

## Instructions for Building Test/Work Stand

### Building Notes:

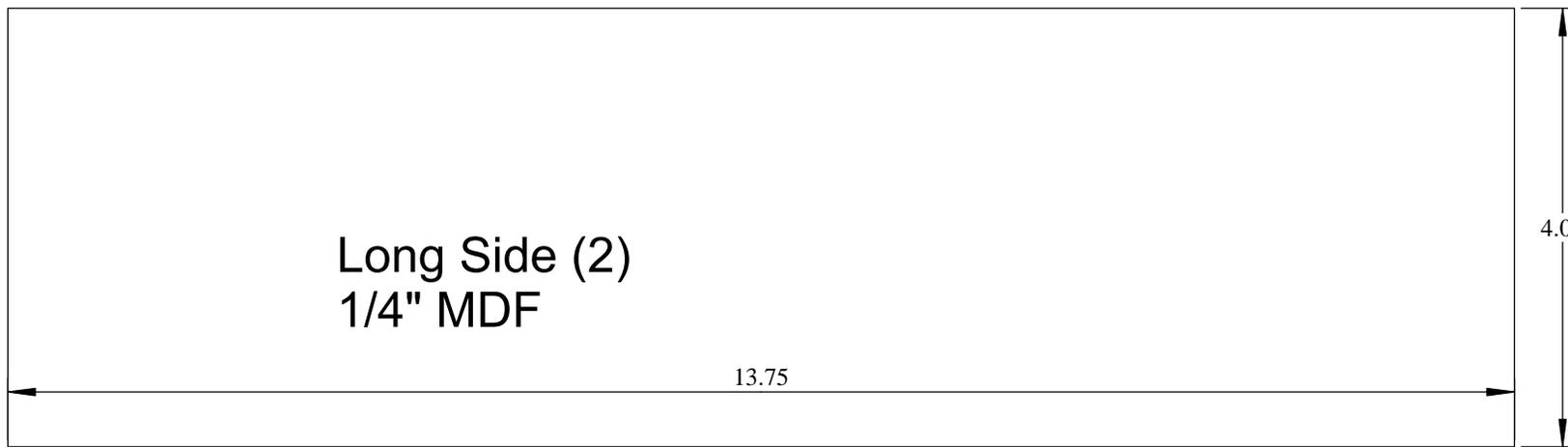
1. Though the plans are for the robot I'm building you can easily modify this design to fit your robot. I give the following information to help you understand how it goes together so modifications are easier to make.
2. This project can be built from one(1) 2' x 4' sheet of ¼" MDF (Medium Density Fiberboard) and one(1) 2' x 4' sheet of ½" MDF
3. Although ½" MDF sheets are usually easily found at any home improvement store the ¼" isn't. The only local source I have found to have it in stock and in the 2' x 4' size is Home Depot©. You can check the phone book for wood suppliers that may be able to help. Please note I suggest the 2' x 4' size because it easily transported in a car and is easier to work with than a 4' x 8' sheet, but sometimes a couple of the 2' x 4' sheets can cost almost as much as a full 4' x 8' sheet. One suggestion I have is to buy a full sheet and have the store cut it down if you think you may build more than one or use the material for other robotic projects.
4. The tools & supplies I used to build this project, but simple enough hand tools could be used.
  - Table Saw
  - Miter Saw
  - Band Saw
  - Disk Sander
  - Orbital Hand Sander
  - Pin Nailer (like a brad nailer but nails are smaller and have no head)
  - Yellow Wood Glue
5. Though I didn't paint mine, MDF is great for painting.
6. **Most importantly wear safety glasses, work safe and take your time!**

### Bill of Materials

Number of Parts	Part	Size	Material
1	Base Unit	21" x 16" x ½"	MDF
2	Long Side	13 ¾" x 4" x ¼"	MDF
1	End/Side narrow slots	11" x 4" x ¼"	MDF
1	End/Side wide slots	11" x 4" x ¼"	MDF
4	Supports	7" x 4" x ¼"	MDF
4	Rubber Feet	¼" x ¼"	Rubber

## Instructions

1. Cut all parts to size. I ripped the ¼" MDF into 4" widths and then cut the parts to length.
2. Either make full size patterns using CAD software or copier. If that isn't an option you can easily lay out the parts following the measurements on the plans. **TIP:** To layout the slots use a scrap piece of the ¼" MDF and draw a line down both sides. Then when you cut out the slot be sure to leave the line.
3. Cut out needed slots in the End/Sides and Supports. It would be good to cut the slots about 1/16" longer than the plans show to allow the bottoms of the Supports and End/Sides to meet up flush and set flat on the Base.
4. Test fit the Supports and End/Sides to make sure everything fits well. You may need to sand the slots a bit to get the pieces to slide together with a snug fit.
5. Glue the Supports and End/Sides together making sure to keep their bottom edges flush and that the upper notches are facing the same way.
6. Next glue the Long Sides to the outside of the Support and End/Side assemblies making a box. I used a pin nailer to hold the Long Sides on till the glue dried, but clamps would work also. Measure from corner to corner diagonally to make sure the box is square (if diagonal measurements are the same the box is square) and make adjustments as necessary.
7. After the glue has set, place the box assembly on the Base and center it from all sides. Make a couple of marks so you will be able to place the piece back in the same place.
8. Now apply glue to the box assembly and place it back on the Base using the marks you made above. Place some weight on the box assembly till the glue dries.
9. When the glue dries, flip the unit over and attach the self adhesive rubber feet.
10. Now, go code and test your next great robot without worrying about it flying off you workbench.



Base Unit (1)  
21" X 16"  
1/2" MDF

