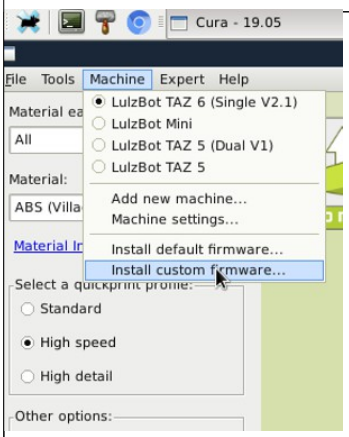
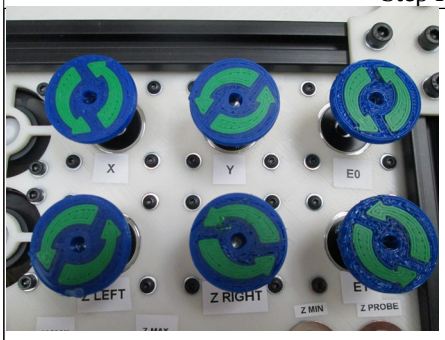
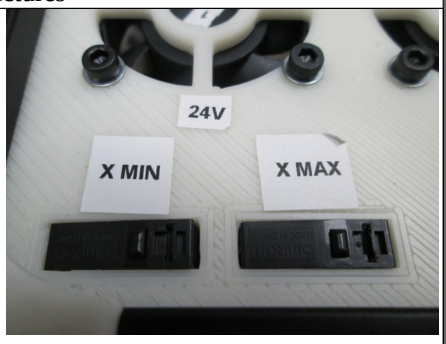
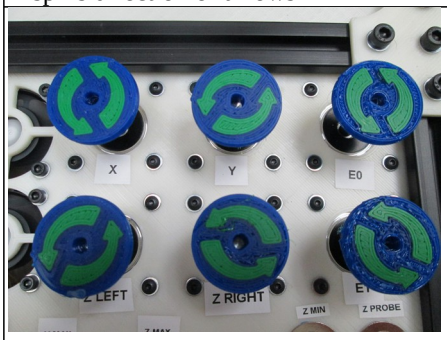
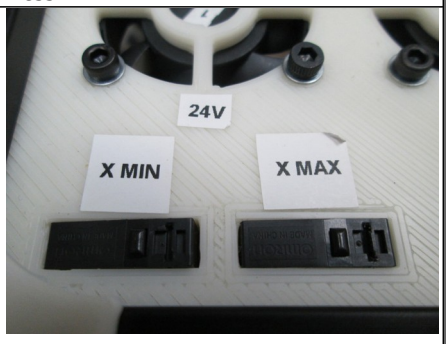
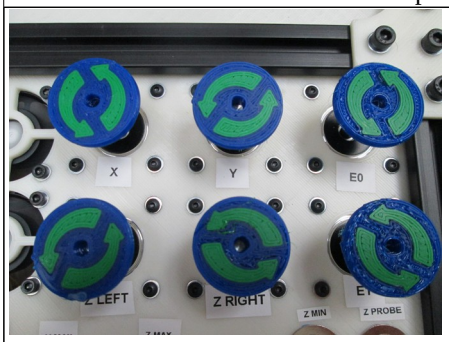
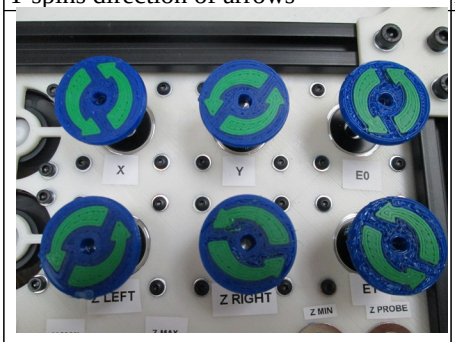
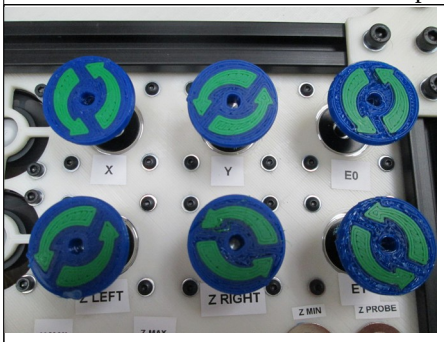
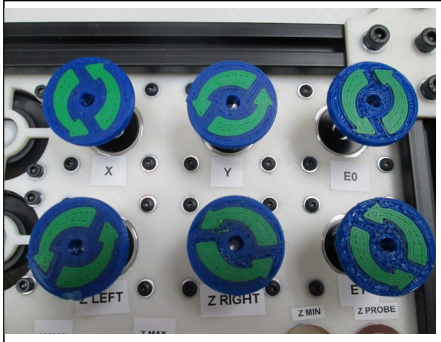
TAZ6 control box wiring test

