V35 & V75
Velocity Series Potter's Wheel
Troubleshooting Manual

A Tradition of Excellence

SHIMPO

A Nidec Group Company

NIDEC-SHIMPO AMERICA CORPORATION • Itasca, IL 60143 USA • Phone: (800) 237-7079 • (630) 924-7138 • Fax: (630) 924-0340
www.shimpoceramics.com • info@shimpoceramics.com

Velocity Series
Problems and Solutions

There is nothing more disappointing than to open a box and the product does not work. Here at Shimpo Ceramics you can be assured that each wheel is tested before they are shipped out. Customer's satisfaction is our primary goal. However, due to some things that we can not control, such as damage due to shipping we have dedicated these pages to further assist our customers in their problems regarding our wheel. Here are given situations that can further assist our customers, to get the best out of our wheels.

We have gathered the following information and presented it to the most comprehensive way that we can. Questions and answers that concern how to go about and repair the wheel without spending too much money and time; the best way to get good results is to know your equipment better.

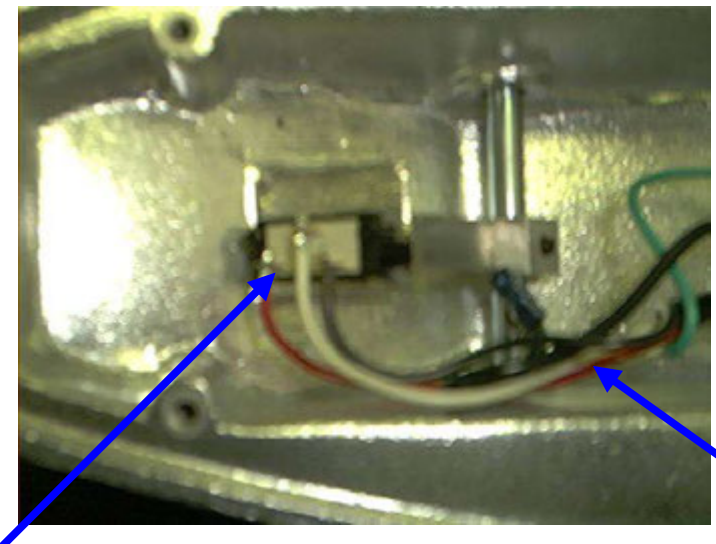
To prevent electrical shock, please remember to turn off and unplug unit before doing any kind of repairs.

Let us start:

1. The wheel would not turn after the switch is turned on.

   First check if the pedal is at the starting position, as shown in the picture. If it is not, push the pedal to the starting point, then slowly press it again to the speed that you require. Make sure that you also selected the direction that you wanted, clockwise or counter-clockwise.

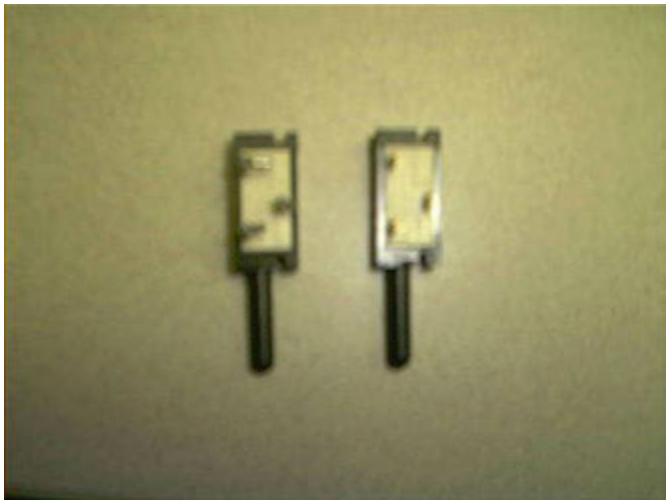
   If the wheel is not turning after the pedal is pressed and depressed, turn off power and open the pedal using a Philips screwdriver. There are four screws on the bottom, which holds the plastic lid. Again make sure that the power is off, this is to ensure that you will not get shock and your controller will not be shorted out. 80 percent of the time the problem of no response is traced back to the pedal. Shown below is a picture of the linear potentiometer that we have on the foot pedal. This is the heart of the wheel, without it the pedal is either idle or turning without control.



