Installation tutorial for Console Customs Xbox 360

5-Mode Xtreme (RFX-5X) Rapid fire Microchip for wireless CG and CG2 controllers

This tutorial is designed to aid you in installation of a console customs 5-mode Xtreme (RFX-5X) rapid fire microchip. This chip Requires a CG (common Ground) Controller. There are two types of common ground controllers and a third controller type that is not common ground. The next page Explain how to tell which controller you have an

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 (rosin core solder from radio shack works great and there is no need for flux $4)

- Wire strippers (that can strip 30ga wire)

- 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

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 make sure that you have the correct controller type for this installation. Our RFX-5X Xtreme 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

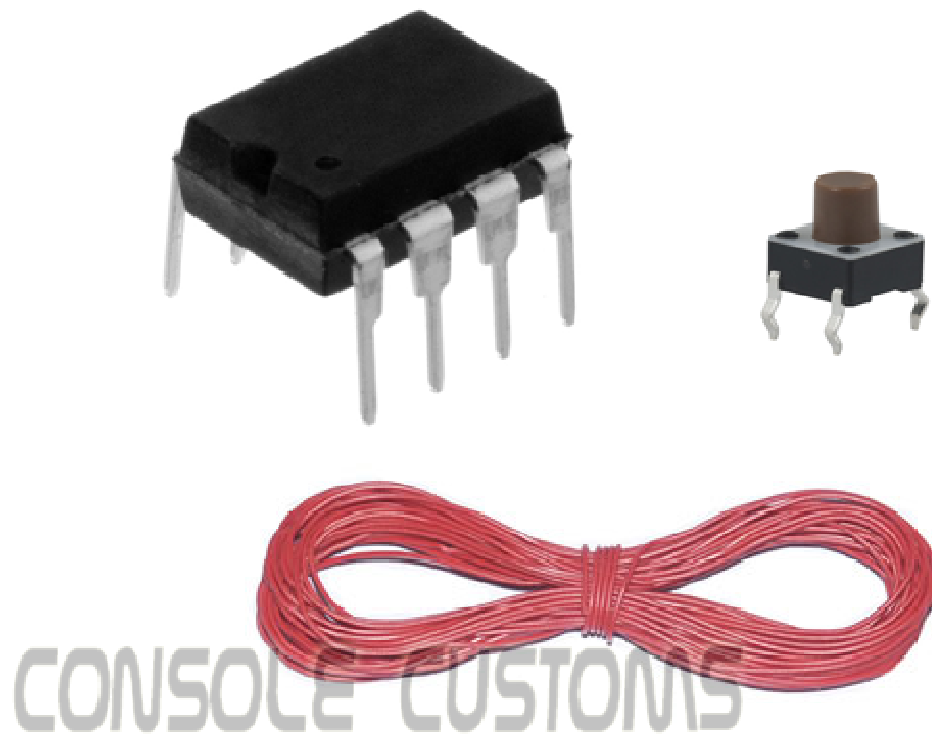From the battery door area you can see that the Capacitor is horizontally oriented.

CG2 PCB

From the battery door area you can see that the capacitor is vertically oriented.
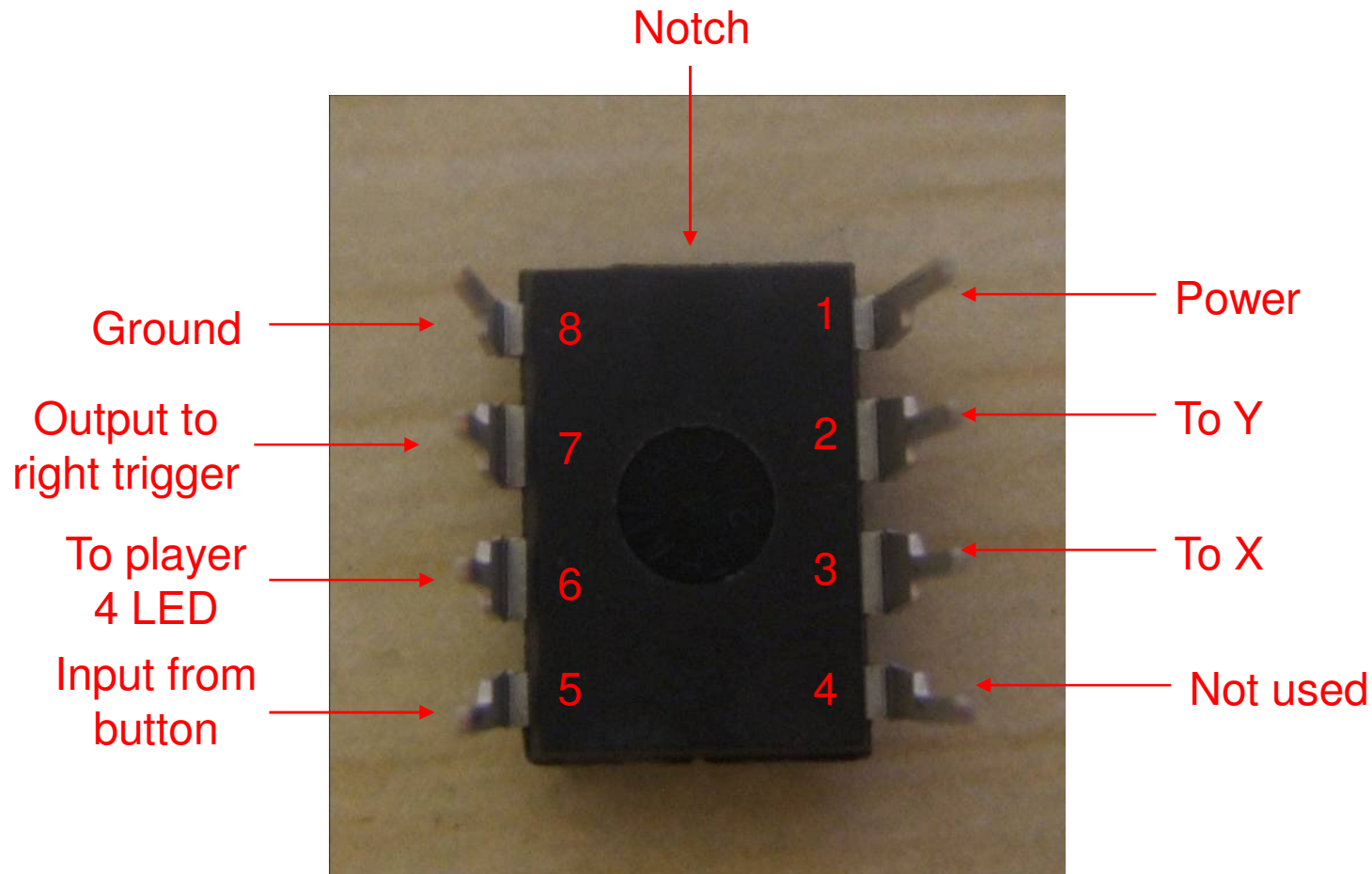
Step 1: First lets start by looking at what is in your kit.

- You should have the following items in your kit
    1. (1) 8 pin PIC microcontroller
    2. (1) Buttons
    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.

- In this tutorial we will be using all of the pins except pin 4.

Notch

Ground → 8

Power

Output to right trigger → 7

To Y → 2

To player 4 LED → 6

To X → 3

Input from button → 5

Not used → 4

Step 3: You will now attach the wires to the chip.

• <u>Left Image</u>

    • Pin 1 (red wire) is for Power and should be 2.5 Inches long.

    • Pin 2 (yellow wire) is for the connection to the Y button and should be 2 Inches long.

    • Pin 3 (blue wire) is for the connection to the X button and should be 2.5 Inches long.

•<u>Right Image</u>

    • Pin 5 (red wire) To installed button or Sync button for stealth installs This should be 4 inches long.

    • Pin 6 (white wire) To player 4 LED. This wire should be 2 inches long.

    • Pin 7 (blue wire) To Right trigger. This wire should be ½ inch long.

