Installation tutorial for Console Customs Xbox 360

MaxFire – FUSION V2 rapid fire Mod Chip.

This tutorial is designed to aid you in installation of a console customs MaxFire LITE modchip. This tutorial covers the installation of our new 14-pin chip . This chip only works with "common Ground" style wireless controllers. The first part of this tutorial shows how to find if your controller is a common ground style. This chip will not work with matrix style controllers.

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.com

Controller Identification

• Before you get started you need to make sure that you have the correct controller type for this installation. Our MaxFire FUSION Chip requires a CG or CG2 PCB inside your controller. This chip CANNOT be installed into a matrix style 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!!

This tutorial Covers both CG and CG2 style controllers The Solder locations for the X, Y and B buttons are in different locations on these two board types. Please be sure you have properly identified you controller from the previous page before continuing so you are sure to use the correct solder points.
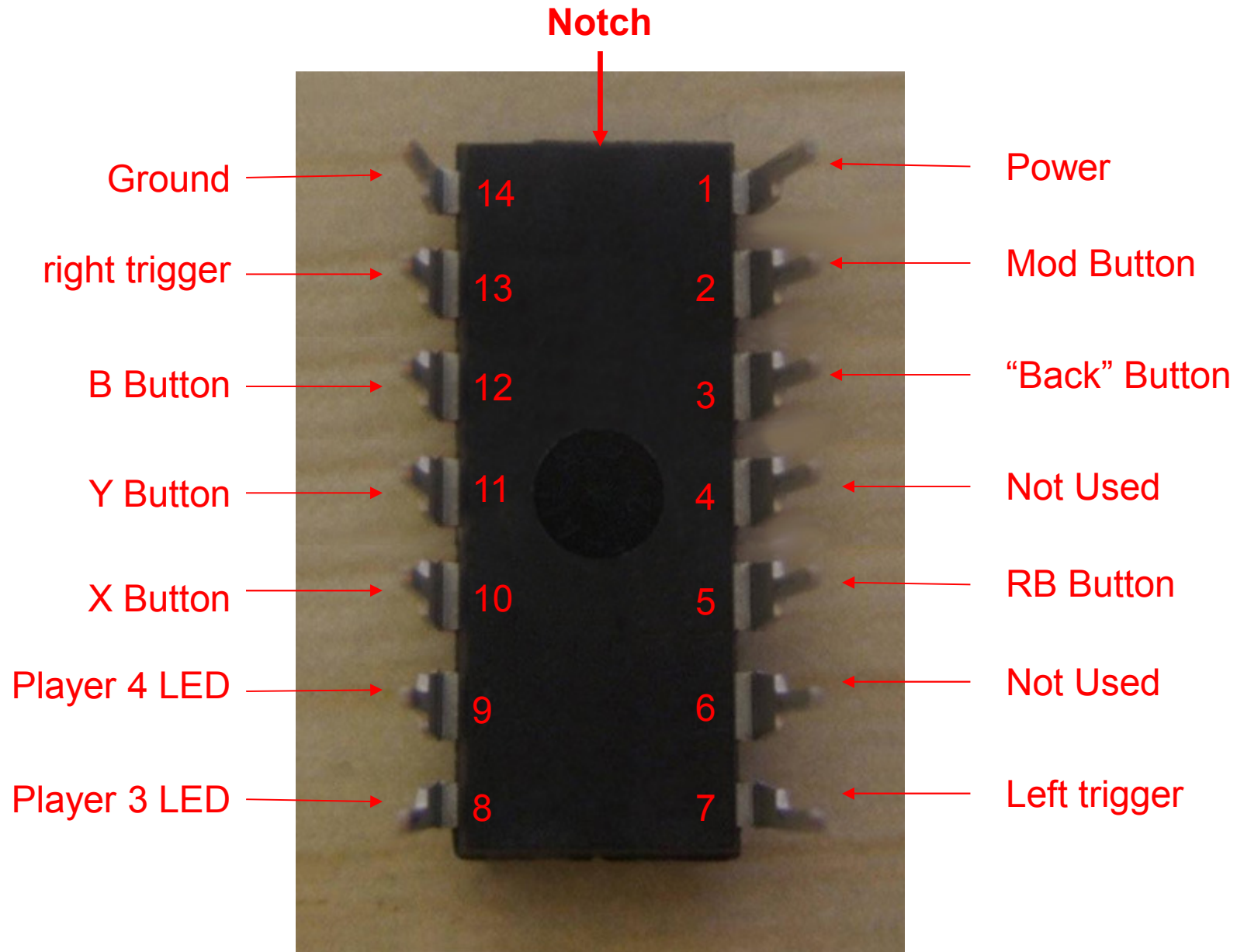
!!STOP!!

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) Button
  3. 30ga. Wire (We include multiple colors)

Step 2: You will start by taking the PIC chip and putting it on its back, also called (dead bug). Note the location of the notch that is on the top of the chip, the pin numbers and their purpose.

Notch

Pin	Purpose
14	Ground
13	right trigger
12	B Button
11	Y Button
10	X Button
9	Player 4 LED
8	Player 3 LED
1	Power
2	Mod Button
3	"Back" Button
4	Not Used
5	RB Button
6	Not Used
7	Left trigger

# Step 3a: You will now attach the wires to the chip using solder.

We use several color wires here to help show where each wire goes. Your kit will contain 5 colors of wire.

Starting with pins 1-7:

• **Pin 1:** This is the power wire and is red in the image, this wire should be aprox 2.5 inches long.

• **Pin 2:** This is the white wire and is for the Mod button you will install , this wire should be 2.5" long

• **Pin 3:** This is the Yellow wire and will goto the controllers Back Button , this wire should be 3" long

• **Pin 5:** This is the Green wire and will go to the RB button, this wire should be 3.5" long

• **Pin 7:** This is the Blue wire will go to the Left trigger, this wire should be 5" long

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

•tip: For information on proper soldering visit
http://www.curiousinventor.com/guides/How_To_Solder
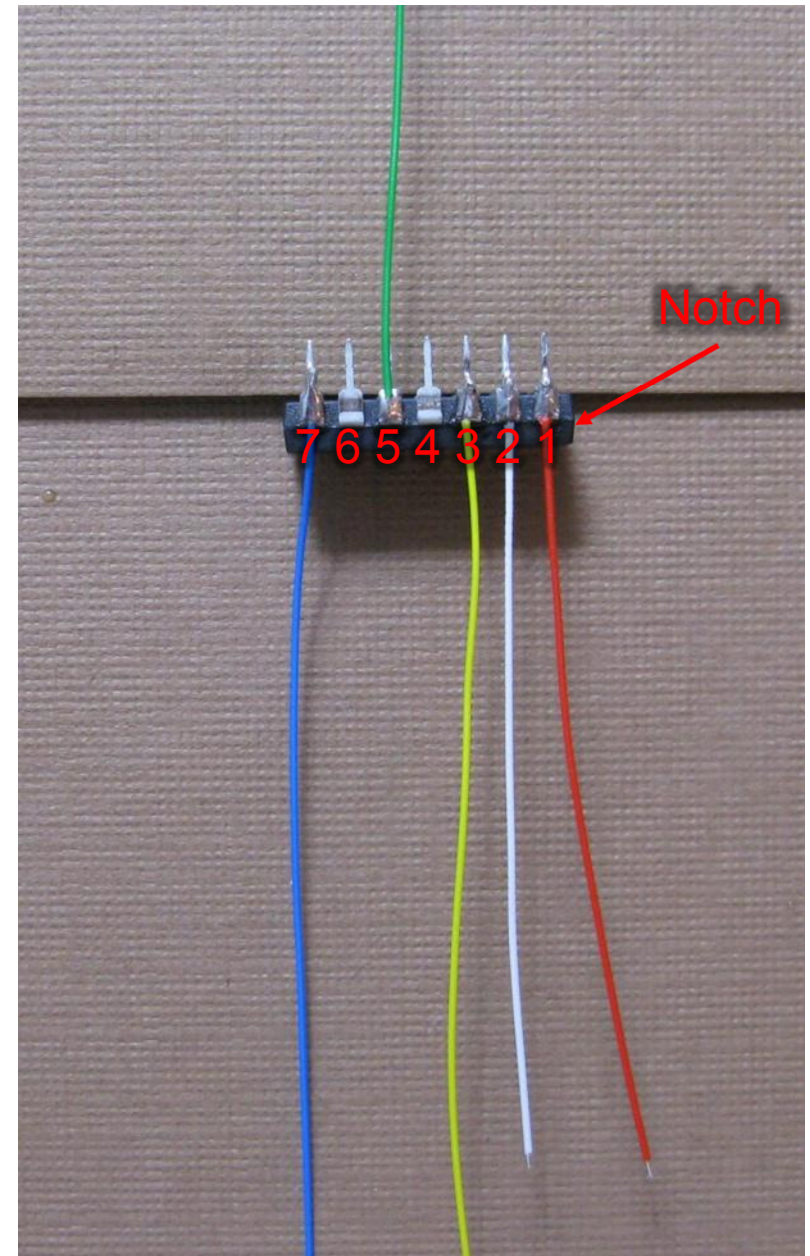
Step 3b: Continuing to the other side of the chip.

