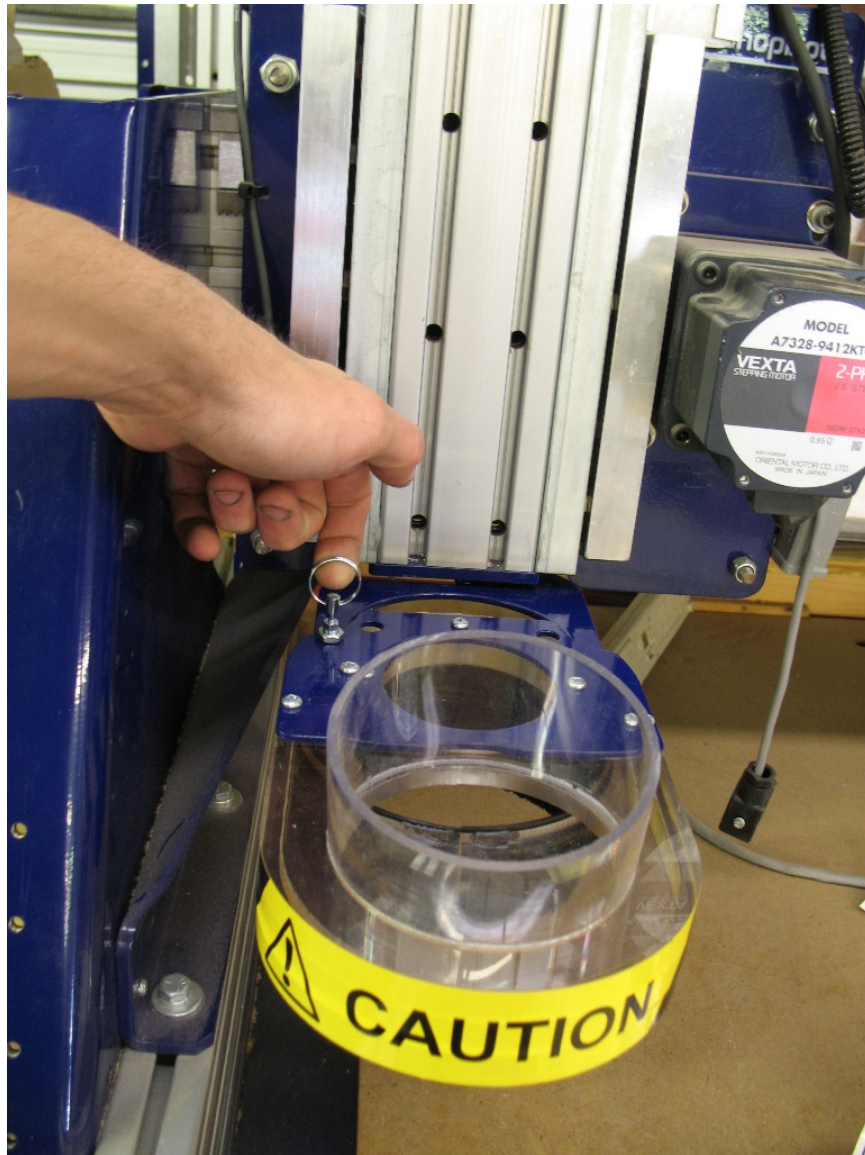


Installing the PRS Dust Foot



WARNING
Flying objects.
Risk of eye injury.
Safety glasses
required.

