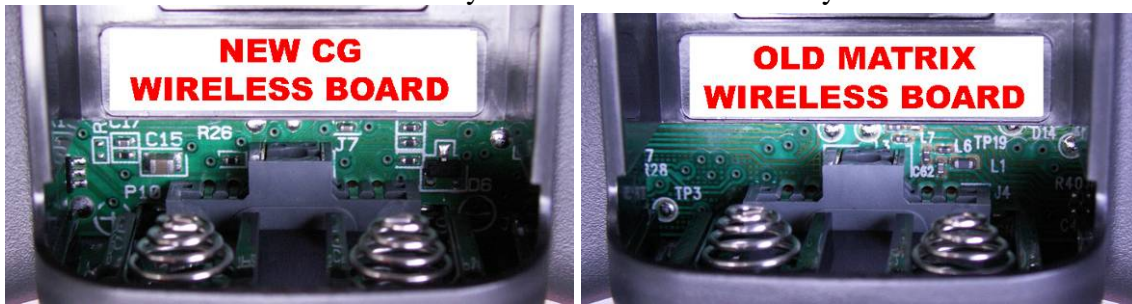


CG Installation Guide

Please check to make sure you have the correct kit for your controller:

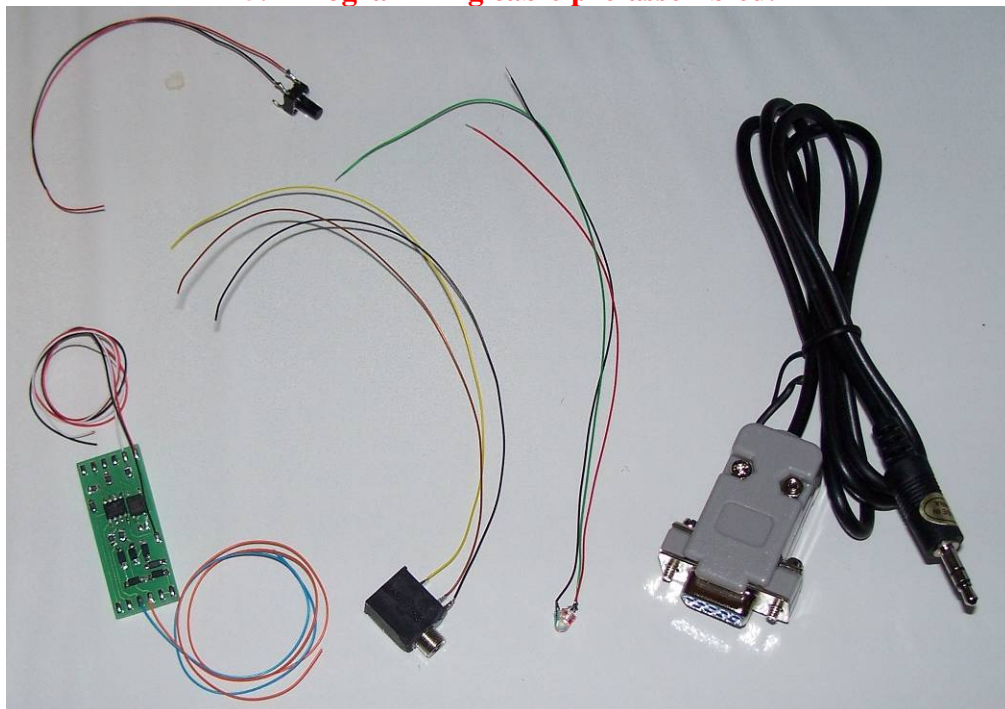


Tools you will need:

1. Drill with a good set of bits from 1/16 to 1/4.
2. Dremel with engraving bit or similar cutting head.
3. Hot glue gun.
4. Soldering iron (15 watt) or soldering station.
5. T8 security bit for opening the controller.
6. Ruler with metric (mm) scale.
7. Exacto knife.

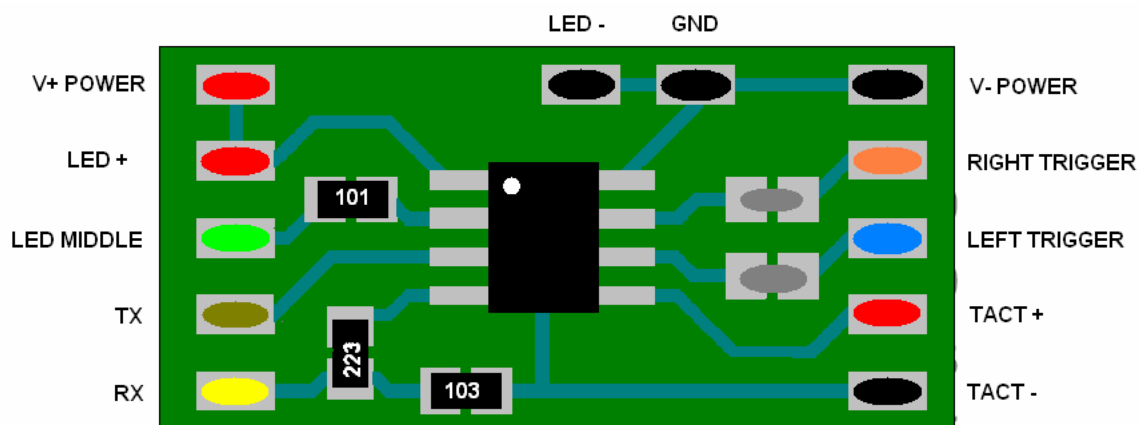
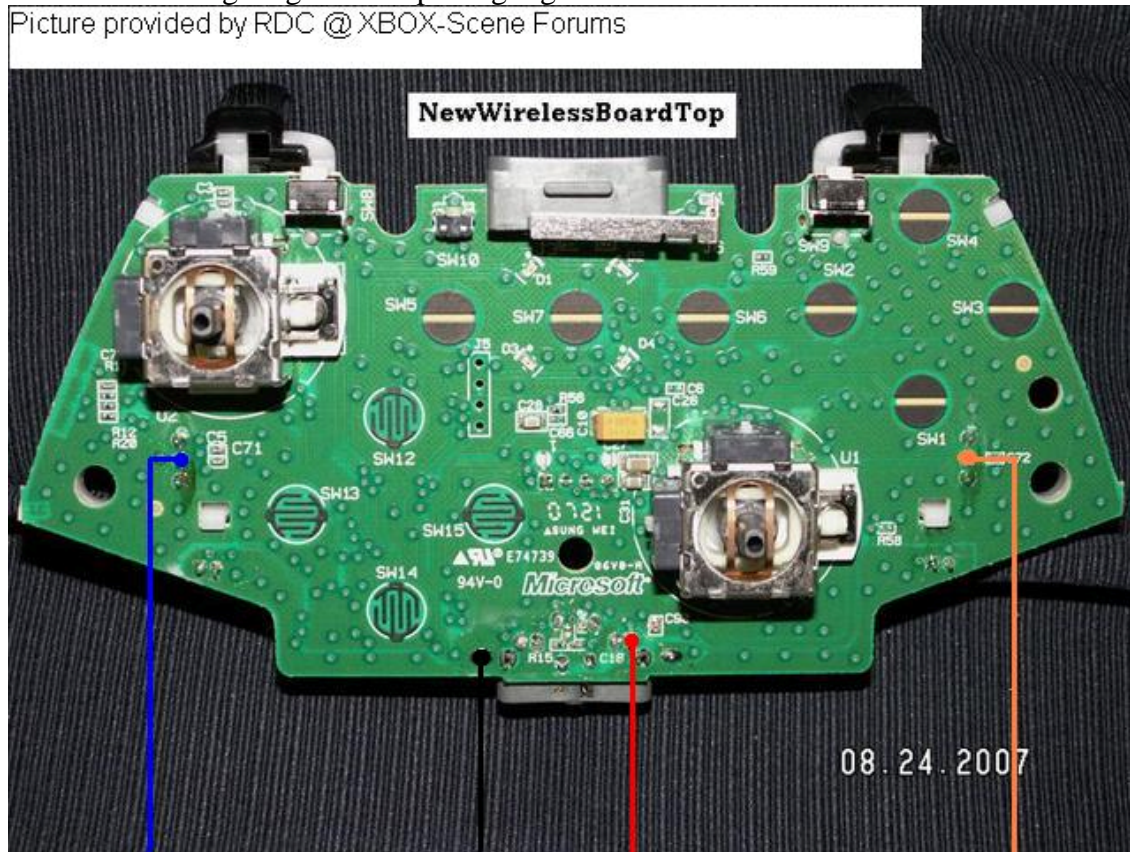
This kit comes with the following materials:

1. PCB with required chip components pre-soldered.
2. Programming jack pre-soldered.
3. Tactile pushbutton pre-soldered.
4. Multi-color LED pre-soldered.
5. Programming cable pre-assembled.

