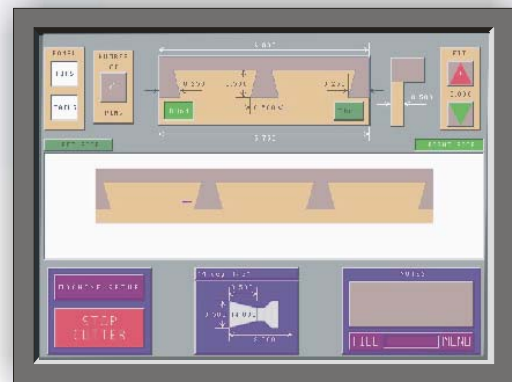


maxym

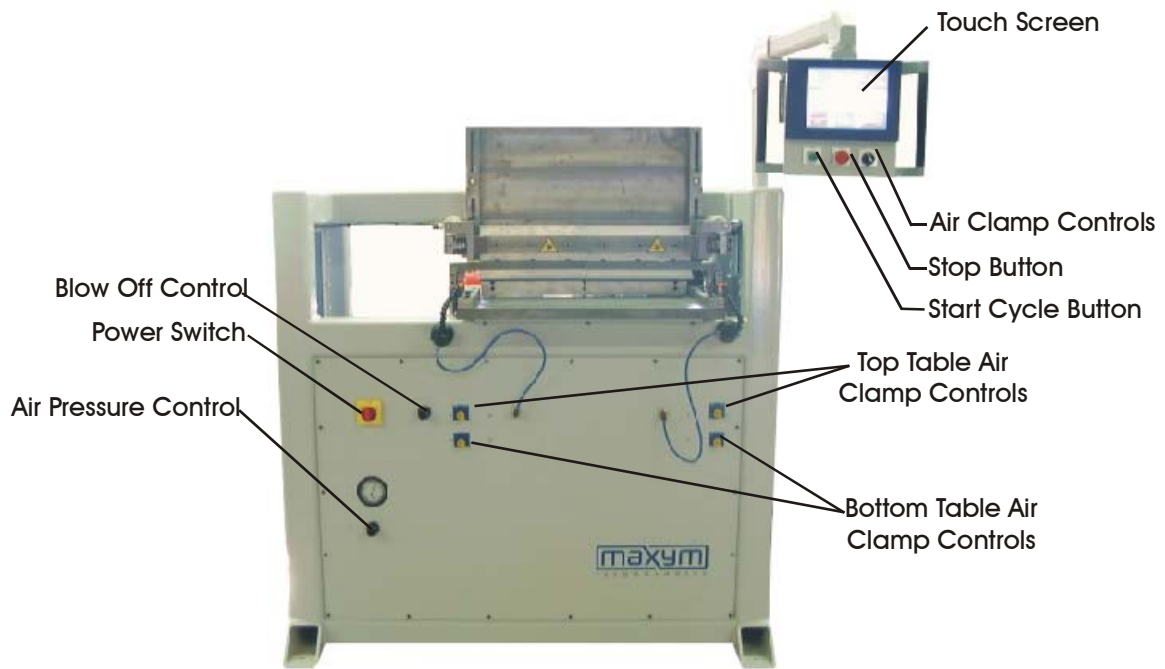
TECHNOLOGIES

MAXYM Dovetailer Operating Manual

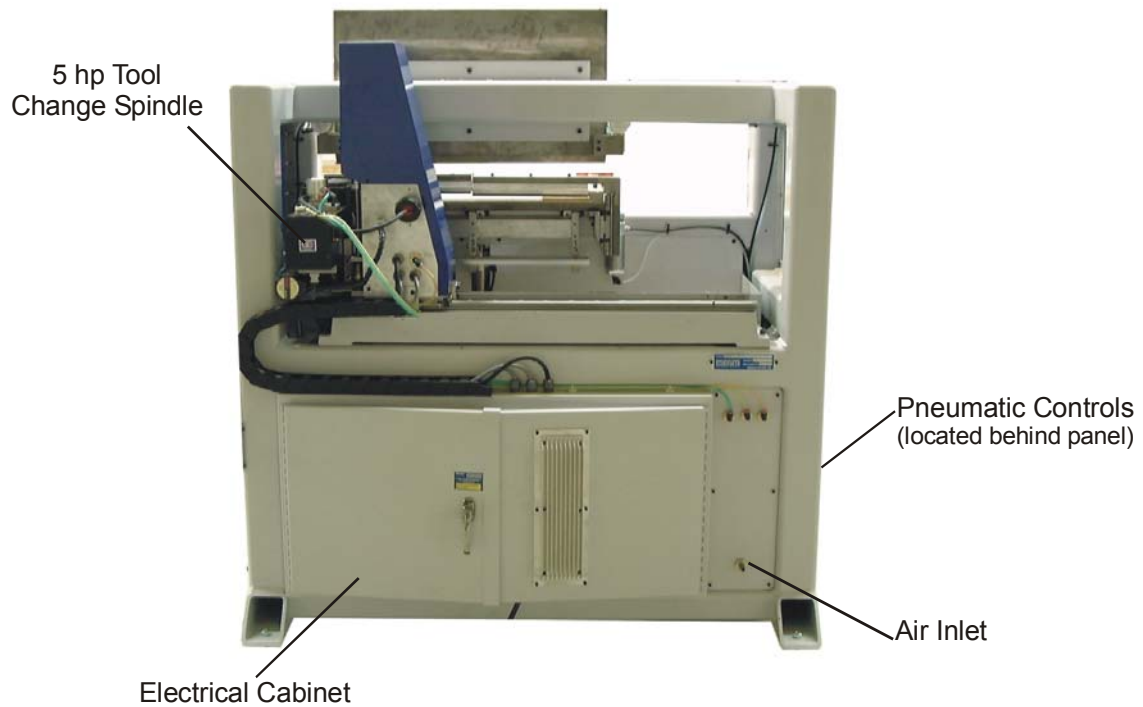


Visual Tour

Front View



Rear View

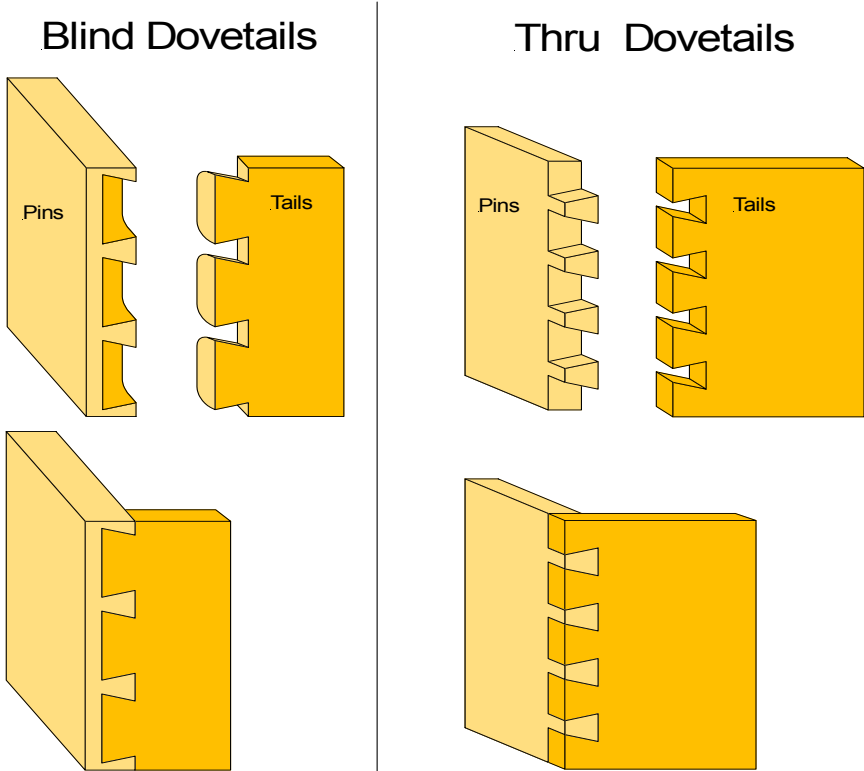


Cutter, Backstop Fence and Tool Release Button



Introduction

The Maxym Dovetailer can create both blind and thru dovetails. Both the blind and thru dovetails are comprised of two parts, the pins and the tails. The pin is the male portion and the tail is the female. (see below) In the blind dovetail, the pins do not cut all the way through the stock, leaving the joint visible from only one side. Hence the term Blind Dovetail or sometime referred to as a Half Blind Dovetail. With the Maxym Dovetailer, the operator inputs the position and size of the pins and the dovetailer can cut both the pins and the tails. In the case of the blind joint, both halves are cut with the same cutter and can be placed in the machine for cutting in one cycle.