    • Pin 8 (blue wire) To ground. This wire should be ½ 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
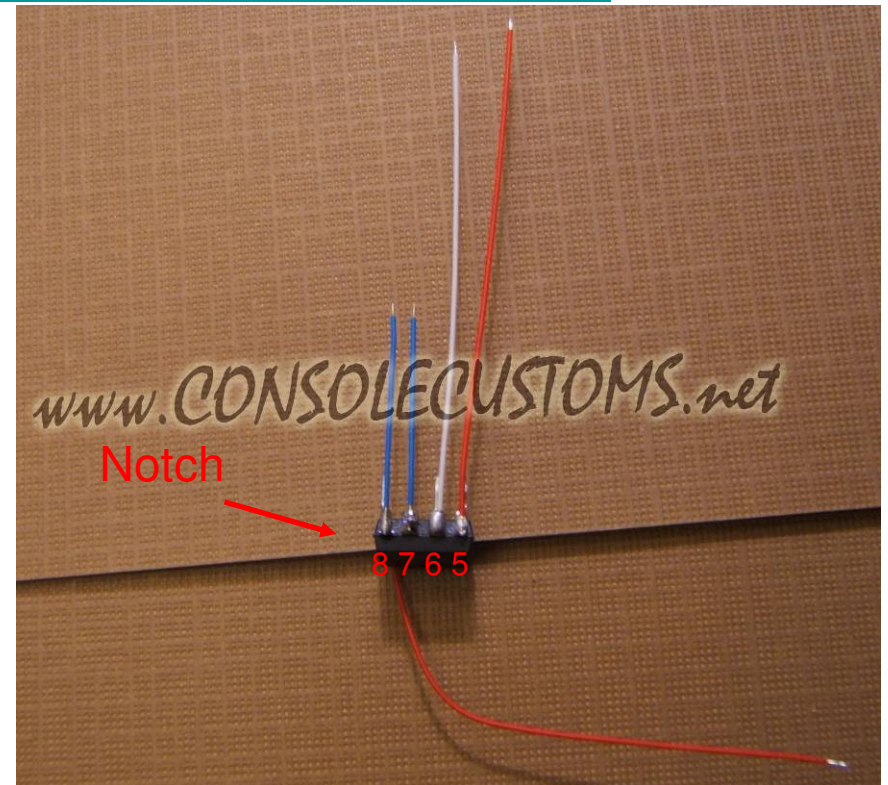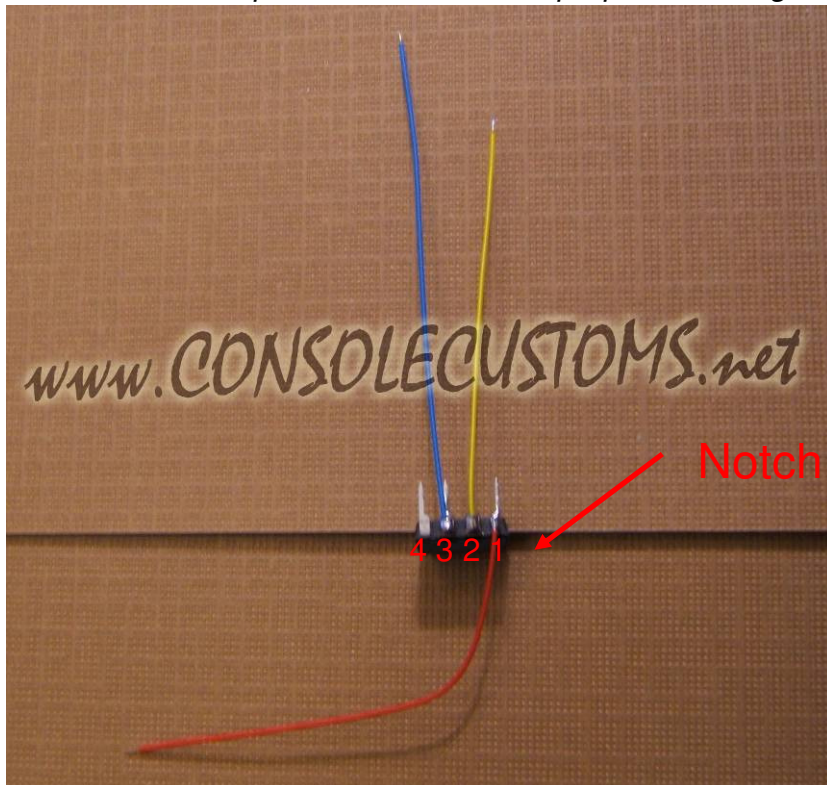
Step 4: Opening the controller

• 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 tool. This tool can be purchased from our website.

WIRELESS

Step 5: Preparing the Vias

- You must connect wires to both the X and Y button in the controller. The best way to do this is by soldering wires to one if the vias used for the buttons. A via is a solder pad with a hole though it to connect one side of the board to the other.

- Below are both the CG and CG2 PCB boards with the X and Y vias pointed out. The vias have a solder mask over them that must be scraped clean before you can solder to it. Using a pocket knife or other small knife lightly scrape off the green coating from the via to expose the bare copper. When properly cleaned you should see shiny copper. Be careful to only scrape clean the via, the checkerboard looking area around the via is a source of ground if this area is scraped clean and your wire touches it, it will cause a short and the button will not work properly.
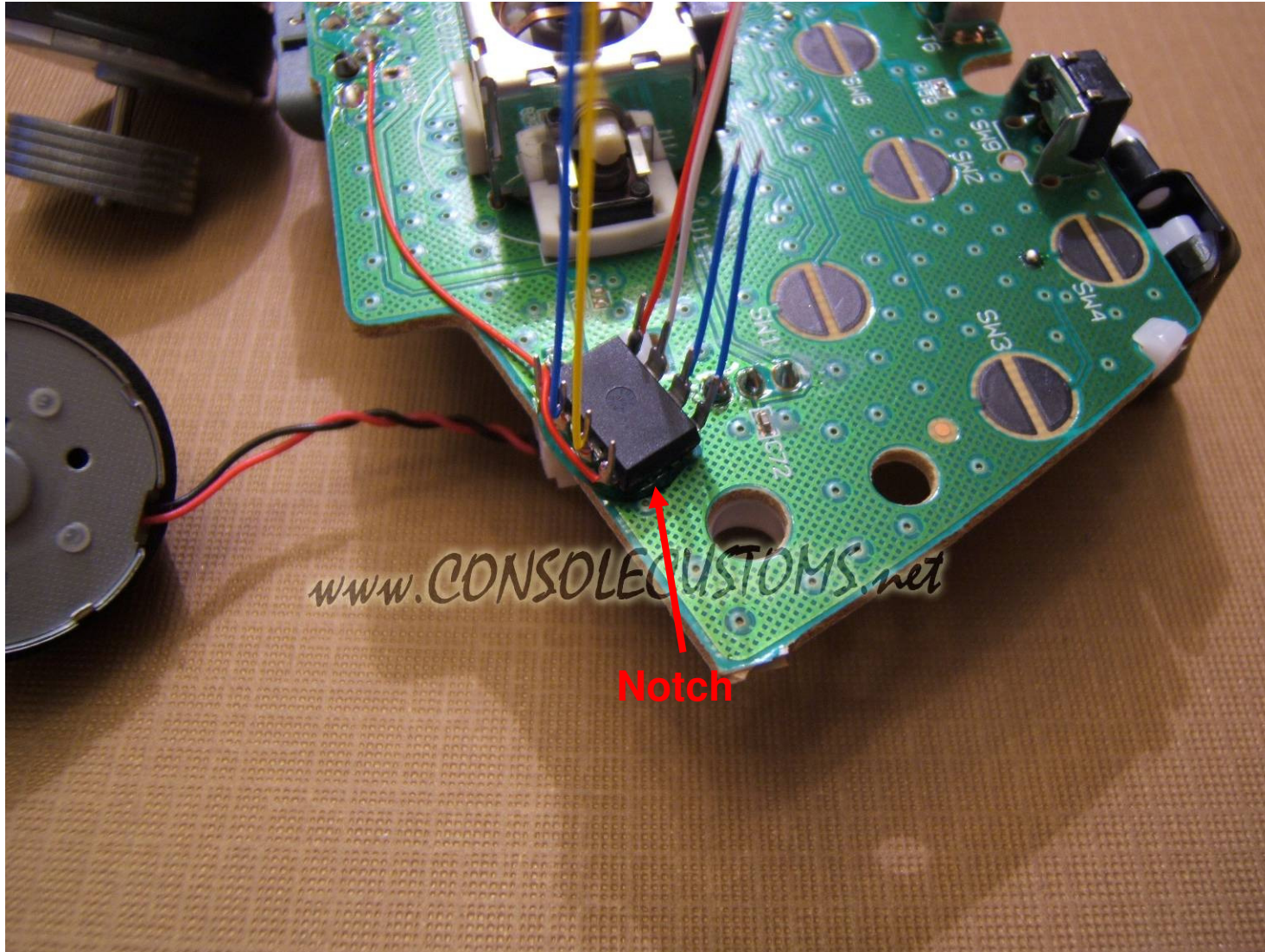
CG
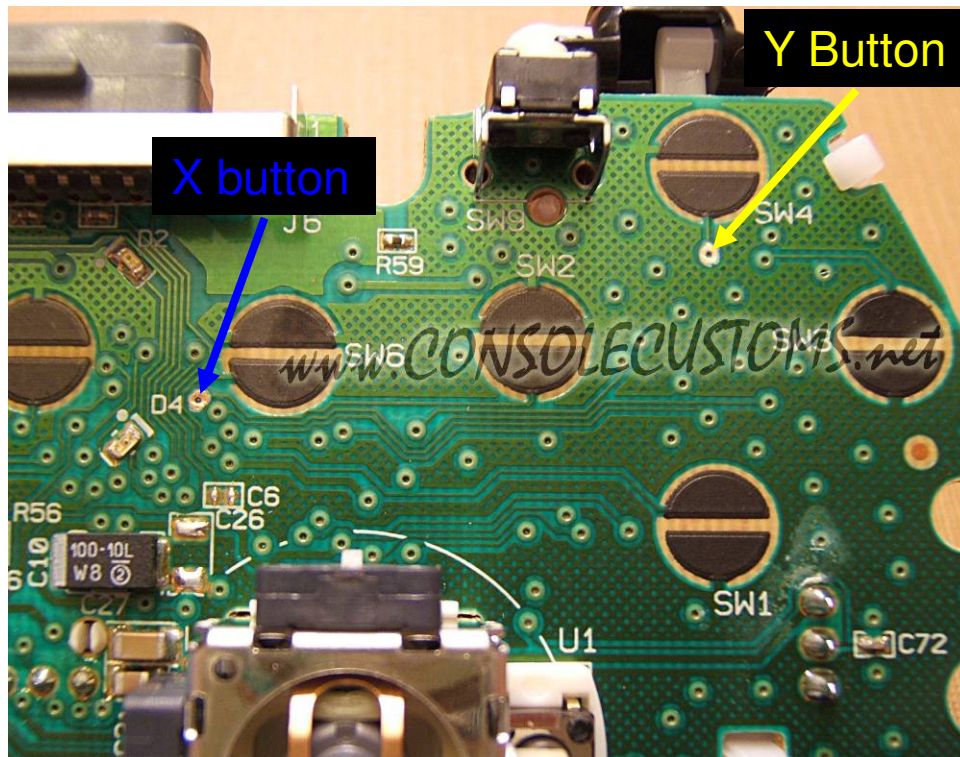
CG2
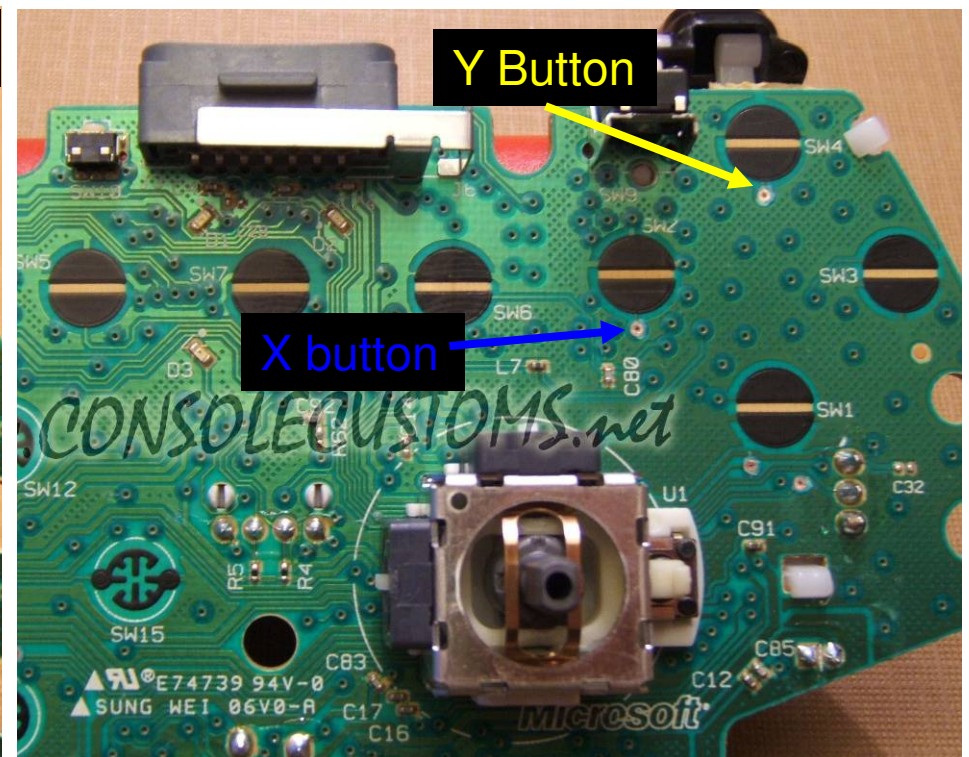
Step 6: Now we will attach the chip to the PCB using hot glue.

