




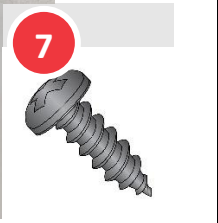


Interact Switch

ASSEMBLY GUIDE

Required Components

		<p>BOM</p> <ol style="list-style-type: none"> 1x Switch Base (3D printed) 1x Button Cap Holder (3D printed) 1x Button Cap Insert (3D printed) 1x Button Cap (3D printed) 1x Omron SS-3GP limit switch 1x 3.5 mm mono cable 3x M2.5x12 or #4x 3-8" Pan Head screws (self threading) 	
			
			

Required Tools

- Soldering iron and solder
- Wire strippers
- Screw driver

Required Personal Protective Equipment (PPE)

- Safety glasses

Attribution

The [Interact Switch](#) design by [Mike Turvey](#) is used under [CC-BY 4.0](#). Instructions adapted from [Original Interact Switch Assembly Instructions](#) by [Mike Turvey](#), used under [CC-BY 4.0](#).

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Assembly Instructions

Step 1 - Prep Cable

Cut off and discard one of the plugs from the mono audio cable.

Use the wire strippers to carefully remove about 15 mm of the outer insulation from the end.

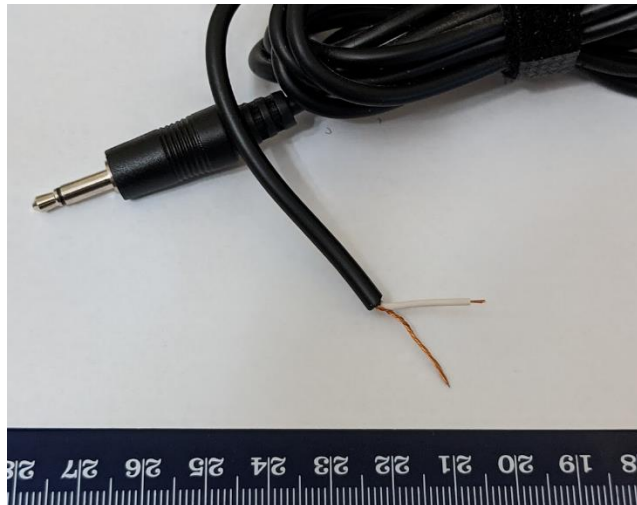


Step 2 - Prep Cable Wires

Twist the copper strands together into a single wire.

Use the wire strippers to remove roughly 5 mm of insulation from the other wire.

(Note: Your cable may differ. If there are two wires with insulation, strip 5 mm from the end of each wire.)

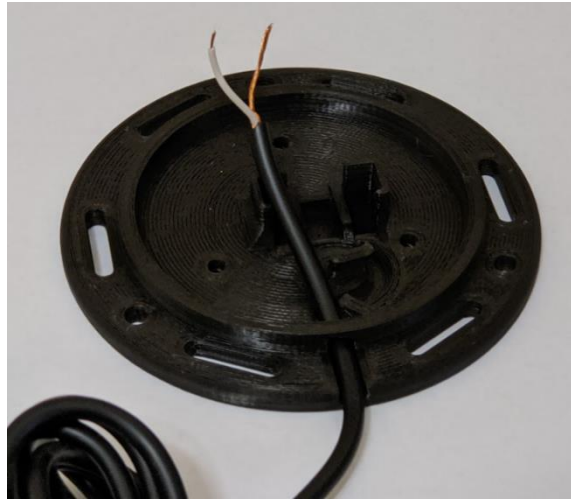


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Step 3 – Thread Cable into Switch Base

Thread the cable through the hole in the Switch Base. You will not be able to do this after you solder the limit switch onto the wire.

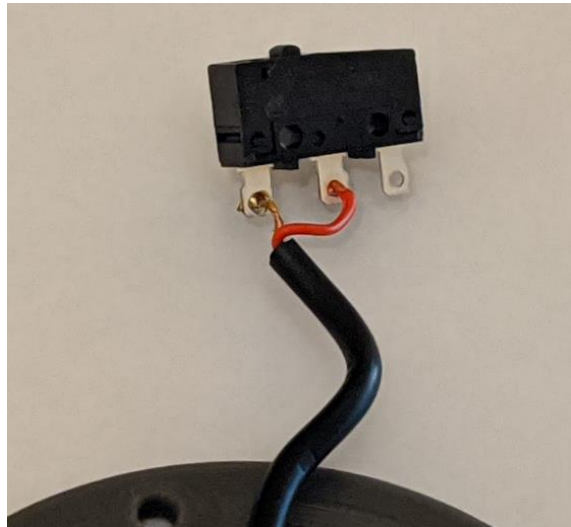


Step 4 – Solder Wires to Switch

Solder the wires into the switch in the position shown below.

Note: Solder the two leads closest to the button on the switch.

