

Dovetail Guide User's Manual

This guide gives detailed instructions of how to use the Dovetail Guide for help in cutting accurate and tight through dovetails for boxes, drawers and cases, etc. The tool can also be used to start half-blind dovetails and is excellent for making inlay dovetails.

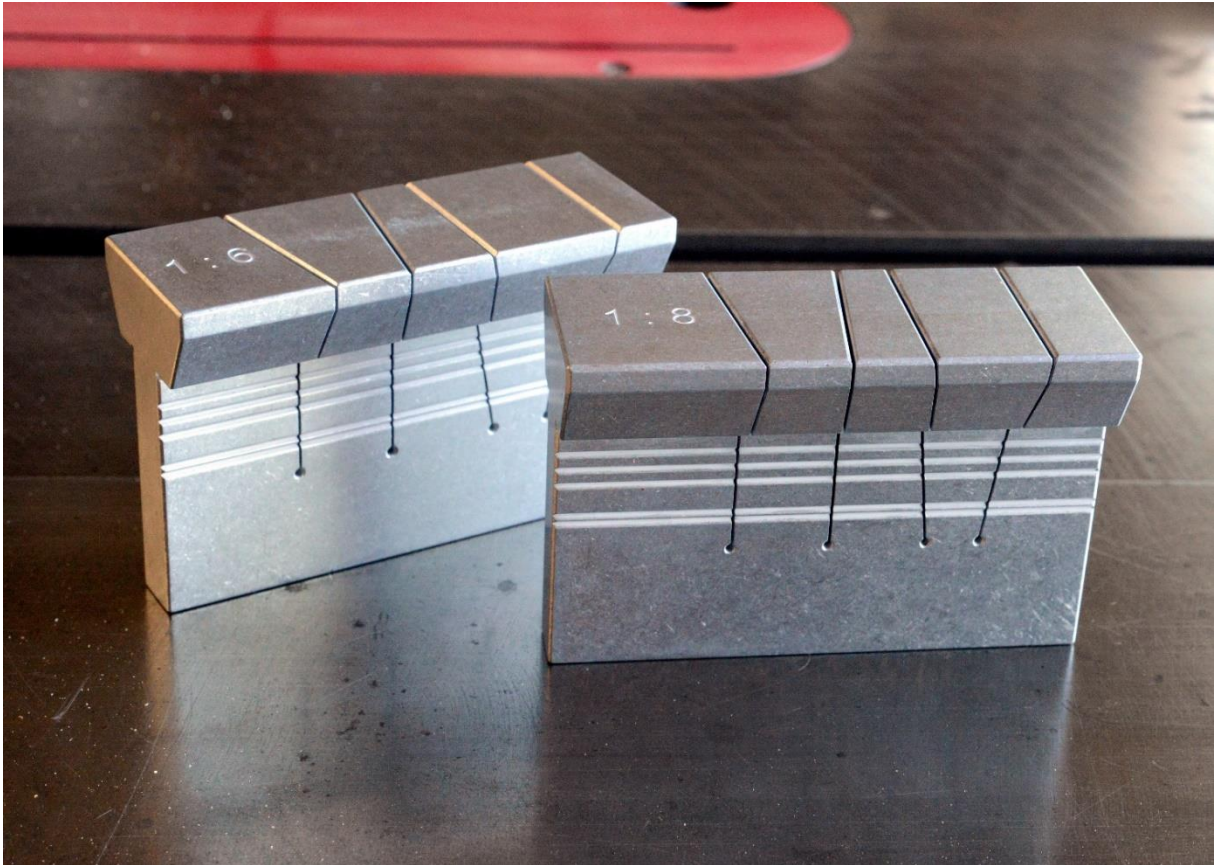
The tool requires a thin kerfed saw with a kerf thickness ranging between .018" - .023". Saws within that thickness range will "slip fit" into the "positive guide slots" and keep the cuts aligned along the defined lines. The tool's unique design captures the saw blade on both sides and virtually eliminates drift and drag.