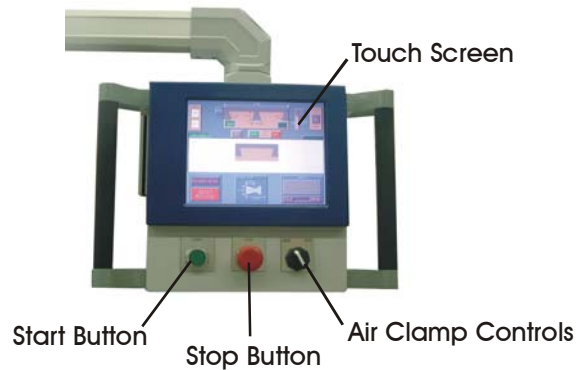
Operating the Maxym Dovetailer

Starting the Dovetailer

Once power is applied, the dovetailer spindle moves to the start position on the right-hand side of the machine with the cutter below the horizontal table and the fence will move up to the ready position.

CAUTION! The air clamps may extend briefly when power is applied.

Using Your Touch Screen

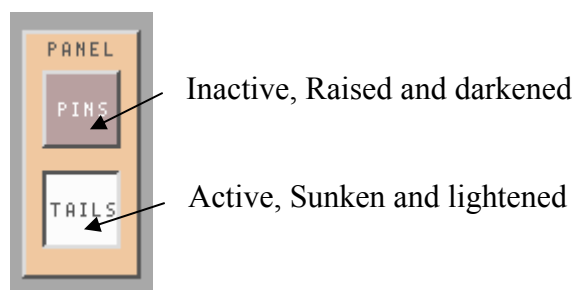


The touch screen is combined with a computer screen to create artificial buttons. This allows the computer to create a variety of functions in one location. To operate it, simply touch the item you would like to select or change. The touch screen is made of a flexible membrane over a glass. When you touch the screen, you bend the membrane to make contact with the glass. The computer can then read the location of your touch. It is best to use your finger to touch the screen. **You should never use a sharp or hard object!** This will puncher or dimple the flexible membrane.

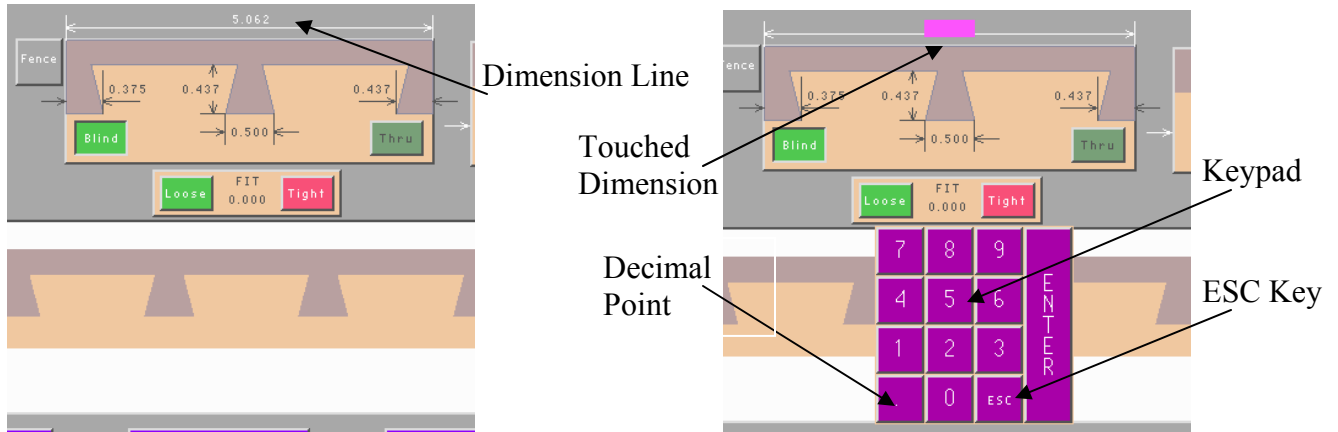
There are three types of entries you can make on the touch screen;

Buttons
Numbers
Text

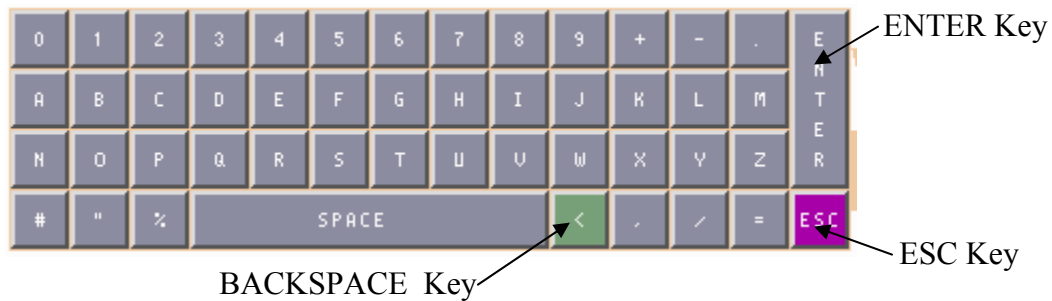
Buttons can take a verity of shapes and might not look like a raised buttons. The buttons that look raised have an active and inactive shape.



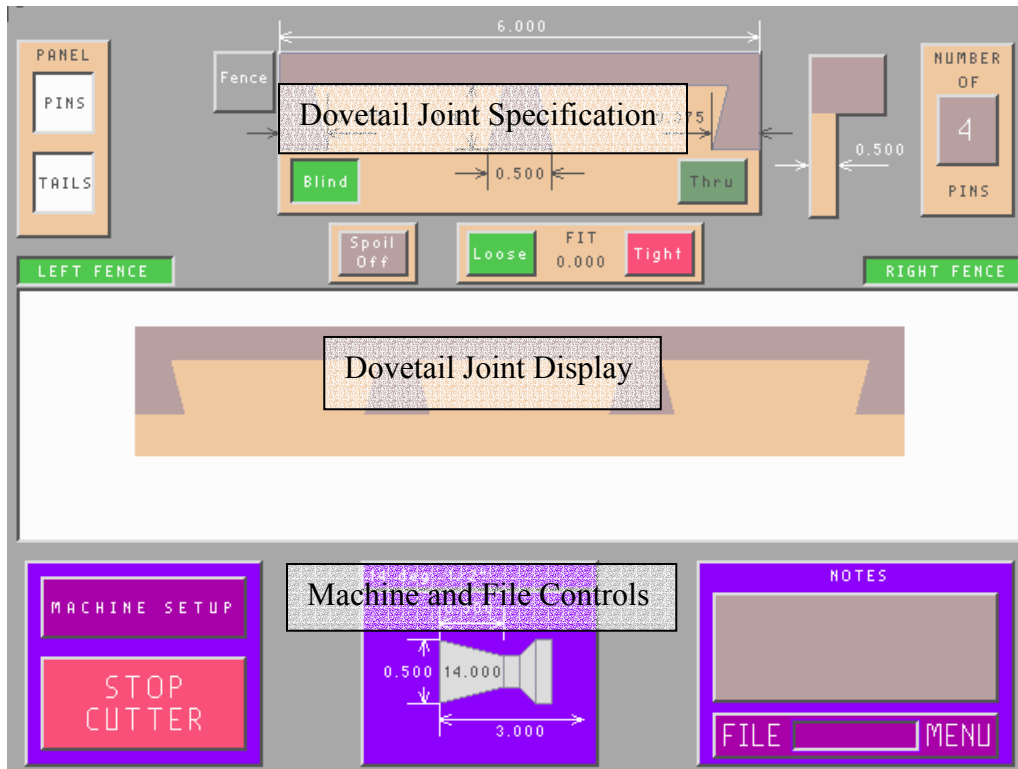
Numbers that are drawn with dimension line can be changed by touching the number. When you touch the number a keypad will appear. Type in your new dimension by touching the numbers on the keypad. If you make a mistake the '<' key is a Backspace to delete the last entry. The numbers you type will appear in a box on the number you touched. Once you have finished typing touch '**ENTER**'. You can cancel the touch pad completely by touching '**ESC**'.



