

## 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

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

EFFECTIVITY: ACFT MODEL(S) EMB-145

## 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	-
<a href="#">AMM TASK 20-40-01-860-801-A/200</a>	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 28-41-00-200-801-A/600	-
<a href="#">S.B.145-24-0012</a>	-

### 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

(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  $24 \pm 2$  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  $24 \pm 2$  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).

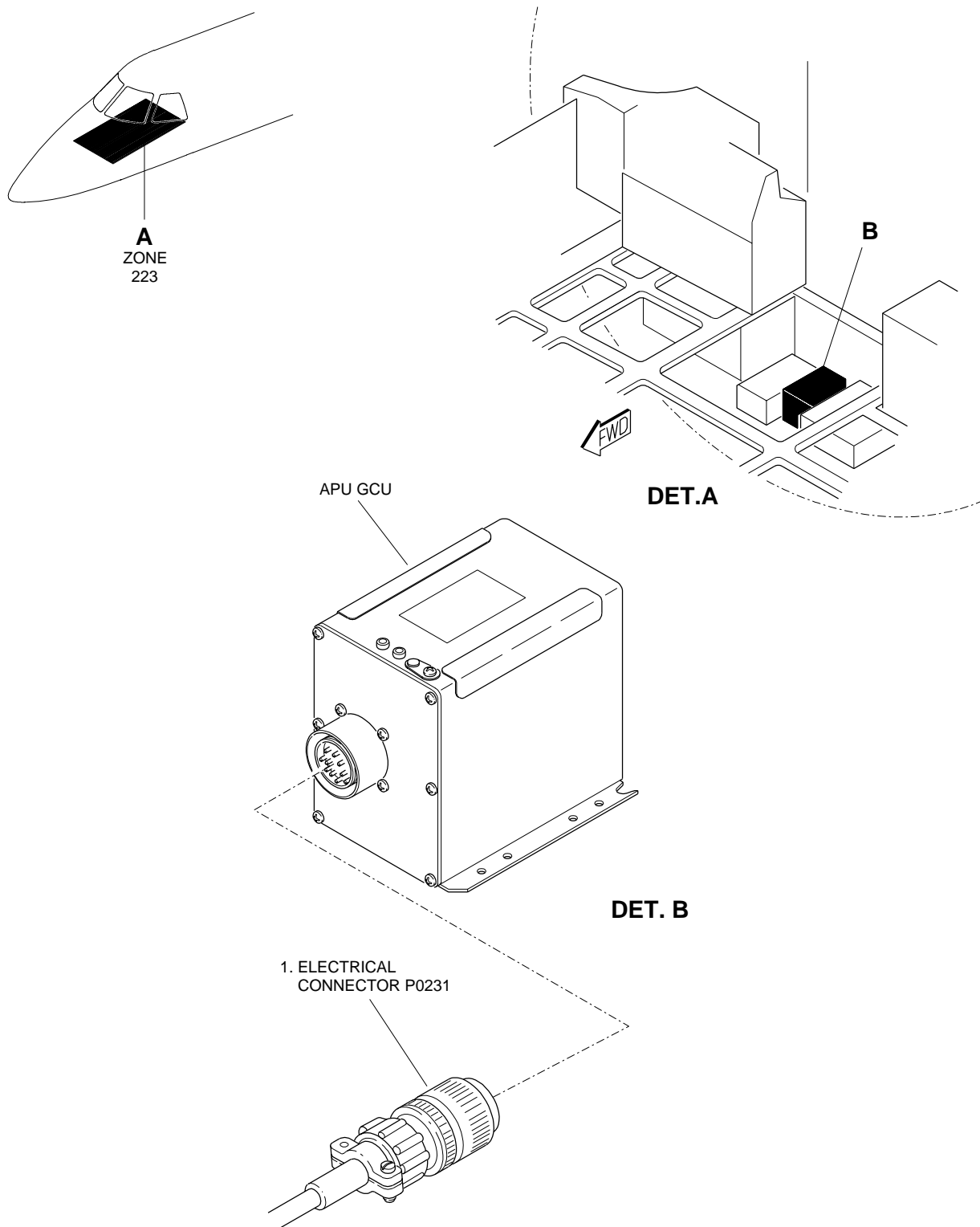
- (3) Install floor panel 221GF (AMM MPP 06-41-02/100).
- (4) Close rear-electronic-compartment access door 272DR (AMM MPP 06-41-01/100).
- (5) Remove the ladder from the work area.
- (6) Close these circuit breakers:
  - FADEC B BUS (on the right power-control-and-distribution box)
  - FADEC A BUS (on 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:

