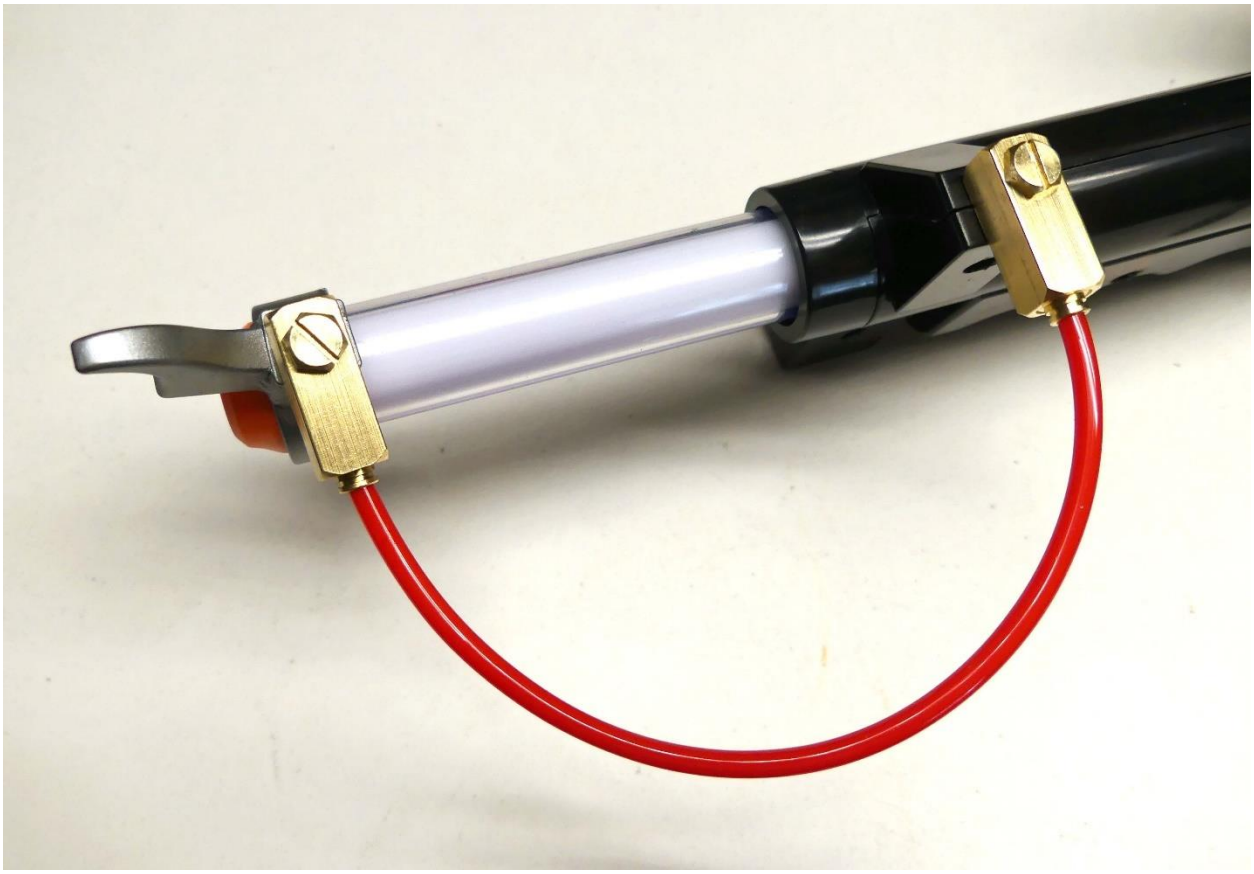
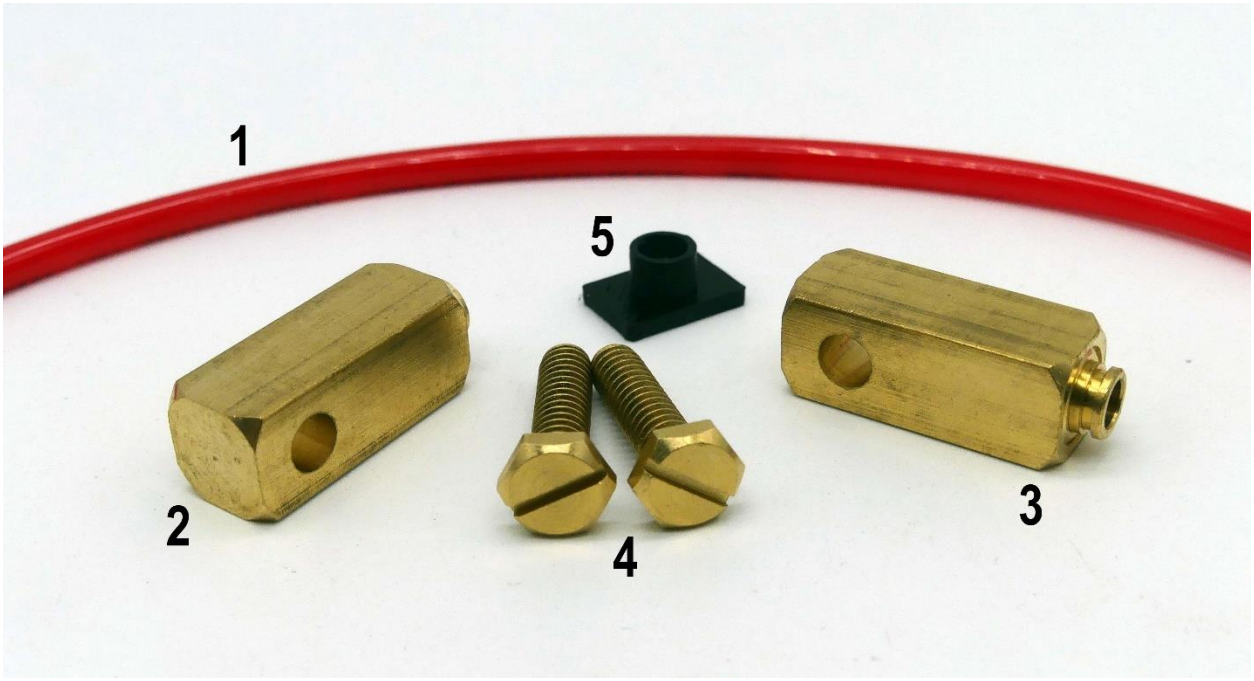
Introduction

Congratulations on purchasing the Hasbro Wand (1984 and Spengler) Brass upgrade kit!

