Installation tutorial for Console Customs Xbox 360

Halo 2 Double shot Mod Chip for old style (Matrix) wireless controllers.

This tutorial is designed to aid you in installation of a console customs Halo 2 Double shot microchip. This tutorial covers the installation of the chip in a old style (Matrix) wireless controller. The first step in this tutorial explains how to tell which style controller you have and if this is the correct tutorial for your controller.

This installation requires soldering several wires to extremely small confined spaces. We do not advise attempting this installation if you are a beginner at soldering. We recommend reading through all of the instructions and understand them before beginning your installation.

WARNING: Please proceed with this installation at your own risk. We will not be held responsible for any damage to yourself, your controller, your Xbox 360 console or any other equipment.

This tutorial requires opening your controller which will void the warranty of your controller.

Tools needed:

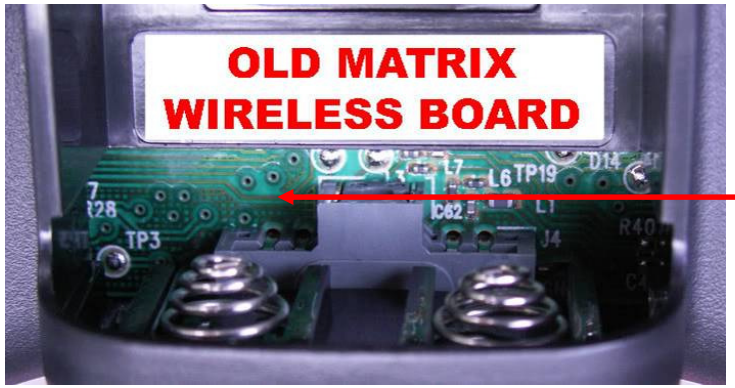
- Torx T8 Security/tamper proof driver (For opening wireless controller)
- Soldering iron (A 5w/30w from radio shack is about $12)
- Solder (We use rosin core solder from radio shack so there is no need for flux $4)
- Wire strippers (that can strip 30ga wire, a 30ga wire wrap tool from radio shack includes a 30ga stripper $8)
- Wire cutters
- Hot glue gun
- 9/64th drill bit (or close to it a 1/8th will also work)
- Small pocket knife or razor blade (optional but helpful)

Please visit our website at www.consolecustoms.net

Also visit our ebay store at http://stores.ebay.com/console-customs

Controller Identification

• Before you get started you need to know which Controller type you have so that you can follow the correct tutorial for your controller. The Left side images show the board from behind the battery door (no need to open the controller) and the right side is with the controller open.

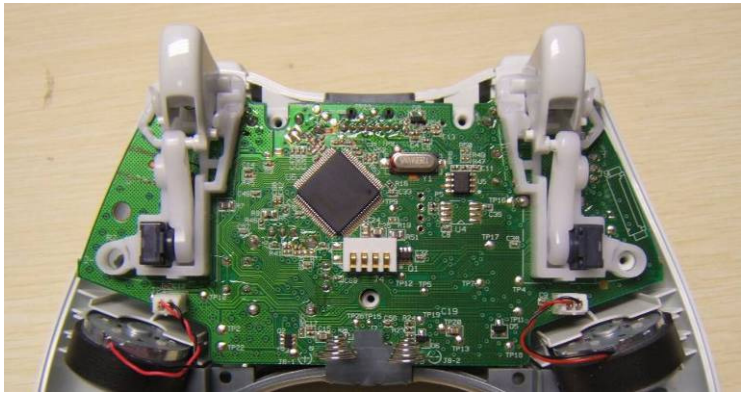


Matrix PCB

From the battery door area you can see that there is no Capacitor on the left side while the other two versions do have a capacitor.

CG PCB

From the battery door area you can see that the Capacitor is horizontally oriented.



CG2 PCB

From the battery door area you can see that the capacitor is vertically oriented.

!!STOP!!

- If you Identified your controller as a Common Ground style please visit our website (www.consolecustoms.net) to find the correct tutorial for your controller.

- This tutorial is only for Matrix style controllers. If you identified your controller as a Matrix style in the previous step please continue.

  Or better yet check your other controllers to see if they are a common ground style as installation is much easier on the common ground style controllers. If you do not have a common ground and want to purchase a new controller from the store here are a few tips to find a CG controller.
  - All combo packs (controller + play and charge kit) will have a CG controller.
  - Almost All CG controllers have a serial number that start with 0588. This will be on the bottom of the bubble packaging.
  - All Matrix style controllers and some CG controllers have serial numbers that start with 0288. If you see one that starts with 0288 it is most likely a matrix style, so just keep looking.
  - Visit our Website www.consolecustoms.net to purchase a guaranteed CG controller.

Step 1: First lets start by looking at what is in your kit.

- You should have the following items in your kit
  1. (1) 14 pin PIC microcontroller
  2. (1) 14 pin Logic switch (only used on Matrix controller installations)
  3. (2) Buttons
  4. 30ga. Wire (We include 4 colors so it is easier to follow the tutorial.)

The PIC has a small notch in the top and will also read “PIC 16F684” on the chip itself.

The logic Switch has a larger notch than the PIC.

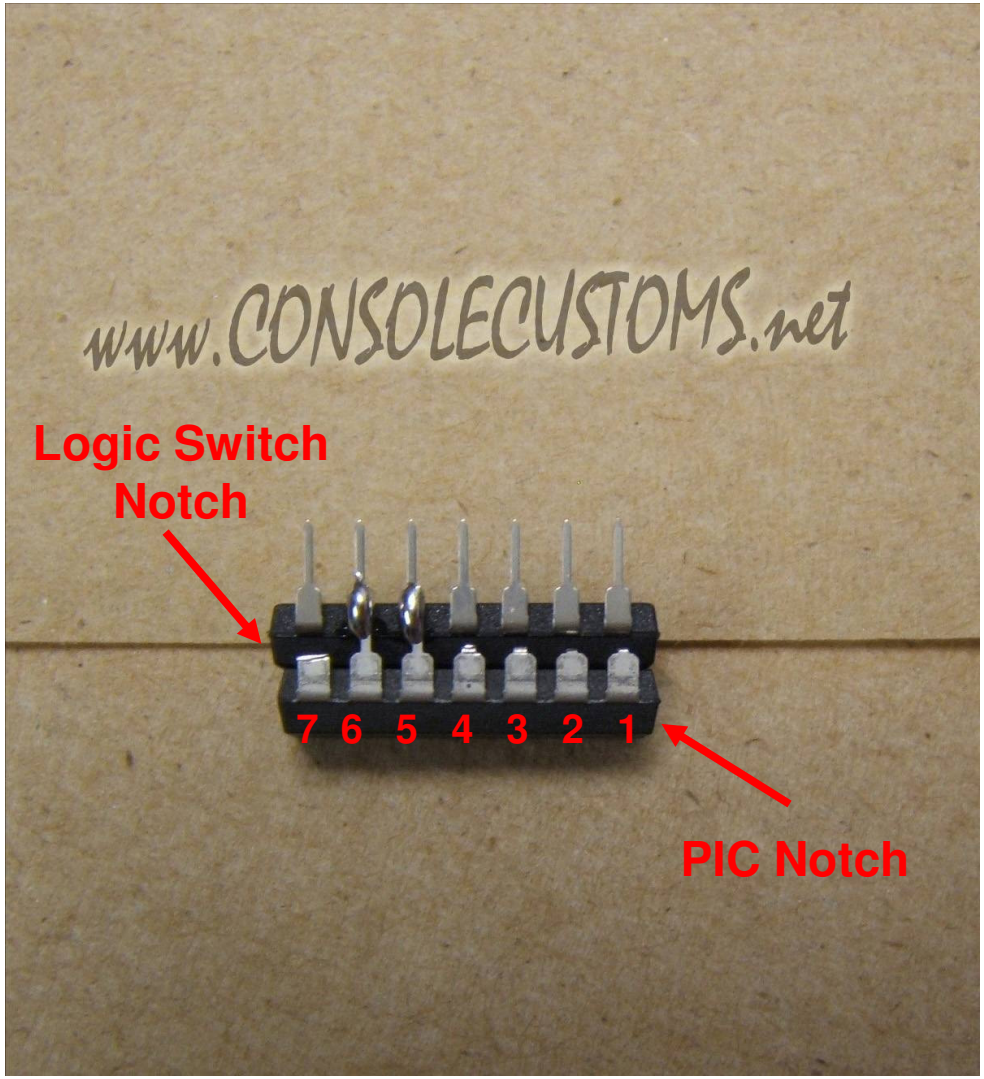
Step 2: To start off you will first need to cut down some of the legs of the PIC.

