

Hooch Recipes



Sweet tea vodka.

Directions:

- Pour 750ml (25 ounces) of 190 proof vodka into a pitcher.
- Drop in three tea bags. Let sit for 1 hour (until vodka is a deep caramel/brown color).
- While vodka is infusing, add 16 oz. water to a pot and bring to a boil.
- Make a simple syrup by adding 1 cup of sugar to the boiling water and stirring until fully dissolved. Remove from heat and allow to cool.
- When vodka is the right color, remove tea bags from vodka and discard.
- Add simple syrup to tea infused vodka. Voila! Sweet tea vodka. (If you would like it sweeter, just make more simple syrup and adjust to taste, up to 1 part infused vodka to 1 part simple syrup). Should end up being 90 proof (45%) [cut in half if bottling]

"Peach Pie Moonshine"

Ingredients:

- 1 gal Welch's White Grape Peach Juice
- 2 cups white sugar
- 1 cup brown sugar
- 2 cans sliced peaches
- 6 sticks cinnamon
- 1/2 teaspoon ground nutmeg

Directions:

Bring this to a boil, then let it simmer, covered, for 1/2 hour. Let it cool, strain a couple of times through cheesecloth to remove pulp, then add the following:

- 1/5 gal (750 ml) 190+ proof alcohol (moonshine, Golden Grain, Everclear, etc.)
- Rest for 6 weeks to mellow and blend the rest of the way, sit in a cool dark place, or refrigerator.

"Apple Pie Moonshine"

Ingredients:

- 1 (2) gallon of Mott's 100% apple juice
- 1 (2) Gallon of Filtered apple cider (Martinelli's)
- 3 (4) cup brown sugar
- 2 (3) cups white sugar
- 4 (8) Cinnamon Sticks
- 1 (2) Liter bottle of 190 Proof Moonshine or Grain Alcohol (1.75 for some)

Directions

1. In a large stock pot, combine the apple cider, apple juice, sugar, and cinnamon sticks.
2. Bring it to a boil, then take it off the heat and allow it to cool.
3. Add the liter of high proof liquor.
4. Pour this into mason jars, put the lids on, and let it mellow out. You could drink it right away, but it does get better after a couple of weeks.

This recipe makes about 9 (18) quarts of apple pie moonshine. You could easily cut this recipe in half if that is too much.

1.5 liter of 180 is roughly 26% or 54 proof. 1.5 liter of 190 is roughly 28% or 56 proof. If the abv is above 20%, no need to rehydrate ...

"Apple Pie A La Mode"

Add to the above recipe,

Ingredients:

- ½ of a whole nutmeg (don't grate this, just use the chunk of nutmeg!)
- 4 whole cloves
- 4-8 vanilla beans, cut in half, remove seeds (I used vanilla extract due to cost)
- 6 cups whipped cream vodka!

Directions

Steep the vanilla, nutmeg and cloves in hot apple juice adding to the apple pie a little at a time until a desired taste is reached. If using extract, steep all but the extract and add the vanilla extract to the Apple pie after the spices. Add the Whipped cream vodka once everything is cooled and the neutral is added.

Apple Pie Caramel Moonshine

- 32 oz. Apple Pie Moonshine
- 16 oz. Butterscotch schnapps
- 3 oz. Lemon juice

mix and taste

Variation

- 20 caramel candies (unwrapped)
- 16 oz. Apple juice, or filtered cider
- 32 oz. Apple Pie Moonshine
- 16 oz. Caramel Vodka

Instructions

1. dissolve 20 caramel candies in simmering apple juice, cool then add to apple pie shine followed by caramel Vodka

"Lemon Drop Moonshine"

Ingredients:

- 5 Lemons Juiced or 10 oz. Real lemon juice (10 lemons or 1 quart Lemon Juice)
- 6 Cups of Water (3 quarts)
- 2 Cups of White Sugar (3-4 cups white sugar)
- 2 cups of everclear (3-1/2 cups)

Instructions

1. In crock-pot, add water , sugar and lemon juice.
2. Heat on high for 2 hours.
3. Unplug crock-pot and allow the mixture to cool to room temp.
4. Once liquid is cooled, add in 2 cups of grain alcohol or vodka.
5. Mix well.
6. Fill quart jars with liquid and place a lid and ring on jars.
7. Allow this to sit for up to 30 days

"Blackberry Moonshine"

Ingredients:

- 1 Liter of Everclear
- 20 Ounces of Blueberries
- 3 Cups of White Sugar
- 4 cups of Water

Instructions

- Pour the Grain Alcohol add the Blueberries to the ½ gallon jar and crush the blueberries with a wooden spoon
- Pour the Grain Alcohol into the jar
- Seal the jar and let it sit for three weeks shaking every other day

After 3 weeks have passed, start the simple syrup

- Bring 4 cups of water to a boil, add the sugar, stir till dissolved and let cool.
- Strain the Blackberries out of the Jar, leaving the alcohol in the jar.
- Place the strained blackberries in a jar and pour the simple syrup over the Blackberries, seal the jar and rest at least 2 weeks.

"Dreamsicle"

Ingredients:

- 1 ½ gallon · Orange juice no pulp
- 3 cup · Sugar
- 2 tablespoon · Vanilla extract
- 1 cup · French vanilla dry coffee creamer
- 4 cup · 190 proof everclear

Directions

- In a big pot boil everything but alcohol
- Stir until creamer is dissolved
- Cool to room temp
- Add everclear and vodka, Stir, Jar then refrigerate
- Let sit for at least 2 weeks. The longer it sits the smoother it gets
- It will separate while in fridge just shake it before drinking

"Strawberry Panty Dropper"

Ingredients:

- 2-3qts frozen strawberries
- white granulated sugar
- bottle of neutral (150 ABV)
- lemon juice (a tablespoon per quart)

Directions

- Add frozen fruit to a one gallon container, add 64 oz. Hooch and two tablespoons of lemon juice.
- macerate for 48 hours, shake a few times a day.
- pour off (filter) liquid in a separate jar. Add about 1tablespoons of lemon juice to the alcohol
- add sugar to fruit and 1tablespoons of lemon juice to the fruit macerate for a week.
- pour off (filter) simple syrup to another container and repeat this process one more time.
- Dilute the hooch to about 26% ABV and add simple syrup until desired results are achieved
- Note If making stronger, cut the hooch to 45% ABV then add the simple syrup.

The lemon juice will help preserve the red color, and the flavor of the strawberries. Without the lemon juice, the finished product will have a chalky aftertaste (quite unpleasant). Any leftover syrup and/or berries is Excellent on ice cream and/or cheesecake.

This is a good drink to put in a blender with ice. Tastes like a strawberry smoothie. A refreshing drink for a hot summer day after mowing the lawn (in moderation..lol) Also good on the rocks.

