

The Simplified Guide to MAKING MOONSHINE



IMPORTANT

1. Remove and inspect still for damage during shipping. Verify that all four parts are included.

ONION HEAD

Very old design. Shaped like an onion, which enables an easy release of alcohol from the mixture. Built in thermometer. Captures moonshine vapor and funnels it to the condenser.

POT BELLY

Also called the 'boiler.' The Pot belly holds your mash, is placed on the heat source and sends the vapor moonshine to the onion top.

THE WORM

A long thin tube of copper. The coils allow the alcohol vapor to cool into your liquid moonshine. It is then collected as it drips out of the spout at the bottom.

THERMOMETER (these are small, light, and easy to get lost in the packing material. Be sure to check thoroughly before throwing away any packing material)

2. Leaks are rare, but because our stills are made with sweat and hammers instead of machines, there are imperfections. Please leak test your still belly by filling completely with water and inspecting for any leaks.

If you do find a leak, contact us and we will resolve this issue. Alternatively, if you are handy, there are two methods that are simple and work great:

- Soldering the leak with lead-free plumbers solder
- Mixing a small batch of linseed oil and flour to a dough consistency and plugging the hole. This will waterproof the leak.

Thank you for your purchase! We exist because you chose to buy from us, so your satisfaction is our number one goal.

Our stills have a 90-day, 100% money back guarantee. If, for any reason, you are not happy with your purchase, simply send an email to customerservice@whiskeystill.net or call 1 888 413 6829 and we will promptly refund your purchase – no return shipping or 'restocking' fees. Our stills also come with a 2-year warranty covering defects in manufacturing. However, when treated well, they'll last for a lifetime.



Jason Stone
Owner
The Whiskey Still Company

DISCLAIMER

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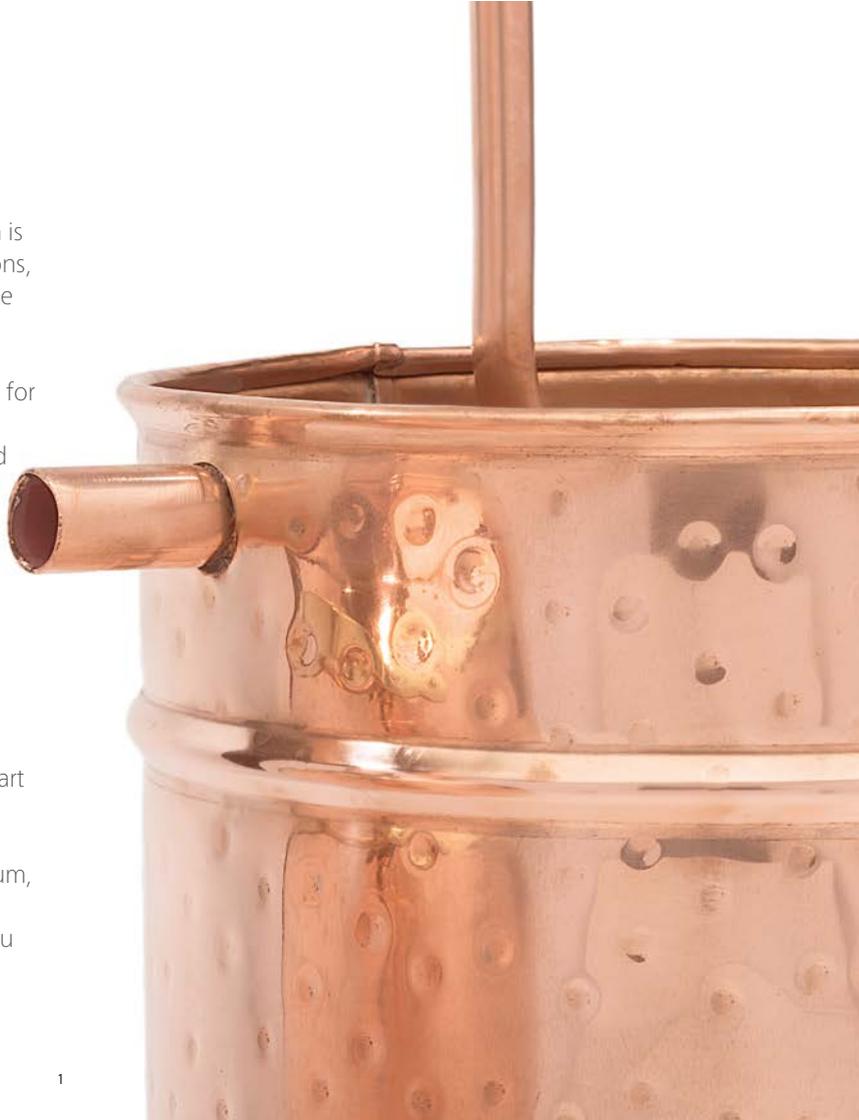
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PURPOSE

