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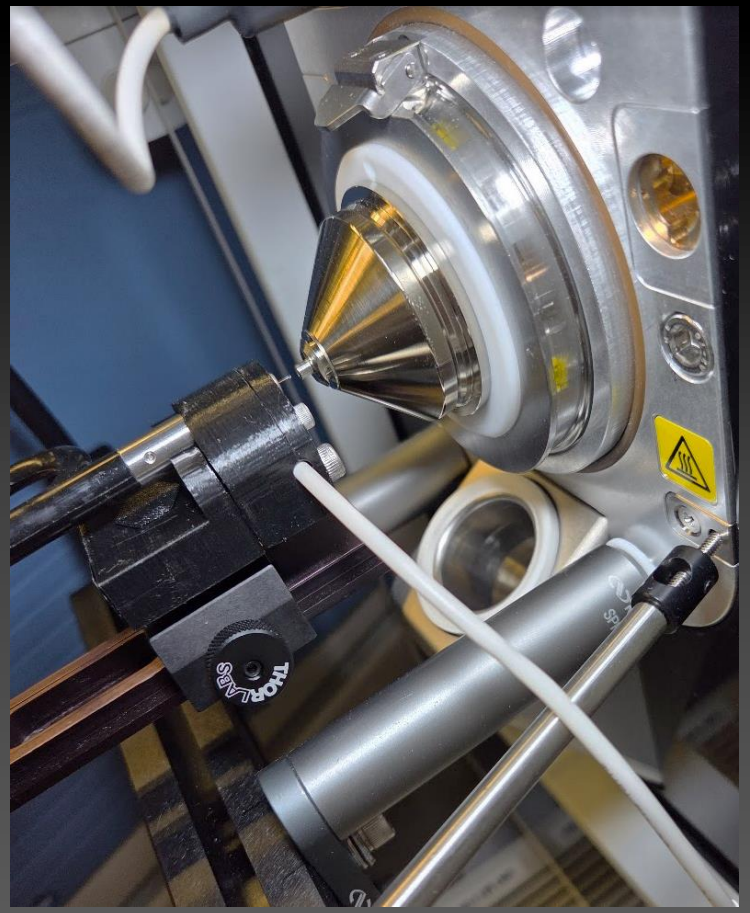
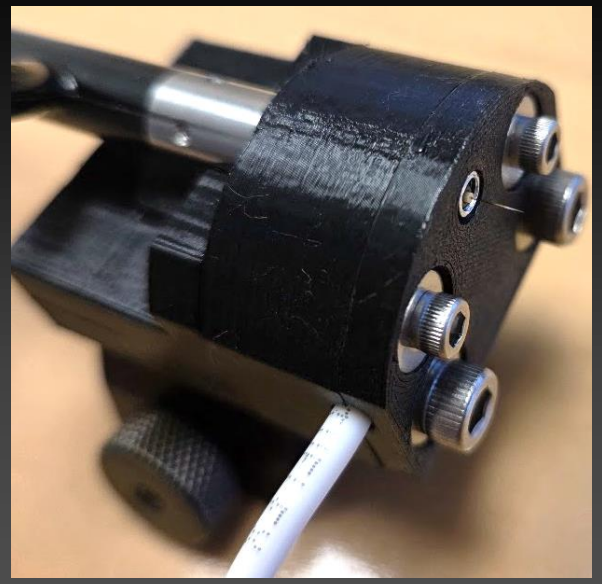
Holder for the Nano EASY-Spray Emitter

When using Thermo Nano EASY-Spray Emitter (ES993) we use 3D printed holder (printed using PETG filament)



The zip file contains the emachineshop.com CAD files, the exported .stl files and the project file and .gcode file for the Ender 3 S1 pro 3D printer