"Cherry Pie Moonshine"

Ingredients:

- 2 32 ounce jars all cherry juice
- 2 cans tart cherries in heavy syrup
- 1/2 cup white sugar
- 1 liter bottle everclear
- 8 8 oz sized mason jars

Instructions:

1. In a large saucepan, bring all ingredients but everclear to a boil.
2. Stir to make sure sugar completely dissolves, remove from heat.
3. Let cool.
4. Pour in Everclear.
5. Pour into sterilized mason jars.
6. Moonshine can be consumed immediately, but gets better after time. 2+ weeks is ideal

"Koffee"

Ingredient:

- 6 cups white sugar (Cane)
- 4 Cups of Water
- 2 Cups of Dark Roast Instant Coffee
- 1500 ml (50.72103 ounces 6.3 cups) of everclear
- Handful of Dark Roasted Whole Coffee Beans (Double French Roasted)
- 1 vanilla bean

Directions:

- Heat water to boiling.
- Add Instant coffee and stir as it comes to boil.
- Carefully add sugar (reduce heat and constant stirring)
- Remove from heat and place pot in sink of cold water. (keep replacing with cold water until mixture is room temp)
- After completely cooled skim froth from surface of mixture.
- Pour mixture in gallon jug and add 1500 ml 190 proof liquor.
- Pour in handful of Dark roasted coffee beans.
- Slice and scrape vanilla bean, dump all into bottle.
- Put in a cool dark place for at least 3 weeks. (shake bottle every couple of days)
- Strain and run thru coffee filters.
- Store in refrigerator for as long as you can keep from touching it.....

Mix 50/50 with milk over ice and hold on to your britches....

"Arnold Palmer"

Ingredients:

- 1 gallon of homemade sun tea, I use 2 Lipton tea bags, gallon size (this makes stronger tea) and 1 gallon distilled water.
- 1 gallon of 160 proof distillate
- 2 boxes of "lemon head" hard candies (powder them in a blender)
- 1 package of crystal light lemonade flavor drink mix

Mix the sun tea with the distillate, dissolve the candy powder in the tea/liquor mix, which should be about 2 gallons of 80 proof now. Add the crystal light and stir. Obviously you can play around and tweak this to your liking. I drink this on the rocks it's great in the summer. A little lemon flavor and tea flavor it's pretty good I think. Adding it as a mixer to homemade lemonade is great as well hope you enjoy. Cheers.

You should have about 10, 750ml bottles of finished product. 80 proof.

Blueberry Pie"

- Crush 16oz fresh blueberries (actually previously frozen would probably work better now that I think about it)
- Put into a 1 qt mason jar and cover with liquor (140 + proof)
- Leave on windowsill for 24 hours
- Separate the berries from the liquor.
- Cover the berries with sugar and replace on the windowsill
- Same time as you're adding the sugar to the berry jar, add to the liquor jar, 1 large or 2 small whole cinnamon sticks, 1 whole nutmeg cut in half, zest from 1/2 a lemon and a tablespoon of candied ginger
- Replace both jars on the windowsill for another 24 hours
- Filter solids out of liquor jar and discard
- Pour syrup off of the berries. We are done with them as far as this recipe is concerned but you can add more sugar back to the jar and continue extracting syrup to use in other ways.
- Combine the syrup with the liquor.

I had 24oz of liquor at this point that I figured should have been approx 140 proof. Added 10oz of distilled water bringing it down to approx 100 proof. Filtered it quick and dirty through a fine stainless kitchen strainer and then through a cheesecloth. My normal coffee filter system was taking forever, due to the increased viscosity from the sugar content is my guess

Mix 1 part liquor with 2 parts club soda or 7up on the rocks depending how sweet you like it.

"Sweet Cherry Pie"

- 64 oz of Black Cherry Juice
- 1 Cup of sugar
- 2 cans of Tart Cherries
- 1.5 pint (3 Cups) of high proof shine or ever clear. I used 170 Proof shine. This cut it down to around 40 proof. Or just flavor to taste.

"Irish Cream"

Makes about a quart, so I just put all ingredients into a 1 quart mason jar. Make'em 2 at a time so you can use full cans of milk and give one to a friend. The worlds a better place when we all share!

- 1/2 can (6oz) of sweetened condensed milk
- 1/2 can (6oz) of regular condensed milk
- 1 cup of heavy cream
- 1 1/2 cups of Cadillac Bobs 100 proof corn whiskey! (lol, or any whiskey ya fancy)
- 1 tsp almond extract
- 1 tsp vanilla extract
- 2 tsp mint extract or a capfull of peppermint schnapps does the trick(the secret ingredient)
- 1 heaping tbsp of instant coffee
- 2 tbsp Hershey's chocolate syrup.

Most know that "sweetened" condensed milk is like liquid caramel. If you like it thicker and sweeter, use all "sweetened". If you like it lighter, and creamier, try all "unsweetened". I do both, depending on my mood, but half of each is the tried and true hit!

"Purple Jesus"

- 64 oz (8 cups) of 180-190
- 197 oz. Welch's Grape Juice (25 cups)
- 1-2 cups of sugar

Pour over ice and top with ginger ale (22% ABV)

"Purple Jesus Redeye"

- 64 oz (8 cups) of 180-190
- 165 oz. Welch's Grape Juice (25 cups)
- 32 oz cranberry juice
- 1-2 cups of sugar

Bring Grape Juice and cranberry juice to a near boil

Dissolve sugar into hot water

After Juice mixture is cooled down to 125f or less add moonshine, flavorings and stir well

Pour over ice and top with ginger ale (22% ABV)

"Another Apple Pie Moonshine"

- 1 Gallon 100% Motts Apple Juice
- 3 bottles 50.7 oz Martinelli's Filtered Apple cider 547 Oxford Valley Road, Fairless Hills PA 19030 [Shoprite]
- 1 Cup white sugar
- 2 Cups of Brown Sugar
- 8 Cinnamon Sticks
- 1 gallon of 190 shine

Before I get to deep into this let me explain the cider part. I know up north (north of the Mason, Dixon line.) filtered cider is just apple juice. Well the company that I get mine from has a filtered apple cider with all it's spicy glory with out that heavy cloud of crap floating around in it. The only difference is the finished product is a nice clear amber color vs. a dark cloud of I don't know what. But to each his or her own i guess. Now 1st off you need a pot that can hold up to 4 gallons or more (for obvious reasons).

Directions

- Pour the apple juice in 1st and bring that to a boil.
- Then add the cup of white sugar. Stir until it is dissolved.
- Pour in the cider.
- As that comes to a boil toss in the brown sugar and cinnamon sticks and let it boil for 5 to 8 min. (you can go longer but it will break up the sticks and then you will have a shit ton of little floaty's.)
- Take off heat and let stand until it comes back to room temp. IMPORTANT not to add shine yet as the heat will cook off the alcohol.
- Once cooled add your shine (140-160 proof) and stir for a few min to mix.
- Bottle you apple pie up and then store in a cool place for at least a week. (lets the flavor fully develop.) You can drink right away but it is so much better after it has sat for awhile.
- Chill and then drink

"Kiwi"

I prefer the golden (rather than green) variety.

