

Haunted Bookshelf Instructions

All steps do not have to be completed in the order shown.

Finishing Book Prep

For each book do the following:

You may want to make the pilot holes a little bigger



Step 1

Use one dowel, one custom width x 4" wood block and one 1 5/8" screw and assemble as shown

There will several blocks available on site. Select a block with a width that is closest to the inside wide of the book. A power saw will be available to modify the width if needed



Step 2

Use marking template to locate the 5 3/4" point from the bottom of the book.

Use two 1 1/4" screws to attach the dowel/block to the book as shown. The dowel should be centered on the 5 3/4" mark.

Bottom of book.



Step 3

Assemble Bookshelf (Note: the carpenter making many of these cuts was high on diet Coke – you'll see)



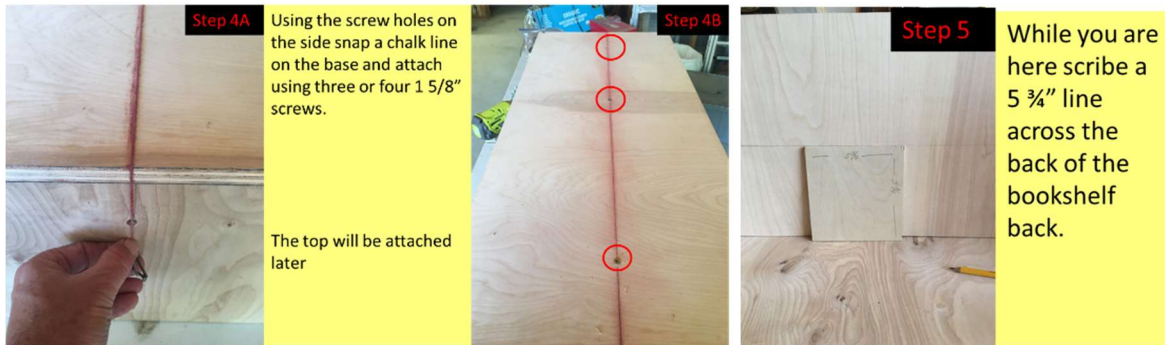
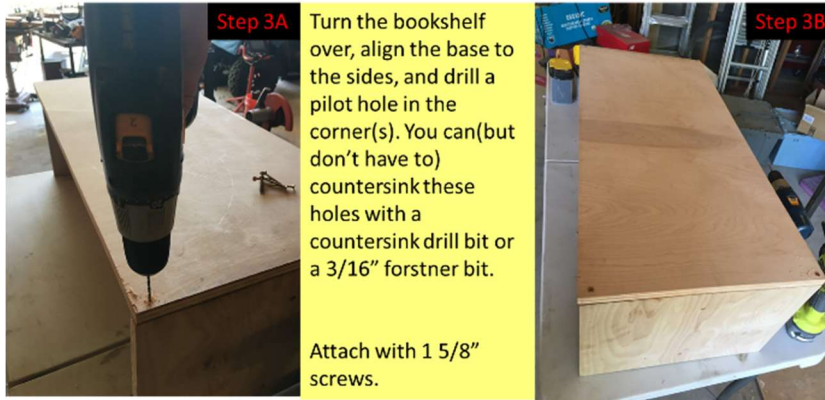
Step 1

Loosely assemble (no screws) the base, two sides, and the back. Make sure the "B"s (they may be upside down) are in the back.