When **text** entry is required an alphanumeric keypad will appear. Type the text by touching the letters and symbols on the keypad. Like the numeric keypad the '<' is used to backspace any errors. Touch '**ENTER**' to finish and '**ESC**' to cancel except for **NOTES**. When entering notes the '**ENTER**' key will start a new line and the '**ESC**' will finish.



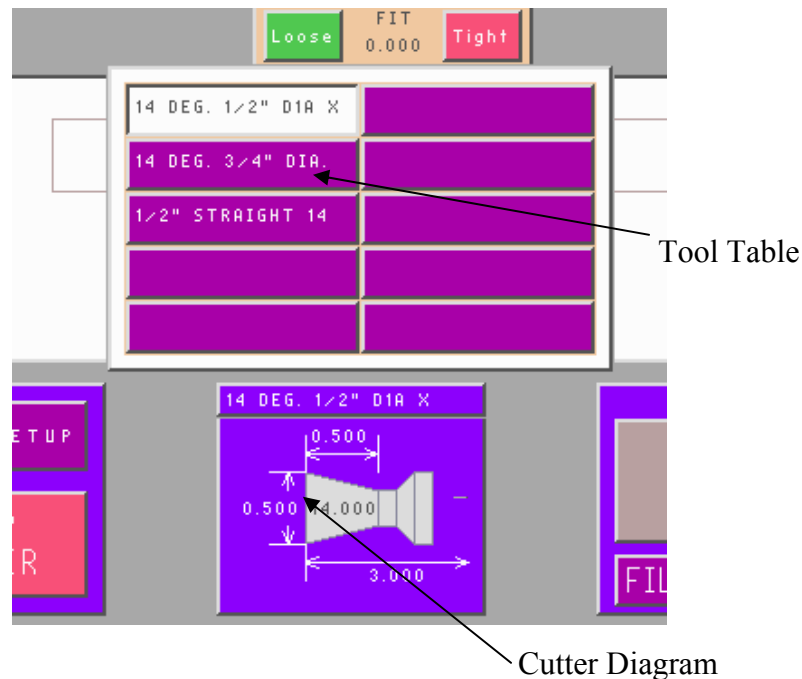
The dovetail screen is broken in to three sections. The **top third** of the screen is where you enter your dovetail joint specifications. The **center** of the screen displays what your dovetail joint will look like. The **lower third** are control functions such as machine settings and file access for saving and loading dovetail joint setups. The center dovetail display will change every time you change a dimension on the dovetail specifications. The dovetail specification section will not change shape.



Preparing your dovetail Tools

Before entering dimension on the touch screen, you will need to collect measurements from your dovetailed parts. Before you setup your dovetail dimensions, your Maxym dovetailer will need to know the type of cutters you will be using. You can enter up to ten different cutters in the tool table.

Once the tool table is complete, you should select the tool you will be using before you setup your dovetail joint. By doing so, this will insure that your proper limitation on your pin sizing and also, your joint will be displayed properly. To select a tool touch anywhere on the tool diagram at the bottom of the touch screen. Then select a tool from the tool table. If the tool you need is not on the table, see the **Dovetailer Installation and Maintenance Manual** for details on entering a new tool.

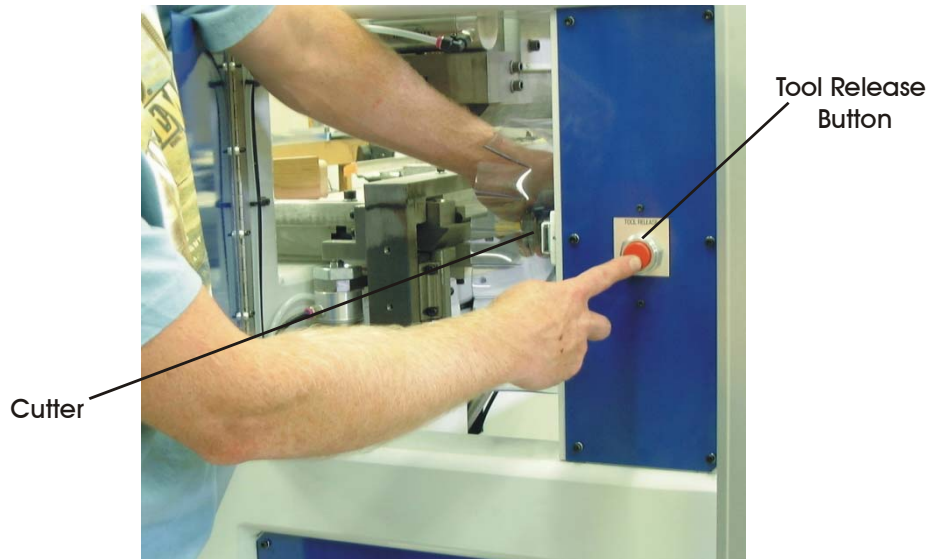


Once you have selected a tool, you will be warned to insert the tool into the Dovetailer. Be sure to change the cutter because operating the machine with the wrong cutter selection will damage the machine and/or cutter!



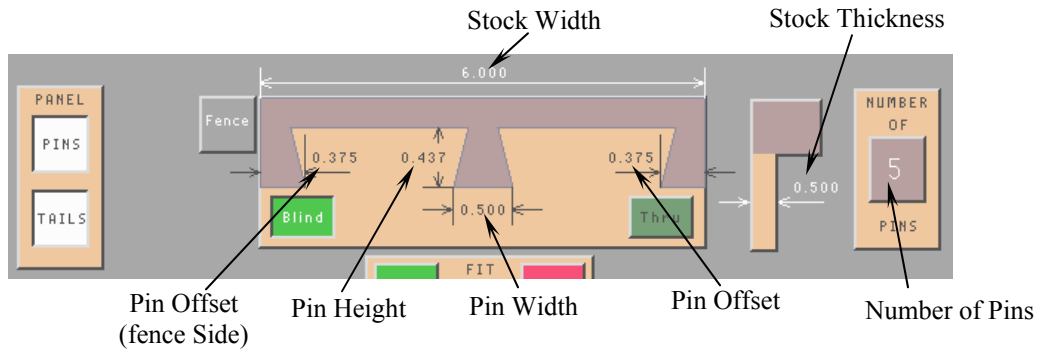
Changing the Cutter

To change the cutter you hold on to the tool and then press on the Tool Release Button as shown below.



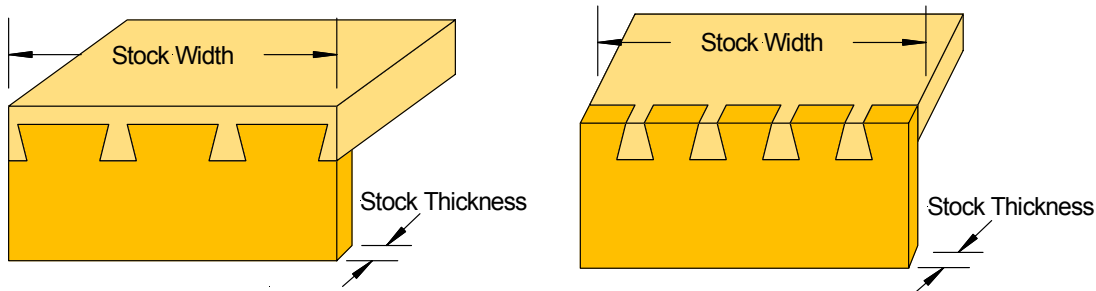
Setting Your Dovetail Dimensions

Once you setup your tool table you can now describe your dovetail joint. This is done by changing the dimensions on the dovetail specification screen. On the Maxym Dovetailer you will be entering dimensions for the pins. The tails always match the pins. Here are the dimensions you will need to describe your joint.



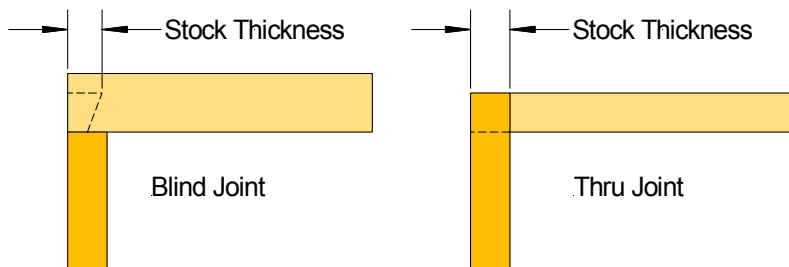
Stock Width

The stock width is for the pinned panel. The Pin Offset on the fence side will be accurate but the Pin Offset on the opposite side will depend on the accuracy of the stock width.