The Hasbro Wand Brass Kit is designed to be permanently installed and replaces the plastic molded “Banjo” elbow parts.



Hasbro Wand Brass Kit Contents:



The Hasbro Wand Brass Kit contains multiple parts to complete the installation into your wand.

1) Red tubing
2) Brass “Banjo” elbow
3) Brass “Banjo” elbow
4) 2x Brass Screws to hold the Brass elbows in place
5) 3D printed nut for the Brass elbow on the ear.

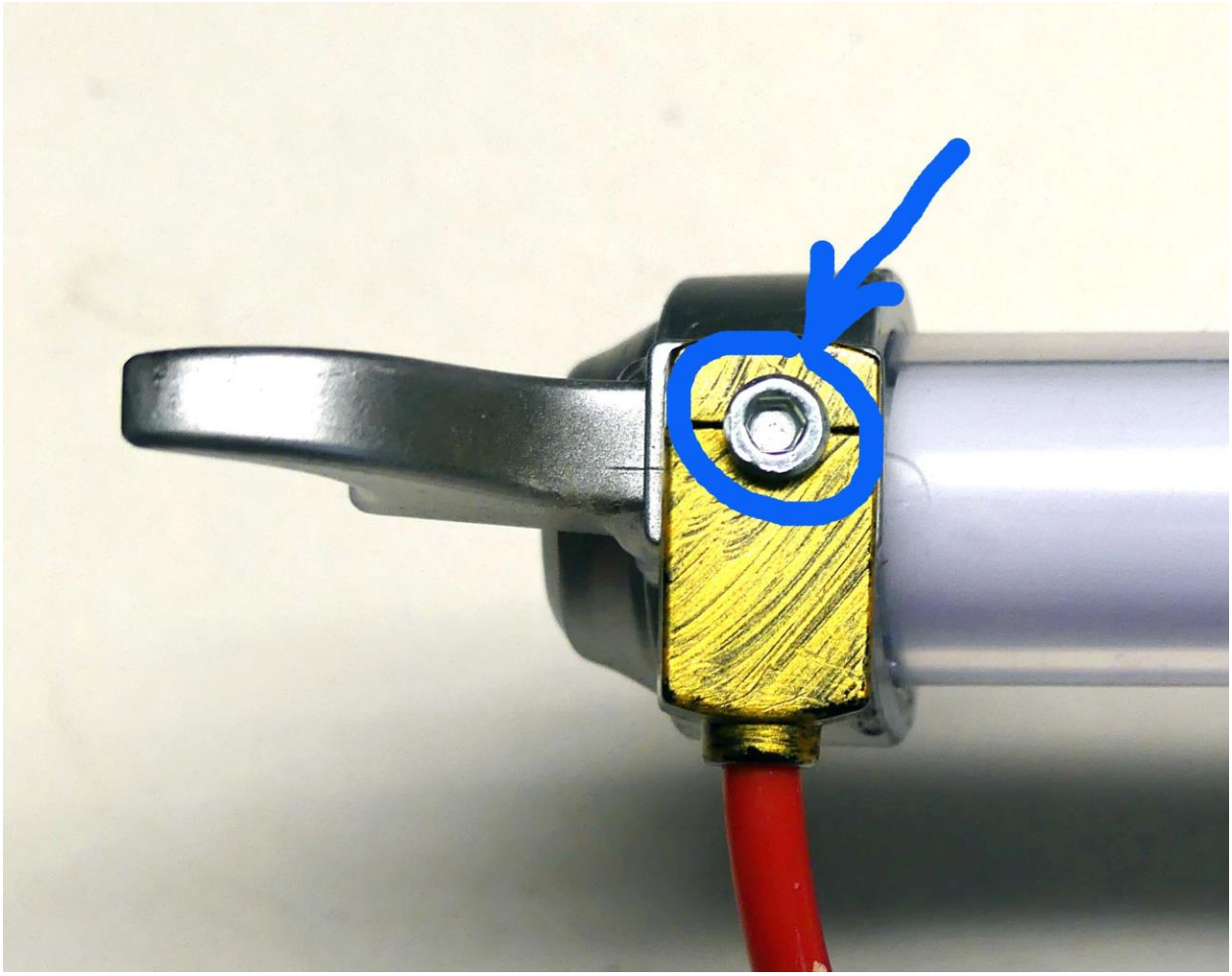
Installation onto the Spengler Wand

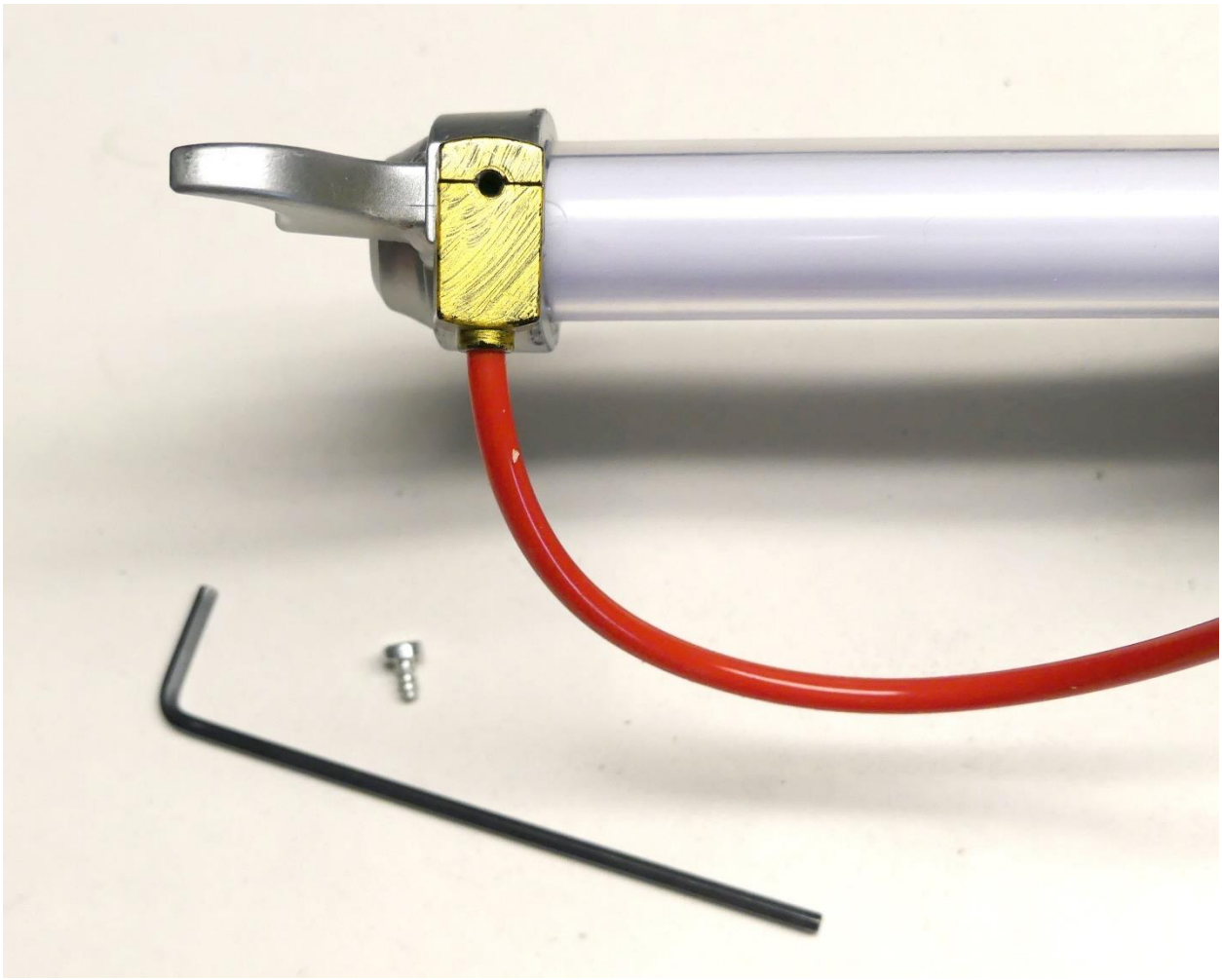
Wand Tip Brass:

Tools Needed:

- 3/32 Allen Wrench Hex Key
- Diagonal cutters or Rotary tool grinder
- 11/64” and 3/8 drill bits and drill
- Medium Straight-Head screwdriver

