APU SHUNT - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

   A. This section gives the procedures to remove/install the APU Shunt and APU Shunt Cover.

   B. The APU Shunt and APU Shunt cover are installed in the rear electronic compartment.

   C. The procedures in this section are given in the sequence below. The tasks identified with (♦) are part of the Scheduled Maintenance Requirements Document (SMRD).

TASK NUMBER	*DESCRIPTION*	*EFFECTIVITY*
24-34-05-000-801-A	APU SHUNT COVER - REMOVAL	ALL
24-34-05-400-801-A	APU SHUNT COVER - INSTALLATION	ALL
24-34-05-000-802-A	APU SHUNT - REMOVAL	ALL
24-34-05-400-802-A	APU SHUNT - INSTALLATION	ALL

TASK 24-34-05-000-801-A
EFFECTIVITY: ALL

2. APU SHUNT COVER - REMOVAL

A. General

(1) This task gives the procedure to remove the APU Shunt cover.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-42-00/100	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
312	312AR	Rear electronic compartment access door

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	Does the task	Rear fuselage section II

I. Preparation

SUBTASK 841-002-A

(1) Make sure that the APU GEN pushbutton, on the electrical panel, on the overhead panel, is set at OFF.

(2) Attach a DO-NOT-SET-ON tag to the APU GEN pushbutton.

(3) Make sure that the APU is not in operation.

(4) Open access panel 312AR (AMM MPP 06-42-00/100).

J. Removal of the APU Shunt Cover (held by two bolts) (Figure 401)

SUBTASK 020-002-A

EFFECTIVITY: FOR SHUNT COVER HELD BY TWO BOLTS

(1) Remove the two bolts (1) and two washers (2) that attach the APU Shunt cover (3) to the structure.

(2) Carefully pull the APU Shunt cover (3) to the side until it is released from the tab (4).

(3) Remove the APU Shunt cover (3).