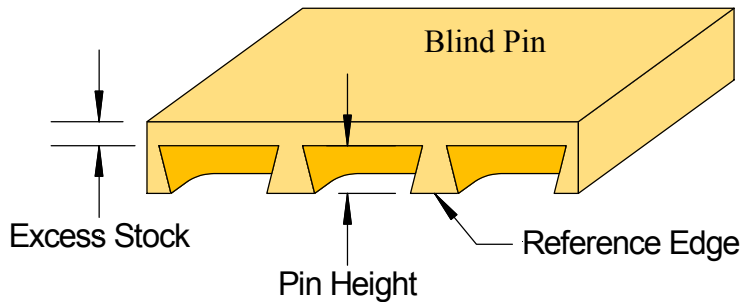
Stock Thickness

The stock thickness determines the depth of the pin and tail on a blind joint, so the stock thickness does not have to be the actual thickness. With a thru joint, the stock thickness is the length of the pin and if the pin is to match the stock they must be the same.

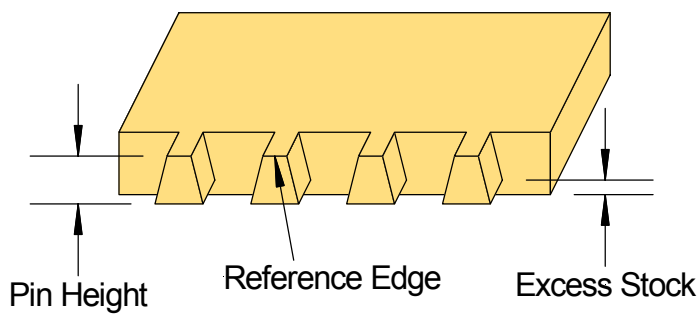


Pin Height

The pin height is measured from opposite sides for the blind and thru pins. With the blind pin the reference surface is the inside of the pinned panel and the pin height represents how far the pin will protrude in the panel's thickness. The excess thickness makes up the blind front.



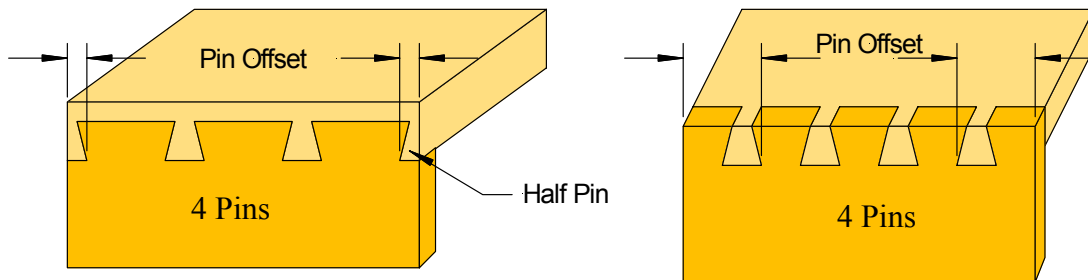
With thru pins, the reference edge is the back or outside of the panel. This insures that the back or outside of the pin is flush. The excess stock is inside behind the tail and is not visible.



The maximum pin height will be restricted to the length of the tool currently selected.

Number of Pins and Pin Offset

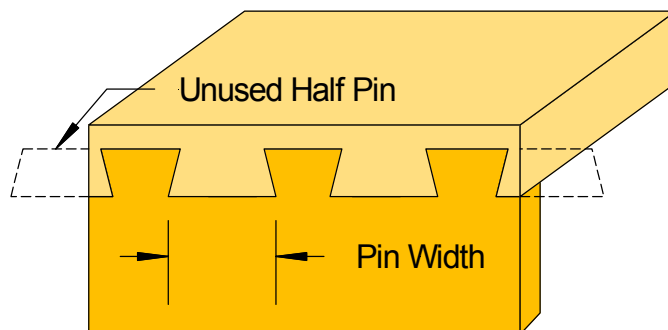
The Maxym Dovetailer will automatically enter the number of pins when you enter the stock width, you can then use the Number of Pins Button to change it if needed. You must have a minimum of two pins. These pins are measured from the edge of the stock to the inside edge of the pins. With blind dovetails traditionally the first pins on the edge of the stock are partial or 'half' pins. The half pins are counted as full pins when setting the Number of Pins.



The remaining distance between the inside of the first two pins is divided evenly for any remaining pins

Pin Width

The pin width can be greater than the diameter of the cutter. The Maxym dovetailer will automatically make extra passes to widen the tail opening. If the first two pins are 'half' pins, the width of the 'half' pin will not exceed the 'Pin Offset' for it's respective side. The pin cannot be smaller than the tool diameter.





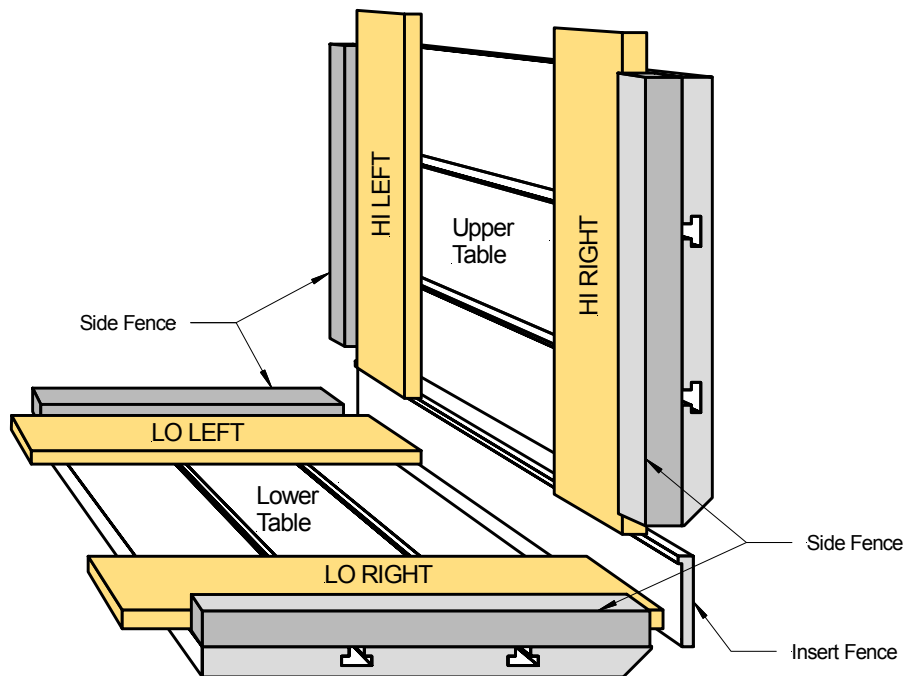
Fit & Spoil on/off

A dovetail tool will cut a different size hole in different stock, such as hard wood verses softwood or variations in moister content. The result is that with the same machine settings you can get a different fit or tightness of the joint. The Fit allows you to vary the size of the pin without changing the resulting tail. The amount of fit is relative to the Pin Width. This will have the affect of tightening or loosening the joint. If you save the setting for a particular joint, the fit is saved with it. That way, you can have different files for different types of stock.

The Spoil on/off button is used to tell the dovetailer if you have a spoil board under your part on the lower table. The spoil board setting is on the Machine Setup menu. See page 21 for an explanation of the spoil board setting.

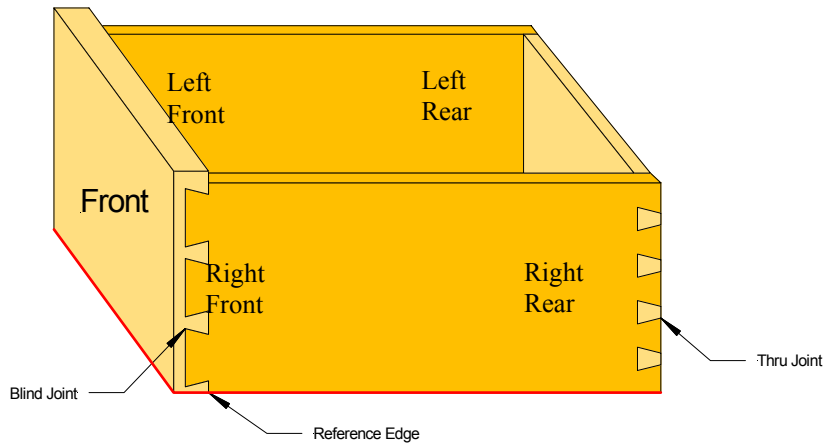
Preparing To Cut Your Stock

The Maxym Dovetailer has four cutting locations and each location has three reference edges. These reference edges are the table, the side fence and the insert fence.



