CLOCK - ADJUSTMENT/TEST

EFFECTIVITY: ALL

1. General

   A. This section gives the procedures to check the pilot digital clock information and test all its functions.

   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*
31-21-00-700-801-A ♦	PILOT DIGITAL CLOCK INFORMATION - CHECK	ALL
31-21-00-700-802-A	DIGITAL CLOCK - OPERATIONAL TEST	ALL

TASK 31-21-00-700-801-A
EFFECTIVITY: ALL

2. PILOT DIGITAL CLOCK INFORMATION - CHECK

A. General

(1) This task gives the procedures to do the check of the pilot clock information that arrives into the Solid-State Flight Data Recorder (SSFDR).

B. References

REFERENCE	*DESIGNATION*
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 31-31-00-700-801-A/500	FLIGHT DATA RECORDER - FUNCTIONAL TEST
AMM TASK 31-31-00-700-804-A/500	FLIGHT DATA RECORDER - FUNCTIONAL TEST

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
223		Cockpit
224		Cockpit

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 aircraft is safe for maintenance.

(2) Energize the aircraft with external DC power supply (AMM TASK 20-40-01-860-801-A/200).

J. Operationally Check Digital Clock

SUBTASK 710-002-A

(1) Make sure the pilot digital clock data are recorded (AMM TASK 31-31-00-700-801-A/500 or AMM TASK 31-31-00-700-804-A/500, as applicable).

K. Follow-on

SUBTASK 842-002-A

(1) De-energize the aircraft (AMM TASK 20-40-01-860-801-A/200).

TASK 31-21-00-700-802-A
EFFECTIVITY: ALL

3. DIGITAL CLOCK - OPERATIONAL TEST

A. General

(1) This task gives the procedures to do a test of the pilot's or copilot's digital clock.

B. References

REFERENCE	*DESIGNATION*
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
223		Cockpit
224		Cockpit

D. Tools and Equipment

Not Applicable

E. Auxiliary Items

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Metallic target with adhesive	To simulate the shock absorber extended	4

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	Does the task	In the cockpit/outside the aircraft

I. Preparation

SUBTASK 841-003-A

(1) Make sure that the aircraft is safe for maintenance.

(2) Energize the aircraft with external DC power supply (AMM TASK 20-40-01-860-801-A/200).

(3) On the circuit breaker panel, make sure that the CLOCK 1 circuit breaker or the CLOCK 2 circuit breaker is closed.

J. Operational Test (Figure 501)

SUBTASK 710-003-A

EFFECTIVITY: FOR AIRCRAFT WITH DIGITAL CLOCK GMT4190 and APE4190-014

(1) Do a check of the clock as follows:

(a) Push the selector switch and put it in the SET position.

(b) Push the ET pushbutton:

Result:

1 The parameters of the functions are shown in the sequence below:

- GMT minutes
- GMT hours
- LOC minutes
- LOC hours
- Days
- Months
- Years (number 90 display)

NOTE: The fixed dot above the inscription GMT or LOC, shows the GMT or LOC selection.

(c) Use the ET pushbutton to select the parameters above, one by one, and push the CHR pushbutton to set the selected parameter:

Result:

1 Make sure that the selected parameter indication increases.

(d) Push the selector switch and put it in the GMT position:

Result:

1 The colon between hour and minute digits comes on.

2 The fixed dot comes on above the GMT inscription.

3 The time counts.

(e) Put the selector switch in the LOC position.

Result:

1 The fixed dot comes on above the LOC inscription.

2 The time counts.

(f) Put the selector switch in the DATE position.

Result:

1 Month/day and year display alternate every one second.

(2) Do the check of the Flight Number display as follows:

(a) Put the selector switch in the FLT NR position.

Result:

1 The upper readout indicate 00 00 or the last flight number selected.

(b) Push the ET pushbutton.

Result:

1 The digits flash on and off every time you push the pushbutton in this order:

- Thousands digit
- Hundreds digit
- Tens digit
- Units digit

(c) Use the ET pushbutton to select the digits above, one by one, and push the CHR pushbutton to set the selected digit:

Result:

1 Make sure that the selected digit indication increases.

(3) Do the check of the ET indication as follows:

(a) Attach metallic targets with adhesive in front of the proximity switches (WOW 1, WOW 2, WOW 3, WOW 4) installed in the main landing gears.

