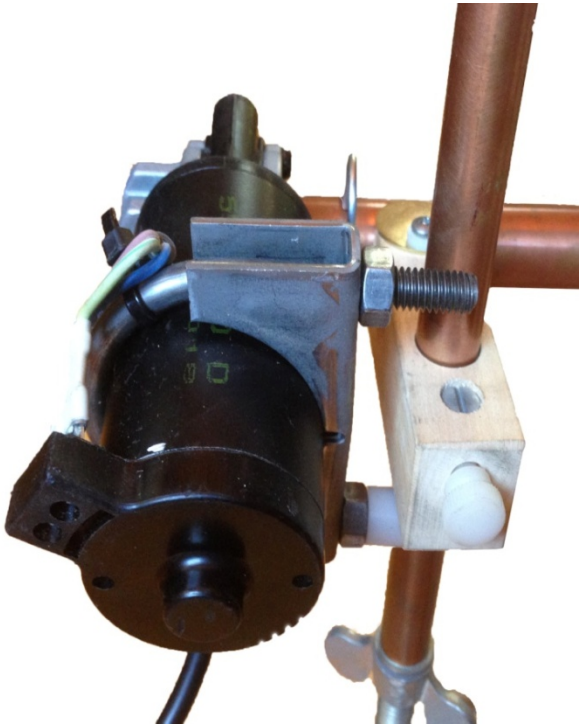


## The Mirrix Spencer Power Treadle



### Getting Started:

Congratulations on purchasing a Mirrix Spencer Power Treadle. This treadle will make weaving on your Mirrix Loom faster and easier.

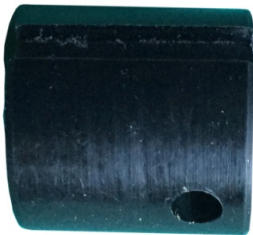
This guide will show you how to install the treadle on your loom, how to use the treadle and includes some safety warnings and troubleshooting information. If you have any questions, feel free to contact us ([customerservice@mirrixlooms.com](mailto:customerservice@mirrixlooms.com)).

*Please note that to use this treadle you need a Mirrix Loom with a shedding device and wooden clips on the loom.*

### The Parts of The Treadle:

In this guide we will be referring to various parts of your treadle. Following are labeled pictures of each part.

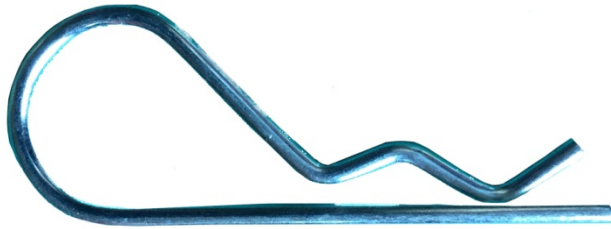
#### *Bushing*



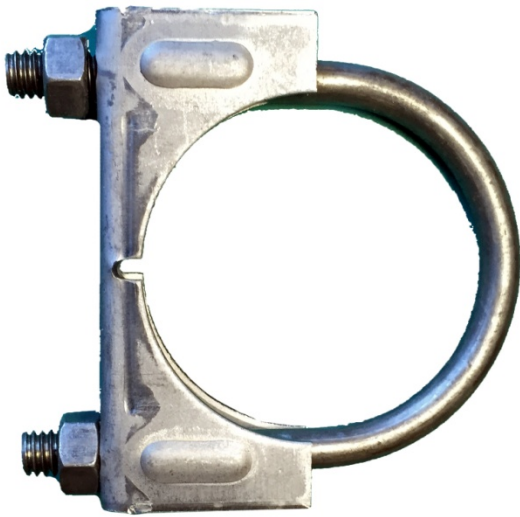
#### *Rubber Cord*



*Cotter Pin*



*U-Bolt*



*White Bushing or Blue Bushing\* (installed on the motor assembly) \*Depends on when you treadle was purchased.*



*Motor*



*Pedal Switch (Depending on when you purchased your treadle, yours may look different from the one pictured.)*



*Power Supply*



## **Preparing to Install The Treadle**

The Mirrix Spencer Power Treadle consists of three connected assemblies: the motor, the pedal switch and the power supply. The power supply needs no attention other than connecting the power cord and plugging it in.

