

# Design & Manufacture

## Homework 22

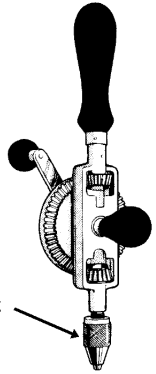
### Drilling

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

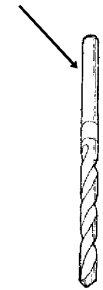


The chuck

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

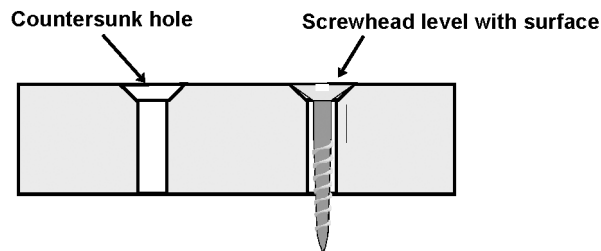
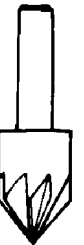
#### Jobber bit

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

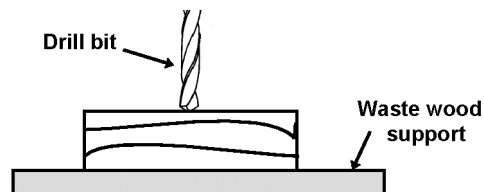


#### Countersink bit

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.



# Questions

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.

.....  
.....  
.....  
.....  
.....