PRESSURE TRANSDUCER - ADJUSTMENT/TEST

EFFECTIVITY: ACFT MODEL(S) EMB-135

1. General

   A. This section gives the procedure for the functional check of the pressure transducer.

   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*
35-11-02-700-801-A	PRESSURE TRANSDUCER - FUNCTIONAL CHECK	ACFT MODEL(S) EMB-135
35-11-02-700-802-A ♦	PRESSURE TRANSDUCER - OPERATIONAL CHECK	AIRCRAFT FOR 16 PASSENGERS

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TASK 35-11-02-700-801-A
EFFECTIVITY: ACFT MODEL(S) EMB-135

2. PRESSURE TRANSDUCER - FUNCTIONAL CHECK

A. General

(1) The function of this functional check is to make sure that the pressure transducer sends an electrical signal to the EICAS. This data will permit the pilot to monitor the oxygen cylinder pressure and find the quantity of oxygen remaining.

(2) The pressure transducer is installed to the high-pressure capillary line.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-01/100	-
AMM MPP 06-41-03/100	- COMPONENT LOCATION
AMM SDS 34-22-00/1	
AMM TASK 12-14-00-600-801-A/300	-
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 25-26-02-000-802-A/400	-
AMM TASK 25-26-02-400-802-A/400	-
AMM TASK 35-10-00-910-801-A/200	-
AMM TASK 35-10-00-910-803-A/200	-
AMM TASK 35-10-00-910-805-A/200	-
SB145-25-0072	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
124	124AR	To the right side of the aircraft nose section
224	224PZ	To the attendant's wardrobe
124	224QZ	Cockpit

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
Commercially available	Source of nitrogen with control valve and pressure gauge with scale to 3000 psi	To pressurize the oxygen line with nitrogen	

E. Auxiliary Items

Not Applicable

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F. Consumable Materials

SPECIFICATION (BRAND)	*DESCRIPTION*	*QTY*
FED STD-BB-N-411, Type I, Class I, and Grade B	Nitrogen	AR
MS20995C20	Lockwire	AR

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	To pressurize the oxygen line with nitrogen	Nose-section right side
1	To monitor the indication on the MFD and EICAS	Main instrument panel

I. Preparation

SUBTASK 841-011-B

(1) Obey the safety precautions (AMM TASK 35-10-00-910-801-A/200) and general instructions (AMM TASK 35-10-00-910-803-A/200).

(2) Make sure that these 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).

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

J. Functional Check of the Passenger Pressure Transducer (Figure 501)

SUBTASK 720-014-B

EFFECTIVITY: AIRCRAFT FOR 16 PASSENGERS

(1) Do the functional check as follows:

(a) Remove the closeout panel (AMM TASK 25-26-02-000-802-A/400) and get access to the oxygen cylinder.

(b) Close the cylinder pressure regulator.

(c) Disconnect the oxygen filling line from the cylinder pressure regulator.

(d) Disconnect the capillary line (which supplies the pressure transducer with the cylinder pressure) from the cylinder pressure-regulator, and then from the related tee.

NOTE: A small quantity of oxygen can flow out when you disconnect the oxygen filling line and the capillary line.

(e) Connect the oxygen filling line removed in step (1).(c) to the tee end from which you removed the capillary line.

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(f) Open the access door 124AR (AMM MPP 06-41-01/100) and connect the nitrogen source to the passenger oxygen charging valve. Make sure that there is no leakage.

NOTE: When you pressurize the line or release the pressure from the line, always do it slowly.

(g) Pressurize the line with 850 psi of nitrogen.

Result:

1 On the EICAS display, the PAX OXY LO PRESS caution message goes out of view when the pressure is above 750 psi.

(h) Release the pressure from the line.

Result:

1 The EICAS display shows the PAX OXY LO PRESS caution message when the pressure is equal to or less than 750 psi.

(i) Set the MFD display (RH or LH side) to the ECS/Ice system page (AMM SDS 34-22-00/1).

(j) Release all the pressure from the line.

Result:

1 The pressure (0 psi) is shown on the MFD display in red.

(k) Pressurize the line with 250 psi of nitrogen.

Result:

1 The pressure (250 psi) is shown on the MFD display in red.

(l) Pressurize the line with 650 psi of nitrogen.

Result:

1 The pressure (650 psi) is shown on the MFD display in amber.

(m) Pressurize the line with 750 psi of nitrogen.

Result:

1 The pressure (750 psi) is shown on the MFD display in amber.

(n) Pressurize the line with 760 psi of nitrogen.

Result:

1 The pressure (760 psi) is shown on the MFD display in green.

(o) Pressurize the line with 1850 psi of nitrogen.

Result:

1 The pressure (1850 psi) is shown on the MFD display in green.

(p) Close the nitrogen source shutoff-valve.