- 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



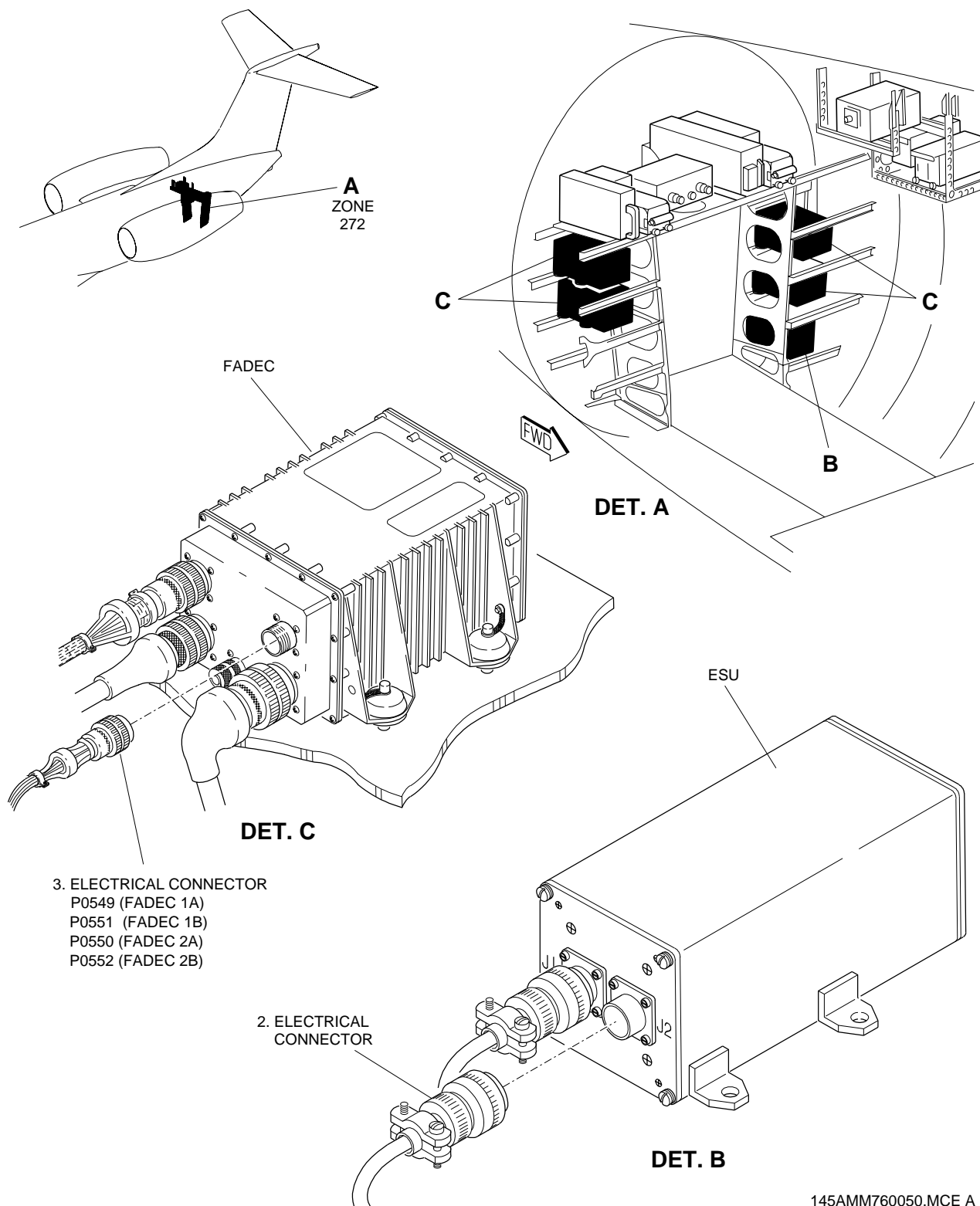
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EFFECTIVITY: AIRCRAFT WITH APU T-62T-40C11

