

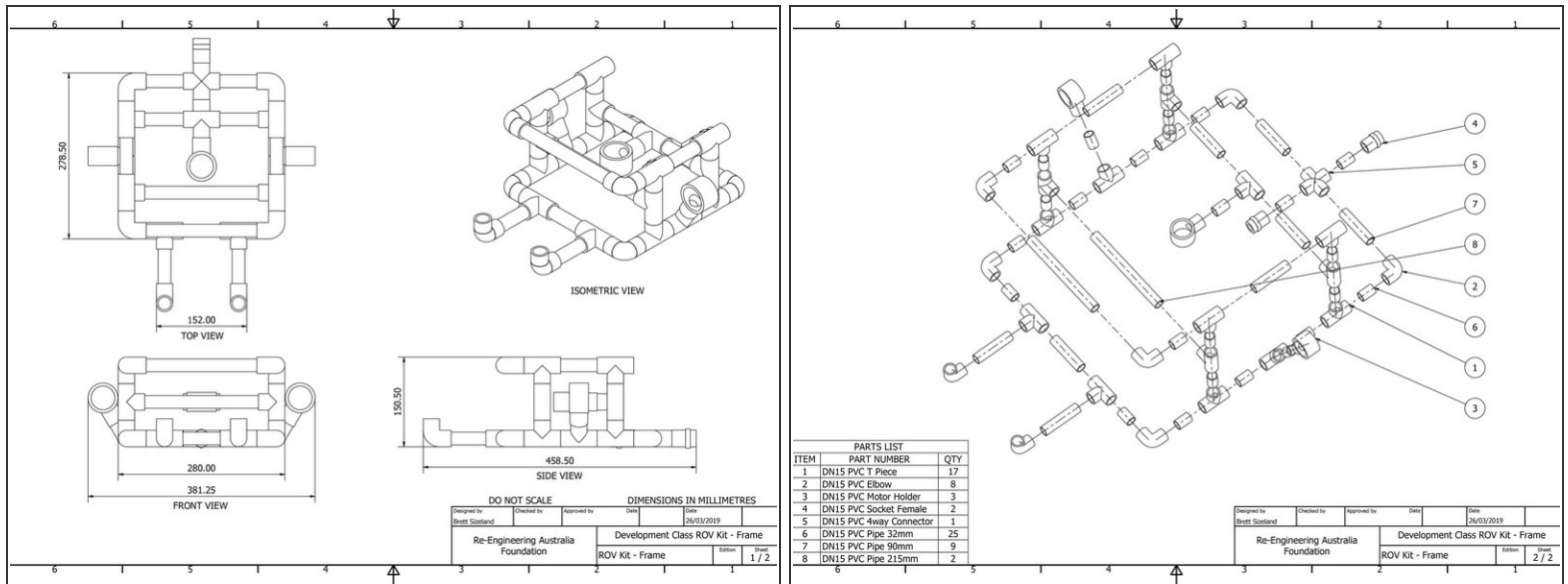


Frame Assembly

Written By: REA

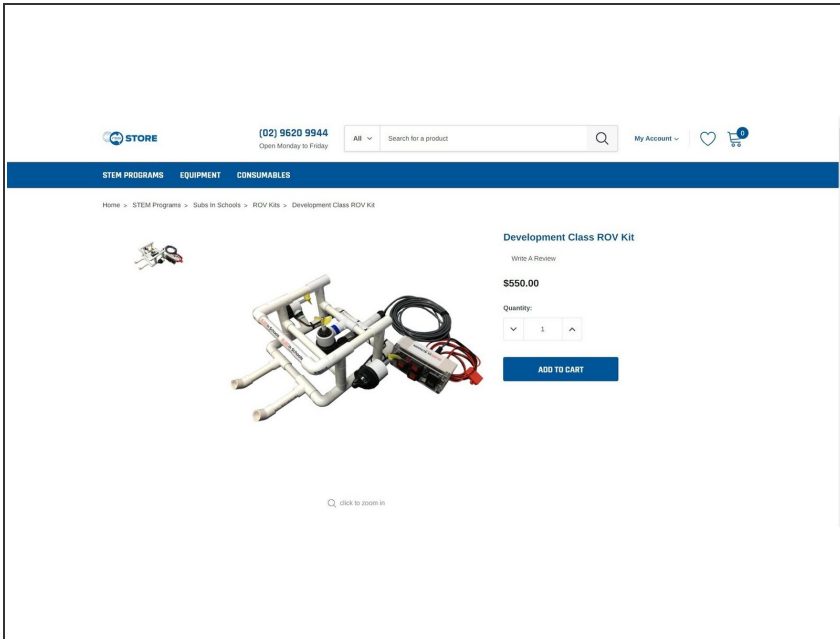


Step 1 — ROV Assembly



- Take the time to study the ROV assembly, and how the assorted lengths of PVC interconnect to form the frame.
- ① Note that all pieces fit flush to one another. This is the goal for a 'perfect' ROV build, however as long as the frame is symmetrical, minor differences in length should not pose a major issue.
