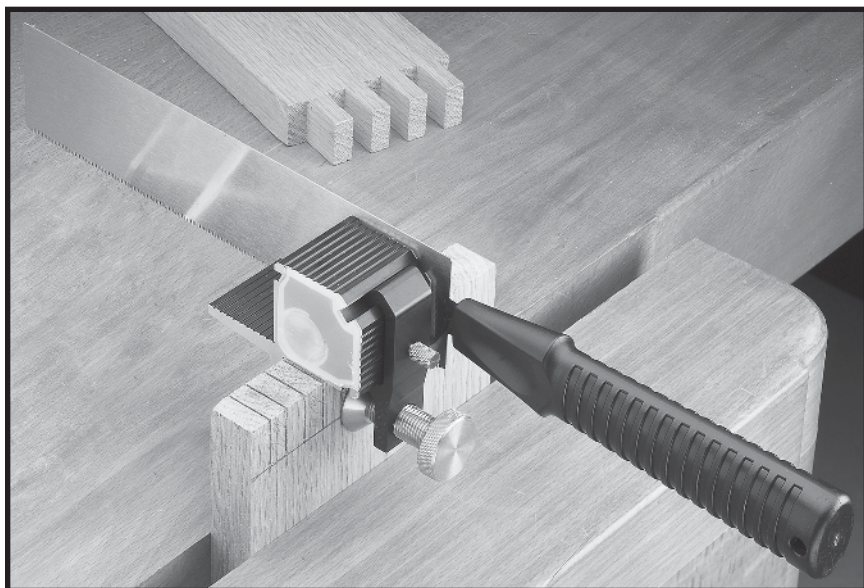


veritas[®]
Right-Angle Saw Guide



05T04.01

Patented

Introduction

The Veritas Right-Angle Saw Guide was developed for making finger joints, cutting tenons, or on-the-spot trimming of small items. It is also ideal for beginners or children learning to make perfectly square perpendicular cuts on board ends.

The sliding clamp allows cutting in whatever configuration is suitable. Each reference surface is embedded with a $\frac{3}{4}$ " diameter rare-earth magnet and covered with a low-friction UHMW pad. The magnets keep the saw aligned as you cut; the pads allow the saw to slide easily against the reference surface. The clamp can accommodate material from $\frac{1}{4}$ " to 1" thick.

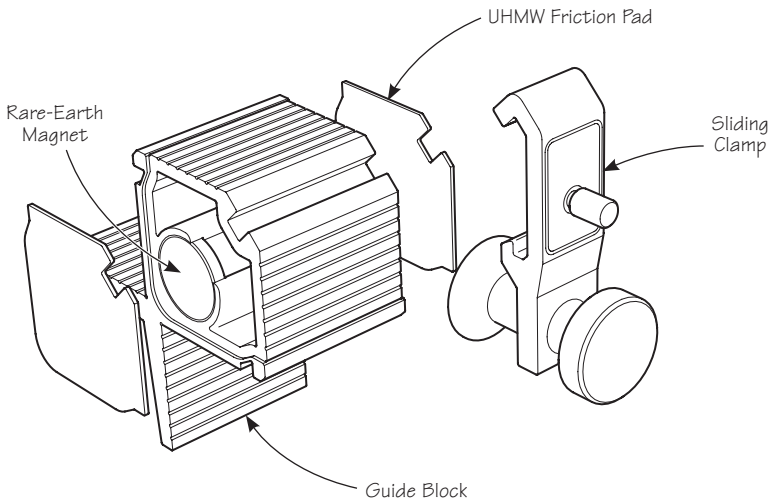


Figure 1: Right-angle saw guide.

Some Important Points About Saws

1. Because of the need for a large reference face to accurately guide the saw, it is important to use a backless saw (see below for information on our dovetail saw). Any back on the blade will interfere with the guide.
2. The teeth on the saw should be set no more than 0.005". The UHMW pads are 0.005" proud of the guide face, and this offset is necessary to create accurate cuts.
3. A saw that has very fine teeth will create a smooth cut and a tight-fitting joint.
4. While the guide is equipped with powerful magnets that will help hold a saw on line, ensure that your saw tracks straight without the guide. Tooth set should be equal on both sides of the saw.

The Veritas Dovetail Saw (05T02.03) is a suitable companion for use with the right-angle saw guide. The $8\frac{1}{2}$ " blade length and 2" height offer good cutting action and complete registration against the guides. With 22 teeth per inch set

finely on each side (less than 0.005"), it produces a fine cut on the pull stroke. The dozuki tooth form is effective in both crosscuts and rip cuts, leaving a smooth cut surface. The saw cuts on the pull stroke, which puts the blade in tension and ensures the kerf is both as straight and narrow as possible. A narrow kerf means less energy required to make the cut.

