

Cleaning and Rebuilding Ball Lock Kegs

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If you are a home brewer at some point you will most likely decide to keg your precious brews. Kegging offers many advantages over bottling, but getting started can be a little confusing. The first thing to do is to learn the parts of the keg and the proper way to clean them.

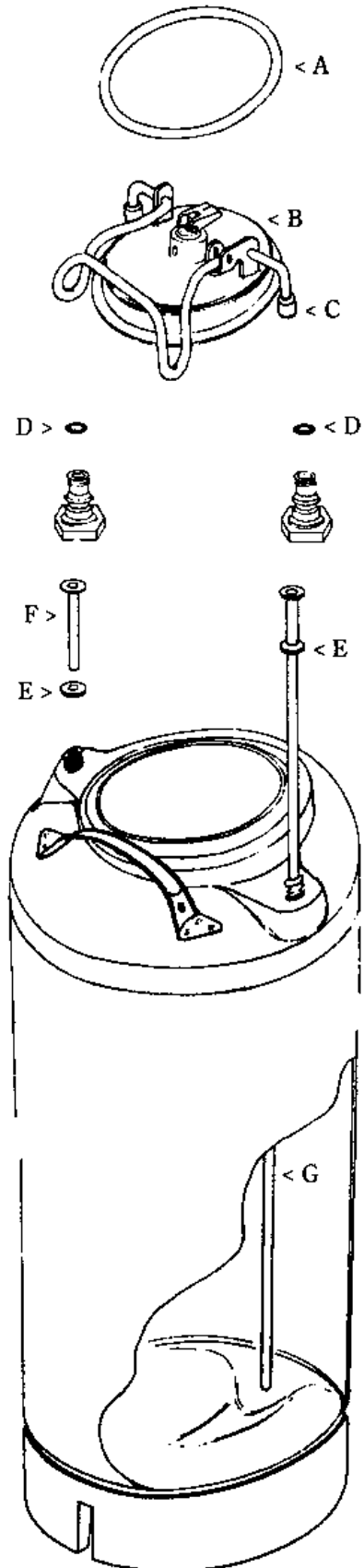
On the right is an illustration of a ball lock keg. The parts are as follows:

- A) Lid O-ring
- B) Lid
- C) Lid clamp and foot
- D) Tank fitting (post) O-ring
- E) Dip tube O-ring
- F) Gas dip tube
- G) Liquid Dip Tube

Cleaning the Keg

The first thing to do when you receive a used keg is to clean the keg. It is best to disassemble it when cleaning the first time. The lid can easily be removed by manipulating the lid clamp. The fittings will need to be removed using a wrench or a socket. On most ball lock kegs the fitting size is 7/8". If you have a 7/8" combination wrench, that will work very well for removing the fittings. As you remove the fittings, take note of the fact that one will have notches cut around the base of the fitting to signify that that is the gas "In" side with the short gas dip tube. The other "Out" side will have a long liquid dip tube.

Take all these parts and soak them in hot water as you remove them from the



keg. If the keg is used it is also a good idea to replace all the O-rings and maybe the poppets. (A poppet is the internal structure in the fitting that holds the liquid and gas in the keg.) If the keg was previously used for soda, that odor could have permeated the rings and that odor could leach into the beer. This can be most unpleasant in your beer. There are many different types of kegs, so in order to not mix up the parts, do not clean more than one type of keg at a time. Parts will be covered further in the section on rebuilding.

Now that the keg is apart, add some hot water to the keg. Swirl it around to loosen any deposits or sediment. It can be very difficult to clean the inner workings of the keg due to the limited size of the keg opening. The easiest and best way to give the keg a good internal scrubbing is with a brand new toilet brush. Buy it new and mark and store it so it can never be mixed up with another brush. With this you can scrub the inside when needed. Rinse the keg several times and continue scrubbing as necessary. Be sure to take a brush or a cloth and clean the area where the lid O-ring seats and the underside of the top of the keg. Most homebrew shops sell a dip tube brush that is very long for cleaning the inside of the liquid dip tube. This is a must have. Brush the inside of the dip tubes and rinse. Also you can clean the inside of the fittings with a cloth or small brush. Replace the parts of the keg using keg lube on all the O-rings. Keg lube is a silicone based food grade lubricant that will not affect the taste of your beer nor the head. It will also help lengthen the life of the rings.

