

# WC800-DM4 ATR Assembly Manual



## Preparing the Motors

There is a brake on the wheelchair motors that we recommend be removed before assembly (the brake is turned on by default and if you run the motors with the brake on you will burn the motors up). There is also aluminum plate that needs to be removed. Follow these steps (If you selected to add encoders on the motors, the brake has already been removed. Skip to step 5.):

1. Remove the back cover of the motor



2. Remove the brake by taking out two screws.



3. Cut the two white wires. These are no longer used.

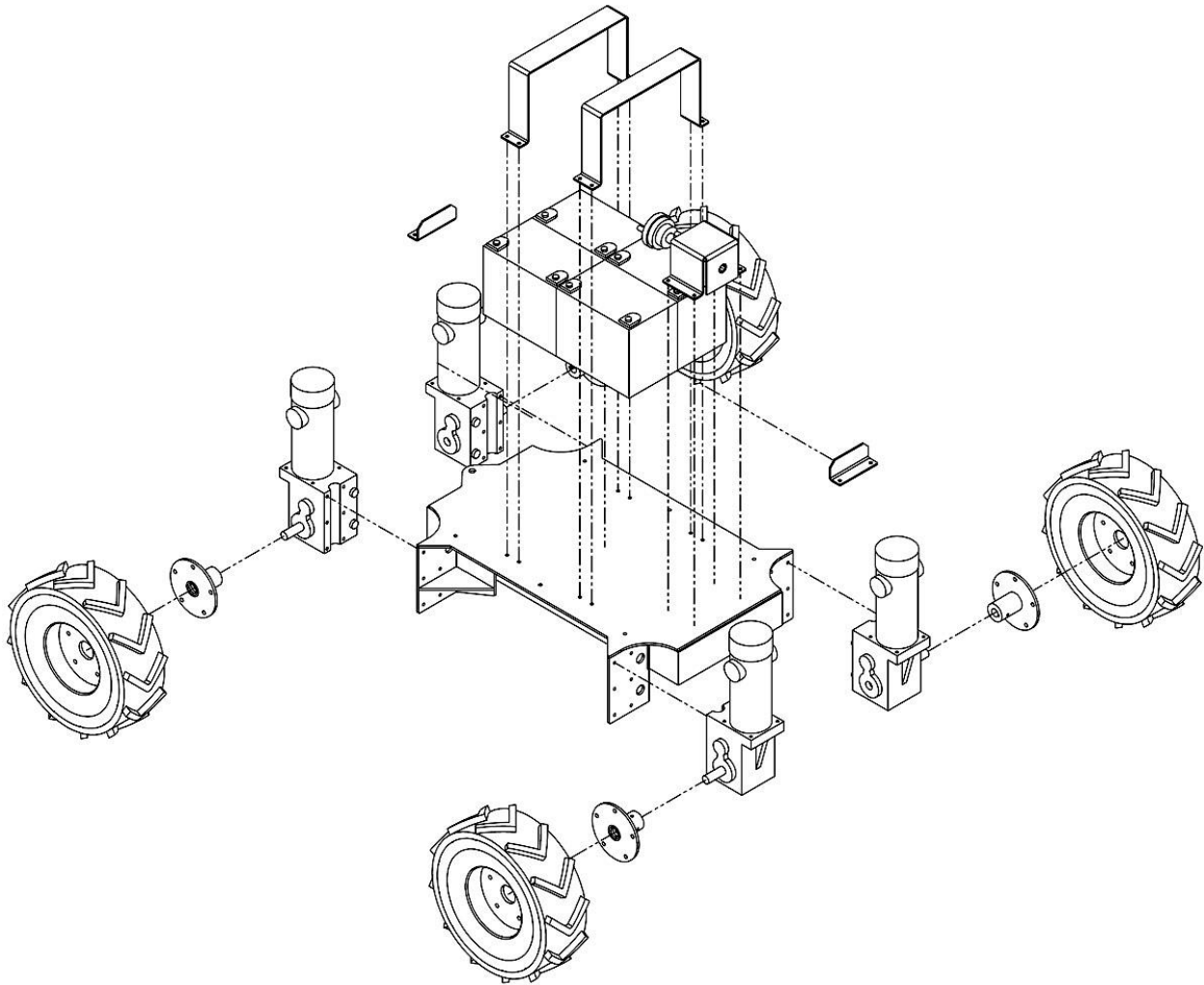


4. Cut the connector off of the motor and remove the two white wires by pulling them through the wire jacket.

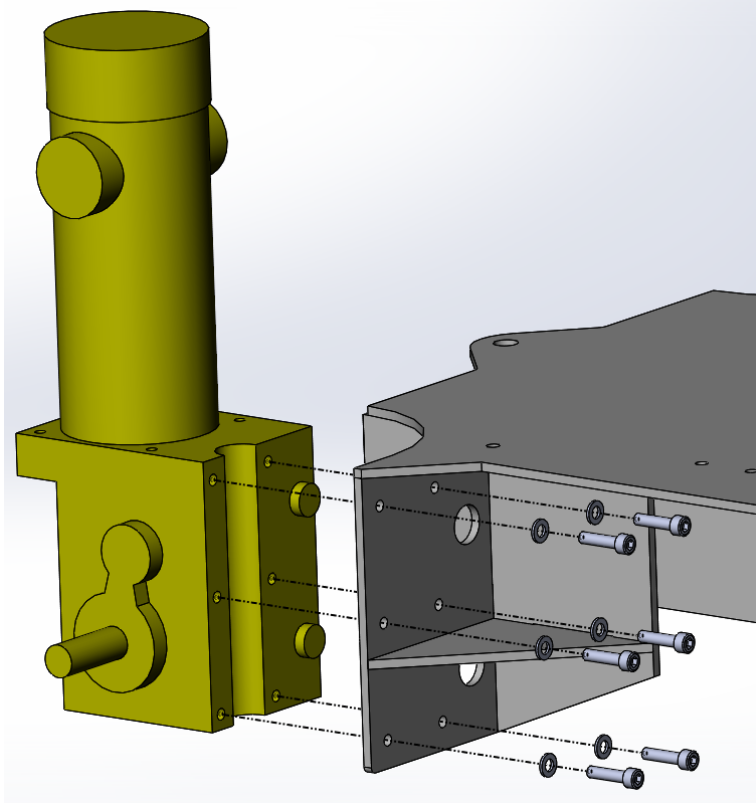


5. Remove the six socket head screws holding the aluminum plate to the bottom of the motor. Remove the aluminum plate, it will not be used. Set the screws aside, these will be used to mount the motors to the chassis.

