KEGGING AND CARBONATION

There's nothing quite like a pint of your favourite brew served from the faucet of a well maintained draught system, and this luxury isn't only limited to bars and restaurants. You have the ability to keg, carbonate and serve up your delicious brews right in your own home with a simple draught system. Instead of waiting for bottle carbonation to take place using priming techniques you can **force carbonate** your homebrew in as little as 48 hours with a CO2 (Carbon Dioxide) tank. You may be familiar with the style of keg seen at most parties and retail establishments, a large steel barrel with a single fitting centered in the top. These are known as **Sanke** kegs. The type of kegs used almost 100% of the time by homebrewers are known as **Cornelius** kegs, or **Corny** kegs for short. Some homebrewers do utilize sanke kegs, but they are more difficult to clean and maintain, and use a different coupler to dispense. Using sanke kegs for homebrew will not be discussed here.

Corny kegs were first introduced for dispensing soda syrup in previous decades, but they are rarely in use for this purpose nowadays with restaurants serving fountain pop from big bags of syrup. Unless an establishment makes their own pop or beer, it is rare that they will use this style of keg. These kegs have more than just one fitting like the sanke style keg. They have a large lid, a gas **IN** post and a liquid **OUT** post. The IN and OUT posts are matched with quick-disconnect fittings. These quick disconnect fittings are used to force gas IN to the keg to provide pressure and dispense beer OUT of the keg. You may be familiar with a classic hand pump that is commonly used at parties to dispense sanke kegs. Since the kegs usually leave the party empty, it is *okay* to manually pump a bunch of air into the keg as the pressure source to push the beer out. This is also why any leftover beer is flat and oxidized. Beer constantly under CO2 pressure and regulated cold temperatures is kept fresh throughout its entire dispensing period. Kegging at home requires some investment, and a dedicated refrigeration unit, but is well worth it once you pour and enjoy that first pint. Most homebrew shops carry the necessary supplies to start kegging. What follows is a list of necessary supplies, a detailed breakdown of a corny keg, system setup and instructions to get you carbonating and serving your first of many kegs of homebrew.

You will need:

A CO2 Tank (Cylinder)

This tank (cylinder) holds the carbon dioxide gas necessary to carbonate and serve your brews. They come in various sizes based on the amount of gas they hold by weight. A common size for homebrewing is 5lbs. They range from 2.5 lbs to 50 lbs, or large bulk tanks. It is rare that you would utilize anything larger than 50 lbs in a non-commercial setting.

A CO2 Regulator

This hooks up to the CO2 tank to regulate the high pressure gas. The gas pressure is displayed as **P.S.I.** or **Pounds per Square Inch**. A 2-gauge regulator is most common. One gauge (dial) reads the pressure left in the tank, and the other reads the adjustable pressure you are applying to the beer. At minimum, you will need a single gauge regulator to know and be able to adjust the amount of CO2 you are applying to the beer to keep your beer's carbonation level consistent throughout its dispensing period. Your regulator should already be equipped with a shutoff valve and hose barb (or MFL (Male Flare) thread) on the low-pressure outlet. This is where you will hook up your gas tubing.

Tubing

You will need appropriate lengths and types of tubing for both beer and gas. Corny keg quick disconnects are commonly affixed with a 1/4 inch barb. Thick-walled 3/16 ID x 7/16 OD tubing is most common and compatible with these fittings for both gas and beer lines. Any portion of your system containing an MFL (Male Flare) thread allows you to choose your barb size in the form of a swivel set containing an FFL (Female Flare) nut and hose barb, thus determining the tubing size needed to match. All tubing should be used along with appropriate clamps to provide a leak free seal.

Here are some tubing requirements:

For gas line length is not important, pressure tolerance is. You will need a convenient length of thick-walled PVC tubing that can handle up to 50 PSI. Tubing intended for gas dispensing is meant to burst at ~50 psi as a safety feature. You will rarely, if ever, use pressures above 30 psi.
Larger barbs on the gas side of your system will require larger tubing to match.

For beer line length and tubing size is very important. You want at least 5 feet of 3/16 inside diameter tubing, thick-walled is standard but thinner walled is okay. This smaller inner diameter of this tubing along with this minimum length provides the proper flow restriction and balance in your direct draw (short-run) draught system when dispensing under 15 PSI.

