

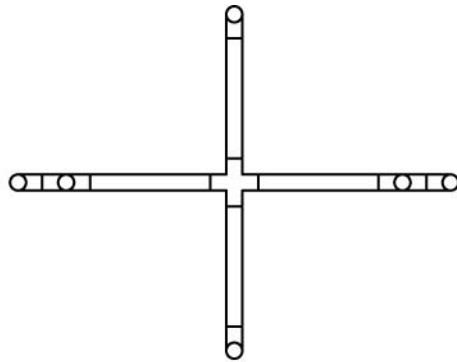
Competition Mission
Cornerstone Electronics Technology and Robotics III

○ **Apparatus and Materials:**

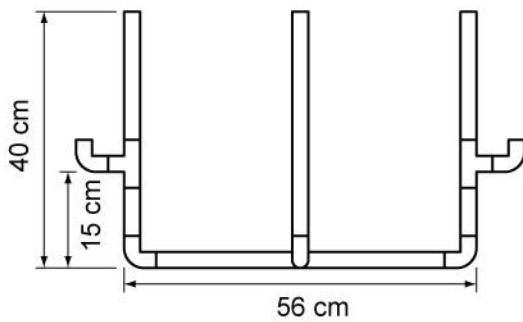
- 1 – #4247 300 U.S. Gallon Rubbermaid Stock Tank
- 1 – 12 Volt Battery
- 1 – 1" PVC Cross
- 2 – 1" PVC T's
- 6 – 1" PVC 90's
- 10' – 1" PVC Pipe
- 1 Can PVC Glue
- Assorted Color Swimming Pool Dive Rings

○ **PVC Frame:**

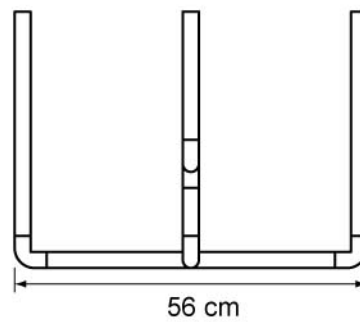
- Construct the PVC frame as shown below
- Drill holes into the bottom PVC pieces to permit water entry



Top View

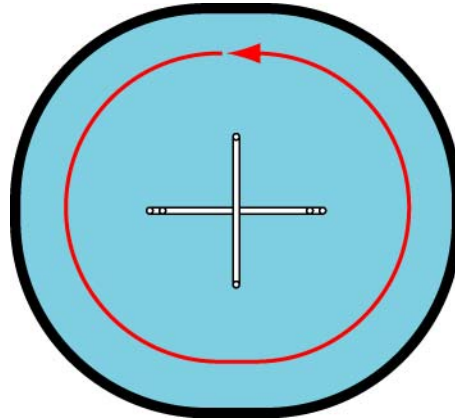


Front View



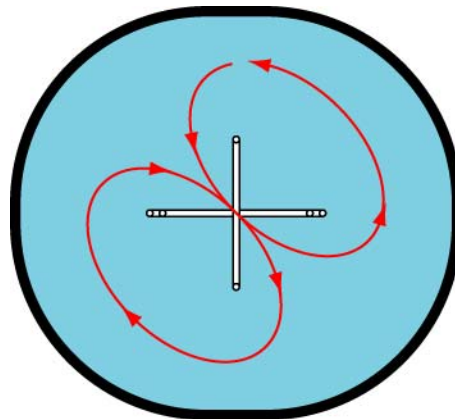
Side View

- **Navigation Maneuvers:**
 - Maneuver 1: Circumvent the tank without touching any solid object (tank walls or bottom or PVC frame)



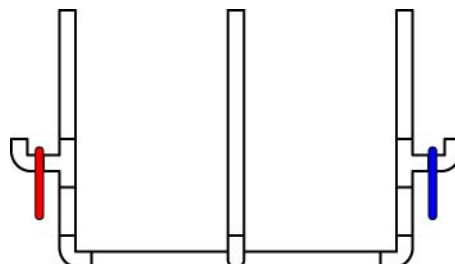
Plan View of First Navigation Maneuver

- Maneuver 2: Snake your ROV through the PVC uprights to form a figure 8 as shown below. You may make contact with the PVC frame or the tank walls or bottom. If you move the PVC frame, you may only relocate it with your ROV.



Plan View of Second Navigation Maneuver

- **Task 1:**
 - Switch the two swimming pool dive rings that are hanging on the hooks made of 1" PVC 90's.



○ **Scoring:**

| Mission Score Sheet | | | |
|---|---------------------------|----|----|
| | Points | | |
| Maneuver #1: Circumvent pool without touching any solid surface | 0 | | 25 |
| | Total Maueuver #1: | | |
| | | | |
| Maneuver #2: Maneuver figure 8 | 0 | | 25 |
| | Total Maueuver #2: | | |
| | | | |
| Task #1: Remove each ring Relocate each ring | 0 | 10 | 20 |
| | 0 | 15 | 30 |
| | Total Task #1: | | |
| | | | |
| Time Bonus: 1 point for every minute and 0.01 points for every second under 10 minutes | | | |
| | | | |
| Mission Duration: _____ | | | |
| Minutes remaining: _____ x 1 point = _____ | | | |
| Seconds remaining: _____ x 0.01 points = _____ | | | |
| Time Bonus: | | | |
| | | | |
| Total Score: | | | |