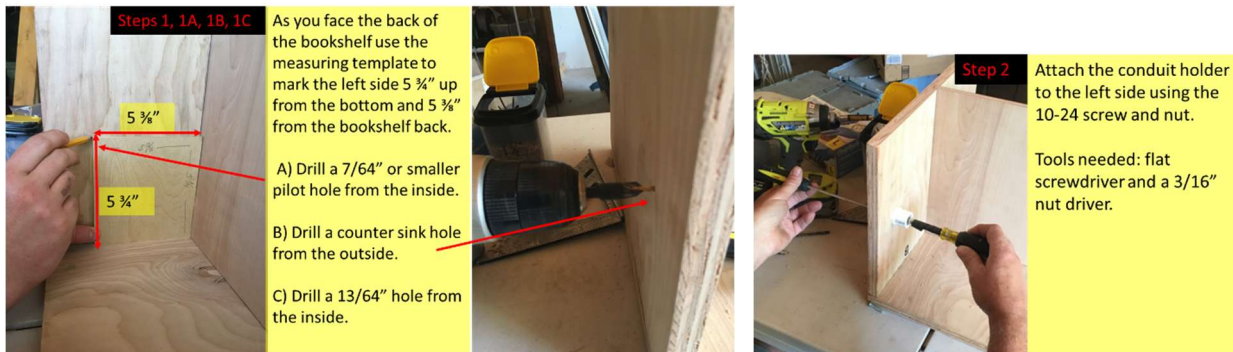


Step 2

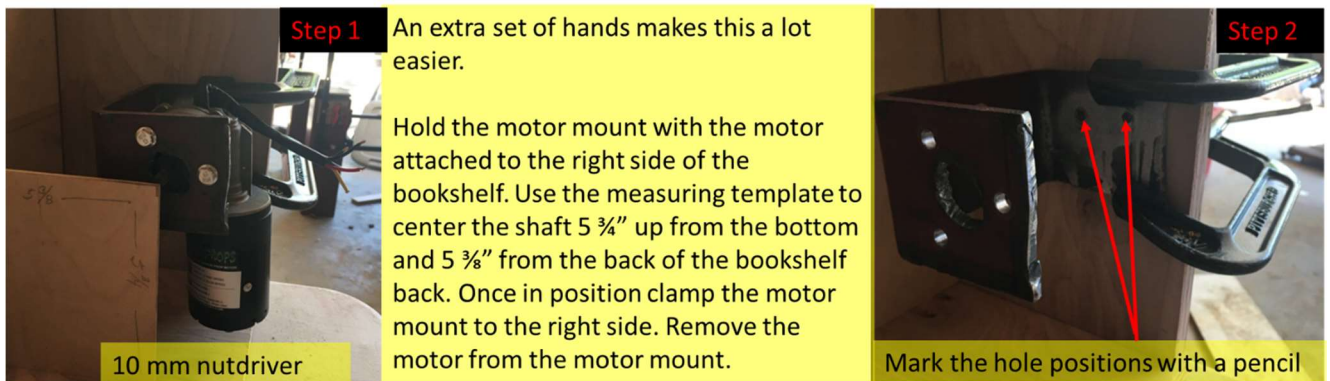
Using the pre-drilled pilot holes, attach each side to the back with two 1 5/8" screws. You should use a quick square to ensure the side is vertical to the base.

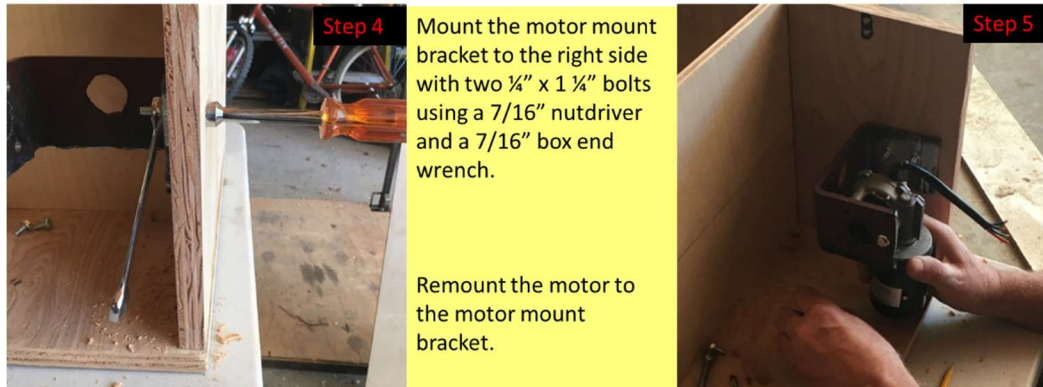
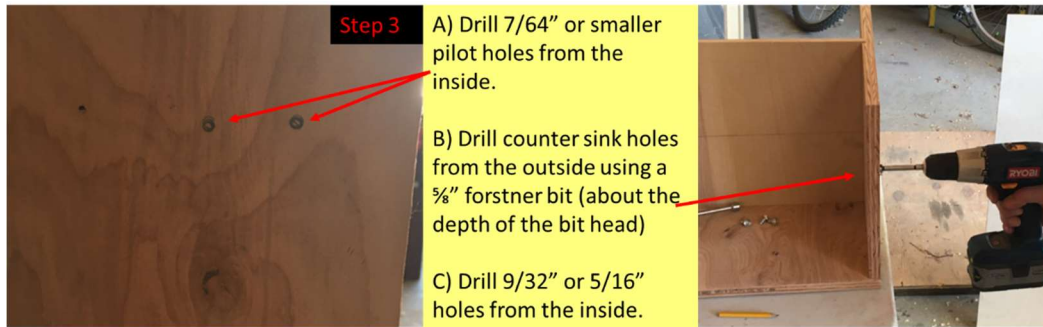