This will indicate that the aircraft is in flight condition (AIR).

(b) On the circuit breaker panel, open the AIR/GND A, AIR/GND B, AIR/GND C, and AIR/GND D circuit breakers, then close them in 10 seconds maximum.

(c) After one minute, push the ET pushbutton as many times as necessary.

Result:

1 The display shows the sequence below:

- The elapsed time ET (time counted in minutes from the moment that the aircraft was simulated in air condition).
- A colon between the hour and minute digits comes on.
- The minutes counted (zero).

(d) Push the ET pushbutton to select the time ET in the display.

(e) Remove the metallic targets from the proximity switches to simulate ground condition.

(f) On the circuit breaker panel, open the AIR/GND A, AIR/GND B, AIR/GND C, and AIR/GND D circuit breakers, then close them in 10 seconds maximum.

Result:

1 Make sure that the ET counting stops.

2 The colon between the hour and minutes digits goes off.

(g) Push the ET pushbutton.

Result:

1 The display of ET is reset to zero.

(4) Do the check of the CHR function as follows:

(a) Put the selector switch in the LOC or GMT position.

(b) Push the CHR pushbutton.

Result:

1 The chronometer sweep hand starts to move.

2 The hour digits go off.

3 The minute digits start.

(c) Push the CHR pushbutton again.

Result:

1 The minute's counter and chronometer sweep hand stop.

(d) Push the CHR pushbutton again.

Result:

1 The chronometer sweep hand goes back to zero.

2 The elapsed time indication, comes on.

(e) Use the switch installed in the control yoke to do the actions (a), (b), and (c) of this item again.

(f) Push the ET pushbutton.

Result:

1 The chronometer is reset to zero.

(5) Clock battery operational test.

(a) On the circuit breaker panel, open the CLOCK 1 (pilot's clock) or CLOCK 2 (copilot's clock) circuit breaker to stop the 28 V DC supply.

Result:

1 All the readouts go off and the sweep hand stops.

(b) After few minutes, close the CLOCK 1 or CLOCK 2 circuit breaker.

Result:

1 Make sure that the GMT, LOC time, Elapsed time and date are shown after you closed the circuit breaker.

2 The sweep hand goes back to zero.

K. Operational Test (Figure 502)

SUBTASK 710-004-A

EFFECTIVITY: FOR AIRCRAFT WITH DIGITAL CLOCK APE4190-040

(1) Do a check of the DT (Date) as follows:

(a) Push the MODE pushbutton successively until you select the DT flag.

Result:

1 The display shows the "DT" flag and the date in the mm/dd/yy format.

(b) Push the MODE pushbutton more than 2 seconds to adjust the date.

Result:

1 The year digits flash and you can increase or decrease them with the SEL up or down arrows.

(c) Adjust the year digits correctly. To do this, use the SEL up and down arrows.

(d) Push the MODE pushbutton again.

Result:

1 The month digits flash and you can increase or decrease them with the SEL up or down arrows.

(e) Adjust the month digits correctly. To do this, use the SEL up and down arrows.

(f) Push the MODE pushbutton again.

Result:

1 The day digits flash and you can increase or decrease them with the SEL up or down arrows.

(g) Adjust the day digits correctly. To do this, use the SEL up and down arrows.

(h) Push the MODE pushbutton more than 2 seconds.

Result:

1 The parameters set are recorded and the clock goes back to the normal operation.

(2) Do a check of the INT (Internal Computer) as follows:

(a) Push the MODE pushbutton successively until you select the INT flag.

Result:

1 The display shows the INT flag and UTC (Universal Time Coordinated) hour.

(b) Push the MODE pushbutton more than 2 seconds to adjust the clock .

Result:

1 The minutes digits flash and you can increase or decrease the time with the SEL up and down arrows.

(c) Adjust the minutes digits correctly. To do this, use the SEL up and down arrows.

(d) Push the MODE pushbutton again

Result:

1 The hour digits flash and you can increase or decrease the time with the SEL up and down arrows.

(e) Adjust the hour digits correctly. To do this, use the SEL up and down arrows.