- Depending on if you choose to route your wiring internally (recommended) will determine if you use the cross (part #5) (external routing) or tee (internal routing) joint pictured at the rear of the ROV.

Step 2



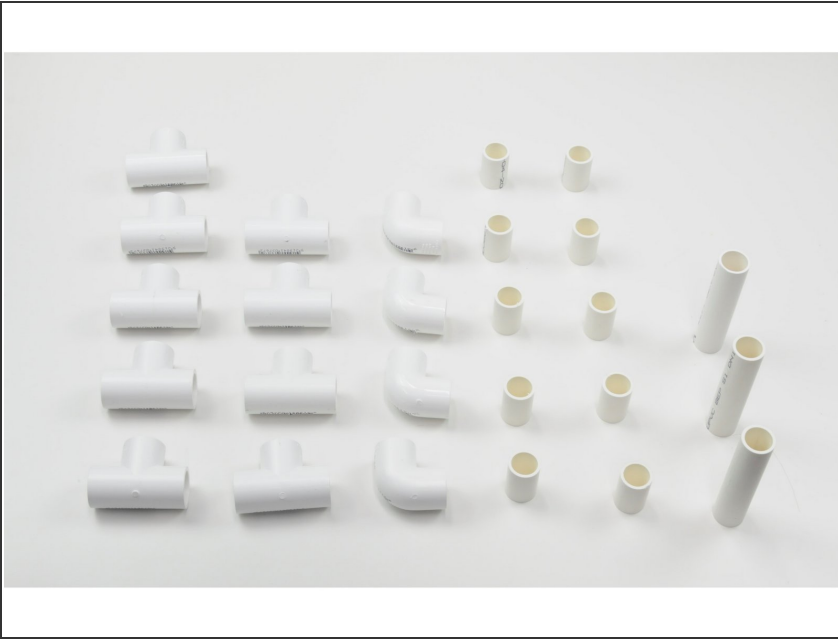
- If you are using the ROV kit available through store.rea.org.au you should already have all the necessary PVC sections and connectors, however it is always good practice to double check against a parts list to ensure a smooth build process.
- To ensure you have all the required components to complete your build, refer to '[Unboxing Your ROV](#)'.

