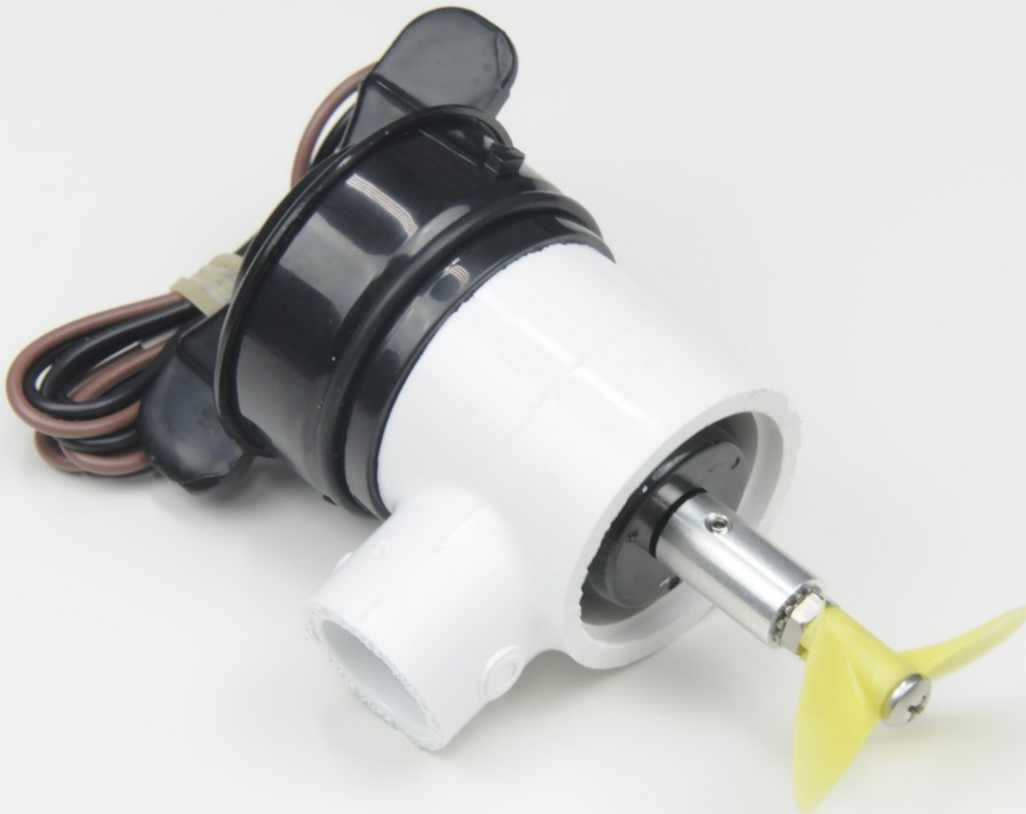




# 4 - Wire Management

Step-by-step guide to internally route the motor wires.

Written By: REA





## TOOLS:

- [Power Drill](#) (1)
- [Heat Gun](#) (1)
- [4mm Drill Bit](#) (1)
- [8mm Drill Bit](#) (1)
- [Small Hand File](#) (1)
- [Long-Nose Pliers](#) (1)



## PARTS:

- [Motor Systems](#) (3)
- [6mm Heat Shrink](#) (1)

## Step 1 — 4 - Wire Management



- Collect the three motor units, and identify the area to drill; as shown in the accompanying image.

## Step 2



- Collect a 4mm and 8mm drill bit.

### Step 3



- Mount the motor assembly in a vice, ensuring the surface to be drilled is held at a 90° angle.

### Step 4



- Pre-drill the hole with the 4mm drill bit, ensuring the hole is drilled as perpendicular as possible to the motor mount.
- Use the 8mm drill bit to enlarge the hole.

## Step 5



- Use a small hand file to clean up any PVC shavings or sharp edges from the hole.
- This will help prevent the external section of the wires rubbing, and make for a neater build.