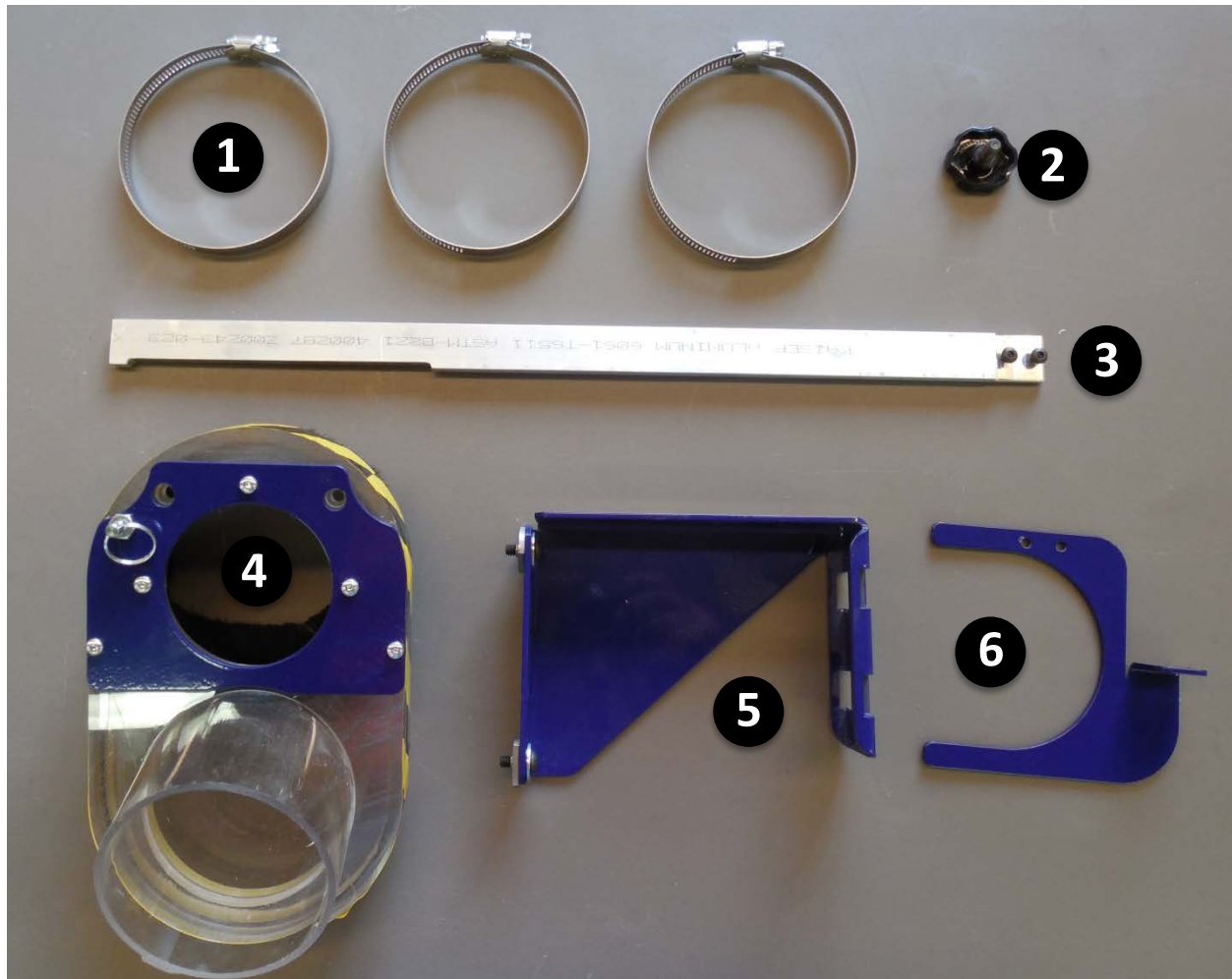
The ShopBot dust foot is designed to collect dust from routine operations as well as to prevent discharge of debris from the cutter. However, use of this dust foot should not reduce or replace common industry safety practices and recommendations. Safety glasses should always be worn whenever the machine is in use. Be especially careful when the spindle or router is in operation.

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Parts list



Kit parts

- | | |
|---------------------------------------|---|
| 1. (3) 000507 - Hose clamps | 5. (1) 002637 - Front dust hose bracket |
| 2. (1) 003890 - 5/16-18 knob | (2) 002407 – 1/4-20 x 5/8 in bolts |
| 3. (1) 003592 – Front dust foot shaft | (2) 000030 – 1/4 in flat washers |
| (2) 001943 - 10-32 x 1/2 in bolts | (2) 000894 - 1/4-20 T-nuts |
| 4. (1) 15233 - Spindle dust foot | 6. (1) 003107 – Front dust foot bracket |
| or 15231 - Router dust foot | |

Replacement kits (not included)