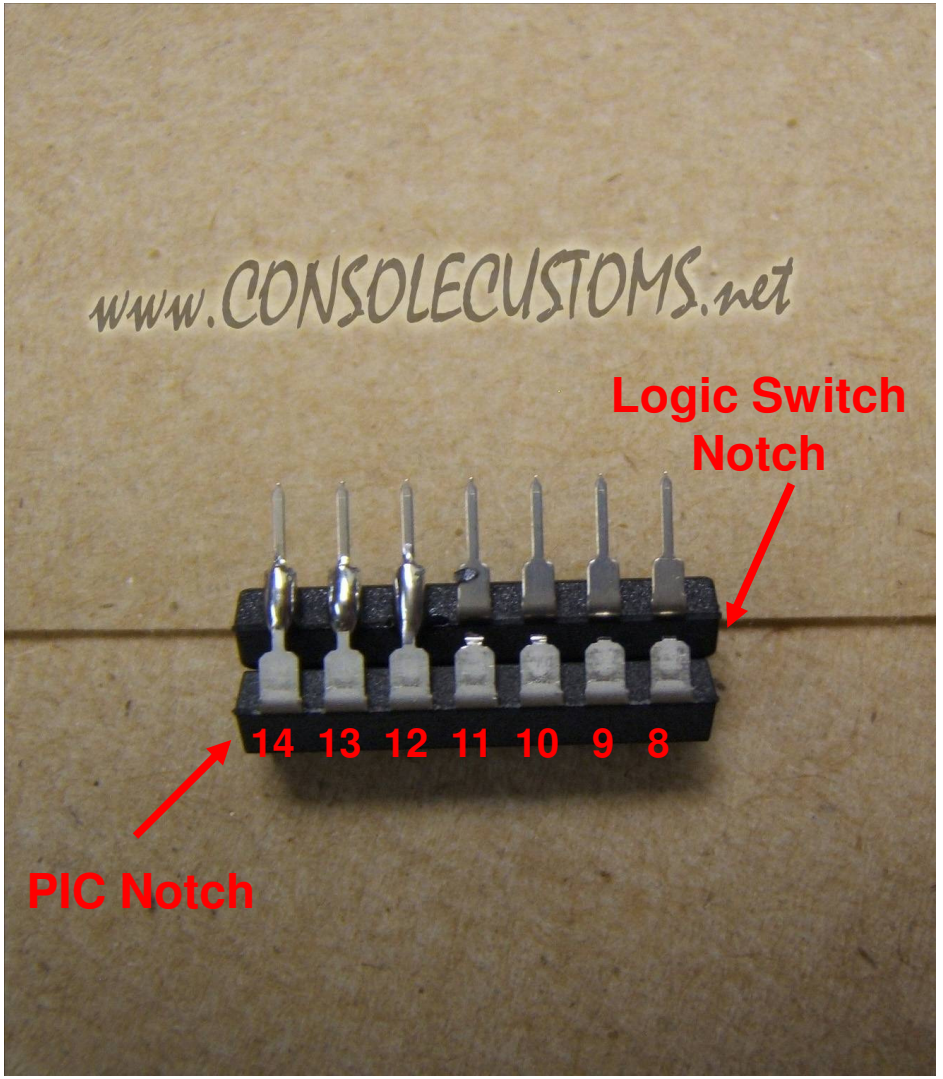
- In the images below you can see both sides of the PIC with each pin labeled by number. Pay close attention to the orientation of the Notch so that you cut down the correct pins. Cut off the entire skinny part of the leg using your side cutters leaving only the thicker part of the leg.

Step 3: Next you will Solder together the PIC chip and the logic switch.

- The logic switch should sit on top of the PIC chip with the notch from the Logic switch on the opposite side as the notch from the PIC chip (see images below).
- Solder together pins 5, 6, 12, 13 and 14 (the legs you did not cut on the PIC chip.)

tip: For information on proper soldering visit http://www.curiousinventor.com/guides/How_To_Solder





Step 4: Now you can start attaching the wires.

- Starting with pins 1 through 7 on both the PIC and the switch you will attach wires as shown below.

tip: For information on proper soldering visit http://www.curiousinventor.com/guides/How_To_Solder

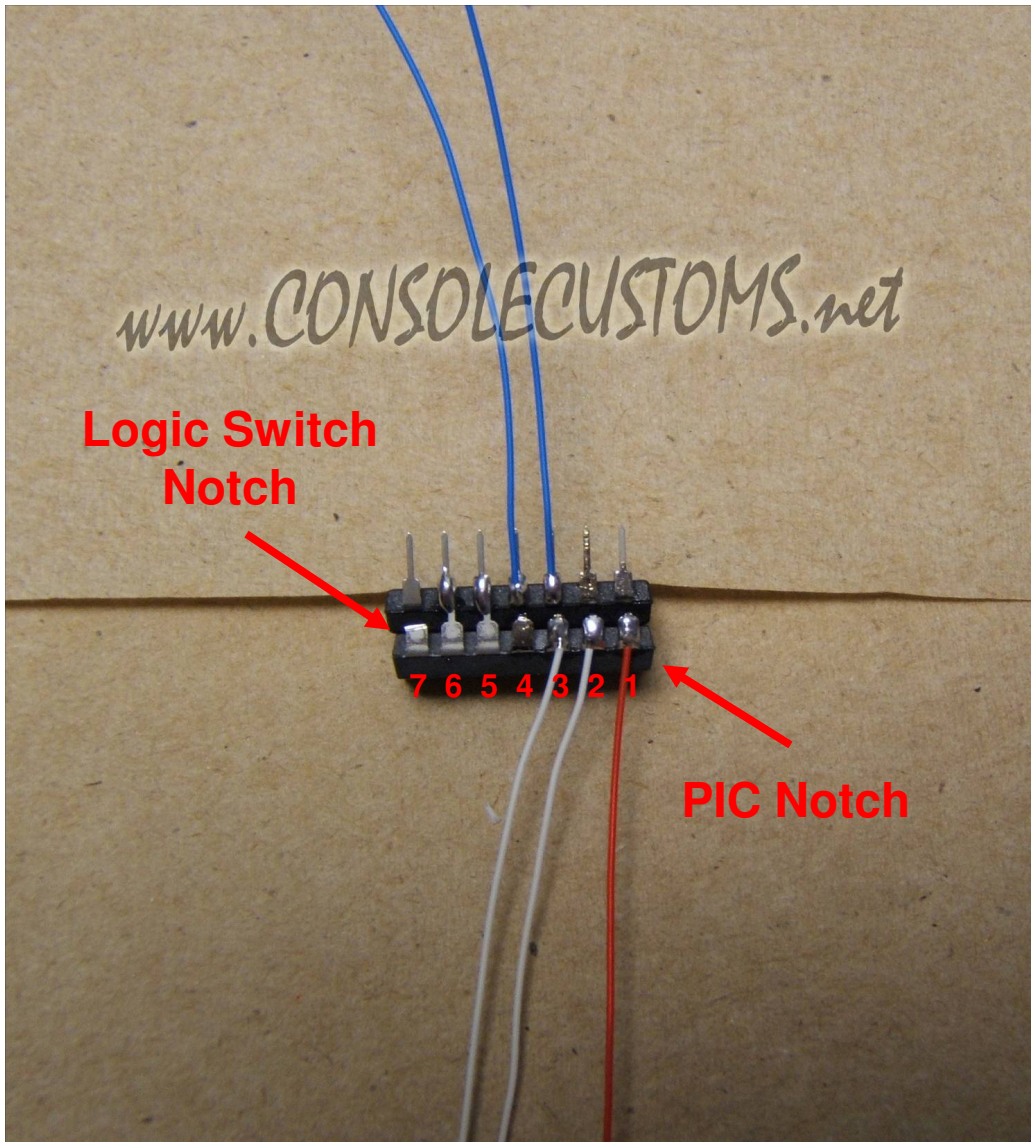
tip: Only strip about 1/8" of the wire for soldering. Exposing more bare wire could cause a short.

• PIC Pin 1 (red wire) is the power wire and should be aprox 4 inches long.

• PIC Pin 2 (short white wire) is the input from the right side button and should be 2.5 inches long.

• PIC Pin 3 (long white wire) is for input for the left side button and should be aprox 6 inches long.