• Mount the chip on it's back (dead bug) with hot glue so it is up against the white clip for the trigger and the pins from the rumble motor plug.

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

Notch

Step 7: Attach the power wire.

• This step is same for both CG and CG2 boards. The power wire from Pin 1 must be soldered to the location shown below. This solder point is part of the headset jack.

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 create a place for something to snag when closing the controller.
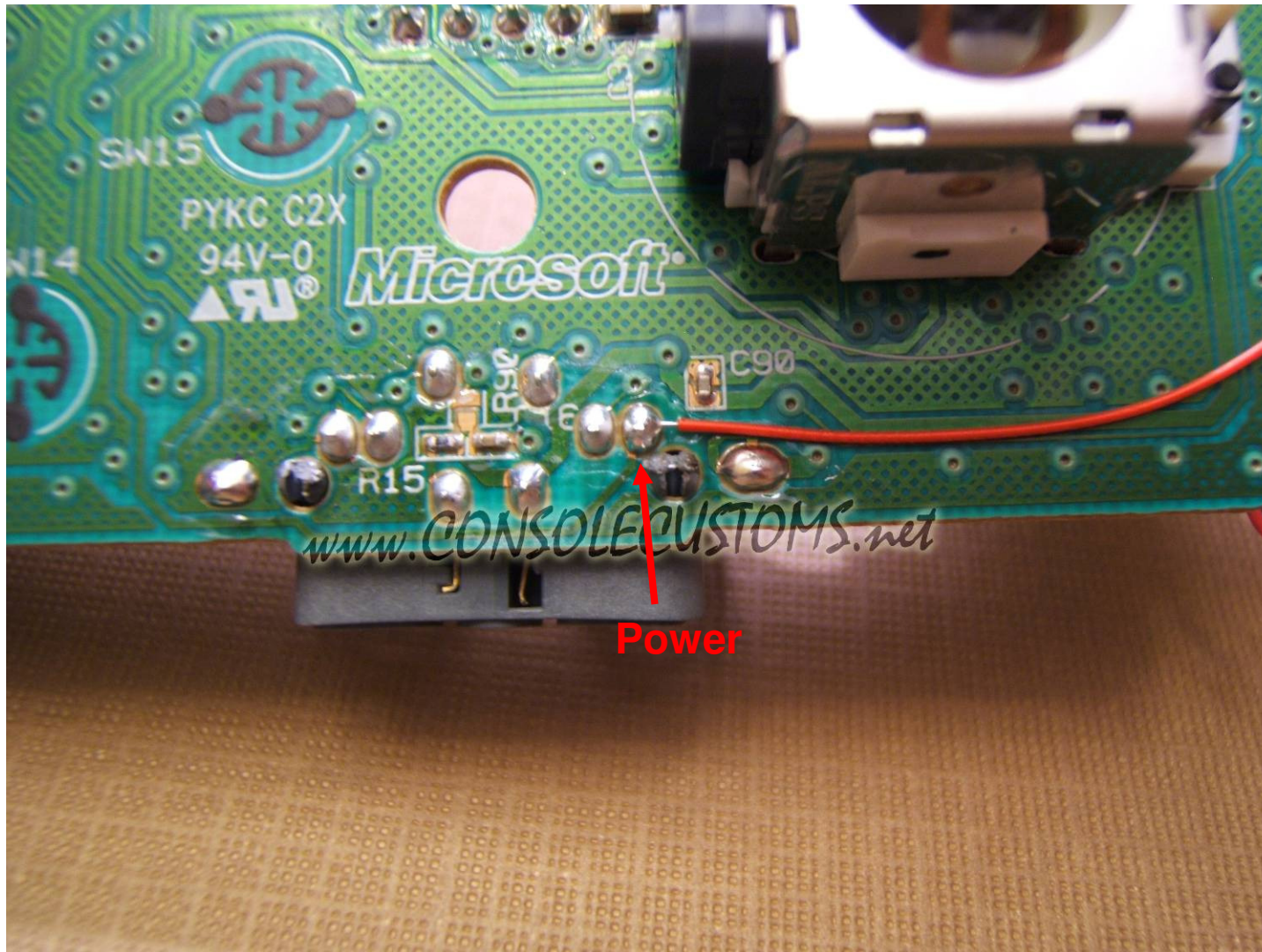
Step 8: Attaching the Ground and trigger wires.

• This step is the same on both CG and CG2 boards.

