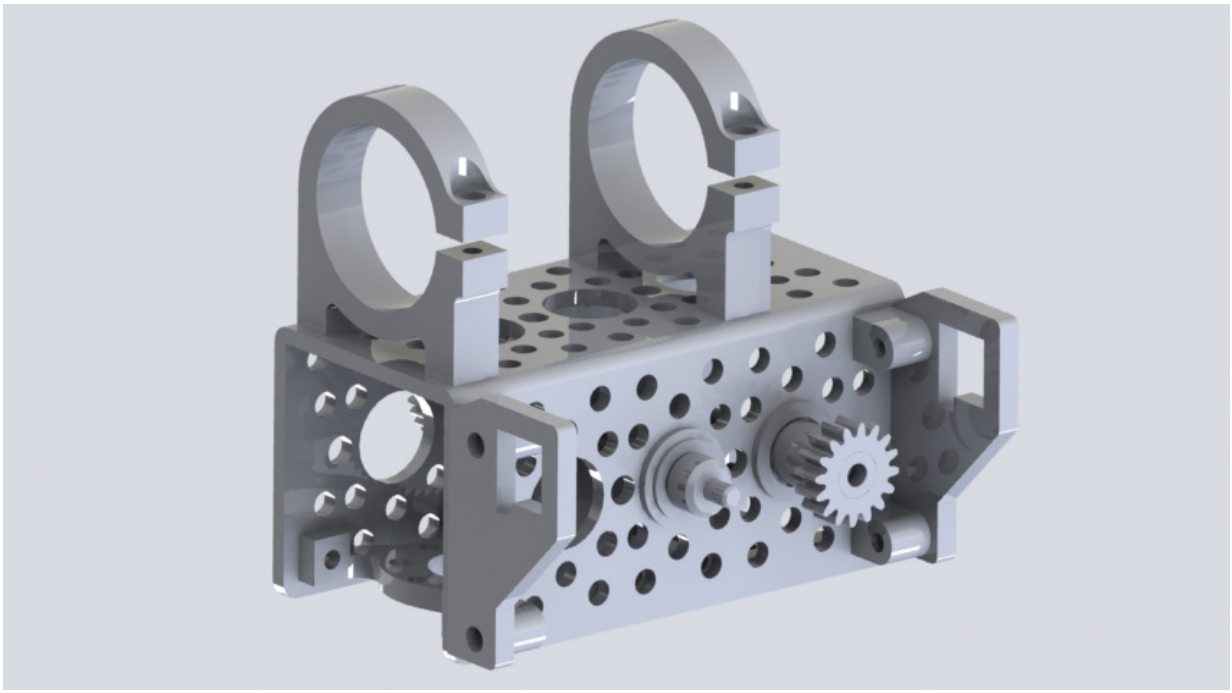
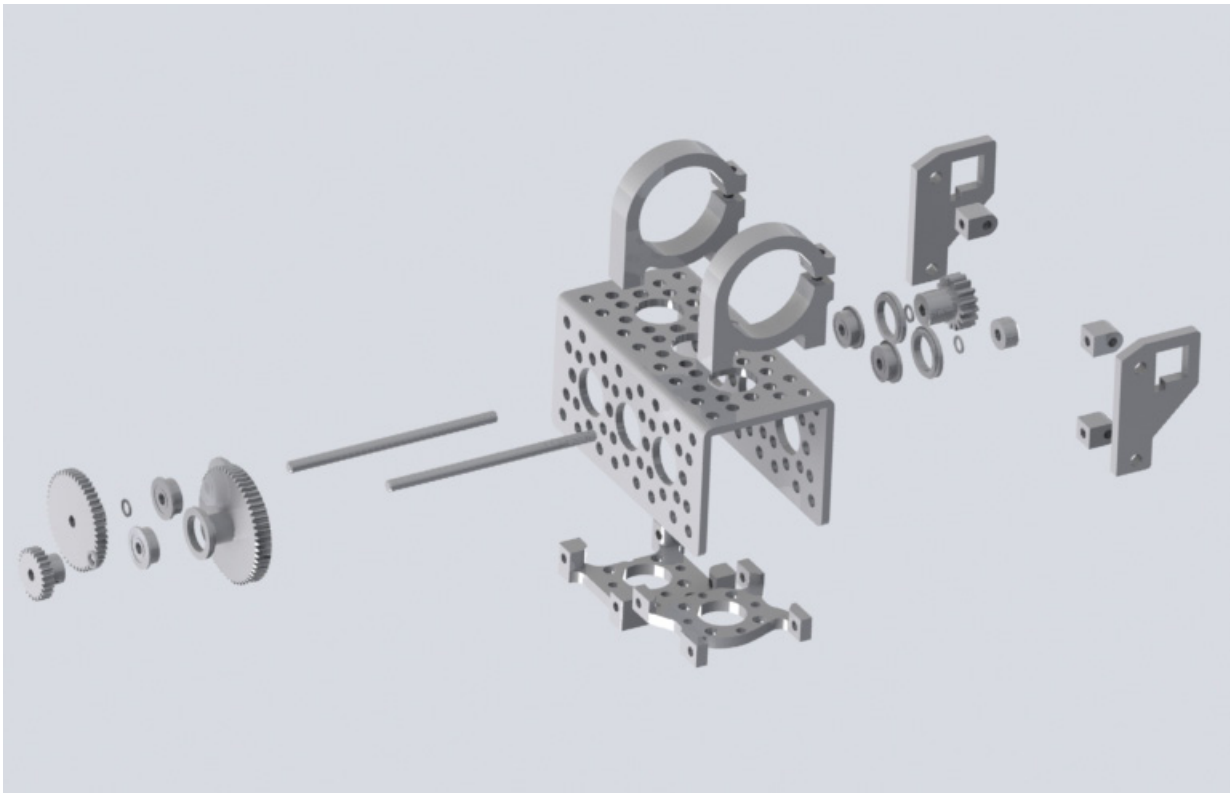
J - Extruder: Gear Box Sub-Assembly

