



MAXYM Tenoner Operating Manual

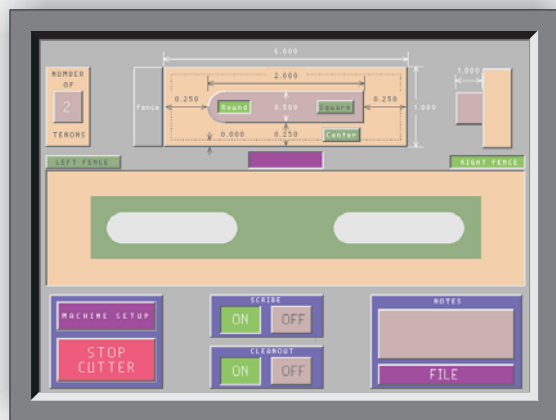
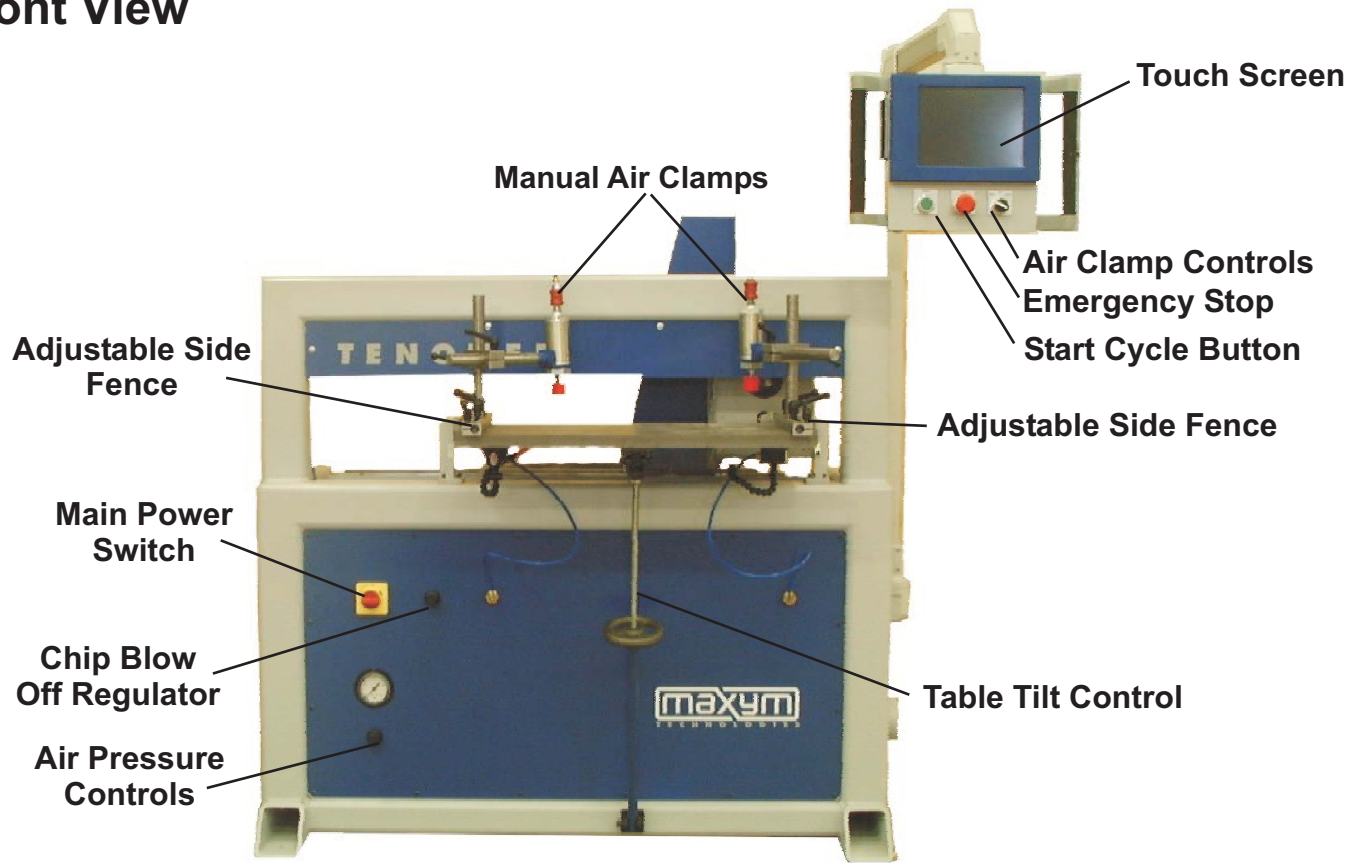