The first step is to remove the screw that is decorating the plastic elbow at the wand tip. Removing it does not remove the banjo, which is molded/glued in place.

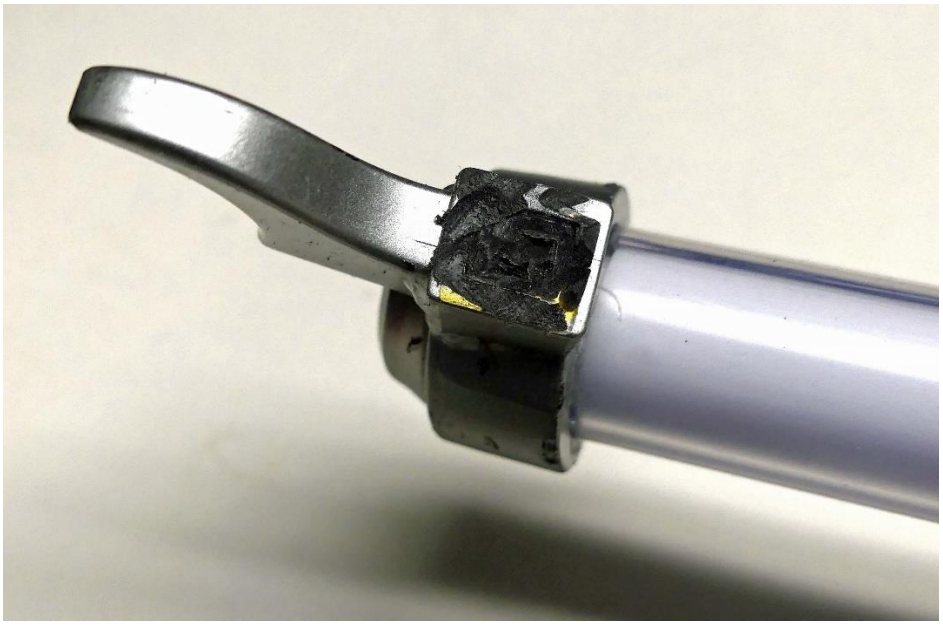




Next, you need to remove the plastic banjo from the wand tip. I tried this two different ways:

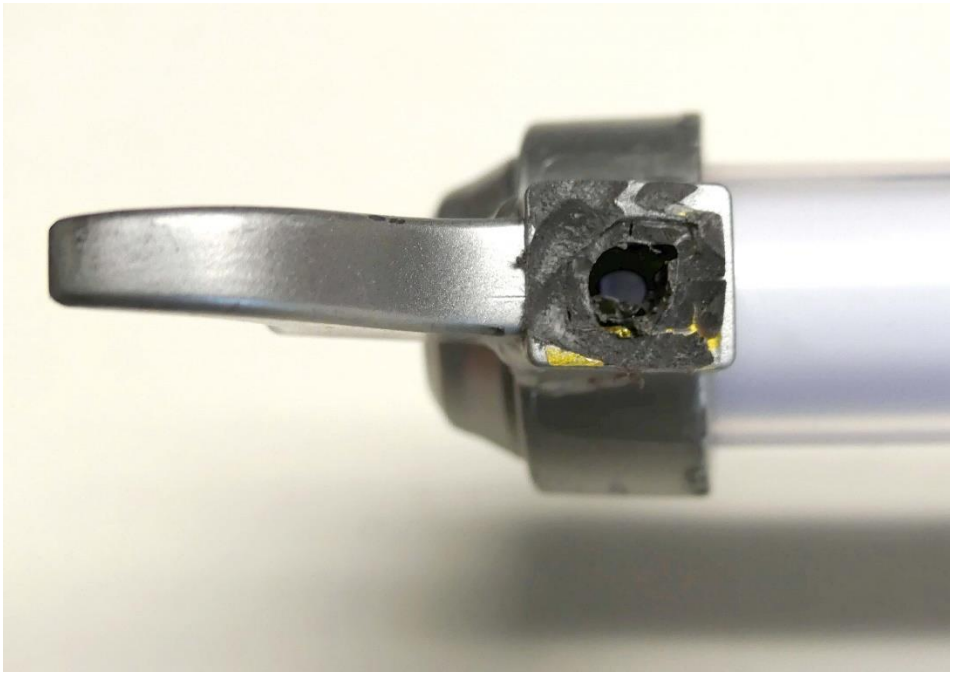
1) With a rotary tool and a grinding wheel
2) With diagonal cutters and just hack away at it

The griniding wheel was easier, but I may have ground away some of the silver paint on the surface beneath the plastic elbow. If you do this you may whish to pait or use some silver rub-n-buff to clean that up. I did not do anyof that for these photos and it still looks very good.