Step 3 — Cutting PVC



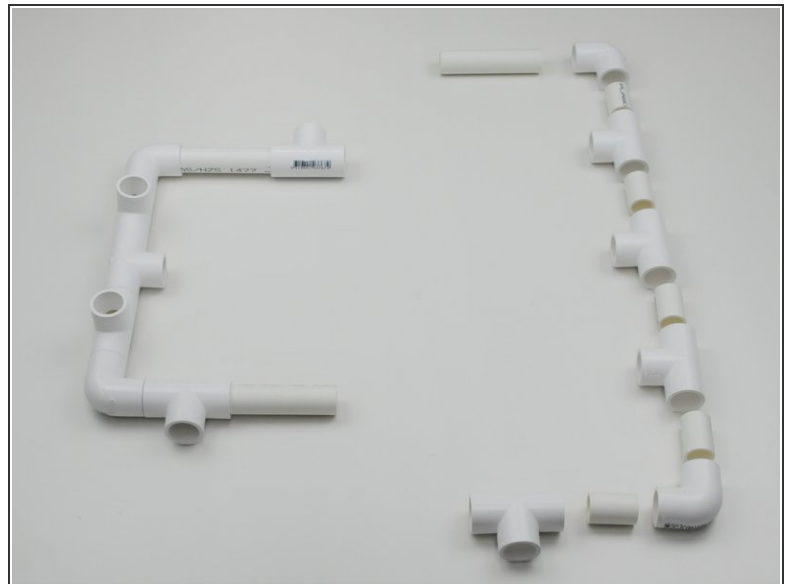
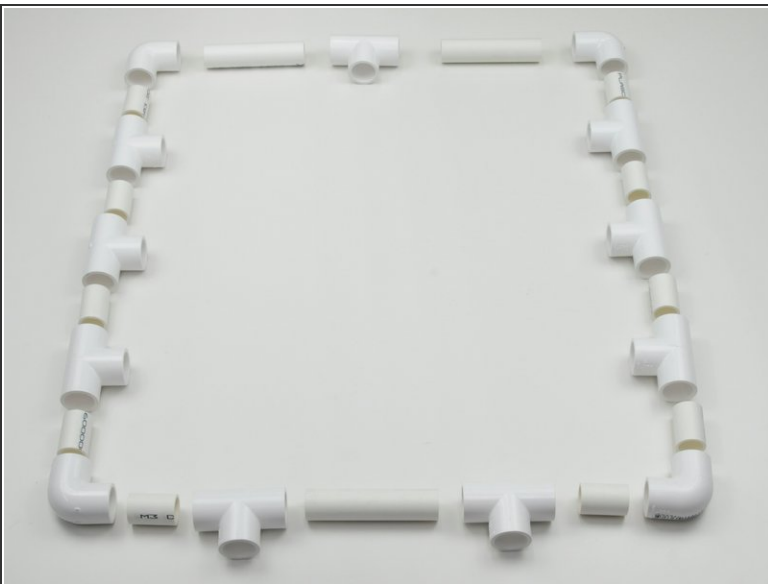
- If necessary, use the PVC cutters to cut your lengths of pipe to size; ensuring all parts are symmetrical to the corresponding parts.
- Not doing this can lead to a PVC frame that does not fit together well and breaks apart too easily.
- For more detailed instructions on how to cut PVC, refer to the '[PVC Cutting Basics](#)'.


Step 4 — Base Construction



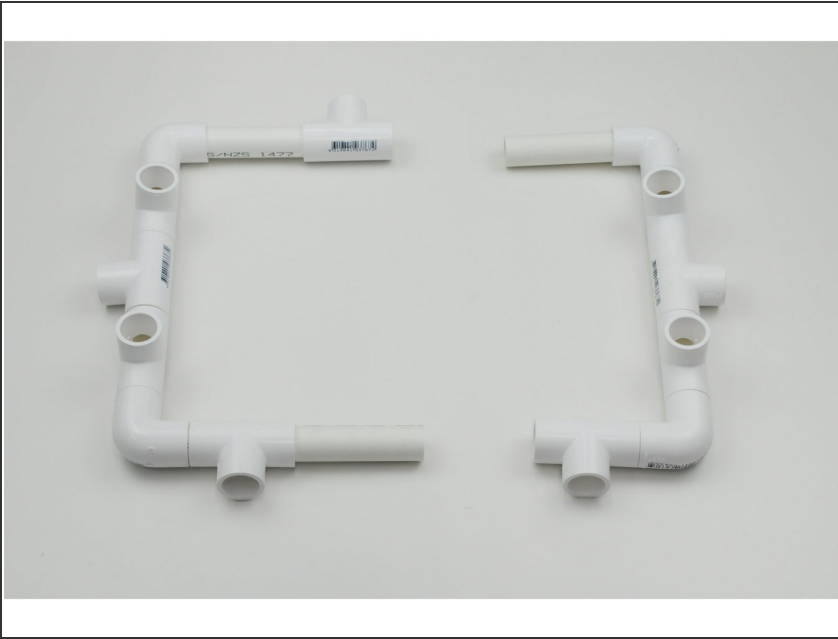
- Begin with the assembly of the base of the ROV
- Collect the following:
 - 9x Tee Joints
 - 4x Elbow Joints
 - 10x 32mm Pipe Section
 - 3x 90mm Pipe Section

Step 5



- Assemble the left half of the base in accordance with the accompanying images.
-  At this stage the frame only needs to be 'hand tight' as certain components will need to be removed and or manipulated during the build.