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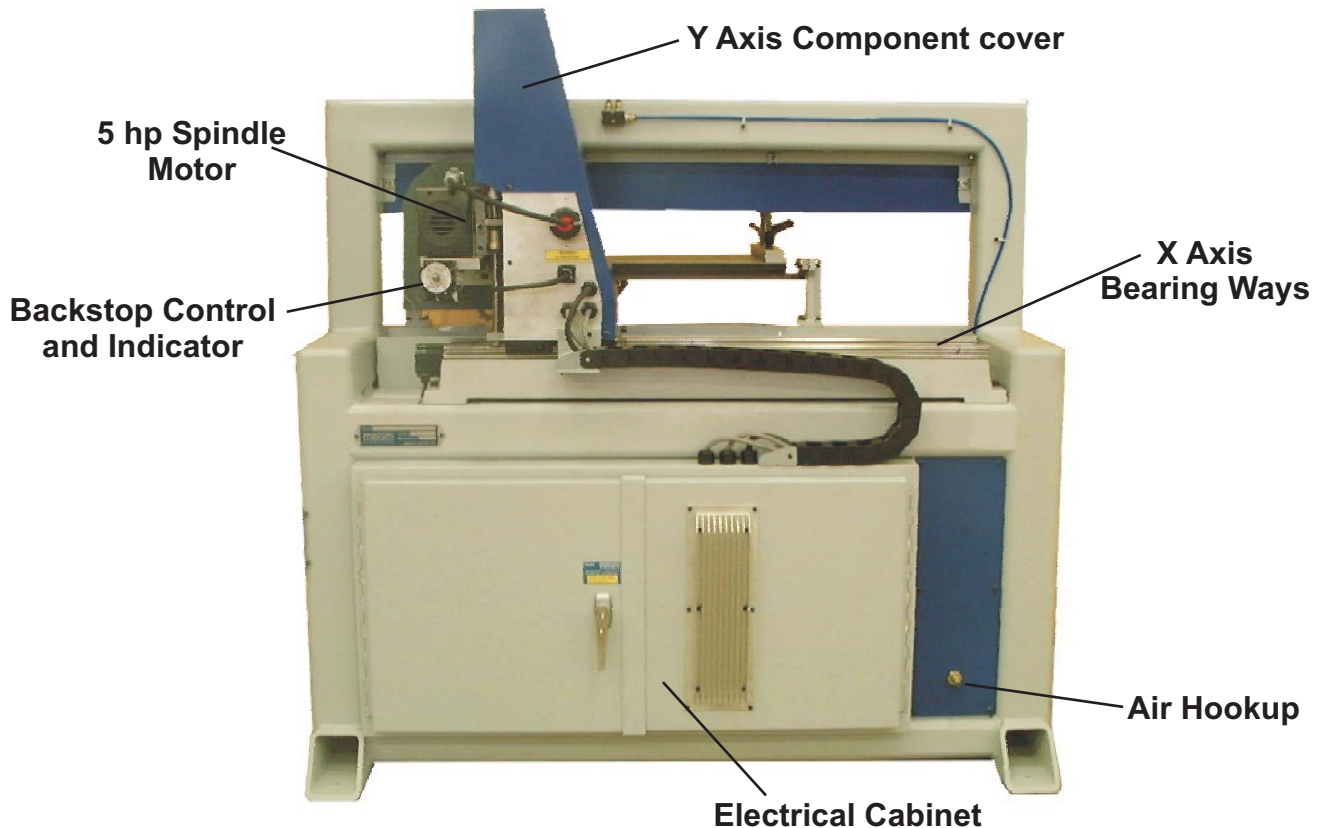
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Visual Tour

