

# Hydraulic Rotating Platform from Workshop Kit materials: Step-by-step assembly instructions



# Contents of Kit

In the package labeled "Parts For Rotating Platform":

Plastic Tubing: 1 length

White Syringe Holder: 1

White card disk X 1

Wooden dowel,  $\frac{3}{16}$ " diam.: 1 X  $1\frac{1}{8}$ "; 2X  $2\frac{1}{4}$ "

4" Square Platform with  $\frac{7}{8}$ " & corner holes X 2, one cut into trapezium

From the parts in the unlabeled bag in the Workshop Kit:

Green corner gussets: 1 card

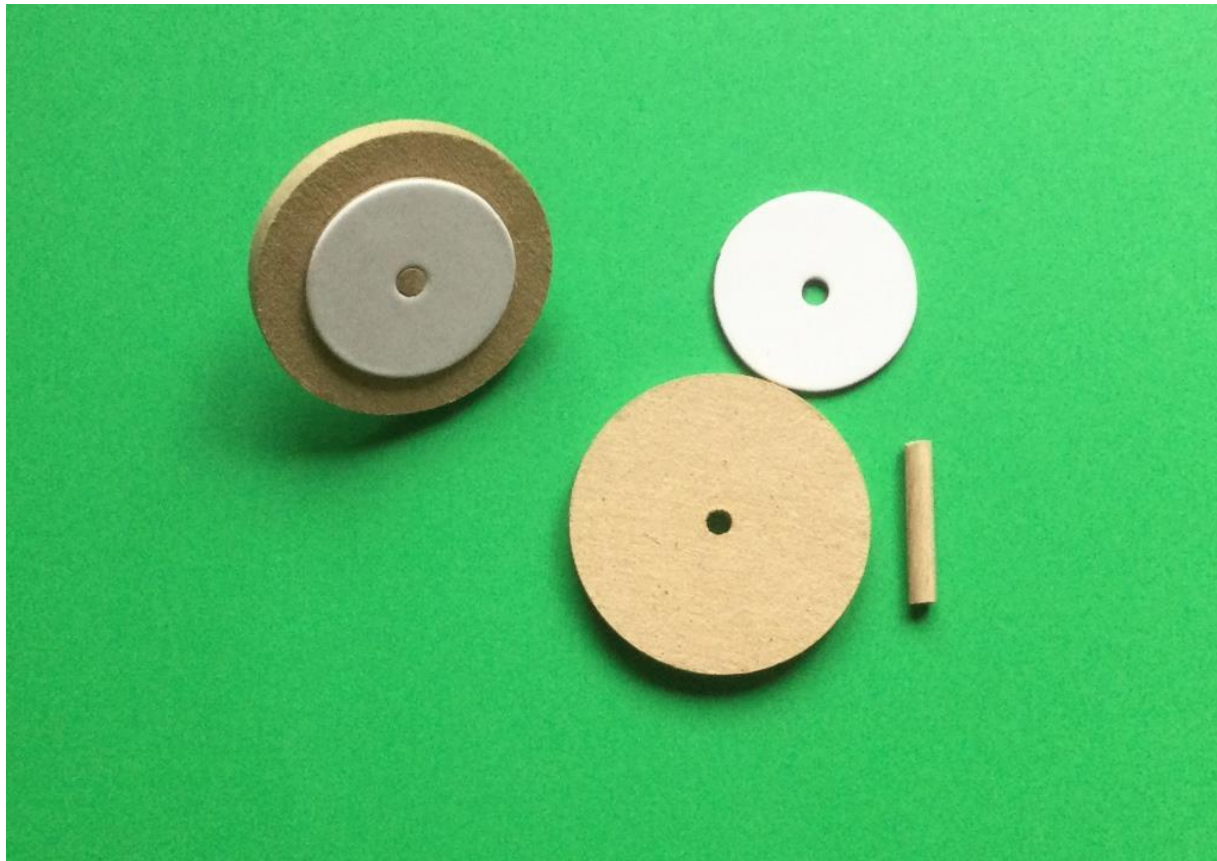
Base,  $5\frac{1}{2}$ " X  $7\frac{3}{4}$ ", drilled with two holes

Syringes, 20cc X 2 (1 will have a hole in its plunger)