- Peel and slice about 4 - 5 regular sized fruit into 1 cm thick chunks. Put into a 750ml jar and fill the jar with 40% neutral then seal.
- Soak for about 10 days, shaking every couple of days.
- Drain off the spirit, and firstly coarse, then fine filter it (through standard kitchen strainers) This leaves the spirit very clear with a fruity taste.

Best served chilled either as a shot or with a split.

The kiwifruit (now alcohol soaked) can be frozen and used later in a pie (with apple) or as an accompaniment to ice cream or in a smoothie drink.

"Lemoncella"

- 1 liter double proof neutral 190
- Zest of 4 large lemons or 8 small ones - organic
- Macerate until strong, 10 days or so, then strain.
- Make a simple syrup using 1 liter of water and two cups sugar to a pot, bring to a simmer, after sugar has dissolved, cool to room temperature.
- Then add the simple syrup to the one liter of strained and flavored neutral.
- Mellow in the fridge for a week.

(80 proof) 40% ABV

"Sour Apple Candy Shot"

- 400ml - neutral cut to %50 abv (100 proof) homemade distilled of course
- 15 Green Apple Jolly Ranchers Hard Candies
- 6 tsp of sugar
- 1 tsp Citric Acid (Food Grade)
- 1 ounce Glycerin

Combine all ingredients in a jar and shake...shake.... shake til the candies dissolve.

"Root Beer"

- 64 oz. Of 190
- 1 cup brown sugar per 32 oz of added water
- 2 bags Root Beer Barrel Candies

Directions

Dissolve candies in neutral, strain through coffee filter

Bring 64 oz water to a near boil add sugar and dissolve

After water mixture is cooled down to 125f or less add alcohol = 90 proof (bottle this in a big bottle)

cut again, Bring 64 oz water to a near boil add sugar and dissolve After water mixture is cooled down to 125f or less add moonshine and stir well = 45 proof (22.5 abv) bottle and cap this.

"Leydenesque Tropical Blend"

- 2 cups sugar
- 64 oz 150 proof moonshine
- 2 quarts frozen mixed fruit
- 2 cups maraschino cherries with juice
- Lemon Juice

Directions

- Add frozen fruit to a one gallon container, add 64 oz. Hooch and two tablespoons of lemon juice.
- macerate for 48 hours, shake a few times a day.
- pour off (filter) liquid in a seperate jar, Add about 1tablespoons of lemon juice to the alcohol.
- add sugar to fruit and 1tablespoons of lemon juice to the fruit macerate for a week.
- pour off (filter) simple syrup to another container and repeat this process two more times.
- Dilute the hooch to about 26% ABV and add simple syrup until desired results are achieved
- Note If making stronger, cut the hooch to 45% ABV then add the simple syrup.

The lemon juice will help preserve the red color, and the flavor. Without the lemon juice, the finished product could have a chalky aftertaste (quite unpleasant). Any leftover syrup and/or berries is Excelent on ice cream and/or cheesecake.

Maceration Notes

It is normal for strawberries to turn white .

(Note that Macerating is the same as steeping. Apparently macerating refers to cold steeping and infusing to hot steeping.)

Fruit liqueurs are quite straight-forward; simply soak your favourite fruit in your strongest alcohol, with 1 cup of fine sugar to every 1 cup of fruit. Let it soak for a couple of months, then strain off the fruit, and dilute the alcohol down to 22-30%.

Fruit Liqueur:

- * Place cleaned fruit in a large jar.
- * Add alcohol (50%abv) to cover fruit.
- * Seal and macerate for 10 days. The fruit soaks up the alcohol and releases some juice.
- * First racking. Gently pour off liquid so as not to blemish fruit.
- * Layer fruit in jar with sugar (cover most of fruit). Seal jar. The sugar makes the fruit release the alcohol and shrivel slightly. In a couple of days the level of juice in the jar should reach almost to the top of the fruit.
- * Second racking. Pour off liquid.
- * Layer fruit again with sugar
- * Third racking. Pour off liquid.
- * Repeat process until only a very small amount of juice is released.

Each racking is sweeter and sweeter. Blend the different rackings to get the desired strength and sweetness. The leftover makes a great syrup for ice-cream.

Another method used is to put the fruit in a large jar, add sugar and place it in a warm place to ferment naturally, using wild yeasts on the skins. The juice is released. Then alcohol is added to stop the fermentation. The alcohol content is usually 20%.

These are folk recipes that are based on experience rather than exactly measured amounts. You see large glass jars on window shelves everywhere. For those who like exact quantities here is a Cherry Liqueur or 'Liqueur de cerise' (French) or 'Cigliegiolo' (Italian)

- * 1 kg dark cherries
- * 1 liter vodka (50%abv)
- * 350 g sugar

Crush the cherries and half of their pits (stones). Place in a large jar with a lid. Add alcohol, seal and leave to macerate for one month. Pour the cherry mixture in a muslin bag and squeeze out juice. Filter and add sugar. Bottle to age.

(2 days) and sugar syrup a bit longer (5-7 days),

TIP

Use a home vacuum sealer that has a Ball jar attachment. Use a fresh lid without pre-warming, fill the jar to about 1" headspace, cover with product, apply the attachment, and hit the vacuum button.

For fruit infusions, I go heavy on the fruit, use flash frozen fruit. The added bonus on using flash frozen fruit is that the cell walls are ruptured by the flash freezing process so it seems that it would be easier to get the fruit infused with ETOH and suck out the flavors. The taste of wood is stronger than the taste of the fruit. My strawberry infusions tasted much more like wood than like strawberries.

Birdwatchers Sugar Wash Recipe instructions.

If you want to go straight to the calculator, click here: [Birdwatchers ingredients calculator](#).

Basic equipment:

- You need a fermentor. Preferably a food grade plastic or better (ie stainless steel or glass).
- Aquarium heater.
- Hydrometer (used to measure the specific gravity of liquids).
- Thermometer (ideally digital).

Ingredients (to make a 20 **gallon** wash for example). Else, go to the [CALCULATOR](#).

- tomato paste. 28 **ounces**
- Juice of 3 lemons. 8.5 oz.
- Approximately 37.55 pounds sugar.
- **7.51-8 ounces Active Dry Yeast**
- ½ tsp Epsom Salts.
- Water (tap is okay, but fresh, spring, distilled water, etc. is better).

Procedure:

- Take careful notes from start to finish for future reference.
- Make sure everything is cleaned and sterile.
- Mix about 80% of the water **73°F – 91 (86°F optimal)** with 80% of the sugar along with all the tomato paste, lemon juice and salts. Mix thoroughly until everything (especially the sugar) is dissolved.
- Measure the SG _____ (specific gravity) using your hydrometer. If the SG is too low, gradually add more sugar. If the SG too high, gradually add more water. The whole time aiming for an SG of 1.060 to 1.090. Most aim for below **1.070** to reduce off flavours.
- You should now have your total volume of mixed ingredients at your ideal SG.
- Use the aquarium heater to raise the temperature of the wash to your goal temperature of between 26°C (**79°F**) and 30°C (**86°F**). How you do this is up to you, a common method is to set the whole fermenter in a larger container, fill it with water, and put the aquarium heater in that.
- Carefully sprinkle the yeast over surface. Stir in if you wish (most don't).
- Place cover loosely, to let CO2 escape, thus keeping flying nasties out. There is a lot of CO2 coming off; so there is no need to worry about oxygen coming in contact.
- Check the SG and temperature daily if you like. This is not necessary, but will let you know how it is progressing.
- After a total of 5-14 days **7-8 days SG should be .995**, SG should be around 0.990. If not, wait until it stops bubbling. Then take note of the SG _____ for reference.
- Assuming everything is okay, turn off the aquarium heater and let it all cool down.
- Ideally, let it sit for at least a few days (a week or more if possible) to let the solids settle before distillation. The cooler the better (without freezing though).
- Distill as you like.