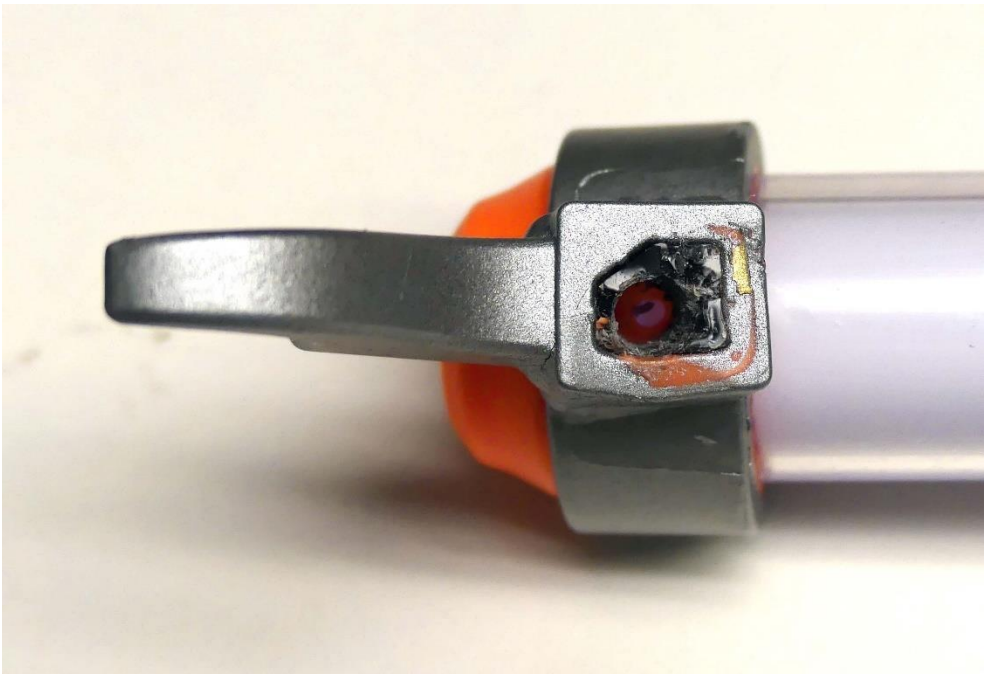


Next we need to drill a hole for the brass screw that will hold the new brass elbow in place. The 11/64” is best to start with, but if you do not have that the 3/8” will do. I used the 3/8 on a couple of wands and one of them did not allow the screw to be tighted down to much. It still holds fine, but I would have preferred a tighter hold on the screw.

Drill the hole in the center of the flat rectangle that you just exposed. There is already some hole since this was not a solid part. Just center as best you can, and do not drill too deep! Drill down until you can see some other color, but NOT into the plexiglass tubing.



And a wand version done with the diagonal cutters:



Next place one of the Brass screws (#4) into one of the Brass elbows (#2 or #3) and screw the brass screw into the hole you just drilled.



Ear Wing Brass:

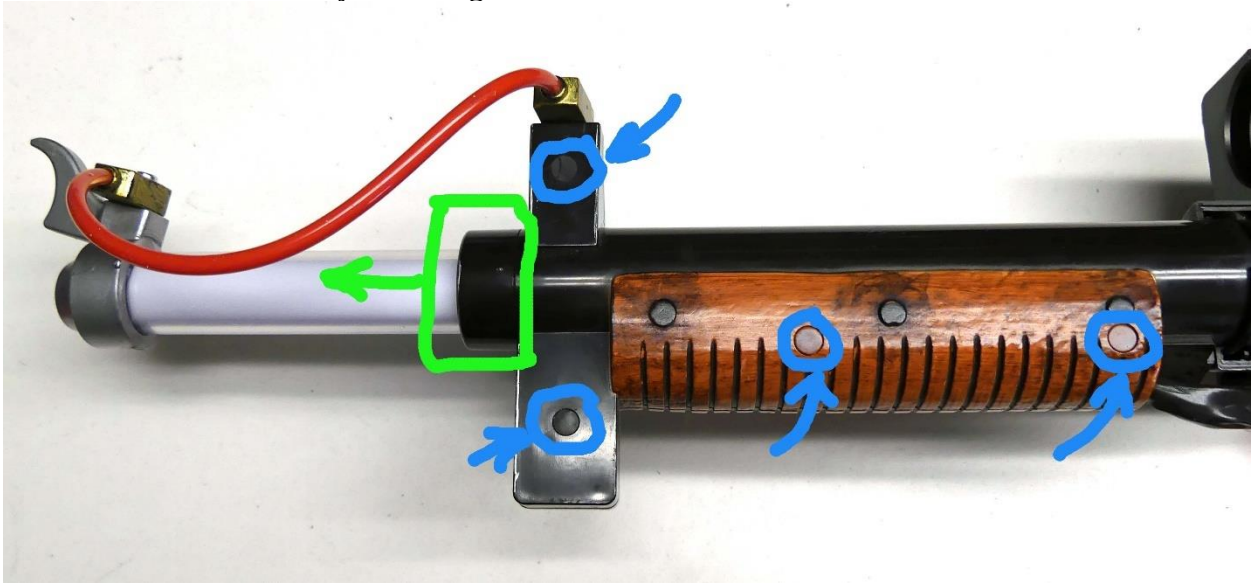
Tools Needed:

- 1/8” and 3/16” drill bits and drill
- Small-Medium Philips head screwdriver
- Small flat screwdriver
- Dental pick or needle – some small pointy thing

I had several wands that the end ring was somewhat easily removable and several that I could not get the retaining ring to budge. I destroyed one of those wands trying to get the retaining ring off and verified it was HEAVILY glued and there was no way that was going to come off…

First Method:

So IF you can get the ring off and slid forward (shown in GREEN), you could somewhat open up the wand ear and handle by removing 4 screws shown in BLUE:



The four screws holding two large pieces together are covered by glued on caps.