Step 6



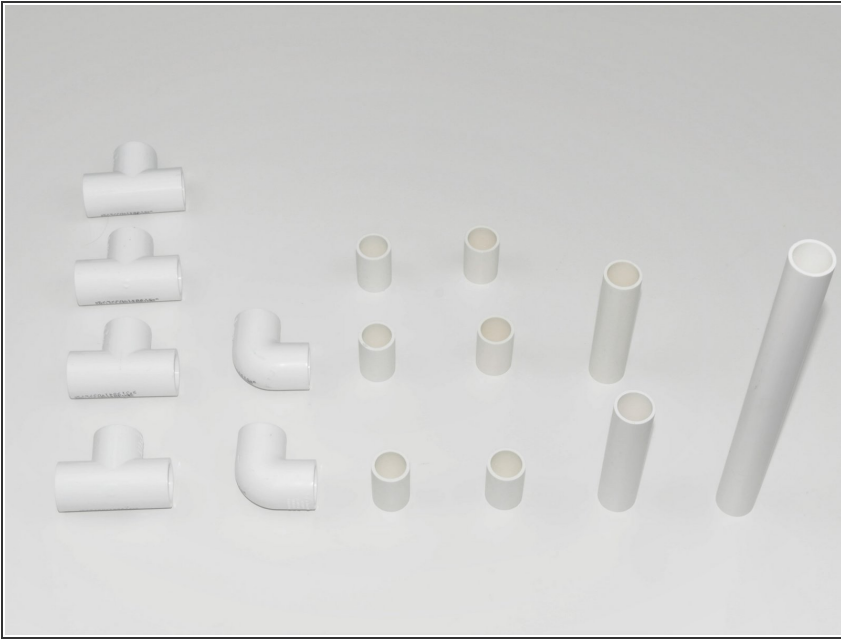
- Assemble the right side of the base, using the assembled left side as a reference model.

Step 7



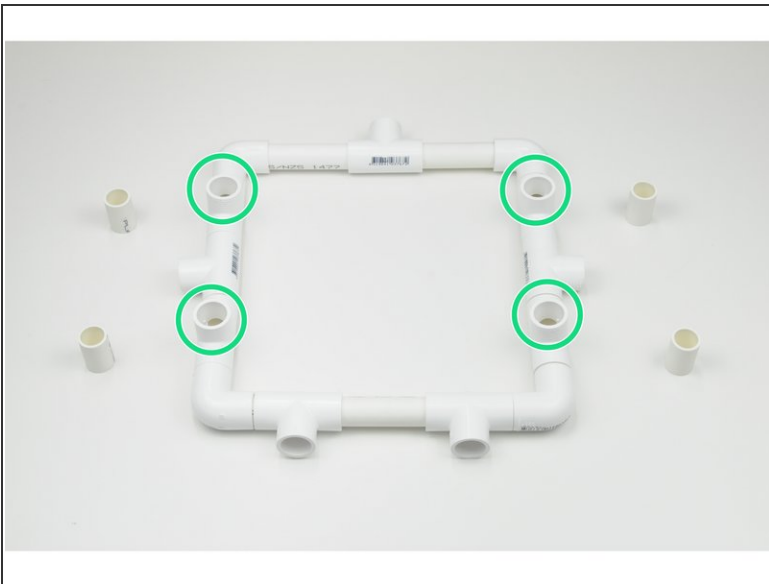
- Connect the two frame segments together.
- This is the base of your ROV.