pins 8-14:

- **Pin 8:** This is the long white wire for the Player 3 LED and should be 2.25 inches long

- **Pin 9:** This is the medium length white wire for the Player 4 LED and should be 2 inches long

- **Pin 10:** This is the long blue wire for X button and should be 1.5 inches long

- **Pin 11:** This is the Yellow wire for Y button and should be 2 inches long

- **Pin 12:** This is the Red wire for B button and should be 2 inches long

- **Pin 13:** This is the short blue wire for right trigger and should be ¾ of an inch long

- **Pin 14:** This is the short white wire which will go to ground and should be ¾ of an inch long

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

•tip: For information on proper soldering visit
http://www.curiousinventor.com/guides/How_To_Solder
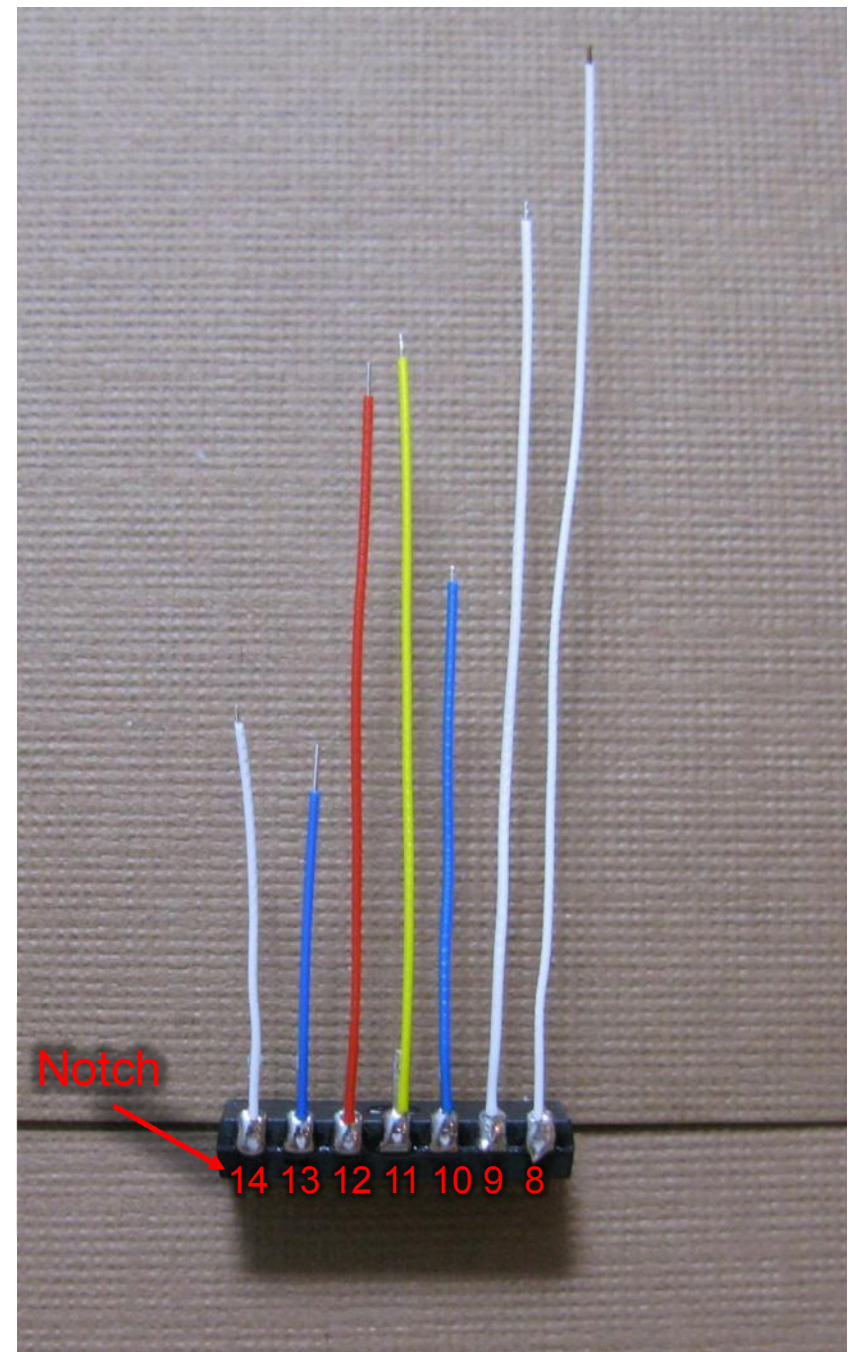
Step 4: Opening the controller

• 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.
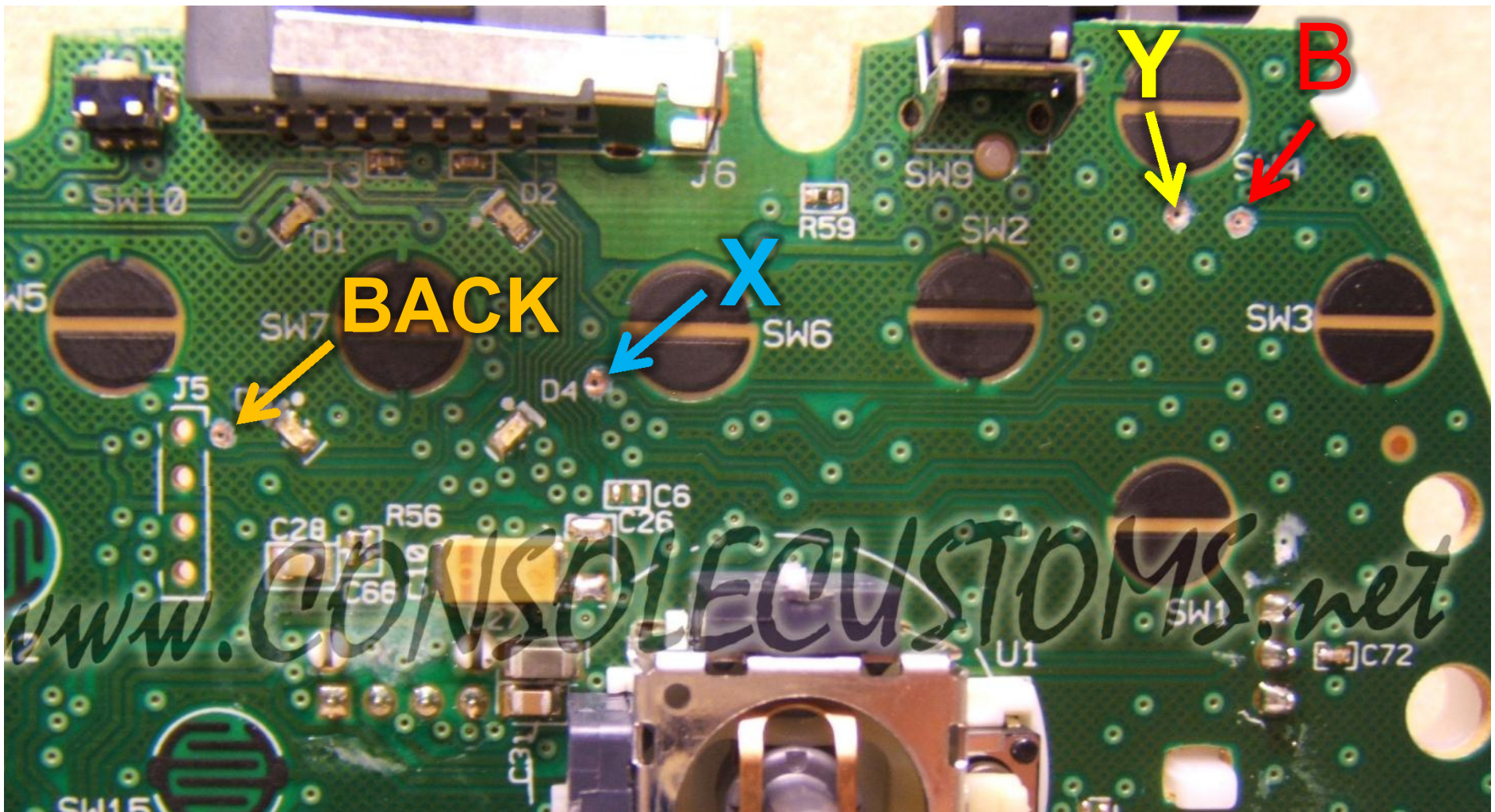
WIRELESS

Step 5a: Prep the X, Y, B and Back Button solder pads (also called Vias)

## This page cover the CG style board, see next page for CG2

- To connect the wires from the chip to the X, Y, B and Back buttons you will need to first need to remove the green coting that is coving the pads. This is easiest done with a small pocket knife or razor blade. Lightly scrape the green coating to expose the bare copper underneath. Be carefully to only scrape the coating from the pad, the area surrounding the pad is a ground plane and exposing metal on the ground plane opens up the possibilities for a short.

