

## Adjusting the 5 volt DC Power Supply Compact Machines

To adjust the 5 volt DC power supply for the SWF Compact Embroidery machine, you will need a **digital** multi-meter and a small blade screwdriver with a 1/8<sup>th</sup> inch wide blade. Other tools used during disassembly and reassembly can be found in the tool kit that came with your machine.

The first thing you must determine is the box type for your machine. There are 2 types of boxes. The Type I box has a wrap around type cover with six screws holding the top cover in place and seven screws on each side (see fig.1 & 2). The Type II box has two flat head screws in the front and two round head screws in the back with a slide off cover (see fig.3 & 4).



### TYPE I BOX



Fig. 1

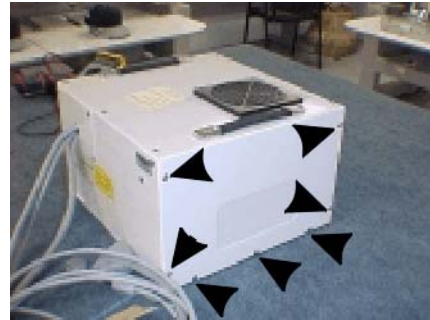


Fig. 2

### TYPE II BOX



Fig. 3



Fig. 4

It is not necessary to have the controller connected to the machine for this adjustment. Unplug the power cord from the wall and disconnect the three cables connected at the rear of the machine (see fig.5). Slide the control box out the rear of the stand and lift it onto a table or other flat surface for easier access. The directions below are separated into two sections: Type I Adjustment and Type II Adjustment. After you have determined your Controller Box Type, refer to the appropriate set of directions for disassembly and access to the power supply. The directions for actual adjustment of the voltage can be found after the Type II Controller box section.



Fig.5

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## TYPE I CONTROLLER BOX

First, refer to Figures 1 and 2 again and remove the six screws in the top cover of the box. **NOTE:** *there is one screw in the top that is shorter than the rest. It is located in the top corner above the floppy disk drive. Make sure you replace this screw into that particular hole when you reassemble the cover later.* Each side has seven screws. Remove the four side screws, but only *loosen* the bottom three. Repeat these steps for both sides. Now use the handles and pull up firmly to remove the box cover. Next, you will need to drop the back panel for easier access to the interior of the control box. It is hinged at the bottom, but has two screws holding it in place. Remove these two screws and lower the panel flat (see fig.6 & 7).

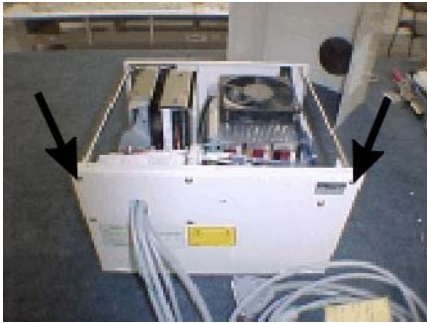


Fig. 6



Fig. 7

Locate the 5 volt power supply just to the right of the floppy disk drive (see fig.8). Find the two screws in the top of the power supply and remove them (see fig.9). Now, reach to the front of the power supply and press it backwards, sliding it out to the rear (see fig.10).

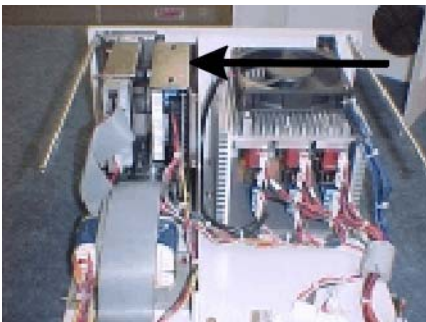


Fig. 8

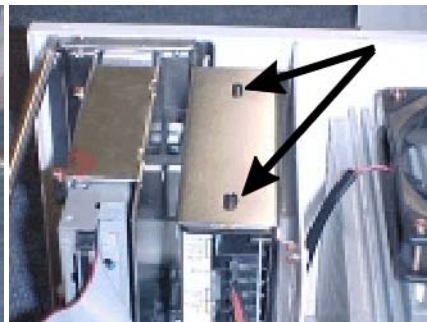


Fig. 9

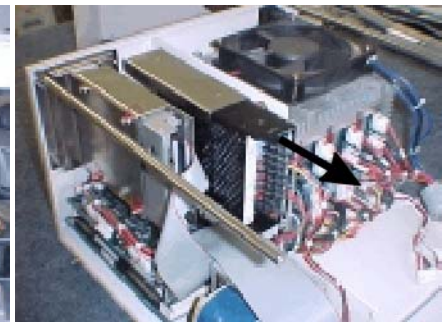


Fig.10

Before proceeding, first locate the potentiometer on the power supply. It is located at the bottom, behind the row of screws (see fig.11). You will have to place the small blade screwdriver through the screen to reach the potentiometer (see fig.12). The probes, or leads, of your multi-meter will be placed on the bottom two screws of the power supply (see fig.13).



Fig.11



Fig.12

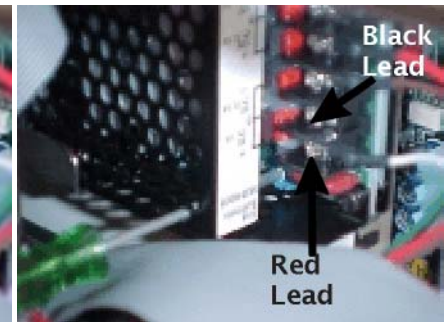


Fig.13



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## TYPE II CONTROLLER BOX

Refer to Figures 3 and 4 again to locate the four screws holding the top cover in place. Remove these screws and then slide the top cover back and off the box (fig.14). Now remove the two screws shown in fig.15 to lower the back panel. Locate the 5 volt power supply just to the right of the floppy disk drive (fig.16).