(q) Carefully disconnect the hose from the oxygen charging valve to release the line remaining pressure.

(r) Remove the nitrogen source.

(s) Disconnect the oxygen filling line from the tee installed in step (1).(e).

(t) Connect the oxygen filling line to the cylinder pressure regulator and safety it.

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(u) Connect the capillary line removed in step (1).(d) to the tee end from which you removed the oxygen filling, and then to the cylinder pressure-regulator and safety it.

(v) Open the cylinder-pressure regulator.

K. Functional Check of the Pressure Transducer (Figure 502)

SUBTASK 720-015-A

(1) Do the functional check as follows:

(a) Remove access panel, 224PZ for aircraft PRE-MOD SB145-25-0072 or 224QZ for aircraft POST-MOD SB 145-25-0072 (AMM MPP 06-41-03/100) and get access to the oxygen cylinder.

(b) Cut the lockwire and close the cylinder pressure regulator.

(c) Cut the lockwire and disconnect the oxygen filling line from the cylinder pressure regulator.

(d) Cut the lockwire, disconnect the capillary line (which supplies the pressure transducer with the cylinder pressure) from the cylinder pressure-regulator, and then from the related tee.

NOTE: A small quantity of oxygen can flow out when you disconnect the oxygen filling line and the capillary line.

(e) Connect the oxygen filling line removed in step (1).(c) to the tee, in the location where the capillary line was removed from.

(f) Open access door 124AR (AMM MPP 06-41-01/100) and connect the nitrogen source to the oxygen charging valve. Make sure that there is no leakage.

NOTE: When you pressurize the line or release the pressure from the line, always do it slowly.

(g) Pressurize the line with 500 psi of nitrogen.

Result:

1 On the EICAS display, the OXYGEN LO PRESS caution message goes out of view when the pressure is above 400 psi.

(h) Release the pressure from the line.

Result:

1 The EICAS display shows the OXYGEN LO PRESS caution message when the pressure is equal to or less than 400 psi.

(i) Set the MFD display (RH or LH side) to the ECS/Ice system page (AMM SDS 34-22-00/1).

(j) Release all the pressure from the line.

Result:

1 The pressure (0 psi) is shown on the MFD display in red.

(k) Pressurize the line with 240 psi of nitrogen.

Result:

1 The pressure (240 psi) is shown on the MFD display in red.

(l) Pressurize the line with 250 psi of nitrogen.

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Result:

1 The pressure (250 psi) is shown on the MFD display in amber.

(m) Pressurize the line with 400 psi of nitrogen.

Result:

1 The pressure (400 psi) is shown on the MFD display in amber.

(n) Pressurize the line with 410 psi of nitrogen.

Result:

1 The pressure (410 psi) is shown on the MFD display in green.

(o) Pressurize the line with 1850 psi of nitrogen.

Result:

1 The pressure (1850 psi) is shown on the MFD display in green.

(p) Close the nitrogen source shutoff-valve.

(q) Carefully disconnect the hose from the oxygen charging valve to release the line remaining pressure.

(r) Remove the nitrogen source.

(s) Disconnect the oxygen filling line from the tee installed in step (1).(e).

(t) Connect the oxygen filling line to the cylinder pressure regulator and safety it.

(u) Connect the capillary line removed in step (1).(d) to the tee, in the location where the oxygen filling line was removed from, and then to the cylinder pressure-regulator and safety it.

(v) Open the cylinder-pressure regulator and safety it.

L. Follow-on

SUBTASK 842-011-B

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

(2) Do a check for leaks at the fittings you worked on (AMM TASK 35-10-00-910-805-A/200).

(3) (Aircraft for 16 passengers) install the closeout panel (AMM TASK 25-26-02-400-802-A/400).

(4) Check the oxygen system pressure. If necessary, fill it (AMM TASK 12-14-00-600-801-A/300).

(5) Install access panel 224PZ for aircraft PRE-MOD SB145-25-0072 or 224QZ for aircraft POST-MOD SB 145-25-0072 (AMM MPP 06-41-03/100).

(6) Close access door 124AR (AMM MPP 06-41-01/100).