K. Removal of the APU Shunt Cover (held by three bolts) (Figure 402)

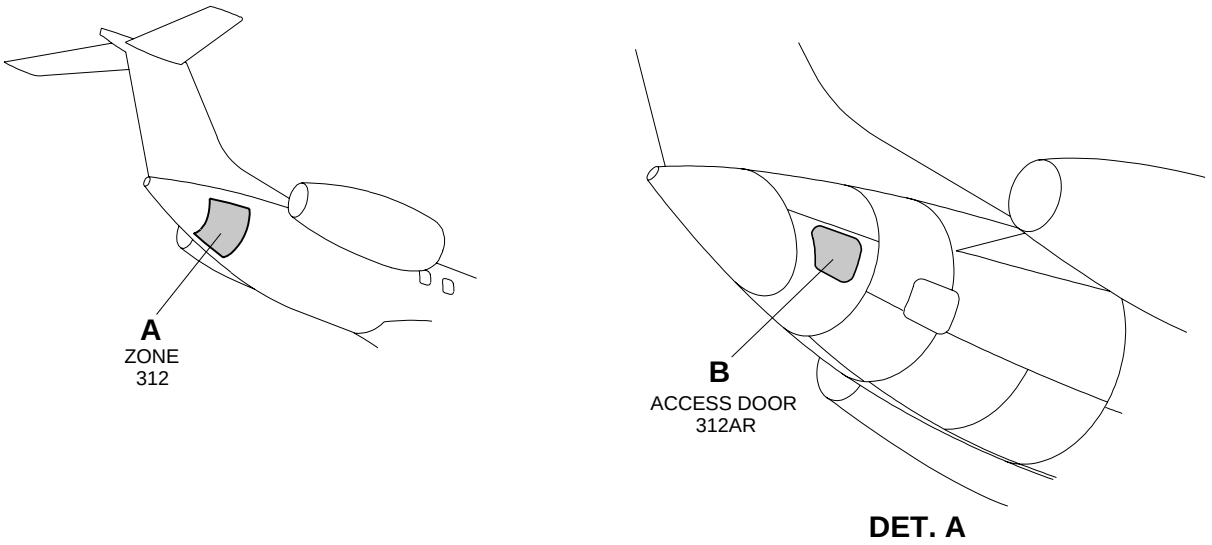
SUBTASK 020-003-A

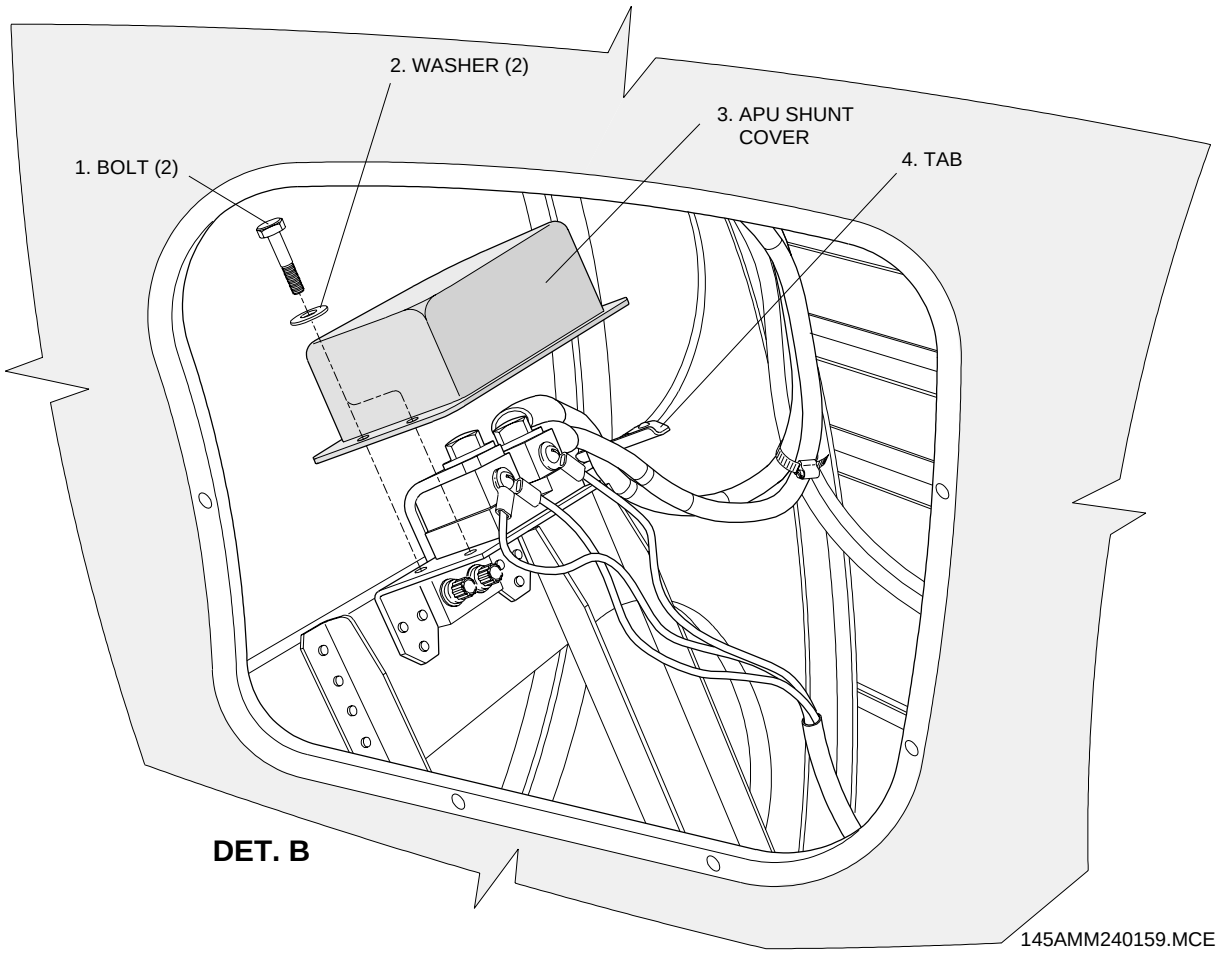
EFFECTIVITY: FOR SHUNT COVER HELD BY THREE BOLTS

(1) Remove the three bolts (1) and three washers (2) that attach the APU Shunt cover (3) to the structure.

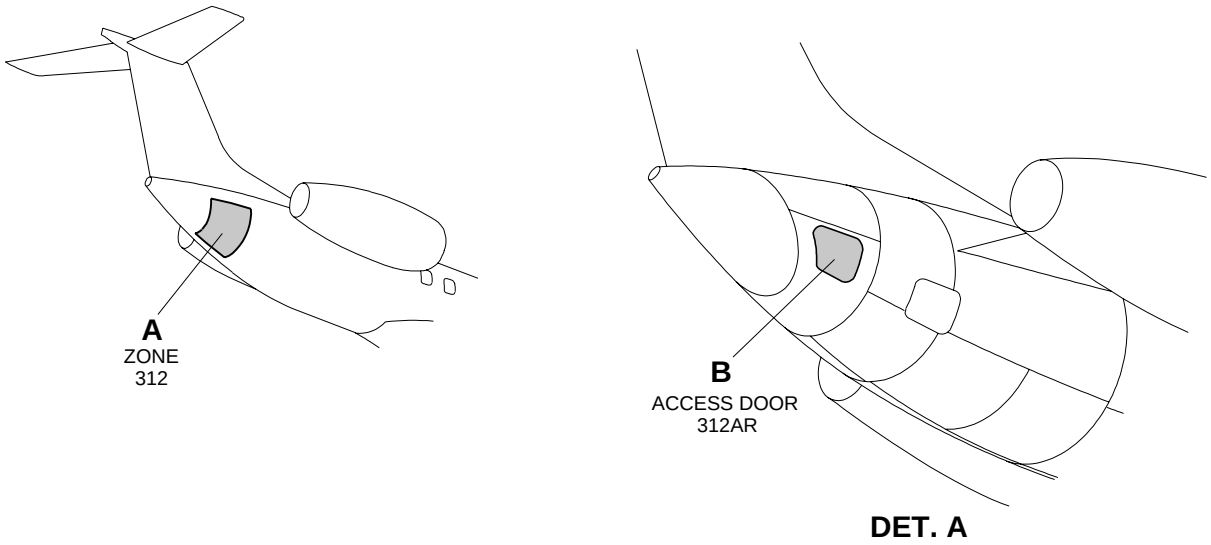
(2) Remove the APU Shunt cover (3).