Material: Aircraft grade aluminum, extruded and machined to precise tolerances.

Weight – 0.75lbs

Overall Dimensions: 4.0" x 2.7" x 1.5"

Currently available in 1:6 (~9.5°) and 1:8 (~7.1°) ratios.



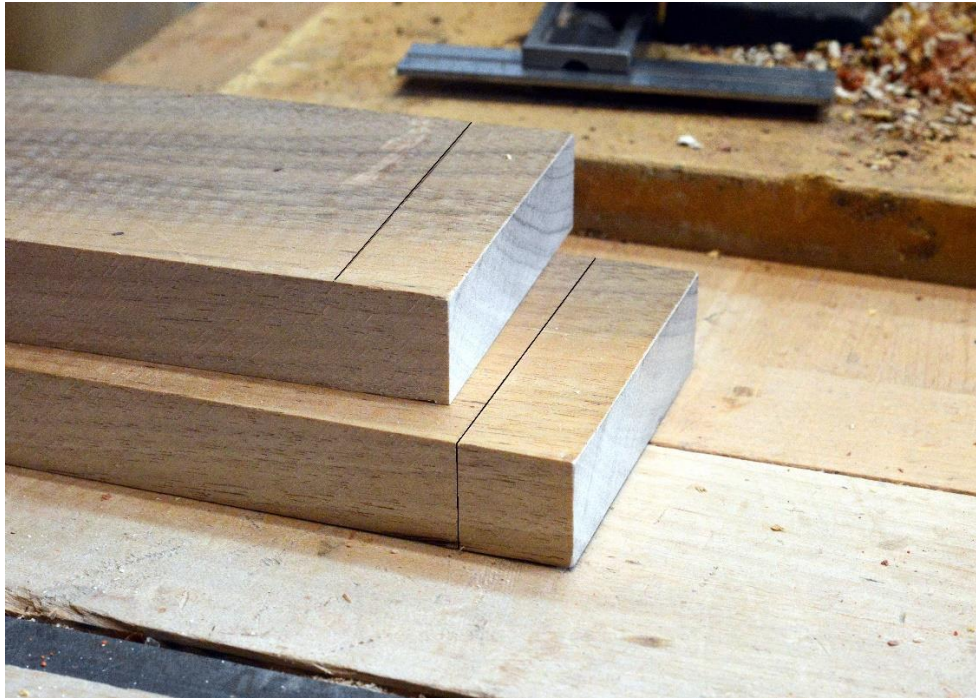
The attractive interlocking configuration of a well-done dovetail provides mechanical strength and an increased glue area for a very strong joint. Dovetails also display a level of expertise of the woodworker that many of us want to achieve. However, they are not without challenges.

Critical to a good fit are cuts that follow an intended path from beginning to end. The tail-cuts across the end of the board must be perpendicular to the face of the board and be at a constant angle from beginning to end down the face. The pins require a perpendicular cut down the face of the board at a matching angle across the end grain as is dictated by the previously cut tails (vice versa if you cut pins first). These are not easy tasks to perfect and require practice. This tool will help you achieve a tight-fitting dovetail joint. I have personally used the tool for any dovetails I've created in the past year. Those number several hundred for case work, drawers and boxes. The Dovetail Guide will take the mystery out of cutting accurate and tight-fitting dovetails.