Step 8



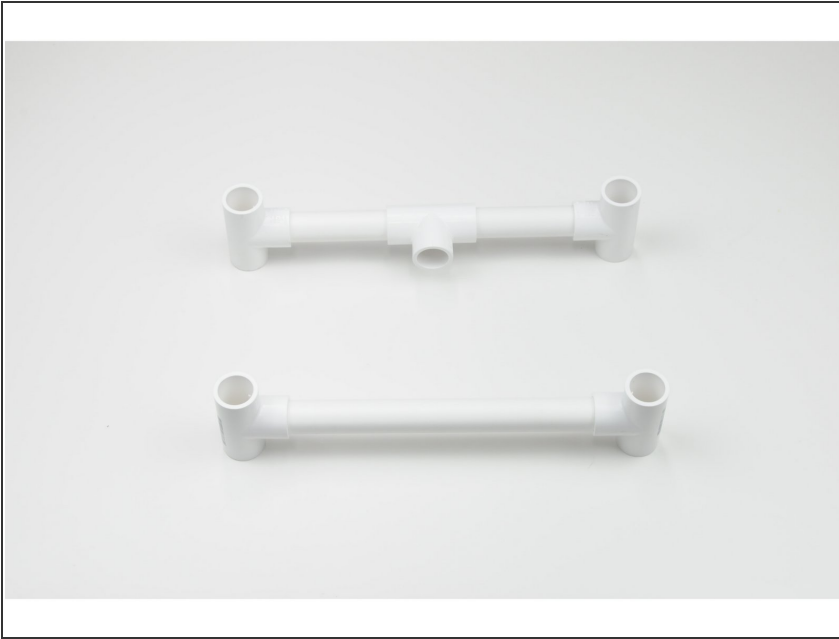
- Next we will assemble the central frame segments directly into the base.
- Collect the following:
 - 5x Tee Joint
 - 4x 32mm Pipe Section
 - 2x 90mm Pipe Section
 - 1x 215mm Pipe Section

Step 9



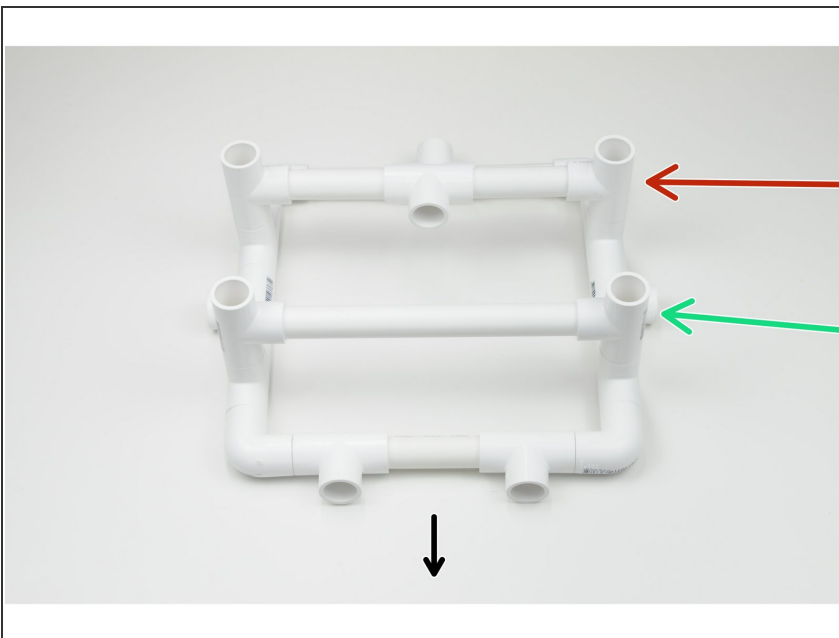
- Place the 32mm Pipe Sections into the upright Tee Connectors of the base.

Step 10



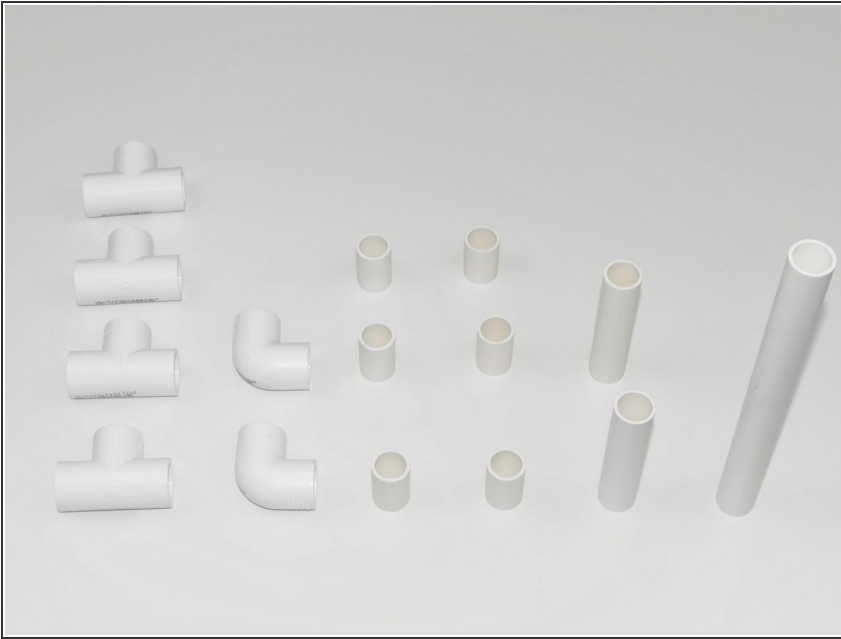
- Next, use the remaining components to construct the pictured frame segments.
- Ensure the Tee Joints are connected perpendicular to one another.
- *i* While you will most likely have to twist them later to insert the motor mounts, it is good practice to have them correctly positioned for the interim.

