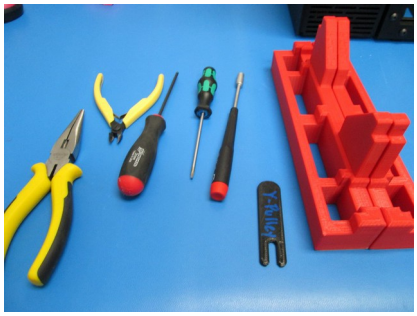
LulzBot TAZ 6.0 Y axis assembly

Step Pictures

2x- Y Corner Left (PP-GP0228)
2x- Y Corner Right (PP-GP0229)

Printed Parts



Tools

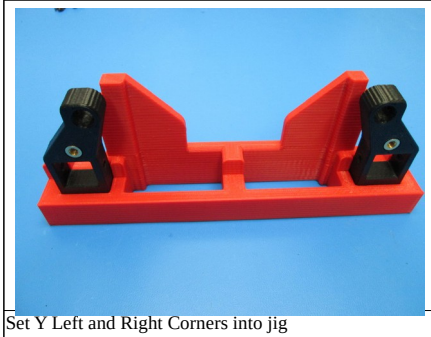
gather parts and tools

16x- M5x10 BHCS
16x- M5 Black Washer
1x- M8x35 BHCS
4x- M8 Washers
2x- 608 bearings
4x- M3x12 BHCS
4x- M3 Black washers
4x- M3x6 Set screws
2x- 500mm aluminum extrusions
16x- M5 T-Nut
8x- M5x10 BHCS

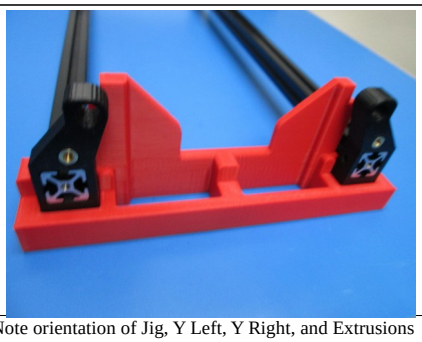
Needle nose pliers
3mm ball end driver
2mm ball end driver
5.5mm nut driver
Y pulley spacer
Flush cutters

LulzBot TAZ 6.0 Y axis assembly

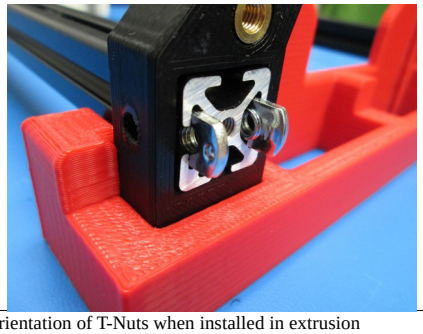
Step Pictures



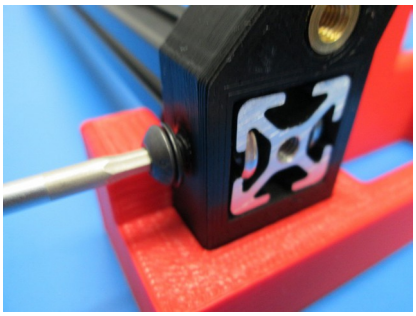
Set Y Left and Right Corners into jig



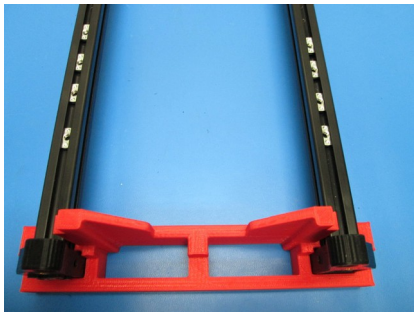
Note orientation of Jig, Y Left, Y Right, and Extrusions



Orientation of T-Nuts when installed in extrusion

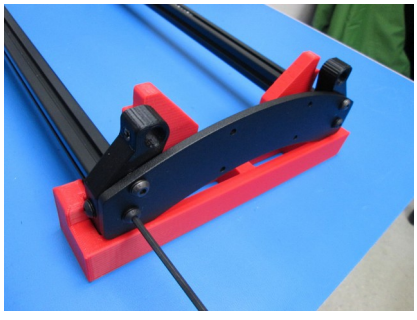


Ensure the extrusion ends are flush before tightening



Four T-Nuts each side, top slot

Install the Y axis idler assembly



Install the Y axis motor side plate

Set Y corners

Place one (1) Left and one (1) Right Y Corner (bottom side of print out) into each of the Y table assembly jigs. The Y assembly jig is a 2 piece fixture that must be used together.