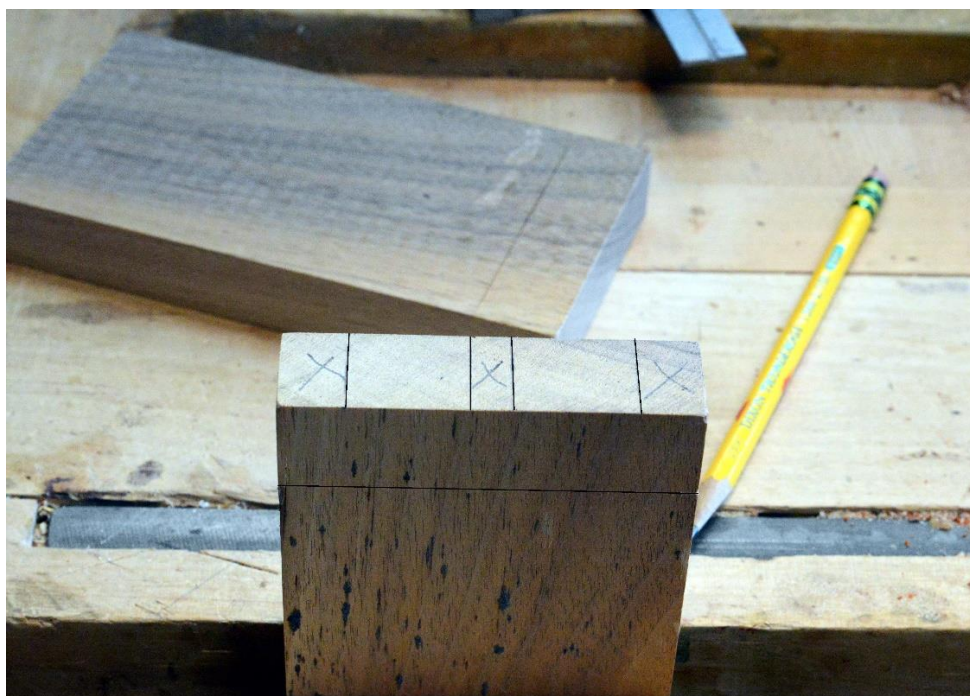
Steps to excellent dovetails

Marking and cutting:

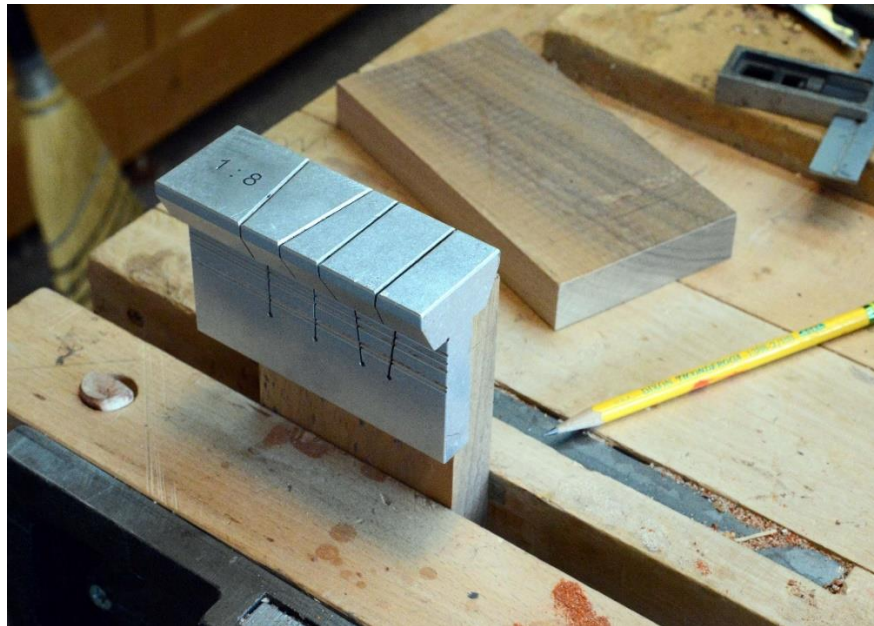
- Scribe the faces of all boards and the edges of the tail boards as is typical when hand cutting this joint. Note that an advantage of using this tool is the reduction in marking. After scribing the depths, all that is necessary is to mark the tails (pins first if that is your preference) across the end grain. You determine the spacing. There is no need to mark the angles or lines down the face of the board.



