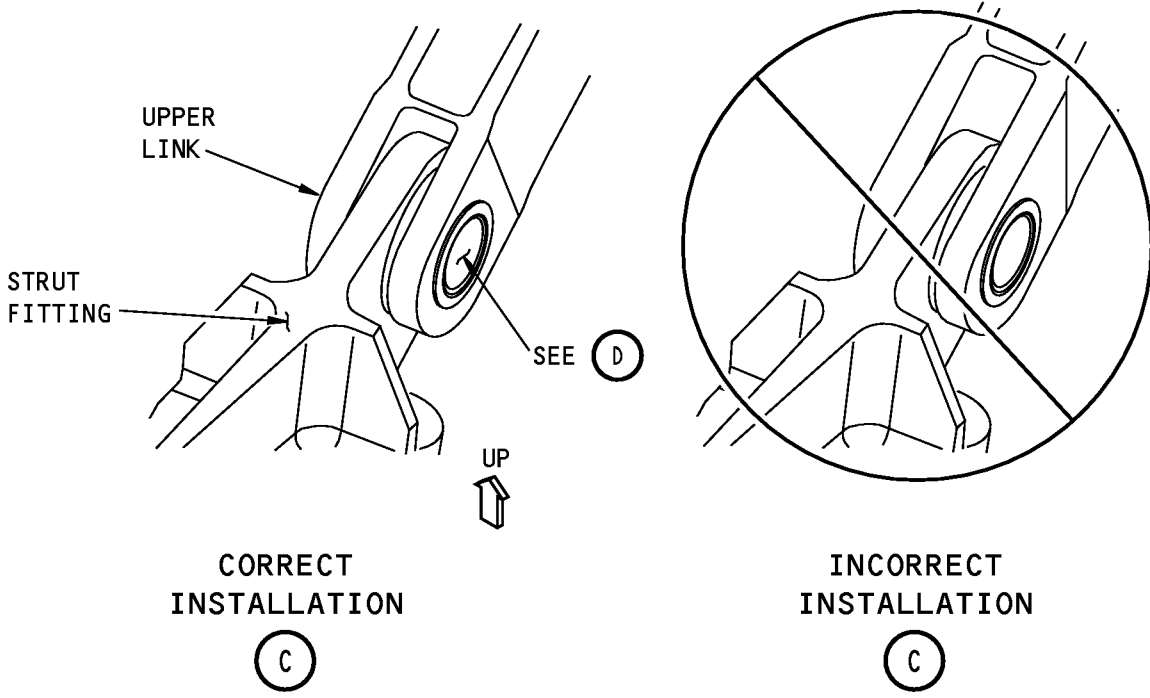
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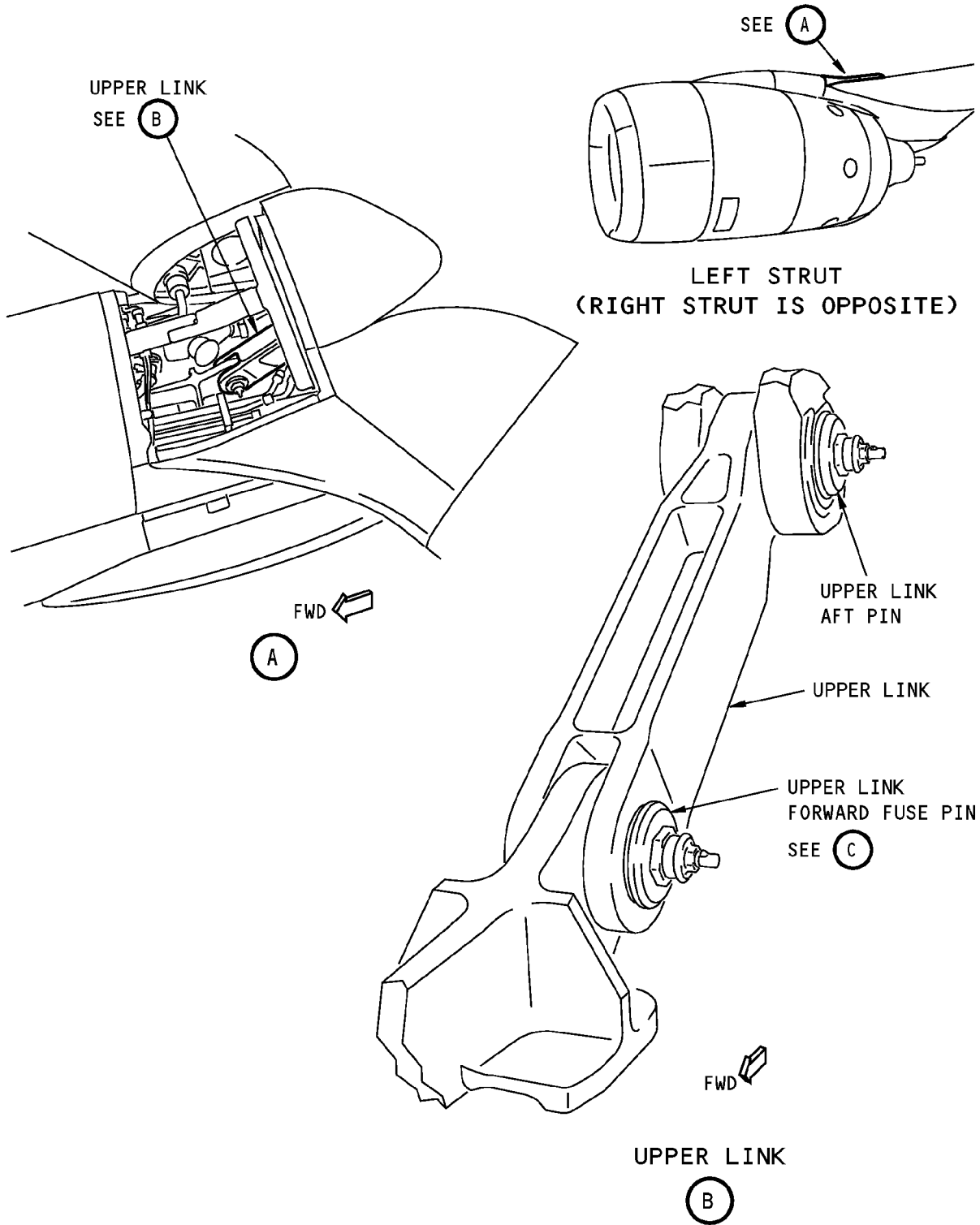
Upper Link Installation
Figure 401 (Sheet 2 of 2)/54-51-03-990-801

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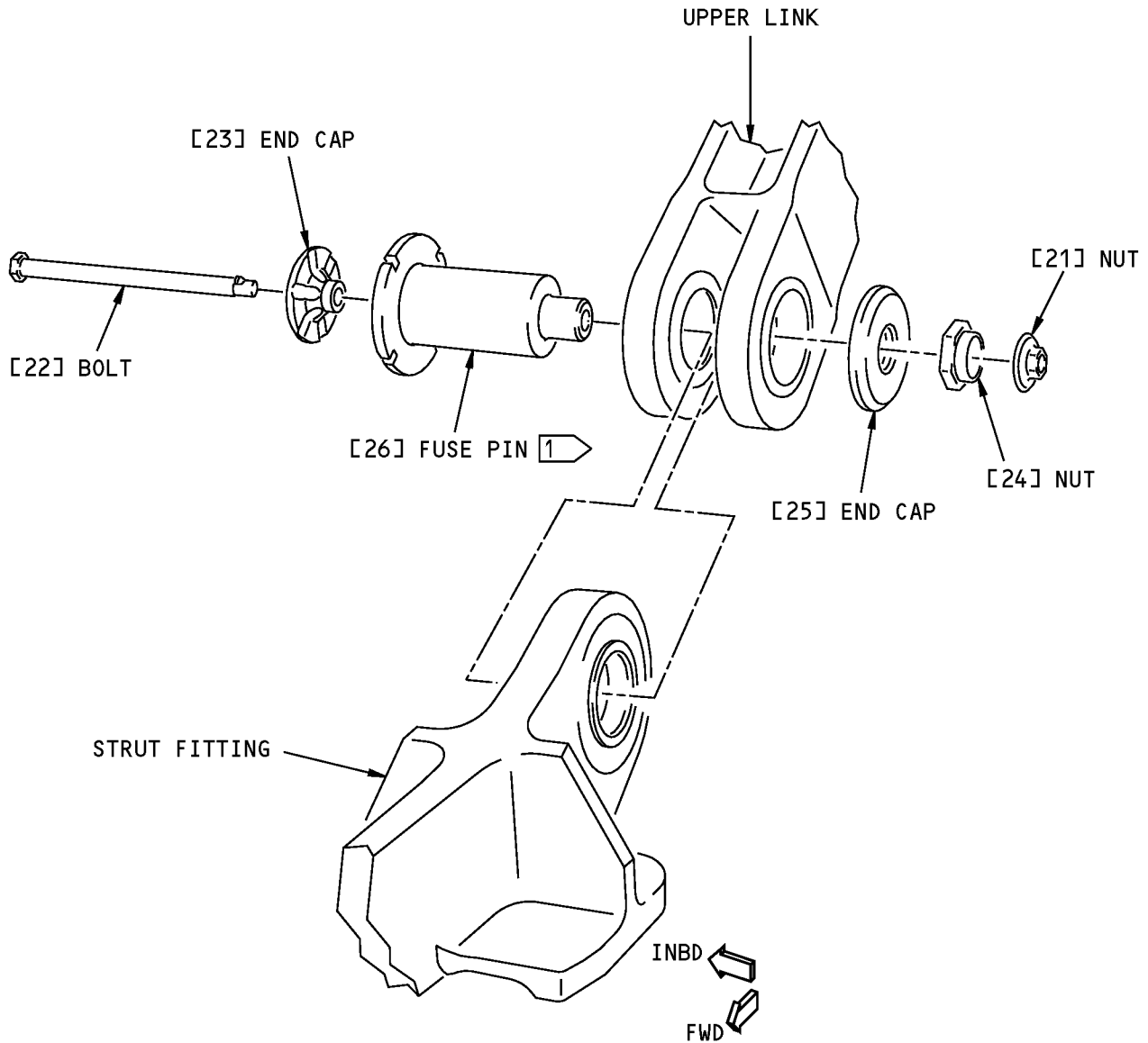
**Upper Link Forward Fuse Pin Installation
Figure 402 (Sheet 1 of 2)/54-51-03-990-805**

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**UPPER LINK FORWARD FUSE PIN
(LEFT STRUT)**

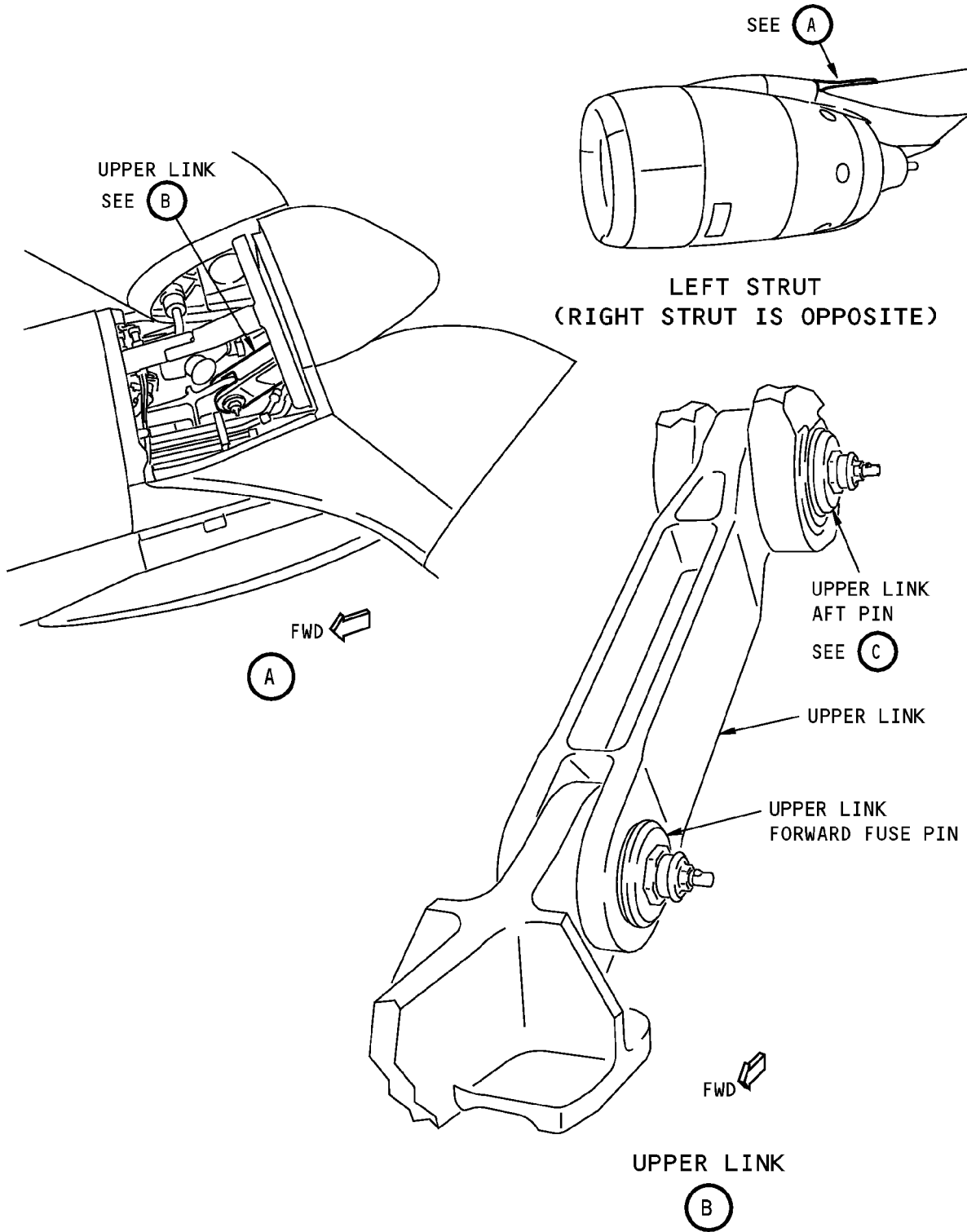
(C)

1 FOR THE RIGHT STRUT, THE HEAD OF FORWARD FUSE PIN IS PLACED ON THE OUTBOARD SIDE.

**Upper Link Forward Fuse Pin Installation
Figure 402 (Sheet 2 of 2)/54-51-03-990-805**

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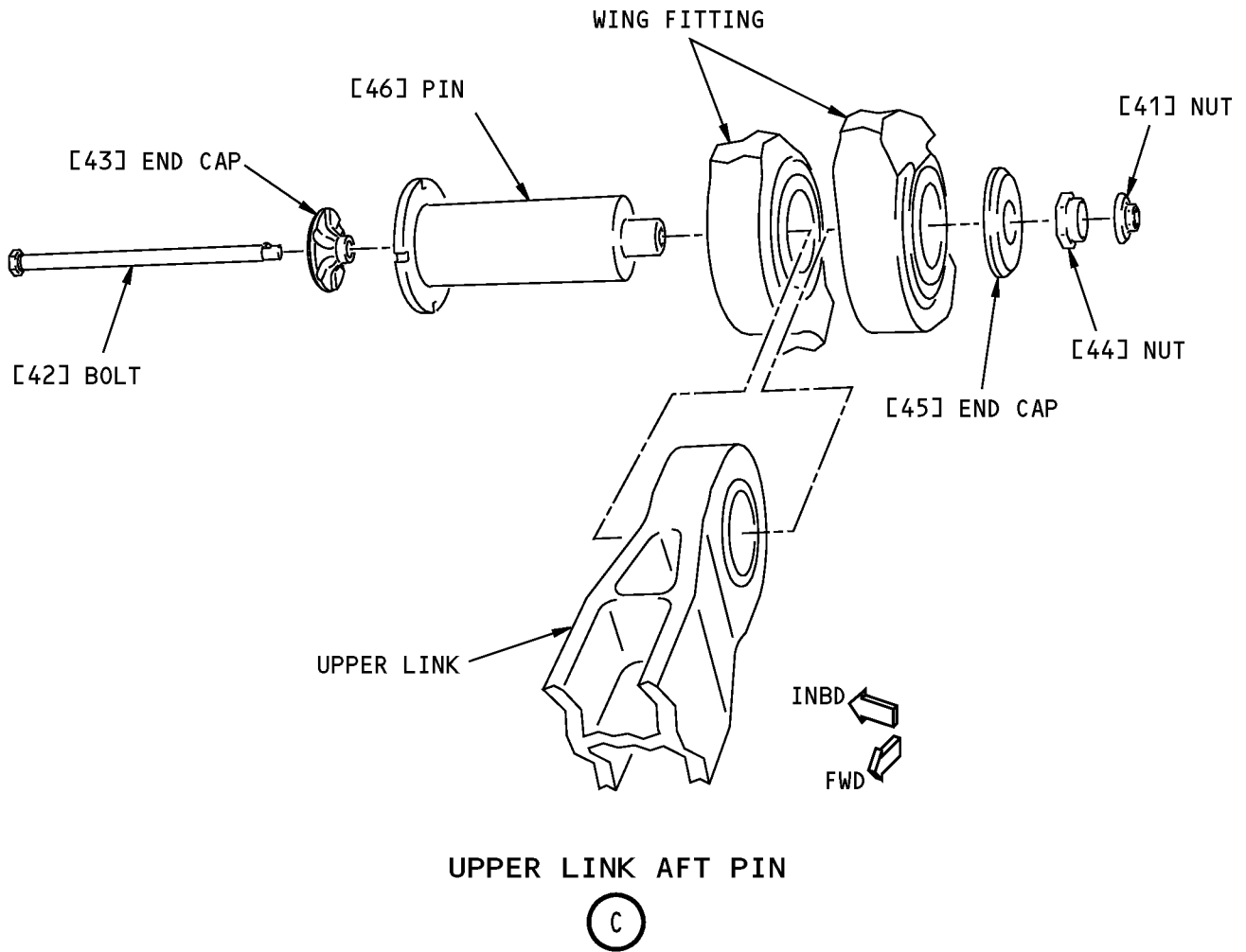
**Upper Link Aft Pin Installation
Figure 403 (Sheet 1 of 2)/54-51-03-990-806**

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Upper Link Aft Pin Installation
Figure 403 (Sheet 2 of 2)/54-51-03-990-806

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UPPER LINK - INSPECTION/CHECK

1. General

A. This procedure has these tasks:

- (1) Examine the forward fuse pin and bushings of the upper link for worn areas.
- (2) Examine the aft pin and bushings of the upper link for worn areas.

TASK 54-51-03-220-801

2. Upper Link Forward Fuse Pin and Bushing Examination

(Figure 601)

A. General

- (1) This task examines the forward fuse pin in the upper link for worn areas. This task also examines the bushings in the upper link and the strut attach fitting for worn areas.
- (2) This task has these steps:
 - (a) Remove the forward fuse pin.
 - (b) Measure the forward fuse pin and bushing dimensions.
 - (c) Make sure the dimensions are in the tolerances.
 - (d) Replace the forward fuse pin or bushings, if it is necessary.
 - (e) Install the forward fuse pin.
- (3) You can examine both upper link pins at the same time, but both midspar fuse pins and both diagonal brace pins must stay installed, unless you remove the strut.

B. References

Reference	Title
54-51-03-000-802	Upper Link Fuse Pin Removal (P/B 401)
54-51-03-400-802	Upper Link Fuse Pin Installation (P/B 401)
SRM 54-50-90	Structural Repair Manual

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Prepare for the Examination

SUBTASK 54-51-03-000-001

- (1) Do this task: Upper Link Fuse Pin Removal, TASK 54-51-03-000-802.

E. Fuse Pin and Bushing Examination

SUBTASK 54-51-03-220-001

- (1) Measure these dimensions:
 - (a) Measure the outside diameter of the fuse pin for the upper link.
 - (b) Measure the inside diameter of the bushings in the strut forward upper spar fitting.
 - (c) Measure the inside diameter of the bushings in the forward end of the upper link.

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SUBTASK 54-51-03-300-001

(2) Make sure the dimensions are in the tolerances as specified in Table 601.

Table 601/54-51-03-993-805 Upper Link Forward Fuse Pin Wear Limits

INDEX NO.	NAME OF THE PARTS THAT ARE IN CONTACT	DIM.	DIAMETER DESIGN LIMITS		WEAR LIMITS	
			MINIMUM inches/mm	MAXIMUM inches/mm	PERMITTED WEAR DIMENSIONS	MAX CLEARANCE
1	BUSHING	I.D.	1.7215 in 43.726 mm	1.7223 in 43.746 mm	1.7246 in 43.805 mm	0.0046 in 0.117 mm
	FUSE PIN	O.D.	1.7200 in 43.688 mm	1.7205 in 43.700 mm	1.7177 in 43.629 mm	
2	BUSHING	I.D.	1.7215 in 43.726 mm	1.7223 in 43.746 mm	1.7246 in 43.805 mm	0.0046 in 0.117 mm
	FUSE PIN	O.D.	1.7200 in 43.688 mm	1.7205 in 43.700 mm	1.7177 in 43.629 mm	

- (a) If the fuse pin dimensions are not in the tolerances, replace the fuse pin.
- (b) If the bushing dimensions in the strut forward upper spar fitting are not in the tolerances, replace the bushings as specified in this procedure: (SRM 54-50-90).
- (c) If the bushing dimensions in the upper link are not in the tolerances, replace the bushings.

F. Put the Airplane Back to its Usual Condition

SUBTASK 54-51-03-400-001

(1) Do this task: Upper Link Fuse Pin Installation, TASK 54-51-03-400-802.

————— **END OF TASK** —————

TASK 54-51-03-220-802

3. Upper Link Aft Pin and Bushing Examination

(Figure 601)

A. General

- (1) This task examines the aft pin in the upper link for worn areas. This task also examines the bushings in the upper link and the wing forward spar fittings for worn areas.
- (2) This task has these steps:
 - (a) Remove the aft pin.
 - (b) Measure the aft pin and bushing dimensions.
 - (c) Make sure the dimensions are in the tolerances.
 - (d) Replace the aft pin or bushings, if it is necessary.
 - (e) Install the aft pin.

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- (3) You can examine both upper link pins at the same time, but both midspar pins and both diagonal brace pins must stay installed, unless you remove the strut.

B. References

Reference	Title
54-51-03-000-802	Upper Link Fuse Pin Removal (P/B 401)
54-51-03-400-802	Upper Link Fuse Pin Installation (P/B 401)
SRM 54-50-90	Structural Repair Manual

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Prepare for the Examination

SUBTASK 54-51-03-000-002

- (1) Do this task: Upper Link Fuse Pin Removal, TASK 54-51-03-000-802.

E. Pin and Bushing Examination

SUBTASK 54-51-03-220-002

- (1) Measure these dimensions:
 - (a) Measure the outside diameter of the pin for the upper link.
 - (b) Measure the inside diameter of the bushings in the wing forward spar fittings.
 - (c) Measure the inside diameter of the bushings in the forward end of the upper link.

SUBTASK 54-51-03-300-002

- (2) Make sure the dimensions are in the tolerances as specified Table 602.

Table 602/54-51-03-993-806 Upper Link Aft Pin Wear Limits

INDEX NO.	NAME OF THE PARTS THAT ARE IN CONTACT	DIM.	DIAMETER DESIGN LIMITS		WEAR LIMITS	
			MINIMUM inches/mm	MAXIMUM inches/mm	PERMITTED WEAR DIMENSIONS	MAX CLEARANCE
3	BUSHING (UPPER LINK)	I.D.	2.0315 in 51.600 mm	2.0323 in 51.620 mm	2.0346 in 51.679 mm	0.0046 in 0.117 mm
	PIN	O.D.	2.0300 in 51.562 mm	2.0305 in 51.575 mm	2.0277 in 51.504 mm	
4	BUSHING (WING FITTING)	I.D.	2.0315 in 51.600 mm	2.0323 in 51.620 mm	2.0346 in 51.679 mm	0.0046 in

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(Continued)

INDEX NO.	NAME OF THE PARTS THAT ARE IN CONTACT	DIM.	DIAMETER DESIGN LIMITS		WEAR LIMITS	
			MINIMUM inches/mm	MAXIMUM inches/mm	PERMITTED WEAR DIMENSIONS	MAX CLEARANCE
	PIN	O.D.	2.0300 in 51.562 mm	2.0305 in 51.575 mm	2.0277 in 51.504 mm	0.117 mm

- (a) If the pin dimensions are not in the tolerances, replace the pin.
- (b) If the bushing dimensions in the wing forward spar fittings are not in the tolerances, replace the bushings as specified in this procedure: (SRM 54-50-90).
- (c) If the bushing dimensions in the upper link are not in the tolerances, replace the bushings.

F. Put the Airplane Back to its Usual Condition

SUBTASK 54-51-03-400-002

- (1) Do this task: Upper Link Fuse Pin Installation, TASK 54-51-03-400-802.

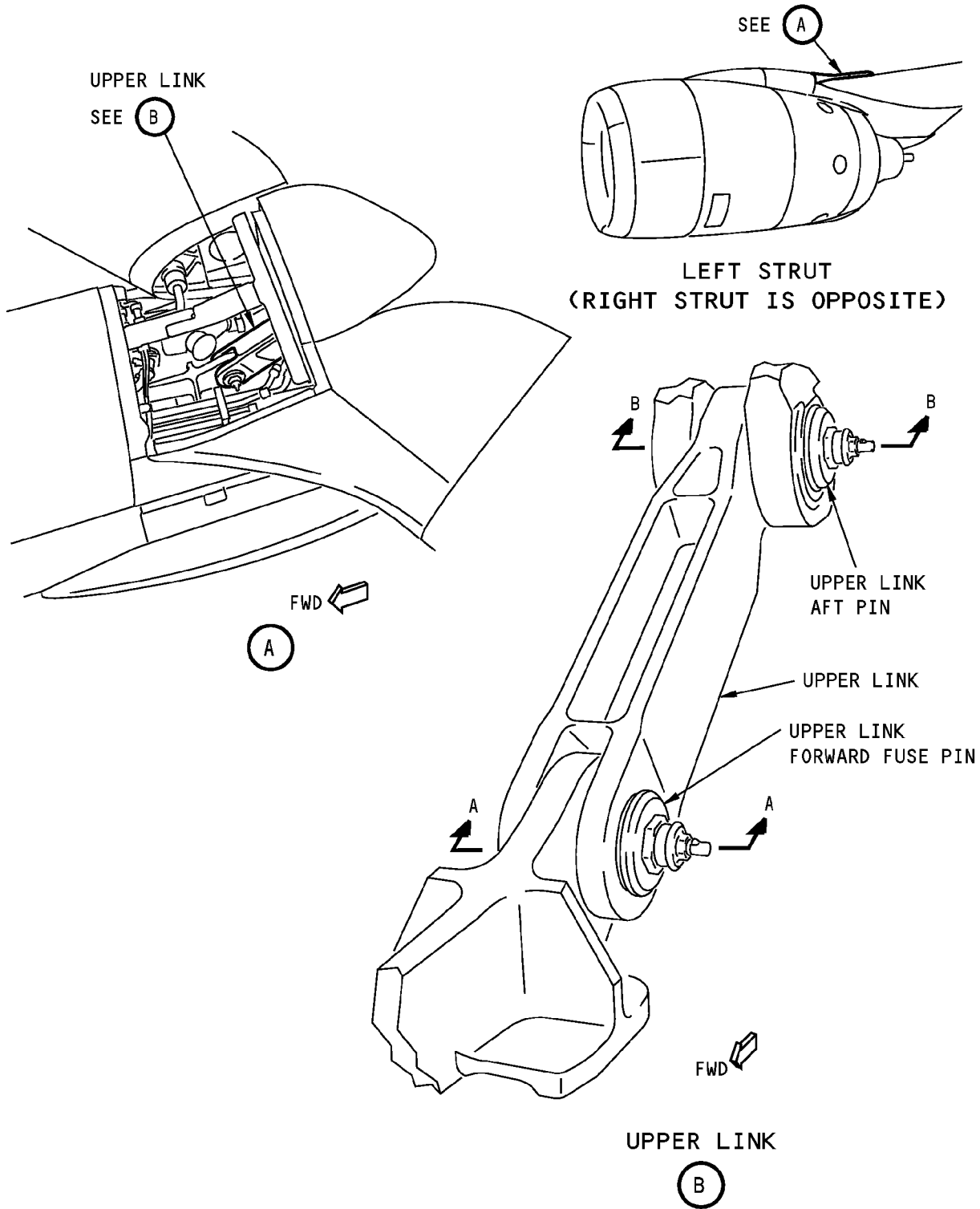
————— **END OF TASK** —————

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**Upper Link Examination
Figure 601 (Sheet 1 of 2)/54-51-03-990-802**

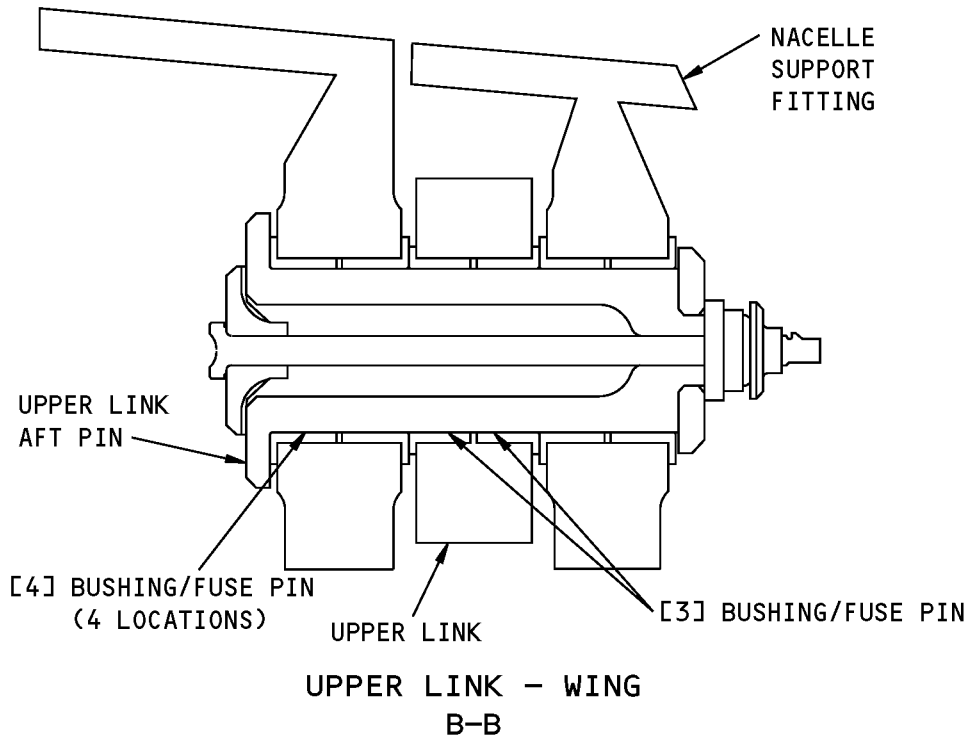
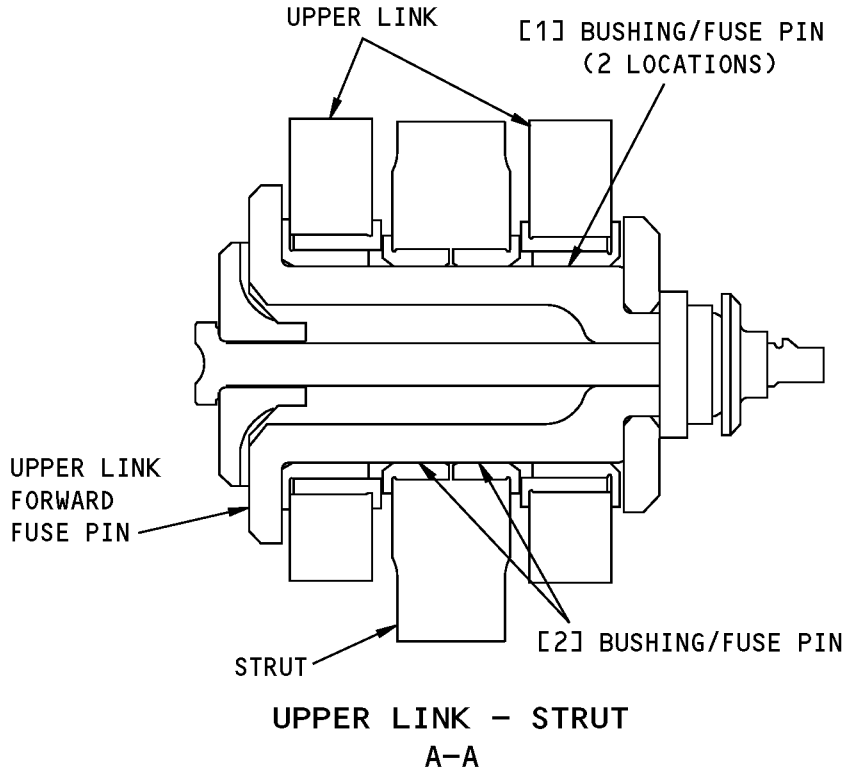
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Upper Link Examination
Figure 601 (Sheet 2 of 2)/54-51-03-990-802

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DIAGONAL BRACE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

- (1) A removal of the diagonal brace.
- (2) An installation of the diagonal brace.
- (3) A removal of the diagonal brace forward/aft fuse pin
- (4) An installation of the diagonal brace forward/aft fuse pin.

TASK 54-51-04-000-801

2. Diagonal Brace Removal

(Figure 401, Figure 402, Figure 403)

A. General

- (1) This task removes the diagonal brace.
- (2) This task has these steps:
 - (a) Prepare the strut for maintenance operations.
 - (b) Remove the aft fairing.
 - (c) Look for marks that show if the diagonal brace is a custom fitted diagonal brace.
 - (d) Remove the forward pin from the diagonal brace.
 - (e) Remove the aft fuse pin from the diagonal brace.
 - (f) Carefully lower the diagonal brace.

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-52-04-010-801	Aft Fairing Removal (Engine Removed) (P/B 401)

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Prepare for the Removal

SUBTASK 54-51-04-040-001

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-51-04-000-001

- (2) Do this task: Aft Fairing Removal (Engine Removed), TASK 54-52-04-010-801.

E. Remove the Diagonal Brace

SUBTASK 54-51-04-280-001

- (1) Look for marks on the diagonal brace that identify the airplane, strut position, and center-to-center distance.

NOTE: If the diagonal brace is identified with this data, it is a custom fitted diagonal brace.

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- (a) If you remove a custom fitted diagonal brace, you must install this same brace (or a new brace with the same center-to-center distance) on the same strut location and airplane where it was removed.

SUBTASK 54-51-04-580-001

- (2) Hold the diagonal brace [1] before you remove the forward pin.

SUBTASK 54-51-04-040-002

- (3) Do this task: Diagonal Brace Forward/Aft Fuse Pin Removal, TASK 54-51-04-000-802.

SUBTASK 54-51-04-580-002

- (4) Carefully lower the aft end of diagonal brace [1] and raise forward end.

SUBTASK 54-51-04-020-002

- (5) Position aft end of diagonal brace [1] inboard of the aft end fitting.

SUBTASK 54-51-04-020-003

- (6) Slide brace aft as far as possible.

SUBTASK 54-51-04-020-004

- (7) Move forward end of diagonal brace [1] outboard and remove from strut assembly.

SUBTASK 54-51-04-930-001

- (8) If the diagonal brace that you removed is a custom fitted diagonal brace, do these steps:
 - (a) Put a tag on the diagonal brace with the airplane number, strut location, and center-to-center distance, or make sure this data is identified on the diagonal brace.
 - (b) Put a tag on the aft attach fitting with the airplane number, strut location, and center-to-center distance.

————— END OF TASK —————

TASK 54-51-04-400-801

3. Diagonal Brace Installation

(Figure 401, Figure 402, Figure 403)

A. References

Reference	Title
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-52-04-410-801	Aft Fairing Installation (Engine Removed) (P/B 401)

B. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

C. Install the Diagonal Brace

SUBTASK 54-51-04-280-002

- (1) Look for marks that show if the diagonal brace is a custom fitted diagonal brace.

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- (a) Look for a tag or identification on the diagonal brace with the airplane number, strut location, and center-to-center distance.

NOTE: If the diagonal brace is identified with this data, it is a custom fitted diagonal brace.

- (b) Look for a tag on the aft attach fitting with the airplane number, strut location, and center-to-center distance.

NOTE: If the aft attach fitting is identified with this data, it is necessary to install a custom fitted diagonal brace at that strut location.

- (c) If you will install a custom fitted diagonal brace, you must do one of these steps:
 - 1) Install the same brace on the same strut location and airplane where you removed it.
 - 2) Replace the brace with a new custom fitted diagonal brace (with the same center-to-center distance).

SUBTASK 54-51-04-580-003

- (2) Carefully raise the diagonal brace [1] under the wing.

SUBTASK 54-51-04-420-001

- (3) Do this task: Diagonal Brace Fuse Pin Installation, TASK 54-51-04-400-802.

SUBTASK 54-51-04-420-002

- (4) Do this task: Diagonal Brace Fuse Pin Installation, TASK 54-51-04-400-802.

D. Put the Airplane Back to Its Usual Condition

SUBTASK 54-51-04-410-001

- (1) Do this task: Aft Fairing Installation (Engine Removed), TASK 54-52-04-410-801.

SUBTASK 54-51-04-440-001

- (2) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— END OF TASK —————

TASK 54-51-04-000-802

4. Diagonal Brace Forward/Aft Fuse Pin Removal

(Figure 402, Figure 403)

A. General

- (1) This task removes the forward/aft fuse pin from the diagonal brace.
- (2) You can remove the two diagonal brace pins at the same time. But you may not remove any additional strut attach pin, while the two diagonal brace pins are removed. Only one link can be free at a time on a strut (unless you will remove the strut).
- (3) This task has these steps:
 - (a) Get access to the pin.
 - (b) Remove the nuts, bolt, and end caps.
 - (c) Remove the load from the pin.
 - (d) Remove the pin.

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-580-801	Support the Strut with the Engine Installed (P/B 201)

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Reference	Title
54-51-01-580-803	Support the Strut with the Engine Removed (P/B 201)
54-52-06-010-801	Aft Fairing Access Panel Removal (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1731	Equipment - Torque Wrench, Rudder PCU Attachment (Part #: C27042-1, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-2020	Kit - Fuse Pin, Removal/Installation (Part #: C54009-27, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

D. Consumable Materials

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33

E. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

F. Access Panels

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2

G. Prepare for the Removal

SUBTASK 54-51-04-040-003

(1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-51-04-010-001

(2) Get access to the diagonal brace forward pin. To do this, do this task (Aft Fairing Access Panel Removal, TASK 54-52-06-010-801):

Open these access panels:

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2

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H. Remove the Diagonal Brace Fuse Pin

SUBTASK 54-51-04-000-004

CAUTION: MAKE SURE PAWL ON BOLT IS PRESSED DOWN WHILE REMOVING NUT. DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (1) Remove the retention bolt [22] or [42], nut [21] or [41], and end cap [23] or [43] from the fuse pin assembly.

SUBTASK 54-51-04-020-005

- (2) Remove the nut [24] or [44] and the end cap [25] or [45].

SUBTASK 54-51-04-000-005

- (3) If the strut will stay installed, do these steps to remove the pin [26] or [46]:

(a) Support the strut as follows:

- 1) If you will remove the pin with the engine installed, do this task: Support the Strut with the Engine Installed, TASK 54-51-01-580-801.
- 2) If you will remove the pin with the engine removed, do this task: Support the Strut with the Engine Removed, TASK 54-51-01-580-803.

CAUTION: MAKE SURE ALL THE UPPER LINK PINS AND MIDSPAR FUSE PINS ARE INSTALLED. DAMAGE TO THE STRUCTURE CAN OCCUR.

(b) Use the torque wrench equipment, SPL-1731 and the adapter kit, tool, SPL-2020 to make sure the pin turns easily.

- 1) When the load is correctly removed, the pin will turn with 125 pound-inches (14.1 newton-meters) maximum torque.

CAUTION: MAKE SURE YOU USE A BRASS SLUG TO PUSH OUT THE PIN. IF YOU DO NOT USE A BRASS SLUG, THE CLEVIS MAY NOT STAY ALIGNED WITH THE LUG. DAMAGE TO THE BUSHINGS OR STRUCTURE CAN OCCUR.

(c) Use a brass slug from the pin removal kit, tool, SPL-2020, with grease, D00633 to push out the pin [26] or [46].

NOTE: Make sure the clevis and the flange stay aligned.

(d) Keep the support load on the strut until you install a pin at this location.

NOTE: The hydraulic system in the crane can bleed which can cause the load to change.

SUBTASK 54-51-04-000-006

- (4) If you will remove the strut, do these steps to remove the pin [26] or [46]:

(a) Do this task: Support the Strut with the Engine Removed, TASK 54-51-01-580-803.

(b) Use the torque wrench equipment, SPL-1731 and the adapter kit, tool, SPL-2020 to make sure the pin turns easily.

- 1) When the load is correctly removed, the pin will turn with 125 pound-inches maximum torque.

(c) Use the pin removal kit, tool, SPL-2020, to remove the pin [26] or [46].

————— **END OF TASK** —————

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TASK 54-51-04-400-802

5. Diagonal Brace Fuse Pin Installation

(Figure 401, Figure 402, Figure 403)

A. General

- (1) This task installs the forward/aft fuse pin in the diagonal brace.
- (2) This task has these steps:
 - (a) Make sure there is no corrosion on the pin.
 - (b) If you did not remove the strut, make sure there is no load on the brass slug.
 - (c) Install the pin with grease.
 - (d) Install the end caps, bolt, and nuts.
 - (e) Remove the support from the strut.
 - (f) If you will do no more maintenance operations on the strut, put the airplane back to its usual condition.

B. References

Reference	Title
51-31-00-390-804	Fillet Seal Application (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-51-01-580-802	Remove Support from the Strut with the Engine Installed (P/B 201)
54-51-01-580-804	Remove Support from the Strut with the Engine Removed (P/B 201)
54-51-04-220-802	Diagonal Brace Forward Pin and Bushing Examination (P/B 601)
54-52-06-410-801	Aft Fairing Access Panel Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2020	Kit - Fuse Pin, Removal/Installation (Part #: C54009-27, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

D. Consumable Materials

Reference	Description	Specification
D00006	Compound - Antiseize Pure Nickel Special - Never-Seez NSBT-8N	MIL-PRF-907F
D00633	Grease - Aircraft General Purpose	BMS3-33

E. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

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F. Access Panels

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2

G. Install the Pin

SUBTASK 54-51-04-200-003

- (1) Do this task: Diagonal Brace Forward Pin and Bushing Examination, TASK 54-51-04-220-802.

SUBTASK 54-51-04-210-001

- (2) Do a check that the pin [26] or [46], end cap [25] or [45], nut [24] or [44], end cap [23] or [43], retention bolt [22] or [42], and nut [21] or [41] are free from corrosion.

- (a) Include the interior of the pin.

SUBTASK 54-51-04-210-002

- (3) If you removed the diagonal brace, do a check that the interior of the bushings at the strut fitting are free from corrosion.

SUBTASK 54-51-04-300-003

- (4) Do these steps if you find corrosion:

- (a) To remove corrosion, refer to the Corrosion Prevention Manual (CPM, D6-41910).
(b) To repair or replace the corroded part, contact Boeing for corrective action.

SUBTASK 54-51-04-390-001

- (5) Make sure all flanged bushings at the installation fittings are sealed from corrosion.

- (a) If some of the flanged bushings are not sealed, (TASK 51-31-00-390-804) to apply sealant to the bushings.
(b) Apply a fillet seal to the flanged end of all bushings.

SUBTASK 54-51-04-400-003

- (6) If you did not remove the strut, install the pin [26] or [46] as follows:

- (a) Make sure that the brass slug is unloaded.
(b) Apply a thin layer of grease, D00633, to the pin to be installed.
(c) Use the pin installation kit, tool, SPL-2020, to push out the brass slug with the pin [26].

NOTE: Put the head of the pin on the outboard side of the installation fitting.

SUBTASK 54-51-04-400-004

- (7) If you removed the strut, install the pin [26] as follows:

- (a) Apply a thin layer of grease, D00633, to the pin to be installed.
(b) Use the pin installation kit, tool, SPL-2020, to install the pin [26] or [46].

NOTE: Put the head of the pin on the outboard side of the installation fitting.

SUBTASK 54-51-04-400-005

- (8) Install these parts:

- (a) Install the end cap [25] or [45].
(b) Apply Never-Seez NSBT-8N compound, D00006, to the threads of the nut [24] or [44].

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- (c) Do a check of the run-on torque of the self locking nut. If the run-on torque is not 70 in-lb (8 N·m) to 600 in-lb (68 N·m), replace the nut and do the check again.
- (d) Tighten the nut [24] or [44] to 900 ± 100 in-lb (102 ± 12 N·m).

SUBTASK 54-51-04-400-006

(9) Install these parts:

- (a) Install the retention bolt [22] and end cap [23].

NOTE: Put the head of the bolt on the outboard side of the installation fitting.

- (b) Apply Never-Seez NSBT-8N compound, D00006, to the threads of the nut [21] or [41].
- (c) Do a check of the run-on torque of the self locking nut. If the run-on torque is not 9.50 in-lb (1.07 N·m) to 80 in-lb (9 N·m), replace the nut and do the check again.
- (d) Tighten the nut [21] or [41] to 175 ± 25 in-lb (20 ± 3 N·m).
- (e) Make sure the spring loaded pawl on the bolt fully extends when you tighten the nut.

SUBTASK 54-51-04-200-004

(10) Make sure that all parts are firmly seated.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 54-51-04-580-004

(1) Remove the support from the strut as follows:

- (a) If you installed the pin with the engine installed, do this task: Remove Support from the Strut with the Engine Installed, TASK 54-51-01-580-802.
- (b) If you installed the pin with the engine removed, do this task: Remove Support from the Strut with the Engine Removed, TASK 54-51-01-580-804.

SUBTASK 54-51-04-410-002

(2) To install the aft fairing access panel, do this task (Aft Fairing Access Panel Installation, TASK 54-52-06-410-801):

Close these access panels:

<u>Number</u>	<u>Name/Location</u>
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2

SUBTASK 54-51-04-440-002

(3) If you will do no more maintenance operations on the strut, do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— **END OF TASK** —————

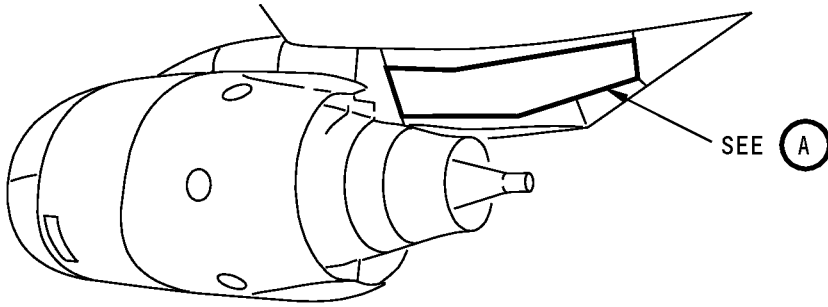
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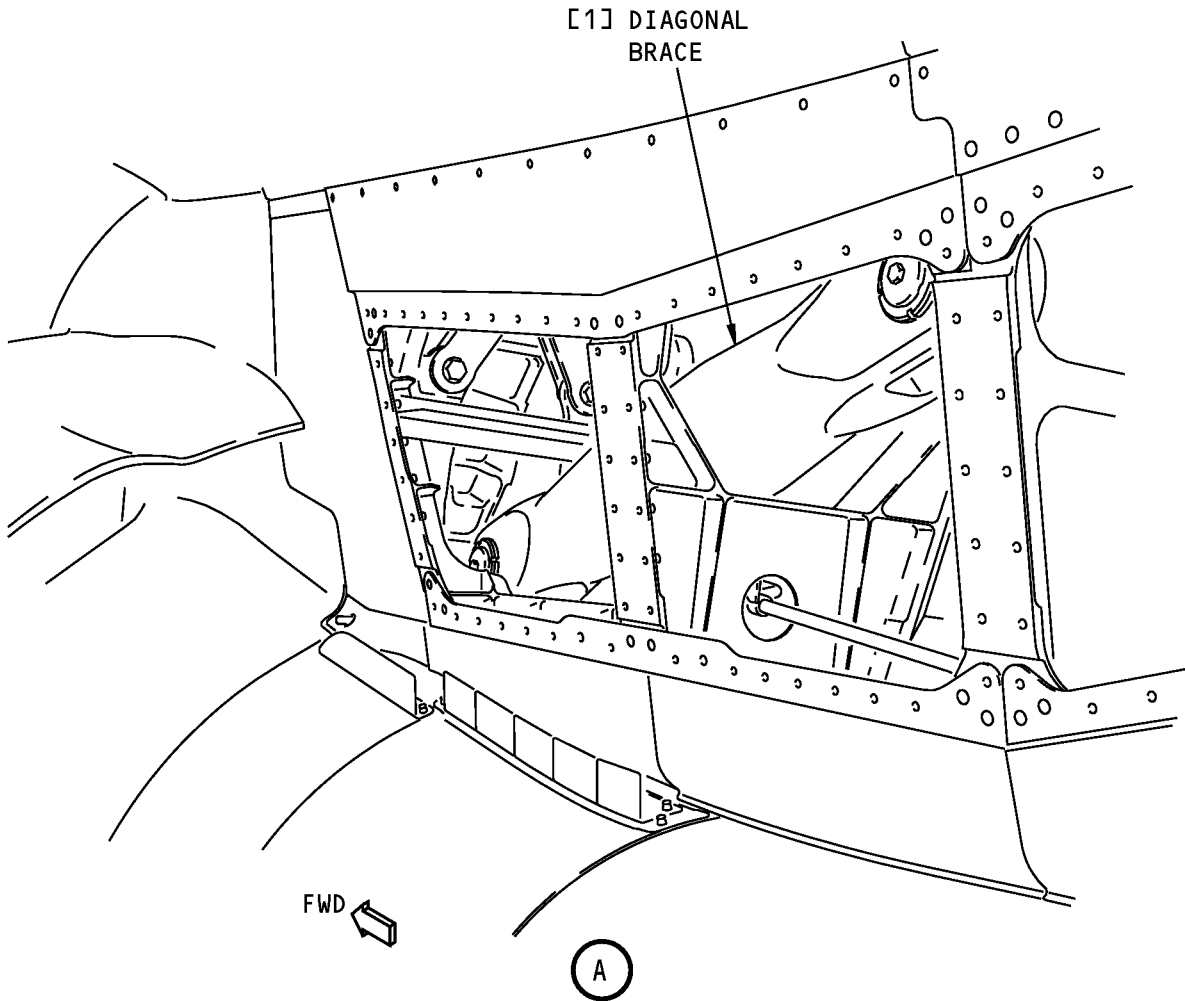
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**LEFT STRUT
(RIGHT STRUT IS OPPOSITE)**



**Diagonal Brace Installation
Figure 401/54-51-04-990-801**

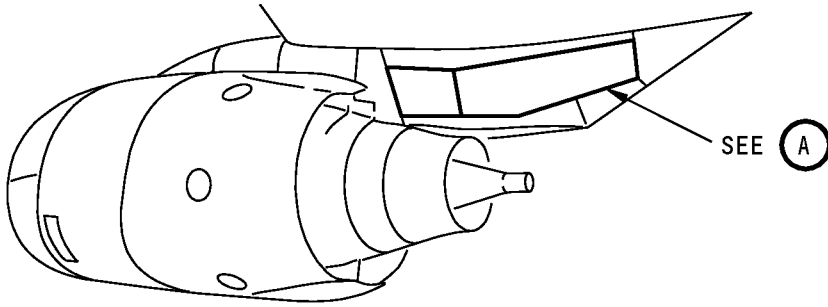
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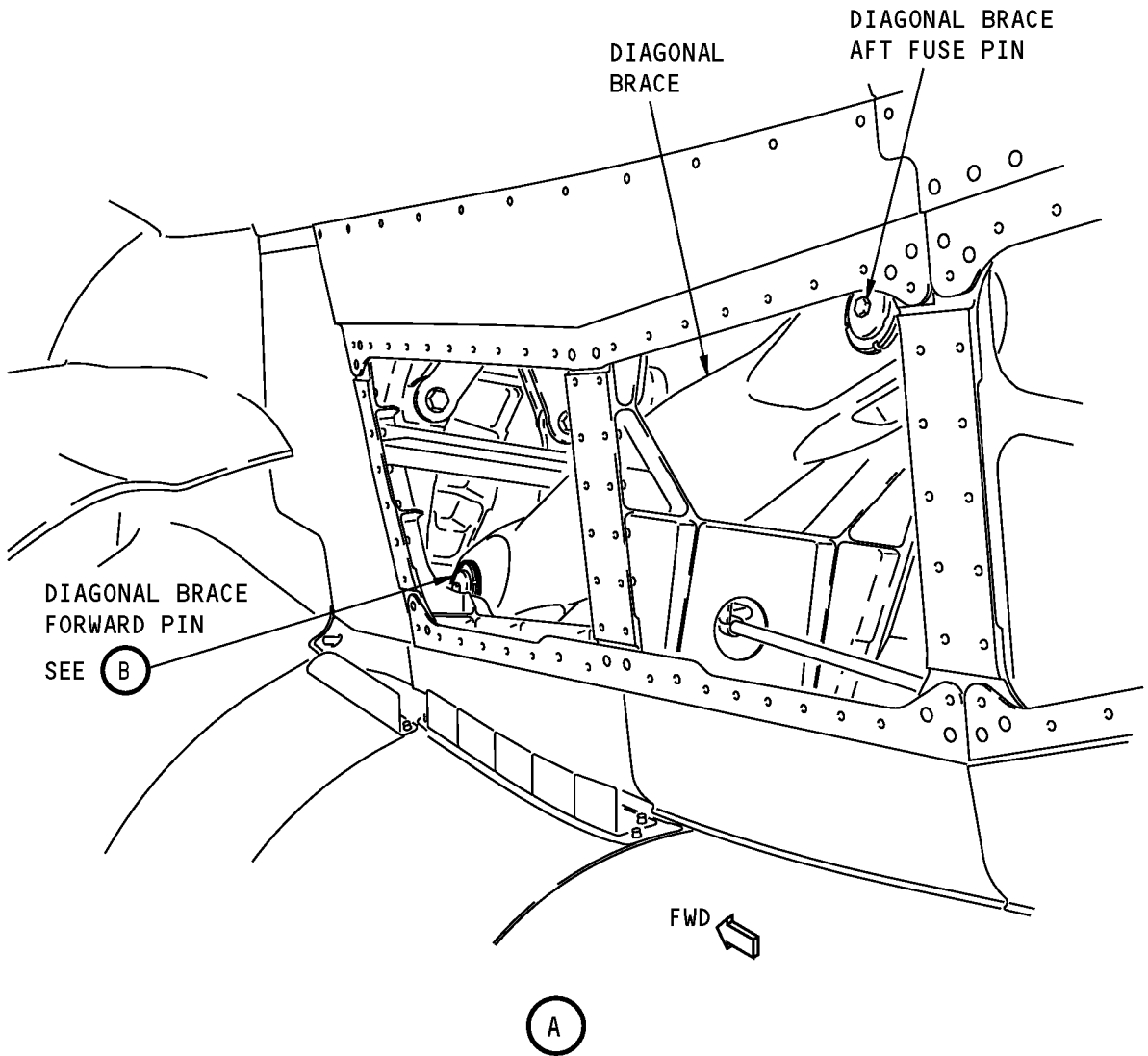
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**LEFT STRUT
(RIGHT STRUT IS OPPOSITE)**



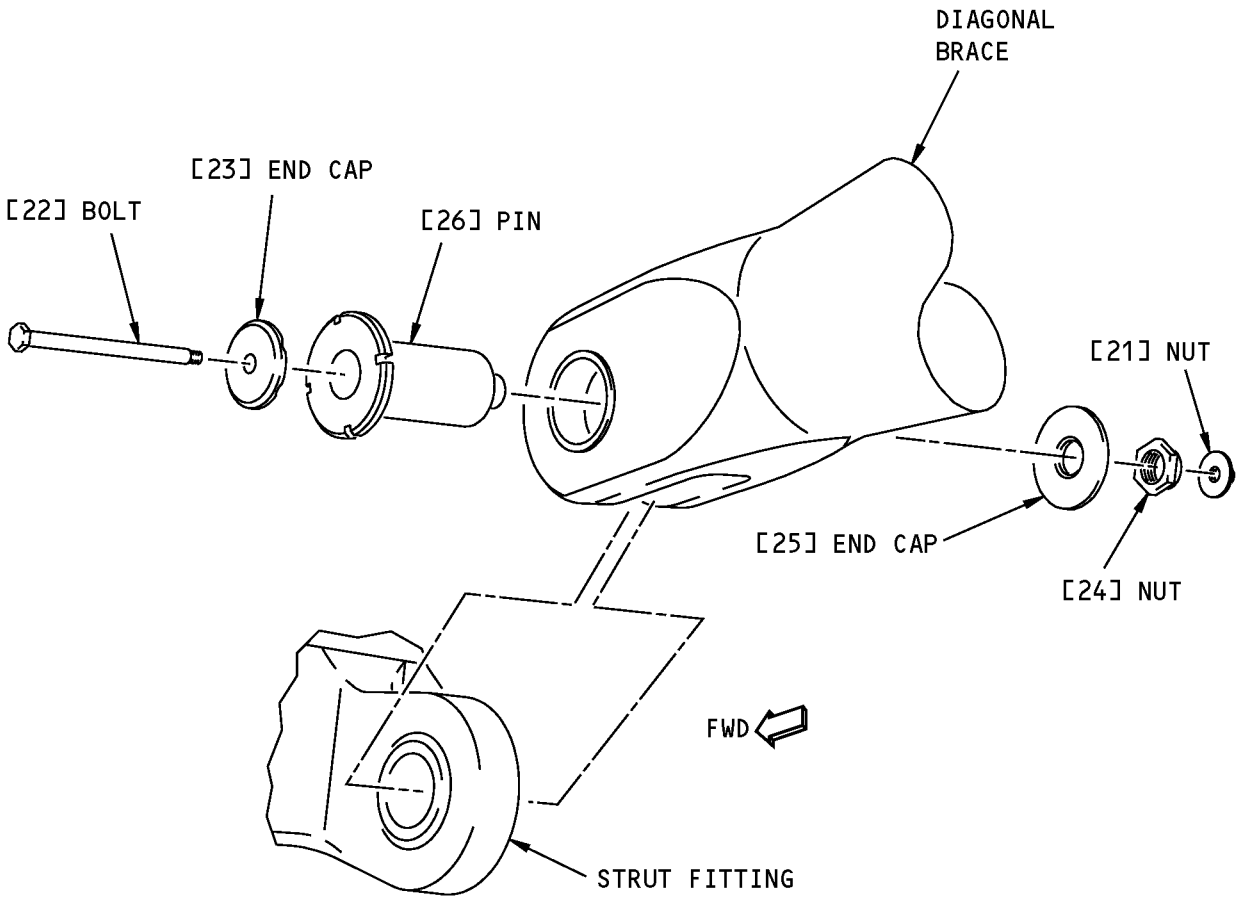
**Diagonal Brace Forward Pin Installation
Figure 402 (Sheet 1 of 2)/54-51-04-990-805**

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DIAGONAL BRACE FORWARD PIN

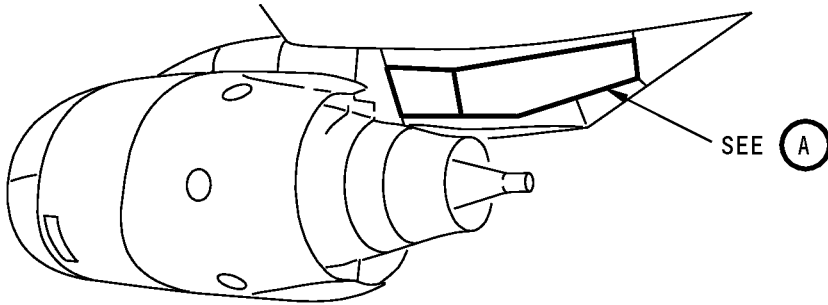
(B)

**Diagonal Brace Forward Pin Installation
Figure 402 (Sheet 2 of 2)/54-51-04-990-805**

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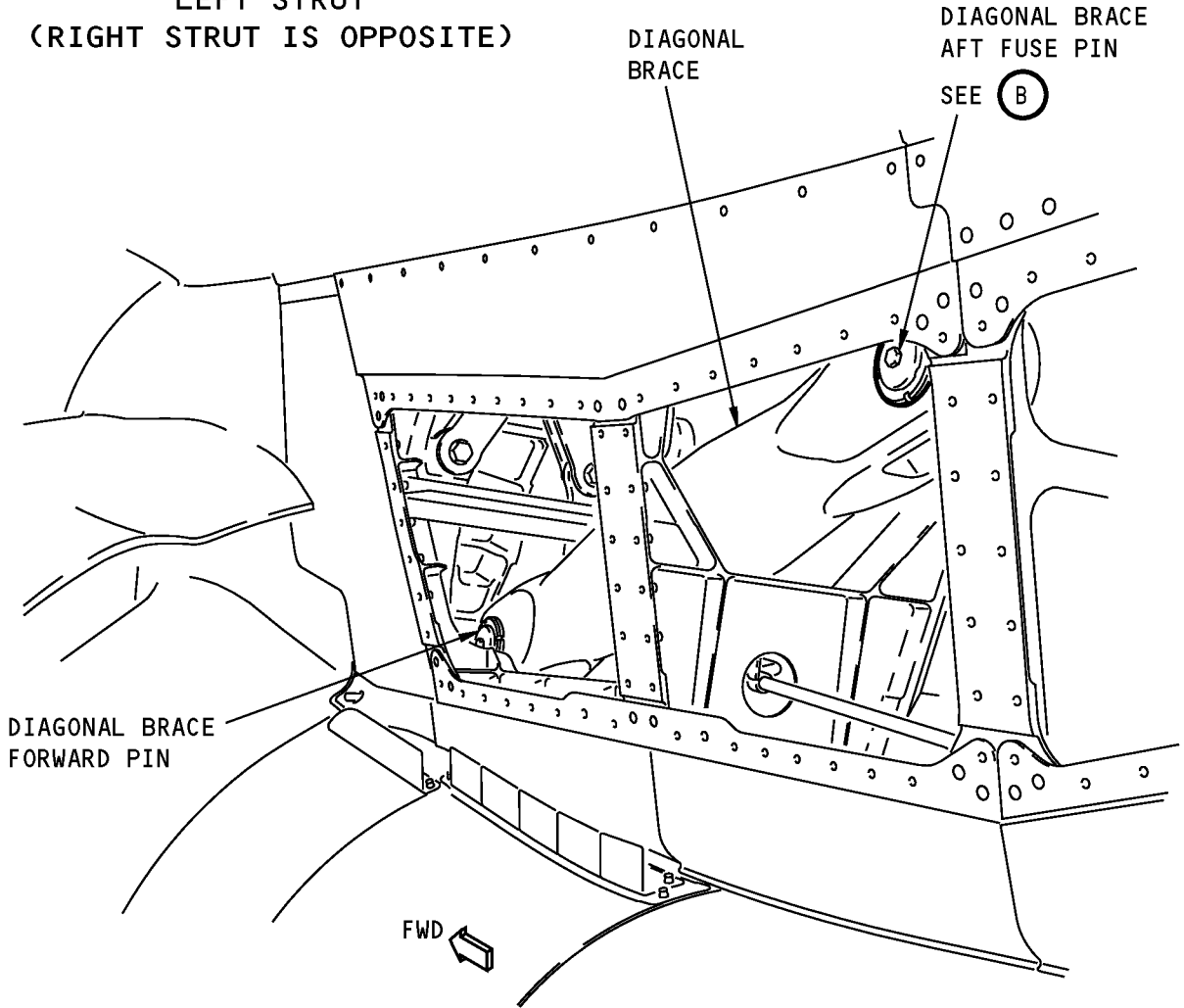


**LEFT STRUT
(RIGHT STRUT IS OPPOSITE)**

**DIAGONAL
BRACE**

**DIAGONAL BRACE
AFT FUSE PIN**

SEE (B)



(A)

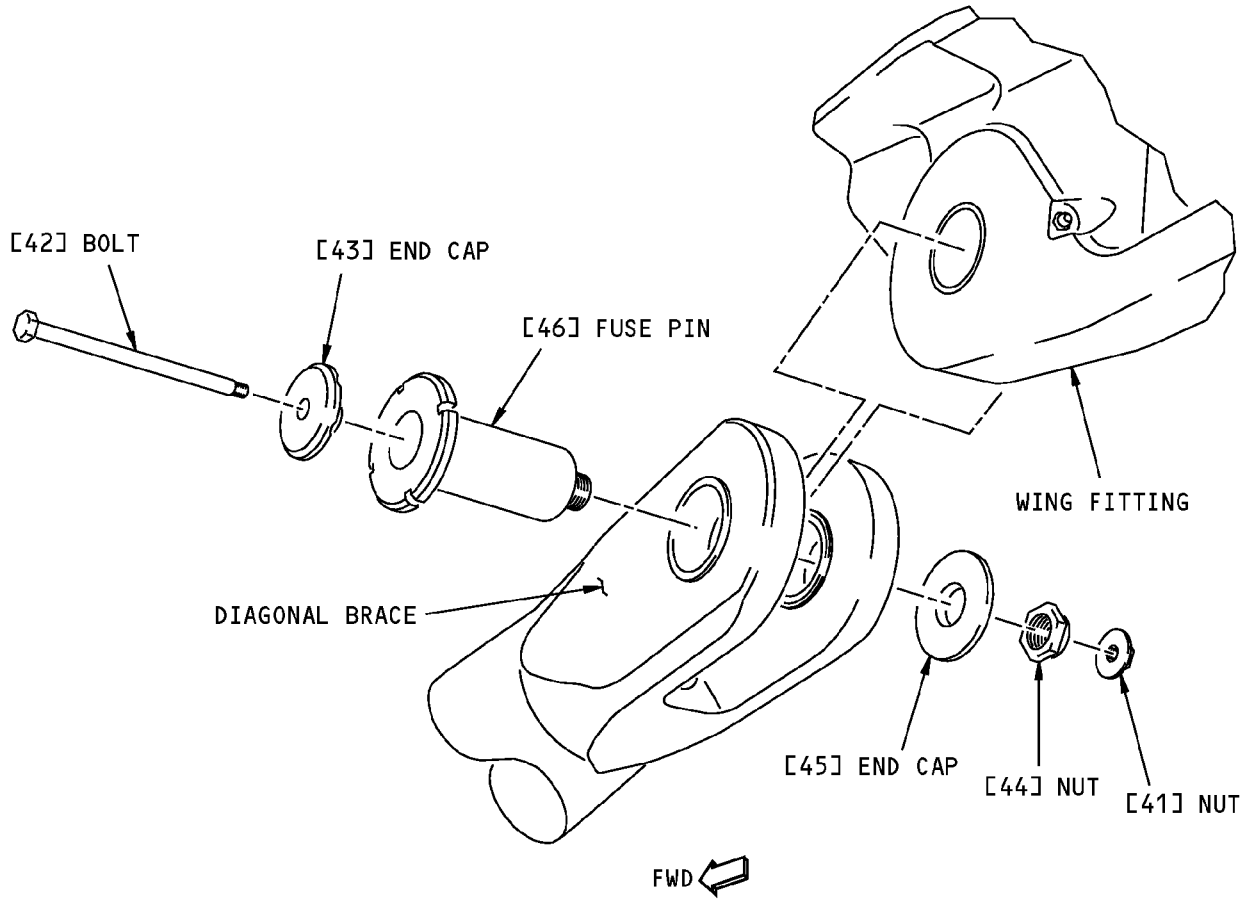
**Diagonal Brace Aft Fuse Pin Installation
Figure 403 (Sheet 1 of 2)/54-51-04-990-806**

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DIAGONAL BRACE AFT FUSE PIN

(B)

**Diagonal Brace Aft Fuse Pin Installation
Figure 403 (Sheet 2 of 2)/54-51-04-990-806**

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DIAGONAL BRACE - INSPECTION/CHECK

1. General

A. This procedure has these tasks:

- (1) Examine the aft fuse pin and bushings of the diagonal brace for worn areas.
- (2) Examine the forward pin and bushings of the diagonal brace for worn areas.

