

HANGING A DOOR (Internal)

(Fitting a door)

The first mistake some people make when hanging a door is to start fitting furniture (handles, hinges etc) before the door is cut to size. Standard door sizes are available to fit most existing frames but houses move. Some older houses will have moved dramatically and one of the first things that twists and bends is the door frames. Almost all doors have to be trimmed to fit the opening they are to go into and sometimes the opening has been specially made for a feature door. In this situation it is fairly easy to adapt or "build out" the frame to suit the new door.

If you are ever in the position of adapting a frame do not be tempted to fit the frame to suit the door or the existing opening. If the existing frame is leaning over or twisted, insert your new timbers upright and square. You should always endeavour to start with a square frame and cut the door down to suit. Carpentry is not easy. It takes time to learn and a really good idea is to get some basic techniques under your belt before trying major projects.

Standard internal door sizes are.

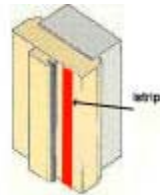
525mm x 2040mm	Metric size door for metric frame
626mm x 2040mm	Metric size door for metric frame
726mm x 2040mm	Metric size door for metric frame
826mm x 2040mm	Metric size door for metric frame
926mm x 2040mm	Metric size door for metric frame
610mm x 1981mm	2ft x 6ft 6 inches
686mm x 1981mm	2ft 3 in. x 6ft. 6 in.
762mm x 1981mm	2ft. 6in. x 6ft. 6in.
838mm x 1981mm	2ft. 9in. x 6ft. 6in.

It is possible to get other door sizes "off the shelf" so always enquire, but generally speaking these are the most common door sizes and even so it is unlikely that you will get anything other than the 3 highlighted sizes in Diy stores. You may need to go to a builders merchants for other sizes.

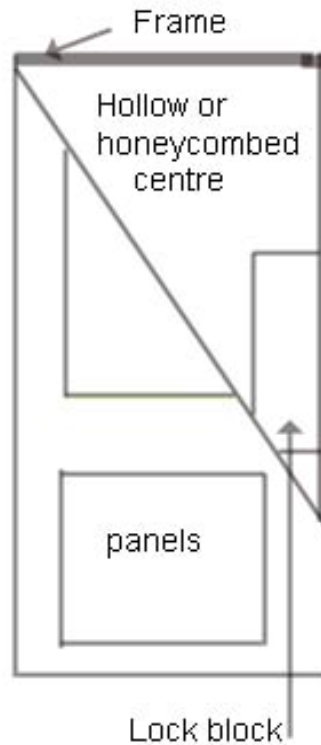
Doors are either "flush doors" or "panelled doors" . A type of panelled door is shown below and simply means that the door is divided into panels with two side rails, a top and bottom rail and a mid rail. A flush door is simply flat on both sides.

For extreme sizes or sizes which cannot be matched or made up, it is possible to buy "door blanks". These are oversize, solid, flush doors which can be cut down to any size. Doors come in thicknesses of 1 & 3 eighths of an inch, 1 & 3 quarters of an inch, and 2 inches. Check the measurement between the front of your frame and your door stop before you start work.

Internal Doors are available as "hollow" lightweight doors or fire-check doors. Fire check doors should always be fitted to the kitchen and internal garage door and if you have a loft conversion they will be stipulated throughout. Their construction means that, when closed, the fire will take either ½ or 3/4 of an hour to burn through, depending on the door used. Intumescent strips can also be fitted into doors and frames. These are strips which swell up at the first sense of heat and stop smoke from getting through any gaps. You will also, on the construction of a loft conversion, need to install automatic door closers to arrest the spread of any fire.



The first step is to make sure you have the door the right way round. At the top of a new flush, or hollow panelled lightweight door the word lock will be printed over to one side. This means that there is a section of timber fixed inside the frame of the door which is there to allow the door lock or latch to be fitted. See our project on fitting door furniture to find out how to fit the common mortice latch to doors. The images below show the top of a new door. Lock is clearly marked. Obviously the hinges are hung on the other edge. The lock block usually extends approximately 200mm up and down from the centre of the door. The right hand image shows the lock block in position on the door. If you use a screwdriver to tap down the side of the door you will hear the difference when you get to the lock block.



To get the door to fit the frame it is first necessary to "offer it up" and mark it. As you can see in the images below we had to add timber to the existing frame to get a standard size frame. This was cut to size and screwed to the existing frame.

The door was placed in position up against the new frame and the inside of the frame was marked on the door with a pencil. You will probably need a hand with this. This new door was being hung on the opposite side to the old one so the old hinge recesses will need to be filled. This can be done with either filler applied in a couple of layers, or you can try your carpentry skills at cutting a timber block down, gluing and pinning it in place (punching the heads of the pins down with a nail punch) and sanding it down to finish flush with the frame. This is called "scarfing".

Drawing lines and cutting timber in any form can cause the novice a great deal of problems. We often get emails asking simply "How do I cut a straight line" and "I have marked my work and cut on the line but I always cut my timber too small". The answer to the first is to let the hand saw do the work. Make sure you are looking at the saw from directly above it and not from the side. If your body is leaning, the chances are the saw will be leaning too, giving you a cut which is far from square. Hold the saw with your finger down the handle pointing to the work and make sure the timber is totally secure. Any movement in the timber and the saw will judder and go off line. Ok, so you have the door marked to the internal size of the frame. Another easy thing to forget is that the saw has a thickness of about 3mm including the set of the teeth. If you cut along the line therefore, the door will be 3mm smaller than you intended. This may not sound a lot, but should you cut marginally inside the line, you are talking about a difference of 5mm and this is the difference between a good job and a shoddy one.