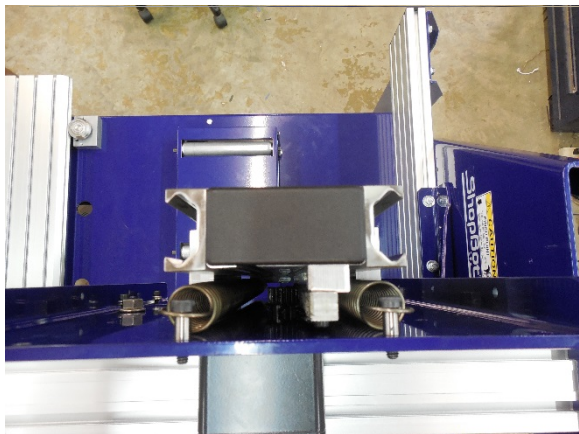
- 15234 - Spindle replacement brush kit
- 15232 – Router replacement brush kit

Retrofit information

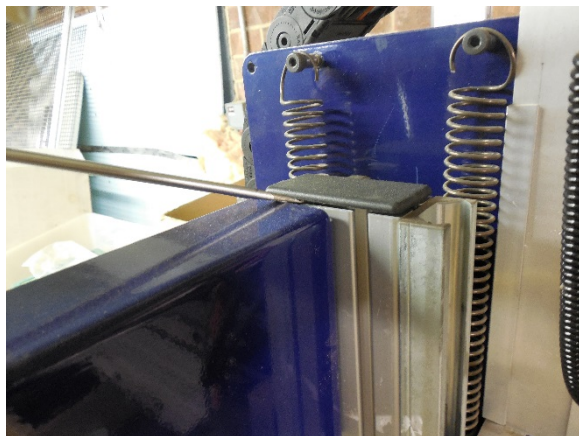


If you are retrofitting to an older machine, a hole for the knob will have to be added into the Z rail using a 5/16-18 drill and tap set. Use the drawing at the end of this document to measure the proper hole location. Make sure it is oriented according to the document in order to line up with the shaft slot running down the center of the rail.

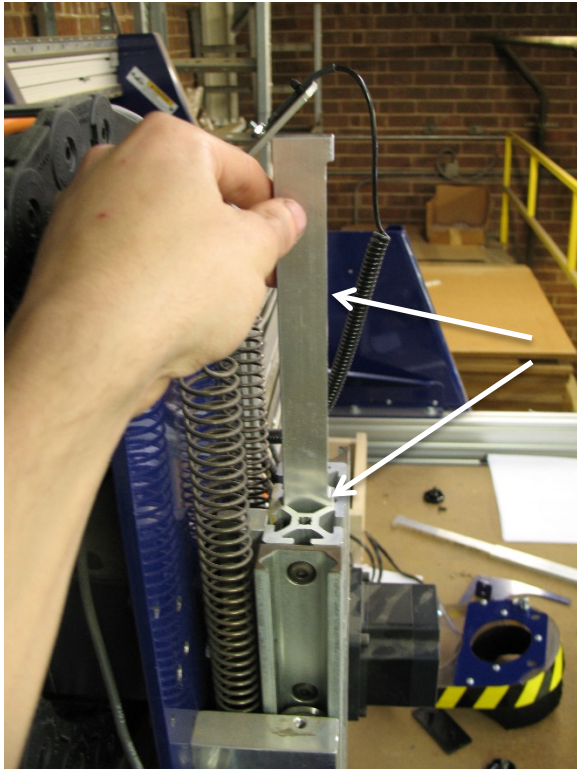
Inserting the front dust bracket rod



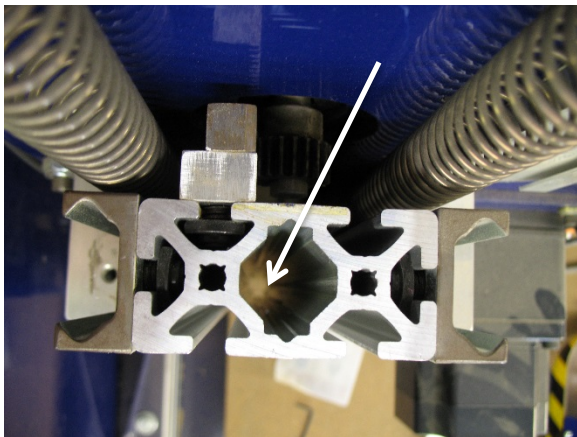
Locate the top of your Z axis assembly. There will be a black cap covering the end of your extrusion that will need to be removed.



