

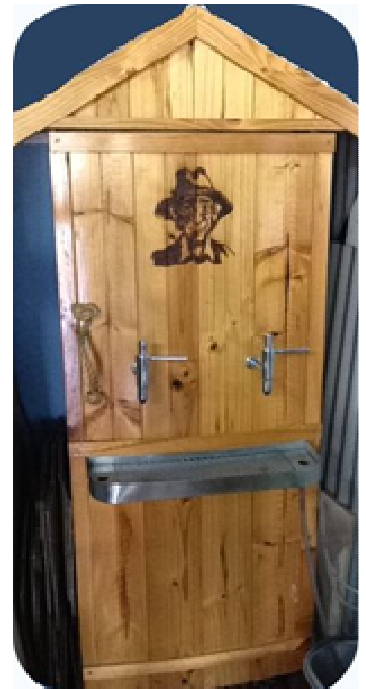
Constructing and using your Keg System

What you will need

Country Brewer Keg System Package: The Country Brewer offers several different Keg System packages ranging from a basic entry level package that incorporates a single E.K. Swing tap through to dual tap systems using Snaplok® fittings with a choice of E.K. Swing, Floryte or Brumby taps.

Fridge: Like bottled beer your kegs will need to be kept cold. You will need a fridge that has a large enough internal size to comfortably fit two 19L kegs (kegs may vary in size but most are approx. 64cm high and 22cm wide). Bar fridges are usually too small to do the job.

CO2 Gas Bottle: Carbonating and dispensing your beer is done with the use of compressed Carbon Dioxide (CO₂) gas. You can purchase CO₂ gas cylinders and refills in both 2.6 and 6kg from participating Country Brewer outlets. Alternatively, you can rent CO₂ bottles from most gas suppliers like Supagas or BOC.



Component Descriptions

Kege: The kegs used in this system are made of stainless steel with a hatch cover for ease of cleaning and filling. They include gas in and beer out valves as well as a safety release valve. The different posts can be identified by observing the base of the post where a spanner can be used to turn it. If there is a horizontal groove on the base of the post, it is a gas post (Groove for Gas). If there is no groove it is a liquid post.

Regulator: A full CO₂ bottle will hold a pressure of approximately 800 psi (pounds per square inch) 5600 kpa, that's a bit more than the 10 psi/70 kpa that's needed to run this system, so a regulator is a must. The regulator screws onto the gas bottle and reduces the pressure to safe levels. There is usually one gauge on the regulator, which shows the output pressure (keg working pressure) that can be set by turning the nut on the end of the regulator using the key supplied or via the adjustment knob (depending upon the brand of regulator supplied). Some regulators are fitted with a second gauge that shows the pressure within the CO₂ cylinder itself. Using the residual pressure in the cylinder as shown on the gauge is not a reliable way of determining how much gas you have left. The best way to estimate how much CO₂ is left in the bottle is by weight, not pressure, so make a habit of weighing your bottle when you first get it. The bottle will be weighed and stamped when empty.

Disconnects: Hooking your keg up to your system is done via ball lock (snap lock) disconnects. One is designed to fit the liquid post (output) of the keg; it is black in colour (Black for Beer). The other is designed to fit the gas post (input) of the keg; it is grey in colour (Grey for Gas). Both disconnects work on a similar principle to your standard garden hose fittings; they click on and click off for easy connection and disconnection of the beer and gas lines from the keg.

***** Never attempt to force a gas disconnect onto a liquid post or a liquid disconnect onto a gas post. The fittings are subtly different and you will end up jamming or even breaking the disconnect.**

Preparing the Fridge

The wiring systems and cooling systems will vary from fridge to fridge so take care when drilling any holes in your fridge. It is a good idea to turn the fridge on and let it run for 30 minutes or so before installing your keg system. This will assist you in locating any coolant tubes that may be in the wall of the fridge. Select the point that you want to drill a hole to pass the gas line through from the regulator. Whether you choose the side or back of fridge is up to you. Feel that point with your hand. ***If it is warmer than the surrounding area, choose another location, there's a good chance that there is a coolant tube under there!***

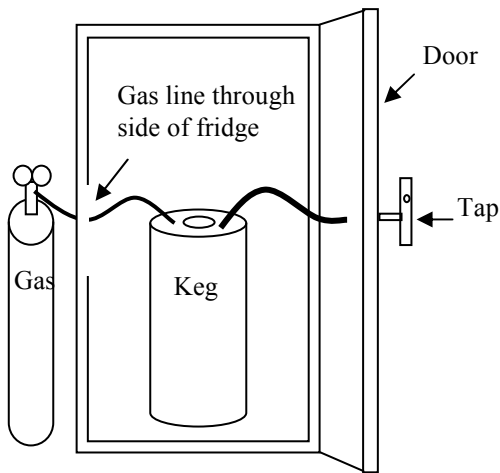
***** Before going ANY further, ensure that the fridge has been disconnected from the power!**

Now it's time to drill a small hole at the location you have chosen for the gas line. Try and use a drill bit just large enough to allow the gas line to fit snugly through hole. Before sealing gas the line make sure there is sufficient length of line to reach out of the fridge (eg 2 metres). This will make handling kegs for purging a lot easier.