Test: plug your switch into a switch activated device and push the button on the limit switch



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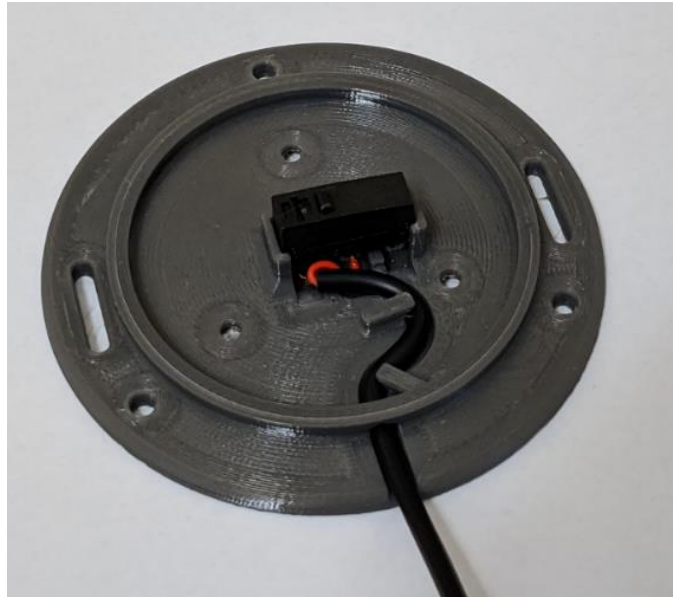
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Step 5 – Position Switch in Base

Place the limit switch into the Switch Base as shown.

For the orientation of the switch, when the cable is coming towards you, the button on the limit switch should be offset to the left. Make sure that no wires are stuck underneath, preventing the limit switch from going all the way down.

Also push the cable in the slot as shown in the picture.



Step 6 – Assemble Button Cap

Turn the Button Cap over and insert the Button Cap Insert. If you're unsure which size to use, try starting with 0.5 mm.



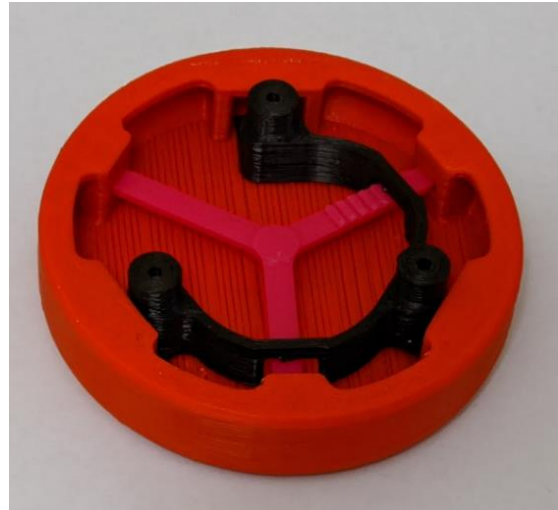
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Step 7 – Finalize Button Cap Assembly

Insert the Button Cap Holder into the Button Cap Assembly. The orientation of the “open” side doesn’t matter.

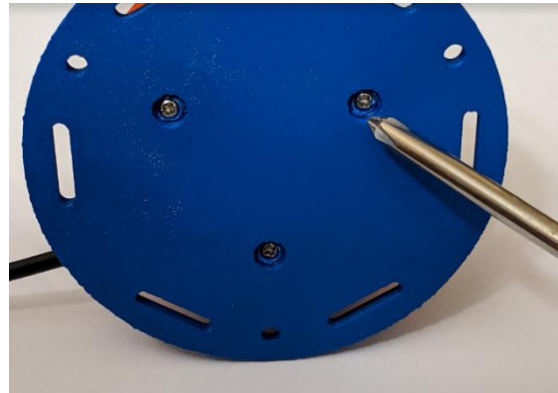
Note: for smoother switch action, sand the edges of the Button Cap Holder where it rubs on the switch.



Step 8 – Assemble Switch

Align the three posts of the Switch Cap Holder to the three holes in the Switch Base. Secure the Switch Cap Holder to the Switch Base using three screws.

Note: Be careful not to over tighten the screws. Tighten them until you notice the resistance increases and the Switch Cap Holder is firmly against the Switch Base.



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Testing

The last thing to do is test your switch. If this is your first switch, you'll likely need to test it out and figure out the best size of Switch Cap Insert to use.

The first thing I do to test a switch is to push it a lot. Tap it everywhere, repeatedly. Every time you push it, you should hear it click down and click as it goes back up. It should never stick. If you wiggle the top, it should move some, but it shouldn't feel like it's rattling around. Next, plug the switch into a switch activated device and make sure that it works.



Troubleshooting

Problem	Solution
The switch cap is too loose and rattles around easily.	Use a larger/ thicker Switch Cap Insert.
Switch doesn't make any noise when pushed.	Use a smaller/ thinner Switch Cap Insert. An insert that is too big can cause the limit switch to be always depressed. When this is the case, you'll often hear the limit switch "click" closed when you're screwing everything together, but it won't ever click open.
Switch sticks/ doesn't always go back up.	Use a smaller/ thinner Switch Cap Insert. You may likely need just one size thinner.
Switch makes clicking noise, but the switch activated device isn't activating	<ul style="list-style-type: none"> • Test the switch activated device with a switch known to work, just to make sure it's working fine. • Check that the plug is firmly plugged into the device • The solder connection may be bad and need to be re-soldered. • There may be an internal break in the wire, and you will need to replace it. This is a particularly common failure point for an older switch.