



AIRCRAFT MAINTENANCE MANUAL

FADEC POWER-SUPPLY DIODE BOX - ADJUSTMENT/TEST

EFFECTIVITY: ACFT MODEL(S) EMB-145

1. General

- A. This section gives the procedures to do the functional check of the FADEC power-supply diode box.
- 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
76-12-03-700-801-A	FADEC POWER-SUPPLY DIODE BOX - FUNCTIONAL CHECK	ACFT MODEL(S) EMB-145



EMB145 – EMB135

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TASK 76-12-03-700-801-A

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2. FADEC POWER-SUPPLY DIODE BOX - FUNCTIONAL CHECK

A. General

(1) Obey these instructions to do the functional check of the FADEC power-supply diode box.

B. References

REFERENCE	DESIGNATION
AMM MPP 06-41-01/100	-
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 28-41-00-200-801-A/600	-
S.B.145-24-0012	-

C. Zones and Accesses

ZONE	PANEL/DOOR	LOCATION
272	272DR	Rear electronic compartment
221	221GF	Center cockpit floor

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Multimeter	To measure voltage	

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Ladder	To get access to the rear electronic compartment	1
Commercially available	28 V DC lamp	For the test of the FADEC power-supply relay	1

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Rear electronic compartment



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(Continued)

QTY	FUNCTION	PLACE
1	Does the task	Cockpit

I. Preparation

SUBTASK 841-005-B

- (1) Energize the aircraft ([AMM TASK 20-40-01-860-801-A/200](#)).
- (2) Make sure that the BACKUP pushbutton, on the electrical panel, on the overhead panel, is set at ON.
- (3) Make sure that the BATT 1 and BATT 2 switches, on the electrical panel, on the overhead panel, are set at ON.
- (4) On the circuit breaker panel, open these circuit breakers:
 - FADECs 1A, 1B (LH Engine)
 - FADECs 2A, 2B (RH Engine)
 - APU CONTROL
 - APU FUEL SOV
- (5) On the left power-control-and-distribution box, open this circuit breaker:
 - APU CONTROL
- (6) Open floor panel 221GF to get access to the APU GCU (AMM MPP 06-41-02/100).
- (7) Put the ladder in position and open rear-electronic-compartment access door 272DR (AMM MPP 06-41-01/100).

J. Functional Check ([Figure 501](#)) ([Figure 502](#)) ([Figure 503](#))

SUBTASK 720-005-B

- (1) Disconnect these electrical connectors:
 - P0231 (APU GCU) (1)
 - (Aircraft with APU T-62T-40C11) P0100 (APU ESU) (2)
 - (Aircraft with APU T-62T-40C14) P2110 (APU FADEC) (4)
 - (Aircraft with APU T-62T-40C11 and harness adapter for APU T-62T-40C14 installation) P3225 (APU ESU) (2)
 - P0549 (FADEC 1A), P0551 (FADEC 1B) (3)
 - P0550 (FADEC 2A), P0552 (FADEC 2B) (3)
- (2) (Aircraft with APU T-62T-40C11) Make a jumper between pins E and J of connector P0100 (APU ESU) (2).
- (3) (Aircraft with APU T-62T-40C14) Make a jumper between pins F and N of connector P2110 (APU FADEC) (4).

- (4) (Aircraft with APU T-62T-40C11 and harness adapter for APU T-62T-40C14 installation) Make a jumper between pins E and J of connector P3225 (APU ESU) (2).
- (5) On the circuit breaker panel, close these circuit breakers:
 - FADECs 1A, 1B
 - FADECs 2A, 2B
 - APU CONTROL
- (6) On the left power-control-and-distribution box, close this circuit breaker:
 - APU CONTROL
- (7) Make sure that these circuit breakers are closed:
 - FADEC A BUS, FADEC B BUS (on the backup-battery relay box)
 - FADEC A BUS, FADEC B BUS (on the left and right power-control-and-distribution box)
 - APU GEN/START (on the left power-control-and-distribution box)
- (8) Set the APU MASTER switch, on the overhead panel, to the ON position.
- (9) To do the check of the FADEC power-supply diode box, do these steps:
 - (a) Measure the voltage between pins A (+) and C (-), and between pins B (+) and D (-) of connectors P0549 of FADEC 1A, P0551 of FADEC 1B, P0550 of FADEC 2A and P0552 of FADEC 2B (3).