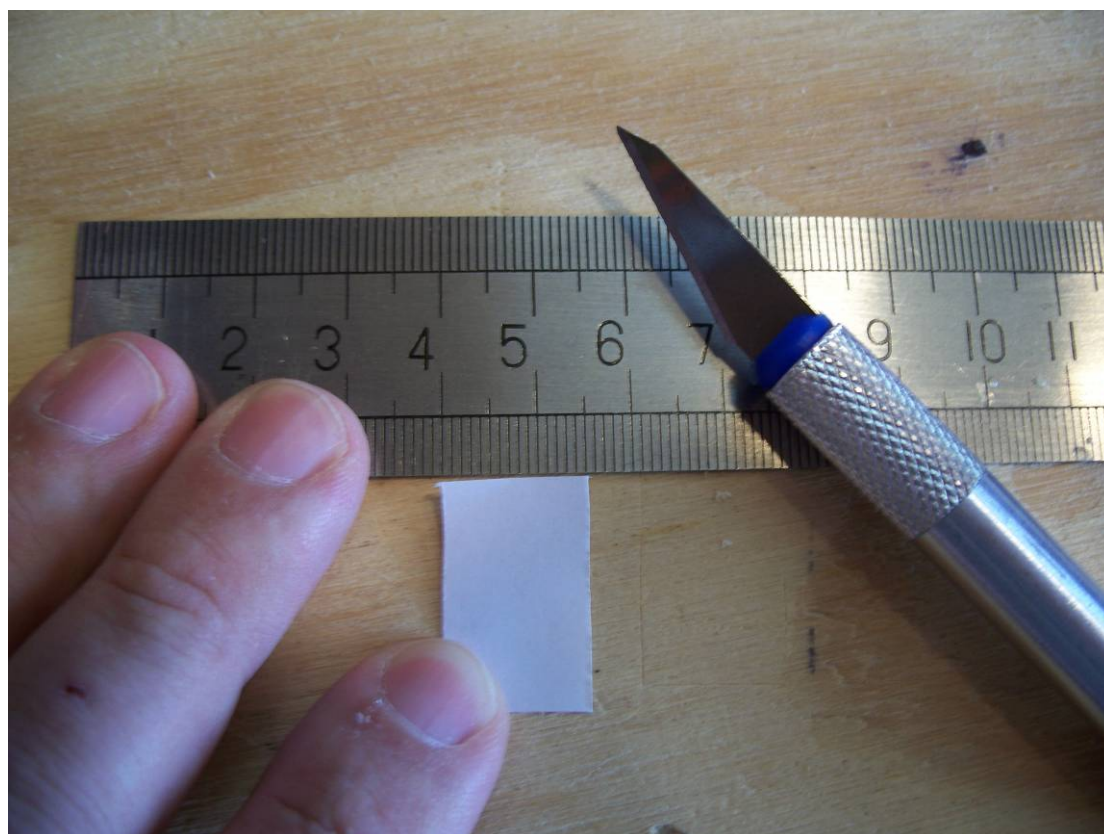


Use the following diagrams for putting together the controller:

Picture provided by RDC @ XBOX-Scene Forums



Step1: Using a metric ruler, cut two strips at 6mm wide and 15 mm wide. This will help make the mark for where you need to drill your hole to mount the programming jack precisely so that everything fits inside the controller.



Step 2: Using the 6mm strip, place it as shown to make a mark with your knife perpendicular to the rumble motor mount.



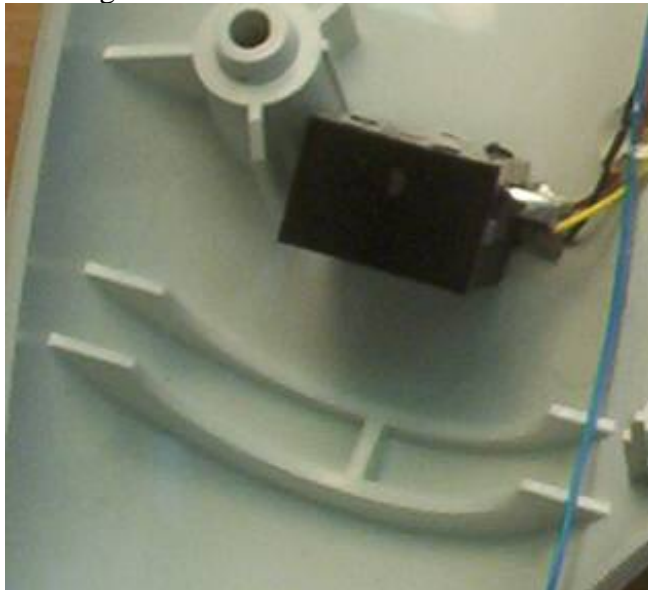
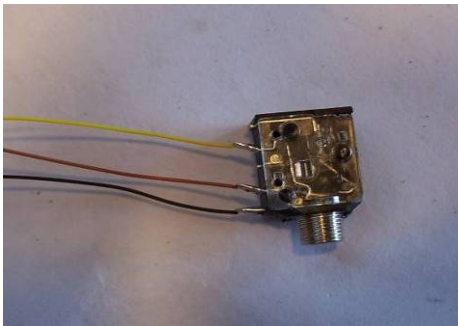
Step 3: Using the 15mm strip, make your cross mark as shown parallel to the rumble motor mount. Make the mark long enough to keep track of the hole.



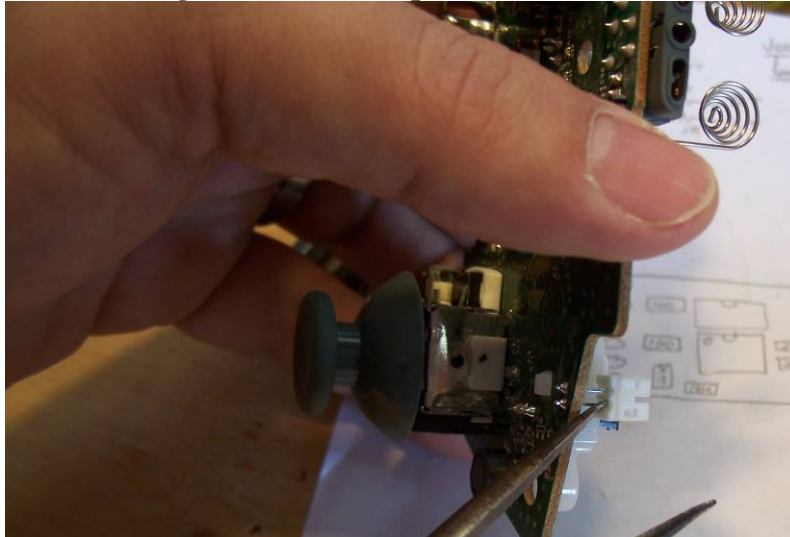
Step 4: Starting with the 1/16 drill bit, make you hole centered on the mark you made. Once drilled, use the next size up drill bit to make the hole bigger, making sure the hole stays centered on the mark. It is very easy for the drill bit to wander from the center mark, so using each drill bit in your kit to make the hole bigger will help keep the hole centered. Keep stepping up until the 1/4 drill bit size.



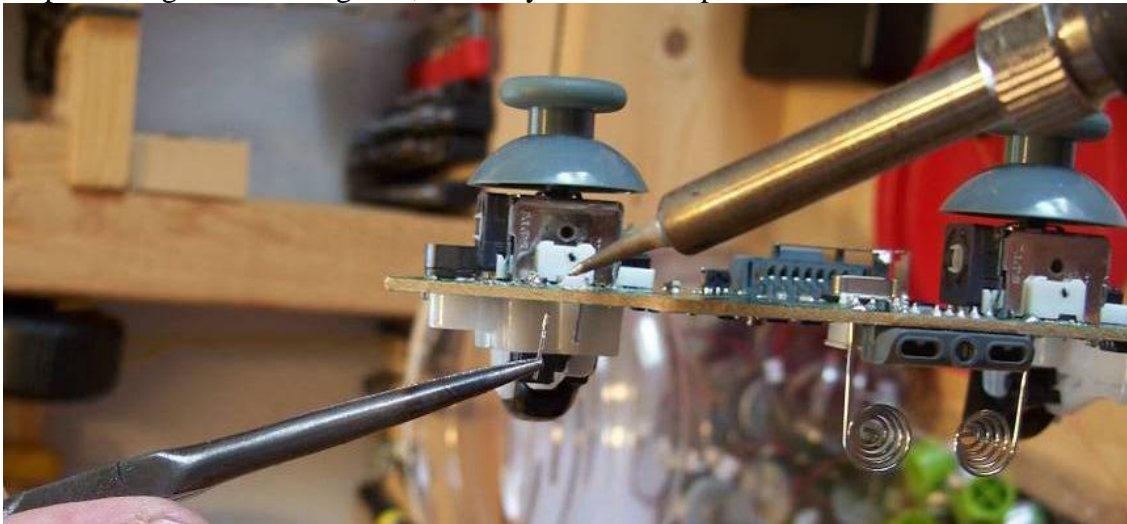
Step 5: Take the programming jack and mount it into the hole as shown. Do not use a lot of force when tightening the jack onto the controller, just make it snug. If you want, use hot glue or superglue to keep it from moving.



Step 6: We need to move the left rumble motor header to the top of the PCB to have enough room for the programming jack. Pry off the left rumble motor plastic connector header. **See the end of the guide for easier optional install of this header.**



Step 7: Using the soldering iron, carefully remove the pins from the PCB.