Fig. 14



Fig. 15

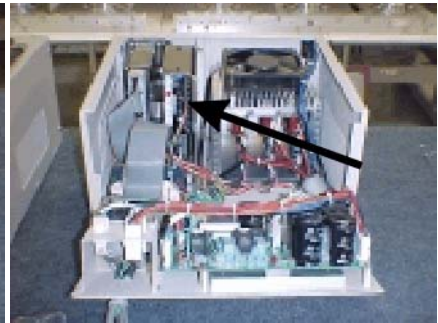


Fig. 16

Once you have found the power supply, locate and remove the two screws on top (fig.17). Follow the wires off the rear of the power supply until you come to a plastic wire tie (fig.18). Carefully cut the wire tie and remove it. **NOTE: For obvious reasons, extreme caution is stressed when cutting the wire tie. Do not use knives or other tools that can slip and possibly cut one of the wires.** Now slide the power supply out and lay it on top of the bracket, screen side up (fig.19). This will make it easier to access and adjust the voltage.

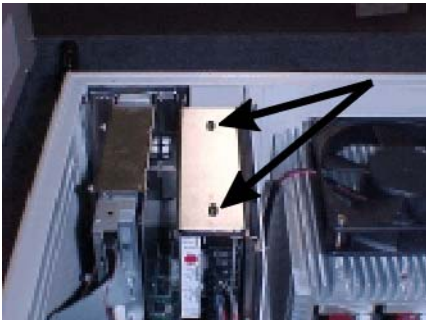


Fig. 17

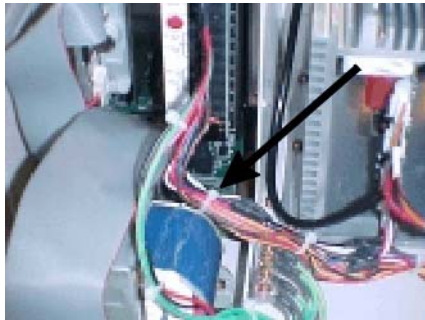


Fig. 18



Fig. 19

The potentiometer for adjusting the voltage is located at the bottom (or left as you are looking at the power supply on its side). Refer to fig.20 for the location. To access the potentiometer, insert the tip of the screw driver through the screen (fig.21). Figure 22 shows the placement of the test leads when you are measuring the voltage.

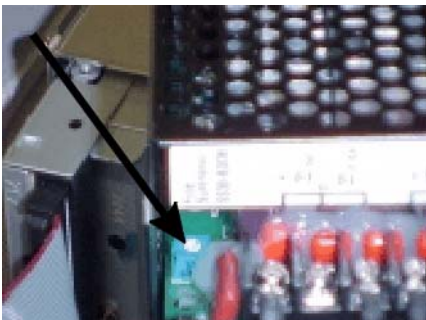


Fig. 20



Fig. 21

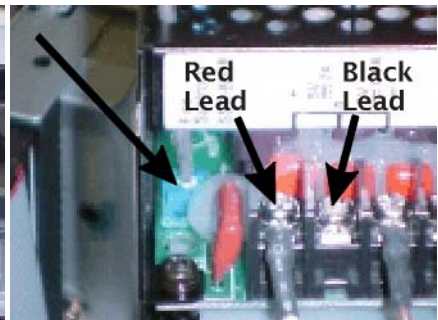


Fig. 22

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## **ADJUSTING THE VOLTAGE**

In some cases, there may be something such as white paint or other material covering the adjusting point of the potentiometer. In this case **gently** scrape this off to reveal the adjusting screw beneath.

**NOTE: Not all potentiometers are colored blue as shown in the photos. The location will be the same, but the color may vary.**

You should now be ready to test and adjust the voltage output of the power supply. First, we need to set the multi-meter to read the right type and range of voltage. There are many types of multi-meters, so you may have to refer to the instruction manual of your meter if you are not familiar with how to do this. Set the type of voltage to DC, or Direct Current. Some meters are auto-ranging, meaning they will automatically find the correct setting for the voltage you are reading. Others require you to set the range manually. In this case, select a range as low as possible, but greater than 5 volts. For example, if you have a choice of 2, 20, 200 or 1,000, you would select 20 as the best range. Plug the power cord into an outlet and turn on the power to the box. Wait for approximately 10 seconds and then place the red lead of the multi-meter on the head of the bottom most screw on the power supply. Place the black lead on the head of the screw directly above the first screw. Refer to the figures for your control box again if you are not sure (fig.13 for Type I, fig.22 for Type II).

**Caution: avoid letting the tips of the probes touch each other while they are in contact with the screws. This can cause a short and destroy the power supply.**

Watch the display of the meter. The voltage may float up and down for a second or two, but should stabilize shortly. Make sure to keep firm contact with the screws at this time. You should have a reading of approximately 5.08 to 5.10 volts. If you do, there is no adjustment needed. If you have a reading lower than this, you will need to adjust the voltage. At this point, you might need assistance from another person. While keeping the probes firmly touching the screws, carefully place the tip of the screwdriver through the screen and into the slot of the potentiometer. Gently turn the screw clockwise to increase the voltage, counter-clockwise to decrease the voltage.

**Note: do not turn the screw in large movements. A very slight movement can make a difference in the output reading.**

As you adjust the potentiometer, watch the display of the meter. Pausing between adjustments is a good idea. This gives the meter time to adjust to the new voltage. Continue to make adjustments until you have a reading of 5.08 to 5.10 volts. Remove the screwdriver and probes. Turn off the power and unplug the power cord. You are now ready to reassemble the power supply and control box.