

Table Assembly

Turn Table Assembly Instructions

This document pertains to the assembly instructions for the intricad TriAngles 3D Scanner Turn Table.

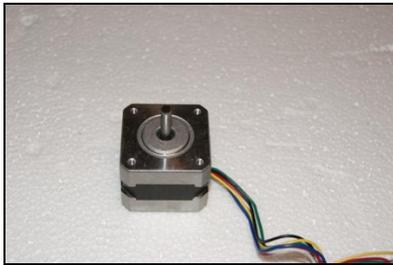


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Install the stepper motor with the leads facing the 4 holes for the stepper motor driver. Secure using 2 M3X10 pan head Philips screw.

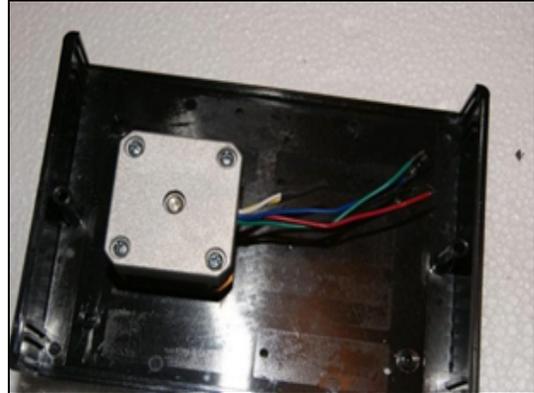
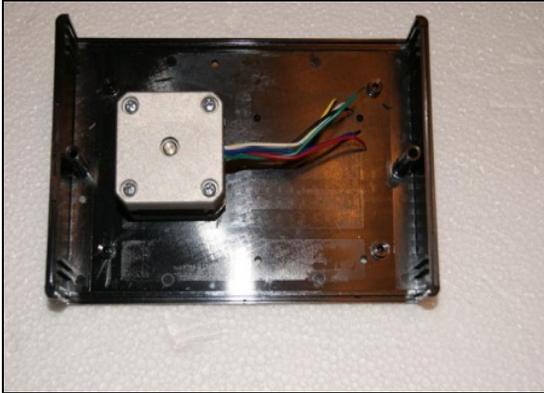


Install the hub flush over the top of the step motor shaft. Do not force but slide the hub over the shaft in a docile manner. Tighten the set screw. Make sure that the hub and case do not touch. Apart from the slight stepper motor resistance when turned by hand the motor shaft/hub should turn easy.

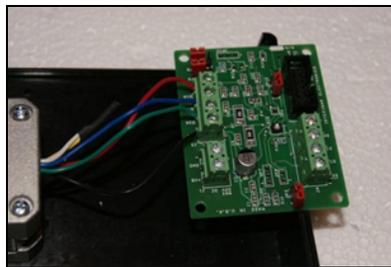


Cut the yellow and white STEP MOTOR wires to about 2"(50 mm). Place a piece of heat shrink over the exposed ends and shrink.

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Cut the red, blue, black and green wires to a length of 3" (75mm) and strip the ends. Connect the red wire to the driver terminal O1A, blue to O1B, Green to O2A and black to O2B.

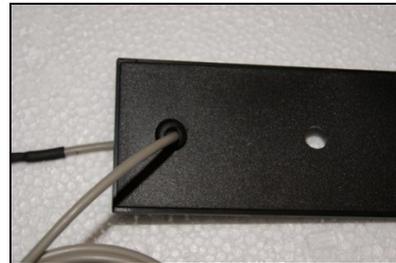


Install the driver onto the case using 4-40X3/4 long screws. Insert the screws from the top side of the case. Insert a white spacer and then through the mounting hole in the PCB. Secure loosely with a 4-40 nut. Repeat for each corner of the driver board. Tighten the 4 nuts securely. Tuck the step motor wires between the driver board and motor.

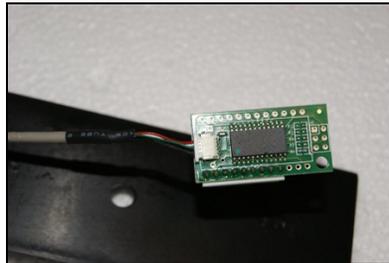


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Install a rubber grommet onto the usb cable. Insert the cable with the grommet through the finished side of the rear panel. Work the grommet into place using a flat blade small screw driver.



Align the keyway of the USB interface with the key on the USB cable and insert.