Step 11



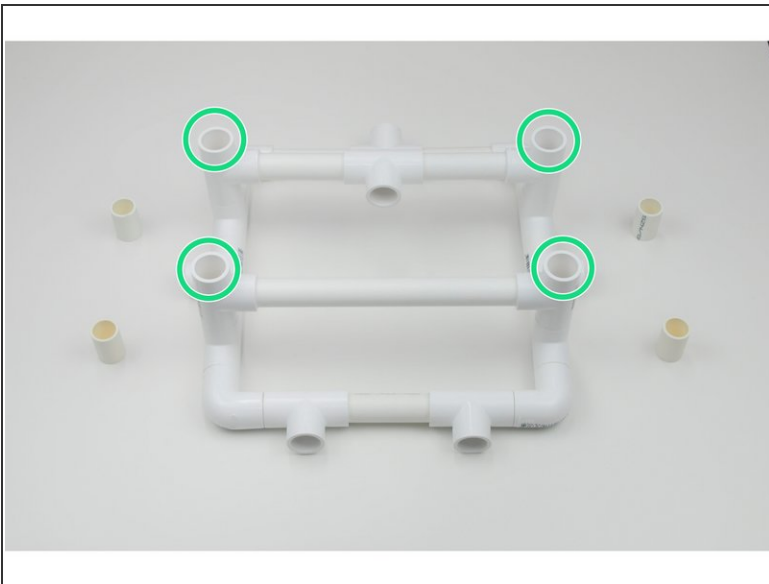
- Connect the frame segments to the base.
- The segment with 3 Tee Joints connects into the rear of the ROV, as pictured.
- The segment with only 2 connects into the front of the ROV, as pictured.

Step 12



- Next, we will assemble the top rail.
- Collect the following:
 - 4x Tee Joint
 - 2x Elbow Joint
 - 6x 32mm Pipe Section
 - 2x 90mm Pipe Section
 - 1x 215mm Pipe Section

Step 13



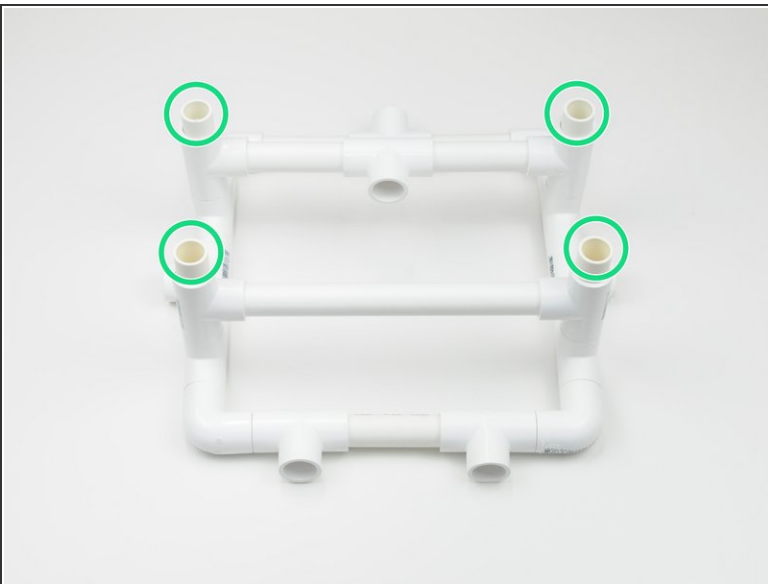
- Insert 4 of the 32mm Connectors into the upright Tee Joints of the frame.