EFFECTIVITY: FOR SHUNT COVER HELD BY TWO BOLTS
APU Shunt Cover - Removal/Installation
Figure 401

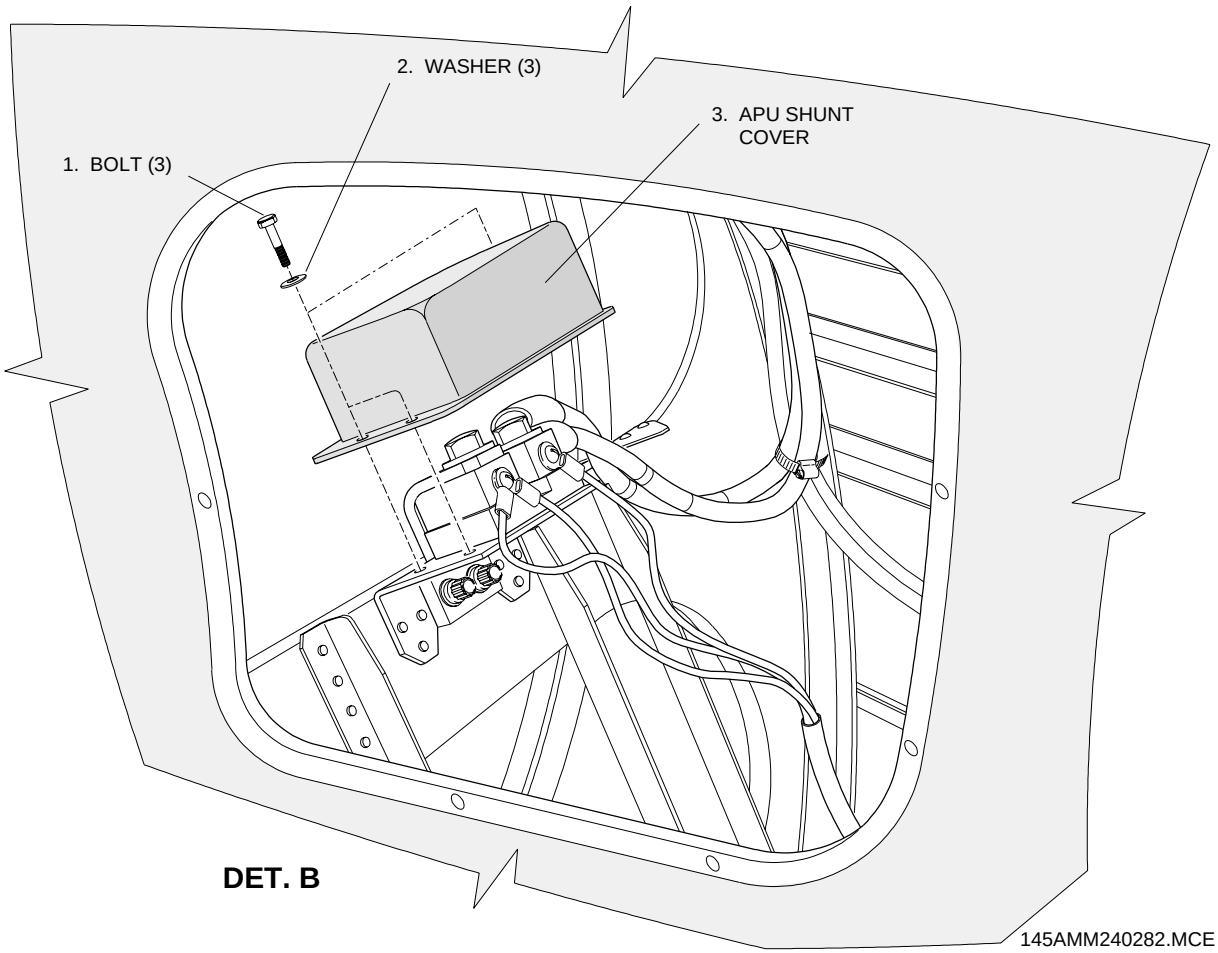




EFFECTIVITY: FOR SHUNT COVER HELD BY THREE BOLTS
APU Shunt Cover - Removal/Installation
Figure 402



DET. A



DET. B

145AMM240282.MCE

TASK 24-34-05-400-801-A
EFFECTIVITY: ALL

3. APU SHUNT COVER - INSTALLATION

A. General

(1) This task gives the procedure to install the APU Shunt Cover.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-42-00/100	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
312	312AR	Rear electronic compartment access door

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	Does the task	Rear fuselage section II

I. Installation of the APU Shunt Cover (held by two bolts) (Figure 401)

SUBTASK 420-002-A
EFFECTIVITY: FOR SHUNT COVER HELD BY TWO BOLTS

(1) Carefully push the APU Shunt cover (3) flange under the tab (4).

