



## AIRCRAFT MAINTENANCE MANUAL

### APU GENERATOR CONTROL UNIT (GCU) - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

#### 1. General

- A. This section gives the procedures to remove/install the APU-generator-control unit (APU GCU) and the procedures to connect/disconnect the APU GCU Troubleshooting Software.
- B. The APU GCU is installed in the center of the cockpit.
- C. You can get access to the APU GCU through the 221GF floor panel in the center of the cockpit.
- D. 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
24-34-02-000-801-A	APU GCU - REMOVAL	ALL
24-34-02-400-801-A	APU GCU - INSTALLATION	ALL
24-34-02-080-801-A	APU GCU TROUBLESHOOTING SOFTWARE - DISCONNECTION	ALL
24-34-02-480-801-A	APU GCU TROUBLESHOOTING SOFTWARE - CONNECTION	ALL



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TASK 24-34-02-000-801-A

EFFECTIVITY: ALL

2. APU GCU - REMOVAL

A. General

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

B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-02/100	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
223	221GF	Center Cockpit Floor

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	Cockpit

I. Preparation

SUBTASK 841-002-A

- (1) Make sure that the GPU pushbutton, on the electrical panel, installed on the overhead panel, is set at OFF.
- (2) Attach a DO-NOT-SET-ON tag to the GPU pushbutton.
- (3) Make sure that the BATT 1 and BATT 2 switches, on the electrical panel, installed on the overhead panel, are set at OFF.
- (4) Attach a DO-NOT-SET-AUTO tag to the BATT 1 and BATT 2 switches.
- (5) Make sure that the APU engine is not in operation.
- (6) Open floor panel 221GF to get access to APU GCU (AMM MPP 06-41-02/100).



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

SUBTASK 020-002-A

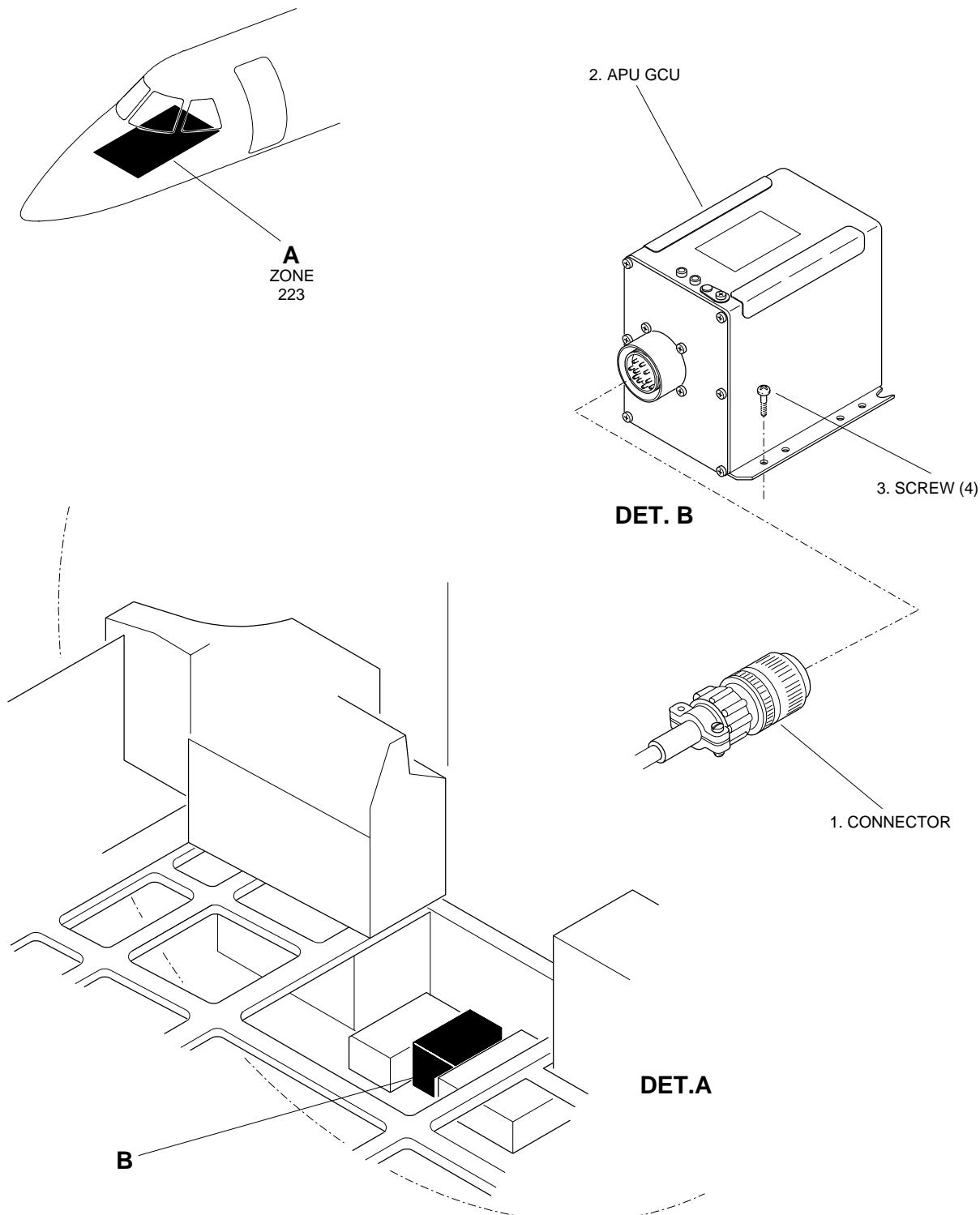
**CAUTION:** OBEY THE INSTRUCTIONS WRITTEN ON THE GCU PLACARD. DO NOT CONNECT OR DISCONNECT THE GCU UNIT WHILE POWER IS APPLIED. IF YOU DO, DAMAGE TO THE ELECTRICAL SYSTEM OR TO THE EQUIPMENT CAN OCCUR.

