



WOODEN RAINBARREL CARE AND INSTALLATION GUIDE

HOWDY

Congratulations on your new wooden rainbarrel! The barrel was once filled with Kentucky's finest whiskey ... but will now fill over and over again with rainwater, providing years of "free drinks" for your garden.

This guide will provide you with tips on installing and using your new rainbarrel to ensure that it serves you well for many years to come.



A newly constructed wooden rainbarrel sits atop a custom-built wooden stand.

DESIGN OVERVIEW

Wooden rainbarrels provide the same functionality as plastic rainbarrels but with a more classic visual appeal. A few special design features of our wooden rainbarrels ensure functionality *and* durability.

1. Combination Collection Tank/Overflow System

The black container on top of the barrel serves as a special collection tank that does several things:

- a) It provides a place to set the screen to catch leaves, bugs, and large particulate matter that come from the roof and gutter.
- b) It collects water so it can flow into the small opening in the top of the barrel. NOTE: The small size of the barrel's entry hole is necessary to limit evaporation from inside the barrel during dry times.)
- c) Finally, the collection tank serves as an overflow system that can handle even downpour-level flows.

2. Air Gap

The little piece of copper tubing behind the collection tank is what a plumber would call an air gap. As water flows through the opening in the collection tank and into the barrel, air pressure builds up in the barrel. The air gap lets the air in the barrel escape easily, greatly improving the flow rate of water into the hole in the top of the barrel (because the need for the escaping air to go out the same hole the water is trying to go in has been eliminated).

3. Brass Drain

The brass drain is screwed directly into one of the barrel's staves. Silicone caulk is used to ensure a good seal.

4. Weep Holes

We drill three small holes in the side of the barrel near the top. These holes allow water to flow off the top of the barrel (instead of pooling there).

INSTALLATION GUIDE

The supplies and methods listed here are for a basic, low-cost installation, based on a stand constructed of cinder blocks. Other, more decorative types of stands are possible—for instance, you could build a stand from pressure-treated 2x6's or build one using landscaping blocks, mortared and filled with gravel. Just make sure your stand will support at least 550 pounds, which is the weight of the wooden rainbarrel barrel when it's full of water.

Supplies you'll need for the basic stand and installation:

- 8 cinderblocks (8" x 8" x 16")
- 1 downspout elbow
 - *you need an elbow the same size as the one that's on your downspout now*
 - *if the existing elbow is in bad shape, you may need to replace it too*
- 6 small sheet-metal screws (preferably weather-resistant)
- two or three 50-pound bags of gravel

Tools you'll need:

- garden rake
- 2-foot level
- hacksaw (and possibly metal snips)
- screwdriver (for the sheet-metal screws)
- drill with a bit sized for the sheet-metal screws

INSTALLATION STEPS

1. Plan the Downspout Cut

Remove the elbow from the downspout where the rainbarrel will be installed. Using a hacksaw (and metal snips, if necessary), cut off the downspout at about 4 feet from the ground. (This is a temporary cut; you'll do the final cut later.) Attach the old elbow to your new elbow to form an S-shaped double-elbow.



Now you need to figure out how much drain pipe fits inside the end of an elbow:

- a) Slip the double-elbow onto loose, cut-off piece of downspout.
- b) Make a mark on the cut piece of downspout where it disappears into the double-elbow.
- c) Remove the double-elbow and measure how much downspout pipe was inside the double-elbow. We'll call this measurement the "insert distance." Make a note of it for future reference.

2. Level the Area

Level the area where the rainbarrel will sit. If the ground is overly sloped, you may need to dig out a little to get it closer to level. Ideally, the ground itself should slope slightly away from the house to foster proper drainage of overflow water.

Next add enough small-size gravel to allow you to smooth the area and achieve a truly level surface (from side to side *and* from front to back). Use a level to check. Left to right, your base area should be centered on the downspout. Typically, you'll want the gravel to be a few inches thick.

However big the perimeter of your graveled area is—this will vary slightly, depending on the topography of the area you started with—you want the level part of the gravel area to be at least 3 feet by 3 feet.