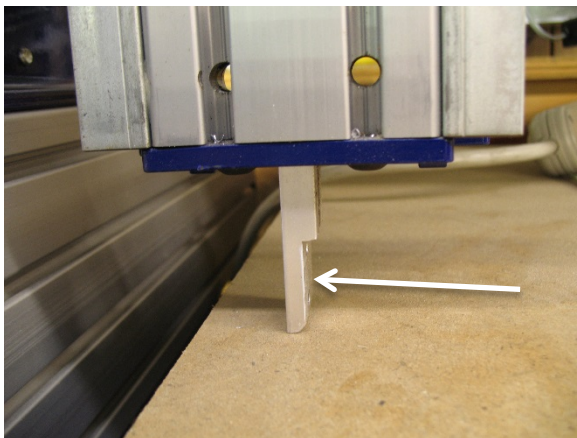
This is done by gently prying up the cap with a screwdriver. Keep the cap level as you pry it up by using the screwdriver around all of the edges. The cap should come off straight up. This will prevent the legs of the cap from being stressed and potentially breaking its prongs.



Orient the front dust bracket rod so that the large notch in the rod is to the front and top.

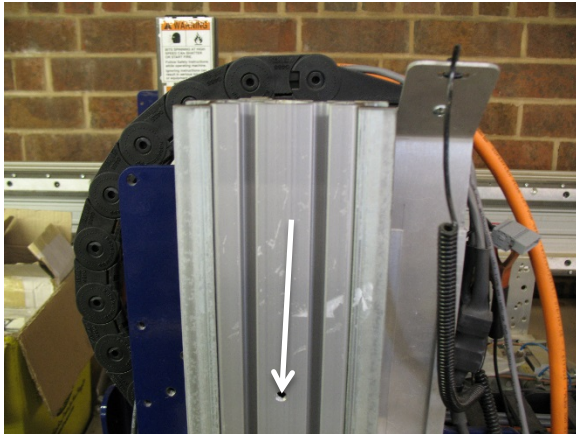


Place the rod into the center slot of the extrusion.



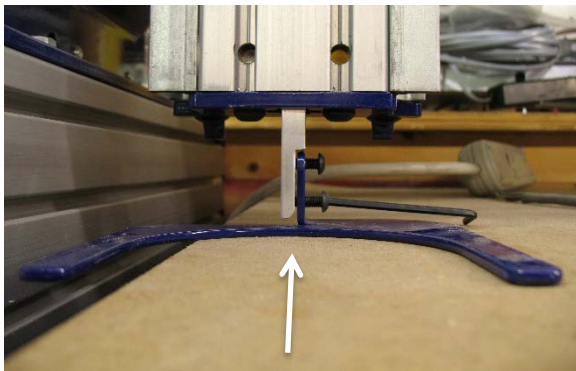
The notch with tapped holes should be to the right.

Installing the knob

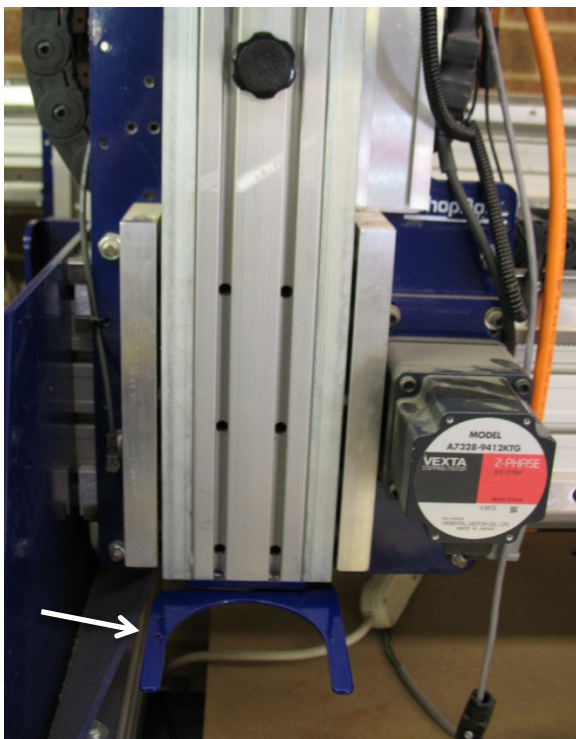


Install provided knob in the tapped hole in the center of the Z rail 6.844" from top. This will hold the rod in place while you install the rest of the system. Diagram is provided in the appendix.