• Switch Pins 3 and 4 (blue wires) are the outputs for control of the X button. These should both be aprox 2.5 inches long.



Step 5: Continue attaching the wires to the other side of the chips.

- Now onto pins 8 through 14 on both the PIC.

tip: For information on proper soldering visit http://www.curiousinventor.com/guides/How_To_Solder

tip: Only strip about 1/8" of the wire for soldering. Exposing more bare wire could cause a short.

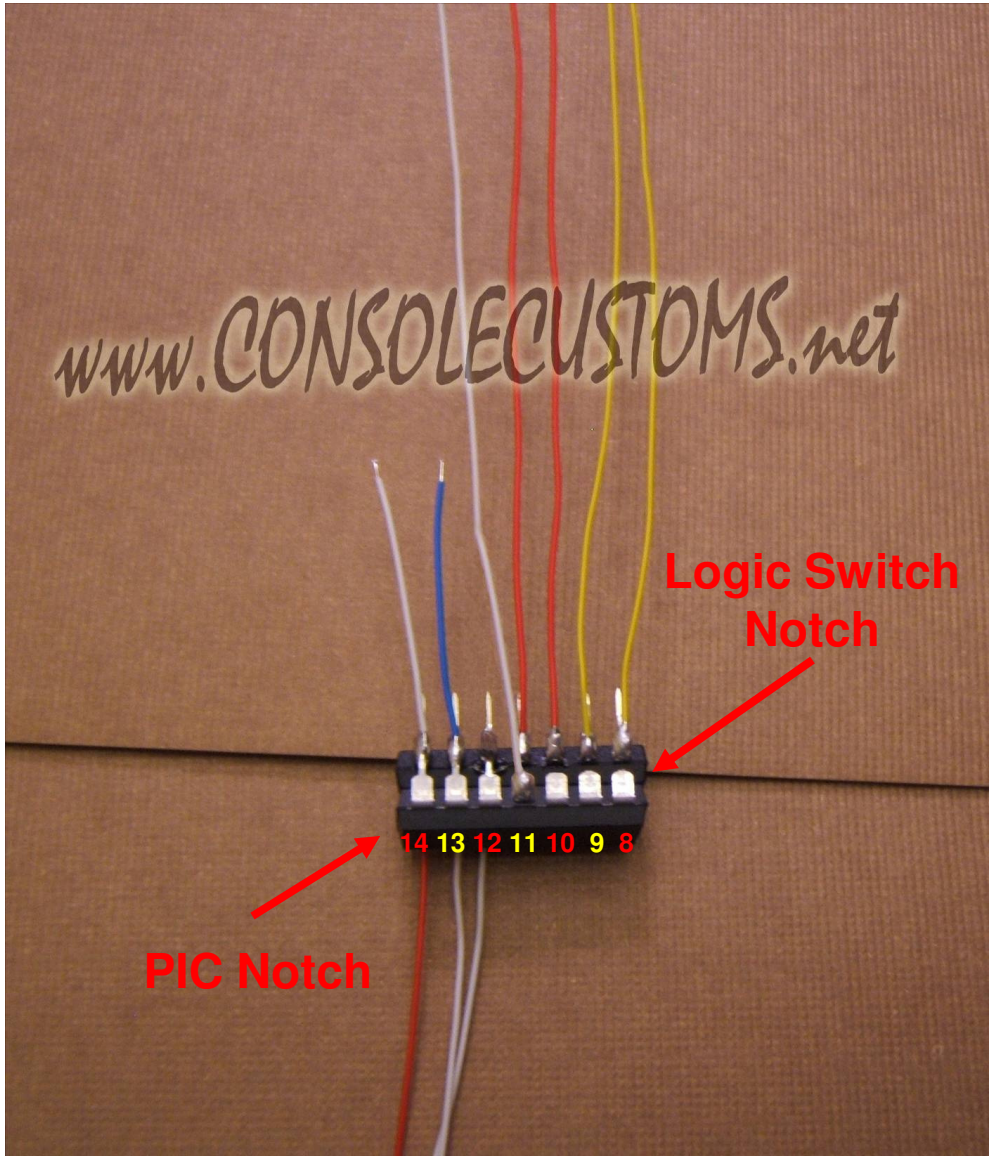
• PIC Pin 14 (Short White wire) is the ground wire and should be ¾ of an inch long.

• PIC Pin 13 (short blue wire) is the output to the right trigger and should be 2.5 inches long.

• PIC Pin 11 (long white wire) is for input for the controllers back button and should be aprox 3.5 inches long.

• Switch Pins 11 and 10 (Red wires) are the outputs for control of the B button. These should both be aprox 2.5 inches long.

• Switch Pins 9 and 8 (Yellow wires) are the outputs for control of the Y button. These should both be aprox 2.5 inches long.



Step 6: Opening the controller

- Remove the 7 screws indicated below. One is behind the small white label.

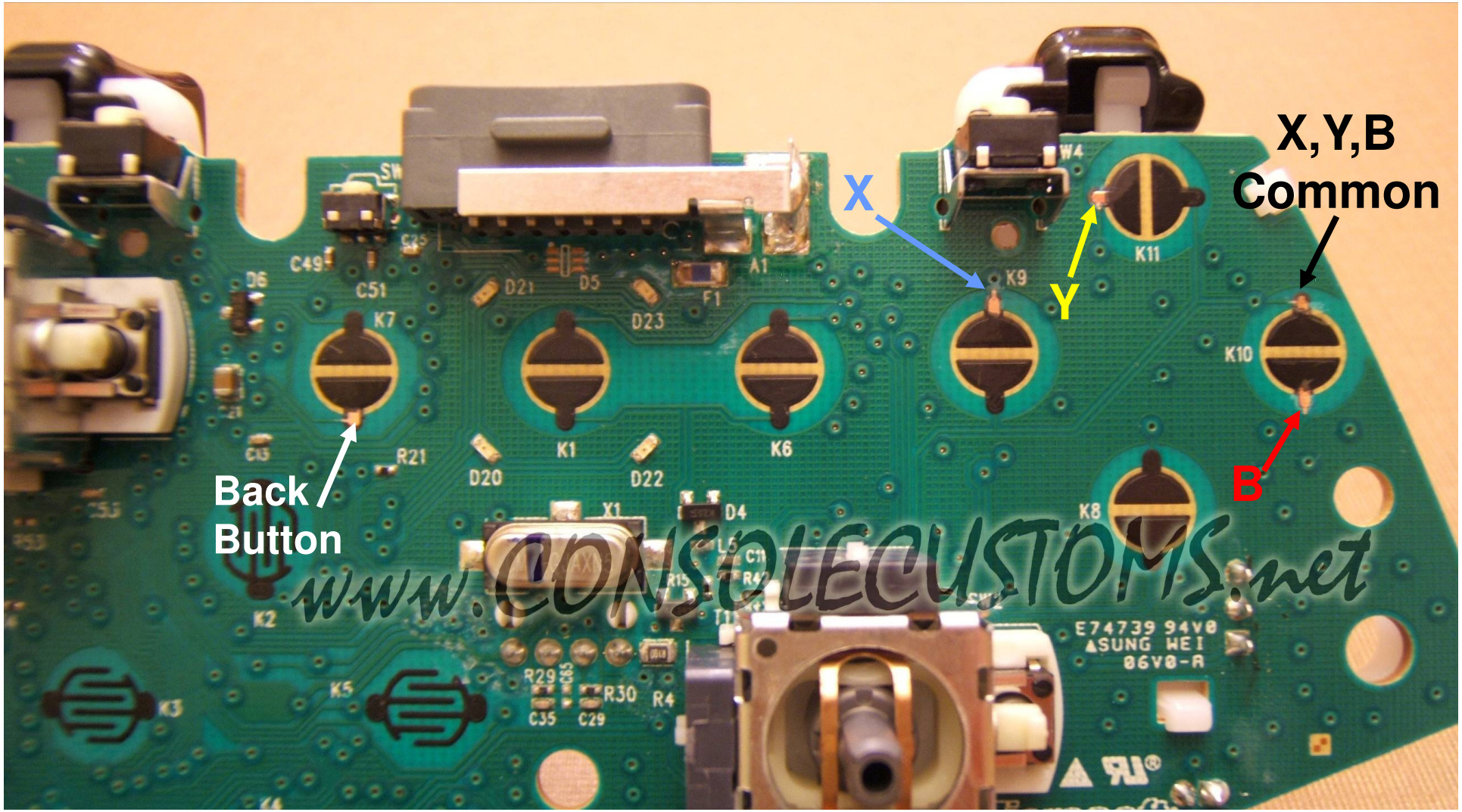
- The wireless controller requires a T8 Torx security driver. This is a star shaped tip with a hole in the middle of it. It is very difficult to open the wireless controller without this.