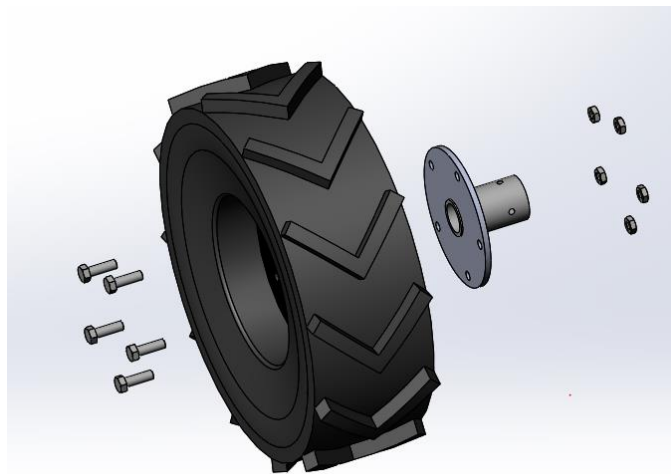
## Mechanical Assembly



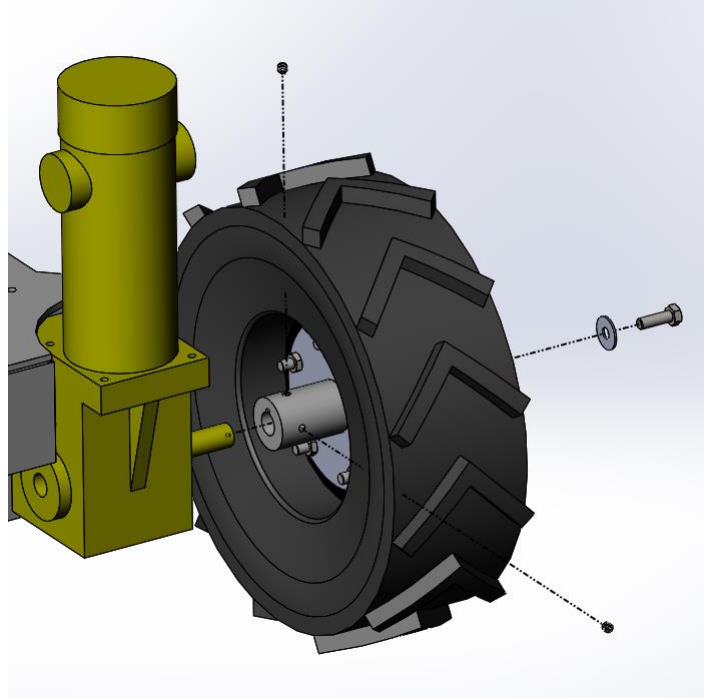
1. Mount motors using the socket head screws that came with the motors and washers that came with the kit.



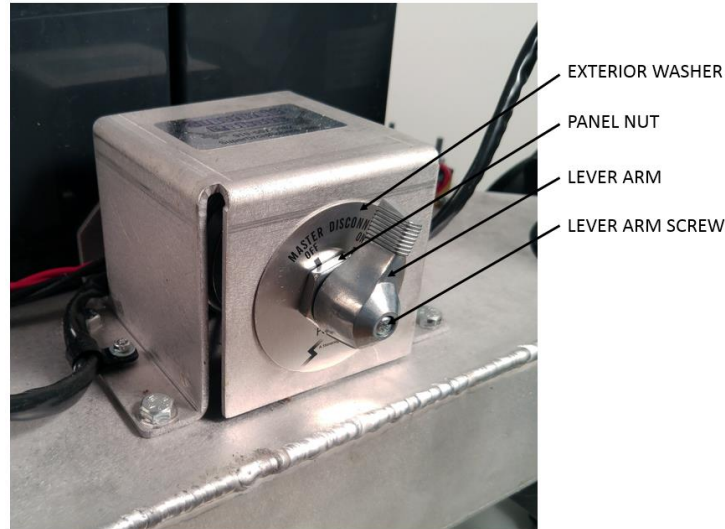
2. Mount wheels to wheel hubs using the provided hardware. Be sure to align the tread pattern on each tire in the same direction. Slide wheel/hub assembly onto the motor shaft and fasten with the provided M8 screw into the end of the motor shaft and two set screws into the side of the motor shaft.



3. Mount batteries by using battery brackets and provided hardware. The holes are pre-drilled to fit the brackets for qty. 4 35 Ah lead acid batteries. Screws and nuts are provided. If you ordered a different battery configuration, you'll need to drill holes to mount them. Use foam for a snug fit.



4. The switch will need to be disassembled to mount it to switch bracket. To do so, first remove the screw that holds on the lever arm. The lever arm then slides off. Then remove one of the panel nuts. Leave the other panel nut and lock washer in place slide it into the switch bracket so that the lock washer is contacting the inside of the aluminum bracket. Slide the exterior washer/switch label so it contacts the outside of the aluminum bracket. Then tighten together with the panel nut. Finally, replace lever arm and secure with lever arm screw and lock washer.



5. To mount the bracket, you will need to drill holes in the top plate of the chassis. Place the bracket where you want to mount it (there is room behind the batteries) and mark the holes with a sharpie. If you are mounting the bracket behind the batteries as in the picture above, two of the holes will need to go into the tubing frame. For these two holes you have two options. You can drill and tap into the aluminum if you have a tap set (for  $\frac{1}{4}$ -20 tapped hole drill a  $\frac{13}{64}$  pilot hole). Or you can drill all the way through the tube with a  $\frac{1}{4}$ " clearance hole and use a longer screw.

### **Inflating the tires**

Before running the robot on the ground, make sure the tires have been inflated. Running the robot with a flat tire can cause the tube to spin inside of the tire and damage the valve stem. For this reason it is a good idea to check the tires periodically to make sure they are inflated.

You are now done with the main mechanical assembly. For electrical assembly you can find the schematic on our website:

[Schematics](#)

For additional support on wiring, soldering, and crimping, please read the following support pages:

[Electric Motor Hookup Support](#)

[Electric Power Hookup Support](#)

[Soldering Tips](#)

[Crimping Wires](#)