TASK 54-51-04-220-801

2. Diagonal Brace Aft Fuse Pin and Bushing Examination

(Figure 601)

A. General

- (1) This task examines the aft fuse pin in the diagonal brace for worn areas. This task also examines the bushings in the diagonal brace and the underwing fitting for worn areas.
- (2) This task has these steps:
 - (a) Remove the aft fuse pin.
 - (b) Measure the aft fuse pin and bushing dimensions.
 - (c) Make sure the dimensions are in the tolerances.
 - (d) Replace the aft fuse pin or bushings, if it is necessary.
 - (e) Install the aft fuse pin.
- (3) You can examine both diagonal brace pins at the same time, but both midspar fuse pins and both upper link pins must stay installed, unless you remove the strut.

B. References

Reference	Title
54-51-04-000-802	Diagonal Brace Forward/Aft Fuse Pin Removal (P/B 401)
54-51-04-400-802	Diagonal Brace Fuse Pin Installation (P/B 401)
SRM 54-50-90	Structural Repair Manual

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Prepare for the Examination

SUBTASK 54-51-04-000-002

- (1) Do this task: Diagonal Brace Forward/Aft Fuse Pin Removal, TASK 54-51-04-000-802.

E. Fuse Pin and Bushing Examination

SUBTASK 54-51-04-220-001

- (1) Measure these dimensions:
 - (a) Measure the outside diameter of the fuse pin for the diagonal brace.
 - (b) Measure the inside diameter of the bushing in the underwing attach fitting.
 - (c) Measure the inside diameter of the bushings in the aft end of the diagonal brace.

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SUBTASK 54-51-04-300-001

(2) Make sure the dimensions are in the tolerances as specified in Table 601.

Table 601/54-51-04-993-805 Diagonal Brace Aft Fuse Pin Wear Limits

INDEX NO.	NAME OF THE PARTS THAT ARE IN CONTACT	DIM.	DIAMETER DESIGN LIMITS		WEAR LIMITS	
			MINIMUM inches/mm	MAXIMUM inches/mm	PERMITTED WEAR DIMENSIONS	MAX CLEARANCE
1	BUSHING (WING FITTING)	I.D.	1.7765 in 45.123 mm	1.7773 in 45.143 mm	1.7796 in 45.202 mm	0.0046 in 0.117 mm
	FUSE PIN	O.D.	1.7750 in 45.085 mm	1.7755 in 45.098 mm	1.7727 in 45.027 mm	
2	BUSHING (WING FITTING)	I.D.	1.7765 in 45.123 mm	1.7773 in 45.143 mm	1.7796 in 45.202 mm	0.0046 in 0.117 mm
	FUSE PIN	O.D.	1.7750 in 45.085 mm	1.7755 in 45.098 mm	1.7727 in 45.027 mm	

- (a) If the fuse pin dimensions are not in the tolerances, replace the fuse pin.
- (b) If the bushing dimensions in the aft underwing fitting are not in the tolerances, replace the bushing as specified in this procedure: (SRM 54-50-90).
- (c) If the bushing dimensions in the diagonal brace are not in the tolerances, replace the bushings.

F. Put the Airplane Back to its Usual Condition

SUBTASK 54-51-04-400-001

(1) Do this task: Diagonal Brace Fuse Pin Installation, TASK 54-51-04-400-802.

————— **END OF TASK** —————

TASK 54-51-04-220-802

3. Diagonal Brace Forward Pin and Bushing Examination

(Figure 601)

A. General

- (1) This task examines the forward pin in the diagonal brace for worn areas. This task also examines the bushings in the diagonal brace and the strut attach fitting for worn areas.
- (2) This task has these steps:
 - (a) Remove the forward pin.
 - (b) Measure the forward pin and bushing dimensions.
 - (c) Make sure the dimensions are in the tolerances.

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- (d) Replace the forward pin or bushings, if it is necessary.
- (e) Install the forward pin.
- (3) You can examine both diagonal brace pins at the same time, but both midspar fuse pins and both upper link pins must stay installed, unless you remove the strut.

B. References

Reference	Title
54-51-04-000-802	Diagonal Brace Forward/Aft Fuse Pin Removal (P/B 401)
54-51-04-400-802	Diagonal Brace Fuse Pin Installation (P/B 401)
SRM 54-50-90	Structural Repair Manual

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Prepare for the Examination

SUBTASK 54-51-04-000-003

- (1) Do this task: Diagonal Brace Forward/Aft Fuse Pin Removal, TASK 54-51-04-000-802.

E. Pin and Bushing Examination

SUBTASK 54-51-04-220-002

- (1) Measure these dimensions:
 - (a) Measure the outside diameter of the pin for the diagonal brace.
 - (b) Measure the inside diameter of the bushings in the strut aft lower spar fitting.
 - (c) Measure the inside diameter of the bushings in the forward end of the diagonal brace.

SUBTASK 54-51-04-300-002

- (2) Make sure the dimensions are in the tolerances as specified in Table 602.

Table 602/54-51-04-993-806 Diagonal Brace Forward Pin Wear Limits

INDEX NO.	NAME OF THE PARTS THAT ARE IN CONTACT	DIM.	DIAMETER DESIGN LIMITS		WEAR LIMITS	
			MINIMUM inches/mm	MAXIMUM inches/mm	Permitted Wear Dimensions	MAX. Clearance
3	BUSHING (DIAGONAL BRACE)	I.D.	1.9015 in 48.298 mm	1.9023 in 48.318 mm	1.9046 in 48.377 mm	0.0046 in 0.117 mm
	FUSE PIN	O.D.	1.9000 in 48.260 mm	1.9005 in 48.273 mm	1.8977 in 48.202 mm	

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(Continued)

INDEX NO.	NAME OF THE PARTS THAT ARE IN CONTACT	DIM.	DIAMETER DESIGN LIMITS		WEAR LIMITS	
			MINIMUM inches/mm	MAXIMUM inches/mm	Permitted Wear Dimensions	MAX. Clearance
4	BUSHING (STRUT)	I.D.	1.9015 in 48.298 mm	1.9023 in 48.318 mm	1.9046 in 48.377 mm	0.0046 in 0.117 mm
	PIN	O.D.	1.9000 in 48.260 mm	1.9005 in 48.273 mm	1.8977 in 48.202 mm	

- (a) If the pin dimensions are not in the tolerances, replace the pin.
- (b) If the bushing dimensions in the strut aft lower spar fitting are not in the tolerances, replace the bushings as specified in this procedure: (SRM 54-50-90).
- (c) If the bushing dimensions in the diagonal brace are not in the tolerances, replace the bushings.

F. Put the Airplane Back to its Usual Condition

SUBTASK 54-51-04-400-002

- (1) Do this task: Diagonal Brace Fuse Pin Installation, TASK 54-51-04-400-802.

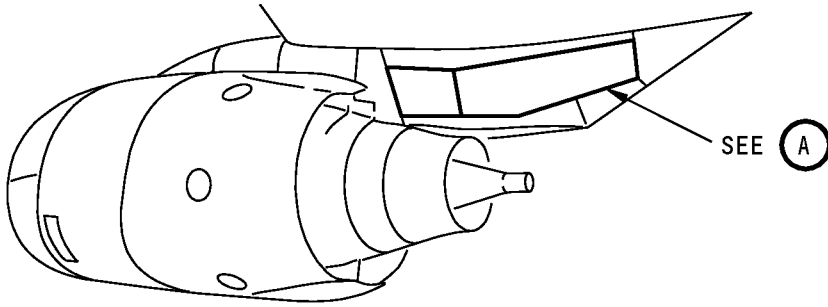
————— **END OF TASK** —————

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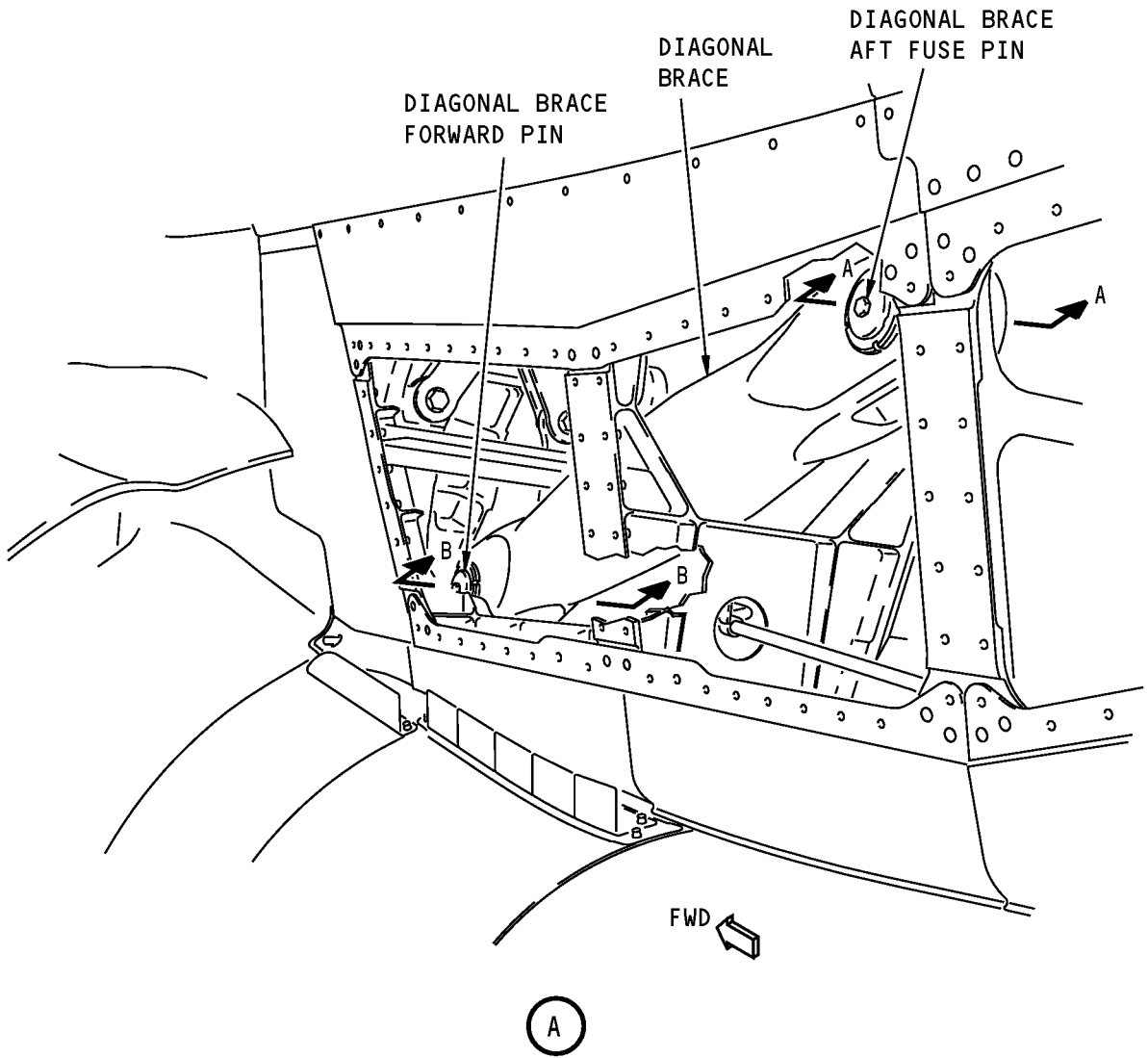
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**LEFT STRUT
(RIGHT STRUT IS OPPOSITE)**



**Diagonal Brace Examination
Figure 601 (Sheet 1 of 2)/54-51-04-990-802**

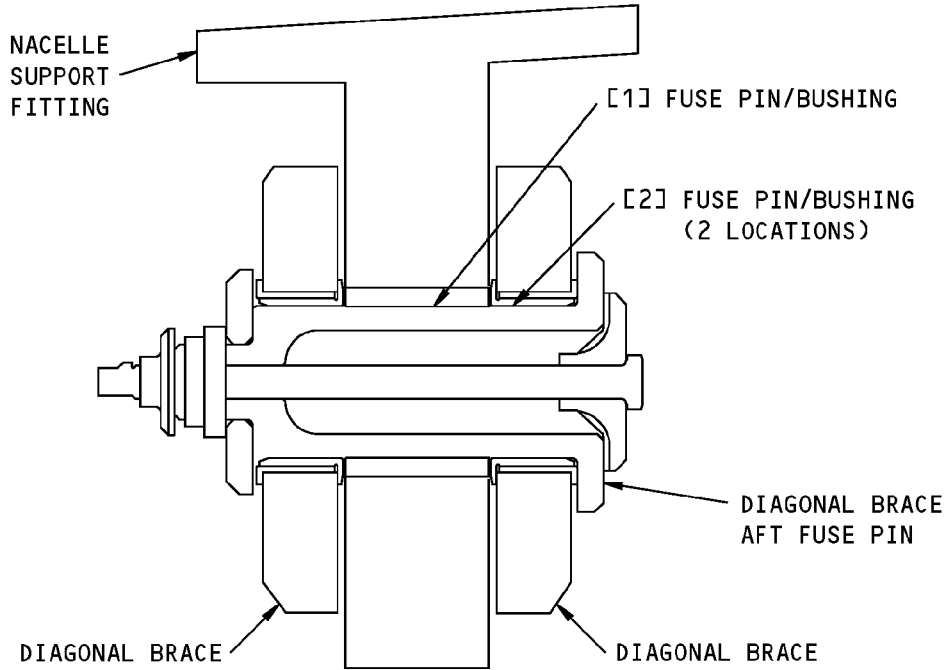
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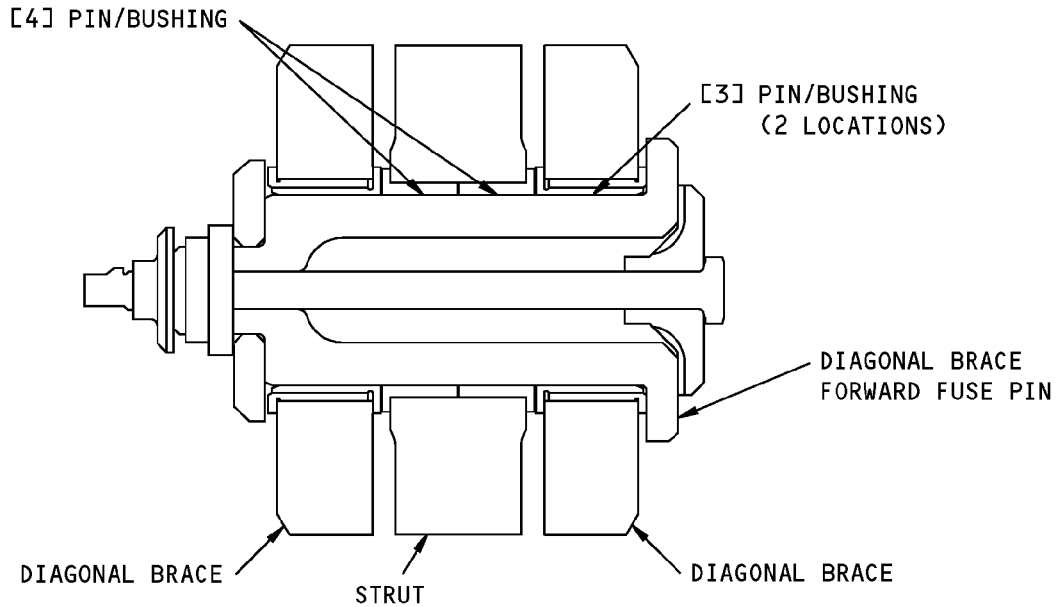
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**DIAGONAL BRACE - WING
A-A**



**DIAGONAL BRACE - STRUT
B-B**

**Diagonal Brace Examination
Figure 601 (Sheet 2 of 2)/54-51-04-990-802**

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SIDE LINK - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
 - (1) A removal of the side links.
 - (2) An installation of the original side links.
 - (3) An installation of new side links.
 - (4) A removal of the lower shoulder bolt from the side links.
 - (5) An installation of the lower shoulder bolt in the side links.

TASK 54-51-05-000-801

2. Side Link Removal

(Figure 401)

A. General

- (1) This task removes the side links.
- (2) This task has these steps:
 - (a) Prepare the strut for maintenance operations.
 - (b) Get access to the side links.
 - (c) Make a mark of the airplane and strut location on each pair of side links that you will remove.
 - (d) Remove one side link.
- (3) Only one pair of side links may be removed at a time. One pair of side link must remain installed during removal of the other pair of side links.

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-52-06-010-801	Aft Fairing Access Panel Removal (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2020	Kit - Fuse Pin, Removal/Installation (Part #: C54009-27, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

D. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

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E. Access Panels

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2

F. Prepare for the Removal

SUBTASK 54-51-05-040-001

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-51-05-010-001

- (2) To get access to the side link [7], remove the applicable aft fairing forward access panel, do this task (Aft Fairing Access Panel Removal, TASK 54-52-06-010-801):

Open these access panels:

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2

G. Procedure

SUBTASK 54-51-05-930-002

- (1) Make a mark or put a tag on each pair of side links [7] that you will remove, which identifies the airplane and strut location where it was removed.

NOTE: If you will not install the side links on the same side of the same strut where you remove them, you must do the task to install a new pair of side links (TASK 54-51-05-400-802).

SUBTASK 54-51-05-020-001

WARNING: REMOVE ONLY ONE PAIR OF SIDE LINKS AT A TIME. IF YOU REMOVE BOTH, THE STRUT CAN MOVE SUDDENLY AND INJURY TO PERSONS OR DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (2) Use the open-ended wrench from the kit, tool, SPL-2020 to remove the shoulder bolt [2], nut [4] from the strut fitting.

NOTE: To remove the nut, press down the spring-loaded pawl on the threaded end of the bolt.

SUBTASK 54-51-05-020-002

- (3) Use the open-ended wrench from the kit, tool, SPL-2020 to remove the shoulder bolt [2], nut [4], and side link [7] from the wing fitting.

NOTE: To remove the nut, press down the spring-loaded pawl on the threaded end of the bolt.

————— END OF TASK —————

TASK 54-51-05-400-801

3. Original Side Link Installation

(Figure 401)

A. General

- (1) This task installs the original side links which you removed in the removal task.

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- (2) This task has these steps:
 - (a) Install the side links.
 - (b) Make sure the distance between the wing fitting and the strut fitting is within tolerance.
 - (c) Close the access panels.
 - (d) Put the strut back to its usual condition.
- (3) Make sure you install each pair of side links in the same location on the same airplane where you removed them.
 - (a) If you will not install the side links on the same side of the same strut where you remove them, you must do the task to install a new pair of side links, (TASK 54-51-05-400-802).

B. References

Reference	Title
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-51-05-220-801	Strut Side Link Examination (P/B 601)
54-52-06-410-801	Aft Fairing Access Panel Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2020	Kit - Fuse Pin, Removal/Installation (Part #: C54009-27, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

D. Consumable Materials

Reference	Description	Specification
D00006	Compound - Antiseize Pure Nickel Special - Never-Seez NSBT-8N	MIL-PRF-907F
D00633	Grease - Aircraft General Purpose	BMS3-33

E. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

F. Access Panels

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2

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G. Original Side Link Installation

SUBTASK 54-51-05-200-001

- (1) Make sure that the components for the side links [7] are within wear limits, (TASK 54-51-05-220-801).

SUBTASK 54-51-05-210-001

- (2) Look at the orientation of the eccentric bushing [5] and the retainer key [6] to make sure the eccentric bushings have not turned.

SUBTASK 54-51-05-210-002

- (3) Make sure that you install each pair of side links [7] on the same side of the same strut where you removed them.

SUBTASK 54-51-05-420-001

- (4) Do these steps to install the side links [7] for the wing fitting and strut fitting:
 - (a) Apply a thin film of grease, D00633 to the shoulder bolt [2] for the wing fitting.
 - (b) Apply Never-Seez NSBT-8N compound, D00006 to the base and threads of the nut [4] for the wing fitting.
 - (c) Use the open-ended wrench from the kit, tool, SPL-2020 to install the shoulder bolt [2] and the nut [4] at the wing fitting.

NOTE: Install the shoulder bolt with the head forward.

NOTE: Run-on torque is the additional torque needed to seat the nut. The acceptable run-on torque range for this nut is 9.5 to 80 in-lb (1.1-9 newton-meters). If it is not within this range, then the nut must be replaced.

- (d) Apply a thin film of grease, D00633 to the shoulder bolt [2] for the strut fitting.
- (e) Apply Never-Seez NSBT-8N compound, D00006 to the base and threads of the nut [4] for the strut fitting.
- (f) Use the open-ended wrench from the kit, tool, SPL-2020 to install the shoulder bolt [2] and the nut [4] at the strut fitting.

NOTE: Install the shoulder bolt with the head aft.

NOTE: Run-on torque is the additional torque needed to install a self-locking nut. The acceptable run-on torque range for this nut is 9.5-80 in-lb (1.1-9 newton-meters). If it is not within this range, the nut must be replaced.

- (g) Tighten both of the nuts [4] to 150-200 pound-inches (16.9-22.6 newton-meters).

NOTE: Make sure that the spring loaded pawl on the shoulder bolts are fully extended after the nuts are tightened.

- (h) Make sure that all parts are seated firmly.

SUBTASK 54-51-05-420-002

- (5) If the other pair of side links [7] need to be replaced, (TASK 54-51-05-000-801)

SUBTASK 54-51-05-220-001

- (6) Make sure the distance between the wing fitting and the strut fitting is in the tolerance, (Figure 401).

H. Put the Airplane Back to Its Usual Condition

SUBTASK 54-51-05-410-001

- (1) Do this task:

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Aft Fairing Access Panel Installation, TASK 54-52-06-410-801

<u>Number</u>	<u>Name/Location</u>
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2

SUBTASK 54-51-05-440-001

(2) If you will do no more maintenance operations on the strut, (TASK 54-51-01-440-801).

END OF TASK

TASK 54-51-05-400-802

4. New Side Link Installation

(Figure 401)

A. General

- (1) This task installs new side links.
- (2) This task has these steps:
 - (a) Make sure the distance between the wing fitting and the strut fitting is within the tolerance at the midspar location.
 - (b) Set the length of the side link locating jig between the wing fitting and the strut fitting.
 - (c) Set the length of the side links on the side link locating jig.
 - 1) You must set both side links on the same side of the same strut to the same length.
 - (d) Install the side links.
 - (e) Close the aft fairing forward access panels.
 - (f) Put the strut back to its usual condition.

B. References

<u>Reference</u>	<u>Title</u>
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-51-05-220-801	Strut Side Link Examination (P/B 601)
54-52-06-410-801	Aft Fairing Access Panel Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

<u>Reference</u>	<u>Description</u>
SPL-2020	Kit - Fuse Pin, Removal/Installation (Part #: C54009-27, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

D. Consumable Materials

<u>Reference</u>	<u>Description</u>	<u>Specification</u>
D00006	Compound - Antiseize Pure Nickel Special - Never-Seez NSBT-8N	MIL-PRF-907F
D00633	Grease - Aircraft General Purpose	BMS3-33

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E. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

F. Access Panels

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2

G. New Side Link Installation

SUBTASK 54-51-05-200-002

- (1) Make sure that the components for the side links [7] are within wear limits, do this task: Strut Side Link Examination, TASK 54-51-05-220-801.

SUBTASK 54-51-05-820-001

- (2) Install a temporary shim to set the distance between the wing fitting and the strut fitting at the midspar location, (Figure 401).

SUBTASK 54-51-05-820-002

- (3) Do these steps to set the length of the side link [7]:
 - (a) Install the side link locating jig, C54002, between the wing fitting and strut fitting in the location of one pair of side link [7] at the side link location.
 - 1) Lock the position of the side link locating jig for one side of one strut.
 - 2) Remove the side link locating jig.
 - (b) Do these steps for both side links [7] on the same side of the same strut to set the length:
 - 1) Put one side link [7] in the side link locating jig.
 - a) Apply a thin film of grease, D00633 to the outer diameter of an eccentric bushing [5].
 - b) Turn the eccentric bushing [5] until you get the correct length.
 - c) Install the eccentric bushing [5].
 - d) Carefully remove the side link [7] from the side link locating jig.
 - e) Do these steps again for the other side link [7] on the same side of the same strut, using the opposite side of the tool base plate of the side link locating jig.
 - 2) Put the retainer key [6] over the eccentric bushing [5].
 - a) Make sure that the drilled hole in the retainer key [6] will have a minimum edge margin of 0.38 inches (9.65 mm).
 - b) You can turn over the retainer key [6] if it is necessary.
 - c) Use a handle drill bushing and a drill to make a pilot hole through the retainer key [6] and the side link [7].

NOTE: The pilot hole should be less than 0.250 inch (6.35 mm) diameter.
 - 3) Drill a 0.250-0.254 inch (6.35-6.45 mm) diameter hole through the existing pilot hole in the retainer key [6] and into the side link [7].

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- a) Remove burrs or sharp edges.
- 4) Install the bolt [3] through the side link [7] and retainer key [6], and install the collar [1], (Figure 401).

NOTE: Make sure to have the bolt head on the same side of the side link as the retainer key. See illustration.

SUBTASK 54-51-05-420-003

- (4) Do these steps to install the side link [7]:
 - (a) Apply a thin film of grease, D00633 to the upper shoulder bolt [2] for the wing fitting.
 - (b) Install the upper shoulder bolt [2] through the two recently sized side links [7] on the wing fitting on the same side of the strut.

NOTE: Install the upper shoulder bolt with the head forward.

- (c) Push bottom shoulder bolt [2] through the aft side link [7] and strut fitting until it aligns the hole of the forward side link [7].

NOTE: Install the bottom shoulder bolt with the head aft.

- (d) Clamp the two side links [7] together.

NOTE: This will make sure that the lower shoulder bolt will go through the bottom hole of the forward side link completely.

- (e) Apply a thin film of grease, D00633 to the lower shoulder bolt [2] for the strut fitting.
- (f) Tap the lower shoulder bolt completely through with a rubber mallet.
- (g) Apply Never-Seez NSBT-8N compound, D00006 to the base and threads of the two nuts [4].
- (h) Install the two nuts [4] on the shoulder bolts [2].

NOTE: Run-on torque is the additional torque needed to install a self-locking nut. The acceptable run-on torque range for this nut is 9.5-80 pound-inches (1.1-9 newton-meters). If it is not within this range, the nut must be replaced.

- (i) Use the open-ended wrench from the kit, tool, SPL-2020 to tighten both of the nuts [4] to 150-200 pound-inches (16.9-22.6 newton-meters).

NOTE: Make sure that the spring loaded pawl on the shoulder bolts are fully extended after the nut is tightened.

- (j) Make sure that all parts are seated firmly.

SUBTASK 54-51-05-420-004

- (5) If the other pair of side links [7] are removed, do the steps above to install them.

SUBTASK 54-51-05-220-002

- (6) Remove the temporary shims and make sure the distance between the wing fitting and the strut fitting is in the tolerance, (Figure 401).

H. Put the Airplane Back to Its Usual Condition

SUBTASK 54-51-05-410-002

- (1) Do this task:

Aft Fairing Access Panel Installation, TASK 54-52-06-410-801

<u>Number</u>	<u>Name/Location</u>
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2

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(Continued)

Number	Name/Location
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2

SUBTASK 54-51-05-440-002

(2) If you will do no more maintenance operations on the strut, (TASK 54-51-01-440-801).

————— **END OF TASK** —————

TASK 54-51-05-000-802

5. Lower Shoulder Bolt Removal

(Figure 401)

A. General

- (1) This task removes the lower shoulder bolt from the side links.
- (2) This task has these steps:
 - (a) Prepare the strut for maintenance operations.
 - (b) Get access to the side links.
 - (c) Remove the lower shoulder bolt from the side links.

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-52-06-010-801	Aft Fairing Access Panel Removal (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2020	Kit - Fuse Pin, Removal/Installation (Part #: C54009-27, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

D. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

E. Access Panels

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2

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F. Prepare for the Removal

SUBTASK 54-51-05-040-002

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-51-05-010-002

- (2) To get access to the side link [7], remove the applicable aft fairing forward access panel, do this task (Aft Fairing Access Panel Removal, TASK 54-52-06-010-801):

Open these access panels:

<u>Number</u>	<u>Name/Location</u>
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2

G. Procedure

SUBTASK 54-51-05-020-003

WARNING: REMOVE ONLY ONE SIDE LINK AT A TIME. IF YOU REMOVE BOTH, THE STRUT CAN MOVE SUDDENLY AND INJURY TO PERSONS OR DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (1) Use the open-ended wrench from the kit, tool, SPL-2020 to remove the lower shoulder bolt [2] and nut [4] from the strut fitting.

NOTE: To remove the nut, press down the spring-loaded pawl on the threaded end of the shoulder bolt.

————— **END OF TASK** —————

TASK 54-51-05-400-803

6. Lower Shoulder Bolt Installation

(Figure 401)

A. General

- (1) This task installs the lower shoulder bolt in the side links.
- (2) This task has these steps:
- Install the lower shoulder bolt in the side links.
 - Make sure the distance between the wing fitting and the strut fitting is within tolerance.
 - Close the access panels.
 - Put the strut back to its usual condition.
- (3) If you will install a strut which is not the same strut that you removed, you must do the task to install new side links: (TASK 54-51-05-400-802).

B. References

<u>Reference</u>	<u>Title</u>
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-51-05-220-801	Strut Side Link Examination (P/B 601)
54-52-06-410-801	Aft Fairing Access Panel Installation (P/B 401)

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C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2020	Kit - Fuse Pin, Removal/Installation (Part #: C54009-27, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

D. Consumable Materials

Reference	Description	Specification
D00006	Compound - Antiseize Pure Nickel Special - Never-Seez NSBT-8N	MIL-PRF-907F
D00633	Grease - Aircraft General Purpose	BMS3-33

E. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

F. Access Panels

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2

G. Lower Shoulder Bolt Installation

SUBTASK 54-51-05-200-003

(1) Make sure that the components for the side links [7] are within wear limits, do this task: Strut Side Link Examination, TASK 54-51-05-220-801.

- (a) Apply a thin film of grease, D00633 to the shoulder bolt [2] for the strut fitting.
- (b) Apply Never-Seez NSBT-8N compound, D00006 to the base and threads of the nut [4].
- (c) Install the side link [7] on the strut fitting with the shoulder bolt [2] and nut [4].

NOTE: Install the shoulder bolt with the head aft.

NOTE: Run-on torque is the additional torque needed to install a self-locking nut. The acceptable run-on torque range for this nut is 9.5-80 in-lb (1.1-9 newton-meters). If it is not within this range, the nut must be replaced.

(d) Use the open-ended wrench from the kit, tool, SPL-2020 to tighten both of the nuts [4] to 150-200 pound-inches (16.9-22.6 newton-meters).

NOTE: Make sure that the spring loaded pawl on the shoulder bolts are fully extended after the nut is tightened.

(e) Make sure that all parts are seated firmly.

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SUBTASK 54-51-05-200-004

- (2) Make sure the distance between the wing fitting and the strut fitting is in the tolerance, (Figure 401).

H. Put the Airplane Back to Its Usual Condition

SUBTASK 54-51-05-410-003

- (1) Do this task:

Aft Fairing Access Panel Installation, TASK 54-52-06-410-801

<u>Number</u>	<u>Name/Location</u>
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2

SUBTASK 54-51-05-440-003

- (2) If you will do no more maintenance operations on the strut, (TASK 54-51-01-440-801).

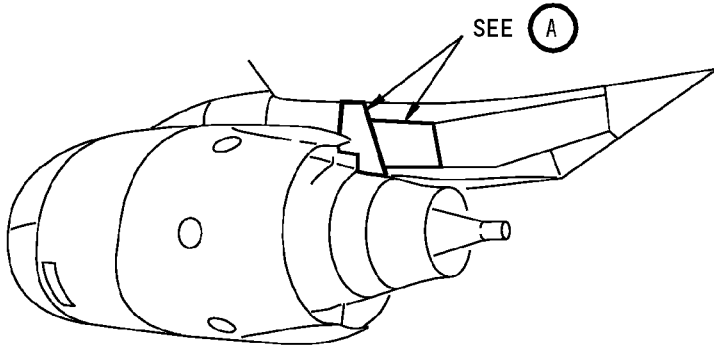
————— **END OF TASK** —————

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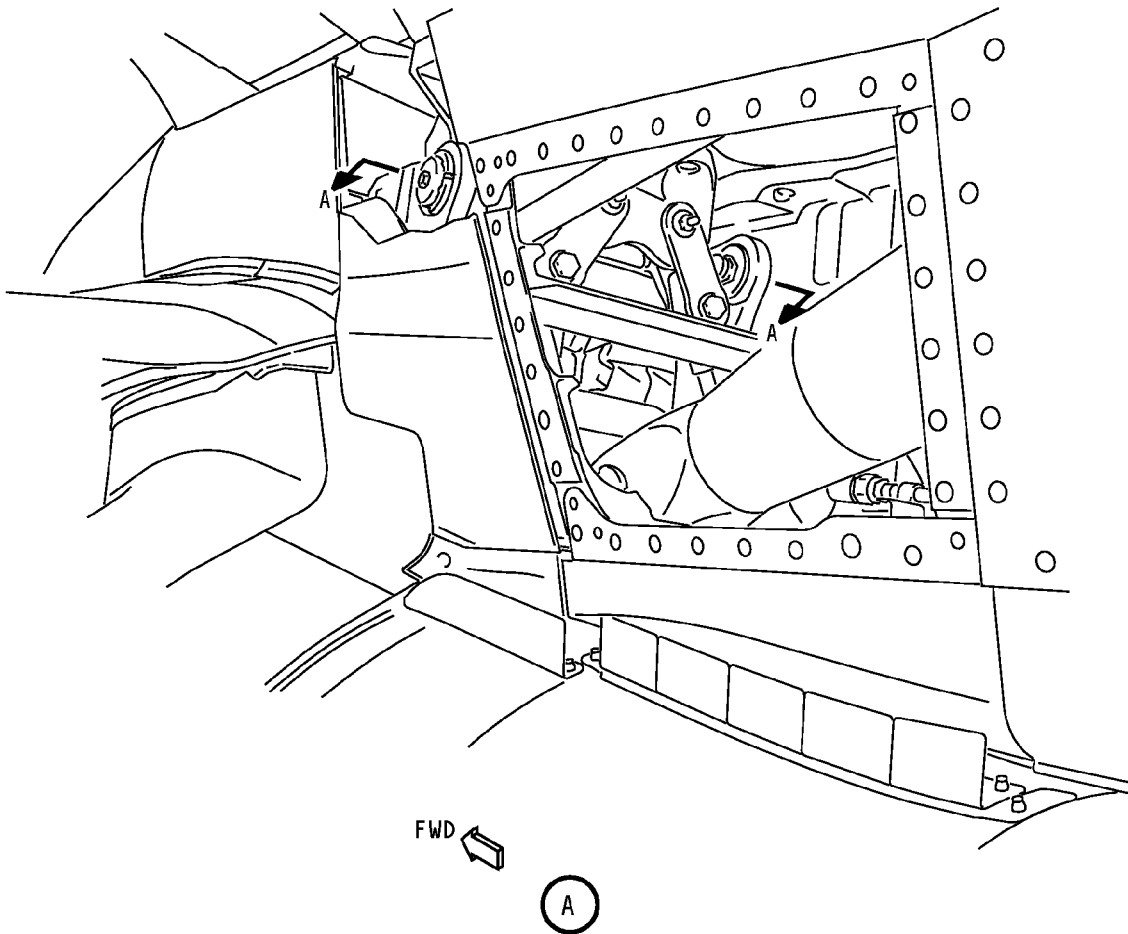
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**LEFT STRUT
(RIGHT STRUT IS OPPOSITE)**



**Side Links Installation
Figure 401 (Sheet 1 of 2)/54-51-05-990-801**

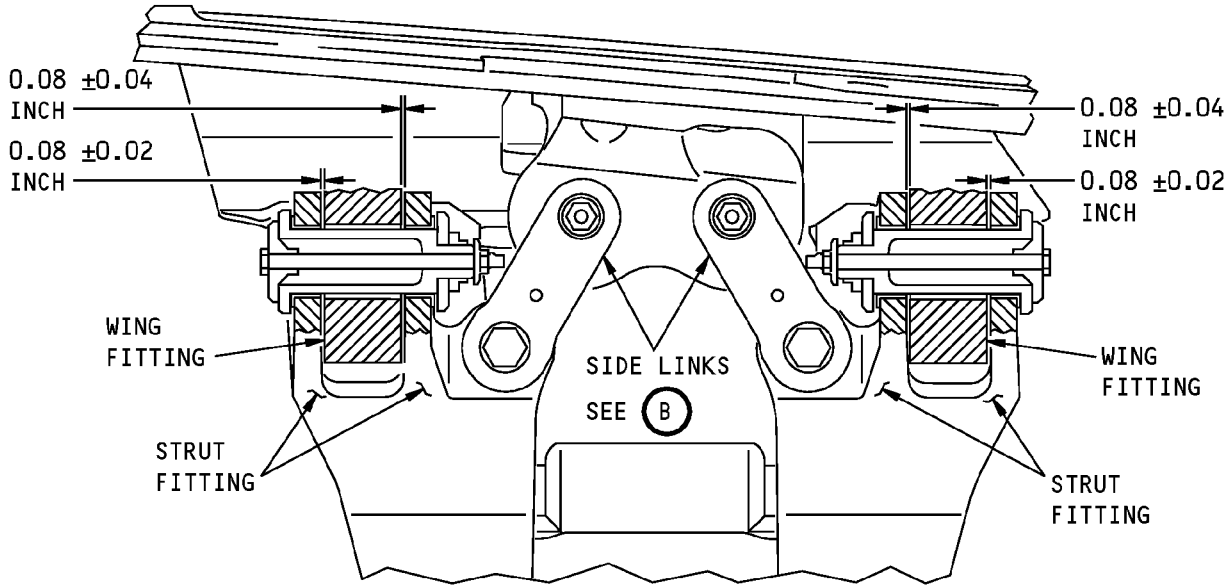
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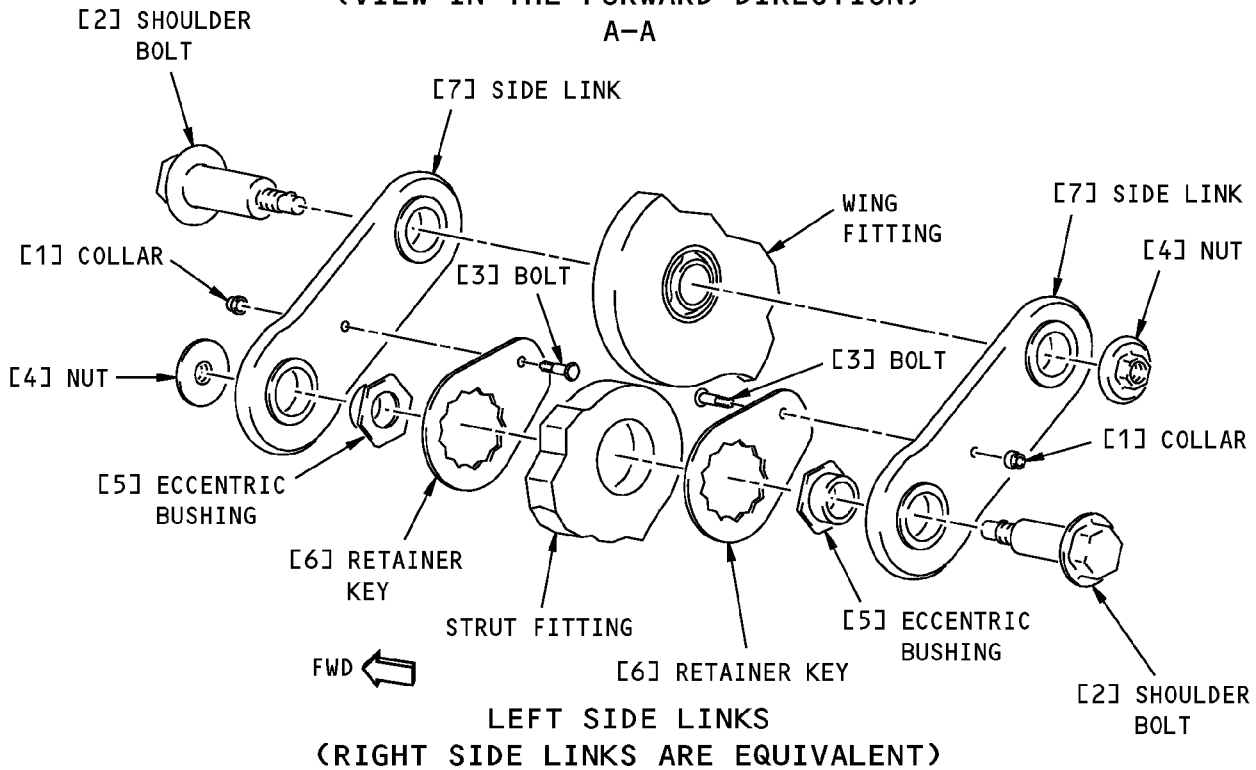
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**MIDSPAR ATTACH POINTS
(VIEW IN THE FORWARD DIRECTION)
A-A**



(B)

**Side Links Installation
Figure 401 (Sheet 2 of 2)/54-51-05-990-801**

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STRUT SIDE LINK - INSPECTION/CHECK

1. General

A. This procedure has this task:

- (1) Examine the strut side links and bushings for worn areas.

TASK 54-51-05-220-801

2. Strut Side Link Examination

(Figure 601)

A. General

- (1) This task examines the strut side links for worn areas. This task also examines the bearings in the underwing and strut midspar fittings for worn areas.
 - (a) Each strut has two side link assemblies.
 - (b) Each side link assembly includes two side links, two pins, and two eccentric bushings.
- (2) You must remove and examine one side link assembly at the same time. Do not change parts from one side link to a different side link.

B. References

Reference	Title
54-51-05-000-801	Side Link Removal (P/B 401)
54-51-05-400-801	Original Side Link Installation (P/B 401)
54-51-05-400-802	New Side Link Installation (P/B 401)

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Prepare for the Examination

SUBTASK 54-51-05-000-001

- (1) To remove the applicable side link, do this task: Side Link Removal, TASK 54-51-05-000-801.

SUBTASK 54-51-05-930-003

- (2) Make a mark or put a tag on each part of each side link assembly, which identifies the strut location where you removed it.

NOTE: If you do not install each side link assembly in the same location where you remove it, you must do the task to install a new pair of side links, (TASK 54-51-05-400-802).

E. Side Link Examination

SUBTASK 54-51-05-220-004

- (1) For each side link assembly that you will examine, measure these dimensions:
 - (a) Measure the outside diameter of the upper and lower side link pins.
 - (b) Measure the inside diameter of the upper and lower bushings in the side links.
 - (c) Measure the inside diameter and the outside diameter of the eccentric bushings.
 - (d) Measure the inside diameter and the outside diameter of the upper and lower bearing balls.

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(e) Measure the inside diameter of the upper and lower bearing races.

SUBTASK 54-51-05-300-001

(2) Make sure the dimensions are in the tolerances as specified in Table 601.

Table 601/54-51-05-993-803 Side Link Wear Limits

INDEX NO.	NAME OF THE PARTS THAT ARE IN CONTACT	DIM.	DIAMETER DESIGN LIMITS		WEAR LIMITS	
			Minimum inches / mm	Maximum inches / mm	Allowed Wear Dimension	Maximum Clearance
1	BUSHING	I.D.	0.7495 in 19.025 mm	0.7503 in 19.058 mm	0.7521 in 19.103 mm	0.0036 in 0.091 mm
	SHOULDER BOLT (UPPER)	O.D.	0.7485 in 19.012 mm	0.7490 in 19.025 mm	0.7467 in 18.966 mm	
2	BEARING BALL	I.D.	0.7495 in 19.037 mm	0.7500 in 19.050 mm	0.7515 in 19.088 mm	0.0030 in 0.762 mm
	SHOULDER BOLT (UPPER)	O.D.	0.7485 in 19.012 mm	0.7490 in 19.025 mm	0.7470 in 18.974 mm	
3	BUSHING	I.D.	0.8755 in 22.238mm	0.8755 in 22.238mm	0.8760 in 22.250mm	0.0010 in 0.025 mm
	ECCENTRIC BUSHING	O.D.	0.8750 in 22.225 mm	0.8760 in 25.250 mm	0.8745 in 22.212 mm	
4	ECCENTRIC BUSHING	I.D.	0.6245 in 15.862 mm	0.6252 in 15.880 mm	0.6269 in 15.923 mm	0.0034 in 0.086 mm
	SHOULDER BOLT (LOWER)	O.D.	0.6235 in 15.837 mm	0.6240 in 15.850 mm	0.6218 in 15.875 mm	
5	BEARING BALL	I.D.	0.6245 in 15.862mm	0.6250 in 15.875mm	0.6265 in 15.913mm	0.0030 in 0.076 mm
	SHOULDER BOLT (LOWER)	O.D.	0.6235 in 15.837mm	0.6240 in 15.850mm	0.6220 in 15.799mm	

- (a) If the side link pin dimensions are not in the tolerances, replace the pin.
- (b) If the bushing dimensions in the side links are not in the tolerances, replace the bushings.
- (c) If the eccentric bushing dimensions are not in the tolerances, replace the eccentric bushing.
- (d) If the bearing ball dimensions are not in the tolerances, replace the bearing ball.

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F. Put the Airplane Back to its Usual Condition

SUBTASK 54-51-05-400-001

(1) Do this task: Original Side Link Installation, TASK 54-51-05-400-801.

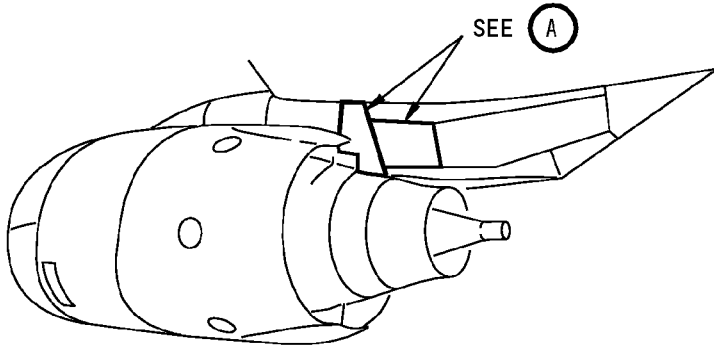
————— **END OF TASK** —————

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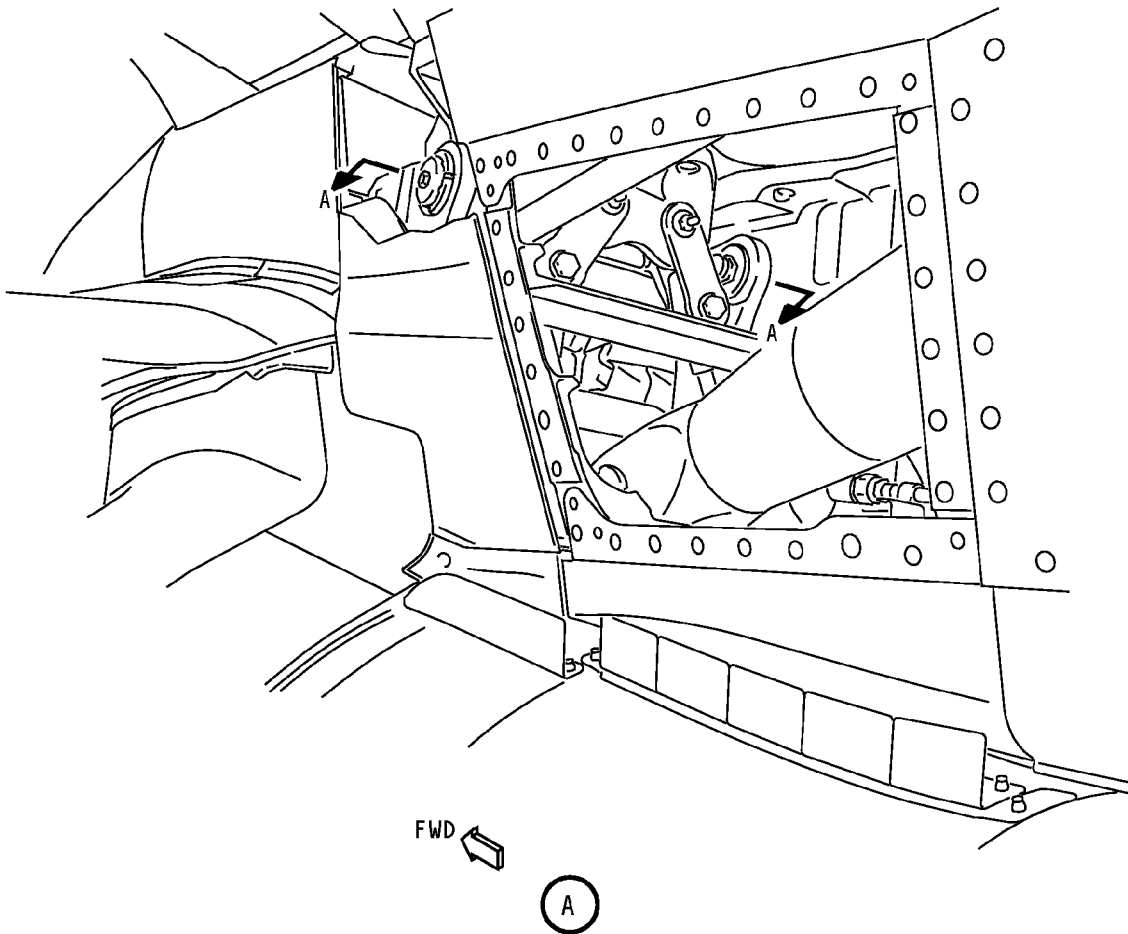
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**LEFT STRUT
(RIGHT STRUT IS OPPOSITE)**



**Side Links Examination
Figure 601 (Sheet 1 of 2)/54-51-05-990-803**

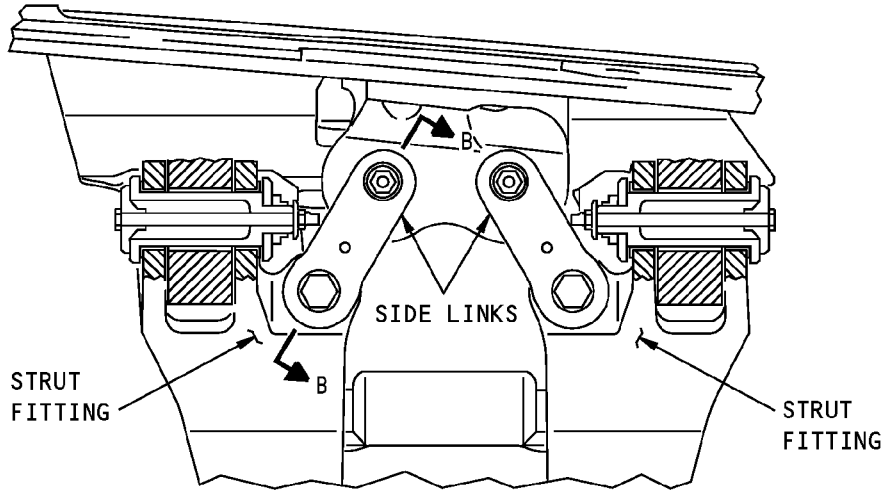
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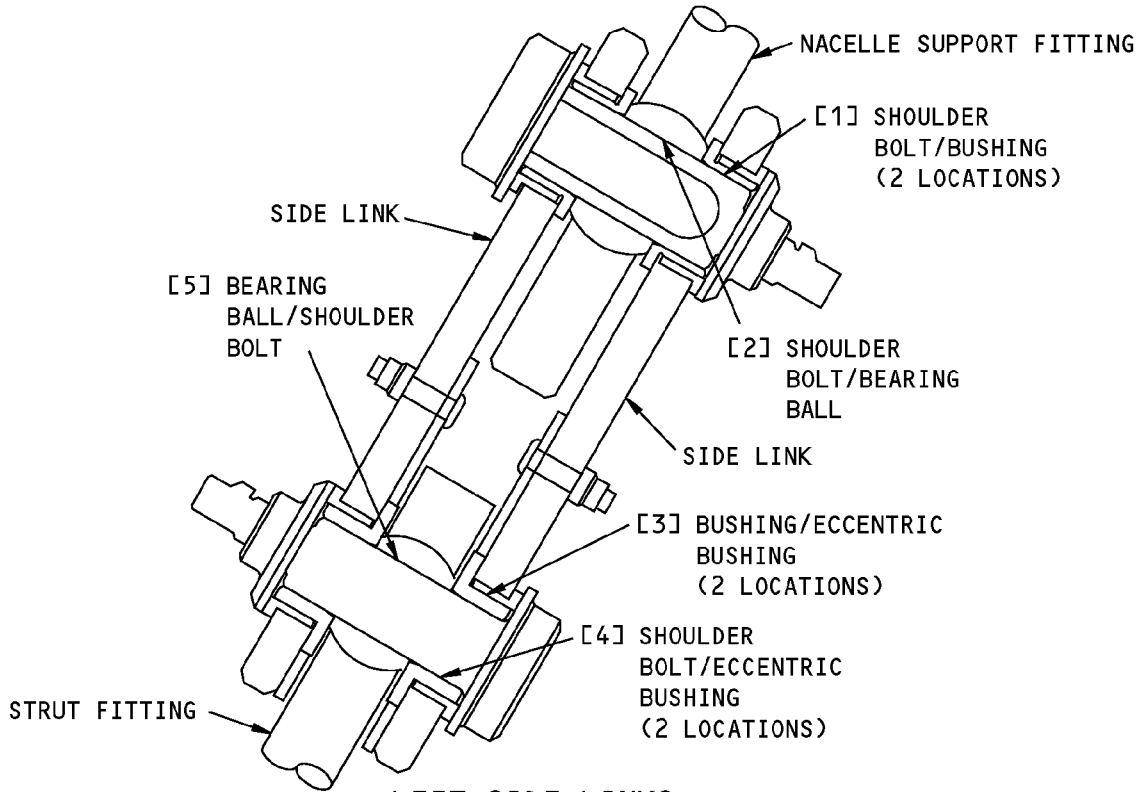
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**MIDSPAR ATTACH POINTS
(VIEW IN THE FORWARD DIRECTION)
A-A**



**LEFT SIDE LINKS
(RIGHT SIDE LINKS ARE EQUIVALENT)
B-B**

**Side Links Examination
Figure 601 (Sheet 2 of 2)/54-51-05-990-803**

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STRUT TO WING FAIRINGS - MAINTENANCE PRACTICES

1. General

A. This procedure has this task:

- (1) Aerodynamic smoothness requirements for the strut doors, panels, and fairings.

TASK 54-52-00-200-801

2. Aerodynamic Smoothness Requirements

(Figure 201)

A. General

- (1) This task gives the aerodynamic smoothness requirements for the strut access doors, panels, and fairings to permit smooth air flow. These doors, panels and fairings are located in areas where aerodynamic smoothness is very important.
- (2) This task gives the aerodynamic smoothness requirements for these components:
 - (a) The strut forward fairings.
 - (b) The strut wing junction fairings.
 - (c) The strut access doors and panels.
 - (d) The strut aft doors, panels, and fairings.

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
SRM 54-50-70	Structural Repair Manual

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Aerodynamic Smoothness Requirements

SUBTASK 54-52-00-040-001

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-52-00-200-001

- (2) Do these steps to examine the clearance between the adjacent surfaces:
 - (a) Look for an unusually large change in contour (misfair/step) or clearance (gap) between adjacent surfaces.
 - (b) The misfair (step) and clearance (gap) between these surfaces must agree with the permitted tolerances in Figure 201.
 - 1) If you cannot get the correct permitted tolerance, you can use the expanded tolerance in Table 201 if the acceptance criteria include the Net Effect.