WIRELESS

Step 7: Preparing the PCB.

• To prepare the PCB you will want to use a small pocket knife or razor blade to scrape clean the 5 locations shown below. The old style PCB has larger tabs that come off of each button which are easier to solder to than the very small vias on the board.

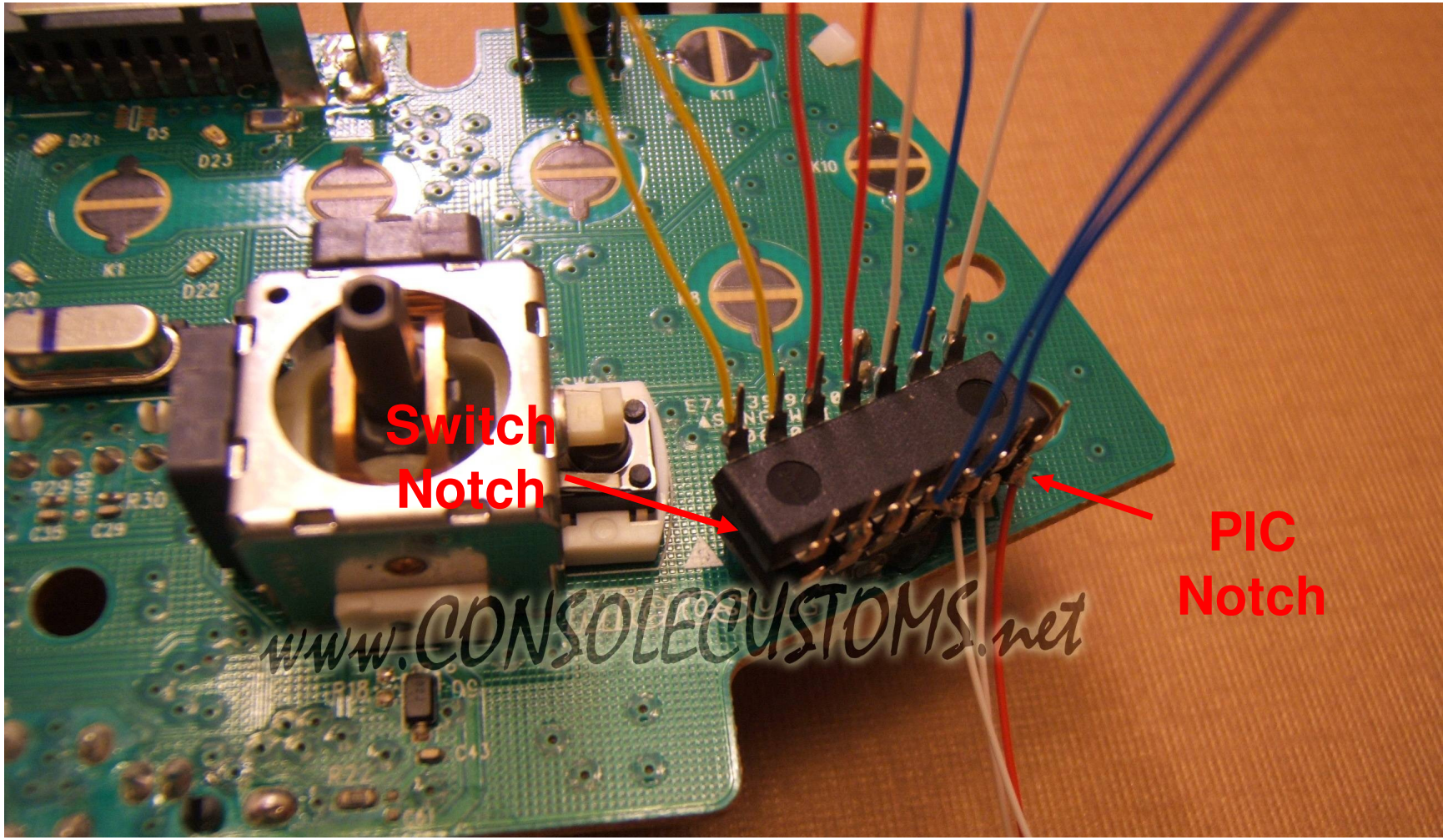
• Only scrape clean the small tab sticking out of the circle, do not crape clean any part of the circle.



Step 8: Mounting the Chips to the PCB

• Now you will want to mount the chips to the PCB. Mount them on thier back (also known as Dead bug) along the edge of the PCB as shown using hot glue. They will be on top of the solder points for the rumble motor.

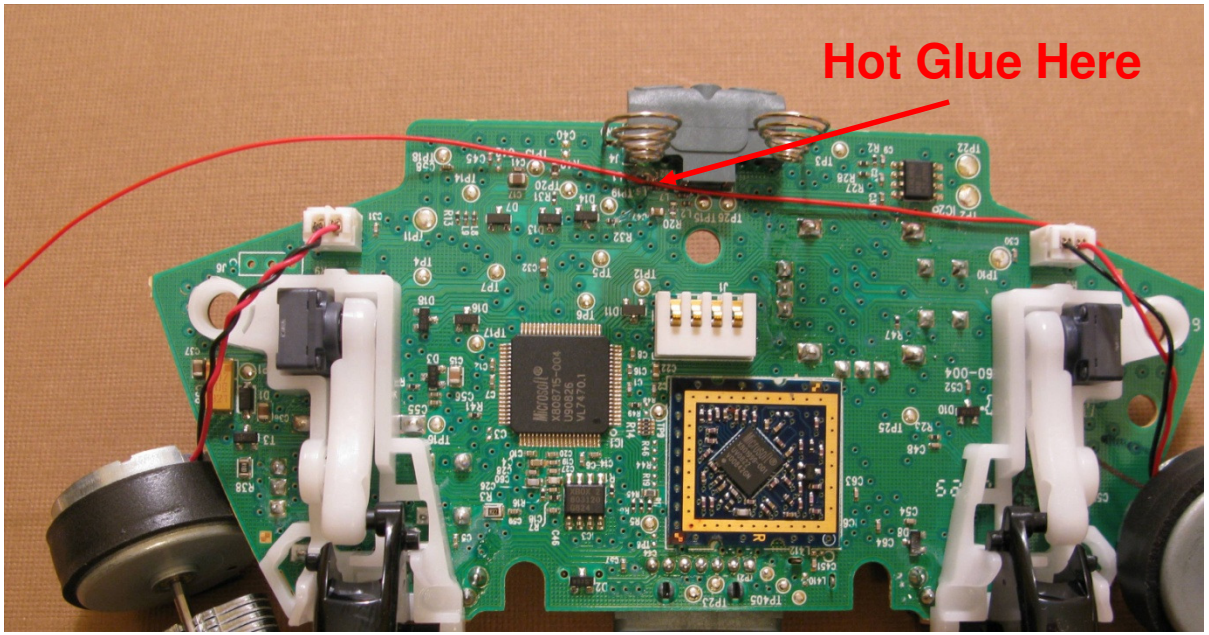
• Try to mount the chip with the same around of room in-between the right thumbstick and the chip and also the hole along the right edge if the PCB and the chip.

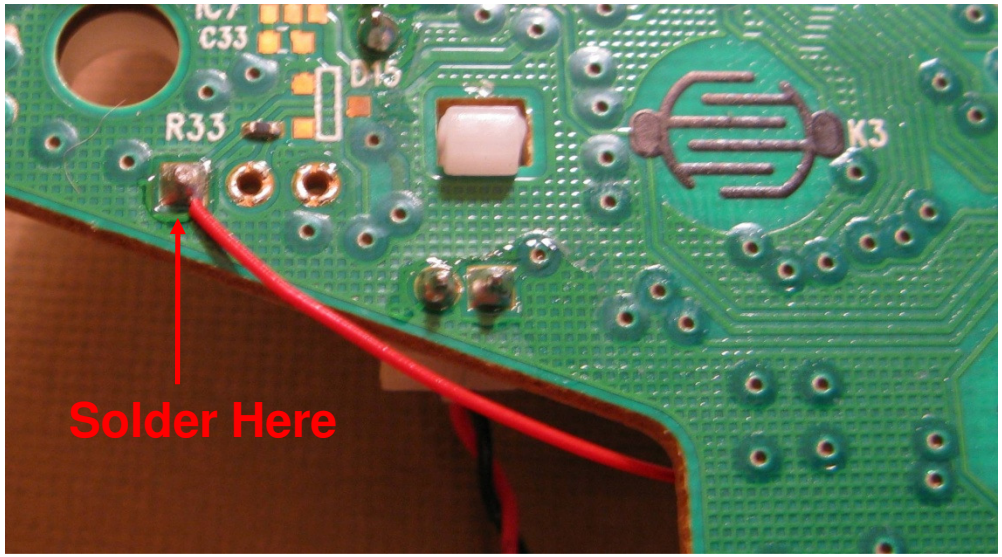


Step 9: Attaching the Power wire

• The first wire you will want to solder is the power wire. This is the red wire from PIN 1 of the PIC.