Insert aluminum extrusion into each of the Y corners in one of the Y assembly jigs. Attach these extrusions to the Y corners that are in the second Y assembly jig.

Position the extrusions so they are flush to the end of the Y corners.

Place one (1) T-nut in the left and right side slots on each end of the aluminum strut. (8 used)

Insert one (1) M5X10 BHCS through each hole hole on the sides of every Y corner;

Position a T-Nut in line with each hole and screw. Ensure the extrusion ends are still flush with the T-Nuts, tighten screws to hand tight.

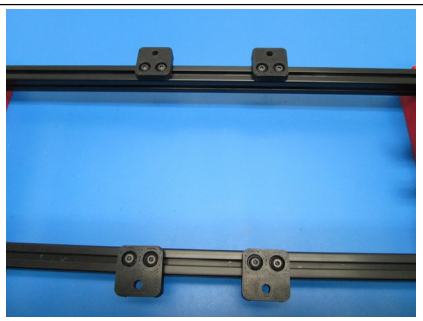
Install four (4) T-nuts into the top slot of each aluminum extrusion (8 total)

Place the Y Axis Idler end assembly on one end of the Y table (Idler assembly must be oriented toward the second Y assembly jig), use four (4) M5X 10 BHCS and four (4) M5 Black washers to attach the Y axis Idler end assembly to the two extrusions. Make sure to leave this loose for now.

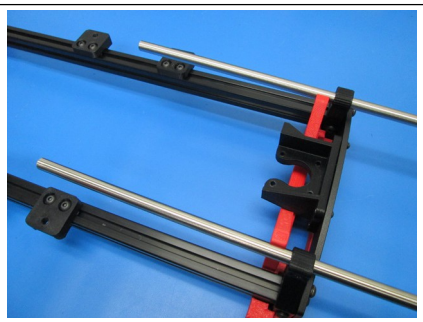
Place the Y Axis Motor End assembly on the other end of the Y table and use four (4) M5X10 BHCS and four (4) M5 Black washers to attach the assembly to the extrusions. Make sure to leave this loose for now.

LulzBot TAZ 6.0 Y axis assembly

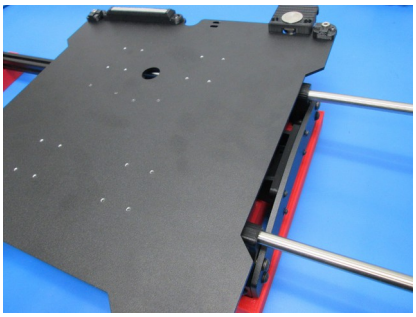
Step Pictures



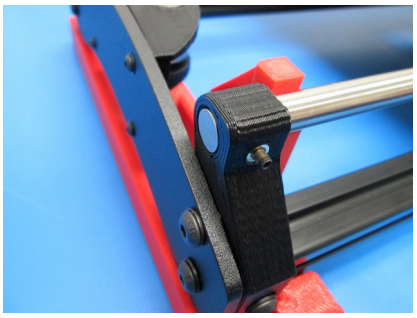
Set two Y table mounts onto the lower top slot



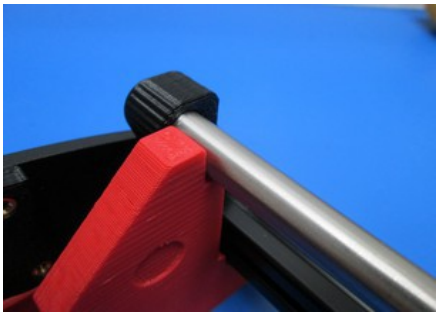
Install the guide rods through the Y corners



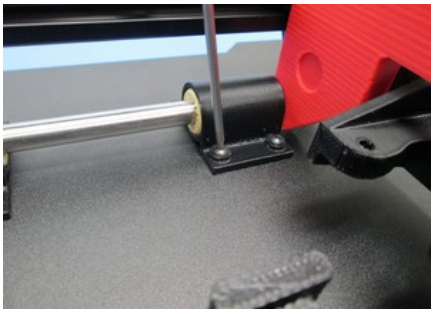
With the Y idler end positioned to the left, motor end positioned to the right, install the bed assembly with the switch side oriented away from you



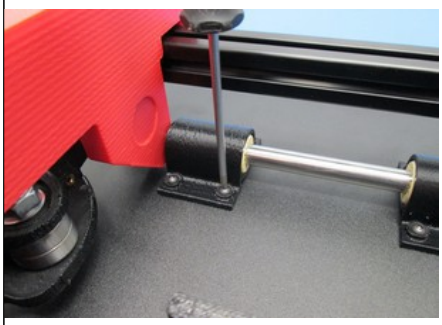
Set the Y guide rods flush to the corner, secure with set screw



Guide rod should be supported by the jig and pressed against the left wall of the jig



Flip machine over, tighten the motor side bearings



Secure the idler side bearings

Set bed plate

Secure the four (4) Y table mounts to the top of the extrusions using two (2) M5X10 BHCS and two (2) M5 black washers for each Y table mount. Snug these down.