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Table 201/54-52-00-993-805 Aerodynamic Smoothness Limits - Strut Fairing

Airplane Effectivity	Edge Zone	Section	Clearance	NEV Table	NEA	Recommended Minimum # of measurements
ALL	[A]	B-B	0.1300 +0.090~ 0 / -0.0600 in. (3.3020 +2.286~ 0 / -1.5240 mm)	203	See Table 3	4 (2 inbd + 2 outbd)
ALL	[B]	B-B	0.0000 +0.090~ 0 / -0.0600 in. (0.0000 +2.286~ 0 / -1.5240 mm)	203	See Table 3	4 (2 inbd + 2 outbd)
ALL	[C]	C-C	0.0000 ±0.120~ 0 in. (0.0000 ±3.048~ 0 mm)	204	See Table 4	5
ALL	[D]	C-C	0.1570 +0.120~ 0 / -0.0500 in. (3.9878 +3.048~ 0 / -1.2700 mm)	204	See Table 4	5
ALL	[E]	C-C	0.2700 +0.030~ 0 / -0.1000 in. (6.8580 +0.762~ 0 / -2.5400 mm)	204	See Table 4	5
ALL	[F]	I-I	0.1000 +0.105~ 0 / -0.0700 in. (2.5400 +2.667~ 0 / -1.7780 mm)	202	0.135	4 (2 inbd + 2 outbd)
ALL	[G]	I-I	0.0000 ±0.060~ 0 in. (0.0000 ±1.524~ 0 mm)	202	0.025	4 (2 inbd + 2 outbd)
ALL	[H]	G-G	0.0000 +0.112~ 5 / -0.1800 in. (0.0000 +2.857~ 5 / -4.5720 mm)	202	0.075	3 (1@ G-G, H-H, C-C)
ALL	[I]	G-G	0.3000 +0.150~ 0 / -0.1000 in. (7.6200 +3.810~ 0 / -2.5400 mm)	202	0.035	3 (1@ G-G, H-H, C-C)
ALL	[J]	H-H	0.1500 +0.150~ 0 / -0.1000 in. (3.8100 +3.810~ 0 / -2.5400 mm)	202	0.025	3 (1@ G-G, H-H, C-C)

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Airplane Effectivity	Edge Zone	Section	Clearance	NEV Table	NEA	Recommended Minimum # of measurements
ALL	[K]	H-H	0.0000 +0.112 [~] 5 / -0.1800 in. (0.0000 +0.000 [~] 0 / -0.0000 mi)	202	0.075	3 (1@ G-G, H-H, C-C)
ALL	[L]	P-P	0.1000 +0.105 [~] 0 / -0.0700 in. (2.5400 +2.667 [~] 0 / -1.7780 mm)	202	0.135	5
ALL	[M]	P-P	0.0000 ±0.060 [~] 0 in. (0.0000 ±1.524 [~] 0 mm)	202	0.025	5
ALL	[N]	T-T	0.1000 +0.105 [~] 0 / -0.0700 in. (2.5400 +2.667 [~] 0 / -1.7780 mm)	202	0.170	4 (2 inbd + 2 outbd)
ALL	[O]	T-T	0.0000 +0.060 [~] 0 / -0.1350 in. (0.0000 +1.524 [~] 0 / -3.4290 mm)	202	0.080	4 (2 inbd + 2 outbd)
ALL	[P]	U-U	0.0000 ±0.045 [~] 0 in. (0.0000 ±1.143 [~] 0 mm)	202	0.030	3
ALL	[Q]	U-U	0.1500 +0.060 [~] 0 / -0.0400 in. (3.8100 +1.524 [~] 0 / -1.0160 mm)	202	0.190	3
ALL	[R]	V-V	0.1000 +0.090 [~] 0 / -0.0600 in. (2.5400 +2.286 [~] 0 / -1.5240 mm)	202	0.015	3
ALL	[S]	V-V	0.0600 +0.060 [~] 0 / -0.0400 in. (1.5240 +1.524 [~] 0 / -1.0160 mm)	202	0.080	3
ALL	[T]	W-W	0.0000 ±0.045 [~] 0 in. (0.0000 ±1.143 [~] 0 mm)	202	0.030	2

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Airplane Effectivity	Edge Zone	Section	Clearance	NEV Table	NEA	Recommended Minimum # of measurements
ALL	[U]	W-W	0.1900 +0.060~ 0 / -0.0400 in. (4.8260 +1.524~ 0 / -1.0160 mm)	202	0.260	2
ALL	[V]	Y-Y	0.1000 +0.090~ 0 / -0.0600 in. (2.5400 +2.286~ 0 / -1.5240 mm)	202	0.130	5 (4@ Z-Z + 1@ Y-Y)
ALL	[W]	Y-Y	0.0000 ±0.075~ 0 in. (0.0000 ±1.905~ 0 mm)	202	0.025	5 (4@ Z-Z + 1@ Y-Y)
ALL	[X]	AA-AA	0.0000 ±0.105~ 0 in. (0.0000 ±2.667~ 0 mm)	202	0.070	8 (2 * 4 pl)
ALL	[Y]	AA-AA	0.0725 +0.086~ 3 / -0.0575 in. (1.8415 +2.192~ 0 / -1.4605 mm)	202	0.130	8 (2 * 4 pl)
ALL	[Z]	Z-Z	0.0000 +0.075~ 0 / -0.0500 in. (0.0000 +1.905~ 0 / -1.2700 mm)	202	0.025	5 (4@ Z-Z + 1@ Y-Y)
ALL	[AA]	Z-Z	0.1000 +0.090~ 0 / -0.0600 in. (2.5400 +2.286~ 0 / -1.5240 mm)	202	0.130	5 (4@ Z-Z + 1@ Y-Y)

SUBTASK 54-52-00-840-001

- (3) Net Effect: Calculate the Net Effect from measured step and/or gap values by the procedure that follow:
- (a) As a minimum, measure in less than 1 inch of each end of an interface and/or corner transition. More measurements should divide the interface length into equal intervals, with one of the measurements located in less than 1 inch of the midpoint of the interface length. See Table 201 for the recommended minimum number of measurements.
 - 1) Add all of the calculated NEV values, both those in tolerance and those that are not in the tolerance and divide the result by the total number of measurements.
 - a) Calculate the net effect value by using linear interpolation of the appropriate column in Table 202.

NOTE: The result is the total NEV for the interface.

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- (b) Convert each measured value to Net Effect Value (NEV) by linear interpolation of the applicable column given in Tables 202 through 205.

NOTE: NEV can be obtained by Table 202, Table 203, or Table 204 after substituting NEA with the values from Table 201.

Table 202/54-52-00-993-806 Generic NEA Based Table

GAPS		STEPS	
w (in)	NEV	h (in)	NEV
0	0	-NEA	1
NEA	1	0	0
-	-	NEA	1

Table 203/54-52-00-993-807 Inlet Outer Panel / Thumbnail Fairing

GAPS [A]		STEPS [B]	
w (in)	NEV	h (in)	NEV
0.2200	0.6471	-0.1000	2.3500
0.2600	0.7647	-0.0800	0.9100
0.3000	0.8824	-0.0600	1.5100
0.3400	1.0000	-0.0400	1.1250
0.3800	1.1176	-0.0300	0.9100
		-0.0200	0.7400
		-0.0100	0.5600
		0.0000	0.4000
		0.0100	0.2400
		0.0200	0.1000
		0.0300	0.0600
		0.0400	0.2300
		0.0500	0.5800
		0.0600	1.0000
		0.0700	0.4600
		0.0800	1.9400
		0.1000	2.9300

Table 204/54-52-00-993-808 Forward Panel / T/R-Strut Fairing

GAPS [D] [E]		STEPS [C]	
w (in)	NEV	w (in)	NEV
0.1000	0.2649	-0.1000	1.7865
0.1400	0.4083	-0.0800	1.3409

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GAPS [D] [E]		STEPS [C]	
0.1800	0.5640	-0.0600	0.9263
0.2200	0.7300	-0.0400	0.5500
0.2600	0.9050	-0.0200	0.2256
0.2810	1.0000	0.0000	0.0000
0.3000	1.0878	0.0200	0.4102
0.3400	1.2777	0.0400	1.0000
0.3800	1.4741	0.0600	1.6842
0.4200	1.6765	0.0800	2.4380
0.4600	1.8846	0.1000	3.2482
0.5000	2.0978		

(c) Add all the calculated NEV values and divide the result by the total number of measurements. The result is the interface NEV.

1) The NEL is 1.0 for all interfaces listed in Table 201.

- a) If the Interface NEV is less than or equal to the Net Effect Limit (NEL), the interface is aerodynamically acceptable.
- b) If the Interface NEV is greater than the NEL, the interface does not meet the aerosmoothness requirements.

SUBTASK 54-52-00-350-001

(4) If it is necessary, repair the fairings to make the surfaces smooth (SRM 54-50-70).

SUBTASK 54-52-00-440-001

(5) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— **END OF TASK** —————

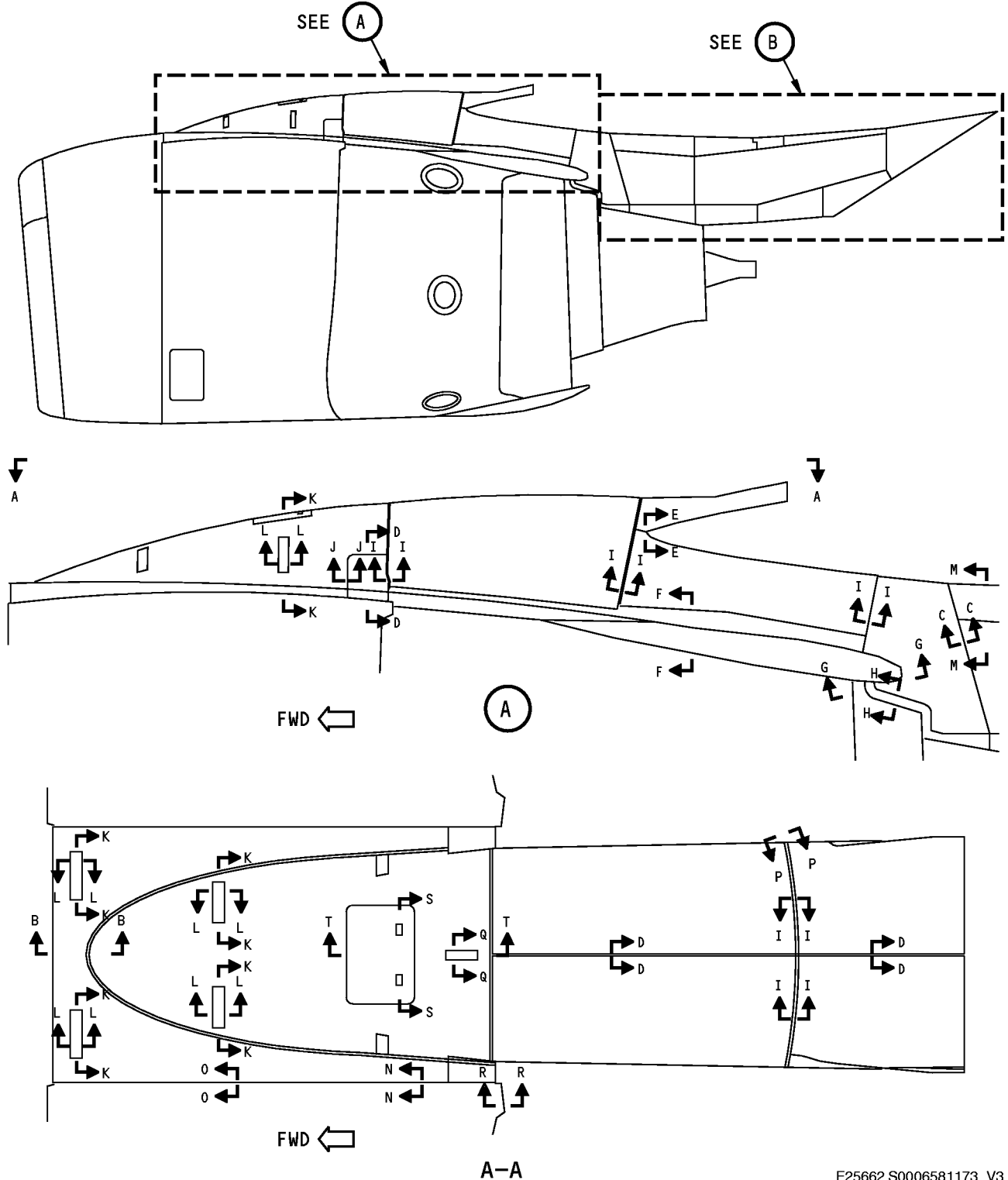
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F25662 S0006581173_V3

Aerodynamic Smoothness Limits - Strut Fairing
Figure 201 (Sheet 1 of 9)/54-52-00-990-801

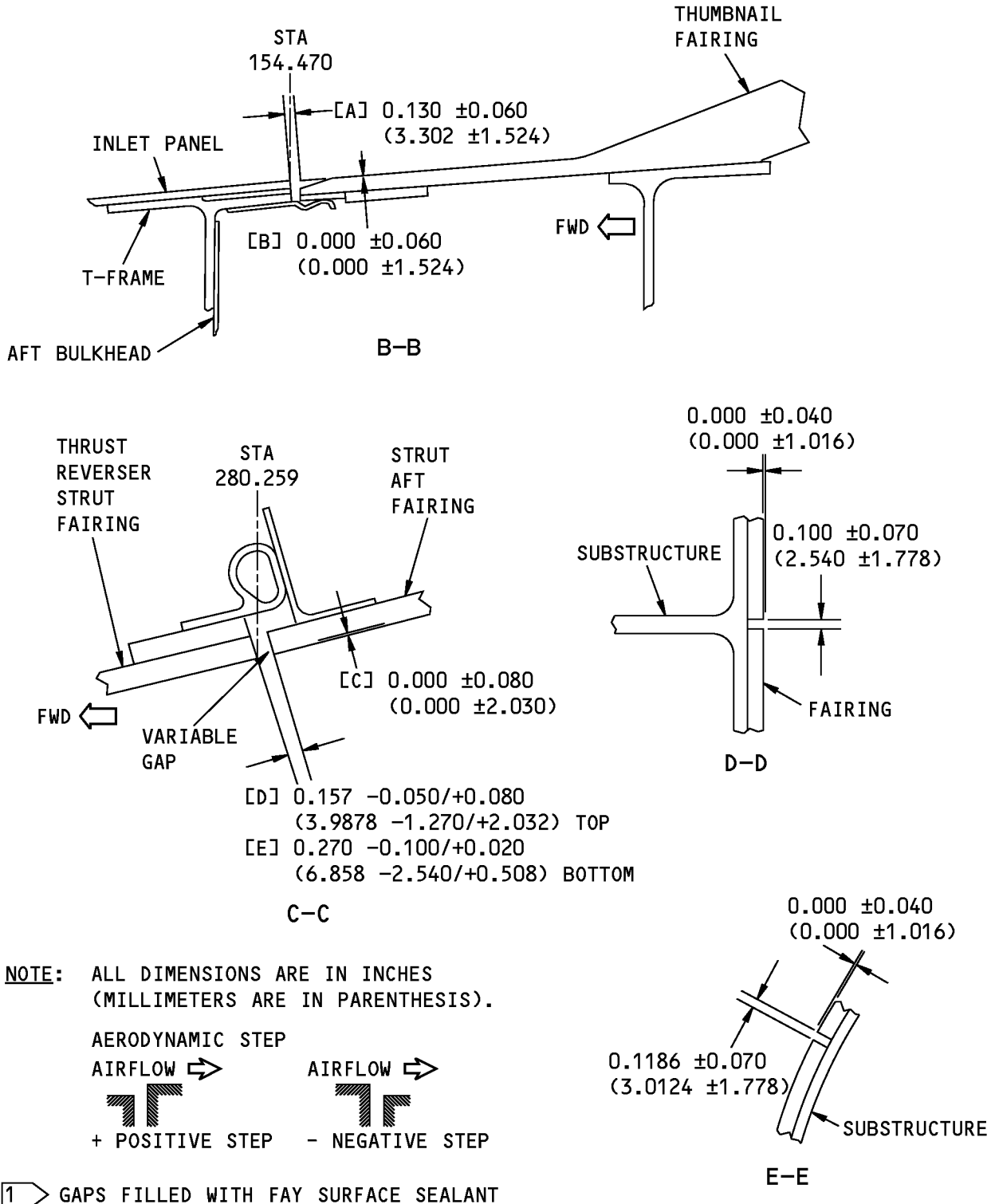
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F25924 S0006581174_V4

Aerodynamic Smoothness Limits - Strut Fairing
Figure 201 (Sheet 2 of 9)/54-52-00-990-801

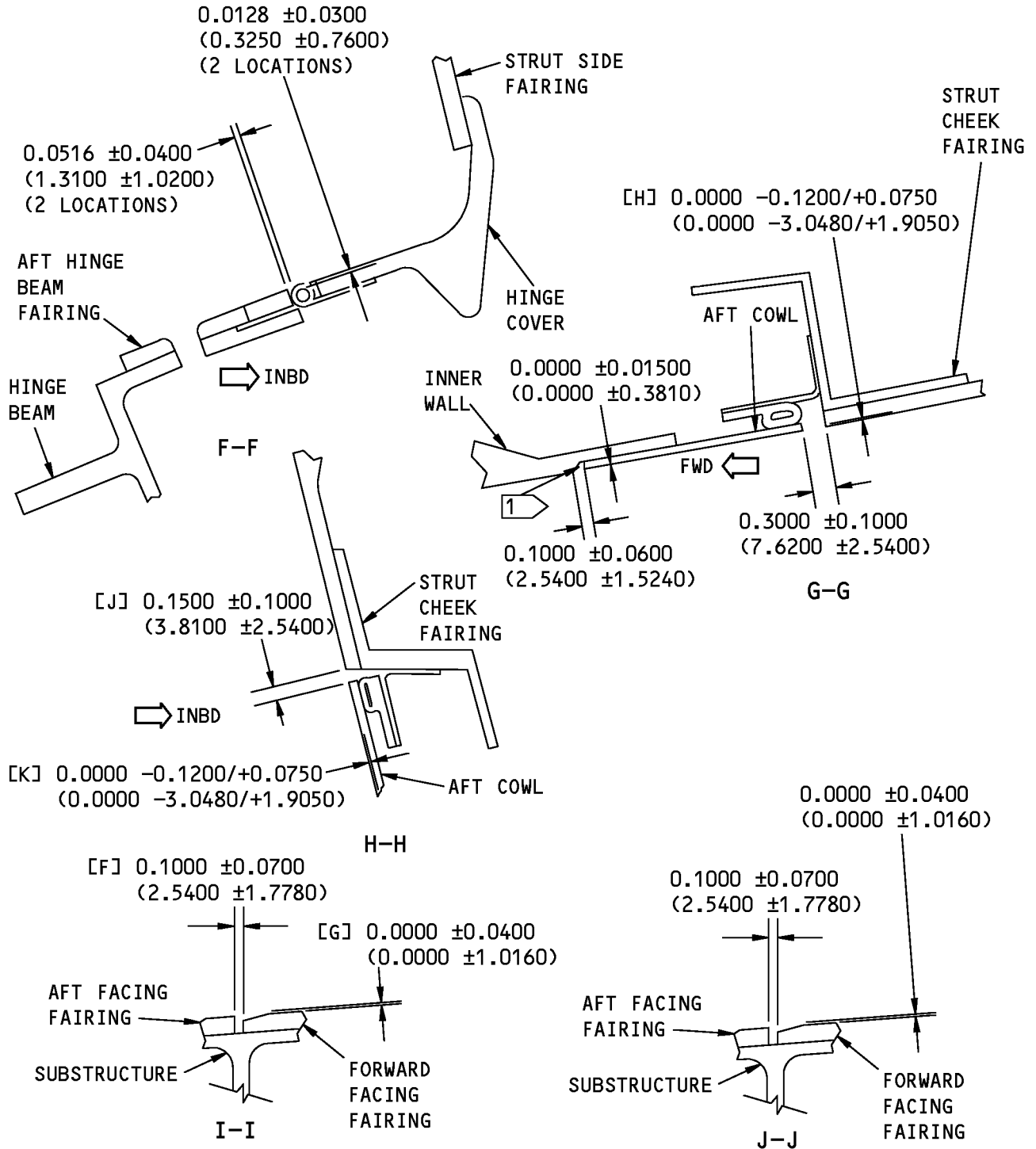
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NOTE: ALL DIMENSIONS ARE IN INCHES
(MILLIMETERS ARE IN PARENTHESIS).

F25929 S0006581177_V4

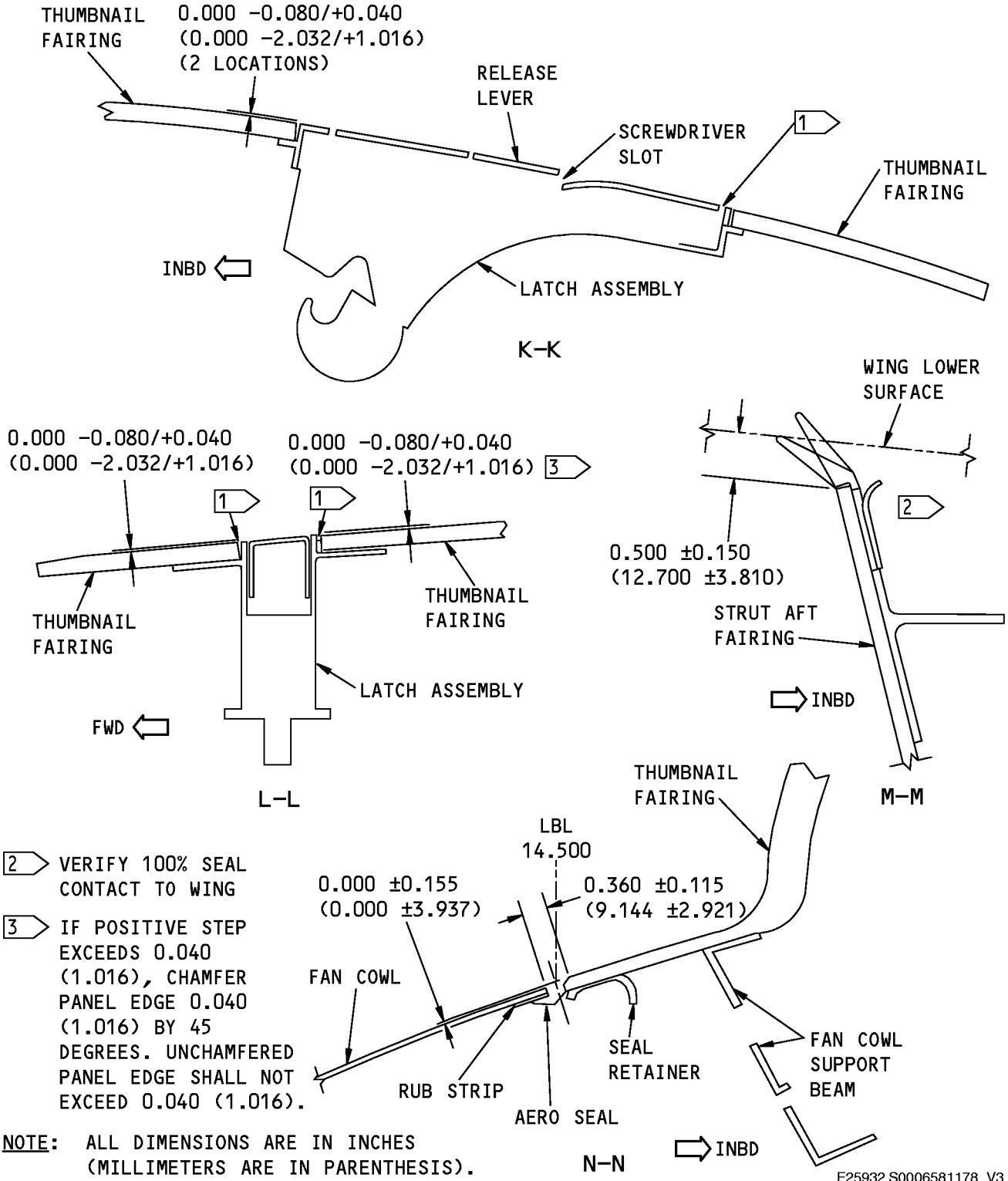
Aerodynamic Smoothness Limits - Strut Fairing
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- 2) VERIFY 100% SEAL CONTACT TO WING
- 3) IF POSITIVE STEP EXCEEDS 0.040 (1.016), CHAMFER PANEL EDGE 0.040 (1.016) BY 45 DEGREES. UNCHAMFERED PANEL EDGE SHALL NOT EXCEED 0.040 (1.016).

NOTE: ALL DIMENSIONS ARE IN INCHES (MILLIMETERS ARE IN PARENTHESIS).

F25932 S0006581178_V3

**Aerodynamic Smoothness Limits - Strut Fairing
Figure 201 (Sheet 4 of 9)/54-52-00-990-801**

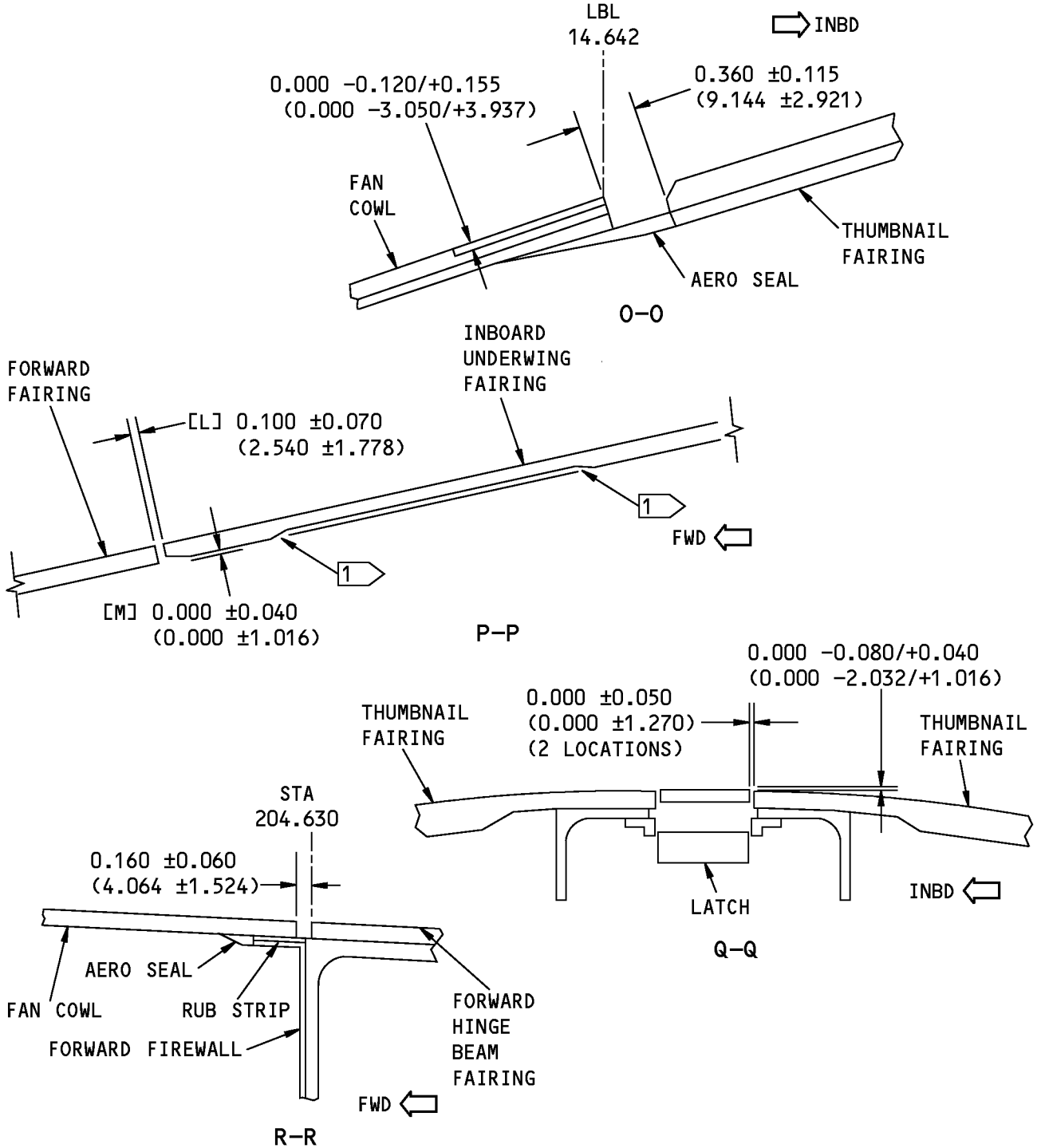
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NOTE: ALL DIMENSIONS ARE IN INCHES
(MILLIMETERS ARE IN PARENTHESIS).

F26756 S0006581180_V3

**Aerodynamic Smoothness Limits - Strut Fairing
Figure 201 (Sheet 5 of 9)/54-52-00-990-801**

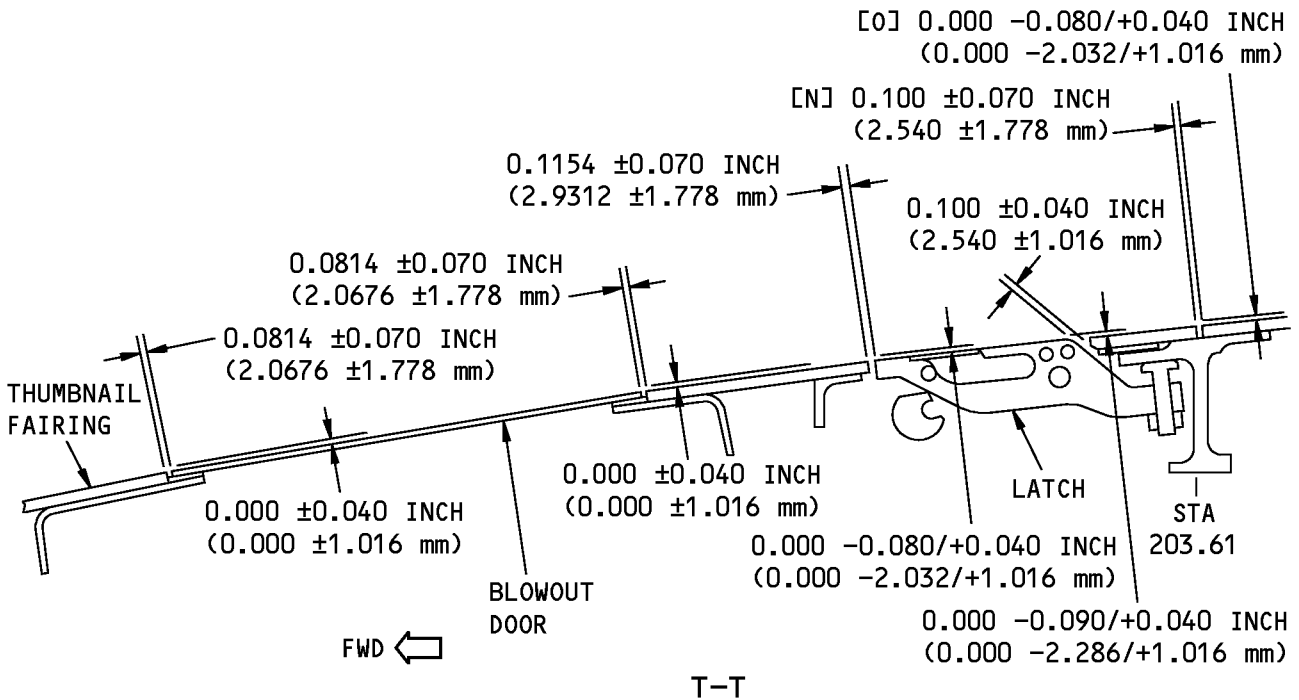
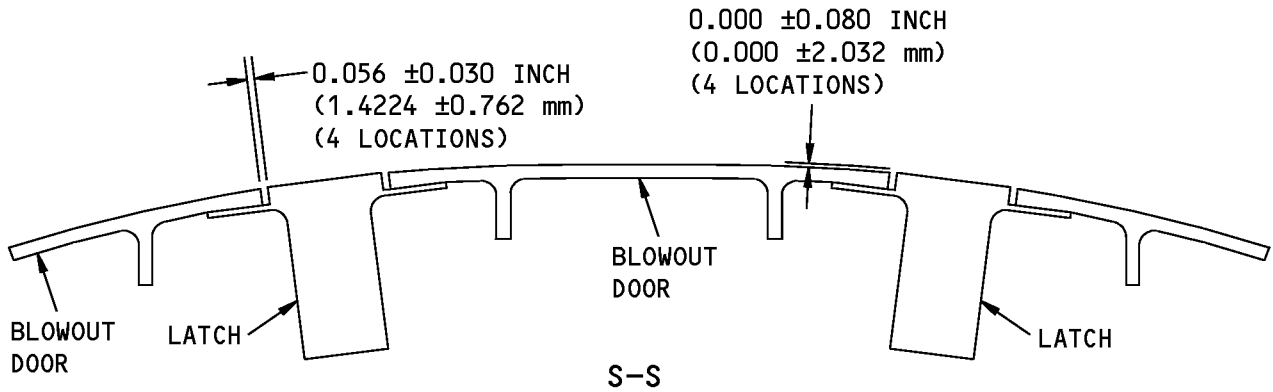
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F26835 S0006581181_V4

**Aerodynamic Smoothness Limits - Strut Fairing
Figure 201 (Sheet 6 of 9)/54-52-00-990-801**

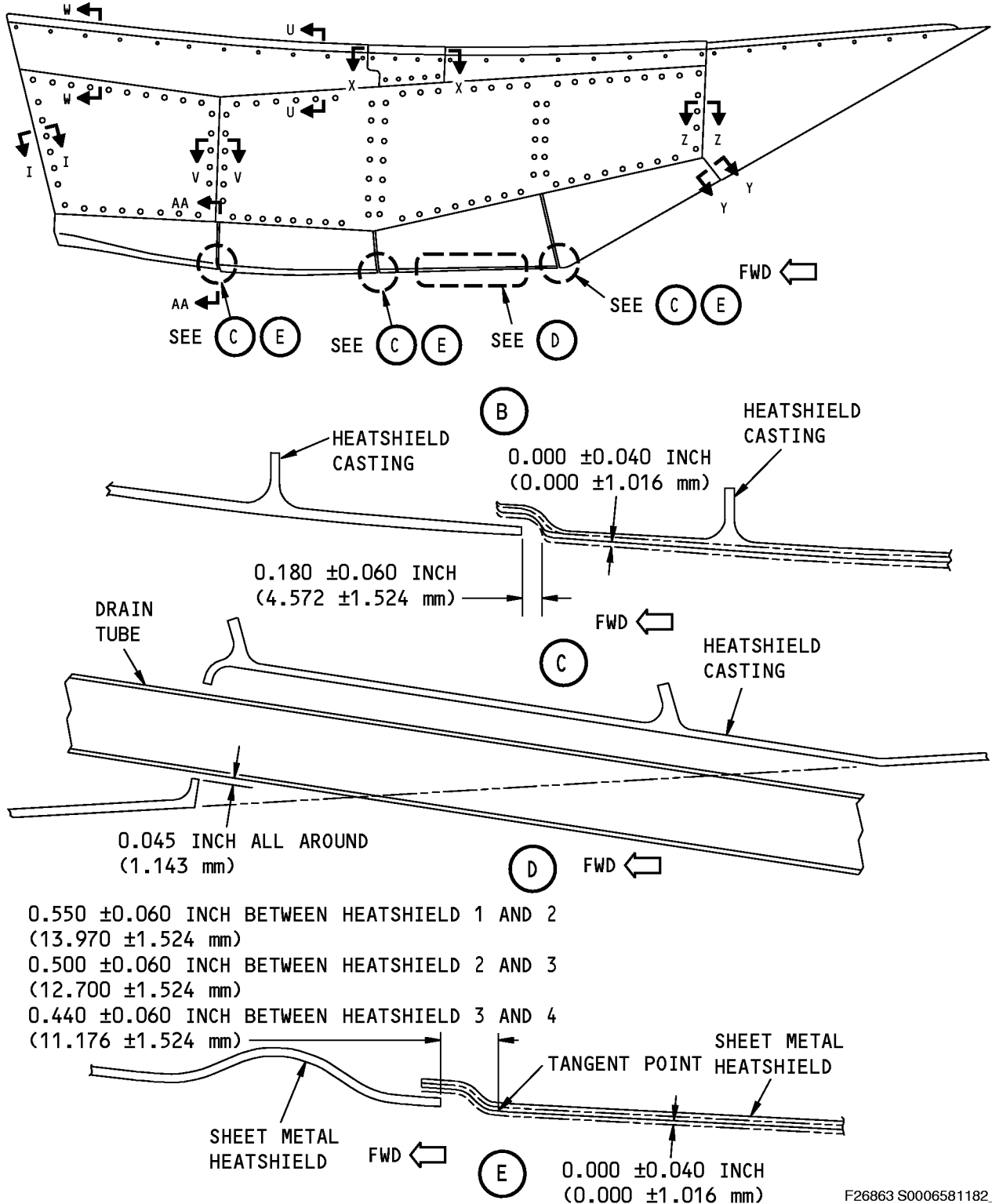
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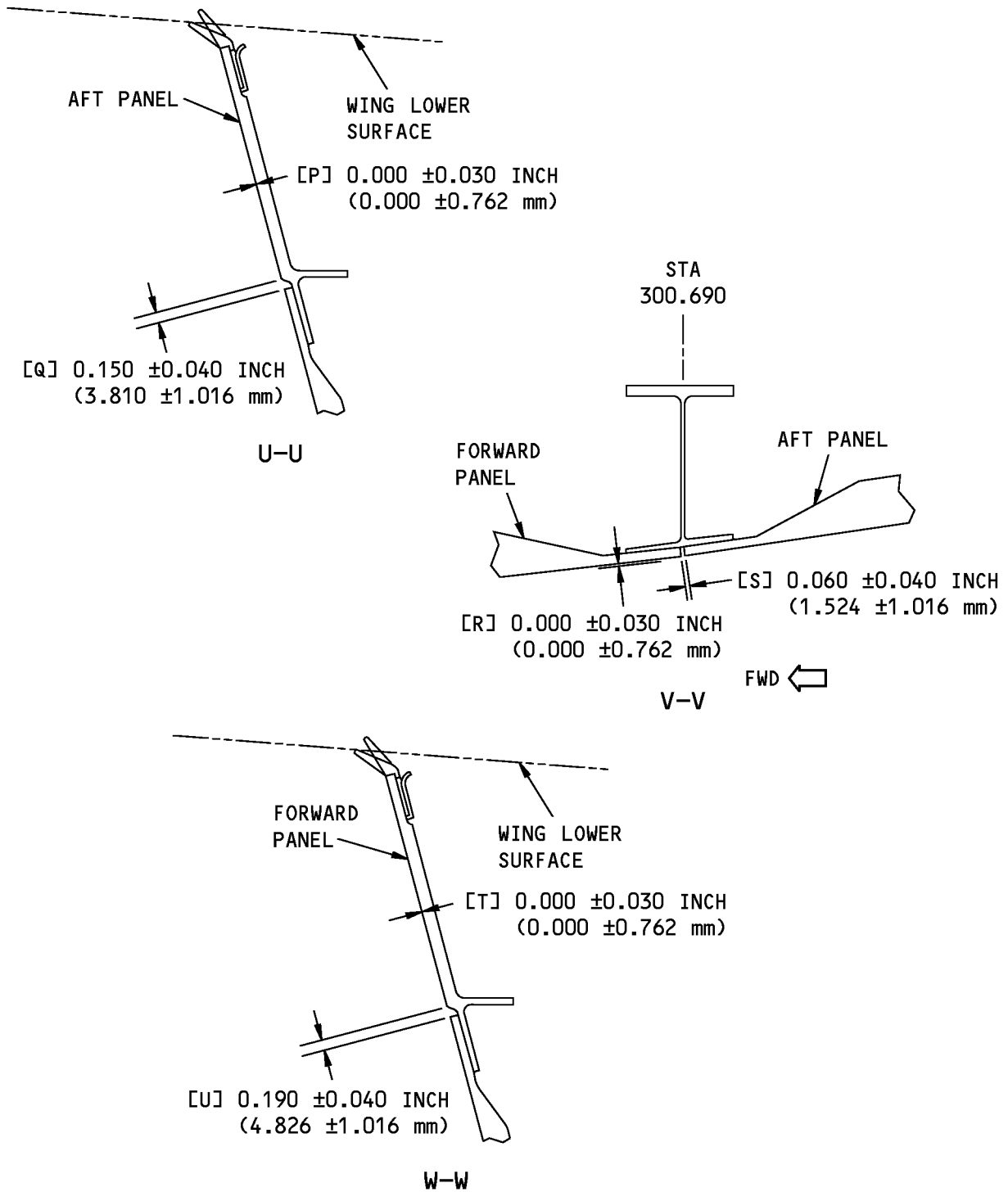


Aerodynamic Smoothness Limits - Strut Fairing
Figure 201 (Sheet 7 of 9)/54-52-00-990-801

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F27154 S0006581183_V3

**Aerodynamic Smoothness Limits - Strut Fairing
Figure 201 (Sheet 8 of 9)/54-52-00-990-801**

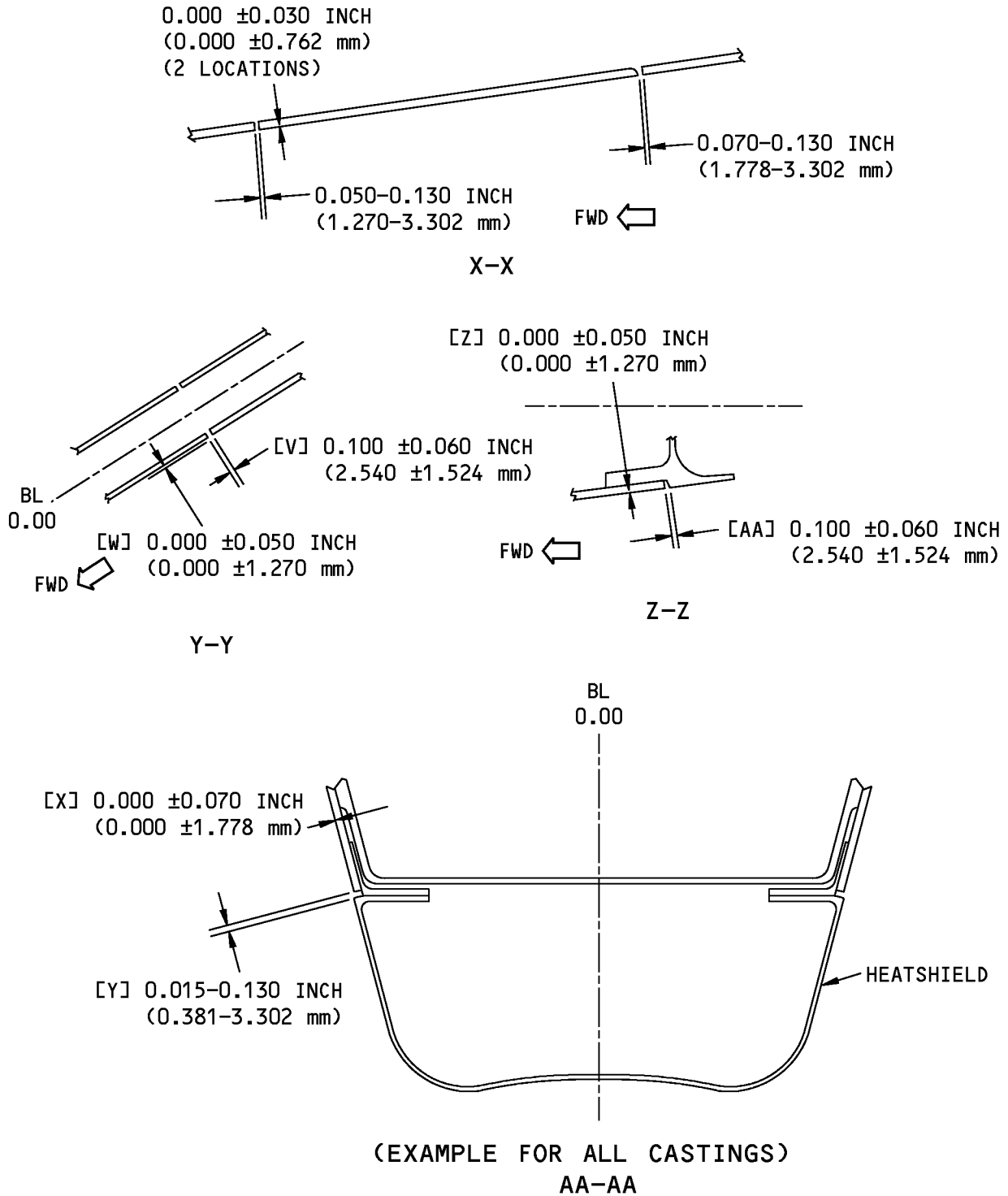
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F27183 S0006581184_V3

**Aerodynamic Smoothness Limits - Strut Fairing
Figure 201 (Sheet 9 of 9)/54-52-00-990-801**

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FORWARD FAIRINGS - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

- (1) Removal of the forward fairings.
- (2) Installation of the forward fairings.

TASK 54-52-01-010-801

2. Forward Fairing Removal

(Figure 401)

A. General

- (1) This task is the removal of these strut forward fairings:
 - (a) The thumbnail fairing.
 - (b) The mid strut fairings.

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
71-11-02-000-801-F00	Remove the Fan Cowl Panel (Selection) (P/B 401)

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Access Panels

Number	Name/Location
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2
431AT	Forward Strut Fairing, Thumbnail Fairing, Strut 1
431BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 1
431BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 1
441AT	Forward Strut Fairing, Thumbnail Fairing, Strut 2
441BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 2
441BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 2

E. Prepare for the Removal

SUBTASK 54-52-01-040-003

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

F. Forward Fairing Removal

SUBTASK 54-52-01-000-001

- (1) Do these steps to remove the thumbnail fairing:
 - (a) Remove the applicable fan cowl panels:

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(TASK 71-11-02-000-801-F00)

<u>Number</u>	<u>Name/Location</u>
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2

(b) Unlatch the latches located at the exterior surface of the thumbnail fairing.

CAUTION: THE FORWARD FAIRING SUPPORT BEAM (AFT END OF THUMBNAIL FAIRING) HAS TWO VERTICAL ALIGNMENT PINS. AVOID FORCEFULLY SLIDING THE FAIRING IN THE HORIZONTAL PLANE. DOING SO CAN BREAK THE ALIGNMENT PINS FROM THE SUPPORT BEAM AND DAMAGE STRUCTURE.

(c) Remove the applicable access panels:

<u>Number</u>	<u>Name/Location</u>
431AT	Forward Strut Fairing, Thumbnail Fairing, Strut 1
441AT	Forward Strut Fairing, Thumbnail Fairing, Strut 2

SUBTASK 54-52-01-000-002

(2) Do these steps to remove the left or right mid strut fairing:

(a) Remove the bolts [2] and do this step:

1) Open these access panels:

<u>Number</u>	<u>Name/Location</u>
431BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 1
431BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 1
441BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 2
441BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 2

(b) Remove the right or left mid strut fairing.

————— **END OF TASK** —————

TASK 54-52-01-410-801

3. Forward Fairing Installation

(Figure 401)

A. General

(1) This task is the installation procedure for the strut forward fairings:

- (a) The thumbnail fairing.
- (b) The mid strut fairings.

B. References

<u>Reference</u>	<u>Title</u>
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
71-11-01-400-801-F00	Install the Inlet Cowl (P/B 401)

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C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Access Panels

Number	Name/Location
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2
431AT	Forward Strut Fairing, Thumbnail Fairing, Strut 1
431BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 1
431BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 1
441AT	Forward Strut Fairing, Thumbnail Fairing, Strut 2
441BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 2
441BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 2

E. Forward Fairing Installation

SUBTASK 54-52-01-400-001

(1) Do these steps to install the thumbnail fairing:

- (a) Make sure that the fan cowl panel has not been installed.
- (b) Put the fairing in its correct location, placing the aft end of the fairing on the two alignment pins on the support beam, then lowering the forward end. .
- (c) Close the latches to install the applicable access panels [1] to the strut:

Number	Name/Location
431AT	Forward Strut Fairing, Thumbnail Fairing, Strut 1
441AT	Forward Strut Fairing, Thumbnail Fairing, Strut 2

(d) Do these steps to adjust the closing force of the latches:

- 1) Make sure the latch keepers are in the full up/outboard position.
- 2) With the latch handle open, adjust the keeper by turning the hex drive clockwise or counterclockwise as required.
- 3) Close the handle. The allowed range of the closing force is 15.0 lbf (66.7 N) to 20.0 lbf (89.0 N).
- 4) Apply the closing force at 0.5 ± 0.5 in. (12.7 ± 12.7 mm) from the end of the handle.
- 5) To gain access to the S313A003 latches, turn the latch access cover using an awl or similar tool, turning 0.125 in. (3.175 mm) or less.
- 6) To access the S313A002 latches, use a hex wrench.
- 7) When verifying closing latch forces, all other latches (except the one being adjusted) will be closed.
 - a) One badly adjusted latch may impact the engagement forces of the other latches.

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CAUTION: THE S313002 LATCHES MAY NOT ENGAGE PROPERLY UNLESS THE BRIDGE BETWEEN THE HOUSING AND THE TRIGGER IS ROTATED BENEATH THE LATCH HANDLE DURING HANDLE ROTATION AND LATCH KEEPER ADJUSTMENT.

- 8) After all latches are adjusted, close the cover plates.
- (e) Do these steps to install the fan cowl panels: (TASK 71-11-01-400-801-F00).
- (f) Install these access panels:

<u>Number</u>	<u>Name/Location</u>
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2

SUBTASK 54-52-01-000-003

- (2) Do these steps to install the left or right mid strut fairing:
 - (a) Place the following in the correct locations:

<u>Number</u>	<u>Name/Location</u>
431BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 1
431BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 1
441BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 2
441BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 2

- (b) Install the bolts [2] on the above panels.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 54-52-01-440-002

- (1) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

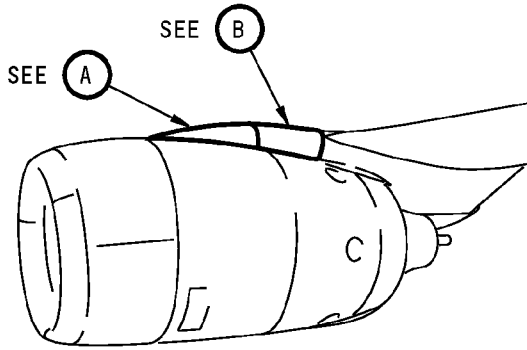
————— **END OF TASK** —————

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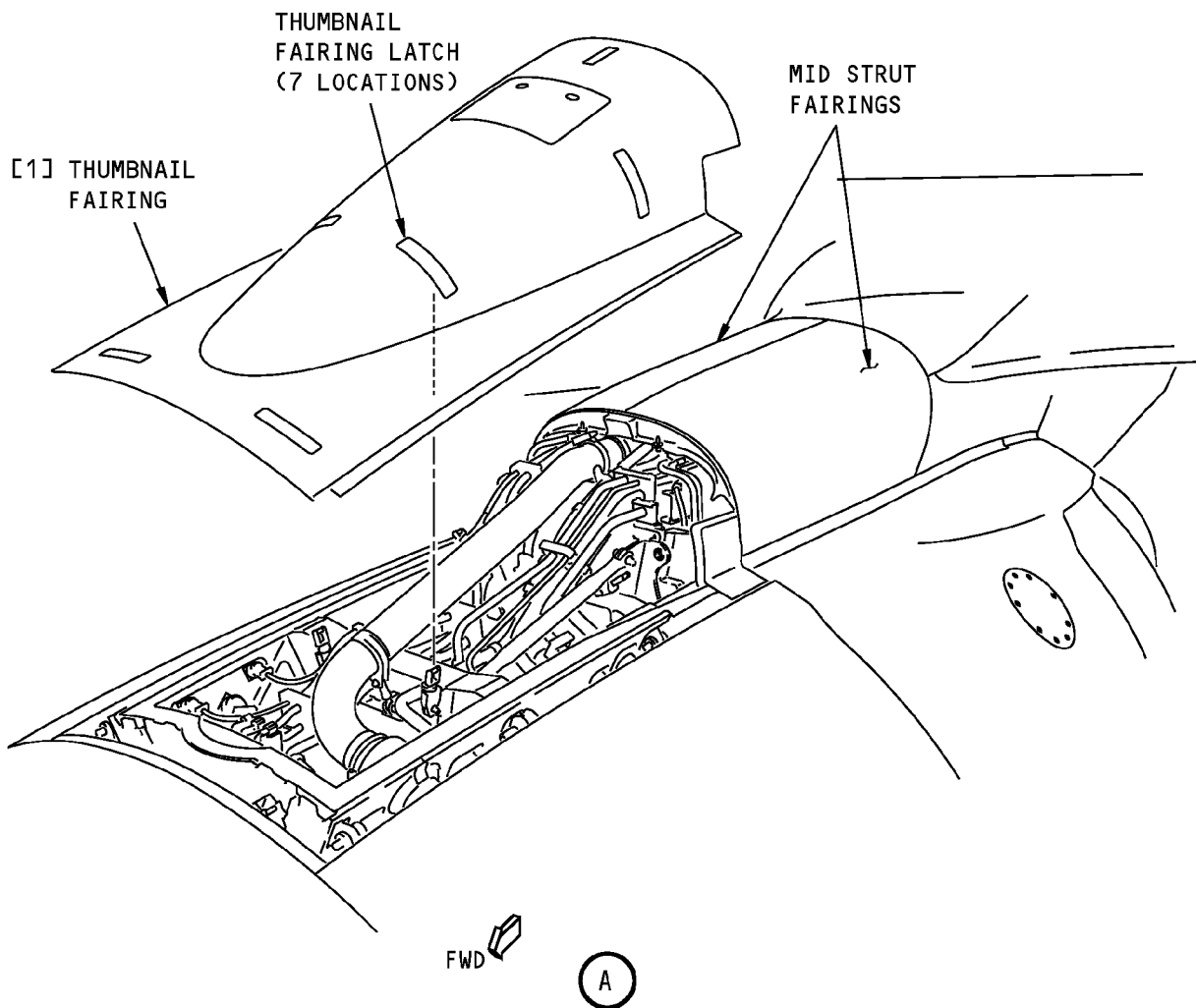
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**LEFT STRUT
(RIGHT STRUT IS OPPOSITE)**



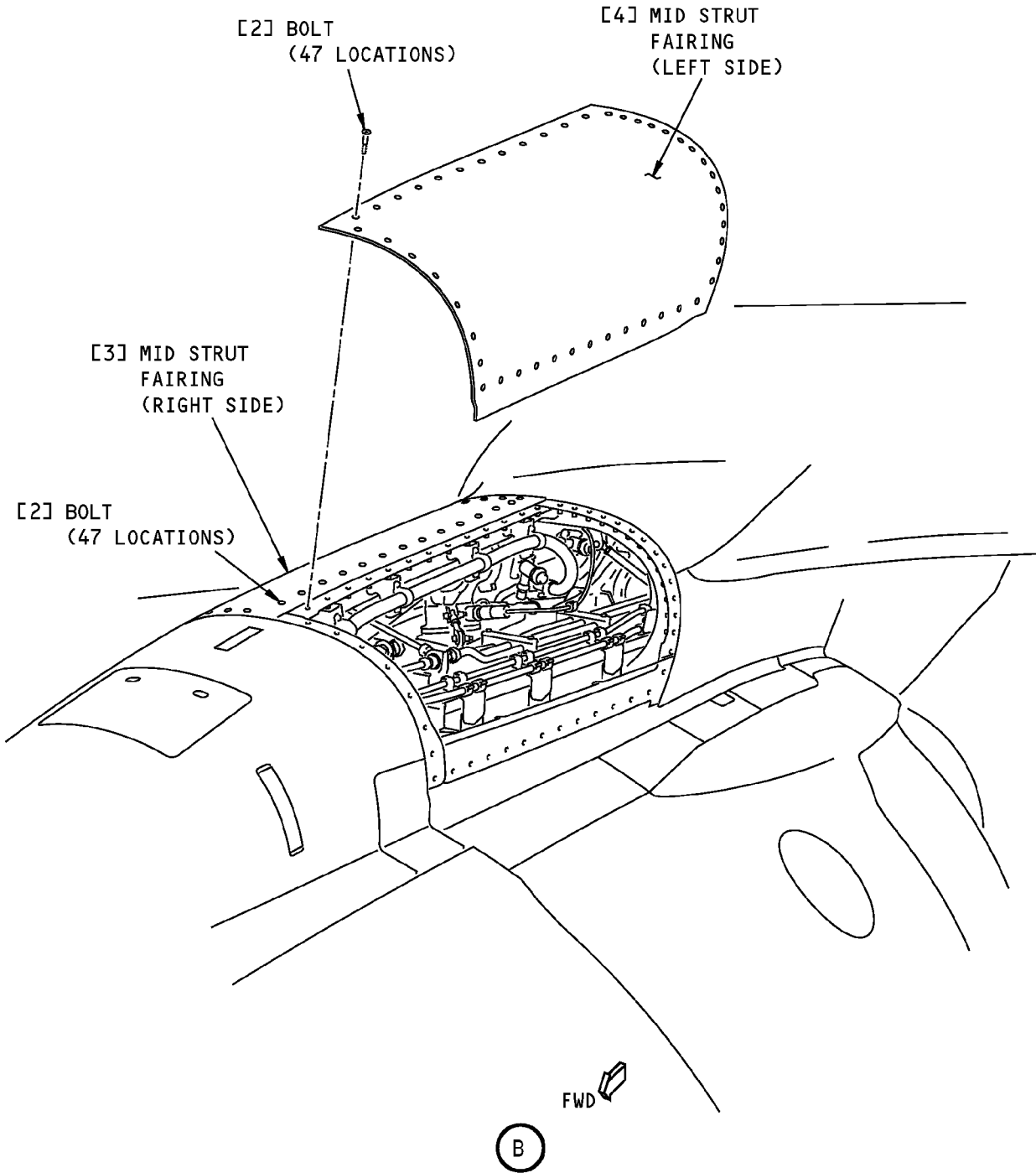
**Forward Fairing Installation
Figure 401 (Sheet 1 of 2)/54-52-01-990-801**

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**Forward Fairing Installation
Figure 401 (Sheet 2 of 2)/54-52-01-990-801**

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FORWARD FAIRINGS - INSPECTION/CHECK

1. General

A. This procedure examines the forward fairings for damage. If the fall arrest fitting stops a person who falls, you must do this procedure.

TASK 54-52-01-000-801

2. Forward Fairings Examination

A. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-52-00-200-801	Aerodynamic Smoothness Requirements (P/B 201)
54-52-01-010-801	Forward Fairing Removal (P/B 401)
54-52-01-410-801	Forward Fairing Installation (P/B 401)
71-11-02-000-801-F00	Remove the Fan Cowl Panel (Selection) (P/B 401)
71-11-02-400-801-F00	Install the Fan Cowl Panel (Selection) (P/B 401)
SRM 54-50-70	Structural Repair Manual
SRM 54-50-71	Structural Repair Manual

B. Location Zones

Zone	Area
431	Engine 1 - Forward Strut Fairing
441	Engine 2 - Forward Strut Fairing

C. Access Panels

Number	Name/Location
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2
431AT	Forward Strut Fairing, Thumbnail Fairing, Strut 1
431BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 1
431BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 1
441AT	Forward Strut Fairing, Thumbnail Fairing, Strut 2
441BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 2
441BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 2

D. Forward Fairing Examination

SUBTASK 54-52-01-040-001

(1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-52-01-010-001

(2) To remove the applicable forward fairing panel, do this task (Forward Fairing Removal, TASK 54-52-01-010-801):

Open these access panels:

Number	Name/Location
431AT	Forward Strut Fairing, Thumbnail Fairing, Strut 1
431BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 1

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(Continued)

<u>Number</u>	<u>Name/Location</u>
431BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 1
441AT	Forward Strut Fairing, Thumbnail Fairing, Strut 2
441BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 2
441BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 2

SUBTASK 54-52-01-010-003

- (3) To remove the applicable forward fairing panel, do this task (Remove the Fan Cowl Panel (Selection), TASK 71-11-02-000-801-F00):

Open these access panels:

<u>Number</u>	<u>Name/Location</u>
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2

SUBTASK 54-52-01-020-001

- (4) Examine the forward fairings.
 - (a) Examine the forward fairings for cracks in the skin, separation of the bonded layers, and damage to the paint and protective coating.
 - 1) If you find damage to the forward fairings, repair the fairing as specified: (SRM 54-50-70).
 - (b) Examine the support structure for cracks or damage.
 - 1) If you find damage to the forward fairing support structure, repair the structure as specified in this procedure: (SRM 54-50-71).

SUBTASK 54-52-01-010-002

- (5) To install the forward fairing panel, do this task (Forward Fairing Installation, TASK 54-52-01-410-801):

Close these access panels:

<u>Number</u>	<u>Name/Location</u>
431AT	Forward Strut Fairing, Thumbnail Fairing, Strut 1
431BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 1
431BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 1
441AT	Forward Strut Fairing, Thumbnail Fairing, Strut 2
441BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 2
441BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 2

SUBTASK 54-52-01-010-004

- (6) To install the applicable forward fan cowl panel, do this task (Install the Fan Cowl Panel (Selection), TASK 71-11-02-400-801-F00):

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Close these access panels:

<u>Number</u>	<u>Name/Location</u>
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2

SUBTASK 54-52-01-040-004

(7) Do this task: Aerodynamic Smoothness Requirements, TASK 54-52-00-200-801.

SUBTASK 54-52-01-040-002

(8) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— **END OF TASK** —————

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FORWARD FAIRING PRESSURE RELIEF DOOR LATCH - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

- (1) A removal of the forward fairing pressure relief door latches.
(2) An installation of the forward fairing pressure relief door latches.

TASK 54-52-02-020-801

2. Forward Fairing Pressure Relief Door Latch Removal

(Figure 401)

A. General

- (1) This task is the removal procedure for the forward fairing pressure relief door latches.
(2) Each strut forward (thumbnail) fairing has a pressure relief door with two latches.

B. References

Table with 2 columns: Reference, Title. Row 1: 54-51-01-040-801, Prepare the Strut for Maintenance Operations (P/B 201)

C. Location Zones

Table with 2 columns: Zone, Area. Rows: 430 Subzone - Engine 1, Nacelle Strut; 431 Engine 1 - Forward Strut Fairing; 440 Subzone - Engine 2, Nacelle Strut; 441 Engine 2 - Forward Strut Fairing

D. Prepare for the Removal

SUBTASK 54-52-02-040-001

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-52-02-010-001

- (2) Open the pressure relief door on the top surface by inserting a screwdriver into the tool slot and moving the screwdriver handle parallel to the latch centerline until the latch releases.

E. Pressure Relief Door Latch Removal

SUBTASK 54-52-02-020-001

- (1) Remove the bolts [1], nuts [2] and washers [3] which are located on the aft end of the pressure relief door [5].

SUBTASK 54-52-02-020-002

- (2) Remove the two forward pressure relief door latch [4] from the pressure relief door [5].

END OF TASK

TASK 54-52-02-420-801

3. Forward Fairing Pressure Relief Door Latch Installation

(Figure 401)

A. References

Table with 2 columns: Reference, Title. Row 1: 54-51-01-440-801, Put the Strut Back to its Usual Condition (P/B 201); Row 2: 54-52-02-200-801, Pressure Relief Door Latch Test (P/B 501)

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B. Consumable Materials

Reference	Description	Specification
A00436	Sealant - Fuel Tank	BMS5-45 (Supersedes BMS 5-26)

C. Location Zones

Zone	Area
430	Subzone - Engine 1, Nacelle Strut
431	Engine 1 - Forward Strut Fairing
440	Subzone - Engine 2, Nacelle Strut
441	Engine 2 - Forward Strut Fairing

D. Prepare for the Installation

SUBTASK 54-52-02-100-001

- (1) Prepare the inside surface of the door for sealing.

E. Pressure Relief Door Latch Installation

SUBTASK 54-52-02-390-002

- (1) Make sure that the area between the door latch [4] and the pressure relief door is clean.

SUBTASK 54-52-02-390-003

- (2) Apply sealant, A00436 between the door latch [4] and the door.

SUBTASK 54-52-02-390-004

- (3) Install the door latches [4]:

SUBTASK 54-52-02-420-001

- (4) Install the pressure relief door latch [4] so that the holes in the latch align with the holes in the door.

SUBTASK 54-52-02-420-002

- (5) Install the bolts [1], washers [3], and nuts [2]. .

SUBTASK 54-52-02-400-001

- (6) Tighten the nuts [1] to 12-15 pound-inches.

F. Installation Test

SUBTASK 54-52-02-200-001

- (1) Make sure the door opens and closes smoothly.

SUBTASK 54-52-02-200-002

- (2) Do this task: Pressure Relief Door Latch Test, TASK 54-52-02-200-801.

G. Put the Airplane Back to its Usual Condition

SUBTASK 54-52-02-410-001

- (1) Close the forward fairing pressure relief door.