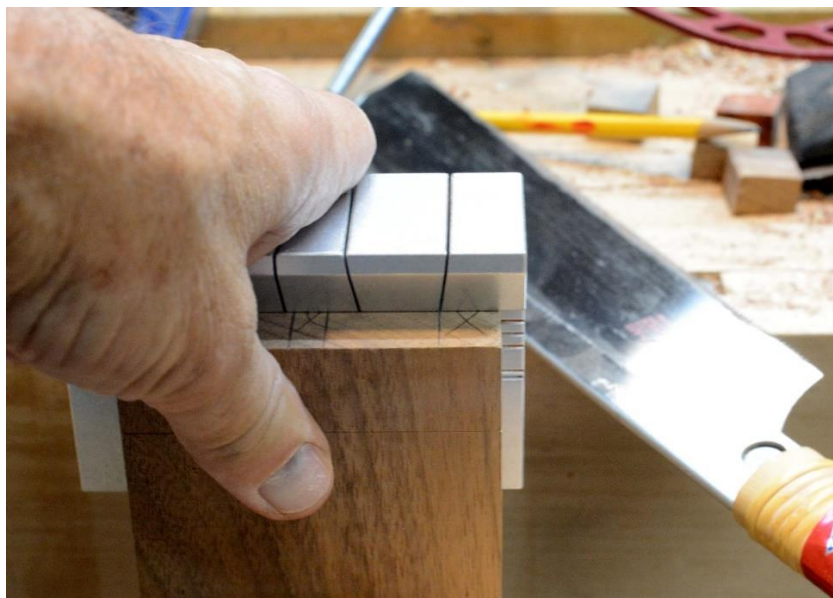
- Mark the waste areas.



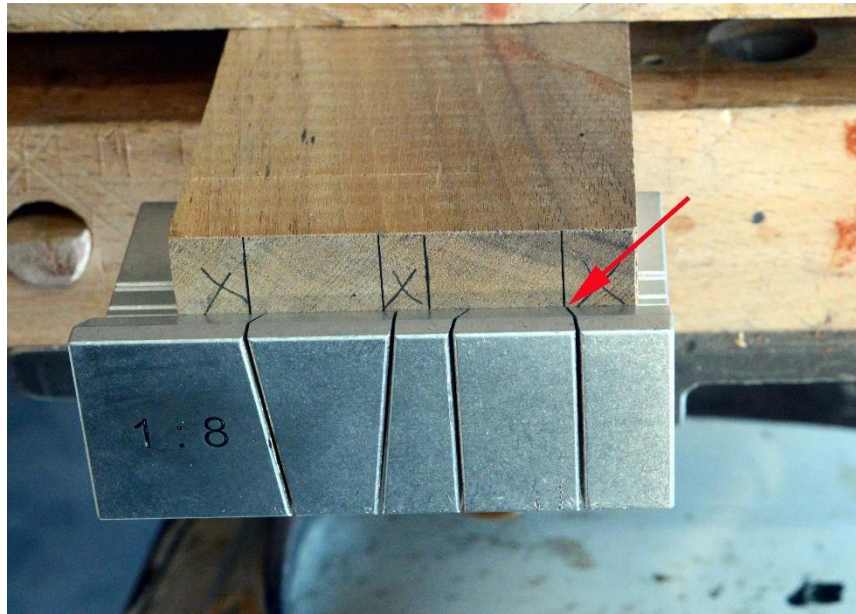
- The pic below shows how the tool is placed on the near side (saw entry side) of the clamped board when using Western style saws. When placed in this manner, you are pushing the fixture towards the workpiece. This keeps the fixture tight against the board for maximum accuracy. It also ensures that no burrs get between the fixture and the board as you move from cut to cut. I typically cut tails first (cutting pins first works just as well) so the illustrations in this guide are based on that method. I will be using the appropriate tail slots on the right side of the tool for this operation. If you are left handed, the reverse of this is true. I will address how to locate the fixture's "positive guide slots" to the marked lines later in this guide.