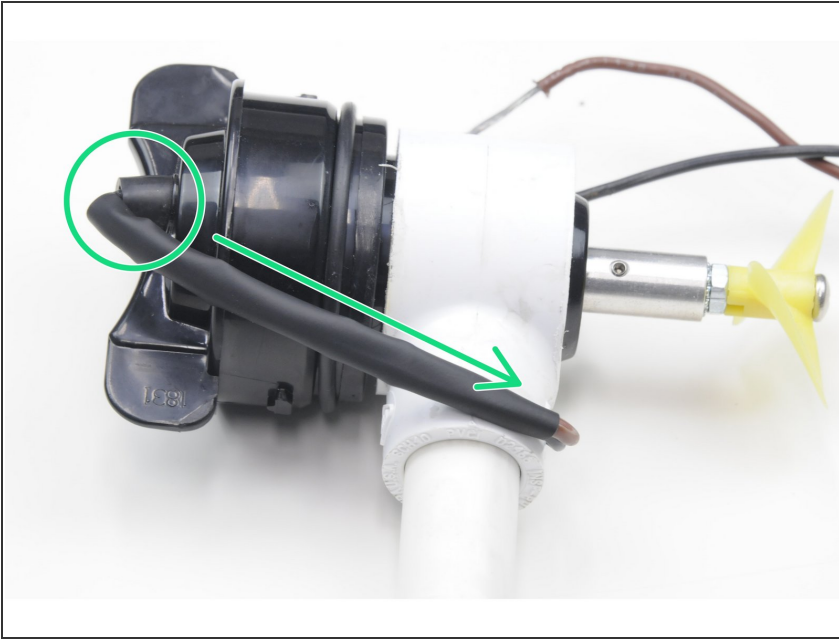
## Step 6



- Run the wires through the hole and measure the length of wire that remains on the outside of the unit.
- Cut the appropriate length of heat shrink to match the length of external wiring.
- This should be approximately 100mm.



## Step 7



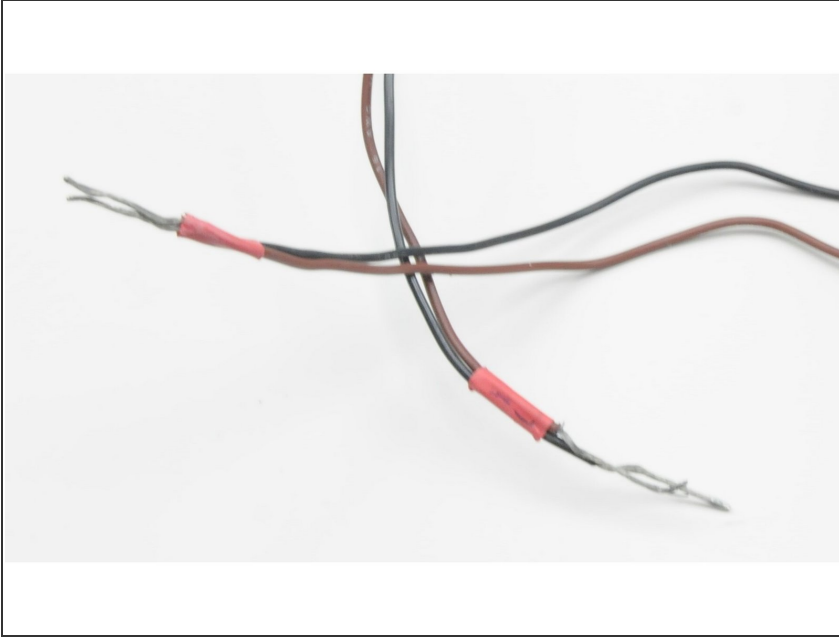
- Slide the heat shrink over the wires, ensuring it is the right length.
- To reduce the amount of visible cables, we suggest running the wires from the side to the back of the motor mount as shown.

## Step 8



- Using the heat gun, or alternate heat source, secure the heat shrink in place.