SUBTASK 54-52-02-440-001

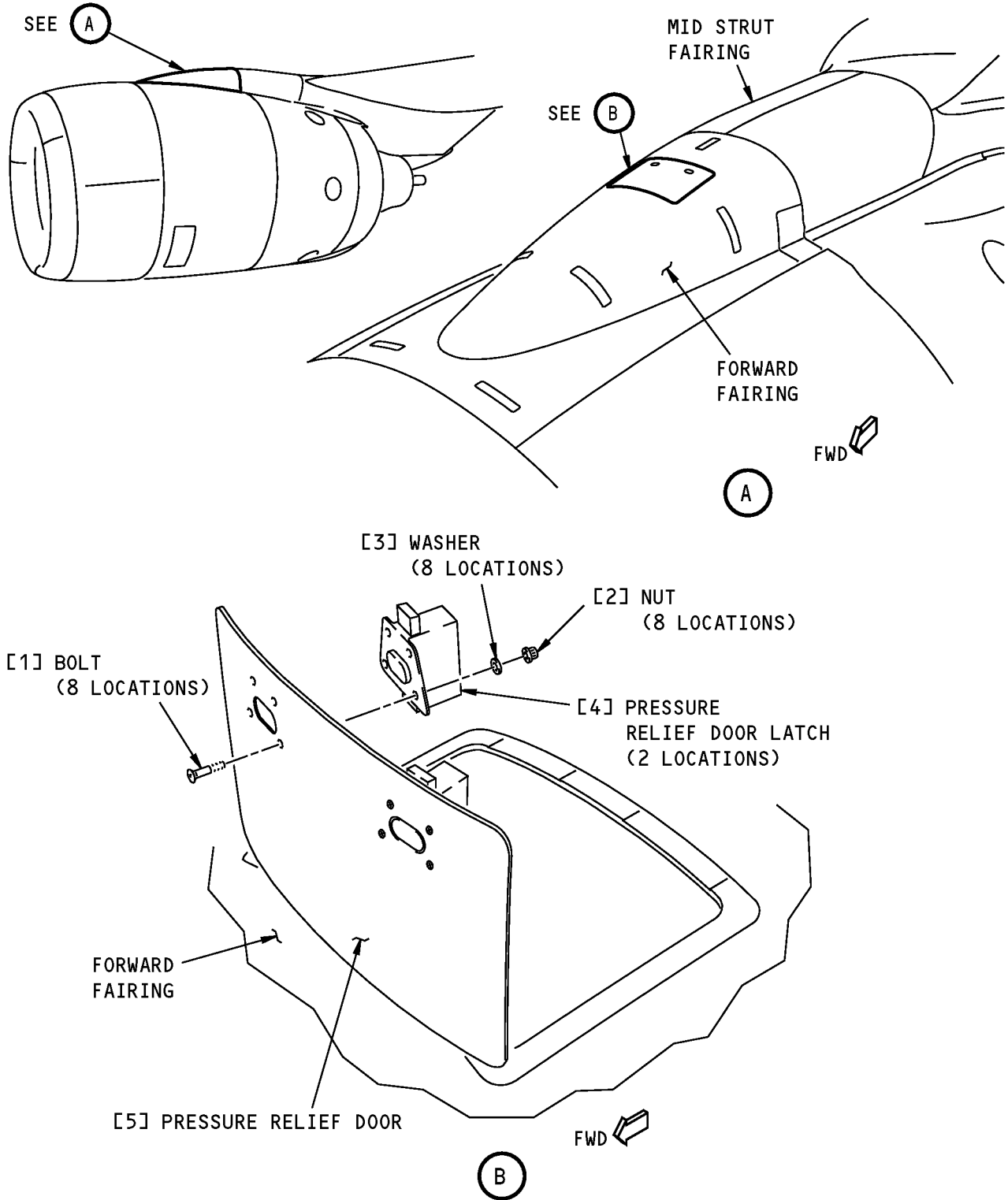
- (2) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

END OF TASK

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Forward Fairing Pressure Relief Door Latches Installation
Figure 401/54-52-02-990-801

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FORWARD FAIRING PRESSURE RELIEF DOOR - ADJUSTMENT/TEST

1. General

A. This procedure has one task:

- (1) A test of the strut pressure relief door latches.

TASK 54-52-02-200-801

2. Pressure Relief Door Latch Test

A. General

- (1) This task is a test for the strut pressure relief door latches.
- (2) Each strut has one pressure relief door, located on the strut forward fairing.
- (3) Each pressure relief door has two latches.

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-52-02-020-801	Forward Fairing Pressure Relief Door Latch Removal (P/B 401)
54-52-02-420-801	Forward Fairing Pressure Relief Door Latch Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-754	Scale - Spring, 0-150 Pounds, With Hook and Pad Adapter Kit (Part #: DG-200, Supplier: 92456, A/P Effectivity: 737-ALL) (Part #: DPPH-150, Supplier: 92456, A/P Effectivity: 737-ALL)
SPL-5	Adapter - Load Test, Pressure Relief Door Latch (Part #: B71044-28, Supplier: 81205, A/P Effectivity: 737-300, -400, -500, -600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ) (Opt Part #: B71044-10, Supplier: 81205, A/P Effectivity: 737-300, -400, -500, -600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

D. Location Zones

Zone	Area
430	Subzone - Engine 1, Nacelle Strut
431	Engine 1 - Forward Strut Fairing
440	Subzone - Engine 2, Nacelle Strut
441	Engine 2 - Forward Strut Fairing

E. Prepare for the Check

SUBTASK 54-52-02-040-002

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-52-02-010-002

- (2) Open both pressure relief door latches on the upper surface.

F. Pressure Relief Door Latch Check

SUBTASK 54-52-02-200-004

- (1) Do these steps to check each pressure relief door latch:

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- (a) Install the pressure relief door latch load test adapter, SPL-5, on the pressure relief door as shown on the usage placard, and close the latch that you will test.

CAUTION: TEST ONLY ONE LATCH AT A TIME. MAKE SURE THE OTHER LATCH IS OPEN. IF THE OTHER LATCH IS CLOSED, DAMAGE TO THE PRESSURE RELIEF DOOR CAN OCCUR.

- (b) Use a spring scale (0-150 Pounds, With Hook and Pad Adapter Kit, COM-754, to apply a force perpendicular to the pressure relief door latch, until it opens.
- (c) Make sure the latch opens immediately when you apply a force of 53-65 pounds (236-289 newtons) to the door.

SUBTASK 54-52-02-080-001

- (2) Remove the pressure relief door latch load test adapter, SPL-5 and the spring scale (0-150 Pounds, With Hook and Pad Adapter Kit, COM-754 from the pressure relief door.

SUBTASK 54-52-02-200-005

- (3) Do the steps again to test the other latch.

SUBTASK 54-52-02-400-002

- (4) If the latch is defective, replace the latch. These are the tasks:
- Forward Fairing Pressure Relief Door Latch Removal, TASK 54-52-02-020-801,
 - Forward Fairing Pressure Relief Door Latch Installation, TASK 54-52-02-420-801

G. Put the Airplane Back to its Usual Condition.

SUBTASK 54-52-02-410-002

- (1) Make sure you close the pressure relief door.

SUBTASK 54-52-02-440-002

- (2) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— **END OF TASK** —————

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WING JUNCTION FAIRINGS - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

- (1) The removal of the wing junction fairings.
- (2) The installation of the wing junction fairings.

TASK 54-52-03-010-801

2. Wing Junction Fairing Removal

(Figure 401, Figure 402)

A. General

- (1) This procedure contains the removal of the wing junction fairings.
- (2) Each strut has these wing junction fairings:
 - (a) An inboard and an outboard overwing fairing.
 - (b) An inboard and an outboard underwing fairing.

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)

C. Location Zones

Zone	Area
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Access Panels

Number	Name/Location
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
431DL	Forward Strut Fairing, Left Underwing Fairing, Strut 1
431DR	Forward Strut Fairing, Right Underwing Fairing, Strut 1
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2
441DL	Forward Strut Fairing, Left Underwing Fairing, Strut 2
441DR	Forward Strut Fairing, Right Underwing Fairing, Strut 2

E. Prepare for the Removal

SUBTASK 54-52-03-040-002

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

F. Procedure

SUBTASK 54-52-03-020-009

- (1) Do these steps to remove the outboard overwing fairing:
 - (a) Remove the bolts [2] that attach the applicable fairings [1] to the strut and do this step:

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Open the applicable access panels:

<u>Number</u>	<u>Name/Location</u>
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2

- (b) Remove the bolt [3] that attaches the bonding jumper.
- (c) Remove the outboard overwing fairing [1].

SUBTASK 54-52-03-020-010

(2) Do these steps to remove the outboard underwing fairing:

- (a) Remove the bolts [2] that attach the applicable fairings [4] to the strut and do this step:

Open the applicable access panels:

<u>Number</u>	<u>Name/Location</u>
431DL	Forward Strut Fairing, Left Underwing Fairing, Strut 1
441DR	Forward Strut Fairing, Right Underwing Fairing, Strut 2

- (b) Remove the outboard underwing fairing [4].

SUBTASK 54-52-03-020-001

(3) Do these steps to remove the inboard overwing fairing:

- (a) Remove the bolts [2] that attach the applicable fairings [11] to the strut and do this step:

Open the applicable access panels:

<u>Number</u>	<u>Name/Location</u>
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2

- (b) Remove the bolt [3] that attaches the bonding jumper.
- (c) Remove the inboard overwing fairing [11].

SUBTASK 54-52-03-020-003

(4) Do these steps to remove the inboard underwing fairing:

- (a) Remove the bolts [2] that attach the applicable fairings [12] to the strut and do this step:

Open the applicable access panels:

<u>Number</u>	<u>Name/Location</u>
431DR	Forward Strut Fairing, Right Underwing Fairing, Strut 1
441DL	Forward Strut Fairing, Left Underwing Fairing, Strut 2

- (b) Remove the inboard underwing fairing [12].

————— **END OF TASK** —————

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TASK 54-52-03-410-801

3. Wing Junction Fairing Installation

(Figure 401, Figure 402)

A. General

- (1) This procedure contains the installation of the wing junction fairings.
- (2) Each strut has these wing junction fairings:
 - (a) An inboard and an outboard overwing fairing.
 - (b) An inboard and an outboard underwing fairing.

B. References

Reference	Title
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)

C. Location Zones

Zone	Area
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Access Panels

Number	Name/Location
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
431DL	Forward Strut Fairing, Left Underwing Fairing, Strut 1
431DR	Forward Strut Fairing, Right Underwing Fairing, Strut 1
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2
441DL	Forward Strut Fairing, Left Underwing Fairing, Strut 2
441DR	Forward Strut Fairing, Right Underwing Fairing, Strut 2

E. Procedure

SUBTASK 54-52-03-020-011

- (1) Do these steps to install the outboard overwing fairing:

CAUTION: BONDING GROMMETS HELP PREVENT POSSIBLE DAMAGE DUE TO LIGHTNING. IF THE BONDING GROMMETS ARE NOT INSTALLED, DAMAGE TO THE AIRPLANE MAY OCCUR.

- (a) Make sure that all of the fastener holes have bonding (metallic) grommets.
 - 1) If the grommets are missing, replace them.
- (b) Install the 1 bolt [3] that attaches the bonding jumper.
- (c) Install the 17 bolts [2] that attach the applicable fairing [1] to the strut and do this step:

Close the applicable access panels:

Number	Name/Location
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2

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SUBTASK 54-52-03-020-012

(2) Do these steps to install the outboard underwing fairing:

CAUTION: BONDING GROMMETS HELP PREVENT POSSIBLE DAMAGE DUE TO LIGHTNING. IF THE BONDING GROMMETS ARE NOT INSTALLED, DAMAGE TO THE AIRPLANE MAY OCCUR.

- (a) Make sure that all of the fastener holes have bonding (metallic) grommets.
 - 1) If the grommets are missing, replace them.
- (b) Install the 26 bolts [2] that attach the applicable fairings [4] to the strut and do this step:
Close the applicable access panels:

<u>Number</u>	<u>Name/Location</u>
431DL	Forward Strut Fairing, Left Underwing Fairing, Strut 1
441DR	Forward Strut Fairing, Right Underwing Fairing, Strut 2

SUBTASK 54-52-03-020-005

(3) Do these steps to install the inboard overwing fairing:

CAUTION: BONDING GROMMETS HELP PREVENT POSSIBLE DAMAGE DUE TO LIGHTNING. IF THE BONDING GROMMETS ARE NOT INSTALLED, DAMAGE TO THE AIRPLANE MAY OCCUR.

- (a) Make sure that all of the fastener holes have bonding (metallic) grommets.
 - 1) If the grommets are missing, replace them.
- (b) Install the bolt [3] that attaches the bonding jumper.
- (c) Install the bolts [2] that attach the applicable fairings [11] to the strut and do this step:
Close these access panels:

<u>Number</u>	<u>Name/Location</u>
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2

SUBTASK 54-52-03-020-007

(4) Do these steps to install the inboard underwing fairing:

CAUTION: BONDING GROMMETS HELP PREVENT POSSIBLE DAMAGE DUE TO LIGHTNING. IF THE BONDING GROMMETS ARE NOT INSTALLED, DAMAGE TO THE AIRPLANE MAY OCCUR.

- (a) Make sure that all of the fastener holes have bonding (metallic) grommets.
 - 1) If the grommets are missing, replace them.
- (b) Install the bolts [2] that attach the applicable fairings [12] to the strut and do this step:

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Close these access panels:

<u>Number</u>	<u>Name/Location</u>
431DR	Forward Strut Fairing, Right Underwing Fairing, Strut 1
441DL	Forward Strut Fairing, Left Underwing Fairing, Strut 2

F. Put the Airplane Back to Its Usual Condition

SUBTASK 54-52-03-440-003

(1) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

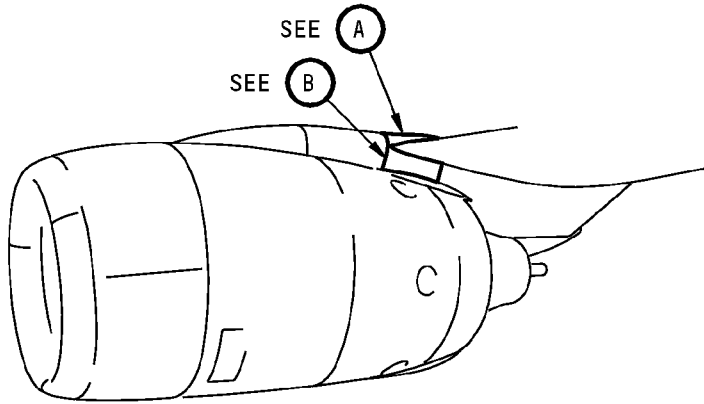
————— **END OF TASK** —————

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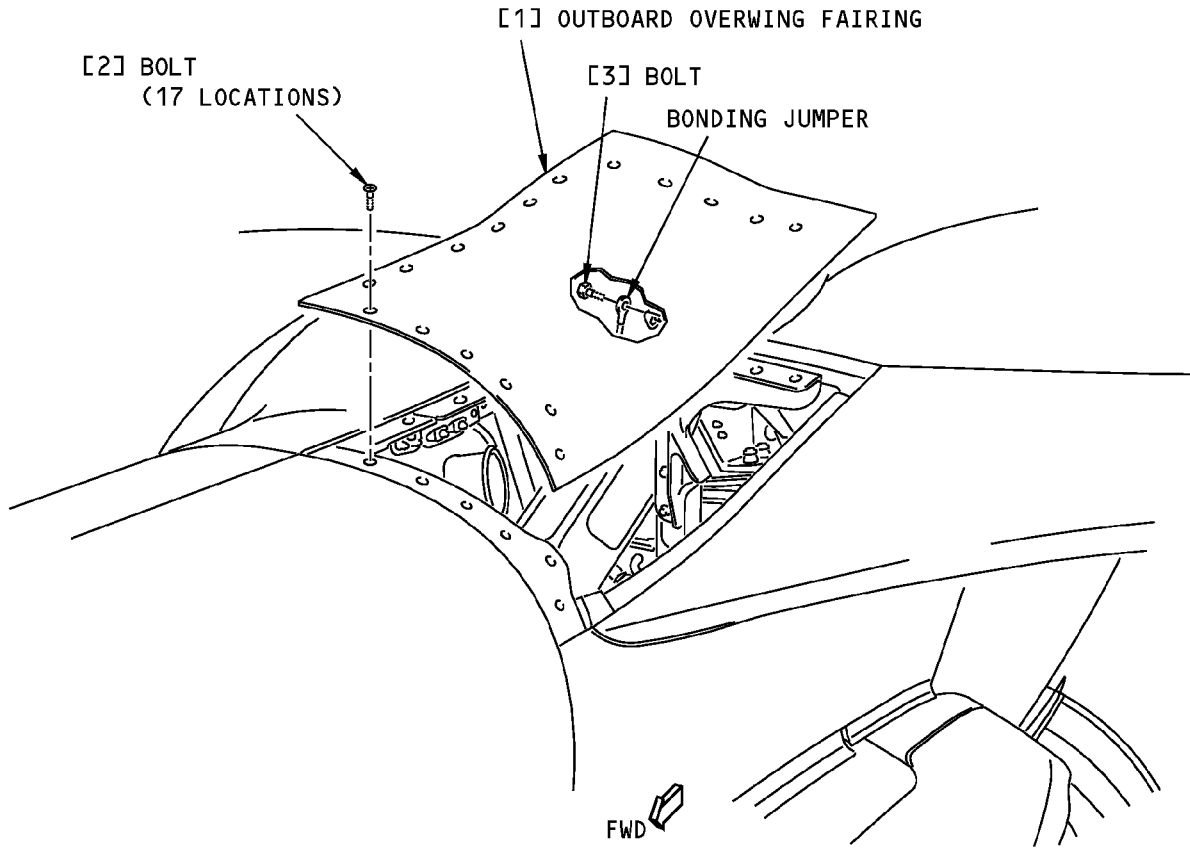
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**LEFT STRUT
(RIGHT STRUT IS OPPOSITE)**



OUTBOARD OVERWING FAIRING

A

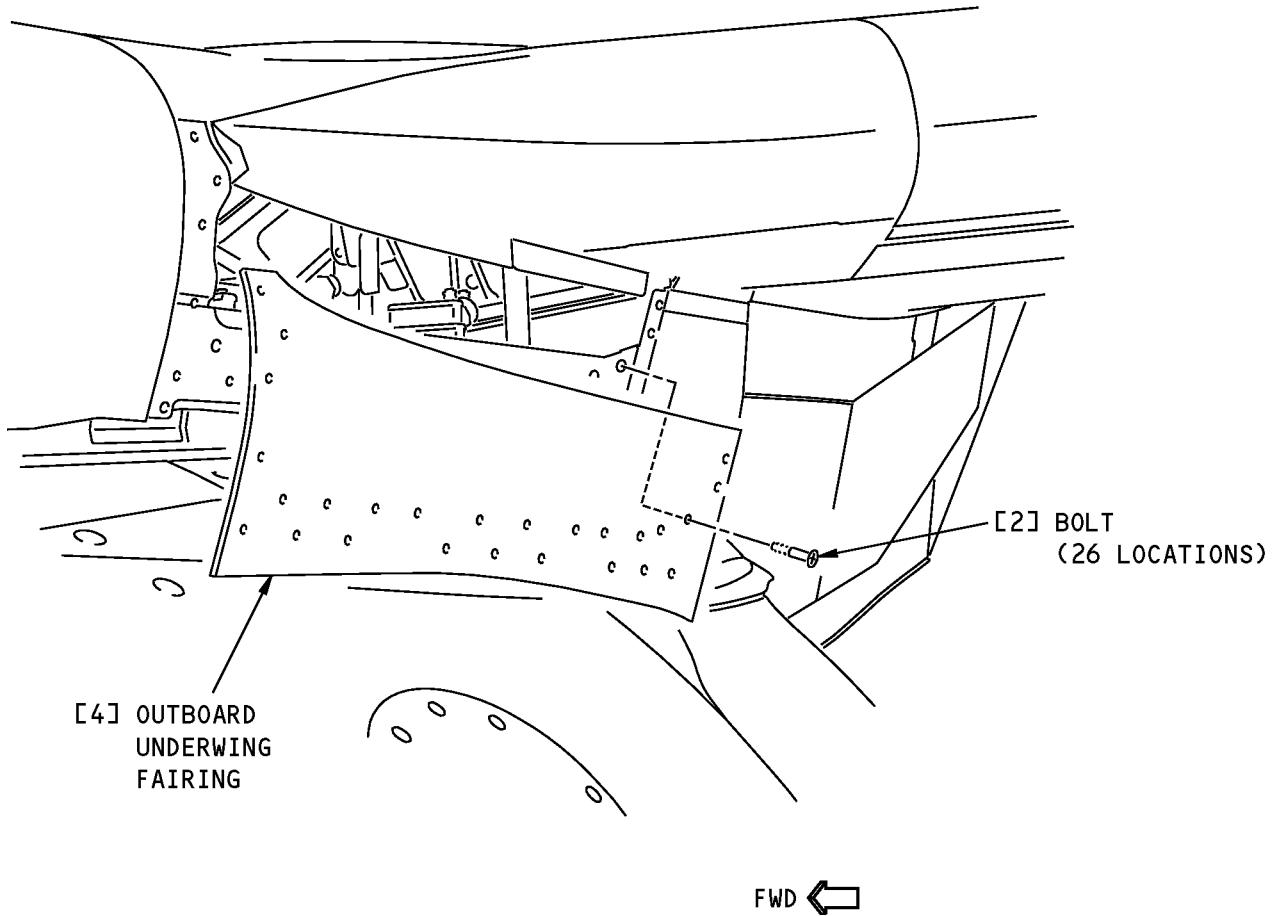
**Outboard Wing Junction Fairings
Figure 401 (Sheet 1 of 2)/54-52-03-990-801**

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OUTBOARD UNDERWING FAIRING

B

**Outboard Wing Junction Fairings
Figure 401 (Sheet 2 of 2)/54-52-03-990-801**

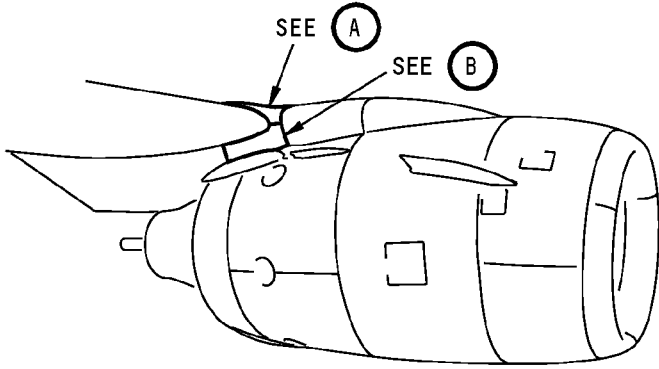
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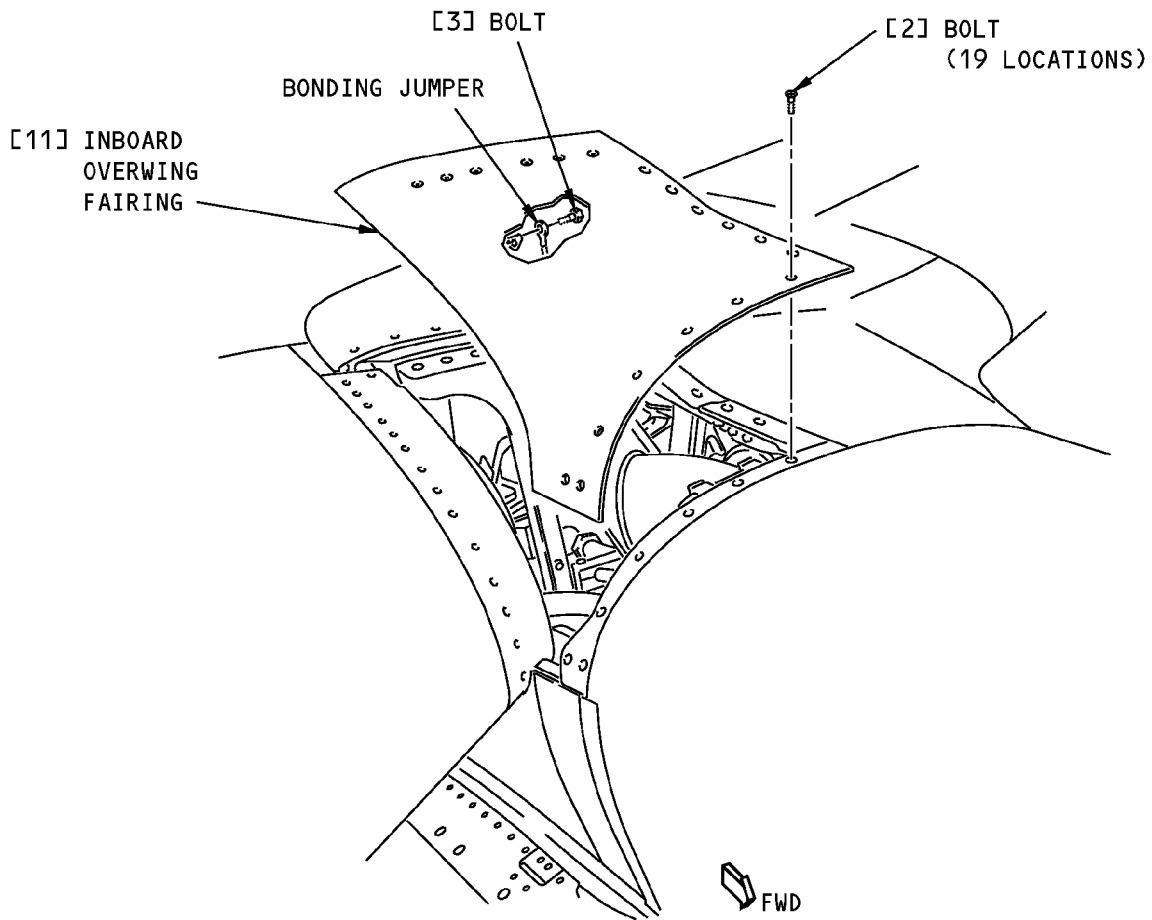
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**LEFT STRUT
(RIGHT STRUT IS OPPOSITE)**



INBOARD OVERWING FAIRING

A

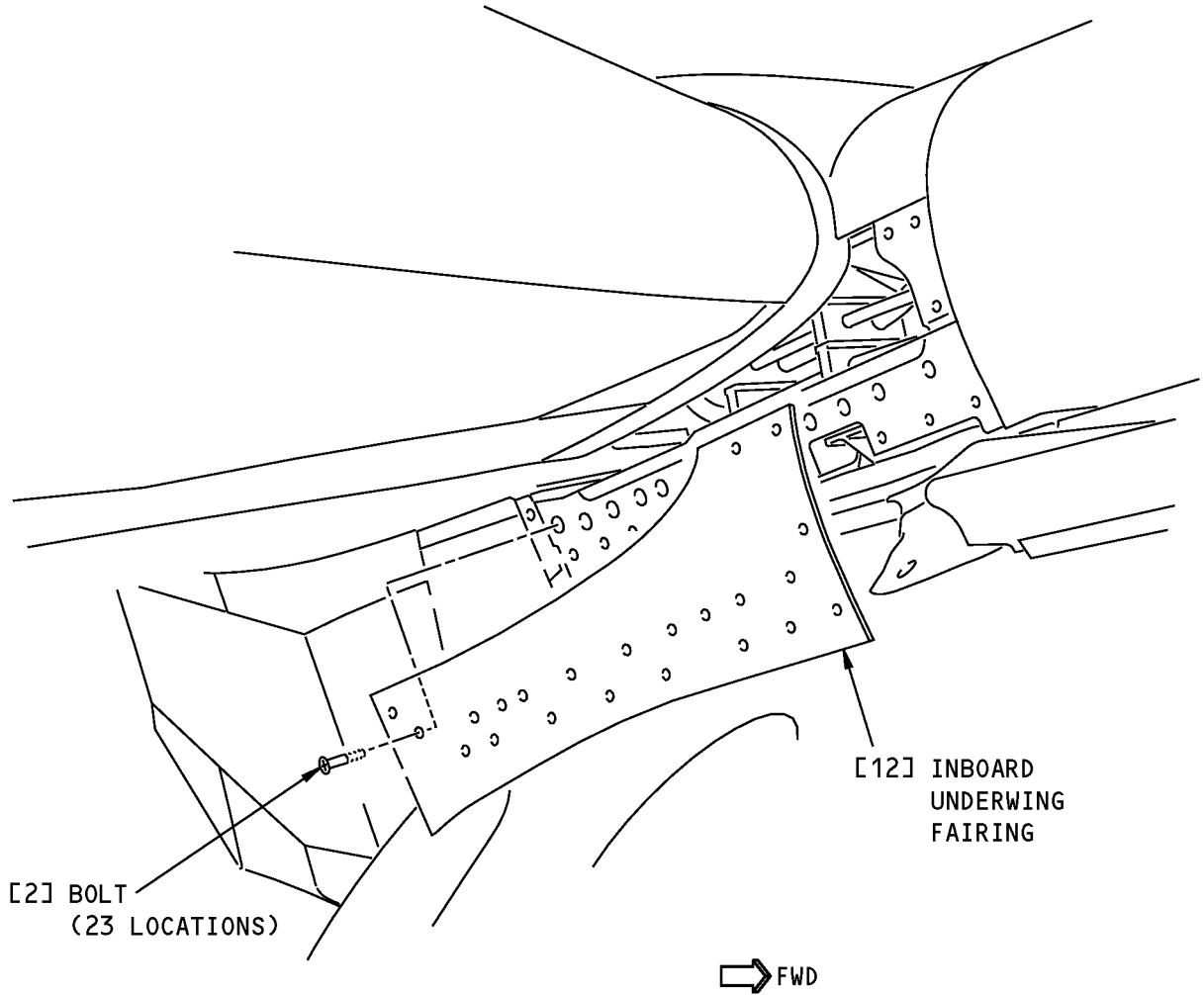
**Inboard Wing Junction Fairings
Figure 402 (Sheet 1 of 2)/54-52-03-990-802**

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INBOARD UNDERWING FAIRING

(A)

**Inboard Wing Junction Fairings
Figure 402 (Sheet 2 of 2)/54-52-03-990-802**

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WING JUNCTION FAIRINGS - INSPECTION/CHECK

1. General

A. This procedure examines the wing junction fairings.

TASK 54-52-03-000-801

2. Wing Junction Fairing Examination

A. References

Reference	Title
20-40-11-760-801	Electrical Bonding (P/B 201)
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-52-00-200-801	Aerodynamic Smoothness Requirements (P/B 201)
54-52-03-010-801	Wing Junction Fairing Removal (P/B 401)
54-52-03-410-801	Wing Junction Fairing Installation (P/B 401)
SRM 54-50-70	Structural Repair Manual
SRM 54-50-71	Structural Repair Manual

B. Location Zones

Zone	Area
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

C. Access Panels

Number	Name/Location
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
431DL	Forward Strut Fairing, Left Underwing Fairing, Strut 1
431DR	Forward Strut Fairing, Right Underwing Fairing, Strut 1
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2
441DL	Forward Strut Fairing, Left Underwing Fairing, Strut 2
441DR	Forward Strut Fairing, Right Underwing Fairing, Strut 2

D. Prepare for the Examination

SUBTASK 54-52-03-040-001

(1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-52-03-010-001

(2) Do this task Wing Junction Fairing Removal, TASK 54-52-03-010-801:

Open these access panels:

Number	Name/Location
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
431DL	Forward Strut Fairing, Left Underwing Fairing, Strut 1
431DR	Forward Strut Fairing, Right Underwing Fairing, Strut 1

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<u>Number</u>	<u>Name/Location</u>
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2
441DL	Forward Strut Fairing, Left Underwing Fairing, Strut 2
441DR	Forward Strut Fairing, Right Underwing Fairing, Strut 2

E. Wing Junction Fairing Examination

SUBTASK 54-52-03-210-001

- (1) Do these steps to examine the wing junction fairings:
 - (a) Examine the wing junction fairings for cracks in the skin, separation of the bonded layers, and damage to the paint and protective coating.
 - (b) Examine the grounding jumpers on the overwing fairings for damage.
 - 1) If you find damage to the wing junction fairings, repair the fairings as specified in this procedure: (SRM 54-50-70).
 - (c) Examine the support structure of the wing junction fairings for cracks or damage.
 - 1) If you find damage to the wing junction fairing support structure, repair the support structure as specified in this procedure: (SRM 54-50-71).

SUBTASK 54-52-03-410-001

- (2) Do this task Wing Junction Fairing Installation, TASK 54-52-03-410-801:

Close these access panels:

<u>Number</u>	<u>Name/Location</u>
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
431DL	Forward Strut Fairing, Left Underwing Fairing, Strut 1
431DR	Forward Strut Fairing, Right Underwing Fairing, Strut 1
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2
441DL	Forward Strut Fairing, Left Underwing Fairing, Strut 2
441DR	Forward Strut Fairing, Right Underwing Fairing, Strut 2

SUBTASK 54-52-03-210-002

- (3) Do a check of the resistance of the grounding jumpers on the overwing fairings as specified in this procedure: (TASK 20-40-11-760-801).

SUBTASK 54-52-03-210-003

- (4) To make sure the wing junction fairings are in the aerodynamic smoothness limits, do this task: Aerodynamic Smoothness Requirements, TASK 54-52-00-200-801.

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F. Put the Airplane Back to its Usual Condition

SUBTASK 54-52-03-440-001

(1) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— **END OF TASK** —————

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AFT FAIRING - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

- (1) A removal of the aft fairing without the engine.
- (2) A removal of the aft fairing without the primary nozzle and the primary plug.
- (3) An installation of the aft fairing without the engine.
- (4) An installation of the aft fairing without the primary nozzle and the primary plug.

TASK 54-52-04-010-801

2. Aft Fairing Removal (Engine Removed)

(Figure 401, Figure 402, Figure 403)

A. References

Reference	Title
27-51-00-040-801	Trailing Edge Flap System Deactivation (P/B 201)
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-52-06-010-801	Aft Fairing Access Panel Removal (P/B 401)
71-00-02-000-801-F00	Power Plant Removal (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1561	Jack - Hydraulic (Part #: J20009-38, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ) (Opt Part #: J20009-78, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-1584	Adapter Assembly - Telescoping Hydraulic (Part #: J20009-68, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-2019	Tool - Removal/Installation, CFM56-7 Engine Strut Aft Fairing (Part #: C54008-1, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ) (Part #: C54008-28, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Access Panels

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1

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Number	Name/Location
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

E. Prepare for the Removal

SUBTASK 54-52-04-040-003

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-52-04-040-004

- (2) Do this task: Trailing Edge Flap System Deactivation, TASK 27-51-00-040-801.

SUBTASK 54-52-04-010-004

- (3) Do this task: Power Plant Removal, TASK 71-00-02-000-801-F00.

SUBTASK 54-52-04-010-003

- (4) To remove the applicable aft fairing access panel, do this task Aft Fairing Access Panel Removal, TASK 54-52-06-010-801:

Open these access panels:

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

SUBTASK 54-52-04-480-001

- (5) Put the rubber assembly, which is part of the tool, SPL-2019, under the pipe as shown in (Figure 401).

SUBTASK 54-52-04-010-005

- (6) Put the installation tool, SPL-2019 on the jack hydraulic jack, SPL-1561 with its telescoping hydraulic adapter assembly, SPL-1584 or on a ground based boom hoist, C78026.
 - (a) Put the aft fairing installation tool, on the underside of the aft fairing.
 - (b) Make sure the weight of the aft fairing is held by the tool.

F. Aft Fairing Removal

SUBTASK 54-52-04-020-001

- (1) Do these steps to disconnect the strut drain hose [3] from the aft fairing drain tube: (Figure 402)
 - (a) Disconnect the strut drain hose [3] from the aft fairing drain tube [4] at the forward end of the strut drain tube [4].
 - (b) Put a cap on the strut drain hose [3] and on the strut drain tube [4].

SUBTASK 54-52-04-020-002

- (2) Do these steps to structurally disconnect the forward end of the aft fairing from the strut: (Figure 403)
 - (a) Remove the bolts [47], the washers [42], the stiffener [46], and the nuts [44] to remove the stiffener.

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- (b) Remove the bolts [43], washers [41] and [42], and the nuts [44] to remove the lateral restraint fittings [40] and [45].

SUBTASK 54-52-04-000-001

- (3) Do these steps to structurally disconnect the aft fairing [1] or [2] from the bottom of the wing: (Figure 403)
 - (a) At the trailing edge of the aft fairing, remove the bolt [11], nut [14], washer [13], and washer [12].
 - (b) Remove the bolts [15], nuts [18], washers [16], and washers [17] from the nacelle support fitting. fitting.
 - (c) Remove the bolt [19], nut [22], washer [21], and washer [20] from the fittings on each side of the aft fairing.
 - (d) Remove the bolt [23], nut [28], washer [27], washer [24], bushing [26], and bushing [25] from the fitting on the aft fairing.

SUBTASK 54-52-04-580-001

- (4) Carefully lower the aft fairing [1] or [2] with the aft fairing installation tool, SPL-2019.

END OF TASK

TASK 54-52-04-000-803

3. Aft Fairing Removal (Without Primary Nozzle and Plug)

Figure 404 Figure 405 Figure 406

A. References

Reference	Title
27-51-00-040-801	Trailing Edge Flap System Deactivation (P/B 201)
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-52-06-010-801	Aft Fairing Access Panel Removal (P/B 401)
78-11-01-000-801-F00	Primary Nozzle Assembly Removal (P/B 401)
78-11-02-000-801-F00	Primary Plug Assembly Removal (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1561	Jack - Hydraulic (Part #: J20009-38, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ) (Opt Part #: J20009-78, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-1584	Adapter Assembly - Telescoping Hydraulic (Part #: J20009-68, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-2019	Tool - Removal/Installation, CFM56-7 Engine Strut Aft Fairing (Part #: C54008-1, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ) (Part #: C54008-28, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

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C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Access Panels

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

E. Prepare for the Removal

SUBTASK 54-52-04-040-008

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-52-04-040-009

- (2) Do this task: Trailing Edge Flap System Deactivation, TASK 27-51-00-040-801.

SUBTASK 54-52-04-020-005

- (3) Do this task: Primary Nozzle Assembly Removal, TASK 78-11-01-000-801-F00.

SUBTASK 54-52-04-020-006

- (4) Do this task: Primary Plug Assembly Removal, TASK 78-11-02-000-801-F00.

SUBTASK 54-52-04-010-006

- (5) To remove the applicable aft fairing access panel, do this task Aft Fairing Access Panel Removal, TASK 54-52-06-010-801:

Open these access panels:

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

SUBTASK 54-52-04-000-002

- (6) Put the rubber assembly, which is part of the tool, SPL-2019, under the pipe as shown in Figure 404.

SUBTASK 54-52-04-000-003

- (7) Put the installation tool, SPL-2019 on the jack hydraulic jack, SPL-1561 with its telescoping hydraulic adapter assembly, SPL-1584 or on a ground based boom hoist, C78026.
 - (a) Put the aft fairing installation tool, on the underside of the aft fairing.
 - (b) Make sure the weight of the aft fairing is held by the tool.

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F. Aft Fairing Removal

SUBTASK 54-52-04-000-004

- (1) Do these steps to disconnect the strut drain hose [3] from the aft fairing drain tube: Figure 405)
 - (a) Disconnect the strut drain hose [3] from the aft fairing drain tube [4] at the forward end of the strut drain tube [4].
 - (b) Put a cap on the strut drain hose [3] and on the strut drain tube [4].

SUBTASK 54-52-04-000-005

- (2) Do these steps to structurally disconnect the forward end of the aft fairing from the strut: Figure 406
 - (a) Remove the bolts [47], the washers [42], the stiffener [46], and the nuts [44] to remove the stiffener.
 - (b) Remove the bolts [43], washers [41] and [42], and the nuts [44] to remove the lateral restraint fittings [40] and [45].

SUBTASK 54-52-04-000-006

- (3) Do these steps to structurally disconnect the aft fairing [1] or [2] from the bottom of the wing: Figure 406)
 - (a) At the trailing edge of the aft fairing, remove the bolt [11], nut [14], washer [13], and washer [12].
 - (b) Remove the bolts [15], nuts [18], washers [16], and washers [17] from the nacelle support fitting. fitting.
 - (c) Remove the bolt [19], nut [22], washer [21], and washer [20] from the fittings on each side of the aft fairing.
 - (d) Remove the bolt [23], nut [28], washer [27], washer [24], bushing [26], and bushing [25] from the fitting on the aft fairing.

SUBTASK 54-52-04-000-007

- (4) Carefully lower the aft fairing [1] or [2] with the aft fairing installation tool, SPL-2019.

————— END OF TASK —————

TASK 54-52-04-410-801

4. Aft Fairing Installation (Engine Removed)

(Figure 401, Figure 402, Figure 403)

A. References

Reference	Title
20-10-51-400-804	Flareless Tubing Assembly Installation (P/B 401)
27-51-00-440-801	Trailing Edge Flap System Reactivation (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-52-06-410-801	Aft Fairing Access Panel Installation (P/B 401)
71-00-02-400-801-F00	Power Plant Installation (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

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Reference	Description
SPL-1561	Jack - Hydraulic (Part #: J20009-38, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ) (Opt Part #: J20009-78, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-1584	Adapter Assembly - Telescoping Hydraulic (Part #: J20009-68, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-2019	Tool - Removal/Installation, CFM56-7 Engine Strut Aft Fairing (Part #: C54008-1, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ) (Part #: C54008-28, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

C. Location Zones

Zone	Area
433	Engine 1 - Strut Torque Box
443	Engine 2 - Strut Torque Box

D. Access Panels

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

E. Aft Fairing Installation

SUBTASK 54-52-04-020-004

- (1) Do these steps to structurally connect the forward end of the aft fairing to the strut: (Figure 403)
 - (a) Put the forward assembly, on the underside of the strut, (Figure 401).
 - (b) Use the hydraulic jack, SPL-1561 with its telescoping hydraulic adapter assembly, SPL-1584 or the ground based boom hoist, C78026 to lift the aft fairing in its position under the wing.
 - (c) Attach the forward assembly to the aft fairing installation tool, SPL-2019.
 - (d) Turn the turnbuckles on the forward assembly to apply a preload in the forward direction.
 - (e) Install the bolts [43], the washers [41], the washers [42], and the nuts [44] to install the two lateral restraint fittings [40] and [45].
 - (f) Install the bolts [47], the washers [42], the stiffener [46], and the nuts [44].

SUBTASK 54-52-04-400-001

- (2) Do these steps to install the aft fairing [1] or [2] under the wing, (Figure 403):
 - (a) At the trailing edge of the aft fairing, install the bolt [11], nut [14], washer [12], and the washer [13].
 - (b) Install the bolts [15], washer [16], washer [17] and nuts [18] at the wing attach fitting.
 - (c) Install the bolt [19], washer [21], washer [20] and nut [22] to the fittings on each side of the aft fairing.

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HAP ALL

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- (d) Install the bolt [23], washer [27], washer [24], bushing [26], bushing [25] and nut [28] to the fittings on each side of the aft fairing.

SUBTASK 54-52-04-080-002

- (3) Remove the aft fairing installation tool, SPL-2019, the forward assembly, and the rubber assembly, (Figure 401).

SUBTASK 54-52-04-420-001

- (4) Do these steps to fasten the strut drain hose [3] to the aft fairing drain tube [4]: (Figure 402)
 - (a) Connect the aft fairing drain tube hose to the coupling at the strut aft bulkhead.
 - (b) Tighten the end fitting on the strut drain hose [3], (TASK 20-10-51-400-804).

F. Put the Airplane Back to Its Usual Condition

SUBTASK 54-52-04-410-003

- (1) To install the applicable aft fairing access panel, do this task Aft Fairing Access Panel Installation, TASK 54-52-06-410-801:

Close these access panels:

<u>Number</u>	<u>Name/Location</u>
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

SUBTASK 54-52-04-040-007

- (2) Do this task: Power Plant Installation, TASK 71-00-02-400-801-F00.

SUBTASK 54-52-04-440-003

- (3) Do this task: Trailing Edge Flap System Reactivation, TASK 27-51-00-440-801.

SUBTASK 54-52-04-440-004

- (4) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— **END OF TASK** —————

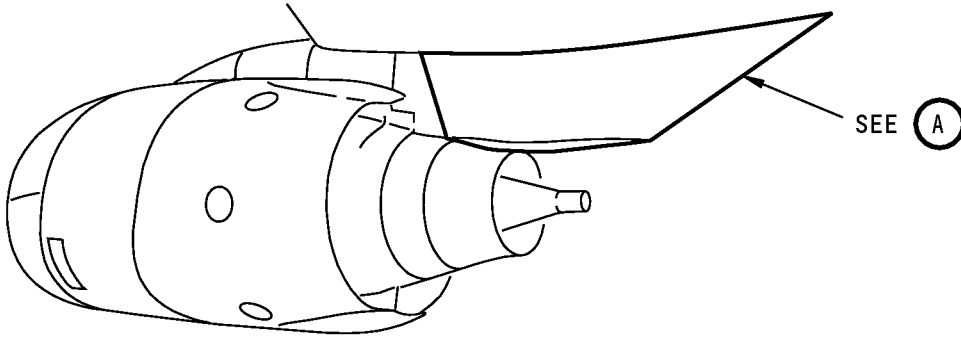
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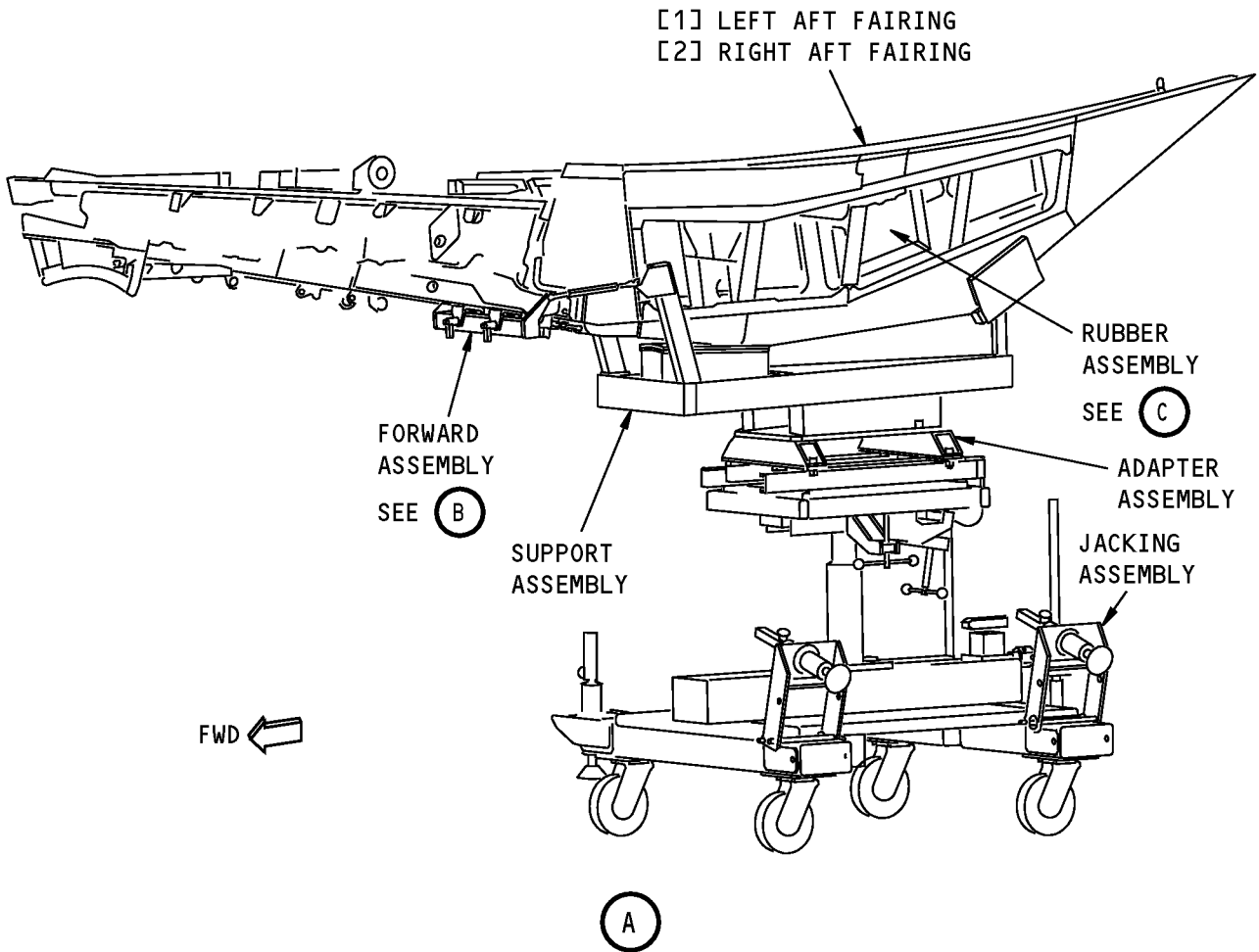
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**LEFT AFT FAIRING
(RIGHT AFT FAIRING IS OPPOSITE)**



**Aft Fairing Installation Tool
Figure 401 (Sheet 1 of 2)/54-52-04-990-801**

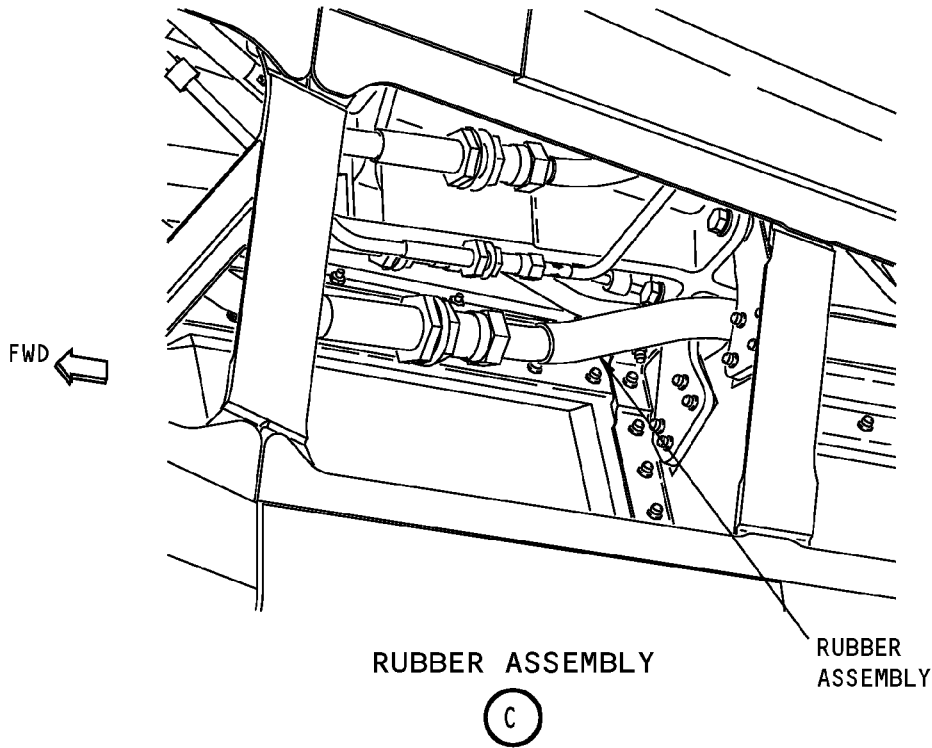
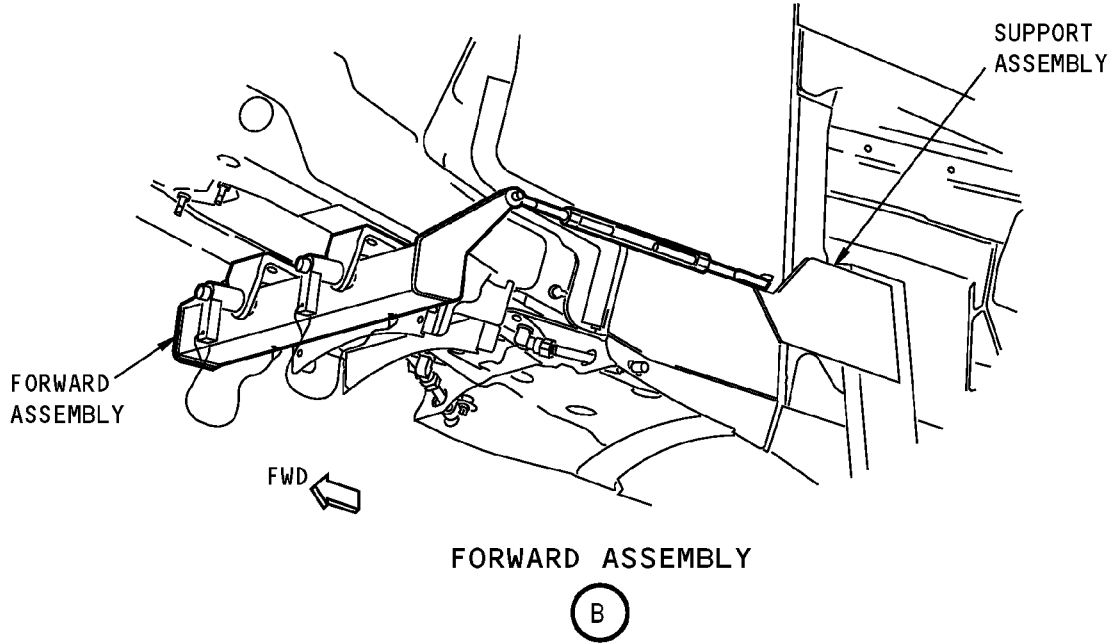
EFFECTIVITY
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**Aft Fairing Installation Tool
Figure 401 (Sheet 2 of 2)/54-52-04-990-801**

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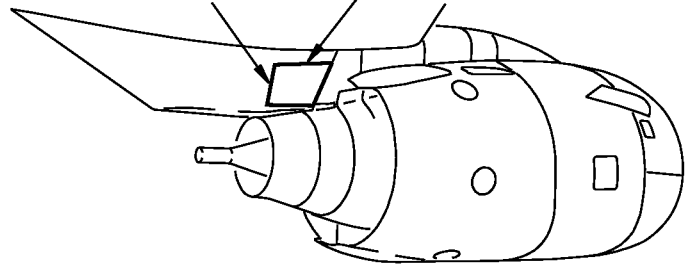
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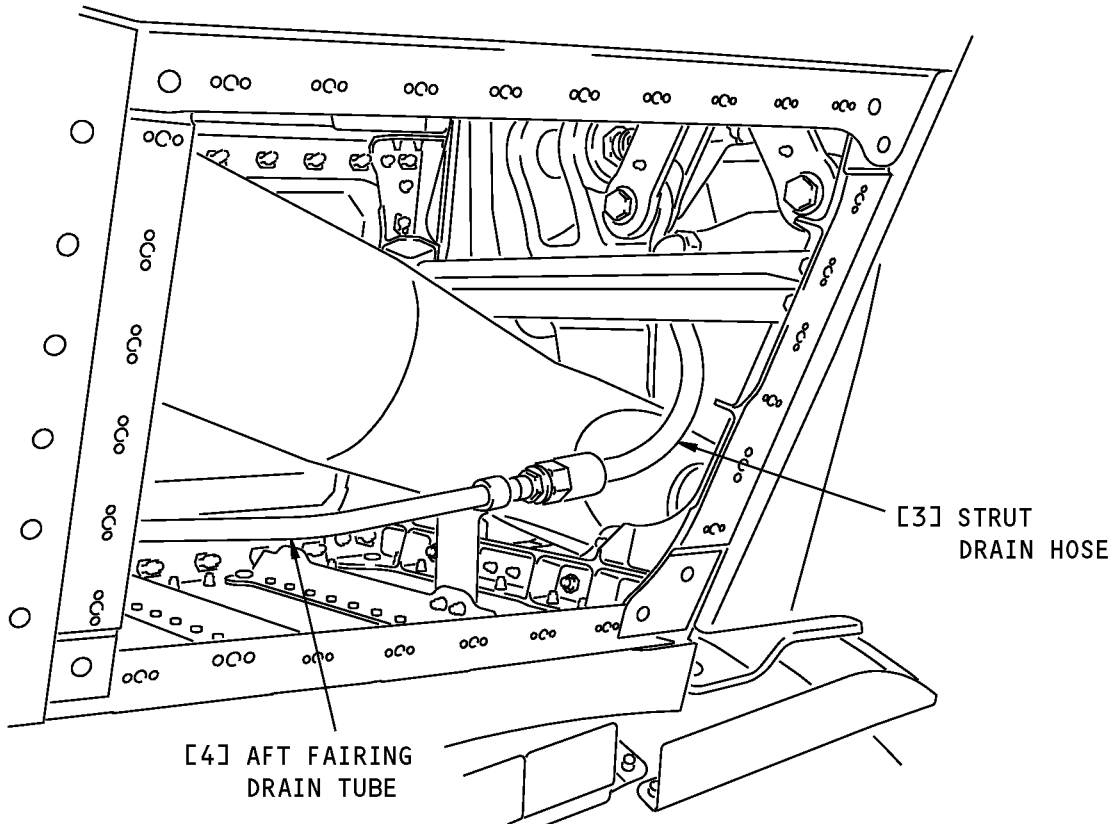
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AFT FAIRING FORWARD
INBOARD ACCESS PANEL

SEE (A)



LEFT STRUT
(RIGHT STRUT IS OPPOSITE)



➔ FWD

(A)

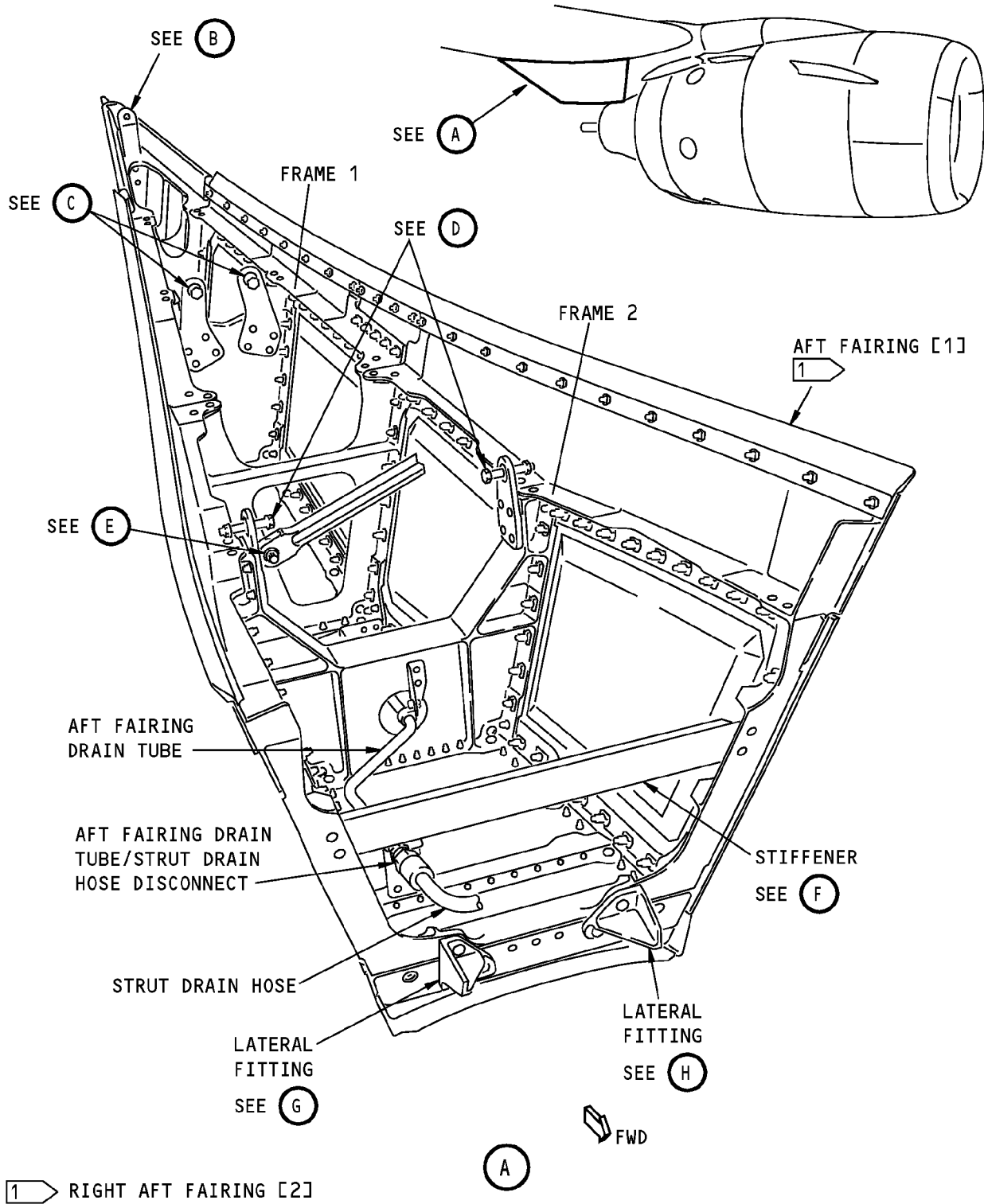
Aft Fairing Drain Tube Disconnect
Figure 402/54-52-04-990-802

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Aft Fairing Installation
Figure 403 (Sheet 1 of 3)/54-52-04-990-803

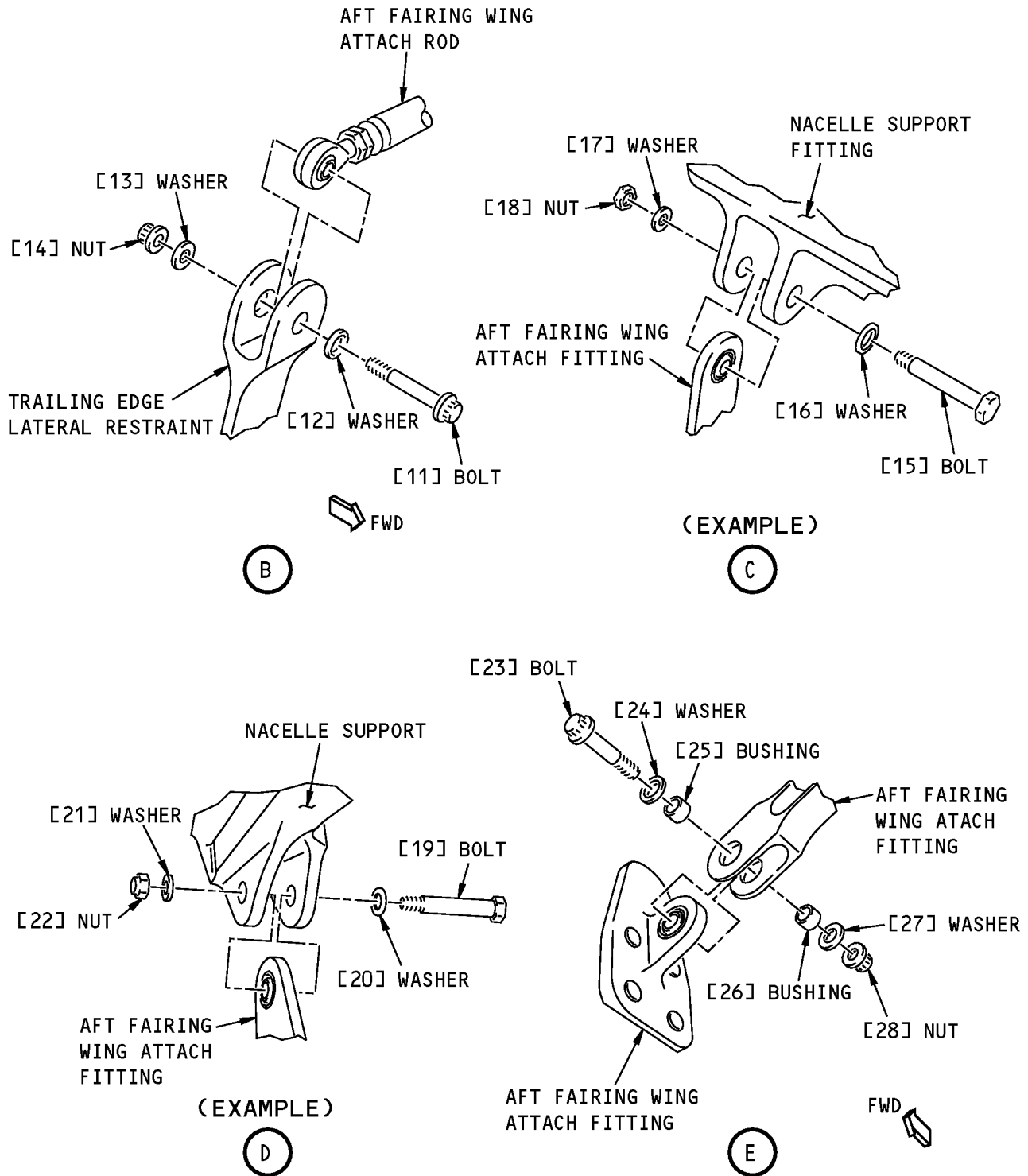
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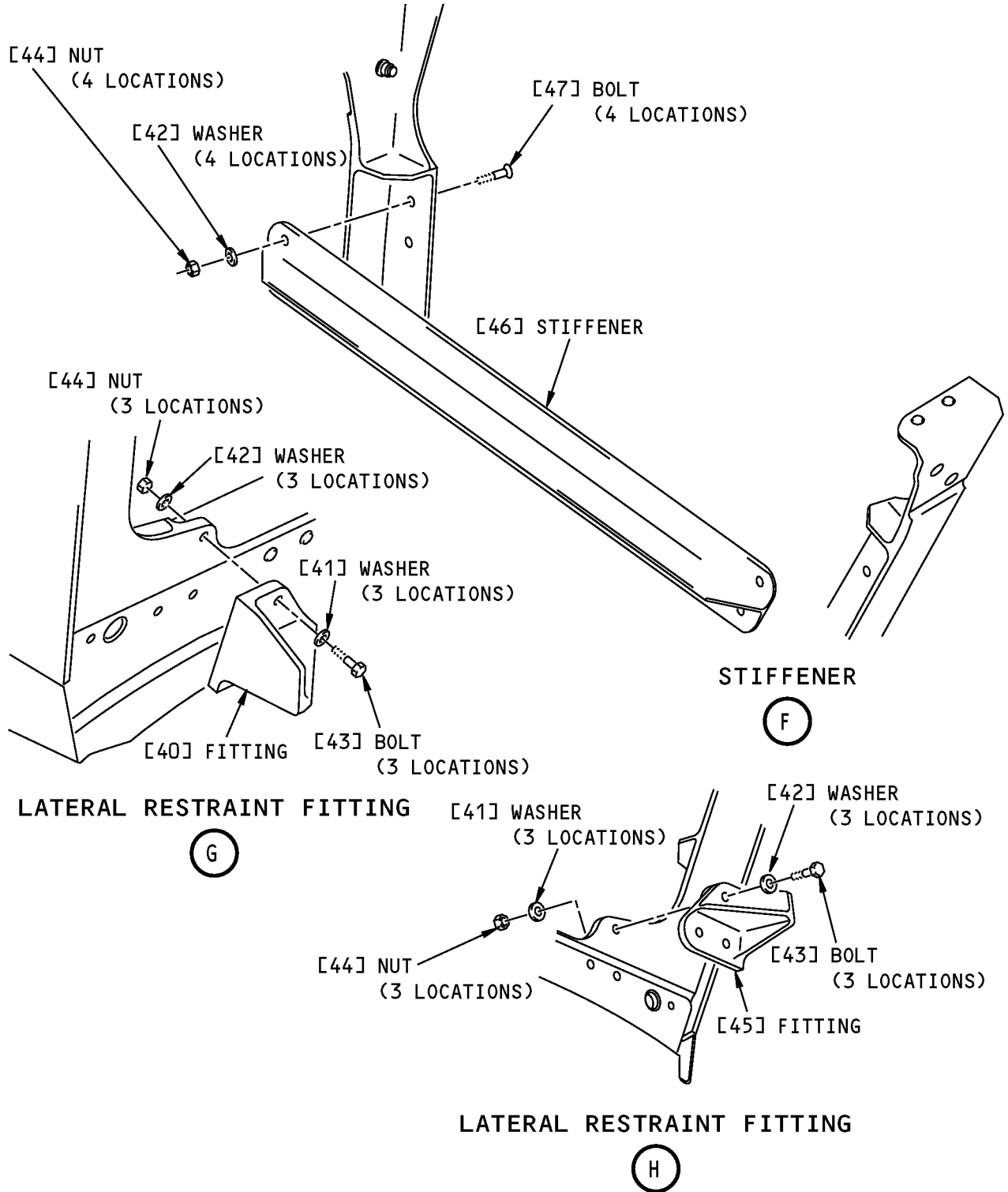
Aft Fairing Installation
Figure 403 (Sheet 2 of 3)/54-52-04-990-803

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**Aft Fairing Installation
Figure 403 (Sheet 3 of 3)/54-52-04-990-803**

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TASK 54-52-04-400-801

5. Aft Fairing Installation (Without Primary Plug and Nozzle)

Figure 404 Figure 405 Figure 406

A. References

Reference	Title
20-10-51-400-804	Flareless Tubing Assembly Installation (P/B 401)
27-51-00-440-801	Trailing Edge Flap System Reactivation (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-52-06-410-801	Aft Fairing Access Panel Installation (P/B 401)
78-11-01-400-801-F00	Primary Nozzle Assembly Installation (P/B 401)
78-11-02-400-801-F00	Primary Plug Assembly Installation (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1561	Jack - Hydraulic (Part #: J20009-38, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ) (Opt Part #: J20009-78, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-1584	Adapter Assembly - Telescoping Hydraulic (Part #: J20009-68, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-2019	Tool - Removal/Installation, CFM56-7 Engine Strut Aft Fairing (Part #: C54008-1, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ) (Part #: C54008-28, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

C. Location Zones

Zone	Area
433	Engine 1 - Strut Torque Box
443	Engine 2 - Strut Torque Box

D. Access Panels

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

E. Aft Fairing Installation

SUBTASK 54-52-04-400-002

- (1) Do these steps to structurally connect the forward end of the aft fairing to the strut: (Figure 406)
 - (a) Put the forward assembly, on the underside of the strut, Figure 404).