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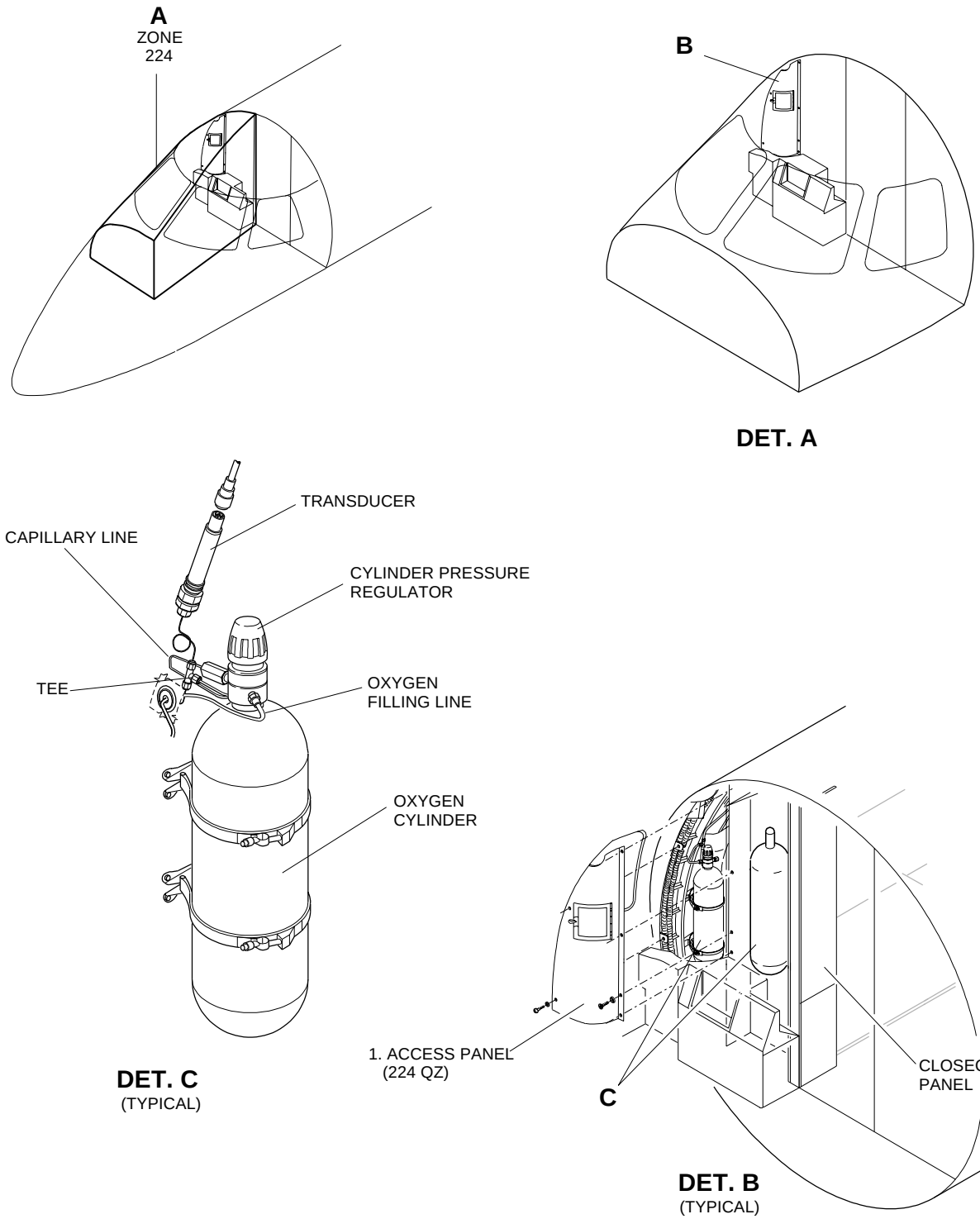
EFFECTIVITY: AIRCRAFT FOR 16 PASSENGERS
Pressure Transducer - Functional Check
Figure 501



