

XBOX One

Ragnarok

Flex Modchip

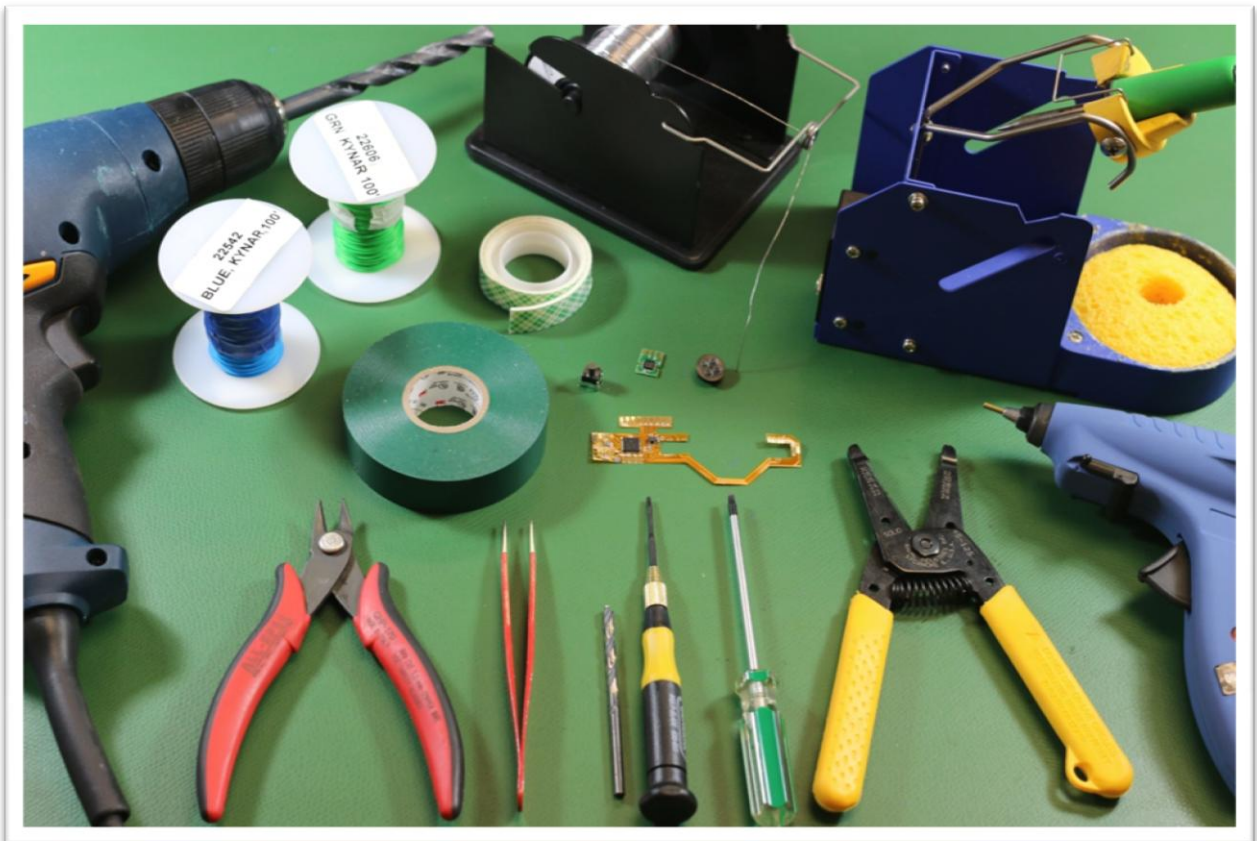
Installation Instructions



Revised 1/14/2014

Tools needed

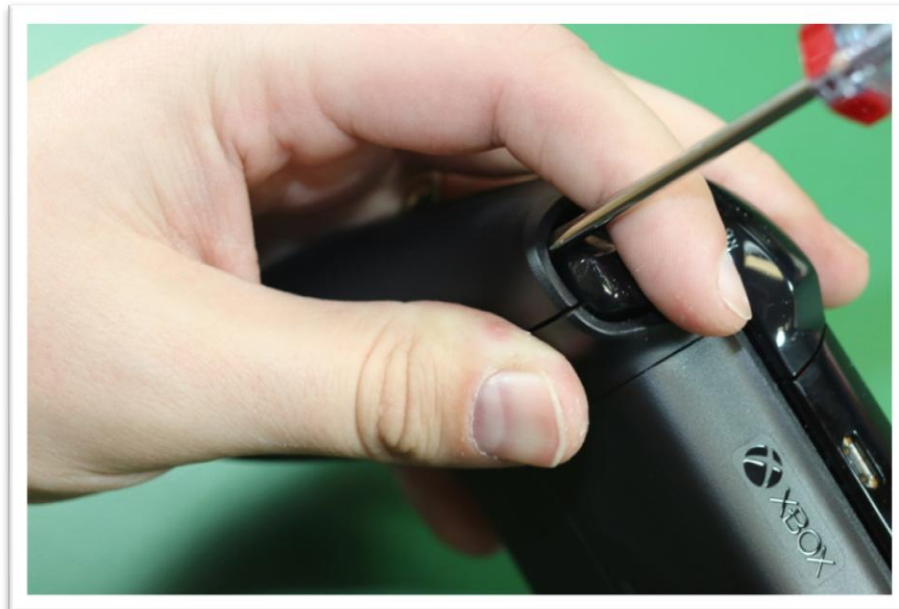
- XBOX One Controller
- Viking XBOX One Ragnarok Flex modchip DIY Kit (includes mod chip, LED board, and LED lense)
- Soldering iron and solder
- 30 AWG wire (American wire gauge) or similar
- Wire strippers (capable of stripping above wire)
- Electrical tape
- Small flathead screwdriver or similar prying tool
- Security Torx 8 and regular Torx 6 screwdrivers
- Power drill
- 9mm and 9/64 inch drill bits (intermediate sizes also useful)
- Hot glue and glue gun
- Safety glasses
- Additional useful items: flux, tweezers, scissors, wire snippers, etc.