Quick Disconnects

These fittings connect to their corresponding posts on your corny keg to properly dispense your beer. Grey fittings are for gas and connect to the IN post, and black are for liquid and connect to the OUT post. They are available in *ball-lock* or *pin-lock.* What style you need will be determined by the type of posts your kegs possess. They will come affixed with either a 1/4" hose barb or MFL thread.

Dispensing Faucet

Commonly called a 'tap', this is used at the point of dispense to pour beer. A small "picnic-style" thumb faucet is suitable for this, the cheapest way to go and simply sits in the fridge when you're not pouring. You also have the option for a bar style faucet attached to a shank plumbed through your refrigerator door with the faucet on the outside of your fridge. A beer tower affixed atop a smaller refrigeration unit used to hold your keg(s) is another option as well.

A Keg

Your keg will be used to hold the beer throughout carbonation and its dispensing period. As mentioned before, you are looking for a Cornelius (Corny) style keg. New or used is fine, and you're local homebrew shop should carry them. If you are purchasing a used keg try to find one that has been pressure tested, and keep in mind you may also need to purchase new o-ring seals if there are any leaks. It's never a bad idea to check any kegs you purchase (even new) for leaks; see below **. All kegs should be taken apart and cleaned before first use and after each use before storage empty. Here's some cleaning tips:

Use a brewer's grade detergent, such as PBW (Powdered Brewery Wash), for organic soils. Disassemble your keg. Apply a properly diluted detergent solution with a soft sponge or brush, cleaning all parts thoroughly, followed by a hot water rinse. Optionally let parts dry and reassemble your keg, applying a small amount of keg lube to all o-rings, a little goes a long way (this food grade petrol or silicone gel will help ensure leak free seals and longevity of all o-rings; recommended). Before each use, an application of a properly diluted no-rinse sanitiser such as Star San or IO Star (*no bleach, chlorine and stainless steel do not mix!)* to all parts is necessary as a final step before contact with beer.

A Dedicated Refrigeration Unit

Beer needs to be stored at cold temperatures throughout its dispensing period. It also needs to be carbonated cold, as colder temperatures allow the beer to accept the CO2 gas more readily and efficiently. You are looking to achieve 1-4C (34-39F) for beer storage when kegging, easily achievable with a standard refrigeration unit. A dedicated unit is recommended to house your keg and equipment. You can technically share space in an already established food storage fridge, but space can be restricting and cleanliness is a potential concern as well. As long as constant cold temperatures are present, it can be a viable option. In most cases, a dedicated beer fridge is chosen and when setting up your draught system, you have a few options.

A Standard Refrigerator

Standard size, front opening fridges with or without a freezer work great. Accessories on the inside of the door and the bottom shelf may be kept given they aren't restricting to the space required for your equipment and can support the weight of a full keg, but most shelves will need to be removed. Some additional modifications may be required, but it is fairly easy to strip most of the inner components of a fridge out and make additions to support the conversion of the fridge into a draught system.

A Mini Fridge with Beer Tower

This a common option where little to no conversion may be required on your part. Your typical 'kegerator' unit, these are sold as one piece with all the equipment needed, ready to be plugged in and accept a keg. These pre-made units are usually adapted to serve Sanke kegs..something to keep in mind. With a few fittings switched, you will be able to carbonate and serve corny kegs. This is also an option for a DIY build, given the fridge you are converting has enough space to accommodate your setup.

'Keezer'

Another option gaining popularity is what is called a '*keezer*': a chest freezer converted to dispense kegs. A wooden collar that raises the lid is added at the design discretion of the builder. The collar allows for worry free drilling and mounting of shanks and the top opening design can be preferred for ease of maintenance and keg changes. A tower mount on the top is not off limits either. A '*keezer*' is hooked up to a thermostat which keeps temperatures from getting too cold and freezing it's contents.

With a custom build, you may store your entire gas side assembly inside your kegerator or have the CO2 tank on the outside with a gas line running inside the unit. I find I have had more consistent results with the CO2 tank on the outside, rather than on the inside. At ambient room temperature the CO2 remains a gas form, whereas at cold temperatures it becomes a mostly liquid form, leading to less accurate results displayed on the regulator gauges when setting pressures which can lead to unexpected results with carbonation levels and pouring quality. You may not want to risk drilling a hole through your fridge wall, potentially rendering the unit useless, and that's fine. Your entire gas side assembly can be placed in the fridge, nothing will be harmed, and by no means will you be restricted from getting into kegging successfully.

