



cutting

Oversized Box Pins

The Festool Domino system is designed as a mortising machine, however, with a little lateral thought you can use it to create box pin joints.

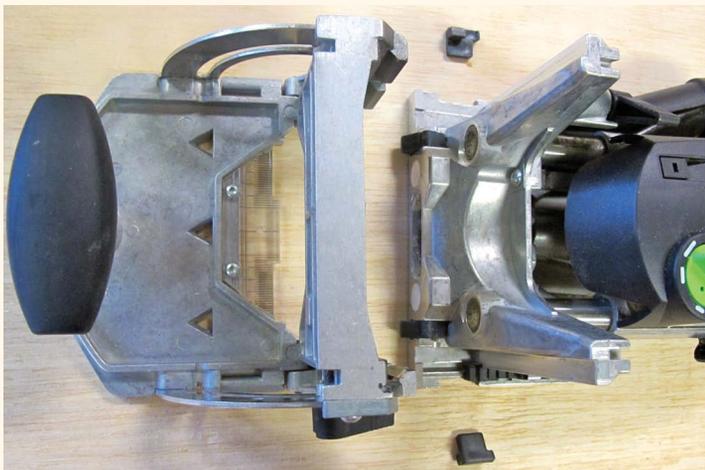
"Necessity is the mother of invention." Cutting oversized box pins is usually done by drilling out the corners of the pin with a 10mm-dia brad-point bit and then using a combination of a jig saw and a bandsaw to remove the waste. The problem with this technique is that the jig saw tends to wander off centre when you attempt to cut pins larger than 19mm, undercut-

ting on the reverse side and leaving unsightly gaps in the finished joint.

Dado blades can cut very accurate box pins up to 19mm wide on a table saw. The issue with a dado blade and a table saw is that cabinet sides get unwieldy when you reach across the saw. Router tables have the same problem, okay for small work but cumber-

some when it comes to the large stuff. Combing a good jig saw with the Festool Domino System will overcome these problems.

MARKING OUT. The first step is to mark out box pins. The mahogany that we were using for our test run ended up being 35mm thick after we dressed 38mm rough sawn stock. Fifteen sets of box pins at 35mm gave us a board width



Removing the little black stop blocks at the top of the adjustment frame allows you to cut accurate box pins up to 50mm deep.

The extra guide bush located half way down the stroke of this jig saw improves accuracy.

of 525mm. A trying plane and plenty of elbow grease produced true edges for Dominos (spaced 300mm apart) and glue to join the two boards together to create our stock.

The next step was to run a 200mm length of 35mm-thick stock through the table saw until we had created 15 spacer strips, 5mm thick. We laid these spacers side-by-side across the 525mm-wide board. We then removed the last strip and traced the exposed edge of strip No. 14 with a fine mechanical pencil. Repeating this process had 14 parallel pencil marks clearly visible on the face of the board. The process was repeated on the underside of the board. Once both sides were marked out it was time to mark out the back of the box pin (36mm in from the ends) and then wrap masking tape around the board to mark the centre of the void to accept the pins.

ADJUSTING THE DEPTH. The maximum mortise depth that the Domino machine can cut is 28mm. The depth adjustment switch on the side of the machine is calibrated at 12, 15, 20, 25 and 28mm depths. Adjusting the depth of cut to 20mm allows the mortise to meet in the middle when the board is flipped and a mating mortise is cut on the reverse side.

ADJUSTING THE STEP-BACK. The fence on the Domino machine allows adjustment of the step-back to a maximum of 30mm. This adjustment limit means that the maximum size of our box pins would be 30mm. By removing the little black stop blocks at the top of the adjustment frame (bottom left photo on page 22) we increase the range of available box pin sizes all the way to 50mm.

The little black stop blocks neatly slide into dovetailed keyways so it is easy to return them when the job is done.

The final step is to adjust the set-back so the edge of the 8mm-dia cutting head just meets the pencil line.

▶ *A kauri chest of drawers modelled on a Korean war chest. The oversized box pins reinforce the rectangular lines in the design. Dovetails would create quite a different effect.*

ADJUSTING THE MORTISE WIDTH. The final adjustment on the Domino machine is the width of the slot. The green dial on the back of the machine gives you three mortise widths to choose from. The reason we chose the Domino in the first place was to create neat box pins, so the widest setting was the natural choice.

CUTTING THE BOX PINS. After all this time carefully marking out and setting up the machine it is time to cut the voids that will accept the box pins.

The Domino machine needs to be centred on the pencil line drawn on the masking tape. It is very easy to misstep when you flip the board, cutting a slot in the wrong place if you don't pencil in the centres first and then check to see that they all line up.

The slots machine easily as long as you have a steady hand and hold the Domino snug against the end of the stock.

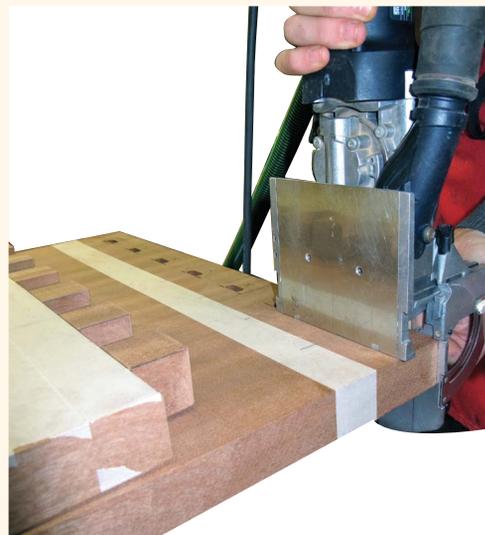
The final challenge is to cut the sides of the pins with a jig saw loaded up with a new blade. It is easy to lose focus when doing



repetitive joints, special attention needs to be paid to which side of the line you are cutting on; it is always the slotted side of the line.

The Festool jig saw has a novel adjustable bush just above the sole of the saw. This bush keeps the blade true and improves the accuracy of the final cut. Cutting slowly with a new blade improve the accuracy of any jig saw.

The final step is to assemble dry and admire before adding the glue and clamping true. **W**



▶ *The maximum depth of cut by a Domino is 28mm. It is best to set the depth of the Domino cuts to just past halfway.*



▶ *Square shoulders are cut to create the sides of the pins before the backs are squared off.*