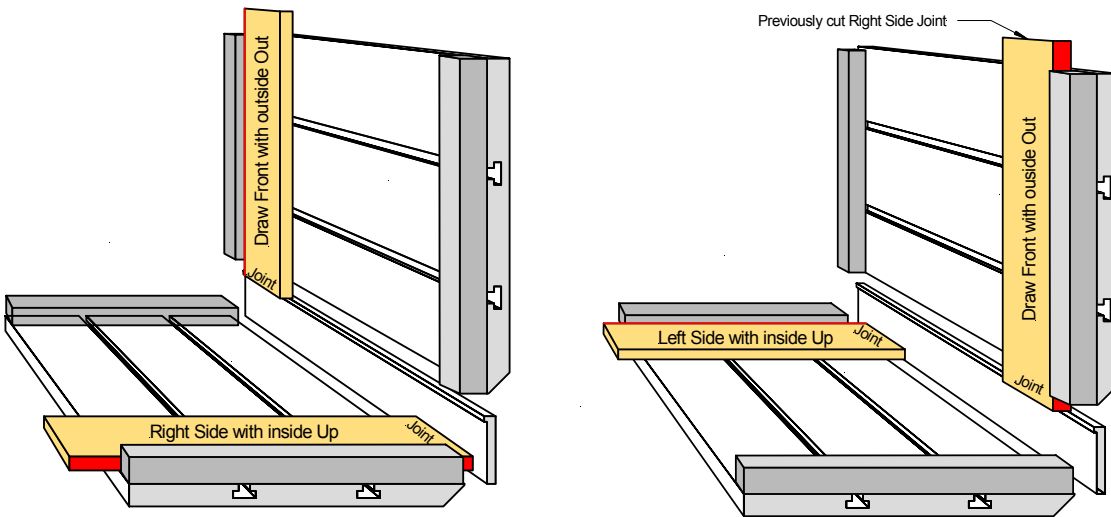
As mentioned earlier in Setting Your Dovetail Dimension, your joint also has reference edges. To ensure that the exposed parts of the joint are a good fit, the reference edges should be placed against a fence or table.

For example, we will cut a draw box with a blind joint on the front and thru joint on the rear. We will assume that the bottom of the box wants to have smooth fit on all the joints. We will call the bottom our reference edge. For this example, three of the sides will be cut using a dovetail tool and the rear will use a straight cutter for the thru pins.

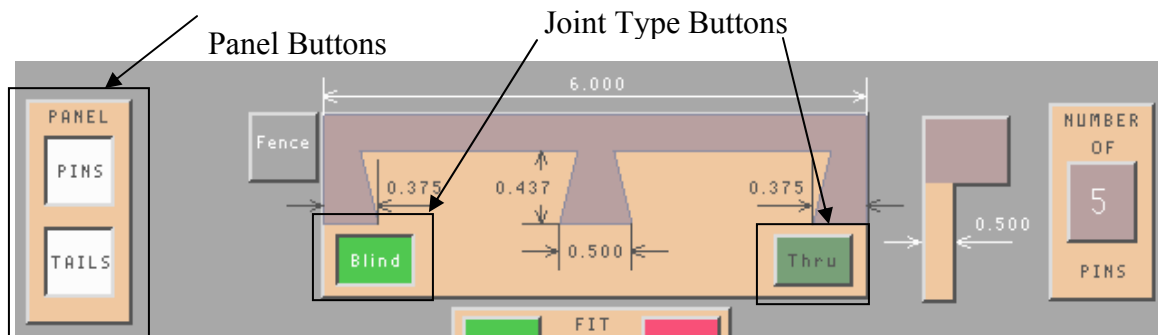


Cutting the Blind Joint

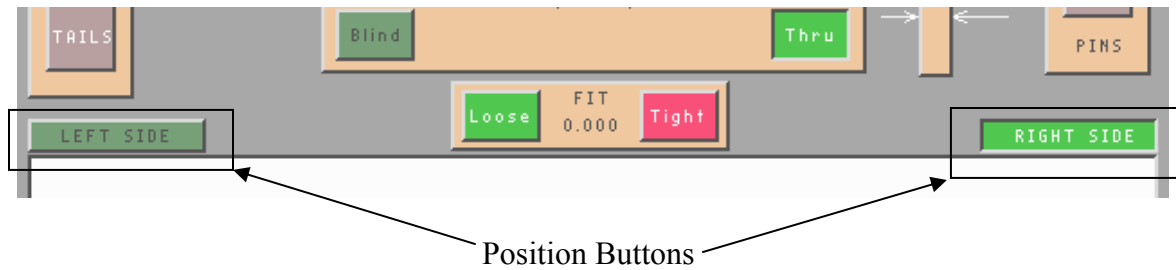
First we will cut the front or blind joint first. The Upper Table is only used for blind pins, which is our front panel. The Lower Table is used for all the tails and the thru pins. Since the front and sides are cut with the same tool and the blind pins (our front) uses the upper table, we can cut both pieces at the same time. The sides (blind tails) will be placed on the lower table with the outside facing down and the front (blind pins) will be placed on the upper table with the inside facing the table.



To tell the Maxym Dovetailer to cut a blind joint, touch the '**Blind**' joint type button. You also use the Panel buttons '**Pins**', '**Tails**' to select which half of the joint you will be cutting. With a blind joint both the '**Pins**' and '**Tail**' buttons can be on at the same time.



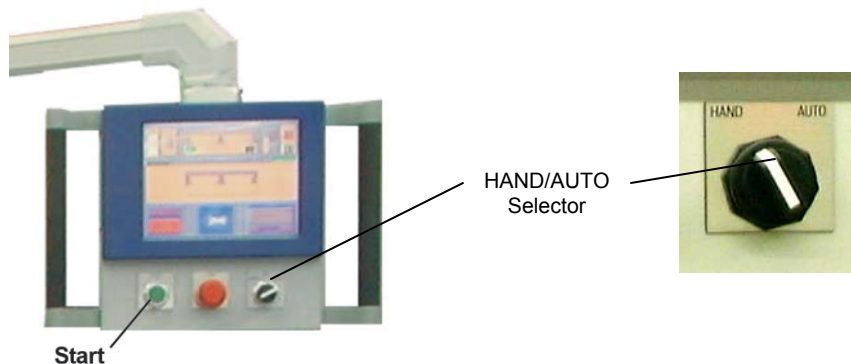
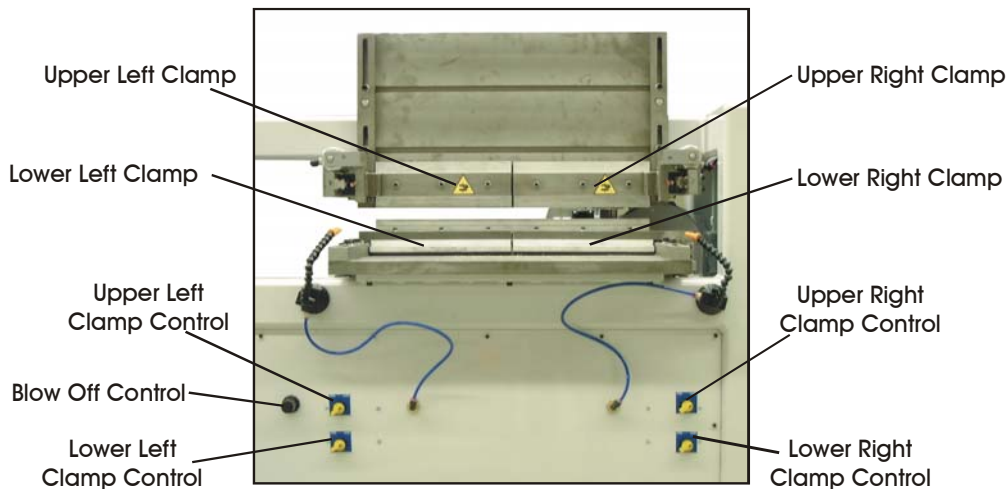
To tell the Maxym Dovetailer which position the part will be placed in we will use the 'Left Side', 'Right Side' buttons. These buttons are for the lower table only. The upper table is only used for blind pins and it's position is always opposite of the lower table.



