



CIRCUIT BREAKER - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

- A. This section gives the typical procedures to remove and install the circuit breakers.
- B. This procedure is not applicable to the removal and installation of a specific circuit breaker. It is for all circuit breakers that have the same assembly as shown in the figure in this task.
- 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
20-13-06-000-801-A	CIRCUIT BREAKERS - REMOVAL (TYPICAL)	ALL
20-13-06-400-801-A	CIRCUIT BREAKERS - INSTALLATION (TYPICAL)	ALL



EMB145 - EMB135

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TASK 20-13-06-000-801-A

EFFECTIVITY: ALL

2. CIRCUIT BREAKERS - REMOVAL (TYPICAL)

A. General

- (1) This task gives the typical procedures to remove the circuit breakers.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-01/100	-
AMM SDS 24-42-00/1	
AMM TASK 24-35-01-000-801-A/400	BACKUP BATTERY - REMOVAL

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
-		Compartment or area where the related circuit breaker is installed

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	Area where the related circuit breaker is installed

I. Preparation

SUBTASK 841-002-A

- (1) Make sure that the GPU pushbutton, on the electrical panel, on the overhead panel, is set at OFF.
- (2) (For aircraft with AC APU) Make sure that the AC GPU pushbutton, on the electrical panel, on the overhead panel, is set at OFF ([AMM SDS 24-42-00/1](#)).
- (3) (For aircraft with AC APU) Attach a DO-NOT-SET-TO-ON tag to the AC GPU pushbutton.
- (4) Attach a DO-NOT-SET-ON tag to the GPU pushbutton.



- (5) Make sure that the GPU is not connected to the DC external power receptacle.
- (6) Make sure that the BATT 1 and BATT 2 switches, on the electrical panel, on the overhead panel, are set at OFF.
- (7) Attach a DO-NOT-SET-AUTO tag to the BATT 1 and BATT 2 switches.
- (8) Open access panel 113DL (AMM MPP 06-41-01/100).
- (9) Cut the lockwire from the power connector of the main batteries.
- (10) Disconnect the power connector from the main batteries.
- (11) Remove the backup battery ([AMM TASK 24-35-01-000-801-A/400](#)).

J. Removal ([Figure 401](#))

SUBTASK 020-002-A

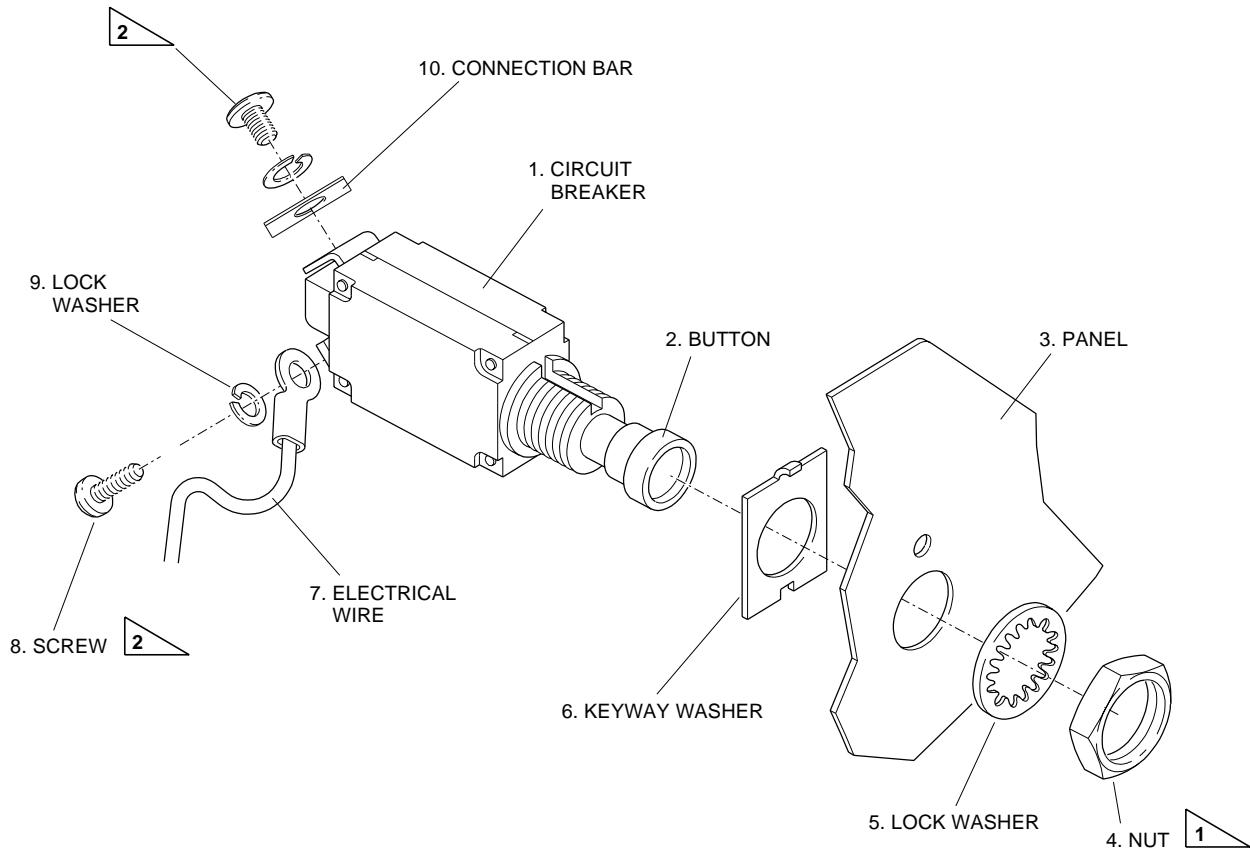
- (1) Get access to the related circuit breaker through the applicable compartment.
- (2) Hold the circuit breaker (1) and remove the nut (4) and lock washer (5) which attach the circuit breaker (1) to the panel (3).
- (3) Push the circuit breaker button (2) through the panel (3).
- (4) Remove the keyway washer (6).