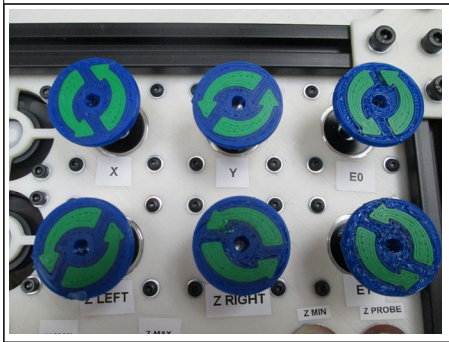
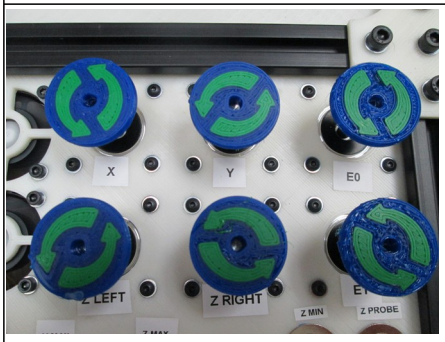
Step Pictures		Setup Test, Power on system
		Flash the control box with control box test firmware (http://devel.lulzbot.com/TAZ/nutmeg/production_parts/) by using CURA go to machine settings and select install custom firmware. Select the hex file found at the link above. You will need to have this file locally, and may need to rename it as a .hex file after download, if you cannot download, then copy all text to a text editor and save as a .hex file. Turn on the control box, and flash. Wait for CURA to show flash successful. Turn off control box and disconnect. Plug the control box cables into the test fixture accordingly. And switch on the control box. Verify the firmware at the splash screen. The 5V fans should both be spinning and will remaining spinning throughout the test. Insert an SD card containing the test G-code (http://devel.lulzbot.com/TAZ/nutmeg/production_parts/jigs/control_box_test_fixture/TAZ6_control_box_test_0.3.gcode) into the SD card reader. You will need to paste this file in a text editor and save as a .gcode file. Press the encoder (control knob) located on the control box front near the display and and scroll to “Print from SD”; Select “TAZ6_control_box_test_0.3.gcode”
Select install custom firmware.	The cables are labeled on the back of the box	
Plug in cables accordingly	The 5V fans should both be spinning.	

