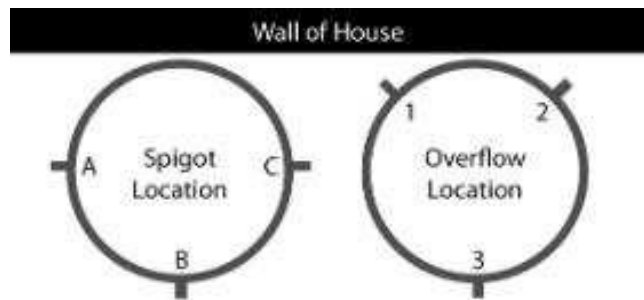


## Before you begin

1. Start with Step 1 (big surprise right?). Note that the remaining steps 2 through 4 can be done in any order as long as you pay careful attention to adhere to the barrel layout.
2. SAFETY – power drills require a certain amount of balance and arm strength to control. **Please feel free to ask someone to drill for you if you have not used large hole saws.** If you choose to do your own drilling, please drill a practice hole on our dummy barrel to get familiar.

## Step 1 – Determine Barrel Layout

The RdPWC order form includes a discussion of barrel layout. Please use the chart to the right to identify your preference for the locations for the spigot and overflow on your barrel. You will want to direct your overflow in the same direction of your current downspout. The spigot location should allow for the best access to planting areas. It may help to sketch out the corner of your house where you will install the barrel. Think about how you'll walk up to the barrel to turn on the spigot.





### Step 2 - Inflow.

1. We will drill a large hole centered on the bung-hole of the barrel. There are two bung holes, and it generally does not matter which. If one bung hole is missing the screw-top lid, drill the hole on this bung hole. ***If you've already installed the overflow (step 3) or the spigot (step 4), refer to your barrel layout to make sure you drill the inflow hole in the correct location.***
2. SAFETY – This may be the most dangerous step, as the large cup bit can be difficult to control. **Please feel free to ask someone to drill for you if you have not used large cup bits before.**
3. Use a **3-5/8 inch Hole Saw** attachment to drill the hole. Clean plastic fragments off with a knife to create a smooth surface.
4. Drill 4 holes through the top rim for mosquito drainage. **Be careful – do not drill into the barrel.**



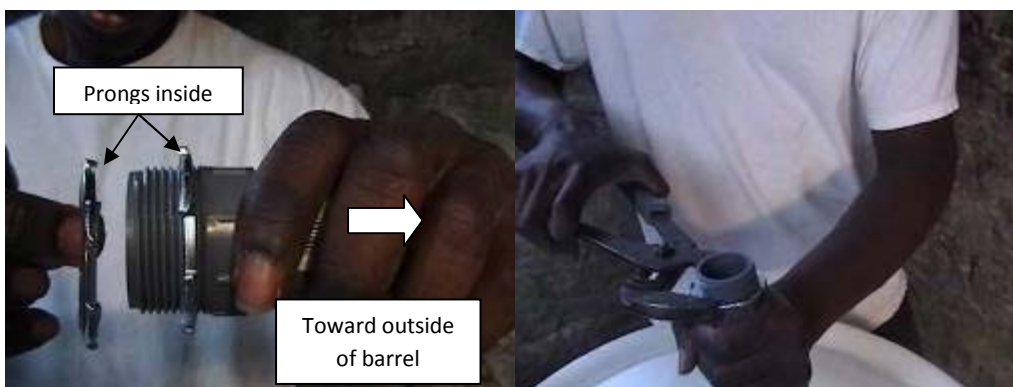
5. Install the **Atrium Grate**. First slide the rubber gasket onto the atrium grate. Insert the atrium grate into the inflow hole. Now, mark the position of the clamps. Place the rubber washers so that the edge of the rubber washers touch the atrium grate. Be sure to push down on the atrium grate and then mark you're the center of the rubber washer with a pen. Screw the clamp and washer into the barrel top. Now, bend the clamps into position using the flat blade of a screwdriver.