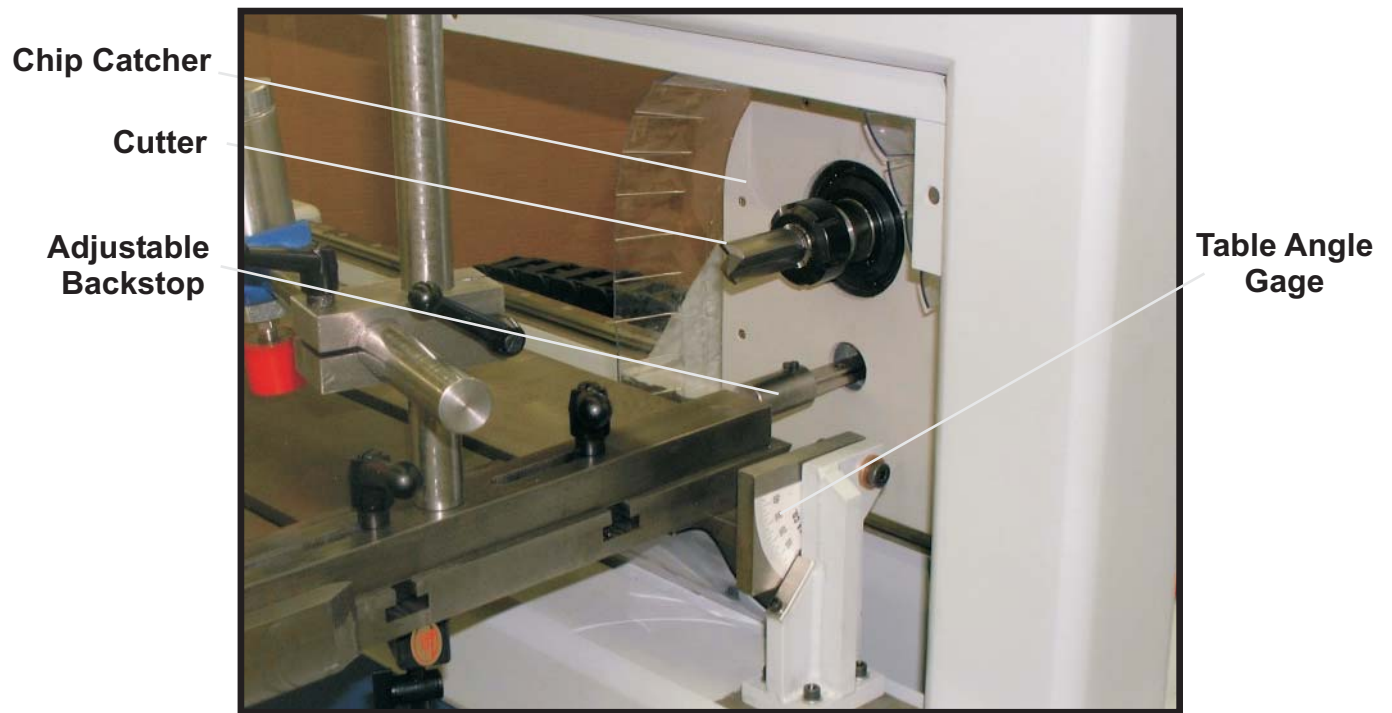
Front View



Rear View



Cutter and Chip Catcher



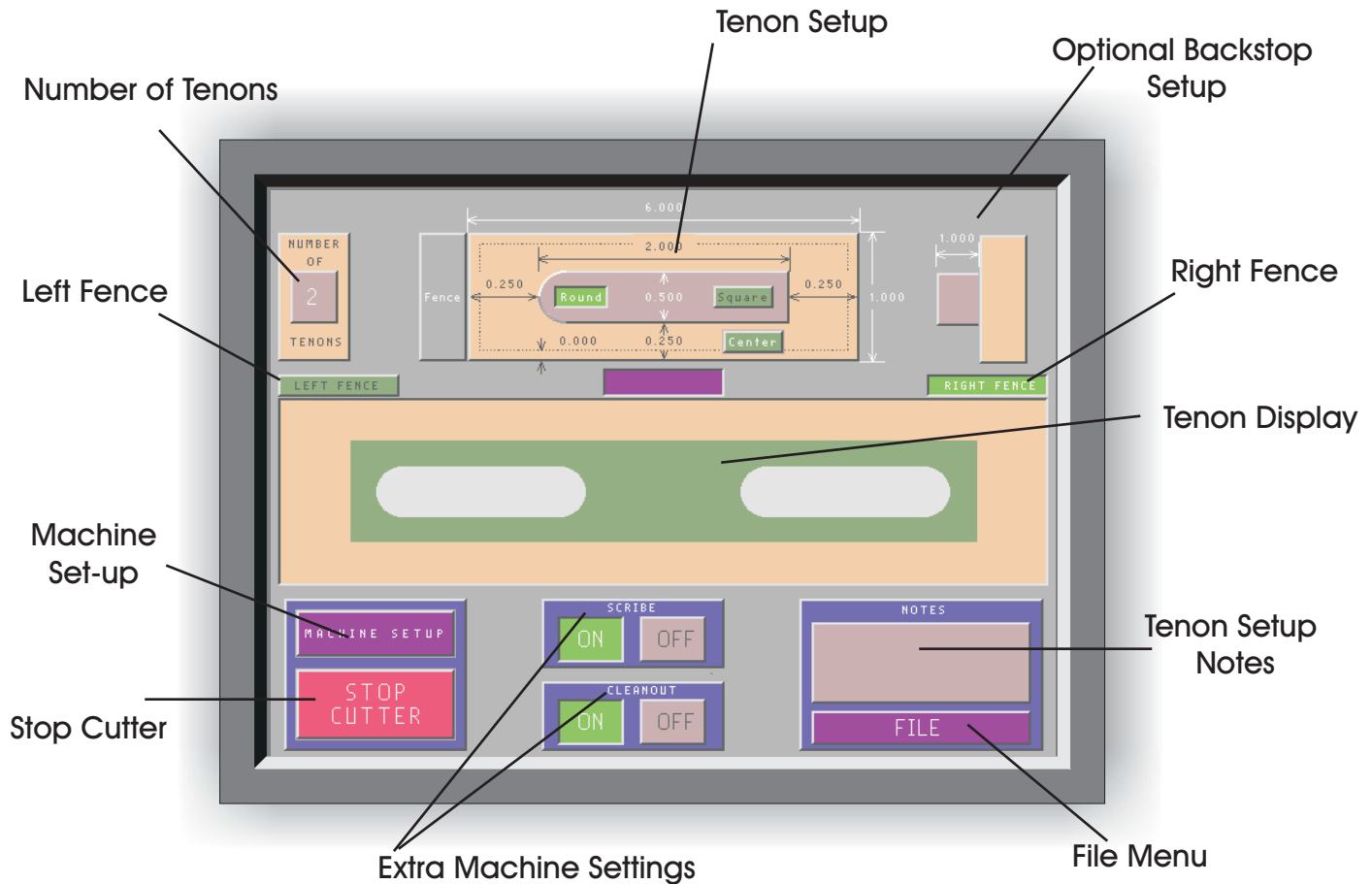
Operating Your MAXYM Tenoner

Starting your Tenoner

Once power is applied the tenoner will move to the start position with the backstop positioned just to the left of the right fence and the touch screen will briefly display the tenon software title and version number before entering the tenon setup menu.