The art of moonshining is just that, an art. There are a million-and-one ways to do it and most all of them are correct.

The purpose of this guide is to help a complete novice moonshiner successfully make their first batch of moonshine—start to finish.

However, learning should not stop here. Whether it is whiskey, rum, vodka, or gin, there are many great people, resources, and books available that are full of great information on whatever pursuit you have in mind.



OVERVIEW

THE PRINCIPAL OF FERMENTATION:

Whether you're making beer, wine, or moonshine the fundamentals of creating alcohol from scratch are the same.

Simply speaking, there are only three ingredients: water, sugar, and yeast.

Yeast is a micro-organism that lives in water, eats sugar, and its byproduct (waste) is carbon dioxide and alcohol.

THE PRINCIPAL OF DISTILLATION:

Once you have a solution of water and alcohol, you need to separate them.

Distillation accomplishes this by taking advantage of the different boiling points of water (212°F / 100°C) and alcohol (173°F / 78°C). In theory, if the temperature of a water-alcohol mixture is raised to 174°F (79°C) the alcohol would begin to boil off, but the water should still be too cool to boil.

You can then capture the alcohol vapor, cool it down, and are left with liquid alcohol.



DANGERS

ALCOHOL FLAMMABILITY:

Alcohol is extremely flammable, and in its vapor form it can be explosive.

Care, vigilance, and attention to detail should be practiced at all times during distillation and handling of any refined alcoholic products.

Although distillation can be practiced indoors, it is not advisable to do so unless you have experience.

Also, distillation should never be done with an open flame heat source while distilling indoors or other confined spaces.

METHANOL TOXICITY:

Methanol is a deadly poison and even low amounts of exposure can cause optic nerve damage (blindness).

It is created as a byproduct of fermentation, but in such small amounts that you typically do not need to remove it. However, it is common practice to do it as a precaution and to improve the taste of your product.

Since methanol boils at 144°F (62°C), it will boil first when you are distilling and because of this you should discard the first ounce of alcohol per every 5 gallons of mash.

LEGALITY:

Under Federal rules administered by Alcohol and Tobacco Tax and Trade Bureau (TTB), you may not produce alcohol with these stills unless you qualify as a distilled spirits plant.

However, owning a small still and using it for other purposes is allowed. You should also check with your State and local authorities - their rules may differ.

You should also review the TTB Home Distilling page <https://www.ttb.gov>

LET'S BEGIN

GROCERY LIST:

WHAT YOU'LL NEED FOR A 10 GALLON RECIPE

This recipe is completely scalable; if you want to make 5 or 20 gallons, simply half or double the recipe.

- 1 Can (12oz) Tomato Paste (not sauce)
- 1 Lemon (large, or three small)
- 2.5 lbs Potatoes (any kind will work, just grab a cheap 5# bag and use half)
- 20 lbs White sugar
- 2 Tablespoons of baker's yeast (Fleischmann's or Red Star, buy the 4oz bottle instead of the packets to save money. If you have a Costco or Sam's nearby you can save a ton buying in bulk. Also, choose highly active if you have a choice)
- 10gal Fermenter, this is what will hold your mash for 1-2 weeks while it ferments. There are a few options available here.