Use the drill on low speed (screwdriver speed) and start to drill the center of the cap that covers the screw with the 1/8” drill bit. You want to drill in far enough for the bit to “grip” the cap, but not so deep that you will drill the head of the screw. The caps are about ¼” deep, but you only need to drill in about 1/16” to get the bit to grip onto the cap.

Stop drilling with the bit in the cap and pull then pull the drill away. It should pop the cap out. Keep the caps for when you want to cover back up the screw heads.
I tried with smaller bits, and they did not provide enough grip and just pulled the bit out and left the cap in place. Tried to pry that out with the dental pick but they were too stubborn.

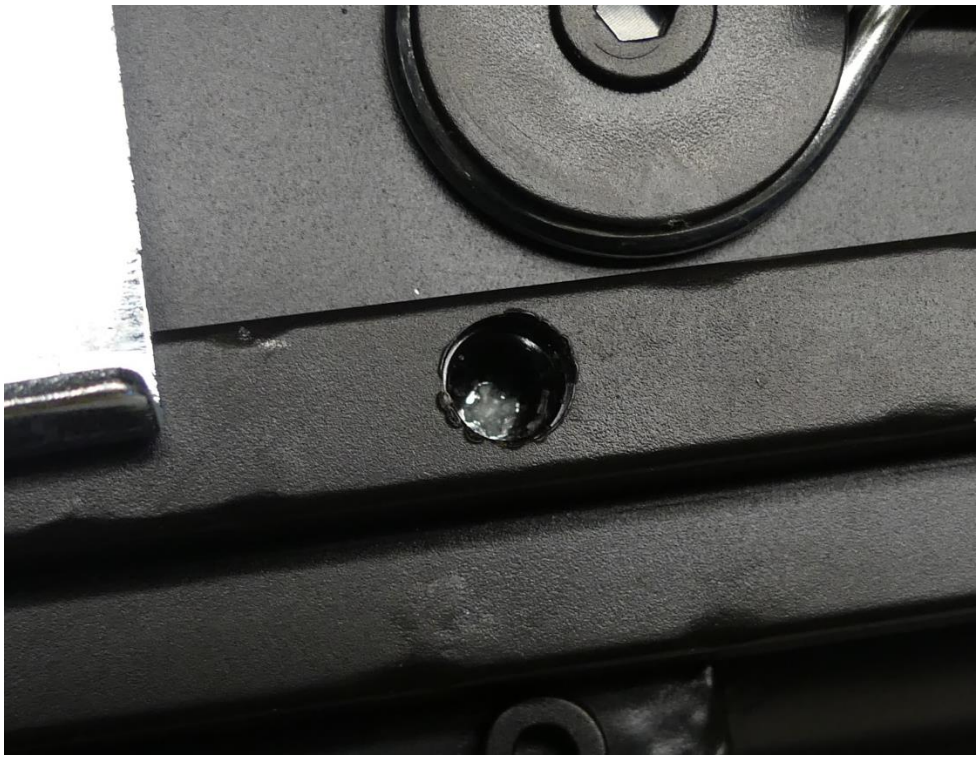


Once the caps are out you may have glue sitting in the hole and filling the head of the Philips screw making it difficult to unscrew. Use the dental pick (or needle) to scrape out the glue and clean it out of the Philip's head slots so that the screwdriver can have a good connection with the screw head.

Before:



After:



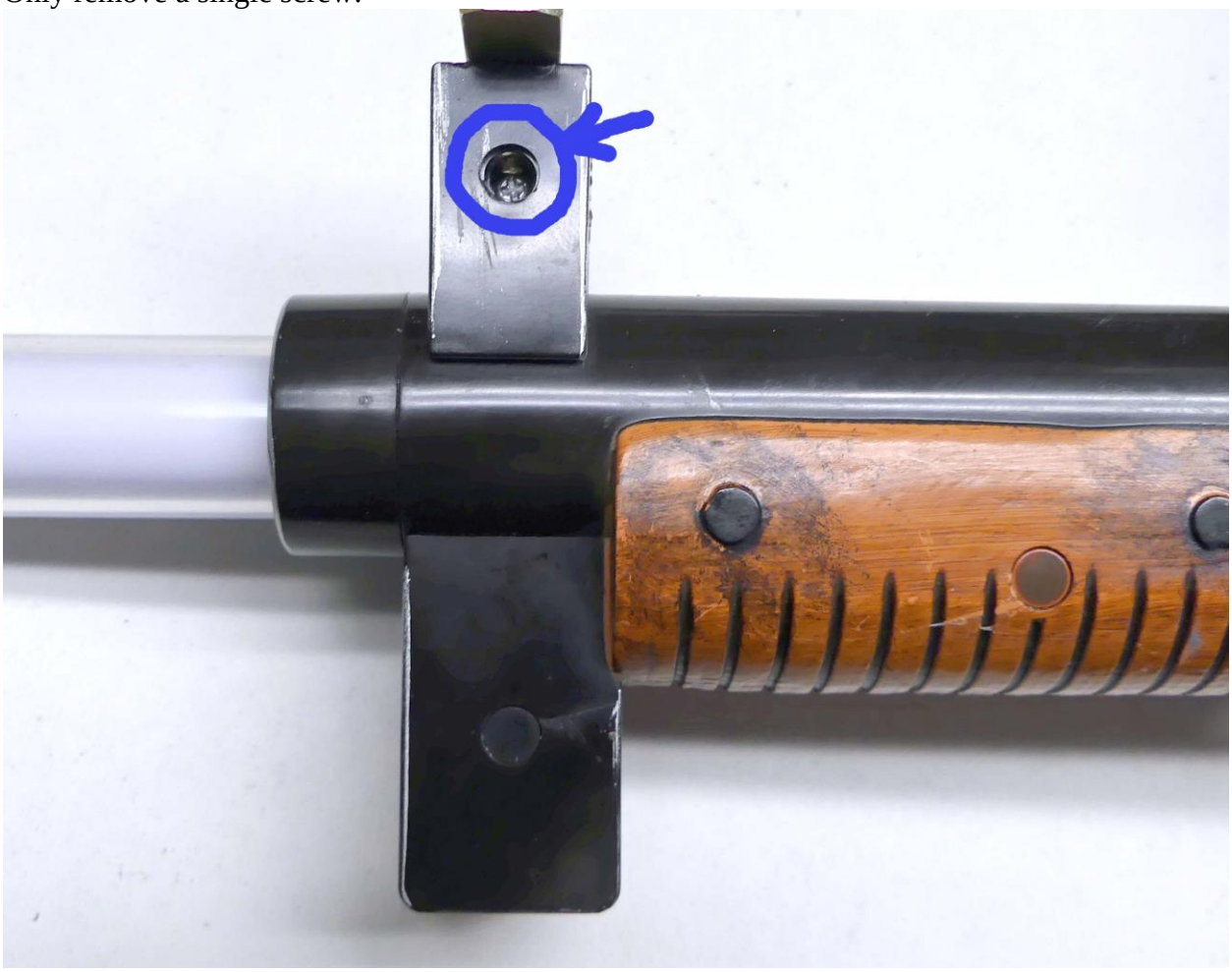
Once the glue residue has been removed, use the screwdriver to remove the four screws. Keep the four screws so you can put them back in when we are done installing the electronics and cables. I use an egg carton to hold, separate and organize the tiny parts that I am removing.