Always check the to the tool description at the bottom of the touch screen with the actual tool in the dovetailer before proceeding!

Clamping the Stock

Once the stock is in it proper location, close the appropriate clamps. The upper clamps can only be operated manually and are not affected by the **HAND/AUTO** selector.



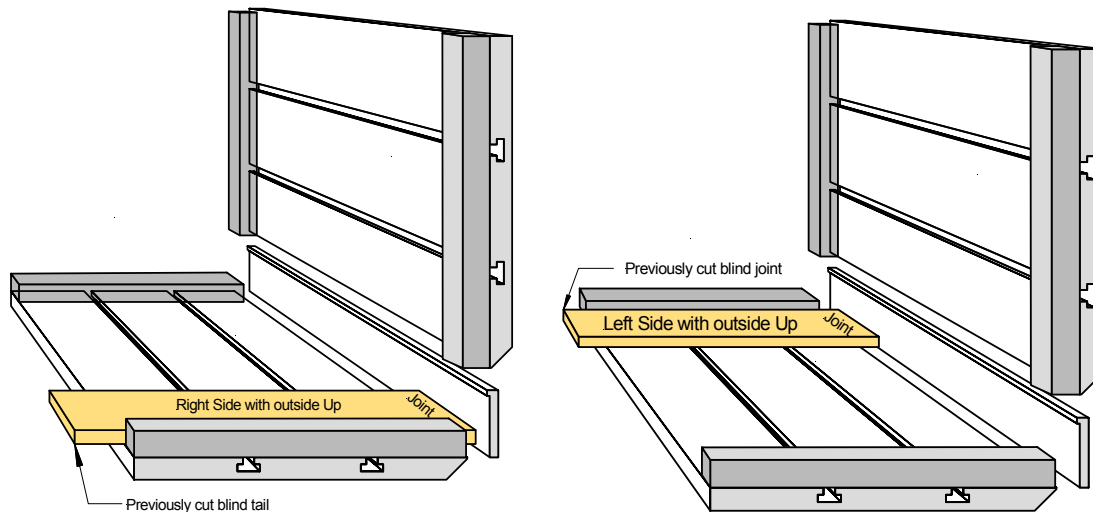
The lower clamps can be set to operate when the **START** button is pushed by placing the **HAND/AUTO** selector in the **AUTO** position and placing the Lower Clamp Controls in the **CLOSE** position.

Once everything is in place and clamped, just push the green **START** button below the touch screen.

Cutting the Thru Joint

Now we will cut the thru joints at the back of the draw. First you will touch the 'Thru' button then selecting the proper cutter from the tool table. Next, set the proper dimensions for your thru joint. Since, the pins for the thru joint will require a tool change, we will cut the tails first. This is done by, touching '**TAILS**' at the panel selection buttons. These parts will be cut on the bottom table. With a thru tail the cutter moves completely thru the stock so either side can be placed down against the table. The cutter will move thru from top to bottom so the upper surface will have the cleanest edge if you are not using a spoil board. If you want the best side out then the right side will be cut on the right fence.

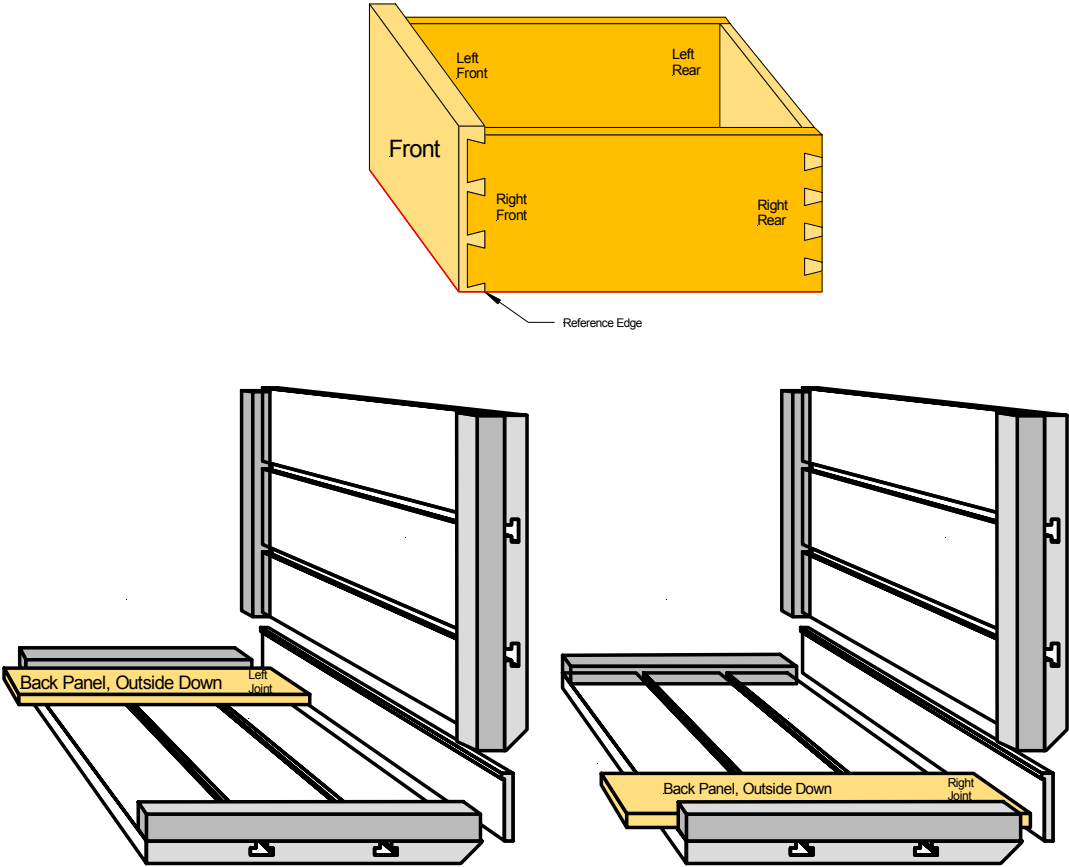
Place the stock at the proper location and select the side being used with the position buttons. Clamp the stock and **START** the cycle. **Again, make sure the proper tool in the dovetailer!**



To cut pins touch the '**Pins**' buttons on the Panel Selection buttons. Next, you will need to select a straight cutter from the tool table (See **Preparing your Dovetailer Tools**).

The Maxym dovetailer stores a separate cutter for the pins and tails. So make sure you have the proper half of the joint selected before choosing a tool. This will also insure the any joint you save will have a tool for both parts. (See **Save Current Settings**)

The thru pin is cut with the narrow part of the pin (the outside of the panel) on the table. This insures that the pin is flush to the end of the side panel. If the reference edge is on the bottom of the draw this places the back right corner against the right fence.

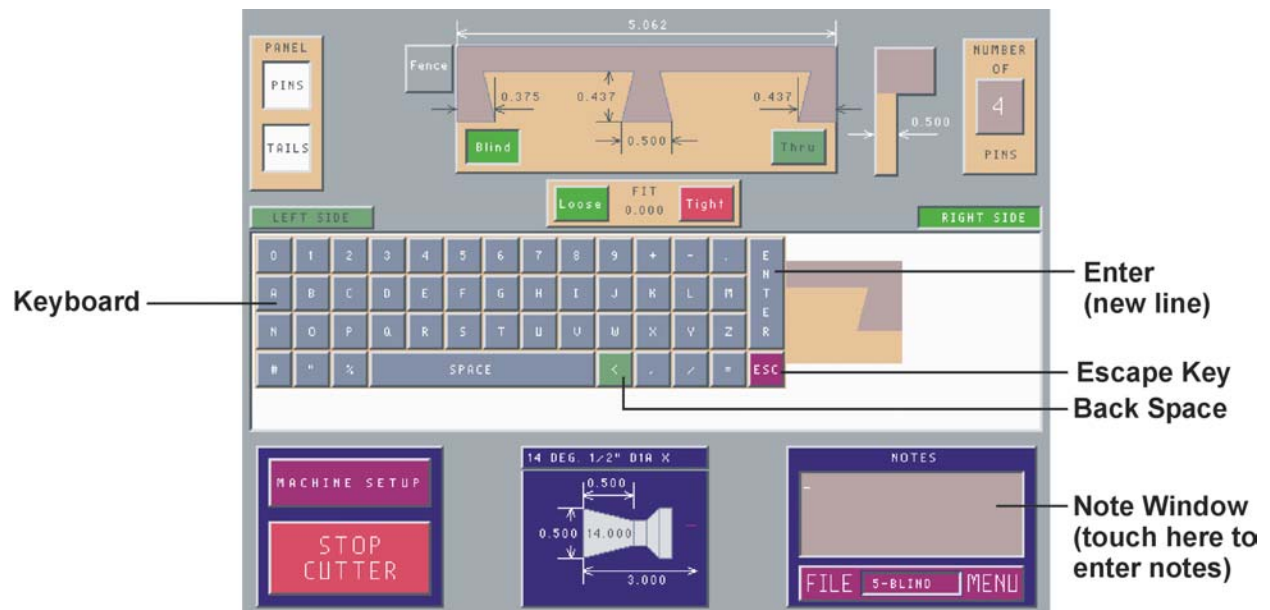


You know the drill! Clamp it and Cut it!