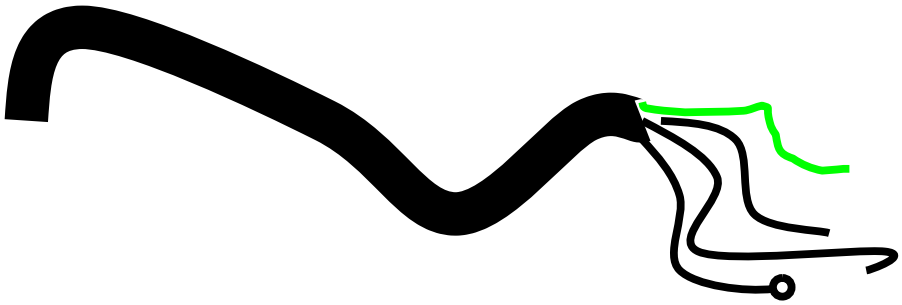
Linear Potentiometer

Caution: Turn Power off.

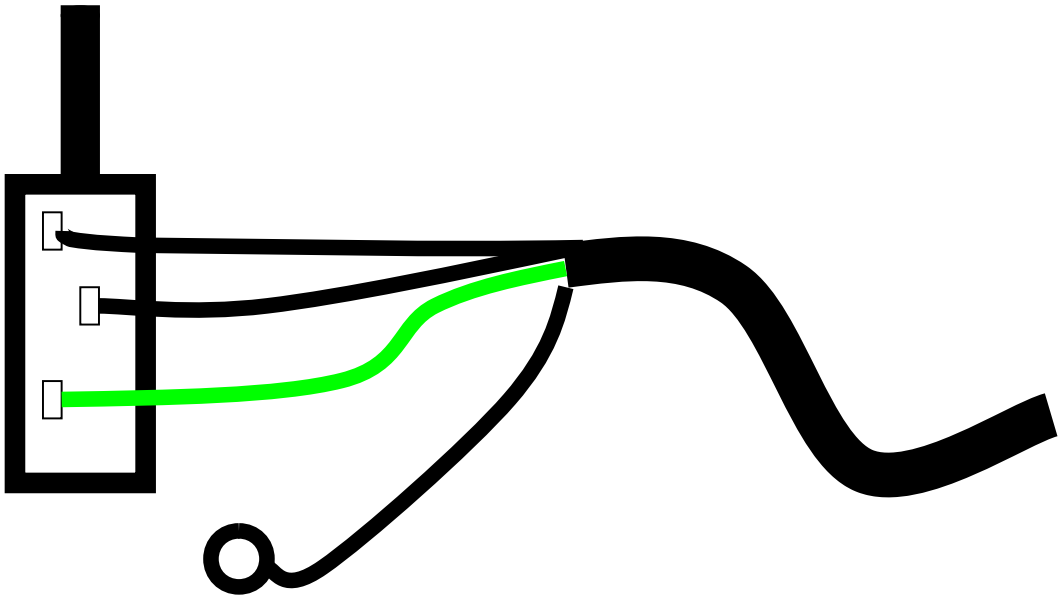
Three wires going to the controller.



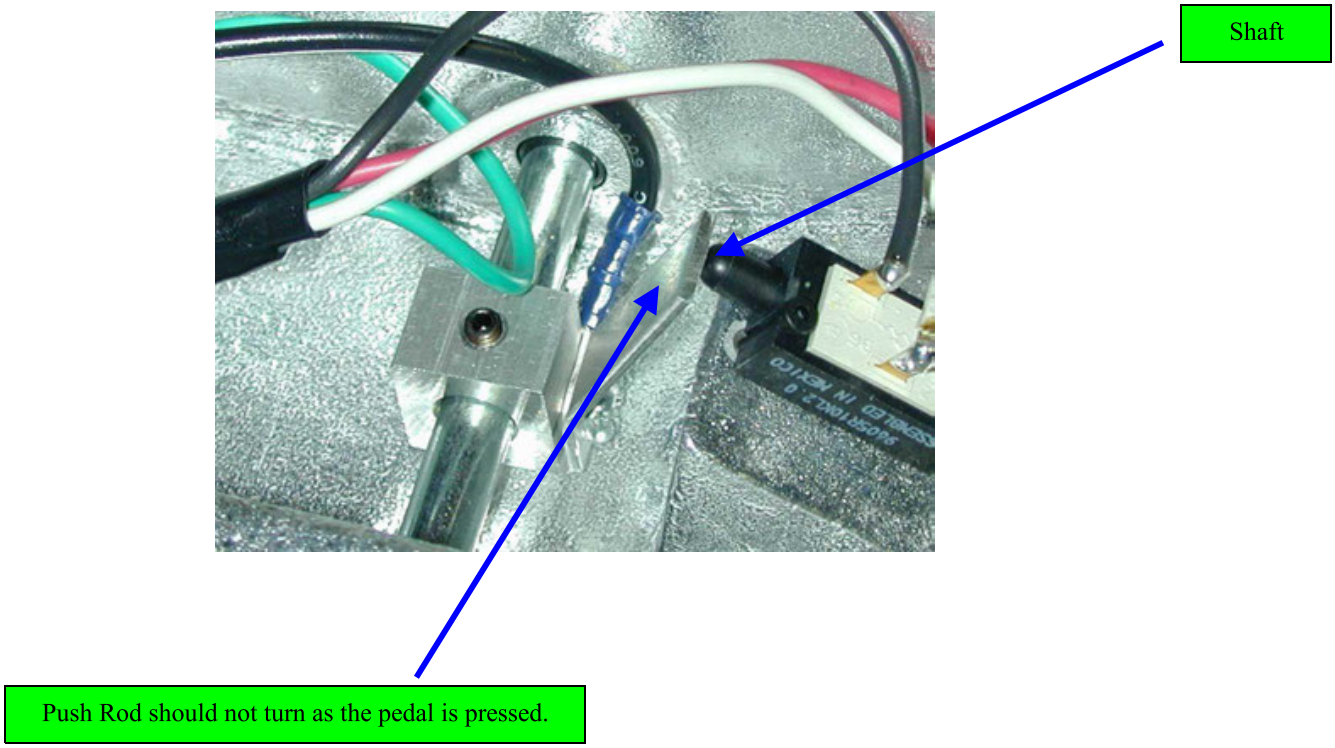
This Linear potentiometer can be purchased through our dealers. Wire colors do vary depending on the product that it is used for. The wire assembly for the Velocities is enclosed on a black insulator, having four wires coming out. Colors should be Black, White, Green, and Black.