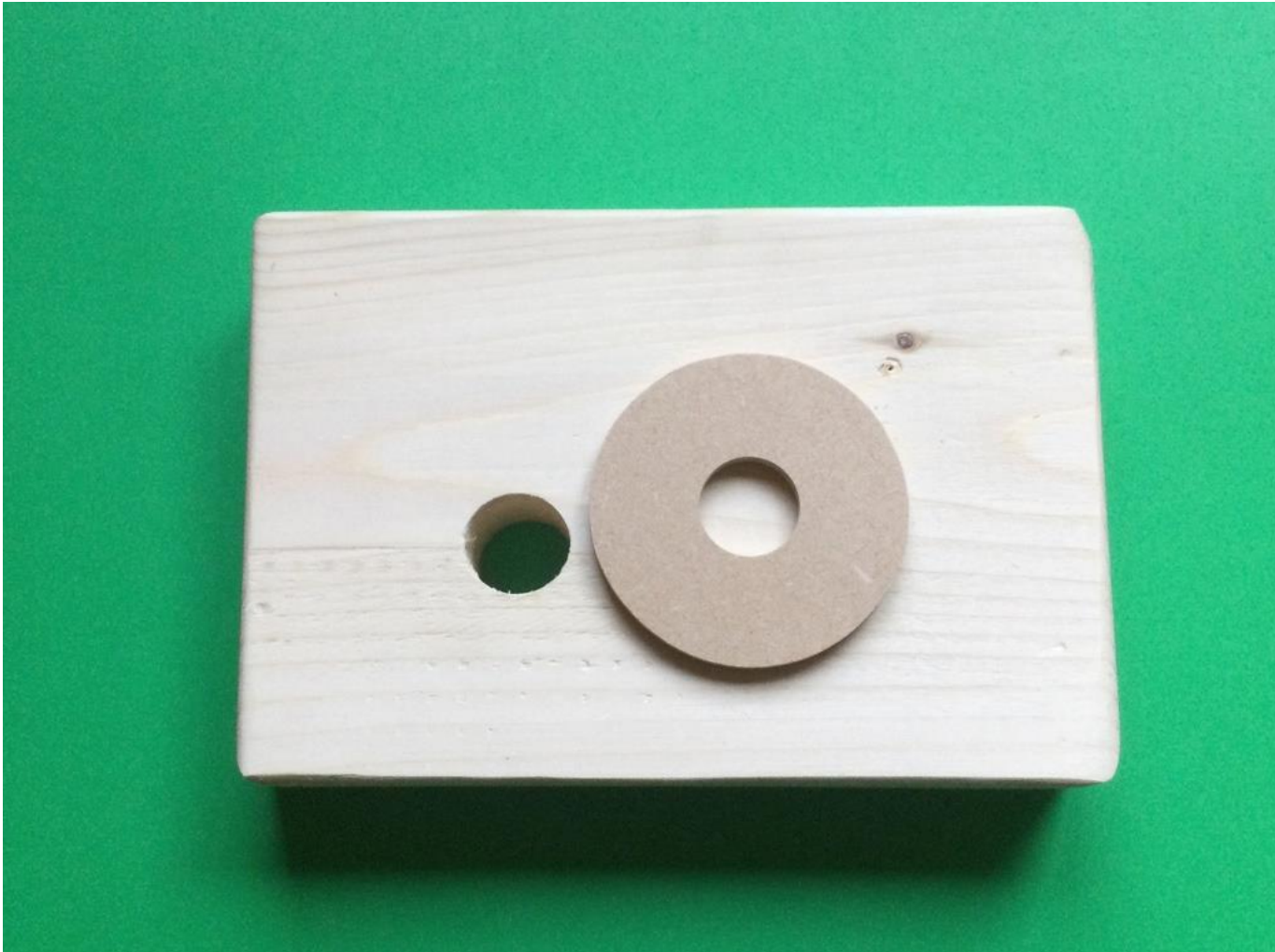
Wooden dowel,  $\frac{7}{8}$ " diam. 1 X  $3\frac{7}{8}$ "

