PASSENGER OXYGEN - ADJUSTMENT/TEST

EFFECTIVITY: ACFT MODEL(S) EMB-145

1. General

A. This section gives the procedures to do:

– Operational check of the passenger oxygen subsystem in the manual mode.

– Functional check of the passenger oxygen subsystem in the automatic mode.

WARNING: THE PERSONS WHO WILL DO THE PROCEDURE MUST OBEY THE SAFETY CONDITIONS GIVEN IN AMM TASK 35-10-00-910-801-A/200.

B.

C. 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*
35-20-00-700-801-A ♦	PASSENGER OXYGEN-SUBSYSTEM IN MANUAL MODE - OPERATIONAL CHECK	ACFT MODEL(S) EMB-145
35-20-00-700-802-A ♦	PASSENGER OXYGEN SUBSYSTEM IN AUTOMATIC MODE - FUNCTIONAL CHECK	APPLICABLE TO AIRCRAFT WITHOUT HIGH ALTITUDE PRESSURIZATION CONFIGURATION
35-20-00-700-803-A ♦	PASSENGER OXYGEN SUBSYSTEM IN AUTOMATIC MODE - FUNCTIONAL CHECK	APPLICABLE TO AIRCRAFT WITH HIGH ALTITUDE PRESSURIZATION CONFIGURATION

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TASK 35-20-00-700-801-A
EFFECTIVITY: ACFT MODEL(S) EMB-145

2. PASSENGER OXYGEN-SUBSYSTEM IN MANUAL MODE - OPERATIONAL CHECK

A. General

(1) This task gives the procedure to do the operational check of the passenger oxygen subsystem in the manual mode.

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

Not Applicable

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 and passenger cabin

I. Preparation

SUBTASK 841-022-B

(1) Make sure that the following circuit breakers are closed:

- PASS OXY DEPLOY 1 (location tip: ESSENTIAL DC BUS 1/MISCELLANEOUS).
- PASS OXY DEPLOY 2 (location tip: ESSENTIAL DC BUS 2).

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

(3) Set the test knob of the dispensing units to “Test” (Figure 501).

(4) Make sure that the knob of the passenger oxygen-control panel is in the AUTO position.

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J. Operationally Check Passenger Oxygen System in Manual Mode (Figure 501)

SUBTASK 710-010-B

(1) Do the operational check as follows:

(a) Open the “PASS OXY DEPLOY 1” and “PASS OXY DEPLOY 2” circuit breakers.

(b) Set the knob of the passenger oxygen control panel to MAN and release the knob.

Result:

1 The doors of the oxygen dispensing units must not open.

2 The “NO SMOKING” light, in the passenger cabin, stays off.

3 The “FASTEN SEAT BELTS” light, in the passenger cabin, stays off.

4 The “ON” light, on the passenger oxygen control panel, stays off.

5 The "RETURN TO SEAT" light, in the lavatory, stays off.

(c) Close the “PASS OXY DEPLOY 1” circuit breaker.

(d) Set the knob of the passenger oxygen control panel to MAN and release the knob.

Result:

1 The doors of the oxygen dispensing units must open.

2 The “NO SMOKING” light, in the passenger cabin, comes on.

3 The “FASTEN SEAT BELTS” light, in the passenger cabin, comes on.

4 The “ON” light, on the passenger oxygen control panel, comes on.

5 The "RETURN TO SEAT" light, in the lavatory, comes on.

(e) Stop for 6 seconds after the dispensing unit doors open. Then reset the manual lever of the latch and close the doors.

(f) Set the knob of the passenger oxygen control to CLOSE then to AUTO.

Result:

1 The “NO SMOKING” light, in the passenger cabin, goes off.

2 The “FASTEN SEAT BELTS” light, in the passenger cabin, goes off.

3 The “ON” light, on the passenger oxygen control panel, goes off.

4 The "RETURN TO SEAT" light, in the lavatory, goes off.

(g) Open the "PASS OXY DEPLOY 1" and close the "PASS OXY DEPLOY 2 " circuit breakers.

(h) Do steps (d), (e) and (f).

K. Follow-on

SUBTASK 842-022-B

(1) Close the “PASS OXY DEPLOY 1” and “PASS OXY DEPLOY 2” circuit breakers.

(2) Deenergize the aircraft (AMM TASK 20-40-01-860-801-A/200).

(3) Move the test knob of the dispensing unit back to the normal position (Figure 501).