*More information regarding conversions and necessary caution when drilling can be found below in the **'Getting Your System Up and Running'** section.*

A note on temperature can be found at the end of this article. Temperature is the main cause of foaming in draught beer applications, and is something to consider when doing custom builds.

CORNY KEG BREAKDOWN

Keg Body

Your standard corny keg size is 5 US gallons (19L). Other sizes are available such as 2.5, 3, 10 & 15 gallon. With the shell itself stripped of all components, you are left with a large hole on the top where the lid is inserted and two small hollow nipples with outside threads, one on either side of the lid hole. These ports, usually labeled IN and OUT, are where the diptubes are inserted and the posts sit on top of.

Keg Lid

Used with a large O ring, this sits snugly inside the lid hole and is sealed with a swinging arm. Most lids are also equipped with a pressure relief valve in the centre, which is a very convenient accessory.

Diptubes (2)

The longer tube is for liquid (OUT) and the short one is for gas (IN). Both tubes are flared at one end. An O ring makes a seal at the diptube flare when the diptube is fully inserted into a port.

Posts (2)

Just as there are gas and liquid diptubes, there are gas and liquid posts. On ball-lock kegs, the liquid post will always have a smooth hex nut, while the gas post will always have a notched hex nut. On pin-lock kegs the liquid post has 3 pins, while the gas post has 2. A *poppet* is inserted into the post before it is threaded snug onto its corresponding port. The posts also possess an O ring that provides a seal between itself and its corresponding quick disconnect fitting. The **grey** quick disconnect is for gas (IN), and the **black** quick disconnect is for liquid (OUT).

Poppets (2)

A poppet is a very small device that is basically a small plug with an o-ring on a spring. The spring compresses as the post is tightened down creating a seal until a quick disconnect is engaged. One per post.

GETTING YOUR SYSTEM UP AND RUNNING

You want assemble your system and check all components for leaks before use. This is very simple to do. If your CO2 tank is empty, make sure you get it filled before undertaking these procedures. You can get your tank filled most commonly at fire extinguisher service outlets and welding/gas supply companies.

**A NOTE ON SAFETY: YOU ARE DEALING WITH A HIGH PRESSURE GAS. ANY CYLINDERS AND ALL RELATED EQUIPMENT SHOULD BE HANDLED WITH CARE. MAKE SURE YOUR CO2 TANK VALVE IS SHUT OFF BEFORE ANY DISASSEMBLY AND REPAIRS OF OTHER DRAUGHT SYSTEM COMPONENTS. SERVICING A HIGH PRESSURE GAS CYLINDER ITSELF IS DANGEROUS AND BEST LEFT TO CERTIFIED PERSONNEL WITH THE PROPER EQUIPMENT.*

Assemble the gas side of your system. Hook up your gas line to the barbs on your grey quick disconnect and low pressure outlet on the regulator and affix each connection with an appropriate sized clamp. Worm (gear) hose clamps, or stepless crimp-able hose clamps work fine, whatever you prefer. If you are using 3/16 I.D. tubing on 1/4 inch barbs, a small portion of boiled water can be used to soften the tubing for application. If you have chosen to utilize threaded flare fittings on your gas side, attach your tubing to the barbs on the female portion of these fittings with appropriate clamps, then thread them onto the male portion on your regulator and grey quick disconnect with any necessary gaskets. Once assembled, hook up your regulator to your tank. Your regulator (should have) came with a white nylon washer that fits inside the large female threaded nut on the high pressure inlet of your regulator. This washer provides the seal between the tank and regulator. **You need this washer to seal this connection!** Some regulators do have a permanent o-ring for this seal, but not all. Make sure the appropriate washer is in place and thread your regulator onto the male threads on your CO2 tank valve. Don't over tighten, just snug with an adjustable wrench is fine.