Remove the screws and cover



You'll need to remove two plastic handle covers to reveal the screws. Special care should be taken not to scratch the shell. One way to accomplish this is to use a small flat-head screwdriver as a prying bar. Depress the trigger, then push the screwdriver in next to the trigger such that it won't scratch the trigger. Use the screwdriver to pry the handle away from the shell.

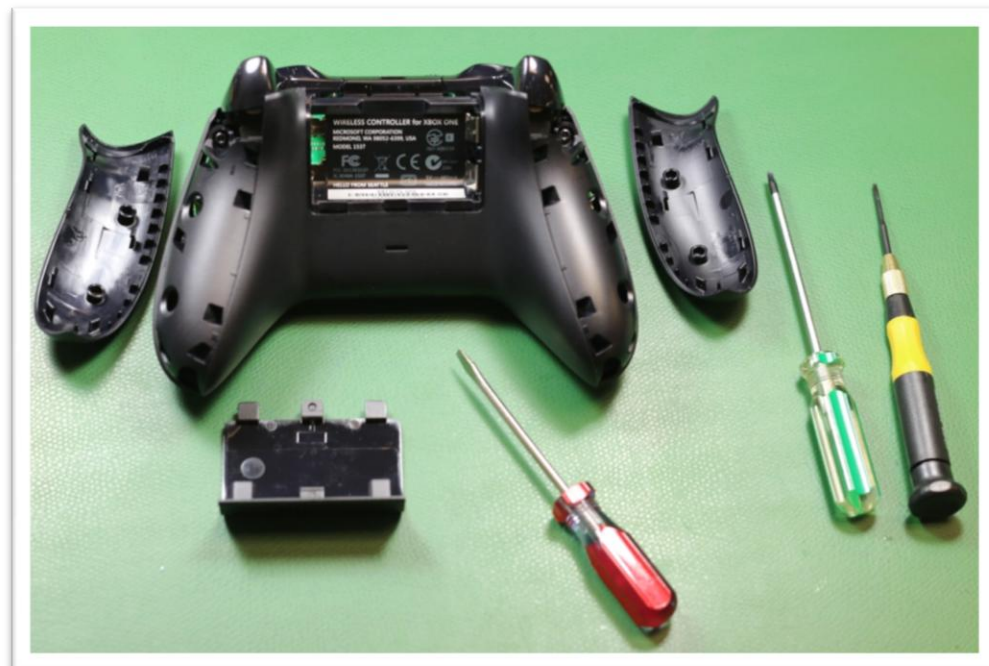


Ragnarok XBOX One Flex Modchip Installation Instructions

Once you've started with the screwdriver, you can finish removing the handle covers with your fingers. Some force is required to pull the covers off.



Once the handle covers are removed you'll need your Torx screwdrivers. Go ahead and remove the battery pack cover now.

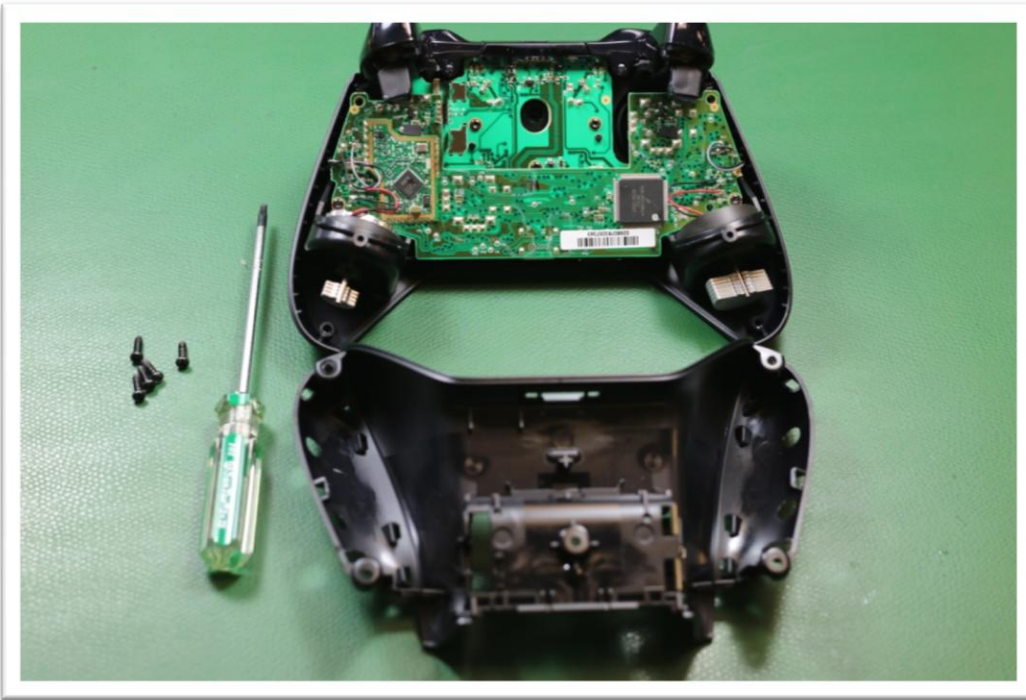


Ragnarok XBOX One Flex Modchip Installation Instructions

There are five screws that need to be removed. Each screw is indicated in the photo below with a red arrow.



Once the five screws are removed, flip the shell over to expose the circuit boards inside of the controller.





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The faceplate can also be lifted off, and the thumb stick caps should be removed and set aside.

