**PACIFIC NORTHWEST HOMEBREWERS CONFERENCE**

**Brewing and Serving Cask-Conditioned Ale at Home**

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**What is Real Ale?** The Oxford English Dictionary defines real ale as “draught (or bottled) beer brewed from traditional ingredients, matured by secondary fermentation in the container from which it is dispensed, and served without the use of extraneous carbon dioxide”.

**Why brew cask-conditioned ale?** For many reasons, the most important of which is taste. The intrinsic nature of cask ale enhances the fruity, estery characteristics of beer brewed with ale yeast, and the serving temperature and lower carbonation allows the malt and hop flavours to come through. The level of carbon dioxide is lower than in typical Belgian, German, (and now American) ales, which doesn’t interfere with the flavour of the beer. Also, because a lot of real ale is session strength (meaning it is drinkable over an extended period of time (or “session”), you can drink more of it without feeling full from the carbon dioxide. Cask ale is typically served at a higher temperature than keg beer, so the nuances of malt and hop flavour are better able to be appreciated. It’s not warm and flat, as has been the perception, but rather served at cellar temperature, usually 50 to 55 degrees Fahrenheit (around 10 to 12 degrees Celsius). The best beer is fresh beer, and you won't find a fresher beer than cask-conditioned ale, where no filtration or artificial carbonation interferes with the flavours of malt, hops, and yeast. Brewing and serving cask-conditioned ale is another way for homebrewers to explore different ways of brewing and serving beer. If you are already kegging your beer, it is another step you can take to serve English beer styles as they were intended to be served. Most people get a kick out of trying beer served from a beer engine. Another aspect of cask ale is the acknowledgment of the history and tradition behind real ale. The current trend in brewing seems to be about pushing the boundaries of beer, while real ale is more about heeding the history of brewing in England for the last several centuries. This does not mean you are or should be restricted in your recipes, however. Indeed, many craft breweries in England are exploring new ingredients and styles of beer served cask-conditioned. I think as homebrewers, we are all interested in spreading the word about great beer. We have a duty to be evangelists for our cause. I could go on and on about how wonderful cask ale is, but in the end, it is up to each individual drinker to decide for themselves whether they prefer it. What is important is that people get that opportunity. Right now not enough breweries and pubs produce and serve cask ale.

**History:** In a broad sense, all beer used to be cask-conditioned. Before the advent of forced gas carbonation, all beer was served from a cask, keg, or bottle in which it had naturally carbonated. Before the handpump was invented at the end of the 18th century, in England beer was served from casks via gravity into jugs where it was distributed to customers by the staff. The common understanding of real ale, however, is that brewed by traditional British breweries and served in the pubs in England by handpump, also known as a beer engine. It is a manual pump that uses suction to pull the beer out of the cask and into the glass.

**What Styles Benefit?** Ales, primarily, although cask-conditioned lager is not unheard of. Typically English styles are the ones associated with real ale, although I have made and enjoyed many American-style ales served from a cask, such as American pale ale, American IPA, and brown ale, and they benefit as much as the usual bitter, mild, brown ale, etc. My favourite style is best bitter, because it is a great session beer with enough body and flavour to keep it interesting. The blend of juicy malt and tangy hops creates a “moreish” beer, which makes you want to keep drinking more of it. Pale ale, bitter, mild, brown ale, porter, stout, and India Pale Ale are all wonderful when cask-conditioned.

**Are There Drawbacks?** There are two disadvantages to cask-conditioned ale. The first drawback is the shorter storage life. Cask beer has a smaller window of peak condition than keg or bottled beer, but the advantages are that when it’s right it can be better than any other type of beer. The shelf life can be extended with the use of a cask breather, a device that doses out co2 from a tank at atmospheric pressure, replacing the beer drawn from the cask or keg with a blanket of co2, rather than exposing it to air, which will of course oxidise and ultimately spoil the beer within a matter of a few days. As a brewer and drinker of real ale, I’m constantly in a quest for the perfect pint. It is what drives me. The other “drawback” is the work involved in cellaring and serving the beer. Cellarmanship is an important part of serving cask-conditioned ale (I use quotes for the word drawback because although it takes more time and care to store and serve real ale, it is part of what makes it special and is a rewarding part of brewing). Whereas most other types of beer are brewed to be highly stable after they leave the brewery, cask-conditioned by its nature is still alive, and care must be taken to ensure that it is kept and served in the best condition. Good cellarmanship involves continual monitoring and tasting of the beer, as well as venting the casks at the right time and for long enough to release excess pressure without allowing the beer to go flat and lose all of its condition. Learning how to bring the beer up to the right level of carbonation and serve it at the peak of its flavour is more of an art than a science, because every recipe calls for different treatment. Balancing the level of yeast attenuation and building up and releasing the pressure to achieve the right level of carbonation depends on the malts and hops used and the final gravity, so that the malt and hops come through as the brewer intended with the right carbonation.