(2) Tighten the two bolts (1) and two washers (2) that attach the APU Shunt cover (3) to the structure.

J. Installation APU Shunt Cover (held by three bolts) (Figure 402)

SUBTASK 420-003-A
EFFECTIVITY: FOR SHUNT COVER HELD BY THREE BOLTS

(1) Carefully put the APU Shunt cover (3) in its installation position.

(2) Tighten the three bolts (1) and three washers (2) that attach the APU Shunt cover (3) to the structure.

K. Follow-on

SUBTASK 842-002-A

(1) Close access panel 312AR (AMM MPP 06-42-00/100).

(2) Remove the DO-NOT-SET-ON tag from the APU GEN pushbutton.

TASK 24-34-05-000-802-A
EFFECTIVITY: ALL

4. APU SHUNT - REMOVAL

A. General

(1) This task gives the procedure to remove the APU Shunt.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-42-00/100	-
AMM TASK 24-34-05-000-801-A/400	APU SHUNT COVER - REMOVAL
SRM 51-20-01/1	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
312	312AR	Rear electronic compartment access door

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	Does the task	Rear fuselage section II

I. Preparation

SUBTASK 841-003-A

(1) Make sure that the APU GEN pushbutton, on the electrical panel, on the overhead panel, is set at OFF.

(2) Attach a DO-NOT-SET-ON tag to the APU GEN pushbutton.

(3) Make sure that the GPU pushbutton, on the electrical panel, located on the overhead panel, is set at OFF.

(4) Attach a DO-NOT-SET-ON tag to the GPU pushbutton.

(5) Make sure that the BATT 1 and BATT 2 switches, on the electrical panel, located on the overhead panel, are set at OFF.

(6) Attach a DO-NOT-SET-AUTO tag to the BATT 1 and BATT 2 switches.

(7) Set the BACKUP pushbutton, on the electrical panel, located on the overhead panel, to OFF.

(8) Attach a DO-NOT-SET-AUTO tag to the BACKUP pushbutton.

(9) Make sure that the engines and the APU are not in operation.

(10) Open access panel 312AR (AMM MPP 06-42-00/100).

(11) Remove the APU Shunt Cover (AMM TASK 24-34-05-000-801-A/400).

J. Removal (Figure 403)

SUBTASK 020-004-A

EFFECTIVITY: PRE-MOD SB145-24-0024

CAUTION: MAKE MATCH MARKS ON ALL THE ELECTRICAL WIRES OR CABLES BEFORE YOU DISCONNECT THEM. INCORRECT CONNECTION OF WIRES OR CABLES WILL CAUSE MALFUNCTION OR DAMAGE TO EQUIPMENT.

(1) Put a label on the electrical cables (4), wires (6) (10), and connections (16) before you remove them from the shunt (5).

(2) Remove the screws (9), lock washers (8), and washers (7) that attach the electrical wires (6) and (10) to the shunt (5).

(3) Release the electrical wires (6) and (10).

(4) Remove the bolt (1), the lock washer (2), and the washer (3) that attach the electrical cables (4) to the shunt (5).

(5) Release the electrical cables (4).

(6) Remove the bolt (19), the lock washer (18), and the washer (17) that attach the connection bar (16) to the shunt (5).

(7) Remove the bolts (15), lock washers (14), washers (13) and (12), and nuts (11) that attach the connection bar (16) to the structure.

(8) Remove the connection bar (16).

(9) For shunt held on the structure by screws (20), remove the screws (20) that attach the shunt (5) to the structure.

(10) Remove the shunt (5).

K. Removal (Figure 404)

SUBTASK 020-005-A

EFFECTIVITY: POST-MOD SB145-24-0024

CAUTION: MAKE MATCH MARKS ON ALL THE ELECTRICAL WIRES OR CABLES BEFORE YOU DISCONNECT THEM. INCORRECT CONNECTION OF WIRES OR CABLES WILL CAUSE MALFUNCTION OR DAMAGE TO EQUIPMENT.

(1) Put a label on the electrical cables (4), wires (6) (10) (14), and connections (24) before you remove them from the shunt (5).

(2) Remove the screws (9), lock washers (8), and washers (7) that attach the electrical wires (6) and (10) to the shunt (5).

(3) Release the electrical wires (6) and (10).

(4) Remove the screw (11), lock washer (12), washers (13) (15) and (19), and nut (18) that attach the electrical wire (14) to the structure.

(5) Release the electrical wire (14).

(6) Remove the bolt (1), the lock washer (2), and the washer (3) that attach the electrical cables (4) to the shunt (5).

