Desktop Quick Start Guide

*Tool shown with optional spindle and speed controller.

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The purpose of this guide

This quick start guide will help you quickly learn the basics of CNC digital routing using the ShopBot Desktop. It will also provide you with essential information about machine set up and operation - information that you will use almost every time you run the machine. We encourage you to work your way through this guide, beginning to end, where you will find additional training and web resources that will help you go beyond the basics. If you have questions along the way, or need technical help, don’t hesitate to call our technical support team at 1-888-680-4466. We recommend that you visit our friendly and very active forum at TalkShopBot.com as many questions will be answered on there.

This guide is brought to you by:
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What’s in the crate?

**Desktop D2418**
Shown with optional spindle and speed controller.

- Thumb drive with software
- Quick-Start Guide
- Command reference guide
Dust enclosure (optional)

1/4” and 1/2” spindle or router collet sets
Collet wrenches
Bit kit (Optional)

Z zero assembly
Power cord
Hold down bolts for making DIY deck
ShopBot Desktop overview - Model DT2418

Back view

Power cord and connection  Electronics  USB cable
Uncrating

Your new ShopBot Desktop comes securely crated for shipping. The top of the crate is held on with 4 metal clips. Use a claw hammer to pull up on each clip. Use caution because the clips are under tension.

Remove the boxes and bags of accessories that are packed with your Desktop. Next, remove the cardboard packing materials, and finish by removing the sides of the crate.

Lift onto a sturdy table or bench.

CAUTION:
The ShopBot Desktop is a substantial tool and depending on accessories, it can weigh up to 150 lbs. Have AT LEAST one more person help you lift the tool, and make sure you lift with your legs and not your back!
Assemble a few parts

Adjust the leveling feet on the tool so that it doesn’t rock, then use the nuts to lock them into position.

Slide the supplied hose over the vertical hose tube. Attach the hose to the upper bracket with the hose clamp. The bottom of the hose should not be clamped so it can freely slide up and down on the tube during operation. This is detailed in the DT duct collection setup document found on the website.

Plug the end of the cable for the Z zeroing assembly into its receptacle at the front left of the machine. Store the Z zero plate in the space below the plug.
Note: the next few steps are relevant only if you have purchased the optional enclosure. If not, you can skip to the “Loading the software” section.

(Optional) Enclosure parts

Mounting hardware for enclosure:
- Allen wrench
- Flat washers
- 1/4” button head bolts
- Double nuts (preinstalled)

Locate enclosure parts and mounting hardware. Attach the side enclosure panels to the preinstalled double nuts.
Install rear support into slot (A) and rotate it into position (B).

Slide the rear panel in from the back.

Then wrap the rear panel up and clip it in place.
Slide the front support under the side panels so the end tabs clip into the notches in the side panels. The lip should face up.

Slide the removable front panel into place and the assembly is now complete.
Load the software

**Minimum computer requirements:**
You will need a PC that is running Windows XP, Vista (Home Premium / Business or higher), Window 7, or Windows 8. We recommend the equivalent of a dual core (or higher) Pentium processor and a minimum of 2GB RAM (4GB preferred).

The ShopBot Desktop requires one USB port for connection to the tool. You may also need USB ports for your mouse, keyboard, and other USB peripherals. An open USB port to transfer part files to the computer from a thumb drive is also helpful.

**Special note for schools:** This software runs best with full administrative permissions enabled. We strongly advise against setting up separate administrator and user accounts on the control computer.

**For international customers:** The computer used to run the machine MUST have the language set to “English (United States)” in order for the software to run correctly.

**Computer configuration**

**Important:** Some programs and features will interrupt the proper installation of ShopBot 3 control software. To ensure trouble free installation and operation ShopBot recommends performing the following actions to your computer before installation.

- Install program using administrative account.
- Set User Account Control (UAC, not applicable to Windows XP) to “Never Notify.”
- Disable network connection.
- Disable security and antivirus software.
- Make sure the USB cable from the ShopBot is not plugged in.

Locate the ShopBot thumb drive that came with your Desktop and plug it into your computer.

Open the flash drive and install the ShopBot design software and then the ShopBot 3 software.
Follow the prompts to install the software packages.

On the last screen, click “Finish” to complete the software setup.