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- (b) Use the hydraulic jack, SPL-1561 with its telescoping hydraulic adapter assembly, SPL-1584 or the ground based boom hoist, C78026 to lift the aft fairing in its position under the wing.
- (c) Attach the forward assembly to the aft fairing installation tool, SPL-2019.
- (d) Turn the turnbuckles on the forward assembly to apply a preload in the forward direction.
- (e) Install the bolts [43], the washers [41], the washers [42], and the nuts [44] to install the two lateral restraint fittings [40] and [45].
- (f) Install the bolts [47], the washers [42], the stiffener [46], and the nuts [44].

SUBTASK 54-52-04-400-003

- (2) Do these steps to install the aft fairing [1] or [2] under the wing, Figure 406:
 - (a) At the trailing edge of the aft fairing, install the bolt [11], nut [14], washer [12], and the washer [13].
 - (b) Install the bolts [15], washer [16], washer [17] and nuts [18] at the wing attach fitting.
 - (c) Install the bolt [19], washer [21], washer [20] and nut [22] to the fittings on each side of the aft fairing.
 - (d) Install the bolt [23], washer [27], washer [24], bushing [26], bushing [25] and nut [28] to the fittings on each side of the aft fairing.

SUBTASK 54-52-04-400-004

- (3) Remove the aft fairing installation tool, SPL-2019, the forward assembly, and the rubber assembly, Figure 404.

SUBTASK 54-52-04-400-005

- (4) Do these steps to fasten the strut drain hose [3] to the aft fairing drain tube [4]: Figure 405
 - (a) Connect the aft fairing drain tube hose to the coupling at the strut aft bulkhead.
 - (b) Tighten the end fitting on the strut drain hose [3], (TASK 20-10-51-400-804).

F. Put the Airplane Back to Its Usual Condition

SUBTASK 54-52-04-400-006

- (1) To install the applicable aft fairing access panel, do this task Aft Fairing Access Panel Installation, TASK 54-52-06-410-801:

Close these access panels:

<u>Number</u>	<u>Name/Location</u>
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

SUBTASK 54-52-04-400-007

- (2) Do this task:
Primary Nozzle Assembly Installation, TASK 78-11-01-400-801-F00.

SUBTASK 54-52-04-400-008

- (3) Do this task: Primary Plug Assembly Installation, TASK 78-11-02-400-801-F00

SUBTASK 54-52-04-440-005

- (4) Do this task: Trailing Edge Flap System Reactivation, TASK 27-51-00-440-801.

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SUBTASK 54-52-04-440-006

(5) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— **END OF TASK** —————

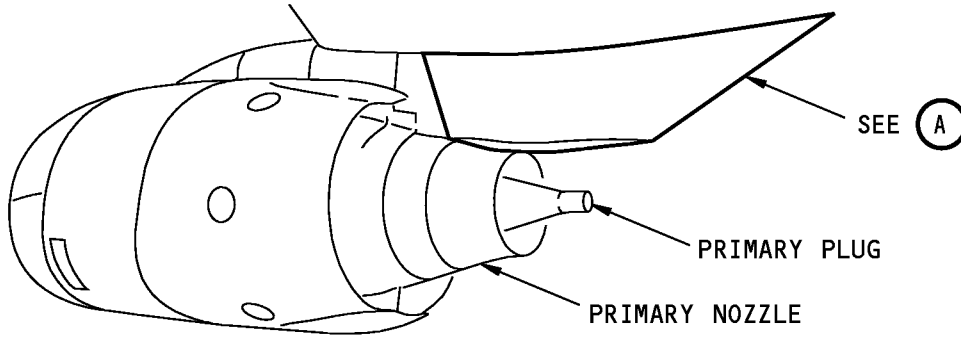
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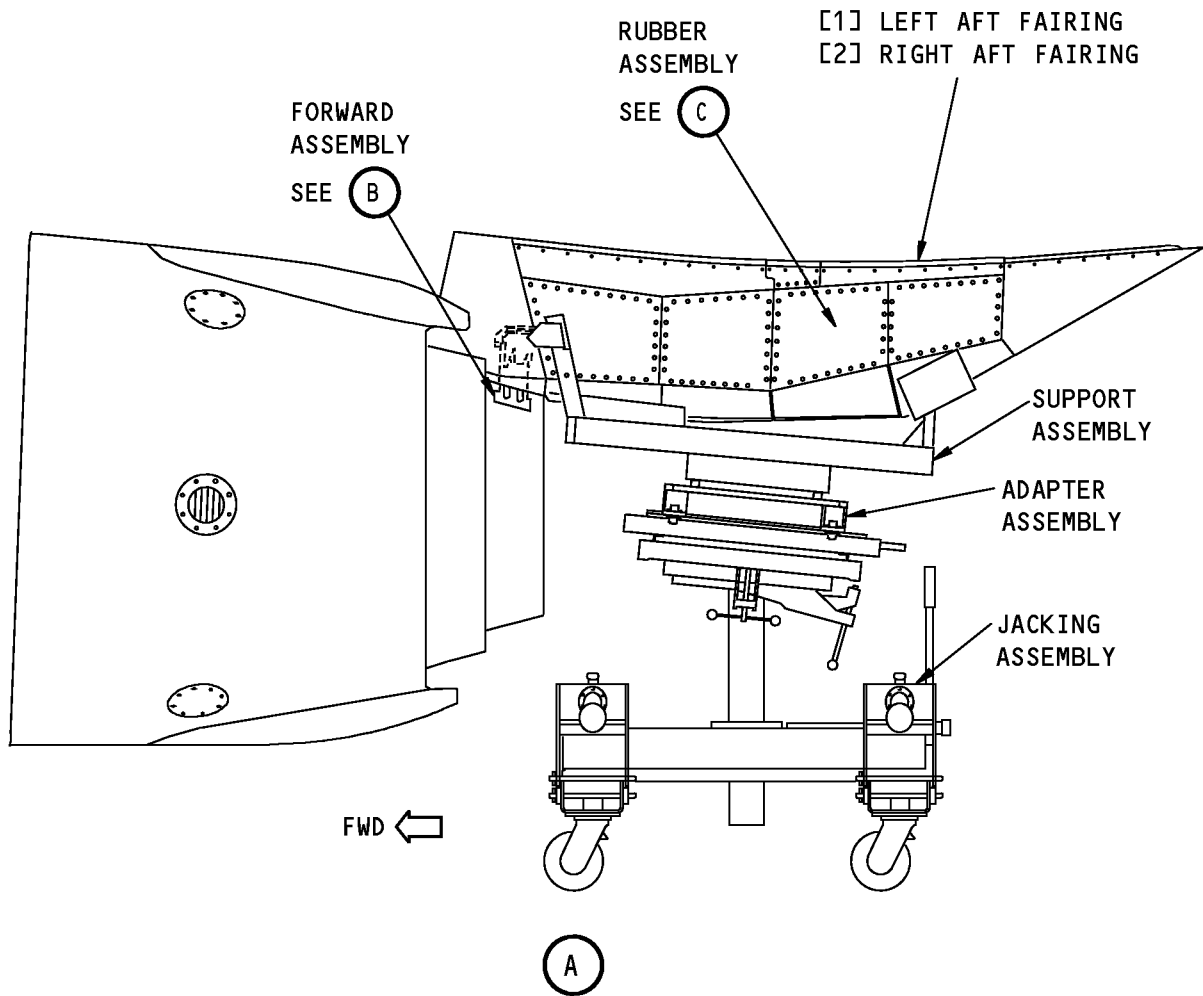
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**LEFT AFT FAIRING
(RIGHT AFT FAIRING IS OPPOSITE)**



**Aft Fairing Installation Tool (Without Primary Plug and Nozzle)
Figure 404 (Sheet 1 of 2)/54-52-04-990-804**

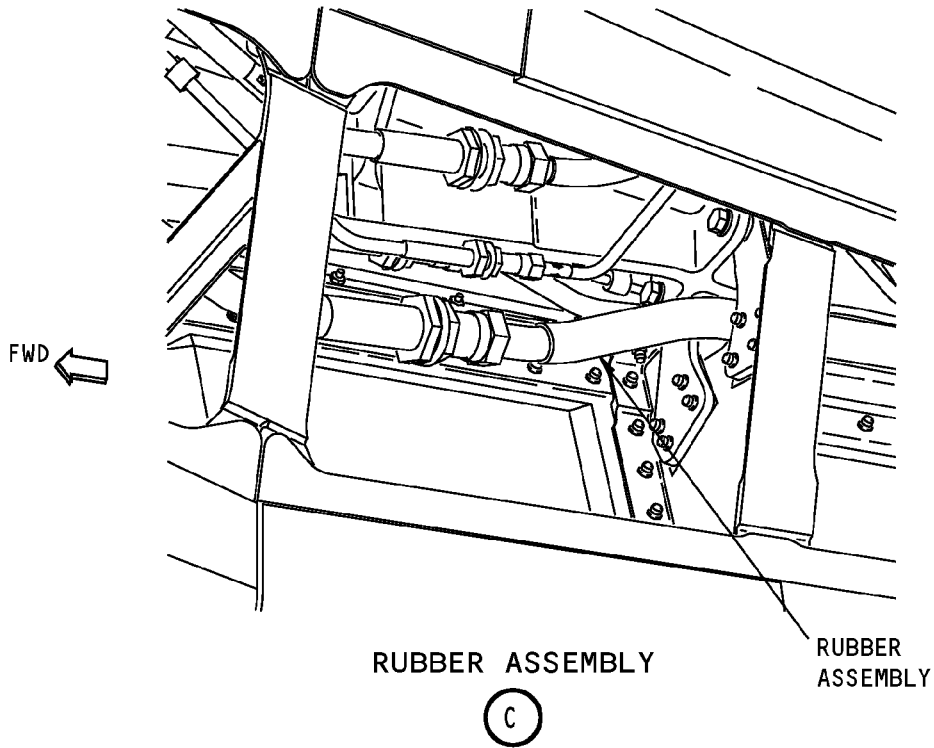
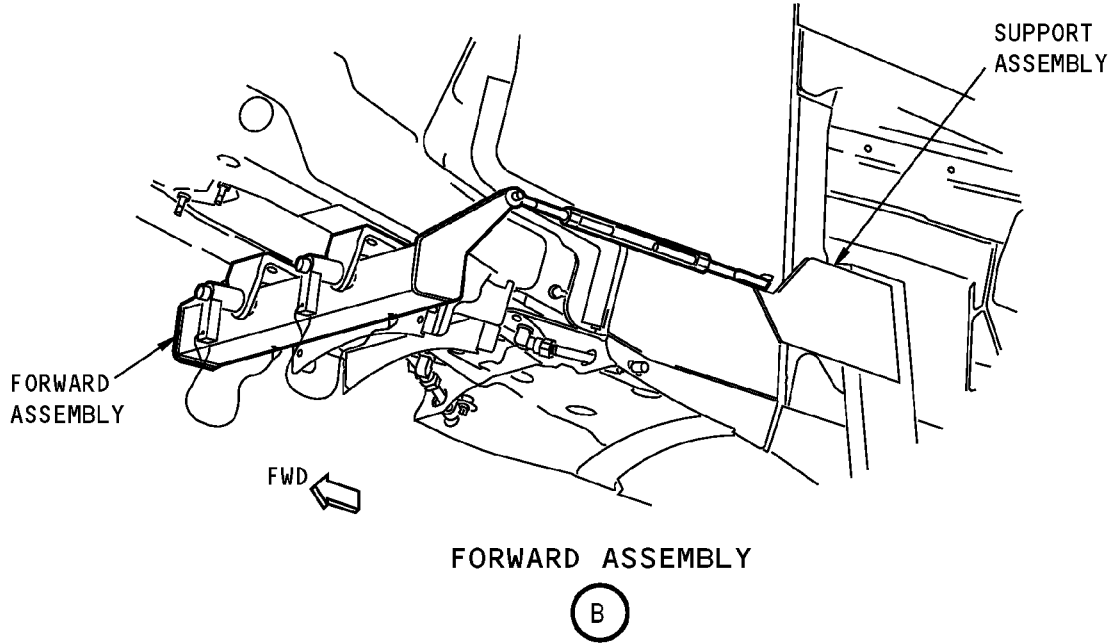
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**Aft Fairing Installation Tool (Without Primary Plug and Nozzle)
Figure 404 (Sheet 2 of 2)/54-52-04-990-804**

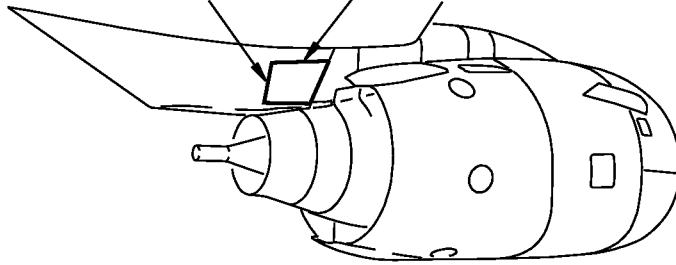
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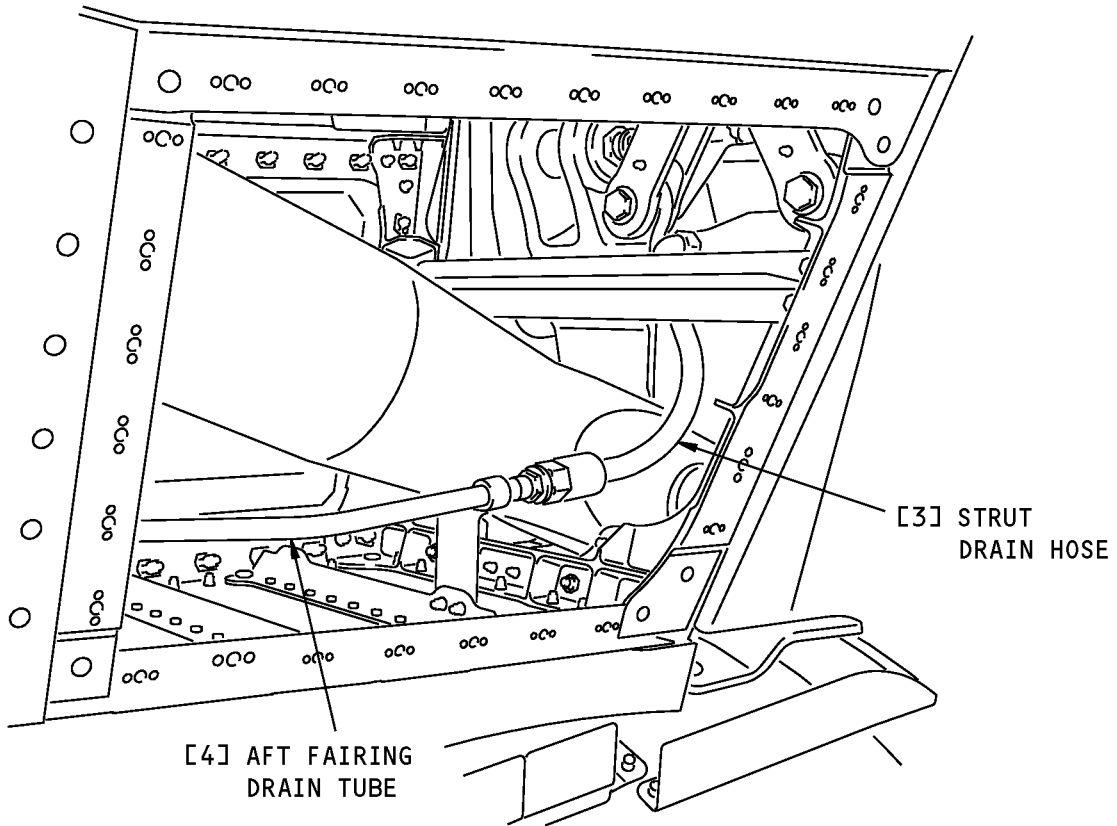
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AFT FAIRING FORWARD
INBOARD ACCESS PANEL

SEE (A)



LEFT STRUT
(RIGHT STRUT IS OPPOSITE)



➔ FWD

(A)

Aft Fairing Drain Tube Disconnect
Figure 405/54-52-04-990-805

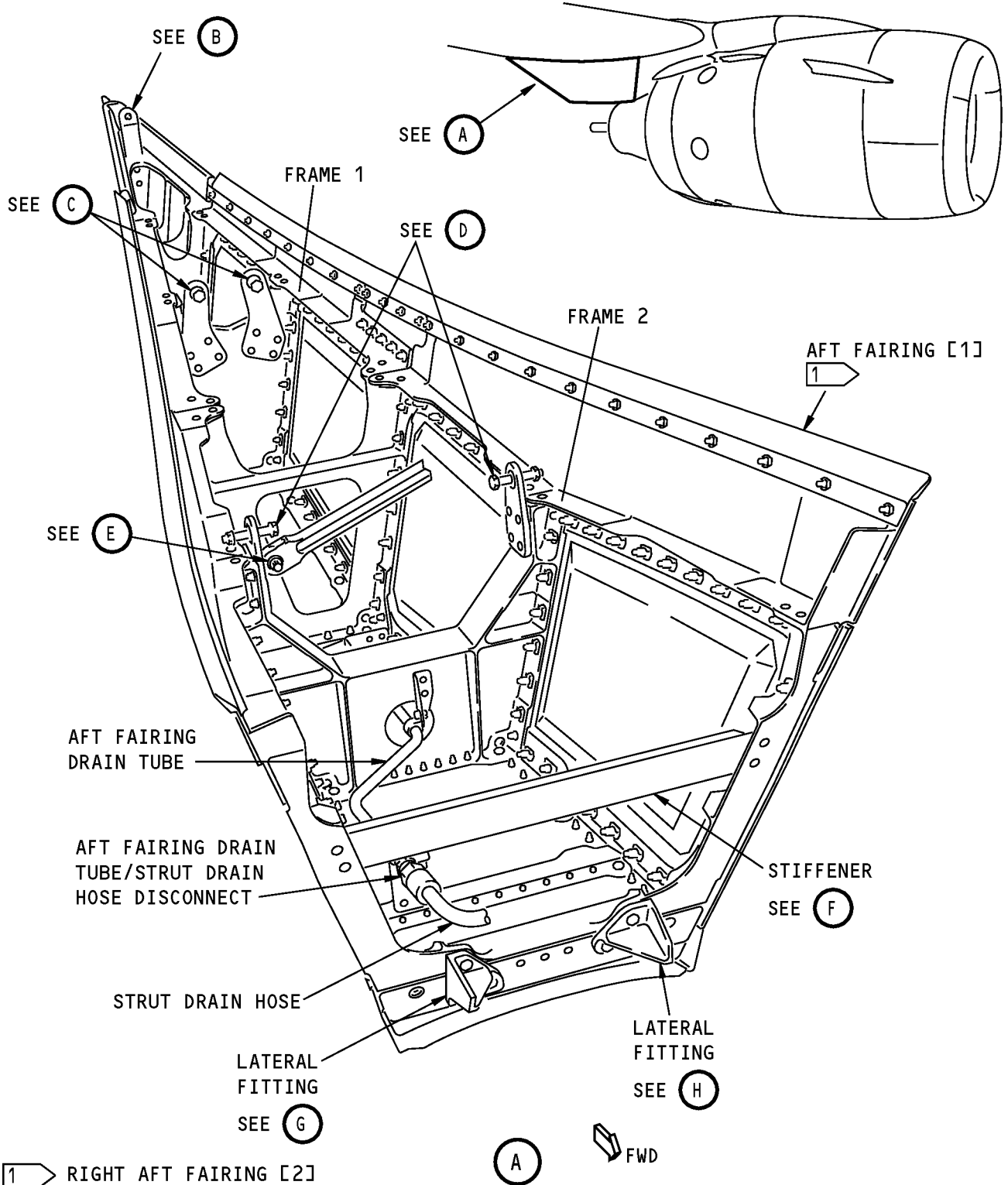
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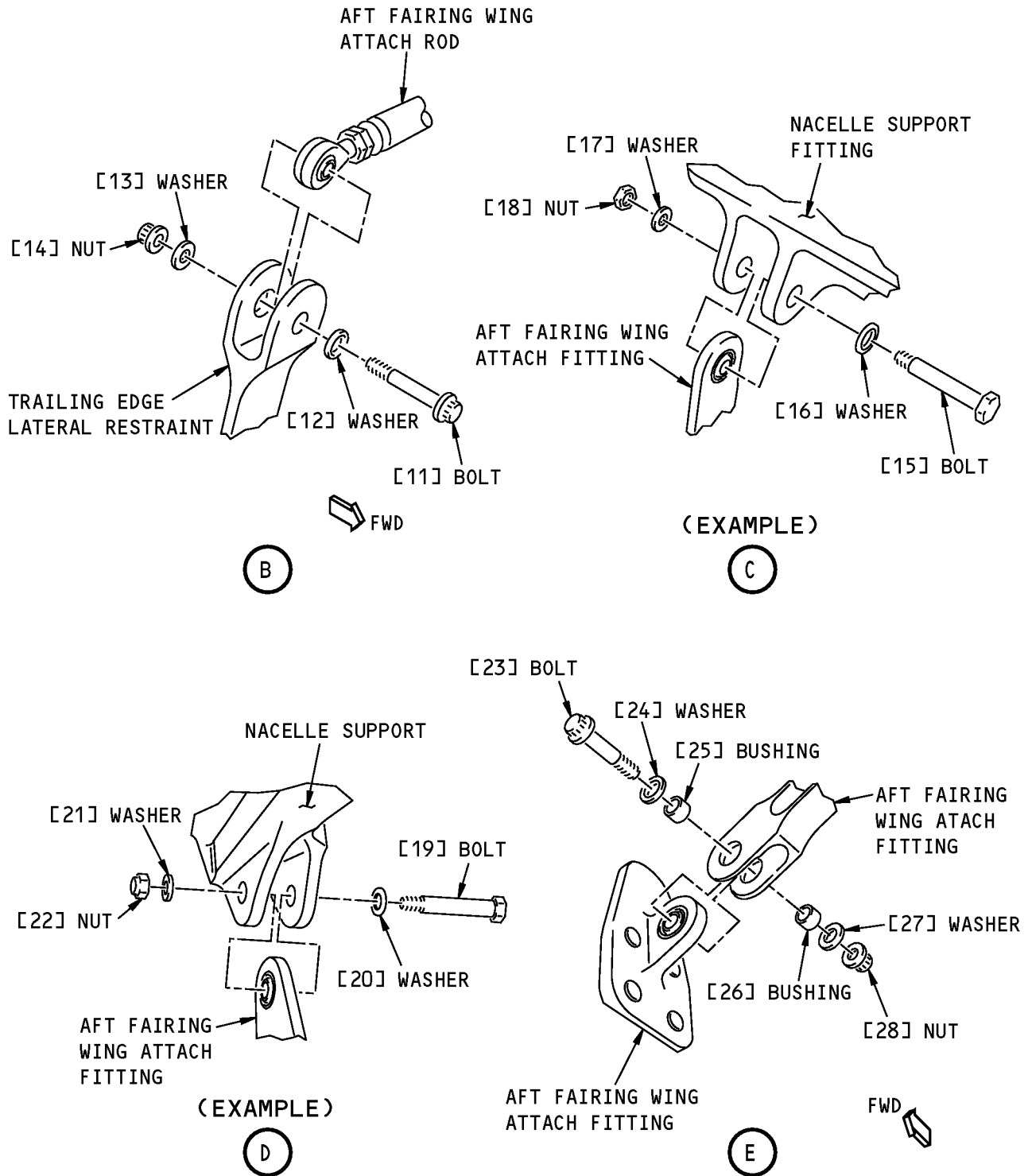


Aft Fairing Installation
Figure 406 (Sheet 1 of 3)/54-52-04-990-806

EFFECTIVITY
HAP ALL

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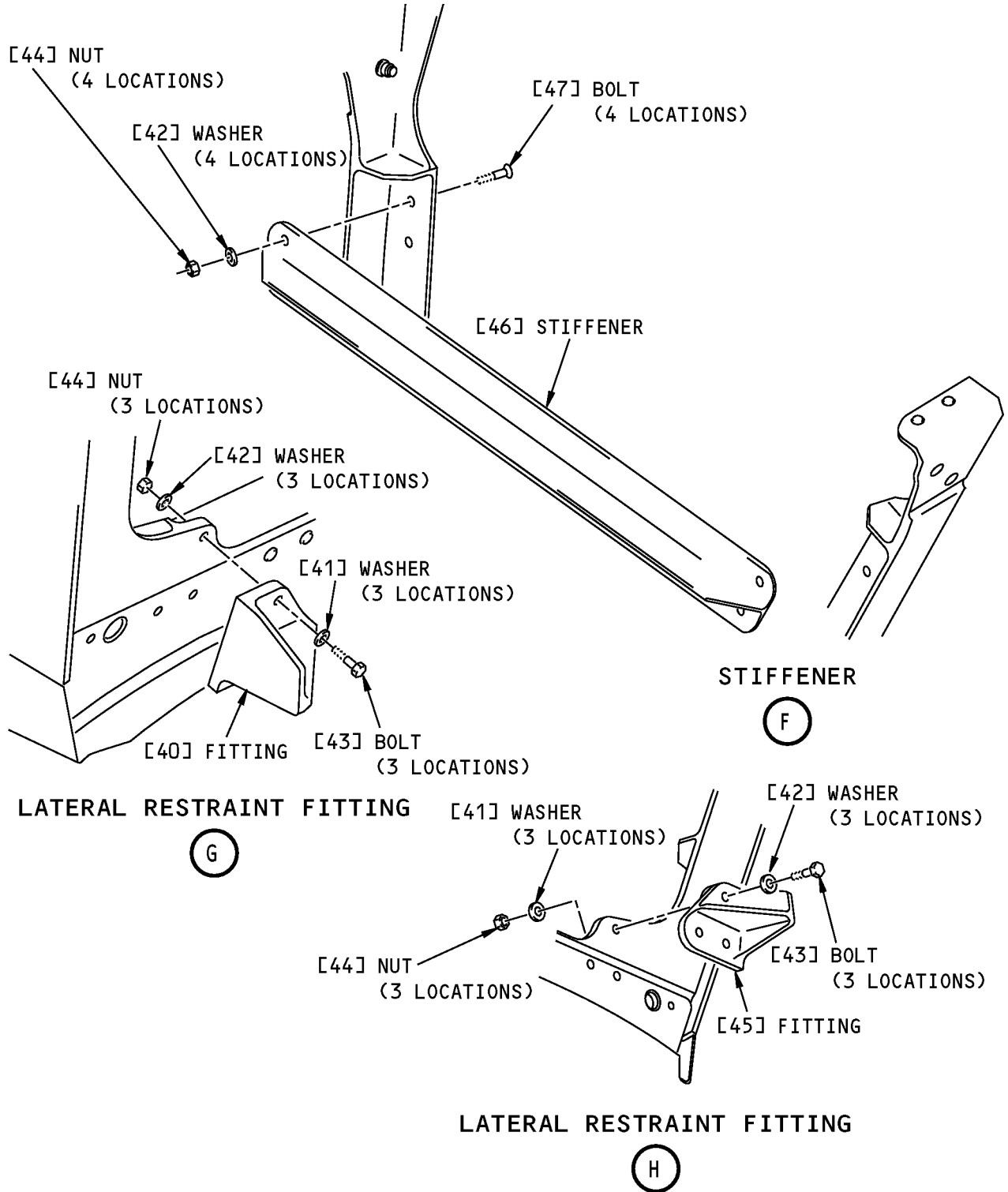


Aft Fairing Installation
Figure 406 (Sheet 2 of 3)/54-52-04-990-806

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**Aft Fairing Installation
Figure 406 (Sheet 3 of 3)/54-52-04-990-806**

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AFT FAIRING - INSPECTION/CHECK

1. General

A. This procedure has these tasks:

- (1) Aft fairing examination of the skin, access panels, fasteners, and drain lines.
- (2) Aft fairing frame examination of the aft fairing structure.

TASK 54-52-04-000-801

2. Aft Fairing Examination

A. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-52-00-200-801	Aerodynamic Smoothness Requirements (P/B 201)
54-52-04-410-801	Aft Fairing Installation (Engine Removed) (P/B 401)
54-52-06-010-801	Aft Fairing Access Panel Removal (P/B 401)
54-52-06-410-801	Aft Fairing Access Panel Installation (P/B 401)

B. Location Zones

Zone	Area
434	Engine 1 - Aft Strut Fairing
444	Engine 2 - Aft Strut Fairing

C. Access Panels

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

D. Prepare for the Examination

SUBTASK 54-52-04-040-001

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-52-04-010-001

- (2) To remove the applicable access panel from the aft fairing, do this task (TASK 54-52-06-010-801):

Open these access panels:

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

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E. Aft Fairing Examination

SUBTASK 54-52-04-210-001

- (1) Do these steps to examine the aft fairing:
 - (a) Examine the aft fairing structure for damage.
 - 1) Examine the aft fairing skin for cracks, separation of the bonded layers, and damage to the paint and protective coating.
 - 2) Examine the frames and bulkheads for cracks or worn areas, and for damage to the protective coating.
 - (b) Examine the support fittings and the underwing fittings for cracks or damage.
 - 1) Make sure that the bushings and bearings have not moved in their bores.
 - 2) Look for damage or worn areas in the bushings and bearings.
 - (c) Make sure the bolts which attach the aft fairing are correctly installed, and are not loose or missing, (TASK 54-52-04-410-801).
 - (d) Examine the seal between the top of the aft fairing and the bottom of the wing for damage.
 - (e) Examine the drainlines for cracks or leaks.
 - 1) Examine the clamps and brackets to make sure the drainlines are correctly installed, and are not loose.
 - (f) Examine the exterior of the heat shield castings for cracks or damage.

SUBTASK 54-52-04-410-001

- (2) To install the access panels on the aft fairing, do this task (TASK 54-52-06-410-801):

Close these access panels:

<u>Number</u>	<u>Name/Location</u>
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

SUBTASK 54-52-04-210-002

- (3) Make sure the aft fairings are in the aerodynamic smoothness limits, (TASK 54-52-00-200-801).

F. Put the Airplane Back to its Usual Condition

SUBTASK 54-52-04-440-001

- (1) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— END OF TASK —————

TASK 54-52-04-000-802

3. Aft Fairing Frame Examination

A. General

- (1) This task gives instructions to examine the frames in the aft fairing for possible cracks.

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B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-52-00-200-801	Aerodynamic Smoothness Requirements (P/B 201)
54-52-06-010-801	Aft Fairing Access Panel Removal (P/B 401)
54-52-06-410-801	Aft Fairing Access Panel Installation (P/B 401)

C. Location Zones

Zone	Area
434	Engine 1 - Aft Strut Fairing
444	Engine 2 - Aft Strut Fairing

D. Access Panels

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

E. Prepare for the Examination

SUBTASK 54-52-04-040-002

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-52-04-010-002

- (2) To remove the applicable access panel from the aft fairing, do this task (TASK 54-52-06-010-801):

Open these access panels:

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

F. Aft Fairing Frame Examination

SUBTASK 54-52-04-210-003

- (1) Visually examine the frames in the aft fairing.

SUBTASK 54-52-04-210-004

- (2) If you find a crack, then do these steps:
- If the crack is longer than 1.0 inch (25.4 mm) or if you find more than one crack, contact Boeing for corrective action.
 - If a crack is found in one place only and if the crack is no more than 1.0 inch (25.4 mm) long, then do these steps:

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- 1) You may operate the airplane up to 50 more flight cycles, then you must incorporate the appropriate repair.
- 2) Contact Boeing for corrective action.

G. Put the Airplane Back to its Usual Condition

SUBTASK 54-52-04-410-002

- (1) To install the access panels on the aft fairing, do this task (TASK 54-52-06-410-801):

Close these access panels:

<u>Number</u>	<u>Name/Location</u>
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

SUBTASK 54-52-04-210-005

- (2) Make sure the aft fairings are in the aerodynamic smoothness limits (TASK 54-52-00-200-801).

H. Put the Airplane Back to its Usual Condition

SUBTASK 54-52-04-440-002

- (1) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— **END OF TASK** —————

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AFT FAIRING ACCESS PANELS - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

- (1) A removal of the aft fairing access panels.
- (2) An installation of the aft fairing access panels.

TASK 54-52-06-010-801

2. Aft Fairing Access Panel Removal

(Figure 401)

A. General

- (1) This task gives the instructions on how to remove the access panels on the strut aft fairing.
- (2) Each strut has these access panels on the aft fairing:
 - (a) An inboard and an outboard forward access panel.
 - (b) An outboard aft access panel.

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)

C. Location Zones

Zone	Area
434	Engine 1 - Aft Strut Fairing
444	Engine 2 - Aft Strut Fairing

D. Access Panels

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

E. Prepare for the Removal

SUBTASK 54-52-06-040-001

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

F. Aft Fairing Access Panel Removal

SUBTASK 54-52-06-000-001

- (1) Do these steps to remove the inboard or outboard forward access panels:

CAUTION: PUT A MARK OR LABEL ON THE BONDING BOLTS AFTER REMOVING THEM. THIS WILL MAKE SURE THAT THEY ARE INSTALLED INTO THE CORRECT FASTENER HOLES. BONDING BOLTS HELP PREVENT POSSIBLE DAMAGE DUE TO LIGHTNING. IF BONDING BOLTS ARE NOT INSTALLED CORRECTLY, DAMAGE TO THE AIRPLANE MAY OCCUR.

- (a) Remove the bolts [1] and the bonding bolts [4] that attach the applicable panel [2], [3], [7], or [8] to the strut aft fairing, and do this step::

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Open the applicable access panels:

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2

SUBTASK 54-52-06-000-002

(2) Do these steps to remove the outboard aft access panel:

CAUTION: PUT A MARK OR LABEL ON THE BONDING BOLTS AFTER REMOVING THEM. THIS WILL MAKE SURE THAT THEY ARE INSTALLED INTO THE CORRECT FASTENER HOLES. BONDING BOLTS HELP PREVENT POSSIBLE DAMAGE DUE TO LIGHTNING. IF BONDING BOLTS ARE NOT INSTALLED CORRECTLY, DAMAGE TO THE AIRPLANE MAY OCCUR.

(a) Remove the bolts [1] and the bonding bolts [4] that attach the applicable panel [5] or [6] to the strut aft fairing, and do this step:

Remove the applicable access panels:

Number	Name/Location
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

————— END OF TASK —————

TASK 54-52-06-410-801

3. Aft Fairing Access Panel Installation

(Figure 401)

A. General

- (1) This task gives the instructions on how to install the access panels on the strut aft fairing.
- (2) Each strut has these access panels on the aft fairing:
 - (a) An inboard and an outboard forward access panel.
 - (b) An outboard aft access panel.

B. References

Reference	Title
20-40-11-760-802	Measurement of Airplane Electrical Resistance to Ground (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)

C. Consumable Materials

Reference	Description	Specification
C00767	Coating - Anti-Static Coating	BMS10-21, Type III

D. Location Zones

Zone	Area
434	Engine 1 - Aft Strut Fairing
444	Engine 2 - Aft Strut Fairing

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E. Access Panels

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

F. Access Panel Installation

SUBTASK 54-52-06-350-001

CAUTION: THERE MUST BE SUFFICIENT CONDUCTIVE CONTACT BETWEEN A BONDING BOLT HEAD AND THE COUNTERSUNK SURFACE THAT THE BOLT HEAD GOES INTO. BONDING BOLTS HELP PREVENT POTENTIAL DAMAGE DUE TO LIGHTNING. IF BONDING BOLTS ARE NOT INSTALLED CORRECTLY, DAMAGE TO THE AIRPLANE MAY OCCUR.

- (1) If the countersink hole for a bonding fastener does not have a complete layer of anti-static coating in it, do the following steps:

NOTE: See (Figure 401) for bonding fastener locations on each panel.

- (a) Abrade the uncoated surface in the countersink.
- (b) Apply anti-static coating, C00767 to the sanded surface of a countersink.
 - 1) Make sure that contact is achieved between any existing coating and the newly applied coating.
- (c) Allow anti-static coating to dry completely before installing bonding bolt.

NOTE: A minimum of two hours is required to completely dry the anti-static coating.

NOTE: If coating is not dry completely, it will come off later when the bonding fastener is removed.

SUBTASK 54-52-06-400-001

- (2) Do these steps to install the inboard or outboard forward access panel:

- (a) Put the applicable access panel [2], [3], [7], or [8] in its correct location on the aft fairing, and do this step:

Close the applicable access panels:

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2

- (b) Install the bolt [1] and the bonding bolt [4] that attach the access panel to the strut aft fairing.
- (c) Make sure that the resistance between the bonding bolts and the structure is no more than 0.01 ohms, (TASK 20-40-11-760-802).

SUBTASK 54-52-06-400-002

- (3) Do these steps to install the outboard aft access panel:

- (a) Put the applicable access panel [5] or [6] in the correct location on the aft fairing, and do this step:

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Close the applicable access panele:

<u>Number</u>	<u>Name/Location</u>
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

- (b) Install the bolt [1] and the bonding bolt [4] that attach the access panel to the strut aft fairing.
- (c) Make sure that the resistance between the bonding bolts and the structure is no more than 0.01 ohms, (TASK 20-40-11-760-802).

G. Put the Airplane Back to Its Usual Condition

SUBTASK 54-52-06-440-001

- (1) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— **END OF TASK** —————

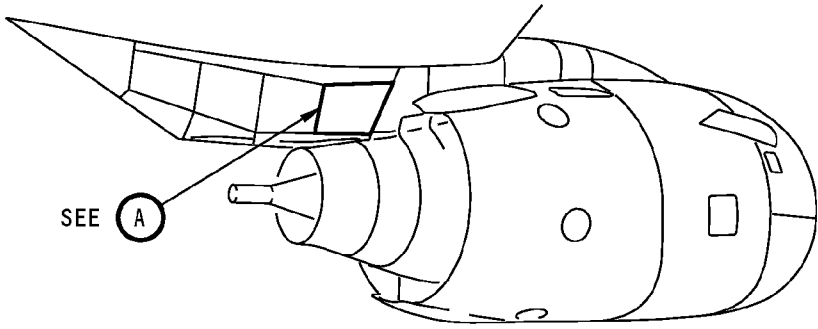
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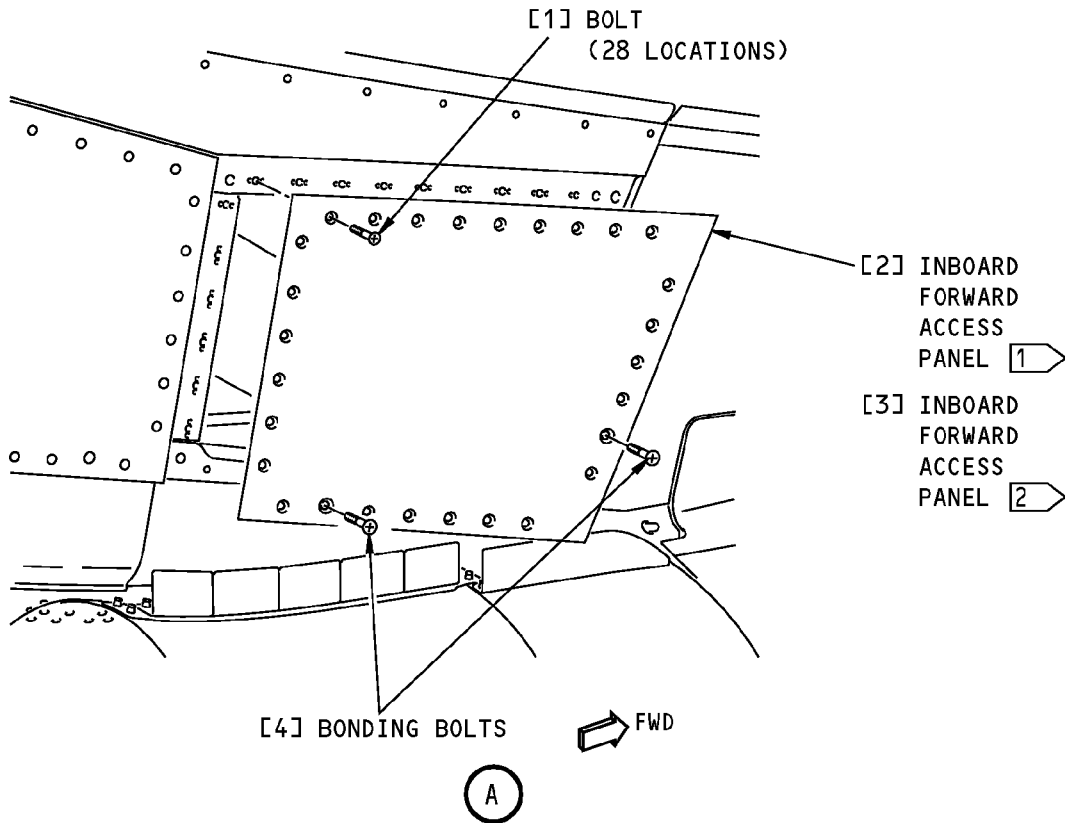
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**LEFT STRUT
(RIGHT STRUT IS OPPOSITE)**



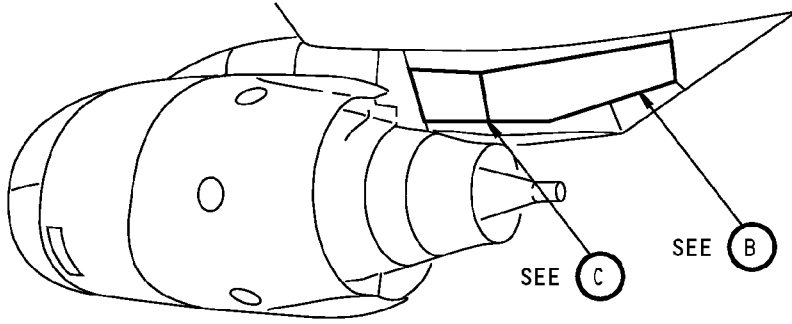
- 1 LEFT STRUT
- 2 RIGHT STRUT

**Strut Aft Fairing Access Panels
Figure 401 (Sheet 1 of 3)/54-52-06-990-801**

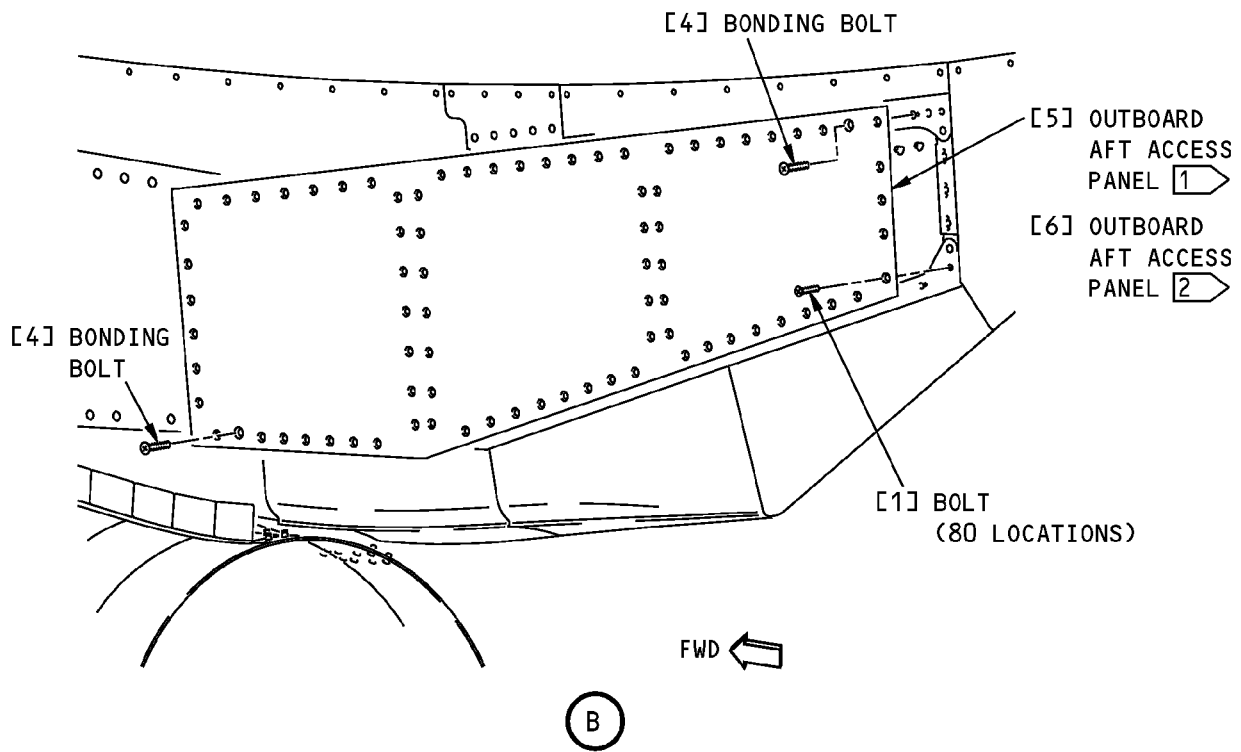
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**LEFT STRUT
(RIGHT STRUT IS OPPOSITE)**



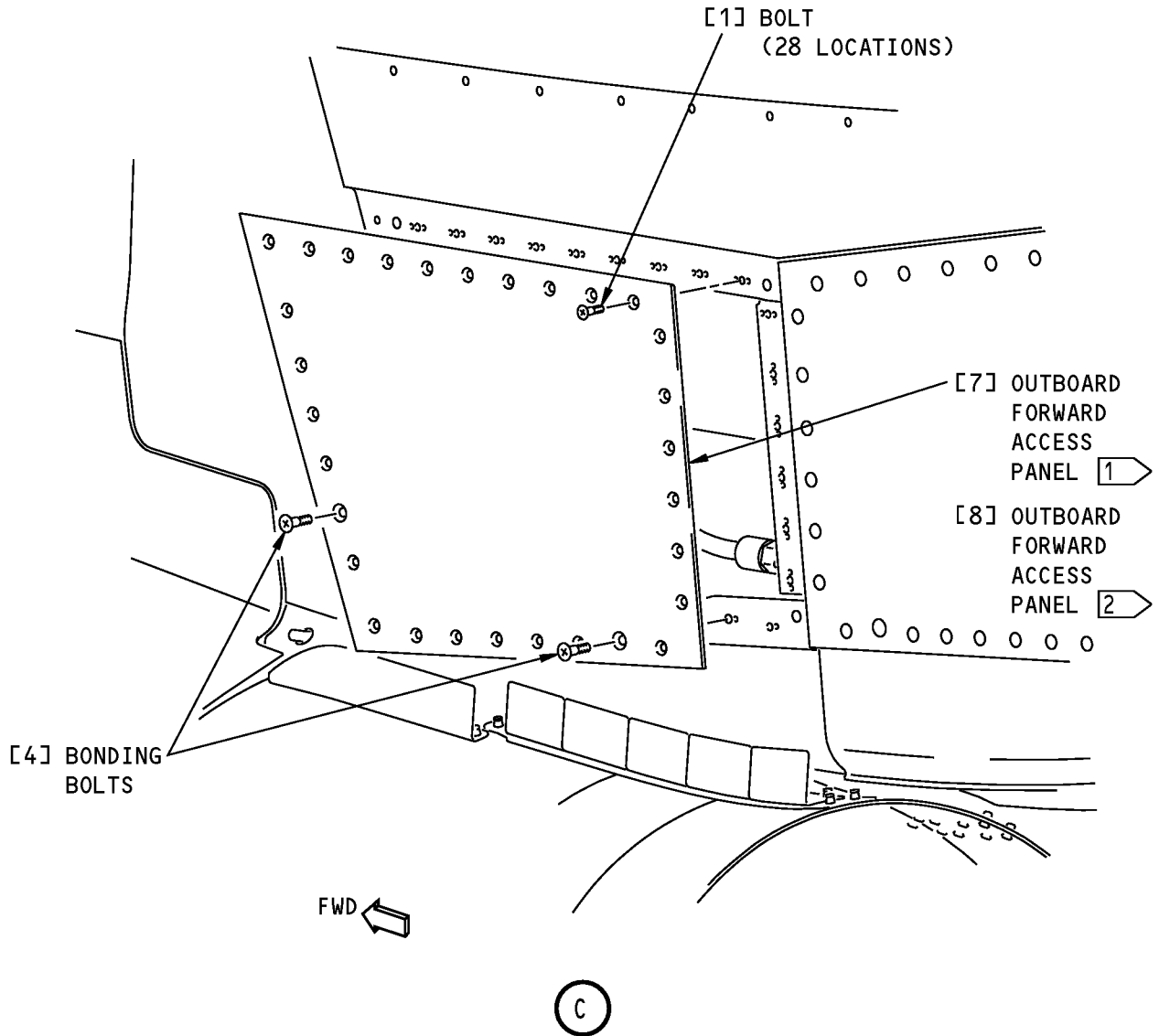
- [1] LEFT STRUT
- [2] RIGHT STRUT

**Strut Aft Fairing Access Panels
Figure 401 (Sheet 2 of 3)/54-52-06-990-801**

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- 1 LEFT STRUT
- 2 RIGHT STRUT

**Strut Aft Fairing Access Panels
Figure 401 (Sheet 3 of 3)/54-52-06-990-801**

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AIRCRAFT MAINTENANCE MANUAL

AFT FAIRING HEATSHIELD AND INSULATION BLANKETS - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

- (1) A removal of the aft fairing heatshield and insulation blankets.
- (2) An installation of the aft fairing heatshield and insulation blankets.

TASK 54-52-08-010-801

2. Aft Fairing Heatshield and Insulation Blankets Removal

(Figure 401)

A. General

- (1) This task gives the instructions on how to remove the heatshield and insulation blankets from the strut aft fairing.
- (2) Each strut has one heatshield made up of four pan castings.
- (3) Each pan casting has an insulation blanket inside of it.

B. References

Reference	Title
27-51-00-040-801	Trailing Edge Flap System Deactivation (P/B 201)
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-52-06-010-801	Aft Fairing Access Panel Removal (P/B 401)

C. Location Zones

Zone	Area
434	Engine 1 - Aft Strut Fairing
444	Engine 2 - Aft Strut Fairing

D. Access Panels

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

E. Prepare the Strut for Maintenance Operations

SUBTASK 54-52-08-040-001

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-52-08-040-002

- (2) Do this task: Trailing Edge Flap System Deactivation, TASK 27-51-00-040-801.

HAP 001-011

F. Aft Fairing Heatshield and Insulation Blankets Removal

SUBTASK 54-52-08-010-001

- (1) Remove the applicable aft fairing access panels:

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HAP 001-011 (Continued)

(TASK 54-52-06-010-801)

<u>Number</u>	<u>Name/Location</u>
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

SUBTASK 54-52-08-010-002

(2) Remove the pan castings of the heatshield and the insulation blankets in the following order (aft to forward), (Figure 401):

(a) Remove pan casting No. 4 [4], (aft end):

- 1) Remove hex-head bolts [15] and washers [5].
- 2) Remove hex-head bolts [10] and washers [5].
- 3) Remove insulation blanket [6] from pan casting.

(b) Remove pan casting No. 3 [3]:

NOTE: There is a sleeve of insulation which should stay attached to the drain. Do not try to remove it. The other pieces of insulation may be removed.

- 1) Remove hex-head bolts [15] and washers [5].
- 2) Remove hex-head bolts [10] and washers [5].
- 3) Remove hex-head bolts [11] and washers [5].
- 4) Remove insulation blankets [7] and [14] from pan casting.

(c) Remove pan casting No. 2 [2]:

- 1) Remove hex-head bolts [13] and washers [5].
- 2) Remove hex-head bolts [15] and washers [5].
- 3) Remove hex-head bolts [10] and washers [5].
- 4) Remove hex-head bolts [11] and washers [5].
- 5) Remove insulation blankets [8] and [12] from pan casting.

(d) Remove pan casting No. 1 [1], (forward end):

- 1) Remove hex-head bolts [10] and washers [5].
- 2) Remove hex-head bolts [11] and washers [5].
- 3) Remove insulation blanket [9] from pan casting.

HAP 012, 013, 015-026, 028-054, 101-999

G. Aft Fairing Heatshield Removal

SUBTASK 54-52-08-010-007

(1) Remove the applicable aft fairing access panels:

(TASK 54-52-06-010-801)

<u>Number</u>	<u>Name/Location</u>
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AIRCRAFT MAINTENANCE MANUAL

HAP 012, 013, 015-026, 028-054, 101-999 (Continued)

(Continued)

<u>Number</u>	<u>Name/Location</u>
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

SUBTASK 54-52-08-010-008

(2) Remove the pan castings of the heatshield in the following order (aft to forward), (Figure 401):

- (a) Remove pan casting No. 4 [4], (aft end):
 - 1) Remove hex-head bolts [15] and washers [5].
 - 2) Remove hex-head bolts [10] and washers [5].
- (b) Remove pan casting No. 3 [3]:

NOTE: There is a sleeve of insulation which should stay attached to the drain. Do not try to remove it. The other pieces of insulation may be removed.

- 1) Remove hex-head bolts [15] and washers [5].
 - 2) Remove hex-head bolts [10] and washers [5].
 - 3) Remove hex-head bolts [11] and washers [5].
- (c) Remove pan casting No. 2 [2]:
 - 1) Remove hex-head bolts [13] and washers [5].
 - 2) Remove hex-head bolts [15] and washers [5].
 - 3) Remove hex-head bolts [10] and washers [5].
 - 4) Remove hex-head bolts [11] and washers [5].
 - (d) Remove pan casting No. 1 [1], (forward end):
 - 1) Remove hex-head bolts [10] and washers [5].
 - 2) Remove hex-head bolts [11] and washers [5].

HAP 031-054, 101-999

H. Aft Fairing Heatshield and Insulation Blankets Removal

SUBTASK 54-52-08-010-009

(1) Remove the applicable aft fairing access panels:

(TASK 54-52-06-010-801)

<u>Number</u>	<u>Name/Location</u>
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

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AIRCRAFT MAINTENANCE MANUAL

HAP 031-054, 101-999 (Continued)

SUBTASK 54-52-08-010-010

(2) Remove the pan castings of the heatshield and the insulation blankets in the following order (aft to forward), (Figure 401):

(a) Remove pan casting No. 4 [4], (aft end):

- 1) Remove bolts [5].
- 2) Remove bolt [10].
- 3) Remove bolt [11].
- 4) Remove insulation blanket [6] from pan casting.

(b) Remove pan casting No. 3 [3]:

NOTE: There is a sleeve of insulation which should stay attached to the drain. Do not try to remove it. The other pieces of insulation may be removed.

- 1) Remove bolts [5].
- 2) Remove bolts [10].
- 3) Remove bolts [11].
- 4) Remove insulation blankets [7] and [14] from pan casting.

(c) Remove pan casting No. 2 [2]:

- 1) Remove bolts [5].
- 2) Remove bolts [10].
- 3) Remove bolts [11].
- 4) Remove insulation blankets [8] and [12] from pan casting.

(d) Remove pan casting No. 1 [1], (forward end):

- 1) Remove bolts [5].
- 2) Remove bolt [10].
- 3) Remove bolt [11].
- 4) Remove insulation blanket [9] from pan casting.

HAP ALL

————— END OF TASK —————

TASK 54-52-08-010-802

3. Aft Fairing Heatshield and Insulation Blankets Installation

(Figure 401)

A. General

- (1) This task gives the instructions on how to install the heatshield and insulation blankets onto the strut aft fairing.
- (2) Each strut has one heatshield made up of four pan castings.
- (3) Each pan casting has an insulation blanket inside of it.

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B. References

Reference	Title
27-51-00-440-801	Trailing Edge Flap System Reactivation (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-52-06-410-801	Aft Fairing Access Panel Installation (P/B 401)

C. Consumable Materials

Reference	Description	Specification
A00160	Sealant - Firewall - Hydraulic Fluid Resistant	BMS5-63

D. Location Zones

Zone	Area
434	Engine 1 - Aft Strut Fairing
444	Engine 2 - Aft Strut Fairing

E. Access Panels

Number	Name/Location
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

HAP 001-011

F. Aft Fairing Heatshield and Insulation Blankets Installation

SUBTASK 54-52-08-640-001

(1) Apply sealant, A00160 to the panels where the fasteners will be installed.

SUBTASK 54-52-08-420-001

(2) Install the following pan castings and insulation blankets in the following order (forward to aft):

- (a) Install pan casting No. 1 [1], (forward end):
 - 1) Install insulation blanket [9] into pan casting.
 - 2) Install hex-head bolts [10] and washers [5].
 - 3) Install hex-head bolts [11] and washers [5],
- (b) Install pan casting No. 2 [2]:
 - 1) Install insulation blankets [8] and [12] into pan casting.
 - 2) Install hex-head bolts [13] and washers [5].
 - 3) Install hex-head bolts [15] and washers [5].
 - 4) Install hex-head bolts [10] and washers [5].
 - 5) Install hex-head bolts [11] and washers [5].
- (c) Install pan casting No. 3 [3]:
 - 1) Install insulation blankets [7] and [14] into pan casting.
 - 2) Install hex-head bolts [15] and washers [5].

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HAP 001-011 (Continued)

- 3) Install hex-head bolts [10] and washers [5].
- 4) Install hex-head bolts [11] and washers [5].
- (d) Install pan casting No. 4 [4], (aft end):
 - 1) Install insulation blanket [6] into pan casting.
 - 2) Install hex-head bolts [15] and washers [5].
 - 3) Install hex-head bolts [10] and washers [5].

SUBTASK 54-52-08-010-004

- (3) Install the applicable aft fairing access panels:

(TASK 54-52-06-410-801)

<u>Number</u>	<u>Name/Location</u>
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

HAP 012, 013, 015-026, 028-054, 101-999

G. Aft Fairing Heatshield Installation

SUBTASK 54-52-08-640-002

- (1) Apply sealant, A00160sealant, A00160 to the panels where the fasteners will be installed.