# Step 5b: Prep the X, Y, B and Back Button solder pads (also called Vias)

This page cover the CG2 style board, see previous page for CG

- To connect the wires from the chip to the X, Y, B and Back buttons you will need to first need to remove the green coting that is coving the pads. This is easiest done with a small pocket knife or razor blade. Lightly scrape the green coating to expose the bare copper underneath. Be carefully to only scrape the coating from the pad, the area surrounding the pad is a ground plane and exposing metal on the ground plane opens up the possibilities for a short.
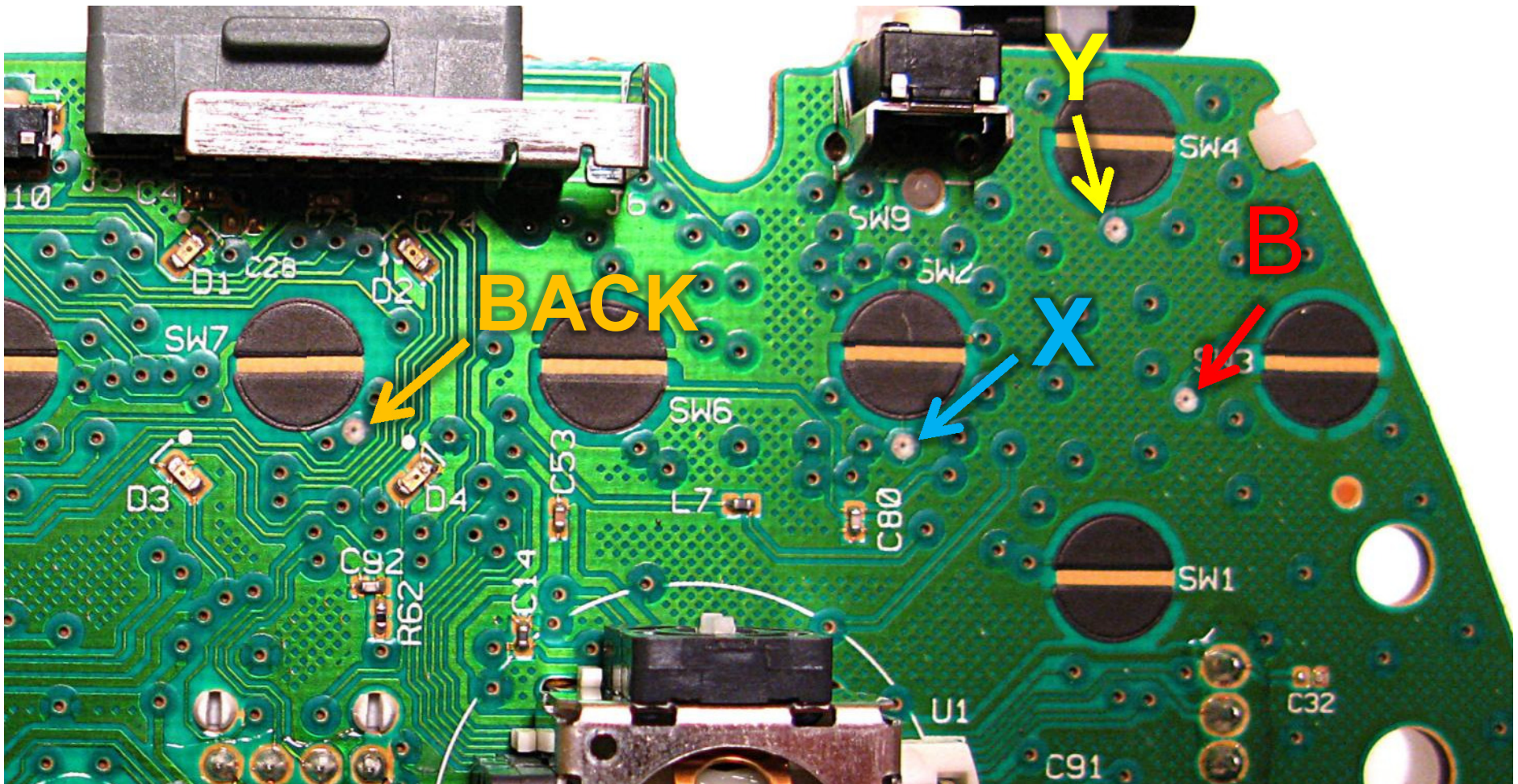
Step 6: Tin the X, Y, B and Back solder pads

- Next you will want to Tin the pads. Tinning mean you want to coat the pad with solder. This makes connecting the wire later much easier. To do this you will want to place the tip of your soldering iron on the pad to heat the pad and touch the solder to the pad (try avoiding touching the solder to the soldering iron) and the solder should flow onto the pad. You should end of with little bubbles of solder like you see below. Anymore that what you see here is to much and should be removed.
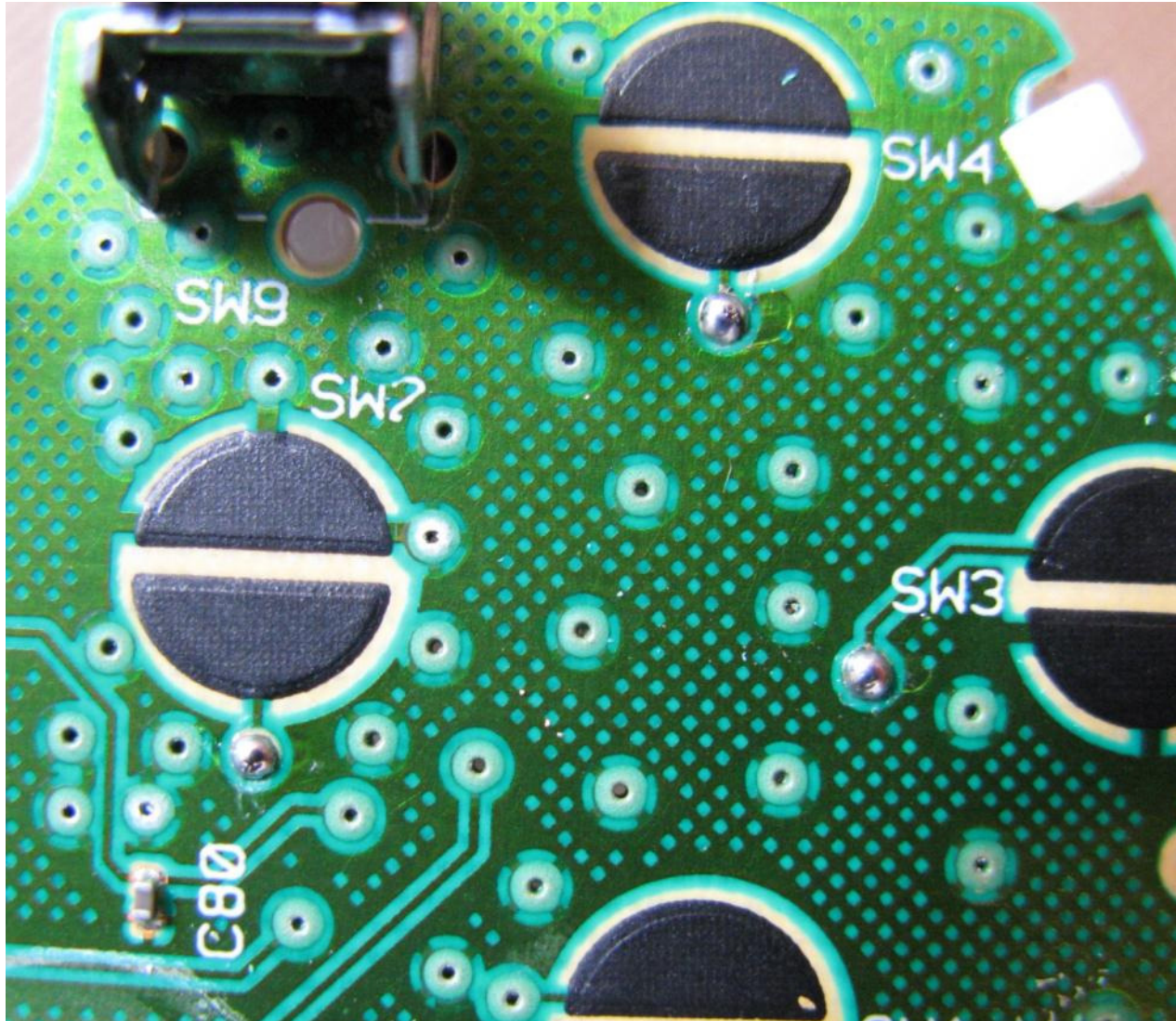
# Step 7: Mounting the chip to the PCB using hot glue.

- Mount the chip on it's back (dead bug) with hot glue so it is exactly in-between the thumbstick and the large hole to the right. The chip will sit on top of the pins from the rumble motor, so you will need to be sure to use enough hot glue to hold it in place.

- Note the orientation from the location of the notch that is on the top of the chip.

