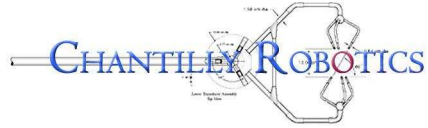


Easy-to-Construct Pit Display



Courtesy of Chantilly Robotics Team 612



Introduction

The pit display built by Team 612 consists of modular units that can be easily assembled and disassembled on-site. This is the perfect way for a rookie team to advertise their team in the pits! Each unit has a square base and is approximately 20 inches wide and 90 inches tall, allowing it to fit within the 10 foot pit constraint (that is, nothing in the pit can extend above 10 feet high). Each side of a unit is made up of three panels wrapped with felt so that pictures, signs, and any other cool things your team would like to advertise to other teams and the judges can be arranged on the outside. Team 612 hopes that such an item in your pit adds to your pit aesthetics, team image, and visibility among other teams.

Features

- Size: 20" x 20" x 90"
- Holds dozens of pictures, signs, and brochures
- Felt covered panels allows for rearrangement of media
- Display easily pulls apart for disassembly

- PVC frame is sturdy and secure
- Single open side and open interior allows for extra storage
- Perfect signage and advertisement solution for a rookie team
- Your sponsors will love it!

Materials (per unit)

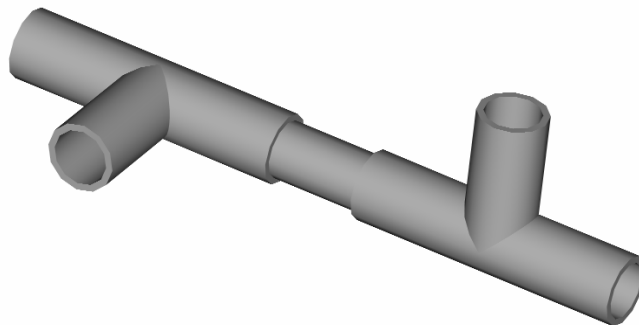
- 10' of ½" PVC, Qty. 6
- 16 T-junctions, ½" PVC
- 8 L-junctions, ½" PVC
- 30" x 40" Foam core boards, Qty. 5
- Extra foam core to provide backing for pictures and signs
- Duct Tape
- 15' of Velcro (know which side is "fuzzy" and which is "pokey")
- 10 yards of felt (in team colors)
- 3 Brochure holders and 6 zip ties (optional)
- 18" x 20" plywood, Qty. 1 (optional)

Tools Required

- Hand saw
- Hot glue
- Scissors
- PVC cleaner and glue (optional)
- Table saw (to cut plywood, optional)

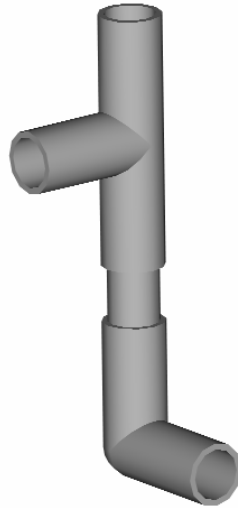
Frame Assembly

1. Cut the PVC into 8 sections, all 39" long.
2. Cut another 12 sections of PVC, all 18" long.
3. Cut another 12 sections of PVC, all 1.5" long.
4. Attach 2 of the T-junctions with a 1.5" length of PVC like this (you may also glue these pieces together if you want):

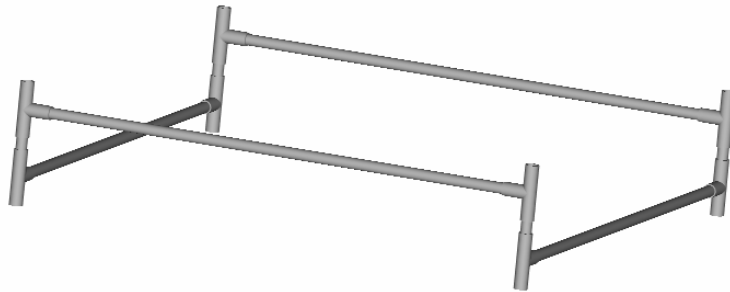


5. Repeat step 3 until there are 4 of the above piece.

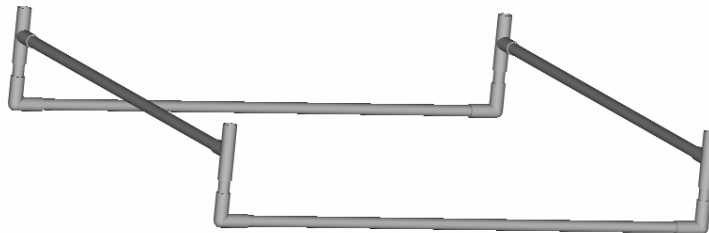
6. Attach a T-junction and a L-junction with a 1.5" piece of PVC like this (you may glue these pieces together):