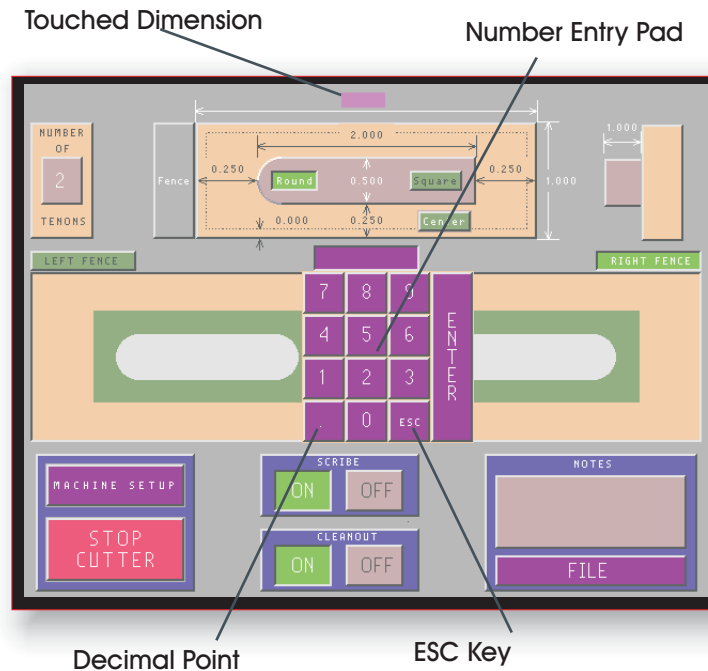
Caution: The air clamps may extend briefly when power is applied!

Touch Screen Description



Setup Tenon Dimensions

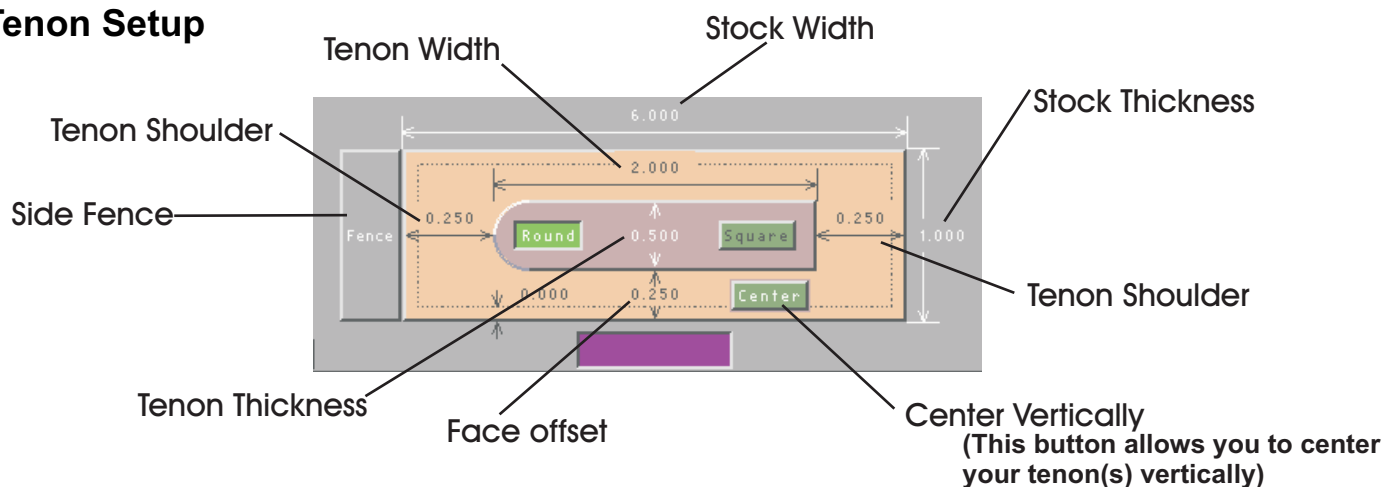
Simply touch the dimension on the screen that you would like to change. A number pad will appear in the middle of the screen.



Type in your new dimension by touching the numbers on the keypad. The 'ESC' key is shown when the keypad first appears. You can use 'ESC' to exit without changing the number. Once you hit a number it will change to '<' Back Space. If you make a mistake, the Back Space will delete it. The numbers that you type will appear in the box on the dimension you touched. When you are finished typing touch 'ENTER'.

After you enter each dimension the 'Tenon Display' will show you a picture of the stock and tenon shape you have entered. Also, the touch screen will update the tenoner's control CPU with the current settings.

