

# DRILLING

## MATERIALS:

- Object to drill

## TOOLS

- Pillar drill
- Pendant drill
- Centre punch and hammer
- Vice or clamp
- Drill bits



For all drilling and rotating tools wear eye protection, an apron and make sure any loose hair, jewellery or clothing is secure and well away from any moving parts. Make sure you feel confident and in control of the tool at all times and if not ask for help.

## DRILL PRESS

The drill press is great for larger holes and for drilling into flat sheet. Secure your work into one of the press vices. Make sure it's held tightly. Use the chuck key to tighten the right drill bit into the machine. Start with a small bit and work your way up. Make sure the drill depth is set correctly and that your piece is centred on the drill bed. Set the drill running and slowly bring down the handle to bring the drill bit into contact with your piece. Drill a small fraction at a time to allow the burrs to escape and keep the speed slow and steady.

## PENDANT DRILLS

The pendant drills have the drill bit and motor at opposite ends of a flexible shaft making them much easier to use on small pieces. They are operated by a foot pedal which allows variable speeds, for drilling you want to keep as slow as speed as possible. The drill bits can be changed easily or swapped for burs, polishing mops or grinding wheels.

If you are working on something tiny, use pliers to grip it or use masking tape or a small clamp to secure it to the drill block. This keeps your fingers safely out of the way and also makes it easier to see what you are doing.

Use a centre punch to make a dent in the metal where you want to drill. This stops the drill bit skidding on the metal and helps the drill bite into the piece. The drill should go easily through the metal – soft metals like aluminium will drill through more easily than harder metals like brass. If the drill is not catching try changing the bit as the can blunt quickly.

To drill a large hole start with the smallest drill bit and work up through the sizes until the hole is the right size.