

# Making our Custom Omni-Wheels

## Equipment

### Tools

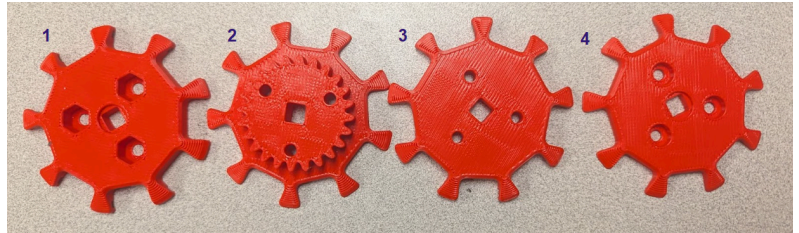
- ☐ Needle nose pliers
- ☐ Thick pliers
- ☐ T15 Screwdriver



(Image 1)

### Supplies (per wheel)

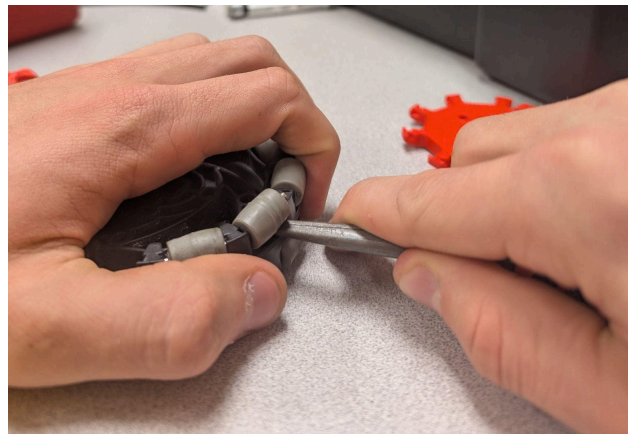
- ☐ (3) 1" screws
- ☐ (3) Thin nylocks
- ☐ (18) New omni rollers
- ☐ Printed omni wheel parts (image 2)



(Image 2)

## Step 1: Extracting omni rollers

1. Place the tip of your needle nose pliers on the bottom right corner of the roller you want to extract.
2. Push the pliers into the small gap between the roller and plastic. The roller should pop out. Refer to Image 3.
  - a. If it does not, bend the pliers down to pop the roller out.
3. Repeat!

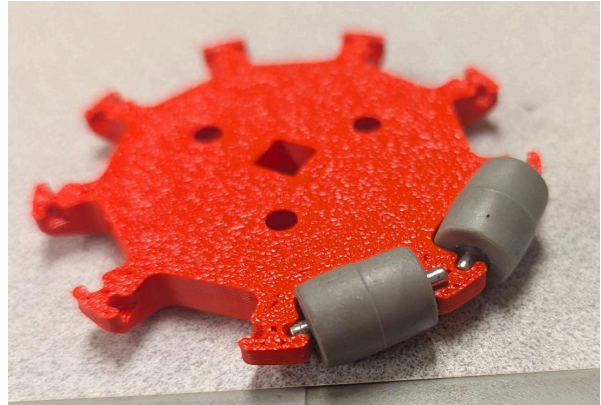


(Image 3)

## Step 2: Putting the wheel together

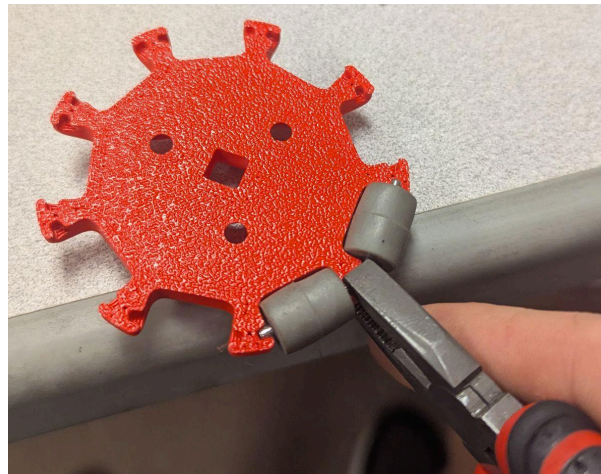
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1. Insert omni rollers into receptacles.
  - a. Place one end of the rod into the receptacle. The other end should be slightly sticking up.



(Image 4)

2. With the thick pliers, clamp the other end of the rod into the wheel. This will also press the unclamped end of previously inserted roller more firmly in the wheel.

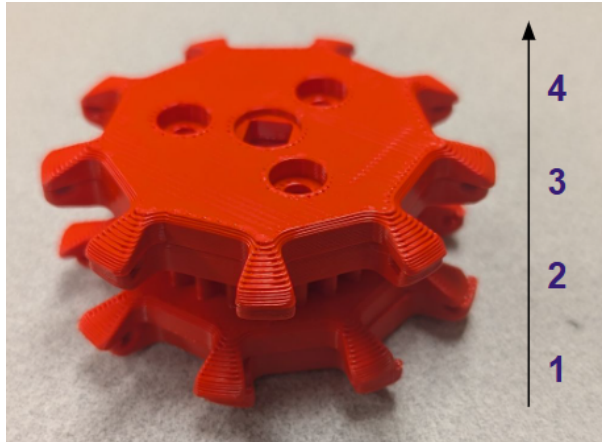


(Image 5)

- The end of each roller should now be pressed firmly in place.
  - Repeat this process 9 times until every roller is inserted.
  - Clamp every receptacle again to ensure the rods are firmly in place.
3. Spin each roller to ensure it moves freely.
    - a. If a roller does not move freely, try reclamping both ends of its rod. If that doesn't work, replace the roller.

4. Stack the wheel parts vertically, starting with 1 at the bottom and 4 at the top. Ensure that the three screw holes are lined up.

*Tip: Use the square insert in the middle to align the parts.*



(Image 6)

5. Insert 1" screws.
6. Place and tighten thin nylocks.
7. Spin each roller once more after assembled to ensure it is still relatively frictionless.

**Congratulations! You did it!**