The motor assembly needs to be fitted to the shedding device and adjusted to fit the loom properly for best operation. A black plastic bushing is provided that is inserted into the shedding device. The motor shaft is inserted into this bushing. Newer models will have the bushing pressed on the motor shaft. If this is the case with your treadle follow the instructions for a pressed on bushing.

### **Installing the Motor with a Separate Bushing**

Before installing the motor, make sure that the hole in the motor's shaft is correctly aligned with the hole in the shedding device. Hold the motor up to the shedding device and eyeball it to make sure that when the hole in the motor's shaft is lined up with the hole in the shedding device. The two bolts at the end of the motor should straddle the end of the wooden clip. If this is not the case, stick the end of the cotter pin in the motor's shaft and rotate it until this alignment is correct.

Begin with your loom warped with heddles on it and the shedding device on (but not the shedding device handle). You will want the hole where the handle goes on the right side of your loom.

To install the bushing, start by removing the end cap in the shedding device. You will need to insert the bushing with the rubber cord into the end of the shedding device. The rubber cord serves two purposes: It allows for a snug fit of the bushing and it allows you to remove the bushing to put on another loom. Line up the bushing hole with the shedding device hole and push in until the two holes are in the same position.

The motor shaft is inserted into the bushing but needs to be aligned with the hole in the bushing as well as with the frame of the loom. The motor is assembled so as to fit most looms but fine adjustment might be necessary. On some looms, it may be necessary to loosen the U-bolt before the motor will fit at all.

Hold the motor so the U-bolt straddles the wooden clip with one arm above and one arm below it. If the arms do not reach behind the vertical copper tube of the loom, it will be necessary to loosen one or both of the nuts to allow the U-bolt to slide backwards. Hold the motor in position

and use the hairpin cotter or a small screwdriver to rotate the motor shaft so the hole in the shaft will align with the hole in the bushing. Please note that the motor shaft will move fairly easily in the clockwise direction (when viewed from the motor shaft end) but will not move in the counterclockwise direction. Slide it in and secure with the hairpin cotter.

Adjust the U-bolt position so that the lower arm (the one with the plastic sleeve) fits in the crotch between the bottom of the clip and the vertical copper tube of the loom. Tighten the nuts gently and test to see that the motor moves the warping bar smoothly without binding or wobbling around too much. Once the best position is found, tighten the nuts more securely and tighten the plastic sleeve right up to the nut.

### **Installing the Motor with a Pressed on Bushing**

Before installing the motor, make sure that the hole in the motor's shaft is correctly aligned with the hole in the shedding device. Hold the motor up to the shedding device and eyeball it to make sure that when the hole in the motor's shaft is lined up with the hole in the shedding device. The two bolts at the end of the motor should straddle the end of the wooden clip. If this is not the case, stick the end of the cotter pin in the motor's shaft and rotate it until this alignment is correct.

Begin with your loom warped with heddles on it and the shedding device on (but not the shedding device handle). You will want the hole where the handle goes on the right side of your loom.

Hold the motor so the U-bolt straddles the wooden clip with one arm above and one arm below it. If the arms do not reach behind the vertical copper tube of the loom, it will be necessary to loosen one or both of the nuts to allow the U-bolt to slide backwards. Hold the motor in position and use the hairpin cotter or a small screwdriver to rotate the motor shaft so the hole in the shaft will align with the hole in the bushing. Please note that the motor shaft will move fairly easily in the clockwise direction (when viewed from the motor shaft end) but will not move in the counterclockwise direction. Slide the shaft with the pressed on bushing in and secure with the hairpin cotter.