- (1) Disconnect the connector (1) from the APU GCU (2).
- (2) Remove the screws (3).
- (3) Remove the APU GCU (2).

**EFFECTIVITY: ALL**

APU GCU - Removal/Installation

Figure 401



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TASK 24-34-02-400-801-A

EFFECTIVITY: ALL

3. APU GCU - INSTALLATION

## A. General

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

## B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-02/100	-
AMM TASK 24-34-00-700-803-A/500	APU GENERATION SYSTEM - OPERATIONAL TEST
AMM TASK 28-41-00-200-801-A/600	-

## C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
223	221GF	Center Cockpit Floor

## 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	Cockpit

## I. Installation

SUBTASK 420-002-A

**CAUTION:** OBEY THE INSTRUCTIONS WRITTEN ON THE GCU PLACARD. DO NOT CONNECT OR DISCONNECT THE GCU UNIT WHILE POWER IS APPLIED. IF YOU DO, DAMAGE TO THE ELECTRICAL SYSTEM OR TO THE EQUIPMENT CAN OCCUR.

**NOTE:** Make sure that the GPU pushbutton, BATT 1 and BATT 2 switches, on the electrical panel, installed on the overhead panel, are set at OFF.

- (1) Make sure that the APU engine is not in operation.
- (2) Put the APU GCU (2) in its position.

- (3) Tight the screw (3).
- (4) Connect the connector (1) to the APU GCU (2).

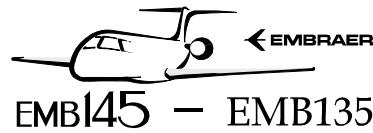
J. Follow-on (Figure 401)

**SUBTASK 842-002-A**

- (1) Do an inspection on the fuel-quantity indication harness (AMM TASK 28-41-00-200-801-A/600).

**NOTE:** The inspection of fuel quantity indication harness is part of Critical Design Configuration Control Limitations (CDCCL) in the Airworthiness Limitations of the Aircraft Maintenance Program.

- (2) Install floor panel 221GF (AMM MPP 06-41-02/100).
- (3) Remove the DO-NOT-SET-ON tag from GPU pushbutton.
- (4) Remove the DO-NOT-SET-AUTO tag from BATT 1 and BATT 2 switches.
- (5) Do the APU generation system operational test ( [AMM TASK 24-34-00-700-803-A/500](#)).