Dovetail Setup Notes

The notes window allows you to type in notes to explain your setup. You might want to describe the stock you are cutting using the current settings. Or you can explain some of your manual settings.

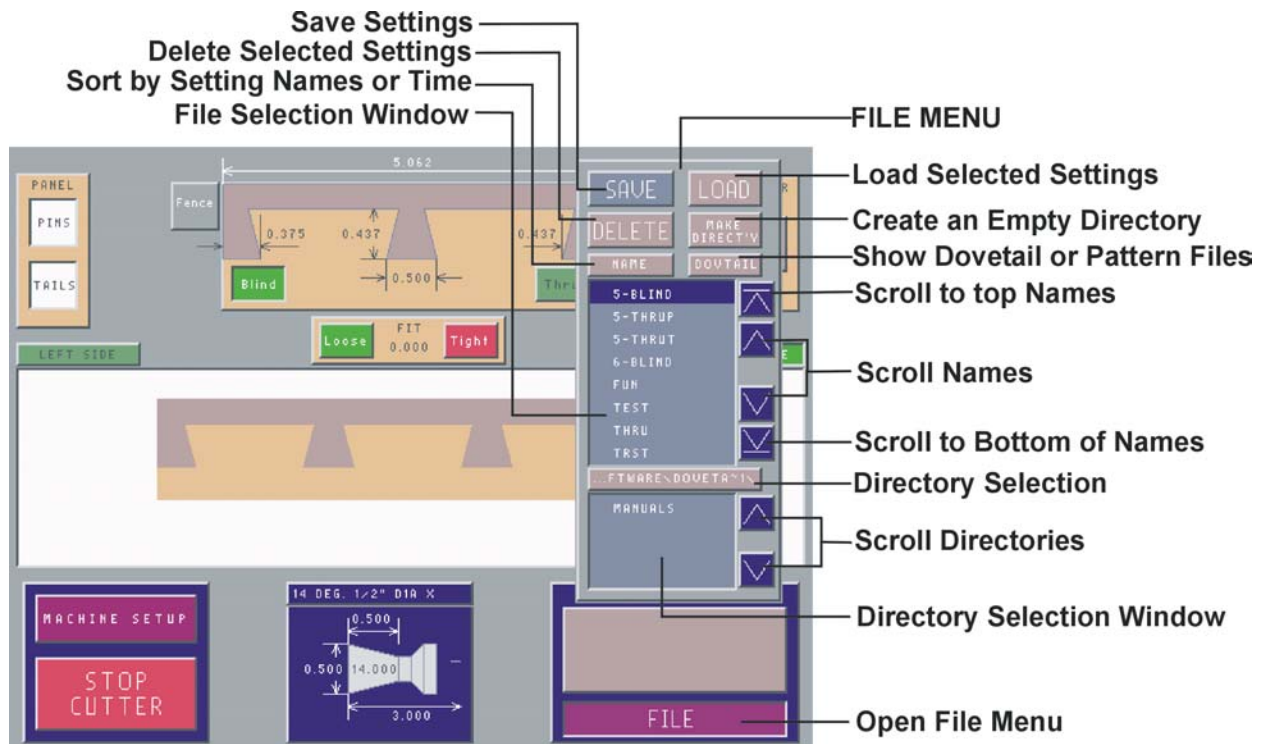
To enter notes, touch the window below the word '**NOTES**'. You will be asked to clear the note window. If you want to add to your existing notes, touch '**NO**'. If you want to start new notes, touch '**YES**'. A keyboard will appear over the dovetail display window and a cursor will appear in the note window. You can type in letters using the keyboard. If you make a mistake, use the back space ('<') to delete it. When you are finished typing, touch the escape key ('**ESC**') to end note entry.



File Menu

The settings you have entered for your dovetail will stay in the touch screen until you change it, even if the dovetailer is powered off. When the dovetailer is turned on it will have the last setting and will update the cutter computer automatically.

If you change the dimensions but would like to return to some previous settings, you can save your current settings and load previous settings from the 'File Menu'. Touch the word 'FILE' at the lower right corner of the screen to open the **File Menu**.



The **File Menu** is comprised of two main windows, the **File Name Window** and the **Directory Name Window**. The **File Name Window** shows the name of the currently saved dovetail setup. Below this window is the **Directory Selection Button**. The name of the directory that the files are in appears on this button. A directory is like a folder used to group like files together. If there is only a 'V' on the **Directory Selection Button**, you are in the Main or Root directory. Below the **Directory Selection Button** is the **Directory Name Window**. This is a list of other directories or folders that are on the dovetailer.

To open a directory, touch the directory name in the window and then touch the **Directory Selection Button**. The **File Name Window** then shows only the file(s) in that directory. The **Directory Name Window** will also change to only the directory in this directory. Like having a file folder in a file folder.

To go back to a the previous directory, touch the **Directory Selection Button** before touching a directory name and it will jump back to the previous directory. If you would like to make a directory to save setups in, touch the **Make Directory** button and type in a name for your directory. You can only use eight letters for directory or file names.

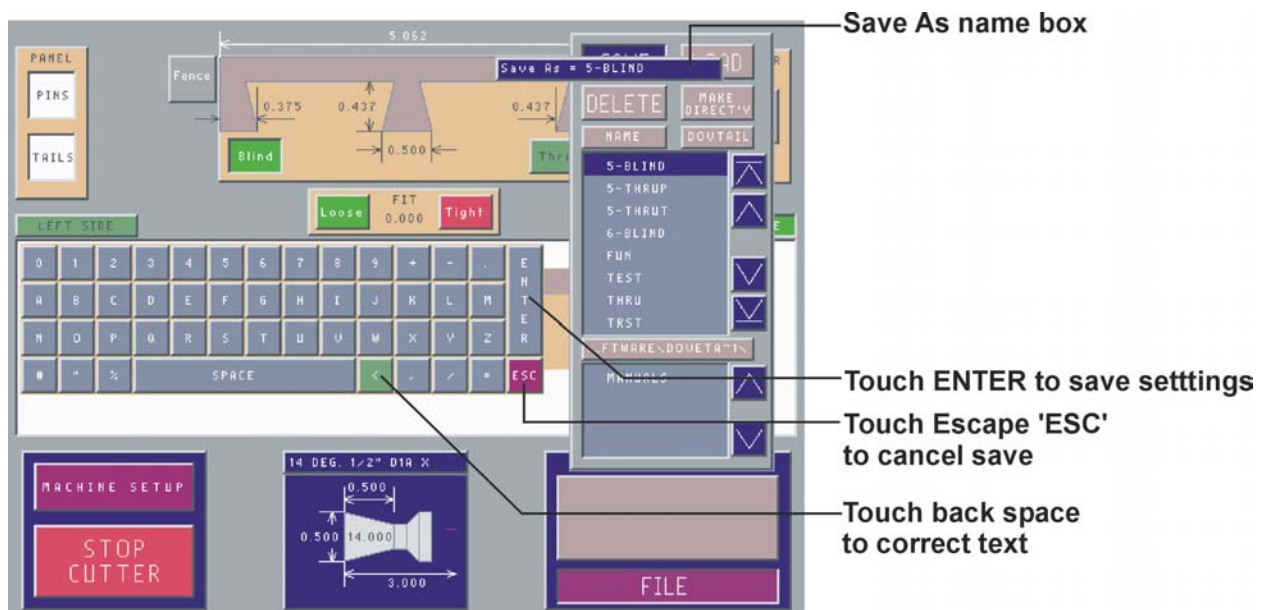
The file names can be sorted alphabetically (NAME) or by date (TIME) with the most recent file at the top. This is done by pressing the **Sort Name** button at the top left of the **File Name Window**.