Install the guide rods in Y corners, and push them approximately halfway through the Y corners.

With the Y idler end positioned to the left, motor end positioned to the right, orient the bed assembly with the switch side oriented away from you;

Slide the bed plate assembly onto the Y rods, then slide the rods the rest of the way through to the the opposite side Y corners

Set the Y rods flush to the Y corners, install one (1) M3 set screw into each of the Y Corner M3 inserts, tighten the set screws to ~3 in-lbs (~.35 N-m).

The guide rods aluminum extrusion should be supported by the Y table alignment jigs. It is imperative that the guide rods are supported by the jig or the Y table will not be aligned properly.

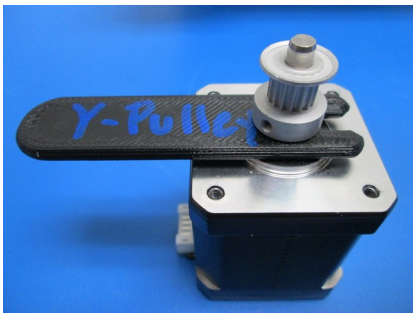
Starting with the two bottom screws on one then moving to the top screws of that side, Tighten the four (4) M5X10 BHCS to hand tight; repeat for the other side (bottom first, then top).

Flip the assembly over and slide the bed assembly to the motor side of the assembly.

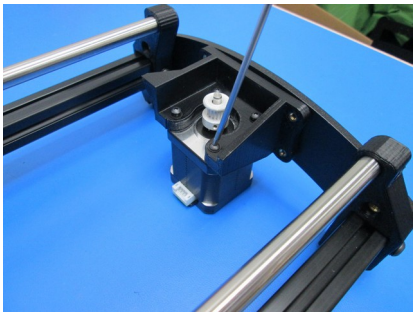
Then, tighten the motor side bearings down finger tight. Slide to the idler side and tighten the idler side bearings finger tight.

LulzBot TAZ 6.0 Y axis assembly

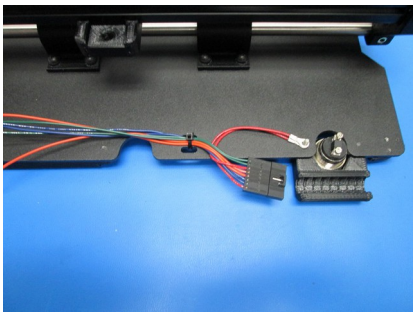
Step Pictures



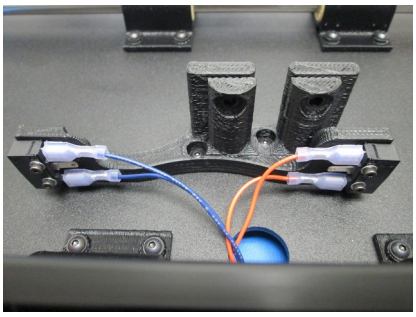
Set the Y pulley to 3.4mm (use a jig if you have them)



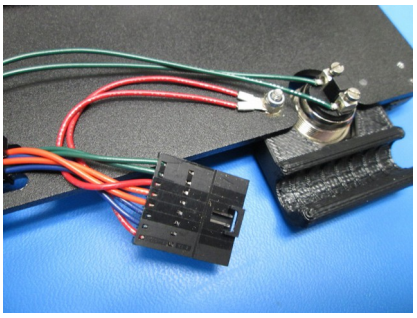
Secure the Motor/ pulley to the motor mount



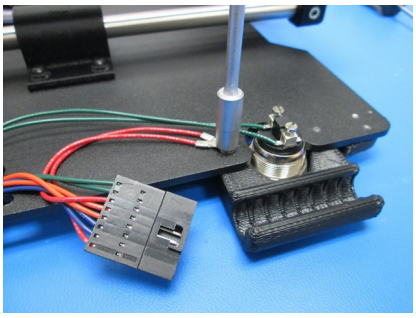
Install the Switch harness assembly, ty wrap in place with the Knuckle of the tie wrap on the bottom of the plate next to the wires



Route the terminal side of the switch assembly through the center hole in the plate, connect the wires to the switches



Install and secure the green wires to the switch



Verify the ground nut is secure

Set motor and wire plate

Set the height of the pulley on the Y motor shaft to (3.4 mm) as shown with the pulley height jig. Tighten the two (2) set screws finger tight.