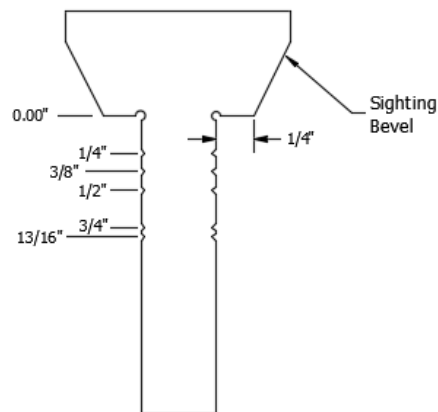
- The tool works equally well with Japanese pull saws. However, the fixture would be placed on the far side of the workpiece. When placed in this manner, you are pulling the fixture towards the workpiece. This keeps the fixture tight against the board for maximum accuracy. It also ensures that no burrs get between the fixture and the board as you move from cut to cut.
 - Note that the tool can be placed on either side of the workpiece whether using Western or Japanese style saws and still cut perfect dovetails. The above instructions are the ideal scenario.



- The key to appropriately fitting dovetails is precise sawing on the waste side of the lines. You will find that you can change the fit of the joint by varying the distance of the "positive guide slots" to your lines on the board ends. Cuts closer to the line (but still in the waste area) will make a less tight joint. Cuts further into the waste area, produce an ever tighter joint. Experiment with this to find the "sweet spot" for your applications and wood types. The arrow in the photo below shows how the positive guide slot aligns to the line on the end grain for a tight fit.



- The tool has v-grooves machined into both faces to show depths of cut. The grooves are located at $1/4"$, $3/8"$, $1/2"$, $3/4"$ and $13/16"$ from under the top of the fixture where it rests on the end grain. This is dimensioned as $0.00"$ in the pic below. These give a rough estimate of where to end your cut.



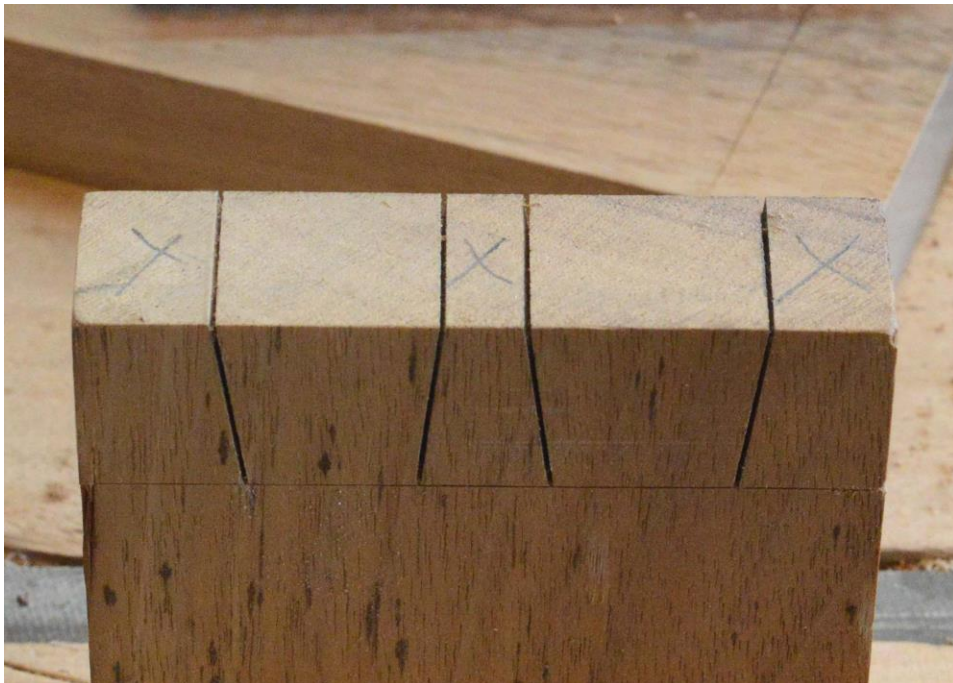
Note the beveled edges along the top face, labeled Sighting Bevel in the pic above. This feature allows the user to accommodate thinner materials by sighting down the bevel to the intended line. The fixture works best with materials ranging from $1/4"$ thickness to $1.5"$ or more. It is possible to cut thicker materials, but the design is for the range specified.

