

# MITREPLAN PROJECT PLANNER

## Hang a timber door



- An easy-to-follow guide to achieving a perfect result.
- Outlines all the tools you will need for the job.
- Includes a materials checklist.

### PLEASE NOTE:

Before starting this project or buying any materials, it is worth your time to read all steps thoroughly first to be sure you understand what is required.

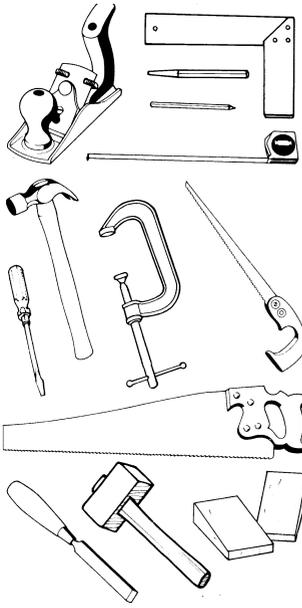
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**MIGHTY HELPFUL™ MITRE 10**

## MIGHTY TOOLS FOR YOUR MITREPLAN



**Measuring tape**  
**Pencil**  
**Power drill & bits**  
**Power saw or hand saw**  
**Power plane or hand plane**  
**Claw hammer**  
**Carpenter's square**  
**Wood chisel - 30mm bevel-edge**  
**Wooden mallet**  
**Clamps**  
**Centre punch**  
**Screwdriver**  
**Wedges (made from scrap timber)**  
**Hole saw**

## ✓ MIGHTY HELPFUL CHECKLIST

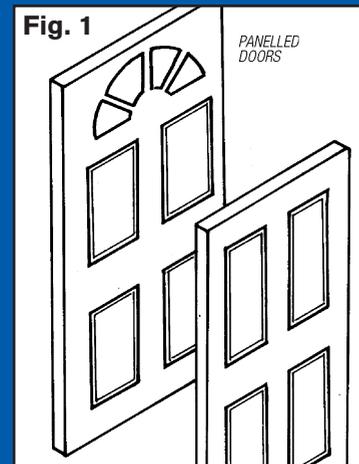
	ORDER
Door	
Butt hinges 2 x 75mm brass or steel for light internal doors	
3 x 100mm brass or steel for solid internal doors	
3 x 100mm fixed pin brass for heavy external doors	
Wood screws 8 gauge 10 x 25mm long	
Door handle/lockset (if required)	
Stain/paint	
<b>Other materials</b>	

Verbal quotes are indicative only. Written quotes on materials are available upon request from your Mitre 10 store.

## Fitting a door is simple – with help from Mitre 10.

Most doors in the home are made from timber and hung on hinges. They come in a range of styles including solid, flush panelled, glazed and louvred and they suit a variety of uses. Doors are made to different specifications depending on whether they're for inside or outside use.

Usually, we don't give doors a second thought until they become a problem or need replacement. Or we're doing a bit of redecorating and wish to update styles. So it's nice to know that fitting and hanging a new door is not difficult and well within the scope of the average do-it-yourselfer – whether it's the front door or an inside door. All you need are the right tools and the right materials. And to follow this easy step-by-step guide from your Mitre 10 specialist.



### Step 1: Select your door

For exterior use, where strength and security are important, choose a solid construction panelled door (Fig. 1) at least 35mm thick. If it has a single, large pane of glass, specify laminated or toughened glass. Smaller panes can be bevelled-edge glass for a more attractive look. Due to their weight, they should be hung on three 100mm brass butt hinges.

Internal flush doors (Fig. 2) are usually hollow core and 35mm thick. Those with hardboard facing are often supplied primed, ready to paint, while doors for a stained finish are usually faced with timber veneer. Because they're lighter than external doors, they can be hung on only two butt hinges, either brass or steel.

Louvred doors (Fig. 2) are especially popular for cupboards and available in a wide range of sizes. They can be painted or sealed for a natural wood effect.

### Step 2: Measuring the opening

Most homes have standard size doors, usually 2040 or 2340mm high. Standard widths include 520, 620, 720, 770, 820 or 870mm. If your door opening is a non-standard size then you will need to order a special door to suit your needs unless a standard door can be trimmed to the required size.

Measure the width and check it at several points. Then measure the height. The door should be 6mm less than the width of the frame (3mm each side), with a 3mm gap at the top (Fig. 3) and sufficient space at the bottom to clear your floor covering when the door opens.

It is also important to remember that door frames are not always perfectly square and allowances for trimming height and width should be taken in to account when ordering to avoid draughts, rattles and too much noise passing through the door frame. If you're replacing an old door, also match its thickness.