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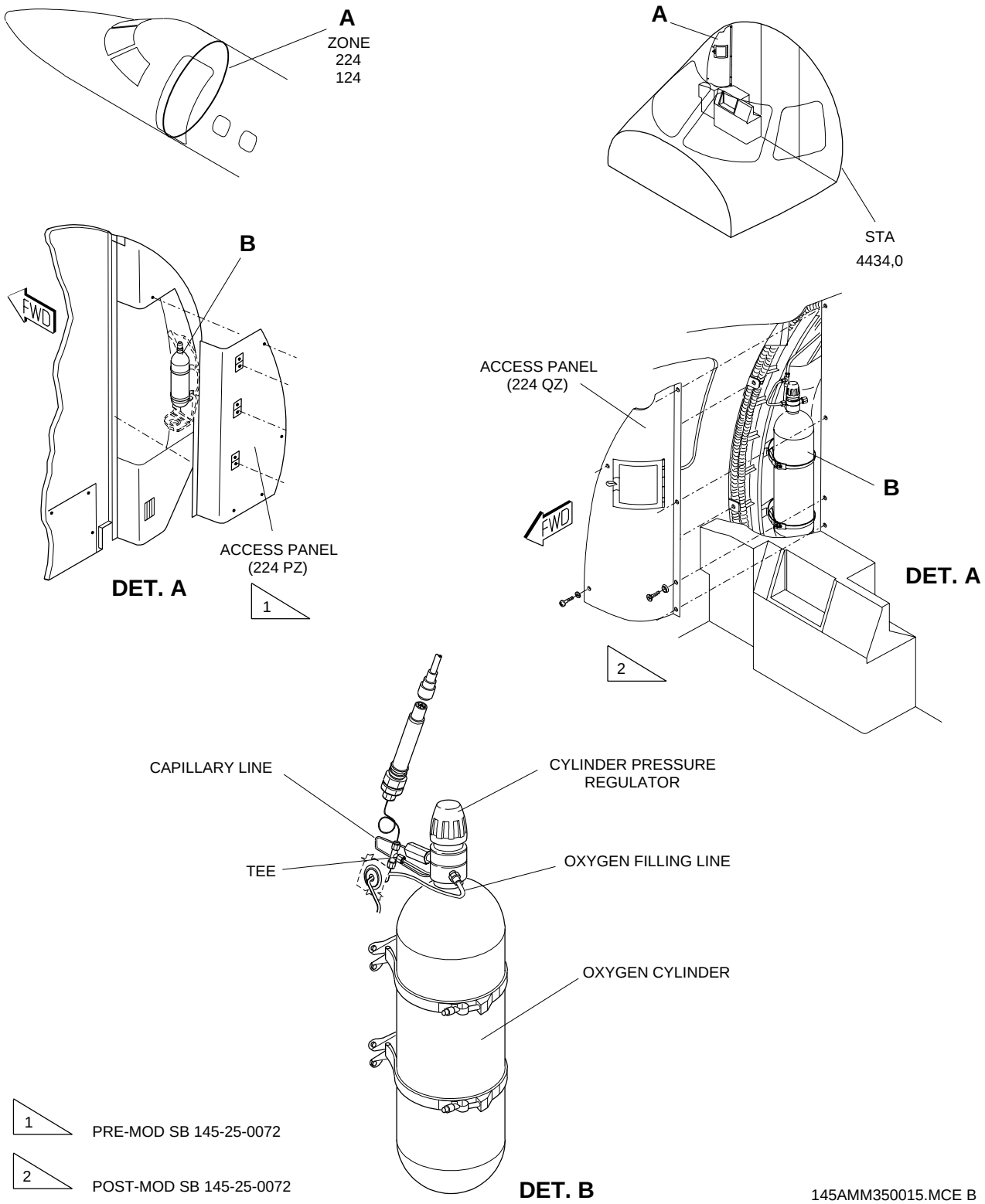
EFFECTIVITY: ACFT MODEL(S) EMB-135
Pressure Transducer - Functional Check
Figure 502



145AMM350015.MCE B

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TASK 35-11-02-700-802-A
EFFECTIVITY: AIRCRAFT FOR 16 PASSENGERS

3. PRESSURE TRANSDUCER - OPERATIONAL CHECK

A. General

(1) The function of this operational check is to make sure that the caution message comes into view on the EICAS.

(2) The pressure transducer is installed to the high-pressure capillary line.

B. References

REFERENCE	*DESIGNATION*
AMM TASK 20-40-01-860-801-A/200	ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE
AMM TASK 25-26-02-000-802-A/400	-
AMM TASK 25-26-02-400-802-A/400	-
AMM TASK 35-10-00-910-801-A/200	-
AMM TASK 35-10-00-910-803-A/200	-
AMM TASK 35-10-00-910-805-A/200	-

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
232	-	Passenger cabin

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	Passenger cabin and cockpit

I. Preparation

SUBTASK 841-010-B

(1) Obey the safety precautions (AMM TASK 35-10-00-910-801-A/200) and general instructions (AMM TASK 35-10-00-910-803-A/200).

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(2) Make sure that these 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).

(3) Remove the closeout panel (AMM TASK 25-26-02-000-802-A/400) to get access to the passenger oxygen cylinder.

(4) Make sure that the oxygen cylinder pressure is more than 750 psi.

(5) Close the cylinder pressure regulator.

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

J. Operationally Check "PAX OXY LOW PRESS" Caution Message (Figure 501)

SUBTASK 710-003-A

(1) Do the operational check as follows:

(a) Make sure that the EICAS display does not show the PAX OXY LOW PRESS caution message.

(b) Disconnect the oxygen line which supplies the pressure transducer with the cylinder pressure.

NOTE: A small quantity of oxygen can flow out when you disconnect the oxygen line.

(c) Make sure that the EICAS display shows the PAX OXY LO PRESS caution message.

K. Follow-on

SUBTASK 842-010-B

(1) Connect the oxygen line which supplies the pressure transducer with the cylinder pressure.

NOTE: Refer to Table 201 of the AMM TASK 35-10-00-910-805-A/200 for the torque ranges.

(2) Open the cylinder pressure regulator.

(3) Do a check for leaks at the fittings you worked on (AMM TASK 35-10-00-910-805-A/200).

(4) Install the closeout panel (AMM TASK 25-26-02-400-802-A/400).

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

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