• Run this wire under the PCB as shown in the top picture and solder to the left most hole of the 3 open holes that are just to the left of the rumble motor plug. (bottom Picture)

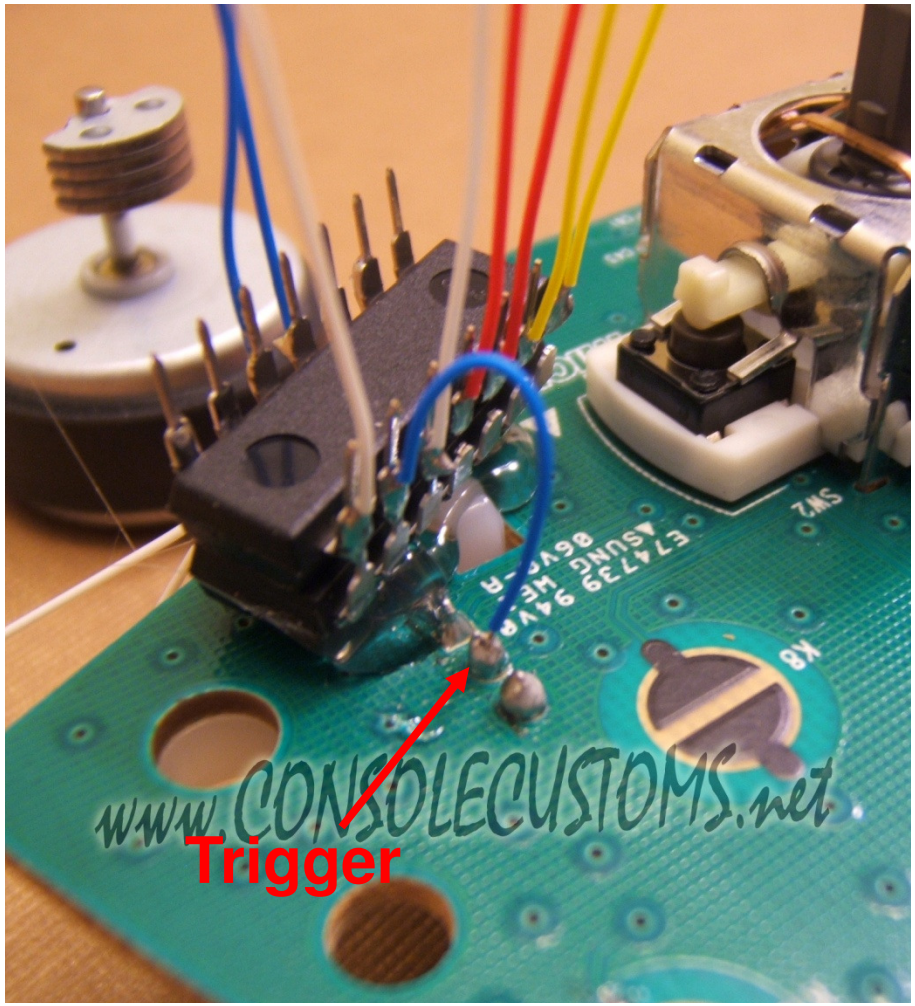


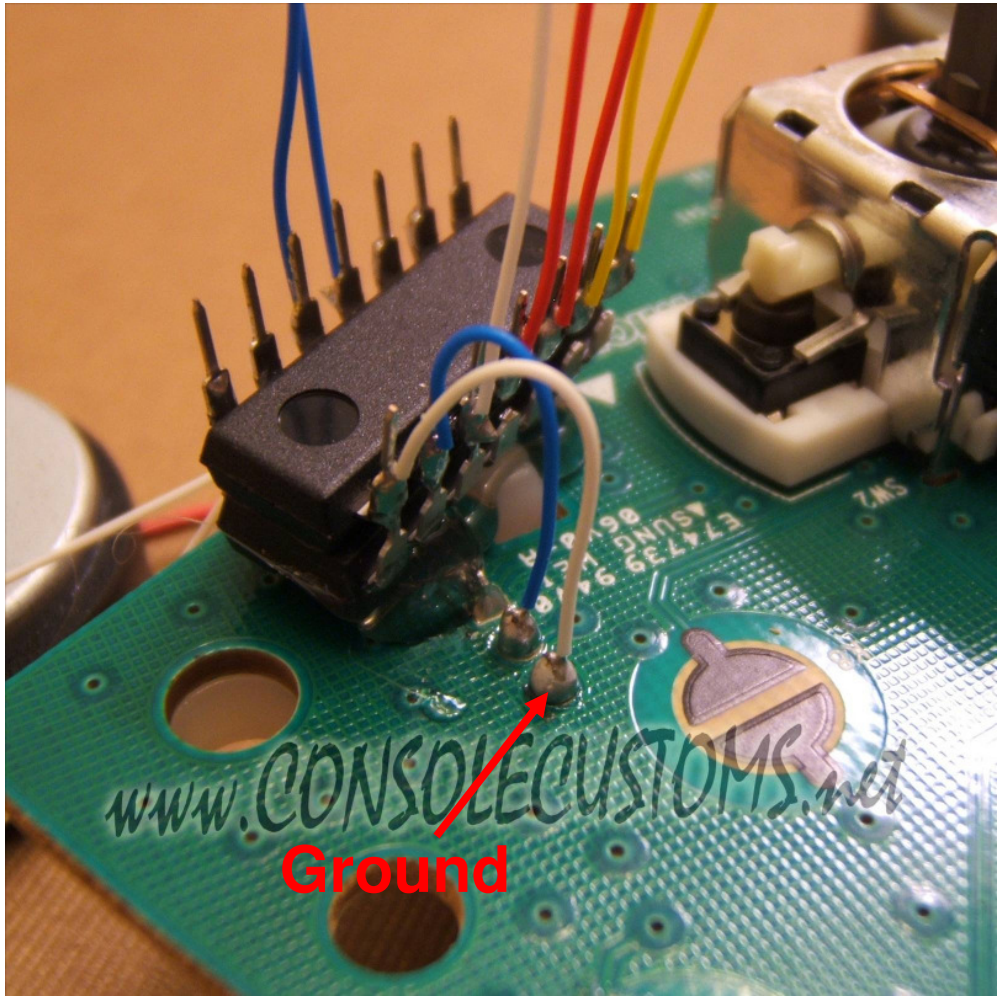


Step 10: Attaching the Ground and trigger wires

• Next is the trigger wire. This is the short blue wire in our pictures attached to Pin 13. This wire will go to the middle of the three trigger pins as shown in the left side image below.

• Now you will solder the ground wire. This is the short white in our pictures that is attached to pin 14. As you can see in the right side image you will take this wire and attach it to the top of the three solder points for the trigger.