- One can also make depth cuts exactly to the intended scribe line by removing the tool prior to reaching your end point and using the existing kerf in the board to finish the cut.

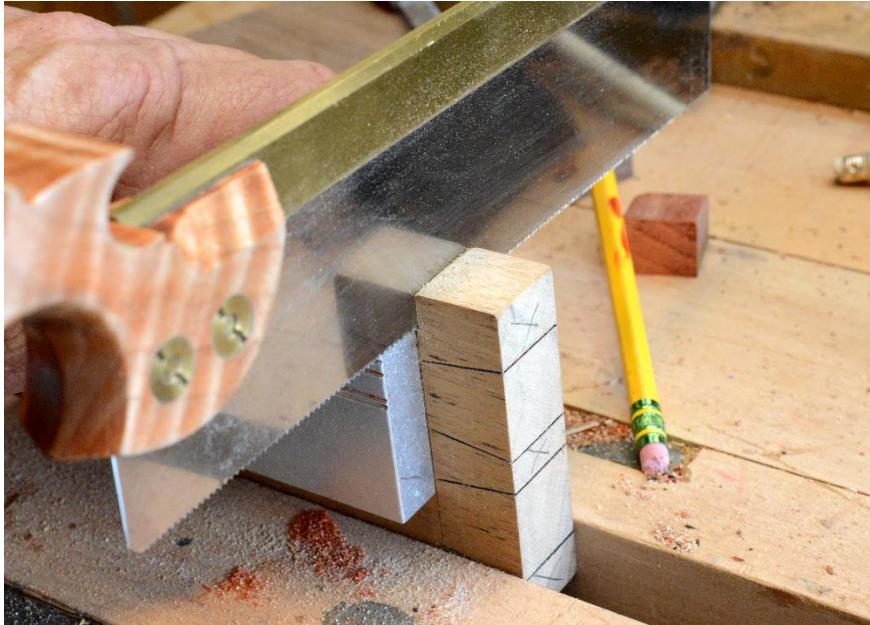
Fixture removed for cutting precisely to the line.



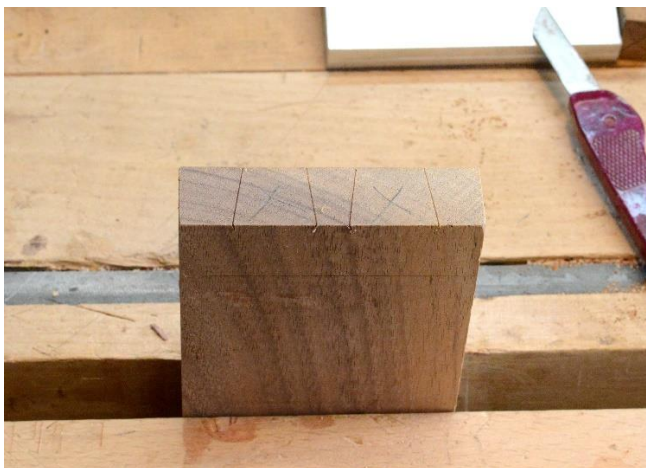
Finished tail cuts:



