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April 3, 2013

Technical Update

Calibration of Motor Board on Crown Jewel and Tiara

If it is necessary to replace the motor driver board on the Crown Jewel or Tiara Machine, the motor speed will need to be calibrated, or **burn-in**.

Replace the motor board and verify that the thermal shield is properly placed and all screws are tight, especially on the heat shield plate (3 screws) to the rear casting, (Figure 1).

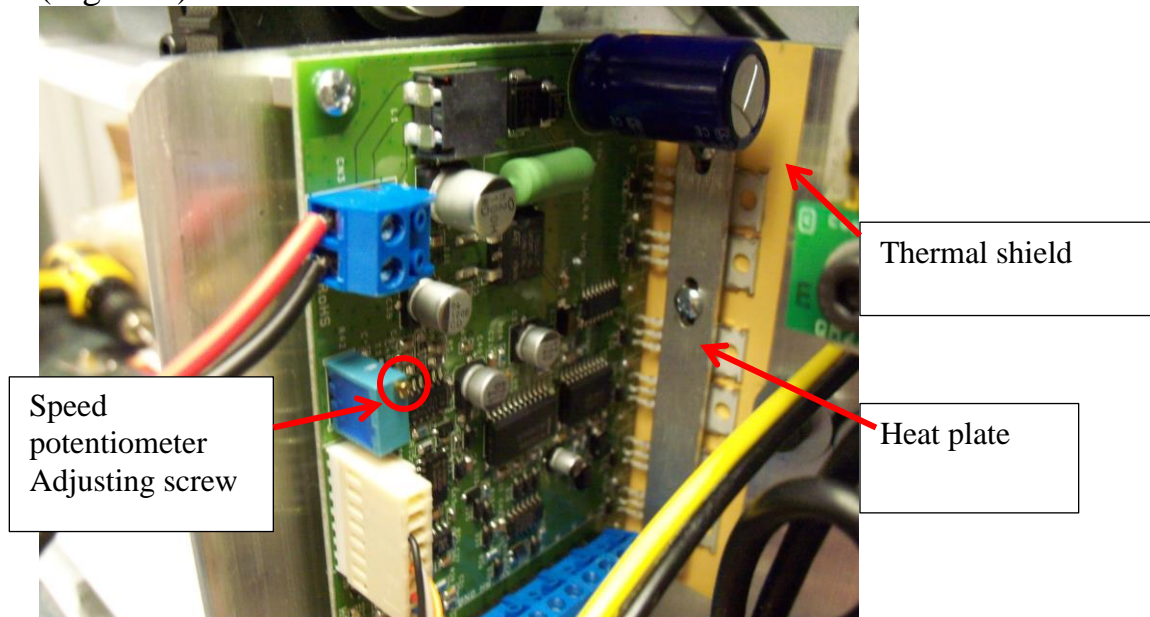


Figure 1

Without the front cover attached, connect the power supply and control pod connectors, laying the power supply inside the c-pod and making sure there is no wires touching metal. Attach the front or rear handle bars, turn the machine on and set the machine to run in **Manual** mode. Turn off the machine.



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With the machine off, insert a paper clip (bent into the shape in Figure 2) into holes 2 and 3 on the right side of the c-pod port (Figure 3). This is the port for the encoder cable on the Crown Jewel or the foot control on the Tiara.

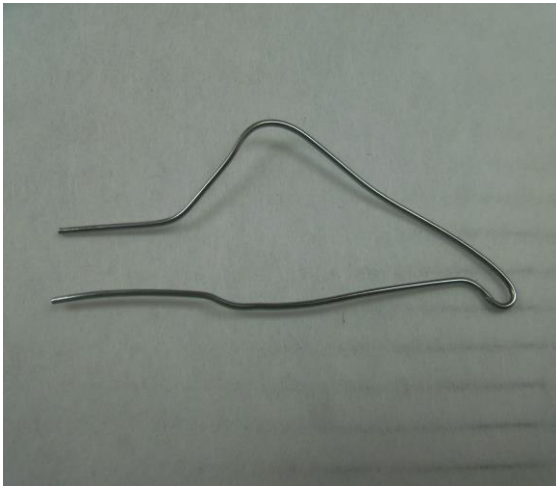


Figure 2



Figure 3

Turn the machine on and it will go into the burn-in cycle, which is synchronizing the control pod and the motor driver boards. A cycle starts out very slow and increases to full speed then slows back down to the slowest speed. With the handle bars in Manual mode you will see the top speed that the machine will run. In some cases this top speed will be over 100%. Let the machine cycle 5 times. By the end of 5 cycles the maximum speed should be at 100%. If it is still over 100% it will be necessary to adjust the potentiometer for the motor speed (Figure 1) to get the maximum speed in the correct range. When the maximum speed is correct in the burn-in mode, put a small dab of nail polish on the adjusting screw to hold the setting.