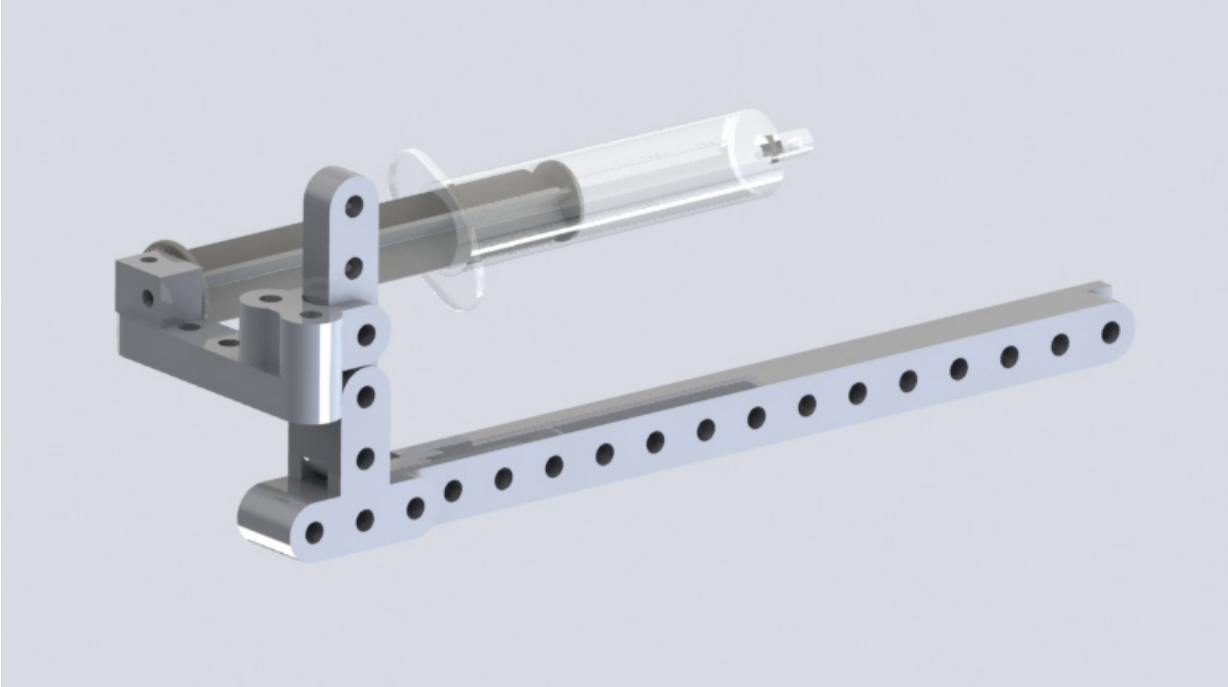


Collapsed View

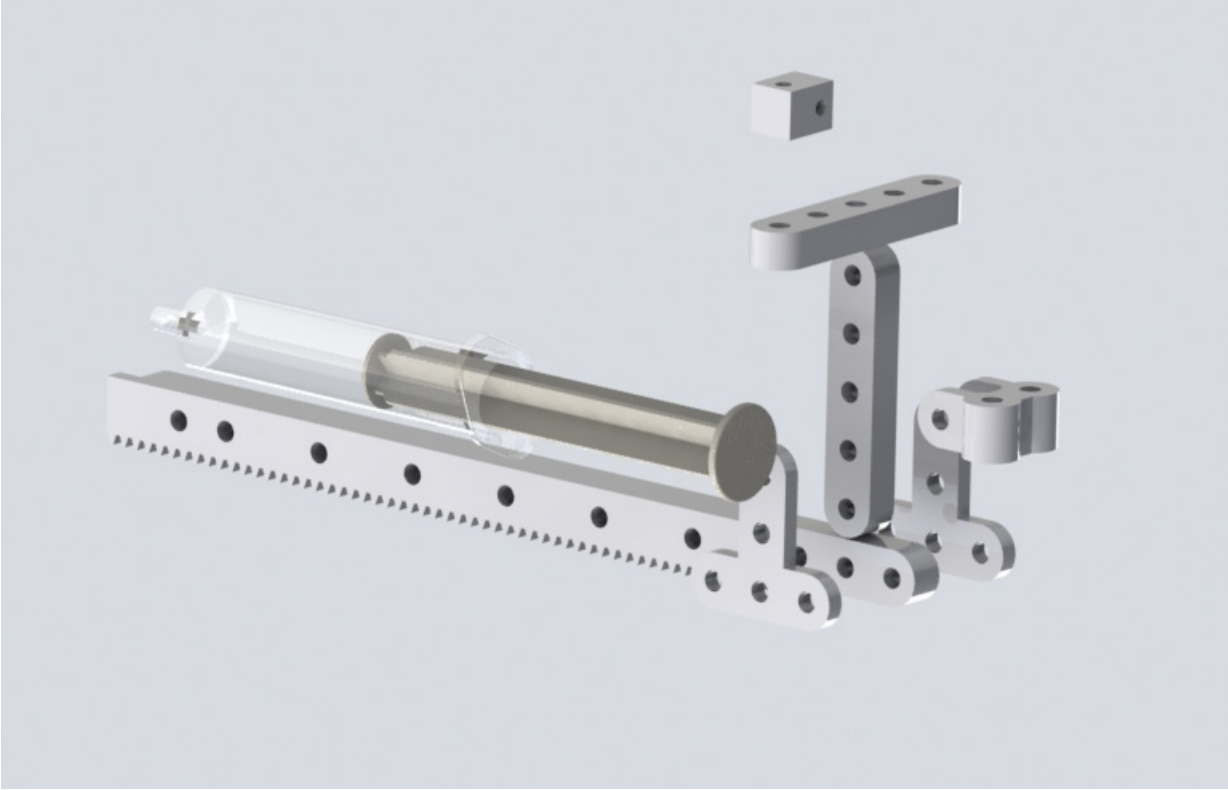


Exploded View

J - Extruder: Extruder Arm Sub-Assembly

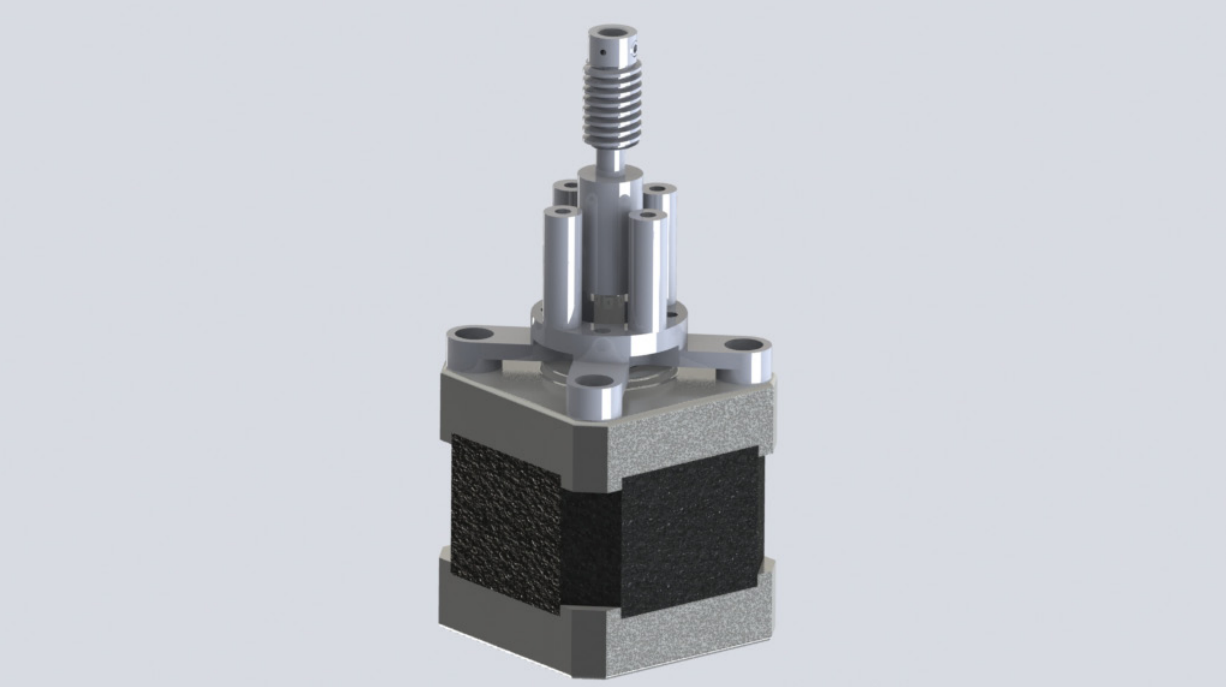


Collapsed View

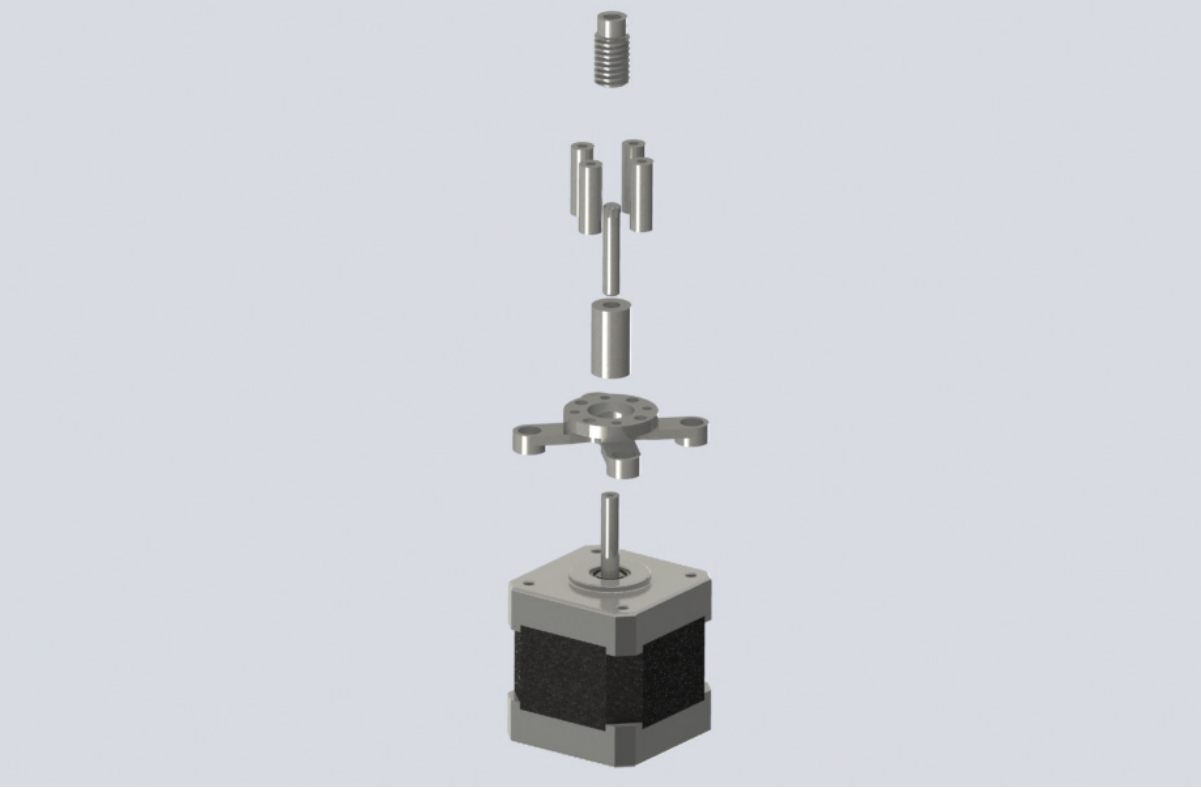


Exploded View

J - Extruder: Motor Sub-Assembly

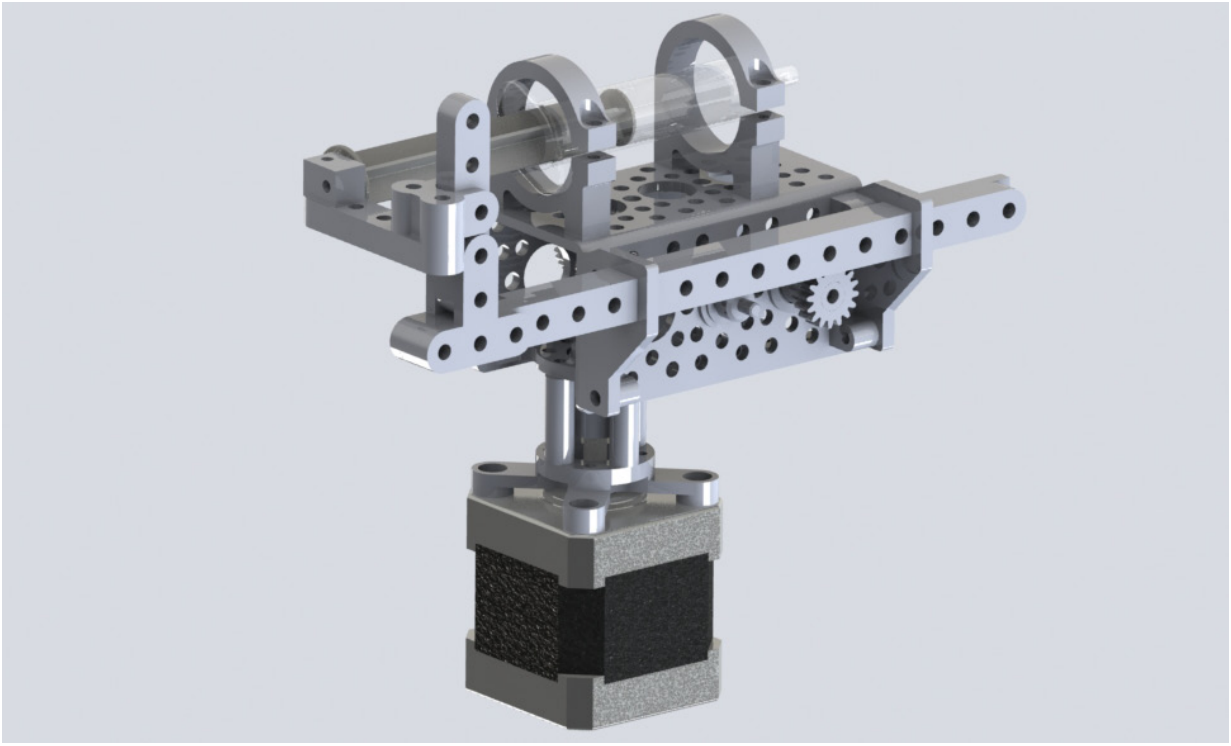


Collapsed View

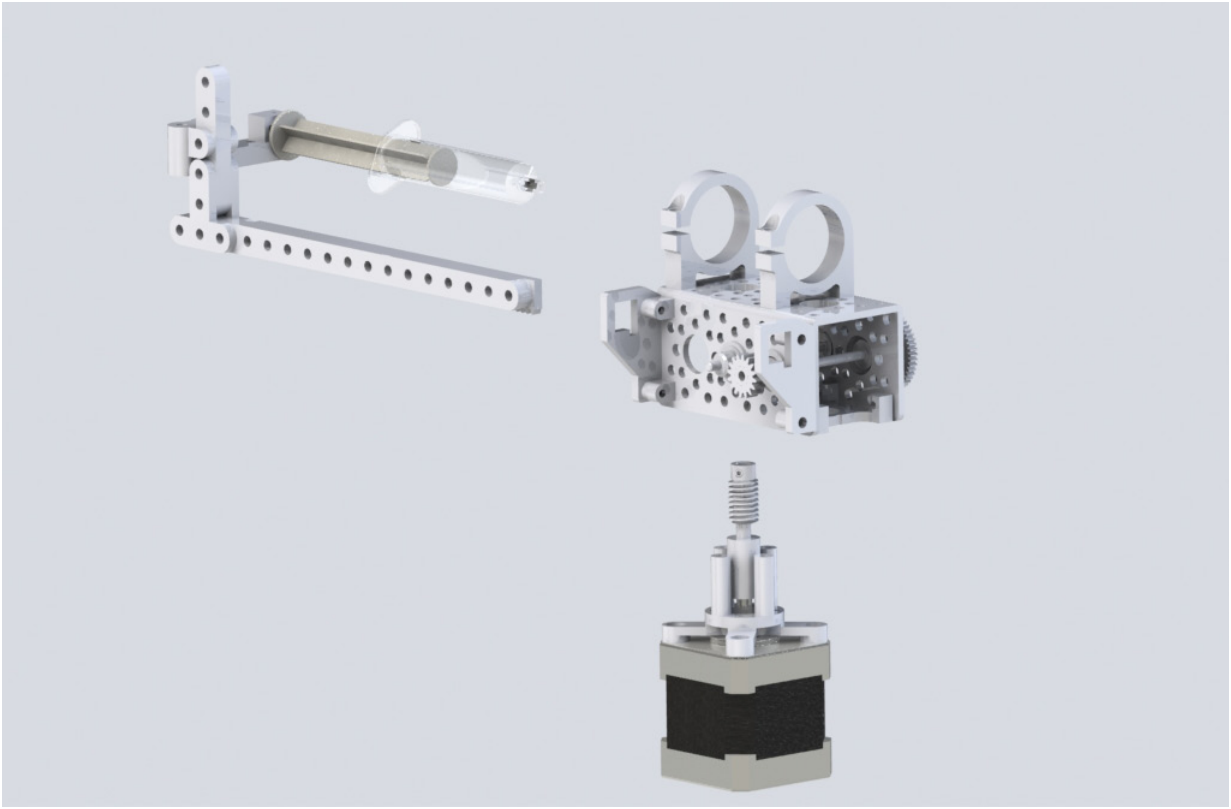


Exploded View