(f) Push the MODE pushbutton more than 2 seconds.

Result:

1 The parameters set are recorded and the clock goes back to the normal operation.

(3) Do a check of the LT (Local Time) as follows:

(a) Push the MODE pushbutton successively until you select the LT flag.

Result:

1 The display shows the LT flag and hour.

(b) Push the MODE pushbutton more than 2 seconds to adjust the local time.

Result:

1 The minutes digits flash and you can increase or decrease time with the SEL up and down arrows.

(c) Adjust the minutes digits correctly. To do this, use the SEL up and down arrows.

(d) Push the MODE pushbutton again .

Result:

1 The hour digits flash and you can increase or decrease the time with the SEL up and down arrows.

(e) Adjust the hour digits correctly. To do this, use the SEL up and down arrows.

(f) Push the MODE pushbutton more than 2 seconds.

Result:

1 The parameters set are recorded and the clock goes to the normal operation.

(4) Do a check of the Fn (Flight Number) as follows:

(a) Push the MODE pushbutton successively until you select the Fn flag.

Result:

1 The display shows the Fn flag and the 4 digits.

(b) Push the MODE pushbutton more than 2 seconds to adjust the flight number.

Result:

1 The pair of digits (tens and units) flashes and you can increase or decrease the digits with the SEL up and down arrows.

(c) Adjust the Flight Number digits correctly. To do this, use the SEL up and down arrows.

(d) Push the MODE pushbutton again.

Result:

1 The pair of digits (thousands and hundreds) flashes and you can increase or decrease the digits with the SEL up and down arrows.

(e) Push the MODE pushbutton more than 2 seconds.

Result:

1 The parameters set are recorded and the clock goes back to the normal operation.

(5) Do a check of the ET (Elapsed Time) indication as follows:

(a) Push the ET SEL pushbutton to select the elapsed time display.

Result:

1 The ET flag and the indication 00 00 or the last register come into view on the display.

(b) Push the ET RST pushbutton to reset the registered time.

Result:

1 The display indication resets to zero (00 00).

(c) Attach metallic targets with adhesive in front of the proximity switches (WOW 1, WOW 2, WOW 3, WOW 4) installed in the main landing gears.

This shows that the aircraft is in the flight condition (AIR).

(d) On the circuit breaker panel, open the AIR/GND A, AIR/GND B, AIR/GND C, and AIR/GND D circuit breakers, then close them in 10 seconds maximum.

(e) With the aircraft is in the air condition.

Result:

1 The display shows:

• The ET (time counted in minutes from the moment that the aircraft in flight condition was simulated).

• A colon between the hour and the minute digits comes on.

(f) Remove the metallic targets from the proximity switches to go back to the ground condition.

(g) On the circuit breaker panel, open the AIR/GND A, AIR/GND B, AIR/GND C, and AIR/GND D circuit breakers, then close them in 10 seconds maximum.

Result:

1 Make sure that the ET counting stops.

2 The colon between the hour and the minute digits goes off.

(h) Push the ET RST pushbutton to reset the registered time.

Result:

1 The display of ET is reset to zero (00 00).

(6) Do a check of the CHR (Chronometer) as follows:

(a) Push the CHR pushbutton of the instrument to select the Chronometer.

Result:

1 The display shows the "CHR" flag and the Chronometer starts the counting from 00:00.

(b) Push the CHR pushbutton of the instrument again.

Result:

1 On the display:

• The CHR flag stays on.

• The chronometer stops the counting.

•The colon goes off.

(c) Push the CHR pushbutton of the instrument again

Result:

1 On the display:

• The CHR flag stays on.

•The chronometer goes off.

(d) Use the START-STOP-RESET switch installed in the control yoke to do steps (b), (c), and (d) of this item again.

(7) Clock battery operational test.

(a) On the circuit breaker panel, open the CLOCK 1 (pilot's clock) or CLOCK 2 (copilot's clock) circuit breaker to stop the 28 V DC supply.

Result:

1 All the readouts go off.

(b) After a few minutes, close the CLOCK 1 or CLOCK 2 circuit breaker.