Attach the motor to the Motor Mount using four (4) M3x12 BHCS and four (4) M3 Black Washers; tighten to finger tight.

Install the Switch wire harness- Place a M3 star washer over the screw thread next to the Z switch mount, place the two (2) red wire
Make sure to place a M3 star washer under the terminal rings at the end of the red wires.

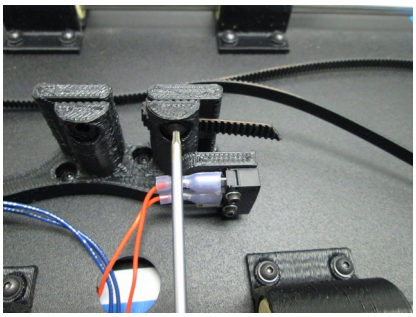
Put the blue and orange pairs of wires through the hole in the bed plate and push the spade connectors onto the limit switches (the middle blade of the limit switches should be empty.) The orange pair goes on the switch that is on the short side of the belt mount, and the blue pair goes on the switch that is on the long side of the belt mount.

Put the green ferruled wires into the screw terminals on the momentary switch. The switch should be clocked so that the screw terminal block is perpendicular to the close edge of the bed plate. Tighten the screw terminals finger tight.

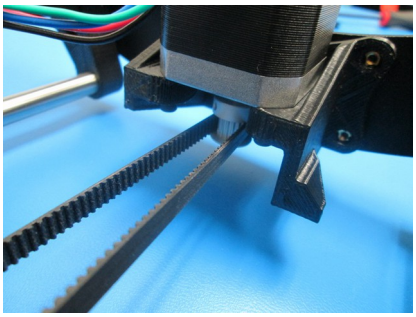
Use a tie wrap to secure the harness. The wires should have a nice radius at each bend to prevent premature wear.

LulzBot TAZ 6.0 Y axis assembly

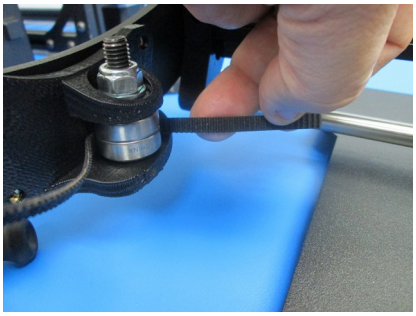
Step Pictures



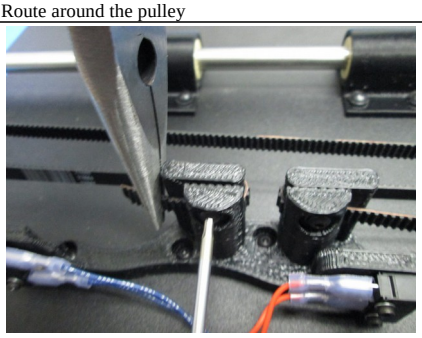
Install belt into the clamp closest to the motor



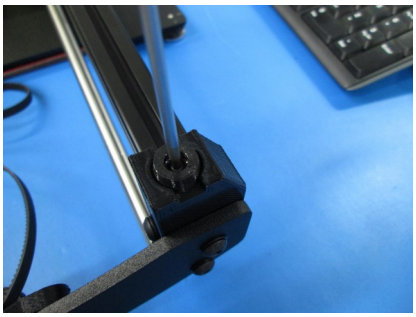
Route around the pulley



Route around the idler



Tension and Secure the belt, remove excess belt length



Install Ninjaflex feet

Install belt and Ninjafeet

Snip one location on the drive belt to create an approximately 1m long non-continuous drive belt; Set one end of the drive belt with the smooth side oriented toward the Z switch into the belt clamp closest to the motor side; align the belt with the step feature in the clamp; secure the belt in the clamp with one (1) M3x6 BHCS and one (1) M3 black washer, tightened to ~8 in-lbs (~.9 N-m)

Without twisting the belt route the belt around the Y axis pulley so the belt teeth engage the pulley teeth then around the Y axis idler

Set the remaining end of the drive belt into the second belt clamp; align the belt with the step feature in the clamp; Tension the belt to approximately 23 to 27 Newtons; secure the belt in the clamp with one (1) M3x10 BHCS and one (1) M3 black washer, tightened to hand tight; Trim excess belt back to no more than 10mm from the belt clamps

Install Ninjaflex feet as shown using one M3x8 BHCS and one M3 black washer per Y corner. Tighten to ~8 in-lbs (~.9 N-m).