

DRAFT BREWER KEGGING OVERVIEW

KEGGING IS THE FASTEST AND EASIEST WAY TO SERVE BEER. EACH KEGGING SYSTEM IS SLIGHTLY DIFFERENT BUT WILL CONTAIN THREE ITEMS: TAP LINES, A REGULATOR TO CONTROL CARBONATION AND A KEG.

THE REGULATOR

The pressure in your keg system is dispensed and controlled by a CO₂ regulator. Our regulators have a shutoff check-valve installed, which allows you to quickly and completely shut off CO₂ flow to the keg without having to shut the main valve. There is also a check-valve that ensures beer will not be able to flow back into your regulator and ruin it.

The regulator has two gauges which measure pressure in pounds per square inch (psi). The low pressure gauge, located on the top of the regulator body, measures the internal regulator pressure (e.g. dispensing pressure). The high pressure gauge measures the pressure inside the CO₂ cylinder. Since the CO₂ is mostly in liquid form, this pressure won't drop much until you use up most of the CO₂ in the tank. The dispensing pressure is regulated by adjusting the knob. Turning it clockwise will increase the dispensing pressure and counterclockwise will decrease it. If the keg pressure is greater than the dispensing pressure no CO₂ will be dispensed until the pressures equilibrate. The regulator also contains a pressure relief valve that will help to protect the regulator from damage. If the internal regulator pressure gets too high it will set off the valve until the pressure is reduced to non-critical levels.

You can simultaneously increase the pressure in the keg and the regulator's internal pressure by turning the regulator's adjusting knob clockwise. You can decrease the regulator's internal pressure (but not the keg pressure) by turning the adjusting knob counterclockwise.

THE KEG

The Draft Brewer keg you received is guaranteed to hold pressure. These kegs are stainless steel ball-lock or pin lock soda kegs and can be slightly different from each other. Some have one handle vs two, some have different relief valves. The thing that remains the same is that they all have the same function and connections.

- **POSTS:** Each keg has two 'posts' on the very top of the keg that are responsible for dispensing the beer. For ball lock kegs, the post labeled 'in' can be identified by the notches around its base. For pin lock kegs, the gas post can be identified by the two pins. It is connected to a short (~2") dip tube and is responsible for delivering the CO₂ to the keg. For ball lock kegs, the other post, labeled out, has no notches, connects to the long dip tube that travels the length of the keg and is responsible for dispensing the beer. Pin lock kegs will have three pins on their liquid posts.

NOTE: with ball lock kegs, there are basically two different size posts. One is six-point and $\frac{11}{16}$ inch in diameter. The other is six or twelve-point and $\frac{7}{8}$ inch in diameter.

- **POPPETS:** Poppets are little spring-loaded valves that insert into the posts. When the disconnects are hooked up to the posts the 'pin' in the disconnect will push these valves down, opening the system.

- **LID:** Each keg contains an oval shaped lid that contains a pressure relief valve for safety. **NOTE:** each keg has its maximum pressure stamped on the lid (~120 psi) which is massively higher than home brew pressures.

- **O-RINGS:** There are five (5) rubber O-rings responsible for ensuring the keg stays sealed. There are two small 'dip tube' O-rings that go on each dip tube and seal underneath the posts. There are two larger O-rings that go on the top of each post to seal the beer and gas connections. The largest O-ring is the one that goes around the lid and completely seals the keg. It is critical that all these rings are clean and free from cracks. These should be replaced upon signs of wear.

CONNECTION ASSEMBLY

GAS CONNECTIONS

1. Attach the regulator to the CO₂ tank. Make sure to place the nylon washer between the cylinder and the regulator.
2. **NOTE:** the seal between the regulator and CO₂ tank is created by compression of this washer, not the actual threads. Tighten firmly with a wrench and DO NOT use teflon tape.
3. Using one of the included nylon flare washers, attach the gas connector kit to the regulator's shutoff valve and tighten with a wrench. Ensure the gas disconnect (grey) is tightened down on the gas connector kit.
4. Make sure the regulator's shutoff valve is closed (perpendicular) and the adjusting knob is backed all the way out.
5. Open the main valve at the top of the CO₂ cylinder one half turn. The high pressure gauge should 'jump' but there should be no reading on the low pressure 'serving' gauge.
6. Open the shutoff valve (parallel).
7. Turn the adjusting knob clockwise with your hand until the low pressure gauge starts to pressurize and reads about 5psi.
8. Check for leaks. The system is now pressurized. Test all threaded connections, quick disconnects and pressure relief valves with soapy water. Even a small leak will drain your CO₂ cylinder.
9. **ALWAYS** store your tank with the main top valve closed and the shutoff valve off.

LIQUID CONNECTIONS

1. Ensure that the faucet tubing kit's liquid disconnect (black) is tightened to the tubing.
2. Ensure the tap end is secured to the tubing.

KEGGING

When fermentation is complete, you are ready to keg. You can keg beer, wine, mead, cider, soda or just plain drinking water. Simply transfer your beverage of choice to a clean, sanitized keg and hook it up to your system. Basically any beverage you want carbonated you can keg. That being said, this discussion will focus only on kegging beer.

CONNECTING YOUR KEG

1. Transfer beer to clean, sanitized, and fully assembled keg.
2. Insert the lid into the keg but DO NOT lock it down yet.
3. Attach the disconnects to the proper posts. The BLACK liquid disconnect attaches to the keg's LIQUID/OUT post. The GRAY gas disconnect attaches to the keg's notched GAS/IN post.
4. Open the main CO₂ tank valve.
5. Open the regulator shutoff valve (parallel) and lock down lid as you pressurize the keg to start carbonating. Use the chart below to determine your carbonation pressure.
6. Carbonation will often take a few days with the gas line attached. You should pour a sample to test the level of carbonation, and when it is appropriate you can set the pressure to about 10 psi for serving. Some fiddling with the pressure to get your best pour may need to be done.