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TASK 24-34-02-080-801-A

EFFECTIVITY: ALL

4. APU GCU TROUBLESHOOTING SOFTWARE - DISCONNECTION

A. General

- (1) This task gives the procedures to disconnect the APU GCU Troubleshooting Software. It was prepared to facilitate the troubleshooting, when one of the probable causes is the APU GCU. It uses a software developed to detect if the APU GCU is really faulty. The use of this task, together with a task from the Fault Isolation Manual (FIM), will avoid an unnecessary change of the APU GCU.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-02/100	-
<a href="#">AMM TASK 20-40-01-860-801-A/200</a>	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
<a href="#">AMM TASK 49-10-00-910-803-A/200</a>	APU - SHUTDOWN
<a href="#">AMM TASK 49-13-00-910-803-A/200</a>	APU - SHUTDOWN

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
223	221GF	Center Cockpit Floor

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
GSE 499	Set software/harness GCU troubleshooting	To do the functional check of the GCU	
GSE 130	Laptop Computer	Downloading	

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	Cockpit



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I. Preparation

SUBTASK 841-005-A

- (1) Shutdown the APU ( [AMM TASK 49-13-00-910-803-A/200](#) for APU T-62T-40C14 or [AMM TASK 49-10-00-910-803-A/200](#) for APU T-62T-40C11).
- (2) Set the APU GEN pushbutton, on the electrical panel, on the overhead panel, to OFF/RESET.
- (3) Deenergize the aircraft ( [AMM TASK 20-40-01-860-801-A/200](#)).

J. Disconnection ([Figure 402](#))

SUBTASK 080-003-A

- (1) Remove the GSE 499 (7) and GSE 130 (5), do as follows:

**CAUTION:** OBEY THE INSTRUCTIONS WRITTEN ON THE GCU PLACARD. DO NOT CONNECT OR DISCONNECT THE GCU UNIT WHILE POWER IS APPLIED. IF YOU DO, DAMAGE TO THE ELECTRICAL SYSTEM OR TO THE EQUIPMENT CAN OCCUR.

- (a) Disconnect the electrical connector (2) to the electrical connector (1).
  - (b) Disconnect the Serial Port connector (6) to the GSE 130 (5).
  - (c) Disconnect the electrical connector (3) to the APU GCU (4).
  - (d) Connect the electrical connector (1) to the APU GCU (4).
- (2) Close access panel 221GF (AMM MPP 06-41-02/100).