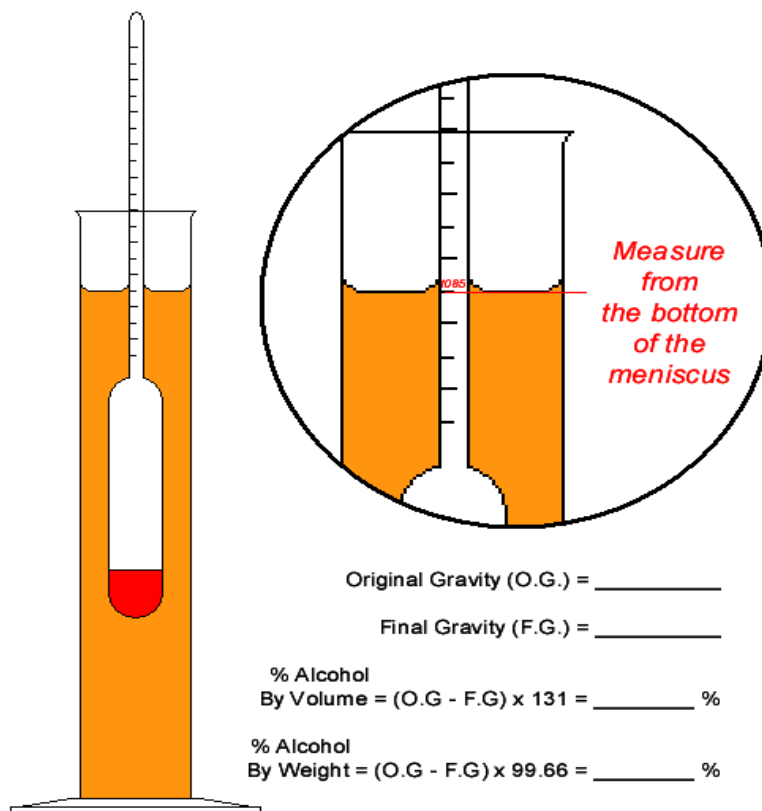
Using the formula take the (OG) subtract the (FG) take the difference then multiply x 131 = ie: 1.092 (OG) – .99 (FG) we get a difference of 0.102. If we then multiply 0.102 x 131 we get 13.36%.

Birdwatchers Sugar Wash Notes

- No more than 2 pounds of sugar per gallon on average.
- 1 pound (lb) of brown sugar Equals: 18.14 fluid ounces (fl-oz) in brown sugar
- To determine the percent of alcohol you have in wash/mash, take your SG (OG) then Subtract your FG and divided by 7.55
- Yeast Packets are sold by 4oz. Jars (113.4g), Strip of three 1/4oz. (7g) packets
- 26 deg c (79°F) and letting it take around 10 to 14 days to ferment seems to get a cleaner result.
- sugarhead mentors here in HD state 10-12% maximum

Distillers Wort Chart

Hydrometer table			
Specific gravity (S.G.)	Potential alcohol % vol.	Sugar / litre grams	Notes
1.010	0.9	12.5	
1.015	1.6	25	
1.020	2.3	44	
1.025	3.0	57	
1.030	3.7	76	
1.035	4.4	95	
1.040	5.1	107	
1.045	5.8	120	
1.050	6.5	132	Range average for grain wort
1.055	7.2	145	
1.060	7.9	157.5	
1.065	8.6	170	
1.070	9.2	182.5	
1.075	9.9	195	
1.080	10.6	208	
1.085	11.3	225	
1.090	12.0	240	
1.095	12.7	252	
1.100	13.4	265	Upper limit for bread yeasts
1.105	14.1	277	
1.110	14.9	290	
1.115	15.6	302.5	Upper limit for wine yeasts
1.120	16.3	315	
1.125	17.0	327.5	
1.130	17.7	340	
1.135	18.4	352	Upper limit for turbo yeasts



To set a wort for fermentation: Use the hydrometer chart and adjust your sugar content for desired potential alcohol and type of yeast used. After adjustment, take your first hydrometer reading and record it as the Original Gravity (O.G.) figure.

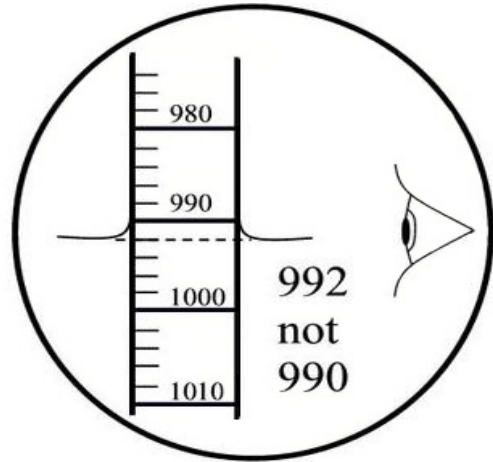
When fermentation is complete, take your second hydrometer reading and record it as the Final Gravity (F.G.) figure.

Using the equation for % Alcohol By Volume, you can calculate the actual alcohol content achieved for the wort. Compare this to the potential alcohol volume given in the chart, and you will get an idea of how efficient, or otherwise, your attenuation is.

You can also calculate the percentage of Alcohol By Weight which is sometimes used in beer brewing.

Using a Mash Hydrometer

The hydrometer is used to measure specific gravity in the context of fermenting alcohol as it relates to the density of water. This is important as the readings help us determine several things. The potential alcohol we can get from our fermentation and when the fermentation has finished. The first reading is taken before the addition of yeast at 60 degrees F. If your temperature is different use the adjustment table that comes with the hydrometer to make changes. The final reading should be taken after fermentation is complete.



Let's start by learning how we read the hydrometer then we will move on to determining our ABV (**A**lcohol **B**y **V**olume). Fill your hydrometer tube about 2/3" from the top with the wash/mash you wish to test. Insert the hydrometer slowly not allowing it to drop. Next give the hydrometer a spin using thumb and index finger. This will remove the bubbles that may have formed.

The reading should be taken at the bottom of the meniscus (see image above)

We do not recommend going above 14% for product quality purposes. Below is a table for potential abv of a wash taken with an OG (original gravity) reading prior to adding yeast. This is a rough estimate and may be helpful in determining how much fermentable sugar to water ratio you aim for, however this can be off depending on your actual fermentation as you will see in the example below.