(7) Release the electrical cables (4).

(8) Remove the bolt (27), the lock washer (26), and the washer (25) that attach the connection bar (24) to the shunt (5).

(9) Remove the old sealant along the contour of the connection bar (24). Use a polyethylene spatula, if necessary. Refer to SRM 51-20-01/1.

(10) Remove the old sealant along the contour of the plate (23). Use a polyethylene spatula, if necessary. Refer to SRM 51-20-01/1.

(11) Remove the bolts (22), lock washers (21), washers (20) and (17), and nuts (16) that attach the connection bar (24) and the plate (23) to the structure.

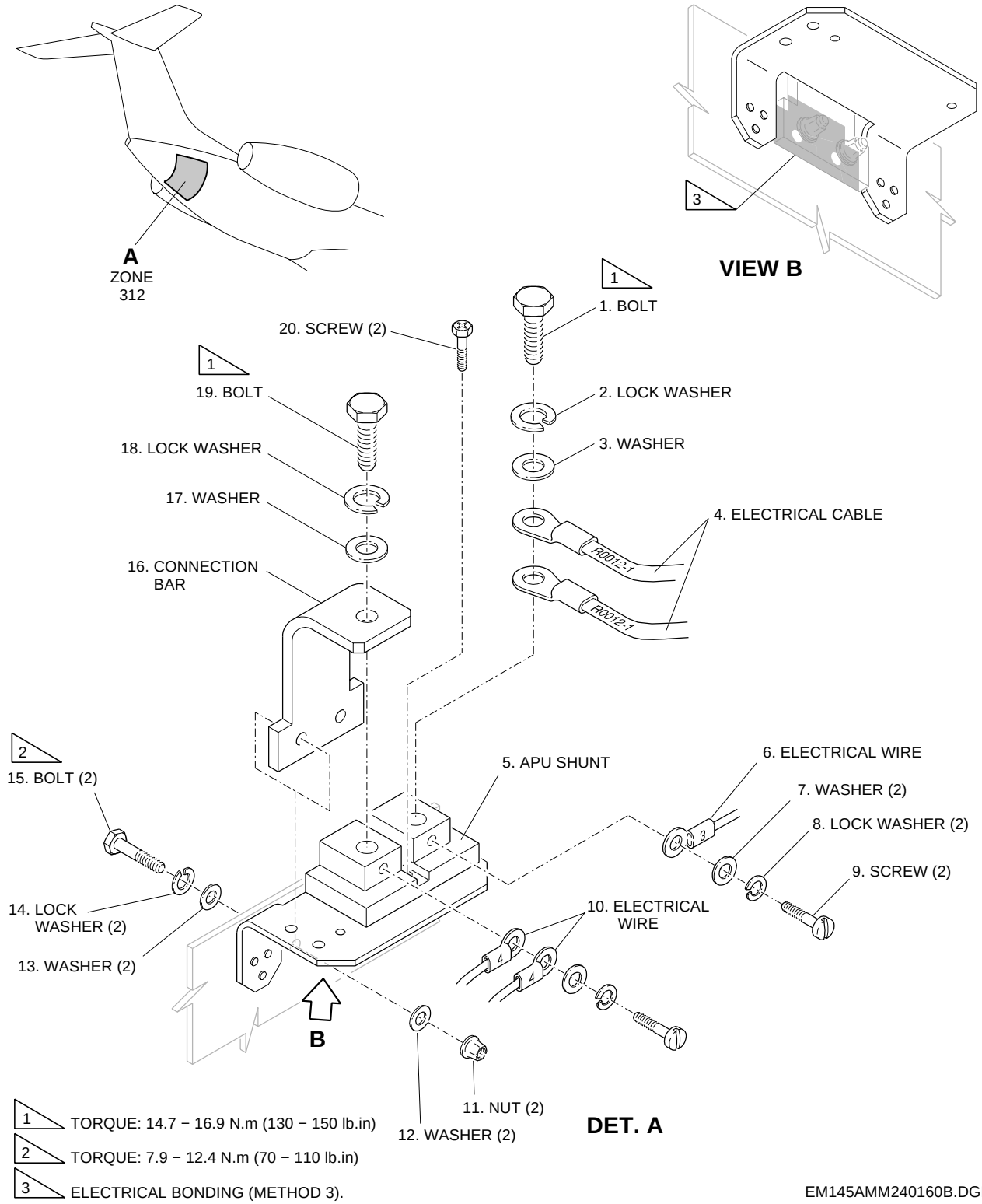
(12) Remove the connection bar (24) and the plate (23).

(13) Remove the old sealant along the contour of the shunt (5). Use a polyethylene spatula, if necessary. Refer to SRM 51-20-01/1.