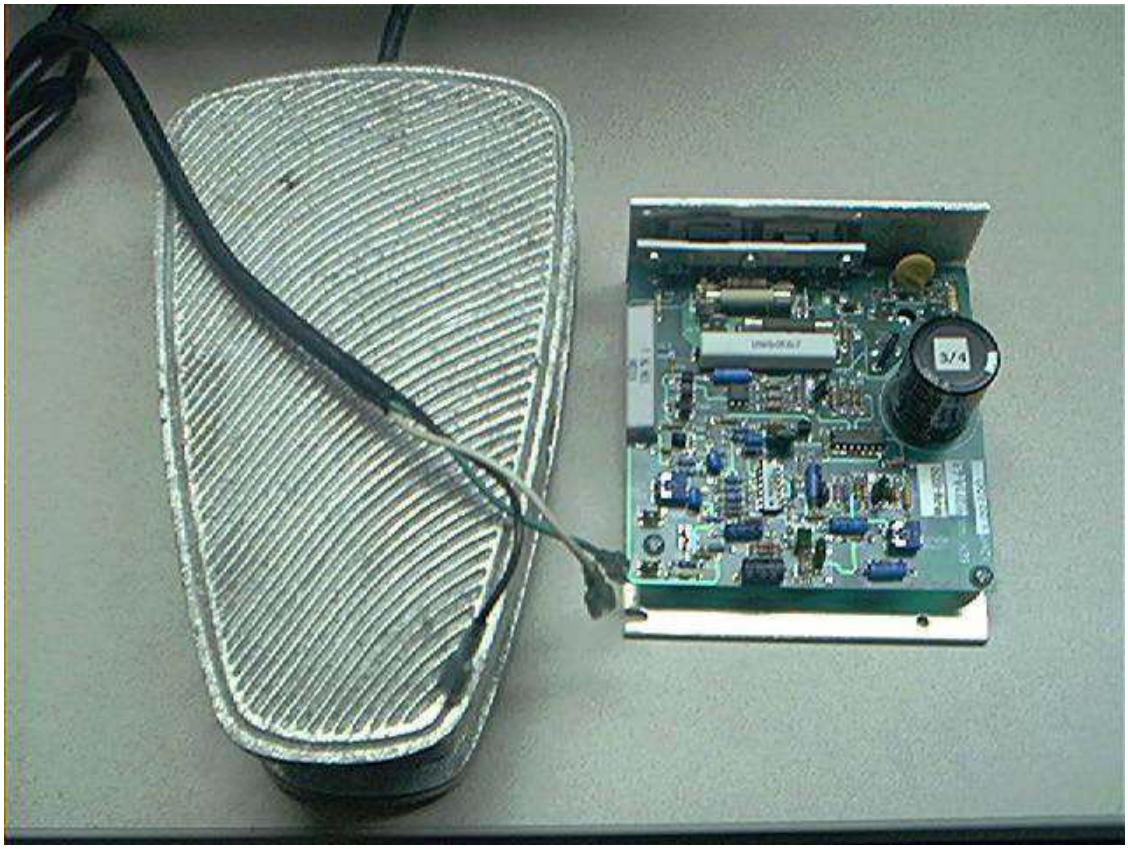


It is important how these wires are connected. Interchanging them will result to two things, the pedal will work the opposite way or the wheel will not turn. Please pay close attention on the Black and Green wire. Shorting these two might damage the controller; it is the same as bypassing the linear potentiometer.