Notch
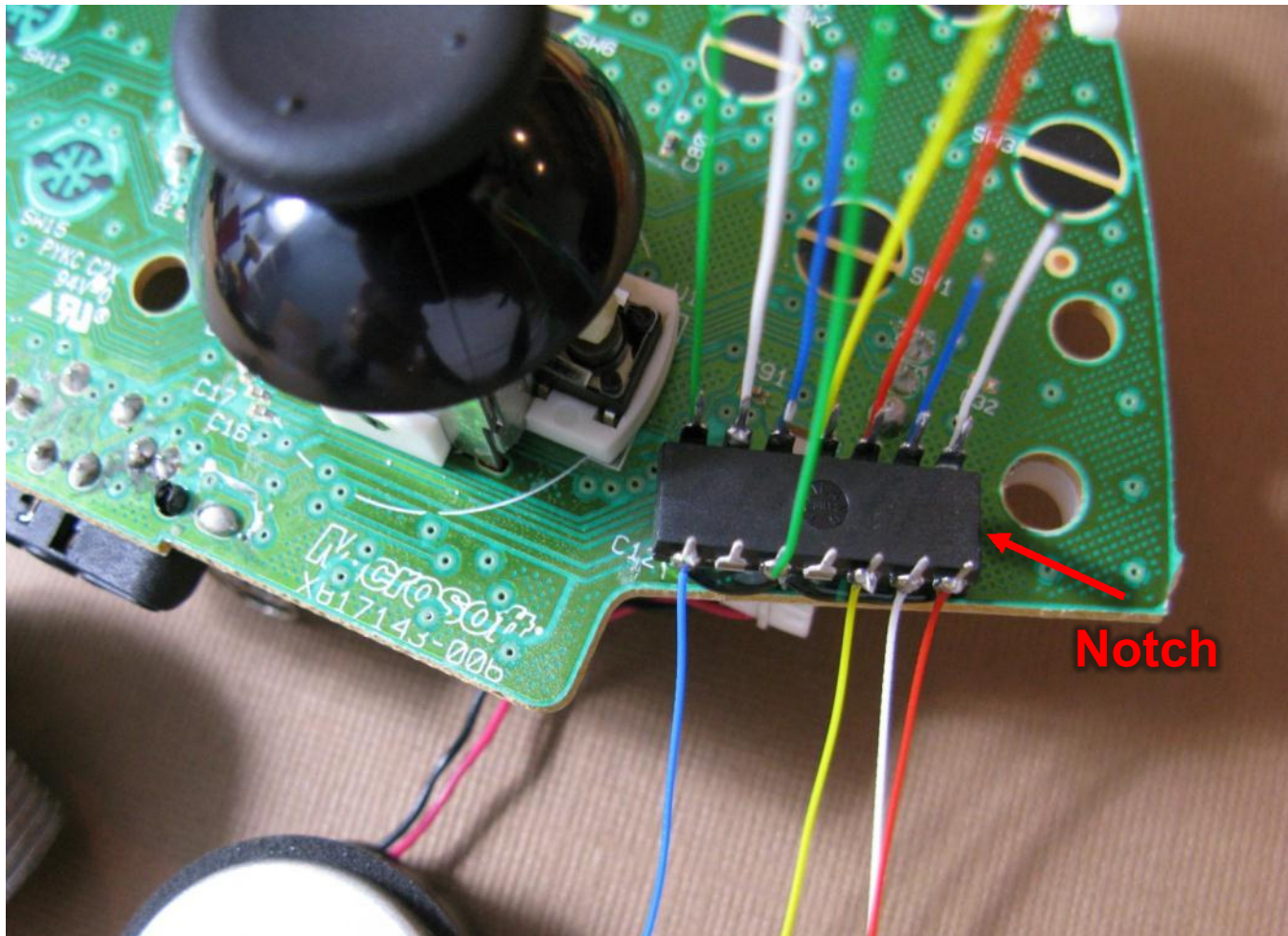
Step 8: Solder the left trigger wire.

• In this step you will need to take the wire from pin 7 and first run it along the bottom of the PCB as shown in the left image. Use some hot glue to hold the wire in place so that it does not catch on anything when putting the controller back together.

• Next trim the wire so that you do not have extra wire and strip only 1/8" of the end of the wire. Then use your soldering iron to attach the wire to the middle of the three trigger pins as show in the right side image.

Tip: trim you wires so they are only as long as you need, then strip the end and solder into place. Long wires will just cause a place for something to snag when closing the controller.
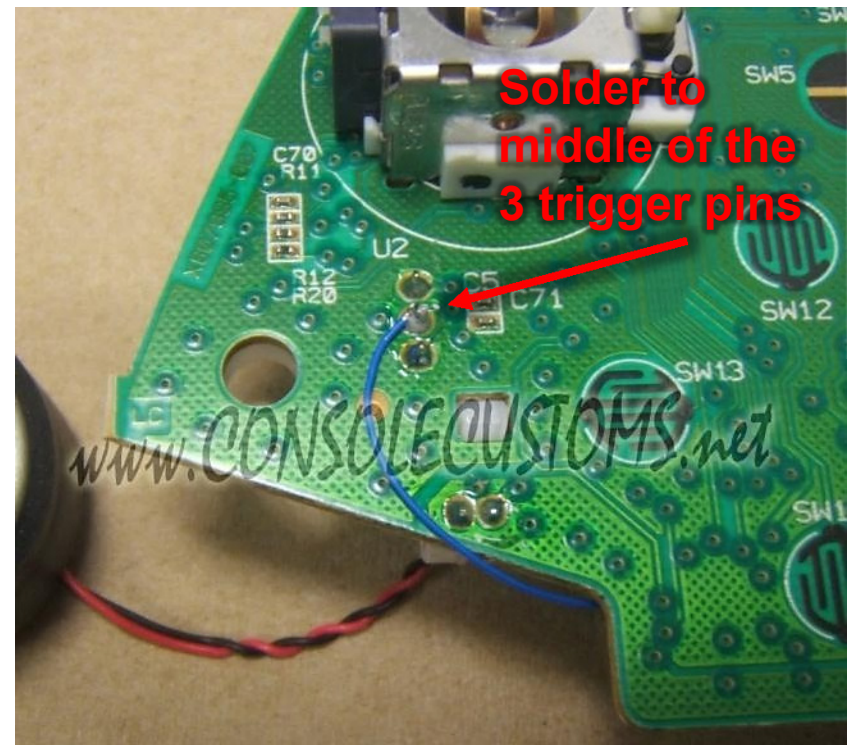
# Step 9: Attaching the right trigger wire and ground wire.

- In this step you will first attach the white ground wire form Pin 14 and the blue Right trigger wire from pin 13. These should be soldered to the right trigger as shown in the image below.

tip: keep your wires as short as possible so they do not interfere with the buttons when putting the controller back together.
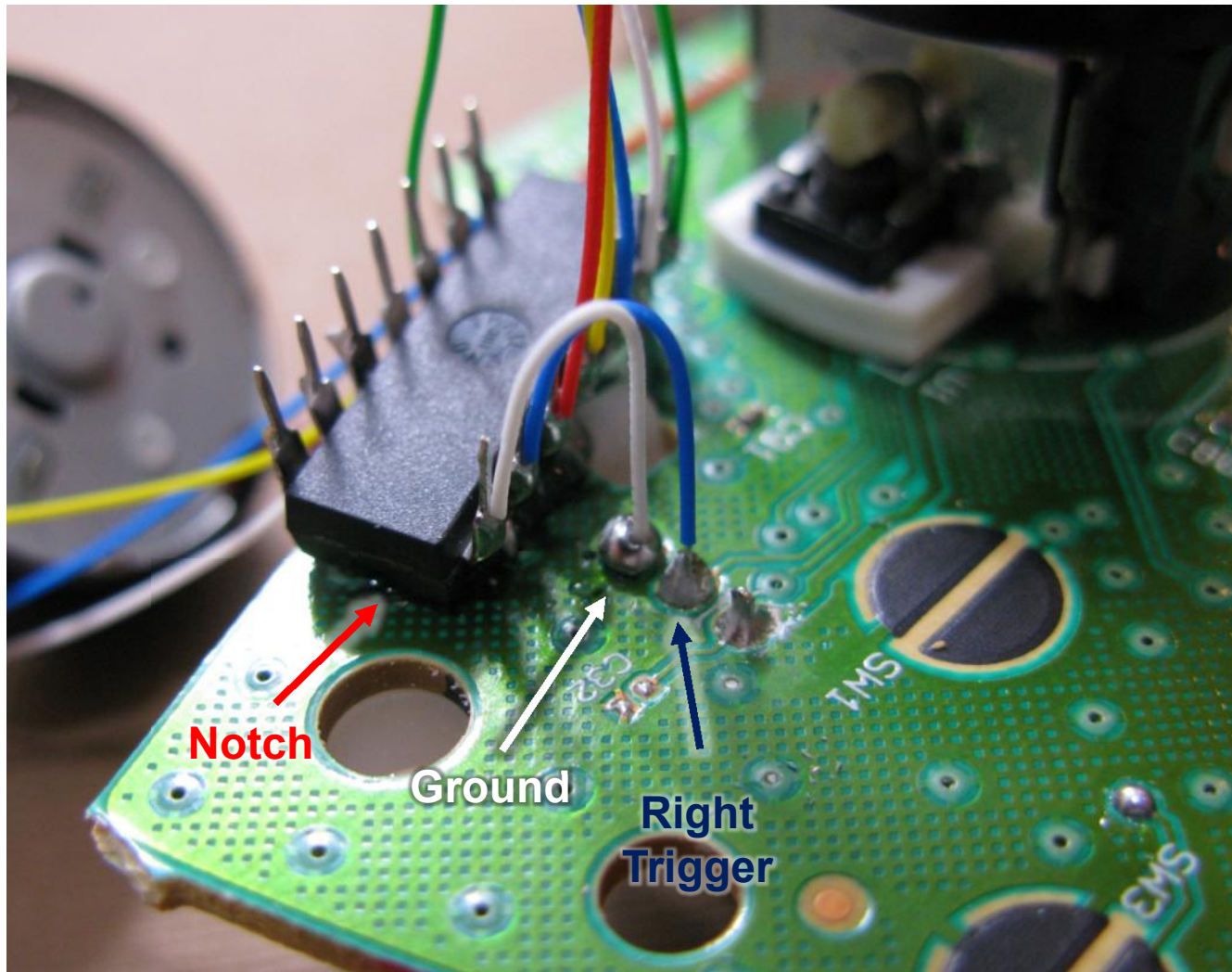
Step 10: Attaching the X, Y and B button wires.