Basic Right-Angle Cutting

When correctly positioned, the right-angle saw guide ensures straight, accurate 90° cuts by holding the saw at the correct location and orientation at the beginning of the cut – great for helping beginners establish good technique.

Mark the location of your cut on your board and set the guide so that the machined edge of the guide is right on the mark. The guide should be set so that it leaves the waste side of the cut exposed, i.e., clamp the guide to the part of the board you want to keep. This will ensure the blade kerf is on the waste side of the cut.

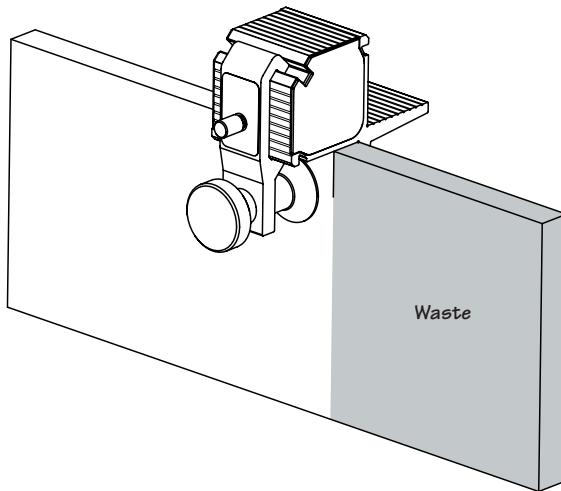


Figure 2: Right-angle saw guide in place and ready for cutting.

The sliding clamp can be placed anywhere on the guide block (as long as it is not located such that the cut will run through the brass clamp pad) and ensures the guide block remains securely clamped to the workpiece. For optimum results, the guide must be firmly seated on the edge of the board.

Place the saw against the face of the guide; the magnet will pull the blade into full contact. Begin sawing; the guide will hold the saw to a straight line. Start with a few light strokes in order to start the cut. Once the blade has established a kerf, take long strokes that use the entire length of the blade.

The saw may scratch the sides of the guide legs; however, this will not affect the performance of the guide. If the saw begins to take a large gouge, it may indicate that your saw has unequal tooth set and needs to be properly tuned.

To establish good technique, we suggest cutting stock no wider than the height of the saw blade. This ensures that the guide fully supports the saw blade for the entire depth of the cut. As you become more proficient with the saw and establish a good cutting technique, longer depths of cut can be practiced where the saw moves off the guide as the depth of cut exceeds the height of the saw. The established saw kerf made using the guide at the top of the cut can be used to continue the cut beyond the support of the guide.

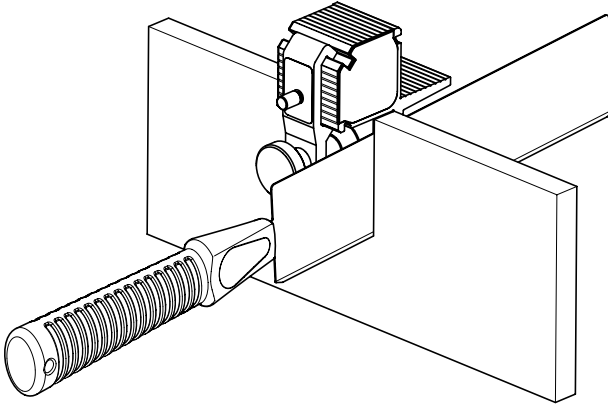


Figure 3: Cutting beyond the guide, the saw kerf should maintain a straight cut.

Cutting Finger Joints

Tools Required:

- Right-angle saw guide
- Backless saw
- Pencil (must be well-sharpened and have a hard lead)
- Chisels (should have a range of sizes and be very sharp. Bevel-edge chisels work best, particularly for waste removal)
- Mallet (carving or dead-blow mallet)
- Assorted clamps
- Sharp knife (striking/marketing knife is best)
- Straight edge
- Square
- Glue

Layout

1. Dress your workpieces to the desired thickness. Ensure that all sides are flat, square and parallel with square ends. To leave a trimming allowance, the parts should be slightly longer than is necessary (e.g., $\frac{1}{32}$ " to $\frac{1}{16}$ " longer if you are going to have finger joints at both ends).

2. Place the two workpieces to be joined outer face to outer face, as shown in **Figure 4**. Marking each piece and identifying the outer faces will help as your project progresses.