The handle can be somewhat separated – enough that we can remove and install parts, but will not come completely apart. There is a glued together piece in the wand body that still holds the two have together. I do not think there is a good way to separate these too pieces without damaging parts.

Alternate method:

If you cannot get the wand tip retaining ring off, this does not give you much room to remove and install parts, but may be the only thing you have available without damaging the wand.

Only remove a single screw:



The screw is covered by a glued on cap.

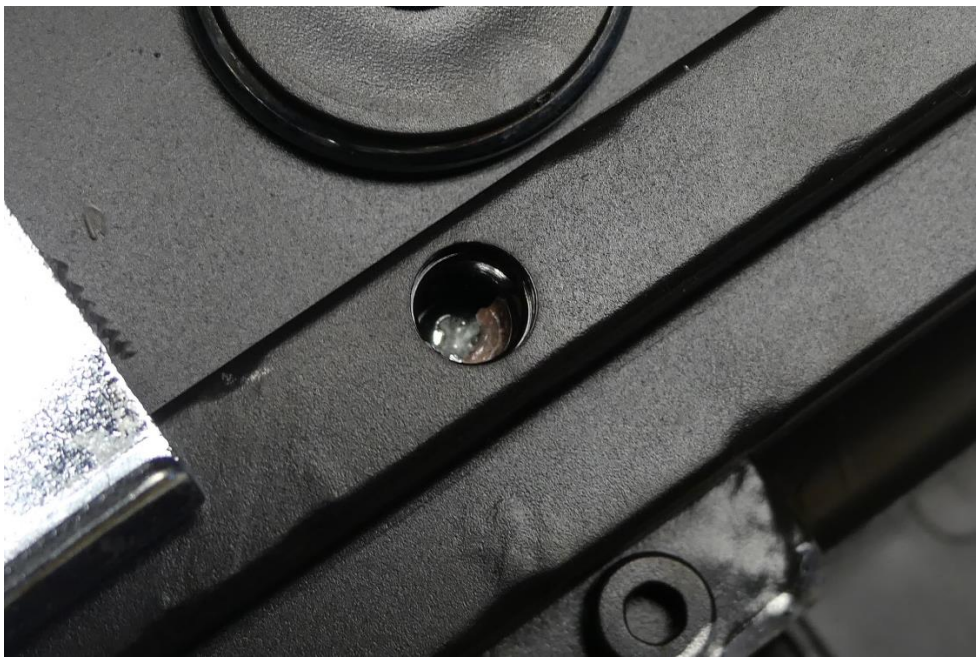
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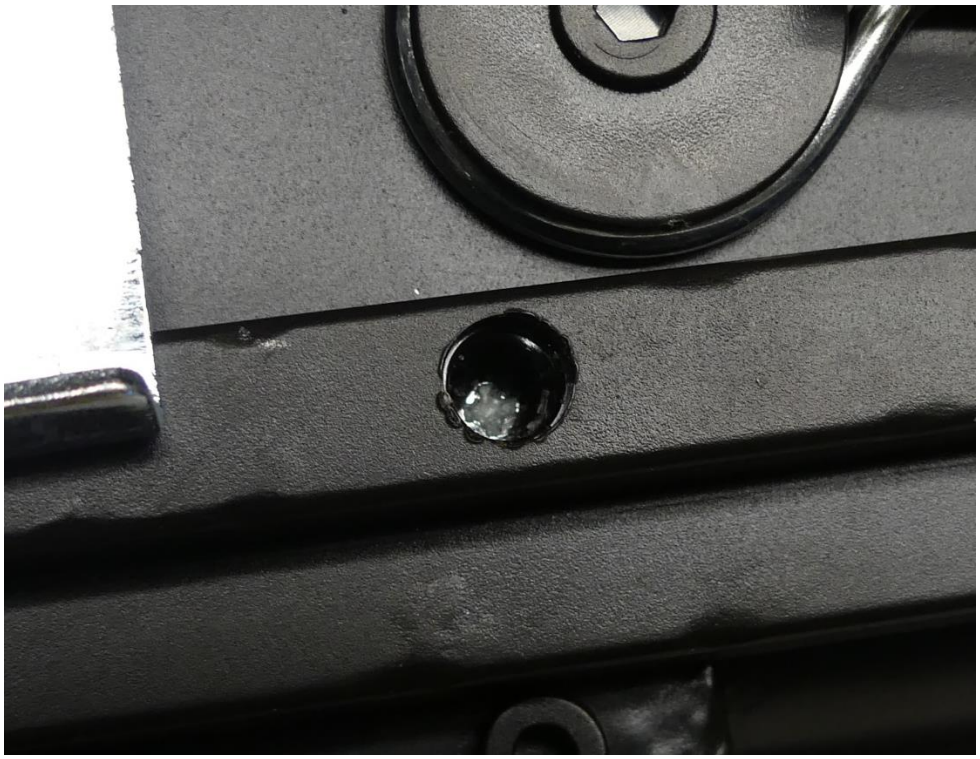