7. Repeat step 5 until there are 8 of the above piece.
8. Attach the four pieces from step 4 with four 18" pipes so that they look like this (gluing is optional here):

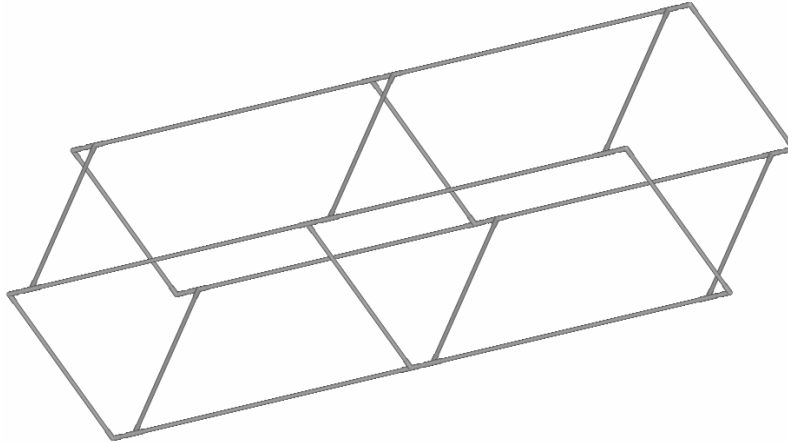


9. Attach four pieces from step 6 with four 18" pipes so that they look like this (gluing is optional here):



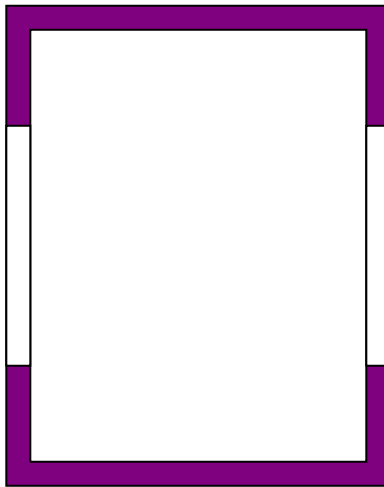
10. Repeat step 9 once.

11. Attach all these pieces together with the eight 39" pipes to look like this (do not glue at this step if you want the display to be able to be disassembled):

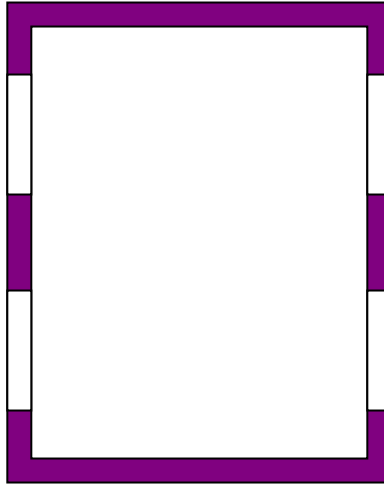


Display Board Assembly

1. Cut each of the 5 foam boards in half so that they are 20" by 30".
2. Wrap 9 of the 20" x 30" boards with the felt and hot glue the felt down (the 10th board is extra).
3. Attach two 12" strips of Velcro (the fuzzy side) to the back of 6 of the boards like this (the felt is purple and folded over onto the back):



4. Attach four 6" strips of Velcro (the fuzzy side) to the back of the other 3 boards like this:



5. The 6 boards with the 12" strips of Velcro form the top and bottom layers of the pit display. The 3 boards with 6" strips form the middle layer.

Final Assembly

1. Stand the pit display up.
2. Since this pit display is three-sided, decide which side is the front, left, and right and label them.
3. Match up the bottom layer foam boards with the display, mark where the Velcro needs to be applied, and attach the pokey side of the Velcro on the marked part of the vertical PVC piece.
4. Repeat step 3 for the middle and top layers of foam boards.
5. If the display is too wobbly, it may need a base platform. You will see that a 20" by 18" piece of plywood fits perfectly in the base. You can put heavy things like a toolbox or a person on this board to hold the display still.
6. If you want to attach brochure holders to the display, poke a hole in each middle foam board right above the center ring of PVC. Attach a zip tie to the center of each PVC pipe and thread the extra through the hole towards the outside of the display. Put the brochure holder over the zip tie that is sticking out. Use just the head of another zip tie to sandwich the holder onto the foam board. Cut off the extra zip tie.

Decoration Hints

- Use the extra foam board to make backings for pictures and signs.
- Attach the pokey side of the Velcro to the back of this backing to stick the item to the felt.
- When you attach things to the felt, press hard and rub the Velcro in.
- Use color!

- Attach your team name and number and a few pictures of the robot-sometimes people will want to know what your robot looks like when it is gone to compete!
- Ideas for things to attach include: team and contact information, sponsors, team logo, brochure, newsletter, 5-year plan, robot specs, team motto, newspaper articles about the team, pictures of awards won, pictures of the team, pictures of what the team has done in the community and school, descriptions of some engineering or programming innovation, Chairman's Award and Woodie Flowers submission, etc.