**What Equipment Is Needed and Where Can You Find It?** Obtaining the authentic equipment needed to serve real ale requires about a $300 to $600 investment: Beer engine – can be found second-hand on ebay.com or ebay.co.uk starting around $100, or purchased reconditioned at UK Brewing Supplies ([www.ukbrewing.com](http://www.ukbrewing.com)) starting under $400; Stainless cask - firkin or pin, $100 to $150, cask breather - $50+, both available at UK Brewing or from websites in England for less. Alternatively, homebrewers can use a corny keg as the cask, either on its side for gravity dispense, or upright and the beer drawn out with a hand pump. Another idea for larger groups is to use a corny on its side or a pin, and gravity dispense. One idea is for a club to purchase the equipment for its members to use on a rotating basis. This may be a good solution for those interested in trying to brew real ale but are unsure if they will want to continue long term. Also, it gives brewers flexibility in serving real ale for special occasions. I, for one, would be willing to lend my casks out to fellow brewers to try out for a refundable deposit. If you’re interested and in the Olympia area, or are willing to travel, please get in touch.

**What Are The Basic Procedures For Producing Real Ale?** Although most real ale is still brewed using traditional British methods, there is no requirement that the ale be brewed in any particular way. The classification as real ale has more to do with the way the beer is treated after primary fermentation. Instead of being racked, or transferred, to another fermenting vessel for conditioning, the beer is moved from the primary fermentation vessel to a cask, where it undergoes the final steps of fermentation, creating the natural carbonation found in real ale, as well as clarification, and in the case of most bitters and IPAs, dry-hopping (dry hops added to the cask for added aroma). Therefore, you may brew as usual until primary fermentation is complete, then either rack directly to the serving vessel if it is a session-strength beer, or rack to a secondary if a higher gravity beer (say above 1.050), and then rack to the serving vessel. The goal is to put it into the serving container, whether it is a cask or a corny keg, when the specific gravity is about 2 points higher than the final gravity. This is guesswork if it is a recipe you have not brewed before, but experience helps. The only downside to getting it wrong is to either have too much carbonation or not enough. Giving it more time or adding primings can help bring up the level of carbonation, venting it can solve the problem of too much condition. A week is usually the minimum to build up the carbonation and to allow the green beer to mellow, more time is required the higher the strength of the beer, mainly for maturation purposes. 7 to 10 days is almost always enough for achieving carbonation, provided that the headspace was correct. For beginners, one sure-fire way to get the right condition in the cask or keg is to let the beer ferment out all the way in a secondary, and then prime the beer when racking to the serving vessel. One thing none of the books mentioned when I was starting out is the importance of the headspace to the condition of the beer. If there is not enough headspace the beer will not carbonate properly, and too much will tend to cause over-conditioning and you also risk oxidation from having so much air in the container. I like to have about 2 to 3 inches of headspace in the top of a corny keg or about the same distance between the shive on a cask and the level of the beer. Your experience may vary, of course, and some homebrewers do not believe that the amount of headspace affects the level of carbonation, but our experience definitely indicates that it does. I have asked many people about this phenomenon, and no one has been able to satisfactorily explain it, including physicists and chemists. Commercial breweries typically use finings but homebrewers should be able to avoid this step because the beer doesn’t have to be moved after it is racked into the corny keg or cask. Serving procedures can vary from simple gravity dispense to the use of a handpump. Also, whether or not to use a cask breather is an issue that you need to address when starting out. If you want to be able to serve the beer for longer than 3 to 5 days, a breather is necessary to prevent oxidation. CAMRA's current position is that no beer served with a cask breather is allowed entry to the Good Beer Guide, but this is the wrong stance to take. For pubs with low turnover and homebrewers wishing to serve real ale, the use of a cask breather is necessary and in no way detrimental to the quality of the beer. In fact, it keeps it fresher and no doubt there are pubs in England who use it with great success, and others who would benefit from its use. A taste test conducted by the Cambridge and District CAMRA branch concluded that there was no discernable flavour difference in cask beer served with and without a cask breather. There are lots of other issues you can get into, the use of sparklers or not, and the use of soft and hard spiles for controlling the condition of the casks. Cask-conditioning has its own terminology and the art of cellarmanship is a complex area unto itself.