The **File Name Type** button at the top right of the **File Name Window** allows you to select the two types of files that show on the **File Name Window**. DOVETAIL files are the dovetails setups. This is the type you will be using the most. You can also list PATTERN files. These files are created with our Advanced Programming Option, Pattern files can only be loaded.

Save Current Settings

To save your current settings, touch the '**SAVE**' button on the file menu. A box will appear with the words '**Save As =**' in it. Also, a keyboard will appear to allow you to type in a name for your settings. As you type, the name will appear in the '**Save As**' box. You are limited to eight letters for your name. If you want to change the name in the box, touch the '<' key, to delete the letters. Once you have typed in the name, touch the '**ENTER**' button and the setting will be saved. The setting name will appear in the window above the dovetail display.

All of the dovetail dimensions are saved with the settings. The tool table and calibration setting are not saved with the dovetail settings. Those setting are machine related and are stored separately.



Load Saved Settings

To load a saved setting, simply touch the name in the File Name Window, then touch the Load button. If the name does not appear, touch the file navigation buttons until the name appears in the window.

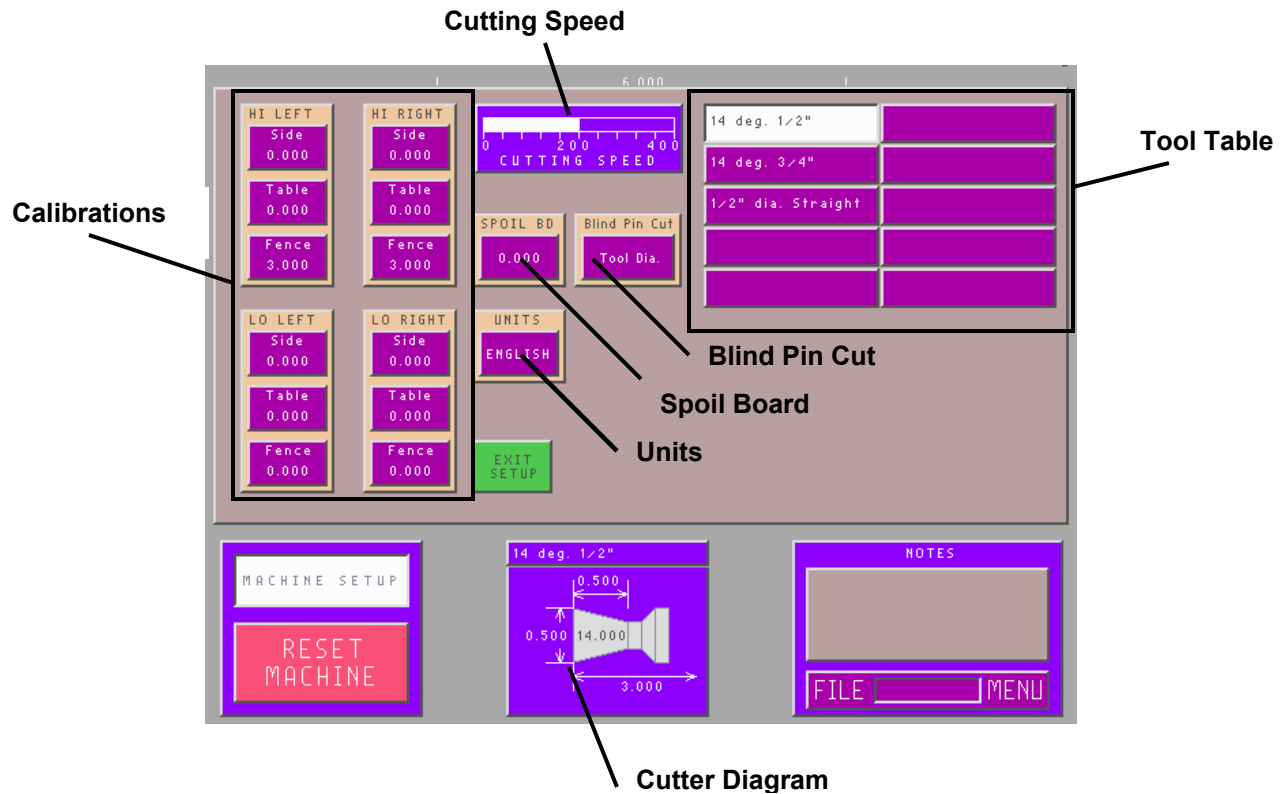
Selecting a file name can serve other purposes. If you would like to save your settings over a previous file, select the file name before touching **'SAVE'**. This will bring the name to the **'Save As'** box. Then touch **'ENTER'** to replace the old file. You will have to verify the file replacement. Also, if you are not sure which file you would like to load; selecting the file name will display the notes for that file in the notes windows. You can make a more informed selection with the extra information in the notes.

Deleting Files and Directories

To delete a file, you need to select the file in the **File Name Window** and then press the **Delete** Button. A prompt will appear showing the file and a Yes/No selection. If you would like to delete it hit Yes (if not, hit No). To delete a directory you must only select the directory name and not open it. Also, before you delete the directory, you must delete all files in that directory.

Machine Setup

The machine setup window is opened by touching the **machine setup** button on the main screen.



Calibrations

The Maxym Dovetailer is calibrated at the factory prior to shipping. These settings are saved in a permanent file on the Dovetailer. It is recommended that you cut and measure a test dovetail to ensure that the machine is calibrated. See the Maxym Dovetailer **Installation and Maintenance Manual** on how to calibrate the machine.

Cutting Speed

Cutting speed is the speed at which the cutter moves through the wood. Faster cutting speeds allow higher production rates, but may chip the wood or overload the cutter. The cutting speed is control by sliding the white cutter speed bar. The maximum speed is 400 inches per minute (ipm). The cutter travels at the maximum speed when moving between cuts.

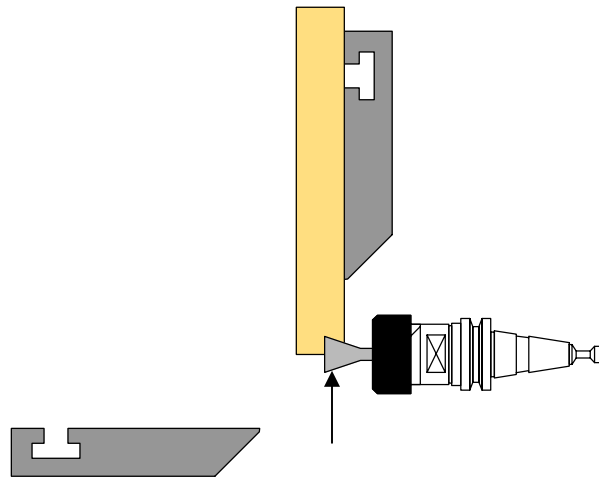
The cutting speed is saved with the dovetail files. The tool table and calibration settings are machine dependent and are automatically saved in a separate machine setup file.

Spoil Board

When the dovetail cutter exits the bottom of the stock the advancing cutter can cause chipping. Placing a spoil board under your stock can prevent this. The spoil board raises the stock above the table, so the spoil board setting is used to tell the Maxym Dovetailer how thick your board is. Touch the dimension on the Spoil Board button to enter your new thickness.

Blind Pin Cut

This button is used to select how aggressively the cutter will enter the end of the upper stock when doing blind pins. You can either select Cutter Diameter or Cutter Radius. With Cutter Diameter the cutter will cut the full diameter until the correct depth is reached. If the Stock Thickness is set less than or equal to the cutter diameter, it will cut it in one pass. If the Stock Thickness is set greater than the cutter diameter, the dovetailer will repeat the cut until the correct depth is reached.



With the setting on Cutter Radius, each pass will take only half of the cutter diameter. Again, the number of passes will depend on the Stock Thickness setting.

Units

This button is used to select the units for data entry. English units are inches and can be entered to three decimal places. The metric units are millimeters and are two decimal places. When using metric units, there can be a rounding down of the second decimal place because of the English screws.

Tool Table

The Maxym Dovetailer can save up to ten tools to be used to create your dovetail joints. See Preparing your Dovetail Tools in the **Installation & Maintenance Manual**.



17 Landry St., Biddeford, ME 04005
(800) 69-MAXYM Fax: (207) 283-8615
www.maxymtech.com