One: Brute trashcans are made of food-grade plastic and make great fermenters.

Two: Local donut shops typically give away or sell their old filling buckets; these are also food grade and extremely cheap, try to get them in 5 gallon sizes.

Three: Buy new 5 gallon buckets from a local brewing supply store for \$5.

Note: when making a 10 gallon mash, mixing is much easier in a container that can hold all 10 gallons, however, lifting and moving it becomes a monumental task. Two 5 gallon buckets are much easier to move alone, but a bit harder to mix.



MAKING THE MASH:

- Boil approximately 2.5 lbs of potatoes, then mash completely.
 - Making them runny is preferred because they will mix easier.
 - Fill the fermenter half way with hot water, any water you can drink is fine for this recipe, including tap.
 - Mix 20l bs sugar into hot water. Stir until completely dissolved.
 - Mix mashed potatoes in. Stir until dissolved.
 - Mix 12 oz tomato paste in. Stir until dissolved.
- Juice one large lemon, add juice to fermenter mix.

- Top up to 9 gallons with water. Alternate between hot and cold to reach a target temperature of 80°F (27°C) - 70-90°F (21-32 °C) is fine, but do not go over 95°F (35°C) or you may kill your yeast.
- Once at target temperature add 1 oz (2 tablespoons) of yeast. Stir until completely dissolved.
- Place lid loosely on fermenter. You want to allow carbon dioxide gas to easily escape, but keep bugs from getting in.
- Set out of direct sunlight and maintain temperature between 70-80°F (21-27°C)
- Mash should begin to fizz or bubble within the first 24-48 hours.
- Check daily until either all activity in the mash stops or the mash has been fermenting for two full weeks.
- Distill promptly (within 3 days).



DISTILLING

FIRST TIME USE:

When using a new still for the first time, you must clean your still in a more thorough manner than through normal use. The procedure starts with washing all parts of the still very thoroughly with hot-soapy water.

Filling and draining each piece multiple times is often necessary to remove the byproducts of manufacturing. The second step is called a vinegar run. Simply mix equal parts vinegar and water to roughly one-fifth the capacity of the still (i.e. a 1 gallon mix for a 5 gallon still). Setup the still and condenser (without water), pour in the mixture, and heat until water/vinegar liquid and steam come out of the condenser. If the liquid that comes out of the condenser is not COMPLETELY clear, you will need to do this step again. Turn off the heat, allow to cool, and dispose of the contents.

Note: There are several things that will cause discoloration and off-tastes. They are residual flux from soldering/welding, oxidation of copper, and sharpie marks from marking up sheet copper for cutting. All are certified non-toxic, but obviously should be removed before making a drinking batch. The initial cleaning step should be taken seriously so you do not waste more than one run.

Next is the final cleaning step called the sacrificial run. This step is suggested, but not completely necessary. You will follow the steps below as if you were making a drinking run, but throw away your entire first batch of moonshine. This will clear the still of anything that could possibly taint the taste of future runs. For un-scientific reasons, this is also considered a rite of passage for a new distiller and is the all-important christening of the still.



PRECAUTIONS

- Never leave a running still unattended.
- Never drink while distilling.
- Never block the outlet of the still. Doing so may result in overpressure and explosion.
- Never use an open-flame heat source while distilling indoors. Distilling outdoors is always preferred.



