

BASING MINIATURES WITH TUBING AND BARREL CLASPS

I have had several requests for a more information on how I make my removable bases for miniatures. So here you go. Let me know if you still have questions.

Why Removable Bases?

A common problem that many miniature gamers face is transportation of their minis to their local store or wherever they play so the mini doesn't get damaged. Often the mini isn't damaged, but base breaks, especially if a plastic post is used and only that small nub on top is inserted in the mini.

To prevent this some people have tried a few ways of making the base and post removable from the mini for transport. I reviewed and tried a few methods before coming up with this one which is actually a combination of a couple methods I have seen.

This method allows a solid connection so you can pick up the mini and the base stays attached. A drawback though is that each mini has its own base so it is a lot of work.

Supplies and Tools Needed for Star Ranger's Removable Bases



Supplies

- Miniature
(I'm using a Furious class Escort Cruiser from GZG)
- Barrel Clasp
- 5/32" Aluminum Tubing for the post
- 3/16" Brass Tubing for the cuff
- Plastic hex base, domed style
- 2 x 7/8" fender washers

Tools

- Zap-A-Gap CA Glue
- Tubing cutter
- 5/32" Drill bit and Drill/Driver
- Needle Files, flat and round
- Needle Nose Pliers (not pictured)

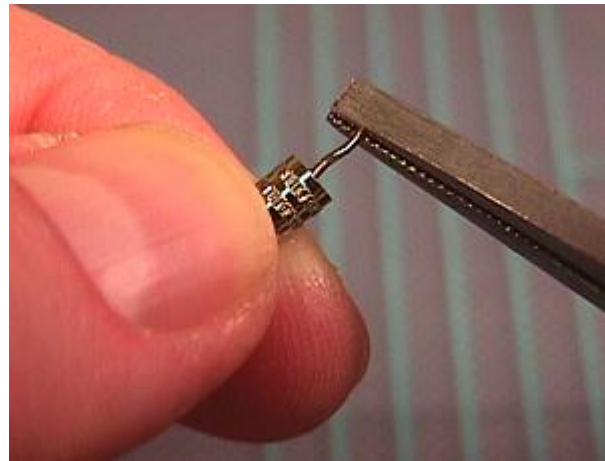
Barrel Clasps - This is what really makes this basing method work. They are used for making necklaces and other pieces of jewelry. The chain is connected to the wire loops on the ends and the clasp screws together to make a solid connection that does not easily come apart.

You can find them in the jewelry components section of most craft stores and some fabric stores that have craft supplies. I buy mine at Michaels craft stores in bulk packs of 24 for a couple dollars when jewelry making supplies are on sale.

There are a few different styles of Barrel Clasps. I use the straight sided ones pictured to the right. They are 4mm in diameter and that works out well as you will see below.



Start out making the base by taking a Barrel Clasp and with a needle nose pliers, unbend the wire loop on each end.



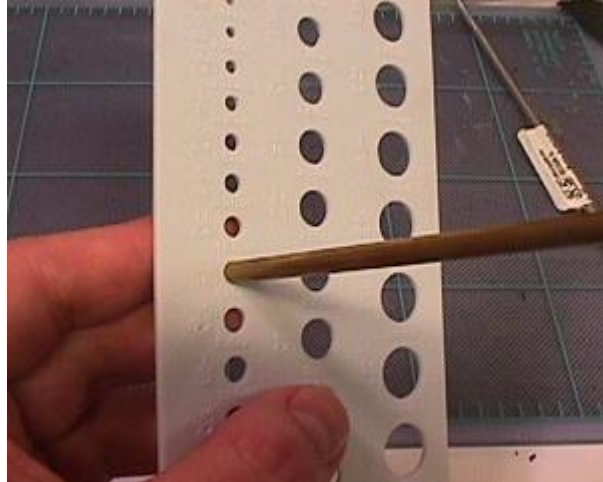
Then unscrew the clasp into its two pieces, the wires should come through each half so they can be removed.