NOTE:
Microsoft Windows sometimes gives a message saying there is an issue with the driver installation. If you receive this message temporarily ignore it and proceed with the rest of the software installation and machine setup. Try launching the ShopBot 3 software by clicking the shortcut icon on your computer’s desktop (Covered in “Launch the Software” section below). If ShopBot 3 fails to launch, turn to page 40 for additional “Help installing ShopBot Drivers on Microsoft Windows.”

You should now have these three shortcut icons on the desktop of your computer.
Connect the power

**IMPORTANT SAFETY NOTE**

If a situation arises where you need to abruptly terminate the action of your tool to prevent damage to people, material, or the tool, push down on the red off/emergency stop Switch. This will completely cut power to your Desktop and stop all movement.

The presence of an emergency stop switch does not alter the need for good safety procedures while operating your ShopBot.

For more info: See the section “Restarting after an emergency shut down”.

For non-emergencies, simply hit the space bar on your keyboard. This will pause the tool while maintaining XYZ coordinates, allowing you to resume a cut file without starting over.

Install the power cord into the socket at the back of the Desktop.

Plug the tool’s power cord into a standard 110 volt 15 amp receptacle.

**Note:** Do not use a ground fault interrupt (GFI) circuit.
Unravel the USB cable from its location inside the frame at the back of the machine.

Connect the USB cable to your computer and Windows will recognize a “New Device.”

**NOTE:** It is best to use the same USB port every time you attach the ShopBot to your computer.

Turn ON your machine.

This is done by flipping the red cap and toggle switch on the front of the computer to the ON position (up).
Launch the software

Click on the ShopBot 3 icon on your computer’s desktop to open the machine’s control program.

The first time you open the program, there will not be a settings file for your machine. Click “OK” and you will be prompted to load a settings file for your machine.

Go into the folder for PRS ShopBots.

In this folder you will find the desktop setting file, “ShopBot_PRSDesktop2418.sbd.”
Make it move

The “Easy” control panel

This panel gives you access to essential machine information and controls. The following steps will walk you through some of the most frequently used controls and guide you through the steps of installing a bit, zeroing the machine’s three axes, and cutting a couple of sample projects.

Start by clicking on the yellow button. This will bring up the “KeyPad” panel.

The KeyPad

This window allows you to manually move the X, Y, and Z axes of your machine. Give it a try by clicking on the blue arrows to move your machine’s spindle/router and gantry.

You can also move the X and Y axes of your machine with the cursor buttons on your computer’s keyboard. Use the “Page Up” and “Page Down” buttons on your keyboard to move the Z axis up and down.

When you’re done practicing, move the spindle/router to a safe Z position below the Z proximity switch and near the middle of the deck.

Now close the yellow KeyPad by clicking on the X in the upper right corner.
SWITCH OFF ROUTER OR SPINDLE FIRST

If you have a ROUTER, make sure the switch is turned to OFF.

Then, for BOTH ROUTERS and SPINDLES, make sure the switch under the main power switch is turned to OFF (counter-clockwise). This will cut the power to the spindle or router.

If you have a spindle you will need to locate both the 1/4” collet and the spindle collet nut.

If you have a router, the collet nut and collet come locked together as a single unit.
Press the spindle collet into the spindle nut and listen for the “click.” If you have trouble, try pressing it in at a slight angle. Confirm that the collet is snapped in place by holding the nut upside-down (shown in the photo to the left) and letting the collet hang freely. It should not fall out.

Next, locate the 1/4” diameter upcut spiral bit that came with your machine and slide the bit into the collet. Ideally, the shank of the bit should fill up at least 75% of the collet to provide sufficient gripping surface. It’s OK if the shank of a bit extends above the top of the collet (maximum 3/8” of excess). Make sure that the collet grips only the shank of the bit, keeping the top edge of the flutes outside of the collet.

Remove the Desktop’s front enclosure panel. The front enclosure panel can be stored below on the front support bar.
Then remove the bottom of the dust foot by pushing down. It’s attached with magnets, which makes it easy to remove. Set the dust foot on your workbench away from the Desktop.

Thread the collet nut onto the spindle. It should go on very easily. If you encounter resistance, do NOT apply more force. Stop and try again until it goes smoothly. Once the nut is finger-tight, reposition the bit if it has slipped.

Then use the included wrenches to fully tighten the nut.

Over-tightening will make the collet difficult to remove and may damage it. Under-tightening will allow the bit to slip during operation.