J - Extruder: Complete Assembly



Collapsed View



Exploded View

J - Extruder: Assembly Instructions

Gear Box Sub-Assembly

1. Find main gear box frame (J1) and orient as indicated.
2. Attach two 1” tube clamps (J15) using four 6-32 x 1/8” bolts.
3. Thread the first 2.375” shaft (J7) through *holes 1 and 2* in the gearbox. On the *hole 1* side of the shaft, place the 1/8” x 3/8” OD flanged ball bearing (J4), followed by the 0.375” center hole adapter, followed by a 0.016” washer (J9). Finally, place the 32DP, 16 toothed spur gear (J11) on the shaft.
4. Move the shaft (J7) placed through *hole 1* so its now through *hole 2*. On the *hole 2* side of the shaft, attach the 1/8” x 3/8” OD flanged ball bearing (J4), followed by the 0.375” center hole adapter, followed by the 0.016” washer (J9). Finally, place the 48DP, 48 toothed spur gear (J6) on the shaft.
5. Once the shaft has been centered through *holes 1 and 2*, tighten the two spur gears attached in steps 3 and 4. Make sure that there is no lateral movement in the shaft.
6. Place the 32DP, 100 toothed inner gear (J2) inside the gearbox and thread the second 2.375” shaft (J7) through *hole 3*, then the gear, then *hole 4*. (Note: the orientation of this inner gear (J2) does not matter as long as it lines up with the worm gear later in the assembly.)
7. On the *hole 3* side of the shaft, attach the 1/8” x 3/8” OD flanged ball bearing (J4), followed by the 0.375” center hole adapter, followed by the 0.016” washer (J9). Finally, place the 1/8” shaft collar on the shaft.
8. On the *hole 4* side of the shaft, attach the 1/8” x 3/8” OD flanged ball bearing (J4), followed by the 0.375” center hole adapter, followed by the 0.031” washer (J10). Finally, attach the 48DP, 24 toothed spur gear (J5).