> • Solder the wire from Pin 8 (ground) to the bottom of the three trigger pins as shown in the left side image.

> • Solder the wire from Pin 7 (trigger wire) to the middle of the three trigger pins as shown in the right side image.

>> Tip: A common problem that can occur here is that too much solder is used and two of the three connections are bridged together by solder. This will cause the trigger to not function properly. To avoid this be sure to use little or no extra solder on these points as they already have solder on them.

>> Tip: keep your wires as short as possible so they do not interfere with the buttons when putting the controller back together.
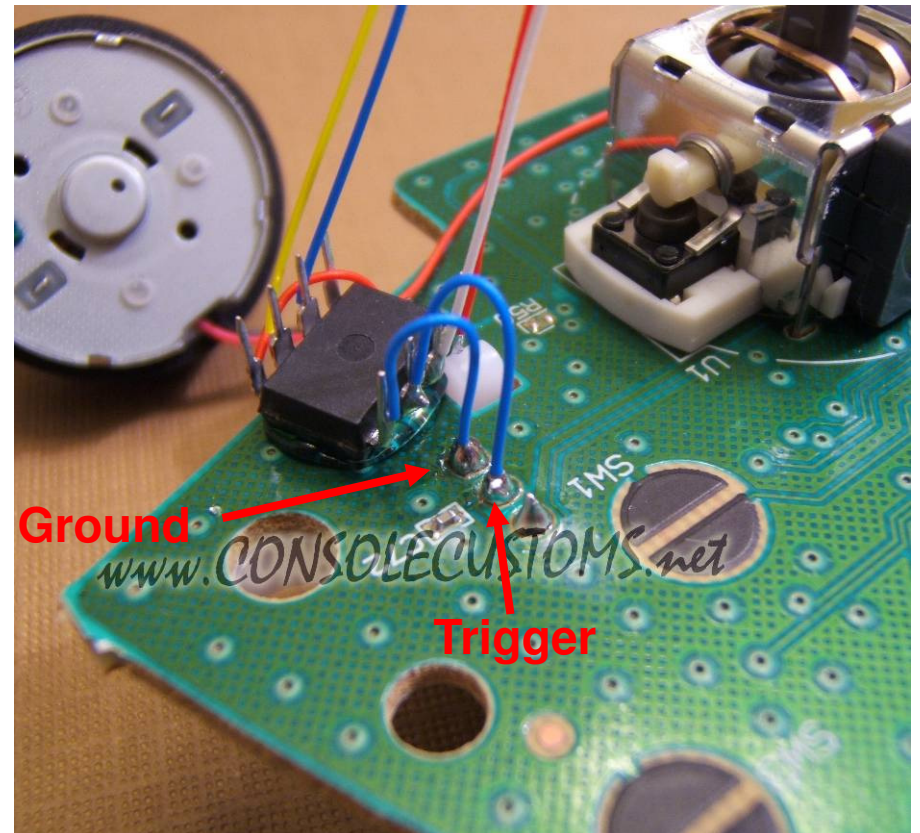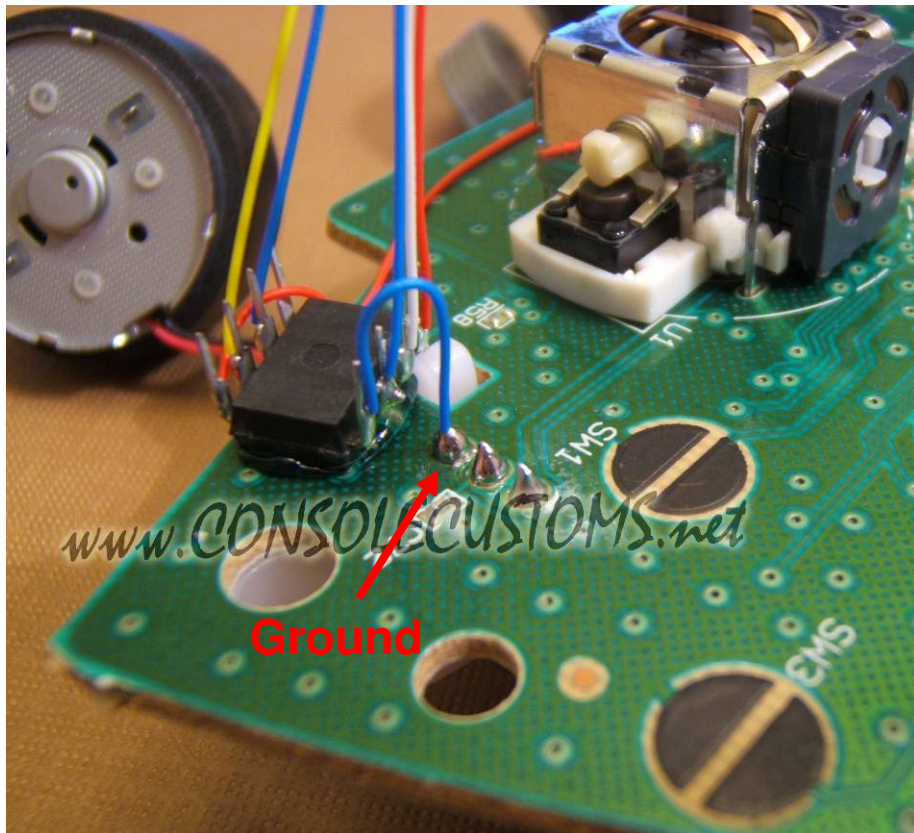
Step 9a: CG wire connections (goto the next page 9b for CG2 connections)

- This page shows only the connections for the CG board. For the CG2 please see step 9b.

- This image shows the player 4 LED, X and Y button connections. Be sure to route all wires away from the black circles on the board. If a wire crosses over one of these circles some of your buttons may not function properly.
  - Solder the wire from Pin 2 (yellow wire) to the Y via that you cleared earlier.
  - Solder the wire from Pin 3 (blue wire) to the X via.
  - Solder the wire from Pin 6 (white wire) to the short bottom of the player 4 LED

Tip: Use adobe PDF viewer to zoom in if you need to see these connections closer up
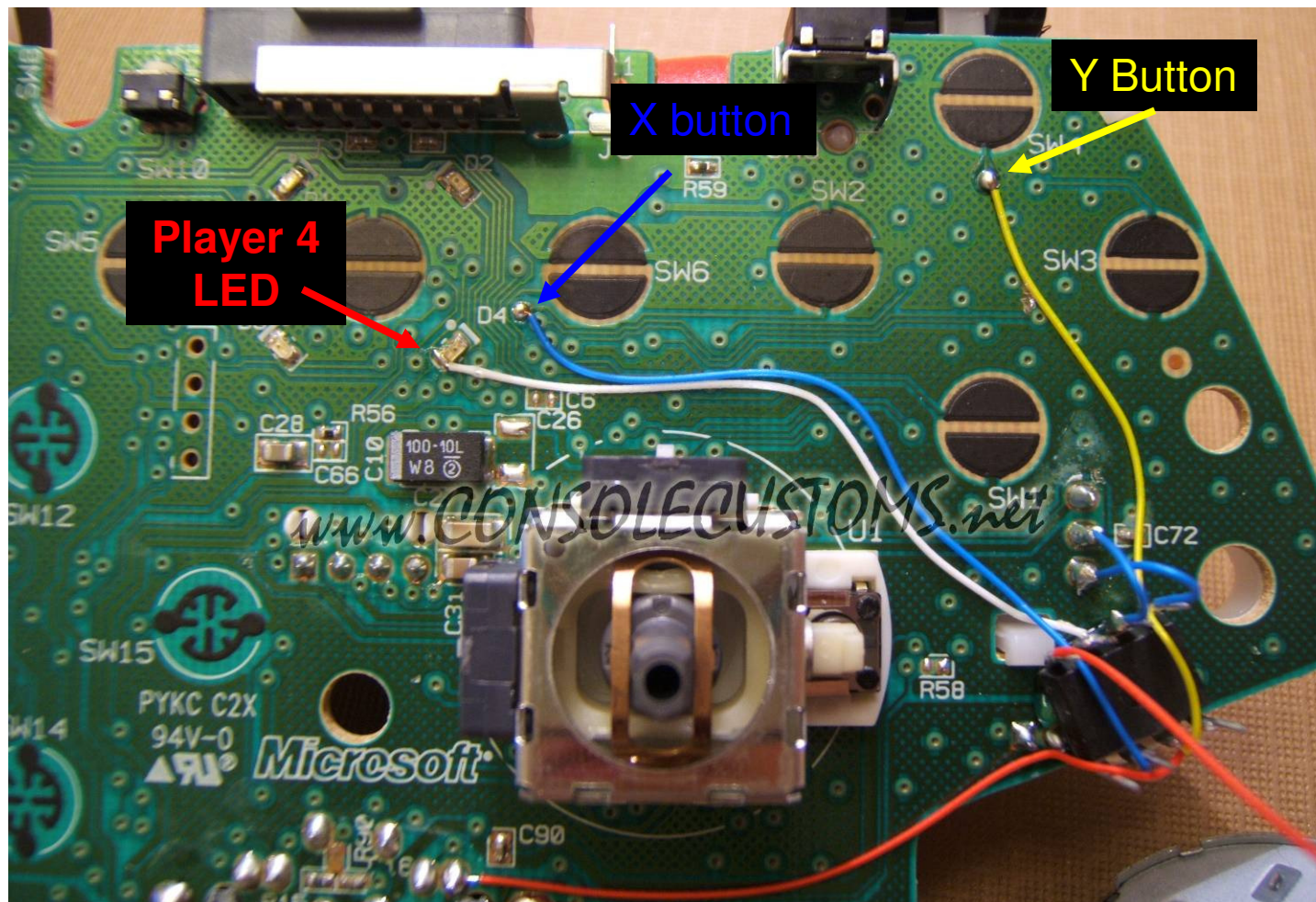
Step 9b: CG2 wire connections (goto the previous page 9a for CG connections)