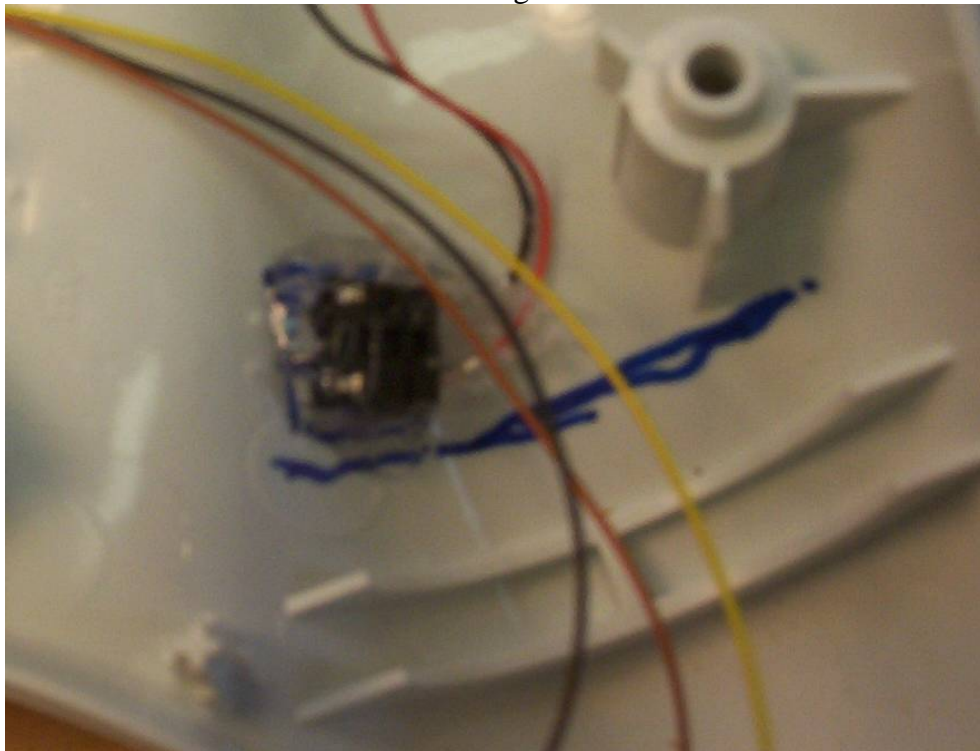
Step 8: Re-solder the pins onto the top of the PCB.



Step 9: Push the plastic header back onto the pins. Take care to keep the orientation of the header polarity as shown in this picture.



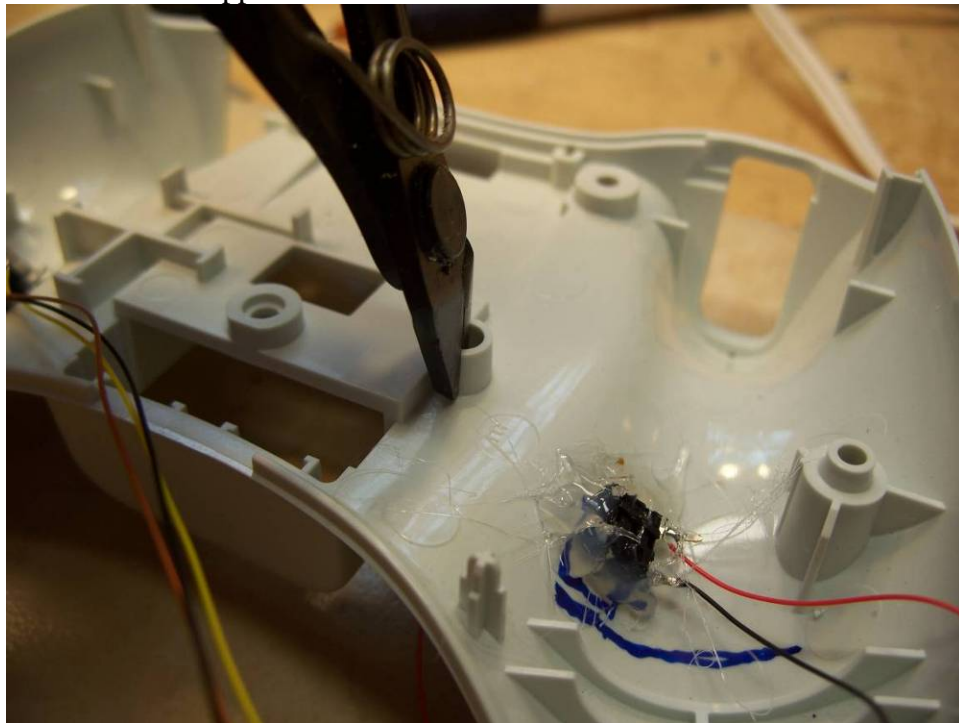
Step 10: Drill a 5/32 hole for the tactile as shown, making sure you are at least 1/4 inch away from the rumble motor mounts. Use hot glue to secure the tactile to the controller.



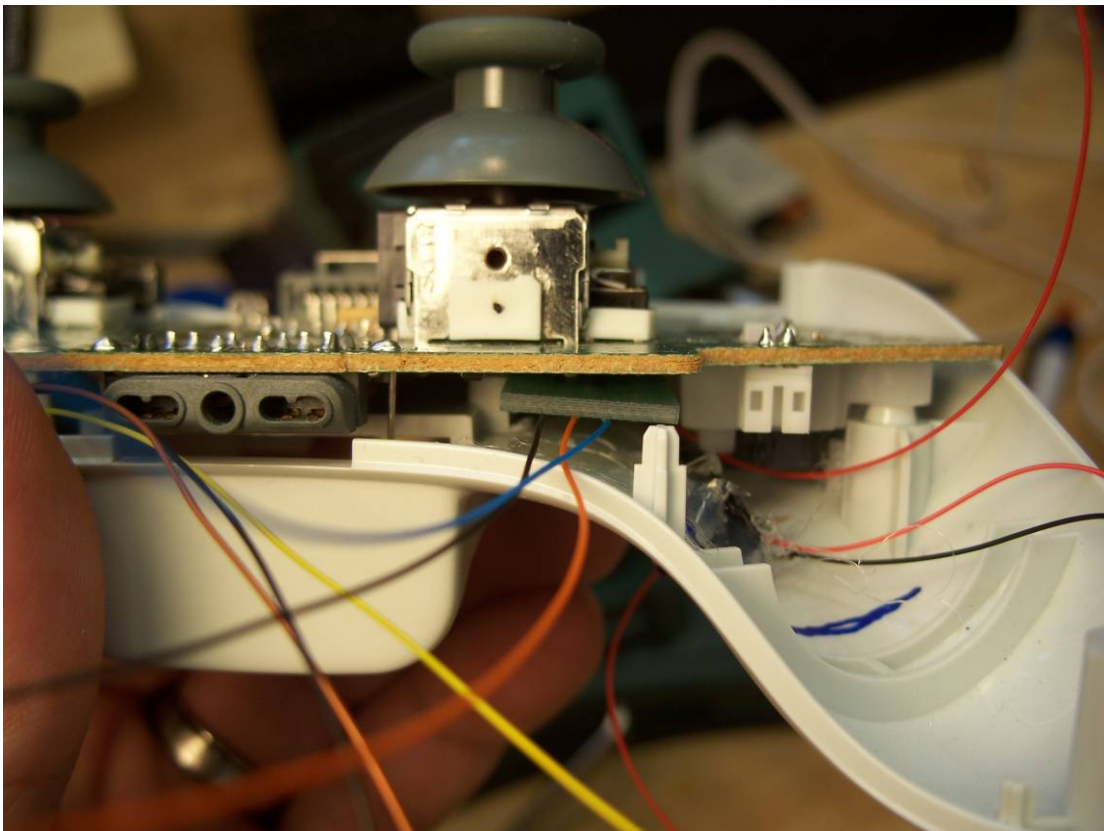
Step 11: Use hot glue to secure the wires for the programming jack to run from the left side to the right side of the controller as shown.



