

**SHAPING WOOD – DRILLING**

A hole is cut by drill bit, the tool that holds the bit is known as the drill.

**Drilling by hand**

**Hand drill**

This tool is designed to hold straight shanked jobber bits up to 10mm diameter. It can also hold countersink bits



The shank (the part held in the drill's chuck)

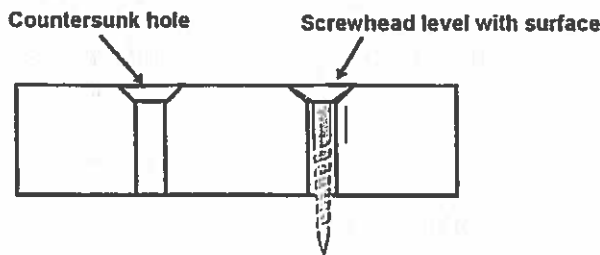


**Jobber bit**

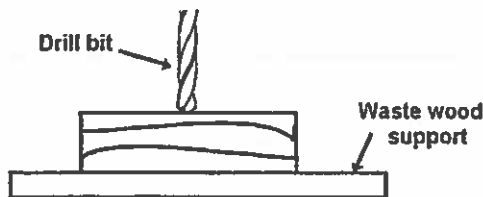
The bit is made from High Speed Steel (HSS). Diameter with a straight shank is from 1mm to 13mm.

**Countersink bit**

The bit is made from HSS. It is used to widen a previously drilled hole, so that a countersunk screw head can be screwed level with the wood surface.



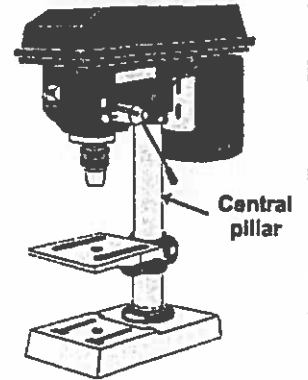
**Note:** If a hole is to be drilled all the way through a piece of wood, then the wood needs to be supported so that it does not split when the drill bit breaks through the other side. Do not drill through to the metal drill table or the bench top.



**Power tool drilling**

**Pillar drill**

This drill is so named because the main parts can be made to slide up and down the central pillar. It is suitable for all the bits shown on this page.



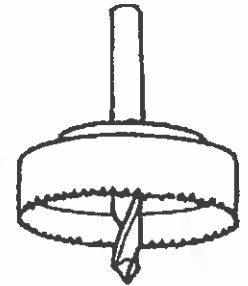
**Flatbit**

This bit is only suitable for use in power tools. It is useful for larger holes from 8mm to 25mm diameter. It is made from HSS.

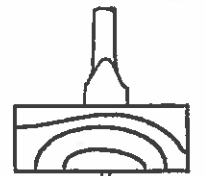


**Hole saw**

This is only suitable for use in power tools. It cuts very large holes from 20mm to 80mm diameter. The saw and guide bit are made from HSS.



**Note:** When using a flatbit or hole saw, only cut the hole until the point of the flatbit, or the guide bit of the hole saw, break through the other side. Then turn the wood over and using the break-through hole as a guide, cut the second half of the hole. This method will stop the wood from splitting.



Point broken through

1. What is the chuck on a drill used for?
2. What are good quality drill bits made from?
3. Draw a diagram showing a countersunk hole and what it is used for.
4. How do you prevent wood from splitting when a hole is drilled all the way through it with a jobber bit? Use a diagram in your answer.
5. Why is a pillar drill so called?
6. When would you use a flatbit instead of a jobber bit?
7. When using a hole saw, how would you prevent the wood from splitting?
8. Which bit would you choose to use if you had to drill a 35mm hole and why?