Result:

1 The voltage must be 28 V DC.
 - (b) On the backup-battery relay box, open the FADEC A BUS circuit breaker.
 - (c) Measure the voltage between pins A (+) and C (-), and between pins B (+) and D (-) of connectors P0549 of FADEC 1A and P0550 of FADEC 2A (3).

Result:

1 The voltage must be 28 V DC.
 - (d) On the backup-battery relay box, close the FADEC A BUS circuit breaker.
 - (e) On the left power-control-and-distribution box, open the FADEC A BUS circuit breaker.
 - (f) Measure the voltage between pins A (+) and C (-), and between pins B (+) and D (-) of connectors P0549 of FADEC 1A and P0550 of FADEC 2A (3).

Result:

1 The voltage must be 24 ± 2 V DC.
 - (g) On the backup-battery relay box, open the FADEC B BUS circuit breaker.
 - (h) Measure the voltage between pins A (+) and C (-), and between pins B (+) and D (-) of connectors P0551 of FADEC 1B and P0552 of FADEC 2B (3).

Result:

1 The voltage must be 28 V DC.

- (i) On the backup-battery relay box, close the FADEC B BUS circuit breaker.
 - (j) On the right power-control-and-distribution box, open the FADEC B BUS circuit breaker.
 - (k) Measure the voltage between pins A (+) and C (-), and between pins B (+) and D (-) of connectors P0551 of FADEC 1B and P0552 of FADEC 2B (3).

Result:

 - 1 The voltage must be 24 ± 2 V DC.
- (10) (Aircraft with APU T-62T-40C11) To do the check of the FADEC power-supply relay, do these steps:
- (a) Remove the jumper from connector P0100.
 - (b) Connect the 28 V DC lamp between pins A and C of connector P0549.
 - (c) Make a jumper between pins E and J of connector P0100.

Result:

 - 1 The lamp comes on.
 - (d) Remove the jumper from connector P0100.

Result:

 - 1 For aircraft PRE-MOD. [S.B.145-24-0012](#), the lamp goes off immediately.
 - 2 For aircraft POST-MOD. [S.B.145-24-0012](#), the lamp goes off after 1 second.
- (11) (Aircraft with APU T-62T-40C14) To do the check of the FADEC power-supply relay, do these steps:
- (a) Remove the jumper from connector P2110.
 - (b) Connect the 28 V DC lamp between pins A and C of connector P0549.
 - (c) Make a jumper between pins F and N of connector P2110.

Result:

 - 1 The lamp comes on.
 - (d) Remove the jumper from connector P2110.

Result:

 - 1 The lamp goes off after 1 second.
- (12) (Aircraft with APU T-62T-40C11 and harness adapter for APU T-62T-40C14 installation) To do the check of the FADEC power-supply relay, do these steps:
- (a) Remove the jumper from connector P3225.
 - (b) Connect the 28 V DC lamp between pins A and C of connector P0549.
 - (c) Make a jumper between pins E and J of connector P3225.

Result:

 - 1 The lamp comes on.
 - (d) Remove the jumper from connector P3225.

Result:

 - 1 The lamp goes off after 1 second.

- (13) Set the APU MASTER switch, on the overhead panel, to the OFF position.
 - (14) On the circuit breaker panel, open these circuit breakers:
 - FADECs 1A, 1B (LH Engine)
 - FADECs 2A, 2B (RH Engine)
 - APU CONTROL
 - APU FUEL SOV
 - (15) On the left power-control-and-distribution box, open this circuit breaker:
 - APU CONTROL
 - (16) Connect these electrical connectors:
 - P0231 (APU GCU) (1)
 - (Aircraft with APU T-62T-40C11) P0100 (APU ESU) (2)
 - (Aircraft with APU T-62T-40C14) P2110 (APU FADEC) (4)
 - (Aircraft with APU T-62T-40C11 and harness adapter for APU T-62T-40C14 installation) P3225 (APU ESU) (2)
 - P0549 (FADEC 1A), P0551 (FADEC 1B) (3)
 - P0550 (FADEC 2A), P0552 (FADEC 2B) (3)
- K. Follow-on
- SUBTASK 842-005-B**
- (1) Deenergize the aircraft ([AMM TASK 20-40-01-860-801-A/200](#)).
 - (2) 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 a part of Critical Design Configuration Control Limitations (CDCCL) in the Airworthiness Limitations of the Maintenance Review Board Report (MRB).
 - (3) Install floor panel 221GF (AMM MPP 06-41-02/100).
 - (4) Close rear-electronic-compartment access door 272DR (AMM MPP 06-41-01/100).
 - (5) Remove the ladder from the work area.
 - (6) Close these circuit breakers:
 - FADEC B BUS (on the right power-control-and-distribution box)
 - FADEC A BUS (on the left power-control-and-distribution box)
 - APU CONTROL (on the left power-control-and-distribution box)
 - (7) On the circuit breaker panel, close these circuit breakers:



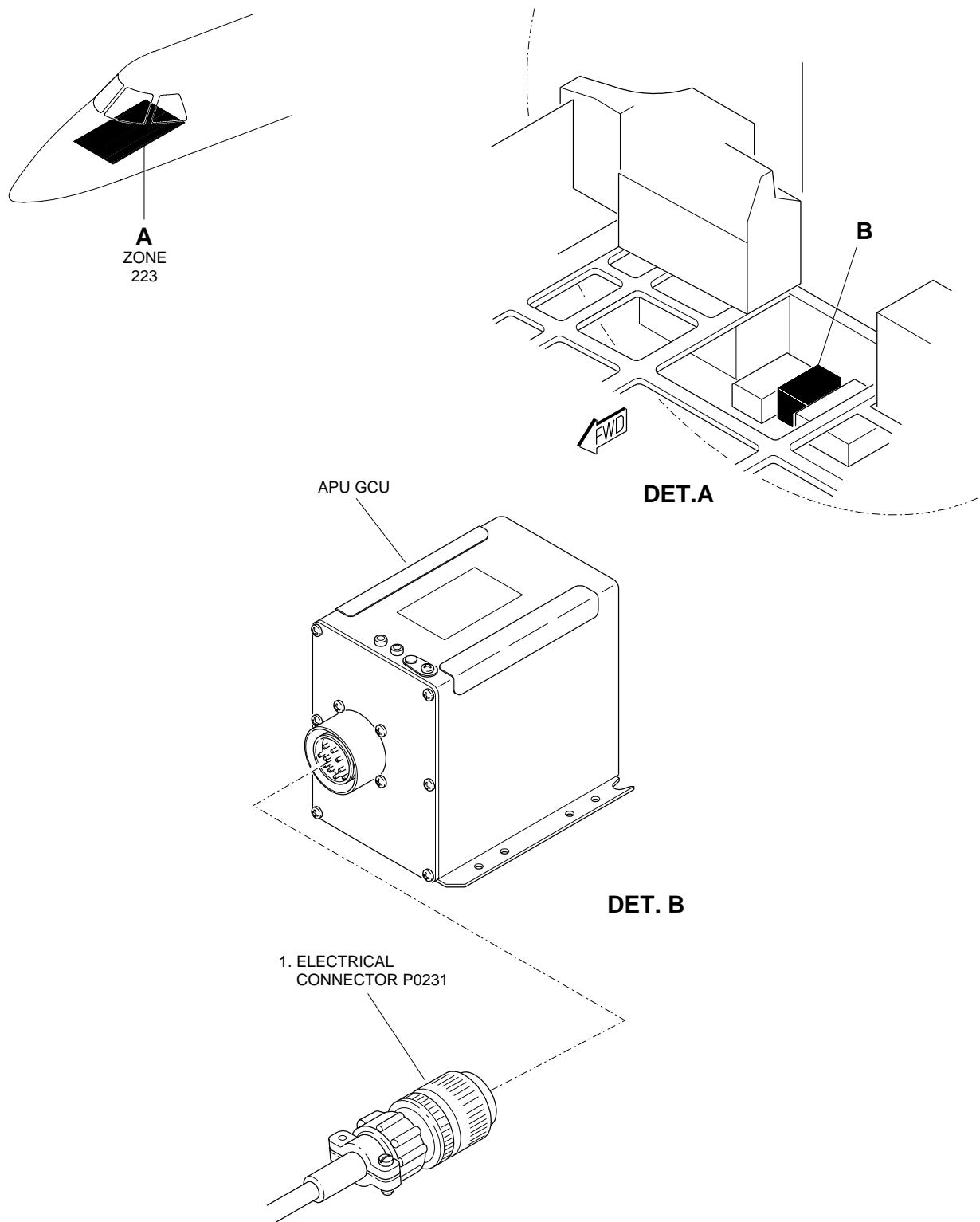
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- FADECs 1A, 1B
- FADECs 2A, 2B
- APU FUEL SOV
- APU CONTROL

