



## AIRCRAFT MAINTENANCE MANUAL

### APU GENERATOR CONTROL UNIT (GCU) - ADJUSTMENT/TEST

EFFECTIVITY: ALL

#### 1. General

- A. This section gives the procedures to adjust the voltage of the APU-Generator-Control Unit (APU GCU).
- B. 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
24-34-02-820-802-A	APU GCU - VOLTAGE ADJUSTMENT	ALL



# AIRCRAFT MAINTENANCE MANUAL

TASK 24-34-02-820-802-A

EFFECTIVITY: ALL

## 2. APU GCU - VOLTAGE ADJUSTMENT

### A. General

- (1) The APU GCU controls the APU starter/generator field-current and keeps the voltage output at  $28.5 \pm 0.1$  V DC under all load, when it does not operate in parallel with other channels. When it operates in parallel with other channels, the GCU can adjust the voltage up to  $\pm 2.0$  V DC, to compensate for feeder impedance and regulator tolerance.

### B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-02/100	-
AMM SDS 31-41-00/1	
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 28-41-00-200-801-A/600	-
AMM TASK 49-10-00-910-802-A/200	APU - START
AMM TASK 49-10-00-910-803-A/200	APU - SHUTDOWN
AMM TASK 49-13-00-910-802-A/200	APU - START
AMM TASK 49-13-00-910-803-A/200	APU - SHUTDOWN

### C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
220	221GF	Cockpit

### D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	DC voltmeter, range: 0-50 V DC, with four (4) digits of resolution and a minimum tolerance of $\pm 0.1\%$ , 1000 Ohms per volt or more	To do the check of the APU GCU voltage	

### E. Auxiliary Items

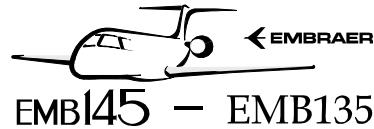
Not Applicable

### F. Consumable Materials

Not Applicable

### G. Expandable Parts

Not Applicable



EMB145 – EMB135

AIRCRAFT  
MAINTENANCE MANUAL

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Cockpit

I. Preparation

SUBTASK 841-004-A

- (1) Open access panel 221GF (AMM MPP 06-41-02/100).
- (2) Loosen the screw which attaches the cap of the voltage adjustment potentiometer.
- (3) Turn the cap to one side to get access to the voltage adjustment potentiometer.
- (4) Install a voltmeter to the test jacks, on the top of the APU GCU. Put the voltmeter positive wire into the red jack and the negative wire into the black jack.

NOTE: Do not use the airframe as a reference point for the voltmeter as this will cause an adjustment error.

- (5) Energize the aircraft with the External DC Power Supply ([AMM TASK 20-40-01-860-801-A/200](#)).

J. Adjustment Procedure ([Figure 501](#))

SUBTASK 820-004-A

- (1) Adjust as follows:

- (a) Set the APU GEN pushbutton, on the electrical panel, on the overhead panel, to OFF.

Result:

- 1 On the APU GEN pushbutton, the striped bar comes on.

- (b) Start the APU ([TASK 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).

Result:

- 1 The EICAS display shows the APU GEN OFF BUS caution message.

- 2 The master CAUTION lights flash.

- (c) Push a master CAUTION light.

Result:

- 1 The master CAUTION lights go off.

- (d) Set MFD 1 (or 2) to the ELEC page ([AMM SDS 31-41-00/1](#)).

Result:

- 1 On the ELEC page, the APU GEN voltage value is boxed in amber.



EMB145 – EMB135

AIRCRAFT  
MAINTENANCE MANUAL

- CAUTION:** • MAKE SURE THAT THE APU GEN PUSHBUTTON IS SET AT OFF.
- MAKE SURE THAT THE APU STARTER/GENERATOR OUTPUT VOLTAGE IS LESS THAN 30.0 V DC. IF THE VOLTAGE IS HIGHER, REPLACE THE GCU.
  - ONLY ADJUST THE APU GCU VOLTAGE WITH THE POTENTIOMETER, IF THE RESPECTIVE VOLTAGE VALUE ON THE TEST JACKS IS NOT  $28.5 \pm 0.1$  V DC.

(e) Adjust the APU GCU potentiometer to  $28.5 \pm 0.1$  V DC.

K. Follow-on

SUBTASK 842-004-A

- (1) Set the APU GEN pushbutton to ON.
- (2) Stop the APU (TASK [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).
- (3) Deenergize the aircraft ([AMM TASK 20-40-01-860-801-A/200](#)).