Screw the clasp back together and save it for later.



The second major breakthrough I had in making these bases was the use of tubing commonly found at hobby shops (especially those with model train supplies) and some craft stores like Hobby Lobby.

Tip #1 - If you can find a drill bit size guide like the white plastic one to the right, it is a handy tool to make sure you know the size of the tubing you are using along with the size of any drill bits have around.



To cut the tubing, use a Tube Cutter which you should find next to the display of tubing at your hobby store. It has a sharp wheel and a guide that is movable so you can cut different sizes of tubing. As you rotate the tubing in the cutter, you tighten the adjustable wheel to cut deeper and deeper until you have cut all the way through.



Cut off a 3/8" long section of 3/16" diameter brass tubing to become the Cuff (more on what the Cuff is later). Brass tubing which is pretty tough and hard to bend.

Cut off a 1" section of 5/32" aluminum tubing to become the post. Aluminum tubing costs less than brass but it is softer and easier to bend. I use aluminum tubing for the posts of smaller ships because it is less expensive. For the larger ships I do use 5/32" brass tubing just to make sure the post is stronger for the heavier minis.

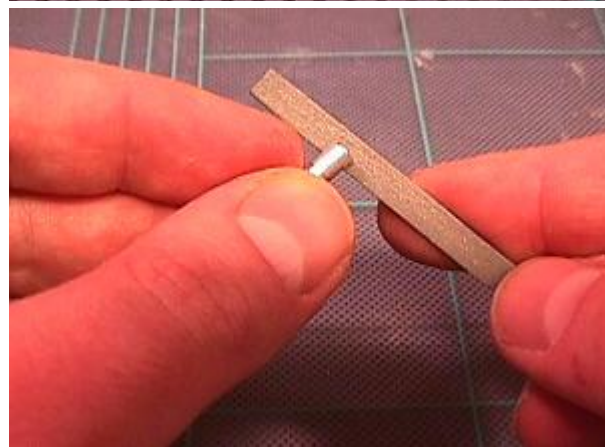


Here are the two pieces of cut tubing.

For most minis, a 1" post is about right, though I use a bit longer post on the largest minis, and shorter posts on most cruisers and smaller. This allows the smaller ships to move closer to the large ships because they can fit under them.



Clean up the outside edges of the post with a flat needle file. The tubing cutter creates a ridge on the inside and outside edge of the cut which needs to be filed off.



Clean up the INSIDE of the brass tubing Cuff with a round needle file. By just filing flat through the Cuff you can feel it smooth out the ridge.

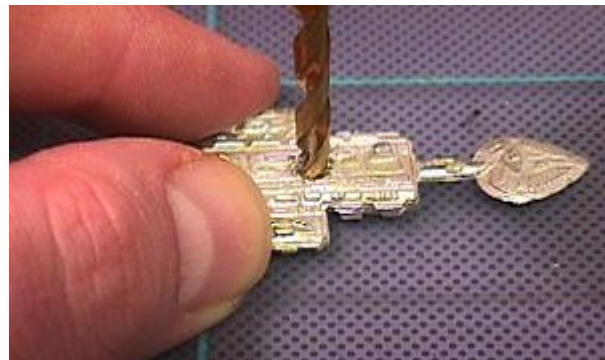


When ridges left from cutting have been cleaned up, the brass Cuff should fit easily over the aluminum post. That is one of the cool features of this hobby tubing, each size should fit over the next smaller size.



Drill out the mounting hole in the bottom of the minis with a 5/32" drill bit. Be careful not to drill through the mini though.