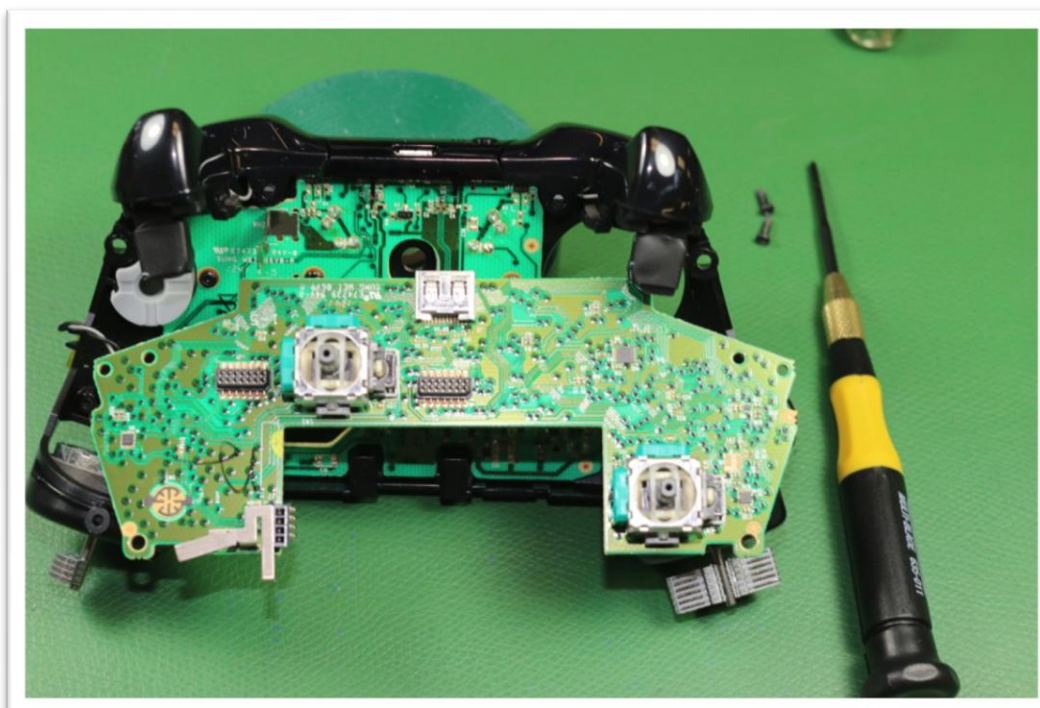


Disassemble the circuit board

Remove the two Torx 6 screws indicated in the picture.



Pull the “boomerang” shaped circuit board away from the controller and flip it over. The wires for the rumble motors can stay attached.



Drill Shell and Install Indicator

The LED indicator is installed into the faceplate. A 9mm hole must be drilled into the faceplate to accept the indicator, which is 9mm in diameter. You may oversize the hole, but if you drill the hole at 9mm, the LED indicator will press-fit into the hole nicely. 9mm drill bits are available from UK dealers on E-Bay.

Notice the injector mark that looks like a large circle with the letter "A" inside. This injector mark can be used as a visual guide to help center the 9mm hole.





Ragnarok XBOX One Flex Modchip Installation Instructions

Begin by drilling a smaller pilot hole, using the injector mark as a visual guide.



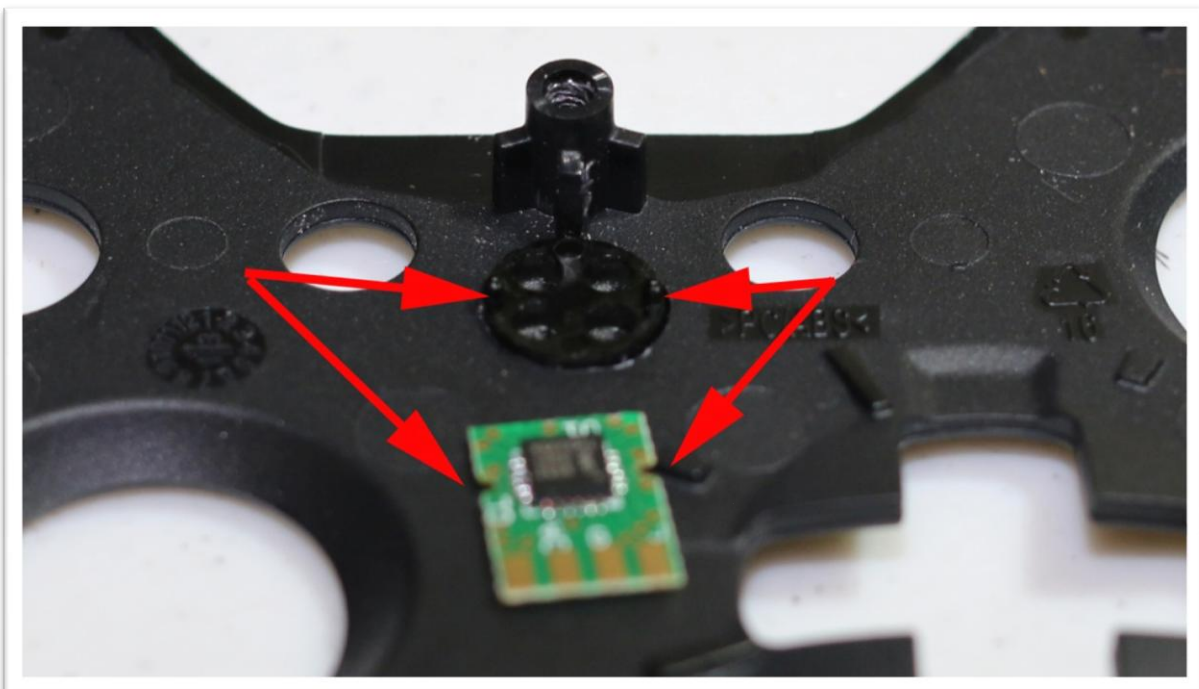
For best results, drill another larger intermediate sized hole, but don't drill the 9mm hole yet.