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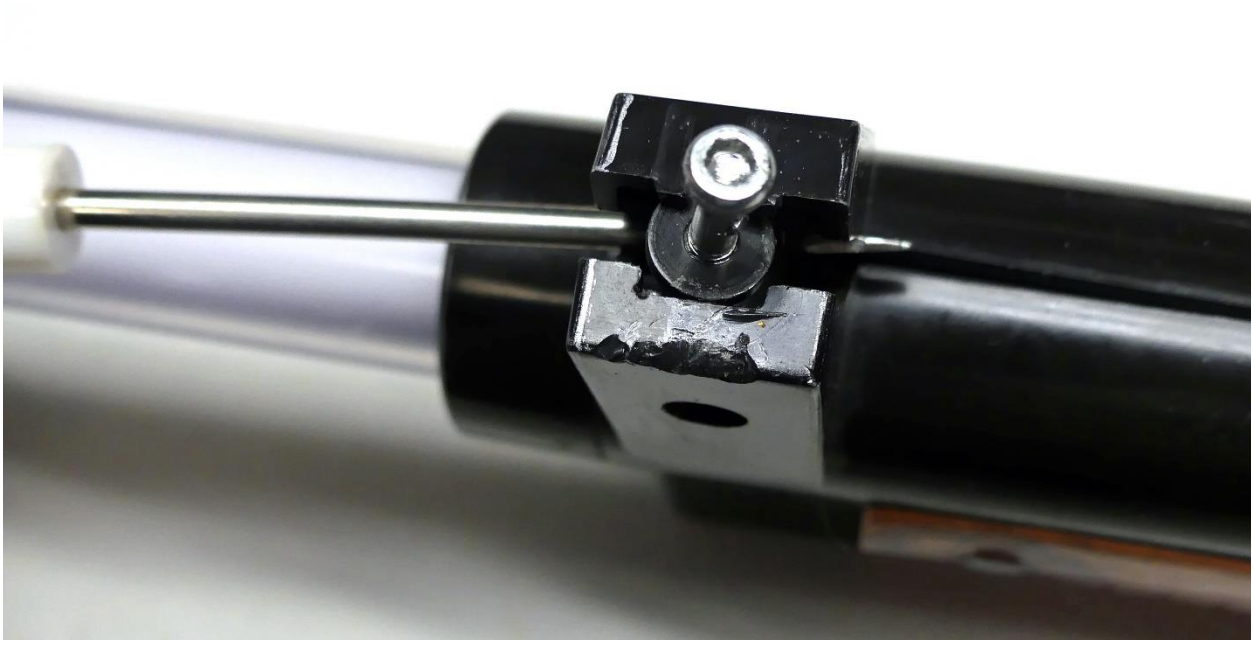
Once the glue residue has been removed, use the screwdriver to remove the screw.
Keep the screw so you can put it back in in the next steps. I use an egg carton to hold, separate and organize the tiny parts that I am removing.

Next the plastic elbow ("Banjo") on the ear needs to be removed. This one IS held on by the metal screw-looking part, but cannot be unscrewed. You can attack the plastic part with diagonal cutters or a grinder. You can destroy that brass-colored part but do not damage the black wand pieces! You may also be able to do the next step without removing the plastic elbow, but I did it to make sure you could see the next step.

Next you need to pry open the ear tab/wing enough to remove the retaining “screw” and the plastic “nut” that holds it in, but freely rotates.

This does put a lot pf strain on the plastic parts and you should be able to pry the parts apart just enough to remove this. Do not go past what is needed because we do not want to break things!

I used a small flat screwdriver to open up and hold open the two pieces and start to remove the original parts:

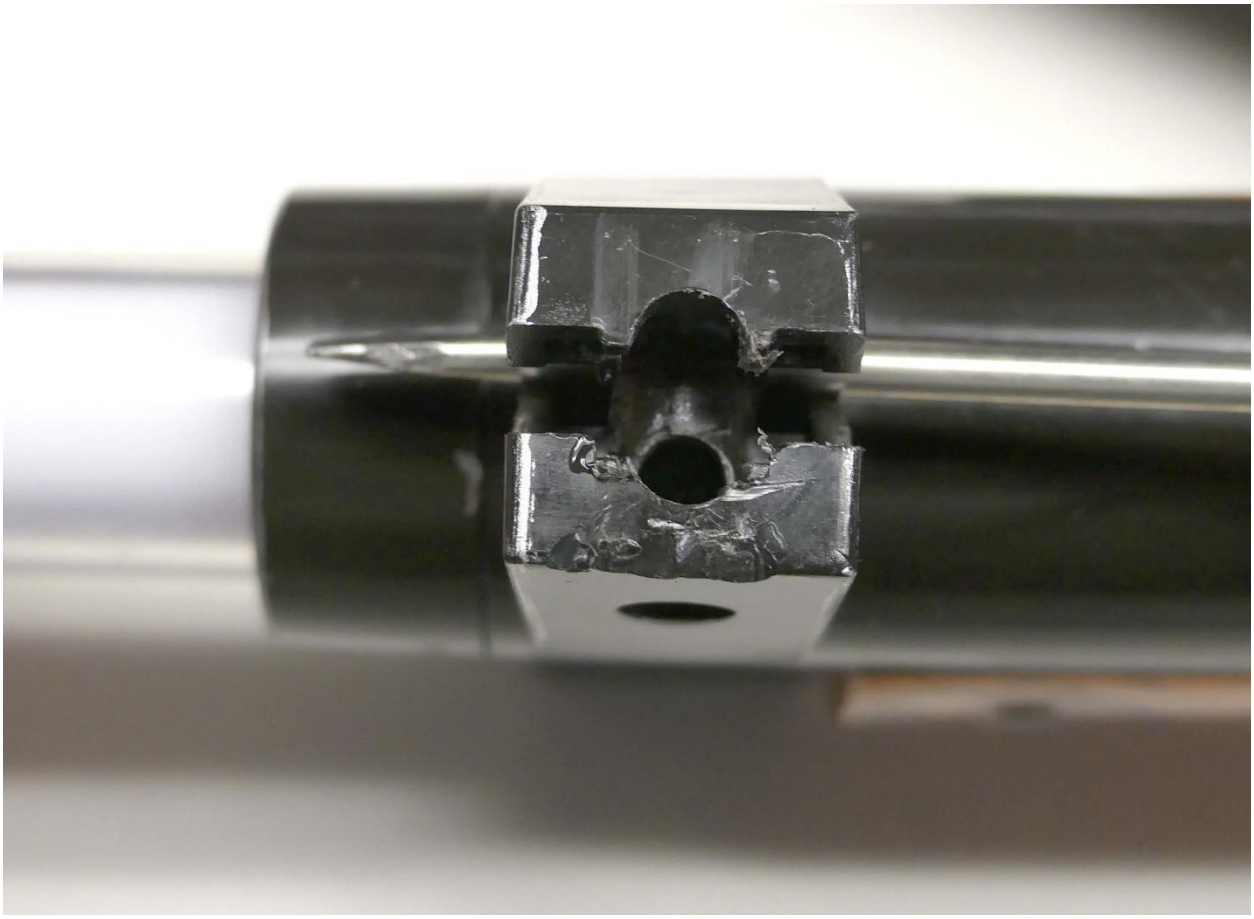


Once that has been removed, a lnew larger hole needs to be drilled for the larger brass screw we want to install.

Press the two pieces back together, and re-install the screw that holds the pieces together.

Now drill a hole with the 3/16”all the way to the screw. Either you a stop or tape to make sure you do not drill too far into the ear wing. Center the hole as best as possible on the existing hole. You do need to drill all of the way to the screw, so a part of the support post will be drilled.

Next unscrew the screw so we can pry the two pieces apart again. Using a screw driver like before, and/or some hex key (that is what ended up in the picture) to keep the pieces separated, it is best if you can clean out any of the drilled material for the next step. I used a dental pick to get in the end and clean out some stubborn pieces.



Next take the 3D printed part (#5) and slide it into place. I found it best to get it into the top half first and then press it towards the wand tube to get it into the bottom half. The cylinder that protrudes should go to the inside and the rectangle ‘s longest side goes along the top and bottom pieces and the shorter sides bridge between the two wand pieces.



The two pieces need to be pried apart just a bit more than what it took to get the original parts out.

If needed, you can cut the two tips off of the top wand part to make installing the 3D printed nut easier. I did not do this and it was still able to be installed in the above example.



TO get the two pieces back together I simultaneously pried the two haves of the wand aapart and pressed on the bottom of the 3D printed part to get it to at least be inside the bottom half's edge. Then the 3D part held the gap open and I could remove the screwdriver and use it to push on the exposed bottom of the 3D part and press it hard enough to slide into the bottom wand piece.

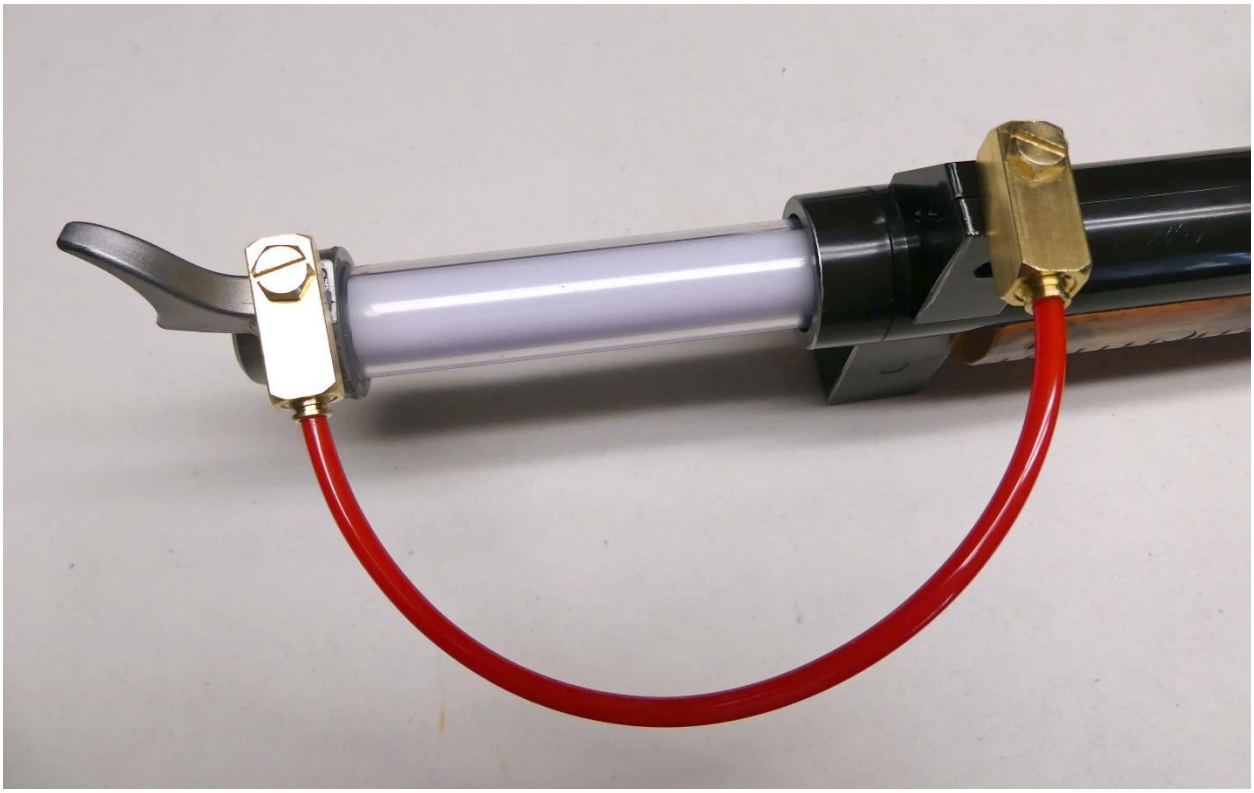
Then press the two pieces back together fully and put the screw back in that holds the two haves tightly together.

The 3D printed nut is designed to work well with the brass screw.

With the nut in place, you can now put the last brass screw (#4) in the remaining brass elbow and just screw it into place.

Adding the tubing:

The included red tubing (#1) is probably a bit too long. You can just press it into the ends of both brass elbnows (#2 and #3), extend the wand to the max position and see if it looks good to you. It is easy to cut with a razor blade or scissors if you would like it to be shorter.



Once the length is ideal, you can just count on friction, or glue / epoxy the ends in place for a stronger hold.

That is all!

Have fun and keep Bustin!