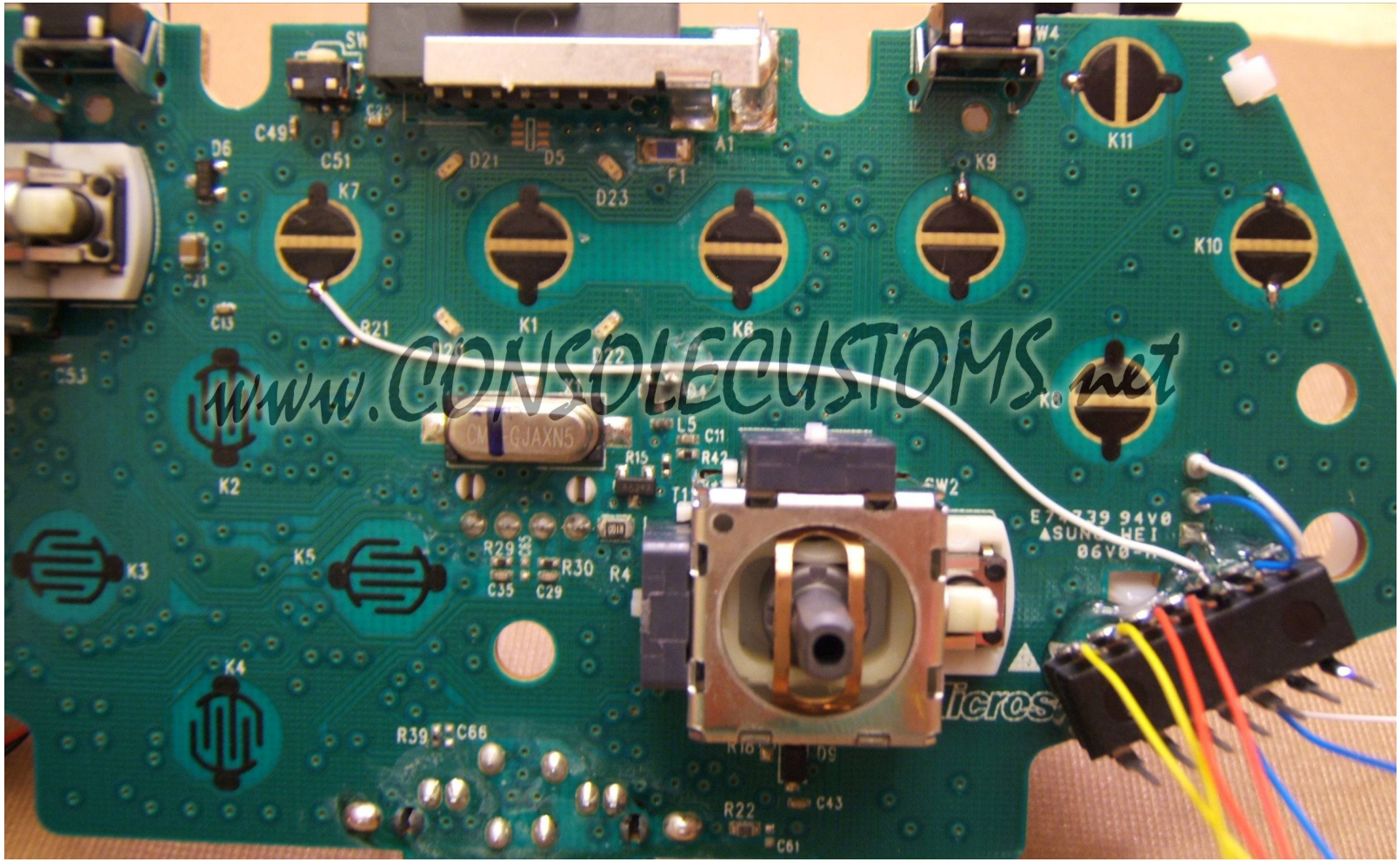


Step 11: Attaching the back button wire

- Next you will want to run the wire for the back button (white wire) from pin 11 of the PIC chip to area of the back button that you scraped clean.

- When soldering this this point make sure that you use as little solder as possible and make sure that no solder or wire flows over onto the circle area.

- Also be sure to trim your wire so it is the exact length needed and keep the wire out of area of any black circles. Following the path for the wire that we used below is the best option. It may also be helpful to use hot glue to hold the wire in place in one or more locations along the path. We usually use some just below the start button.



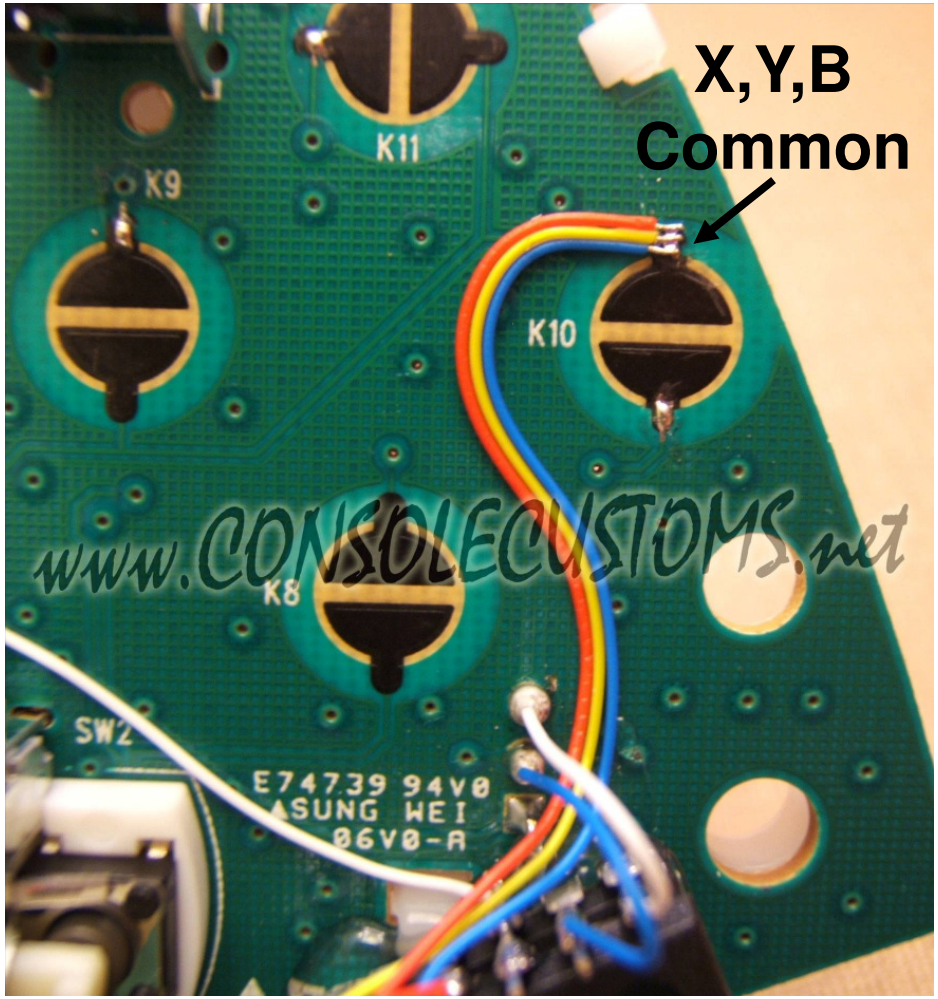
Step 12: Attaching the X, Y and B wires

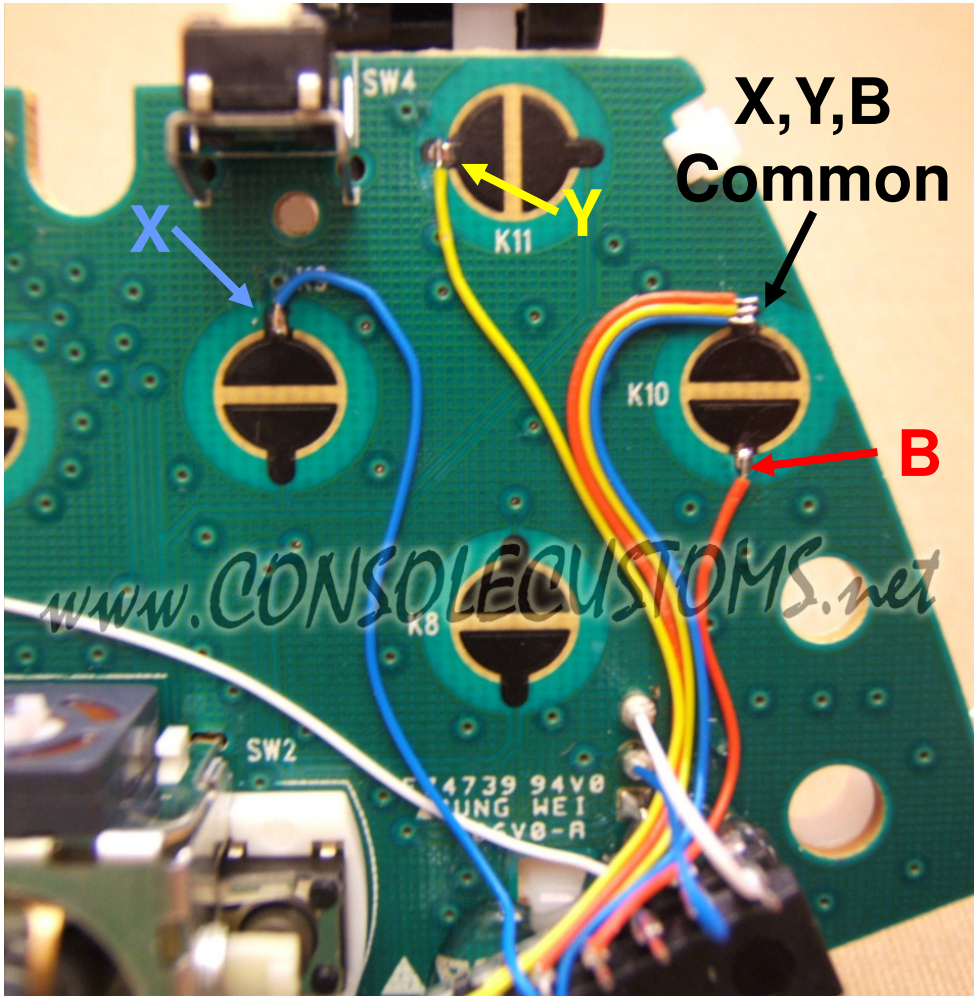
• This will most likely be the hardest step for most people so take your time and do it right.