A firm one-hand squeeze is usually sufficient. If you’re using a torque wrench, the recommend torque is 59 ft-lbs.
You should always stand clear of the tool when it is in motion, preferably positioning yourself near the computer controlling your tool’s operation. A ShopBot is a very safe power tool as long as safety procedures are followed.
Zero the X and Y axes

Click the middle white button marked with the X, Y. The machine will now move through an automatic routine that zeros the X and Y axes to the left lower (front) corner of the machine using the proximity switches.

The X and Y locations in the control panel should now read .000 in.

Click OK when this message appears

The spindle/router should now be in the left lower (front) corner of the deck. X=0, Y=0 position.
Zero the Z axis

Zeroing the Z axis requires a few more steps than zeroing the X and Y axes, so you should practice it a few times to make sure you clearly understand how it works.

Open the yellow KeyPad and move the spindle to approximately X=6, Y=6. Close the KeyPad before proceeding by clicking on the “X” in the upper right corner of the yellow keypad or by pressing the “Esc” key on your computer’s keyboard.

This puts the spindle in a convenient location for the next step, which is zeroing the Z axis.

Remove the Z zero plate and the grounding clip from their location at the front of the Desktop.
Attach the grounding clip to the router bit (or the collet) and touch the Z zero plate to the bottom of the bit.

When the Z zero plate touches the router bit Input 1 should light up. It will then go off when you remove the Z plate.

It’s important to check this each time you connect the grounding clip to make sure the contact is good. If Input 1 doesn’t light up, ensure the grounding clip is well connected and try again.

Place the Z zero plate on top of MDF spoil board and underneath the router bit.

(NOTE: You can Z zero on the top of the MDF spoil board or on the top of your project material depending on how you have it set in your design file.)
Next click on the white button marked Z.

This message will appear to remind you to make sure the Z zero plate is under the router bit. Double check the location of the Z zero plate and click OK. You will hear an alarm sound signifying that the Z axis will start moving down in couple of seconds. Take hold of the angled end of the Z zero plate and hold it in place under the bit and on top of the deck while the Z zero routine takes place.

The spindle/router will lower until the bit contacts the Z zero plate and then it will retract and repeat the process again.

It’s important to wait until the router bit has contacted the Z zero plate twice before removing the Z zero plate or the grounding clip.
After the second contact, the router bit will retract to a position of 1/2” above the deck. The Z axis is now zeroed to the top of the MDF deck.

Make sure to put away the clip and Z zero plate before proceeding.

Then press “OK” to exit the program.

Before proceeding reattach the dust foot.
If the optional accessory is installed you should also place your front enclosure panel back into place.

During operation keep the area around the machine free from people and objects.
Move to home position

Click the white button marked 0, 0.

This will move the spindle/router to the machine home position in the left lower (front) corner of the machine, which is the default zero position for both the X and Y axis.
Warm up (spindle models only)

Desктопs equipped with a spindle also have a variable-frequency drive (VFD), which is used to control the RPMs of the spindle.

There is a spindle interlock switch that locks out the spindle power for additional safety. (shown engaged with the key in the lock in image to the left)

Turn the spindle interlock switch to ON at this time. It is the lower switch in the image to the left and is switched on with a clockwise motion.

Adjust the VFD so it reads approximately F 100. F 100 equals 6000 RPM or about half of the typical operating speed for cutting wood.

To maximize its service life, a spindle requires a warm up cycle to bring the bearings up to operating temperature. We recommend running the spindle at 1/2 of your intended cutting RPM for 10 minutes at the beginning of each day and after the spindle has been idle for more than 3 hours before using it to cut.

Open the yellow KeyPad, and then click on the Output 1 button on the position window.
Once you click “OK” the spindle will start. Allow it to run for 10 minutes to warm up.

After the spindle has run for 10 minutes, adjust the VFD so it reads approximately F200. You should hear the spindle increase in speed as you adjust the dial.

F200 equals 12,000 RPM and is a common operating speed for carving and cutting wood.

Turn off the spindle by clicking on the output #1 button.

Then close the yellow Keypad.

You are now ready to make your first cut.
Desktop spindle RPM settings

The display on the VFD will read out the frequency. To find RPM, multiply the listed frequency by your Hertz setting.