Adjust the U-bolt position so that the lower arm (the one with the plastic sleeve) fits in the crotch between the bottom of the clip and the vertical copper tube of the loom. Tighten the nuts gently and test to see that the motor moves the warping bar smoothly without binding or wobbling around too much. Once the best position is found, tighten the nuts more securely and tighten the plastic sleeve right up to the nut.

## **Finishing the installation**

Plug the power cord in and operate the foot switch in both directions. This should be done with a warped loom with maximum tension on the warp threads. The shedding bar should move smoothly without binding. The motor should not rock excessively. If it does, the U-bolt should be re-adjusted so it works smoothly without excessive rocking. It is normal for the motor to have a little more power in one direction. This is the nature of motors of this type. However, even the lower powered motion should be adequate for even the highest warp tension if the installation is correctly done.

## **Using the Treadle**

Plug the power cord securely into the power supply and plug the other end into a suitable wall or power strip outlet. Alternative power sources will be described in a separate section.

To operate the treadle, depress the pedal one way or the other to move between sheds. Be sure to release the switch once the desired shed is achieved. *Do not leave your foot on the switch for extended periods of time.* If you leave the switch on in either position it will cause the power supply to go into protection mode and it will shut off briefly. No damage will be done but it is best to avoid shutdowns. It is also possible that the motor will warm up a bit if the switch is left on.

## **Safety Warnings**

The motor in this device is quite powerful. Do not allow fingers (or anything else you value) to get between moving parts such as the hairpin cotter and the wooden clip. If you need to make adjustments and there is any chance of your finger (or anything else you value) getting caught between moving parts, unplug the power cord while doing these operations or at least make sure you do not depress the pedal switch.

When not using the power treadle, it is best to unplug it. The power supply is a highly efficient switching type and draws little power when idling but there is no reason to waste even a little power.

This treadle is not intended for use by anyone under the age of 18.

## **Alternative Power Sources**

The motor and switch will work well with a DC power supply from 5 to 12 volts. The higher the voltage, the faster the motor will move. Five volts seems ideal for most purposes so be sure to test with higher voltages before investing a lot of effort in developing an alternate power source. The motor needs about 4 amps to operate on 5 volts and about 2 to operate on 12 volts. If

the motor is kept on after the shed position is reached, it will stall and draw considerably more current. The stock power supply has protection against overloading and will shut down to protect the wiring and motor. If you connect to a power source with much higher current capability, this protection needs to be provided by other means or you need to be careful about not holding the switch on once the shed is reached. As with all wiring it is necessary to provide a fuse of the correct size to protect the wiring. A ten amp slow blow fuse would be appropriate but it will still blow if the switch is held on for an extended period.

If you want to adapt the power treadle for another power source it is recommended to use screw terminal connectors to allow you to switch power sources.

If you have any questions about alternate power sources, please contact us.

### **Troubleshooting:**

*No motor movement when pedal is depressed:*

Is the power cord securely plugged into the power supply? Is there voltage at the wall or power strip outlet? Plug in a lamp to be sure. Is the power cord damaged? Try another cord. Are the wires connected securely to the motor? Check to be sure the connectors are plugged securely to the motor and that the wire is not loose in the connector. Tug gently on each wire to test. Do not pull hard but if a wire pulls out easily, the connector will need to be replaced and properly crimped on.

*Clunking noises when changing shed or excessive motor wobbling:*

Read the installation section (or view the video) for proper adjustment procedure. The white bushing should fit in to the crotch between the wooden clip and upright copper tube but should be loose enough to allow a little motion to prevent binding.

**Binding together with only partial motion (does not achieve full shed):**

The U-bolt position needs to be adjusted so there is a little space between the white bushing and the wooden clip and upright copper tube.

*Greater power moving shed in one direction as opposed to the other:*

This is normal to an extent. DC motors work a little better in one direction so one direction will be a little more powerful. If there is not enough power to move to full shed in the weaker direction, there is most likely some binding and the U-bolt needs to be adjusted.