POTENTIAL ALCOHOL CONTENT FROM ORIGINAL GRAVITY

Specific Gravity OG Reading	Potential Alcohol	Specific Gravity OG Reading	Potential Alcohol
1.062	7.875%	1.086	11%
1.064	8.125%	1.088	11.25%
1.066	8.375%	1.090	11.5%
1.068	8.625	1.092	11.75%
1.070	8.875%	1.094	12.125%
1.072	9.125%	1.096	12.375%
1.074	9.375%	1.098	12.75%
1.076	9.75%	1.100	13%
1.078	10%	1.102	13.25%
1.080	10.25%	1.104	13.5%
1.082	10.5%	1.106	13.875%
1.084	10.75%	1.108	14.125%

Next we will calculate the actual potential after fermentation. Below is a second image that explains the steps involved. OG is your original SG reading and FG is the final reading.

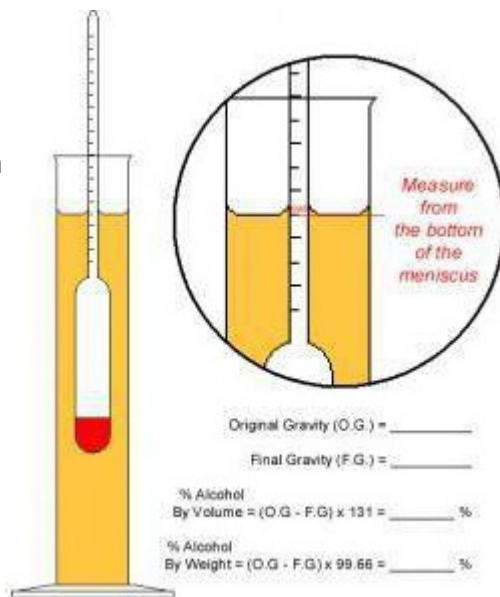
Thus using the image above if our OG reading is 1.092 according to the chart above we have a potential abv of 11.75%. However if we take a FG reading after fermentation and we have a reading of .99 which is below what the chart above used to calculate then we come up with a different answer. Using the formula take the $(1.092 - .99)$ we get a difference of 0.102. If we then multiply 0.102×131 we get 13.36%. An easier method is using the link below to the calculator on the parent site.

[Alcohol Content Calculator](#)

The parent site calculator multiplies by 129 instead of the 131 used in this example but both give similar answers and the difference is nothing to worry about as everything is an estimate with many variables involved.

Using these figures on a 10 gallon wash I should get somewhere near 1.3 gallons. This again is a rough estimate at best as many factors determine how much you will actually get but should give you an idea depending on how fast you run your still and what type of still you are running.

Another method to determine the concentration of a solution of alcohol and water using specific gravity can be done using the following formula. This should get you a rough estimate especially if you forgot to take an OG reading at the beginning.



Removing the Methanol

Be ruthless about tossing the first 50 mL (off a 20L wash) that you collect, as this contains any methanol (causer of hangovers - small quantities, or blindness - larger quantities). Even though I'm pretty sure I only collect less than 10mL at the methanol stage, I still discard 50mL, just to make sure. No need for penny-pinching when you're making 3L of the stuff, for less than \$5. If you're using a potstill, you may need to increase this amount you toss up to 100-200 mL.

This first portion is often called the "**foreshots**". They are different from the "**heads**". Ian Smiley (<http://www.home-distilling.com/>) describes foreshots as "the low boiling point compounds that come out of the still first. They contain acetone, methanol, various esters and aldehydes, and other volatiles. Foreshots are to be considered poisonous and should be discarded." Whereas heads "come out after the foreshots, and are almost pure alcohol, except that they are contaminated with trace amounts of unwanted congeners ..." To get a really clean distinction between the foreshots and the heads, first ensure that you've let your column equilibrate under total reflux, then hold the reflux ratio high, such that you remove the foreshots only very slowly (eg 1 drip per second), thus allowing an equilibrium to be maintained at the top of the column, encouraging the methanol to collect there.

If you're after making pure neutral spirit for vodkas or gin you may choose to keep the heads (eg the next 250 mL-1L of spirits) separate from the following couple of litres (**middle run**) on the basis of their taste. These heads can still be used to make liqueurs, whisky, rums, etc, or redistilled later if desired totally neutral. The only problem with heads is their non-neutral taste.

The distinction between the various phases depends on what sort of still you have. They will all tend to merge from one to the other. This is particularly the case with a pot still, where you notice the temperatures always slowly changing as the distilling run progresses. Using a reflux still or fractionating column will allow the various stages to appear more distinct, as the temperature will be more stable, due to the more distinct separation of each compound.

50 to 100 mls on a 6 gallon charge is fine. You may first want to strip, collecting about 1/3rd of what went in. Collect 3 strips, do one spirit run, toss the first 100 mls, then collect heads, then hearts, then tails. Drink and/or age hearts. Mix heads and tails and maybe add them to a next batch.

The speed of the stilling has an effect. Slower and gentler stilling will deliver pure foreshots in the first drippings and more distinct heads/hearts/tails. The faster the stilling the more mixed up they will be and your foreshots will be spread deeper into the heads.

Stripping Run

NOTE, These instructions are for a true Fractionating still head. They work for any type of LM (liquid management), and are probably usable for a VM (vapor management). These are NOT the instructions to use for CM (cooling management). If your still head has a cooling line going through the column (at the top, or worse, one at top and one at bottom), and does not have a valve of any type to control the take off of vapor or product, then you have a cooling management type (CM) of still head. There is a how to run post in this reading lounge forum for running that type still. But this post here is NOT that how to.

Ok, since you are running "as" a reflux system, to build a neutral, I would recommend:

0. Be sure your column is insulated. This will help in both stripping, and in running in reflux mode.

1. Fill your boiler, and do a stripping run (when you have your wash done). When you do this, dont try to reflux anything, just leave the take-off valve wide open, and collect from the beginning, until the EtOH is been fully boiled off. Collect until the abv% of the distillate drops to 10%.

2. Save up these stripped runs (called low wines). These will be much stronger than your original mash, and will contain NO solids.