A NOTE ABOUT THE GRAVEL AREA

Though a 3' x 3' gravel area will be enough to accommodate the cinderblock base, which is 2' x 2', it's usually a good idea to extend the graveled area by a foot or two in front. That's where the drain is, so extending the leveled area allows you to properly set a watering can or bucket in front of the rainbarrel for fill-up. Similarly, you'll want to leave the can or bucket in that position most of the time and stick the end of the overflow hose into it so you can catch a little bit more rainwater once the rainbarrel is full.

3. Add Cinderblocks

The reason you want to install your rainbarrel on a raised base is to get it high enough that you can slip a bucket or watering can under the drain. The height will also give you enough elevation that you should be able to drain the barrel through an attached hose (though you won't have nearly as much water pressure as you get from your city tap). The method presented here will use cinder blocks, though other methods are possible.

Arrange the first layer of four cinderblocks on the gravel to form a 2-foot by 2-foot base. The "holes" can point up or sideways; that's not important for this particular installation. Left to right, the base should be centered on the downspout. Front to back, the base should normally be an inch or two from the house wall.

Make sure the first level of cinder blocks is level front to back and side to side. Also make sure that the tops of the blocks make a fairly flat surface (relative to each other). Then add a second layer of cinderblocks, alternating the pattern relative to the first layer (see diagram). Again, make sure this layer is level and flat.

Take your time with Steps 2 and 3. Setting up a solid, level base will save you the later heartache of watching your barrel turn into the Leaning Tower of Rainwater!

4. Check Position, Install Double Elbow

Place your rainbarrel on the cinderblock pedestal, positioning it so the barrel is in the center of the base and the black collection tank on the top of the barrel—hereafter referred to as the inlet—is to the rear and centered left-to-right on the downspout. Hold the double-elbow up against the downspout and eyeball whether the barrel is positioned properly front-to-back so that the inlet will be under the exit of the double-elbow once the latter is installed.

Positioning the barrel *slightly* off-center on the base to achieve inlet alignment is acceptable, but if it's off-center by much, you'll need to reposition the cinderblocks. If the double-elbow doesn't stick out far enough to end up over the inlet opening, you may need to insert a short section of downspout between the elbows to get the exit further away from the wall. Also make sure the barrel's drain (hose bibb) sticks out past the front edge of the cinder blocks so you'll have access.

Once you're sure the positions of the base, barrel inlet, downspout, and drain are all good, again hold the double-elbow up against the downspout, leaving a couple of inches between the bottom of the double-elbow and the inlet screen. Make a small mark on the downspout at the top of the elbow. Measuring from that mark downward, add the "insert distance" from Step 1 and make your cut mark there. Use a hacksaw and/or metal snips to cut the downspout at the cut mark. Slip the double-elbow over the downspout. (Be careful of sharp edges!) Everything should now be in perfect position. Put screws in the left and right sides of all downspout joints.

5. Install overflow hose

Opening Comments

First, we recommend that two people perform this part of the operation. Flex hoses are designed to bend, but they can be a little frustrating to work into the right shape with just one person.

Second, before you start, we also recommend that you unwrap the hose and let it sit in the sun for an hour or so. This will warm the plastic and make it easier to work with.

Finally, we're assuming you're not skipping ahead to this step, that your barrel is already on its stand. You need to know the precise arrangement of your stand and barrel before shaping the overflow hose.

Get 'er Done

OK, you're now ready to wrestle the hose into shape, but plan a little first. Do you have a splash block that you want to keep, repositioning it next to the rainbarrel stand? If so, the outlet end of the overflow tube can just dump into the back of the splash block. If not, then the overflow tube

should come out at least as far as the front of the stand to ensure that water is routed away from the house.

Now that you know where the overflow tube should end, visualize the route you want it to take from the collection tank to its end point. For instance, you may want to hide most of tube behind the barrel and stand and have it snake out around the base of the stand. Understanding ahead of time where all the bends will be is helpful.

Bending steps:

1. Straighten out the bend in the middle of the tube.
2. Loosen the set screws in the side arm of the collection tank. Temporarily insert the hose into the side arm. (You'll note that only one end fits properly; make sure you remember which end it is.)
3. With the hose in the side arm, estimate where the bend closest to the top should be. Remove the hose, bend and stretch the tube as necessary to get the bend and its position correct. Reinsert the hose into the side arm to check your work.
4. Stretch out a section of straight hose to the point where the next bend will be. Apply the next bend.
5. Repeat this process until the overflow hose has all necessary bends in the right places, with the end of the hose ending in the right spot.
6. Once the hose is properly shaped and placed, insert the top end into the side arm, hold it in firmly, and tighten the set screws.