- This page shows only the connections for the CG2 board. For the CG please see step 9a.
- This image shows the player 4 LED, X and Y button connections. Be sure to route all wires away from the black circles on the board. If a wire crosses over one of these circles some of your buttons may not function properly.
  - Solder the wire from Pin 2 (yellow wire) to the Y via that you cleared earlier.
  - Solder the wire from Pin 3 (blue wire) to the X via.
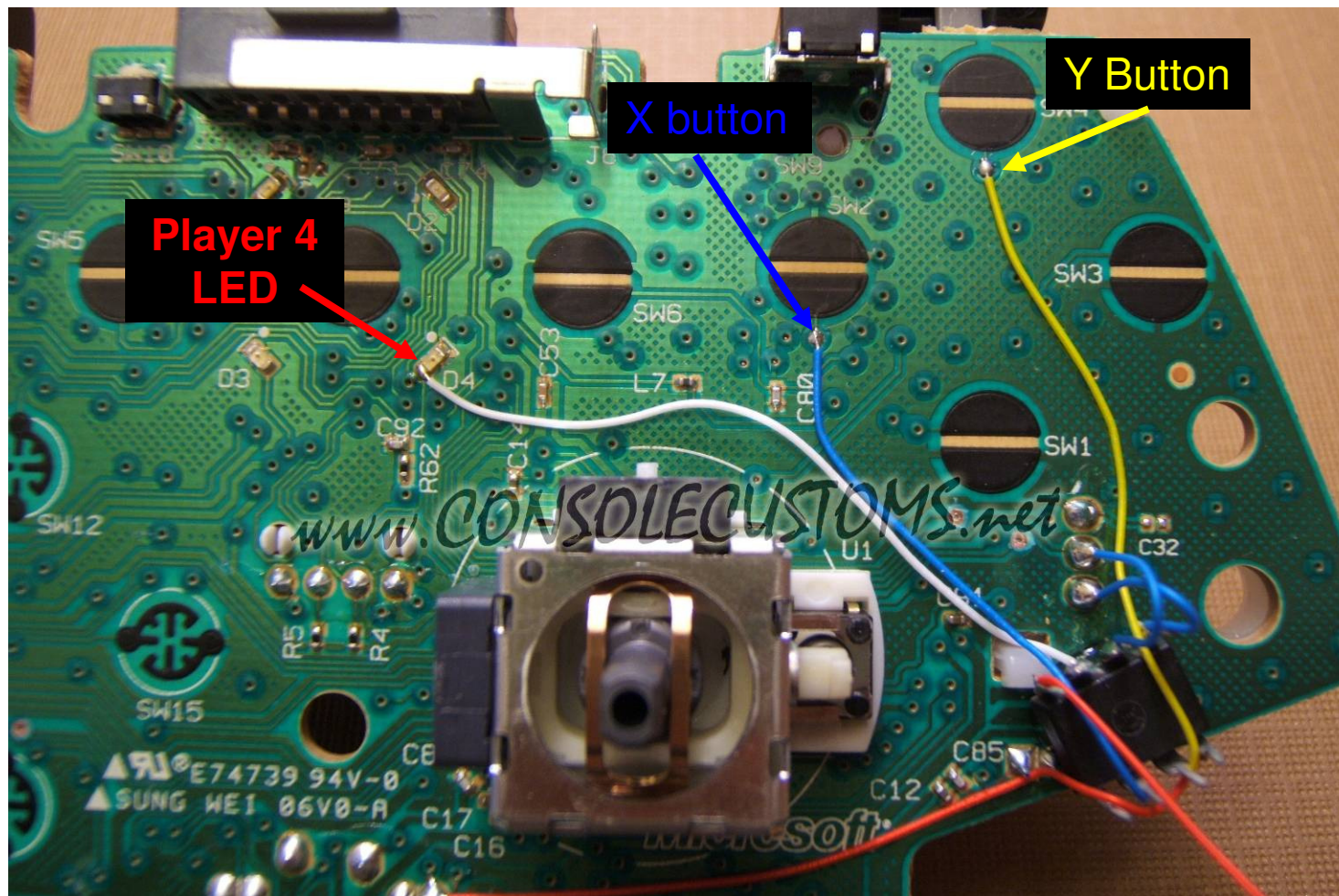 - Solder the wire from Pin 6 (white wire) to the short bottom of the player 4 LED

Tip: Use adobe PDF viewer to zoom in if you need to see these connections closer up

Step 10: Onto the case and button. Here we will drill the hole needed for the button and secure it in place. For stealth installation skip to step 12

• 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.

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 8).

Drill hole here
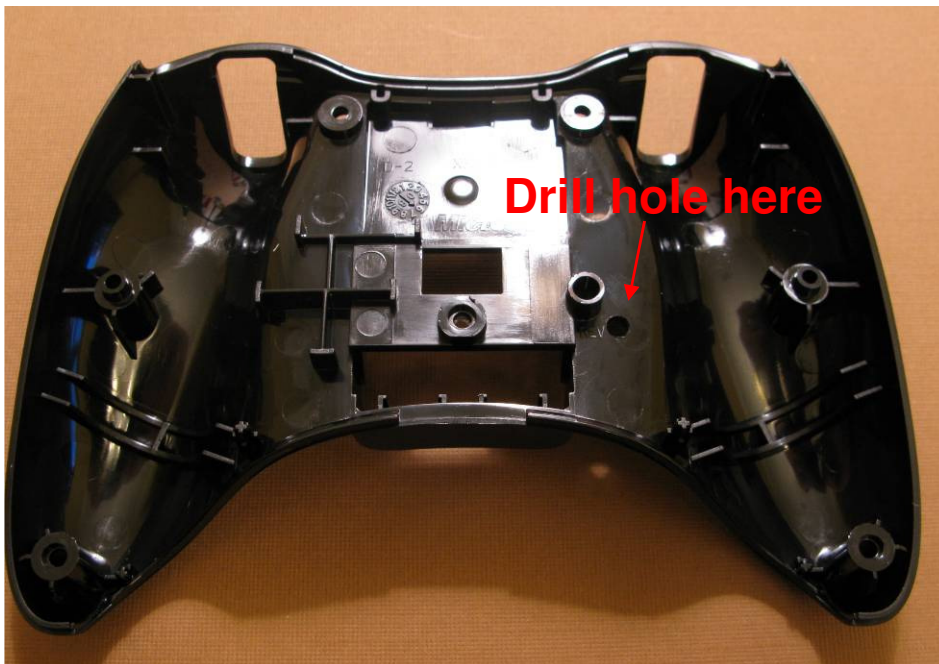
# Step 11: We will now connect the wire from the chip to the button.