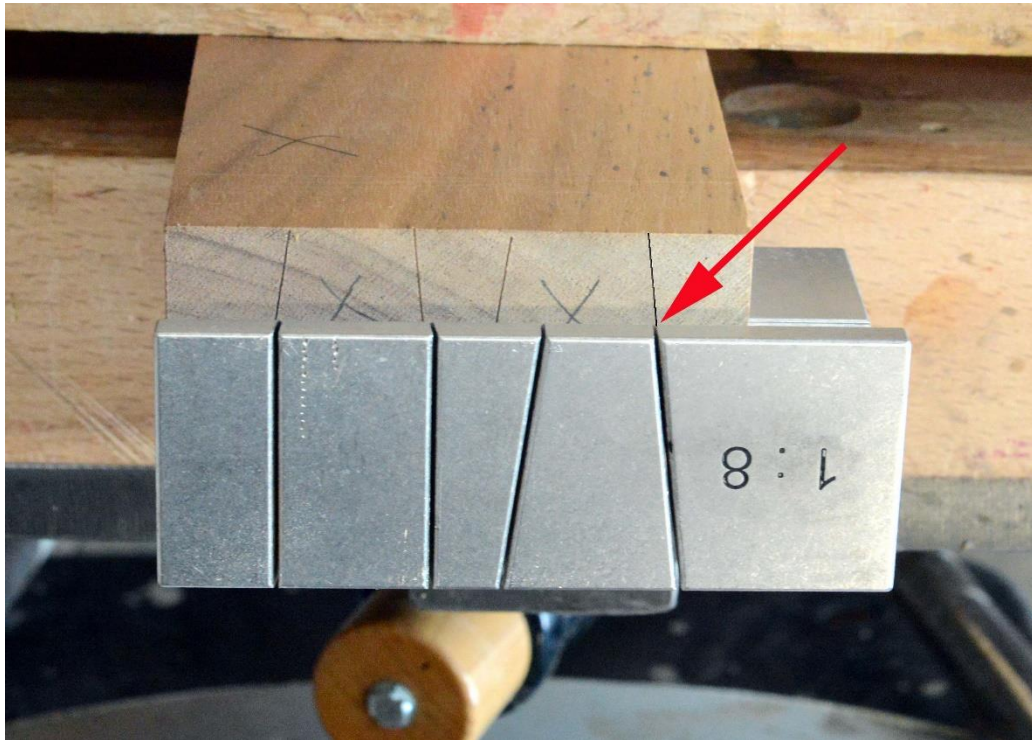
- Because the tool is parted at the factory at 90° during the extrusion process it can be used to guide the cuts of the half-tails at the ends of the boards. This was not designed into the tool, but might prove useful to some.



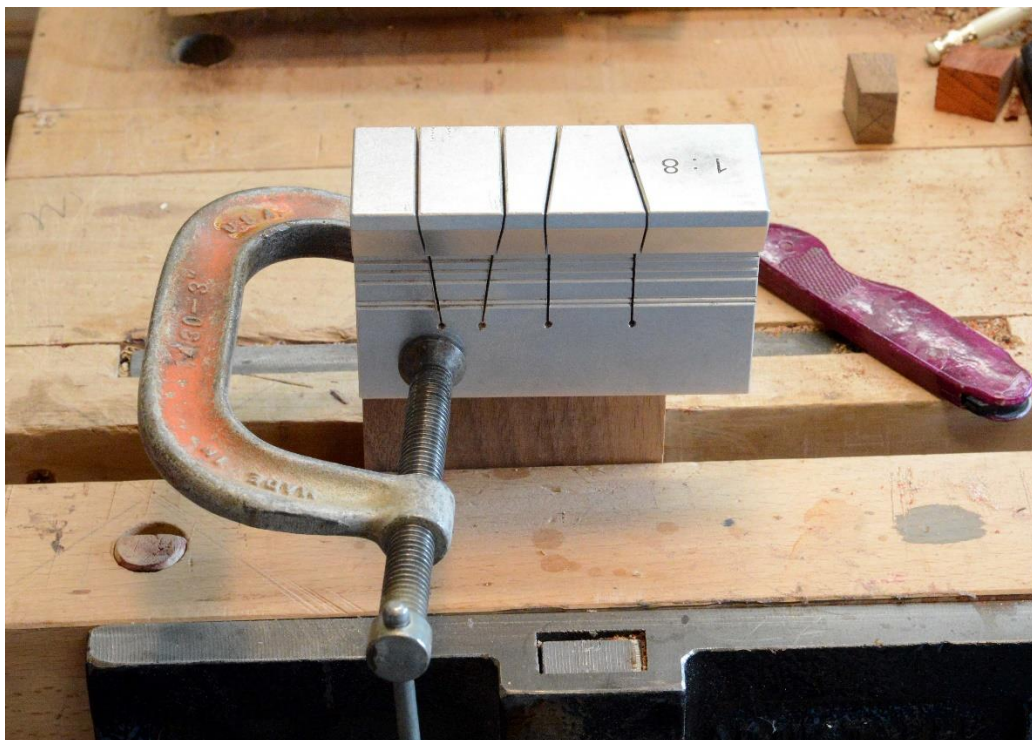
- Marking the pins from the tails is illustrated below. There are a number of ways to accomplish this but I use a knife for the best fit I can achieve.