Comments:

1. Aesthetically, the hose will look best if you can minimize the alternation of expanded rings (blackish color) and unexpanded rings (grayish color).
2. The hose has the potential to expand further than most installations require, but homeowners with drainage problems will want to use the extra length to get the overflowing water further from the house (or to a dry garden spot).
3. You can also trench in the last leg of the hose so it's buried, exiting at an inconspicuous point of lower elevation nearby.

6. Finish Up

Set the screen on top of the collection tank.

Make sure the drain on your rainbarrel is closed.

Voila! You are now in the rainwater harvesting business. Relax, have a glass of iced tea ... and please read the "care guide" section on the next (and last) page.

FIRST-USE CONSIDERATIONS

All of our whiskey barrels literally had whiskey in them just before we obtained them. Plenty of whiskey residue remains. Two comments:

- Before beginning to use your barrel to collect rainwater, it would *not* be a good idea to "sweat" the barrel and have a party with the resulting brew. The water we put in the barrels to keep them from drying out was from an agricultural cistern---not potable water.
- Before using collected rainwater on your garden plants, it would be a good idea to flush the barrel a couple of times. (Perhaps some of your plants would enjoy "tying one on," but the ethanol-tainted water from an unflushed barrel is likely to help most of them.) Just let the barrel fill up and drain it. A couple of times should be enough. Let your nose be your guide---when the smell of whiskey is barely perceptible, the barrel is good-to-go for gardening.

WOODEN RAINBARREL CARE GUIDE

1. Evaporation protection

Wooden whiskey barrels are designed to keep their seal when wet. If they dry out, they may leak.

The inlet hole in the top of the barrel was intentionally designed to be small, thus limiting evaporative loss and prevent the barrel from drying out. The drain for the barrel was also positioned high enough that even when "empty," the barrel still has several gallons of water in it---enough to keep the inside from getting dry during periods of no rain.

With this in mind, you should not try to get extra water out of your wooden rainbarrel by tipping it towards the drain. (This would be dangerous anyway---the barrel is very heavy!)

2. Winter Mothballing

Freezing is the enemy of your rainbarrel:

- Water freezing inside the drain could bust the drain and cause it to leak.
- Water freezing inside the barrel could break a stave and cause the barrel to leak.

Once hard freezes become a possibility in the fall, we recommend that you "mothball" your rainbarrel for the season. That is, open the drain, let the water run out, and just leave the drain open.

Some wooden rainbarrel owners may prefer to keep using their barrels between freezes so they can water house plants.

That's fine, but please set yourself up a strong reminder system to make sure you drain the barrel (and leave the drain left open) anytime the temperature is going to get below 30 degrees F.

3. Using a Hose / Operating the Drain

The barrel's drain is a standard hose bibb and it's possible to attach a garden hose to it. You won't get a lot of pressure at the other end of the hose, but using a hose to get the water from the barrel to your garden spot can still be easier than carrying buckets back and forth.

If you attach a hose to the drain, be careful not to jerk the hose in a way that will strain the drain. Similarly, when opening or closing the drain valve, do so gently.

Do not hang a pail on the drain to fill it.

4. Cleaning the Inlet Screen and Collection Tank

As debris from the downspout accumulates on the inlet screen, it will need to be cleaned occasionally. Remove the screen and blast the gunk out of it using a hose (or by gently using a scrub brush and the water from your rainbarrel!).

When handling the screen, be careful---rough handling may separate the screen from its frame.

Some fine debris will make it past the screen and collect in the bottom of the black collection tank. If you start to get an accumulation of sediment, wipe it out with a rag.

5. Clearing the Weep Holes

Over time, debris will get stuck in the weep holes. You can clear them by poking a piece of wire into them a few times.

CONTACT INFORMATION

Want to ask a tough rainbarrel installation question?

Send it to rainbarrels@grinningplanet.com

Want more barrels (or know someone who wants one)?

If you would like to order another rainbarrel or have neighbors/friends who are interested, please call Sustainable Berea at (859) 985-1689.