Before you purchase this potentiometer, please do the following first. It is always good to save money. The potentiometer may not be pressed the right way, which has an adverse effect on how the controller receives signal. Check if the potentiometer shaft is pushed all the way when the pedal is pressed. The piece of metal attach to the shaft should not move, if the shaft do move, tighten the set screw with an Allen Wrench, which can be purchased through any local hardware stores.



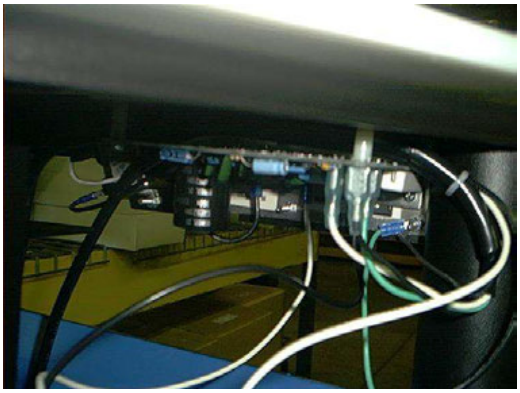


When to change your Controller?

The controller is a PWM, short for Pulse Width Modulator, which is running at 20Khz; the operating capacity depends on which motor it is used for. There are two different types, ¾ HP and the 1/3 HP. These two should have a mark on top of the capacitor as shown on the picture. The ¾ HP is used for the V75 series, while the 1/3 is used for the V35 series. **The controller for the V75 can be used for the V35, but the V35 can't be used for the V75. The current supplied through the controller is not the same.**

When you tried everything and it seems that you got no luck, the problem maybe traced back to the controller. But before you spend that money, try to do the following first.

Using a tester, check for continuity on the cord coming from the pedal to the controller. If you are not familiar with the tester here is a quick course on doing this task. Testers are available on hardware stores, they maybe digital, which has an electronic display or analog, which has an actual meter pointer. The later is inexpensive; you can buy this from Home Depot or any hardware store. Usually they are 6 to 12 dollars each. The controller can be accessed by taking out the screws from the splashguard.



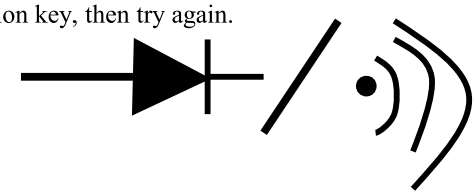
Set the meter in the Ohm settings (Ω). Place one lead of the meter to one of the wires from the controller, while the other end to the corresponding color in the pedal. Plastic insulator covers the clips attached to the controller, you have to push it down before doing the procedure below.

Again do this task while the POWER is OFF.

You should have a very low reading almost ZERO.

Do the same for the other three leads.

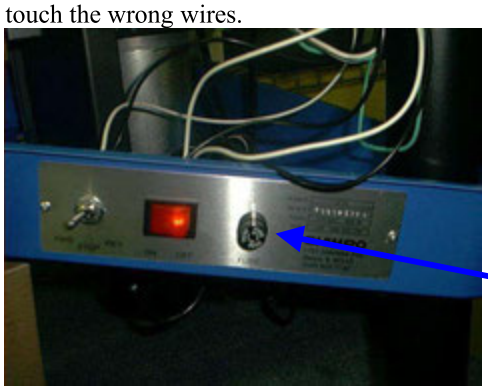
Using a digital Multi-meter is much easier, but again it costs a lot more. If you happen to have one set it on the Diode/Continuity check settings. Cross out the two leads together, see if it beeps. I it doesn't do press the second function key, then try again.



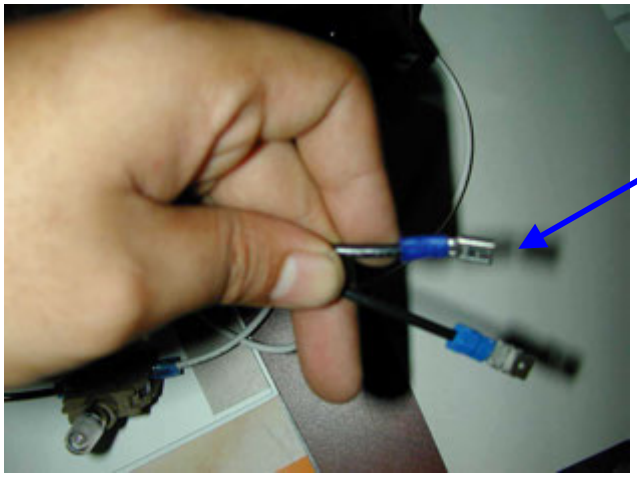
Do the same procedure as mentioned above, only this time we are more concerned on the beep coming from the tester. If while doing this, the tester didn't beep and the wires are match in color and you check that the tester beeps after the leads are crossed, there is a problem on the cord, there could be a break or a cut some where. It is advisable to buy a new one. This is more economical than buying a controller, and then later finding out that it is not the problem.