3. When you have 3 or 4 mash runs stripped, you should have a still charge of low wines. Now, run these low wines in a spirit run, using reflux. Low wines for a spirit run should be 40% or lower dilute if neccesary. I used 50% on my last run (Rich L.)

n a 5 gal wash, I collect approx. 85ml in fores and 170 in heads

Reflux Run

Operating the reflux offset valved LM reflux still

Reflux run:

0. Close your output valve totally (you want to start out in 100% reflux mode). Also fire up your pump to make sure your condenser is running. Hopefully, you can control the water flow to your condenser to some point, as it will allow you to produce a cleaner product).
1. Bring mash up to boil. When things get to boiling, the temp will rise up the column. At this time, you want to run 100% reflux.
2. When the top of the still head gets hot (say 170°F), turn down your flame. You still want to keep a boil, but you do not need to have too much heat being input.
3. Slowly turn your condenser water supply down. Turn the condenser flow rate down until water being output is pretty hot, but so that there is NO vapor escaping. This will cause the distillate being returned to the reflux to be pretty warm.
4. Reflux 100% like this (equilibrium) for at least 30 minutes (an hour is not out of the question). What you are doing during this time is to build a proper gradient of different products within the column. The most volatile will all be concentrated in the top of the column.
5. Now, just barely crack open the output valve. Take off (about a drop per second), and collect 150 to 250 ml of foreshots. 10ml per gallon is enough for most washes. Monitor the temp in the still head. It should rise a little. NOTE the foreshots should NOT be put into your next spirit run, but can be used for things like ant killer, fuel for a white gas lantern, or you can sterilize equipment with it. But never drink, or "recycle" this part of your product.
6. Switch out your foreshot container, with a container for the heads. Slowly collect the heads. Again, watch the temp of the top of the column, watch the temp of the condenser output (so that it is very warm, but that NO vapors are escaping). Keep the output rate at a drop or so a second. Monitor the smell and taste (water down if testing taste, and spit). Run like this, until the off flavor/smell heads are gone.
7. Close off your output valve, increase the water flow rate of the condenser a little, turn up the input heat just a touch (if using propane), and run under 100% for 15 minutes or so.
8. Open up the output valve, to get 2-3 drops per second, and take off 150ml or so (into the heads container). Monitor your column temp, and make sure the condenser is knocking down everything. Also, smell/taste what just came out, to make sure you are out of the heads.
9. Now switch to the collection of the body. You can do a lot of this using the thermometer (in the column top). The temp will stay pretty constant, if you are running at an appropriate rate. Just what this take off rate is, you will have to find. It is a combination of heat being put into the boiler, amount of cooling happening within the condenser (i.e. how cold your reflux liquid is), and the amount of distillate being dumped back into the column (i.e. the reflux ratio). Usually, about a 4 to 1 reflux ratio works pretty good.

10. Run the still like this, using the take off valve to control the ABV% of the output, and the temp at the top of the column, trying to keep them as stable as you can.

11. When you get to the point of about 75-80% of the EtOH being removed (you can pre-compute how much EtOH is in your starting still charge, and you can compute how much has been taken out, by measuring the volumes and ABV of what you have recovered). When you get to 75% out, you will probably have backed off the take off rate quite a bit, to keep the temp stable in the top of the column, and in keeping the ABV as high as you can. At this time, you might have to re-equalize every once in a while to keep the ABV rate constant. However, one thing you should do, is to switch from any main "body" containers, to much smaller containers (say 200ml). Now is the time you will be transitioning into the tails. Collecting small amounts, will allow you to make a very careful "cut" over to tail, later.

12. When you fully detect that you have reached the tails (ABV falling off, temp spiking, and you are not able to keep them stable any more), then simply kick up the cooling to full, kick up the heat in the boiler some, and open the take off valve wide open. Collect tails until there is almost no EtOH being output.

13. The last of your heads collection, and the first part of the tails collection containers should be left open (covered with a coffee filter), over night to air out. The next day, you can sample these, and see if any of them can be added to the main body.

14. The other parts (not the foreshots), will be dumped into your feigns jar, and you can dump this in on your next spirit run.

15. The body should be left open, but covered, with cloth or coffee filters, for a day or so, to breath.

You should end up with a heck of a nice neutral. Also, it really is not as complex as it sounds like in my instructions. The main things you want to do, is to get the column equalized, and then once it is equalized, you simply want to keep it equalized, while you take off some of the product.

Notes

- Acetone 56.5C (134F)
- Methanol (wood alcohol) 64C (147F)
- Ethyl acetate 77.1C (171F)
- Ethanol 78C (172F)
- 2-Propanol (rubbing alcohol) 82C (180F)
- 1-Propanol 97C (207F)
- Water 100C (212F)
- Butanol 116C (241F)
- Amyl alcohol 137.8C (280F)
- Furfural 161C (322F)

Heads smell like bananas

For a 15 gallon charge, toss 16 ounces of fores 450 – 475 ml

Pure alcohol (good clean hearts) can trick you into thinking its sweet. It's not. But it will sure make you think it is.

There are varying opinions on this. But the standard answer is to let it come up to temp and run it in reflux, valve close, for 30-45 minutes to compress the fores (and the heads behind them). Then take them off slowly, a drip a second or so.

Sometimes I push it a little faster. I do take off at least 250ml and toss it right down the sink. Nasty stuff, smells like nail polish. Then close the valve to reflux some more, and run your heads maybe 2-3 drips a second

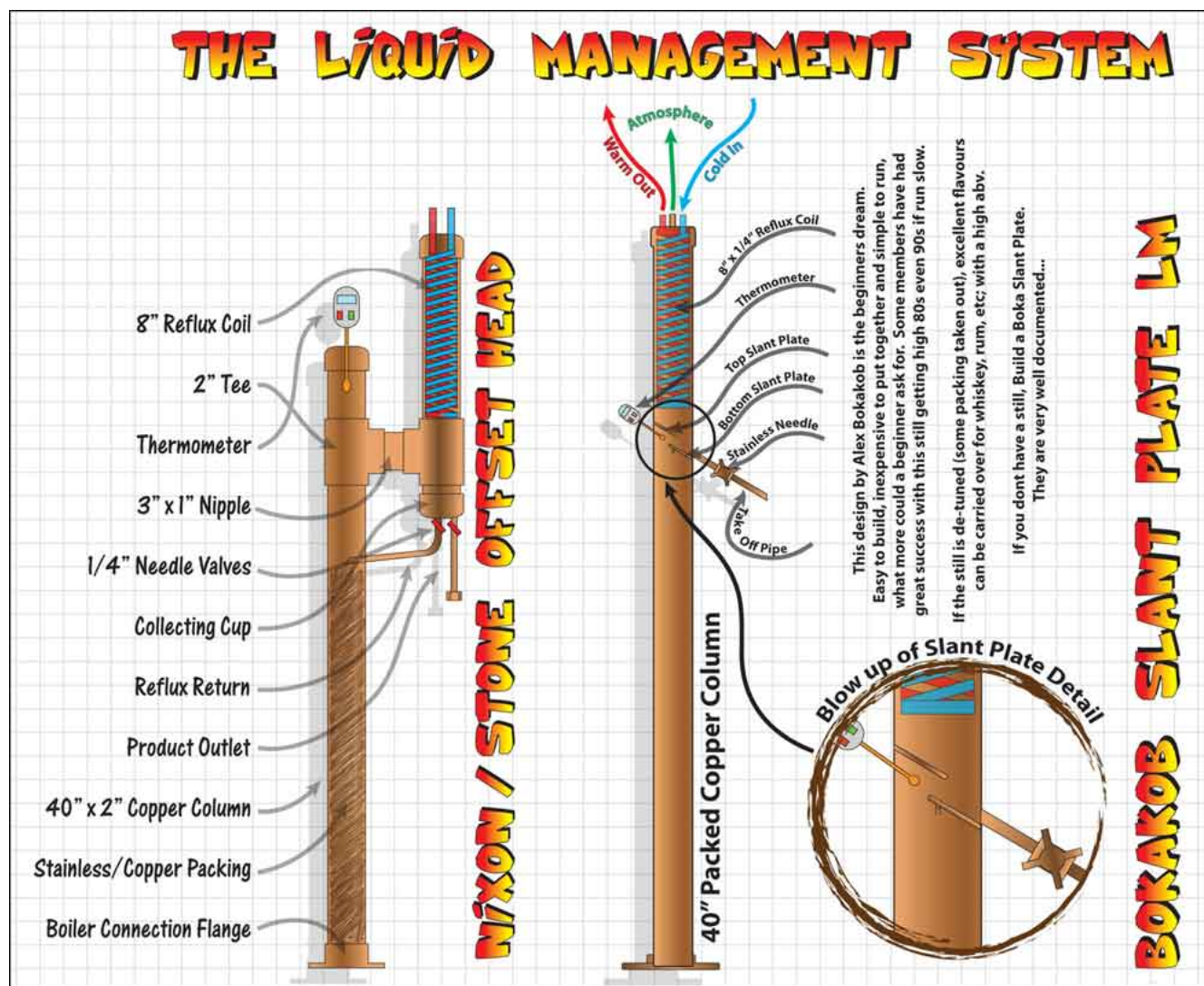
stream will change in appearance to a thicker stream that will eventually break apart into large watery drops. Tails from some stuff, like whiskey mashes, can be oily. Tails are most allways stinky, and become more nasty and stinky as ya get further into the tails.

