

UNIT
6 **TEST**

60 marks

1 Fill the gaps in these sentences using the verbs in the box.

10 marks

riveted stretched sealed forced fail blocked stored subjected
connected fitted

- 1 Parts can _____ under excessive loads.
- 2 Aircraft wings are _____ to a number of stresses.
- 3 Skin panels on a fuselage are _____ together.
- 4 The inside material on the bend is compressed and the outside material is _____.
- 5 The hydraulic fluid is _____ in a special container.
- 6 Slave cylinders are _____ to the brake mechanism in the wheel assembly.
- 7 The piston is _____ out of the chamber by the fluid.
- 8 The wings are _____ to the spar by bolts.
- 9 The bypass valve is normally _____ from the centre of the element.
- 10 If the filter is _____, the oil flows through a spring-loaded bypass valve.

2 Complete this table of verbs and nouns.

10 marks

| | verb | noun |
|----------------|----------------|-------------------|
| Example | <i>produce</i> | <i>production</i> |
| 1 | measure | |
| 2 | connect | |
| 3 | | lubrication |
| 4 | develop | |
| 5 | fit | |
| 6 | | assembly |
| 7 | | inspection |
| 8 | align | |
| 9 | maintain | |
| 10 | | installation |

3 Fill the gaps in the measurements below using the units in the box.

10 marks

Example: average weight of a man 78 kilograms

bhp per cc degrees rpm cm mph kph feet square kilometres cubic metres

- 1 Velocity of a light aircraft 350 _____
- 2 Density of a small piece of metal 7 grams _____
- 3 Width of a toolbox 65 _____
- 4 Power of a car engine 100+ _____
- 5 Volume of a large swimming pool 1,200+ _____
- 6 Area of an airport 50 _____
- 7 Angle between finger and thumb 60 _____
- 8 Cruising altitude of an airliner 25,000 _____
- 9 Speed of a dentist's drill 2,000 _____
- 10 Force 8 gale 39-46 _____

4 Complete the sentences with words from the box.

10 marks

maintain surfaces withstand multiple fuel stress exploded simultaneously
hydraulic relative

- 1 An _____ diagram shows the _____ position of the components.
- 2 Some machines have _____ spindles which make it possible to do several drilling operations _____.
- 3 The frame of an aircraft has to _____ several different kinds of _____.
- 4 Most aircraft use a combination of _____ and mechanical linkages to operate control _____ and landing gear.
- 5 During a flight, _____ is pumped around large planes in order to _____ the correct weight distribution.

5 Choose the correct prepositions to complete the sentences.

10 marks

- 1 The switch must be moved *in / to* the OFF position before the plate is unscrewed.
- 2 Hydraulic fluid flows *under / through* the line.
- 3 Fuel is pumped *from / out* one tank to another.
- 4 Faulty components must be removed *up / from* the engine and replaced immediately.
- 5 The piston is forced *out of / in* the chamber by the fluid.
- 6 Before take-off, the aircraft's fuel tanks are filled *with / by* kerosene.
- 7 The hydraulic fluid is stored *in / on* a special container.
- 8 The pilot presses *up / down* the brake pedal to slow the aircraft.
- 9 The check valve prevents oil flowing by gravity *into / in* the engine.
- 10 A valve piston is installed *in / between* the check valve and the inner end of the filter element.

6 Read the text and decide if these statements are true or false.

10 marks

Control Cables – Inspection/Check

1. General

1. Use these procedures to verify the integrity of the control cable system.
The procedures must be performed along the entire cable run in each system. To ensure verification of the portions of the cables that are in contact with pulleys and quadrants, the control cables must be moved by operation of the applicable system's controls, to expose those portions of the cables.
2. The first task is an inspection of the control cable.
3. The second task is an inspection of the control cable fittings.
4. The third task is an inspection of the pulleys.
5. These three tasks may be performed concurrently at one location of the cable system on the airplane if desired for convenience.

2. Inspection of the Control Cable

1. Clean the cables (as necessary) for the inspection.
2. Perform a detailed visual inspection to make sure that the cable does not contact parts other than pulleys, quadrants, cable seals or grommets installed to control the cable routing. The minimum cable clearance from other parts is 0.20 inches, except 0.10 inches within 10 inches of a pulley quadrant. Look for evidence of contact with other parts. Correct the condition if evidence of contact is found.
3. Perform a detailed visual inspection of the cable runs for incorrect routing, twists and kinks in the wire rope, or other damage.

4. Perform a detailed visual inspection of the cable. To do a check for broken wires, rub a cloth along the cable. The cloth will identify broken wires by catching on them.

3. Replace the cable if:

1. The individual wires in each strand appear to blend together (outer wires worn 40 to 50 percent).
2. If a kink or permanent twist is found.
3. If there is any sign of corrosion.
4. There are two or more broken wires in 12 continuous inches of cable.
5. There are three or more broken wires anywhere in the total cable assembly.
6. Replace the 7x19 cable assembly if there are four or more broken wires in 12 continuous inches, or six or more broken wires anywhere in the total cable assembly.

- | | | |
|----|---|------------|
| 1 | You shouldn't move the cables during inspection. | True/False |
| 2 | You should check the whole length of the cable. | True/False |
| 3 | You should not inspect the cable fittings at the same time as you inspect the cable. | True/False |
| 4 | The three inspection tasks can be carried out in the same place. | True/False |
| 5 | Cables should come into contact with the pulley wheels. | True/False |
| 6 | A cloth can be used to find breaks in the cable wires. | True/False |
| 7 | Cables must always be replaced if they have small twists in them. | True/False |
| 8 | You should replace any cable with more than two broken wires. | True/False |
| 9 | Corroded cable must always be replaced. | True/False |
| 10 | 7x19 cable should be replaced if there are six or more broken wires in the total cable assembly | True/False |