Large wheel, with  $\frac{7}{8}$ " hole X 1, Medium wheel X 2

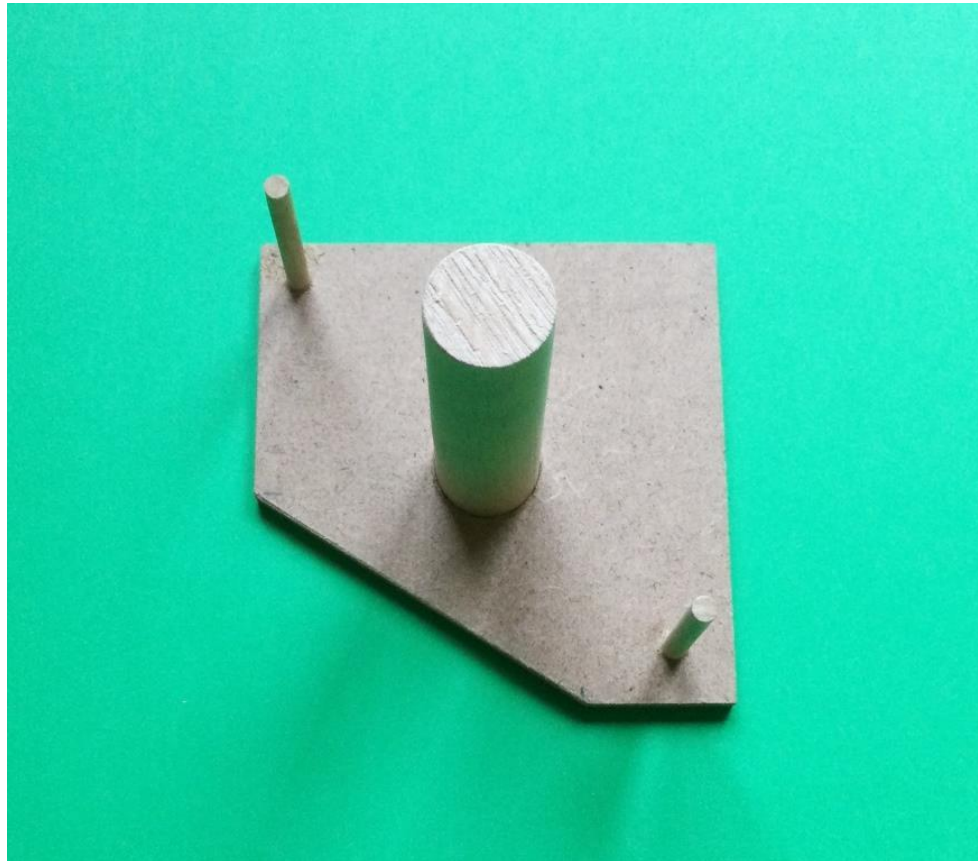
Glue disk onto the rougher side of one medium wheel so the holes are aligned. Carefully push the 1½” dowel into the wheel from the other side so it just touches the card. If the dowel is loose, use a small amount of glue on its tip. Put on one side to dry.



Glue the large wheel with the  $\frac{7}{8}$ " hole, smooth side up, onto the wooden base so the holes align and the large  $\frac{7}{8}$ " diam. dowel fits through the wheel and the base easily.



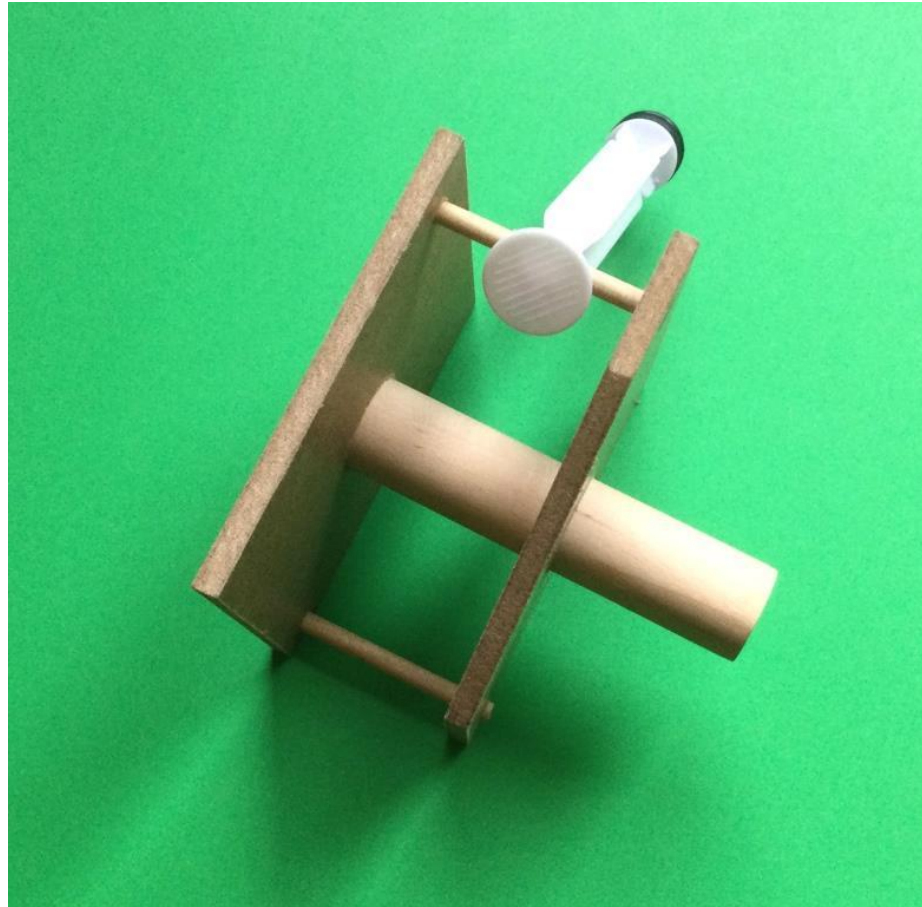
Select the 4" platform in the shape of a trapezium and firmly push the 2¼" dowels into the corner holes. Ensure they are vertical. Insert, but do not glue, the 7/8" diam. dowel into the 7/8" center hole. If glue is necessary for the smaller dowels use a small amount around the inner edges of the holes or the tips of the dowels.



