

Adjustable Turntable for Bonsai Artists

This turntable is a low cost alternative to the high priced adjustable turntables made specifically for Bonsai and sold by the various mail order stores. These cost anywhere from about three hundred to seven hundred Dollars. By any standard, this turntable is a crude contraption compared to the high priced offerings, but it fulfills all the criteria which it needs to in order to do its job:

- It is sturdy and stable
- It can be adjusted instantly to any height from about 26” to about 41” and firmly locked in place.
- It can be locked in place to prevent it from rotating and unlocked instantly when needed.

The turntable requires virtually no carpentry skills nor specialized tools and materials, and the cost can be kept at about \$50.00 or less, depending what can be scrounged up in the garage or basement. Completion time is somewhere around two or three hours.

I found the basic design in a 1986 issue of Popular Mechanics and have adopted it in its entirety. The only changes which were my own was the addition of a lock to prevent the turntable from rotating and the addition of loops around the perimeter of the turntable to allow using bungee cords to hold the pot if needed.

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Materials needed:



Top row:

Turntable: I purchased a readymade cutting board of about 12" diameter at Wal-Mart for the turntable (\$ 8.00). You can easily make your own out of plywood of almost any size which is reasonable. This particular one was varnished but did absorb moisture, so it will be a good idea to seal it with polyurethane or something similar. The optional eight eye hooks around the edge are for hooking in bungee cords.

Middle row:

- $\frac{3}{4}$ " steel nipple 24" long, threaded both ends (Lowe's or Home Depot)

Bottom row, left to right:

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- $\frac{3}{4}$ " pipe clamp. You'll only use the right half. (Lowe's, Home Depot or Harbor Freight)
- $\frac{3}{4}$ " threaded iron pipe flange (Lowe's or Home Depot)
- $\frac{3}{4}$ " iron pipe cap (Lowe's or Home Depot)
- 3" C clamp (Lowe's, Home Depot or Harbor Freight)
- About a dozen sheet metal or wood screws # 10 x about $\frac{3}{4}$ " depending on what materials you use.
- Some scrap plywood or 1x lumber



- A kitchen stool, 24" high (Wal-Mart has them for around 15 bucks. (Be careful, though, they also have shorter ones, which you don't want)

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Tools:

- Electric drill
- Some drill bits to predrill screw holes
- 1" spade bit or hole saw
- Screwdriver
- Band aids
- Sandpaper

Construction

1. Find the centers of the turntable and the stool and mark them.
(instructions at the end).
2. Center the flange on the bottom of the turntable, drill 4 pilot holes and screw the flange to the turntable. Screw one end of the pipe into the flange and tighten just a little over hand tight. Set aside



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3. Using the spade bit or the hole saw, drill a 1" diameter hole through the center of the stool. The pipe needs to fit through there. Unfortunately the outside diameter of a $\frac{3}{4}$ " pipe is a little larger than 1", so you'll need to do some sanding to make it fit. The pipe should turn freely but not be too loose. The wood the stool is made of is very hard, so this will take some work.



4. Find a piece of plywood or scrap 1x4 lumber, drill another 1" hole through it and align it with the hole in the stool, using the pipe as a guide. Make sure the pipe rotates freely and the top of the turntable rotates smoothly and remains level without wobble. Once everything works to your satisfaction, fasten the piece to the cross brace on the stool.

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5. Take the half of the pipe clamp and slip the turntable/pipe assembly through the top hole, then the pipe clamp (you need to depress the release on the pipe clamp while doing this) and through the bottom hole. Put a screw at either side of the pipe clamp to keep it from turning .Screw the cap onto the bottom of the pipe as a stop and you are essentially finished except for the lock.

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6. Fit the C clamp to the underside of the cross piece as shown and secure in place. Fit it so the clamp will only require about a $\frac{1}{4}$ turn to lock it to the pipe, this will take a little bit of experimentation.

I used J-D Weld epoxy to secure the clamp. I'll see how it works in the long run. A better way would be to drill two holes through the C clamp and screw it to the cross piece, but cast iron can be difficult to drill.



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The Completed Turntable



Wolff Garritano

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How to find the center of a circle:

<http://www.instructables.com/image/FNMGJAXFGI7SMZW/How-to-find-the-center-of-a-circle.jpg>

or

<http://www.mathopenref.com/constcirclecenter.html>