### Step 3 - Overflow

1. **If you've already installed the inflow (step 2) or the spigot (step 4), refer to your barrel layout to make sure you drill the inflow hole in the correct location.**
2. Mark the center of overflow on the barrel with a pen. Look at the photo to see that the hole is drilled so that you don't drill into the upper seam.
3. Use a **1-3/4 inch Hole Saw** to cut out the overflow hole. Clean plastic fragments off with a knife to create a smooth surface.
4. Get the conduit nut (pronged metal washers) and the sump hose adapter. Ultimately, the metal washers will both be screwed onto the sump hose adapter so that they "sandwich" the barrel wall with the washer prongs facing the barrel wall. (see photo) Screw the first metal washer onto the sump hose adapter making sure the prongs on the washer will face the barrel. Screw it all the way until it can't go anymore (this is hard – you might need help for the last few turns).
5. Place this assembly into the drilled hole.
6. Screw the second metal washer on to secure the overflow attachment. **Again be sure prongs touch barrel wall.** You'll need to reach inside to barrel to screw on the second washer.



7. Attach overflow hose using hose-clamp. One 6-foot section of hose is sufficient for typical installations. If you find that your site requires additional length, simply get a longer hose. We use sump hose which comes in 24-foot lengths.

### Step 4 - Spigot

1. *If you've already installed the inflow (step 2) or the overflow (step 3), refer to your barrel layout to make sure you drill the inflow hole in the correct location.*
2. Mark the center of lower drain hole. The edge of the hole should be about 2 inches above the bottom of the barrel where the curvature along the bottom rim ends and the barrel side begins to rise toward the top (see photo).
3. Use a **1-3/4-inch Hole Saw** to cut out the lower drain hole. Clean plastic fragments off with a knife to create a smooth surface.
4. Install **Bulkhead**. This piece will “sandwich” the barrel wall, so there is an inside piece and an outside piece. The outside piece is marked with the word “tighten.” Unscrew the bulkhead to separate the inside from the outside piece. Note that the bulkhead is reverse-threaded so the old “righty-tighty” rule-of-thumb needs to be reversed.
5. Thread a string from the inflow hole to the spigot hole; this will help lower the inside piece of the bulkhead into position. Grab the inside piece and slowly hand-tighten the outside piece. The word “tighten” will be legible from the outside of the barrel. **Remember “lefty-tighty.”**







### Step 4 - Spigot (continued)

6. Install brass **Spigot**. First add **Teflon Tape** to the spigot threads. Be sure you wrap the threads in the correct orientation. Hold the spigot in your hand as if you were going to screw it into the bulkhead. Wrap the threads with the Teflon tape in a counter-clockwise direction (see photo). The idea is to wrap the threads so that the tape will not unwind as you screw in the spigot. Wrap the threads 3 times.
7. Now, **slowly** screw the spigot into the bulkhead making sure that the spigot is perpendicular. Be **careful not to "cross threads."** Because spigot threads are sharp and the bulkhead is plastic, it is easy to tilt the spigot and accidentally cross thread which means you cut new threads. This may make the spigot leak. Once you are sure you are not crossing threads hand-tighten the spigot.
8. Use the channel-lock pliers to tighten the bulkhead. Get a friend. One person holds the spigot so that the handle faces toward the top of the barrel. The other person tightens the bulkhead.



### Installing Your Rain Barrel

The installation process is just as important as the construction process. A barrel can be solidly constructed, but it will not work properly if it is not installed properly. See the attached graphical installation guide but first take a look at the following notes.

There are two general parts to installing a barrel – 1) setting up the barrel and 2) modifying the downspout.

#### Step 1 – Setting up the Barrel

1. Make sure that the ground is level where the barrel will be placed. Often compacted gravel or a cement tile is helpful to both level the barrel and distribute its weight.
2. Elevate the rain barrel. Rain barrels are designed to take advantage of gravity. Water will flow from the lower hose when the hose nozzle is below the barrel. Therefore, place the barrel on cinder blocks about 15 inches off the ground.