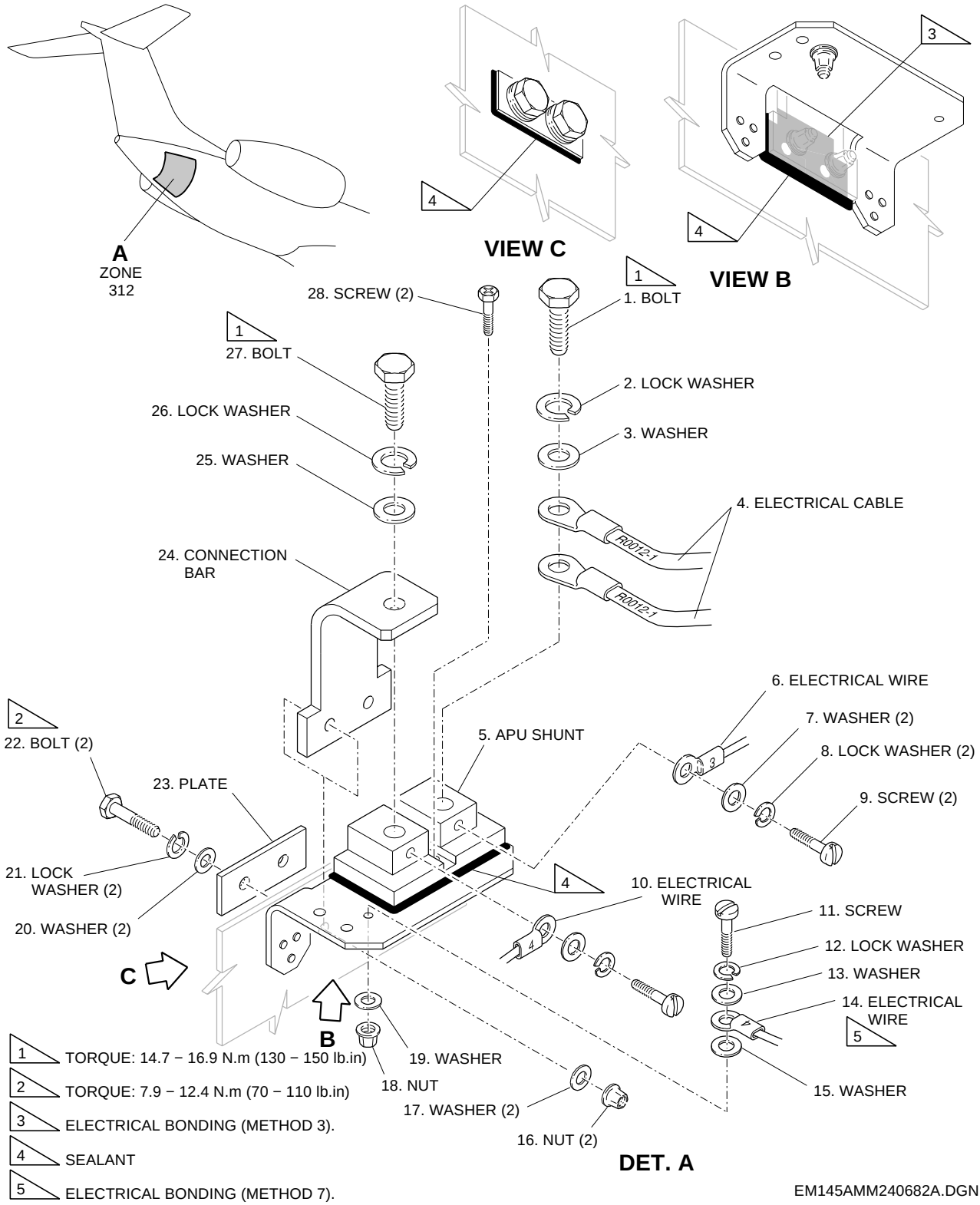
(14) Remove the screws (28) that attach the shunt (5) to the structure.

(15) Remove the shunt (5).

EFFECTIVITY: PRE-MOD SB145-24-0024
APU Shunt - Removal/Installation
Figure 403



EFFECTIVITY: POST-MOD SB145-24-0024
APU Shunt - Removal/Installation
Figure 404



TASK 24-34-05-400-802-A
EFFECTIVITY: ALL

5. APU SHUNT - INSTALLATION

A. General

(1) This task gives the procedure to install the APU Shunt.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-42-00/100	-
AMM TASK 20-13-21-700-801-A/200	ELECTRICAL BONDING TEST - STANDARD PROCEDURES
AMM TASK 20-13-21-910-801-A/200	TYPES OF ELECTRICAL BONDING AND SURFACE PREPARATION - STANDARD PROCEDURES
AMM TASK 20-13-21-910-802-A/200	ELECTRICAL BONDING PROTECTION - STANDARD PROCEDURES
AMM TASK 24-34-00-700-803-A/500	APU GENERATION SYSTEM - OPERATIONAL TEST
AMM TASK 24-34-05-400-801-A/400	APU SHUNT COVER - INSTALLATION
SRM 51-20-01/1	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
312	312AR	Rear electronic compartment access door

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Torque wrench	To torque the fasteners correctly	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

SPECIFICATION (BRAND)	*DESCRIPTION*	*QTY*
PR1776M B1/2 654 SEMKIT (AMS3281)	Sealant Low Density Polysulfide class B1/2	AR

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	Does the task	Fuselage rear section II

I. Installation (Figure 403)

SUBTASK 420-004-A

EFFECTIVITY: PRE-MOD SB145-24-0024

(1) Do the bonding procedure, method 3 (AMM TASK 20-13-21-910-801-A/200) to install the connection bar (16) on the structure.

