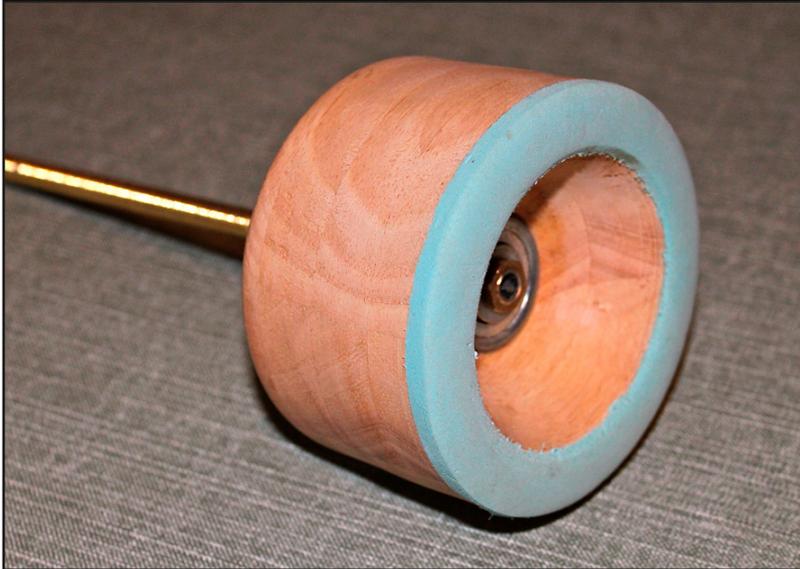


SIMPLE VACUUM CHUCK



WHAT YOU WILL NEED :

1. 1.125 od x .375 id closed, flanged bearing. At Grainger, Maguire Bearing, or City Mill. cost \$ 5.50.
2. Lamp Rod 30"x.375"(cut-makes 2) . at Lowes - \$5.00
3. Lamp rod nuts- 4 pack. at Lowes - \$1.80.
4. Vinyl tubing 4 ft. x 1/2 inch dia. City Mill - \$2.80. Tube is .375 id.
5. Cheap Face Plate. 1" or 1.25" x 8 thread. Amazon \$18.00 or use a Beall Drill Tap for a threaded spindle hole.
6. Craft sheet foam 2mm x 8.5 x11(colors)- \$1.25 at Ben Franklin craft store.
Cost \$16.00 with-out face plate.

1 - 1"x6"x30" lumber - oak, ash, poplar. About \$5.00

5 minute epoxy - for glue up.

Spray can glue -Loctite, medium or strong.

Titebond Wood glue.

VACUUMS :

1. Shop Vac. 3-gal or bigger.
Home Depot \$37.00

2. Vacuum Pump 3.5 cfm.
Amazon \$50.00 (free shipping)



INSTRUCTIONS FOR VAC CHUCK

Lumber: cut 5 equal 5.5"x5.5"x1" pieces. Glue all together and clamp. Mark the end for centering now! On a band saw or table saw cut the wings off for round turning the sides. Next mount the face-plate on the end with 1 inch wood screws, all holes filled with screws. Permanent piece of chuck.

Mount piece on lathe and turn smooth sides, then cut a dish about 1.5 inch deep, leaving about a .75 inch rim around top. Round edges of rim gently, so they just fall away. Sand all 100-220. Apply finish, I use sanding sealer 2 coats. seals wood.

Using the lathe to drill a .5 inch hole (forstner bit) all the way through. Next measure bearing outside diameter and drill (forstner bit) a hole just deep enough for the bearing to fit inside the dish.

Assemble the rod and bearing together, screw a .5 piece of vinyl tube on threads if gap is too big and sand to fit. Epoxy rod into bearing. No excess glue on bearing. Leave room and add nut on end of the rod. Remove all excess glue.

Epoxy rod and bearing piece into the Vac Chuck. Epoxy on the out-side of bearing wall and hold in place with tail-stock (to center) until dry.

Add vinyl sheet to rim of chuck. Cut a piece 7"x7" vinyl sheet. Mask off chuck inside and out about .5 inches below rim. Spray Loctite on the chuck and on 1 side of the vinyl. Remove masking tape from chuck. Wait 3 min. and stick together. Work with your fingers to get a good fit - glue to glue. Trim round the outside with exacto knife and remove excess. Cut an x shape inside and smooth down the inside. Cut round inside and remove excess. Sand inside and outside edges with 100 grit, about 350 rpm. Hand sand 220 to smooth edge.

Attach vinyl hose to back side of extending rod and to shop vac or vac pump. Test - hand turn to see if chuck turns and bearing does not spin. Test spin on low speed, OK.

Turn on vac or pump and test the pull pressure. Should hold tightly, but you can break seal if you pull hard enough. Use your tail stock for centering your work on the back side. Never turn vac or pump off with lathe spinning. Hold work piece with one hand and turn off vac with other.

Just a few of the many uses: You can clean, trim and sand off the tenon on the bottom. You can sand and apply finishes while the chuck holds your work, front and back. You can also use the chuck off lathe. Clamp with a vise to your work table for sanding or finishing. Clamp to rod if you want the work to spin or clamp to the chuck for the work to be stationary. It is also the perfect Jam Chuck!

*I watched these and used the best ideas, then I went on the search for parts!
Hope you make this, and improve your turning program.*

Aloha - Ron T.

YOU TUBE - REFERENCES

Shop made Vacuum Chuck - Stephen Ogle

How to Vacuum Chuck - Carl Jacobson

Simple Vacuum Chuck - Ken Harrison