J - Extruder: Assembly Instructions

9. To attach the hub mount (J12), first notch out as shown and attach with three 6-32 ¼" bolts.
10. To attach the quad mount (J16), first notch out as shown and attach with three 6-32 ¼" bolts.
11. To attach the beam brackets (J13), first attach beam blocks (J14) to the gearbox as shown using three 6-32 1/8" bolt, then attach the beam brackets (J13) to the blocks (J14) using four 6-32 ½" bolts. To attach the final beam blocks (J14) to the gearbox, place two 6-32 ½" bolts through the quad and hub mounts (J12, J16), though the gearbox holes indicated, and into the gear blocks (J14).

Extruder Arm Sub-Assembly

1. On one end of the 6.16 aluminum beam (J22) attach the beam bracket F (J20) using two 6 – 32 x ¾ inch bolts, two standard washers and two 6-32 nylock nuts
2. Attach the 1.54 aluminum beam (18) to the to the beam bracket F (J20) using two 6-32 x ¾ inch bolts. Two standard washers and two 6-32 nylock nuts.
3. The beam crossover adapter A (J19) should be connected to the 1.54 aluminum beam (J18) in the middle hole using one 6-32 x ¾ standard washer and a 6-32 nylock nut.
4. Add the next 1.54 aluminum beam (J18) to the assembly by attaching it perpendicularly to the beam crossover adapter A (J19) with two 6-32 X 7/8 inch bolts two standard washers and two 6-32 nylock nuts

J - Extruder: Assembly Instructions

5. Attachment block (J17), should be secured to the end of the 1.54 aluminum beam (J18) that was just attached in step 4 using a 6-32 x ½ inch bolt and a 3mm washer the threaded hole on the attachment block A will serve as a nut for a bolt.
6. Use a dremel to cut the black plastic railing (J23) to about 5 ¼ inches.
7. Attach the black plastic railing (J24) to the 6.16 inch aluminum beam (J23) using three 6-32 x ¾ bolts two standard washers and two 6-32 nylock nuts, attach the bolts after they are already inserted into the Gear box, they will not fit into the space if the plastic railing is attached first.

Motor Sub-Assembly

1. Attach the NEMA 17 motor mount (J25) to the NEMA 17 motor (D10) using the four set screws contained within.
2. Attach four 6-32 aluminum standoffs (H4) using four 1/2" 6-32 screws to the top of the NEMA 17 motor mount (J25).
3. Attach the 5 mm x 3/16" coupling (J26) to the drive shaft of the motor (D10) through the center of the mount (J25).
4. Insert the 3/16" shafting (J27) into the coupling (J2).
5. Attach the worm gear (J28) to the end of the shafting (J27).

J - Extruder: Assembly Instructions

Complete Assembly

1. To attach the motor assembly to the gearbox, bolt the aluminum shafting (J27) to the hub mount (J12) as depicted. Note: Make sure the inner gear (J2) is aligned with the worm gear before attaching the motor mount to the gearbox.

2. Line up a 0.375" center hole adapters (J3) with the 1/8" ID x 3/8 " OD flanged ball bearing (J4) and a thin 0.12" washer (J9) on the large center hole of the 3" aluminum channel (J1). Align the large gold gear (J2) in the center of the aluminum channel (J3), then slide the 0.12 x 2.3" rod (J7) through the aligned parts and anchor the end of the rod with the 0.3" round lock. Slide a 0.375" center hole adapter (J3) and 1/8" ID x 3/8" OD flanged ball bearing (J4) and a thin 0.12" washer (J9) onto the opposite end of the rod (J7) and anchor it with the small aluminum gear (J5). The end of the rod anchored with the smaller aluminum gear should be on the side of the 3" aluminum channel such that its opposite of the bolted side of the 1" bore tube clamp (J15).