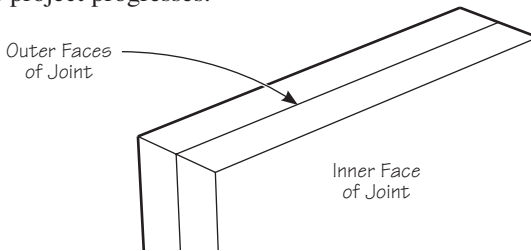


Figure 4: Place boards face to face, carefully aligned for layout. You might want to clamp them together to ensure they don't move.

3. Mark your finger spacing. The marks don't have to be perfectly square across the joint, since the significant point is where the mark crosses the outer edges of the board. The joints can be spaced evenly if necessary, or relatively randomly, whatever your final design calls for.

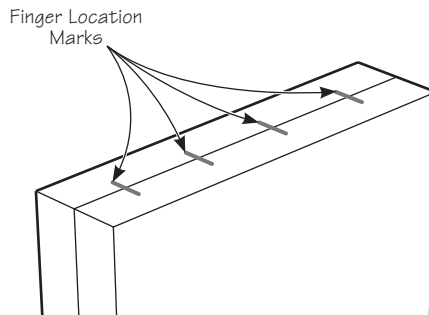


Figure 5: Mark locations of finger cuts. Mark across both boards at once with a single mark at each location.

4. Mark the waste areas on each board (see **Figure 6**).

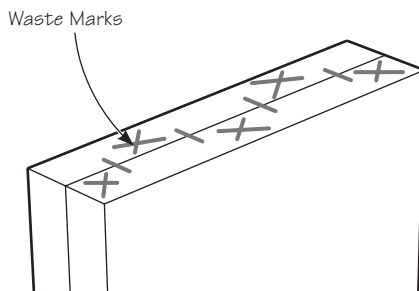


Figure 6: Mark waste areas.

5. Mark the depth of the fingers around all the faces of each board, as shown in **Figure 7**. Note that it is desirable to angle your pencil so the line is slightly higher than the horizontal board (about $1/64''$ to $1/32''$). This offset will ensure the fingers are a little long, leaving a trimming allowance. This extra depth adds a built-in clearance for the glue.

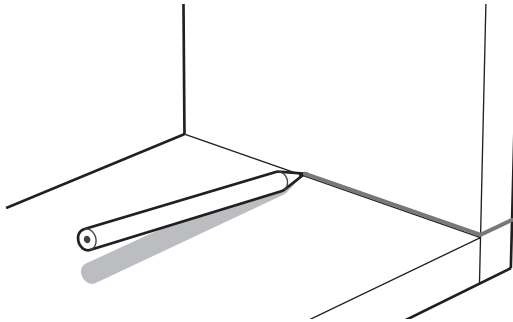


Figure 7: Marking the depth of the fingers.

6. Clamp the board (outer face towards you) in a bench vise.
7. Place the guide on the end of the board such that the **waste area is exposed**. The guide should be placed right on the mark (see **Figure 8**) to ensure that the saw is always cutting waste wood. Notice that the mark the guide needs to be placed on is the point where the mark crosses the **edge** of the board.

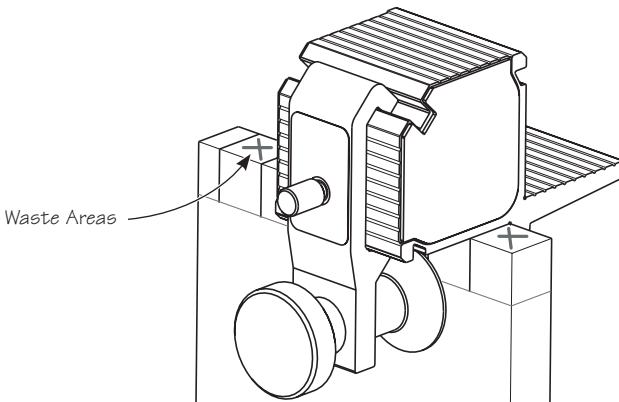


Figure 8: Saw guide set for cutting fingers.

9. Place the saw against the guide, ensuring that it is fully registered (the magnet should take care of this).
10. Cut down to the depth line, ensuring that the saw remains level as the cut nears completion.
11. Move the guide so that the face opposite to that just used is on the next mark, ensuring that the **waste area is exposed**. Repeat this procedure until all fingers are cut.

12. For the fingers at the ends of the boards, clamp the guide to an adjacent piece of wood of the same thickness (**Figure 9**) in order to keep the guide secure while sawing.