Installing the dust foot bracket



Install the dust foot bracket on the bottom of the shaft using the two provided 10-32 screws.

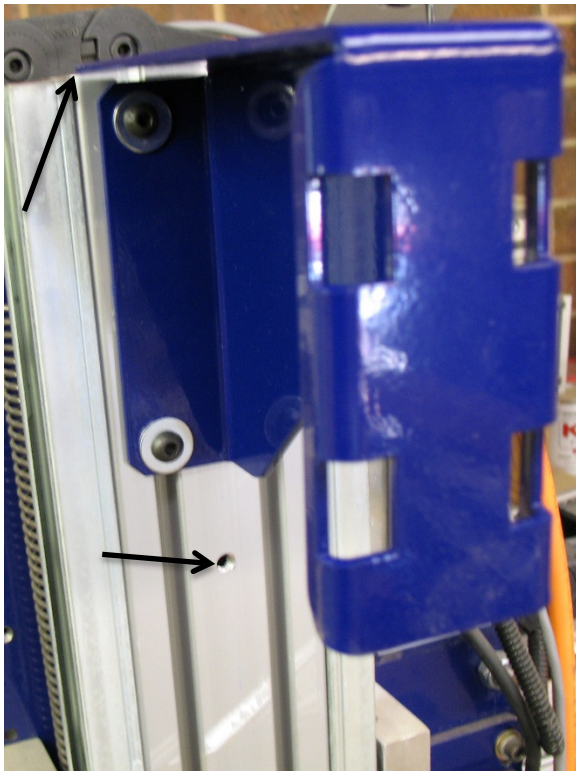


It should be installed in the notch on the front dust bracket rod with the U shape facing forward as shown.

Installing the dust hose bracket

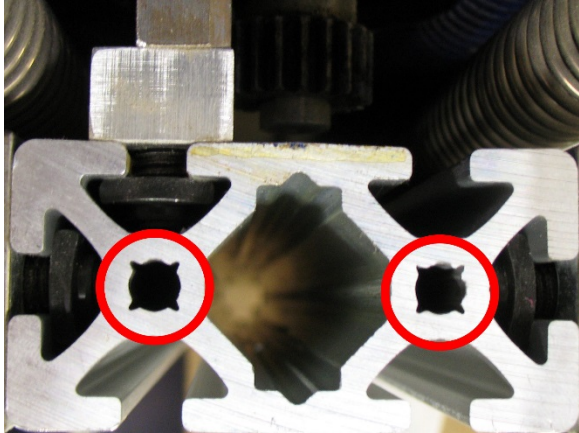


Install T-nuts, screws, and washers into the holes in the dust hose bracket. Leave these loose to allow the bracket to slide into the Z rail.



Slide the bracket onto the rail. Once the bracket is positioned at the top of the Z rail, tighten the screws into the T-nuts securing the dust hose bracket into place. Be sure not to install the bracket on top of the knob hole.

Installing the Z rail end cap



Now that we have installed everything that needs to slide into the rail, we will place the end cap into place. The two posts should be inserted into the two cutouts shown.

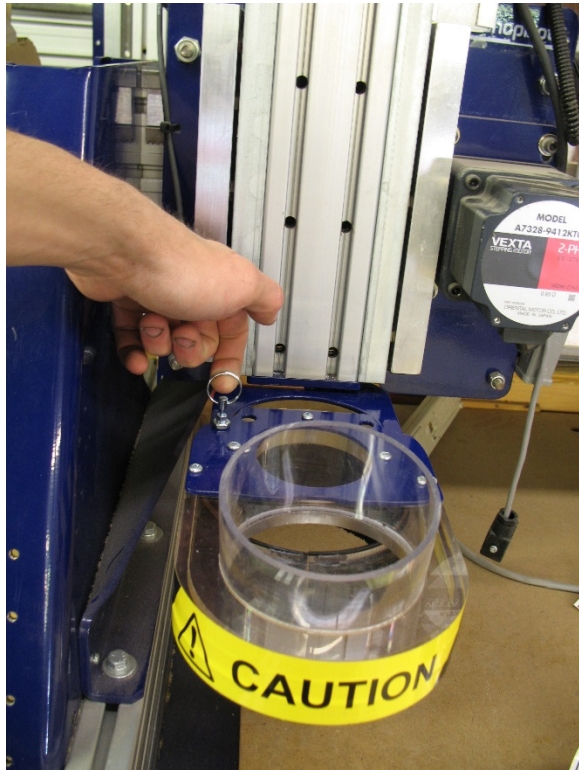


Align the cap with the holes.