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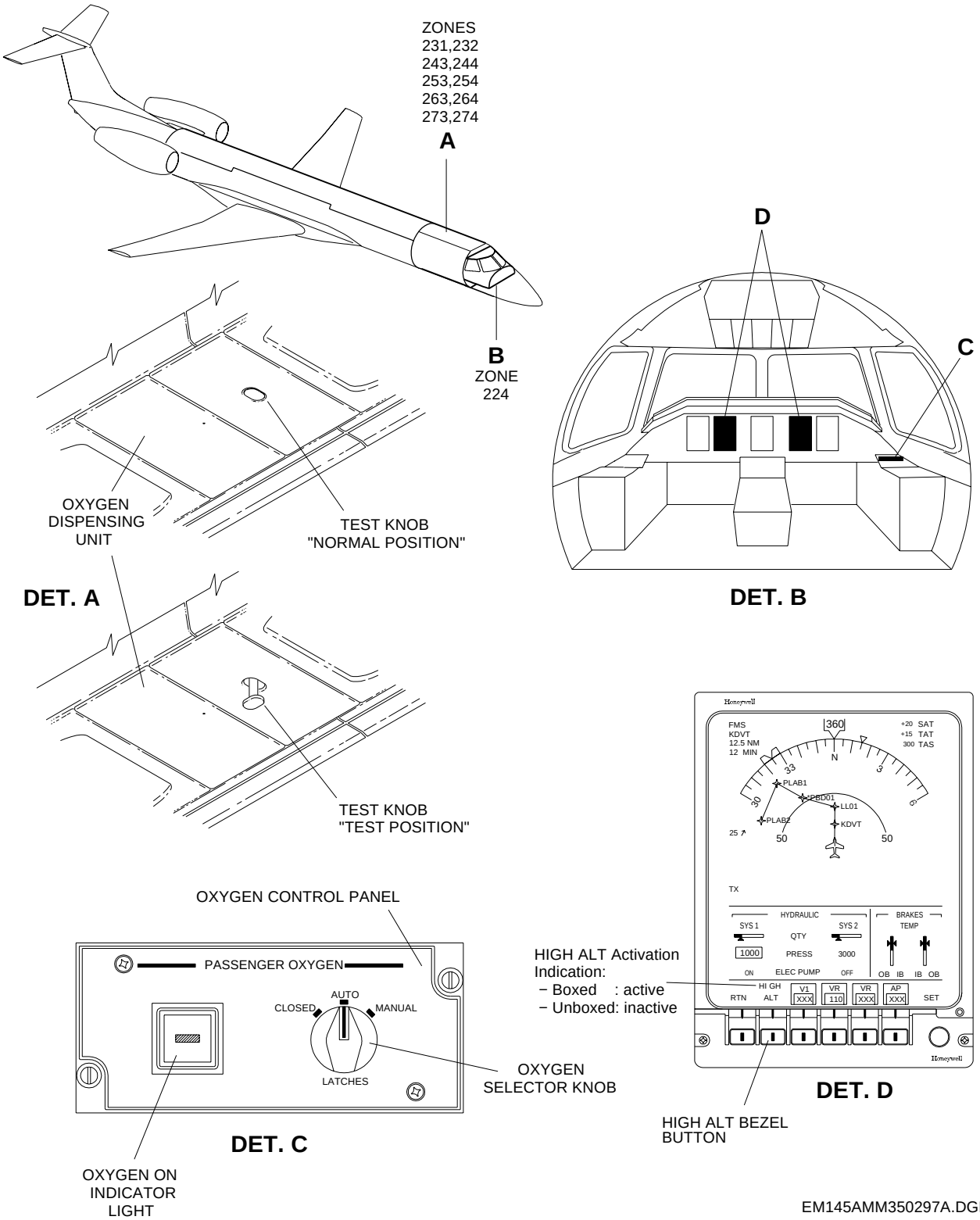
EFFECTIVITY: ACFT MODEL(S) EMB-145
Check of the Passenger Oxygen Subsystem
Figure 501



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TASK 35-20-00-700-802-A
EFFECTIVITY: APPLICABLE TO AIRCRAFT WITHOUT HIGH ALTITUDE PRESSURIZATION CONFIGURATION

3. PASSENGER OXYGEN SUBSYSTEM IN AUTOMATIC MODE - FUNCTIONAL CHECK

A. General

(1) This task gives the procedure to do the functional check of the passenger oxygen subsystem in the auto mode.