**Serving Real Ale:** The method of dispensing the beer is the most important aspect of real ale. Because the beer has a lower level of carbonation that naturally occurred from the end of fermentation, the ale is not gassy enough to push itself from the cask to the drinker's glass. Therefore, cask-conditioned ale is either served via gravity (meaning that gravity is used to fill the glass) or via a "beer engine", a mechanical handpump that pulls the beer from the cask to the glass. Most pubs in England have one or more beer engines, and some brewpubs and beer bars in the U.S. have them too. The pubs in England display Brewery badges (called pumpclips) for each beer they are currently serving via beer engine, displayed on the handpump handle to identify each beer. I have collected more than 900 different ones from English breweries. The appeal of real ale over other types of serving methods lies in the way that the subtle flavour of the beer comes through when the temperature and carbonation level allows more of the taste and aroma to be enjoyed. Real ale, without the extra carbonation, can be enjoyed in a greater quantity in one sitting, and the alcohol content usually (although not always!) reflects this. I have strong feelings (as do many other cask ale enthusiasts) about the use of swan neck nozzles and sparklers in the serving of real ale via handpump, or beer engine. Handpumps can be fitted with either a short, straight nozzle or faucet or with a swan neck nozzle, which is an inverted U-shape for agitating the beer on dispense. Further, either nozzle can be fitted with a sparkler, a small plastic device that is threaded onto the end of the faucet and which contains tiny holes that the beer is forced through, creating bubbles by driving the co2 in solution into the beer and creating a frothy head that is enjoyed mainly by beer drinkers in the north of England. Cask ale in the north of England is generally more malty, less hoppy, and served with a large head of foam created by the swan neck and the sparkler. I find this quote from the Craft Brewing Association in England to be helpful, and totally agree with its sentiments: "It can't be emphasised enough that you should use the correct beer engine for the style of beer. Beer engines have two styles of neck, the swan neck and standard neck. Swan necks do untold damage to beers with a flowery hoppy aroma knocking the aroma out of the beer. The second feature which affects the beer is the sparkler. Sparklers force the beer through many small orifices producing a tight frothy head on the beer. Northern style beers (eg Tetley) should be dispensed through beer engines with a swan neck using a sparkler and produce an excellent pint that way. Southern style beers (eg Fuller's London Pride) should NOT be dispensed via a swan neck and certainly not through a sparkler. The result of this is of course, that Southern beers are not served with a head. Southern beers served in the northern manner are lifeless travesties of beers, whilst served in the proper manner they are a revelation, a wholly different beer. So the moral is get the beer engine appropriate to the style of beer you have brewed."

**About British Casks:** There are two openings, one called the shive, on the side, or the belly, of the cask, for racking the beer into (and dry-hopping), and later venting off excess co2, and the other is the keystone, which is on one of the flat ends (the "top dome" of the cask), where the tap is driven in for drawing off the beer via gravity or a handpump. There is no mechanism for injecting gas, as the beer is casked in order to produce its own natural carbonation. Firkins, pins, kilderkins, hogsheads, etc. are all different sizes of traditional British casks, based upon the 36 gallon UK barrel.

**Conclusion:** For homebrewers new to real ale, I urge you to try brewing and serving it. We share this wonderful passion for great beer, and in my opinion, cask-conditioned ale can be the pinnacle of great beer. One tip I will give you is keep experimenting. One cask I tapped recently wasn’t carbonated enough and still had too much malt sweetness. After leaving it for another week, however, the yeast attenuated out just that little bit, dried out the sweetness, and the carbonation level came up, and it was a perfect pint, as good as the best I had on any of my visits to England. To learn more about real ale, visit [www.camra.org.uk](http://www.camra.org.uk). CAMRA is a British consumer group devoted to the traditional English method of brewing and serving ale, in its cask-conditioned form. Real ale, close to extinction in 1970s England, is now making a resurgence, growing in popularity not only in Britain but around the world. A great resource on the topic of cellarmanship is the book “Cellarmanship” by Patrick O’Neill, published by CAMRA.