Building Your Own Moonshine Still?
Here's How To Get Started

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Learn To Solder

Soldering copper pipes for your Moonshine Still

Soldering copper pipes is a basic plumbing skill. It can be as much an art as it is a science, thus the more you get the “feel for it”, the faster and easier it gets.

Soldering copper pipe, or “sweating” as they call it in the trades, relies on capillary action to create a well-sealed joint. By using a propane torch to heat up the two pieces you are joining, solder is “sucked” into the joint and spreads evenly between the pipe and fitting. Once it cools, you should have a solid, leak-free joint that will last for years.

Use care when working with a torch. Keep the flame away from wood framing or other flammable materials. Also remember to let your work cool before handling it.

Moonshine Still TIP – Outside soldering will keep the smells out of the house and the better half happy ... (don’t smell up the house and make distilling an unpleasant hobby for the family, right ?

Step 1:
Plan ahead. Determine all the materials you will need to complete your plumbing project. Make sure you have enough copper tubing and fittings to make all your turns and straight runs. The last thing you want to do is run to the hardware store in the middle of a project.
Step 2:
When you are ready to begin, cut all your straight pipes to length. (Make sure to add the length of straight pipe that will slide into each fitting.) A tubing cutter will give you the cleanest cut, however you can use a hacksaw and a miter box if necessary. However you decide to cut the pipe, make sure you do not bend the pipe or create nicks in the surface that will be soldered. These situations can cause leaks.

A tubing cutter is a clamp-like cutter that rotates around the pipe as you cut. Align the blade of the tubing cutter with your cut mark. Tighten the clamp in place. Spin the cutter around the pipe a few times, tightening it after each full rotation. Repeat until the cut is complete.

Step 3:
Use the reaming blade on the tubing cutter to remove the bur on the inside of the cut pipe.

Step 4:
Now you need to prepare the surfaces that will be soldered. Take emery cloth or steel wool and polish the ends of the straight pieces where they will be soldered. Polish until the metal is shiny and clean. This will remove any grease, dirt and oxidation that can prevent a leak-free joint.
Moonshine still tip – most moonshine still leaks are from still pipes or fittings not being properly clean, sanded, and prepared.

Step 5:
Use a round wire brush to polish the insides of fittings.

Step 6:
Before you start soldering, assemble your pieces to make sure everything is cut correctly. Joints fit together without “torquing” straight pipes do not slide easily into sure they are not squashed into an oval shape. Re-
cut any pipes that don’t fit well. Disassemble the pipes and use the flux brush to put a thin coat of flux on all surfaces that will be soldered. This includes the ends of straight pipes and inside of fittings. Assemble the pipes and fittings again. Moonshine still tip – using a high quality silver tinning flux will make the solder flow smoothly into the still copper pipe and fittings.

Step 7:
Get ready to solder. First make sure that you protect all flammable materials near each joint. This includes wood framing, wiring and insulation. Cover the flammable materials with a piece of sheet metal. Next, take your roll of solder and unwind about 10 inches. Bend the last 2 inches into a 90-degree angle. Light your torch and adjust to a 1-1/2” flame. Heat the area on the fitting where the straight pipe slides into it. You want to use the inner flame tip and move it around slightly so that it heats the whole overlapping area. After heating for about 8 to 10 seconds, touch the solder to the joint at its highest point. If it is adequately heated, capillary action should pull solder into the joint. If solder does not pull into the joint, apply more heat and try again. When solder drips out of the bottom, the joint is filled with solder.

Moonshine still tip – using a high quality silver solder will make your soldering flow more smoothly. Be sure your solder is lead free and contains silver. The silver solder sticks to the copper rather than rolling off. The lower temperature needed for silver solder flow means less heating and longer flow time.

Step 8:
For a clean, professional finish, quickly brush off any excess solder from around the joint. Be careful – the joint is still hot.

Once all joints are soldered and cooled, turn on the water to your new copper pipes. Open faucets to bleed any air from the system. Check your work for leaks. If you encounter leaks, you will need to re-
solder those joints. It is important that you completely drain the water from the area. Otherwise the water will prevent the joint for heating up enough to melt the solder. First try reheating and applying new solder. If the leak persists, you will need to disassemble that joint and possibly replace a defective joint or pipe.

**Tools Needed To Build A Still**

**Required tools to build your moonshine still**

Pictured above are some of the tools you’ll need to construct your column reflux still. Some tools you may already have laying around the house. Others you may have to buy.

Note that you can substitute a hack saw for the pipe cutters in a pinch, but the pipe cutter will give you much better results, trust me... You can find all of these supplies at your local Home Depot or Lowes. Here’s a list of what you’ll need:

- Small pipe cutter (to cut 1/2” and 3/4” pipe)
- Large pipe cutter (to cut 1 1/2” pipe)
- Tape measure
- Pencil (marker, whatever...)
- Crescent wrench
- Silver lead-free solder
- Tinning flux
• Blow torch and something to light it
• Steel wool (or sand paper)
• Bench vice
• Teflon tape
• Round file (rasp)

I like to use a bench vise to hold my work. It makes the job much more simple. It’s like an extra set of hands.

I lay an old towel between the jaws (you’ll see it in later pictures) to avoid scratching or scraping the pipe that I’m working on as I will polish the whole project in the end.

And scratches will really detract from the overall appeal.

Now your ready.

So Giddyup.

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