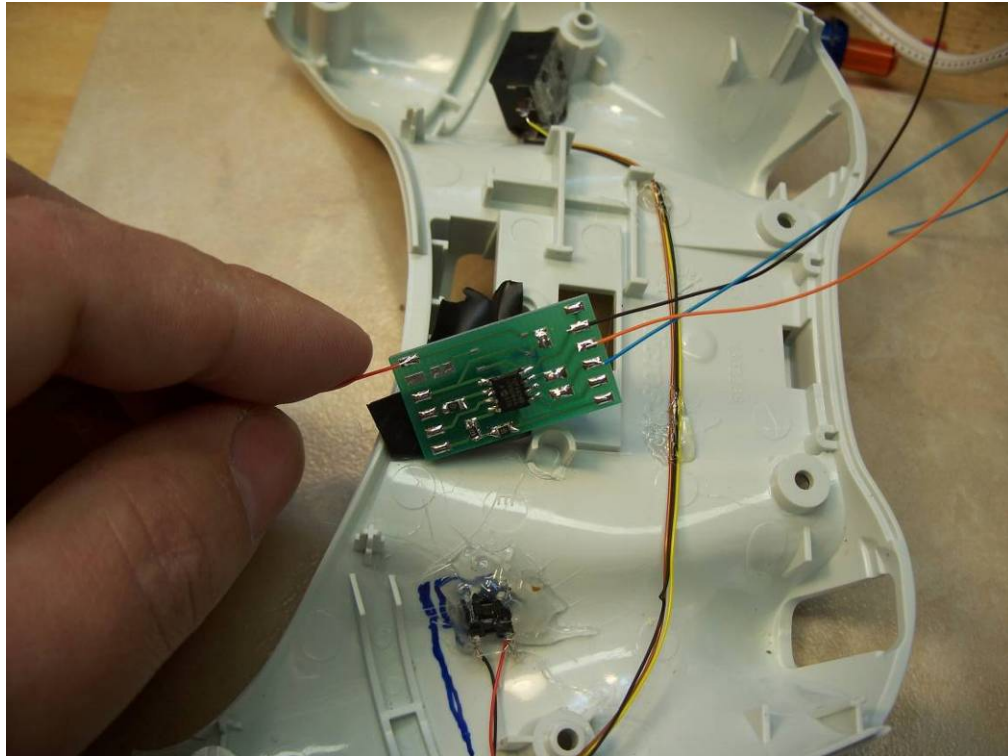
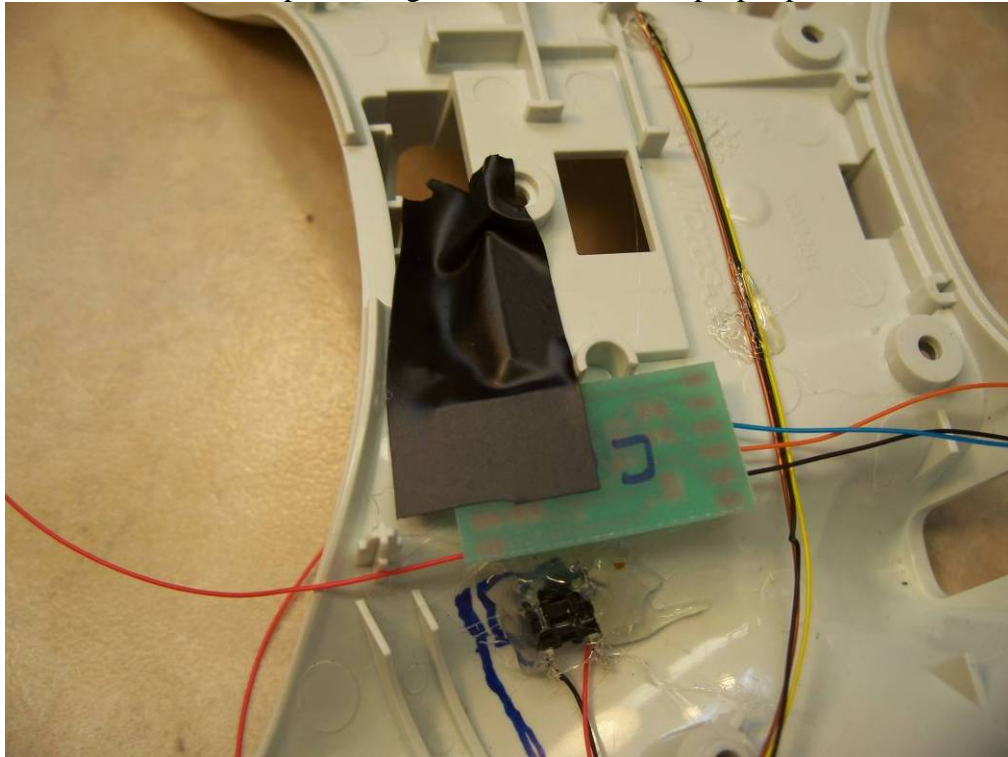
Step 12: Cut the PCB support as shown.



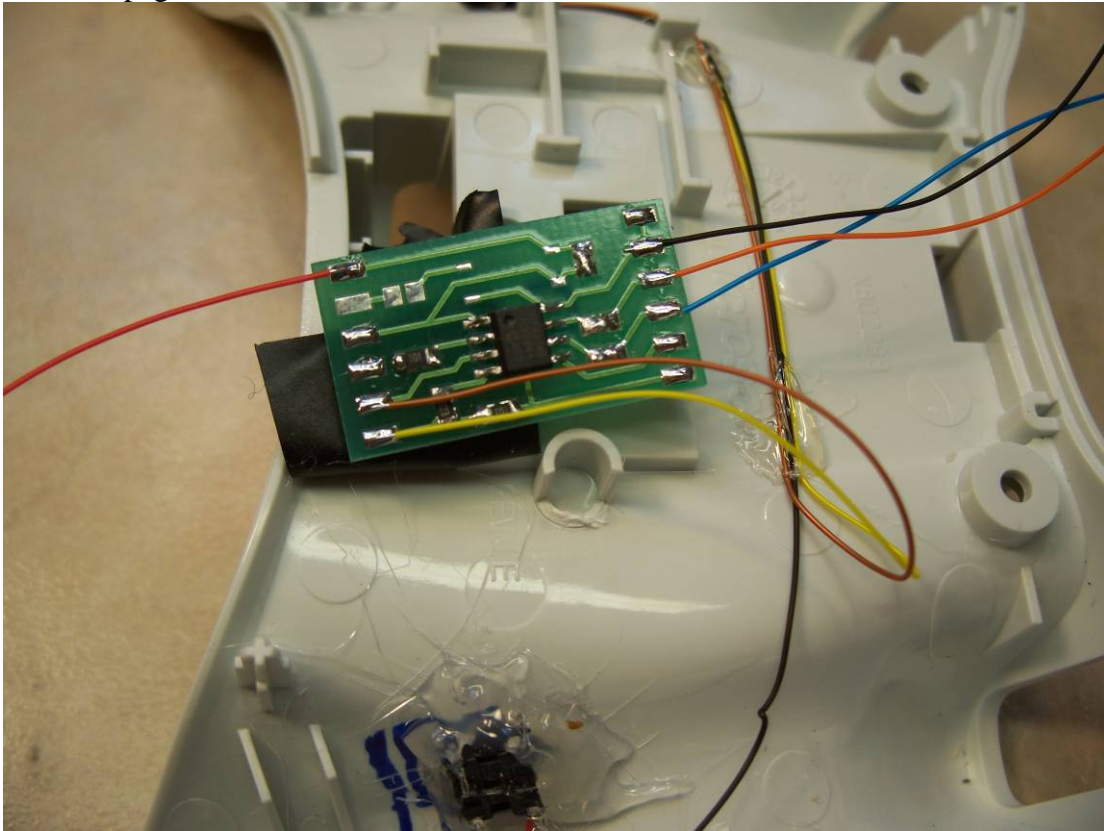
Step 13: Snap off the right side of the support as shown. This will make enough room for the rapidfire PCB to be placed in the controller. Do a test fit to make sure.



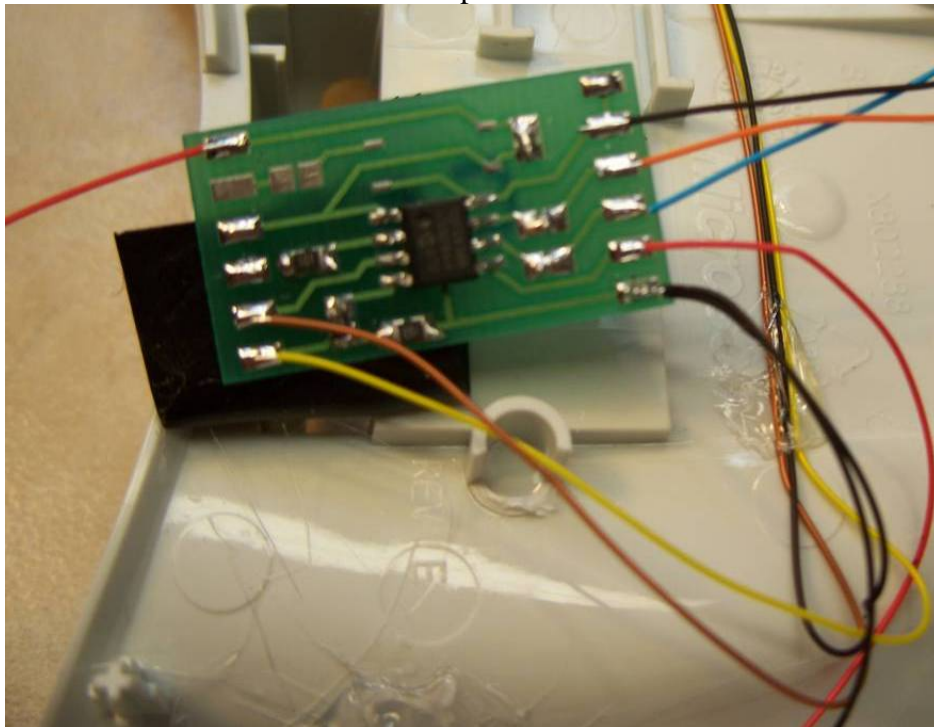
Step 14: Use a piece of tape and tape the PCB as shown. This will position the PCB where it need to be and keeps the length of the wires in the proper place.