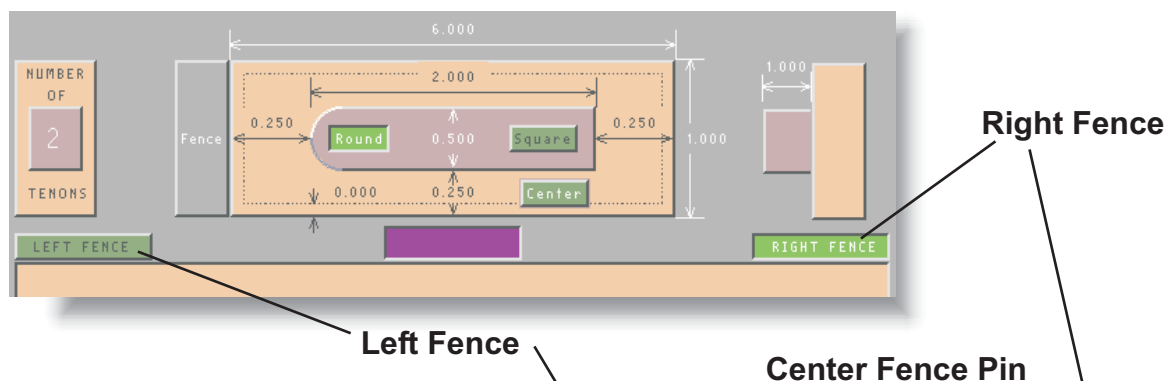
Tenon Setup



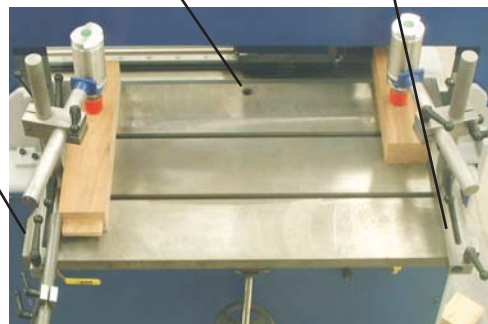
This part of the touch screen is a view of your stock with the tenon facing you. The tenon shoulder against the fence and the face offset dimension should be your outside or facing surfaces. These dimension are held accurate buy the machine calibrations. (See **Machine Set-up**) The tenon width and tenon thickness are also very accurate and small adjustments can be made here to adjust the fit of the tenon to the mortise. The remaining shoulders are only as accurate as the actual stock dimension.

Before changing the dimensions on the screen, measure your stock and tenon. It works best to enter your stock dimensions first. The tenon width can be entered two ways. First, both the tenon shoulders can be set and the tenon width will be what's left over. Second, the tenon width can be entered directly. If you enter the tenon width, the tenon shoulder against the fence will not change. The width of the tenon will be limited to the stock width minus the tenon shoulder against the fence. The side fence is used to illustrate which shoulder dimension is against the fence. This could be either the left or right fence depending on which is selected. (See below) The tenon setup illustration will not change.

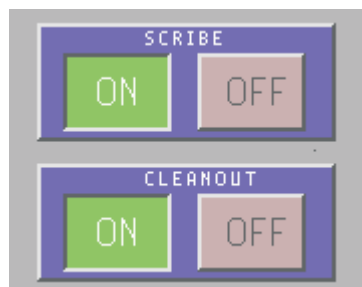
Table Fences



The Maxym Tenoner can cut tenons from the right, left or both fences. The tenon shoulder dimension against the fence will be flipped to corresponds to the fence selected. If both fences are selected the tenoner will cut the tenon in both locations. The left fence can be relocated to reduce the cycle time by reducing the distance between parts. The distance between the fences can be changed in the machine setup menu. (See, **Machine Set-Up**) The right fence should not be moved but both fence can be angled.

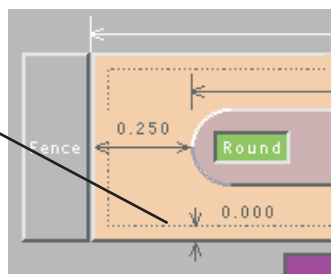


Extra Machine Settings



The Scribe and the Clean Out are two settings that can effect the quality of your tenon cut.

New Scribe Graphic Touch dimension to change



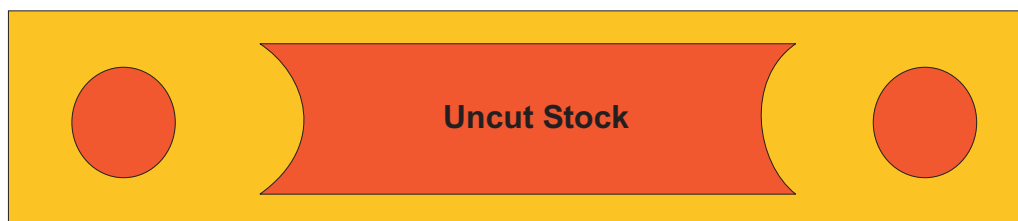
Scribe

The scribe is a cut made around the perimeter of your stock before cutting the tenon. Removing the wood around the stock will prevent chipping. In most cases chipping will not occur because the tenoner climb cuts the wood. Once you have turned on the scribe, a new dimension will appear on the tenoner setup diagram. By touching the dimension, you can change how much wood is removed on the scribe cut. If a shoulder dimension is smaller than the scribe, the scribe will be reduce to the shoulder dimension for that side only.

The scribe will automatically turn on if the tenon cut has to remove more the 50% of the cutters diameter or you have selected more than one tenon. You can override it by touching 'OFF' and answer 'YES' to the warning. If the scribe comes on automatically and the scribe amount does not remove enough to reduce the shoulder to less the 50% of the cutter, the tenoner will continue to scribe.