EFFECTIVITY: ACFT MODEL(S) EMB-145

FADEC Power-Supply-Diode Box Functional Check - Component Locations

Figure 501

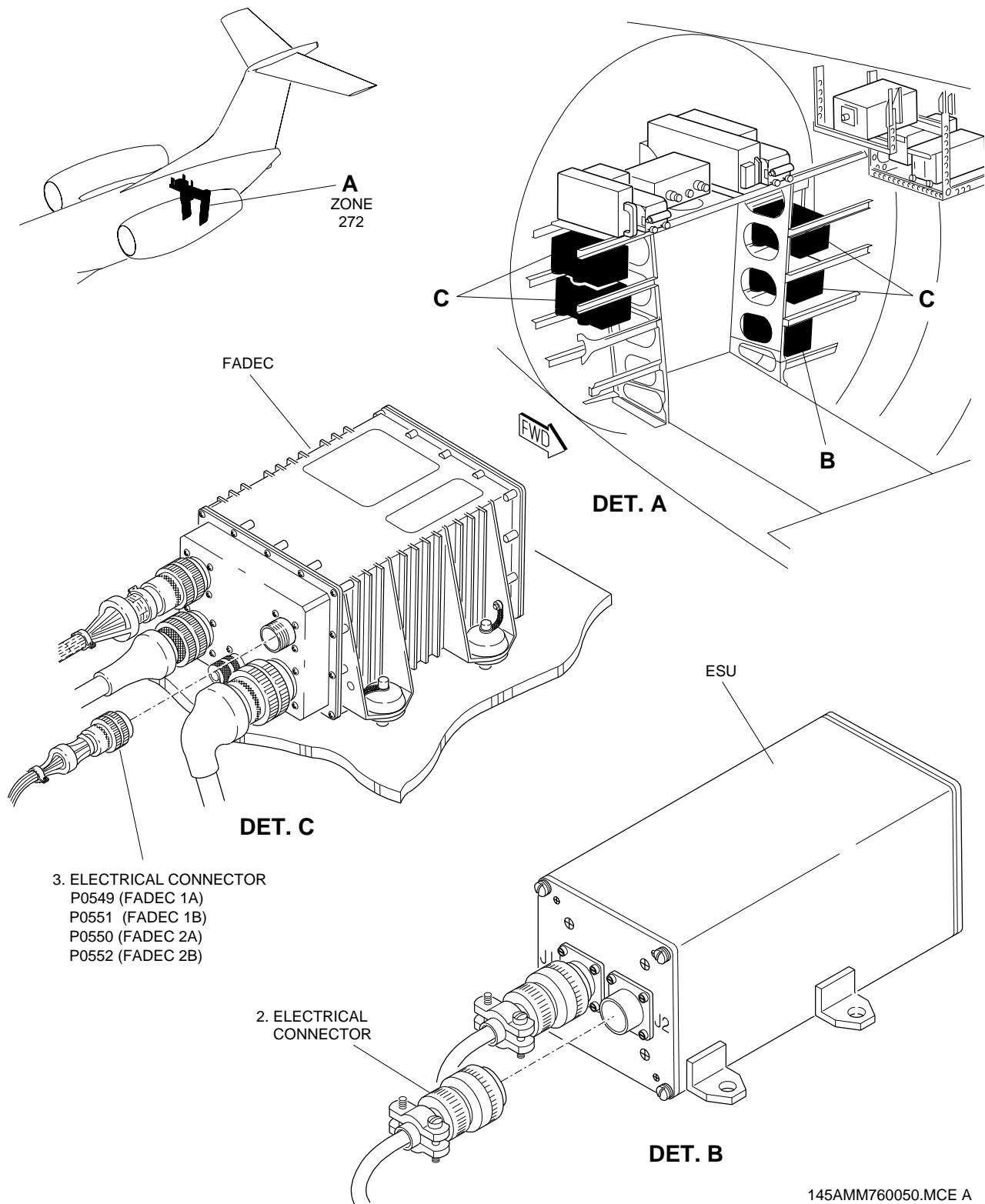


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EFFECTIVITY: AIRCRAFT WITH APU T-62T-40C11

FADEC Power-Supply-Diode Box Functional Check - Component Locations

Figure 502



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EFFECTIVITY: AIRCRAFT WITH APU T-62T-40C14

FADEC Power-Supply-Diode Box Functional Check - Component Locations

Figure 503