### Step 3: Fitting your door

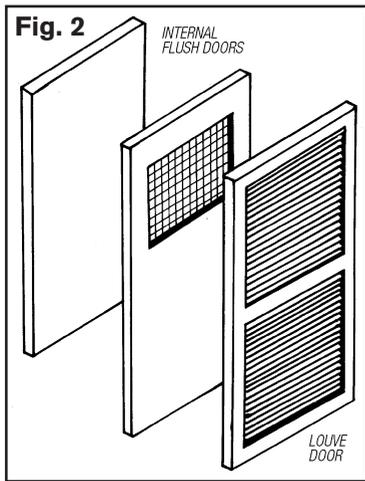
Where standard door sizes are greater than the opening size, the door will have to be trimmed down to fit. Keep in mind that a 3mm clearance is needed at the top and both sides to allow the door to open and close without sticking.

Your new door may have protruding pieces called 'horns' at the top and bottom. These help to protect the timber from damage during storage and transport. Remove these blocks by tapping off with hammer.

If replacing an existing door which fits the opening satisfactorily, use the old door as a template for trimming the new door.

If not, prop the new door in the opening to check for a rough fit. Place two small packing pieces on top of the door equal to the 3mm clearance needed. Then use two wedges made from scrap timber and push these under the door (Fig. 4) so that the top and hinge sides of the door are hard up against the frame.

Pencil a line on the door parallel to the lock side to show how much must be trimmed off the sides. For plywood and maple veneered doors, score the line with a sharp utility knife or chisel edge before trimming to prevent the veneer splintering.



Then clamp the door, hinge-side down, to your workbench (Fig. 5) and plane off the excess working with the grain. On top or bottom edges, plane in from the side edges to the centre to avoid splintering the timber. Use a carpenter's square to constantly check that the edge is straight.

If there is a lot of timber to trim, use your saw. Cut just outside the edge of the line, so you can finish off with a plane and sandpaper. You can cut up to 15mm from each side of a door. If any more needs to be removed to provide a fit then a door should be ordered to suit the width.

Having fitted the door to suit the top and the two edges, you can now mark and trim the bottom of the door. Place the door in the opening with the two small packing pieces on top and then use your wedges to raise the door until the packing is held fast between the door and the top of the frame. Then, with a small block of timber to represent the clearance required for the floor covering, mark a line along the door's bottom (Fig. 6).

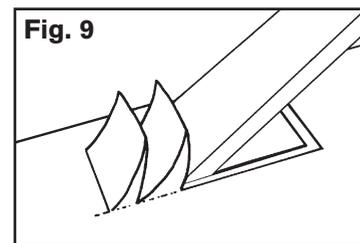
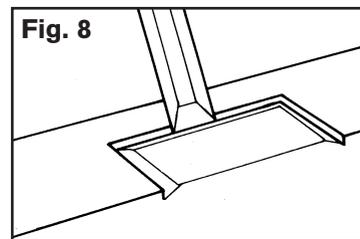
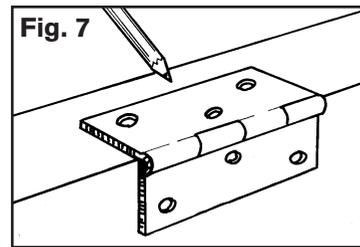
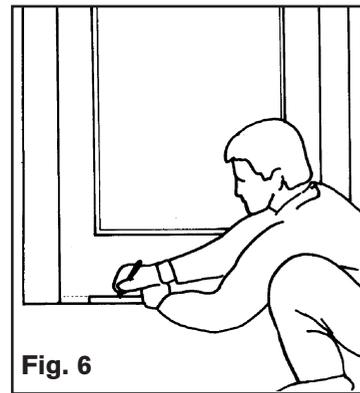
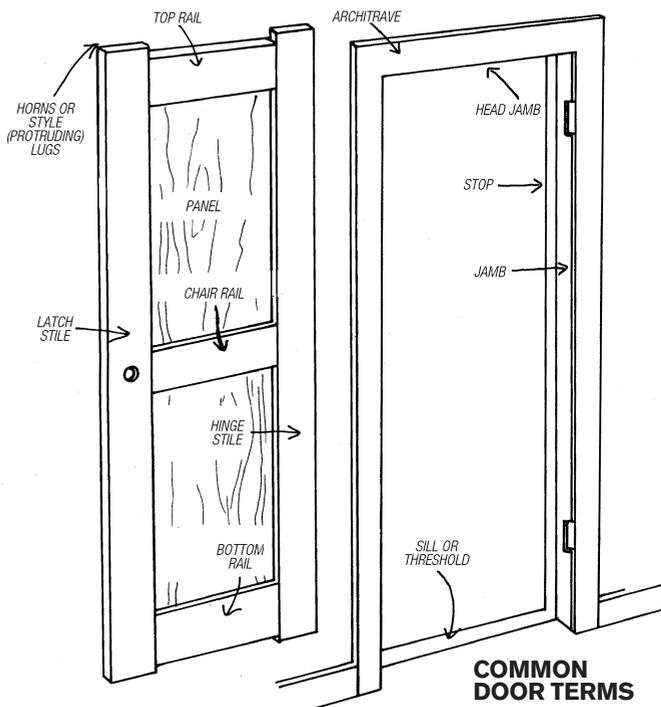
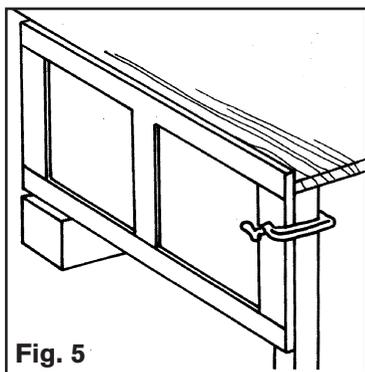
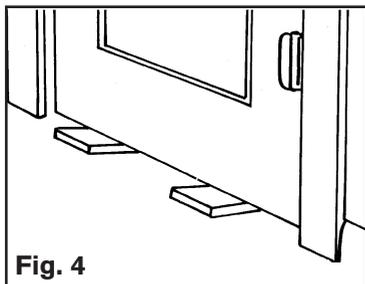
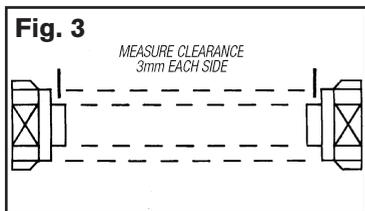
About 12mm between floor and bottom edge is usually sufficient, but if the floor covering is to be thick quarry tiles, slate or carpet on a thick underlay, allow for about a 30mm clearance.