Step 14



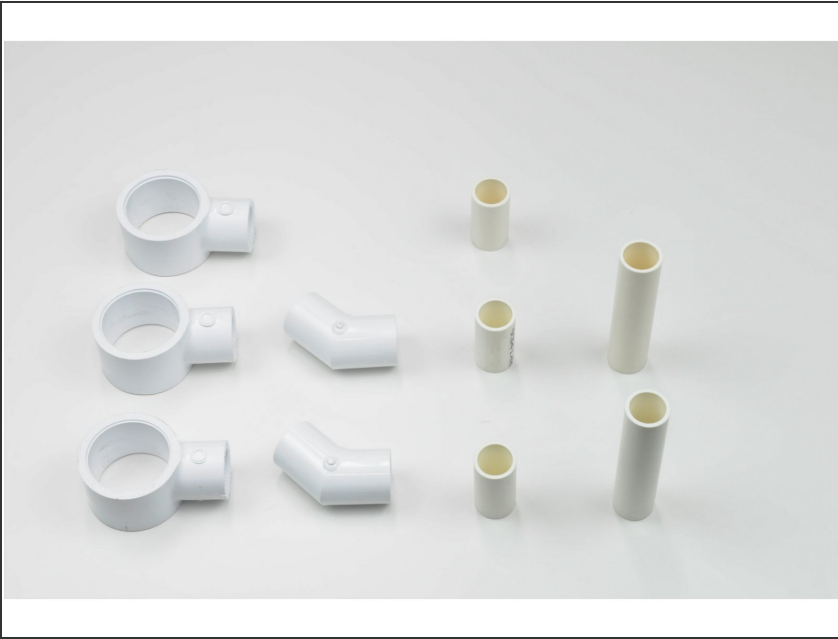
- Assemble and connect the top rail in accordance with the provided pictures.
- ⓘ Ensure the segment is symmetrical, otherwise it may be difficult to connect to the frame.

Step 15



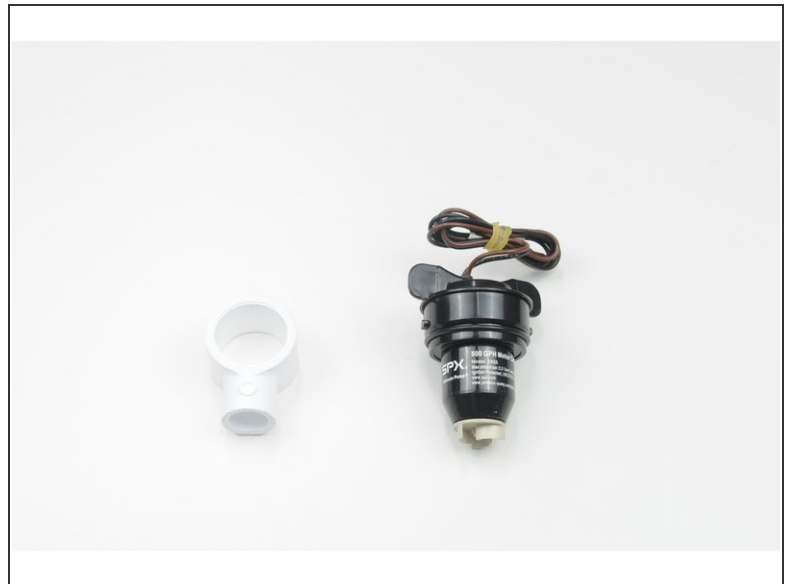
- Attach the top rail to the 4 exposed 32mm Connectors at the top of the ROV.
- Ensure the front bar is positioned towards the front of the ROV
- Note the open Tee Joints at the rear of the ROV. This is to provide easy water passthrough when submerged.

Step 16



- Next we will connect the front arms and motor mounts.
- To do this, first collect:
 - 3x Motor Mounts
 - 2x 45° Elbow
 - 3x 40mm Pipe Section
 - 2x 90mm Pipe Section

Step 17



- Your kit should have come with the motors inserted into the motor mounts, however if they did not, or have come loose in transit, follow these steps.

i If your motors are mounted correctly you may skip forward to step 20.