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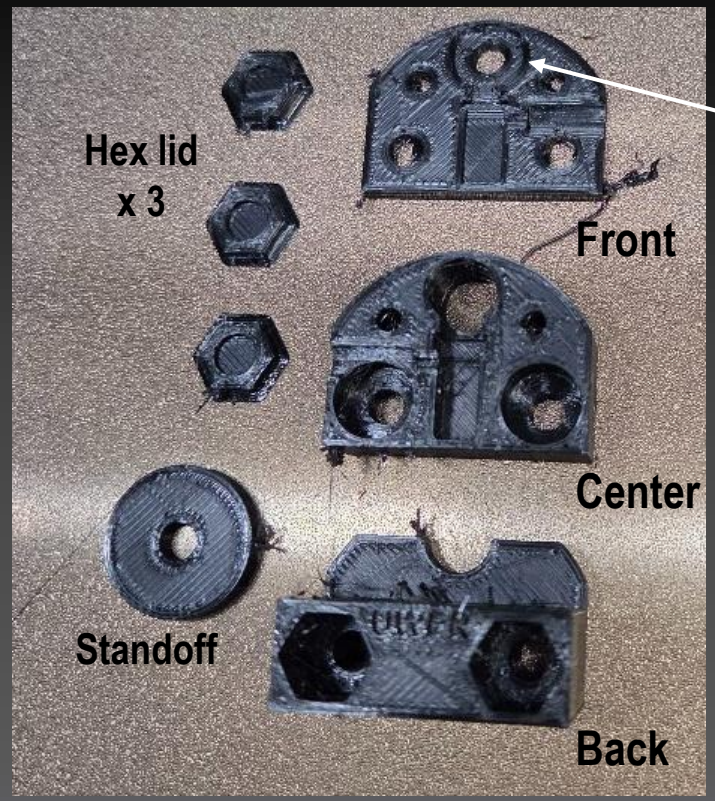
Print all the pieces and clean them up by remove all the loose PETG burrs



Steel Round-Base Weld Nut, Zinc-Plated, 4-40 Thread Size (90596A111 McMaster)

Insert the weld nut into the front piece
Making sure it clicks all the way in
It should be flush or slightly recessed

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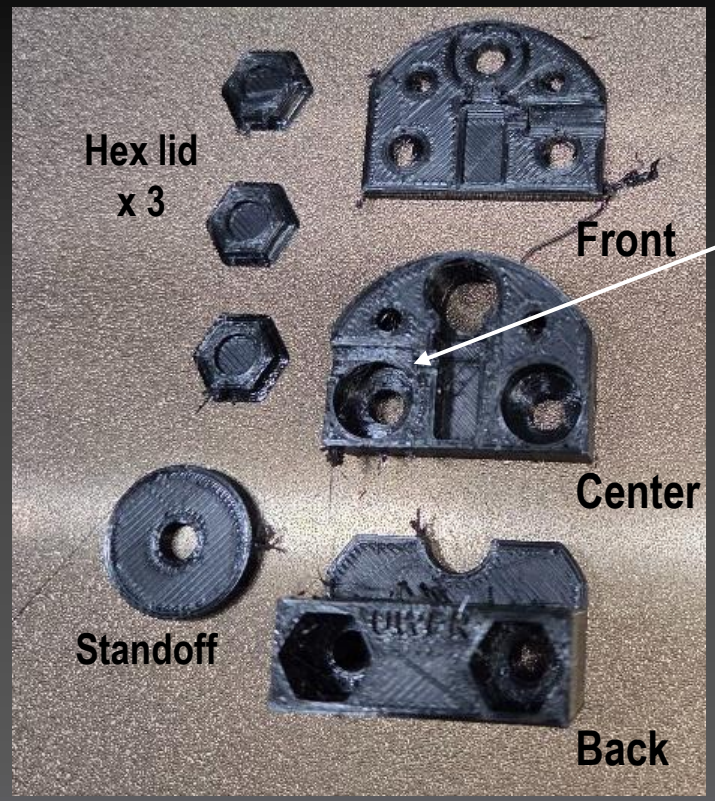

Connect the high voltage lead
HOOK-UP STRND 20AWG WHT 100'
AlphaWire
(39X2015W-100-ND DigiKey)

Strip the high voltage wire and bend the bare metal
To fit into the groove on the center piece as shown below