You are now set up to check for leaks on the gas side of your system. Turn your CO2 tank on by turning the valve on the top counter-clockwise (to the left) to allow gas flow to the regulator. You will turn this same valve clockwise (to the right) to shut the tank off when needed. Once turned on, the needles on your regulator gauges will position themselves where the regulator is currently set to. If your regulator's low pressure outlet is equipped with a shutoff valve, open the valve handle to pressurize the gas line (position handle parallel to the gas line for Open, whereas Closed is perpendicular to the gas line direction). If your regulator is not equipped with a shutoff valve at the low pressure outlet, your gas line will have been immediately pressurized when the tank was turned on, given the regulator is set above 0 psi. You adjust the regulator pressure using the bonnet, the center most portion of the regulator. To adjust, use a flat head screwdriver to tighten or loosen the adjustment bolt on the bonnet or, some regulators may be affixed with a hand operated plastic bonnet for adjustments. Regarding a

metal bonnet, there is a nut on the adjustment bolt which you will need to loosen off before setting a new pressure, and can be tightened back down hand tight after the pressure is set. You increase pressure by turning the bolt clockwise, and decrease pressure by turning the bolt counterclockwise. Increasing pressure will be noticeable on the low pressure gauge as you turn the bolt, but decreasing pressure won't decrease the gauge measurement without the gas line being vented. This can be done by having the gas quick-disconnect on the IN port of a sealed keg and using the lid pressure relief valve to vent gas, or simply push the needle (nipple) inside the grey quick-disconnect with your finger to vent gas out of the line.

Turn your regulator up to roughly 20-30 psi. Higher pressures will make it easier for you to detect leaks, if any. Any audible hissing from any one connection is the sign of a bad leak. Turn off your CO2 tank, detach this connection and assess the situation checking tubing size compared to barb size, clamps & tightness, gaskets, threading, etc. Once any audible leaks are assessed and repaired, continue on to check for smaller leaks. Prepare some soapy water. With the CO2 tank on and gas side pressurized, use a cloth or sponge to apply this suds to any and all connections from the tank valve all the way to the quick disconnect. Any connections where the suds applied is creating a growth in bubbles, you have a leak. Assess the leak in the same way as mentioned for audible leaks and correct the problem. With proper tubing, clamps, and quality equipment you should have no leaks on your gas side. Once any leaks are corrected, you can move on to test your kegs for leaks as well.

** Make sure your keg is assembled with all the correct o-rings. Keg lube, a food grade petrol or silicone gel, will help ensure leak free seals and longevity of all o-rings. A little goes a long way. With your tank on and regulator set to 20-30 psi, connect your grey quick disconnect to the gas IN post. You will hear hissing as the gas fills the keg, this is normal. Run this pressure into the keg for 10-15 seconds then disengage your grey quick disconnect. Apply soapy water suds to all connections and seals; the lid o-ring, pressure relief valve (PRV) if equipped, poppets and posts. Look for any growth in bubbles, and assess and repair any leaks. Sometimes this can require new o-rings or replacement parts. Repeat this process on any other kegs to ensure your draught system is leak free in regards to CO2. Once your leak assessment is over, thoroughly wipe/rinse any soapy suds off your draught system connections.

When it comes to leaks on the liquid side, they are much less common. Also, they are much more noticeable as liquid will escape from any bad seals, whereas gas is invisible. Again, proper tubing & barb size, correct clamps & o-rings and quality equipment should leave you free from any leaks. To test for liquid leaks, or to just simply run a wet test on your system, you need to assemble your beer line. Hook one end of your beer tubing up to the barbed end of your black quick disconnect, the other to the barbed end of your faucet assembly with appropriate clamps, again using hot water to soften any tubing if necessary. If using flare fittings, attach the tubing to the barbs on the female portion followed by threading onto the male portion with any necessary gaskets in place. If you are using a 'picnic-style' thumb faucet, it is as simple as connecting the hose directly to the barb on the faucet. With a plumbed shank and faucet assembly, or beer tower, the beer line connects to the tailpiece of this assembly. The tailpiece is attached to the shank by means of a "beer thread" hex-nut, with a "beer washer" to seal, after the shank has been mounted to the fridge/tower. To mount the shank requires a 7/8 hole to be drilled through your refrigerator door or keezer collar at the area of your choosing. It is held tight and flush to the surface by means of a shank flange on the outside of the fridge, and a hex nut on the inside of the fridge. A beer tower's shank is plumbed through the tower wall, but will have the necessary hole drilled and potentially be already fully assembled. If doing a mini fridge conversion with a beer tower, a hole needs to be drilled through the top of the fridge to run the beer line inside, followed by mounting the tower on top. Once your setup is assembled, you can attach the faucet to the shank. A small o-ring on the inside of the faucet body makes the seal between the shank and faucet, mounting flush to the portion of the shank on the outside of your fridge/tower. A round, commonly knurled, swivel nut will thread onto the male threads of the faucet body. Tighten snug with a *faucet wrench*, a necessary tool.