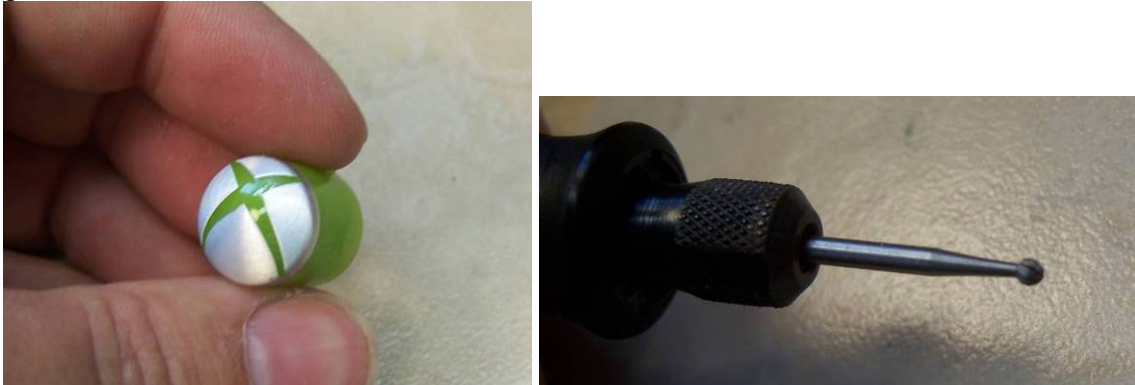
Step 15: Begin soldering the programming jack wires according to the wiring diagram on the second page.



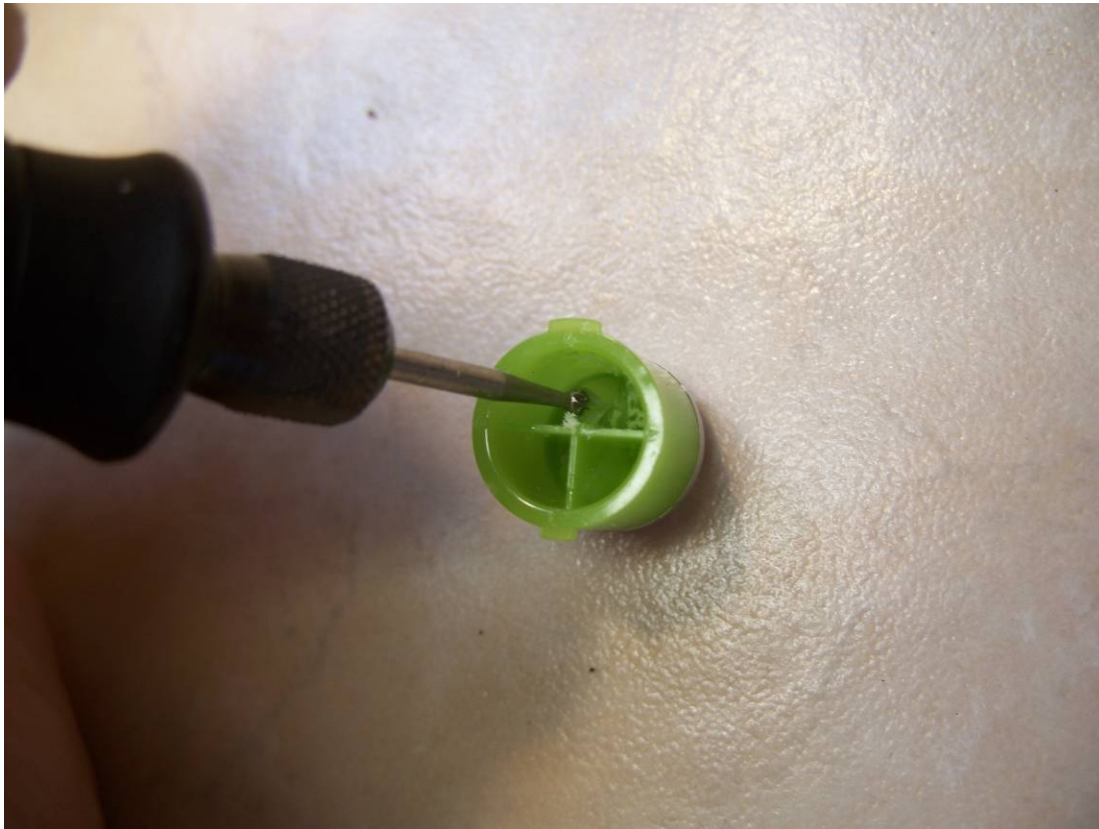
Step 16: Now solder the wires of the tactile pushbutton.



Step 17: We now need to prepare the guide button for the multi-color LED. You will need a dremel with engraving cutting bit or similar tool for removing part of the inner guide button.



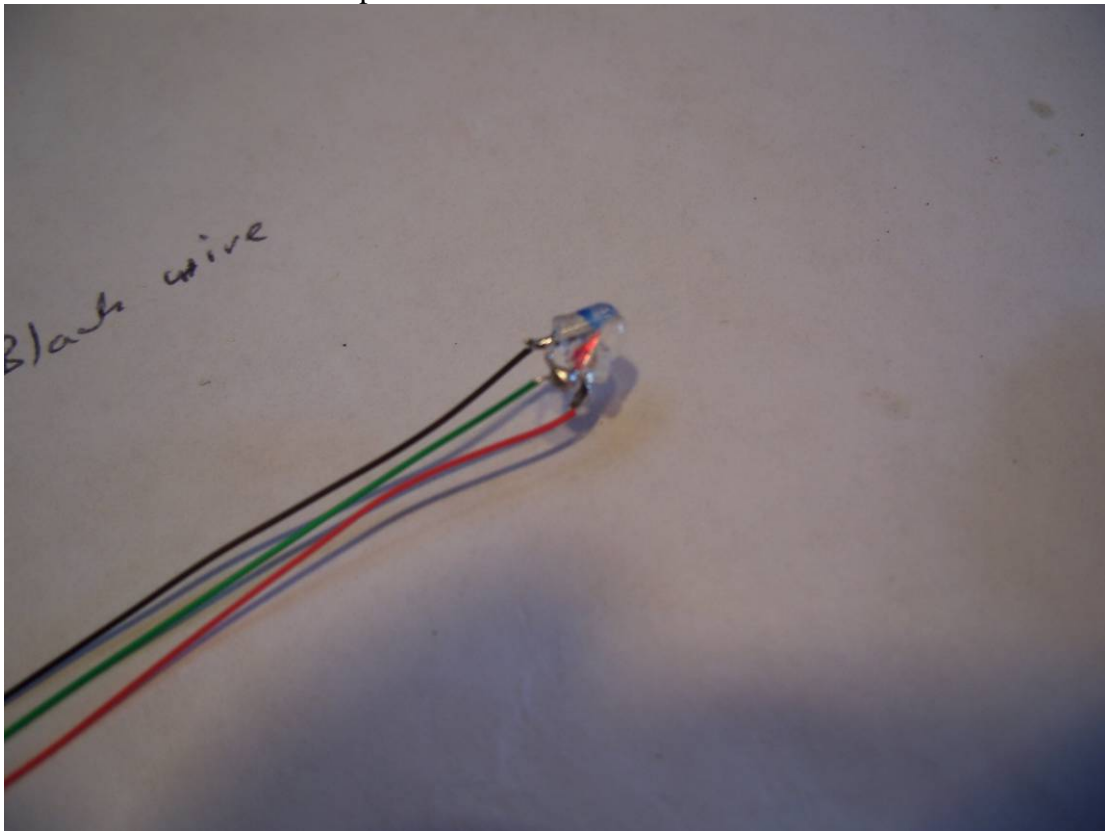
Remove the top of the cross support. Go as deep as you can without reaching the inside front of the button.

