

Chain Makin Project

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This project is for beginners that wish to become silversmiths, part time or full time. Keep in mind that there are many ways to do this faster with the use of mechanical tools, but you are doing this project to learn how to use your frame saw and how to solder.

Tools you will need:

1. A pick. A pick is used for manipulating silver when soldering, to pick up solder and move it to where you want it, also to put flux where you want it. I made my pick out of a steel coat hanger. One will last you a long time. Keep the point sharp and clean at all times.
2. Torch. Almost any torch will do. We use a Prest-O-Lite acetylene torch with a B tank for gas supply. Buy this at your local welding supply store.
3. Tweezers, sharp pointed and self-locking (cross lock).
4. Pliers. Buy these in a set of four. They are more economical that way. Flat nose pliers, round nose pliers, chain nose pliers and flush cut end cutters.
5. Frame saw, 4 inch depth.
6. Saw blades. To start with, use a 3/0. You buy these by the dozen or the gross. As you get into silversmith, you will use many different sizes of saw blades.
7. Bench Pin.
8. A bench. Any kind you are comfortable to work on.
9. Needle files.
10. Soldering board.
11. Charcoal block.
12. Steal wool (000). Buy this at your local paint store.
13. Two 3" deep clear glass dishes, 1 for pickle and 1 for rinse water.
14. 1 lb. pickling compound. Sparex, or similar compound.
15. Small bench vice.

Materials you need:

1. One oz.. hard wire solder. This will last you a long time as you will be cutting it very small.
2. Sterling silver - 2 Oz. 14 gauge half round wire and 1 Oz. 14 gauge round wire.
3. Flux. Start with any good pre-made flux. (Ultra Flux by Engelhard).
4. Popsicle sticks.

INSTRUCTIONS TO GO WITH PROJECT CHAIN MAKING.

A pick is used to manipulate silver when soldering and to pick up solder and move it to where you want it. You also use it to put flux where you want it. Keep the point clean and sharp at all times.

We make our own flux, but there are good ones on the market. If you want to make your own, this is the formula. Get the ingredients at your local drug store. 90 grams boric acid, 60 grams borax, one qt. distilled water. Put ingredients in water, heat till clear, store at room temperature. Use in smaller containers.

You are going to make a chain and when doing so, you will be learning to use your saw and to learn how to solder.

There are three principal solders, hard melts @ 1435, med. melts @ 1335 and easy melts @ 1260. The one you will be using is hard. This is the one to start with. When you learn to use this, the others will be easy. Get hard wire solder. One oz. is a lot as you will be cutting it very small ,1/64". When you get your solder, cut off approx. six inches. Clean by striping off oxides with steel wool, 000. Buy this at your local paint store. Cut solder into a large bowl . This will prevent losing any as it will jump when being cut. Store in a small glass bottle. Clearly mark it HARD.

Your chain will be made of 14 gauge half round sterling wire. Buy a couple of ozs. The hook will be made of 14 gauge round wire. Buy one oz. There will be lots left for you to play with.

STEPS TO MAKE CHAIN.

Anneal. (soften silver). Sterling silver is non ferrous metal, so to anneal it, take your half round wire and coil it into a circle approx. 3 to 3 1/2 inches. To not kink or bend. Take each end, curl around circle in two spots. This will hold circle in place. Put circle on a charcoal block and heat with torch till dull red. Take away torch and let cool. When cool, place in pickle acid. This will clean it.

Cut off approx. 6 ft. Place one end into a small vice. Take other end and start to wind onto a popcicle stick. Pull tight but do not stretch the wire. Wrap the wire closely around the stick.

Now you are ready to saw the wire. Leave it on the stick. Place the wrapped stick on edge on your bench pin. Now, cut down the center of the upright edge, the thin edge of the popcicle stick. You will be using a 3/0 blade in your frame saw at a slight angle, one of the very few times you will ever use your frame saw at an angle. After

cutting through 3-4 links, remove the links. Cut off extra wood from stick and repeat till all links are cut.

YOU ARE NOW READY TO PREPARE LINKS.

Take each link and examine it for any feather edge on either end of the cut joint. Use a needle file to file off any feather edges.

Divide links into two equal piles.

Take one pile and align joint, using pliers, for soldering. Note, you cannot bridge silver, so the joint to be soldered must be touching and be perfectly aligned.

Using your cross lock tweezers, pick up link and stand on edge, the joint to be soldered pointing up. Take pick and dip into flux and put droplet of flux on joint. Spread out solder snippets onto soldering board, heat one snippet till it forms a small ball, use pick point to pick up snippet while still hot. Heat link till it has a slight mercury look. At this time place the snippet on the joint. It should almost jump onto the link. Take lost of time. Do not burn the silver or the snippet. Do the complete pile of first pile of links.

Now, take two links and join them with a link from the other pile and repeat till you have a chain the length you want. Just make lots of links.

Make hook and attach to chain. Put in pickle pot until clean, approx. 30 mins. Follow directions of pickling compound mfg. Rinse in clean water.

DO NOT UNDER ANY CIRCUMSTANCE TRY TO POLISH CHAIN ON BUFFING MACHINE.

Use your steel wool. Pull the chain through the steel wool, for a good finish. That's it. Good luck.