A note on drilling: You are safe drilling a hole through your refrigerator door, as no refrigeration lines or wiring run throughout the door. Know the schematics of your fridge if you are drilling any holes through a fridge wall or roof where refrigerant lines run, as puncturing a refrigerant line will render your refrigeration unit useless. A '*keezer*' is a popular choice for a custom build because of the wooden collar raising the lid. The collar

allows for worry free drilling and mounting of shanks and potential gas entrance lines. Your freezer lid is also safe to be drilled through if going with a tower build for a keezer.

Now that your beer line is assembled, you can test the liquid side of your system. Pour about a pitcher or so of water or no rinse sanitiser (properly diluted) into a clean, leak-free keg. Replace the lid. With your tank on and regulator set to 20-30 psi, hook up your grey quick disconnect to the gas IN post. You will hear hissing as the gas fills the keg, this is normal. Run this pressure into the keg for 10-15 seconds then disengage your grey quick disconnect, you are only looking for enough pressure to push liquid at this time. Connect your black quick disconnect to the liquid OUT post. You should see a shot of liquid fill a portion of the beer line. Firmly yet gentle, open your faucet fully to pour. A partially open faucet restricts flow in a way that causes foaming. Pour for about 5 seconds, catching the liquid coming out of your faucet in a container. Fully shut your faucet, again firm yet gentle. Your system is now fully charged with liquid. Inspect all liquid connections for leaks from the corny keg post all the way to the point of dispense. Assess and fix any liquid leaks, but, again, with proper equipment and setup you should be leak free.

Now that you have fully assembled and assessed your draught system and your keg(s) and gas & liquid components are leak free, you are ready to start filling, carbonating and serving your delicious beer!

If you don't have anything ready to be kegged, go brew!

FILLING AND CARBONATING KEGS

Once all the cleaning and leak testing is done, and you've familiarized yourself with your setup, filling and carbonating is easy. There are many approaches to homebrew carbonation. I will describe a tried and true method that is low hassle and allows for a quick turnover. No shaking or rolling of kegs, it's as simple as set it and forget it..for 48 hours.

This method works with homebrew stored at ambient temperatures. As mentioned, beer accepts the CO2 gas more readily when it is chilled, but once the keg is full, the beer will be put under refrigeration, thus beginning the cooling process... basically there is no need to pre-chill your brew.

Beginning these instructions, it is assumed you have a basic knowledge of brewing sanitation and siphoning techniques.

1) Start with a clean, sanitised and assembled keg. Remove the lid from your keg.

2) Begin siphoning your beer into the keg. Have your siphon tubing reach the bottom of the keg to avoid unnecessary aeration.

3) Using the top body weld as a guide, fill your keg to this line. This will keep the beer level just below the gas diptube, and leave enough headspace to efficiently carbonate. Once your keg is full, remove your siphon hose and set it aside with your now empty fermentor for cleaning.

4) Replace the keg's lid, and if equipped, make sure the pressure relief valve is closed.

5) Turn on your CO2 tank and set the regulator to 30 PSI.

6) Hook up the grey quick-disconnect to the gas IN plug. The gas will hiss as pressure is built up in the keg, this is normal.

7) Vent your keg a few times by pulling the pressure relief valve, allowing gas bursts to exit the keg. If your keg is

not equipped with a PRV, you will have to unhook the grey gas quick disconnect and push on the gas post's poppet with a sharp object to vent, then re-connect your grey quick disconnect to the post. Repeat this a few times. This will remove any oxygen from the keg and allow the environment in the headspace to be pure CO2. Hissing will continue until the keg has reached the set pressure.