#### Step 2 – Modifying the Downspout

1. This barrel design requires using a **Flexible Downspout Extender**. Not only is it an easy way to connect the rain barrel, **mosquito control depends on the direct connection it provides.**
2. Measure the size of the downspout pipe on your house. Typically, they are aluminum with an opening of either 4"x3" or 3"x2", and the Flexible Downspout Extender accommodates both sizes. Some older houses have copper downspouts that may still work with the Flexible Downspout Extender. There are other downspout styles (i.e. cast-iron pipe) for which you will need to make special accommodations not covered here.
3. Cut the existing downspout with a hacksaw.
4. Connect the Flexible Downspout Extender to the newly cut end using **gutter screws.**

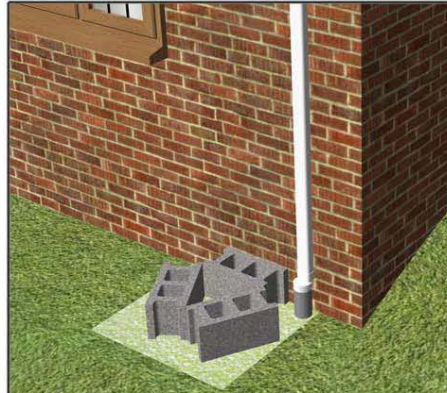
# RAIN BARREL INSTALLATION GUIDE

STEP 1



CREATE A 3' x 3', FLAT, LEVEL AREA NEXT TO YOUR HOME'S DOWNSPOUT

STEP 2



PLACE 3 CINDER BLOCKS IN A TRIANGLE ON THE FLAT AREA

STEP 3



PLACE RAIN BARREL ON TOP OF CINDER BLOCK TRIANGLE

STEP 4



CUT DOWNSPOUT 1' 6" ABOVE THE TOP OF THE BARREL

STEP 5



CONNECT DOWNSPOUT EXTENDER TO DOWNSPOUT AND INSERT INTO BARREL

STEP 6



DIRECT OVERFLOW TO SEWER DRAIN, SPLASHBLOCK, OR RAIN GARDEN

### Optional Modifications to your Rain Barrel

1. It is possible to connect multiple rain barrels together using the spigot as a connection from one barrel to the next in a series.
2. A soaker hose can be used so that rainfall collected in the barrel will water a selected area slowly over time. Note that you must use a soaker hose designed for rain barrels due to the low pressure.

### Maintaining Your Rain Barrels

Maintaining a rain barrel is easy and inexpensive! The most important thing to remember to keep your rain barrel working properly is to **EMPTY THE RAIN BARREL AFTER EVERY RAINSTORM!!!** If you do not drain your full rain barrel, it cannot collect more water during the next storm! In addition to draining the rain barrels after storms, rain barrels require some additional maintenance. Rain barrels and their connections should be inspected twice a year (usually in the spring and fall) and damaged items should either be repaired or replaced as needed. Follow these simple steps to ensure your rain barrel keeps working well:

1. Inspect the roof to ensure that no particulate matter or other parts of the roof are entering the gutter and downspout to the rain barrel.
2. Examine the gutters to ensure that no leaks or obstructions are occurring.
3. Look at the downspouts and the entrance to the rain barrel also to assure that no leaks or obstructions are occurring.
4. Check out the rain barrel for potential leaks. Only the spigot requires a watertight seal.
5. Test the spigot to ensure that it is functioning correctly.
6. Look at the runoff/overflow pipe to ensure that overflow is draining in non-erosive manner.
7. Inspect any accessories, such as rain diverters, soaker hoses, linking kits, or additional guttering.
8. If the screens or outlet of the rain barrel gets clogged, simply clean them by rinsing with water or using a stiff bristled brush

**Winterize your rain barrel!** Most of us live in climates that experience a fair amount of freezing in the wintertime, which can wreak havoc on a rain barrel. If a rain barrel fills and then freezes, the ice can expand and crack the rain barrel. As winter and freezing temperatures approach, either disconnect your rain barrel from your downspout or open the lowest spigot on the barrel so that water can flow through. Some people even bring the barrel inside a garage to prolong the life of rubber parts, though this is optional.