



# How to Use a Ratchet Brace

In this Video you will learn how to use a Ratchet Brace.

The Ratchet Brace, also known as Brace and Bits, is a hand-tool used to drill holes or nails into wood.

The linear motion of its crank-shaped handle can provide ample torque when drilling.

The tools and materials you will need are: A Ratchet Brace, Drill Bits, Screws, a Saw Horse, a Hammer, a Vice and a Workpiece.

Body weight is applied on the pivoting head of the Ratchet Brace as the U-shaped shaft is hand-cranked to rotate the bit.

The wider the sweep or diameter of the handle's movement around the tool, the higher the torque.

The ratchet mechanism consists of two pawls riding over a splined shaft that lets the brace turn the drill bit either clockwise or anti-clockwise.

This enables short, reciprocal ratchet strokes at tight corners where a full, 360 degree sweep is restricted.

The self-centering, four-jaw Chuck grips onto bits of different sizes.

There are different kinds of drill bits to serve each function.

Some of the common varieties are the twist drill bit, spade or paddle drill bit and the screw bit.

The twist drill bit has helical flutes along the shaft with a centering point, and sometimes two auxiliary cutting points for additional support.

The Spade Bit has a centering point that starts the hole and anchors the bit while the two paddle-shaped blades shave out the wood around it.

A Brace and Screwdriver Bit can exert a lot more pressure and leverage than a hand screwdriver.

Specialized bits are available to match each type of screw head.

To fix a Bit into a Brace, loosen the jaws of the chuck.

Hold the bit between the jaws, inserting the shank of the bit into the space in the middle.

Turn the shell of the chuck until the jaws are secured around the shank.

Make sure the chuck's jaws grab the bit as you tighten them, as any misalignment can stress and damage a jaw.

Tighten the shell until it's hard to turn.

Pierce the tip of the Twist Drill Bit into the desired point.

Start drilling slowly.

After the first few turns the bit will have engaged with the piece.

Hold the head steady as you crank the handle.

No matter how unwieldy a Ratchet brace may seem at first, with practice it gets easier and more precise.

Use your shoulder to apply force behind the hand gripping the Head.

If your workbench is too high you could stand on a box or stool.

Here, we have used a saw horse.

When using a Spade Bit, be wary of the wood splintering as the drill bit emerges from the other end of the workpiece.

You can avoid splintering by completing the hole from the opposite side or by clamping scrap wood below the workpiece Use extra care during those last few turns.

When the bit finally emerges, turn the piece over on the vice, place the bit on the point and finish the last section.

When drilling a screw into a piece of wood, it is advisable to first bore a pilot hole using a bit that is slightly narrower than the threads of the screw.

If needed, lightly hammer the screw in before you start drilling so that it is held stably.

To remove a screw, adjust the ratchet mechanism and drill in the anticlockwise direction.

Ensure that you always use a drill bit that matches the screw head.

Stick a tape on the bit for reference to the specific depth you want to reach.

You have now learnt how to use a Ratchet Brace.

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