Now that the wires coming from the controller going to the pedal is checked, the next step is to do the following. Please use caution in performing the following task. You will need to power the unit, don't put your finger inside, electric shock is more likely to happen if you touch the wrong wires.

Warning: Electric shock
Don't touch wires from the inside, while this test is being conducted.

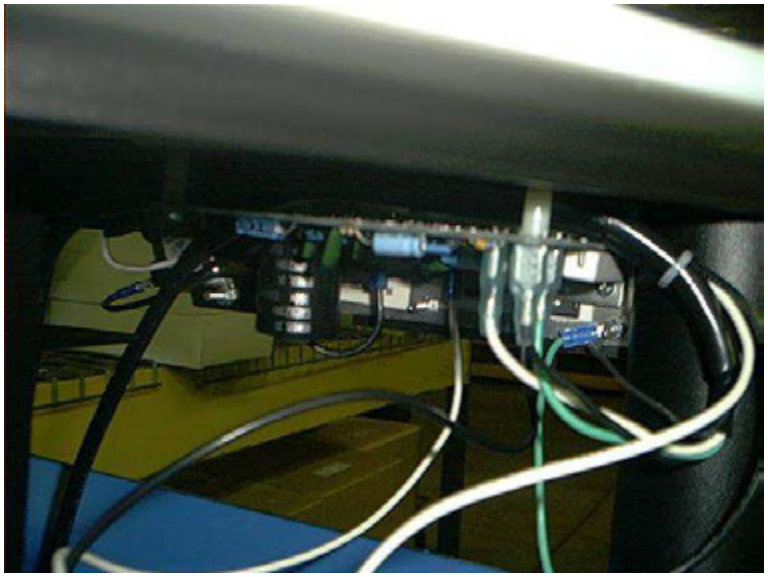


Fuse Holder

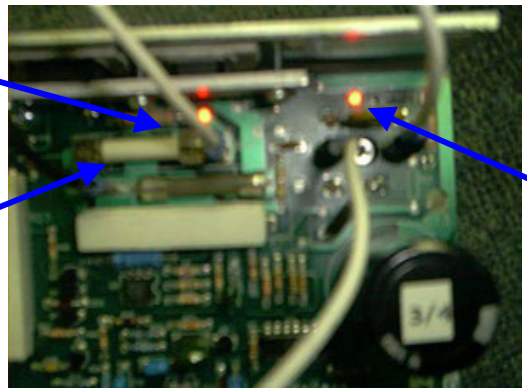


Terminal Clips

Check for lights on the controller, you can do this by looking underneath the table. The controller has two LED lamps that indicate if the controller is receiving power and signal. You don't have to go and reach down, because you can view the lights even if the controller is placed upside down.



LED indicator for signal coming from the foot pedal. Speed Control



LED indicator for power.

Fuse on Board Ratings are different, depending on the HP

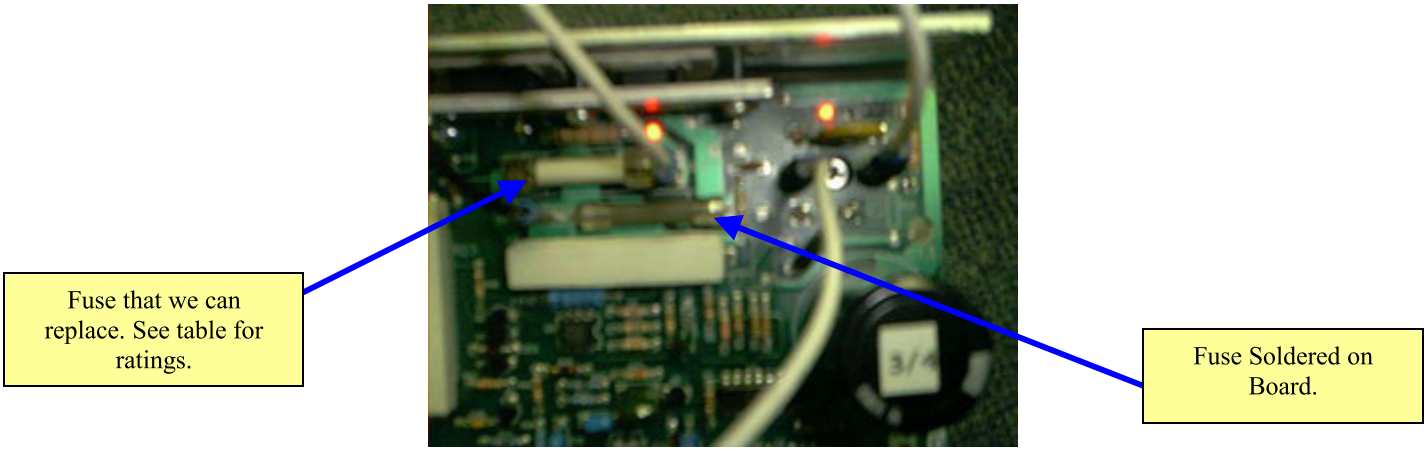
Please just check if there is any LED lighting up. If after the power is turned on and there are no LED lights. Disconnect power and check if the fuses are bad. The fuse holder can be seen on the front panel and on the control board itself. They have different ratings depending on which horsepower are you using.