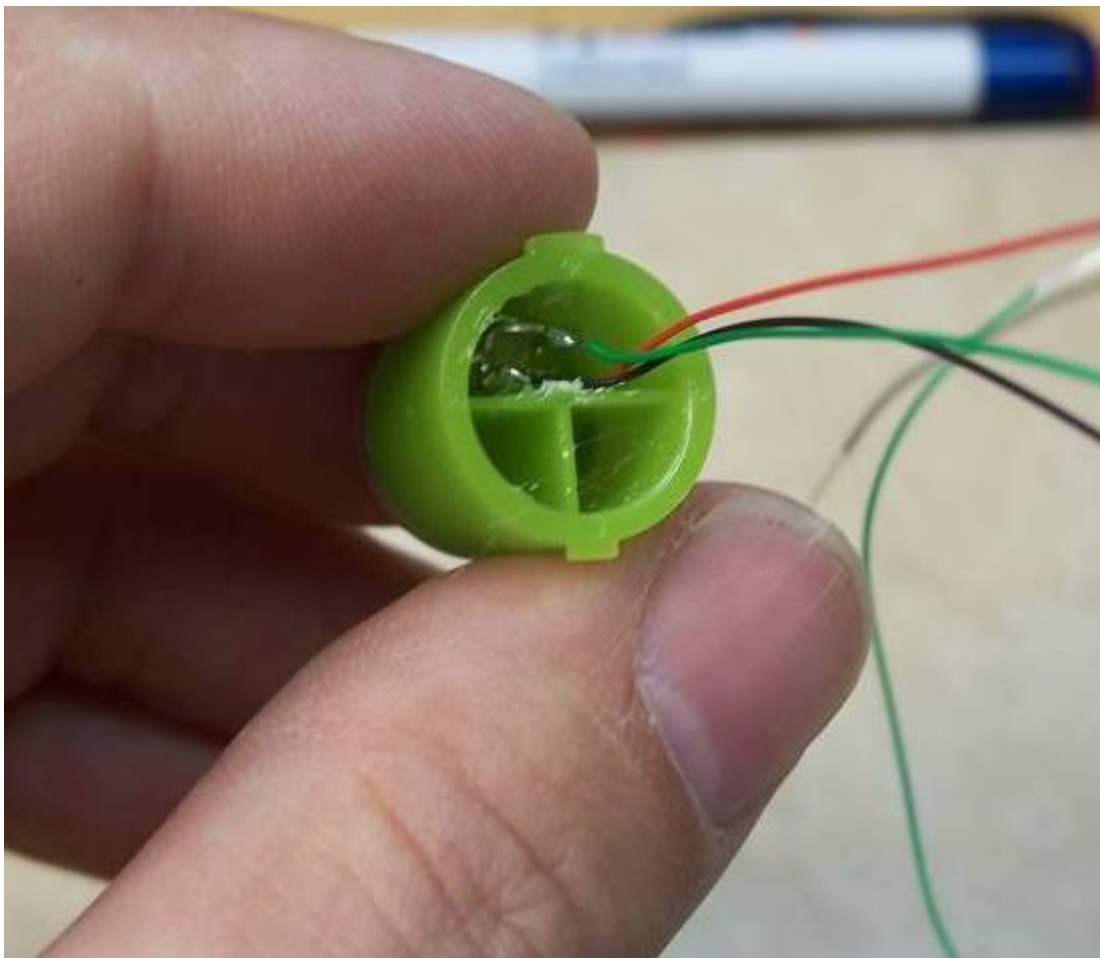


Step 18: Now take your hot glue gun and insert a small amount of glue into the cavity. This is only to initially place the LED.

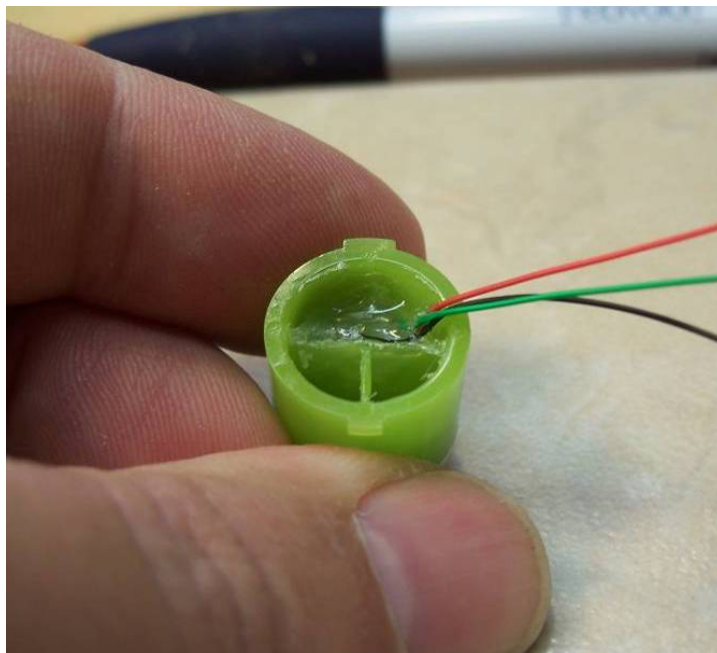


Step 19: Before the glue gets solid, take your LED and place it into the cavity so that the LED fits as straight as possible and that the LED does not stick out past the cross support. Also make sure the wires are pushed off to the side a little.

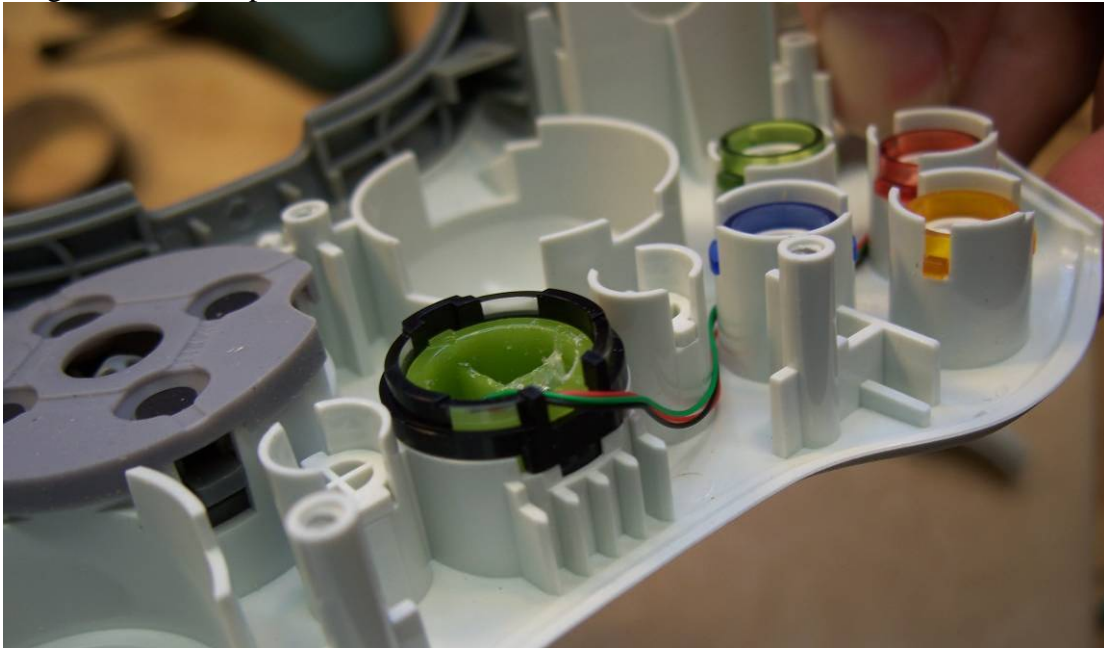




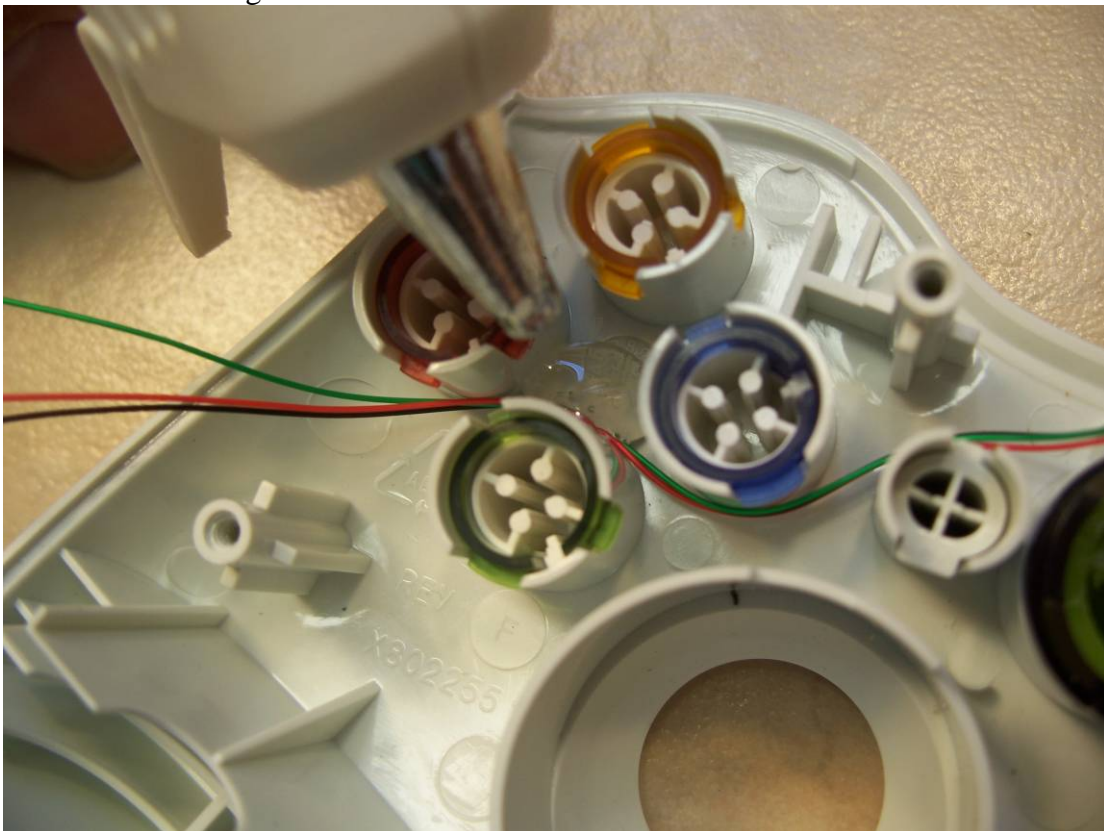
Step 20: Fill the rest of the cavity with hot glue. Make sure the glue does not stick out farther than the cross section.