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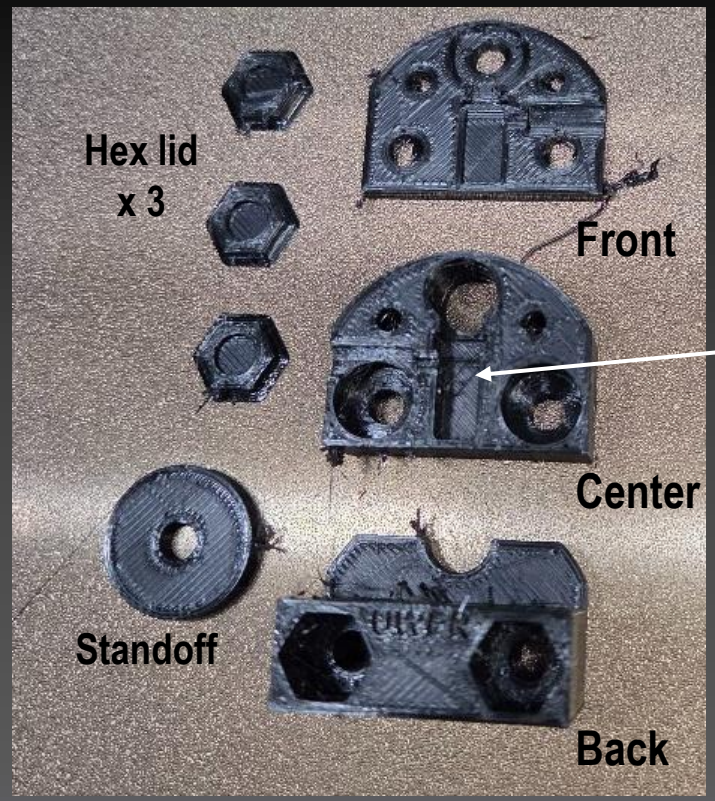

Press-Fit Stainless Steel Body Long-Nose Spring Plunger, Stainless Steel Nose, .188" Body Diameter
0.8-2 lb Nose Force (8682A61 McMaster-Carr)
For a softer fit
OR
1.5-4.5 lb Nose Force (8682A71 McMaster-Carr)
For a firmer fit

Push the pin into the center piece
Make sure the pin sits all the way at the bottom
Firmly pushing it down

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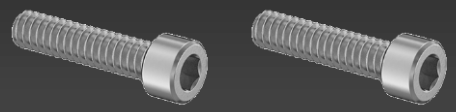
Now sandwich the front and center piece together

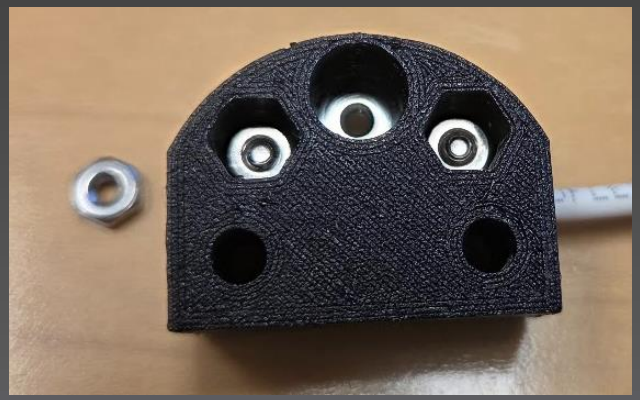
4-40 Thread Size, 1/2" Long Socket Head Screw
(92185A110 McMaster-Carr)
OR
4-40 Thread Size, 3/8" Long Socket Head Screw
(92185A108 McMaster-Carr)



18-8 Stainless Steel Washer for Number 4 Screw
(92141A005 McMaster-Carr)

18-8 Stainless Steel Hex Nut 4-40 thread size
(91841A005 McMaster-Carr)