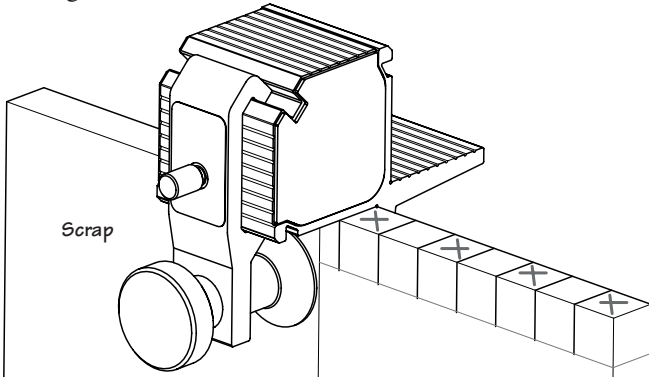


Figure 9: Using a scrap piece of wood adjacent to the workpiece to secure the guide for the last cuts.

Removing the Waste

13. Saw off the waste areas at the end of the boards. Place the saw guide on side of the board exactly on the depth line, with the waste area exposed, being careful not to cut into the fingers.

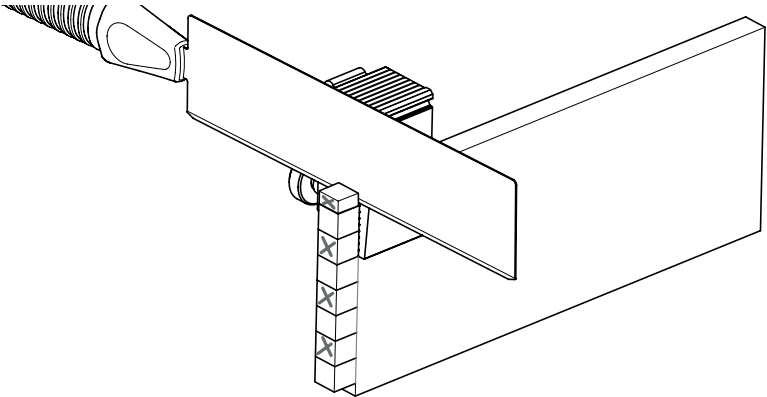


Figure 10: Removing waste material from ends of board.

14. Chisel out the waste areas. You may want to slightly undercut the joint to ensure that it is a tight fit.

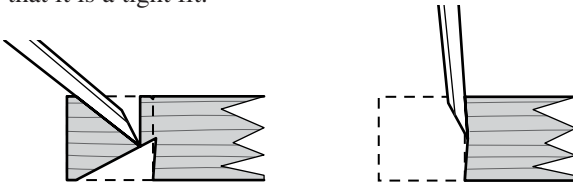


Figure 11: Chiselling out the waste.

Final Fitting and Gluing

15. Clean out the cuts completely so that the corners are as crisp as possible.
16. The joint should now fit together with very little effort. If required, trim the sides of the fingers with a sharp chisel. Notice that the fingers extend slightly beyond the width of the boards; this is intentional.
17. Apply glue to the mating surfaces of the joint and assemble.
18. Check that the joint is square and adjust as necessary.
19. Clamp as required.
20. Once the glue is dry, trim the ends of the fingers flush with the faces of the workpieces. A sharp low-angle plane and sandpaper are both effective methods.

Cutting Tenons

The saw guide can also be used to make some or all of the cuts required to make a tenon. Lay out your tenon on the workpiece and attach the saw guide, ensuring the guide is placed exactly on the layout mark, with the waste area exposed. Cut down to your layout mark.

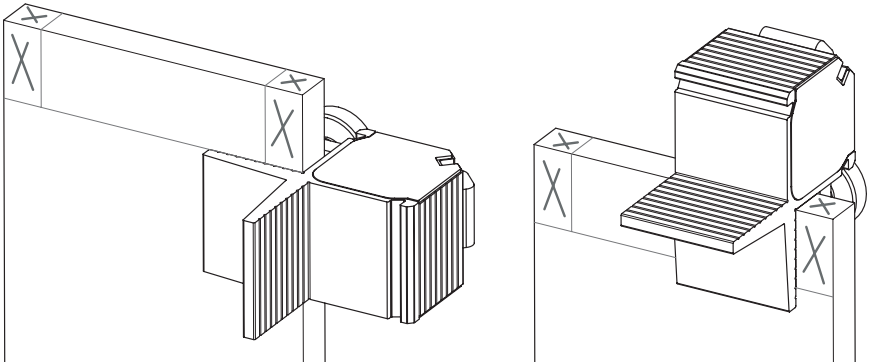


Figure 12: Cutting tenons.

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