• 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 5) 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 8).
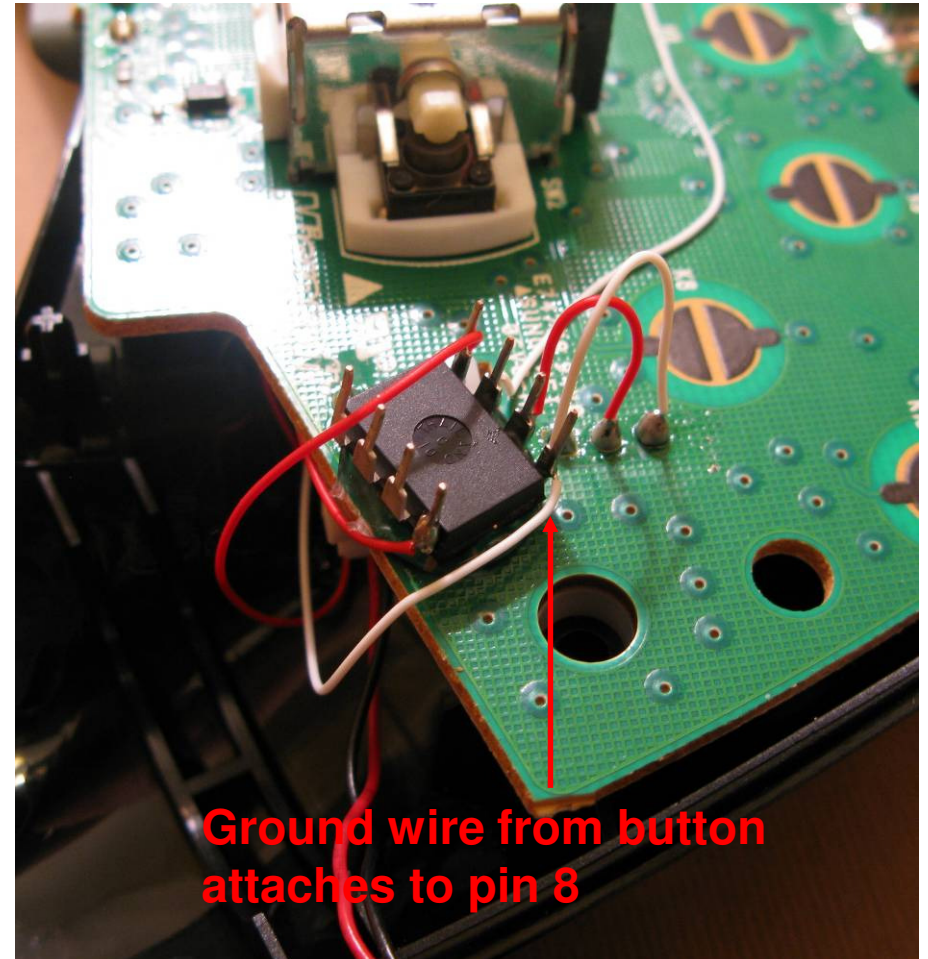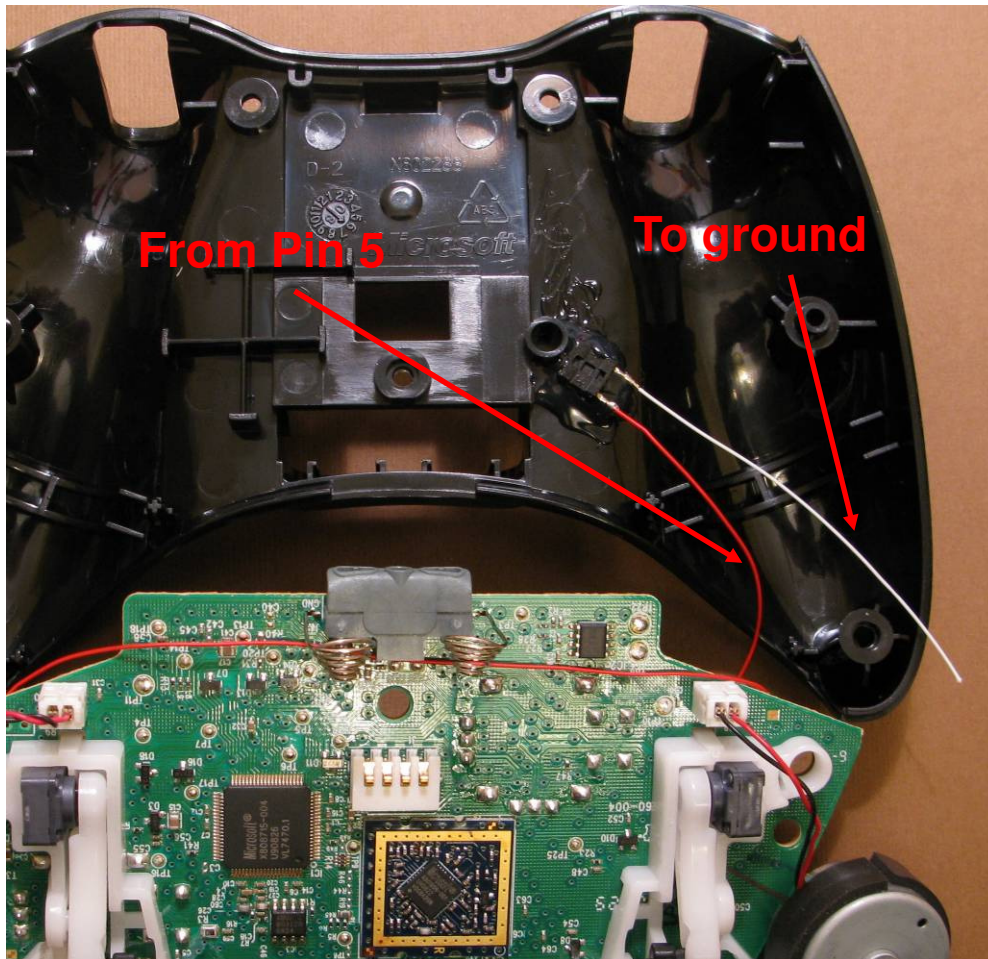
Step 12a: Stealth installation (using the sync button)

**See next page for alternate solder locations for each controller type**

• For an easier installation and stock controller look you can use the sync button instead of adding a button to your controller. This process is the same for both CG and CG2 controllers.

• Run the wire from pin 5 along the same path as the wire for the player 4 LED over to the sync button again making sure you stay away from the black circles and LED's.

• Cut the wire to the exact length needed and attach to the middle of the three pins for the sync button. See the image for a close-up of the sync button.

From Pin 5
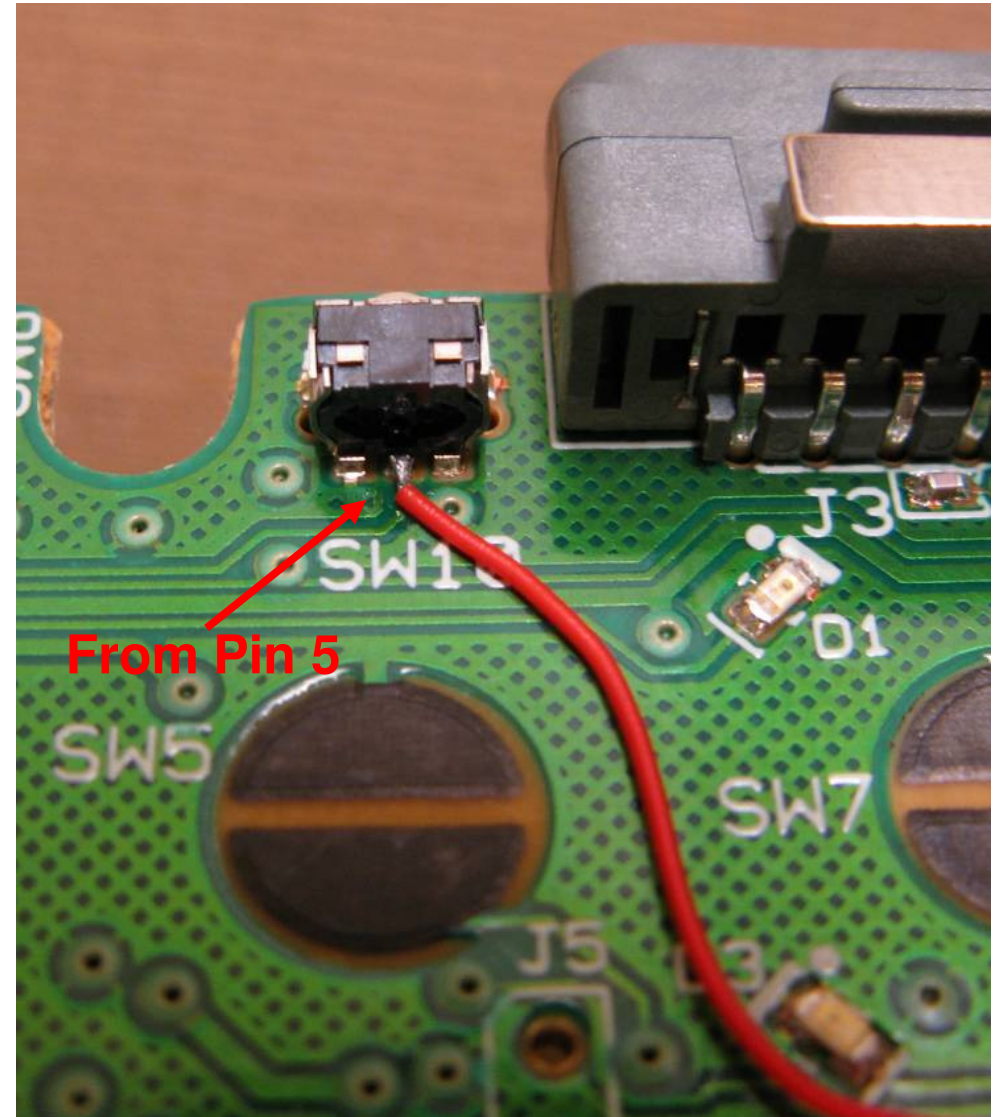
Step 12b: Alternate stealth installation solder points.

