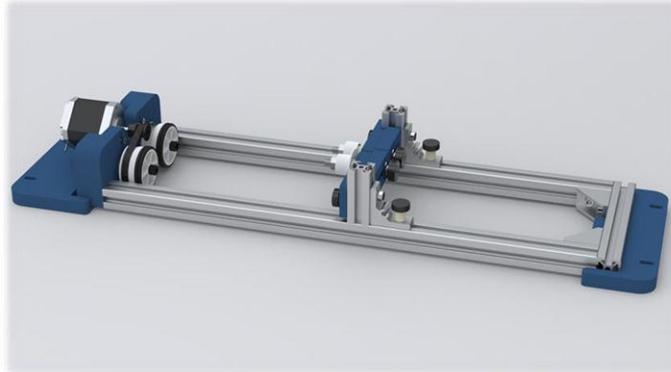


# Rotational Engraving Adapter User Guide (Rev 1)



## Assembly Instructions

Please also refer to assembly drawing D30038 while building this assembly.

[http://www.buildlog.net/cnc\\_laser/erp/get\\_doc.php?docNumber=D30038](http://www.buildlog.net/cnc_laser/erp/get_doc.php?docNumber=D30038)

### Initial Clean-up:

- 1.1. Clean up all plastic parts. There may be some artifacts from the machining process along the edges or in the holes. Some fine sand paper or a razor knife usually work well.
2. Assemble Thumb Screws:
  - 2.1. Get (2) M5 x 20mm long socket head screws, (2) M5 x 12mm long socket head screws and (2) ¼-20 x 2-1/4 long socket head screws (the shorter ones).
  - 2.2. Verify you have the correct screws. Once the caps are installed they cannot be moved to another screw.
  - 2.3. Use a parallel jaw vise to press them onto the screws. The heads do not fully engage in the cap. You only need enough engagement to keep them on. Over pressure will just crack them. Do not hammer them on.
3. Assemble Idler Wheels:
  - 3.1. Press a bearing into each the bottom of each idler wheel. There is a lot of variance on these parts. Some will require a lot of force and some are a little loose. If it is loose use a dab of super glue on the outer race of this bearing.
  - 3.2. Place a shim washer on each bearing inside the idler wheels
  - 3.3. Install the second bearing in each idler wheel. The washer may slip around a bit after this, but it is easy to move it into place later.
4. Assemble The Base:
  - 4.1. Assemble the (2) 440mm long extrusion to the 140mm long extrusion with the cast corner brackets per the drawing using M5 x 10mm screws and t-nuts. Note the way the ends overlap. The tapped ends of the 440mm long are put at the other end to be used for the next step.

- 4.2. Assemble (1) extruded corner bracket to each 440mm extrusion. Use the M5 x 20mm with cap screws. The screws go through the 3/8" long spacers before going through the corner brackets and into the t-nuts.
- 4.3. Attach (1) 50mm extrusion to each corner bracket using M5 x 10mm socket head screws and t-nuts. Note the orientation on the drawing.
5. Assemble Drive Wheel End:
  - 5.1. Press a 1/4" I.D. bearing into the each of the (4) counter bored holes on the drive wheel support plates.
  - 5.2. Push a 1/4-20 x 2.50 Socket head screw through each drive wheel from the side that has the grooves for the o-rings.
  - 5.3. Slide the screws and wheels through the bearings on the support plate with the rounded notch and motor mounting holes on it. The bearings face the drive wheels.
  - 5.4. Add the other support plate. The bearings should be on the outside facing surfaces when complete.
  - 5.5. Install a 1/4-20 lock nut onto each screw. Tighten just until the assembly has no axial movement. Check to make sure the wheels turn smoothly.
6. Install Drive End:
  - 6.1. Use (2) 5mm x 25mm socket head screws to attach the drive assembly to the 440mm extrusions. The screw heads should go into the counter bored pockets.
  - 6.2. Place this assembly on a flat surface to verify it is flat and square. Adjust as necessary.
7. Attach Front Idler Support:
  - 7.1. Attach the idler support with the angled slots to the 50mm extrusions using (2) M5 x 12mm (with thumb caps) and a #10 flat washer under the head. It does not matter which way the slot angles face. In fact you may find the certain orientation work better for certain jobs.
8. Install the rear idler support:
  - 8.1. Run the 1/4-20 x 2-1/4 screw through a 1/4" flat washer, through the rear support, through the front support, through the wheel/bearing assembly, through a shim washer and into a 1/4-20 hex nut (non locking).
9. Install Belt.
  - 9.1. The belt is a little tricky to assemble. It will seem too tight, but the belt will loosen once the teeth drop into the grooves. This assembly method works best. Slide one end over and behind a drive wheel. Slide the other side of the belt onto the other wheel and engage the belt onto that wheel's pulley teeth. Then pull the on the other end of the belt.
10. Install the motor and pulley:
  - 10.1. Install these at the same time so the pulley can get under the belt. Tighten the belt by rotating the motor. Do not put excessive pressure on the drive pulleys. Tighten the set screw with the pulley centered on the belt.
11. Install O-rings: Stretch them over the wheels and into the grooves. Try not to twist or roll them on or they will try to spring back off.