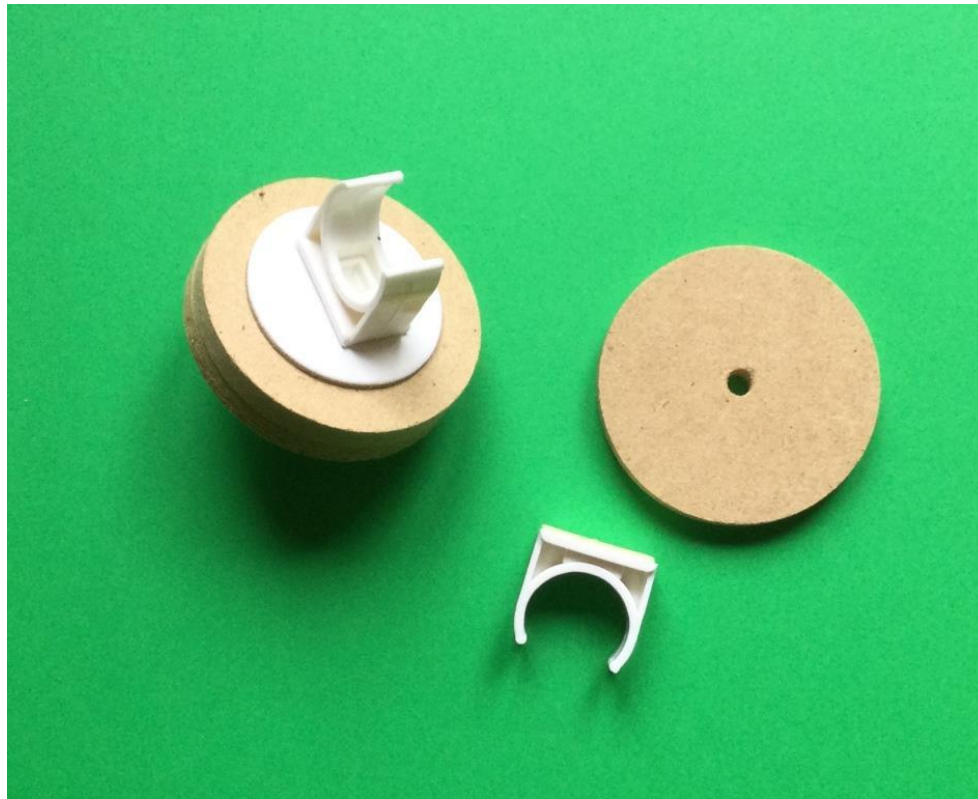
Select the 20cc piston-syringe with a hole in its plunger. Remove the plunger from the barrel and place the plunger onto the dowel nearest the smallest side as shown below



Carefully place the square platform onto the structure. The  $\frac{7}{8}$ " dowel will be flush with top of the square platform and protrude thru the base of the other platform. If glue is necessary for the  $\frac{7}{8}$ " dowel use a small amount around its tip.