8) Place your keg in your refrigeration unit with the gas still hooked up. Let it sit at 30 psi for 48 hours.

9) After the keg has been carbonating for 48 hours, make sure to return to lower the pressure. If you leave the keg at this high pressure it will over-carbonate! Loosen the adjustment bolt on the regulator bonnet a few good turns. Vent the keg pressure, you will see the needle on the low pressure gauge drop. Continue to loosen and vent until the pressure reaches roughly 10 psi. Slowly tighten the bolt to have your final balanced pressure be **12 psi**.

Carbonating with these pressures will leave you with a beer at ~2.7 volumes of CO2. 2.4 to 2.7 volumes of CO2 is the carbonation range of typical north american ales and lagers. Some beer styles will request a higher or lower amount of CO2 volumes. These can be achieved using different pressures. This method of carbonation is somewhat of a rush method, carbonating the beer in just 48 hours. You will notice as well that the beer may not be at it's peak carbonation after this 48 hour period and will gain a bit more carbonation before it balances out to the now lower set pressure. With any beer, it will be served at what is known as the Equilibrium Pressure (EP), in this case 12 psi. This EP is where CO2 delivery has reached a balance, or equalized, with the beer, keeping the right amount of CO2 in the headspace to keep the beer flow and carbonation consistent throughout it's dispensing period. This EP can be set at the beginning of carbonation procedures, but will take much longer to reach it's peak, roughly 1-2 weeks. That being said, any pressure can be set, and the beer will reach equilibrium with that set pressure over the course of the same time. In this method, we are rushing the process somewhat to bypass some of the waiting process, doing in 48 hours with 30 psi what 12 psi may take ~7-10 days to accomplish. As mentioned, if left at 30 psi too long the beer would just continue to absorb CO2 with a goal of reaching EP with a set pressure of 30, leading to a very over-carbonated beer.

Charts are available to determine what EP is depending on the temperature of your beer and desired volumes of CO2. The carbonation method above has simply chosen a standard carbonation level which works great for many different beers.

10) You now have draught beer at home! Pour a pint!
When pouring draught, you want to ***fully open*** the faucet.
Partially open faucets will cause flow agitation leading to unnecessary foaming.

A note on foam: ***Temperature is the number one cause of foamy beer at the faucet!***
A few degrees apart from the keg to the faucet can make a difference in pouring quality.
Here's a few things to keep in mind regarding temperature:

-A freshly installed system will pour foamy if its beer line is still at room temperature or hotter. The beer line will take time to chill down to refrigeration temperatures, so keep this in mind.

-With a 'shank through the door' setup the beer line will already be on the inside, staying cold as you carbonate your homebrew. Pouring a freshly carbonated brew with a picnic tap setup that is not chilled can lead to some serious foam at first. Toss your picnic tap setup in the fridge while you carbonate, so it's chilled and ready when you're ready to start pouring.

-Beer towers. The portion of the line inside the tower itself is technically not under refrigeration. Towers are insulated, and cold air from the fridge traveling to the tower is usually efficient enough to cool the line, but keep in mind there will be a difference in temperature from the line contained inside the fridge versus the line contained inside the tower. If you are noticing persisting foaming issues in this regard, remedies exist. A small cold water pump inside the fridge can pump water through a line in contact with the beer line in the tower and circulate back as a closed system, constantly running to keep things chilled, or an impeller blower (fan) can be installed to blow more cold air into the tower.

LINE CLEANING

Line cleaning is a very important part of a well maintained draught system. Line cleaning should be done, by industry standard, every two weeks, but at least observed once every 30 days. At the homebrew level, a line is most commonly cleaned when a keg empties. This involves little extra work on top of regular keg cleaning procedures. What follows are "clean-in place" line cleaning options. If your system is equipped with flare fittings on all portions of the liquid side, you can easily disassemble the entire system for cleaning, and reassemble once complete.

Here are some common line cleaning options:

(1) CO2 and an Empty Keg

This method does utilize CO2.
If you would rather conserve your gas, other options may interest you.

-Fill an empty keg (if freshly emptied, make sure beer residue is rinsed) with about a litre or so of a properly diluted solution of PBW.

-Replace the lid, and pressurize the keg with some CO2 for about 5-10 seconds.