Clean Out

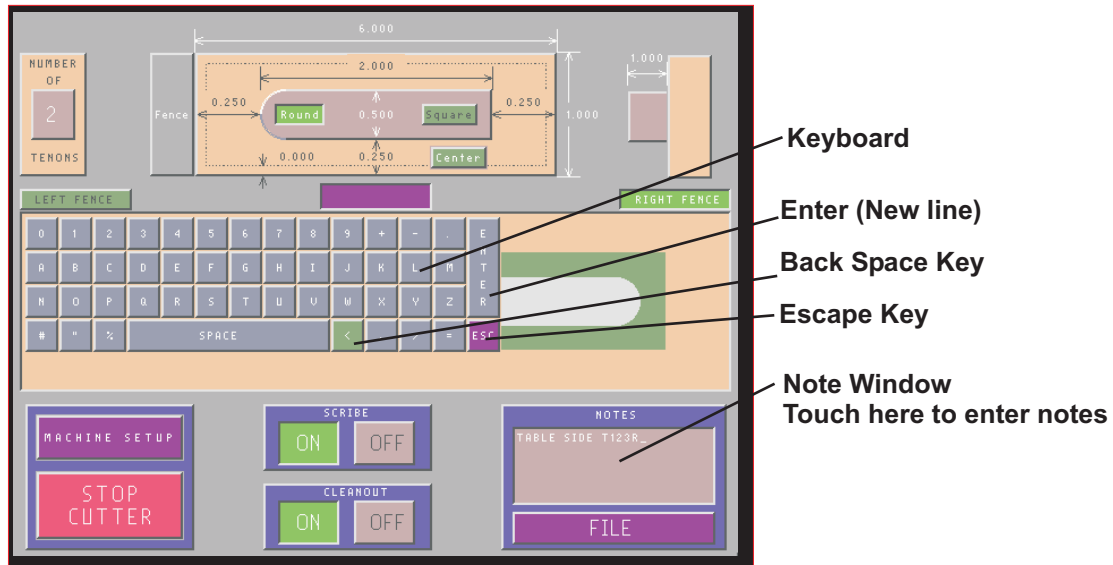
The clean out button will only appear if you are cutting more than one tenon and the distance between the tenon would leave uncut stock. The clean out will make an extra pass between the tenons to remove any uncut stock. Like the scribe, the clean out can be turned off. The tenoner can be used to cut more than one piece of stock in one cycle. In this case, the area between the tenons might not have stock to cut and turning of the clean out will save cycle time.



Tenon Setup Notes

You can type in notes to explain your setup. You might want to describe the stock you are cutting with these settings. Or you can explain some of your manual settings, such as fence or table angles, or air clamp locations.

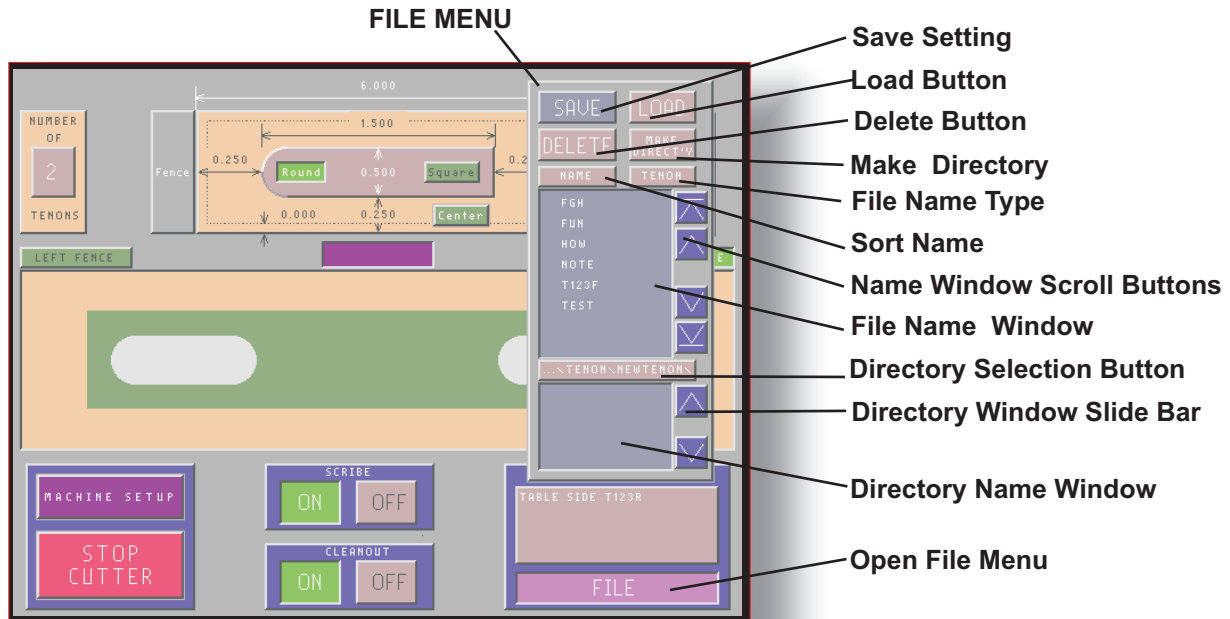
To enter notes, touch the window below the word 'NOTES'. You will be asked to clear the note window. If you want to add to your existing notes, touch 'NO'. If you want to start new notes, touch 'YES'. A keyboard will appear over the tenon display window and a cursor will appear in the note window. You can type in letters from 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 setting you have entered for your tenon will stay in the touch screen until you change it, even if the tenoner is powered off. When the tenoner 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 and a **File Menu** will appear.



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 tenon setups. Below this window is the **Directory Selection Button**. On this button is the name of the directory that the files are in. A directory is like a folder to group like files together. If there is only a 'I' 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 tenoner.

To open a directory just touch the directory name in the window and then touch the **Directory Selection Button**. The **File Name Window** will now show 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.