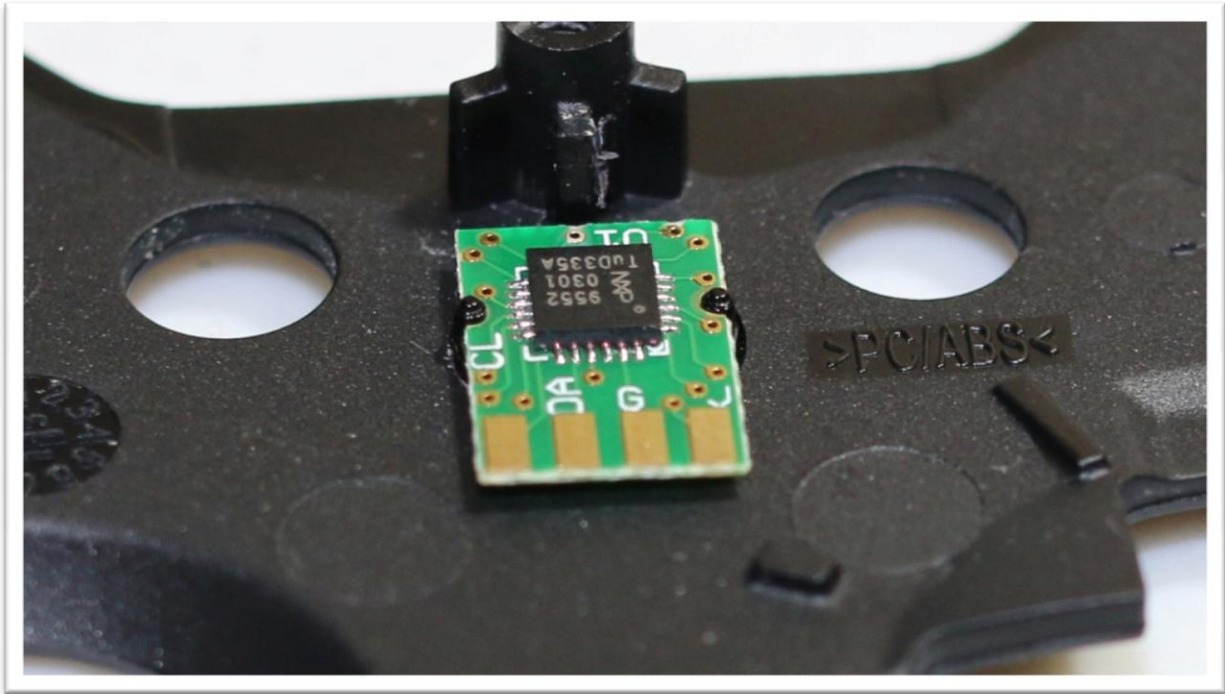


Finally, drill the 9mm hole. The 9mm hole should sit about flush with the plastic screw peg above it, but you should not have to remove or disturb any of the plastic on the screw peg.



Press the LED indicator into the hole as shown. Be sure to orient the two small orientation pegs properly as these will have to mate with the LED driver board.





Use sufficient hot glue to hold the LED lense and LED driver board securely.

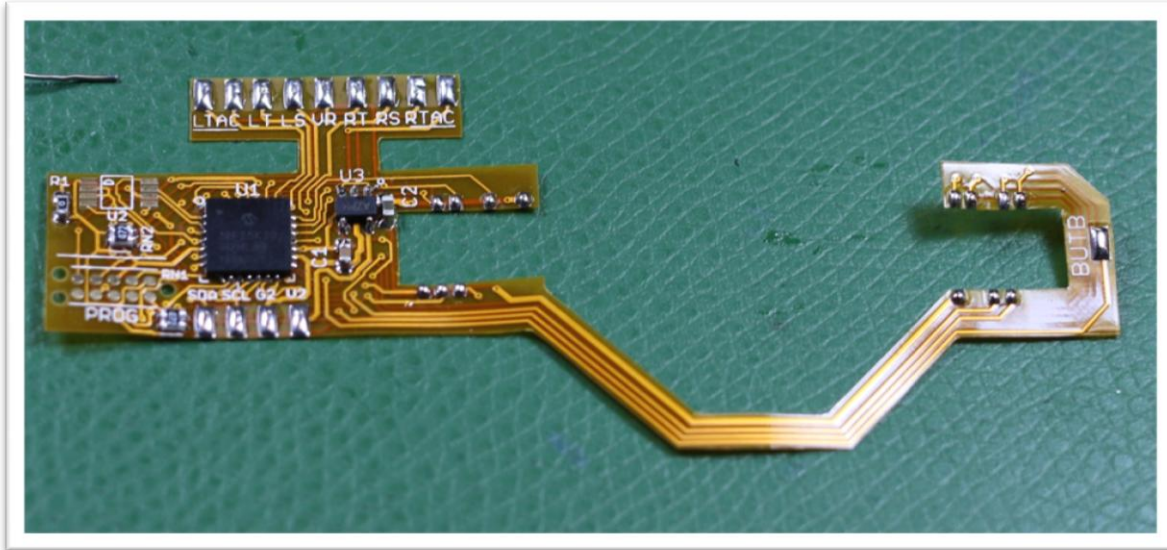


Drill a hole for, and use hot glue to install, the mod switch as desired. One possible location for the mod switch is illustrated below.