Attaching the Conduit Holder to the Bookshelf

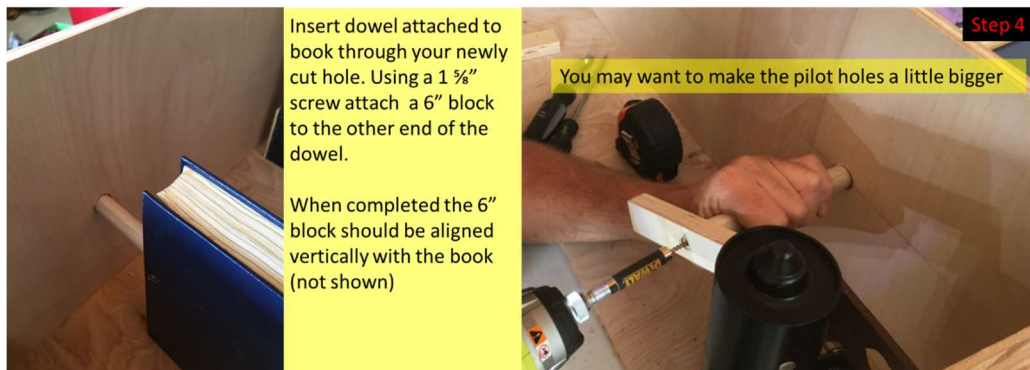
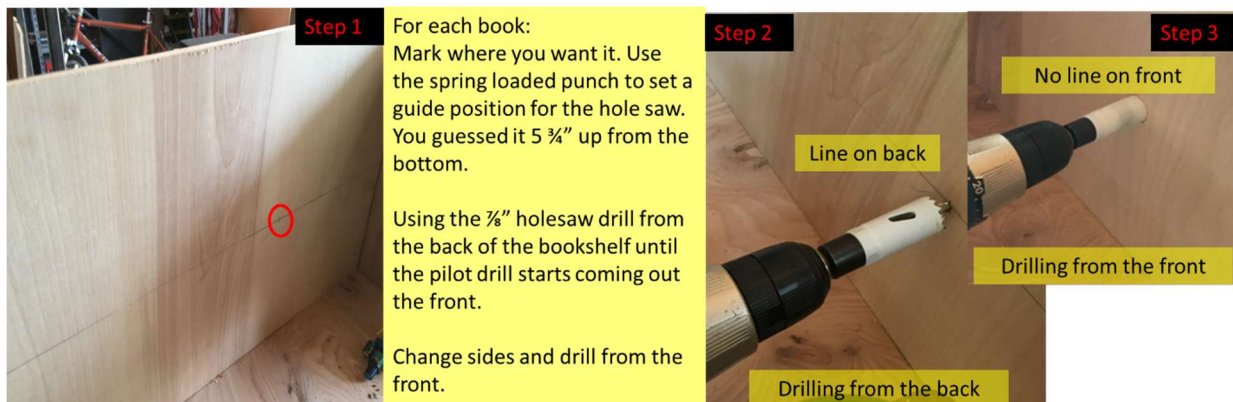