Here is the table for the fuses.

Product	HP	Fuse Rating
V35 Control Board	1/3 HP	5A @ 250V
V35 Panel	1/3 HP	8A @ 250V
V75 Ctrol Board	3/4 HP	8A @ 250V
V75 Panel 3/4 HP	3/4 HP	10A @ 250V

Check this fuses before ordering a new controller. The panel fuse is easier and accessible, we will not have any problem on checking and replacement. Even though it is kind of hard to see the other fuse from the

way the controller is set, it is the only one that can be taken out, the other one is soldered into the board, so there is no worry of taking out the wrong one. Looking underneath you can access and change the fuse by using needle nose pliers.

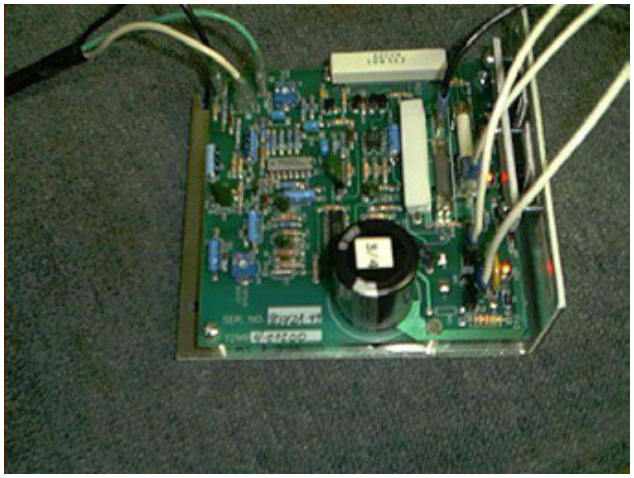


Fuses can be purchased either through our dealers or any electrical or hardware store.

After the proper fuses are installed, turn on the power again and check if you can see any lights. If not the last option is to buy a new controller.

How to replace your Controller.

First turn off power, it is advisable to unplug the unit.

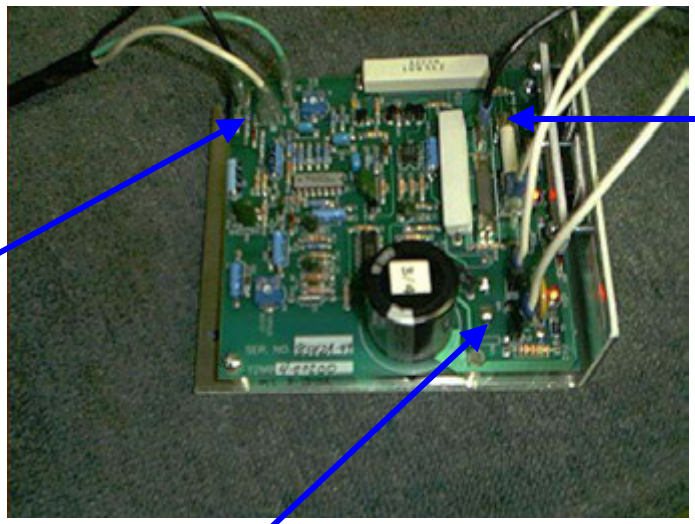


The next step will include a couple of things. There are two screws that hold the controller in place. This can be seen on the side of the frame. Before you loosen the screws, first take the wires out, with the use of needle nose pliers or simply by just pulling the connector by hand. Don't worry about which goes to which, a schematic and step by step procedure will be given later to put the controller back into place.

Now that there are no more wires attached to the controller (about 7 wires total). Loosen the screw; bear in mind that they have lock washers and nuts on the other end. Slowly lower the controller; Make sure that the replacement is the right one for the motor. (1/3 Controller to 1/3 HP motor)

Attaching the Controller to the Frame.