K. Follow-on

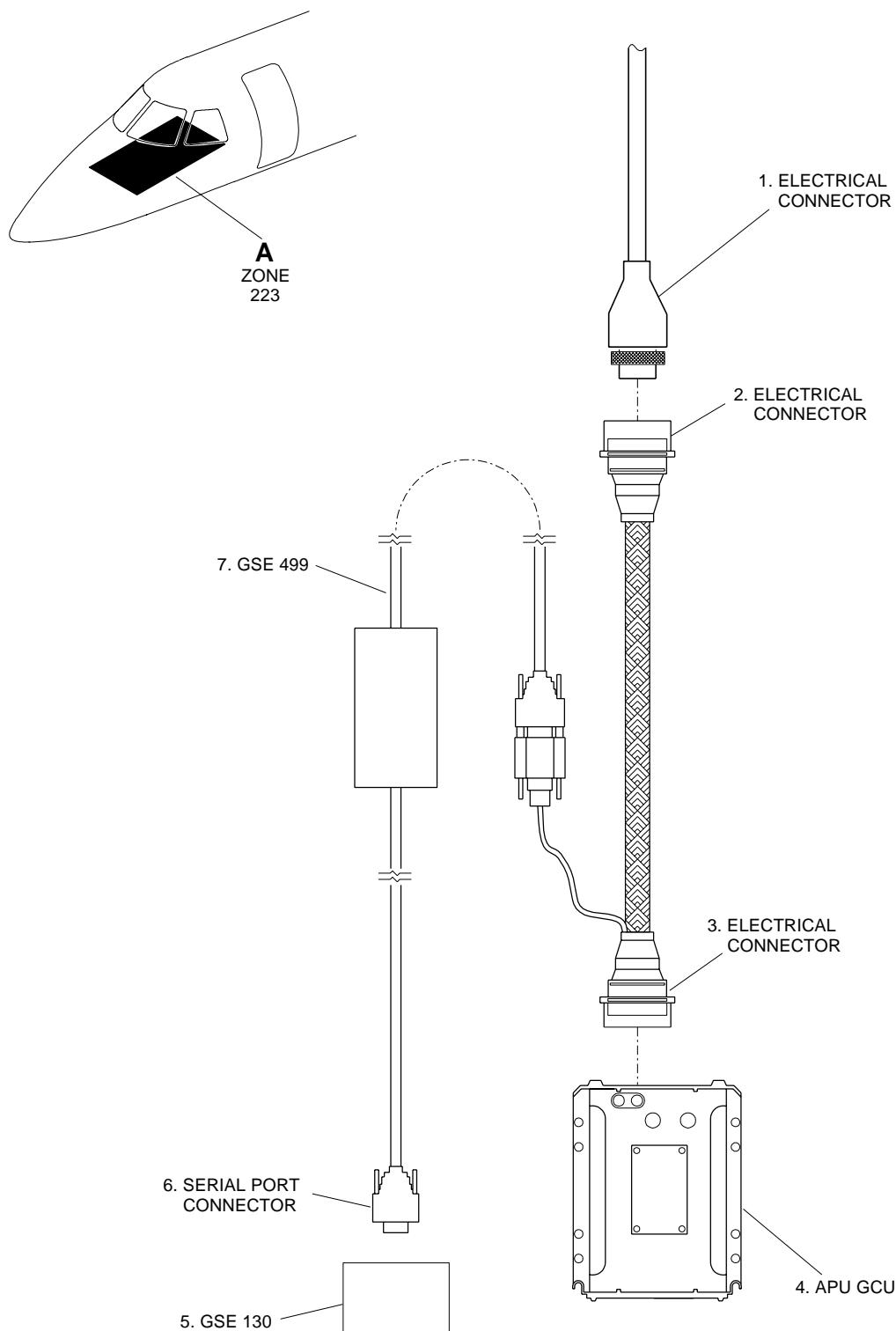
SUBTASK 842-005-A

- (1) Not applicable.

**EFFECTIVITY: ALL**

APU GCU Troubleshooting Software - Disconnection/Connection

Figure 402



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TASK 24-34-02-480-801-A

EFFECTIVITY: ALL

5. APU GCU TROUBLESHOOTING SOFTWARE - CONNECTION

A. General

- (1) This task gives the procedures to connect the APU GCU Troubleshooting Software. It was prepared to facilitate the troubleshooting, when one of the probable causes is the APU GCU. It uses a software developed to detect if the APU GCU is really faulty. The use of this task, together with a task from the Fault Isolation Manual (FIM), will avoid an unnecessary change of the APU GCU.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-02/100	-
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 24-34-02-080-801-A/400	APU GCU TROUBLESHOOTING SOFTWARE - DISCONNECTION
AMM TASK 49-10-00-910-802-A/200	APU - START
AMM TASK 49-13-00-910-802-A/200	APU - START
FIM TASK 24-34-00-810-808-A	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
223	221GF	Center Cockpit Floor

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
GSE 499	Set software/harness GCU troubleshooting	To do the functional check of the GCU	
GSE 130	Laptop Computer	Downloading	

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	Cockpit

I. Preparation

**SUBTASK 841-006-A**

- (1) Deenergize the aircraft ([AMM TASK 20-40-01-860-801-A/200](#)).
- (2) Make sure that the APU is not in operation.
- (3) Open floor panel 221GF to get access to APU GCU (AMM MPP 06-41-02/100).

J. Connection (Figure 402)

**SUBTASK 480-003-A**

- (1) Connect the GSE 499 (7) and GSE 130 (5), do as follows:

**CAUTION:** OBEY THE INSTRUCTIONS WRITTEN ON THE GCU PLACARD. DO NOT CONNECT OR DISCONNECT THE GCU UNIT WHILE POWER IS APPLIED. IF YOU DO, DAMAGE TO THE ELECTRICAL SYSTEM OR TO THE EQUIPMENT CAN OCCUR.

- (a) Disconnect the electrical connector (1) from APU GCU (4).
- (b) Connect the electrical connector (3) to the APU GCU (4).
- (c) Connect the Serial Port connector (6) to the GSE 130 (5).
- (d) Connect the electrical connector (2) to the electrical connector (1).
- (2) Energize the aircraft ([AMM TASK 20-40-01-860-801-A/200](#)).
- (3) Start the APU ([AMM TASK 49-13-00-910-802-A/200](#) for APU T-62T-40C14 or [AMM TASK 49-10-00-910-802-A/200](#) for APU T-62T-40C11).
- (4) Set the APU GEN pushbutton, on the electrical panel, on the overhead panel, to ON.
- (5) Read the data acquired through GSE 499 from the laptop (GSE 130).
- (6) Verify if there is some detected fault marked. If so, use this information together with the Fault Isolation Manual (FIM) relation task and use the APU GCU Troubleshooting software (FIM TASK 24-34-00-810-808-A). Otherwise, disconnect GSE 499 ([AMM TASK 24-34-02-080-801-A/400](#)).

K. Follow-on

**SUBTASK 842-006-A**

- (1) Not applicable.