SETUP

- Set the base of the still on your heat-source.
- Pour in mash, but take care to keep the sediments that have settled in the bottom of the container from going into the still since they can cause off-flavors.
Additionally, leave approximately 4" of space at the top of the still to prevent boil over into the top section or worse, the swan neck and condenser.
- Place and seal the onion top. The sealing can be done using a thick water/flour mix and pushing it in and around the seam where the top and bottom meet.
Another option is wrapping the bottom of the onion head with plumber's Teflon tape before setting it in the pot opening.
- Attach condenser.
- Keep the condenser cool. This is done by filling the condenser body with water and continually adding ice (frozen water bottles work great too) or using a continuous stream of cool water from a kitchen faucet or water hose. Just put the supply hose into the condenser and either let it overflow naturally or use the outlet nozzle to direct the flow to a kitchen sink or flower bed.
- Set a container at the outlet of the still to catch the moonshine. Keep in mind that while some plastics are fine to use, most are not able to safely handle high concentrations of alcohol.
Play it safe and use glass, Mason jars are excellent for this.

THE RUN

- Start applying heat. Use high heat until you can hear the mash boiling. You can also carefully touch the pipe that connects the onion-top to the condenser, when the still is up to operating temperature this will go from cold, to warm, to hot very quickly. Once you reach this point cut the heat to half and watch the temperature gauge.
- Regulating heat: once liquid starts to come out of the condenser, you want to turn down the heat so that it is not a constant stream. Drips are fine, as are breaking or intermittent streams, but a constant stream means the temperature is too high. Pure alcohol boils at 173.3°F (78.5°C) while water boils at 212°F (100°C).

The closer you get to 173.3°F (78.5°C) the more pure your product will be, but it will take longer to distill and have less taste. Conversely, the closer you get to 212°F (100°C) the weaker the product will be but it will have more taste and take less time. For your first run just split the difference and aim for 190-194°F (88-90°C) by adjusting the heat.
- Throw away the heads: as a precaution against methanol poisoning you will throw away the first ounce per 5 gallons of mash.
- Monitor for leaks: frequently inspect the seam between the onion-top and the pot for escaping vapor. If any is found, simply plug with the flour-water mix taking care not to burn yourself with the hot escaping vapor.





- Keep the condenser water cool: frequently monitor the condenser water temperature. Cold or cool water is great, lukewarm water is a warning that it needs to be cooler. If the water gets warmer than lukewarm then you should stop distilling immediately.
- Ending the run: you will notice that once you get your heat set correctly it needs very little manipulation.
This is one way to tell when you are done distilling. When you reach the end of the run you will notice that the onion top temperature will suddenly drop along with the moonshine coming out of the condenser.
This will happen without any change in heat supply. Whenever you experience significant change in this manner you can conclude that the run is over, so turn off the heat and allow the still to cool completely before cleaning.
- Once the still and mash are cool, dispose of the mash. Flowerbeds are great because the wasted mash is extremely high in nutrients.
- Wash the still with dish soap and hot water then immediately towel dry. The condenser coil can be rinsed out with hot water, no soap is needed. (if you are planning on running another batch immediately after then a quick rinse with water would suffice)

THE AFTERMATH

Once you have your moonshine there are an infinite number of things you can do with it. I am going to cover only a few of the more common ones.

CUTTING:

This is the process of literally watering down the concentration of alcohol. The primary purpose of this is to add volume to alcohol. For example: 1 quart of 160 proof moonshine can be watered down to 2 quarts of still very potent 80 proof moonshine.

RE-DISTILLING:

This is the process of further increasing the proof of an already distilled moonshine.

CARBON FILTERS:

Carbon is used much like a water filter to remove bad tasting contaminants from moonshine. Unfortunately, it also removes the good tasting flavors as well. Because of this they are normally used to make a neutral moonshine that will then be mixed with fruits or wines later.

FLAVORING:

This is the process of simply adding flavors and/or sugar to a jar of moonshine to enhance the taste. From apple-pie to coffee, nearly everything can be used. Use a coffee filter to strain the mess after letting the concoction sit for a few weeks.