1. Hold the controller upside down as the old controller was positioned. Then re-attach the screws, one of the screws has the ground terminals attach to it. It is imperative that this wire should be attached again, to ensure that the unit has proper grounding.
2. Here is an actual layout, of which terminal is which.

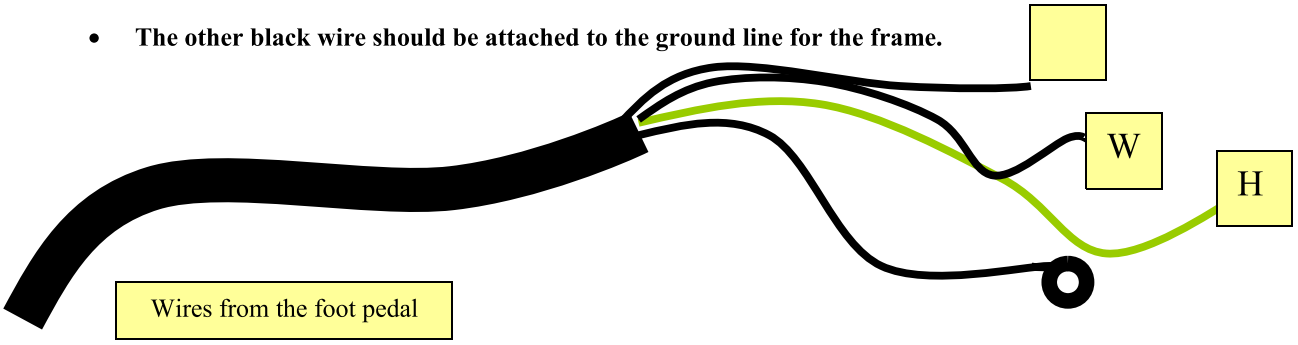


3. Wire Color Codes

From the board there are three terminals located at the lower end, they are labeled as **H, W, L.**

Wires coming from the foot pedal
H should be **green**
W should be **White**
L should be **Black**

- **The other black wire should be attached to the ground line for the frame.**



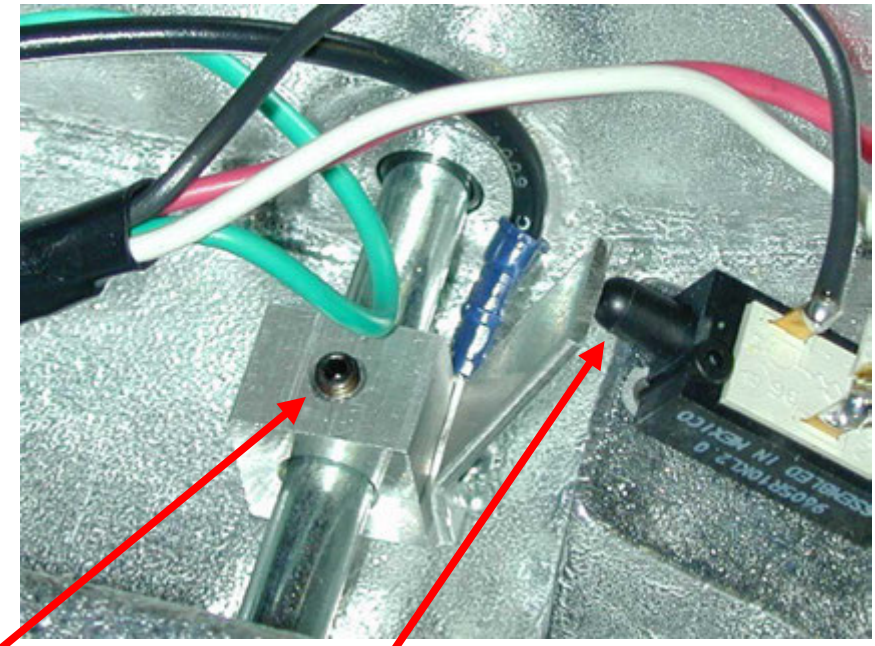
Please take note that the picture above will be upside down as the controller is re-attached.

The power cord is not directly hooked to the controller terminal; it has to go through the switches. See attached wiring diagram for instructions.

Please if you are not confident on doing the following steps and have a hard time to follow the diagram, have an electrician do this for you.

You can also reach us through (800) 237-707 for assistance.

Foot pedal speed adjustment for Master and Velocity wheel



Loosen the set screw to adjust position of the metal plate, to do speed adjustment

You can push this plastic rod up and down with your finger to see if the speed vary.

Please take note: When doing this procedure do not to touch the wires on the potentiometer or the black piece of plastic, this may result to a trickle shock.