• The first step will be to take one wire from each pair of wires for the X, Y and B buttons and run them to the XYB common location which is at the top of the B button. Alternately instead of runnin all three wires together as we have done you can connect the three pins or wires together at the chips and then run only one wire to the common location. Either way make sure you use a little solder as possible and keep the wires flat as we have done.

• Next take the remaining wire from each pair and attach it to its appropriate location according to the right side image.

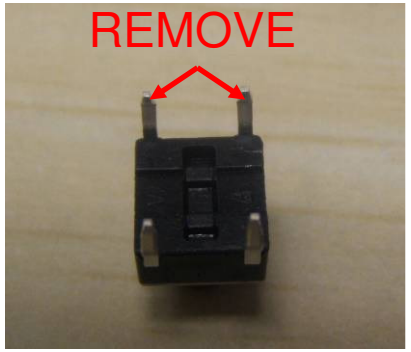
• Again take your time with this part and keep all wires out side if the black circles and as short as possible.





Step 13: Onto the case and buttons.

• First you will prepare your buttons by removing one pair of legs Use the image to the right so you know which legs to remove. Once you have the two legs removed bend the remaining two legs so they are flat against the bottom of the button this will keep them from touching something when you reassemble your controller.



• Now you are ready to drill the holes in your controller. The left side image below shows the location where we drill our holes. But you can put hem where ever is comfortable for you. In the image you can see a red Oval. This red oval is to show were there is a oval shaped indention in the case left over from the molding process. You will find this on both sides of the controller to use as a reference point.

• Next install you buttons using hot glue and ONLY hot glue. Using super glue or other liquid adhesives will soak into the button and cause it to no longer function.

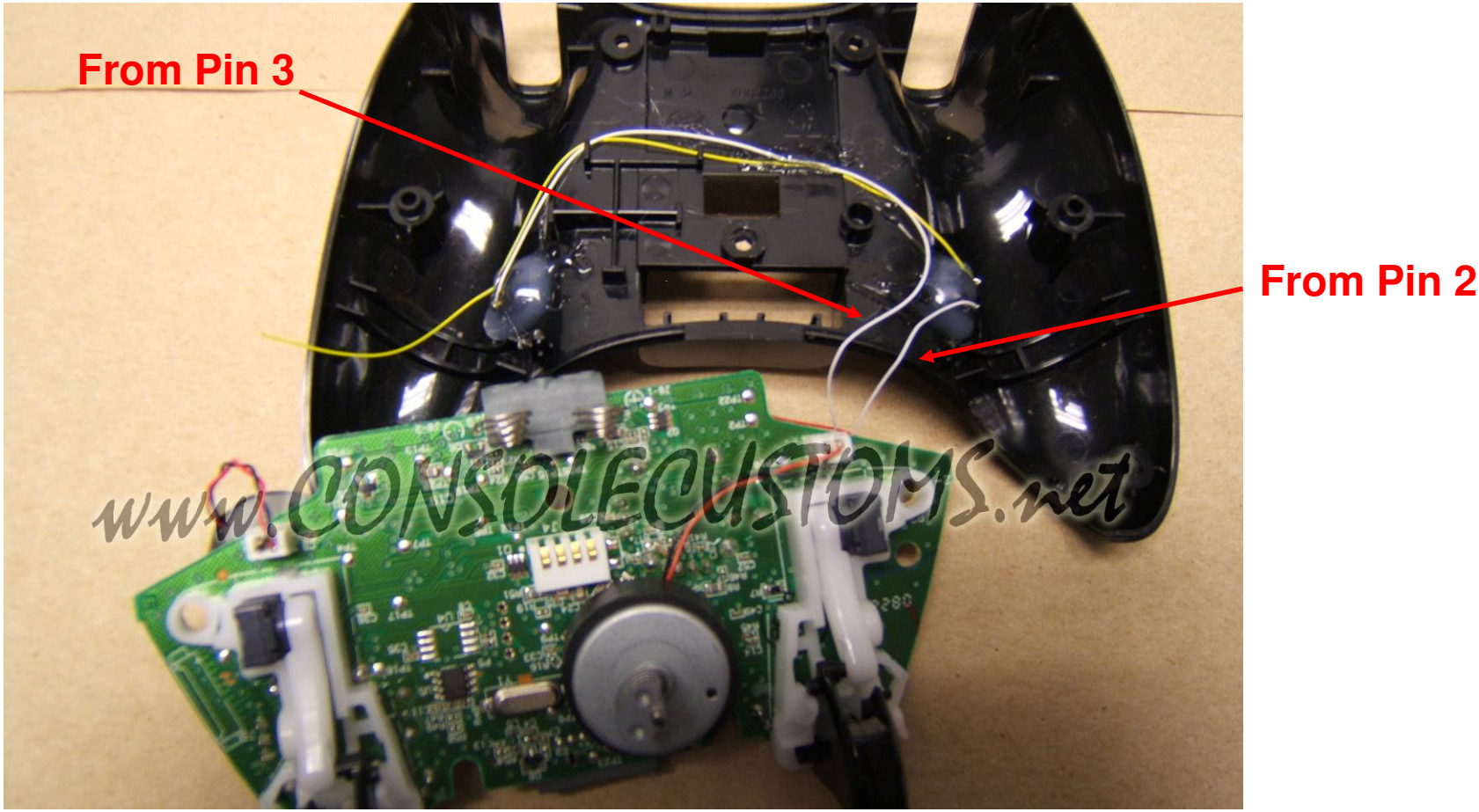
• Finally attach a wire to one of the legs of each button. It is easiest to use only one wire and start with the right side button and then melt the casing to attach it to the left side button leaving about 1.5 inches of wire to solder to ground later on.

Step 14: Connecting the wires from the chip to the Buttons

- You should only have two wires left on your chips that are not attached to anything. One from Pin 2 and one from Pin 3 of the PIC chip.

- Take the PCB and flip it over and bring it close to the back cover as shown below. Take the wire from PIC pin 2 and attach it to the free leg of the right side button. Do the same with the wire from PIC Pin 3 and the free leg of the left side button.