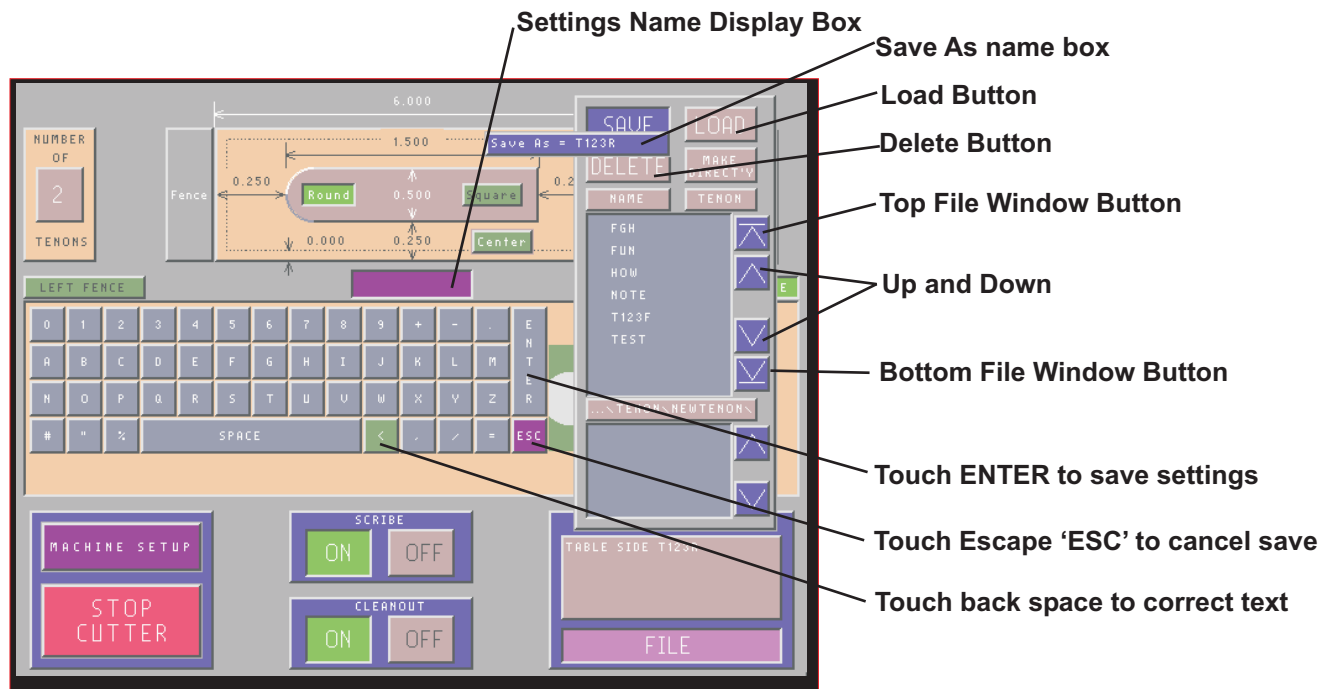
To go back to the previous directory just touch the **Directory Selection Button** before touching a directory name and it will jump back to the previous directory.

If you would like to make a directory to save setups in, just 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 resent 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 will show on the **File Name Window**. TENON files are the tenon setups. This is the type you will be using the most. You can also list PATTERN files. These file are created with our Advanced Programming Option. Pattern file can only be loaded.

Saving a File



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 do not like the name that is in the box, you can back space, with 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 tenon display.

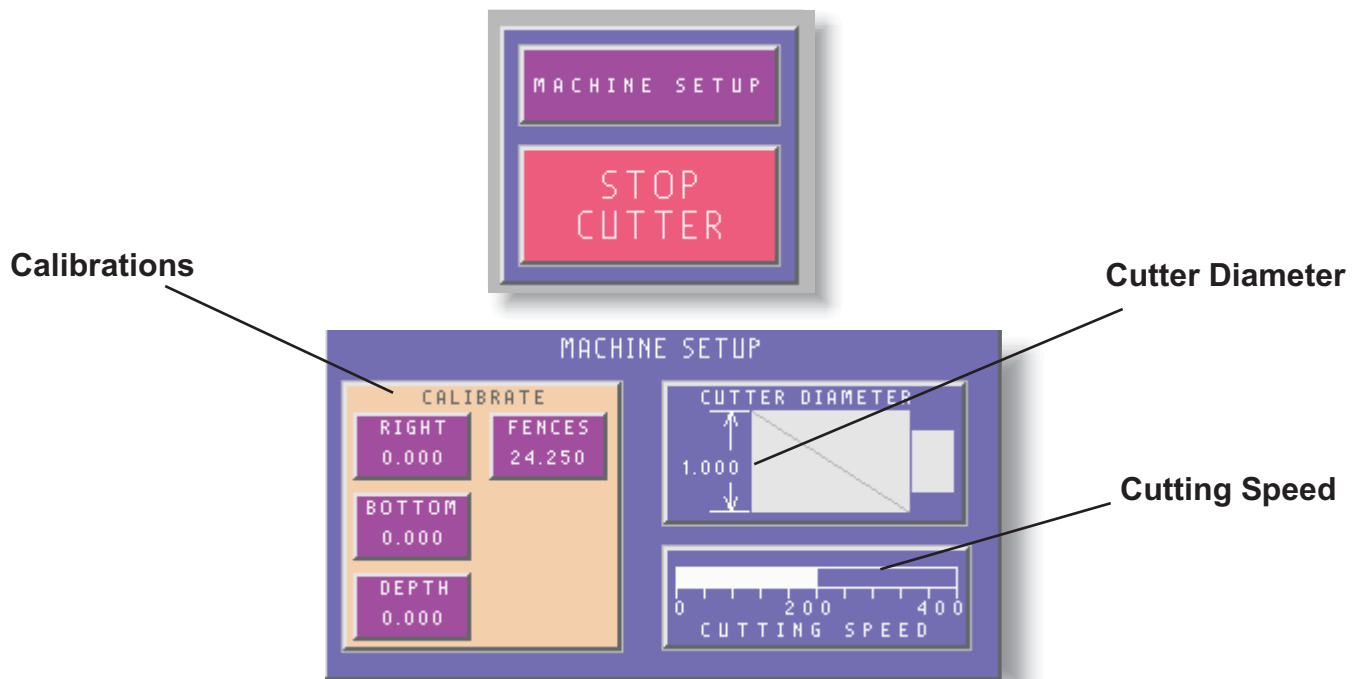
To load a saved setting, simply touch the name in the **File Name Window**, then touch the **Load Button**. If the name does not appear, press on the up and down arrows until the name appears in the window. To get to the top of the list you can press on the **Top File Window Button** or if you would like to get to the end of the list press on the **Bottom File Window Button**.