If after cleaning the keg has odors or stains, you can take a weak bleach solution and fill the keg with it. Give it a 5 minute or so contact time and then immediately drain and rinse the keg thoroughly. Chlorine can react with SS and cause pitting, so be careful. I have only had to do this to one keg, and it worked beautifully.

To sanitize the keg add a 12.5 ppm iodine solution to the keg and allow it to have a contact time of 1 minute. (Personally, I add one gallon of the prepared iodine solution and shake it vigorously several times.) You then can drain the solution and fill the keg, or you can rinse afterwards and then fill the keg it is up to you. A good website done by Robert Arguello on Iodophor and rinsing can be found at <http://bayareamashers.org/iodophor.htm>.

For cleaning the outside of the keg, the labels can be removed using a scraper and polish remover or Goof Off (http://www.goof-off.com/gooffoff/gooffoff_main.html). Then the outside can be brought to a shine using Barkeepers Friend (<http://www.barkeepersfriend.com/>). Always clean and sanitize the top of the keg thoroughly, but if you desire you can go with the philosophy that the beer goes inside, not outside, so why bother scouring and polishing the sides.

Rebuilding the Keg

The keg has many more parts than the picture above depicted. You can find your type of keg by looking at the stampings on the side.

The three types of ball lock fittings are shown in the following diagram



Type A is for Spartanburg or Firestone Challenger V, VI, and Super Challenger.

Type B is for Cornelius.

Type C is for older Firestone Challenger (no V or VI) and John Wood 85.

The ball lock fittings also contain a poppet. As mentioned previously, poppets hold the pressure and liquid inside the keg. They can and will go bad allowing leaking of gas and/or beer. Poppets are not interchangeable between types of kegs, so be sure you have the correct poppet for the keg type you have. The four types are:



Type A is for Spartanburg or Firestone Challenger V, VI, and Super Challenger.

Type B is for Cornelius.

Type C is for older Firestone Challenger (no V or VI) and John Wood 85.

Type D is for older Firestone models A, R, RA, and RC, Alloy Products and John Wood (pin lock).

The lids on ball lock kegs will have a pressure relief or lid relief valve. The types are as follows:



Type A is for Cornelius, Firestone or Spartanburg Challenger V, Vi and Super Challenger.

Type B is for older Firestone.

Type C is a pin lock valve (I am not covering pin locks)

Type D is for older Firestone with metal valve.

The poppets can be removed from the fittings using a blunt instrument such as a Phillips head screwdriver, or nail set. Just push on the top of the poppet while the base of the fitting is on the table or floor. Once removed it can be cleaned or discarded as necessary. A quick test for a leaking poppet on an empty keg is to pressurize the keg to about 10 psi and take a quart spray bottle with a few drops of dishwashing detergent. Spray a light mist onto the fitting and poppet. If bubbles occur then the poppet is leaking. Take a blunt instrument and insure it is seated well. If it is seated correctly, and it still leaks, then it needs replacing. It is also good to check the lid relief valve and the lid to see if they have any leaks.

The dip tubes and fittings will not usually need replacing unless they are bent. If so, then just find the type needed for your keg and purchase replacements. There are basically two types of dip tubes, nylon and stainless steel. The nylon dip tube can be a hard item to find. (If you have the nylon type and need a replacement, I suggest you contact Grape and Granary, or Williams Brewing.)

O-rings do not need to be replaced unless they are old and cracked, or if you suspect them as leaking. When you need a replacement, you will find them difficult to obtain from anyone other than a homebrew supplier.

Some vendors local and online who are good sources for parts of all types and kegs are:

American Brewmaster

www.americanbrewmaster.com (awesome local resource for anything)

RCB Fermentation Equipment

www.rcbequip.com (source of old kegs, disconnects, o-rings, and parts)

The Grape and Granary

www.grapeandgranary.com

Williams Brewing

www.williamsbrewing.com (most comprehensive list of old keg replacement parts)

SABCO

www.kegs.com

St Patricks

www.stpats.com

Northern Brewer

www.northernbrewer.com