

Electric Seat Motor Slow Turner

By Josh Bowman of TriStateWoodturners

This is what I bought. I can help you with wiring if you need it.

Here's the motor that I use:

http://www.sciplus.com/p/CAR-SEAT-312VDC-GEAR-MOTOR_49248



Here's the controller that I use:

http://www.amazon.com/gp/product/B00CW82ZPG/ref=oh_details_o01_s00_i01?ie=UTF8&psc=1



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Here's the power supply that I use:

http://www.amazon.com/Adapter-Power-Supply-LCD-Monitor/dp/B003TUMDWG/ref=pd_sim_indust_1?ie=UTF8&refRID=1SBYHNJAMXC3A4ZA03S8



Here's the Radio Shack 3x6x2 box I used:

<https://www.radioshack.com/products/radioshack-project-enclosure-6x3x2?variant=5717250245>



Here's the Radio Shack SPST switch I used (any kind will do)

<https://www.radioshack.com/products/spst-red-rocker-switch?variant=5717522501>



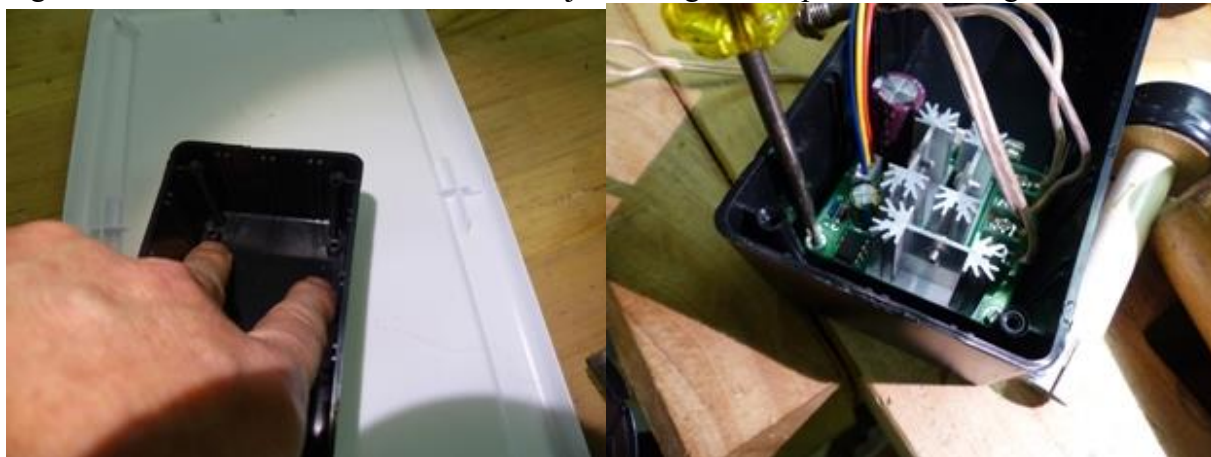
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I suggest you temporarily wire everything up and become familiar with it, before screwing stuff down. You shouldn't get shocked with just 12 volts. Once you have a feel for it all, pull out your drill and drill the box for the switch, pot, power cord and motor cord. Speaking of the motor cord the connector on it will accept a blue female spade type crimp on connector:



I usually have to take a screw driver and expand the spade connector a bit. Also, since these connections are close, put some tape or heat shrink over one of the connectors. Now run the motor wire and the power supply (12 volt side and plug cut off) into the box. Put some tape around the wires or a knot to keep them from being pulled out. Screw them to the boards terminal strip, ensure the positive power is on the + on the board and negative is on the - of the board. Now take the whole mess and place it into the 3x6x2 box and you'll find there are some lugs to screw the board to. It doesn't much just enough to keep it from moving around.



At this point you can drill 2 holes through the bottom of the box and mount it to your plywood base.

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Now go to work on the L brackets and cut them down to fit the motors lugs when the motor is resting with the shaft horizontal. Drill a ¼" hole to accept a bolt through the brackets and motor lugs.



Screw them down to the plywood base and then bolt the motor to them.



I have found it works better to place hardboard pad for the motors transmission to rest on because the motor is a little larger than the transmission.



I also add an L bracket to the back to allow the motors shaft to be rotated up.

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Now mount the switch and pot to the boxes top panel (you can choose to use the aluminum insert or not). Screw to top on.

Now make some mandrels. I simply take a chunk of wood, drill a hole the size of the ½” cpvc pipe and turn it round. I then glue the cpvc into the disk and cut 4 slots on the other end of the pipe and slide a small hose clamp on. This will just fit over that shaft and fasten tightly. Make several of different size disks.



I sawed off an inch or 2 of the shaft just to make it look neat.

Now, hot glue (I've had issues with the glue holding, but Charles Jennings has not) the turning onto the disk. Don't be fussy about being perfectly centered. Start the turner up and set it for about 30 rpm. Take a foam brush and fresh poly and begin to apply and even coat. When a complete coat is on, walk away and leave the turner going for several hours to all-night.

Here's stuff I have learned:

- Keep a clean cardboard under the turning in case the glue lets loose. That makes it much easier to repair the finish if the turning falls.
- Use a good light to see you're getting the poly on evenly.
- Keep the brush wet, not sippy.
- I've had issues with putting another coat on within 30 minutes. My experience has been the finish will drag/tear and leave a gap in the finish. Put a coat on....walk away slowly. It's ok to touch up while it's wet, just be careful about it when the top skims over.

I have found the finish is as smooth as spraying, but has a nice thickness as well.

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The pictures below are of one I used 2 motors on, this is only an option.

The seat motor has a lug on the back where I put an L bracket on each side of and pass a 1/4" bolt to hold it in place. Works well. I think the brackets are 1-1/2". I also put a spacer under the motors transmission to level it out.



Because the motors lugs are mounted to the L brackets, it can be rotated up so maybe you could use it as a turntable for spraying.....It's only an option and costs only another L bracket (see above) for a stop.

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The Box that holds everything is a 3x6 box from Radio Shack, which holds everything nicely and the control board even has a place to be screwed down to. The switches used can be most any type of SPST (single pole, single throw) switch. If you want it to reverse then you'll need to contact me for more info.



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The control board comes with the potentiometer, the hook up is fairly simple, and I've tested each way to hook it up wrong and never hurt the control board. I have had a member get heavy handed on the terminal screws and break them. This stuff is low voltage/amps and only needs say 16 to maybe 24 gauge wire. 14 gauge might be tough to get into the little terminal block on the control board.

I did add an optional power plug to my box. But I really don't recommend it. It's just a connection that may give you trouble.

Fine print:

I make no guarantees concerning this slow turner. But I will say, I've done a little testing on it. With a heavy hollow form, it doesn't even get the motor much over 100 degrees and the amp draw is minimum. I've ran one in my shop for several days straight with no issues. And haven't had anyone have any problems with theirs. Your mileage may vary. Feel free to contact me for help or improvements. I've found by the time you've bought everything, it'll cost nearly \$50. I frankly think that's a bit high.....but I'm cheap.

For those who can't read the above fine print:

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Email me back that these got through. Sometimes attachments don't make it.

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