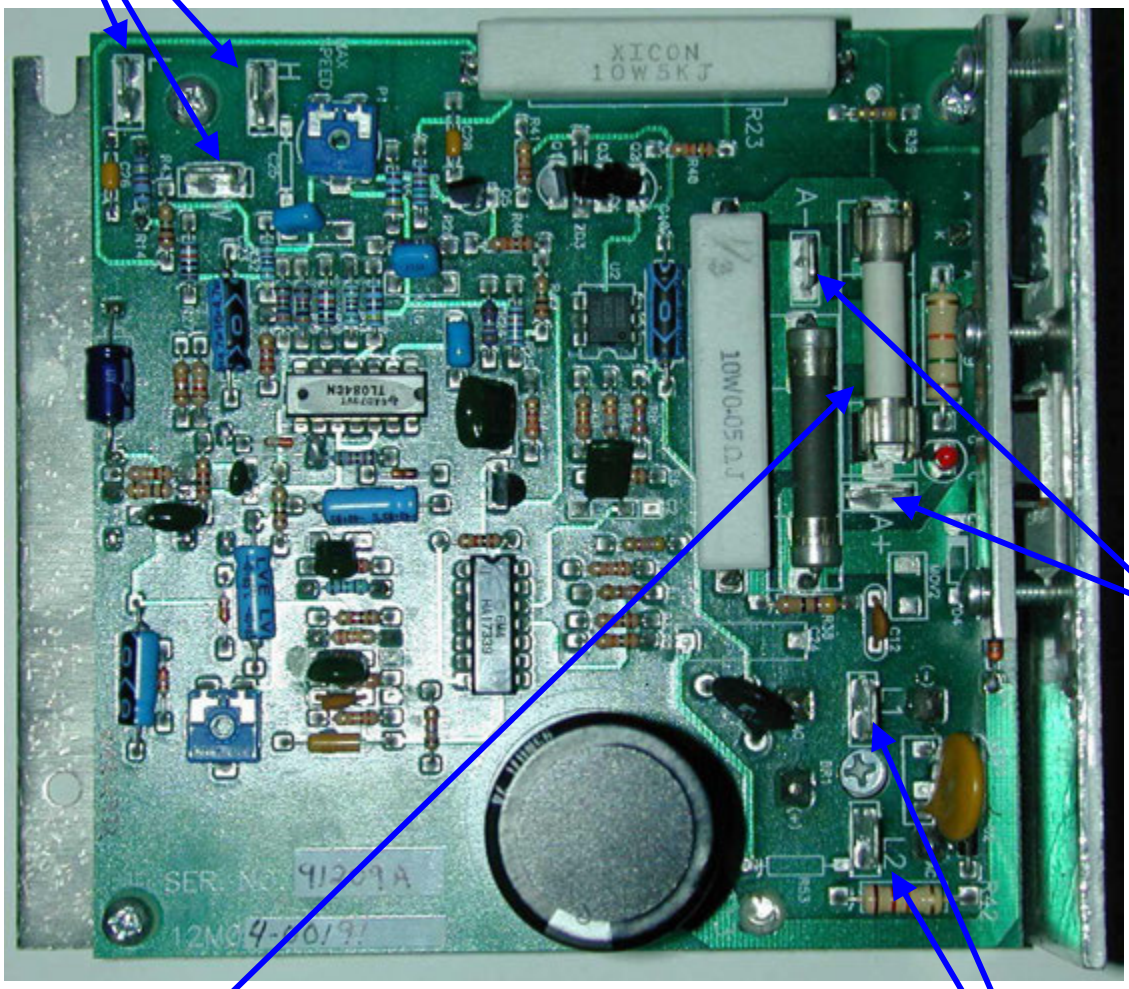
1. The controller is already set to the right speed in our facility. All pottery wheels are pre-set to 0 to 250 rpm, which is the recommended speed for pottery making.
2. If you would like to increase speed, this can be done through the board, but this is not advisable because the wheel my turn too fast that it may throw-out the clay on the wheel head.
   (SEE MASTER CONTROLLER PICTURE FILE FOR DESCRIPTION)
3. Please don't adjust IR and Current potentiometer, as this may interfere with the operation of the motor.

* Note: Wires for the Velocity series is different in color.

If you need further assistance please call Shimpo Ceramics at (800) 842-1479.

Controller for the Velocity

To the foot pedal
(L) Black
(W) White
(H) Green



To Motor
A+ White
A- Black

On Board Fuse

Product	HP	Fuse Rating
V35 Control Board	1/3 HP	5A @ 250V
V75 Ctrol Board	3/4 HP	8A @ 250V

From Power Switch
L1 Black
L2 White

NIDEC-SHIMPO CORPORATION
175 Wall Street
Glendale Heights, IL 60139
Phone: 1-800-237-7079 Fax: 630-924-0340