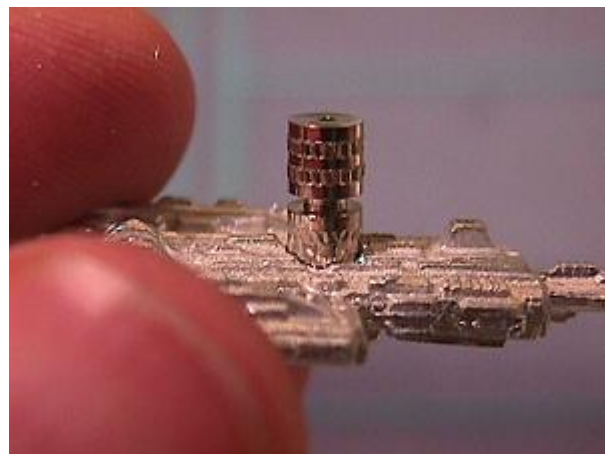
Tip #2 - Use a drill/driver to do this. You don't need to spin the bit at high speeds, the slow settings of a driver (electric screwdriver) gives you more control.



Tip #3 - Use high quality titanium coated drill bits. I dulled 2 steel bits drilling into minis before I paid the extra dollar for a quality titanium bit that last many times longer.

Because the 5/32" is virtually the same size as the 4mm Barrel Clasp, it will be a tight fit into the hole. You can rotate the drill around a bit to enlarge it slightly.

Test fit the Clasp into the enlarged mounting hole. I like to have the Clasp fit in deep enough so at least that first row of groves is covered so I know it will be a solid connection.

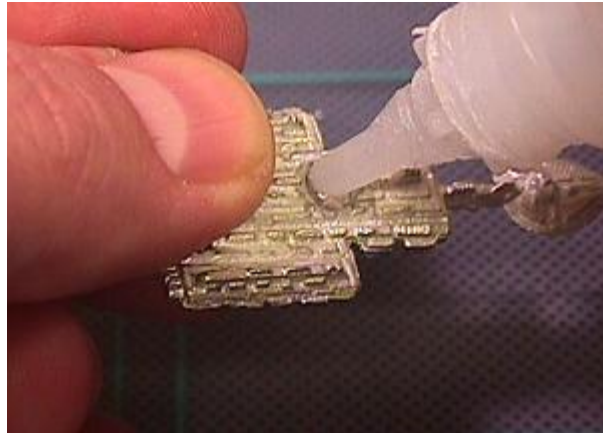


The clasp is partially unscrewed in this shot to help show how deep it is fitting into the mini.

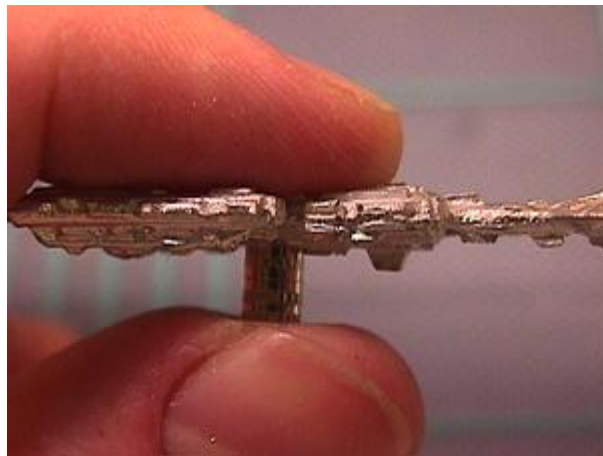
Put a drop of Zap-A-Gap into the hole and put the clasp in.

I put the male half of the clasp in the mini. No real reason and it will work the other way if you choose.

(Way too much glue came out in that picture as I was waiting for the timer to snap that shot)



Once the clasp is in, make sure it is perpendicular to the mini so the mini looks flat later when mounted.



Using the same 5/32" drill bit, enlarge the hole in the base. Here I am using the classic domed hex base. It is fragile so don't drill too far.

Other bases can be used per your preference. I use these domed hex bases for cruiser and smaller sized ships. I use the old GeoHex round bases for Capital ships and larger, but I do add fender washers to them for extra weigh and even extra size for the largest ships.