THE CO₂ CYLINDER

Needed, but not included with your keg system is a CO₂ cylinder. For safety, keep the valve located on the top of the cylinder closed until you attach a regulator. To open the tank one only needs to turn the valve a half turn.

FORCED CARBONATION

Using the chart below you can achieve a specific carbonation level by simply adjusting your fridge temperature and the regulator's dispensing pressure.

Many brewers speed up the carbonation process by shaking the keg back and forth, which drastically increases the surface area of beer in direct contact with CO₂. As you do this, you will hear the regulator delivering CO₂ as it is being rapidly dissolved into the beer. You should shake the keg until it becomes increasingly difficult to hear the CO₂ hissing.

When you are finished, leave the CO₂ line attached to the beer so it may complete the process. If the beer becomes over-carbonated, it is possible to de-carbonate the beer. You should warm the beer and periodically pull the pressure relief valve on the keg. This will cause CO₂ to come out of solution and re-pressurize the head space, at which point you can repeat the process.

STYLE	VOLUMES CO ₂
American Ales	2.2-2.7
American Lagers	2.5-2.8
Belgian Ales	2.3-4.0
British Ales	1.6-2.5
German Ales	2.2-3.5
German Lagers	2.5-2.8

CLEANING

The most rigorous way to keep kegs clean and sanitary is to completely disassemble them after each use. You will need.

- A wrench to remove the posts. We highly suggest the use of a ratchet with deep sockets for this purpose. Other types of wrenches have a tendency to strip the treads on the posts. Depending on the size of your posts you will need a 6-point 11/16" deep socket, a twelve-point 7/8" deep socket or both.
- We suggest the use of Powdered Brewery Wash (PBW) or B-brite for cleaning of all keg components. These are both very powerful cleaners that are safe on stainless steel and on the environment.
- DO NOT use cleaners with chlorine on stainless steel.
- (OPTIONAL) New set of O-rings. As stated before, sometimes you need to replace your O-rings. Don't waste a batch of beer over a few bucks for a replacement set.

KEG CLEANING A STEP-BY-STEP GUIDE

1. Pull the pressure relief valve on the lid to ensure all of the pressure is bled out of the keg.
2. Unscrew the pressure relief valve and put aside.
3. Remove lid and lid sealing O-ring.
NOTE: sometimes the lid sticks so use the butt end of your wrench to hit the top to loosen.
4. Remove the posts.
5. Remove the dip tubes, in and out, from the keg and slide off the O-rings.
6. Fill the keg with cleaning solution per solution instructions. Heavily soiled kegs may need to soak longer to come clean.
7. Put all small parts into a small pail and add some cleaning solution. The long dip tube can be inverted into the keg for cleaning.
8. Once clean, pour off cleaning solution and rinse thoroughly with warm water to remove any residue.
NOTE: if using the keg directly move to the sanitation section below.
9. Put the keg back together as you had taken it apart ensuring that all O-rings have been included.
10. Pressurize the keg for storage.
NOTE: Connect the gas to the keg and turn it on to a low pressure before you try and seat the lid. This will ensure that the lid seals completely.

SANITIZING YOUR KEG

1. Your keg should be completely clean at this point. Depressurize and break down your keg completely if not already there.
2. Make 2.5 gallons of sanitizer directly in your keg. We suggest using either Star San or One Step to sanitize.
3. Pour some of this sanitizer into a small bowl and add all of your small parts including all of your loose O-rings.
4. Invert your long dip tube in the keg. Let sit 5-10 minutes.
5. Put the O-rings on the dip tubes and slide them to the top.
6. Insert the dip tubes into the keg ensuring they are going to the correct sides. Small dip tube to the gas 'in' side and vice versa.
7. Turn over the post on a flat surface and fill with sanitizer.
8. Pour this sanitizer over the top of the dip tubes and hand tighten the posts on their proper side. The 'notched' post is the gas side.
9. Screw the pressure relief valve into the lid while it is still under the sanitizer solution. Put the lid sealing O-ring on the lid ensuring its snapped down into place.
10. Insert the lid into the keg but DO NOT lock it down yet.
11. Connect the GRAY gas disconnect to the keg's notched GAS / IN post and turn on CO₂ cylinder.
12. As the pressure is running seat the lid and lock it down once its sealed.
13. Give the keg a good shake and invert it standing it on its head. One handled kegs can be laid on their sides and turned half way through. Let sit 5-10 minutes.
14. Bleed off pressure, open lid and empty out sanitizer. This sanitizer is fresh and may be used again.
15. As before, seal the lid under pressure and allow keg to pressurize.
16. With the gas hooked up pull the pressure relief valve and bleed off some of the pressure to remove most of the oxygen in the keg.
17. Connect the BLACK liquid disconnect to the keg's LIQUID / OUT post and bleed off all of the remaining sanitizer in the keg.
18. The keg is now ready to be filled.

FORCED CARBONATION CHART							
	5 PSI	10 PSI	15 PSI	20 PSI	25 PSI	30 PSI	
30° F	2.23	2.82	-	-	-	-	-
35° F	2.02	2.52	3.02	-	-	-	-
40° F	1.83	2.30	2.75	3.19	-	-	-
45° F	1.66	2.08	2.51	2.94	-	-	-
50° F	1.50	1.90	2.30	2.70	3.10	-	-
55° F	-	1.75	2.12	2.47	2.83	3.18	-
60° F	-	1.62	1.95	2.27	2.60	2.92	-