- Now you will need to attach the X (pin 10), Y (pin 11) and B (pin 12) button wires. It is important to keep the wires as short as possible and keep the out of the black circles. If you cross over a black circle it could possibly prevent one of the buttons on your controller from working when you put it back together. Also be sure to use only a small amount of solder as we have done.

- The picture below is of a CG2 board
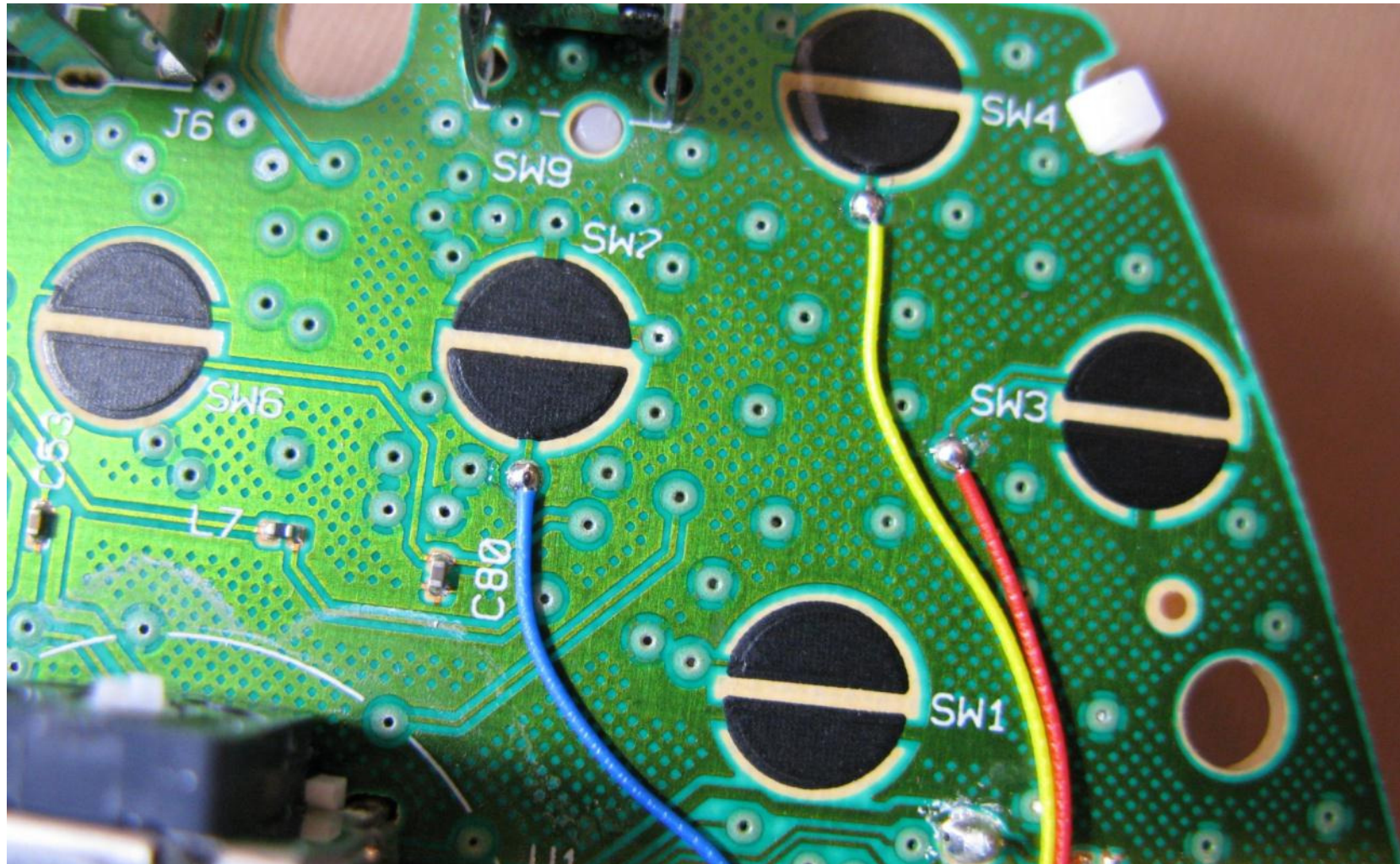
Step 11: Attaching the LED wires and Back button Wire.

• Now you will install the wires to control the Player 3 and 4 LEDs. Be sure to cut the wires to the exact length needed and again keep the wires out of the black circles on the board..

• Solder the wire from Pin 9 to the bottom of the player 4 LED. You must be careful with this as the LED's are very fragile and leaving your soldering iron on the end to long could damage the LED. Only touch the very end of the LED with your soldering iron. DO NOT touch the longer sides or the center of the LED because you will destroy it.

• Next Solder the wire from Pin 8 to the bottom of the Player 3 LED.

• Then solder the wire from Pin 3 to the pad for the controllers Back Button (yellow wire)

• The Left image shows the path your wires should follow and the right is a close-up of the LED's and Back Button. (note the back button connection is on a CG2 board. The location will be different for a CG. Please see step 5 for location)
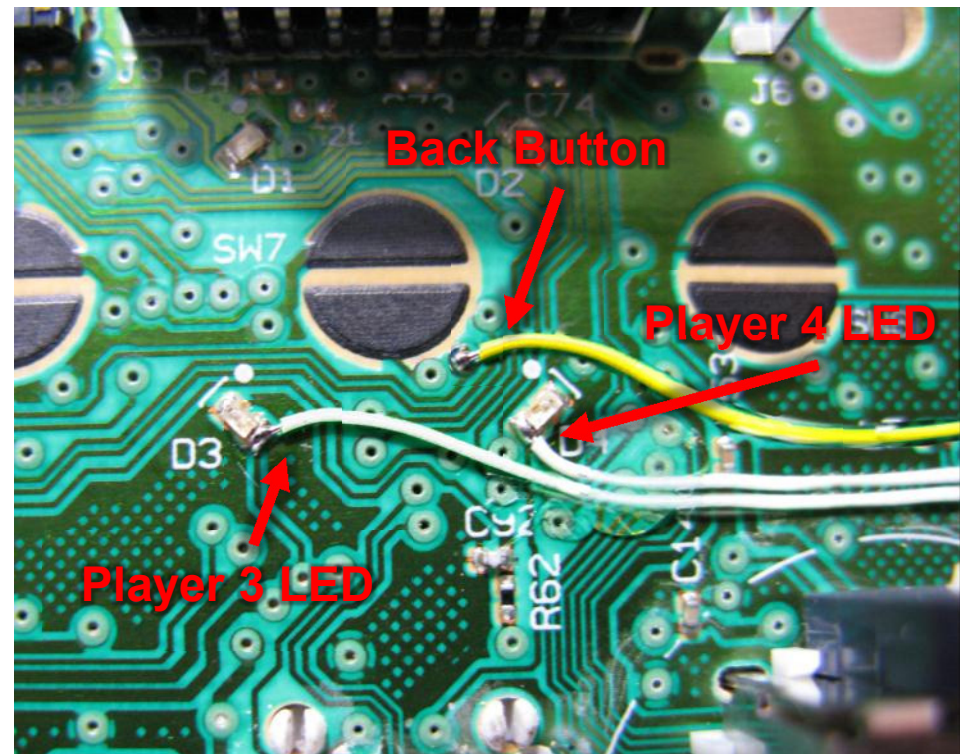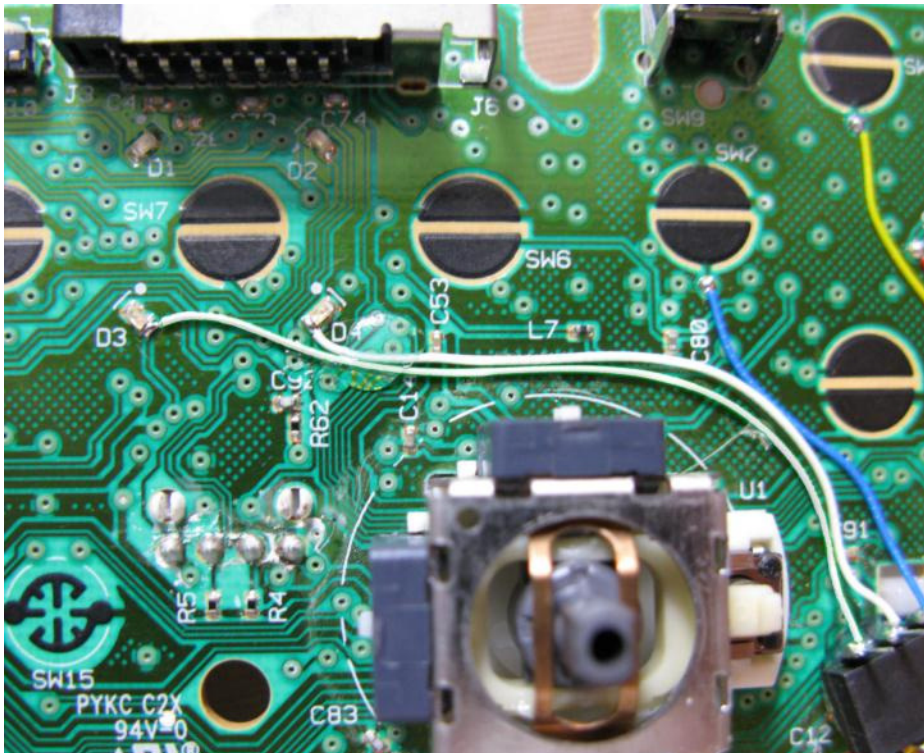
Step 12: Attaching the power wire.