Use two screws, washers and hex nuts to attach the front to the center piece

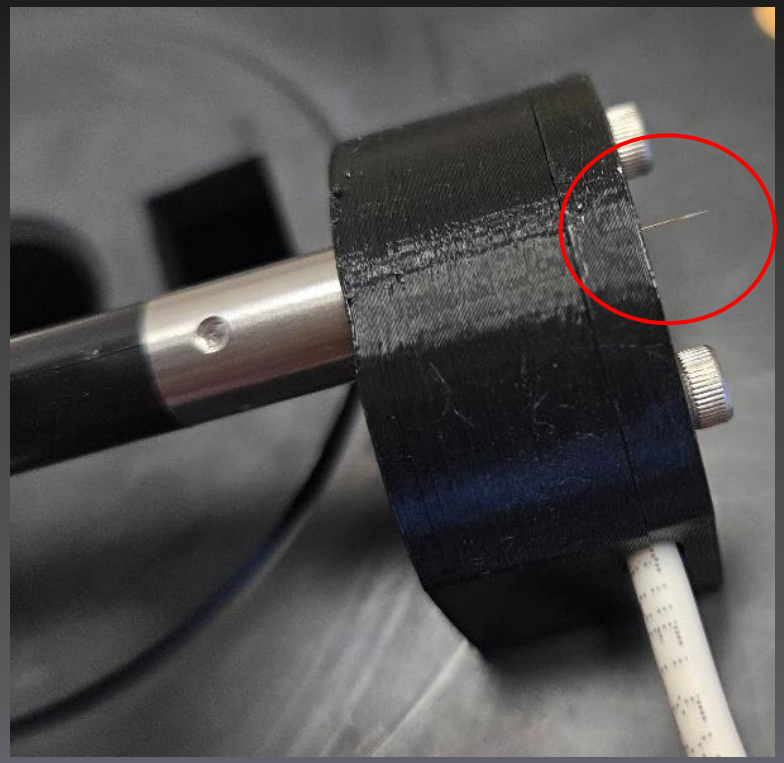


Holder for the Nano EASY-Spray Emitter

Test to make sure the EASY-Spray Emitter slides into the holder

!! Caution: watch for the tip poking out on the front piece, don't put your finger over the opening !!

It may be a bit firm at first, but it should slide in with a noticeable click.
if you can't get it to slide in remove the screws and check the pin, make sure it sits all the way at the bottom



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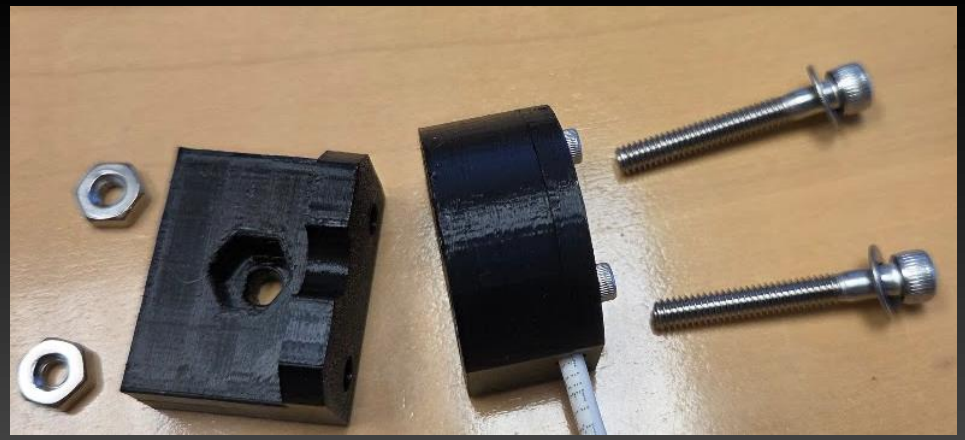
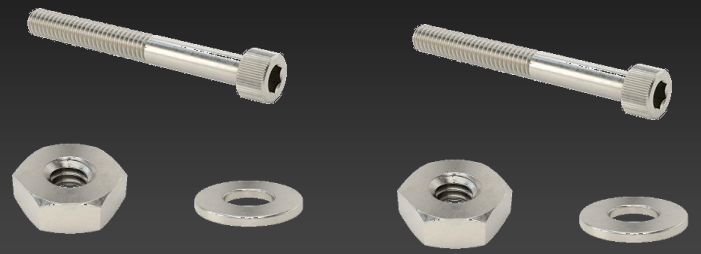
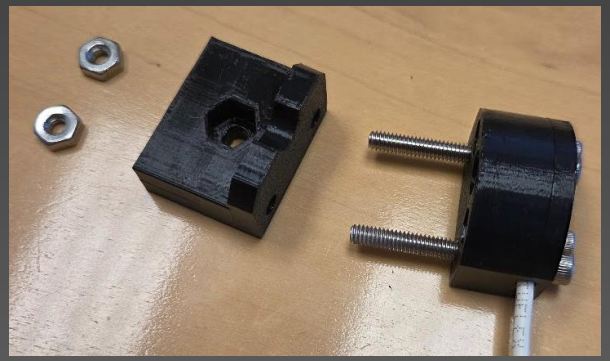
Connect the back piece to the center/front piece