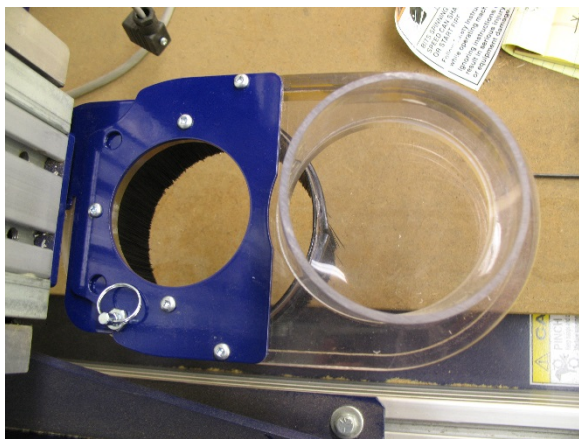


Install end cap with a firm, even pressure until flush with surface as shown.

Installing the dust foot

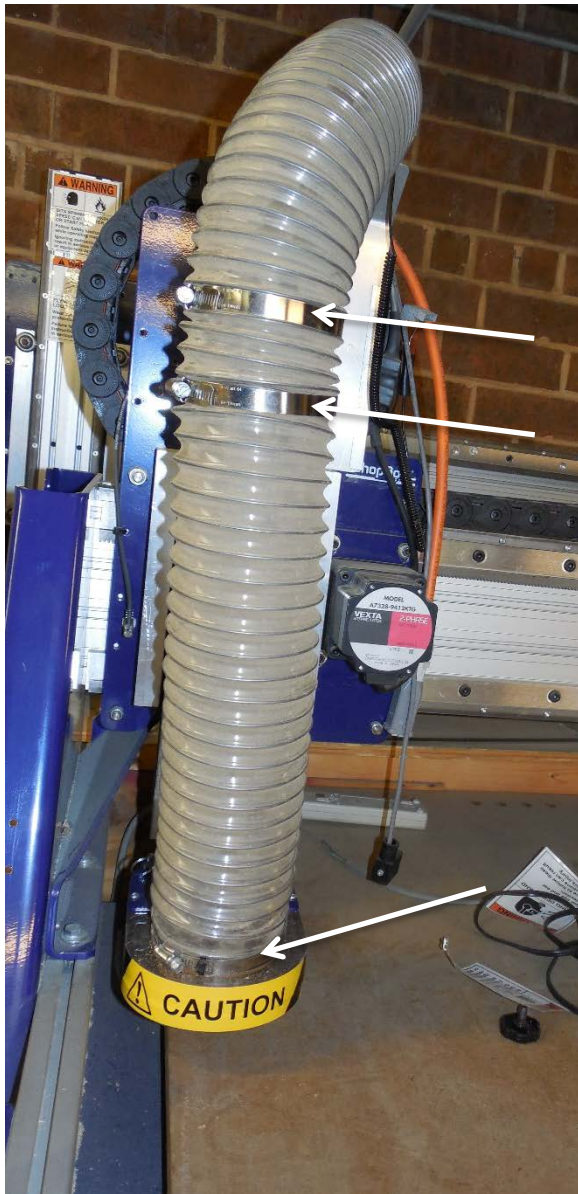


To attach the dust foot, you will need to pull the pin on the foot as shown and slide it onto the dust foot bracket. For normal installations with a spindle/router already installed, you will need to lower the bracket below the spindle/router to provide interference-free installation of the dust foot.