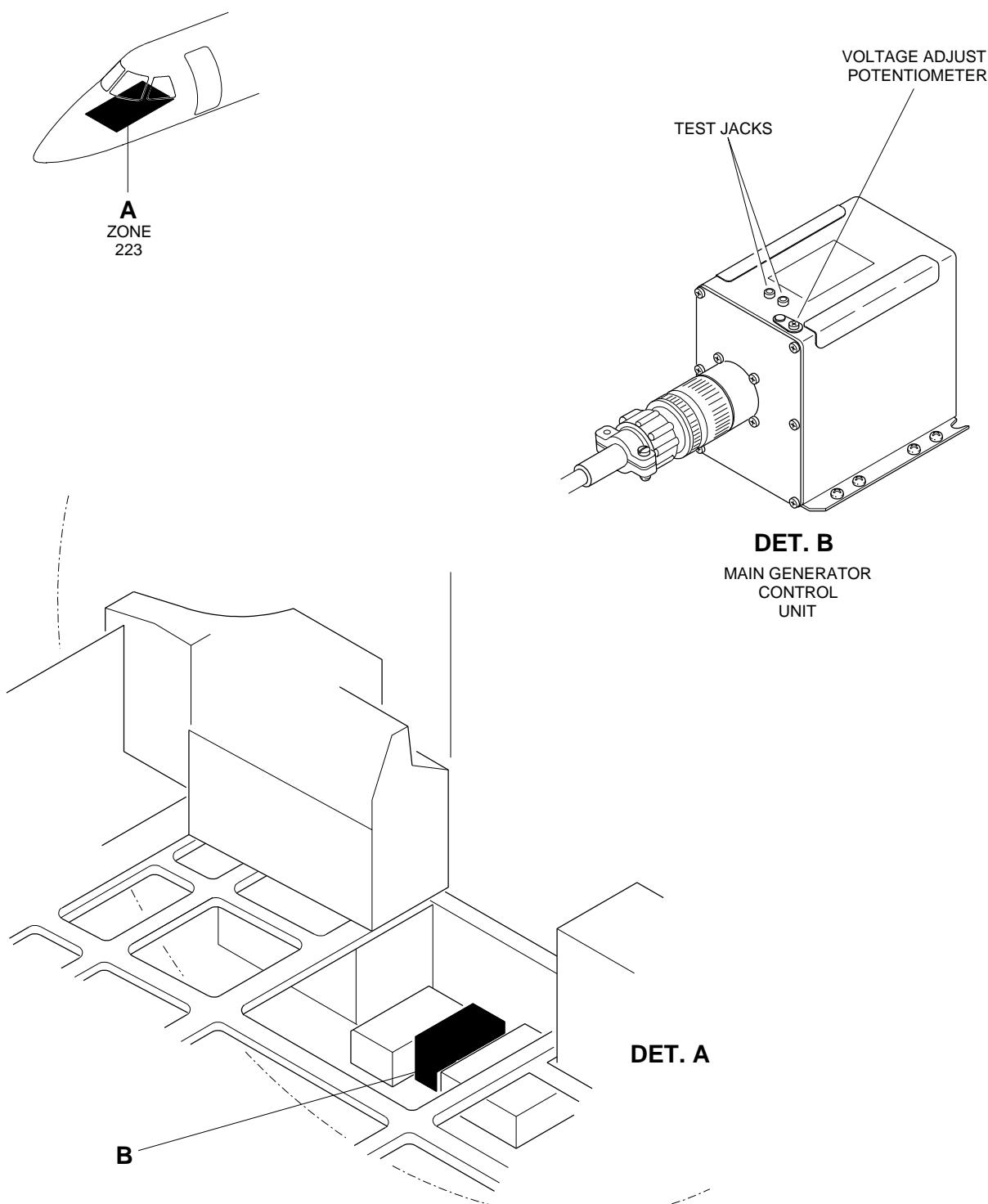
**CAUTION:** IF YOU MUST REPLACE THE SCREW OF THE POTENTIOMETER ACCESS CAP, MAKE SURE THAT THE NEW SCREW OBEYS THE SPECIFIED LENGTH ACCURATELY (REFER TO THE LAST REVISION OF THE COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST FOR APU GENERATOR CONTROL UNIT, PART NUMBER 51525-014A, BY LUCAS AEROSPACE, AURORA).

- (4) Tighten the screw of the potentiometer access cap.
- (5) 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.

- (6) Close access panel 221GF (AMM MPP 06-41-02/100).

**EFFECTIVITY: ALL**  
 APU GCU Voltage Adjustment  
 Figure 501



145AMM240067.MCE A