Attaching the Motor Mount and Motor to the Bookshelf

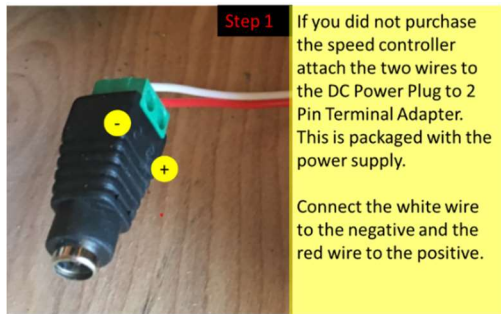




Installing the Books

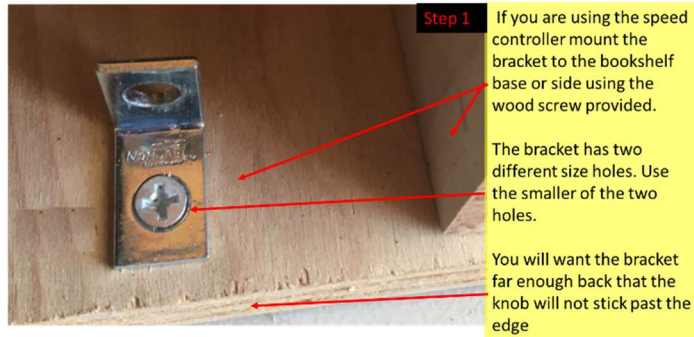


Attaching the Power Supply to the Motor and/or Speed Controller



Step 1 If you did not purchase the speed controller attach the two wires to the DC Power Plug to 2 Pin Terminal Adapter. This is packaged with the power supply.

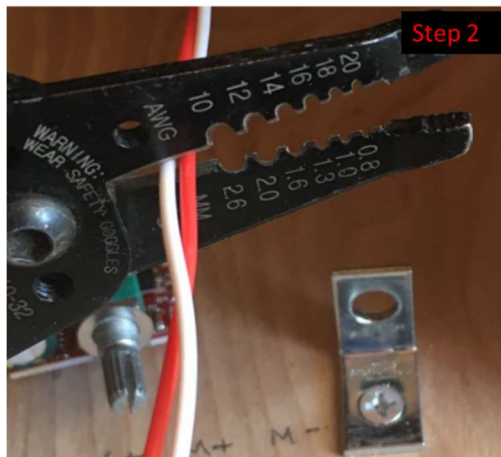
Connect the white wire to the negative and the red wire to the positive.



Step 1 If you are using the speed controller mount the bracket to the bookshelf base or side using the wood screw provided.

The bracket has two different size holes. Use the smaller of the two holes.

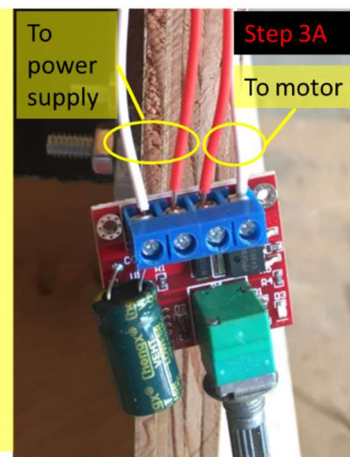
You will want the bracket far enough back that the knob will not stick past the edge



Step 2 Cut the two strand wire into two pieces about 10 – 11" long and 6 – 8" long. Strip all four #18 wires back about $\frac{1}{8}$ " – $\frac{1}{4}$ ".

Wire the speed controller as shown. From left to right:

Power supply white wire to V-
Power supply red wire to V+
Motor red wire to M+
Motor white wire to M-



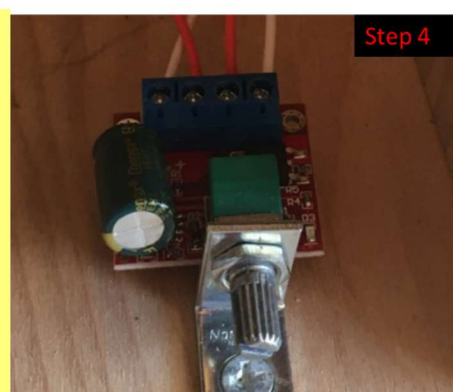
Step 3A



Step 3B Attach the two power supply wires to the DC Power Plug to 2 Pin Terminal Adapter. This is packaged with the power supply.

Connect the white wire to the negative and the red wire to the positive.

Mount the speed controller to the bracket... back to front – washer, bracket, nut. Nut is 10 mm.