Result:

1 Make sure that the GMT, LOC time, Elapsed time, and date are correctly shown after you closed the circuit breaker.

L. Follow-on

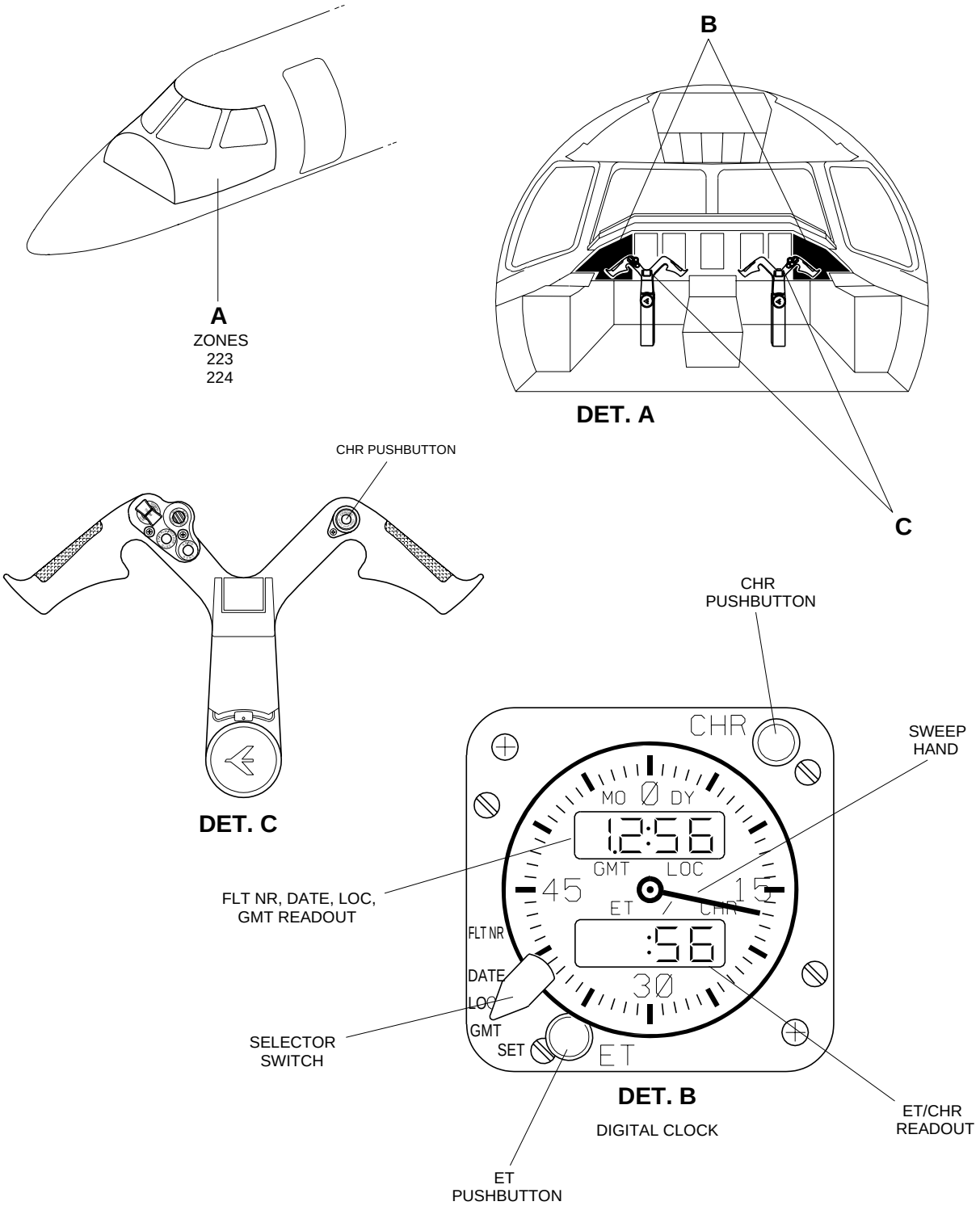
SUBTASK 842-003-A

(1) De-energize the aircraft (AMM TASK 20-40-01-860-801-A/200).