I like to lower the center of gravity of my miniatures on bases to make them more stable, so I add extra weight to the base if possible. For the domed hex bases, I add a couple of 7/8" fender washers which I buy in bulk boxes of 100 at the local hardware store.

Using the Zap-A-Gap again, put a few drops on one fender washer.



Stick the other fender washer on the first one to make a single double-thick washer. These are a bit offset but that does not matter.



More Zap-A-Gap in the cavity of the domed hex base. Make sure you get the center spot and then the sides where the edges of the washers will hit.



Place the double-thick washer in the cavity and you now have a weighted base.



Flip over the base and insert the base post into the enlarged hole. I use the flat needle file to help me push the tube in. It should snap in place and stay there very well without gluing it in. This is good so you can rotate the post later.



Put the Cuff on the clasp. It should be a tight fit so you may have to place the Cuff partially on the clasp, and then with the Clasp down on your work surface, push down on the mini.

I like the Cuff to cover the first set of ridges and come close to the second set on that half like is shown to the right. This makes sure there will be a solid connection.

If the cuff slides on too easy, you filed too much with the needle file a few steps back.

If you can't get the Cuff on the clasp, get out the round needle file and clean up the ridges a bit more.



Put a drop of Zap-A-Gap on the inside of the Cuff and let it flow down to the bottom of the clasp.

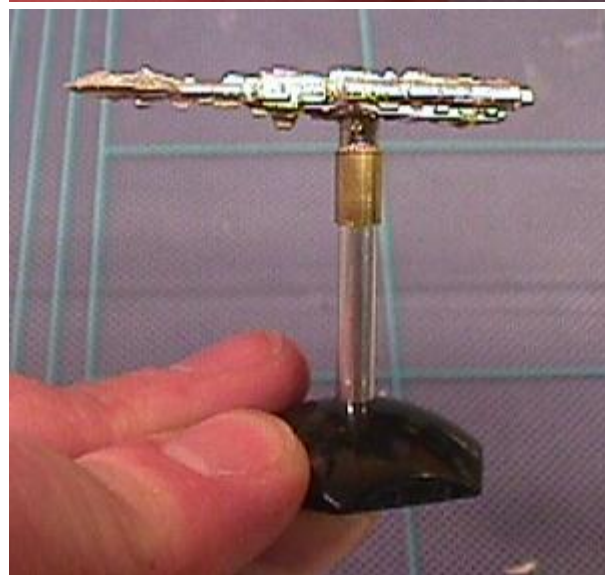
Zap-A-Gap is thicker than some 'super' glues but it will still flow, and that is need in this step.



Here you can see the Zap-A-Gap drop at the bottom edge where it has hit the clasp. This makes sure the clasp and cuff are attached.



Quickly insert the post into the Cuff and the Zap-A-Gap now connects the post t to the Cuff and the clasp.



Since the post is not glued to the base, rotate the post in the base so the miniature faces a flat edge.

When using a different type of base, you may need to glue the post to the base and I do it at this point in the construction of the base. When gluing the post to the base, first make sure the clasp is fully screwed on. Then put the glue in the hole of the base and insert the post into the hole with the miniature facing about 10 o'clock. Then quickly but carefully rotate the mini to the 12 o'clock position. By doing it this way, you make sure the clasp is fully tightened and does not come loose so later when you assemble the mini and base, it faces the correct way.



That is it. The mini is now based for play and will easily unscrew off the post for transport.

I paint the base black once the mini is painted and you can hardly notice the base. It looks just like any other base....until you unscrew it.

I usually make several bases at a time in an assembly line method where I do each step for all of the bases before moving on to the next



With a quick twirl of the base, it comes off and you no longer have the problem of broken posts.

A couple more close-ups are below so you can better see how it all ended up.

If you have any questions, please drop me a note at dean@star-ranger.com

<http://www.star-ranger.com/BasingMinis.htm>

Good luck on making your own bases and also let me know if you figure out an even better way of doing it.