While the structure dries place the remaining medium wheel onto the dowel with its smooth side down so it touches the base when inserted into the small hole in the base. It will rotate freely. Next, be careful! The white syringe clip has a double sided sticky base. It needs to be firmly placed onto the center of the white disk ONCE only.





Carefully replace the barrel onto the plunger and then place the structure onto the base as shown below. Place the piston-syringe so the 20cc mark is near the white clip.



Close the piston-syringe on the structure and then attach the other piston-syringe, fully open, using the length of tubing.  
Test the device pneumatically – it will open and close. At this time do not attempt to rotate the platform beyond the white clip as it impedes its movement.



The rotation of the platform will be approx.  $40^\circ$ . The pressure inside the syringes, operated pneumatically, is insufficient to overcome the force the clip places on the barrel of the syringe in the structure.



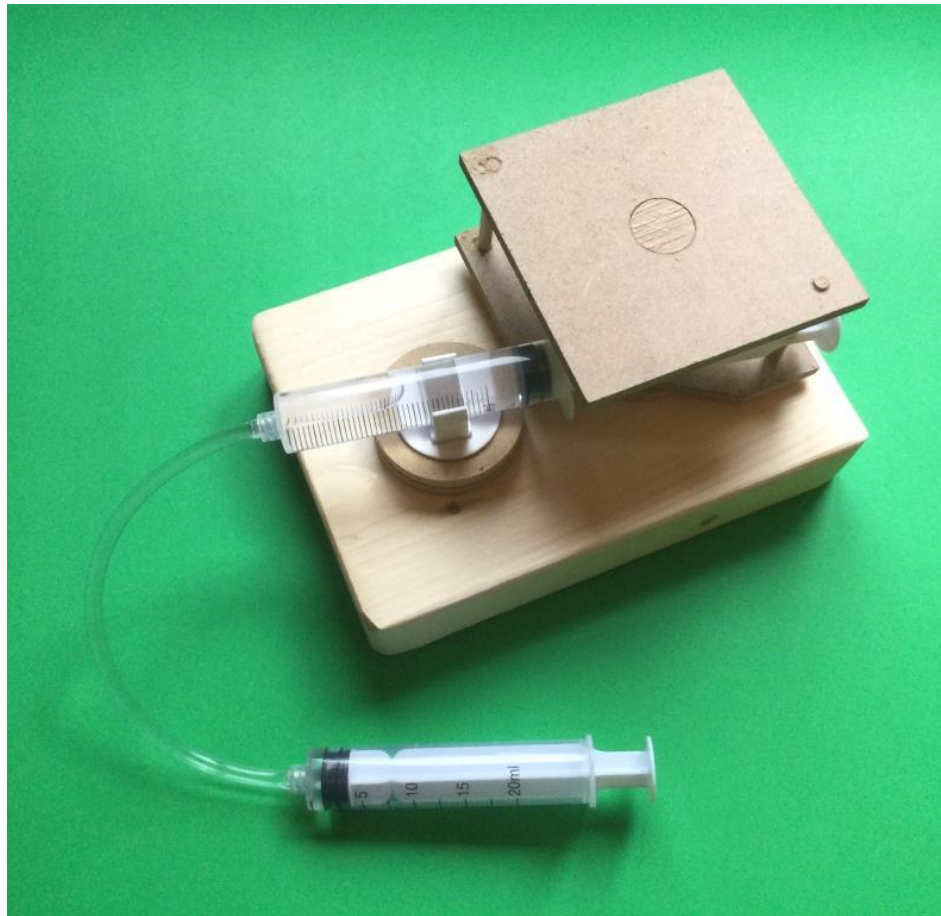
To achieve a 90° rotation hydraulics, using water in the piston-syringes, is required.

Follow this procedure to fill the piston-syringes and tubing, with water. You will need a cup of water (½ full) and some paper towels in case of spillage

1. Remove the syringe and tubing and carefully push the piston-syringe on the structure so it is fully closed
2. Fill the other syringe with tubing attached with water. Be sure to remove the air if any is trapped by holding the syringe vertically and pushing the air out
3. Repeat until air is removed and the syringe and tubing are full of water
4. Connect the water filled syringe and tubing to the syringe on the structure

Note the difference in operation of the device when hydraulic

With water hydraulics the pressure in the syringes is sufficient to overcome the resistance of the clip and rotate the platform approx. 90°



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