- Solder the wire from pin 1 to the power for the headset as shown. The bottom picture shows a close-up of the solder point
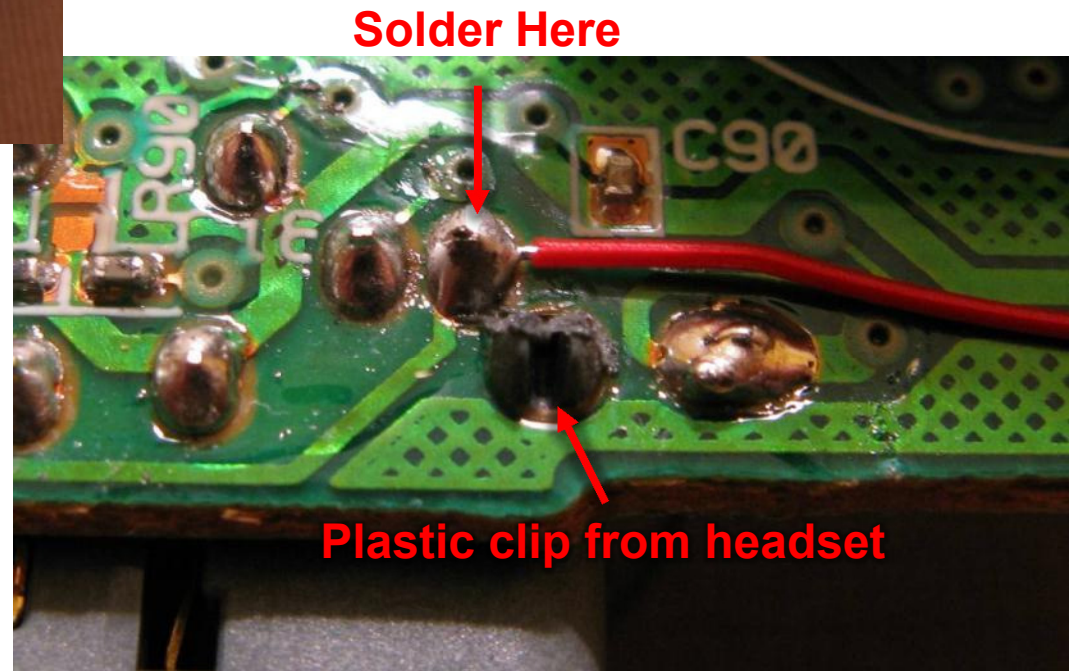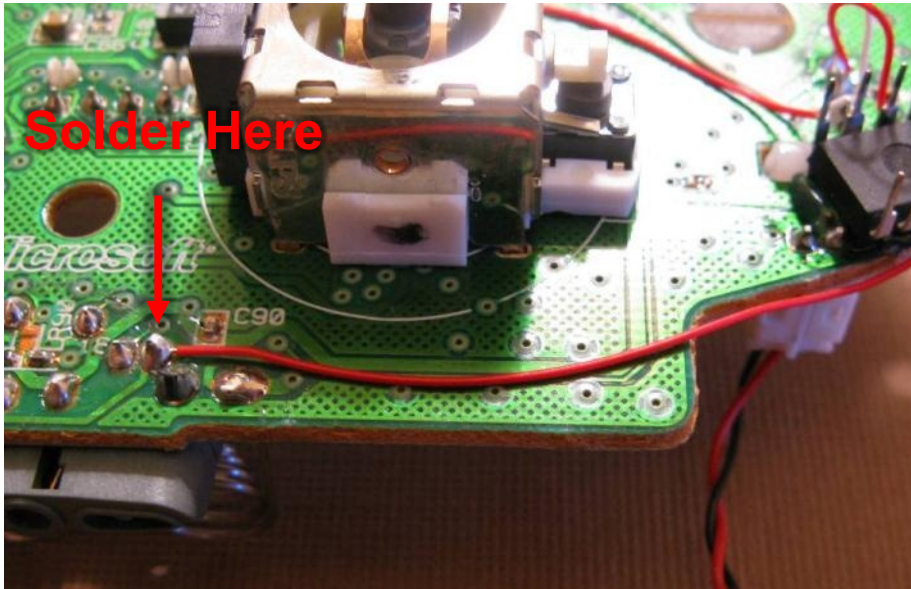
Step 13: Attaching the RB Button wire.

- Solder the wire from pin 5 (green wire) to the top of the RB Button as shown. You must be careful and make sure that the wire or solder does not make contact to the metal back support for the RB button.

- Again make sure the wire is kept short and out of the path of the black circles.

- Finally use a small amount of hot glue to hold the wires in place. It is best to hot glue the wires and not over top of the solder joints in-case something needs to be fixed later.
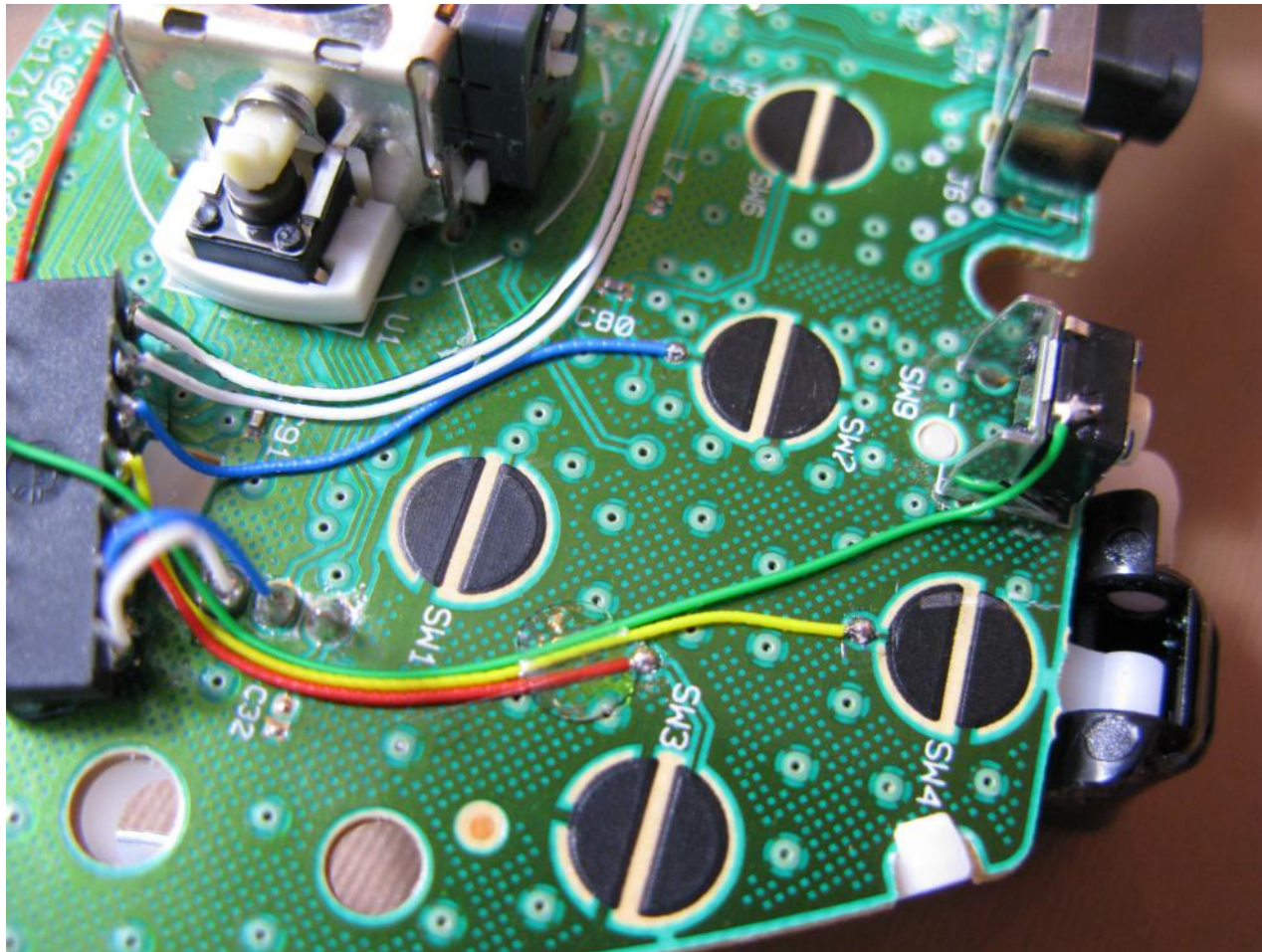
Step 14: Onto the case and button. Here we will drill the hole needed for the button and secure it in place.