- The optimal location of the positive guide slot to the knife-mark for a tight fit is shown below. This is appropriate for pins or tails. I "split" the knife mark or move the tool slightly away from the line, towards the waste area, for a good interference fit. In case work, it may be necessary to ease up on the tightness as several dovetails (12" – 24") make fitting tight joints very difficult. Again, experiment to find the sweet spot depending on the fit you want and the wood you are using.

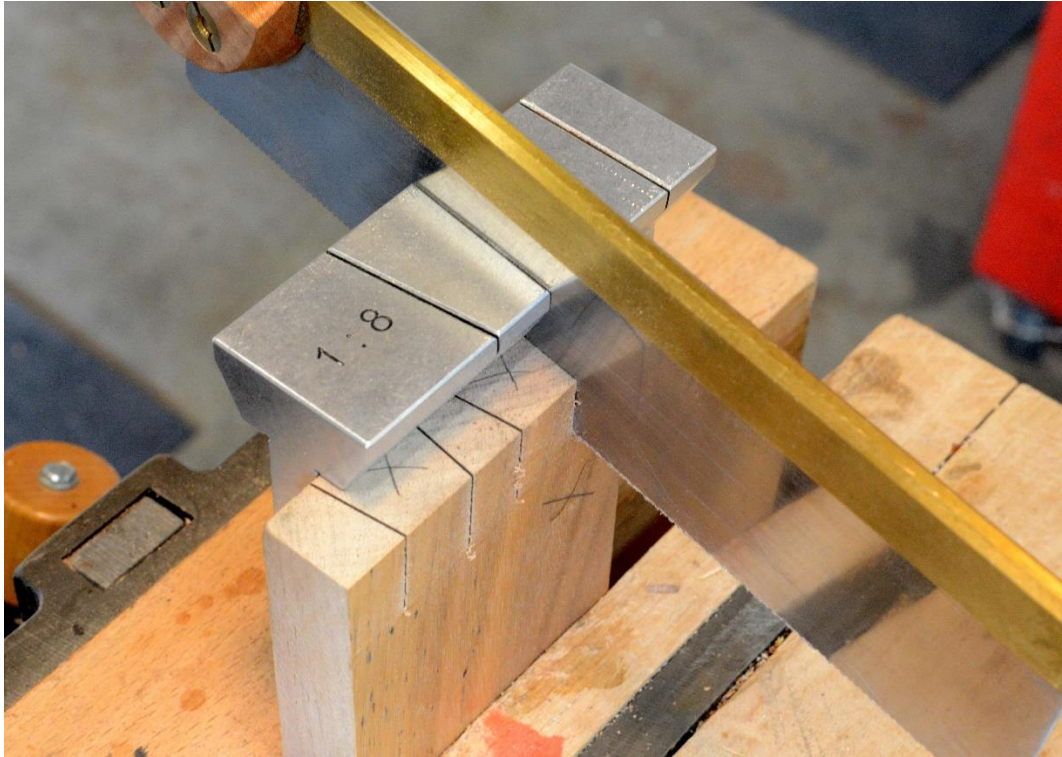


- If you feel more comfortable using a clamp, the tool can handle it.



- There is no front or back side of the tool. The tail and pin slots are symmetrical from one face to face. I turn the tool or the board if necessary when I feel there is a more stable way of securely holding the

fixture during cuts. I've found that it is typical to make all the cuts without having to turn either the tool or the workpiece.



- Finished pins:



- Finished and assembled dovetail joint. (not glued or sanded)