EFFECTIVITY: FOR AIRCRAFT WITH DIGITAL CLOCK GMT4190 AND APE4190-014

Digital Clock - Operational Test

Figure 501



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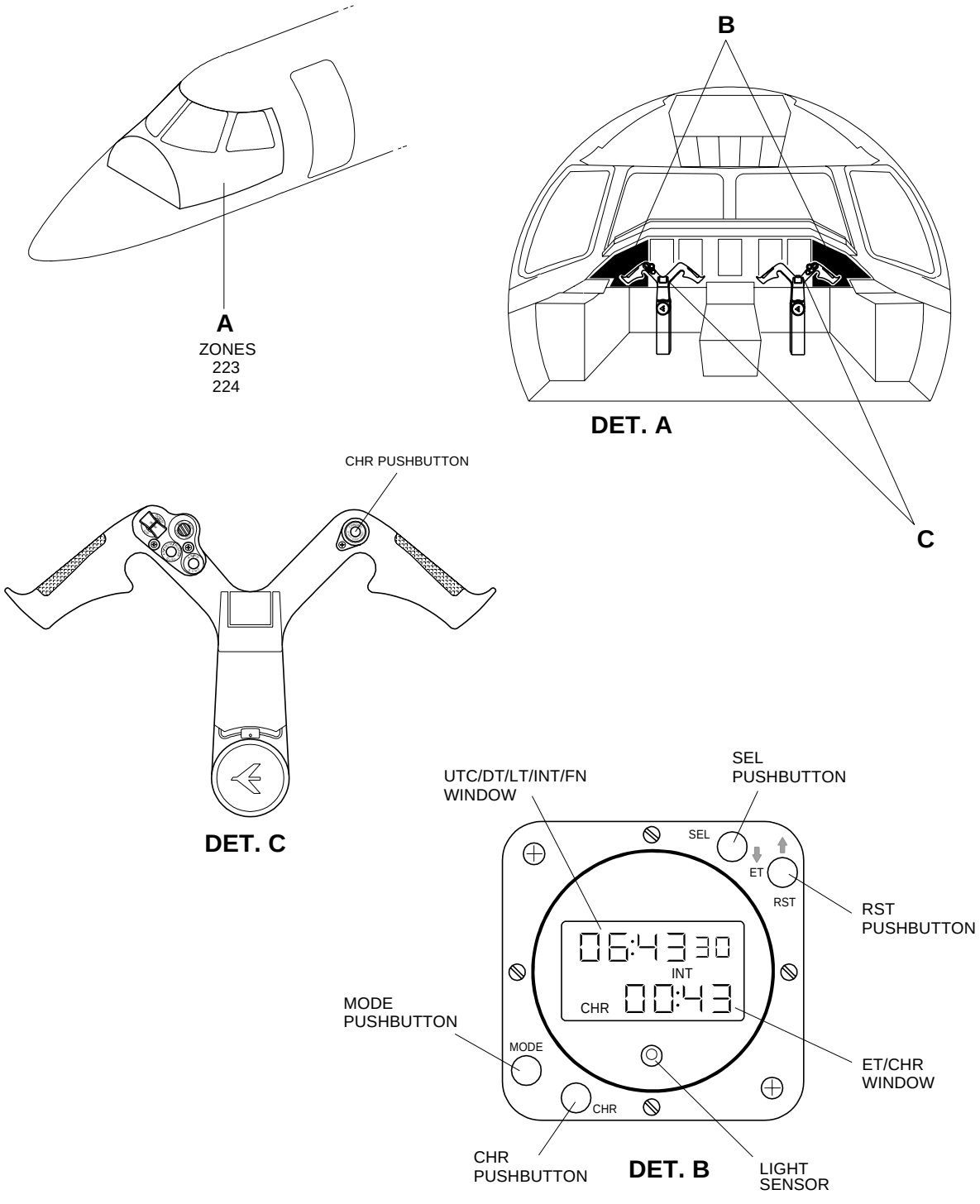
EFFECTIVITY: FOR AIRCRAFT WITH DIGITAL CLOCK APE4190-040
Digital Clock - Operational Test
Figure 502



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