## Step 9



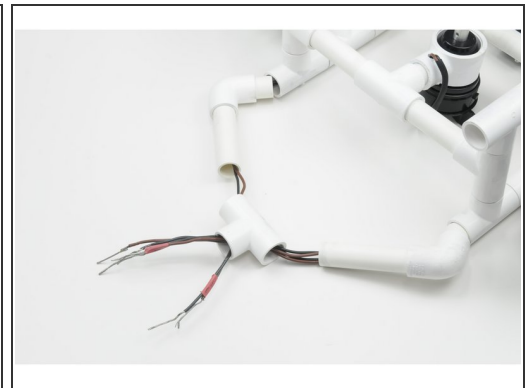
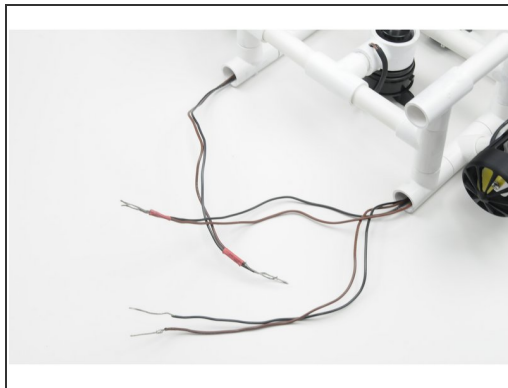
- Cut three short sections of a light coloured heat shrink, and mark them with an 'L', 'R', and 'T' - (Left, Right & Top).
- Ensure the marker used does not rub off easily. A ball-point pen can be used to mark and press the letter into the heat shrink.
- Secure these three sections of heat shrink to their associated motor wires, near the end of the wire.
- This will allow you to identify the pairs of wires once they are routed through the frame.
- Masking tape can be substituted in place of these tags if necessary.

## Step 10



- We recommend using a small set of needle nose pliers for the following steps.

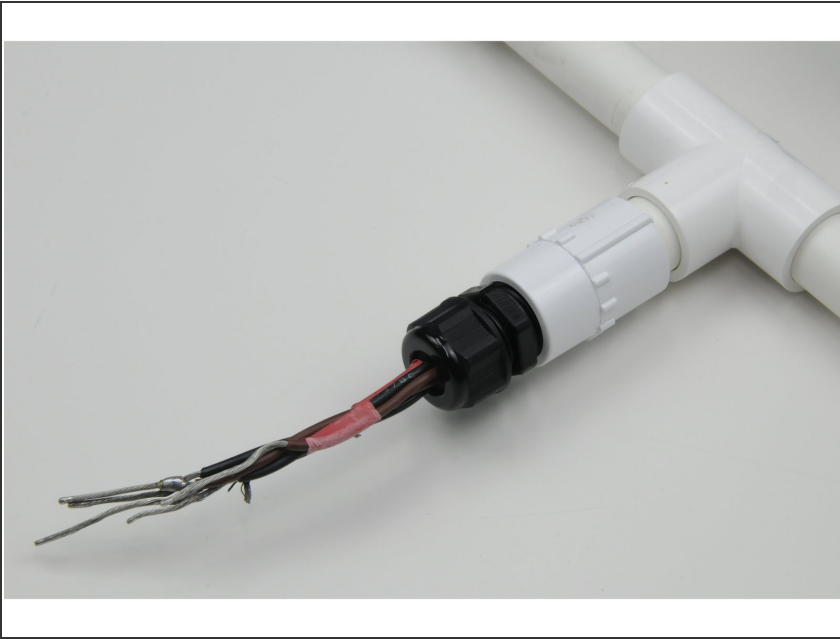
## Step 11



- Push the wires through the hole, and work them through the frame of the ROV.
- You may find it easier to break the ROV frame into sections, or, if necessary, individual pieces to route the wires.
- Use the long-nose pliers as necessary to pull the wires through the frame. Making sure not to pull the heat shrink tag from the wires.



## Step 12



- Route the excess wire through the rear stress relief provided.