Step 18



- Collect the motor and mount.
- Using hand pressure, insert the motors into the motor mounts, aligning the motor as pictured.
- ① Avoid using any adhesives if possible. A friction fit should suffice.

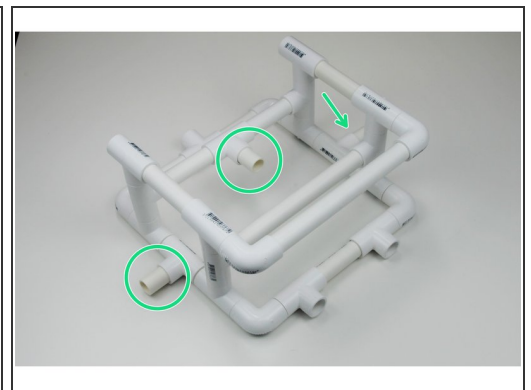
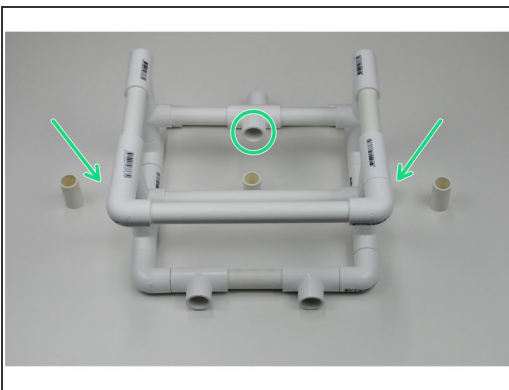
⚠ Ensure the logo on the mount faces the larger end of the motor, as identified in the image.

Step 19



- Repeat for the remaining two motors.

Step 20



- Now that your motors are mounted, it is time to connect them to the ROV frame.
- Take the three 40mm Pipe Section and insert them into the three open Tee Joints on in the base of the ROV frame.

Step 21



- Now you can connect the motor mounts onto the frame of the ROV as pictured.
- The three motors are identical and are not required to be mounted in any particular order or pattern.

Step 22



- Assemble the two ROV arms as pictured.

Step 23



- Mount the assembled arms into the two open Tee Joints at the front of the ROV.
- ❗ You may wish to change the supplied 45° Elbows out for 90° Elbows, depending on the task at hand.

Step 24



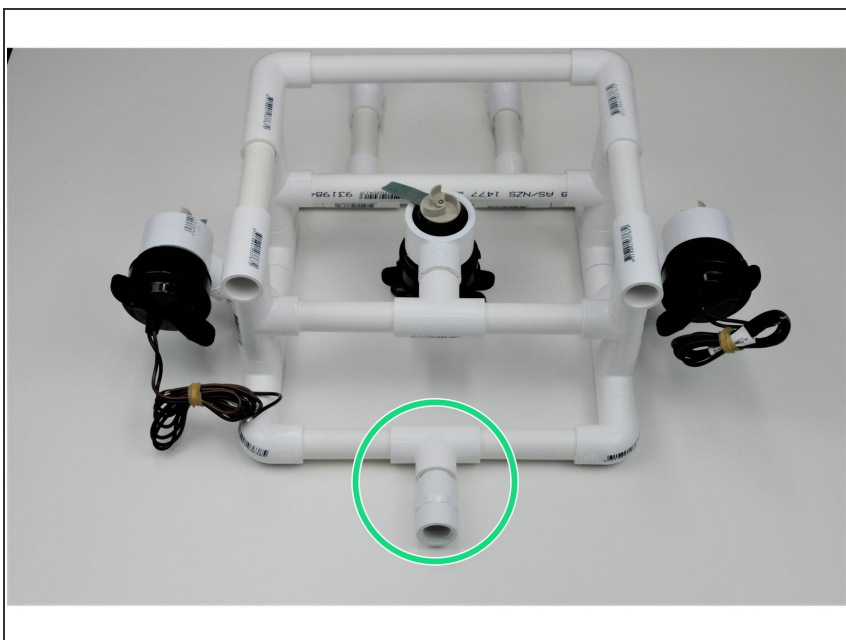
- To assemble the Tether Input, collect:
 - 1x Threaded Adapter
 - 1x 40mm Pipe Section

Step 25



- Connect the two components as pictured.

Step 26



- Mount the Tether Input into the rear Tee Joint of the ROV.