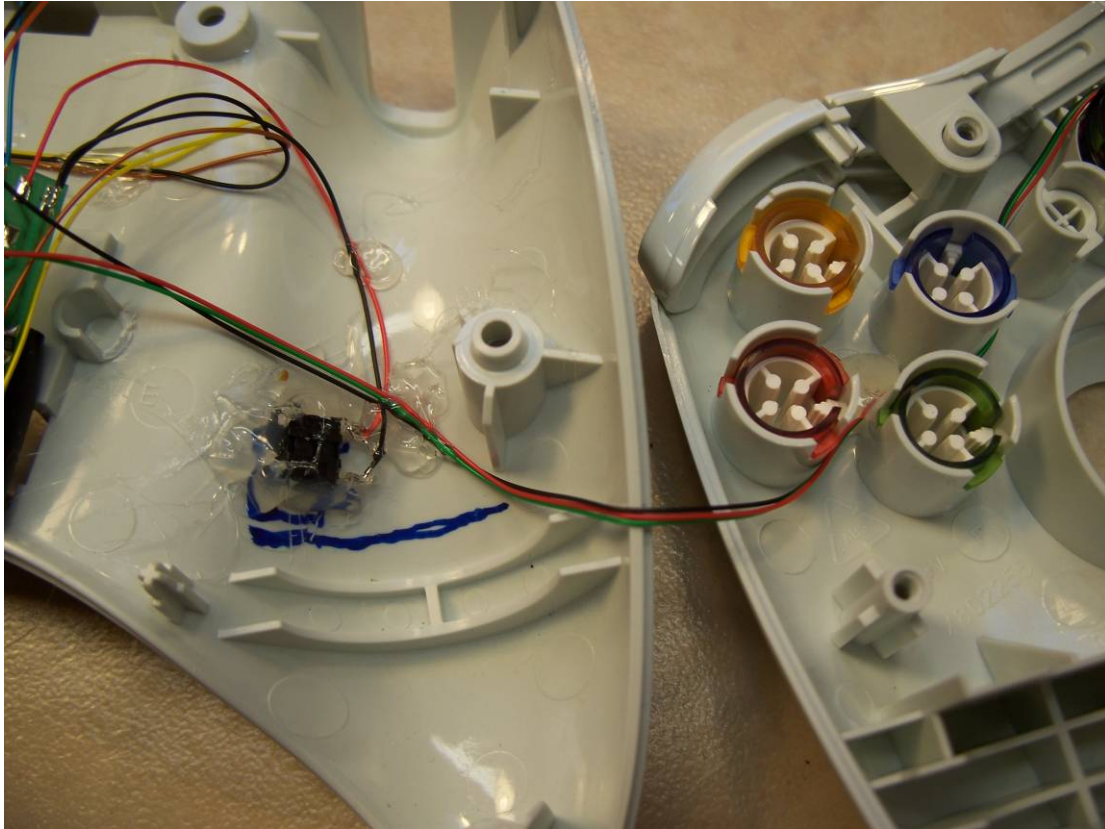
Step 21: Place the guide button back into the top controller shell and run the wires through the buttons space as shown.



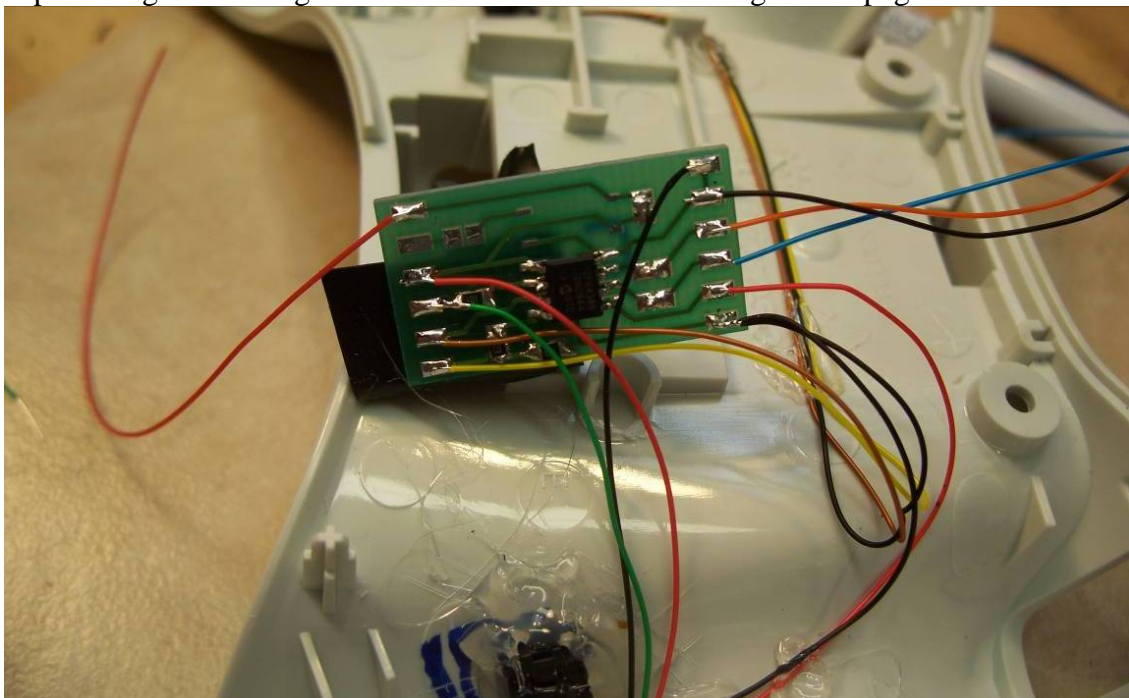
Run the wires around the ABXY buttons and secure them with hot glue as shown. This makes the final fitting of the controller much easier.



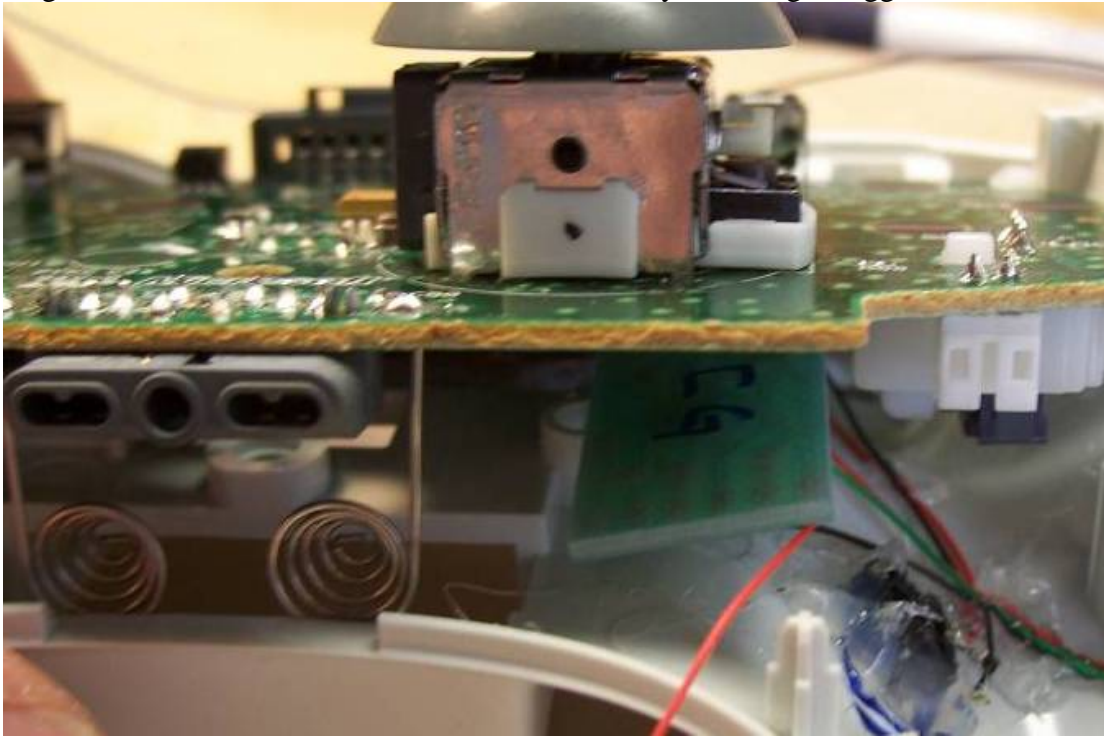
Step 22: Place the top half of the controller next to the bottom half as shown. Use hot glue to secure the LED wires so they will not get in the way of the right trigger mechanical arm.