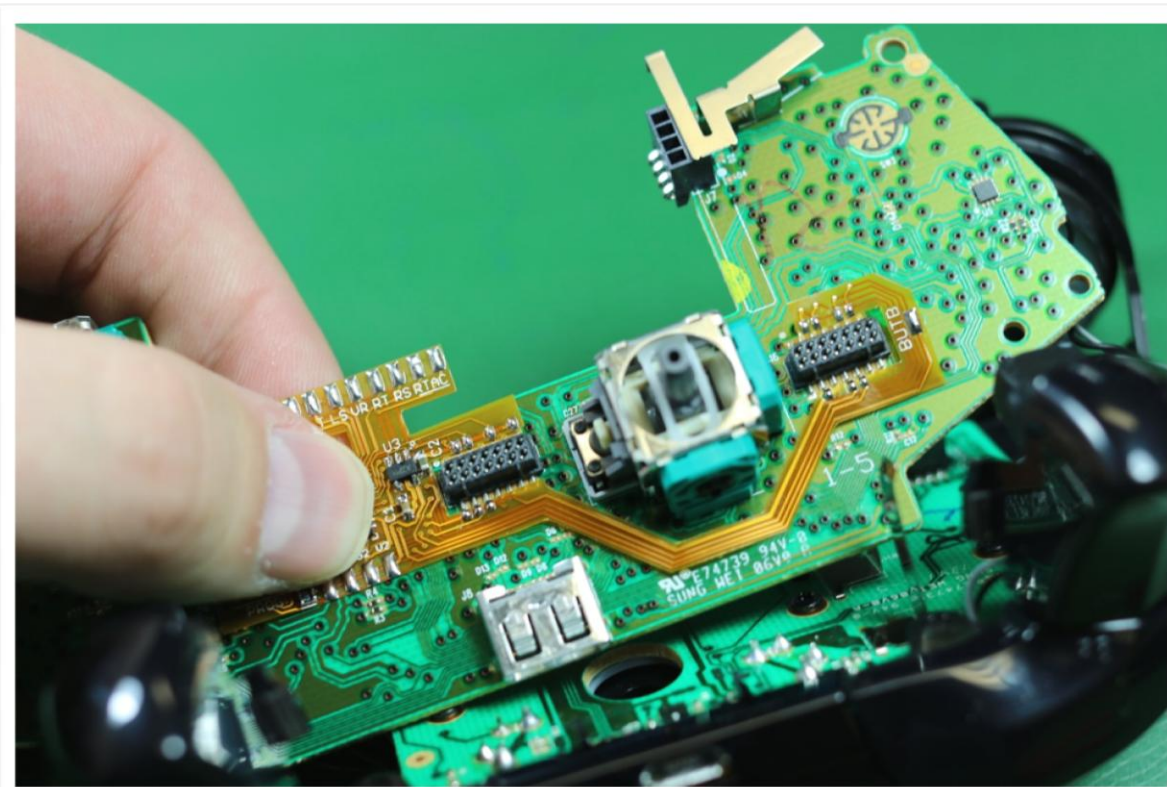


Install the modchip

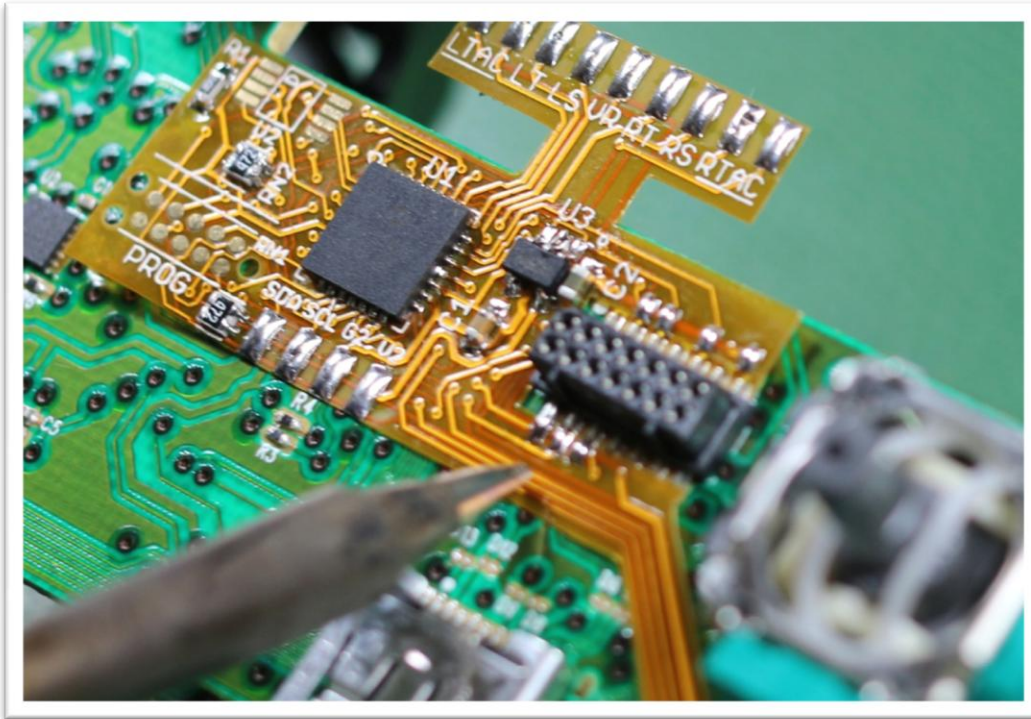
Add solder to all of the wire pads on the mod chip. Use plenty of solder on the smaller pads.



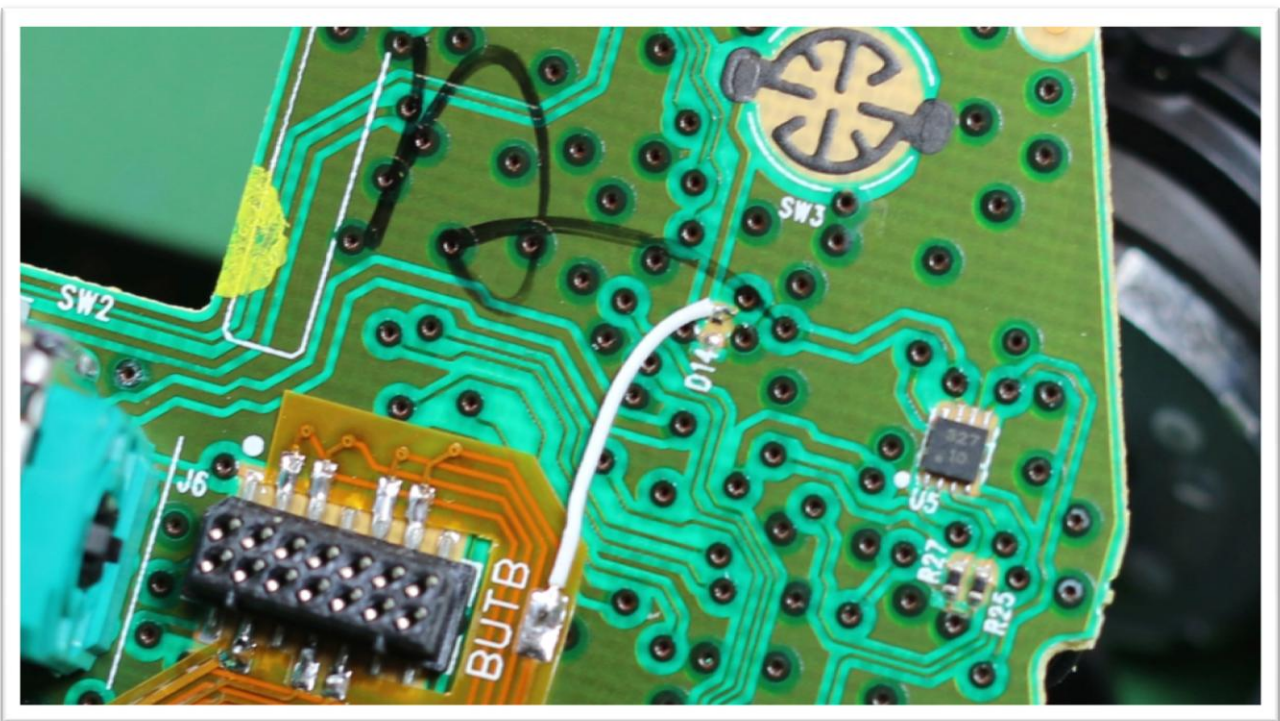
Visually line up the mod chip so that the small pads match up nicely with the small “feet” on the black rectangular headers. You will be soldering the mod chip to the black rectangular headers.



