

UNIT
8 **TEST**

60 marks

1 Complete the instructions using the verbs in the box.

10 marks

return turn look for check fill correct measure deflate replace close

- 1 _____ the bypass valve if it is open.
- 2 _____ the oil pressure.
- 3 _____ any problems.
- 4 _____ the lever to its original position.
- 5 _____ any foreign matter in the tyre tread.
- 6 _____ the tyres.
- 7 _____ the reservoir with oil.
- 8 _____ any faulty parts.
- 9 _____ the ignition switch to the run position.
- 10 _____ the tread depth.

2 This box contains words related to gases, liquids or both. Put them in the correct place in the table.

10 marks

pneumatic ~~airflow~~ saturated diluted humidity ~~wet~~ inflate compress
evaporate ventilate circulation moist ~~volume~~

gas	liquid	both
airflow	wet	volume

3 Complete these sentences with phrases from the box.

10 marks

two to three minutes 9.4 gm eighteenth three times 40 to plus 100 50%
over 90% more than 70 other half 10 degrees

- 1 The Airbus cabin air is very clean, because the filters remove _____ of the dirt and microbes.
- 2 All of the cabin air is replaced at intervals of _____
- 3 _____ of the replacement air comes from the outside of the plane; the _____ is filtered recycled air.
- 4 The relationship between the volume and the temperature of a gas was discovered in the _____ century.
- 5 The impact of landing can be up to _____ the static weight of the plane.
- 6 Saturated air at _____ contains _____ per cc of water vapour.
- 7 Some large aircraft tyres are inflated to _____ psi.
- 8 Commercial aircraft tyres may have to operate within a temperature range of minus _____ degrees Celcius.

4 Fill the gaps in the sentences using the correct form of the word in brackets at the end of each sentence.

10 marks

- 1 The level of _____ in the air must be kept high. (moist)
- 2 In intense _____ or cold, this instrument may malfunction. (hot)
- 3 The volume of a gas is directly _____ to its temperature. (proportion)
- 4 Relative _____ is measured by a hygrometer. (humid)
- 5 Clouds are formed by the _____ of water vapour. (condense)
- 6 Air _____ in passenger aircraft is continuous. (circulate)
- 7 Outside air is forced into the plane and used for _____. (cool)
- 8 Pressure is controlled by a pressure _____. (regulate)
- 9 The air is distributed via an air _____ nozzle. (distribute)
- 10 The space above the piston head is filled with _____ nitrogen gas. (pressure)

5 Expand the notes to form complete questions.

10 marks

- 1 Where/pressurised/cabin air/come from? _____
It comes from the compressor in the engine.
- 2 pressurised air/very hot? _____
Yes, but it is cooled down by an air conditioning unit.
- 3 What/happen/pressurised air/next? _____
Next it is mixed with an equal quantity of filtered cabin air.
- 4 What/filters/do? _____
They capture airborne dirt and bacteria.
- 5 How/the air/circulated/round/cabin? _____
It flows through ducts and is distributed out of overhead outlets.

6 Read these instructions carefully and decide if the statements are true according to the text.

10 marks

ENGINE BLEED AIR PRESSURE INDICATING SYSTEM – ADJUSTMENT/TEST

1. General

The following system test satisfies the requirement of an operational test. A system adjustment is not required.

2. System Test – Engine Bleed Air Pressure Indicating System

A. General

1. The engine bleed air pressure indicating system is tested by using a controlled pressure source (0 to 100 psi) to pressurise the duct pressure transmitter sensing port.

B. Equipment and Materials

1. Controlled air pressure source capable of providing 0 to 100 psi with pressure gauge and fittings for connection to pressure transmitter.

C. References

1. AMM 24-22-00/201, Maintenance Practices.

D. Test Engine Bleed Air Pressure Indicating System

1. Disconnect duct pressure transmitter sensing line and connect pressure source.
2. Apply pressures listed below, first on increasing and then on decreasing pressures. On increasing pressures, increase pressure to, but not to exceed, specified pressure. On decreasing pressures, decrease pressure to, but not below, specified pressure. Check that the duct pressure indicator does not exceed or fall below the pressures listed below.

applied pressure (psi)	indicator reading (psi)
25	25 (+/- 3.0)
40	40 (+/- 3.0)
50	50 (+/- 3.0)
60	60 (+/- 3.0)
70	70 (+/- 3.0)
80	80 (+/- 3.0)
90	90 (+/- 3.0)
100	100 (+/- 3.0)

3. After first reading, tap the duct pressure transmitter and take second reading.
4. Check that the difference between first and second readings does not exceed 1 psi.
5. Disconnect pressure source and reconnect duct pressure transmitter sensing line.
6. Remove power if no longer required (AMM 24-22-00/201).

(Source: *Saudi Boeing Manual 2*)

- | | | |
|----|--|------------|
| 1 | This test is to check the pressure of the engine bleed air. | True/False |
| 2 | It is not necessary for the plane to be taken out of service. | True/False |
| 3 | A compressor is required for this test procedure. | True/False |
| 4 | At the start of the test, the pressure should be increased from zero. | True/False |
| 5 | Eight different pressures are applied. | True/False |
| 6 | Each reading must be done three times. | True/False |
| 7 | The tolerance for each reading is 6 psi. | True/False |
| 8 | Each reading must be exactly the same. | True/False |
| 9 | The applied pressure and the indicator reading won't always be the same. | True/False |
| 10 | The pressure source must be connected at the end of the test. | True/False |