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

- (5) Remove the two screws (8) and two lock washers (9) which attach the electrical wire(s) (7) and/or connection bar(s) (10) to the circuit breaker (1).

NOTE: If the connection bar(s) (10) is attached to other circuit breaker(s), that make it not possible to remove the related circuit breaker (1), remove the two screws and the two lock washers that attach the connection bar (10) to these CBs.

- (6) Remove the circuit breaker (1).
- (7) Protect all the electrical wires or cables disconnected.

EFFECTIVITY: ALL
Circuit Breaker - Removal/Installation
Figure 401


 TORQUE: 4.52 N.m (40 lb.in)

 TORQUE: 1.69 N.m (15 lb.in)

EM145AMM200134A.DGN

TASK 20-13-06-400-801-A
EFFECTIVITY: ALL
3. CIRCUIT BREAKERS - INSTALLATION (TYPICAL)
A. General

- (1) This task gives the typical procedures to install the circuit breakers.

B. References

<i>REFERENCE</i>	<i>DESIGNATION</i>
AMM MPP 06-41-01/100	-
AMM TASK 20-13-06-000-801-A/400	CIRCUIT BREAKERS - REMOVAL (TYPICAL)
AMM TASK 24-35-01-400-801-A/400	BACKUP BATTERY - INSTALLATION

C. Zones and Accesses

<i>ZONE</i>	<i>PANEL/DOOR</i>	<i>LOCATION</i>
-		Compartment or area where the related circuit breaker is installed

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

Not Applicable

F. Consumable Materials

<i>SPECIFICATION (BRAND)</i>	<i>DESCRIPTION</i>	<i>QTY</i>
P/N MS20995C20	Lockwire	400 (mm)

G. Expandable Parts

Not Applicable

H. Persons Recommended

<i>QTY</i>	<i>FUNCTION</i>	<i>PLACE</i>
1	Does the task	Area where the related circuit breaker is installed

I. Installation (Figure 401)
SUBTASK 420-002-A

- (1) Make sure that the aircraft is in the same configuration as it was at the end of the removal ([AMM TASK 20-13-06-000-801-A/400](#)).
- (2) Put the keyway washer (6) on the circuit breaker shaft.

- (3) Put the circuit breaker (1) in its installation position.
- (4) Tighten the lock washer (5) and nut (4) which attach the circuit breaker (1) to the panel (3).

CAUTION: YOU MUST CORRECT THE TORQUE VALUES IF THE TORQUE WRENCH ADAPTER IS AT AN ANGLE DIFFERENT FROM 90 DEGREES IN RELATION TO THE TORQUE WRENCH. IF YOU DO NOT OBEY THIS PRECAUTION, DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (5) Use the torque wrench to torque the nut (4) to 4.52 N.m (40 lb.in).
- (6) Apply drop of torque seal F-925 to the nut (4) as a check mark.
- (7) Remove the all protections from the electrical wires or cables disconnected.

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 DAMAGE TO EQUIPMENT.

- (8) Put the electrical wire(s) and/or connection bar(s) (10) in their installation position.
- (9) **NOTE:** If other(s) circuit breaker(s) has (have) been removed from the connection bar(s) (10), install and tighten the two screws and lock washers that attached it (each of them).

Tighten the two screws (8) and two lock washers (9) which attach the electrical wire(s) (7) and/or connection bar(s) (10) to the circuit breaker (1).

NOTE: If you are connecting the electrical wire to a connection bar or two electrical wires with the same screw, you must replace the screw with one 7.938 mm (0.312 in) long.

CAUTION: YOU MUST CORRECT THE TORQUE VALUES IF THE TORQUE WRENCH ADAPTER IS AT AN ANGLE DIFFERENT FROM 90 DEGREES IN RELATION TO THE TORQUE WRENCH. IF YOU DO NOT OBEY THIS PRECAUTION, DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (10) Use the torque wrench to torque each screw (8) to 1.69 N.m (15 lb.in).
- (11) Apply drop of torque seal F-925 to each screw (8) as a check mark.

J. Follow-on

SUBTASK 842-002-A

- (1) Connect the power connector to the main batteries.
- (2) Use the lockwire to lock the power connector of the main batteries.
- (3) Close access panel 113DL (AMM MPP 06-41-01/100).
- (4) Remove the DO-NOT-SET-ON tag from the GPU pushbutton.
- (5) (For aircraft with AC APU) Remove the DO-NOT-SET-TO-ON tag from the AC GPU pushbutton.



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- (6) Install the backup battery ([AMM TASK 24-35-01-400-801-A/400](#)).
- (7) Remove the DO-NOT-SET-AUTO tag from the BATT 1 and BATT 2 switches.