B. References

REFERENCE	*DESIGNATION*
AMM SDS 34-52-00/1	
AMM TASK 20-13-10-000-801-A/400	CONTROL PANELS - REMOVAL (TYPICAL)
AMM TASK 20-13-10-400-801-A/400	CONTROL PANELS - INSTALLATION (TYPICAL)
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 34-61-02-000-801-A/400	CONTROL DISPLAY UNIT (CDU) - REMOVAL
AMM TASK 34-61-02-400-801-A/400	CONTROL DISPLAY UNIT (CDU) - INSTALLATION
AMM TASK 34-62-02-000-801-A/400	-
AMM TASK 34-62-02-000-802-A/400	SINGLE FMS CONTROL DISPLAY UNIT (CDU) - REMOVAL
AMM TASK 34-62-02-400-801-A/400	-
AMM TASK 34-62-02-400-802-A/400	SINGLE FMS CONTROL DISPLAY UNIT (CDU) - INSTALLATION

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
GSE 129	Test Set - Pitot/Static System, Bench	To make conditions equivalent to the necessary altitude	
GSE 128	Kit - Air Data	To adapt the Pitot-Static System Test Set to the aircraft	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

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H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	A - Does the task	Pitot-static system test set
1	B - Helps technician A	Cockpit and passenger cabin

I. Preparation

SUBTASK 841-023-B

(1) Make sure that the following circuit breakers are closed:

- PASS OXY DEPLOY 1 (location tip: ESSENTIAL DC BUS 1/MISCELLANEOUS).
- PASS OXY DEPLOY 2 (location tip: ESSENTIAL DC BUS 2).

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

(3) Set the test knob of the dispensing units to “Test” (Figure 501).

(4) Remove the FMS CDUs (AMM TASK 34-61-02-000-801-A/400, AMM TASK 34-62-02-000-801-A/400 or AMM TASK 34-62-02-000-802-A/400, as applicable).

(5) Remove the trim control panel (AMM TASK 20-13-10-000-801-A/400).

(6) Make sure that the knob of the passenger oxygen control panel is in the AUTO position.

J. Functionally Check Passenger Oxygen System in Auto Mode Figure 501

SUBTASK 720-014-B

(1) Do the functional check as follows:

(a) Open the “PASS OXY DEPLOY 1” and “PASS OXY DEPLOY 2” circuit breakers.

(b) Connect the test hose to the suction port of the anemometric bench and to the altitude sensing switch port.

(c) Adjust the barometric scale on the anemometric bench to 1013 millibars.

(d) On the anemometric bench, set the altitude (at a maximum climb rate of 500 ft/min) until the display of the anemometric bench shows 15000 ft.

NOTE: This procedure can cause interference with the local air traffic during simulations of altitude with the anemometric bench test. To prevent this, make sure that the transponder is on the STANDBY condition (AMM SDS 34-52-00/1).

Result:

1 The doors of the dispensing units must not open.

2 The “NO SMOKING” light, in the passenger cabin, stays off.

3 The “FASTEN SEAT BELTS” light, in the passenger cabin, stays off.

4 The “ON” light, on the passenger oxygen control panel, stays off.

5 The "RETURN TO SEAT" light, in the lavatory, stays off.

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(e) On the anemometric bench, set the altitude back to 10000 ft at a rate of descent of less than 500 ft/min.

(f) Close the “PASS OXY DEPLOY 2” circuit breaker.

(g) On the anemometric bench, set the altitude (at a maximum climb rate of 500 ft/min) until the display of the anemometric bench shows 15000 ft. Between 13500 and 14500 ft, the results below must occur.

Result:

1 The doors of the dispensing units must open.

2 The “NO SMOKING” light, in the passenger cabin, comes on.

3 The “FASTEN SEAT BELTS” light, in the passenger cabin, comes on.

4 The “ON” light, in the passenger oxygen control panel, comes on.

5 The "RETURN TO SEAT" light, in the lavatory, comes on.

(h) Stop for 6 seconds after the doors of the dispensing units open. Then reset the manual lever of the latch and close the doors.

(i) On the anemometric bench, set the altitude back to the ambient pressure at a rate of descent of less than 500 ft/min.

(j) Set the knob of the passenger oxygen control to CLOSE then to AUTO.