Socket Head Screw, 8-32 Thread Size, 1-1/2" Long, Partially Threaded (92196A203 McMaster-Carr)
Washer for Number 8 Screw (92141A009 McMaster-Carr)
Hex Nut, 8-32 Thread Size (91841A009 McMaster-Carr)





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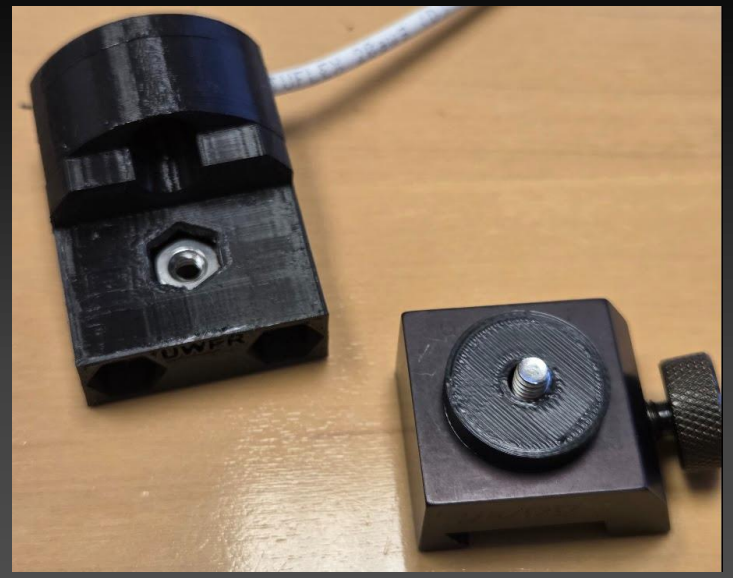
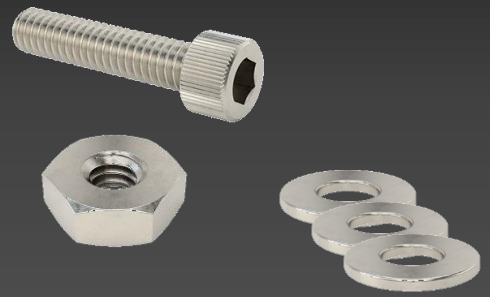
Attach the holder to the rail carrier



Socket Head Screw, 8-32 Thread Size, 3/4" Long, Fully Threaded (92196A197 McMaster-Carr)
3 x Washer for Number 8 Screw (92141A009 McMaster-Carr)
Hex Nut, 8-32 Thread Size (91841A009 McMaster-Carr)