AGEING:

Many types of liquor have a special ageing process that defines them, one example is Whiskey. Part of the process is that it is stored inside a charred-oak barrel for a specified amount of time. Since most beginner moonshiners do not have access to oak barrels this can be recreated by simply charring a piece of white oak and putting it into a mason jar filled with moonshine. Over time the moonshine will age, turn color, and become a very basic whiskey.

Questions? Need more information?

START YOUR LEARNING HERE:

Books:

Modern Moonshine Techniques by Bill Owens

The Alaskan Bootlegger's Bible by Leon W. Kania.

Online:

<http://homedistiller.org/forum>

Good luck and happy distilling!



WHY ALEMBIC

The alembic is the embodiment of still design perfection. It's not only gorgeous, with its sensual curves and mesmerizing colors, but also highly efficient and versatile. Good for whiskey, rum, scotch, bourbon, cognac, vodka, tequila, schnapps and moonshine, as well as essential oils.

The alembic is the oldest and most recognized still design. Its origins trace back to the works of ancient alchemists who were conducting the first documented scientific experiments with distillation. The curvy onion-shape is iconic.

The alembic has been perfected over time for easy and efficient production of alcohol. It consists of 3 parts: the pot, the "swan neck" lid and the condensing unit. As the mash boils, the alcohol vapors rise, pass through the thin 'swan neck' pipe, and then through a serpentine coil submerged in a cold-water bath, which condenses the vapors back to liquid form.

Due to their distinctive shape, alembics can only be handmade. They are skillfully built by master craftsmen who turn plain sheets of cooper into complex works of art.

TECHNICAL SPECIFICATIONS

Our handcrafted stills are made of 100% high quality copper. All welding / soldering is lead free (the body welds are brass wire, smaller connections are tin-silver).

WHY COPPER?

Copper is key to lifting your spirits' quality. It has been used for centuries – since the old-time moonshiners in the Appalachian hills, to modern commercial distilleries.

THE MAIN QUALITIES THAT MAKE COPPER IDEAL FOR DISTILLING:

- Copper has a very high thermal and electrical conductivity, helping distribute the heat and cool the vapors evenly.
- Copper is malleable – it's easily pounded and stretched into shape – but also resilient. With proper care, a copper still will last a lifetime.
- Copper is very resistant to corrosion.
- It has scientifically proven antimicrobial effects: it destroys a wide range of bacteria and viruses, which is why copper is also used for plumbing systems since the Roman era. It also prevents the production of ethyl carbonate, a toxic substance derived from cyanides.
- Copper improves the quality of your spirits when the mash is not biologically perfect.
- Most importantly, copper reacts with alcohol on a molecular level: it removes the sulfur that naturally results from yeasts during fermentation, and makes your spirits taste better.



OUR STILLS

2.5 GALLON WHISKEY STILL

THE EXPERIMENTER

The Still for novice distillers

The 2.5 gallon whiskey still is the perfect starting point if you're new to distilling. It's small enough to make quick batches, but large enough to cut heads and tails and get the hang and taste of distilling.

Its design and versatility make it ideal for experimenting with different recipes, allowing you to try out and develop your spirits of choice. Also, it's great for refining previously distilled spirits, and creating essential oils.

5 GALLON WHISKEY STILL

THE CHAMPION

The still for distilling enthusiasts

The almighty 5 gallon whiskey still will make all your distilling wishes come true.

Fermentation is a breeze in 5 gallon buckets and the heat-up time is fair deal.

A typical run lasts for a couple of hours, and should produce between 1 - 2 gallons of your preferred spirit.

Its optimum size and efficiency make it by far our most popular product.

10 GALLON WHISKEY STILL

THE EXPERT

The still for distilling veterans

The 10 gallon whiskey still shines in the hands of the experienced distiller, who knows his mashes and takes his time to perfect his spirits.

It needs longer to heat up, but promises to deliver between 2 and 4 gallons of liquid bliss.

The still's impressive size and smooth curves make it a glorious work of art and functionality.





Distill It Yourself

Make your Own Whiskey



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