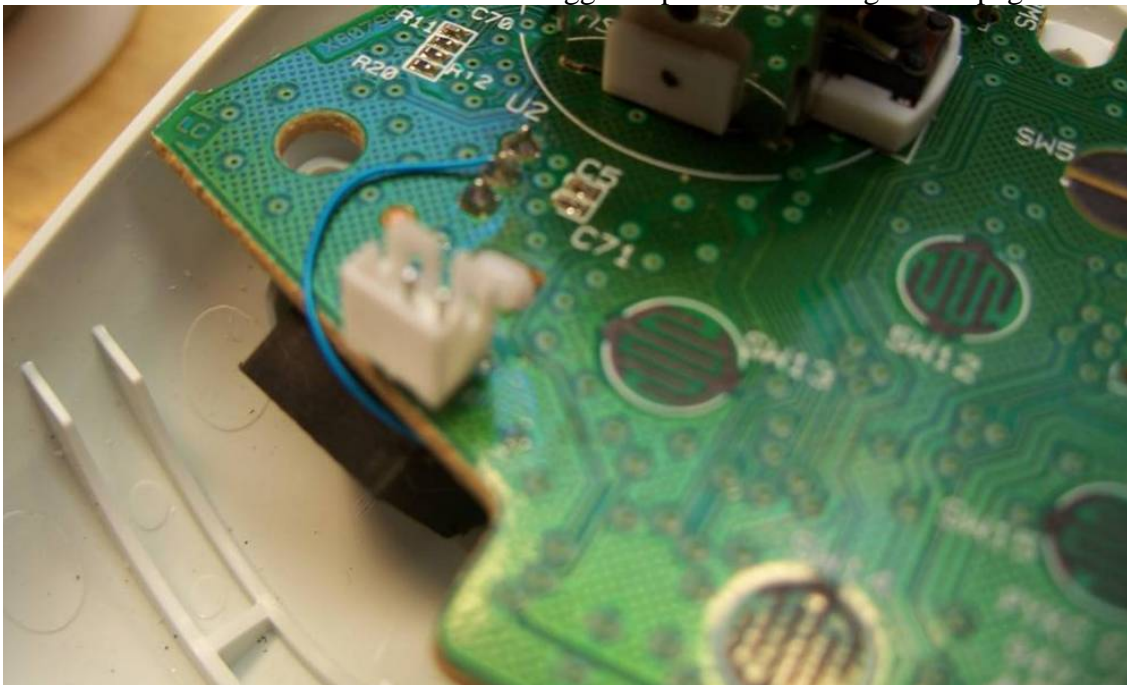
Step 23: Begin soldering the LED connections as in the diagram on page 2.



Step 24: Now flip the PCB over and test fit the controller PCB to make sure you have enough room and that none of the wires are in the way of the right trigger mechanism.



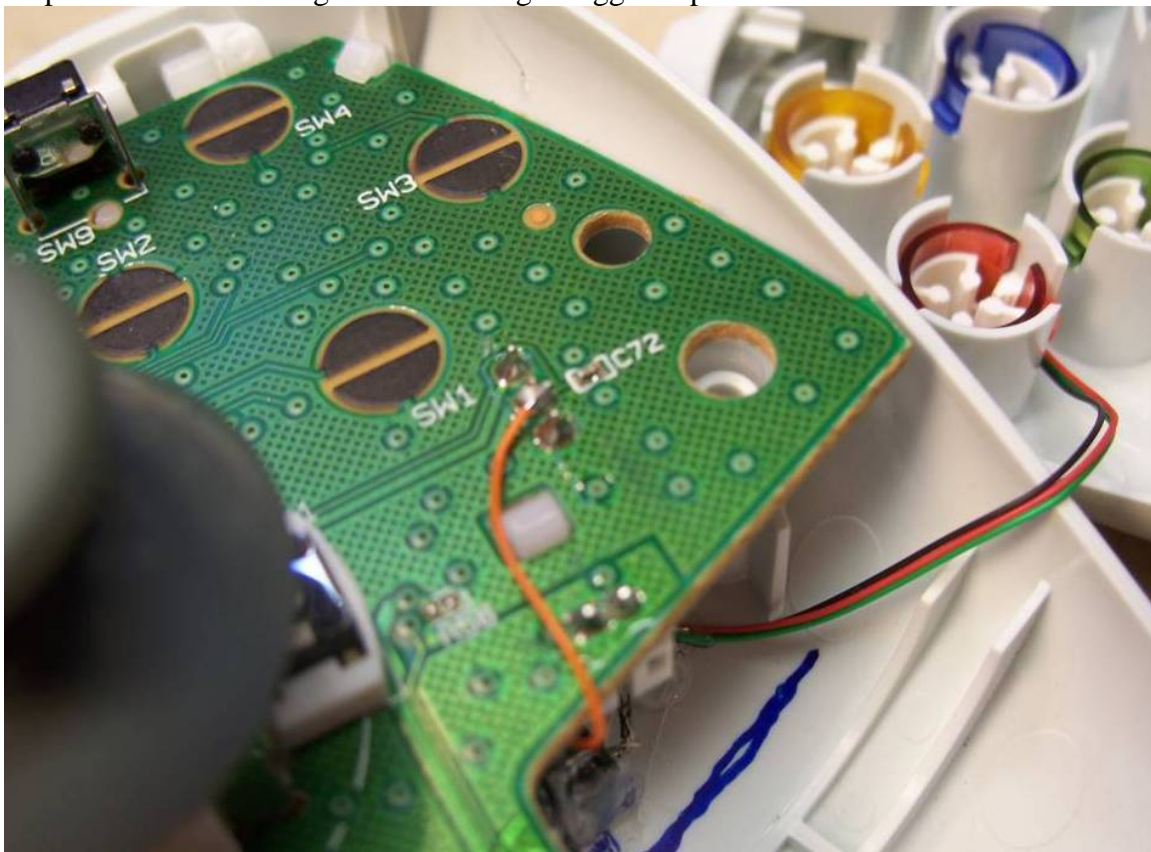
Step 25: Run the blue wire back to the left side of the controller in the same way the programming wires were run. Use hot glue to secure it if needed. Place the PCB back into the controller shell and solder it to the left trigger wiper as in the diagram on page 2.



Step 26: Now solder the power wires to the PCB.



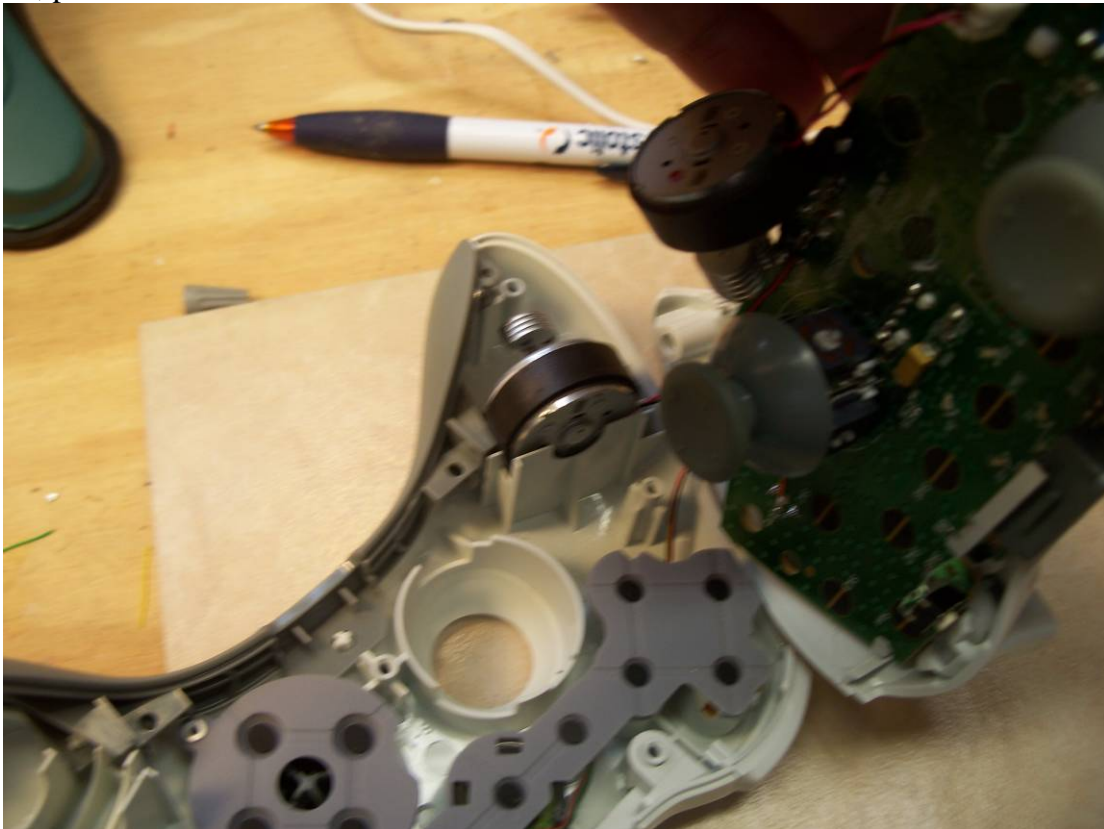
Step 27: Solder the orange wire to the right trigger wiper.



Step 28: Place your rumble motors back onto the PCB.



Step 29: Place all rubber button contacts back onto the controller and begin to flip the bottom half (with the PCB) onto the top half of the controller. As you flip the bottom half over, place each rumble motor into its mount as shown.



Step 30: As you try to fit the two halves together, you will angle the bottom shell (battery part) away from the top of the controller (trigger/sync button side). You want to avoid pinching the sync button/ shoulder buttons as you squeeze the halves together.



You will have to use your thumb to move the thumbsticks to clear the holes as you squeeze the halves together.



Step 31: The two halves will 'snap' together when fully aligned. Before replacing the screws, make sure the sync button and shoulder buttons make a distinct 'click' when pressed to make sure you did not pinch them when re-assembling the controller.



Step 32: After tightening all the screws, test the tactile button to make sure it is not getting pinched or stuck. Sometimes the bottom shell gets stressed when tightening the controller screws and the tactile button gets wedged in its hole. A common reason for the shell to get stressed is excessive hot glue getting pinched by the rumble motor mounts.



Optional: Instead of moving the left rumble motor header, it may be easier to cut the motor leads and solder them directly to the PCB instead. You will have to cut the pins off before doing this as the programming jack will still need the clearance. Although this is easier, it also means that the rumble motor is now permanently attached to the PCB.