Result:

1 The “NO SMOKING” light, in the passenger cabin, goes off.

2 The “FASTEN SEAT BELTS” light, in the passenger cabin, goes off.

3 The “ON” light, on the passenger oxygen control panel, goes off.

4 The "RETURN TO SEAT" light, in the lavatory, goes off.

K. Follow-on

SUBTASK 842-023-B

(1) Close the “PASS OXY DEPLOY 1” and “PASS OXY DEPLOY 2” circuit breakers.

(2) Deenergize the aircraft (AMM TASK 20-40-01-860-801-A/200).

(3) Move the test knob of the dispensing unit back to the normal position (Figure 501).

(4) Remove the anemometric bench. Keep the equipment used in the checks in a location which is correctly clean, as necessary for the oxygen system services.

(5) Install the FMS CDUs (AMM TASK 34-61-02-400-801-A/400, AMM TASK 34-62-02-400-801-A/400 or AMM TASK 34-62-02-400-802-A/400, as applicable).

(6) Install the trim control panel (AMM TASK 20-13-10-400-801-A/400).

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TASK 35-20-00-700-803-A
EFFECTIVITY: APPLICABLE TO AIRCRAFT WITH HIGH ALTITUDE PRESSURIZATION CONFIGURATION

4. PASSENGER OXYGEN SUBSYSTEM IN AUTOMATIC MODE - FUNCTIONAL CHECK

A. General

(1) This task gives the procedure to do the functional check of the passenger oxygen subsystem in the auto mode.

B. References

REFERENCE	*DESIGNATION*
AMM SDS 34-52-00/1	
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 22-11-02-000-801-A/400	AUTOPILOT CONTROLLER (PC-400) - REMOVAL
AMM TASK 22-11-02-400-801-A/400	AUTOPILOT CONTROLLER (PC-400) - INSTALLATION
AMM TASK 23-81-02-000-801-A/400	TUNING BACKUP UNIT - REMOVAL
AMM TASK 23-81-02-400-801-A/400	TUNING BACKUP UNIT - INSTALLATION

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
GSE 129	Test Set - Pitot/Static System, Bench	To make conditions equivalent to the necessary altitude	
GSE 128	Kit - Air Data	To adapt the Pitot-Static System Test Set to the aircraft	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	A - Does the task	Pitot-static system test set
1	B - Helps technician A	Cockpit and passenger cabin

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I. Preparation

SUBTASK 841-024-B

(1) Make sure that the following circuit breakers are closed:

- PASS OXY DEPLOY 1 (location tip: ESSENTIAL DC BUS 1/MISCELLANEOUS).
- PASS OXY DEPLOY 2 (location tip: ESSENTIAL DC BUS 2).

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

(3) Make sure that "HIGH ALT" is not activated on the Vertical Speed screen of the MFD (Figure 501).

(4) Set the test knob of the dispensing units to “Test” (Figure 501).

(5) Remove the Turning Backup Control Panel (AMM TASK 23-81-02-000-801-A/400).

(6) Remove the Auto Pilot Controller (AMM TASK 22-11-02-000-801-A/400).

(7) Make sure that the knob of the passenger oxygen control panel is in the AUTO position.

(8) On the overhead panel, set the BATT 1 switch to OFF and make sure that the BATT 2 switch is set to OFF.

NOTE: The switches of batteries 1 and 2 must be set to the OFF position to permit the external power to energize the electrical systems when the aircraft is in the AIR condition.

(9) Make sure that the sensors (PITOT 1/TAT 1/AOA 1; PITOT 2/TAT 2/AOA 2; PITOT/ STATIC 3) pushbuttons, on the overhead panel, are set at OFF (lights ON) and attach a DO-NOT-TURN- AUTO tag to them.

WARNING: IF THE SENSORS HTG CIRCUIT BREAKER IS OPENED, THE HEATING OF THE PILOT TUBES AND STATIC PORTS WILL BE ACTIVATED.

(10) On the circuit breaker panel, on the cockpit ceiling, make sure that the SENSORS HTG circuit breaker is closed.

J. Functionally Check Passenger Oxygen System in Auto Mode Figure 501

SUBTASK 720-015-B

(1) Do the functional check as follows:

(a) Open the “PASS OXY DEPLOY 1” and “PASS OXY DEPLOY 2” circuit breakers.

(b) Connect the test hose to the suction port of the anemometric bench and to the altitude sensing switch port.

(c) Adjust the barometric scale on the anemometric bench to 1013 millibars.