CAUTION: REFER TO THE MATCH MARKS MADE DURING THE REMOVAL WHEN YOU CONNECT THE ELECTRICAL WIRES OR CABLES. INCORRECT CONNECTION OF WIRES OR CABLES WILL CAUSE MALFUNCTION OR DAMAGE TO EQUIPMENT.

(2) Before you connect the electrical cables (4), wires (6) (10), and connections (16) to the shunt (5), refer to the match marks made during removal procedure.

(3) Put the main generator shunt (5) in position.

(4) Put the connection bar (16) in position.

CAUTION: DO NOT INSTALL WASHERS BELOW THE CONNECTION BAR. IF THE CONNECTION BAR IS NOT IN DIRECT CONTACT WITH THE SHUNT AND WITH THE AIRCRAFT STRUCTURE, LOCALIZED RESISTANCE HEATING CAN OCCUR AND CAUSE THE ASSEMBLAGE TO BURN.

CAUTION: MAKE SURE THAT YOU TORQUE THE CONNECTION BAR BOLTS TO THE CORRECT VALUE. INCORRECT TORQUE CAN CAUSE SERIOUS PROBLEMS TO THE EQUIPMENT.

(5) Tighten the two bolts (15), two lock washers (14), four washers (13) and (12), and two nuts (11) that attach the connection bar (16) to the structure. Apply a torque of 7.9 - 12.4 N.m (70 - 110 lb.in). Refer to (Figure 403).

CAUTION: DO NOT INSTALL WASHERS BELOW THE CONNECTION BAR. IF THE CONNECTION BAR IS NOT IN DIRECT CONTACT WITH THE SHUNT AND WITH THE AIRCRAFT STRUCTURE, LOCALIZED RESISTANCE HEATING CAN OCCUR AND CAUSE THE ASSEMBLAGE TO BURN.

CAUTION: MAKE SURE THAT YOU TORQUE THE CONNECTION BAR BOLTS TO THE CORRECT VALUE. INCORRECT TORQUE WILL CAUSE SERIOUS PROBLEMS TO THE EQUIPMENT.

(6) Tighten the bolt (19), lock washer (18), and washer (17) which attach the connection bar (16) to the shunt (5). Apply a torque of 14.7 - 16.9 N.m (130 - 150 lb.in). Refer to (Figure 403).

(7) Do the bonding test (AMM TASK 20-13-21-700-801-A/200) on the connection bar (16).

(8) Do the bonding protection (AMM TASK 20-13-21-910-802-A/200) of the area around the connection bar. Refer to (Figure 403).

(9) For aircraft with APU shunt (5) held with screws (20), tighten the screws (20) that attach the shunt (5) to the structure.

(10) Put the electrical cables (4) in position.

CAUTION: DO NOT INSTALL WASHERS BELOW THE ELECTRICAL CABLE. IF THE ELECTRICAL CABLE IS NOT IN DIRECT CONTACT WITH THE SHUNT, LOCALIZED RESISTANCE HEATING CAN OCCUR AND CAUSE THE ASSEMBLAGE TO BURN.

CAUTION: CAUTION: MAKE SURE THAT YOU TORQUE THE ELECTRICAL CABLE BOLT TO THE CORRECT VALUE. INCORRECT TORQUE WILL CAUSE SERIOUS PROBLEMS TO THE EQUIPMENT.

(11) Tighten the bolt (1), lock washer (2), and washer (3) that attach the electrical cables (4) to the shunt (5). Apply a torque of 14.7 - 16.9 N.m (130 - 150 lbf.in). Refer to (Figure 403).

(12) Tighten the two screws (9), two lock washers (8), and two washers (7) that attach the electrical wires (6) and (10) to the shunt (5).

J. Installation (Figure 404)

SUBTASK 420-005-A

EFFECTIVITY: POST-MOD SB145-24-0024

(1) Do the bonding procedure, method 3 (AMM TASK 20-13-21-910-801-A/200) to install the connection bar (24) on the structure.

CAUTION: REFER TO THE MATCH MARKS MADE DURING THE REMOVAL WHEN YOU CONNECT THE ELECTRICAL WIRES OR CABLES. INCORRECT CONNECTION OF WIRES OR CABLES WILL CAUSE MALFUNCTION OR DAMAGE TO EQUIPMENT.

(2) Before you connect the electrical cables (4), wires (6) (10) (14), and connections (24) to the shunt (5), refer to the match marks made during removal procedure.

(3) Put the main generator shunt (5) in position.