SUBTASK 54-52-08-420-002

- (2) Install the following pan castings in the following order (forward to aft):
 - (a) Install pan casting No. 1 [1], (forward end):
 - 1) Install hex-head bolts [10] and washers [5].
 - 2) Install hex-head bolts [11] and washers [5].
 - (b) Install pan casting No. 2 [2]:
 - 1) Install hex-head bolts [13] and washers [5].
 - 2) Install hex-head bolts [15] and washers [5].
 - 3) Install hex-head bolts [10] and washers [5].
 - 4) Install hex-head bolts [11] and washers [5].
 - (c) Install pan casting No. 3 [3]:
 - 1) Install hex-head bolts [15] and washers [5].
 - 2) Install hex-head bolts [10] and washers [5].
 - 3) Install hex-head bolts [11] and washers [5].
 - (d) Install pan casting No. 4 [4], (aft end):
 - 1) Install hex-head bolts [15] and washers [5].
 - 2) Install hex-head bolts [10] and washers [5].

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HAP 012, 013, 015-026, 028-054, 101-999 (Continued)

SUBTASK 54-52-08-010-005

(3) Install the applicable aft fairing access panels:

(TASK 54-52-06-410-801)

<u>Number</u>	<u>Name/Location</u>
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

HAP 031-054, 101-999

H. Aft Fairing Heatshield and Insulation Blankets Installation

SUBTASK 54-52-08-640-003

(1) Apply sealant, A00160 to the panels where the fasteners will be installed.

SUBTASK 54-52-08-420-003

(2) Install the following pan castings and insulation blankets in the following order (forward to aft):

(a) Install pan casting No. 1 [1], (forward end):

- 1) Install insulation blanket [9] into pan casting.
- 2) Install bolts [5].
- 3) Install bolt [10].
- 4) Install bolt [11].

(b) Install pan casting No. 2 [2]:

- 1) Install insulation blankets [8] and [12] into pan casting.
- 2) Install bolts [5].
- 3) Install bolts [10].
- 4) Install bolts [11].

(c) Install pan casting No. 3 [3]:

- 1) Install insulation blankets [7] and [14] into pan casting.
- 2) Install bolts [5].
- 3) Install bolts [10].
- 4) Install bolts [11].

(d) Install pan casting No. 4 [4], (aft end):

- 1) Install insulation blanket [6] into pan casting.
- 2) Install bolts [5].
- 3) Install bolt [10].
- 4) Install bolt [11].

SUBTASK 54-52-08-010-006

(3) Install the applicable aft fairing access panels:



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HAP 031-054, 101-999 (Continued)

(TASK 54-52-06-410-801)

<u>Number</u>	<u>Name/Location</u>
434AL	Aft Strut Fairing, Left Forward Panel, Strut 1
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444AR	Aft Strut Fairing, Right Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

HAP ALL

I. Put the Strut Back to its Usual Condition

SUBTASK 54-52-08-040-003

(1) Do this task: Trailing Edge Flap System Reactivation, TASK 27-51-00-440-801.

SUBTASK 54-52-08-040-004

(2) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

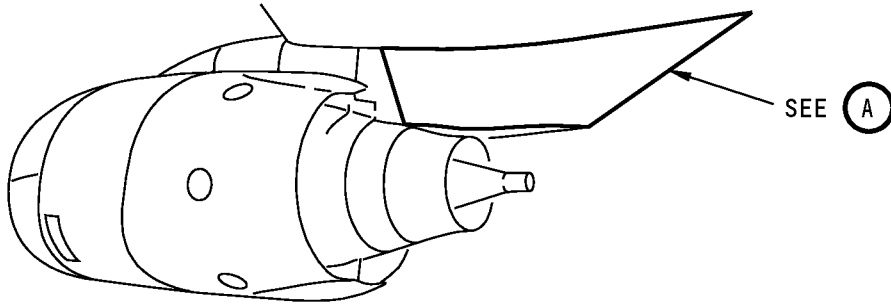
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EFFECTIVITY
HAP ALL

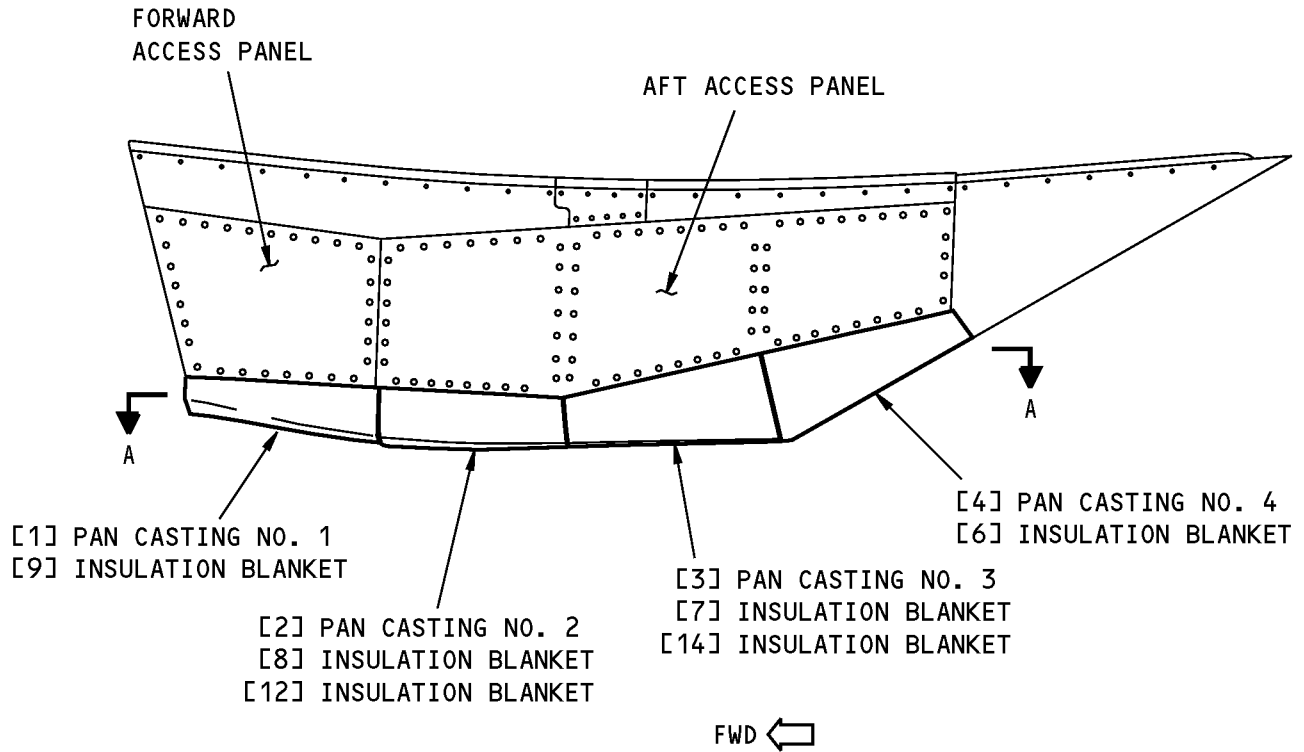
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**LEFT STRUT
(RIGHT STRUT IS OPPOSITE)**



**AFT FAIRING
(LEFT SIDE IS SHOWN, RIGHT SIDE IS OPPOSITE)**

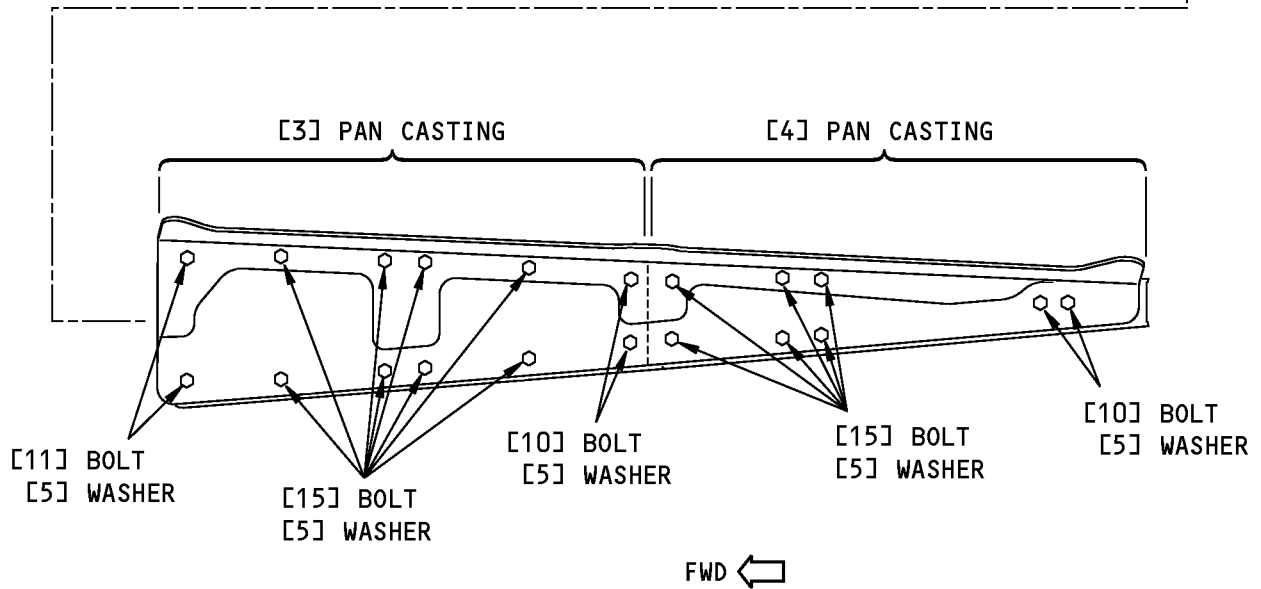
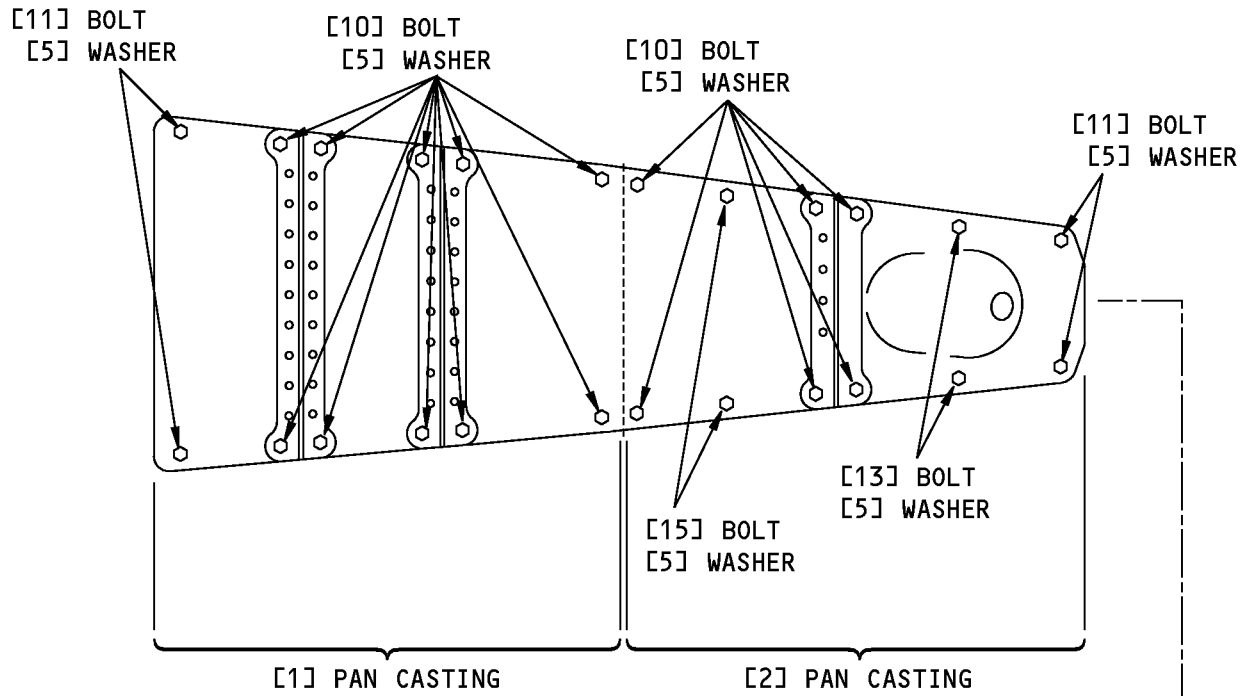
(A)

**Heatshield and Insulation Blankets Installation
Figure 401 (Sheet 1 of 6)/54-52-08-990-801**

EFFECTIVITY
HAP 001-011

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54-52-08



A-A

G36370 S0006581245_V2

**Heatshield and Insulation Blankets Installation
Figure 401 (Sheet 2 of 6)/54-52-08-990-801**

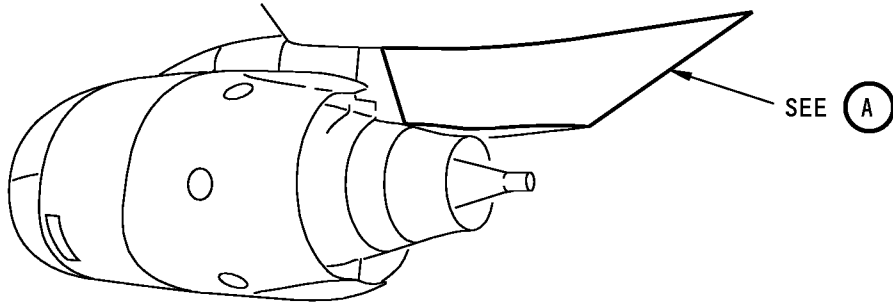
EFFECTIVITY
HAP 001-011

54-52-08

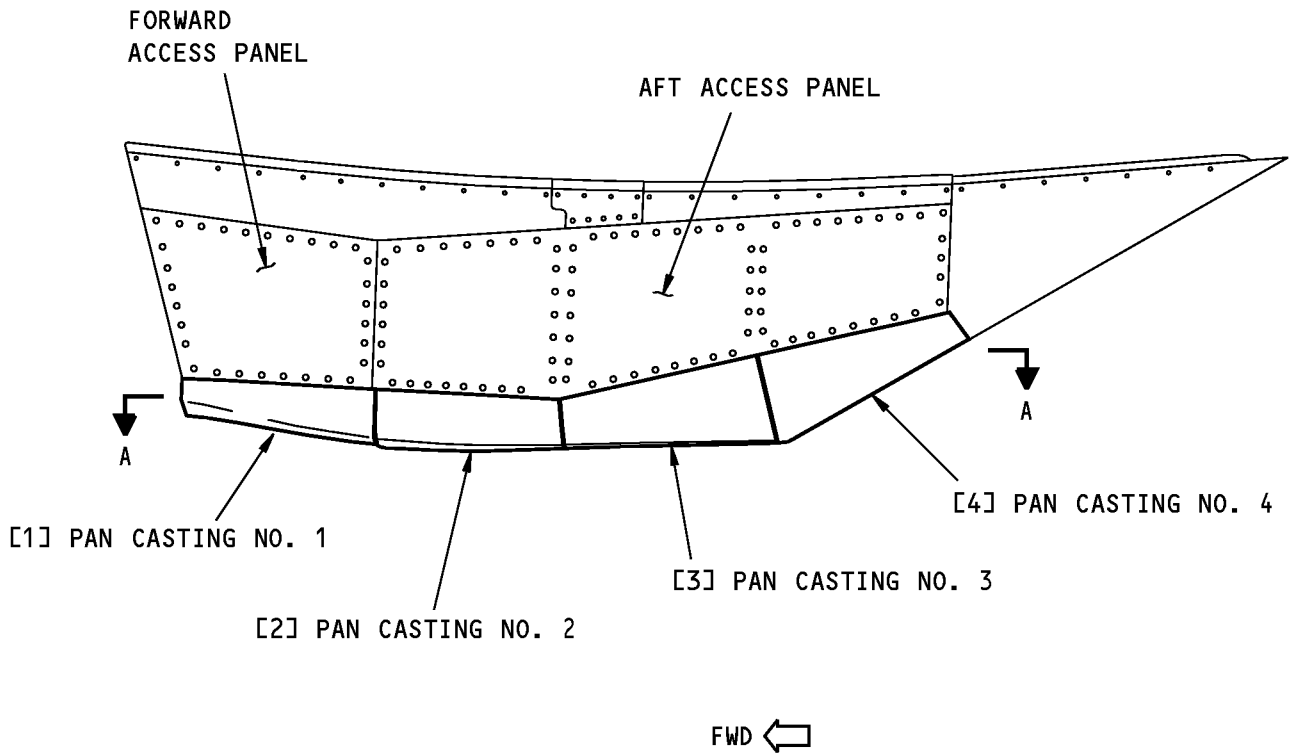
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**LEFT STRUT
(RIGHT STRUT IS OPPOSITE)**



**AFT FAIRING
(LEFT SIDE IS SHOWN, RIGHT SIDE IS OPPOSITE)**

(A)

1479826 S0000270227_V1

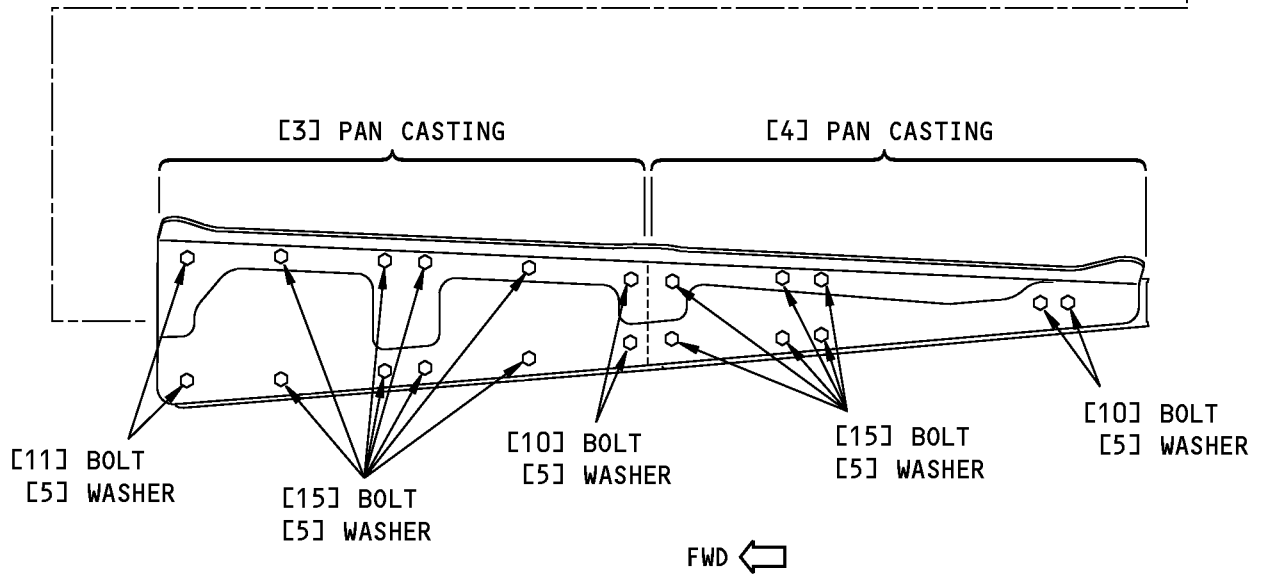
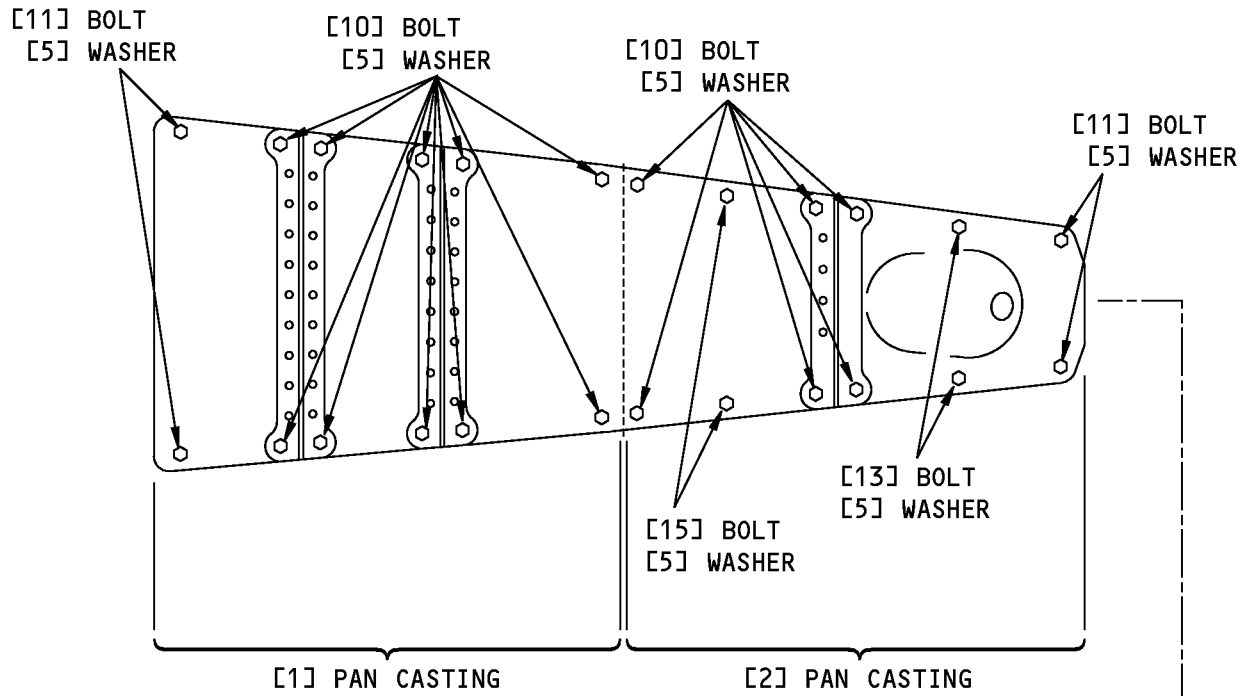
**Heatshield and Insulation Blankets Installation
Figure 401 (Sheet 3 of 6)/54-52-08-990-801**

EFFECTIVITY
HAP 012, 013, 015-026, 028-054, 101-999

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A-A

1479828 S0000270228_V2

**Heatshield and Insulation Blankets Installation
Figure 401 (Sheet 4 of 6)/54-52-08-990-801**

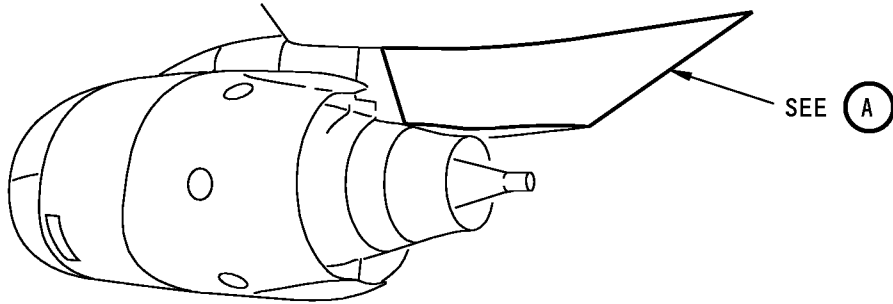
EFFECTIVITY
HAP 012, 013, 015-026, 028-054, 101-999

54-52-08

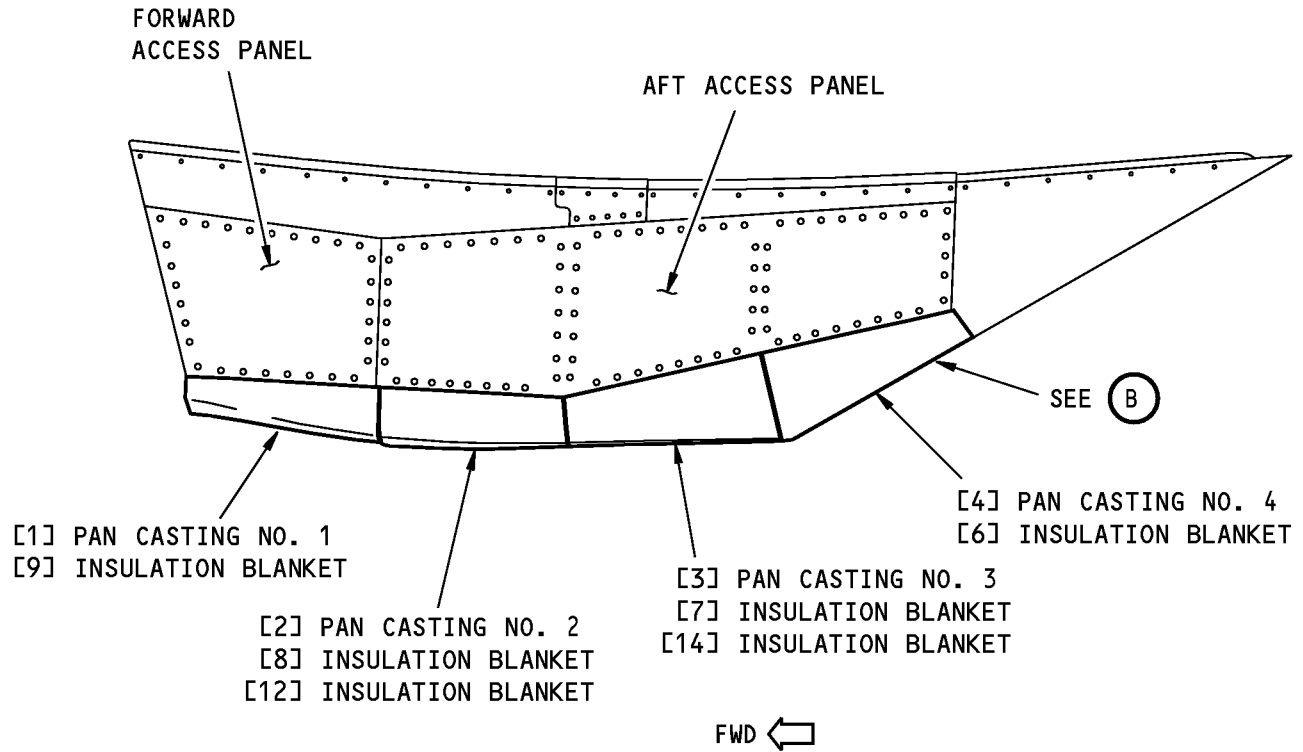
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**LEFT STRUT
(RIGHT STRUT IS OPPOSITE)**



**AFT FAIRING
(LEFT SIDE IS SHOWN, RIGHT SIDE IS OPPOSITE)**

(A)

1743018 S0000315220_V1

**Heatshield and Insulation Blankets Installation
Figure 401 (Sheet 5 of 6)/54-52-08-990-801**

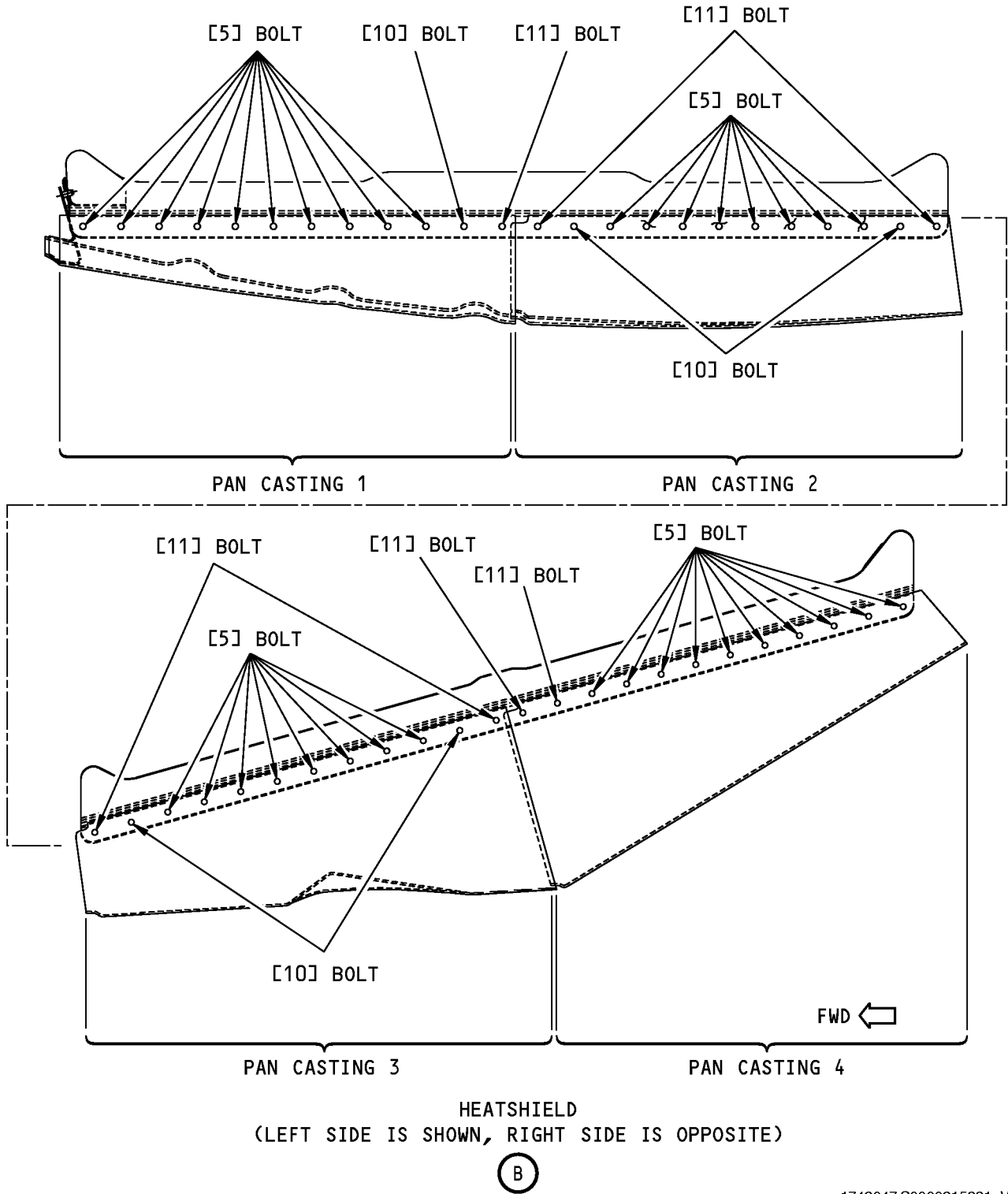
EFFECTIVITY
HAP 031-054, 101-999

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1743047 S0000315221_V1

Heatshield and Insulation Blankets Installation
Figure 401 (Sheet 6 of 6)/54-52-08-990-801

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LEADING EDGE GAP COVERS - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

- (1) A removal of the leading edge gap covers
- (2) An installation of the leading edge gap covers
- (3) Aerodynamic Smoothness Requirements for the leading edge gap covers.

TASK 54-52-09-000-801

2. Leading Edge Gap Covers Removal

(Figure 401)

A. General

- (1) This task is the removal procedure for the following gap covers:
 - (a) Inboard leading edge gap cover.
 - (b) Outboard leading edge gap cover.
- (2) Each strut has one inboard leading edge gap cover and one outboard leading edge gap cover.

B. Location Zones

Zone	Area
511	Left Wing - Leading Edge To Front Spar
521	Left Wing - Leading Edge to Front Spar
611	Right Wing - Leading Edge to Front Spar
621	Right Wing - Leading Edge to Front Spar

C. Access Panels

Number	Name/Location
511BT	Inboard Leading Edge, Upper Removable Access Panel
521AT	Outbd Leading Edge - Gap Cover Access
611BT	Inboard Leading Edge, Upper Removable Access Panel
621AT	Outbd Leading Edge - Gap Cover Access

D. Procedure

SUBTASK 54-52-09-010-001

- (1) Remove the bolts [2] and the bolts [1] from the applicable gap cover, and do this step:

Open the applicable access panels:

Number	Name/Location
511BT	Inboard Leading Edge, Upper Removable Access Panel
611BT	Inboard Leading Edge, Upper Removable Access Panel

SUBTASK 54-52-09-000-001

- (2) Remove the bolts [3] from the applicable gap cover, and do this step:

Open the applicable access panels:

Number	Name/Location
521AT	Outbd Leading Edge - Gap Cover Access

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(Continued)

Number	Name/Location
621AT	Outbd Leading Edge - Gap Cover Access

————— END OF TASK —————

TASK 54-52-09-400-801

3. Leading Edge Gap Cover Installation

(Figure 401)

A. General

- (1) This task is the installation procedure for the following gap covers:
 - (a) Inboard leading edge gap cover.
 - (b) Outboard leading edge gap cover.
- (2) Each strut has one inboard leading edge gap cover and one outboard leading edge gap cover.

B. Consumable Materials

Reference	Description	Specification
C00259	Primer - Chemical And Solvent Resistant Finish, Epoxy Resin	BMS10-11, Type I
C00528	Compound - Corrosion Preventive, Petroleum Hot Application (Soft Film)	MIL-C-11796, Class III

C. Location Zones

Zone	Area
511	Left Wing - Leading Edge To Front Spar
521	Left Wing - Leading Edge to Front Spar
611	Right Wing - Leading Edge to Front Spar
621	Right Wing - Leading Edge to Front Spar

D. Access Panels

Number	Name/Location
511BT	Inboard Leading Edge, Upper Removable Access Panel
521AT	Outbd Leading Edge - Gap Cover Access
611BT	Inboard Leading Edge, Upper Removable Access Panel
621AT	Outbd Leading Edge - Gap Cover Access

E. Procedure

SUBTASK 54-52-09-400-001

- (1) Install the applicable outboard leading edge gap cover:
 - (a) Put the applicable access panel into its position, do this step:
Install the applicable access panels:

Number	Name/Location
521AT	Outbd Leading Edge - Gap Cover Access
621AT	Outbd Leading Edge - Gap Cover Access

- (b) Install the bolts [3] for the gap covers by the following steps:

NOTE: Bolt grip length must match for each fastener hole.

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- 1) Apply primer, C00259 to each countersunk hole.
- 2) Allow primer to dry before installing bolts [3].
- 3) Apply compound, C00528 to each countersunk hole and on the bolts [3].
- 4) Install each fastener immediately after applying compound, C00528.
- 5) Make sure that each bolt [3] is flush to the surrounding skin within +0.002 to -0.010 inch (+0.051 to -0.254 mm).

SUBTASK 54-52-09-400-002

(2) Install the applicable inboard leading edge gap cover:

(a) Install the applicable access panels:

<u>Number</u>	<u>Name/Location</u>
511BT	Inboard Leading Edge, Upper Removable Access Panel
611BT	Inboard Leading Edge, Upper Removable Access Panel

(b) Install the bolts [2] and the bolts [1] for the gap covers by the following steps:

- 1) Apply primer, C00259 to each countersunk hole.
- 2) Allow primer to dry before installing bolts.
- 3) Apply compound, C00528 to each countersunk hole and on the bolts.
- 4) Install each fastener immediately after applying compound, C00528.
- 5) Make sure that each bolt is flush to the surrounding skin within +0.002 to -0.010 inch (+0.051 to -0.254 mm).

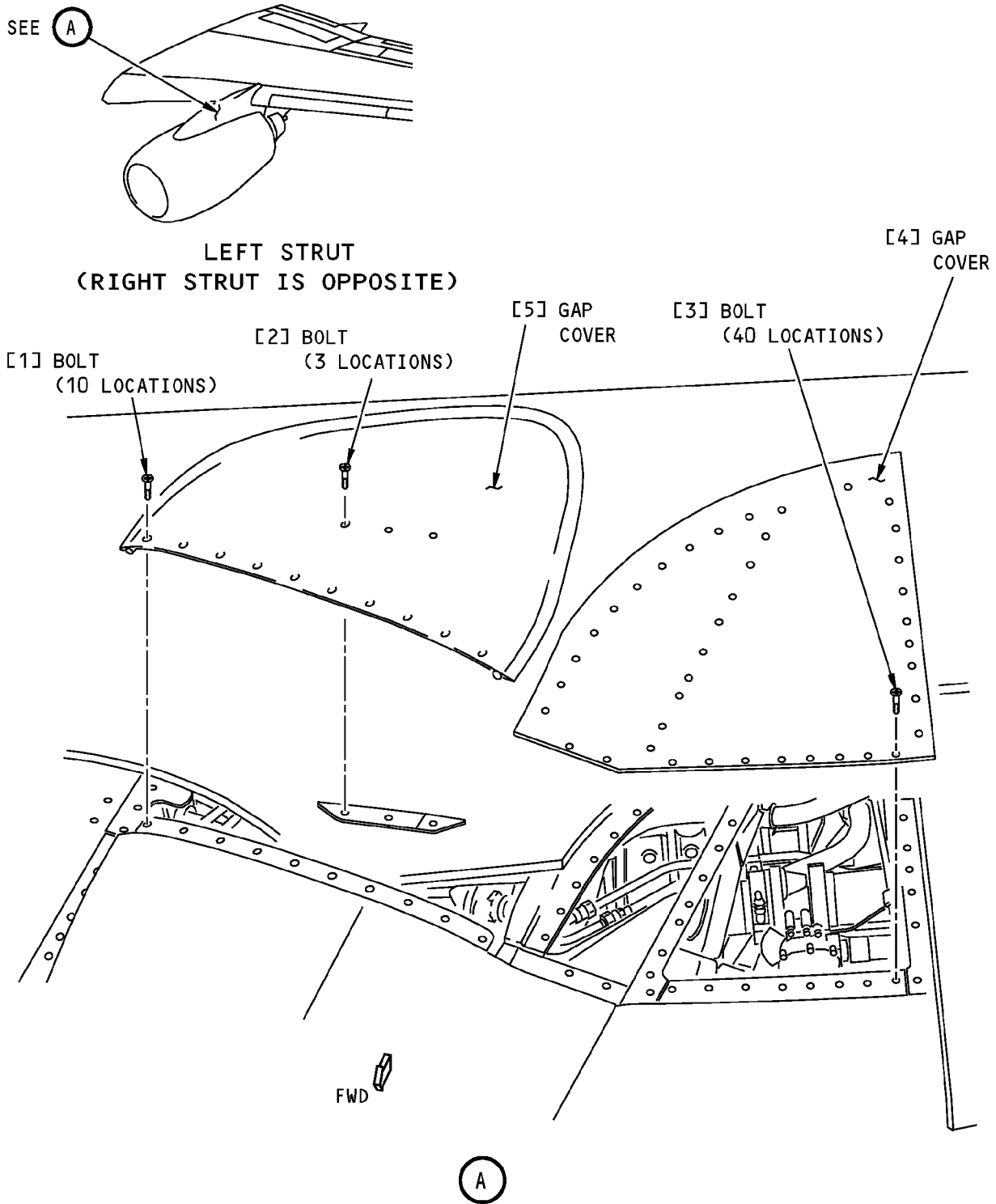
————— **END OF TASK** —————

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Leading Edge Gap Covers Installation
Figure 401/54-52-09-990-801

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TASK 54-52-09-200-801

4. Aerodynamic Smoothness Requirements for the Leading Edge Gap Covers.

Figure 401

A. General

- (1) This task gives the aerodynamic smoothness requirements for the inboard leading edge gap covers to permit smooth airflow. These covers are located in areas where aerodynamic smoothness is very important.

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
SRM 54-50-70	Structural Repair Manual

C. Location Zones

Zone	Area
511	Left Wing - Leading Edge To Front Spar
521	Left Wing - Leading Edge to Front Spar
611	Right Wing - Leading Edge to Front Spar
621	Right Wing - Leading Edge to Front Spar

D. Aerodynamic Smoothness Requirements

SUBTASK 54-52-09-040-001

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-52-09-220-001

- (2) Do these steps to examine the clearance between the adjacent surfaces:
 - (a) Look for an unusually large clearance or a change in contour between adjacent surfaces.
 - (b) The clearance between these surfaces must agree with the permitted tolerances.
 - 1) Use the tolerances, in section A-A of Figure 402, to examine the clearance and misfair between the surfaces.

SUBTASK 54-52-09-220-002

- (3) If the measured value at any measurement location (KC points 1 thru 4) Figure 402 is greater than the indicated tolerances, find and convert all of the misfair (measured step) or clearance (gap) values into a net effect value (NEV).
 - (a) Calculate the NEV:
 - 1) Use the Generic NEA Based Table 401.
 - a) Substitute the NEA values given in Figure 402 in the Generic NEA Based Table 401.
 - b) Calculate the net effect value at each point by using linear interpolation.

Add all of the calculated NEV for misfair and all the NEV for clearance; those in tolerance and those that are not in the tolerance and divide the result by the total number of measurements.

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Table 401/54-52-09-993-801 Generic NEA Based Table

Clearance (GAP width)		Misfair (step height)	
w (in)	NEV	h (in)	NEV
0	0	-NEA	1.0
NEA	1	0	0
-	-	NEA	1.0

NOTE: The result is the total NEV for the interface.

- (b) Check the NEV result against net effect limit (NEL).
 - 1) The NEL for the clearance (gap width) is 1.0. The NEL for the misfair (step height) is 1.5. If the NEV is less than or equal to the NEL, the surface clearance is aerodynamically acceptable.
 - 2) If the calculated NEV is greater than the NEL, the clearance does not meet the aerodynamic smoothness requirements.
- (c) If it is necessary, repair the fairings to make the surfaces smooth, SRM 54-50-70.

SUBTASK 54-52-09-220-003

- (4) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— **END OF TASK** —————

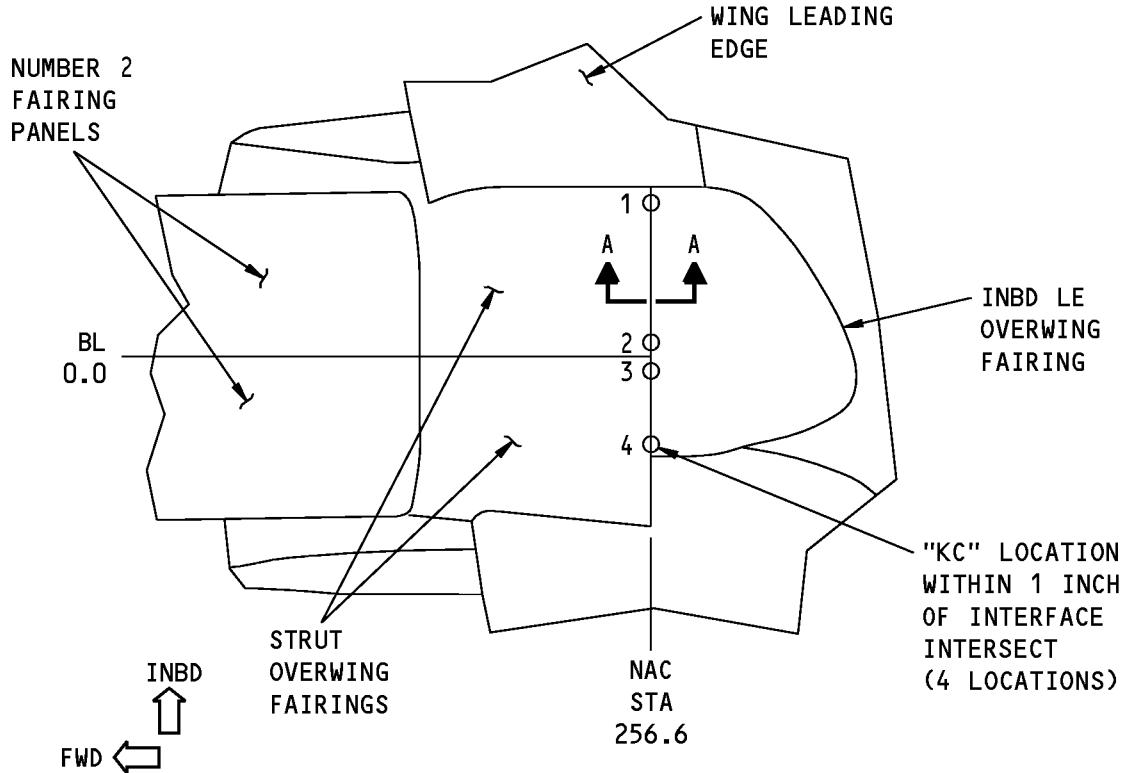
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CLEARANCE (GAP) 0.1250
 ± 0.080 NEA = 0.185

STRUT OVERWING FAIRING

INBD LE OVERWING FAIRING

MISFAIR (STEP HEIGHT) ± 0.060
 NEA = 0.040

1 AERODYNAMIC MISFAIR
 AIRFLOW →

+ FAIR - FAIR

A-A

FWD ←

LOCATION	CLEARANCE VALUES			MISFAIR VALUES		
	"KC"	CLEARANCE	NEV	"KC"	MISFAIR	NEV
1 INBD	1			1		
2 CTR INBD	2			2		
3 CTR OUTBD	3			3		
4 OUTBD	4			4		
CLEARANCE NEA				MISFAIR NEA		

Aerodynamic Smoothness Limits - Leading Edge Gap Covers
 Figure 402/54-52-09-990-802

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STRUT ACCESS DOORS - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

- (1) A removal of the strut access doors.
- (2) An installation of the strut access doors.

TASK 54-53-01-000-801

2. Strut Access Door Removal

(Figure 401)

A. General

- (1) This task gives the instructions for the removal of the strut access doors.
- (2) Each strut has six access doors.

(a) Four doors on each strut are located on the strut upper web:

- 1) Forward upper web access door, left strut.
- 2) Forward upper web access door, right strut.
- 3) Aft upper web access door, left strut.
- 4) Aft upper web access door, right strut.
- 5) Forward upper web access door, right strut.
- 6) Forward upper web access door, left strut.
- 7) Aft upper web access door, right strut.
- 8) Aft upper web access door, left strut.

(b) Two doors on each strut are located on the side of the strut, at the aft end:

- 1) Left aft access door, left strut.
- 2) Right aft access door, left strut.
- 3) Left aft access door, right strut.
- 4) Right aft access door, right strut.

(3) Each door has captive fasteners, but the fasteners can fall out if you loosen the latch bolts too much.

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-52-01-010-801	Forward Fairing Removal (P/B 401)
54-52-03-010-801	Wing Junction Fairing Removal (P/B 401)
54-52-09-000-801	Leading Edge Gap Covers Removal (P/B 401)
54-53-02-000-802	Forward Strut Fairing Panel (Thrust Reverser Strut Fairing) Removal (P/B 401)

C. Location Zones

Zone	Area
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

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D. Access Panels

Number	Name/Location
431BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 1
431BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 1
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
431EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 1
431ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 1
433AT	Strut, Forward Spar Web, Strut 1
433BT	Strut, Forward Spar Web, Strut 1
433CT	Strut, Upper Spar Web, Strut 1
441BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 2
441BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 2
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2
441EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 2
441ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 2
521AT	Outbd Leading Edge - Gap Cover Access
621AT	Outbd Leading Edge - Gap Cover Access

E. Prepare for the Removal

SUBTASK 54-53-01-040-001

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-53-01-010-001

- (2) To get access to the two forward access doors located on the strut upper web, [1] and [2], do these steps:

- (a) Remove the applicable forward fairings, do this task Forward Fairing Removal, TASK 54-52-01-010-801:

Open the applicable access panels:

Number	Name/Location
431BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 1
431BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 1
441BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 2
441BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 2

SUBTASK 54-53-01-010-002

- (3) To get access to the two aft access doors located on the strut upper web, [4], do these steps:

- (a) Remove the applicable over wing fairings, do this task Wing Junction Fairing Removal, TASK 54-52-03-010-801:

Open the applicable access panels:

Number	Name/Location
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2

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<u>Number</u>	<u>Name/Location</u>
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2

- (b) To remove the applicable leading edge gap cover, do this task Leading Edge Gap Covers Removal, TASK 54-52-09-000-801:

Open the applicable access panels:

<u>Number</u>	<u>Name/Location</u>
521AT	Outbd Leading Edge - Gap Cover Access
621AT	Outbd Leading Edge - Gap Cover Access

SUBTASK 54-53-01-010-003

- (4) To get access to the access doors [3] which are located on the side of the strut, remove the applicable thrust reverser fairing, do this step Forward Strut Fairing Panel (Thrust Reverser Strut Fairing) Removal, TASK 54-53-02-000-802:

Open the applicable access panels:

<u>Number</u>	<u>Name/Location</u>
431EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 1
431ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 1
441EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 2
441ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 2

F. Strut Access Door Removal

SUBTASK 54-53-01-020-001

- (1) Remove the strut access door located on the side of the strut as follows:

CAUTION: DO NOT USE POWER TOOLS TO REMOVE THE DOORS. DAMAGE TO THE DOORS CAN OCCUR.

CAUTION: DO NOT CONTINUE TO LOOSEN THE LATCH BOLTS AFTER THE INDICATORS HAVE TURNED. IF YOU DO, THE LATCH BOLTS AND LATCH CAN FALL OUT.

- (a) Loosen the center bolt with a hand tool until the door becomes loose.
- (b) Remove the strut access doors [3].

SUBTASK 54-53-01-020-002

- (2) Remove the strut access door located on the upper web as follows:

CAUTION: DO NOT USE POWER TOOLS TO REMOVE THE DOORS. DAMAGE TO THE DOORS CAN OCCUR.

CAUTION: DO NOT CONTINUE TO LOOSEN THE LATCH BOLTS AFTER THE INDICATORS HAVE TURNED. IF YOU DO, THE LATCH BOLTS AND LATCH CAN FALL OUT.

- (a) Loosen the latch bolts with a hand tool until the slots in the indicators turn approximately 90 degrees counterclockwise from the closed position.
- (b) Remove the strut access doors: [1], [2], or [4], do this step:

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Open the applicable access panels:

Number	Name/Location
433AT	Strut, Forward Spar Web, Strut 1
433BT	Strut, Forward Spar Web, Strut 1
433CT	Strut, Upper Spar Web, Strut 1

————— END OF TASK —————

TASK 54-53-01-400-801

3. Strut Access Door Installation

(Figure 401)

A. General

- (1) This task gives the instructions for the installation of the strut access doors.
- (2) Each strut has six access doors.
 - (a) Four doors on each strut are located on the strut upper web:
 - 1) Forward upper web access door, left strut.
 - 2) Forward upper web access door, left strut.
 - 3) Aft upper web access door, left strut.
 - 4) Aft upper web access door, left strut.
 - 5) Forward upper web access door, right strut.
 - 6) Forward upper web access door, right strut.
 - 7) Aft upper web access door, right strut.
 - 8) Aft upper web access door, right strut.
 - (b) Two doors on each strut are located on the side of the strut, at the aft end:
 - 1) Left aft access door, left strut.
 - 2) Right aft access door, left strut.
 - 3) Left aft access door, right strut.
 - 4) Right aft access door, right strut.
- (3) Each door has captive fasteners, but the fasteners can fall out if you loosen the latch bolts too much.

B. References

Reference	Title
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-52-00-200-801	Aerodynamic Smoothness Requirements (P/B 201)
54-52-01-410-801	Forward Fairing Installation (P/B 401)
54-52-03-410-801	Wing Junction Fairing Installation (P/B 401)
54-52-09-400-801	Leading Edge Gap Cover Installation (P/B 401)
54-53-02-410-801	Forward Strut Fairing Panel (Thrust Reverser Strut Fairing) Installation (P/B 401)

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C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Access Panels

Number	Name/Location
431BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 1
431BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 1
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
431EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 1
431ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 1
433AT	Strut, Forward Spar Web, Strut 1
433BT	Strut, Forward Spar Web, Strut 1
433CT	Strut, Upper Spar Web, Strut 1
441BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 2
441BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 2
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2
441EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 2
441ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 2
521AT	Outbd Leading Edge - Gap Cover Access
621AT	Outbd Leading Edge - Gap Cover Access

E. Strut Access Door Installation

SUBTASK 54-53-01-420-001

- (1) Do these steps to install the strut access doors located on the upper web:
- (a) Install the doors [1], [2], or [4] with the captive latch bolts, do this step:
Close the applicable access panels:

Number	Name/Location
433AT	Strut, Forward Spar Web, Strut 1
433BT	Strut, Forward Spar Web, Strut 1
433CT	Strut, Upper Spar Web, Strut 1

CAUTION: DO NOT USE POWER TOOLS TO INSTALL THE DOORS. DAMAGE TO THE DOORS CAN OCCUR.

- (b) Tighten the latch bolts with a hand tool to 20-40 pound-inches (2.3-4.5 newton-meters).
- 1) Make sure you turn the indicator slots until they are approximately perpendicular to the edge of the door nearest the latch bolt.

SUBTASK 54-53-01-420-002

- (2) Do these steps to install the strut access doors located on the side of the strut:
- (a) Install the door [3] with the captive center bolt.

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CAUTION: DO NOT USE POWER TOOLS TO INSTALL THE DOORS. DAMAGE TO THE DOORS CAN OCCUR.

(b) Tighten the latch bolts with a hand tool to 50-80 pound-inches (5.6-9 newton-meters).

F. Put the Airplane Back to Its Usual Condition

SUBTASK 54-53-01-410-001

(1) Install the thrust reverser fairing, do this task Forward Strut Fairing Panel (Thrust Reverser Strut Fairing) Installation, TASK 54-53-02-410-801:

Close these access panels:

<u>Number</u>	<u>Name/Location</u>
431EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 1
431ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 1
441EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 2
441ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 2

SUBTASK 54-53-01-000-001

(2) After installing the two aft strut access doors [3], do the following steps:

(a) Install the applicable wing junction fairing, do this task Wing Junction Fairing Installation, TASK 54-52-03-410-801:

Close the applicable access panels:

<u>Number</u>	<u>Name/Location</u>
431CL	Forward Strut Fairing, Left Overwing Fairing, Strut 1
431CR	Forward Strut Fairing, Right Overwing Fairing, Strut 1
441CL	Forward Strut Fairing, Left Overwing Fairing, Strut 2
441CR	Forward Strut Fairing, Right Overwing Fairing, Strut 2

(b) To install the applicable leading edge gap cover, do this task Leading Edge Gap Cover Installation, TASK 54-52-09-400-801:

Close the applicable access panels:

<u>Number</u>	<u>Name/Location</u>
521AT	Outbd Leading Edge - Gap Cover Access
621AT	Outbd Leading Edge - Gap Cover Access

SUBTASK 54-53-01-410-002

(3) Install the applicable forward fairing, do this task Forward Fairing Installation, TASK 54-52-01-410-801:

Close the applicable access panels:

<u>Number</u>	<u>Name/Location</u>
431BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 1
431BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 1
441BL	Forward Strut Fairing, Left Mid Strut Fairing, Strut 2
441BR	Forward Strut Fairing, Right Mid Strut Fairing, Strut 2

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SUBTASK 54-53-01-220-001

- (4) Make sure the panels are in the aerodynamic smoothness limits, do this task: Aerodynamic Smoothness Requirements, TASK 54-52-00-200-801.

SUBTASK 54-53-01-440-001

- (5) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— **END OF TASK** —————

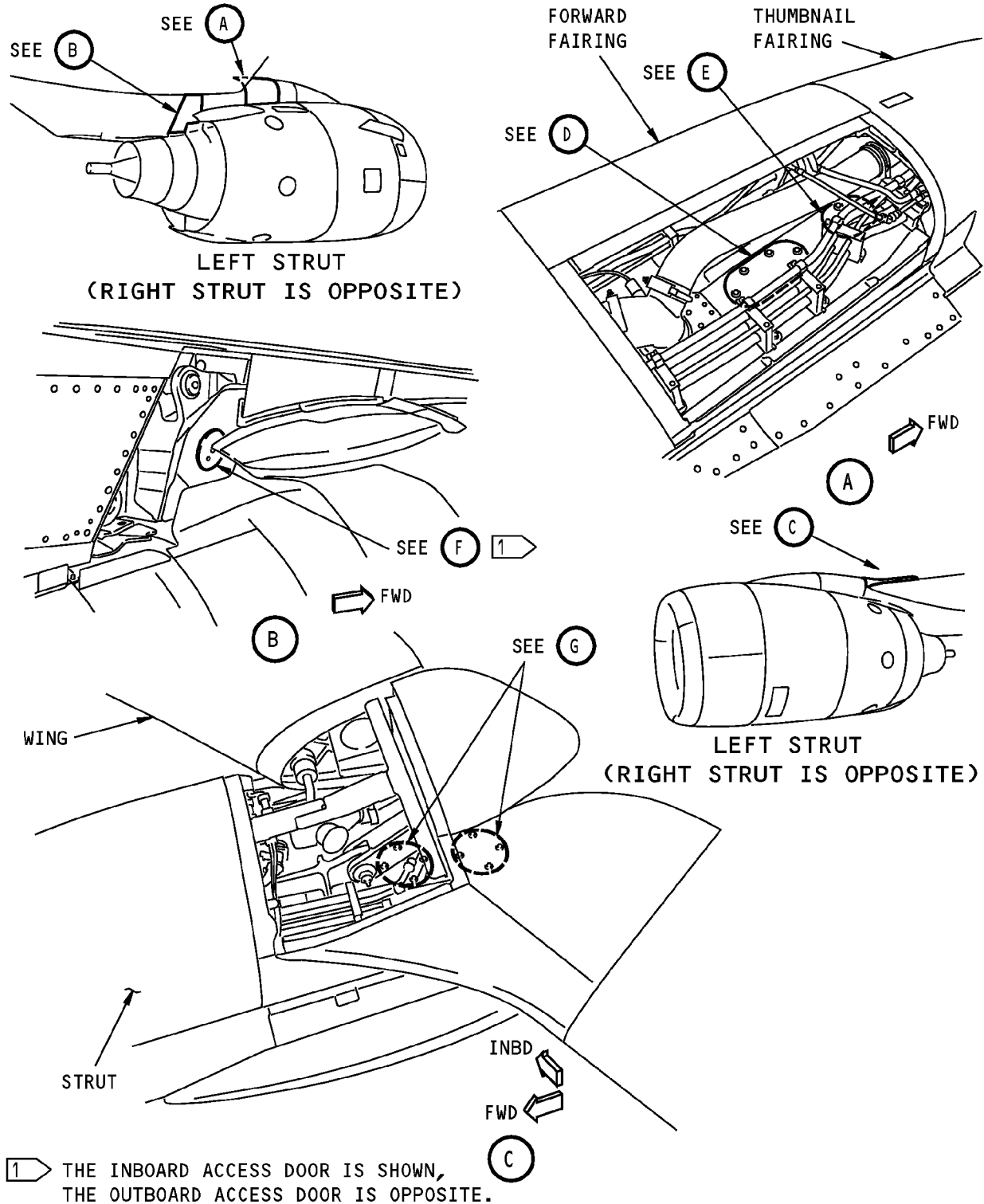
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**Strut Access Door Installation
Figure 401 (Sheet 1 of 2)/54-53-01-990-801**

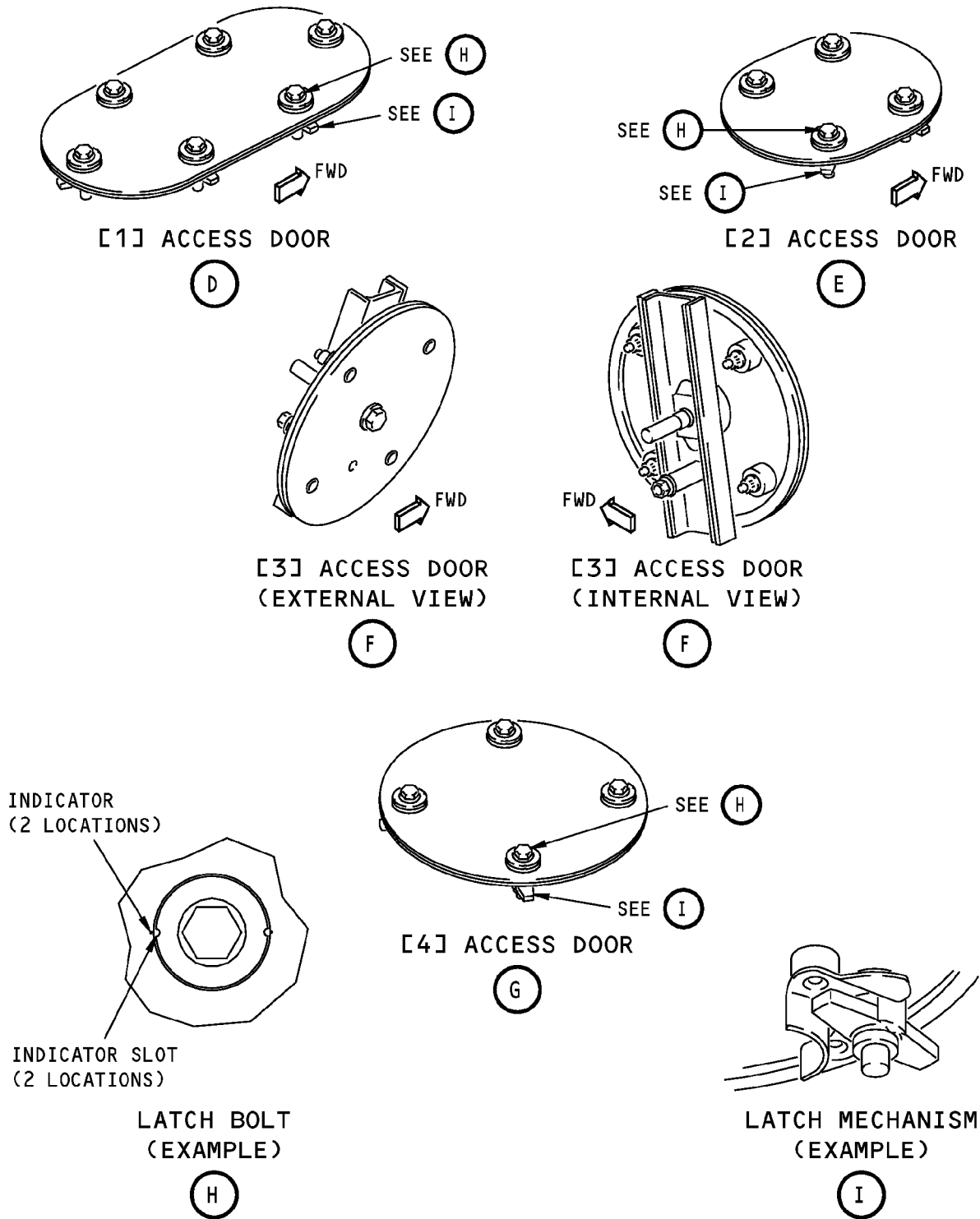
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**Strut Access Door Installation
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FORWARD STRUT FAIRING PANELS (THRUST REVERSER STRUT FAIRINGS) - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

- (1) A removal of the forward strut fairing panels (thrust reverser strut fairings).
- (2) An installation of the forward strut fairing panels (thrust reverser strut fairing).

TASK 54-53-02-000-802

2. Forward Strut Fairing Panel (Thrust Reverser Strut Fairing) Removal

(Figure 401)

A. General

- (1) Each strut has two thrust reverser fairing panels:
 - (a) An inboard thrust reverser fairing, and
 - (b) An outboard thrust reverser fairing.