Frequency to RPMs for 60Hz (US, Canada, and Mexico. May apply to other countries):

<table>
<thead>
<tr>
<th>Display</th>
<th>Spindle RPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>300</td>
<td>18000</td>
</tr>
<tr>
<td>266</td>
<td>16000</td>
</tr>
<tr>
<td>233</td>
<td>14000</td>
</tr>
<tr>
<td>200</td>
<td>12000</td>
</tr>
<tr>
<td>166</td>
<td>10000</td>
</tr>
<tr>
<td>133</td>
<td>8000</td>
</tr>
<tr>
<td>100</td>
<td>6000</td>
</tr>
</tbody>
</table>

Frequency to RPMs for 50Hz (Europe and most other regions):

<table>
<thead>
<tr>
<th>Display</th>
<th>Spindle RPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>300</td>
<td>15000</td>
</tr>
<tr>
<td>266</td>
<td>13300</td>
</tr>
<tr>
<td>233</td>
<td>11650</td>
</tr>
<tr>
<td>200</td>
<td>10000</td>
</tr>
<tr>
<td>166</td>
<td>8300</td>
</tr>
<tr>
<td>133</td>
<td>6650</td>
</tr>
<tr>
<td>100</td>
<td>5000</td>
</tr>
</tbody>
</table>
Trim the deck and rout the jig holes

Do not proceed with this section until you have zeroed the X, Y, and Z axes and warmed up the spindle.

The purpose of this step is to rout a rabbet around the perimeter of the MDF basic deck to reveal the Desktop’s 18” x 24” cutting area. It’s important to zero the X, Y, and Z axes according to the preceding directions before proceeding.

If the ShopBotEASY control is not currently open on your computer, click on the ShopBot 3 shortcut icon on the desktop of your computer.

Click the “Cut Part” button on the position screen
Navigate to www.shopbottools.com > ShopBot Docs > Desktop > Files > Desktop Work Area Cut File. This will download a zipped folder containing the rabbet .sbp file.

The file name will now appear in the display window in the ShopBotEASY controller.

Click the “START” button to begin running the file.

Check that you followed the instructions correctly and have the 1/4” spiral upcut bit installed in the tool. Then click “Yes.”

Please note that the tool may be a number other than 1.

If you zeroed the bit to the top of the spoil board as described earlier then click “Yes.”
Turn on the power to your router/spindle. If a router is equipped, its’ power switch will need to be engaged and then the interlock switch (shown in image to the left) will need to be turned clockwise.

Once you click “OK” the tool will now take two passes around the perimeter of the deck creating a rabbet that is approximately 1/8” wide by 3/8” deep.

Things to keep in mind:

- The center section of the deck now represents the actual useful cutting area of the Desktop, which is 18” x 24”.
- The left front (lower) corner of this center section represents the home position for the X and Y axes.
- By default, the router returns to this position after it completes the cutting program.
- This home position aligns with the center of the bit when the router is positioned above it.
- Most X, Y measurements for designing and routing are based off this location.
Switch to ShopBot FULL

ShopBotEASY has limited functionality; in order to use all of the tools we will need to switch to ShopBot FULL. To do this from the ShopBotEASY position window, you will click on the help (?) button.

At the bottom of the window you will click on the “Switch to FULL” button.

Click “OK” on the popup window to continue to the FULL interface.

A command console should pop up, notice the “EASY” button that will allows you to easily switch back later if you prefer ShopBotEASY.
Surfacing the deck

The basic deck that came with our Desktop is made out of MDF. It makes a good sacrificial deck, but the thickness can vary due to the manufacture of the material and changes in humidity. For most cutting this doesn’t matter, but for critical depth cutting/pocket cutting or v-carving you should surface the MDF deck first. Using the “Table Surfacer” routine makes this process very simple. The “Table Surfacer” is under “Tools” in the FULL ShopBot control. It can also be accessed by typing “TU”.

Choose a straight bit that’s 1/2” in diameter or greater. Then zero the bit to the top of the MDF. This little project is going to generate a lot of sawdust. We recommend that you have your dust collector hooked up and running before starting the actual cutting.

The default table size numbers are for a 96” X 48” table. Change these values to 24” x 18”, set the depth to -.01”, and change the bit diameter to the size of the bit you chose (1/2” in this example). Once you are ready click the “Make my surfacing file” button.
Click “Yes” on the pop up to proceed to the save window.

Save the file in a location that will be easy to remember and find. Name the file something easy to remember and you should also include the tool used in the name for convenience later.

Once you click “Save” the file will run, if an area of the deck is left unsurfaced, then rezero to the area that was missed and rerun the surfacing program. You can repeat this program any time the deck gets worn from use. When the MDF deck gets thin and close to the bolts holding the deck to the machine, simply glue on a new piece of MDF – there’s no need to remove the thin part that’s still attached to your machine.
Beyond the basics

VCarve Pro (Previously called PartWorks)

The first time you use VCarve Pro you need to enter the I.D. number attached to the cover of the print version of this guide sent with your machine.