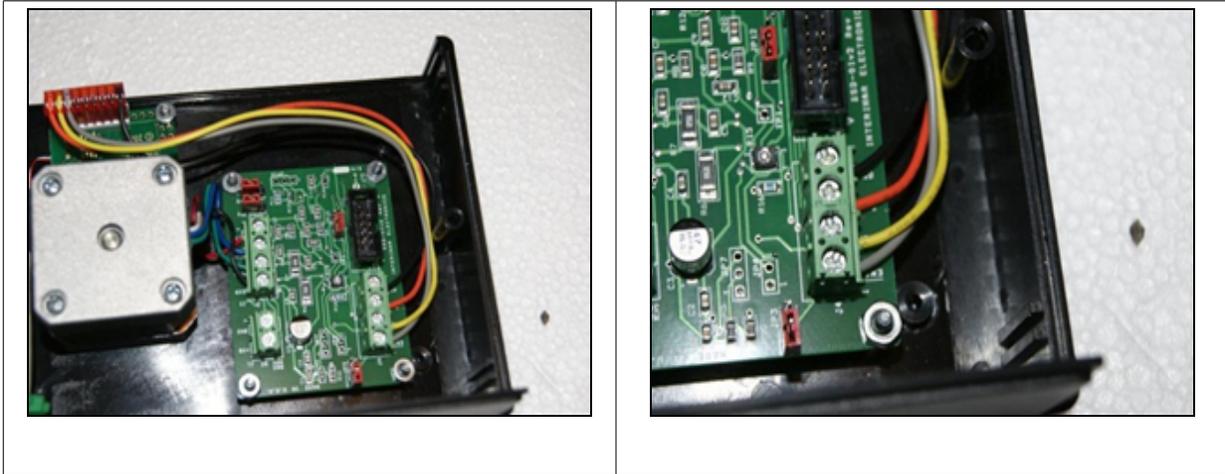


Install the USB board onto the case using a 4-40X 3/4 Slotted pan head screw through the top of the case, a spacer on the bottom of the case and secure the board with a 4-40 nut. Insert the rear panel into the grooves in the upper case.



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While supporting the bottom of the USB board plug the connector onto the header.



Trim the ends of the wires to length and strip 1/4" (5mm) from the ends of each wire. Connect the Gray wire to the driver board ENA terminal, the Yellow wire to the step terminal, Orange to the Dir terminal and Black to the GND terminal.

Take the DC power connector and cut the wire to length to attach to the driver board power terminals. Strip 5mm or 1/4 in insulation off the 2 wires. Connect the red wire to the +VB terminal and black to GND terminal.

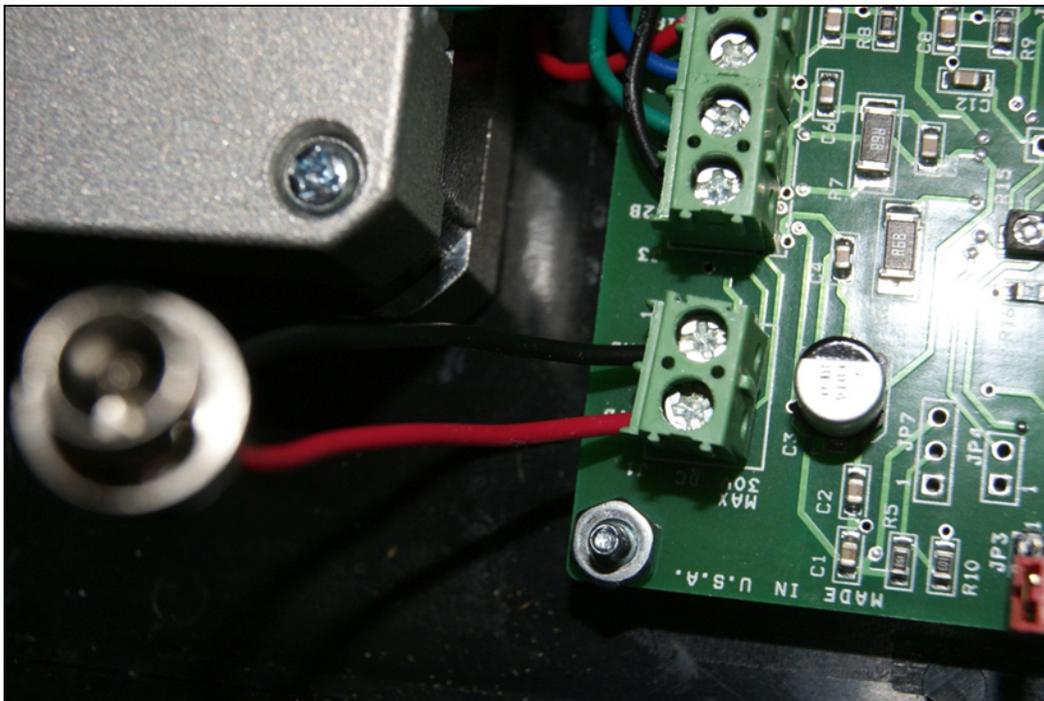


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Install the power connector into the rear panel and secure. Visually inspect to ensure that there are no loose stands shorting the terminals on the connector.



Insert the front panel into the grooves into the top panel.

Note that the bottom case edges have to male grooves on one side and one female groove on the other side. Taking the bottom case align the female slot with the male top case and connect the two ensuring that the front and rear panel align with their grooves and when together the top case is flush with the bottom case. Install two screws into the top holding the top and bottom together.



Install 4 rubber feet on the bottom of the case at each CORNER.



Remove the protective film from the top and bottom of the turntable disk. Install the disk using the 2 4-40 X 1/2 flat head screws.

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Testing

Plug the DC power supply into the DC power connector.

Plug the USB cable from the turntable into a slot on your PC.

Load Triangles 3D Scanner. Select Scan, select Settings, select Process. In process select PC control, USB port. Click on configure, click on Detect, select CW and click on run. With the control set to 234 the turntable should rotate in the clockwise direction. When the CCW button is clicked the turntable will rotate counter clockwise.

Important Note:

The USB motor controller and camera should be on separate USB roots. Best is to purchase a separate PCI USB port card and plug in either the USB turn table or camera but not both. Camera and USB turntable both consume a considerable amount of bandwidth which leads to reduced motor performance in case these are both placed on the same USB root. USB hubs should certainly not be used.

This completes the turn table assembly and testing.

Contact dmauch@camtronics-cnc.com if you encounter a problem.

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