

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

10 marks

press   remove   turn   switch   align   clean   open   pull   start   rotate

- 1 \_\_\_\_\_ the valve by turning the handle to the left.
- 2 \_\_\_\_\_ the knob anticlockwise.
- 3 \_\_\_\_\_ the lever up to disengage the gear.
- 4 \_\_\_\_\_ the engine by turning the ignition key.
- 5 \_\_\_\_\_ the button to switch the power on.
- 6 \_\_\_\_\_ the power off before opening the cover.
- 7 \_\_\_\_\_ all tools after use.
- 8 \_\_\_\_\_ the cover before checking the oil.
- 9 \_\_\_\_\_ the dial to the required speed.
- 10 \_\_\_\_\_ the two pieces of metal, so that they are parallel.

## 2 Complete the sentences with one of the following modal verbs.

10 marks

*can/cannot**must/must not*

- 1 You \_\_\_\_\_ always switch off the power before removing the cover.
- 2 You \_\_\_\_\_ oil or lubricate parts while the engine is running.
- 3 Maintenance crews \_\_\_\_\_ wear protective headgear at all times.
- 4 If a component \_\_\_\_\_ be repaired, it \_\_\_\_\_ be replaced immediately!
- 5 New employees \_\_\_\_\_ work without a supervisor.
- 6 You \_\_\_\_\_ leave equipment running when you are out of the building!
- 7 Employees \_\_\_\_\_ smoke near flammable material.
- 8 This material \_\_\_\_\_ be bent and shaped very easily. It's very flexible.
- 9 If there is a fuel leak, you \_\_\_\_\_ report it to your supervisor.

**3 Expand the notes to make full sentences using comparative forms.**

**10 marks**

**Example:** Air tools/light/electric tools  
*Air tools are lighter than electric tools.*

- 1 Electric tools/heavy/air tools \_\_\_\_\_
- 2 Air tools/easy/to handle/electric tools \_\_\_\_\_
- 3 Air tools/cheap/electric tools \_\_\_\_\_
- 4 Electric tools/expensive/air tools \_\_\_\_\_
- 5 Air tools/expensive/electric tools \_\_\_\_\_
- 6 Air tools/quick/electric tools \_\_\_\_\_
- 7 Air tools/last/long/electric tools \_\_\_\_\_
- 8 Air tools/efficient/electric tools \_\_\_\_\_
- 9 Many people say/air tools/good/electric tools \_\_\_\_\_
- 10 Air tools/deliver/high rpm/electric tools \_\_\_\_\_

**4 Expand the notes to make full questions. Read the answers carefully before writing the questions.**

**10 marks**

- 1 What/this tool/used? \_\_\_\_\_  
It's used for making cutting lines in the surface of metal.
- 2 How/this sword/made? \_\_\_\_\_  
It is repeatedly heated, bent, hammered and cooled.
- 3 Flexible? \_\_\_\_\_  
No, it isn't. It doesn't bend easily. It's rigid.
- 4 Can/change/speed/while/lathe/operating? \_\_\_\_\_  
No. You must always stop the lathe before changing the speed.
- 5 Why/you/have to/work on/alclad sheet/so carefully? \_\_\_\_\_  
Because it is very easy to damage the protective coating of oxide.

5 Write a suitable verb at the beginning of each instruction. The first letter is already written for you.

10 marks

**Example:**     Align the workpiece with the lathe spindle.

- 1 P\_\_\_\_\_ the metal sheet until it is flat.
- 2 S\_\_\_\_\_ the drilling speed with the lever at the front.
- 3 F\_\_\_\_\_ the sheet of aluminium in the middle.
- 4 P\_\_\_\_\_ the surface until you can see your face in it.
- 5 M\_\_\_\_\_ the lines with a blue pen.
- 6 H\_\_\_\_\_ the workpiece in a vice.
- 7 S\_\_\_\_\_ the edge of the chisel with a file.
- 8 S\_\_\_\_\_ cutting lines in the surface of the aluminium sheet.
- 9 G\_\_\_\_\_ the pipe firmly with the wrench.
- 10 C\_\_\_\_\_ the aluminium sheet with metal shears.

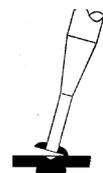
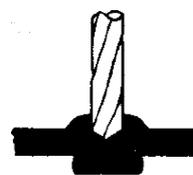
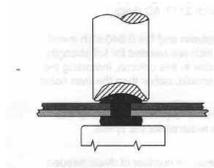
6 Read the instructions carefully and match the paragraph numbers to the diagrams.

5 marks

**RIVET REMOVAL**

Solid rivet removal is accomplished by the following procedures:

1. Drill through the centre of the rivet head, perpendicular to the surface of the material. Use a smaller drill than was used to make the original hole. Drill to where the head of the rivet joins the rivet body.
2. Insert a drift pin into the hole and pull off the rivet head. The drift pin should be the same size as the drill used to make the original hole.
3. If head cannot be pulled out, use a cape chisel.
4. Support the material from behind with a wooden block, and take out the rivet body with a drift pin and a lightweight hammer.
5. Install a new rivet, of the same type and size as the original, if the hole has not been enlarged in the removal process.
6. If the hole has been enlarged or elongated beyond tolerances, the next larger size of rivet should be used or the part must be scrapped, depending upon the type, size and location of the rivet.



\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**7 Read the passage and decide whether the statements are true or false, according to the text.**

**5 marks**

**BLIND RIVETS**

There are many places on an aircraft where access to both sides of a riveted structure or structural part is impossible, or where limited space will not permit the use of a bucking bar.

Blind rivets are rivets designed to be installed from one side of the work where there is no access to the opposite side to install conventional rivets. Although this was the basic reason for the development of blind rivets, they are sometimes used in applications that are not blind. This is done to save time, money, man-hours and weight in the attachment of many non-structural parts, such as aircraft interior furnishings and flooring, where the full strength of solid shank rivets is not necessary. These rivets are produced by several manufacturers and have unique characteristics that require special installation tools, special installation procedures, and special removal procedures.

Basically, nearly all blind rivets depend upon the principle of drawing a stem or mandrel through a sleeve to accomplish the forming of the bucked (upset) head.

- |   |            |
|---|------------|
| <b>1</b> You are not allowed to use a bucking bar inside an aircraft.                       | True/False |
| <b>2</b> Blind rivets are often used when you can only work on one side of the metal sheet. | True/False |
| <b>3</b> They are used to make structural parts stronger.                                   | True/False |
| <b>4</b> Solid shank rivets are less strong than blind rivets.                              | True/False |
| <b>5</b> There are several different kinds of blind rivet.                                  | True/False |