Lay it on a flat surface to sqare them up as you tighten the screw

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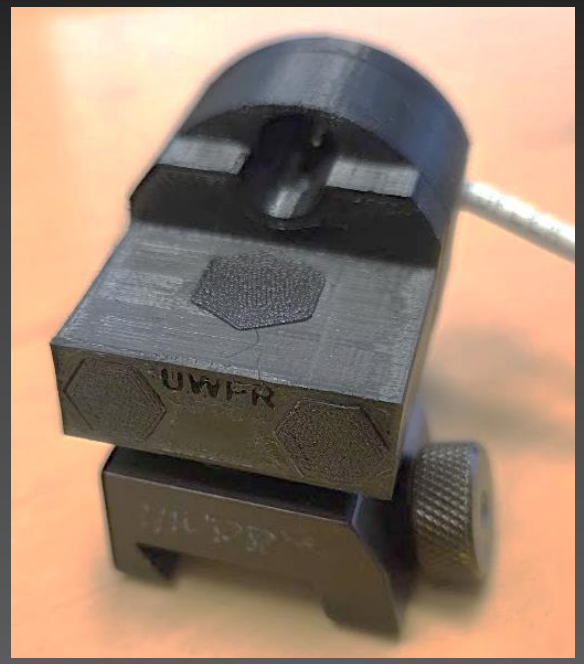
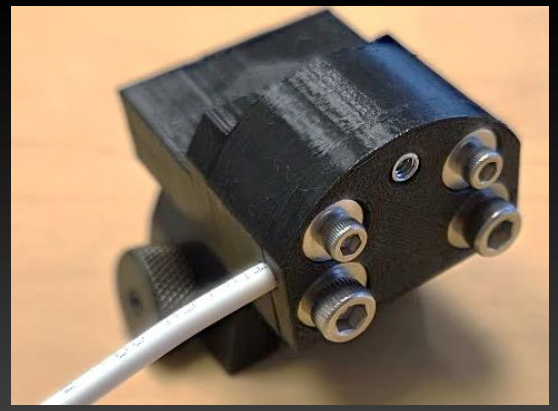
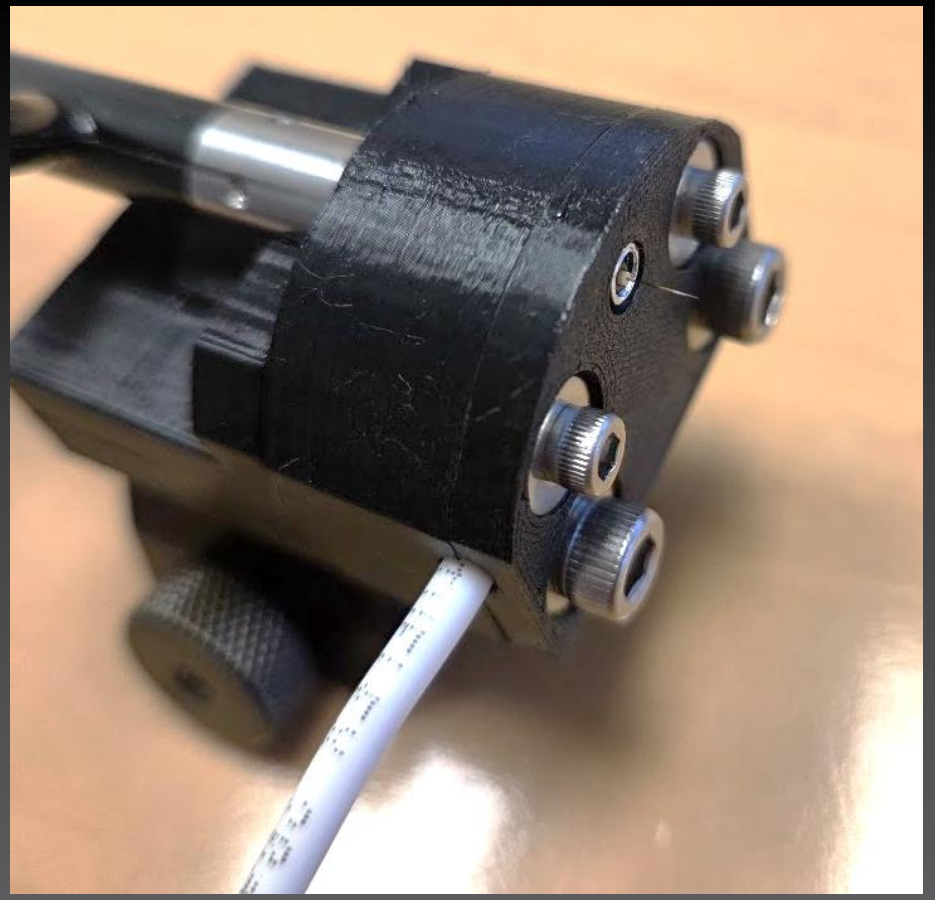
Cover the holes with the Hex lid, you can leave the flange on or cut it off (using scissors)
They are pretty firm, you may have to shave or sand the corners a bit to get them to go in







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Solder the other end of the high voltage wire to the scid connector or if you are using gold plated pins you can solder it to a pin to connect to your high voltage line