

# Checking and Adjusting the 5 Volt DC Power Supply

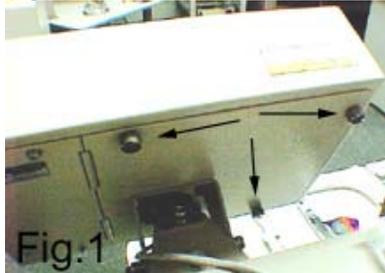
## SWF Standard Single Head –T1201 and T1501

To adjust the 5 volt DC voltage on the SWF T1201 and T1501, you will need a **digital** multi-meter and a small blade screwdriver, about 1/8<sup>th</sup> inch or smaller. MESA recommends using a plastic alignment tool (pictured at right) instead of the screwdriver to minimize the possibility of electrical shock or shorting of the power supply. These are available at most electronic supply stores. The other tools used to disassemble the machine to gain access to the power supply can be found in the tool kit that came with your machine.



### Check the Voltage

Before you adjust the voltage, you should check it to determine if it is within the acceptable range for proper operation of your machine. To check the voltage you will need to remove the 3 thumbscrews (fig.1) located on the back side of the control panel.



Once these are removed, you can swing open the panel and locate the connector that supplies the power to the control panel (fig.2). This connector has four wires that are colored red, green, black and white. Some machines may have a green striped wire. Use this wire if your machine has it. For testing the 5 volt DC power, we will be using only the



green and white wires. Since most test meters have tips that are too large to insert into the connector, you will need two used needles to act as conductors to make it easier to test the voltage. **With power off**, insert the two needles, one each into the connector where the green and white wires are located (fig.3). **Make sure the needles do not touch each other before proceeding.**

Now turn the machine on and wait for it to power up completely. Depending on your test meter, you may need to set it to read the correct voltage. Some meters are auto-ranging and will only need to be set to read DC (direct current) voltage. After that, the meter will automatically determine the best range to view the current voltage. Other meters may need to be set to read a range of voltage to display an accurate reading. In this case, set the range to read the lowest voltage **greater** than 5.0 volts.



Now carefully apply the red test lead to the needle for the white wire and the black lead to the needle for the green wire (fig.4). Allow the meter a few seconds to adjust and then read the display (fig.5). For normal operation, you should have a reading of **5.03 to 5.08** volts. If your reading is within this range, there is no need to adjust the 5 volt power



for your machine. Turn off the machine and remove the needles in the connector. Close the panel and replace the screws.

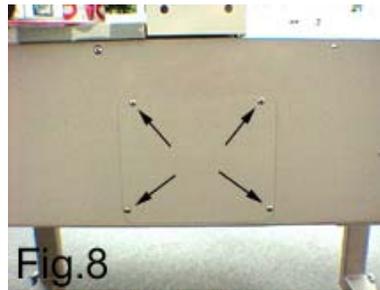
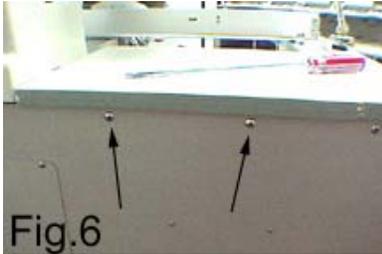
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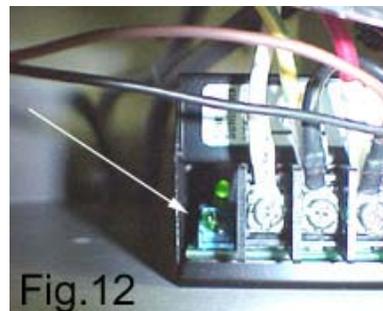
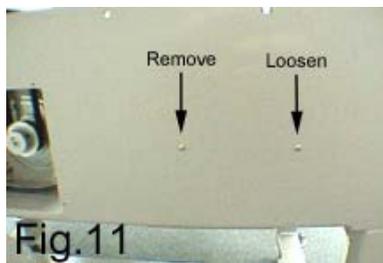
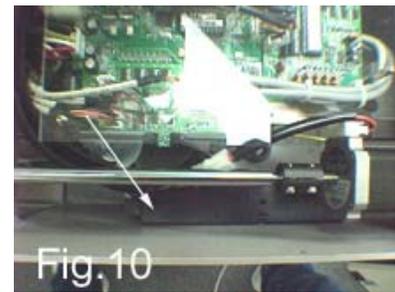
If your reading is lower than the range above, you will need to adjust the 5 volt power setting. Refer to the steps below for the adjustment procedures.

### Adjusting the Voltage

Before you can adjust the voltage, we will need to disassemble part of the machine to gain access to the 5 volt power supply. Before proceeding, be sure the **machine is off**. The power supply is located under the left side table top (as you stand in front of the machine facing it). To access the power supply, first locate the two screws under the edge of the table top on the rear of the machine (fig.6). Once the screws are removed, lift the rear edge of the table slightly and then slide it back towards the rear until it becomes free (fig.7). Now remove the four screws on the cover plate located at the lower center of the back of the machine (fig.8). Once the cover is removed you will need to slip the cable ties off of the bolts they are attached to in order to create some slack in the cable (fig.9). **DO NOT CUT THE CABLE TIES!** These ties will need to be slipped back on the bolts after the adjustment is complete.



Now go back to the where you removed the table and locate the power supply itself, attached to the inside rear wall of the machine (fig.10). Remove the left screw on the outside of the machine that holds the power supply in place (fig.11). Loosen the right screw just enough to rotate the left end of the power supply up to where you can see the wires where they are attached to the power supply. Once rotated, tighten the right side screw to hold the power supply in place. You should now be able to see the adjustment potentiometer for the 5 volts (fig.12). At this point, it would be easier if you had an assistant to help with the setting of the voltage. One of you will need to check the voltage at the control panel (see above steps for checking the voltage) while the other carefully turns the potentiometer to increase the voltage. **NOTE: turn the potentiometer clockwise very slowly. Small movements can make large changes in the voltage. You should try very small movements when adjusting the voltage.**



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Turn the machine on and wait for it to finish powering up completely. Have your assistant carefully touch the test leads to the needles and hold them there. Try to avoid moving or jiggling the leads during the adjustment. Using the alignment tool (preferred) or a small screwdriver, carefully insert the tip into the slot of the potentiometer (fig.12) and turn clockwise very slowly and watch the reading on the meter to see the changes. In some cases, there may be some paint covering the slot of the potentiometer. It may be necessary to clean the top surface of the potentiometer before you can insert the tip. In this case, gently scrape the top with the tip of a small screwdriver to remove the paint. Now insert the tip of your tool and make the adjustment. Once you have a reading of 5.03 to 5.08, (fig.13) stop and let the meter settle to a constant reading. If you have gone too high, turn the potentiometer counter clockwise to decrease the voltage. When the voltage remains constant within the range, remove the test leads and your adjusting tool and then turn the machine off.

Return the power supply to its original position and replace the screw that you removed earlier so that the power supply is securely back in its place. Slip the cable ties back over the bolts and replace the cover plate. Slide the table top back in place and replace the screws. Remove the needles from the control panel connector, close the panel and replace the thumbscrews. You are finished.