Use the soldering iron to solder one pad to one “leg” of the header at a time.



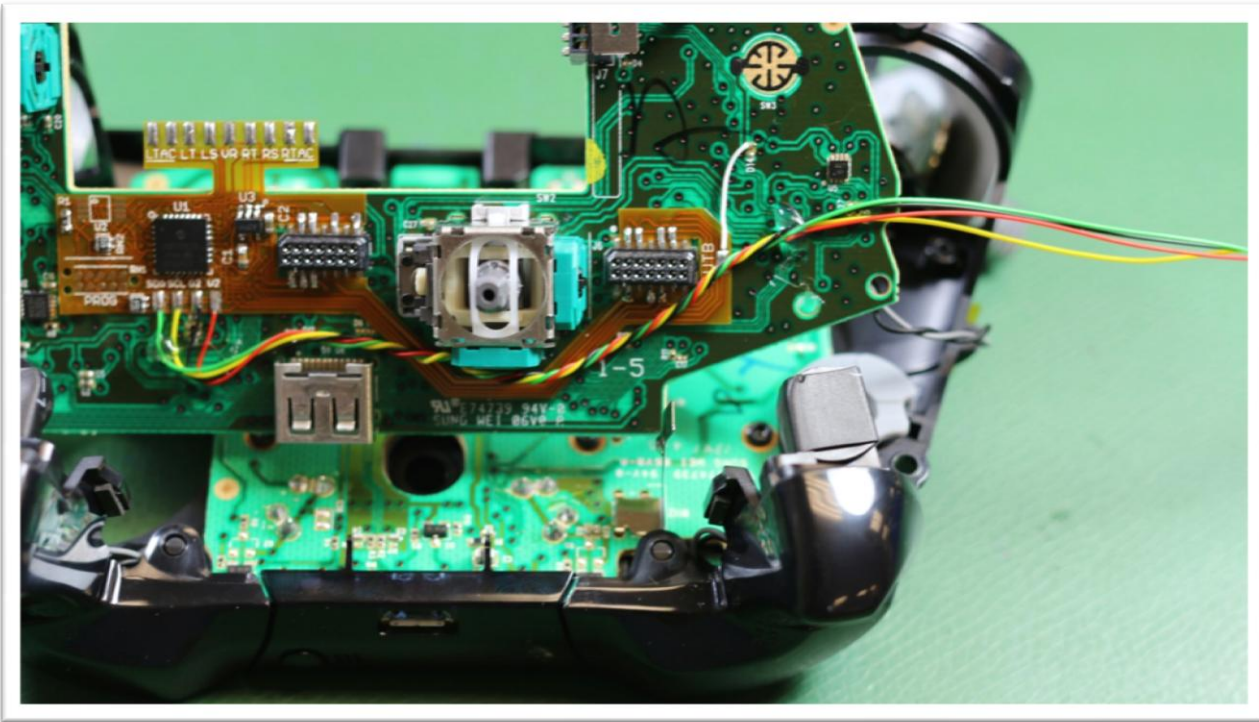
Install a small wire jumper from “BUTB” on the mod chip to the upper-most wire pad above the “D14” marking on the Microsoft circuit board.





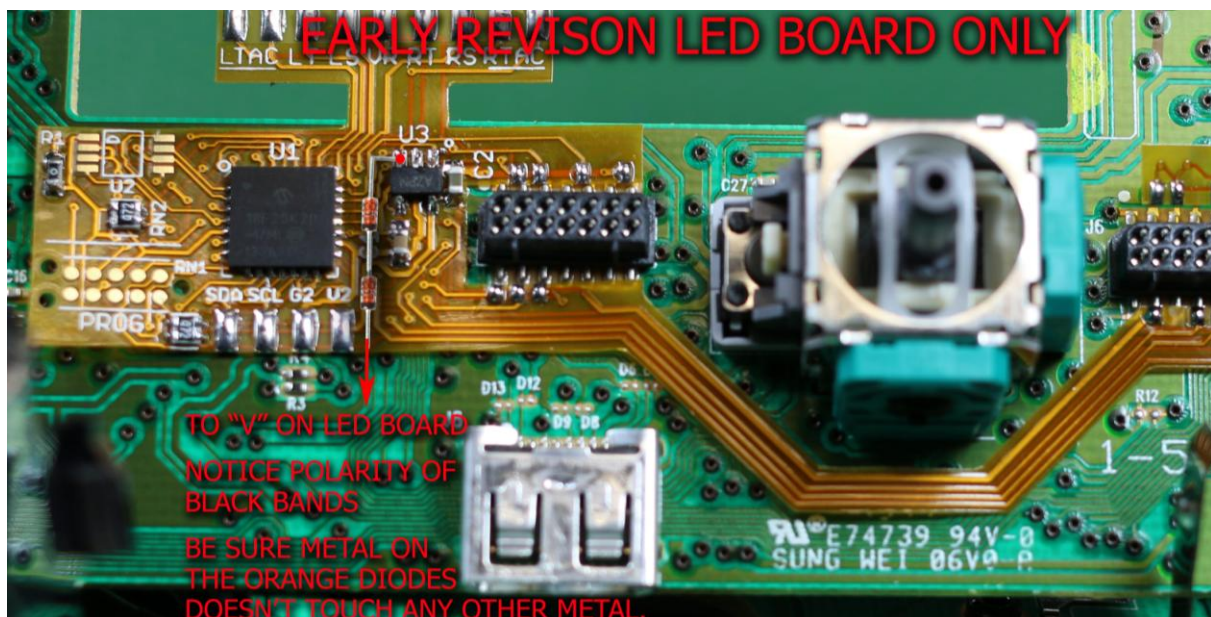
Ragnarok XBOX One Flex Modchip Installation Instructions

Install a 4-wire harness from the four pads labeled “V2, G2, SDA, SCL”. Once the harness reaches the side of the Microsoft circuit board, it should NOT be twisted. Hot glue may be used to attach the harness to the Microsoft circuit board.