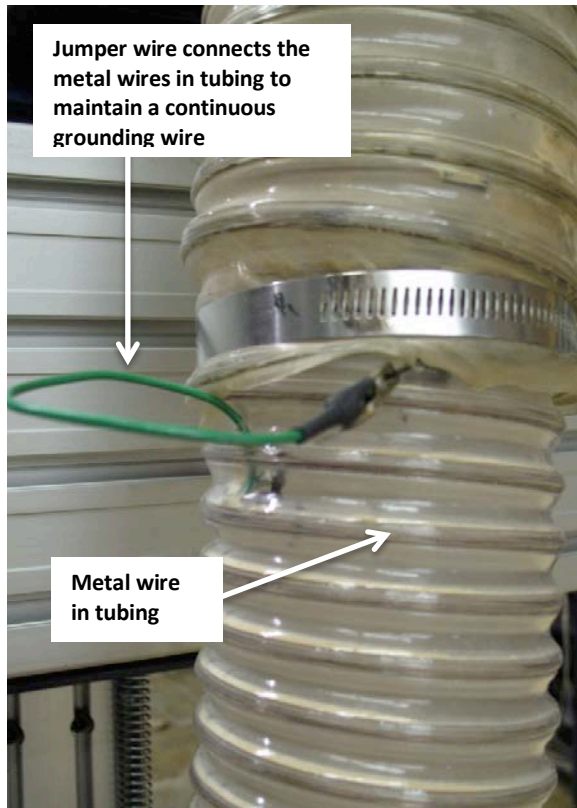
Insert the dust foot until it snaps into the first pin hole for routers and second pin hole for spindles.

Installing the dust collector hose



Using the three hose clamps provided, connect your 4" dust collector hose to the dust foot and to the dust hose bracket as shown. Leave enough slack in the hose above the dust hose bracket to allow full travel of the machine. Check full travels to ensure the hose does not bind or get caught anywhere. A good option for setup has the hose fastened over the center of the table to allow for the most travel with the least amount of slack.

Grounding the dust collection system



Dust collection systems can generate a large amount of static electricity. ShopBot recommends that users ground out their dust collection systems to help prevent static discharge. This static discharge can create electrical noise which can disrupt the control system, and has the potential to start a fire with the dust inside the hose or collection system.

The use of 4" tubing with a metal wire is recommended. This allows the hose to be easily grounded. The wire should be grounded to a good electrical ground such as the frame of the dust collector. If you need to use more than one piece of tubing, connect the two hoses together as shown to the left.

If tubing without a metal wire is used, it is recommended to run copper wiring through the inside of the tubing as well as around the outside. Run a thin-gauge copper wire through the inside of the tubing that will reach from the dust foot to a grounding location on the dust collector's frame. Wrap a second thin-gauge wire from the dust foot to the same grounding location on the dust collector. This wire should encircle the tubing every foot for the full length of the tubing. Both wires should be grounded to the same location on the frame of the dust collector.

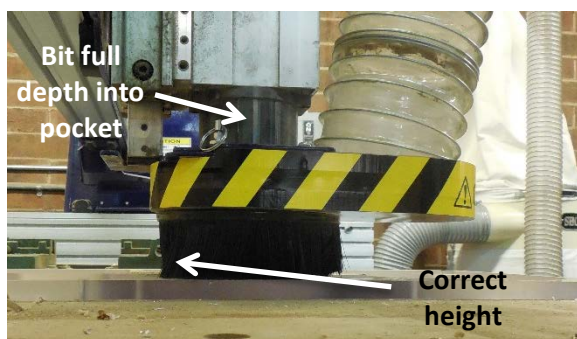
Using the dust foot

Dust foot adjustments



The dust foot is designed so that the height of the dust foot can be set by tightening the knob into the dust foot bar. The dust foot will then move up and down with the Z axis as it moves throughout the cutting file.

Setting the correct height for the dust foot



Setting the dust foot to the correct height is dependent on the material thickness and length of bit. Set the height of the dust foot equal to the material thickness, minus 1/8" above the tip of the bit. This allows the bit to reach full depth of cut and only deflects the dust footing slightly. If you know the max depth that will be cut on the part (when you are not cutting all the way through), you can set the height lower accordingly to maximize suction.

Positioning the dust foot at a depth equal to the tip of the bit will cause the dust foot to grossly deflect and may cause premature wear, or even failure, in the plastic shroud. In some 3D applications the dust foot may not be practical if the relief of the part is greater than 4".

Changing bits



When changing bits, loosening the knob allows for the dust foot to drop out of the way. If there is not enough height, or the dust foot is otherwise in the way, you can remove the dust foot using the quick release pin. Pulling up on the quick release pin and sliding the foot out allows for quick and easy removal.

Appendix

Tapped hole location for adjustment knob

Dimensions are in Inches