If your keg system has a beer gun it's just a matter of cutting the beer line to a length that suits you and attaching the gun to one end of the line and the beer disconnect to the other. The length of line should be between 1.5 and 2 metres long. If your system has a tap, there are more holes to be drilled. As stated before, take care when drilling. The position of the tap is your choice again. If putting the tap on the door of the fridge, make sure there is enough beer line so that the door can still be fully opened.

If deciding to put the tap on the door, when you tighten the back nut it may collapse the interior of the door. We have found a small length of PVC pipe pushed over the shank of the tap allows the tap to be tightened so that it is secure, without damaging the interior.

Feed the gas hose through the fridge wall. The gas line fits onto the barbed shanks fittings on the Gas disconnect and regulator and is fastened with the use of the supplied *Cobra Clips*. Thread a cobra clip onto the gas line and push the gas line over the barbed shank on the disconnect (you may need to dip the end of the tube in a mug of hot water to soften the line). Leave a slight gap between the end of the gas line and the base of the barb. Now, using a pair of multi-grips or pliers, close the cobra clip around the line and barb. Follow the same procedure for attaching the liquid disconnect, tap and regulator.



Filling the Keg

Ferment your beer in the normal way. Once fermentation is completed it is time to clean and sterilise the keg. There are a number of cleaners/sanitiser you can use for your keg, including Country Brewer Liquid Sanitise or PSR (we recommend the use of Country Brewer Keg Cleaner to clean dirty kegs). These cleaners are used the same way that you would sterilise your bottles. The transferring of the beer to the keg is as simple as racking directly into the keg via the racking tube supplied.

Ensure that the racking tube fits neatly into the fermenter tap and that the

other end reaches the bottom of the keg. Open the tap on to the fermenter.

You will notice that there is a tube in the keg running from the top of the keg to the centre of the bottom. This is called the *Dip Tube*; this is how the beer is drawn from the keg. There is also another tube that is quite short in length. This is the CO₂ inlet, where the CO₂ is injected into the beer.

Your keg should be filled to approximately 12-25 mm (1/2 to 1 inch) from the bottom of this tube.

Now that the keg is full replace the hatch cover and move keg to the fridge. Assuming your gas line was cut to length, it should be long enough to reach outside the fridge so you can connect it to the gas line. Turn the regulator on, set the output pressure on the regulator to between 10 and 15 PSI and connect the gas line to keg.

What you have to do now is purge the air from the headspace of the keg and replace it with CO₂. This is done to protect the beer from oxidisation. By lifting the pressure release valve the CO₂ will flow into the keg and the air will flow out through this valve. This is called *burping* the keg and is best done in three short bursts.

Depending on the clarity of the beer you can either go straight to carbonating the keg or if the beer is cloudy you can let it stand and settle for about a week and then carbonate.

Carbonating

The absorption of CO₂ into your beer can depend on many things, most particularly the temperature of the beer, the pressure at which it is applied and the length of time pressure is applied. The CO₂ will be absorbed at a faster rate when the beer is cold (the beer will not absorb gas at room temperature) so if you apply 31 PSI(220KPa) continually for two days under normal refrigeration temperature your beer should be ready to try. We have found that two days at this pressure gives the correct carbonation. Depending on personal taste you may like more or less so there is some trial and error to find what is best for you. (eg. For an English type Bitter you may prefer a lower rate of carbonation but on the other hand you may be making a German Weizen which would be more effervescent so again the rate of carbonation is up to you).

Dispensing

Now for the good part, pulling that first beer.

First reduce your keg from carbonating pressure to dispensing pressure. Do this by turning the knob on the regulator in an anti-clockwise direction, if the pressure doesn't come down as you turn the knob you may have to vent the keg using the safety relief valve to release the excess pressure. A suggested dispensing pressure is 10 psi/70KPa. Even though the beer that you kegged may have been clear you will still get some sediment at the bottom of the keg, so the first glass may be not what you expected. We suggest pulling a couple of glasses through until it clears. Whether using a gun or a tap always dispense with it fully open, if it's used part way opened you will end up with all froth and no beer. Dispensing, like carbonating, can be trial and error. Plenty of practice will see your right!

Having installed a keg system in your own home you have come a long way from the teaspoon of sugar in a long neck, and it should give you many years of enjoyment.

***** To convert PSI to KPa multiply $PSI \times 7 = KPa$**

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