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

Figure 502

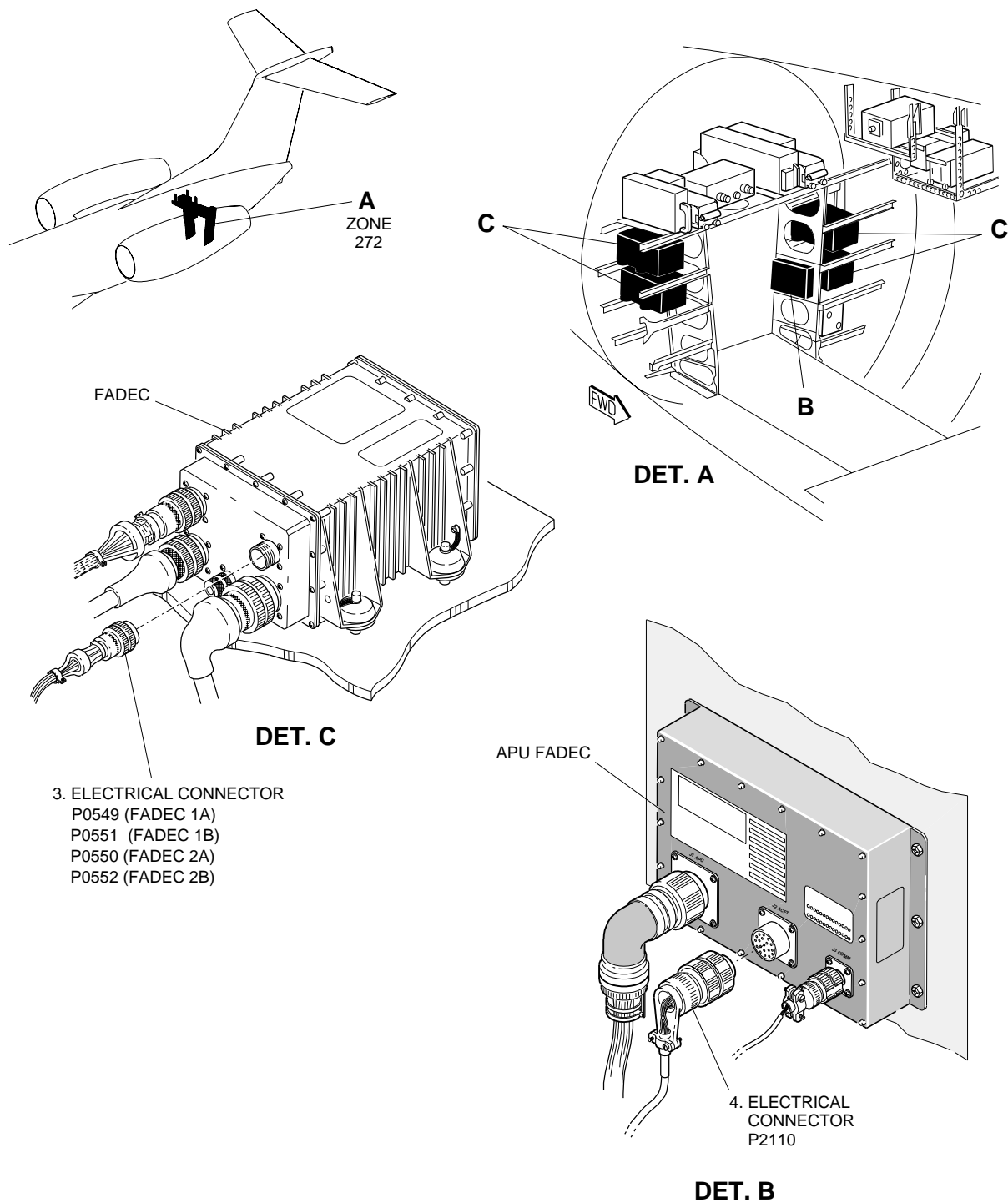


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EFFECTIVITY: AIRCRAFT WITH APU T-62T-40C14

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

Figure 503



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