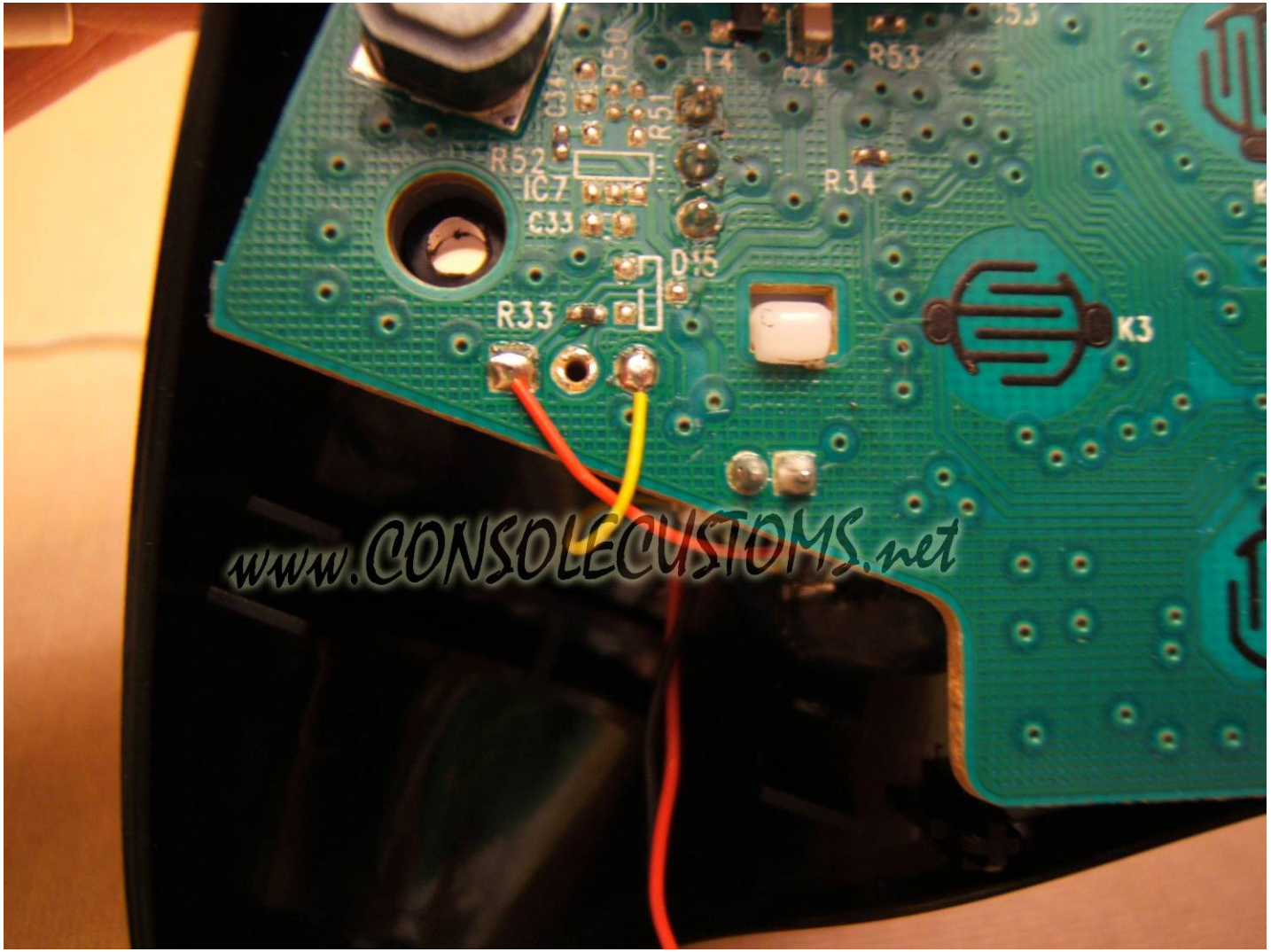
- Keep the wires in place using some hot glue. Route the wires going to the left side so they go around the raised area in the middle of the controller.



Step 15: Attaching the buttons to ground.

• For the final wire you will need to solder you will want to take the wire you ran to both buttons in step 13 and attach it to ground.

• First you will want to flip the PCB over and set it in the back of the case. Then take the wire from the buttons and solder it to the right most hole next to where you soldered the power wire as shown below. (yellow Wire)



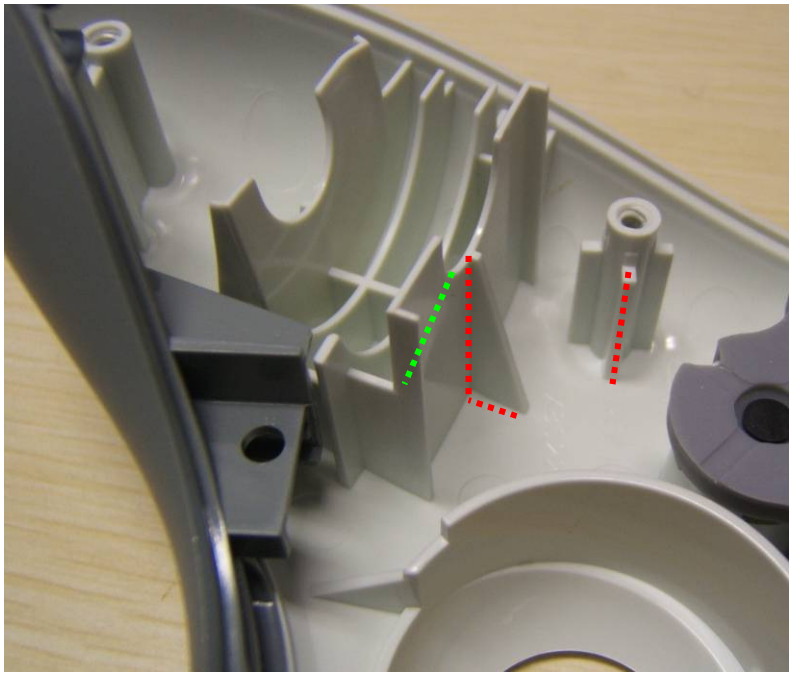
Step 16: Almost done

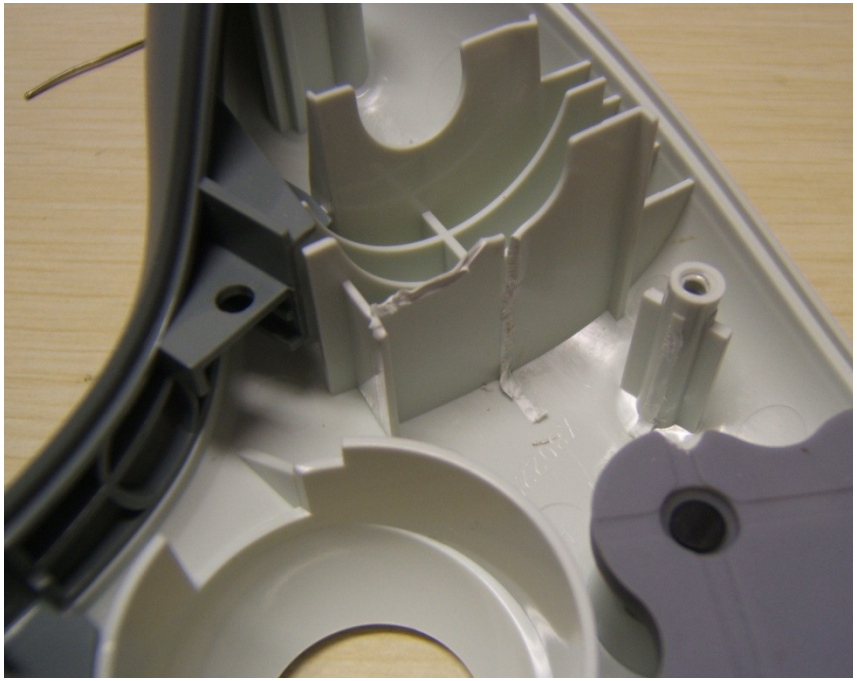
• Now onto the top of the case. To make it all fit you will have to make a little bit more room. Using a knife or side cutters remove the plastic supports shown in the image in red. This is the angled support for the right side rumble motor and one of the supports for the case screw.

• Depending on your button placement you may also need to remove part of the back support for the rumble motor. This is shown in green in the images.

•The last thing you need to do is reassemble everything. The easiest way we have found to do this is leave the top of the case face down so all the buttons do not fall out. And hold the PCB together with the back of the controller and flip it over onto the top of the case. Align the rumble motors so they are in their holders and lay the PCB and back of the case onto the front of the case. Keep it face down and use your finger to work the thumbsticks through the holes and work the case closed. Do not force it, you may have wires preventing the case from closing properly. Just go slow and look at any areas to see what is stopping it from closing all the way.

•Now just screw your controller back together and your done! See the next page for additional information on using your new mod.





Xbox 360 Double shot rapid fire Mod for Halo 2:

This mod has 5 modes, 2 for the right side button and 3 for the left side button.

- The right side button can be either Double shot or Rapid fire.
- The left side button Can be BXRR, BYYRR or Quick reload.

To change the mode of a button you just need to hold the controllers back button and then press the button on the back that you would like the change.

Example: The left button is BXRR but default. If you wanted to change this button to it's second function you would hold the controllers back button and then press the left side button that you installed. Then release both the back and left side buttons. The button will now function as BYYRR. Follow the same procedure to change it to quick reload, then one more time to go back to BXRR.