distilling "zone" (165f to 178)

once you get your boiler up to temp, get the flow rate where you want it, leave your heat alone and the temp in your column will rise after the different fractions come off. that's how you will know where you are in your run

You want to know the temp of this vapor. That will be the "fractional" product that you will be taking off at any given moment. You simply try to keep this temp to as close as you can to azeotrope ethanol boiling temp (78.1°C or 172.5°F). If you can learn to keep the top of your column at this temp, then you will produce good end results.

Nixon Stone Offset Head Valved Reflux based on this design.



My Nixon Stone Offset Head Valved Reflux Still

Column

- 54" DWV Column 44" below reflux tube, 40" 32" packed column with 2 lbs copper mesh.
- 15 Gallon Sanke Keg
- Sanke Keg Connector 2" Tri Clover clamp
- 2" DN50 Sanitary Male Threaded Ferrule Pipe Fitting Tri Clamp Type Stainless Steel SS316
- 2" PTFE quick-clamp (tri-clamp) Gasket, ground flat each side. McMaster Carr # 43315K25
- High-Polish Sanitary Stainless Steel Quick-Clamp Tube Fittings Tri-Clover McMaster Carr # 4322K153
- 3/8" Copper Reflux return modified as in drawing

Offset Head

- (2) 2" x 1.5" x 2" Reducing Tee, Female Socket-End to Female Socket-End McMaster Carr # 5520K85
- (3) 1.5" x 4" length copper nipple
- (2) 2" Copper Cap Female Socket-End McMaster Carr # 5520K49
- (1) 3" - 2" Reducing Coupling with Center Stop, Female Socket-End to Female Socket-End McMaster Carr # 5520K149

Sight Glass *Sight glass was added for visual aid for the reflux.*

- (1) 1.5" Copper DWV Fitting Trap Adaptor (FTG x Slip Joint) SupplyHouse.com SKU:WDFSJ-24 (pickled)
- (2) 1.75" PTFE quick-clamp (tri-clamp) Gasket. McMaster Carr # 43315K24
- (1) 1.75" x .125" Heat Resistant Borsolicate Glass. McMaster Carr # 8477K24

Coolant

- (2) **Water Connection:** Brass Garden Hose-to-Pipe Rigid Adapter, 3/4" Male Garden Hose, 3/8" NPT Male Connections McMaster Carr # 73605T56 (Teflon Tape to Join to Reducer adaptor)
- (2) **Water Connection:** Reducer Adapters, Female Socket-End to Female Threaded Pipe 1/2" x 3/8" McMaster Carr #5520K406 (1/2" Nipple, sweat to join to Reducer)
- 90° Short Elbows, Female Socket-End to Female Socket-End McMaster Carr # 5520K78
- (2) **Water Connection:** Reducing Couplings with Center Stop, Female Socket-End to Female Socket-End 1/2 x 3/8" McMaster Carr # 5520K69
- 3/8" Rigid Copper
- (3) 90° Short Elbows, Female Socket-End to Female Socket-End McMaster Carr #5520K78
- **3/8" Standoffs:** 1/4" Copper Cap Female Socket-End McMaster Carr # 5520K57 + 3/8" Electrical Grade Garolite (G-9) rod. McMaster Carr # 8534K51
- **1/2" Standoffs:** 1/2" copper pipe 1/2" Electrical Grade Garolite (G-9) rod. McMaster Carr # 8534K42
- **Coolant Control:** SSP FloLok 3/8" Stainless Steel Needle Valve 626-K-316. E-bay

Condensor

- 15 – 20' 1/4" Refrigerant Soft Copper Tubing wound to a double helix.
- (2) Brass Reducing Straight Connector for 3/8" x 1/4" Tube OD Compression Fitting McMaster Carr # 50915K251

Liebig Condenser, Faux Graham Condenser

- (1) 21" a 1" copper
- (2) 1" x 1/2" x 1/2" CxC Tee SupplyHouse.com SKU: WPT-16-08-08
- (4) Reducing Couplings with Center Stop, Female Socket-End to Female Socket-End 1/2 X 3/8" McMaster Carr # 5520K69
- (4) 1/2" nipples
- (2) 90° Short Elbows, Female Socket-End to Female Socket-End McMaster Carr #5520K78
- **Product/Reflux Control:** SSP FloLok 3/8" Stainless Steel Needle Valve 626-K-316. E-bay
- Product Line 36" insulated 1/4" rigid copper w/1/4" 45° elbow

Standoffs are added for support and designed with the garolite to eliminate the exchange of heat-cold

Parrot

- 1" x 12" Copper McMaster Carr # 8967K11
- 1" Copper Cap McMaster Carr # 5520K46 did not use
- 3/8" soft copper
- 1-1/2" DWV Pieces, Cut, Hammered and shaped.
- Crotch wood base from cherry tree planed, sanded, stained and clear coated.
- Alcohol Hydrometer by E.C. Kraus. [Amazon](#)

Fermenting/Product

- Hydrometer Triple Scale [Amazon](#)
- (2) 6.5 Gallon Fermenter with Lid. [Midwest Supplies](#)
- (1) Regular 5/16" Auto Siphon [Midwest Supplies](#) , 5/16" ID Siphon Hose [Midwest Supplies](#)
- (12) 16 oz. EZ cap (Grolsch Style Flip top) Beer Bottles Amber . [Midwest Supplies](#) will be making PTFE Gaskets to replace the rubber ones that come with the bottles. Teflon® PTFE, White Sheet, 1/16" Thick, 6" x 6" McMaster Carr #8545K13 or 3/32" Thick, 6" x 6" McMaster Carr #8545K14
- SEOH Graduated Cylinder All Glass 250ml. [Amazon](#)
- Ball, Wide Mouth Quart Jars with Lids and Bands 12 count [Amazon](#)
- Air Locks, Kraut Kaps© 3 Pack – Platinum [Amazon](#) (also use for making my hot sauce)
- Star San [Midwest Supplies](#)
- 12 oz Beer Bottles - Amber Glass - Case of 24 [Midwest Supplies](#)
- 2x20 gallon Rubbermaid Brute Trash Can (Gray) NSF rated LPDE 4 Home Depot
- Midwest Supplies Red Bottle Capper [Midwest Supplies](#)
- Bottle Caps [Midwest Supplies](#)

Thermometer

- Reducer Adapters, Female Socket-End to Female Threaded Pipe McMaster Carr #5520K843
- [Teltru Thermometer](#)

Heating

- Modified Bayou Classic KAB6 High Pressure Banjo Cooker
- 30lb. Propane Tank

Misc.