(4) Put the connection bar (24) and the plate (23) in position.

CAUTION: DO NOT INSTALL WASHERS BELOW THE CONNECTION BAR. IF THE CONNECTION BAR IS NOT IN DIRECT CONTACT WITH THE SHUNT AND WITH THE AIRCRAFT STRUCTURE, LOCALIZED RESISTANCE HEATING CAN OCCUR AND CAUSE THE ASSEMBLAGE TO BURN.

CAUTION: MAKE SURE THAT YOU TORQUE THE CONNECTION BAR BOLTS TO THE CORRECT VALUE. INCORRECT TORQUE CAN CAUSE SERIOUS PROBLEMS TO THE EQUIPMENT.

(5) Tighten the two bolts (22), two lock washers (21), four washers (20) and (17), and two nuts (16) that attach the connection bar (24) and the plate (23) to the structure. Apply a torque of 7.9 - 12.4 N.m (70 - 110 lb.in). Refer to (Figure 404).

CAUTION: DO NOT INSTALL WASHERS BELOW THE CONNECTION BAR. IF THE CONNECTION BAR IS NOT IN DIRECT CONTACT WITH THE SHUNT AND WITH THE AIRCRAFT STRUCTURE, LOCALIZED RESISTANCE HEATING CAN OCCUR AND CAUSE THE ASSEMBLAGE TO BURN.

CAUTION: MAKE SURE THAT YOU TORQUE THE CONNECTION BAR BOLTS TO THE CORRECT VALUE. INCORRECT TORQUE WILL CAUSE SERIOUS PROBLEMS TO THE EQUIPMENT.

(6) Tighten the bolt (27), lock washer (26), and washer (25) which attach the connection bar (24) to the shunt (5). Apply a torque of 14.7 - 16.9 N.m (130 - 150 lb.in). Refer to (Figure 404).

(7) Do the bonding test (AMM TASK 20-13-21-700-801-A/200) on the connection bar (24).

(8) Prepare and apply a thin layer of PR1776M B1/2 654 SEMKIT along the contour of the connection bar (24). Refer to SRM 51-20-01/1. Refer to (Figure 404).

(9) Prepare and apply a thin layer of PR1776M B1/2 654 SEMKIT along the contour of the plate (23). Refer to SRM 51-20-01/1. Refer to (Figure 404).

(10) Do the bonding protection (AMM TASK 20-13-21-910-802-A/200) of the area around the connection bar. Refer to (Figure 404).

(11) Tighten the screws (28) that attach the shunt (5) to the structure.

(12) Put the electrical cables (4) in position.

CAUTION: DO NOT INSTALL WASHERS BELOW THE ELECTRICAL CABLE. IF THE ELECTRICAL CABLE IS NOT IN DIRECT CONTACT WITH THE SHUNT, LOCALIZED RESISTANCE HEATING CAN OCCUR AND CAUSE THE ASSEMBLAGE TO BURN.

CAUTION: CAUTION: MAKE SURE THAT YOU TORQUE THE ELECTRICAL CABLE BOLT TO THE CORRECT VALUE. INCORRECT TORQUE WILL CAUSE SERIOUS PROBLEMS TO THE EQUIPMENT.

(13) Tighten the bolt (1), lock washer (2), and washer (3) that attach the electrical cables (4) to the shunt (5). Apply a torque of 14.7 - 16.9 N.m (130 - 150 lbf.in). Refer to (Figure 404).

(14) Tighten the two screws (9), two lock washers (8), and two washers (7) that attach the electrical wires (6) and (10) to the shunt (5).

(15) Do the bonding procedure, method 7(AMM TASK 20-13-21-910-801-A/200) to install the electrical wire (14) to the structure.

(16) Tighten the screw (11), lock washer (12), washers (13), (15) and (19), and nut (18) that attach the electrical wire (14) to the structure.

(17) Do the bonding test (AMM TASK 20-13-21-700-801-A/200) on the electrical wire (14).

(18) Do the bonding protection (AMM TASK 20-13-21-910-802-A/200) of the electrical wire (14). Refer to (Figure 404).

(19) Prepare and apply a thin layer of PR1776M B1/2 654 SEMKIT along the contour of the shunt (5). Refer to SRM 51-20-01/1. Refer to (Figure 404).

K. Follow-on

SUBTASK 842-003-A

(1) Install the APU Shunt cover (AMM TASK 24-34-05-400-801-A/400).

(2) Remove the DO-NOT-SET-ON tag from the GPU pushbutton.

(3) Remove the DO-NOT-SET-ON tag from the APU GEN pushbutton.

(4) Remove the DO-NOT-SET-AUTO tag from the BATT 1 and BATT 2 switches.

(5) Remove the DO-NOT-SET-AUTO tag from the BACKUP pushbutton.

(6) Set the BACKUP pushbutton to AUTO.

(7) Close access panel 312AR (AMM MPP 06-42-00/100).

(8) Do the APU generation system operational test (AMM TASK 24-34-00-700-803-A/500).