

Byrd Camp's Composting Toilet System

Guide to correct usage and
upkeep

Overview of Barrel System



Components for Barrel Toilets

- Each System has 3 barrels. One barrel will always have the toilet top over it, while the other two will remain covered with a screen fastened down by paracord with a spring, and a piece of tin roofing with rocks to weigh it down.
- The “active” toilet will have the toilet top fastened down by springs two bolts on the side. The other two barrels are “inactive” and will remained covered. These will be full of composting human waste.
- The toilet top has a toilet seat, three vent holes covered in mesh, a fly trap, four locator bolts on the bottom side, and four eye-hooks for springs that fasten it down the barrel. There is also adhesive weather stripping on the bottom edges of the toilet seat and lid, as well as underneath the toilet top resting against the top of the barrel.
- There are four machine bolts with two nuts and two washers mounted to the sides of the barrels. These function as the bottom hook for the springs. Each toilet top should have four springs with it as well.
- Each 55 gallon barrel is outfitted with the machine bolts on it side, as well as holes on the top rim where the locator bolts will insert.
- Camp should have a compost crank, which is a device specially designed to turn the humanure after the barrel is full.
- Camp should also have a compost thermometer to check the temperature of the compost.
- Buckets with clean toilet paper and pine shavings.

Instructions for Daily Use

- To use the barrel toilet simply open up the top and use it like a regular toilet. If possible urinate before taking a dump. The system is design to take on a small amount of urine, but is not intended to be used as a urinal.
- When you are done you can throw used toilet paper in the toilet.
- Then throw a cup full of pine shavings in afterwards.
- Close the top and enjoy your day!
- Don't forget to wash your hands afterwards.

Weekly and long-term chores

- Once a barrel is full with humanure it should be turned once a week and recorded in the log.
- To remove toilet top from barrel: Undo springs from side of the barrel. Then lift toilet top out of barrel.
- To put toilet top on new barrel: Carefully lower top so that the four locator bolts sticking out of the bottom line up with the holes that are circled on the top of the barrel. It can be a little tricky to fit them in. Then re-attach springs from eye-hooks on toilet top to the machine bolts sticking out of the side of the barrel. Empty mason-jar fly trap if trap is very full.
- Before turning compost, use compost thermometer to get its temperature. Record temp in the log as well.
- To turn compost use compost crank, or shovel if crank is unavailable. Make sure to aerate compost fully every week to help the break-down process.
- Generally temperatures over 100F signify that the compost is active.
- The goal is to get the compost over 120F for at least a month.
- When you're done make sure to cover the compost with mesh and tin roofing with rocks on top.
- Ideally every 4-7 months, after the compost has been over 120F for at least a month, the barrels can be emptied and compost can be used.
- Ideally, every 4-7 months, when one barrel is done, it can then be turned into the active toilet, once the others are full. We don't know yet if this is all possible, but what we're striving for.

Overview of Bucket-to-Barrel System



Components to Bucket-to-Barrel System

- Buckets with lids for humanure
- Barrels to dump buckets into.
- Covers for barrels including mesh to keep flies out that is secured down by paracord with a spring as well as tin roofing weighed down by rocks.
- Compost crank
- Compost thermometer

Daily and long-term use of bucket-to-barrel system

- Open top of bucket and poop in it. Again, it's ideal to not urinate if at all possible.
- When you're done throw used toilet paper into bucket and a cup full of pine shavings.
- When bucket is full take it to dump area with covered barrels.
- Buckets do not have to be dumped immediately. However, when dumping make sure to protect your hands with gloves. Find the barrel that's labelled "Yes" and dump bucket(s) in.
- Once a week, barrels should be turned with compost crank and temperatures should be recorded in log.
- Make sure to cover barrels after dumping or turning compost.
- Ideally, after 4-7 months, these barrels will also yield usable compost.

Parts Info

- 3 55 gallon barrels (preferably w/o chemicals)
- 1 3/4" 2'X2' sheet of plywood
- 1 wooden toilet seat
- 17' of 1/4"x1/2" adhesive weatherstripping
- 10' of 3/8"x1/2" adhesive weatherstripping
- 10' of 1/4"x1" adhesive weatherstripping
- Vents:
 - 1 3" ABS sanitary Tee Hubxhubxhub
 - 2 2" ABS vent elbows, hub x hub
 - 2 pieces of 2" ABS pipe 2-1/4" long
 - 1 piece of 3" ABS pipe 3" long
 - 1 small can of ABS pipe cement
 - 4 2-3/4" hose clamps
 - 2 4" hose clamps
 - screen/netting
- Locator Bolt Assembly:
 - 4 1/4"x2-1/2 carriage bolts
 - 4 1/4" flat washers
 - 4 1/4" nuts
- Hold down spring assembly
 - 4 1-1/2" long screw eyes
 - 4 extension springs (servalite #70)
 - 12 #10x3/4" panhead machine screws
 - 24 #10 washers
 - 24 #10 nuts
- Compost Crank
- Compost Thermometer
- Corrugated Tin Roofing