- Solder - Oatey 29024 Safe Flow 0.117-inch ga. Bulk Silver, 1/2lb. [Amazon](#)
- Product takeoff to liebig - Stainless Steel Connector McMaster Carr #52245K617

Cleaning/Sacraficial Run/First Run

- July 18th, 2014 Vinegar Run 2 gallons of vinegar 3 gallons of water
- July 18th, 2014 Sacraficial Run used some booze laying around
- July 26th, 2014 Started my first 15 gallons of Birdwatchers Sugar Wash with as OG of 1.07, finished at....0.95
- August 10th, 2014 racked into containers and statred my 2nd 15 gallos of BW at 1.07
- August 14th, started anoter batch of BW batch #3 11 gallons OG at 1.08
- August 16th, ran the first stripping run no reflux, collected 7 liters at 45% 90 proof. From batch #1
- August 17th, added a valve for the coolant line, thermometer and stainless steel valve for a removable product line
- August 26th, batch #2 finished at 0.90

The First Run Cleaning a new still

1 - Soak and Scrub

A really good way to start is to soak any parts small enough in a weak acid solution - I'd use dilute vinegar, which we can reuse for the next step. soak it for a good few hours, or overnight. This is really an optional step, but is a nice idea for things like coils. You can augment it by giving the insides a bit of a scrub as well with a kitchen scourer. Keep the vinegar solution.

2 - Vinegar Cleaning Run (first run)

Next, chuck the vinegar solution into your boiler, attach the still head, and fire it up. I personally like the idea of blasting the still and condenser with acidic steam - the problem if you don't run steam through it, some areas (like the top of a liebig condenser) may be untouched in normal, condenser-on operation. Of course, as we're only boiling a vinegar and water charge, there is no fire danger - but there is still vapour being generated, so this is a good time to double check that your still is always open at some point to the atmosphere. Of course, normal caution is needed with hot steam, don't scald yourself. If your column has packing, it isn't necessary to have it in at this stage.

After steaming it for 20 minutes or so, turn on the condenser(s), pour water into the worm bucket, whatever it is that will return your still to normal condensing operation. Check that the condenser is knocking down vapour. A reflux condenser may struggle to knock down this vapour, don't worry about that at this stage, it's a lot easier to condense ethanol / water mix. Run with the condenser(s) on for 20 minutes or so. This is a really good time to get a (glass!) mirror, and check for vapour leaks in any seals and solder joints, brazing, etc... The mirror will fog up if held up to a leak.

Shut down and ditch your vinegar.

Give everything a comprehensive rinse out with water. Most of your still should be pretty shiny on the inside by now. If there are visual patches of flux and crap still in there, go back and do some more soaking and scrubbing before you continue.

3 - Ethanol Cleaning Run (3rd run, do a water only run prior to this)

To be completely thorough, we should do an alcohol cleaning run as well. Use any old wash, pretty much whatever you can make the cheapest and easiest. Alternatively, you could chuck in some cheap box wine or something (avoid beer - hard to get the hop oils out afterwards), pretty much any source of ethanol you like. DO NOT use denatured alcohol for this (never put that through your still).

This second cleaning run can double as a practice of still operation. If it's a reflux head, you can put the packing in for this one. Do not repeat the steaming step we did with the vinegar run, as the ethanol vapour is of course flammable, and heavy. Just run the wash in the normal fashion for your design, and have a play around with heat / cooling to get the hang of it. See how the ABV changes. If it's a reflux, play around with the reflux management, see how things respond to your actions. You get the idea.

Don't treat this as drinkable, but do keep it, clearly labeled as cleaning run alcohol - you can use this for your next build.

The first run should be a water-only occasion. Put enough water in it to prevent it boiling dry, and let it rip. The steam will :

- help remove any remaining dirt/grease etc,
- give the expansion fittings a try-out (does everything still fit well once its hot/expanded/softened ?), and
- is a safe way of finding leaks.

Water only is good for checking if it leaks, seeing how long it takes to get up to temperature, and cleaning out any dirt or oils etc left over from construction. It also lets you check that your final condenser is efficient enough to fully condense all the energy that you're putting its way.

But it can't be used for "practicing" distilling. With water only, reflux is meaningless, as there is no second component there to enrich or strip. It will only put out a vapour in the high 90's (depending on altitude, thermometers etc) and nothing will change the way it runs.

After the 2nd run (water only) Then its time to do the real thing. Make up just a cheap sugar-water wash, ferment it out fully, let it settle, then decant into the still. Make sure that you leave about 1/4 of the still empty as headspace at the top for foam, bubbles, splashing etc. Bring the still up to boiling temp, and try it with as much reflux occurring as possible. You may want to change the plumbing on your cooling, so that you can alter the flowrate in the "through tubes" independently of the main condenser.

Ideally you'd want to start your column off under total reflux. That lets you concentrate up any impurities (foreshots) and remove them first. With your design, total reflux may not be possible, and you may just need to settle for as much as you can. Find out how much that is. You'll notice that the temperature should stabilise around 78-low 80's.

As you decrease the reflux this will rise. Take this first run as an experiment - don't worry too much about the quality that you collect at. Instead, use it to see the relationship between the cooling water flowrate, the amount of reflux it causes (how much does the output slow by?), and the resulting purity. Try it with no reflux, and compare the difference. Listen to the sounds its makes - often you'll pick up changes by ear - gurgling , hissing, thumping etc .

Try a whole range of different conditions and learn what your stills response is. Measure the distillate flowrate under these different conditions. What's the corresponding change in head temperature (and purity) Remove the column insulation and note any changes that occur to quality.

Learn how long it takes the head of the column to re-equilibrate after you make a change to the reflux - some take quite a while and shouldn't be fiddled with in the meantime. How touchy are the control valves ? As the boiler starts running out of alcohol, see how much more reflux you now require to get that same purity that was so much easier at the start of the run.

On those first runs, really play around and learn your still. Keep all the distillate you collect. Even if its got some nasty heads or tails in there, its simply a matter of redistilling it at a later date, and it will clean up nicely. No point ever throwing good alcohol away.