(d) On the anemometric bench, set the altitude (at a maximum climb rate of 1000 ft/ min) until the display of the anemometric bench shows 16000 ft.

NOTE: This procedure can cause interference with the local air traffic during simulations of altitude with the anemometric bench test. To prevent this,

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make sure that the transponder is on the STANDBY condition (AMM SDS 34-52-00/1).

Result:

1 The doors of the dispensing units must not open.

2 The “NO SMOKING” light, in the passenger cabin, stays off.

3 The “FASTEN SEAT BELTS” light, in the passenger cabin, stays off.

4 The “ON” light, on the passenger oxygen control panel, stays off.

5 The "RETURN TO SEAT" light, in the lavatory, stays off.

(e) On the anemometric bench, set the altitude back to 10000 ft at a rate of descent of less than 1000 ft/min.

(f) Close the “PASS OXY DEPLOY 2” circuit breaker.

(g) On the anemometric bench, set the altitude (at a maximum climb rate of 1000 ft/min) until the display of the anemometric bench shows 16000 ft. Between 14000 and 15000 ft, the results below must occur.

Result:

1 The doors of the dispensing units must open.

2 The “NO SMOKING” light, in the passenger cabin, comes on.

3 The “FASTEN SEAT BELTS” light, in the passenger cabin, comes on.

4 The “ON” light, in the passenger oxygen control panel, comes on.

5 The "RETURN TO SEAT" light, in the lavatory, comes on.

(h) Stop for 6 seconds after the doors of the dispensing units open. Then reset the manual lever of the latch and close the doors.

(i) On the anemometric bench, set the altitude back to 10000 ft at a rate of descent of less than 1000 ft/min.

(j) Set the knob of the passenger oxygen control to CLOSE then to AUTO.

Result:

1 The “NO SMOKING” light, in the passenger cabin, goes off.

2 The “FASTEN SEAT BELTS” light, in the passenger cabin, goes off.

3 The “ON” light, on the passenger oxygen control panel, goes off.

4 The "RETURN TO SEAT" light, in the lavatory, goes off.

(k) Push the bezel button to activate "HIGH ALT" on the Vertical Speed screen of the MFD (Figure 501).

Result:

1 The EICAS display shows the "HI ALT LDG-T/O" caution message (for aircraft with EICAS up to version 20.5) or advisory message (for aircraft with EICAS version 20.5 and on).

(l) On the anemometric bench, set the altitude (at a maximum climb rate of 1000 ft/min) until the display of the anemometric bench shows 16000 ft. Between 14000 and 15000 ft, the results below must occur.

Result:

1 The doors of the dispensing units must open.

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2 The “NO SMOKING” light, in the passenger cabin, comes on.

3 The “FASTEN SEAT BELTS” light, in the passenger cabin, comes on.

4 The “ON” light, in the passenger oxygen control panel, comes on.

5 The "RETURN TO SEAT" light, in the lavatory, comes on.

(m) Stop for 6 seconds after the doors of the dispensing units open. Then reset the manual lever of the latch and close the doors.

(n) On the anemometric bench, set the altitude back to the ambient pressure at a rate of descent of less than 1000 ft/min.

(o) Set the knob of the passenger oxygen control to CLOSE then to AUTO.

Result:

1 The “NO SMOKING” light, in the passenger cabin, goes off.

2 The “FASTEN SEAT BELTS” light, in the passenger cabin, goes off.

3 The “ON” light, on the passenger oxygen control panel, goes off.

4 The "RETURN TO SEAT" light, in the lavatory, goes off.

K. Follow-on

SUBTASK 842-024-B

(1) Close the “PASS OXY DEPLOY 1” and “PASS OXY DEPLOY 2” circuit breakers.

(2) Push the bezel button to deactivate "HIGH ALT" on the Vertical Speed screen of the MFD (Figure 501).

NOTE: On the EICAS display, the "HI ALT LDG-T/O" caution message comes out when you deactivate the "HIGH ALT".

(3) Deenergize the aircraft (AMM TASK 20-40-01-860-801-A/200).

(4) Move the test knob of the dispensing unit back to the normal position (Figure 501).

(5) Remove the anemometric bench. Keep the equipment used in the checks in a location which is correctly clean, as necessary for the oxygen system services.

(6) Install the Turning Backup Control Panel (AMM TASK 23-81-02-400-801-A/400).

(7) Install the Auto Pilot Controller (AMM TASK 22-11-02-400-801-A/400).

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