### Step 4: Hanging your door

While the door is still in the Step 3 final position, mark the location of the hinges on both the door and frame at the same time.

If replacing an old door, use the existing hinge recesses in the door frame and mark these on your new door.

If not, mark the top hinge 175mm down from the top and the bottom hinge about 250mm up from the bottom of the door. If a third hinge is needed, place it equal distance between the two.



Remove the door and clamp it hinge side up to your workbench. Place one of the hinges face down against your marking on the edge of the door (Fig. 7), with the centre pin hard against the face of the door. Using a very sharp pencil, trace the shape of the hinge onto the timber, and mark the depth of the hinge leaf on the door's face and edge of the door frame.

Next, carefully cut around each pencilled outline with a sharp chisel, holding it vertically with the bevelled edge towards the hinge recess area (Fig. 8) and tapping it down to the depth of the hinge leaf with your mallet.

Then, keeping the bevel side of the chisel facing down, make a series of feather cuts within the hinge recess (Fig 9). Turn the chisel over and carefully shave the timber feathers to the depth of the hinge leaf, taking off small amounts of timber at a time.

Check that the butt of the hinge fits snugly in the recess. Then use a centre punch to start the screw holes, drill the holes and screw the hinges tightly to the door.

Now place the door at right angles to the opening. Adjust the height with a wedge under the bottom until the hinges on the door fit in the hinge recesses in the frame. Drill and insert one screw in each hinge to check that the door fits. If it leans away from the frame, the hinge recesses may be too shallow and you'll need to shave them a fraction deeper. If the door binds against the hinge side of the frame, the hinges may be too deep and the recesses will need to be packed with paper or thin card. When the door fits properly and opens and shuts freely, insert the remaining screws.

### Step 5: Finishing your door

The final step is to sand the door down, paint or stain it, and install your door furniture.

When sanding, always sand with the grain. This is particularly important if you plan to use one of the many pigmented stains or clear surface finishes available now. They not only help preserve your door but also bring out the natural beauty of the timber, and allow you to match it to your furniture or a timber panelled wall.

Paint, of course, is probably the most used. It's easy to apply and the range of colours lets you mix or match any decor. Use a solvent-based enamel paint for a hard-wearing surface that is easy to wipe off hand marks.

You should paint or stain the door as soon as possible after hanging to prevent swelling or warping. This is especially important for bathroom, kitchen or external doors where damp can penetrate into the timber. And make sure you include the top and bottom edges so damp can't get in that way and eventually ruin it.

If it's an external door, it's your first line of defence against burglars – so fit a good solid lock, preferably a deadlock. Internal doors can be fitted with one of the wide variety of decorative entry handles, keylocks, passage sets and knobs available.

And consider fitting an automatic weather sealer on the bottom of the door to prevent draughts, or weather seal around the door stop on the jam to prevent draughts and rattles.

Now, it's time to enjoy a cup of tea and admire your handiwork.

## MIGHTY HELPFUL HINTS TO MAKE THE JOB EASIER

- Measure a door carefully before cutting to size. Then double check by holding the door in place.
- When planing a door, always work with the grain and keep checking that the edge is straight.
- If your door is too short or narrow, glue and nail matching margin strips to the edges to make it up to the right size. Then plane and sand it to give an exact fit.
- Paint or stain the top and bottom of the door to prevent swelling or warping.
- To avoid jamming, plane the edges on the locking side of the door to leave a slight bevel so it clears the frame as it opens and shuts. Or use sandpaper to slightly round the edges.
- While you adjust the screws in the hinges, put a lever under the door over a block of timber and raise or lower the door with your foot. It's more manageable.

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