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)

C. Location Zones

Zone	Area
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Access Panels

Number	Name/Location
431EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 1
431ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 1
441EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 2
441ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 2

E. Prepare for the Removal

SUBTASK 54-53-02-040-002

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

F. Forward Strut Fairing Panel Removal

SUBTASK 54-53-02-000-001

- (1) To remove the outboard thrust reverser fairings, do these steps:
 - (a) Remove the bolts [1] which hold the applicable access panel [2] or [3] in its position, do this step:
Open the applicable access panels:

Number	Name/Location
431EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 1
441ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 2
 - (b) Remove the applicable fair [2] or [3], do this step:

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Remove the applicable access panels:

<u>Number</u>	<u>Name/Location</u>
431EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 1
441ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 2

SUBTASK 54-53-02-000-002

(2) To remove the inboard thrust reverser fairings, do these steps:

(a) Remove the bolts [1] which hold the applicable fairing [4] or [5] in its position, do this step:

Open the applicable access panels:

<u>Number</u>	<u>Name/Location</u>
431ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 1
441EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 2

————— END OF TASK —————

TASK 54-53-02-410-801

3. Forward Strut Fairing Panel (Thrust Reverser Strut Fairing) Installation

(Figure 401)

A. General

(1) Each strut has two thrust reverser fairing panels:

- (a) An inboard thrust reverser fairing.
- (b) An outboard thrust reverser fairing.

B. References

<u>Reference</u>	<u>Title</u>
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-52-00-200-801	Aerodynamic Smoothness Requirements (P/B 201)

C. Location Zones

<u>Zone</u>	<u>Area</u>
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Access Panels

<u>Number</u>	<u>Name/Location</u>
431EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 1
431ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 1
441EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 2
441ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 2

E. Forward Strut Fairing Panel Installation

SUBTASK 54-53-02-420-001

(1) To install the outboard thrust reverser fairings, do these steps:

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- (a) Put the applicable fairing [2] or [3] in its position, do this step:

Close the applicable access panels:

<u>Number</u>	<u>Name/Location</u>
431EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 1
441ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 2

- (b) Install the bolts [1].

SUBTASK 54-53-02-400-001

- (2) To install the inboard thrust reverser fairings, do these steps:

- (a) Put the applicable fairing [4] or [5] in its position, do this step:

Close the applicable access panels:

<u>Number</u>	<u>Name/Location</u>
431ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 1
441EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 2

- (b) Install the bolts [1].

F. Put the Airplane Back to Its Usual Condition

SUBTASK 54-53-02-440-002

- (1) Make sure the panels are in the aerodynamic smoothness limits, do this task: Aerodynamic Smoothness Requirements, TASK 54-52-00-200-801.

SUBTASK 54-53-02-440-003

- (2) If you will do no more maintenance operations on the strut, do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

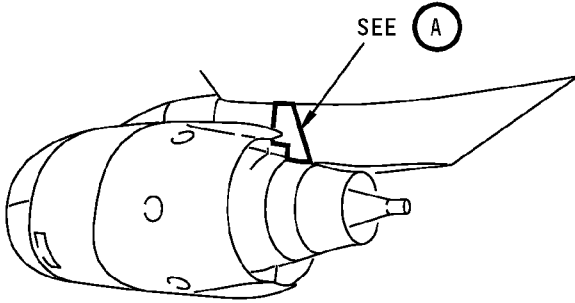
END OF TASK

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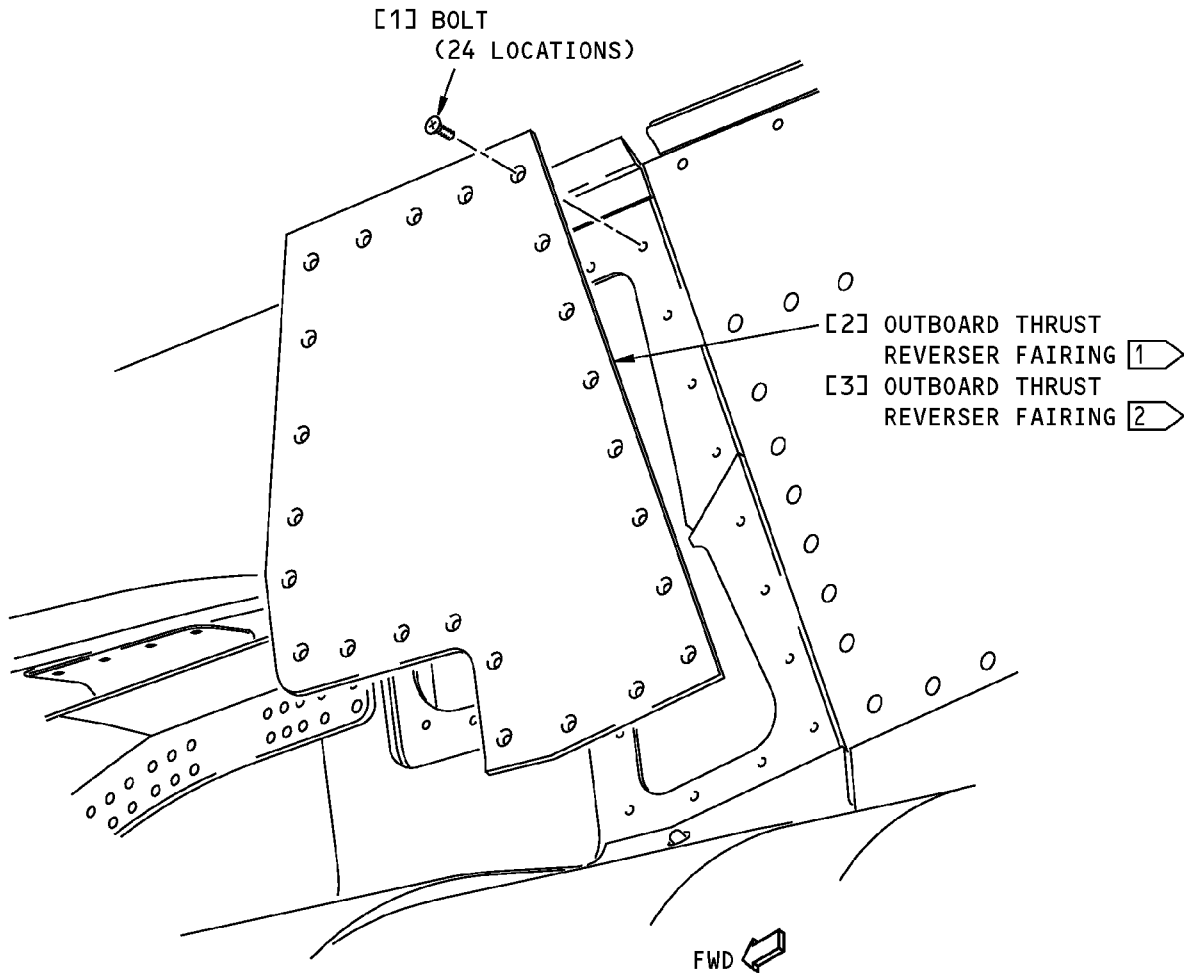
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**LEFT STRUT
(RIGHT STRUT IS OPPOSITE)**



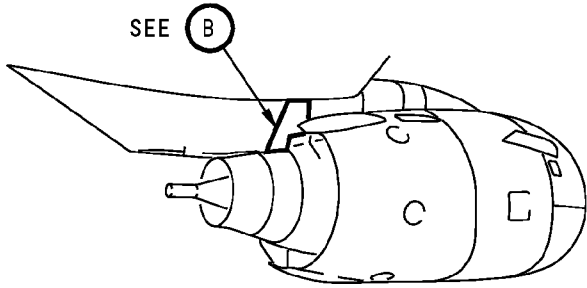
- 1 LEFT STRUT
- 2 RIGHT STRUT

**Strut Fairings Installation
Figure 401 (Sheet 1 of 2)/54-53-02-990-801**

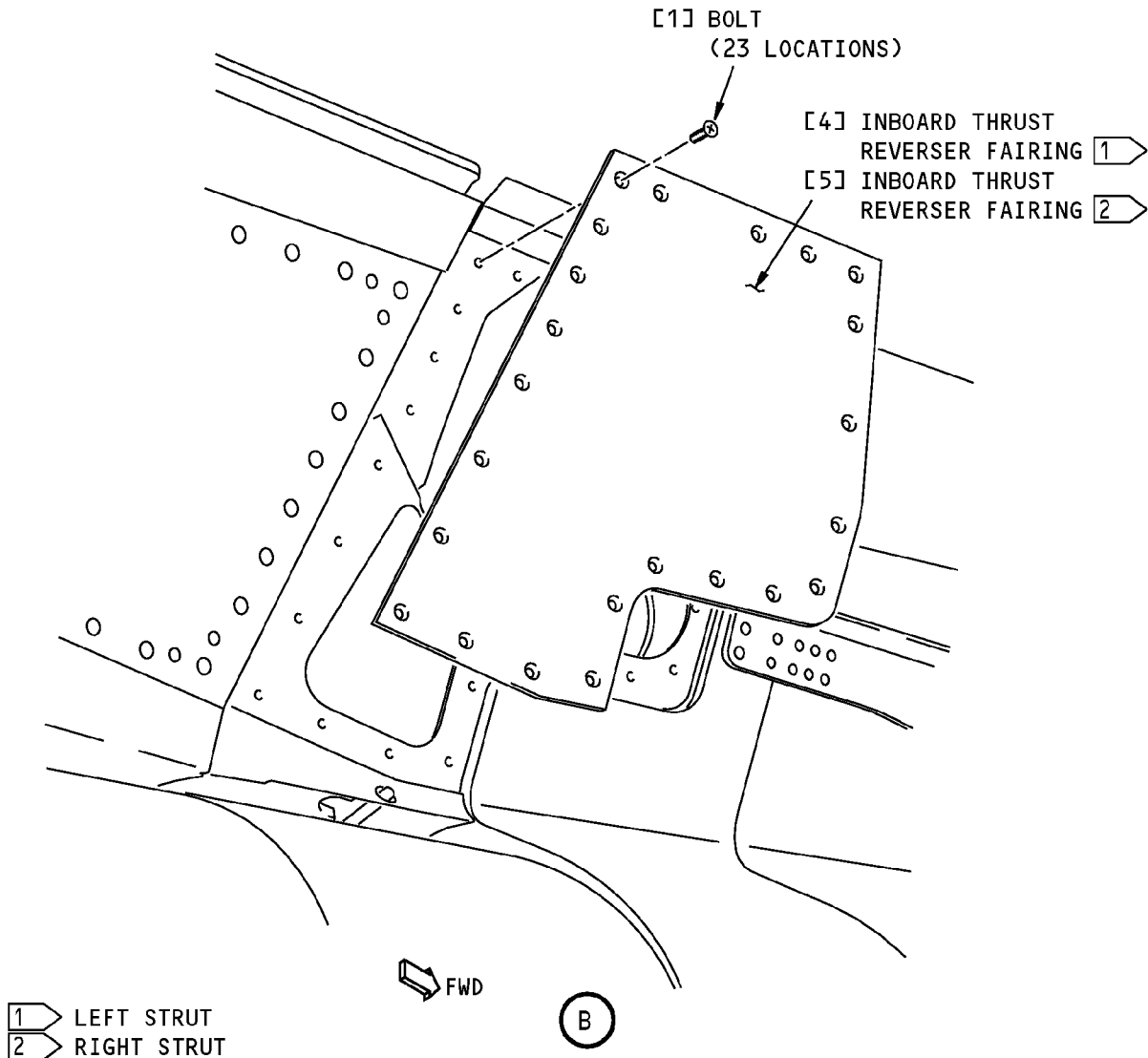
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**LEFT STRUT
(RIGHT STRUT IS OPPOSITE)**



**Strut Fairings Installation
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FORWARD STRUT FAIRING PANELS (THRUST REVERSER STRUT FAIRINGS) - INSPECTION/CHECK

1. General

A. This procedure examines the forward strut fairing panels (thrust reverser strut fairings).

TASK 54-53-02-000-801

2. Forward Strut Fairing Panel (Thrust Reverser Strut Fairing) Examination

A. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-52-00-200-801	Aerodynamic Smoothness Requirements (P/B 201)
54-53-02-000-802	Forward Strut Fairing Panel (Thrust Reverser Strut Fairing) Removal (P/B 401)
54-53-02-410-801	Forward Strut Fairing Panel (Thrust Reverser Strut Fairing) Installation (P/B 401)
SRM 54-50-70	Structural Repair Manual

B. Location Zones

Zone	Area
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

C. Access Panels

Number	Name/Location
431EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 1
431ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 1
441EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 2
441ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 2

D. Prepare for the Examination

SUBTASK 54-53-02-040-001

(1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-53-02-010-001

(2) To remove the applicable forward strut fairing panel (thrust reverser strut fairings), do this task: Forward Strut Fairing Panel (Thrust Reverser Strut Fairing) Removal, TASK 54-53-02-000-802

Open the applicable access panels:

Number	Name/Location
431EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 1
431ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 1
441EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 2
441ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 2

E. Forward Strut Fairing Panel Examination

SUBTASK 54-53-02-210-001

(1) Do these steps to examine the thrust reverser strut fairings:

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- (a) Examine the strut access panels for cracks in the skin, separation of the bonded layers, and damage to the paint and protective coating.
 - 1) If you find damage to the strut access panels, repair the panels as specified in this procedure: (SRM 54-50-70).

SUBTASK 54-53-02-410-001

- (2) To install the thrust reverser strut fairings, do this task: Forward Strut Fairing Panel (Thrust Reverser Strut Fairing) Installation, TASK 54-53-02-410-801

Close these access panels:

<u>Number</u>	<u>Name/Location</u>
431EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 1
431ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 1
441EL	Forward Strut Fairing, Left T.R. Strut Fairing, Strut 2
441ER	Forward Strut Fairing, Right T.R. Strut Fairing, Strut 2

SUBTASK 54-53-02-210-003

- (3) Do this task: Aerodynamic Smoothness Requirements, TASK 54-52-00-200-801.

F. Put the Airplane Back to its Usual Condition

SUBTASK 54-53-02-440-001

- (1) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— **END OF TASK** —————

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FORWARD STRUT FIRE SEAL - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

- (1) An inspection of the forward strut fire seal.
- (2) A removal of the forward strut fire seal.
- (3) An installation of the forward strut fire seal.

TASK 54-54-00-200-803

2. Forward Strut Fire Seal Inspection

(Figure 201)

A. General

- (1) The forward strut fire seal is located near the forward engine mount.

B. References

Reference	Title
71-00-02-000-801-F00	Power Plant Removal (P/B 401)

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Forward Strut Fire Seal Inspection

SUBTASK 54-54-00-210-007

- (1) Do a visual check of the fire seal [1] condition.
 - (a) Lower the powerplant. To lower the powerplant, do this task: Power Plant Removal, TASK 71-00-02-000-801-F00.
 - (b) Remove the engine fan case away from the fire seal [1].
 - (c) Inspect the fire seal [1] for any cuts or worn areas.

NOTE: If no cuts or worn areas are present and the fire seal [1], although pinched, is not damaged in any way, the fire seal [1] is serviceable.

- 1) If the fire seal [1] inspection shows cuts or worn areas, then the fire seal [1] must be replaced. To replace the fire seal, These are the tasks:
 - Forward Strut Fire Seal Removal, TASK 54-54-00-000-801,
 - Forward Strut Fire Seal Installation, TASK 54-54-00-400-801.

————— **END OF TASK** —————

TASK 54-54-00-000-801

3. Forward Strut Fire Seal Removal

(Figure 201)

A. General

- (1) The forward strut fire seal is located near the forward engine mount.

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B. References

Reference	Title
71-00-02-000-801-F00	Power Plant Removal (P/B 401)
78-31-01-000-801-F00	Thrust Reverser Removal (P/B 401)

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Forward Strut Fire Seal Removal

SUBTASK 54-54-00-020-001

(1) To remove the fire seal [1], do these steps:

- (a) Remove the powerplant. To remove the powerplant, do this task: Power Plant Removal, TASK 71-00-02-000-801-F00.
- (b) If it is necessary, remove both thrust reversers. To remove thrust reversers, do this task: Thrust Reverser Removal, TASK 78-31-01-000-801-F00.

NOTE: Removal of both thrust reversers may not be required. It is recommended to first attempt removal of the fire seal without removal of the thrust reversers. If the fire seal can not be removed, then first remove the thrust reversers and try to remove the fire seal again.

- (c) Remove the fasteners [6] and [7].

NOTE: This removes the fire seal [1] together with the retainer [2].

- (d) Label and keep the fasteners [6] and [7] and retainer [2], for later installation.
- (e) Slide each vertical arm of the fire seal [1] out of its keeper assembly [4] and retainer [3].

END OF TASK

TASK 54-54-00-400-801

4. Forward Strut Fire Seal Installation

(Figure 201)

A. General

- (1) The forward strut fire seal is located near the forward engine mount.

B. References

Reference	Title
71-00-02-400-801-F00	Power Plant Installation (P/B 401)
78-31-01-400-801-F00	Thrust Reverser Installation (P/B 401)

C. Consumable Materials

Reference	Description	Specification
A00160	Sealant - Firewall - Hydraulic Fluid Resistant	BMS5-63

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D. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

E. Forward Strut Fire Seal Installation

SUBTASK 54-54-00-400-001

(1) To install the fire seal [1], do these steps:

(a) Install the vertical arms of the fire seal [1] in the retainer [3] and keeper [4].

NOTE: Make sure the fire seal [1] is pushed up as high as possible.

(b) To secure the fire seal [1] and the retainer [2] to the bottom of the strut [5], install the fasteners [6] and [7].

NOTE: Make sure the fire seal [1] is pushed up as high as possible.

(c) Torque the fasteners [6] and [7] to 12-15 pound-inches (1.36-1.70 newton-meters).

(d) Apply sealant, A00160 to make a fillet seal between the retainer [2] and the fire seal [1].

SUBTASK 54-54-00-020-002

(2) Install both thrust reversers, if they were removed.

(a) To install the thrust reversers, do this task: Thrust Reverser Installation, TASK 78-31-01-400-801-F00.

SUBTASK 54-54-00-020-003

(3) Install the powerplant.

(a) To install the powerplant, do this task: Power Plant Installation, TASK 71-00-02-400-801-F00.

NOTE: When the engine is being raised, carefully examine the fire seal [1] to make sure it does not become pinched. If the fire seal [1] becomes pinched, push the fire seal [1] up into the strut [5], away from the engine, and continue to raise the engine.

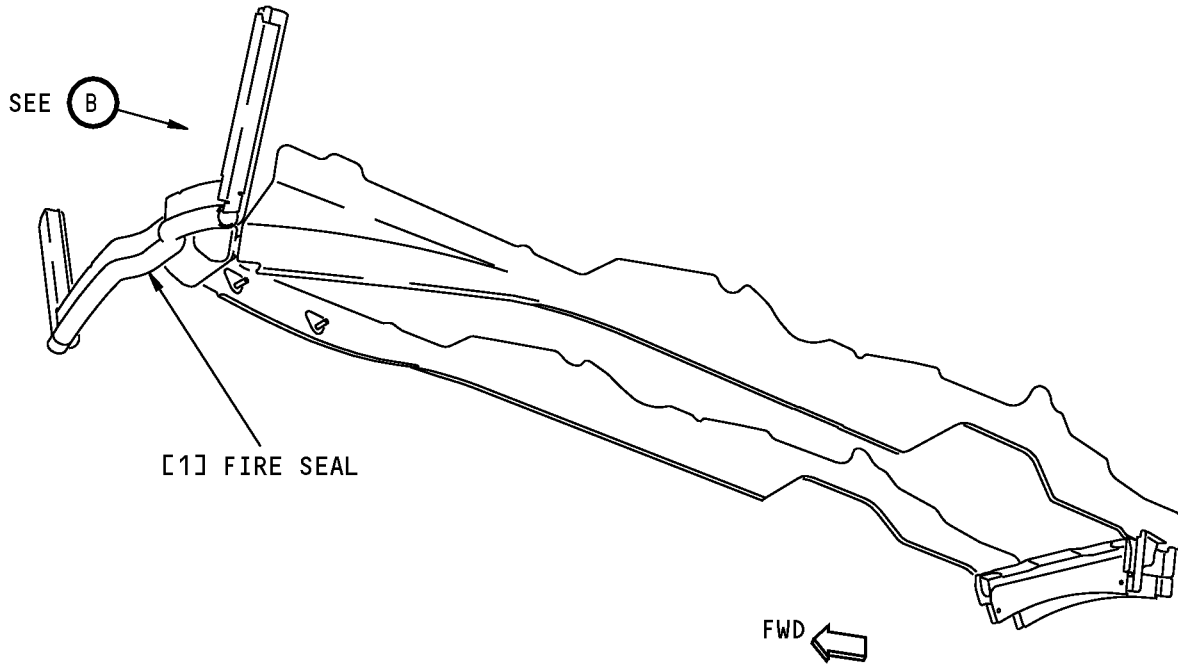
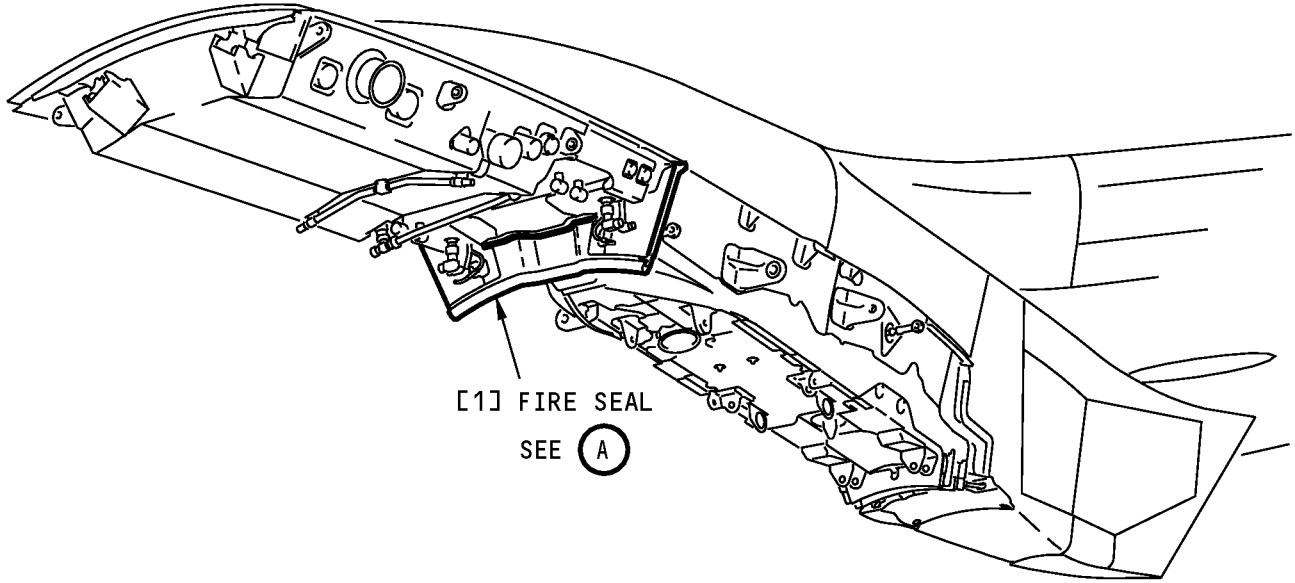
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FIRE SEAL

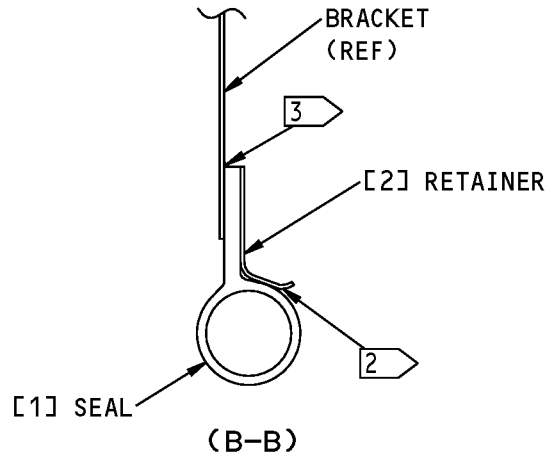
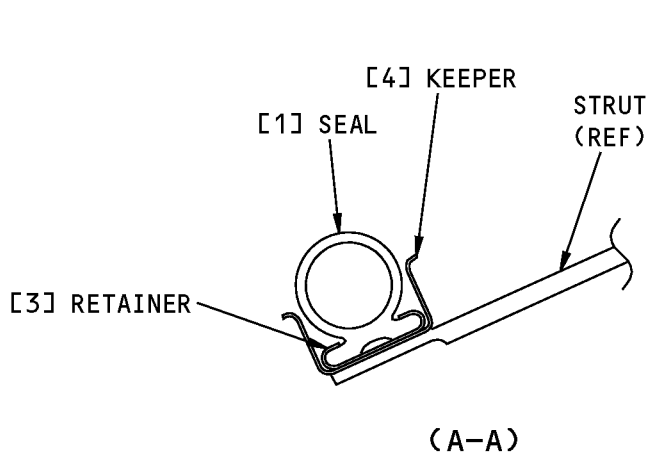
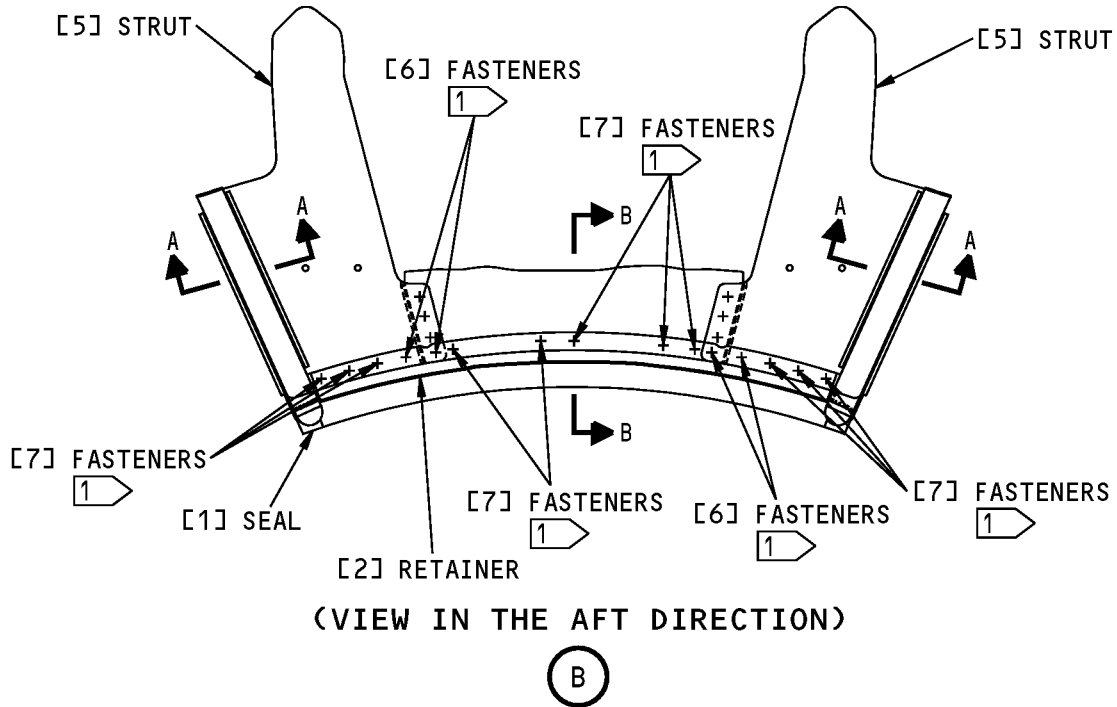
(A)

**Forward Strut Fire Seal Installation
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- [1] INSTALL FASTENERS PER BAC5004 EXCEPT TORQUE FASTENERS 12-15 INCH-POUNDS (1.36-1.70 NEWTON-METERS)
- [2] SEAL BULB SHALL BE IN CONTACT WITH THE HORIZONTAL FLANGE OF THE RETAINER ALONG THE ENTIRE LENGTH OF THE MATING SURFACES. PERMISSIBLE TO COMPRESS SEAL AS REQUIRED TO ASSURE CONTACT BETWEEN THE SEAL AND THE RETAINER. TRIM OFF EXCESS ON VERTICAL LEG OF SEAL IS PERMISSIBLE TO FACILITATE FILLET SEALING REQUIREMENT.
- [3] APPLY BMS5-63 FILLET SEAL PER BAC5000 TO FILL ANY GAPS.

Forward Strut Fire Seal Installation
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STRUT FIRESEAL AND FIRESEAL DEPRESSOR - INSPECTION/CHECK

1. General

- A. This procedure has two tasks:
- (1) Strut Fireseal Depressor Inspection.
 - (2) Forward Strut Fireseal Inspection.

TASK 54-54-00-200-801

2. Strut Fireseal Depressor Inspection

(Figure 601)

A. General

- (1) This task has these steps:
- (a) Get access to the fireseal depressor.
 - (b) Do an inspection of the fireseal depressor for damage.
 - (c) Close access to the fireseal depressor.

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
78-31-00-010-801-F00	Open the Thrust Reverser (Selection) (P/B 201)
78-31-00-010-804-F00	Close the Thrust Reverser (Selection) (P/B 201)

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Prepare for the Inspection

SUBTASK 54-54-00-040-001

- (1) Prepare the strut for maintenance operations. To prepare the strut, do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-54-00-010-001

- (2) Open the applicable thrust reversers. To open the thrust reversers, do this task: Open the Thrust Reverser (Selection), TASK 78-31-00-010-801-F00.

E. Strut Fireseal Depressor Inspection

SUBTASK 54-54-00-210-001

- (1) Make sure the fireseal depressor parts are not loose, damaged, or missing.

SUBTASK 54-54-00-210-002

- (2) Do an inspection of the firewall structure for cracks, nicks, dents, distortion, or other damage.

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F. Put the Airplane Back to Its Usual Condition

SUBTASK 54-54-00-100-001

CAUTION: MAKE SURE YOU KEEP THE STRUT AREA CLEAN. LOOSE TOOLS AND UNWANTED MATERIALS IN THE STRUT COMPARTMENTS CAN PREVENT THE REMOVAL OF FLUIDS THROUGH THE STRUT DRAINS. IF YOU DO NOT REMOVE THE UNWANTED MATERIALS, YOU CAN CAUSE DAMAGE TO THE STRUT.

- (1) Remove all unwanted materials from the strut compartments.

SUBTASK 54-54-00-410-001

- (2) Close the applicable thrust reversers. To close the thrust reversers, do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-804-F00.

SUBTASK 54-54-00-440-001

- (3) If you will do no more maintenance operations, do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

END OF TASK

TASK 54-54-00-200-802

3. Forward Strut Fireseal Inspection

(Figure 601)

A. General

- (1) This task does an Inspection of the Forward Strut Fireseal.

B. References

Table with 2 columns: Reference, Title. Rows include 78-31-00-010-801-F00 (Open the Thrust Reverser) and 78-31-00-010-804-F00 (Close the Thrust Reverser).

C. Location Zones

Table with 2 columns: Zone, Area. Rows include 410 (Subzone - Engine 1), 420 (Subzone - Engine 2), 430 (Subzone - Engine 1, Nacelle Strut), and 440 (Subzone - Engine 2, Nacelle Strut).

D. Procedure

SUBTASK 54-54-00-210-006

- (1) Do these steps to do an inspection of the forward strut fireseal: (a) Look in the thrust reverser fan bypass to see if the forward strut fireseal protrudes. (b) If the fireseal protrudes do these steps: 1) Open the applicable thrust reversers. 2) Measure the clearance between the fireseal retainer and the engine fan case. a) Make sure there is a minimum clearance of 0.10 inch (2.54 mm).

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E. Put the Airplane Back to Its Usual Condition

SUBTASK 54-54-00-410-002

- (1) Close the applicable thrust reversers. To close the thrust reversers, do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-804-F00.

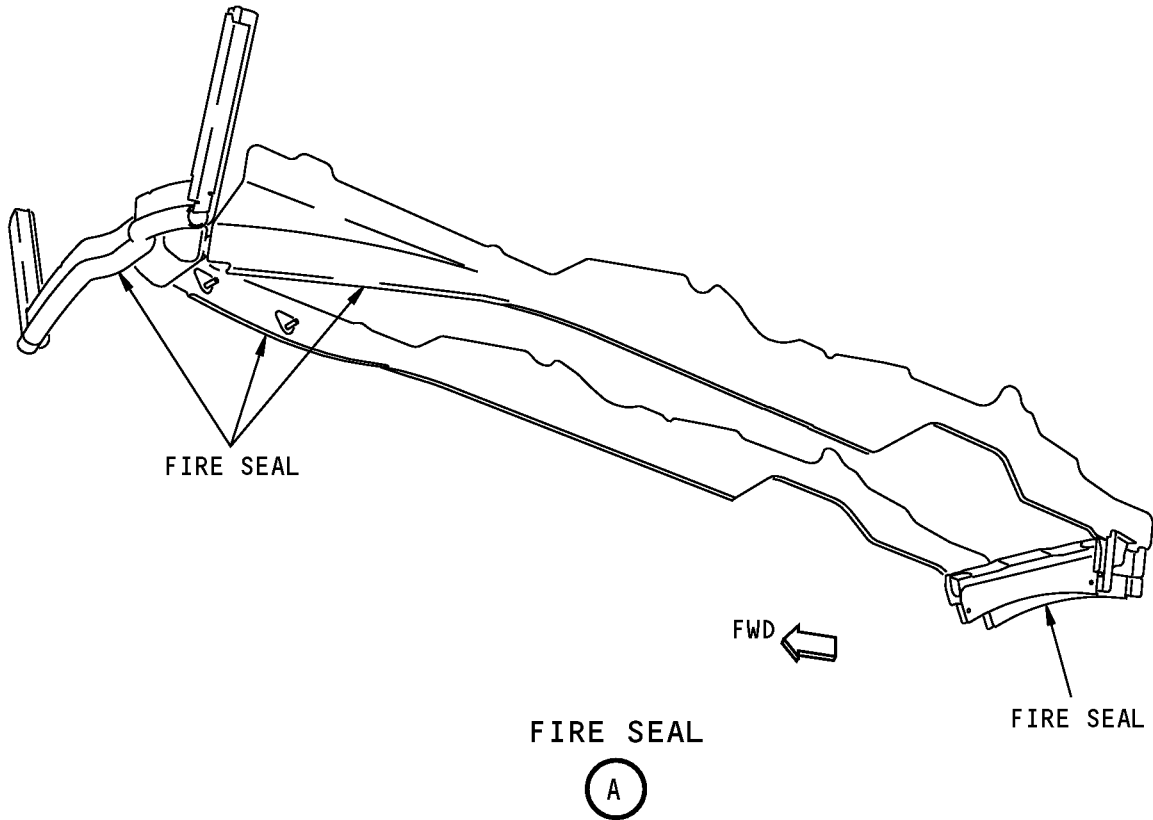
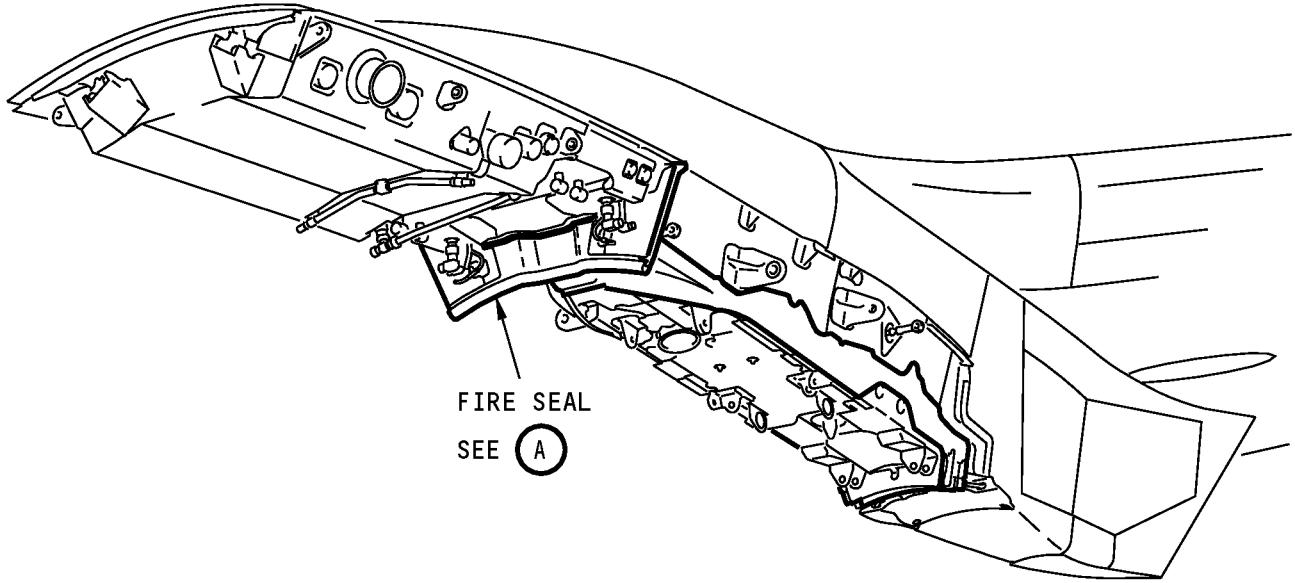
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**Strut Fire Seal Depressor Inspection
Figure 601/54-54-00-990-801**

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STRUT INSULATION BLANKETS - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

- (1) A removal of the strut forward insulation blankets.
- (2) An installation of the strut forward insulation blankets.
- (3) A removal of the strut mid insulation blankets.
- (4) An installation of the strut mid insulation blankets.
- (5) A removal of the strut aft insulation blankets.
- (6) An installation of the strut aft insulation blankets.

TASK 54-54-01-000-801

2. Strut Forward Insulation Blanket Removal

(Figure 401)

A. General

- (1) This task gives the instructions on how to remove the strut forward insulation blankets.
- (2) The strut forward insulation blankets are located near the forward engine mount.

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
71-00-02-000-801-F00	Power Plant Removal (P/B 401)

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Prepare for the Removal

SUBTASK 54-54-01-040-002

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-54-01-860-001

- (2) For Engine 1;

Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
B	4	C01003	ENGINE 1 THRUST REVERSER IND
B	6	C01412	ENGINE 1 THRUST REVERSER INTLK
B	7	C01266	ENGINE 1 THRUST REVERSER SYNC LOCK

SUBTASK 54-54-01-860-002

- (3) For Engine 2;

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Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	5	C01267	ENGINE 2 THRUST REVERSER SYNC LOCK
C	6	C01413	ENGINE 2 THRUST REVERSER INTLK
C	8	C01004	ENGINE 2 THRUST REVERSER IND

SUBTASK 54-54-01-020-001

(4) Do this task: Power Plant Removal, TASK 71-00-02-000-801-F00.

SUBTASK 54-54-01-010-002

(5) Do these steps to disconnect the electrical connectors from the strut receptacles:

(a) For the left thrust reverser, disconnect the electrical connectors, D30002 and D30006, (Figure 401).

NOTE: D30002 connects to a receptacle at blanket [3]. D30006 connects to a receptacle at blanket [2].

(b) For the right thrust reverser, disconnect the electrical connectors, D30008 and D30010, (Figure 401).

NOTE: D30008 connects to a receptacle at blanket [3]. D30010 connects to a receptacle at blanket [2].

E. Strut Forward Insulation Blanket Removal

SUBTASK 54-54-01-000-001

(1) To remove the forward insulation blanket [1], do these steps:

(a) Remove the nuts [19] and the washers [18].

(b) Remove the insulation blanket [1].

SUBTASK 54-54-01-020-002

(2) To remove the forward insulation blankets [2] or [3], do these steps:

(a) Remove the bolts [17] and the washers [18] to remove insulation blanket [2] or [3].

(b) Remove insulation blanket [2] or [3].

————— **END OF TASK** —————

TASK 54-54-01-400-801

3. Installation of Strut Forward Insulation Blankets

A. General

(1) This task gives the instructions on how to install the strut forward insulation blankets.

(2) The strut forward insulation blankets are located near the forward engine mount.

B. References

Reference	Title
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
71-00-02-400-801-F00	Power Plant Installation (P/B 401)
78-31-00-700-801-F00	Thrust Reverser Normal Operation Test (P/B 501)
78-31-00-700-806-F00	Thrust Reverser Linear Variable Differential Transformer (LVDT) Test (P/B 501)

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C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Strut Forward Insulation Blanket Installation

SUBTASK 54-54-01-000-002

(1) To install the forward insulation blanket [1], do these steps:

- (a) Place the insulation blanket [1] in the correct location.
- (b) Install the nuts [19] and the washers [18].

SUBTASK 54-54-01-020-003

(2) To install the forward insulation blankets [2] or [3], do these steps:

- (a) Put insulation blanket [2] or [3] in the correct location.
- (b) Install the bolts [17] and the washers [18].

SUBTASK 54-54-01-010-003

(3) Do these steps to connect the electrical connectors from the strut receptacles:

- (a) For the left thrust reverser, connect the electrical connectors, D30002 and D30006, (Figure 401).

NOTE: D30002 connects to a receptacle at blanket [3]. D30006 connects to a receptacle at blanket [2].

- (b) For the right thrust reverser, connect the electrical connectors, D30008 and D30010, (Figure 401).

NOTE: D30008 connects to a receptacle at blanket [3]. D30010 connects to a receptacle at blanket [2].

E. Put the Strut Back to its Usual Condition

SUBTASK 54-54-01-020-004

(1) Do this task: Power Plant Installation, TASK 71-00-02-400-801-F00.

SUBTASK 54-54-01-860-003

(2) For Engine 1;

Close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
B	4	C01003	ENGINE 1 THRUST REVERSER IND
B	6	C01412	ENGINE 1 THRUST REVERSER INTLK
B	7	C01266	ENGINE 1 THRUST REVERSER SYNC LOCK

SUBTASK 54-54-01-860-004

(3) For Engine 2;

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Close these circuit breakers:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	5	C01267	ENGINE 2 THRUST REVERSER SYNC LOCK
C	6	C01413	ENGINE 2 THRUST REVERSER INTLK
C	8	C01004	ENGINE 2 THRUST REVERSER IND

SUBTASK 54-54-01-040-003

(4) Do this task: Thrust Reverser Normal Operation Test, TASK 78-31-00-700-801-F00.

SUBTASK 54-54-01-040-004

(5) Do this task: Thrust Reverser Linear Variable Differential Transformer (LVDT) Test, TASK 78-31-00-700-806-F00.

SUBTASK 54-54-01-040-005

(6) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

END OF TASK

TASK 54-54-01-000-802

4. Strut Mid Insulation Blanket Removal

(Figure 401)

A. General

- (1) This task gives the instructions to remove the strut mid insulation blankets.
- (2) The strut mid insulation blankets are found between the forward and aft engine mounts.
- (3) To get access to the mid strut insulation blankets only, open the thrust reversers. If you will also remove the forward or aft insulation blankets, you can remove the power plant for easier access.

B. References

<u>Reference</u>	<u>Title</u>
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
78-31-00-010-801-F00	Open the Thrust Reverser (Selection) (P/B 201)

C. Location Zones

<u>Zone</u>	<u>Area</u>
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Prepare for the Removal

SUBTASK 54-54-01-040-006

(1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

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SUBTASK 54-54-01-020-005

WARNING: DO THESE SPECIFIED TASKS IN THE CORRECT SEQUENCE BEFORE YOU OPEN THE THRUST REVERSERS: RETRACT THE LEADING EDGE, DO THE DEACTIVATION PROCEDURES FOR THE LEADING EDGE AND THE THRUST REVERSERS (FOR GROUND MAINTENANCE), AND OPEN THE FAN COWL PANELS. IF YOU DO NOT OBEY THE ABOVE SEQUENCE, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(2) Do this task: Open the Thrust Reverser (Selection), TASK 78-31-00-010-801-F00.

E. Strut Mid Insulation Blanket Removal

SUBTASK 54-54-01-000-003

(1) To remove the mid insulation blankets, do these steps:

NOTE: The blankets must be removed in the correct order, (Figure 401).

- (a) Remove nuts [19] and washers [18] for insulation blanket [13].
- (b) Remove insulation blanket [13].
- (c) Remove nuts [19] and washers [18] for insulation blanket [12].
- (d) Remove insulation blanket [12].
- (e) Remove nuts [19] and washers [18] for insulation blanket [11].
- (f) Remove insulation blanket [11].
- (g) Remove nuts [19] and washers [18] for insulation blanket [10].
- (h) Remove insulation blanket [10].
- (i) Remove nuts [19] and washers [18] for insulation blanket [9].
- (j) Remove insulation blanket [9].
- (k) Remove nuts [19] and washers [18] for insulation blanket [8].
- (l) Remove insulation blanket [8].
- (m) Remove nuts [19] and washers [18] for insulation blanket [7].
- (n) Remove insulation blanket [7].
- (o) Remove nuts [19] and washers [18] for insulation blanket [6].
- (p) Remove insulation blanket [6].
- (q) Remove nuts [19] and washers [18] for insulation blanket [5].
- (r) Remove insulation blanket [5].
- (s) Remove nuts [19] and washers [18] for insulation blanket [4].
- (t) Remove insulation blanket [4].

————— **END OF TASK** —————

TASK 54-54-01-400-802

5. Installation of Strut Mid Insulation Blankets

A. General

- (1) This task gives the instructions to install the strut mid insulation blankets.
- (2) The strut mid insulation blankets are found between the forward and aft engine mounts.
- (3) To replace one or more mid insulation blankets, they must be installed according to the order indicated below.

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B. References

Reference	Title
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
78-31-00-010-804-F00	Close the Thrust Reverser (Selection) (P/B 201)

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Strut Mid Insulation Blanket Installation

SUBTASK 54-54-01-000-004

CAUTION: THE MID INSULATION BLANKETS MUST BE INSTALLED IN THE CORRECT ORDER TO MAKE SURE THAT THE BLANKETS PROTECT THE STRUT FROM ENGINE HEAT.

- (1) Install the mid insulation blankets in the following order:
 - (a) Put the insulation blanket [4] in the correct location.
 - (b) Install the nuts [19] and the washers [18].
 - (c) Put the insulation blanket [5] in the correct location.
 - (d) Install the nuts [19] and the washers [18].
 - (e) Put the insulation blanket [6] in the correct location.
 - (f) Install the nuts [19] and the washers [18].
 - (g) Put the insulation blanket [7] in the correct location.
 - (h) Install the nuts [19] and the washers [18].
 - (i) Put the insulation blanket [8] in the correct location.
 - (j) Install the nuts [19] and the washers [18].
 - (k) Put the insulation blanket [9] in the correct location.
 - (l) Install the nuts [19] and the washers [18].
 - (m) Put the insulation blanket [10] in the correct location.
 - (n) Install the nuts [19] and the washers [18].
 - (o) Put the insulation blanket [11] in the correct location.
 - (p) Install the nuts [19] and the washers [18].
 - (q) Put the insulation blanket [12] in the correct location.
 - (r) Install the nuts [19] and the washers [18].
 - (s) Put the insulation blanket [13] in the correct location.
 - (t) Install the nuts [19] and the washers [18].

E. Put the Strut Back to its Usual Condition

SUBTASK 54-54-01-020-006

- (1) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-804-F00.

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SUBTASK 54-54-01-040-007

(2) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

END OF TASK

TASK 54-54-01-000-803

6. Strut Aft Insulation Blanket Removal

(Figure 401)

A. General

- (1) This task gives the instructions to remove the strut aft insulation blankets.
- (2) The strut aft insulation blankets are found aft of the aft engine mount.
- (3) To get access to the aft strut insulation blankets only, remove the exhaust nozzle. If you will also remove the forward or mid insulation blankets, you can remove the power plant for easier access.

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
78-11-01-000-801-F00	Primary Nozzle Assembly Removal (P/B 401)

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Prepare for the Removal

SUBTASK 54-54-01-040-008

(1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-54-01-020-007

(2) Do this task: Primary Nozzle Assembly Removal, TASK 78-11-01-000-801-F00.

E. Strut Aft Insulation Blanket Removal

SUBTASK 54-54-01-000-005

- (1) To remove the aft insulation blankets, do these steps:
 - (a) Remove the nuts [19] and washers [18] for insulation blanket [14].
 - 1) Disconnect the aft end of insulation blanket [14] by removing the bolt [17], washers [18], and nut [19].
 - (b) Remove the nuts [19] and the washers [18] for the insulation blanket [15].
 - 1) Make sure that the forward end of insulation blanket [15] is disconnected.
- NOTE:** This is done in one of the steps to remove blanket [14].

HAP 001-013, 015-026, 028-036, 038 PRE SB 737-54-1045

- (c) Remove the nuts [19], bolt [17], and washers [18] for insulation blanket [16].

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HAP 001-013, 015-026, 028-036, 038 PRE SB 737-54-1045 (Continued)

HAP 037, 039-054, 101-999; HAP 001-013, 015-026, 028-036, 038 POST SB 737-54-1045

- (d) Do the steps that follow to remove the insulation blanket [16].
 - 1) Remove all the bolts, washers, and nuts as shown in Figure 401.
 - 2) Remove the insulation blanket [16].

HAP ALL

————— END OF TASK —————

TASK 54-54-01-400-803

7. Installation of Strut Aft Insulation Blankets

A. General

- (1) This task gives the instructions to install the strut aft insulation blankets.
- (2) The strut aft insulation blankets are found aft of the aft engine mount.

B. References

Reference	Title
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
78-11-01-400-801-F00	Primary Nozzle Assembly Installation (P/B 401)

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

D. Strut Aft Insulation Blanket Installation

SUBTASK 54-54-01-000-006

- (1) To install the aft insulation blankets, do these steps:
 - (a) Install the nuts [19] and washers [18] for insulation blanket [14].
 - 1) Connect the aft end of insulation blanket [14] by removing the bolt [17], washers [18], and nut [19].
 - (b) Install the nuts [19] and washers [18] for the insulation blanket [15].
 - 1) Make sure that the forward end of the blanket [15] is connected.
- NOTE: This is done in one of the steps to install blanket [14].

HAP 001-013, 015-026, 028-036, 038 PRE SB 737-54-1045

- (c) Install the nuts [19], bolts [17], and washers [18] for insulation blanket [16].

HAP 037, 039-054, 101-999; HAP 001-013, 015-026, 028-036, 038 POST SB 737-54-1045

- (d) Do the steps that follow to install the insulation blanket [16].
 - 1) Install all the bolts, washers, and nuts as shown in Figure 401.
 - 2) Install the insulation blanket [16].

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E. Put the Strut Back to its Usual Condition

SUBTASK 54-54-01-020-008

(1) Do this task: Primary Nozzle Assembly Installation, TASK 78-11-01-400-801-F00.

SUBTASK 54-54-01-040-009

(2) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

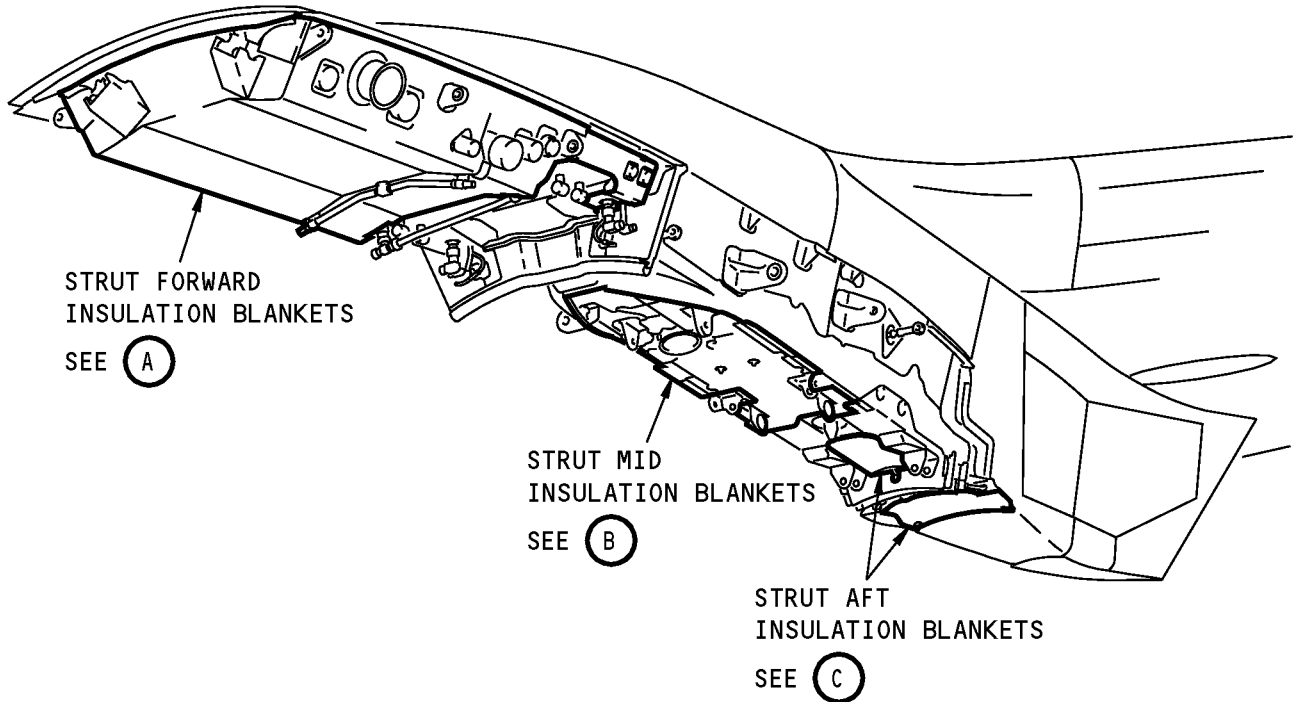
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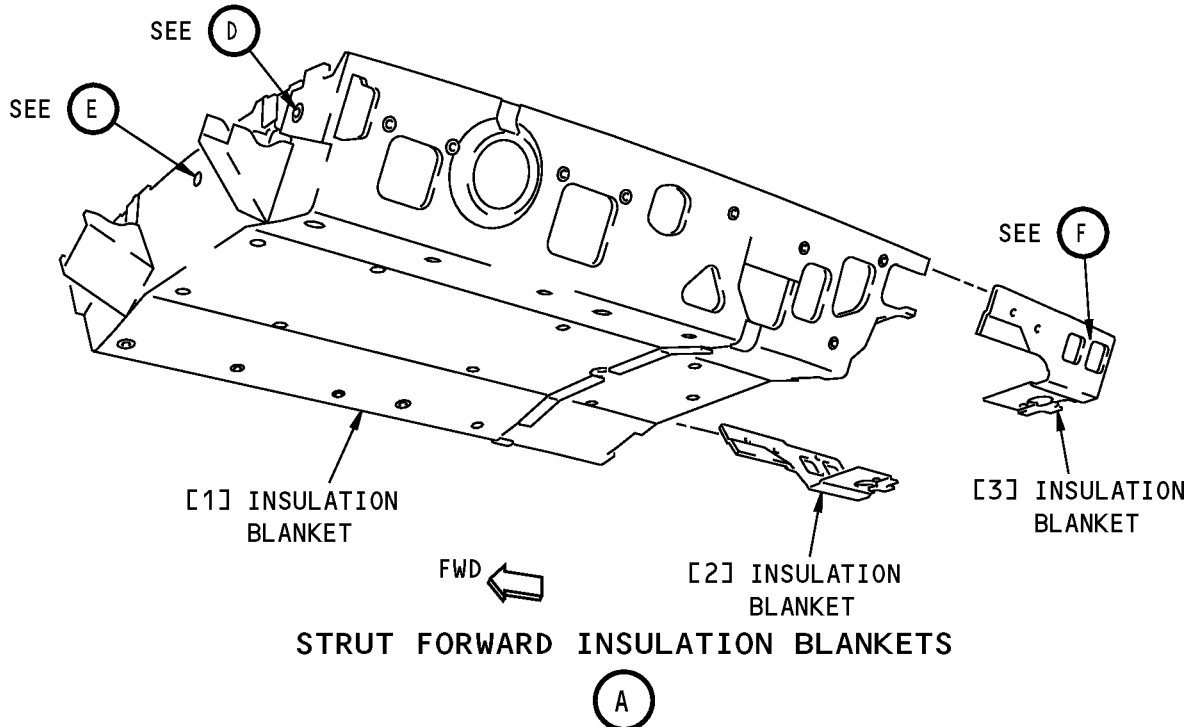
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**LEFT STRUT INSULATION BLANKETS
(RIGHT STRUT INSULATION BLANKETS ARE EQUIVALENT)**

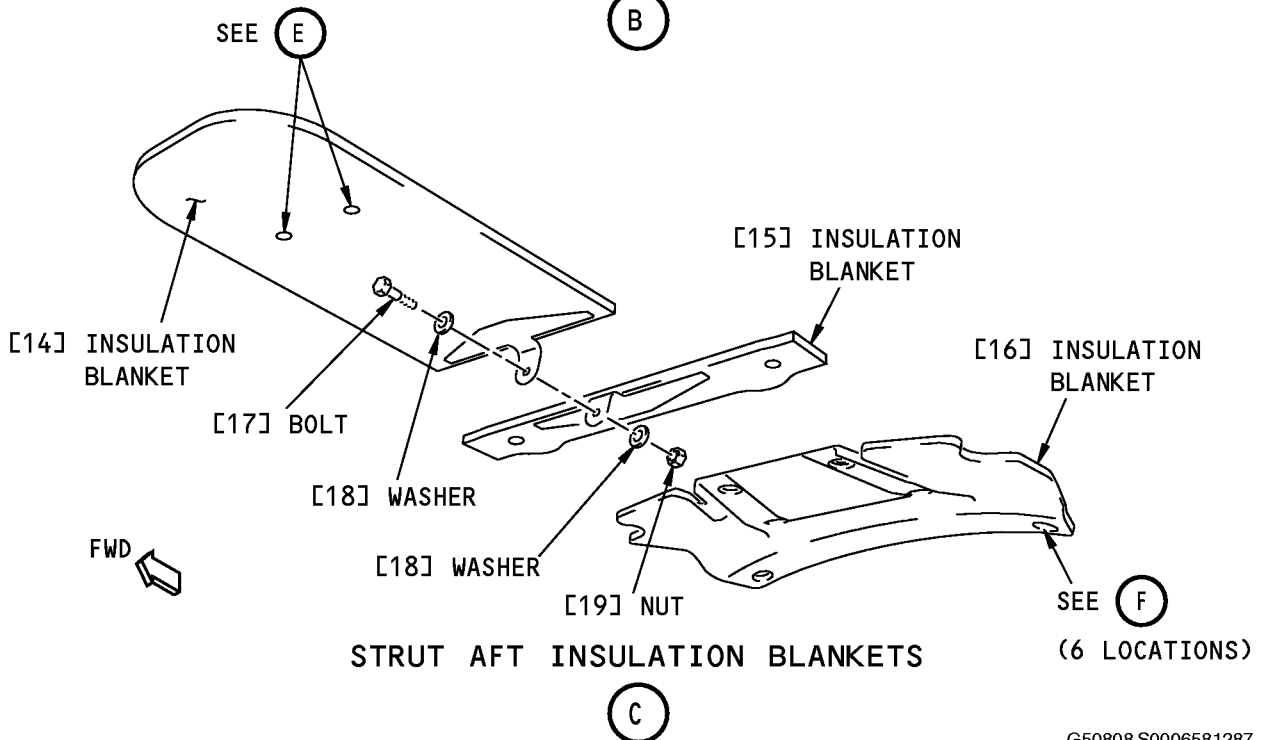
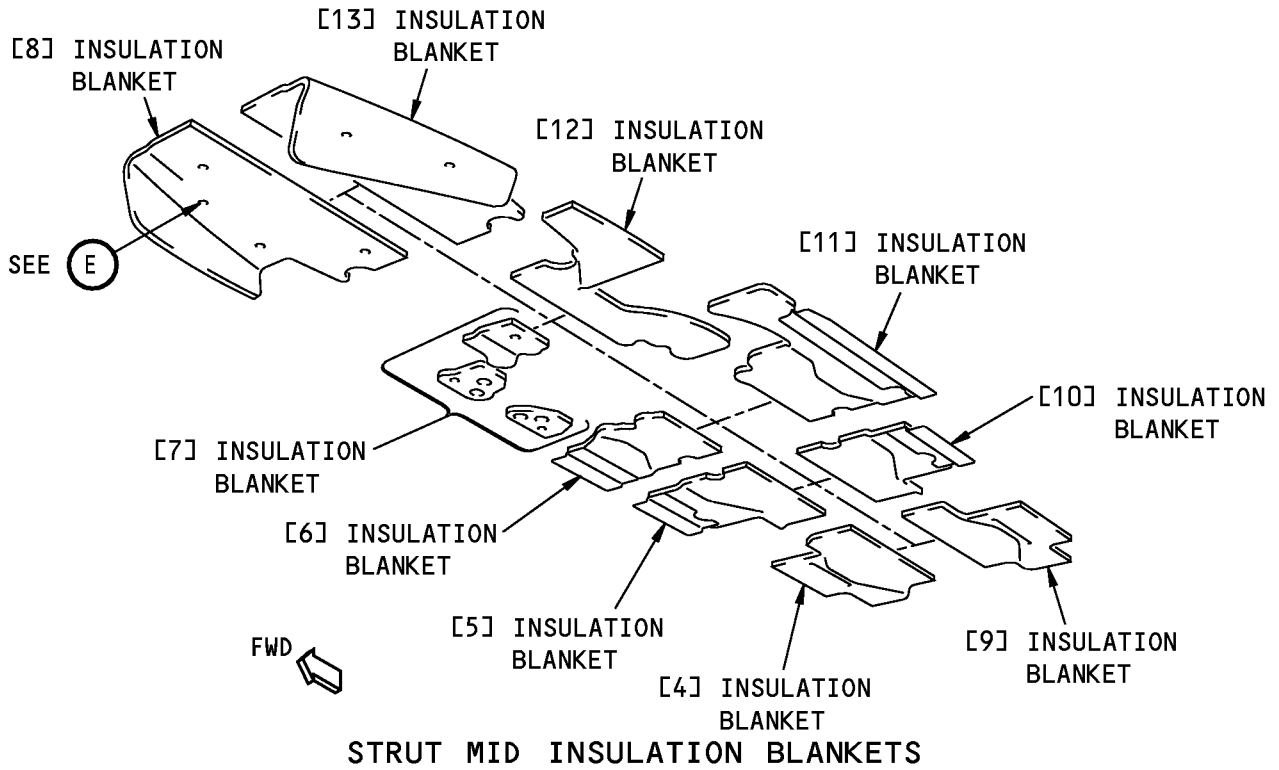


