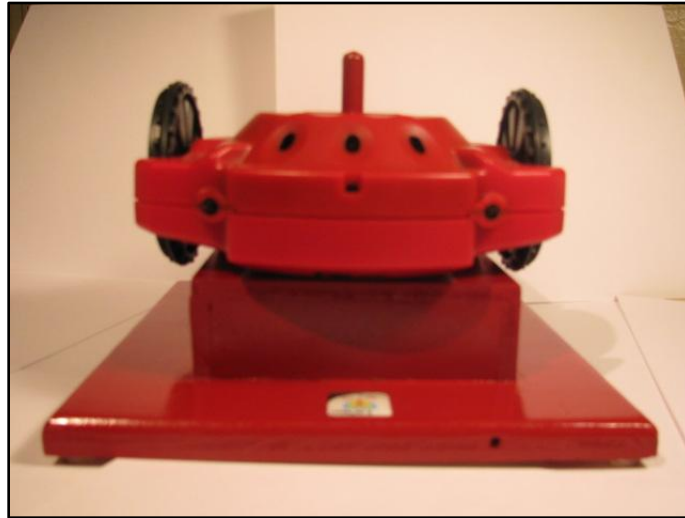


# A Simple Work/Test Stand for S2 Scribbler



I am a big believer in the use of work/test stands for your robots. Not only do they keep the robot from racing off the table to the floor, it gives you a stable platform to work on your robot. Though this one doesn't have a storage area I often incorporate one to help hold tools and parts used with the robot. With a large flat bottom area and a hole through the middle made designing this stand for the S2 quite easy. I built my stand from scraps I had laying around the shop, so I wasn't trying to make it perfect, but functional.

I also think this is a great parent child project. I designed and built mine with my son. Helping him along the way and doing the cuts on the table saw. We had a great time and both have a project we can be proud of. I hope you build one and get many good years of service from it. **Please work SAFE!**

Part Group	Part Name	Quantity	Dimensions	Material Type
<b>Base</b>				
	Base	1	½" x 8 ½" x 7 ½"	Plywood/MDF
<b>Stand Box</b>				
	Top Plate	1	¼" x 5 ½" x 4 ½"	Plywood/MDF
	Long Side	2	¼" x 5 ½" x 1"	Plywood/MDF
	Short Side	2	¼" x 4" x 1"	Plywood/MDF
<b>Post</b>				
	Post	1	3/8" x 5"	Dowel Rod

For more pictures and information visit the following link to a post on the Parallax Forums.

<http://forums.parallax.com/showthread.php?130802-S2-Work-Test-Stand>

# Building Instructions

1. Cut all pieces to size according to the dimensions shown above
2. Sand all parts and if you have the tools you can round over the Base edges with a  $\frac{1}{4}$ " Round over bit in a router.
3. Next assemble Stand Box
  - a. First, attach one Long Side to a corresponding long side of the Top Plate using wood glue.
    - i. **NOTE:** *I have a pneumatic tool known as a "Pin Nailer" that can be purchased at Harbor Freight. A pin nailer shoots a very small nail with no head that resist splitting the  $\frac{1}{4}$ " MDF.*
  - b. Second, attach both Short Sides to Top Plate making sure to put glue on the ends to attach to both Long Sides.
  - c. Third, attach final Long Side using glue.
4. After glue has set (usually 30min. for most wood glues) attach the Stand Box to the Base centering it  $1\frac{1}{2}$ " for each side of the Base. Apply weight to hold the Stand Box to the Base while the glue dries.
5. Next, measure  $2\frac{1}{2}$ " in from the Short Side of the Stand Box and place a mark. Now from a Long Side measure in  $2\frac{1}{4}$ " and place a mark. At the intersection of these two marks drill a  $\frac{3}{8}$ " hole for the  $\frac{3}{8}$ " Post making sure to go into the base about a  $\frac{1}{4}$ ". It is best to do this with a drill press, but can easily be done with a hand drill.
  - a. **NOTE:** *The reason the Post is not centered in the Stand Box is twofold. One, the offset allows the tail wheel of the S2 to hang off what I refer to as the rear of the stand. Second, the large area under the Line Sensors is used to place a piece of paper with a black line for testing line sensing code. This testing will require you to make a  $\frac{1}{4}$ " spacer with a  $\frac{3}{8}$ " hole to slip over the Post to hold the robot up off the Stand Box.*
6. Give your work/test stand a final sanding and paint it S2 red. I used Rust-oleum Professional High Performance Enamel Regal Red paint. I think it is well worth the money.
7. Finally, add four self-adhesive feet to the work/test stand.