VCarve Pro is the design/tool-pathing program that is included with your ShopBot and is used to create the part files for the ShopBot. This program can be installed on two separate computers, such as your ShopBot computer and a separate design computer.

Tutorials will be copied to the computer as part of the installation process. They are located at Start > All Programs > ShopBot > Tutorials.

Here is a basic overview of the program interface. There are a lot of resources on using this program through the tutorials, training at ShopBot, online training through ShopBot, the provided helps files in the program, and online support. Be sure to take advantage of these resources, many of them are listed on the next page.
Resources

ShopBot tutorials & videos
www.shopbottools.com/mSupport/tutorials.htm

ShopBot training classes
www.shopbottools.com/mSupport/training.htm

Information on a variety of different CAD/CAM software packages for design.
www.shopbottools.com/mProducts/software.htm

Tooling, materials, and more
www.shopbottools.com/mSupport/resourcelist.htm

ShopBot Forum
http://www.talkshopbot.com/forum/forum.php?

Technical support
http://www.shopbottools.com/support.htm
Help installing ShopBot drivers in Microsoft Windows

Microsoft Windows sometimes gives a message saying there is an issue with the driver installation. If you receive this message, temporarily ignore it and proceed with the rest of the software installation. Then plug the ShopBot in a power source and connect the ShopBot’s USB cable into your computer. Try launching the ShopBot3 software by clicking on the shortcut icon on your computer’s desktop. If ShopBot3 fails to launch, then click the start menu on your desktop and type “UAC” into the search bar. The user account control settings will show up in the search results. Click on this item to open this window. If you have Vista, just uncheck the box marked “enable user account controls.” If you have Windows 7, slide the options bar down to ‘never notify’ and click OK.

Remove the ShopBot USB cable from your computer, and restart your operating system. Then click on the start menu again and select “Computer.” Navigate to C:\Program Files (choose program files x86 if available) \ShopBot\ShopBot3\Drivers\ShopBotControllerV201. Make sure that the ShopBot’s USB cable is disconnected from the computer at this point. Now double-click on Driverloader.exe. This will re-install the USB drivers. Once you get a message that the drivers have been successfully installed, go ahead and connect the ShopBot to your computer and turn the control box on. Now open the ShopBot software and you should be able to connect. This will work 99% of the time. If it doesn’t solve the issue please see the software documents on our website and then if needed call tech support at 1-888-680-4466.
Restarting after an emergency shut-off

If you ever need to use the Desktop’s main power switch to stop the machine during a cut, there are a few steps you will need to follow to get the machine back up and running. This applies to any situation in which the tool loses power unexpectedly, including a power outage, a tripped circuit breaker, or any other event.

It is important to understand that when the machine is powered off, there is nothing holding the motors in place and they may move out of position, albeit slightly. Therefore, when you turn the machine back on, you should not expect the motors to be aligned with where the cutting stopped. The location coordinates on your screen will probably no longer be accurate.

When you are ready, turn the Desktop’s power switch back on. If necessary, use the yellow Keypad function to move the Z height of the bit to a safe location above the work pieces. Then proceed with zeroing the X, Y, and Z axes as usual. You may see an error message on screen that you have lost communication with the tool. This is normal, and you should be able to click OK to continue past the message. If you get any further errors, or have trouble opening the Keypad; exiting and restarting the software will fix the problem.
DIY basic MDF deck

Your Desktop comes with a built-in aluminum T-slot table. Using special T-nut hardware, this table excels at holding moveable jigs and fixtures and is well-suited for engraving and carving work on the surface of a workpiece. If you plan on doing any work that cuts through your material, you should attach a sacrificial work surface to your table to avoid damaging the aluminum bed.

You will need:

- T-nuts (included)
- 1 1/4" socket head bolts (included)
- 3/4" flat head bolts (included)
- 5/32" Allen wrench
- 5/16" Drill bit
- 3/4" 18.25" x 24.25 MDF (offset lower left corner by 1/8" to allow for the rabbet as shown on page 32)
- 1/4" diameter end mill with a flute length of at least 3/4"

We have created a cut file with a drilling pattern for a 3/4" x 24" x 18" work surface located at www.shopbottools.com > ShopBot Docs > Desktop > Files > Desktop Spoil Board Design File. This will not cover the entire surface of the aluminum table bed, but your ShopBot is capable of about 1" of over-travel to ensure that you can cut past the edge of this MDF deck.