Remember ALWAYS LEAVE THE LINE.

Whenever you mark a piece of timber, the line you have drawn is the exact size you want the wood. If you cut or plane the line off, your work will be smaller than you intended. Cut the work along the side of the line, just leaving the line in place. With the line still visible you cannot be wrong. You can always plane a little more off, but you can't stick it back on! People think it is so easy to grab a saw and start a piece of carpentry but even cutting a straight, square line is a problem until you have mastered it. In this instance, as we had rebuilt the frame, the cut was square, but with older frames you may find you have twists and kinks and

it will not be possible to use a saw for the cut down. Using a plane is the correct option here and we obviously prefer a power plane. Fully qualified carpenters have had to practice this, it makes sense that you should do so also.

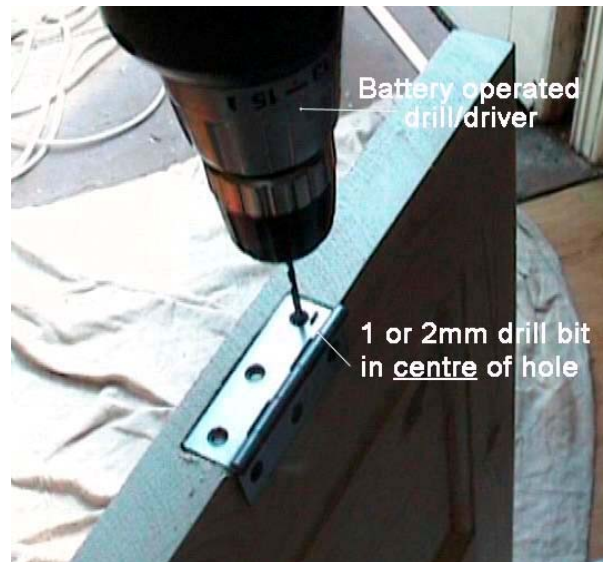
We use power tools wherever the amount of cutting allows it. Time is important to us, its our living!

Having cut the door to the correct size we have now got to hang it. This can be done on a variety of **hinges** but for most doors it is the standard butt hinge that is used. There is no regulation as to where these hinges should go with regard to the position on the door or frame but we like to keep the top of the top hinge at 7 inches down from the top of the door and the bottom of the bottom hinge at 7 inches from the bottom of the door. Mark the position of the hinge by opening it at right angles and laying it on the side of the door to be hung. A lot of DIY web sites will tell you to mark round the hinge with a hobby knife. Do not do this it is dangerous and almost impossible to cut along the grain neatly. Mark with a pencil and then scribe the long edges with a mortice gauge if you need to.

Using a **sharp** chisel, cut as shown below, tapping firmly with a mallet to avoid breaking the chisel head. Remember the pencil line is outside the hinge so you need to cut inside this line. Once again, LEAVE THE LINE!



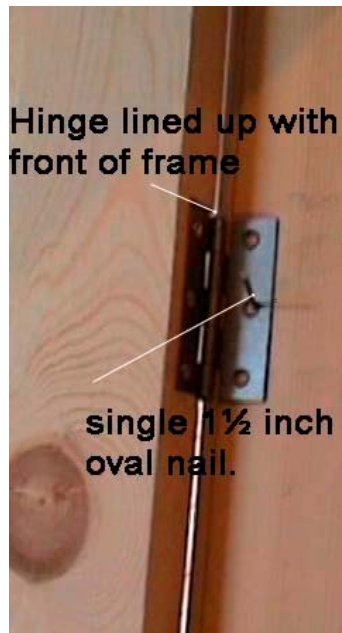
Chisel out the surplus and make sure your hinge fits neatly and is not "proud" of the timber. Neither should it be set too far in as this will cause the door to bind. The hinge should be set in just enough to be flush with the edge of the door. Practice this cut on an offcut of wood for a while this will benefit you greatly if you have a number of doors to hang.



Drill ***pilot holes*** for your hinge screws and make sure they are in the centre of the hinge holes. A screw which is against the edge of the hole will push the hinge over and out of line. When the hinges are cut in, stand the door in the opening. Check all round for the gap to be uniform. In years gone by the carpenters apprentice was made to carry an old penny, this was used to make sure the gap all round the door was the precise width. Make sure you have enough depth under the door if you are going to lay carpets etc later. Wedge the door in place. You can cut some timber wedges for this, as you can see we use chisels!

With the door in the correct place you can mark the position of the hinges on the edge of the frame.

Take the door away again and using the mortice gauge which is already set to the hinge width, and the carpenters square, you can mark the full position of the hinge on the frame. This can then be chiselled out also.



Wedge the door in position once again and, if you are on your own, you may find it easier to keep the top of the door in place by pinning the top hinge temporarily in place. This ensures the door does not move as you screw the hinges in.



Your door should now swing easily back and forth. Our particular door frame needed new door stop which is the last thing to go on. This is imply pinned to the frame up against the door when its in a closed position. When the stop is in position you can fit the door furniture you have chosen.