**Strut Insulation Blankets Installation
Figure 401 (Sheet 1 of 5)/54-54-01-990-801**

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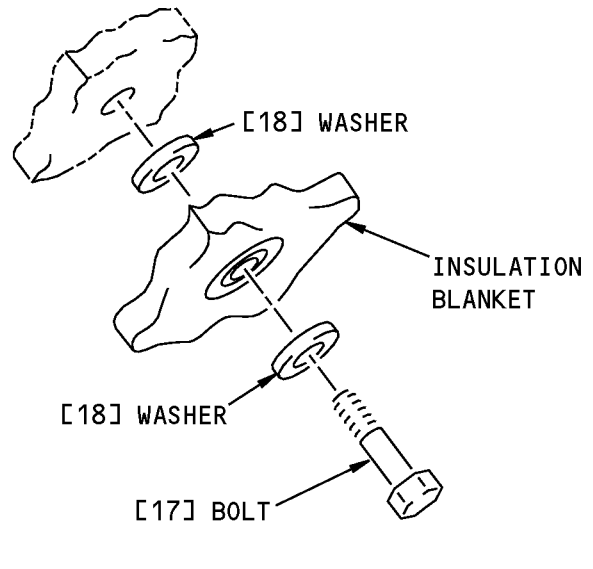
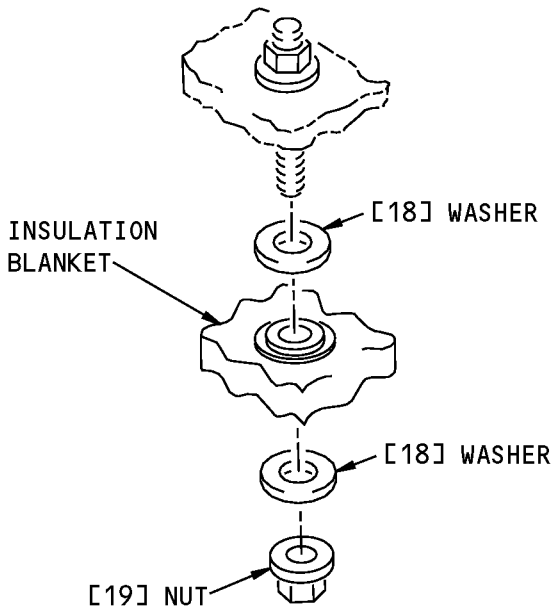
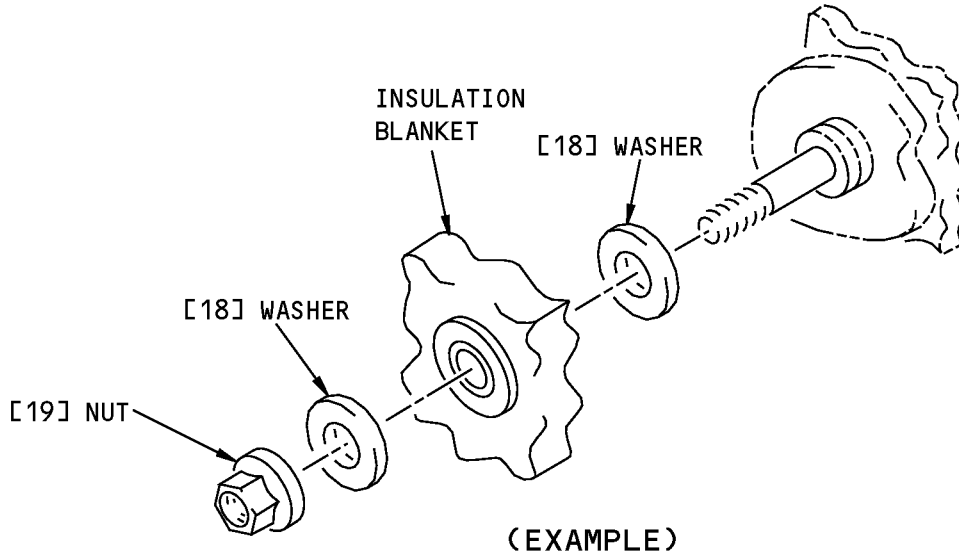
Strut Insulation Blankets Installation
Figure 401 (Sheet 2 of 5)/54-54-01-990-801

EFFECTIVITY
HAP 001-013, 015-026, 028-036, 038 PRE SB 737-54-1045

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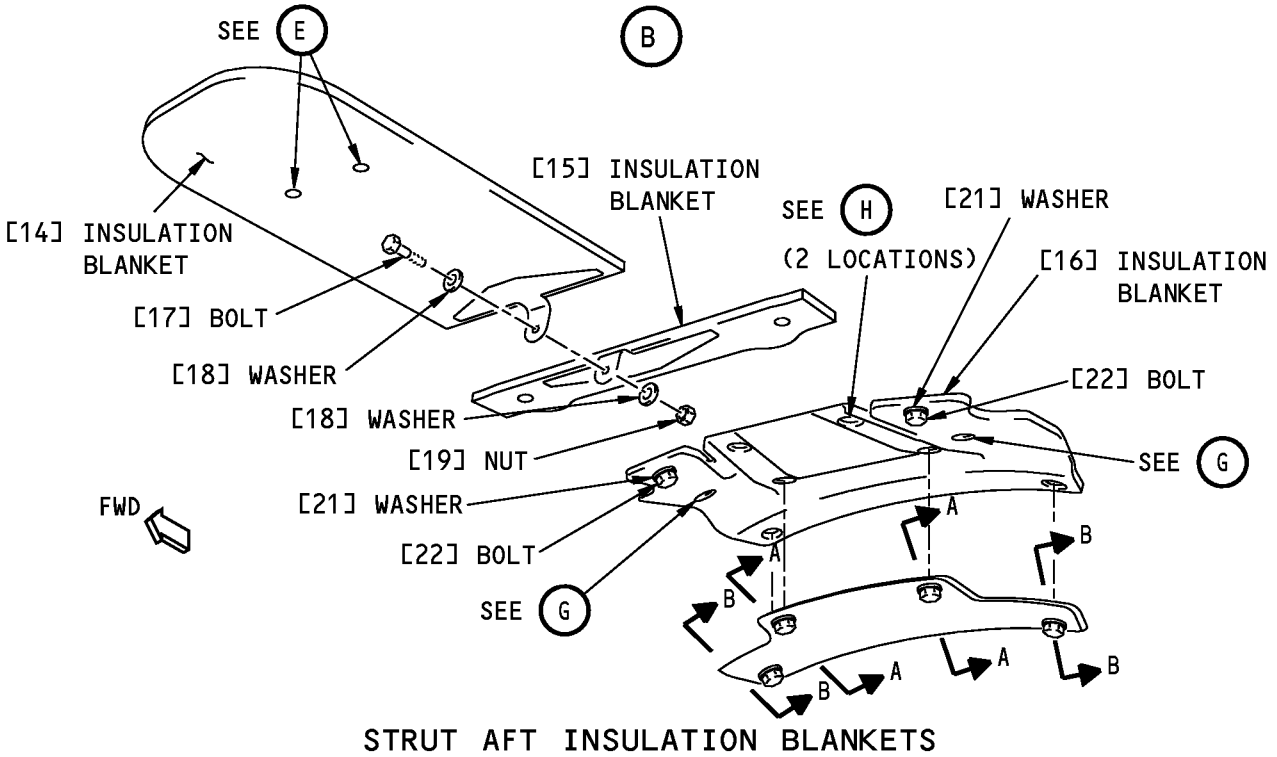
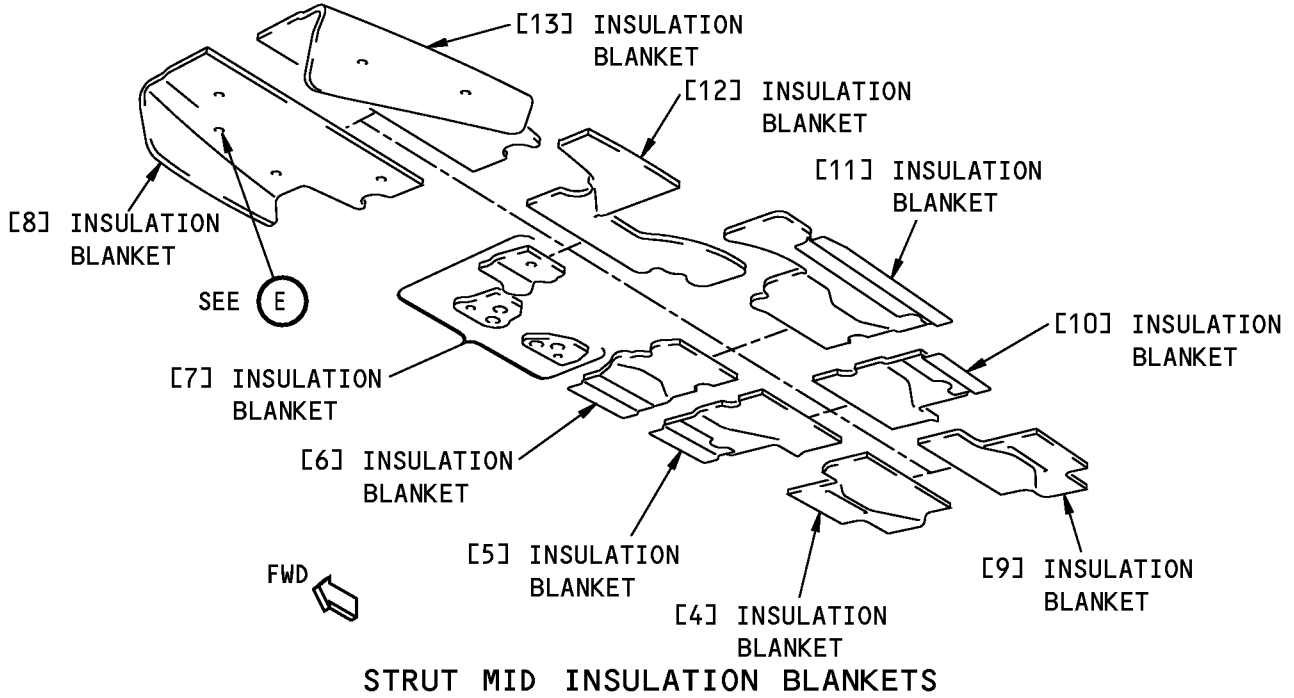


**Strut Insulation Blankets Installation
Figure 401 (Sheet 3 of 5)/54-54-01-990-801**

EFFECTIVITY
HAP 001-013, 015-026, 028-036, 038 PRE SB 737-54-1045

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1347520 S0000240727_V2

Strut Insulation Blankets Installation
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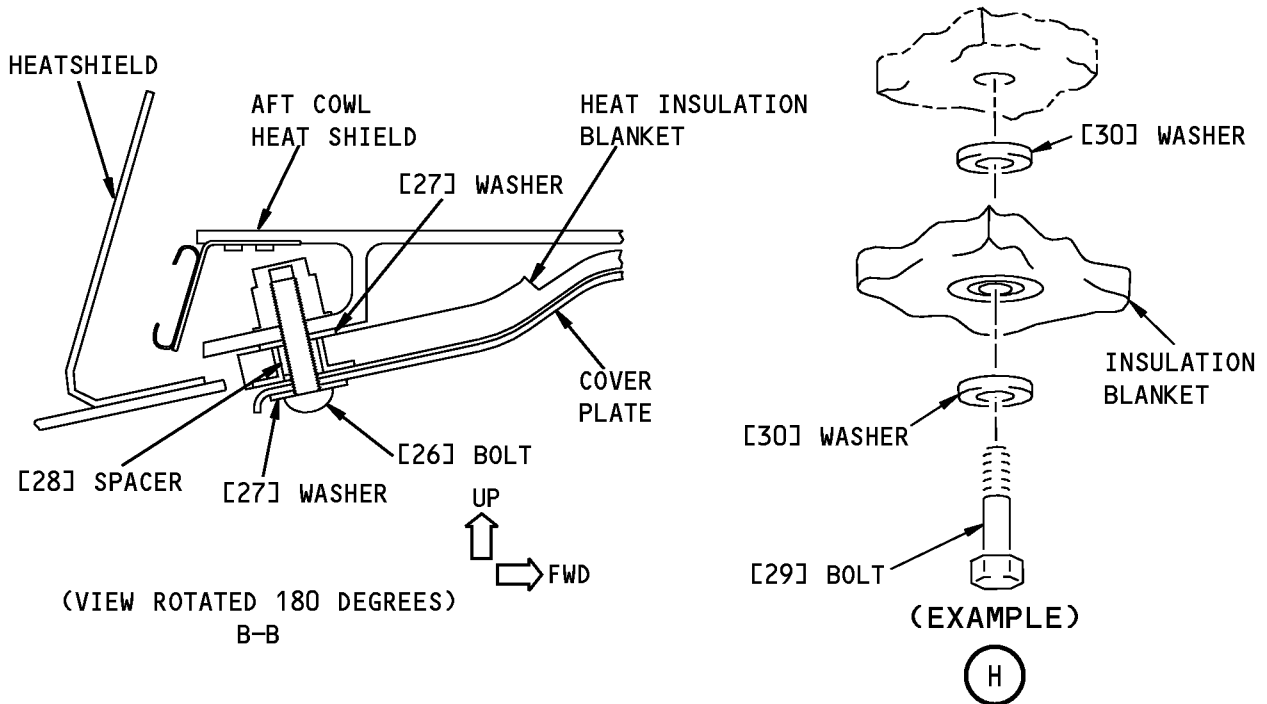
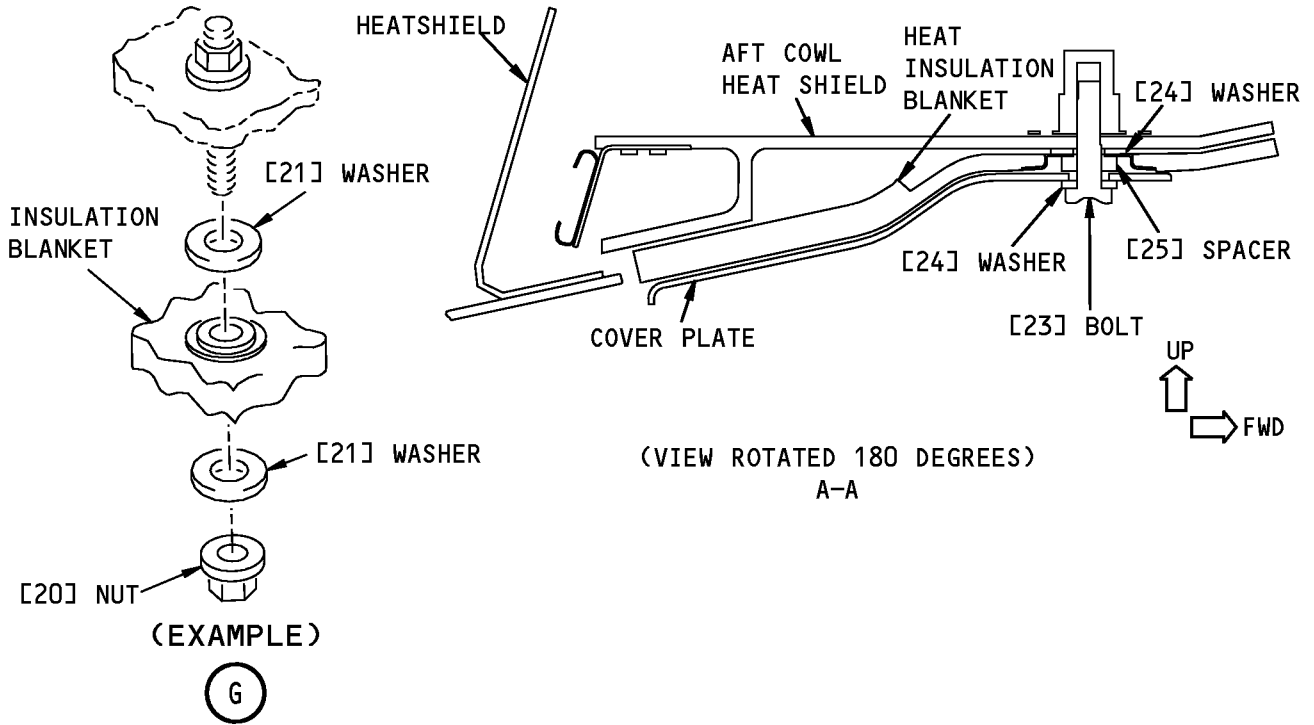
EFFECTIVITY
 HAP 037, 039-054, 101-999; HAP 001-013, 015-026, 028-036,
 038 POST SB 737-54-1045

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1347542 S0000240728_V2

Strut Insulation Blankets Installation
Figure 401 (Sheet 5 of 5)/54-54-01-990-801

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 HAP 037, 039-054, 101-999; HAP 001-013, 015-026, 028-036,
 038 POST SB 737-54-1045

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STRUT INSULATION BLANKETS - INSPECTION/CHECK

1. General

A. This procedure has this task:

- (1) An examination of the strut insulation blankets.

TASK 54-54-01-200-801

2. Strut Insulation Blankets Inspection

A. General

- (1) This task examines the strut insulation blankets.
- (2) This task has these steps:
 - (a) Get access to the strut insulation blankets.
 - (b) Examine the strut insulation blankets for damage.
 - (c) Close access to the strut insulation blankets.

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-54-01-000-801	Strut Forward Insulation Blanket Removal (P/B 401)
54-54-01-000-802	Strut Mid Insulation Blanket Removal (P/B 401)
54-54-01-000-803	Strut Aft Insulation Blanket Removal (P/B 401)
54-54-01-400-801	Installation of Strut Forward Insulation Blankets (P/B 401)
54-54-01-400-802	Installation of Strut Mid Insulation Blankets (P/B 401)
54-54-01-400-803	Installation of Strut Aft Insulation Blankets (P/B 401)

C. Location Zones

Zone	Area
434	Engine 1 - Aft Strut Fairing
444	Engine 2 - Aft Strut Fairing

D. Prepare for the Examination

SUBTASK 54-54-01-040-001

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-54-01-010-001

- (2) Get access to the applicable strut insulation blankets:
 - (a) Do this task: Strut Forward Insulation Blanket Removal, TASK 54-54-01-000-801.
 - (b) Do this task: Strut Mid Insulation Blanket Removal, TASK 54-54-01-000-802.
 - (c) Do this task: Strut Aft Insulation Blanket Removal, TASK 54-54-01-000-803.

E. Strut Insulation Blanket Examination

SUBTASK 54-54-01-210-001

- (1) Make sure the strut insulation blankets are not damaged or missing.

SUBTASK 54-54-01-960-001

- (2) Replace any insulation blankets that are damaged or missing.

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F. Put the Airplane Back to Its Usual Condition

SUBTASK 54-54-01-410-001

(1) Install the applicable insulation blankets:

- (a) Do this task: Installation of Strut Forward Insulation Blankets, TASK 54-54-01-400-801.
- (b) Do this task: Installation of Strut Mid Insulation Blankets, TASK 54-54-01-400-802.
- (c) Do this task: Installation of Strut Aft Insulation Blankets, TASK 54-54-01-400-803.

SUBTASK 54-54-01-440-001

- (2) If you will do no more maintenance operations, do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— **END OF TASK** —————

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STRUT INSULATION BLANKETS - REPAIR

1. General

A. This procedure contains these tasks:

- (1) A repair of the strut insulation blankets on the aircraft.
- (2) A repair of the strut insulation blankets off the aircraft.

TASK 54-54-01-300-801

2. Strut Insulation Blanket Repair On-Aircraft

A. General

- (1) Punctures, creases, tears, cracks and scores sustained by dimpled foil skins on insulation blankets are temporary repaired by sealing with RTV sealant when on the airframe.
- (2) This task is a temporary procedure.
 - (a) Blankets repaired using this method must be permanently repaired within 500 hours, do this task: Strut Insulation Blanket Repair Off-Aircraft, TASK 54-54-01-300-802.

B. Consumable Materials

Reference	Description	Specification
A00081	Adhesive - Silicone Rubber - RTV 106	BAC5010, Type 74
A00281	Adhesive - Dow Corning 3145 RTV	MIL-A-46146 (BAC5010, Type 79)
A50154	Silcoset 152 - cold cure, white, silicone compound	
B50118	Solvent - General	BAC 5750
C00954	Primer - Adhesive Bonding (General Electric SS4004P)	
G00834	Cloth - Lint-free Cotton	

C. Prepare to Repair the Blanket

SUBTASK 54-54-01-940-003

- (1) If the damage is within the following limits, the insulation blankets can be repaired.
 - A hole in the hot or cold face sheet is not more that 0.25 in. (6.35 mm) in diameter.
 - A gash in the hot or cold face sheet is not longer that 4 in. (102 mm).
 - Around each damaged area in all directions, there is a minimum surface distance that is not damaged of not less than 0.5 in. (12.7 mm).
 - The damaged area is not less than 0.5 in. (12.7 mm) from a grommet, sharp bend, attaching parts or edge.

SUBTASK 54-54-01-210-004

- (2) Visually examine the insulant to ensure there are no voids in the damaged area and no signs of fluid ingress.
 - (a) If there is evidence of voids or fluid ingress within the insulation the CRES blanket must be replaced.

SUBTASK 54-54-01-110-002

- (3) Carefully clean and degrease around the damaged area using general solvent, B50118 on a clean lint-free cloth, G00834 ensuring solvent does not get into the insulant.

SUBTASK 54-54-01-370-001

- (4) Prime the metallic surface using SS4004 RTV primer, C00954.

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SUBTASK 54-54-01-350-004

- (5) A layer of CRES foil is to be bonded to the damaged area using one of the following RTV:
- RTV 106 adhesive, A00081
 - Dow Corning 3145 RTV adhesive, A00281
 - Silcoset 152 adhesive, A50154

SUBTASK 54-54-01-350-005

- (6) Apply RTV sealant to the damaged skin in enough quantity to ensure any hole in the skin is covered.
- (a) Smooth over using a suitable spatula ensuring that the RTV overlaps the edge of the damaged skin by approximately $\frac{1}{2}$ in. (13 mm) and to a maximum depth of approximately $\frac{1}{8}$ in. (3 mm).

SUBTASK 54-54-01-350-006

- (7) A CRES patch which is primed and overlaps the damaged area by $\frac{1}{2}$ in. (13 mm) is then to be pressed into the RTV and held in position until the RTV cures and the CRES is bonded in position.

SUBTASK 54-54-01-940-004

- (8) This should only be considered as a temporary repair and as soon as the blanket is removed from the aircraft, the RTV should be removed and a metallic patch welded within 500 hours, do this task: Strut Insulation Blanket Repair Off-Aircraft, TASK 54-54-01-300-802.

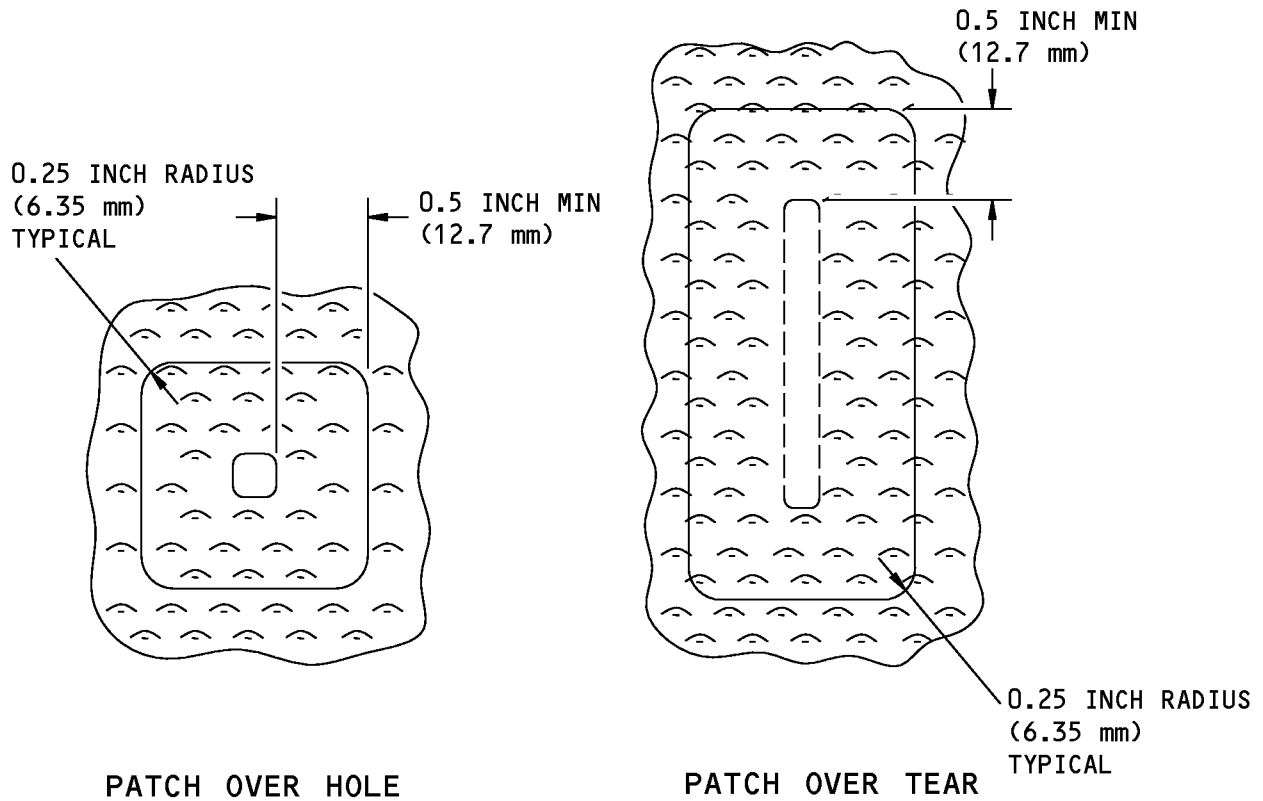
————— **END OF TASK** —————

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**Insulation Blanket Repair Patch
Figure 801/54-54-01-990-804**

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TASK 54-54-01-300-802

3. Strut Insulation Blanket Repair Off-Aircraft

A. General

- (1) Punctures, creases, tears, cracks and scores sustained by dimpled foil skins on insulation blankets are permanently repaired by covering the area with a patch of dimpled foil which is resistance welded to the dimpled foil skin when the blanket is off the airframe.
- (2) This repair is a permanent repair.

B. Consumable Materials

Reference	Description	Specification
B50118	Solvent - General	BAC 5750
G00834	Cloth - Lint-free Cotton	

C. Prepare to Repair the Blanket

SUBTASK 54-54-01-210-002

- (1) If the damage is within the following limits, the insulation blankets can be repaired.
 - A hole in the hot or cold face sheet is not more than 1/4 in. (6 mm) in diameter.
 - A gash in the hot or cold face sheet is not longer than 4 in. (102 mm).
 - Around each damaged area in all directions, there is a minimum surface distance that is not damaged of not less than 1/2 in. (13 mm).
 - The damaged area is not less than 1/2 in. (13 mm) from a grommet, sharp bend, attaching parts or edge.

SUBTASK 54-54-01-350-001

- (2) Trim dimpled foil skin around area of damage to remove ragged edges.
 - (a) In the case of a clean crack or gash, using a sharp object, pierce two stop holes approximately 1/16 in. (2 mm) dia at each end approximately 1/16 in. (2 mm) from each end of crack to prevent spreading.

SUBTASK 54-54-01-210-003

- (3) Visually examine the insulant to ensure there are no voids in the damaged area and no signs of fluid ingress.
 - (a) If there is evidence of voids or fluid ingress within the insulation the CRES blanket must be replaced.

SUBTASK 54-54-01-350-002

- (4) Cut patch from clean dimpled foil of sufficient size to overlap area of damage by 1/2 in. (13 mm).

NOTE: Patches should not overlap.

SUBTASK 54-54-01-110-001

- (5) Clean area of damage using general solvent, B50118 on a clean lint-free cloth, G00834 ensuring no solvents enter the insulant.

SUBTASK 54-54-01-940-001

- (6) Set welding machine using scrap foil, sandwich two foils between the electrode and earth plate using enough force to press foils into contact.
- (7) Operate gun then check weld by pulling the two foils apart. A good weld should pull a hole in either of the two foils.
 - (a) If this does not occur, or the electrode sticks to the foils, the set should be adjusted in accordance with the manufacturers instructions.

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SUBTASK 54-54-01-940-002

(8) Place patch in position. Temporarily hold using adhesive tape if required.

SUBTASK 54-54-01-310-001

(9) Tack patch to skin by holding earth on skin adjacent to patch and welding on patch approximately 1mm in from edge (using same technique as used when setting machine) repeat at approximately 1 in. (25 mm) pitch around edge of patch.

SUBTASK 54-54-01-310-002

(10) Fully weld patch to skin by welding at approximately 1mm pitch around the edge of the patch.

SUBTASK 54-54-01-350-003

(11) Using a blunt tool, smooth down any protruding edges.

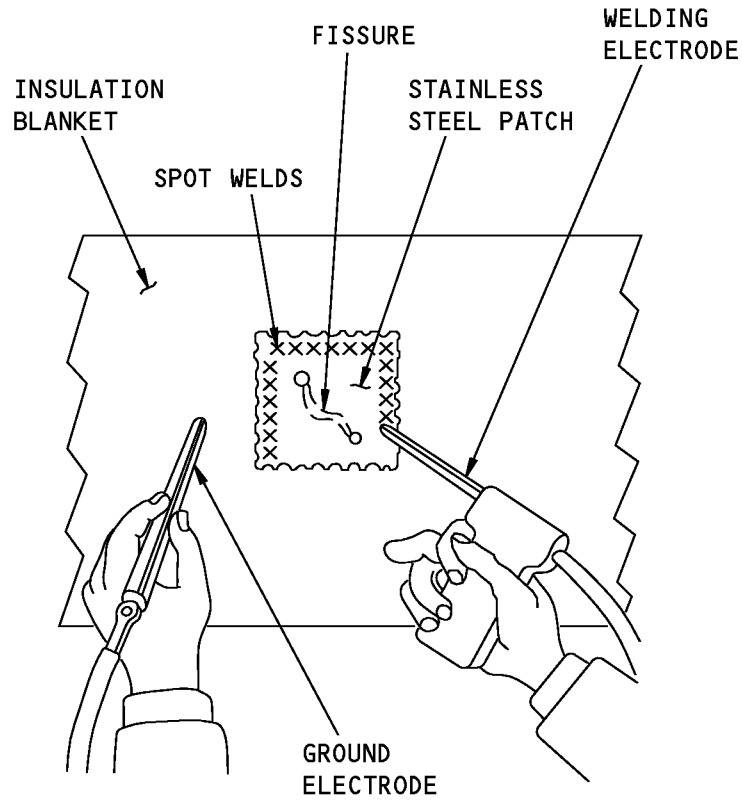
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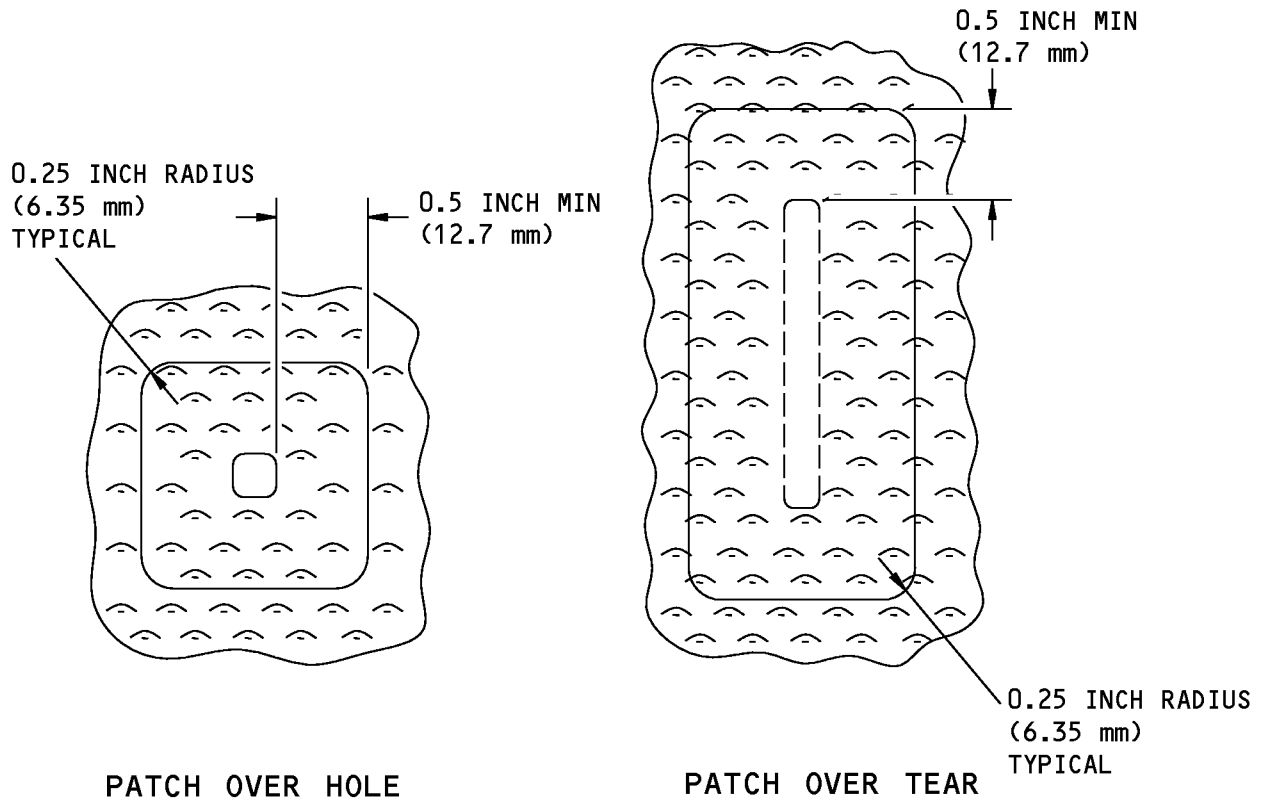


**Insulation Blanket Repair Welding Method
Figure 802/54-54-01-990-802**

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**Insulation Blanket Repair Patch
Figure 803/54-54-01-990-803**

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AFT FAIRING INSULATION BLANKETS - INSPECTION/CHECK

1. General

A. This procedure has this task:

- (1) An examination of the aft fairing insulation blankets.

TASK 54-54-02-200-801

2. Aft Fairing Insulation Blankets Inspection

A. General

- (1) This task examines the aft fairing insulation blankets.
- (2) This task has these steps:
 - (a) Get access to the aft fairing insulation blankets.
 - (b) Examine the aft fairing insulation blankets for damage.
 - (c) Close access to the aft fairing insulation blankets.

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-52-08-010-801	Aft Fairing Heatshield and Insulation Blankets Removal (P/B 401)
54-52-08-010-802	Aft Fairing Heatshield and Insulation Blankets Installation (P/B 401)

C. Location Zones

Zone	Area
434	Engine 1 - Aft Strut Fairing
444	Engine 2 - Aft Strut Fairing

D. Prepare for the Examination

SUBTASK 54-54-02-040-001

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-54-02-010-001

- (2) Do this task: Aft Fairing Heatshield and Insulation Blankets Removal, TASK 54-52-08-010-801.

E. Strut Aft Fairing Insulation Blanket Examination

SUBTASK 54-54-02-210-001

- (1) Make sure the aft fairing insulation blankets are not damaged or missing.

SUBTASK 54-54-02-960-001

- (2) Replace any insulation blankets that are damaged or missing.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 54-54-02-410-001

- (1) Do this task: Aft Fairing Heatshield and Insulation Blankets Installation, TASK 54-52-08-010-802.

SUBTASK 54-54-02-440-001

- (2) If you will do no more maintenance operations, do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— **END OF TASK** —————

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STRUT DRAINS - MAINTENANCE PRACTICES

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure gives instructions on how to clean the strut drain tubes if they become clogged.
- C. This procedure has these tasks:
 - (1) A task to clean the forward drain in the strut.
- D. The strut drain tubes carry fluid leakage (fuel, oil, hydraulic fluid, or water) away from a possible leak source to remove it from the nacelle strut compartment.

TASK 54-55-01-100-801

2. Strut Forward Drain Clean

(Figure 201)

A. General

- (1) This procedure is a scheduled maintenance task.
- (2) This procedure is for rigid drain tubes only. If soft rubber drain tubes are found to be coked, damaged or blocked, replace the drain tube assembly.
- (3) Do this task to:
 - (a) Make sure that there is no blockage in the strut drains.
 - (b) Remove any blockage in the strut drains.
- (4) The forward strut drain has four outlets. A single drain outlet is located below each thrust reverser access panel (also called, strut access panel).

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)

C. Tools/Equipment

Reference	Description
STD-1059	Platform - Engine and Strut Access
STD-1174	Snake - Plumbers

D. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

E. Prepare to Clean the Forward Strut Drains

SUBTASK 54-55-01-040-001

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-55-01-480-001

- (2) Put the platform, STD-1059 in position.

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F. Forward Strut Drain Clean

SUBTASK 54-55-01-210-001

(1) Use (Figure 201) to find the drain tube(s) that you will check.

SUBTASK 54-55-01-160-001

(2) To make sure that no blockages exist, do the following steps:

(a) Insert a pipe cleaning brush or a plumbers snake, STD-1174 into the outlet to remove any possible or known blockages.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 54-55-01-160-002

(1) Make sure that the work area is clean, and remove all tools and other items.

SUBTASK 54-55-01-080-001

(2) Remove the platform, STD-1059.

SUBTASK 54-55-01-440-001

(3) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

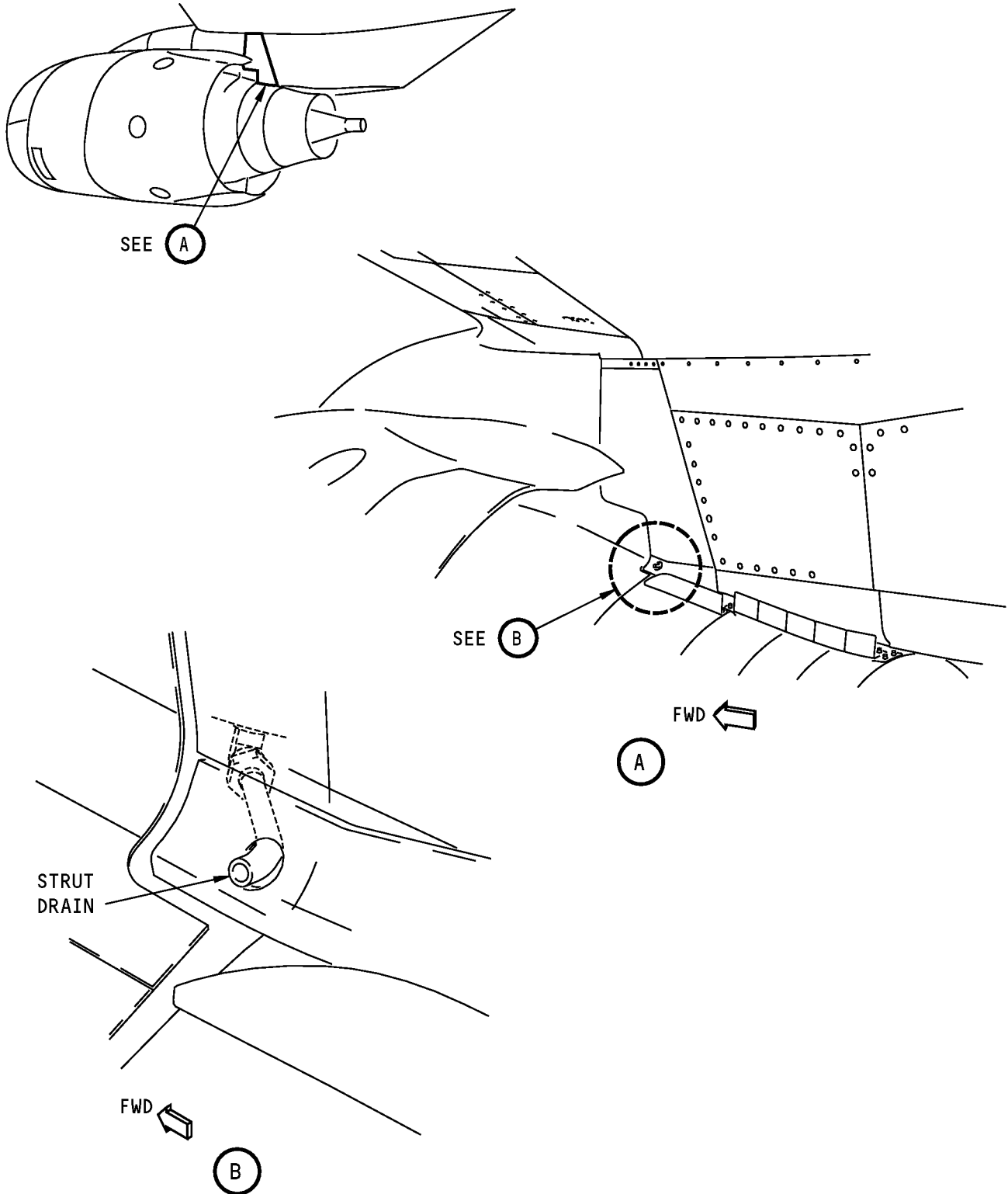
————— **END OF TASK** —————

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**Strut Drain Maintenance
Figure 201/54-55-01-990-801**

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AFT FAIRING STRUT DRAINS - MAINTENANCE PRACTICES

1. General

- A. This procedure gives instructions on how to clean the aft fairing drain tubes if they become clogged.
- B. This procedure has this task:
 - (1) A task to clean the aft fairing drain tube.
- C. The drain tubes carry fluid leakage (fuel, oil, hydraulic fluid, or water) away from a possible leak source to remove it from the nacelle strut compartment.

TASK 54-55-02-100-801

2. Aft Fairing Drain Tube and Sump Drain Clean

(Figure 201)

A. General

- (1) This procedure is for rigid drain tubes only. If soft rubber drain tubes are found to be coked, damaged or blocked, replace the drain tube assembly.
- (2) Do this task for the aft fairing drain tube when there is a possible blockage.
- (3) The aft fairing drain tube has one inlet, and one outlet.

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-52-06-010-801	Aft Fairing Access Panel Removal (P/B 401)
54-52-06-410-801	Aft Fairing Access Panel Installation (P/B 401)

C. Tools/Equipment

Reference	Description
STD-77	Air Source - Regulated, Dry Filtered, 0-50 psig
STD-1059	Platform - Engine and Strut Access
STD-1174	Snake - Plumbers

D. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

E. Access Panels

Number	Name/Location
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

F. Prepare to Clean the Aft Fairing Drain Tube and Sump Drain

SUBTASK 54-55-02-040-001

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

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SUBTASK 54-55-02-480-001

- (2) Put the platform, STD-1059 in position.

SUBTASK 54-55-02-010-001

- (3) Open the applicable aft fairing access panels, do this task: Aft Fairing Access Panel Removal, TASK 54-52-06-010-801

Open the applicable access panels:

<u>Number</u>	<u>Name/Location</u>
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

G. Aft Fairing Drain Tube Clean

SUBTASK 54-55-02-160-001

- (1) To check blockage in the aft fairing drain tube, do these steps:
 - (a) Disconnect the hose from the forward end of the aft fairing drain tube, (Figure 201).
 - (b) Use an 0-50 psig dry filtered regulated air source, STD-77 to supply 30-40 psig (207-276 kPa) air pressure to the aft fairing drain tube inlet.
 - (c) Make sure there is airflow through the drain tube from the inlet to the outlet.
 - (d) Remove the air pressure.

SUBTASK 54-55-02-160-002

- (2) If there is decreased airflow, do these steps to remove the blockage:
 - (a) Remove the blockage as much as possible with a plumbers snake, STD-1174.
 - (b) Use an 0-50 psig dry filtered regulated air source, STD-77 to supply 30-40 psig (207-276 kPa) air pressure to the aft fairing drain tube inlet.
 - (c) Make sure there is airflow through the drain tube from the inlet to the outlet.
 - (d) Remove the air pressure.
 - (e) If blockage remains, follow the above steps again until airflow is present.
 - (f) Insert a funnel into the inlet of the aft fairing drain tube.
 - (g) Remove any remaining blockage by pouring hot, soapy water into the funnel.
 - (h) Rinse drain tube by pouring hot, clean water into the funnel.
 - (i) Remove the funnel from the inlet end of the aft fairing drain tube.
 - (j) If the following maintenance steps will not be done on the sump drain, reconnect the hose to the inlet end of the aft fairing drain tube.

H. Aft Fairing Sump and Drain Clean

SUBTASK 54-55-02-100-001

- (1) To remove blockage and clean the aft fairing sump drain, do the following steps, (Figure 202):
 - (a) Install plug into forward end of the aft fairing drain tube.
 - (b) Remove any blockage within the sump drain inlet with a pipe cleaning brush.

NOTE: Blockage will usually occur near the inlet end of the drain where the aft fairing drain tube goes in. Also, make sure that the bottom-side of the drain is scrubbed.

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- (c) Remove the remaining loose particles by pouring hot, soapy water into the sump drain inlet.
- (d) Rinse the sump drain with hot, clean water.
- (e) Remove plug from forward end of the aft fairing drain tube.
- (f) Reconnect the hose to the forward end of the aft fairing drain tube, (Figure 201).

I. Put the Airplane Back to Its Usual Condition

SUBTASK 54-55-02-160-003

CAUTION: MAKE SURE YOU KEEP THE STRUT AREA CLEAN. LOOSE TOOLS AND UNWANTED MATERIALS IN THE STRUT COMPARTMENTS CAN PREVENT THE REMOVAL OF FLUIDS THROUGH THE STRUT DRAINS. IF YOU DO NOT REMOVE UNWANTED MATERIALS, YOU CAN CAUSE DAMAGE TO THE STRUT.

- (1) Make sure that the work area is clean and remove all tools and other items.

SUBTASK 54-55-02-410-001

- (2) Close the aft fairing access door, do this task: Aft Fairing Access Panel Installation, TASK 54-52-06-410-801

Close these access panels:

<u>Number</u>	<u>Name/Location</u>
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

SUBTASK 54-55-02-080-001

- (3) Remove the platform, STD-1059.

SUBTASK 54-55-02-440-001

- (4) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— **END OF TASK** —————

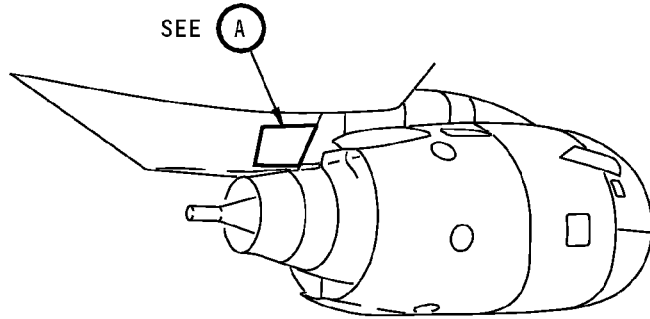
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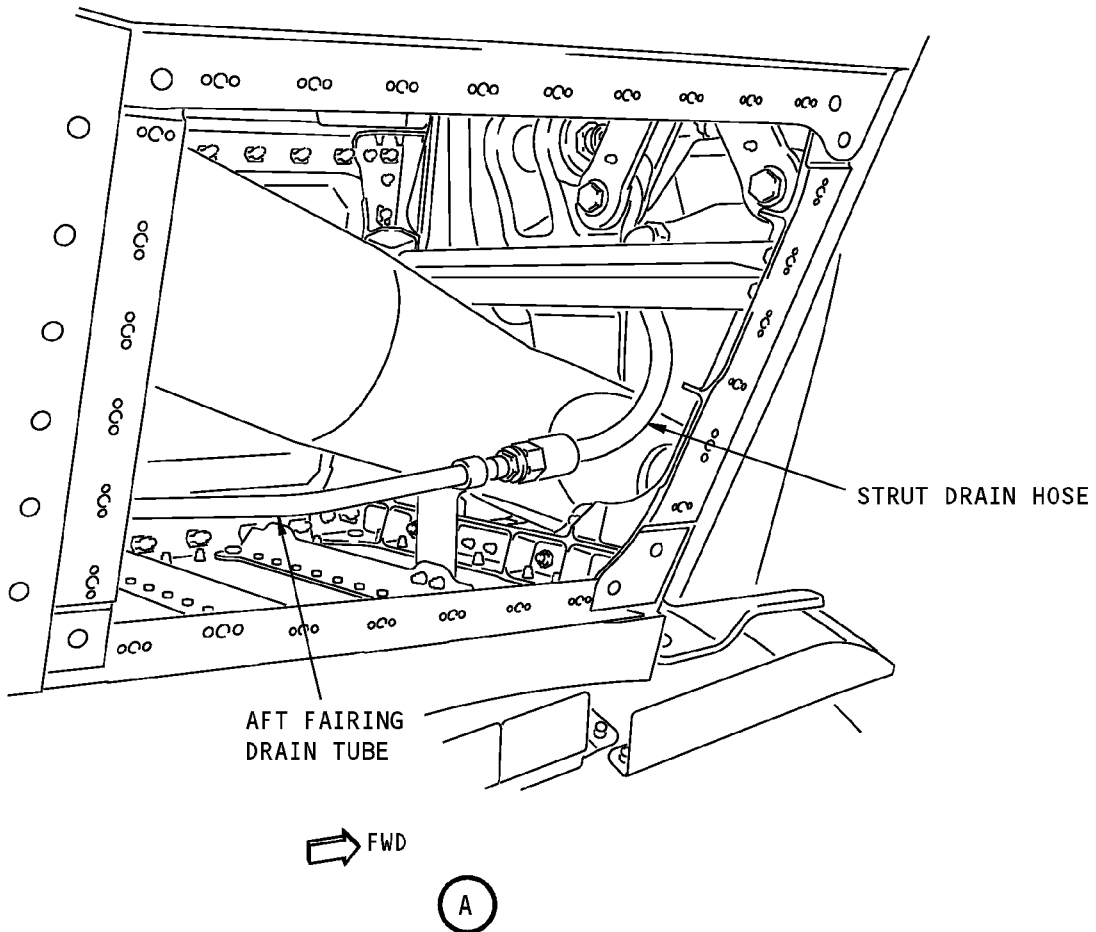
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**LEFT STRUT
(RIGHT STRUT IS OPPOSITE)**



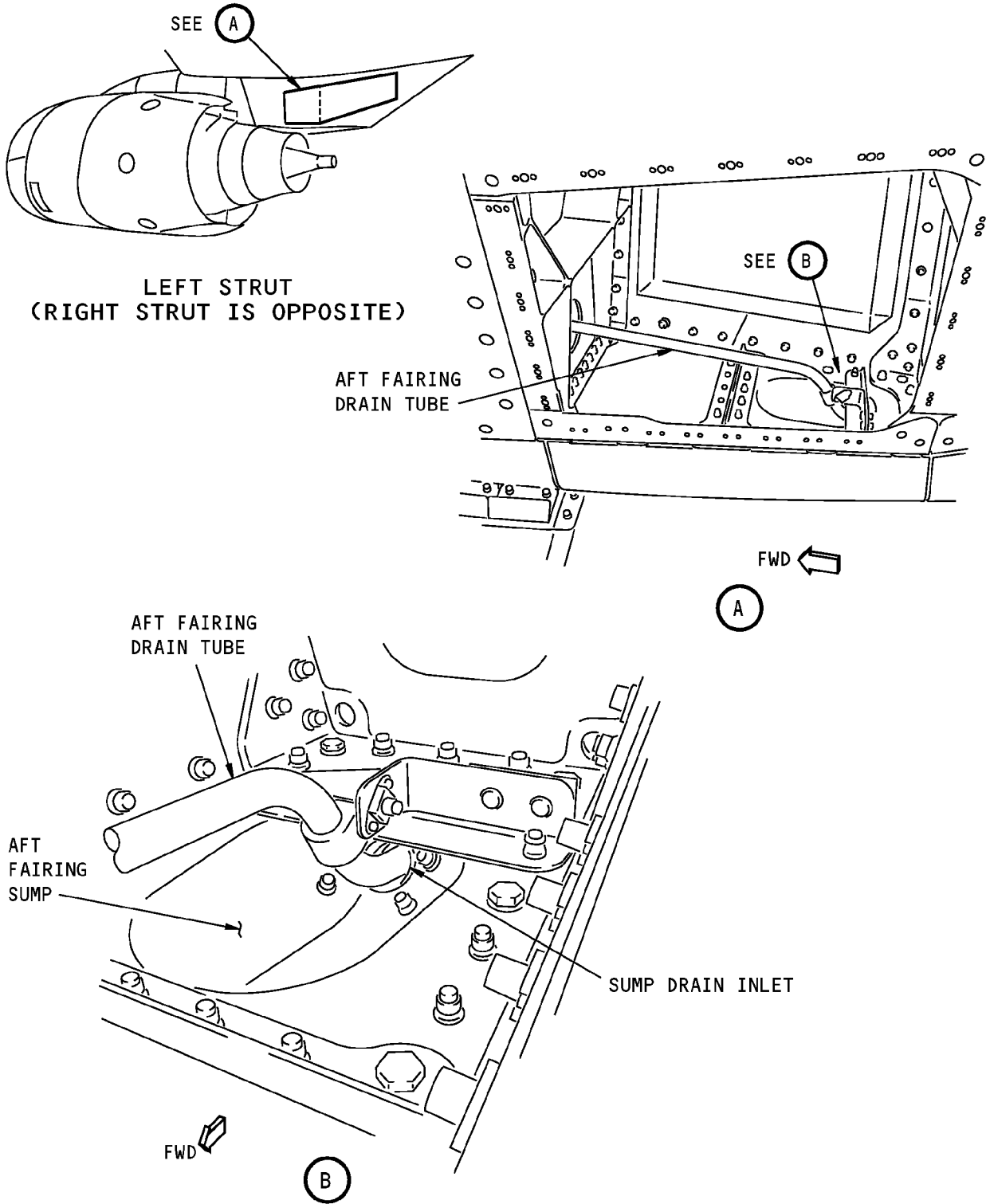
**Inboard Aft Fairing Strut Drains - Maintenance Practices
Figure 201/54-55-02-990-801**

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Outboard Aft Fairing Strut Drains - Maintenance Practices
Figure 202/54-55-02-990-802

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AFT FAIRING STRUT DRAINS - INSPECTION/CHECK

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has this task:
 - (1) A task to inspect the aft fairing sump drain.
- C. The aft fairing will carry fluid leakage (fuel, oil, hydraulic fluid, or water) away from a possible leak source to remove it from the nacelle strut compartment.

TASK 54-55-02-100-802

2. Aft Fairing Sump Drain Inspection

- A. General
 - (1) This procedure is a scheduled maintenance task.
 - (2) Do this task for the aft fairing sump drain when there is a possible blockage.

B. References

Reference	Title
08-21-02-580-801	Make the Airplane Level (P/B 201)
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-52-06-010-801	Aft Fairing Access Panel Removal (P/B 401)
54-52-06-410-801	Aft Fairing Access Panel Installation (P/B 401)

C. Tools/Equipment

Reference	Description
STD-77	Air Source - Regulated, Dry Filtered, 0-50 psig
STD-3910	Container - Plastic

D. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

E. Access Panels

Number	Name/Location
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

F. Prepare to Inspect the Aft Fairing Sump Drain

SUBTASK 54-55-02-040-003

- (1) Do this task: Make the Airplane Level, TASK 08-21-02-580-801.

SUBTASK 54-55-02-040-002

- (2) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

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SUBTASK 54-55-02-010-002

- (3) Open the applicable aft fairing access panels:

(TASK 54-52-06-010-801)

<u>Number</u>	<u>Name/Location</u>
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

G. Aft Fairing Drain Inspection

SUBTASK 54-55-02-200-001

- (1) Put a dry container, STD-3910 below the aft fairing drain.

NOTE: Container should hold at least one gallon (3.8 liters).

- (a) Make sure that the internal surface of the aft fairing does not have unwanted material.

SUBTASK 54-55-02-160-005

- (2) Pour one gallon (3.8 liters) +/- 1 fluid ounce (0.03 liter) of clean water along the forward end to the aft end of the internal floor of the aft fairing.

NOTE: Pour water over all internal surfaces.

- (a) After three minutes, make sure that no less than 122 fluid ounces (3.6 liters) is collected into the container below the aft fairing drain.
- (b) Visually make sure that there are no leaks through the bulb seal at the forward end of the aft fairing.
- (c) Use a syringe to make sure that no single puddle of water is larger than one fluid ounce (0.03 liter).

SUBTASK 54-55-02-160-006

- (3) Remove any remaining water from the inside of the aft fairing.

SUBTASK 54-55-02-160-007

- (4) Use a 0-50 psig dry filtered regulated air source, STD-77 or (0-345 kPa), to dry the internal surfaces of the aft fairing.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 54-55-02-160-004

CAUTION: MAKE SURE YOU KEEP THE STRUT AREA CLEAN. LOOSE TOOLS AND UNWANTED MATERIALS IN THE STRUT COMPARTMENTS CAN PREVENT THE REMOVAL OF FLUIDS THROUGH THE STRUT DRAINS. IF YOU DO NOT REMOVE UNWANTED MATERIALS, YOU CAN CAUSE DAMAGE TO THE STRUT.

- (1) Make sure that the work area is clean and remove all tools and other items.

SUBTASK 54-55-02-410-002

- (2) Close the aft fairing access doors:

(TASK 54-52-06-410-801)

<u>Number</u>	<u>Name/Location</u>
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

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SUBTASK 54-55-02-440-002

(3) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— **END OF TASK** —————

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AFT FAIRING STRUT DRAINS - REPAIRS

1. General

- A. Use this procedure to connect a disconnected aft fairing strut drain.
- B. Make sure that the drain tube is clean and that there is no blockage.
- C. This procedure has these tasks:
 - (1) Permanent repair of the aft fairing strut drain.
 - (2) Temporary repair of the aft fairing strut drain.
- D. Use the temporary repaired aft fairing strut drain only for 60 days. In 15 day intervals, examine the strut drain.

TASK 54-55-02-310-801

2. Aft Fairing Strut Drain - Permanent Repair

A. General

- (1) Do this task to permanently repair the disconnected Aft Fairing Strut Drain.

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-52-06-010-801	Aft Fairing Access Panel Removal (P/B 401)
54-52-06-410-801	Aft Fairing Access Panel Installation (P/B 401)

C. Tools/Equipment

Reference	Description
STD-77	Air Source - Regulated, Dry Filtered, 0-50 psig

D. Consumable Materials

Reference	Description	Specification
A00160	Sealant - Firewall - Hydraulic Fluid Resistant	BMS5-63

E. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

F. Access Panels

Number	Name/Location
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

G. Prepare to Repair the Aft Fairing Strut Drain

SUBTASK 54-55-02-040-004

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801

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SUBTASK 54-55-02-010-003

(2) Open the applicable aft fairing access panels:

(TASK 54-52-06-010-801)

<u>Number</u>	<u>Name/Location</u>
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

H. Clean the Aft Fairing Drain Tube, Casting and the Sump Drain

SUBTASK 54-55-02-020-002

(1) Remove the casting from the sump.

SUBTASK 54-55-02-100-005

(2) Clean the casting inner-diameter and the drain-tube forward-end outer-diameter of all unwanted materials and all residual filler material.

SUBTASK 54-55-02-100-003

(3) Use a 0-50 psig dry filtered regulated air source, STD-77 or (0-345 kPa), to dry the internal surfaces of the aft fairing.

SUBTASK 54-55-02-212-001

(4) Make sure that the drain tube and the sump drain is dry.

I. Silver Braze The Drain Tube

SUBTASK 54-55-02-310-001

(1) Silver braze per BAC5940, Class B with filler metal BAG-7 (optional BAG-8 or BAG-3).

J. Install The Drain Tube

SUBTASK 54-55-02-420-002

(1) Install the tube-casting assembly with four BACB30VT6K3 Hi-Loks, BACC30BL6 Collars and BACW10BP3NAPU washers (under collars).

SUBTASK 54-55-02-420-003

(2) Install wet with sealant, A00160 per BAC 5000.

SUBTASK 54-55-02-200-002

(3) Make sure that the bracket holds the tube at NSTA 326.

K. Put the Airplane Back to Its Usual Condition.

SUBTASK 54-55-02-200-003

CAUTION: MAKE SURE YOU REMOVE ALL TOOLS, LOOSE MATERIAL, AND DEBRIS FROM THE STRUT CAVITY. IF YOU DO NOT, THE DRAIN MAY BECOME BLOCKED AND CAUSE DAMAGE TO EQUIPMENT.

(1) Make sure that the work area is clean. Remove all tools and other items.

SUBTASK 54-55-02-210-001

(2) Close the aft fairing access doors:

(TASK 54-52-06-410-801)

<u>Number</u>	<u>Name/Location</u>
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1

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Number	Name/Location
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

SUBTASK 54-55-02-902-001

(3) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— END OF TASK —————

TASK 54-55-02-390-801

3. Aft Fairing Strut Drain - Temporary Repair

A. General

(1) Use this task to do a temporary repair of the Aft Fairing Strut Drain.

- (a) The temporary repaired Aft Fairing Strut Drain is permitted for 60 days.
- (b) Examine the tube-casting interface in 15 day intervals. For each inspection, remove the two aft heat shield segments .

B. References

Reference	Title
54-51-01-040-801	Prepare the Strut for Maintenance Operations (P/B 201)
54-51-01-440-801	Put the Strut Back to its Usual Condition (P/B 201)
54-52-06-010-801	Aft Fairing Access Panel Removal (P/B 401)
54-52-06-410-801	Aft Fairing Access Panel Installation (P/B 401)

C. Tools/Equipment

Reference	Description
STD-77	Air Source - Regulated, Dry Filtered, 0-50 psig

D. Consumable Materials

Reference	Description	Specification
A00160	Sealant - Firewall - Hydraulic Fluid Resistant	BMS5-63

E. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2
430	Subzone - Engine 1, Nacelle Strut
440	Subzone - Engine 2, Nacelle Strut

F. Access Panels

Number	Name/Location
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

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G. Prepare to Repair the Aft Fairing Strut Drain

SUBTASK 54-55-02-040-005

- (1) Do this task: Prepare the Strut for Maintenance Operations, TASK 54-51-01-040-801.

SUBTASK 54-55-02-010-004

- (2) Open the applicable aft fairing access panels:

(TASK 54-52-06-010-801)

<u>Number</u>	<u>Name/Location</u>
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

H. Clean the Aft Fairing Drain Tube, Casting and the Sump Drain

SUBTASK 54-55-02-030-001

- (1) Remove the casting from the sump.

SUBTASK 54-55-02-100-006

- (2) Clean the casting inner-diameter and the drain-tube forward-end outer-diameter of all unwanted materials and all residual filler material.

SUBTASK 54-55-02-800-001

- (3) Use a 0-50 psig dry filtered regulated air source, STD-77 or (0-345 kPa), to dry the internal surfaces of the aft fairing.

SUBTASK 54-55-02-212-002

- (4) Make sure that the drain tube and the sump drain is dry.

I. Apply Sealant and Install the Drain Tube

SUBTASK 54-55-02-914-002

- (1) Apply sealant, A00160 to the inner diameter of the casting per BAC5000.

SUBTASK 54-55-02-430-001

- (2) Insert the drain tube in the casting.

SUBTASK 54-55-02-212-003

- (3) Make sure that you remove all the unwanted sealant, A00160 away from the annular gap (top side) to prevent blockage.

SUBTASK 54-55-02-390-001

- (4) Add a fillet bead of sealant, A00160 per BAC5000 at the bottom interface of the tube and casting.

SUBTASK 54-55-02-200-004

- (5) Make sure that the bracket at NSTA 326 holds the tube.

J. Put the Airplane Back to its Usual Condition

SUBTASK 54-55-02-212-004

CAUTION: MAKE SURE YOU REMOVE ALL TOOLS, LOOSE MATERIAL, AND DEBRIS FROM THE STRUT CAVITY. IF YOU DO NOT, THE DRAIN MAY BECOME BLOCKED AND CAUSE DAMAGE TO EQUIPMENT.

- (1) Make sure that the work area is clean. Remove all tools and other items.

SUBTASK 54-55-02-410-003

- (2) Close the aft fairing access doors:

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(TASK 54-52-06-410-801)

<u>Number</u>	<u>Name/Location</u>
434AR	Aft Strut Fairing, Right Forward Panel, Strut 1
434BL	Aft Strut Fairing, Left Aft Panel, Strut 1
444AL	Aft Strut Fairing, Left Forward Panel, Strut 2
444BR	Aft Strut Fairing, Right Aft Panel, Strut 2

SUBTASK 54-55-02-440-003

(3) Do this task: Put the Strut Back to its Usual Condition, TASK 54-51-01-440-801.

————— **END OF TASK** —————

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