• Drill a hole using your drill bit in the spot indicated or where ever you would like to have your button. We prefer keeping it out of the way because you will only need to press it to change modes.

• Next take your button and we are going to remove one pair of legs because we only need one pair. Use the image to the right so you know which legs to remove.

•Next use hot glue to secure the button in place. Do not attempt to use super glue or other adhesives as it will soak into the button mechanism and cause it to stop working. Once the button is secured in place bend the two legs out flat away from the button.

• finally cut cut another small piece of wire about 2" long and solder to one leg of the button. This will later be connected to the ground of the chip (pin 14).

REMOVE

Drill hole here

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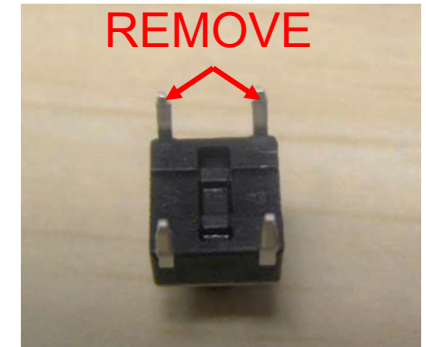
Step 15: We will now connect the wire from the chip to the button.

• flip over the controller PCB and bring it in close to the back half of the case. Take the one wire that you have left (From pin 2) and solder it to the remaining pin of the button.

• Finally flip the PCB over onto the back of the case and attach the final wire from the button to the ground of the chip (pin 14).

To ground

From Pin 4

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Ground wire from button attaches to pin 14
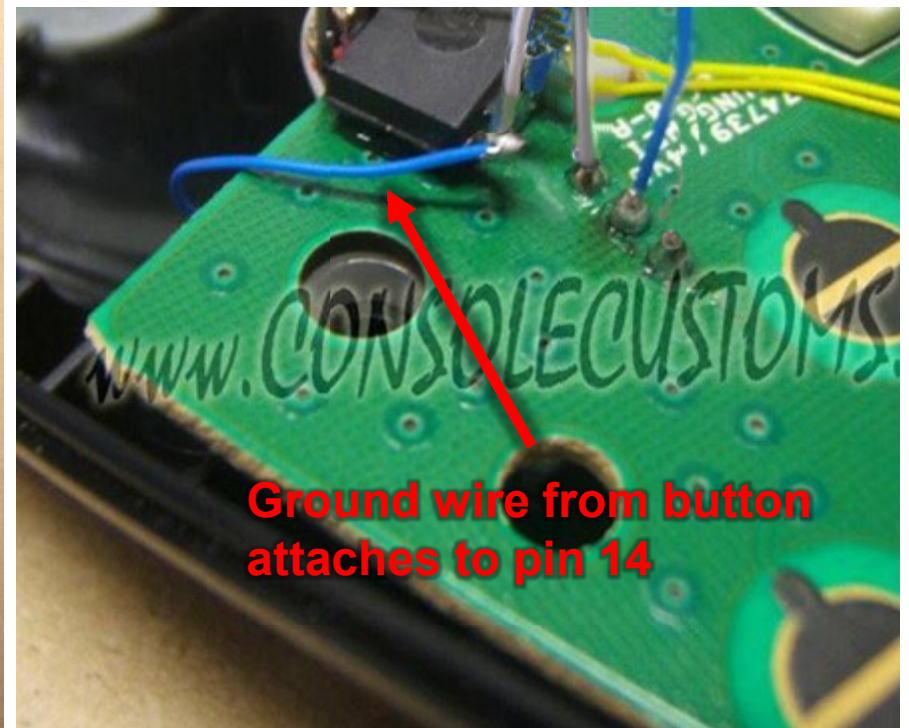
Step 16: Almost done

- Now onto the top of the case. To make it all fit we may have to make a little bit more room. Using a knife or side cutters remove the plastic support shown in the image in red. This is the angled support for the right side rumble motor.

- 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 piece face down so all the buttons do not fall out. And hold the circuit board to the back of the controller and flip it over on 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 entirely. 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.
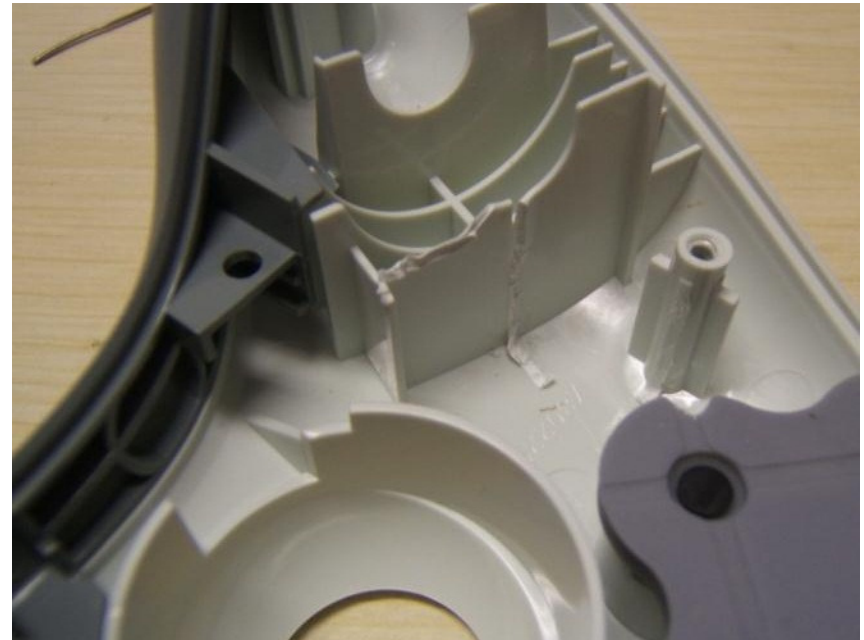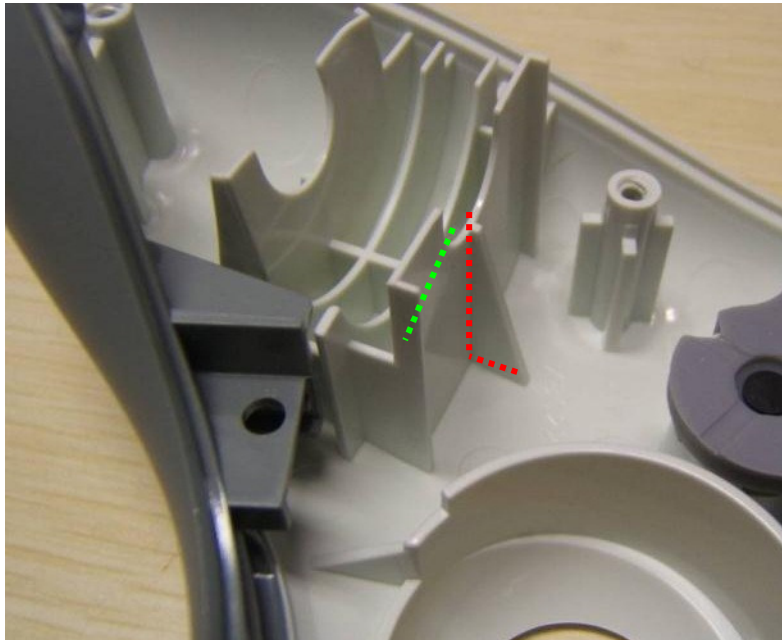
Xbox 360 MaxFire - FUSION User Guide

- The MaxFire Fusion Rapid fire mod is our most advanced mod to date and has many features which are easy to use once you understand how they all work. Please read through all of the instructions before using your new mod. Video tutorials are also available for all of these features on our website www.consolecustoms.com and from our YouTube channel www.youtube.com/consolecustoms..

- **Rapid Fire** – This mod contain 10 Rapid Fire Modes which have default speeds built in but are all programmable to any speed between 4 shots per second and 50 shots per second. You can quickly turn on/off the rapid fire by just tapping the mod button on the back of the controller. When the rapid fire is on the player 4 LED will flash. To Change to the Next Rapid Fire Mode you just need to hold the mod button of the controller for 3 seconds. You will see both the player 3 and Player 4 LED's flash. They will flash to indicate the now current mode (3 flashes = Mode 3). You can also go backwards in the modes by holding the right trigger along with mod button. See the programming guide on the next page for more information. Below are the default speeds for each mode.