-Connect the beer line and open the faucet, running the cleaner through for a few seconds as if you were pouring a beer.

-Close the faucet and disconnect the beer line from the keg.

-Let the cleaner sit in the line for about 10-15 minutes.

-If you have a faucet other than a picnic tap, while you wait, remove the faucet from the shank with your faucet wrench, disassemble, clean with PBW, rinse well, reassemble and reattach to the shank.

-Rinse the keg of the cleaning solution (you can of course use this solution to clean the keg as well) and repeat the same above procedure with 1-2 litres of hot potable water to efficiently rinse the line and faucet. No need to let the water sit in the line, and you can run it right until the keg is empty, which will blow any remaining CO2 pressure through the line effectively removing the water.

(2) Line Cleaning Kit and an Empty Keg

This method utilizes a 'line cleaning kit' that is available for purchase through many retailers. The vessel is a ~1L plastic container with a hose and hand pump attached. The container holds the cleaning solution that is pumped through the line. This kit adapts to shank assemblies and is not compatible with picnic tap setups. Similar kits exist that utilize a funnel and gravity instead of the pump.

*If a keg has just emptied when you decide to do your cleaning, detach the grey gas quick disconnect from the keg. Leave the black liquid quick disconnect attached.

*If you are using a spare empty keg to do the cleaning, detach the black liquid quick disconnect from the keg currently being served and attach it to the empty keg being used for the cleaning.

-Relieve any excess pressure from the 'cleaning' keg, remove lid.

-Remove the faucet from the shank with a faucet wrench and set it aside for cleaning.

-Apply a small amount of keg lube, no rinse sanitiser or water to the O ring in your line cleaning kit. This will create a nice seal between the cleaning adapter and the tower shank.

-With the O ring in place, hand thread the cleaning adapter on the end of the line cleaning kit hose into the shank where you removed the faucet from. Tighten the connection just snug with a faucet wrench.

-Remove the pump head from the line cleaning kit and fill the kit vessel with a properly diluted solution of PBW. If you are mixing up the PBW just for the cleaning, add 1 tsp. of PBW to the vessel, fill with hot water and mix well to dilute the powder.

-Re-attach the pump head to the kit vessel. Apply a few pumps with the hand pump to start the flow of cleaner down the line. The cleaner may slowly continue to drain into the keg until the vessel is empty, or slow to a stop before the vessel is empty depending on how much pressure you applied when pumping. Either is fine.

-Allow the cleaner to sit in the line for 15 minutes. During this time, disassemble the faucet and clean it with some PBW solution and a brush. Rinse well and reassemble.

-Once the 15 minutes is up, pump any remaining cleaner through the line and into the keg until the vessel is empty.

-Remove the pump head from the vessel. Wipe the hose that was in the vessel to remove any residual cleaning solution. Rinse the vessel out thoroughly with hot potable water, and fill it with hot potable water once rinsed.

-Reattach the pump head to the vessel and apply the same pumping motion to begin the flow of rinse water through the line and into the keg. You can pump until the vessel is empty. A full vessel of water is enough to rinse the line efficiently and does not need to sit in the line. Once empty, pump a few more times to send some air through to dry the line.

-Using a faucet wrench, unthread the cleaning adapter from the shank and rethread the clean and reassembled faucet back onto the shank, tightening snug. Unhook the black liquid quick disconnect from the 'cleaning' keg and set this keg aside for cleaning.

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This article is meant to outline basic knowledge and procedures to help you succeed in your early draught endeavours. Options for creativity are by no means off limits regarding building, operating and cleaning your system. Options for expansion exist such as adding multiple faucets to your system, utilizing specialty faucets and gas blends, running multiple gas pressures to dispense unique beers accordingly and even running glycol decks to cool beer lines and towers instead of refrigeration. The more complex a system gets, the more demand that is required to make sure needs are met for properly storing, carbonating and dispensing kegs, and of course keeping your system well maintained and clean. For example, the cleaning adapter mentioned above can be used along with an electric pump setup to recirculate cleaning solution and rinse water through your system, even servicing multiple shanks strung together in series. Like many other aspects of brewing, you make the rules and there's alway's room for creativity. Do your research, use quality materials, keep sanitation in mind and you will be on your way to serving great beer in no time!