SPECIAL NOTE ON “EARLY REVISION” LED BOARDS

If you have an early revision LED board, you will need to install the two orange diodes as shown below to feed the red wire, instead of using point “V2”.



Here is another place you could choose to install the two orange diodes instead; there is a little more space available in this area:



Flip the Microsoft “boomerang” shaped circuit board over and install it back into its original location. Wrap the mod chip around the Microsoft circuit board and hot glue or tape the small row of wire pads in place. Re-install the two Torx 6 screws into the Microsoft circuit board.





Ragnarok XBOX One Flex Modchip Installation Instructions

Four jumpers need to be installed from the mod chip to the Microsoft circuit board. “RT” attaches to the bottom-most side of either the “R39” or the “C36” component on the Microsoft circuit board. “LT” attaches to bottom-most side of either the “R42” or “C38” component on the Microsoft circuit board. “LS” and “RS” attach as shown to the larger solder pads. **NOTE: NOTICE THE “KEEP OUT” AREA.**





Ragnarok XBOX One Flex Modchip Installation Instructions

IT IS IMPORTANT that the wires that are installed do not interfere with the function of the trigger stopping on the small square rubber pad. Be sure to route the wires such that the triggers have free and clear movement. Also, install a twisted pair of 2 wires to the "RTAC" pads. These 2 wires are installed to your mod switch. **NOTE: THE WIRES BELOW ARE INCORRECTLY ROUTED IN THE "KEEP OUT" AREA.**





Ragnarok XBOX One Flex Modchip Installation Instructions

Remove the orange piece of tape and untwist Microsoft's grey and black wires that run within the small "Trench". The grey and black wires, as well as the 4 wires for the LED drive board, will all fit in trench together provided that none of the wires are twisted. Replace the orange tape, and then route the 4 additional wires as shown.

Hot glue can be used sparingly in certain areas to secure the 4-wire harness in place. Be sure the harness does not ride too "high" or it will prevent the faceplate from seating properly. Also be sure to keep the wires away from the joystick opening or it may interfere with proper joystick movement.

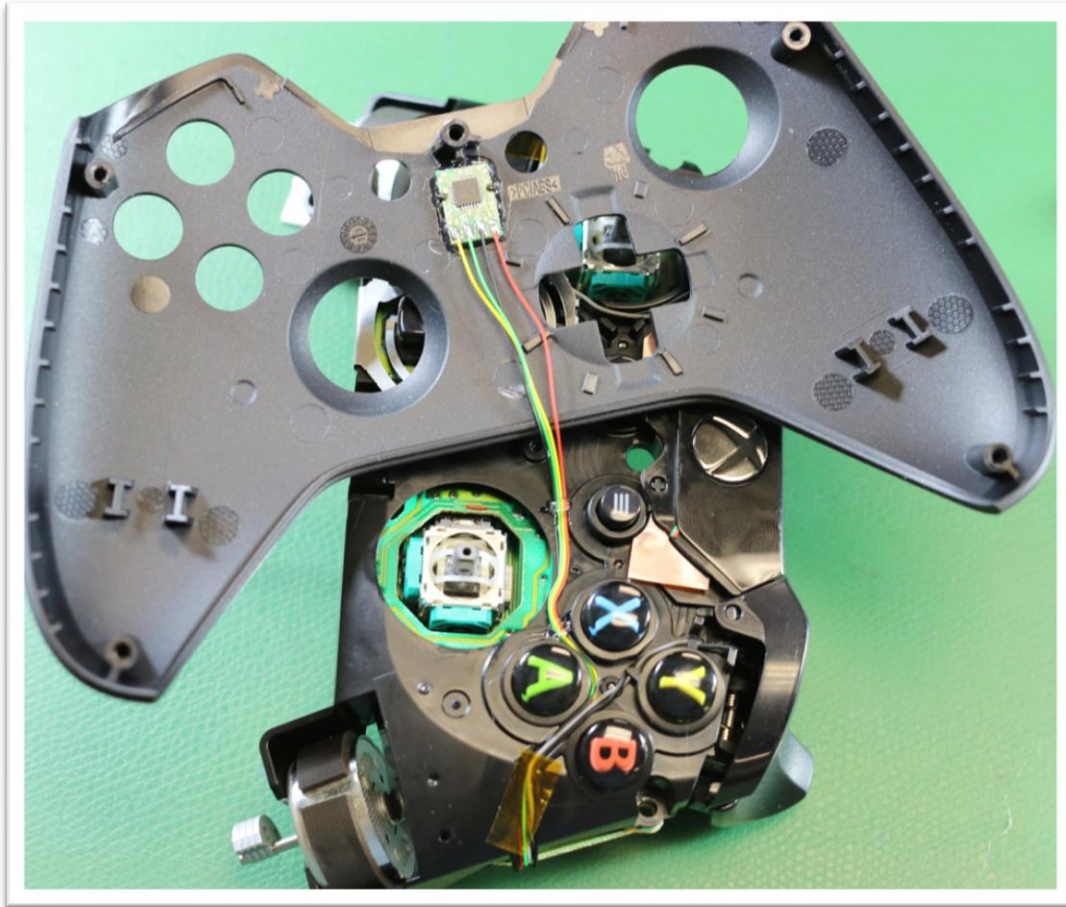




Ragnarok XBOX One Flex Modchip Installation Instructions

Orient the faceplate as shown and then trim the wiring harness as short as possible, while still allowing the wires to be attached to the LED driver board. The wire pairs are matched from the mod chip to the LED driver board as follows:

