



How to Make a Mortise and Tenon Joint - Part 1

In this video you will learn to make a Mortise and Tenon joint.

A 'tenon' is a tongue or protrusion with shoulders that holds it back as it fits into a corresponding recess known as a 'mortise'.

The most common variety of the joint is the simple or 'blind' mortise and tenon, in which the tenon is stopped short of reaching all the way through to the opposite side.

The tools you will need are: A Marking or Mortise Gauge, a Try Square, a Ruler, a Mortise Chisel, a Marking Knife, Bench Chisels, a Mallet, a Pencil, a Ratchet Brace, a Tenon Saw, a Coping Saw, a Depth Gauge, and a Vice.

The materials you will need are: two Workpieces.

Step 1 - Marking the Tenon.

Place the Tenon Board up against the Mortise Board to measure the position at which you want to join them.

The identical workpieces used here are two inches wide.

With this, a one inch tenon will be made.

Attach the marking gauge on the vice and set it to one inch thickness.

Fix the tenon piece on the vice and scribe the shoulder line on one side using the marking gauge.

Highlight the line with a pencil.

Continue marking the shoulder on the remaining sides.

The length of the tenon should create sufficient gluing surface without a mortise that's too difficult to cut.

Now, fix the marking gauge on the Vice and set it to one centimeter.

Attach the tenon piece onto the vice and mark the cheeks of the tenon on the end grain.

Scribe one centimeter on either end along the length.

Fix the mortise gauge on the vice and set the scribes to the width of the mortise chisel.

Fix the tenon piece on the vice again and check if the scribes are centered along the width of the endgrain.

Now, mark the width of the tenon on the endgrain.

Highlight the line using a pencil.

Extend the lines marking the width of the mortise till the shoulder line.

The rule of thumb recommends a tenon with half or one third the width of the stock.

You can make it wider, but not so wide as to compromise the strength of the mortise walls.

Step 2 - Cutting the Tenon.

Fix the workpiece horizontally on the vice and saw down the shoulder line on the wide face till the point where it meets the cheek.

Turn the piece over and repeat the step on the opposite side.

Fix the piece on the Vice with the endgrain facing up and saw down the same two sides along the lines marking the cheeks till the waste wood falls off.

Leave some extra wood for finishing.

Fix the workpiece on the vice as shown and use the bevel edge chisel to make the sawed sides smooth and uniform.

You can also use a horizontal paring action.

Make sure the cheeks and shoulders are consistent and smooth.

With two sides of the tenon set, mark the layout for the remaining two sides once again.

Fix the piece on the vice and start cutting out the cheeks and shoulders of the narrow sides.

We have used a coping saw to make a fine cut.

Use the chisel to refine the sides.

For the remaining steps, continue watching How to make a Mortise and Tenon joint part 2.

Watch the Video How to make a Mortise and Tenon joint part 2.

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