    - Mode 1: 8.33sps - Black Ops (rifles), COD MW2, COD 4
    - Mode 2: 11.35sps - Black Ops (pistols), COD MW2, COD 4
    - Mode 3: 20sps - All Halo series
    - Mode 4: 6.85sps - GOW 2/3 (hammerburst)
    - Mode 5: 8sps - GOW 2/3 (Pistols)
    - Mode 6: 16.67sps - GTA4
    - Mode 7: 10sps - COD WaW Fast 10sps
    - Mode 8: 8.33sps - COD WaW slow 8.33sps
    - Mode 9: 20sps
    - Mode 10: 25sps

- **Burst Fire** – By default when you tap the mod button it will turn the normal rapid fire on/off. To change this to burst fire you just need to Hold the X button and tap the mod button. Now when you tap just the mod button the rapid fire will be in burst mode and the player 4 LED will turn on solid instead of flashing. The burst fire will fire at the current Modes Rapid fire speed and fire the number of rounds set in the programming mode (default is 3 round burst). To turn off the burst fire and go back to normal Rapid fire you just need to again hold the X button and tap the mod button, you will now be back to normal rapid fire.

- **Dual Rapid Fire** – By default only the right trigger is enabled for Rapid Fire. You can quickly enable the Left Trigger by Holding in the Left trigger and Tapping the mod button. You will see the player 3 LED fade in and stay on. The player 3 LED will stay on all the time even if the rapid fire is off, but it will only rapid fire while Rapid fire, Burst Fire or Jitter Firing is turned on.

- **Jitter Fire** – By default when you tap the mod button it will turn the normal rapid fire on/off. To change this to Jitter Fire you must Hold the Y button and tap the mod button. Now when you tap just the mod button the rapid fire will be in Jitter Fire mode and the player 4 LED will flash extremely fast to indicate it is in Jitter Fire. The Jitter fire is for Call of Duty Games only and takes advantage of a glitch in these games to bypass the normal firing limitations and does not work for other games. To turn off the Jitter fire and go back to normal Rapid fire you just need to again hold the Y button and tap the mod button, you will now be back to normal rapid fire.

- **Drop Shot** – The Drop shot features allows you to drop to the ground as soon as you start to fire, automatically without pressing any other buttons, and stand back up when you stop firing. To turn on the drop shot you only need to hold the B button and tap the mod button. You will see the player 4 LED flash 1 time to indicate that the Drop shot is on. One on you will drop to Prone as soon as you start to fire. This works regardless of rapid fire being turned on or off and will work with the left trigger only if Dual Rapid fire is turned on. To turn off the drop shot, again hold B and tap the mod button, the player 4 LED will now flash 2 times to indicate the Drop shot is Off.

- **Auto Aim** – The Auto Aim Feature ONLY WORKS WITH ZOMBIES AND CAMPAIGN GAMES AND DOES **NOT** WORK WITH ONLINE MATCHMAKING GAMES. The Auto aim is a feature for the left trigger in addition to the dual rapid fire. Because of this we must first switch the left trigger from Rapid fire to Auto Aim. To do this you must hold both the left trigger and the mod Button for 4 seconds. You will see the player 3 LED flash 1 time. This indicates the left trigger is now switched to Auto Aim. To switch back to Left Trigger rapid fire you must follow the same procedure only the player 4 LED will flash twice. You turn the auto aim on/off just like the dual rapid fire by holding the left trigger and just tapping the mod button, only with the auto Aim the player 3 LED will just turn on instead of fading to on. The Auto aim also works all the time even if rapid fire is turned off.

- **Adjustable Fast reload and Gears of War Perfect Active Reloads** – The adjustable fast reload and GOW perfect active reloads are controlled using the controller "back" button (next to the guide button). There are 3 modes for the reloads, each is described below. To switch the Reload mode you must hold the back button + X + RB (the right bumper) for 3 seconds. You will see both the player 3 and 4 LEDs flash 1, 2 or 3 times depending on the mode you have switched to. Once in the mode you want to use follow the directions below.
    - **COD Adjustable Fast Reload (All COD Except MW3)** - This feature works to shave milliseconds off your reload time without using any perks. This is adjustable so it can be used with just about any weapon in COD. To Turn on the fast reload you will need to hold the back button and tap X. The player 3 LED will flash 1 time. Follow the same procedure to turn off the Fast reload and the player 3 LED will flash twice. To use the fast reload you must first set the fast reload. This is something that may take a small amount of practice at first. When you reload normally you will see that your ammo will refill (the clip will show as full) before you are actually able to fire again. The time from when your clip shows full to when you can fire again is what we will be cutting off and varies by weapon. To set the reload time you will need to hold in the X button and keep holding it until you see you ammo showing as full. Once you see it full you need to immediate release the button. This is what sets the fast reload timing and is also what can take a little practice. We know that you cannot be exact and so the chip has been programmed to shave off some time from human reaction time. So trying to guess when the reload will happen is NOT the best method, just wait until you see the clip full and release the button as quickly as you can. Once the time is set you will just tap the X button as normal to perform the fast reload. You must do the fast reload before you clip is empty, Once the game has already start to automatically reload an empty clip it will throw off the timing and the fast reload will not work.
    - **Gears of War 2 Perfect Active reloads** – When in this mode you will use the Back button +RB to switch between perfect active reloads for several weapons in GOW 2 and allows you to quickly turn on/off the perfect AR's. There are 4 different settings which can be cycled through by holding the back button and tapping RB. They are 1. Lancer/Hammerburst, 2. Pistols, 3. Shotgun and 4. Sniper/BoomShot. Every time you hold the Back button and Tap RB the controller starts at setting 1. So if you want the Lancer/Hammerburst setting you will hold back and Tab RB once. For the sniper hold back and tap RB 4 times. As soon as you release back and RB the player 3 LED will flash 1-4 times to indicate the current setting. To turn on/off the perfect AR's you must hold in Back +RB for 1.5 seconds. The player 3 LED will turn on solid while the Perfect AR is on. With the Perfect AR on you just need to tap RB to reload as normal and the chip will automatically time the second push of RB so that it is a perfect reload. Since the sniper/boomshot are single shot weapons the Perfect AR will start as soon as you fire and it will time the reload perfectly. Just remember you must be in the right setting for the weapon you are using.
    - **Gears of War 3 Perfect Active reloads** – This work exactly the same as the GOW 2 reloads as described above but the settings are slight different. The settings are: 1. Lancer, 2. Hammerburst, 3. Pistols, 4. Sniper, 5. Shotgun, 6. Retro Lancer

PROGRAMMING THE RAPID FIRE

Each Rapid fire Mode can be Programmed to one of 50 different speed in-between 4 shots per second and 50 shots per second. You can also set the Burst fire for each mode from 2 – 10 shots per burst.

- **Enter/Exit the Programming Mode** – To Enter or exit the programming mode you must first press and hold the Mod Button and within 2 seconds press and hold both the left and right triggers. Continue to hold all three for 5 seconds. You will see the player 4 LED flash on for 2 seconds them go out. You have now entered or exited the programming mode and can release both triggers and the mod button.

- **Change Rapid Fire speed** – To change the rapid fire speed you just need to press and release the left or right trigger. The right trigger to make the speed faster and the left trigger to make it slower. The player 4 LED will flash every time you press the right rigger and the player 3 LED will flash every time you press the left trigger to indicate you have made a change. Once you have reached the MIN or MAX speed the LED will no longer flash.

- **Change Burst Fire Quantity** – To change the number of shots fired with the burst fire you just need to HOLD down the X button and while holding follow the same procedure as changing the rapid fire by pressing the left or right triggers.

- **Check Rapid Fire speed Setting** – To check the currently set rapid fire speed you only need to tap the mod button. The player 3 Led will flash the "tens" and position and the player 4 will then flash the single digit. (example. Player 3 flashes 3 times, followed by the player 4 flashing 6 times, you are now at speed setting 36) Refer to the table on the next page for all of the speed settings.

- **Check Burst Fire Setting** – To check the currently set burst fire setting you must HOLD the X button and while holding X tap the mod button. The player 4 Led will flash 2-10 times to indicate the number of shots set for the burst fire.

- **Reset Current Mode to Default settings** – To reset the Rapid fire mode you are currently editing to the factory default you must hold both the left and right triggers together for 7 seconds. After 7 seconds the player 3 and 4 LED's will both flash very fast for 2 seconds and the Programming mode will automatically be exited with the default settings saved. This will set the default speed and burst fire setting for the current mode only.

Speed Settings Table

Rapid Fire Setting	Shots Per Second	Rapid Fire Setting	Shots Per Second
1	50	26	13.89
2	45.5	27	13.51
3	41.7	28	13.16
4	38.4	29	12.5
5	35.7	30	12.2
6	33.3	31	11.91
7	31.25	32	11.63
8	29.4	33	11.42
9	27.8	34	11.11
10	26.3	35	10.64
11	25	36	10.3
12	23.91	37	10
13	22.73	38	9.8
14	21.74	39	9.62
15	20.83	40	9.36
16	20	41	9.09
17	19.23	42	8.62
18	18.52	43	8.33
19	17.86	44	8.2
20	17.24	45	8
21	16.67	46	7
22	16.13	47	6.67
23	15.63	48	6
24	15.15	49	5
25	14.71	50	4