- G2 goes to G
- V2 goes to V
- SCL goes to CL
- SDA goes to DA



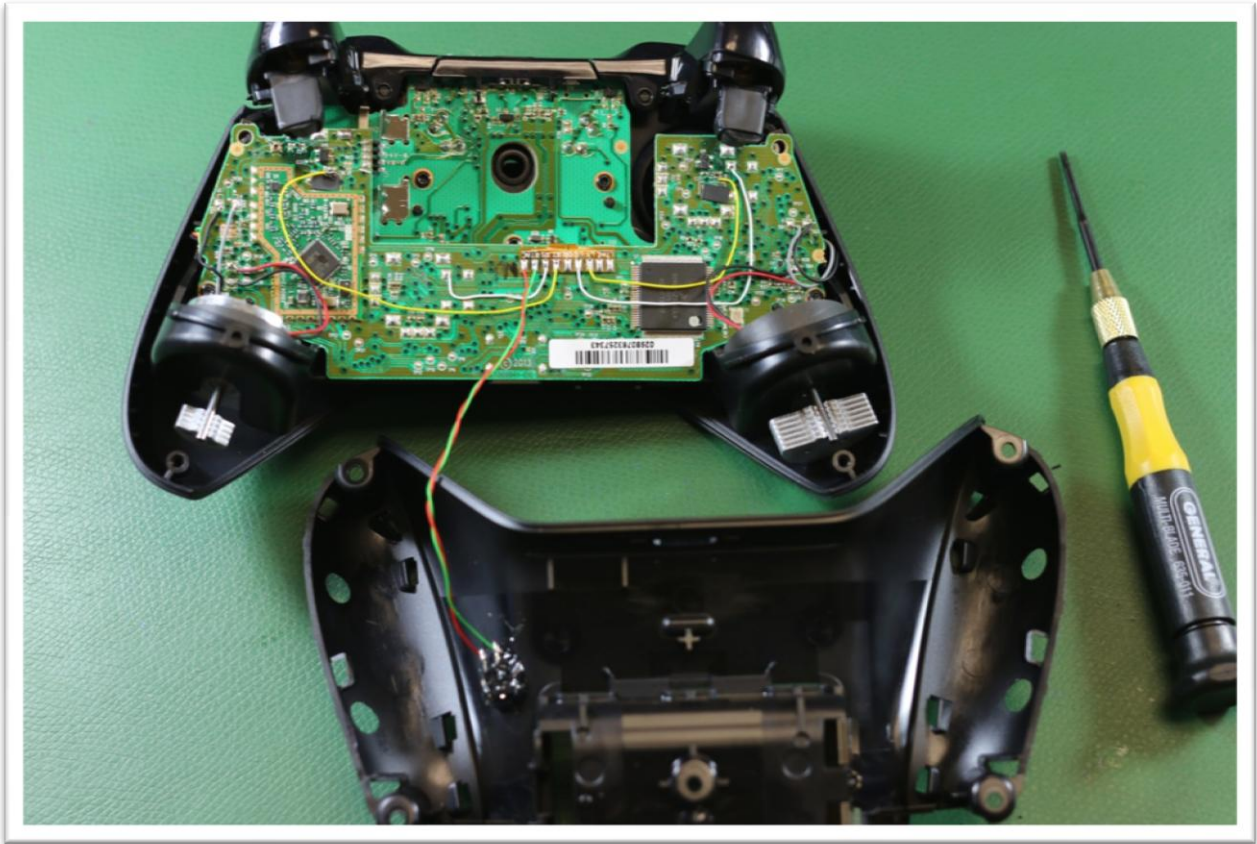
Cover the attachment points with a small piece of electrical tape as shown.





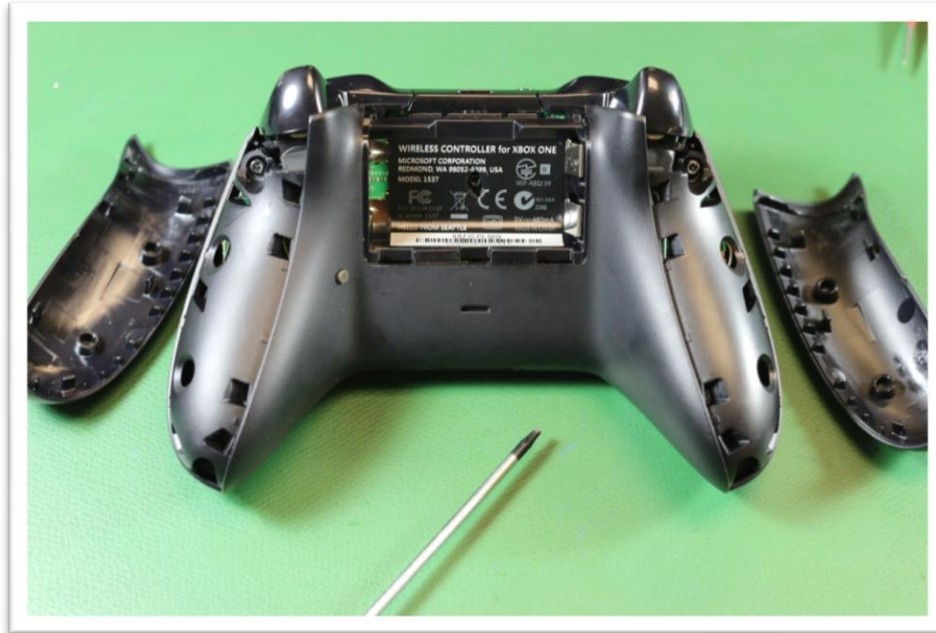
Ragnarok XBOX One Flex Modchip Installation Instructions

Attach the "RTAC" wire pair from the mod chip to the mod switch that was installed in the back half of the shell.



Put the controller together

Install the faceplate and back half of the shell. Be sure to keep an eye on all wiring harnesses and route them such that they are not pinched or short-circuited as you close up the shell. Re-install the five screws into the back half of the shell. Re-install the handle covers.



Your XBOX One controller is now modded! Please note that the controller **MUST** be sync'ed to a console before any of the mods will work.