Selecting a file name can serve as 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. With the extra information in the notes you can make a better selection.

To Delete a file you need to select the file in the **File Name Window** and then press on the **Delete Button**. It will then come up with a prompt that shows you the file and a Yes/No selection. If you would like to delete it hit Yes or if you don't then 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 Set-up

To get to the machine setup screen, press on the **Machine Setup** button.



Calibrations

The calibrations are used to correct differences from the actual reference surfaces and where the tenoner thinks they are. These are set at the factory before shipping. The reference surfaces are the inside of the right fence, the table or bottom of your stock and the insert back stop if you have the powered back stop option. Also you can set the distance between the two fences for left fence operation. The standard fence positions are 24.250" for the left and 10.375" or 12.375 for the center positions.

The calibration can easily be checked. Just program and cut a simple square end tenon with easy to measure shoulder and face offset dimensions. Check the cut with an accurate caliper. If the cut is too large, reduce the calibration number by the difference. You can enter a negative value if needed. If it is too small increase the calibration setting. Make sure that the fence is square to the front of the table before checking calibrations.

Cutter Diameter is important to get the proper tenon size. The cutter supplied with the tenoner is 1" diameter. You can use a cutter from 1/2" to 1-1/2" diameter. Also if you have a cutter sharpened it is important to measure it and enter the proper size. To change the cutter diameter, simply touch the number next to the cutter diagram and enter your new value.

Cutting Speed is the speed at which the cutter moves through the wood. Faster cutting speed creates more production, but it might chip the wood or overload the cutter. The cutting speed is controlled by sliding the white bar. The maximum speed is 400 ipm. The cutting speed only affects the speed when the cutter is in the wood. The tenoner goes at maximum speed when traveling between cuts.

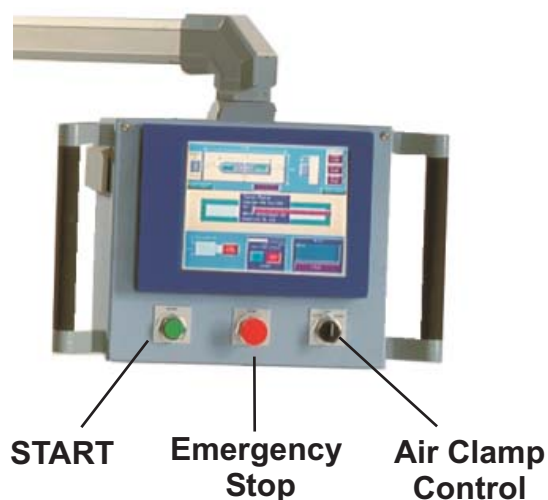
The cutting speed is saved with the tenon setup files. The cutter size and calibration setting are machine dependent and are automatically saved in a separate machine setup file.

Cutting a Tenon

Once you have entered all of the stock and tenon dimensions, you are ready to clamp your stock to the table. Place your stock against the right fence and push it into the tenoner until it hits the Back Stop. Then place the air clamps over your stock. Keep in mind that the air clamp will extend only 1 inch. Sometimes its better to angle the air clamp slightly towards the fence to help push the stock tight against the fence.



Next place the air clamp control to the '**AUTO**' position. If you would like to see if your work is secure before cutting, place the air clamp control in the '**HAND**' position to lower the clamps manually. The air clamp control must be in either the '**AUTO**' or '**HAND**' position or the tenoner will not start.



Once you are satisfied that you work is secure, clear your hands from cutter and press the '**START**' button.

To reduce the cycle time, the tenoner spindle will remain on for about 30 seconds after the cycle has finished. The cycle time is slightly longer when the spindle has to start up. You can stop the spindle manually by touching the '**STOP CUTTER**' button.

NOTE: If the stop cutter is touched while the tenoner is in operation, the tenoner will stop immediately. You must push in the **Emergency Stop** and pull it back out to reset the tenoner.



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