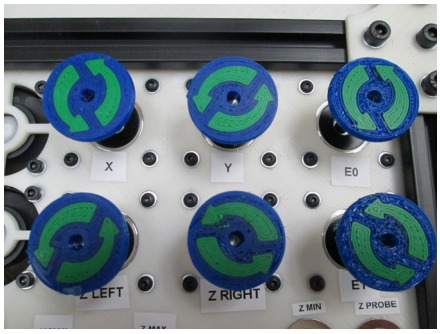
TAZ6 control box wiring test

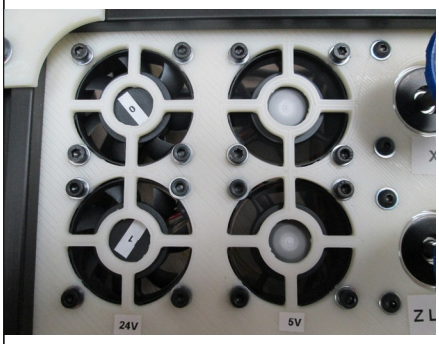
Step Pictures		Test X Min, X Max, Motors
		The test begins with the X motor beginning to spin to the left (Counter Clockwise or CCW). The display will indicate “PUSH THE X MIN SWITCH”; Locate and Press the “X Min” switch on the test fixture; the X motor will start to turn right (Clockwise or CW); The display will indicate “PUSH X MAX SWITCH”; Locate and Press the “X MAX” switch on the test fixture; the X motor will stop spinning and the Y motor will start to turn left; Press the X max switch (move to the next step)
X spins direction of arrows	Press X min	
		
X motor reverses rotation direction	Press X max	

TAZ6 control box wiring test		
Step Pictures		Test Y Min, Y Max, Motors
		The Y motor should be turning to the left. The display will indicate “PUSH THE Y MIN SWITCH”; Locate and Press the “Y MIN” switch on the test fixture; the X motor will start to turn right; The display will indicate “PUSH Y MAX SWITCH”; Locate and Press the “Y MAX” switch on the test fixture; the Y motor will stop spinning and the Z motors will start to turn left;
Y spins direction of arrows	Press Y min	
		
Y motor reverses rotation direction	Press Y max	

TAZ6 control box wiring test		
Step Pictures		Test Z Min, Z Max, Motors
		The Z motors should both be turning to the left. The display will indicate “PUSH THE Z MIN BUTTON”; Locate and Press the “Z MIN” button on the test fixture; the Z motors will start to turn right; The display will indicate “PUSH Z MAX SWITCH”; Locate and Press the “Z MAX” switch on the test fixture; the Z motors will stop spinning;
Z left and right spin the direction of arrows	Press Z min	
		
Z left and right spin opposite the direction of arrows	Press Z max	

TAZ6 control box wiring test		
Step Pictures		Test E0 motor (via Z probe)
		The display will indicate “PUSH THE Z PROBE BUTTON”; Locate and Press the “Z PROBE” button on the test fixture; the E0 motor will briefly turn to the left; The display will indicate “PUSH THE Z PROBE BUTTON”; Locate and Press the “Z PROBE” button on the test fixture; the E0 motor will briefly turn to the right;
E0 spins direction of arrows	Press Z probe	
		
E0 spins opposite the direction of arrows	Press Z probe	

TAZ6 control box wiring test		
Step Pictures		Test E1 motor
		The display will indicate “PUSH THE Z PROBE BUTTON”; Locate and Press the “Z PROBE” button on the test fixture; the E1 motor will briefly turn to the left; The display will indicate “PUSH THE Z PROBE BUTTON”; Locate and Press the “Z PROBE” button on the test fixture; the E1 motor will briefly turn to the right;
E1 spins direction of arrows	Press Z probe	
E1 spins opposite the direction of arrows	Press Z probe	

TAZ6 control box wiring test		
Step Pictures		Test 24VDC fan functionality
		The 24VDC fans will immediately begin to turn; The display will indicate “FANS 40 PERCENT”; verify that both 24V fans are spinning at medium speed for approximately 10 seconds; The fans will start to spin at a high speed for approximately 10 seconds and the display will indicate “FANS 100 PERCENT”; verify both fans have a high spin rate; The fans will turn off and the display will indicate “PRESS ENCODER”; Locate and Press the encoder on the unit under test, there will be a beep from the control box signaling the test has been completed and was successful. The display will now indicate “Test successful!!!” After the test was run successfully turn off the control box. When the control box is turned back on the the splash screen should display “Test Successful!!!” and the display should indicate “Test Successful!!!” this is stored in the EPROM to ensure the box was tested successfully and will be erased when the control box is flashed with the latest TAZ6 firmware.
Verify 24V fans at 40% and 100%	Press encoder	