Step 4

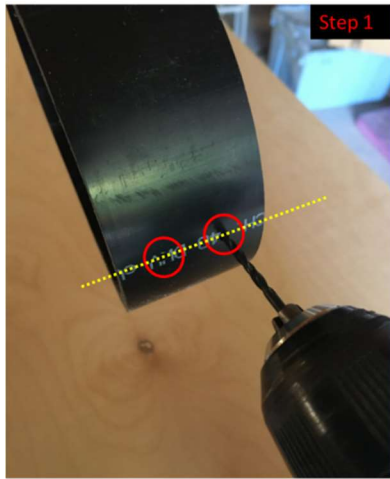


Step 5 Before attaching the plastic knob to the spindle turn the spindle counter clockwise to the off position. Attach the plastic knob to the spindle by pushing it on, blue marker up.

Power up the motor. It should turn counter clockwise. This ensures the coupling nut is always being screwed on.



Prepping the Push Rings



Step 1 For each ring drill two pilot holes on an imaginary line across the ring. Use a $\frac{1}{8}$ " or smaller drill bit.

Installing the Conduit/Motor Shaft Extension & Push/Drive Rings



Step 1 Screw the 6 mm coupling nut onto the motor shaft.

Measure the distance from the conduit holder to the center of the screw hole/screw. The measurement for this example was 27 $\frac{1}{4}$ ".

If you want move the #10-32 screw from the conduit and screw it into the coupling nut.



Step 2



Step 3 From the screw hole / screw in the conduit mark the distance recorded in step 2.

Cut off the excess conduit.



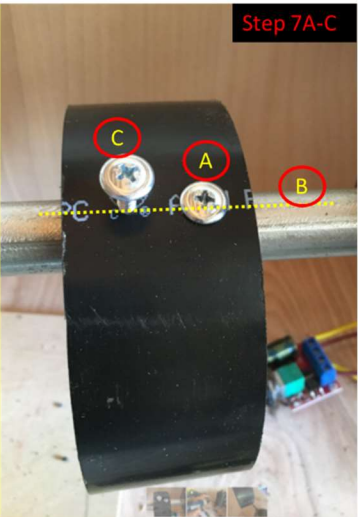
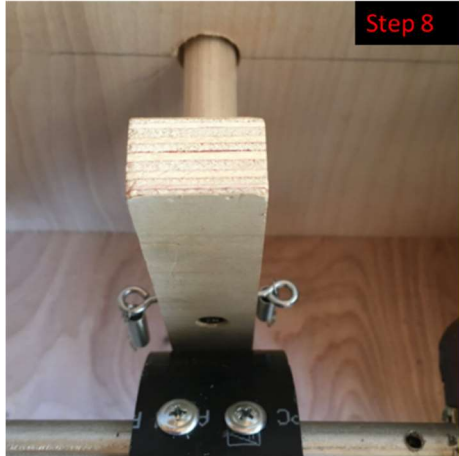
Step 4



Step 5 Slide all five rings over the conduit and attach the conduit to the bookshelf.

A) Slide the conduit end with the screw hole over the motor shaft.
B) Slide the other end into the conduit holder
C) Attach conduit to motor shaft using the #10-32 screw.

Steps 6 – 9 should be completed for each push ring. Set the rings at different positions (between 0° and 360°) to move the books in and out at different times in the motor rotation. Use the motor to reposition the conduit to drill the pilot hole.

	Step 6 Line the push ring up with the push rod of the book. Slide the push ring aside and drill a $\frac{1}{8}$" or smaller pilot hole into the conduit. Attach the push ring to the conduit with: a) One self tapping screw (Yes, you do need the pilot hole) b) Align the push ring with the conduit c) Second self tapping screw (piloting is optional, however I recommend especially if you do not have an impact drill)	Step 7A-C 
	Step 8 Attach a spring and screw eye to each side of the push rod. (This is where reading all the instructions first pays off. It is easier if you attach the screw eyes and springs to the 6" wood block before you attach it to the dowel – See <i>Installing the Books</i>) Attach the spring(s) to the conduit with cable ties.	Step 9 

Installing the Top of the Bookshelf

Install the top of the bookshelf using the same process to install the bottom of the bookshelf. Be sure to drill pilot holes.