To avoid damage to your table, the holes in this cut file will stop short of the full depth of the 3/4" deck material. You will need to complete the holes with a 5/16" drill bit. Alternatively, you can place another piece of 1/4" material below this deck and reset the file to cut a full 3/4" deep.
Please note:
The cut file was created for a 3/4” thick sheet of material. Make sure that your material is at least .700” thick (this is just over 11/16”). If it is any thinner, you risk damaging the aluminum bed. If you must attach a sheet thinner than .700” thick, you will need to edit the design file (VCarve Pro) to reduce the depth of cut.

Setting up temporary hold-downs

With any ShopBot project, you must secure your work piece before cutting. We recommend using the included T-nuts, washers, and 1 1/4” bolts. Center the 18 1/4” x 24 1/4” sheet on the table bed and position the bolts so they are snug against the sides. Then tighten the bolts into the T-nuts. Test the holding strength by trying to move the board with your hands. There should be no movement at all. If you are placing a spacer under the deck you may need to use longer hold down bolts.

Selecting and zeroing your bit

For this project, you will need a 1/4” diameter end mill with a flute length of at least 3/4”. Zero the bit to the top of the material, not to the table base. Once you have zeroed the Z axis, zero the X and Y axes to the bottom left corner of your material. Just align the bit to the corner of the material by eye. You are now ready to run the cut file.

Attaching your new work surface

Once your ShopBot has finished cutting the file, remove the board from the table bed. Using a 5/16” drill bit, complete the clearance holes that were started by the cut file. Trim away any material blow-out on the back of the board so that it will sit flat on the table.

Now slide the T-nuts into the grooves on the table base. Place the work surface down on the table bed and check for alignment with the T-nuts. A small flashlight will make this job easier. Align the left and front edge of the 18.25” x 24.25” MDF deck at approximately X=-.125, Y=-.125. This will allow you to cut a 1/8” rabbet around the 18” x 24” work area of the deck.

Once everything is aligned, use the 3/4” flathead bolts to secure the board to the table. You are now ready to start cutting parts. If you use screws to secure your work piece to the MDF deck, make sure they do not drive through the board into the aluminum base.
Additional information

Extending the USB cable

The USB cable provided is 10 feet long. If it is necessary to increase the length of the USB cable, use a USB 2.0 hub to connect 2, 10’ USB cables. Using a cable longer than 10 feet without a hub as a booster may result in loss of signal or increased electrical interference. If extending cable, do not use a powered 2.0 hub, just one of the small simple ones. Do not use USB equipment made by Belkin as those have proven problematic in the past. If you should have a USB communication problem from electrical noise of the spindle or router, try shortening the cable.

Stopping and temporarily pausing or quitting a file

Typically, when cutting a part file you may discover that you need to temporarily stop or quit the file, but are not in an emergency situation. The ShopBot control software allows a more controlled pause and resumption in your work than a full emergency stop. This might be the case if you need to change a file setting, adjust a hold-down clamp, or just leave the room. You can stop your machine by pressing the space bar or Enter/Return key on your computer’s keyboard. The cursor remains on the stop button during cutting, so clicking the mouse will also stop the machine. In these cases, your ShopBot will come to a gentle (‘ramped’) stop and will pull up to a safe Z height.

If your ShopBot is moving below the “Fast Stop Threshold” (0.8 ips by default; configured in [VR]), it will just stop. Hitting the ‘S’ Key will produce a ramped stop and pull-up, even if the tool is going slower than the fast stop threshold. After stopping, you will be presented with a menu that allows you to insert a ShopBot command, resume cutting, or quit the file. You also have the option of ‘nudging’ any axis slightly in case it may be slightly out of position. When this type of temporary stop is used, the tool remains powered, and locations calibrated, so that you can accurately continue the project you are working on.

If you need to return to a location in a file you have already started, you can return to the location in the file you were cutting and continue from there by using the [FG] command to start the file in a specific line in the code.

A remote stop button (ShopBot part number 002723) can be set up in a convenient location near the tool. Hitting it has the same effect as hitting the space bar. That is, the remote stop button stops the tool, but it is not an E-Stop that also cuts power to the system. Additional external stop buttons can be set up on an unused Input and configured for the same stop action using the [VN] command.