• Soldering directly to the sync button is not the easiest task so here were are providing some additional locations that you can use for your stealth installation that may be easier for you.

• The location on both boards is in the middle of the D-pad buttons. This solder point is a via just like the X and Y button points so it must again be scraped clean before you can solder to it.

CG
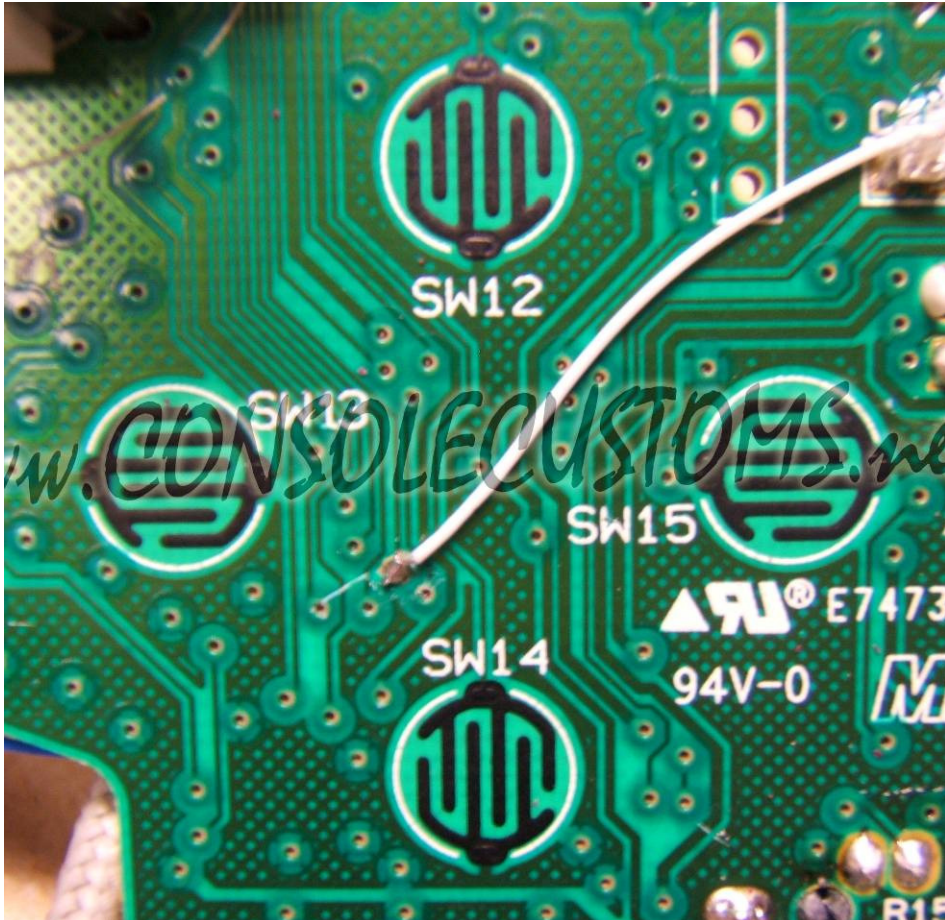
CG2
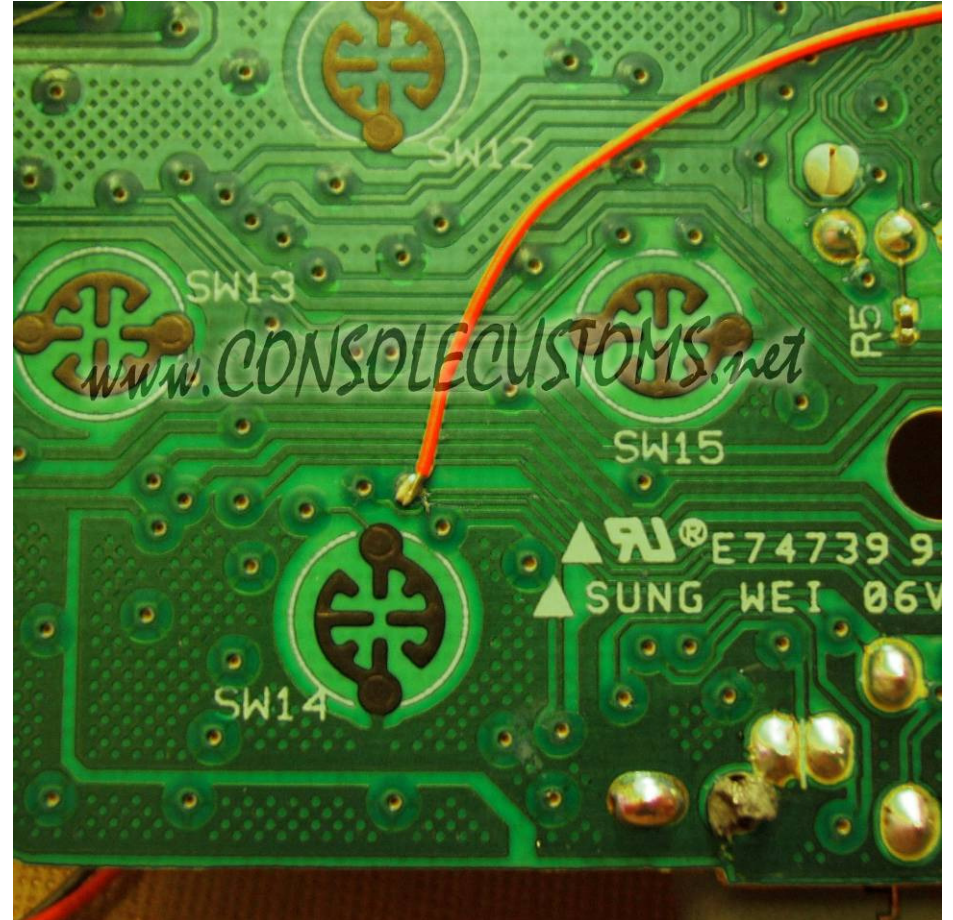
Step 13: Almost done

• Now onto the top of the case. To make it all fit we may have to make a little bit more room. Just to be sure we use a knife or side cutters to remove the plastic support shown in the image in red. This is the angled support for the right side rumble motor. This allows more room for the chip to fit into the controller.

• 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 PCB and the back of the controller together, then 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.
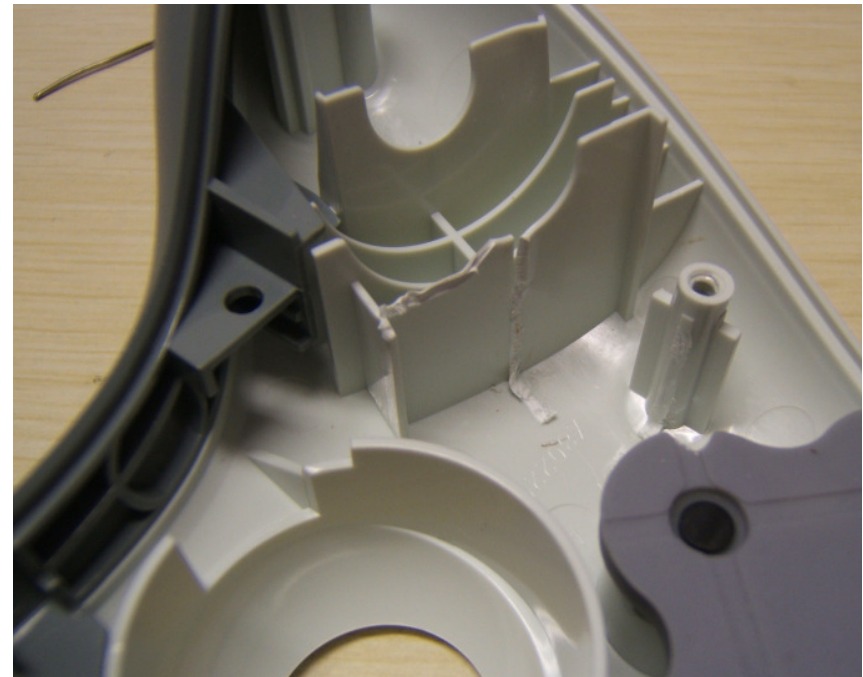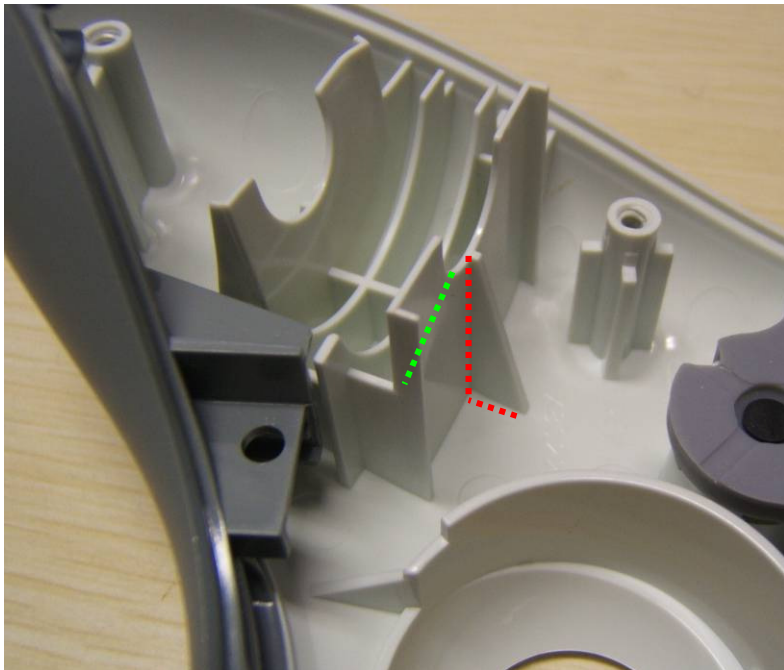
Xbox 360 RFX-5X X-treme 5-mode rapid fire:

- This mod has many different features and functions which we will explain below. Video tutorials are available for all of these features on our website www.consolecustoms.net or from our youtube page www.youtube.com/consolecustoms.

- First off are the LED modes. Because of the requests from our customers we have made this mod with the ability to change how the LED functions. There are three modes for the LED's described below. To change how the LED works you must hold in the button (or sync button for stealth installs) while you are turning on the controller.

  - **LED MODE 1** (default) - Blinking LED, the speed of blinking changes with the speed of rapid fire.
  - **LED MODE 2** - Blink to solid LED. The LED will blink 1, 2 or 3 times depending on the mode then stay on solid.
  - **LED MODE 3** - No LED, the LED will be off all the time. For the ultra stealth look.

- Next are the game modes, This mod has 5 different game modes. Each mode has speeds designed for specific games but these are not the only games they will work for, this mod chip will work for almost every first person shooter available with the addition of our user programmable mode. To switch the game mode you must hold in the button (or sync button on stealth installs) for aprox 3 seconds. You will see the player 4 LED flash. The number of flashes indicates the game mode. When you switch the chip to a game mode it will stay in that game mode unless you change it again by holding in the button, even if you turn off your controller.

  - **Mode 1:** Call of Duty 4 – This game mode has 4 setting; X-treme(jitter glitch), Fast, Slow and X-treme(jitter glitch) Burst fire. The fast fire rate will only work in COD 4 when you have the double tap perk equipped.
  - **Mode 2:** Call of Duty: Worlds at War - This game mode has 4 setting: X-treme(jitter glitch), Fast, Slow and Burst fire. This mode is specifically for COD WaW to work around that patch that tries to detect rapid fire controllers.
  - **Mode 3:** Gears of War 2 - This game mode has 2 setting, Slow and Fast. The slow speed works for the hammer burst and pistol. The fast mode is only for the pistol.
  - **Mode 4:** Halo 3 - This mode has just one very fast speed that is either on or off.
  - **Mode 5:** User Programmable - This mode has one speed that can be set by the user from 6-25 shots per second. **Programming instructions on next page.**

- To cycle through the settings you only need to tap the button underneath the controller (or the sync button if you used the stealth install). Once you are in the game mode you would like and change the speed setting, you will continue to use the trigger for firing as normal.
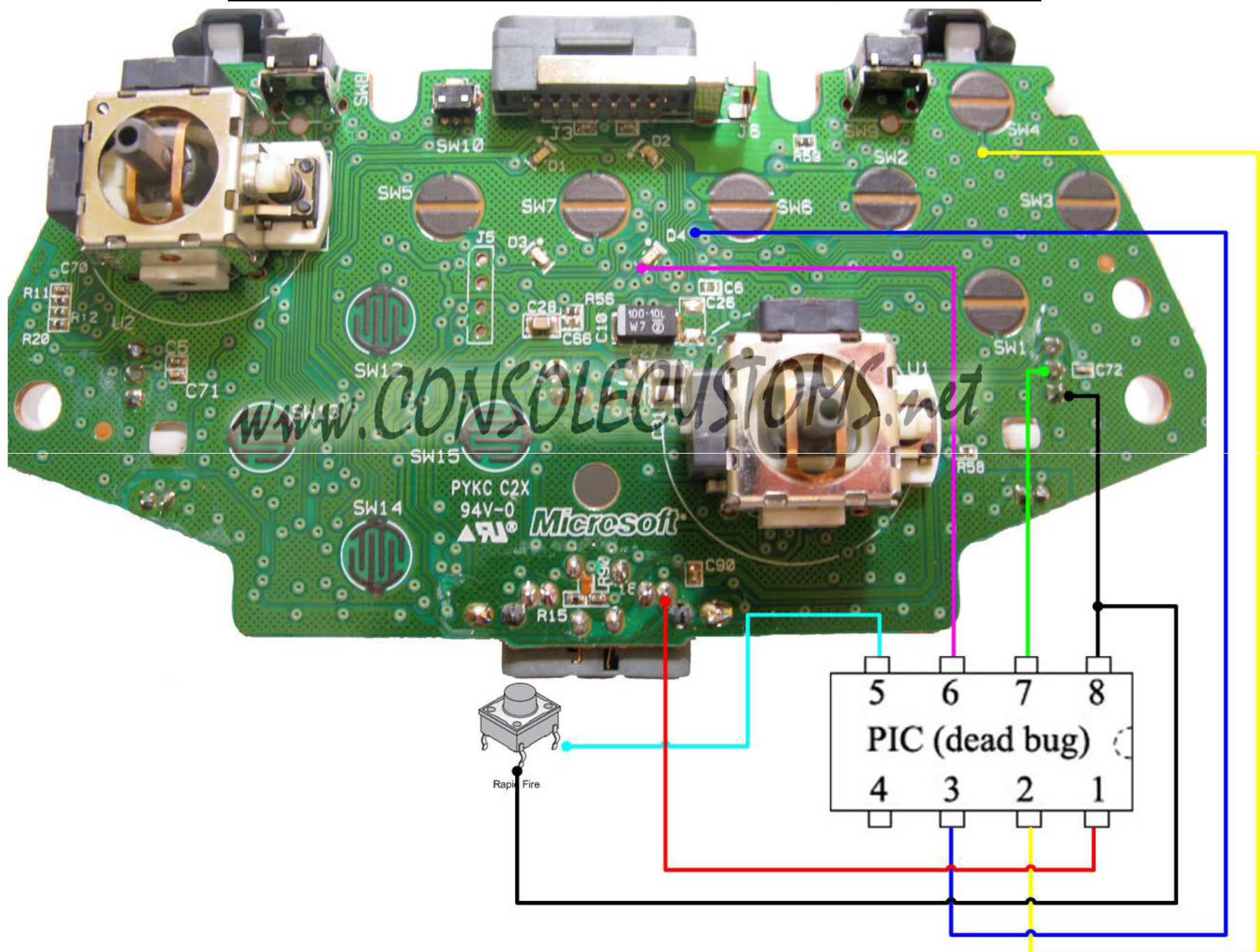
Changing the User adjustable rapid fire speed

These instructions are also available as a video from our website www.consolecustoms.net and also our youtube page www.youtube.com/consolecustoms.

1. You first need to be in the user adjustable game mode. Use the procedure described on the previous page to switch the controller to the correct mode.
2. Once in the user adjustable game mode. You will need to first hold in the trigger and while holding the trigger press and hold the mode change button on the back. (or sync button for stealth controllers). **You must hold in the trigger first, before pressing and holding the button. If you do not follow this order you will just switch the game mode instead of entering to programming mode.**
3. Hold both the trigger and the button for aprox 3 seconds. After 3 seconds you will see the player 4 LED come on for 1 second then go out. After you see this you can release both the trigger and the button. You are now in the programming mode.
4. When you enter the programming mode the user programmable speed is set back to 6 shots per second (166 milliseconds per sot). This is so you always know where you are at and also allows the programming to be done with only using one button.
5. While in the programming mode every time you press the button on the back of the controller (sync button on stealth controllers) the firing rate will increase by 2ms. The player 4 LED will also flash. The rate can be increased until you reach 25 shots per second (40 milliseconds per shot). At this point the player 4 led will not flash and pushing the button will no longer increase the speed.
6. At any time you can test you speed by just pulling the trigger.
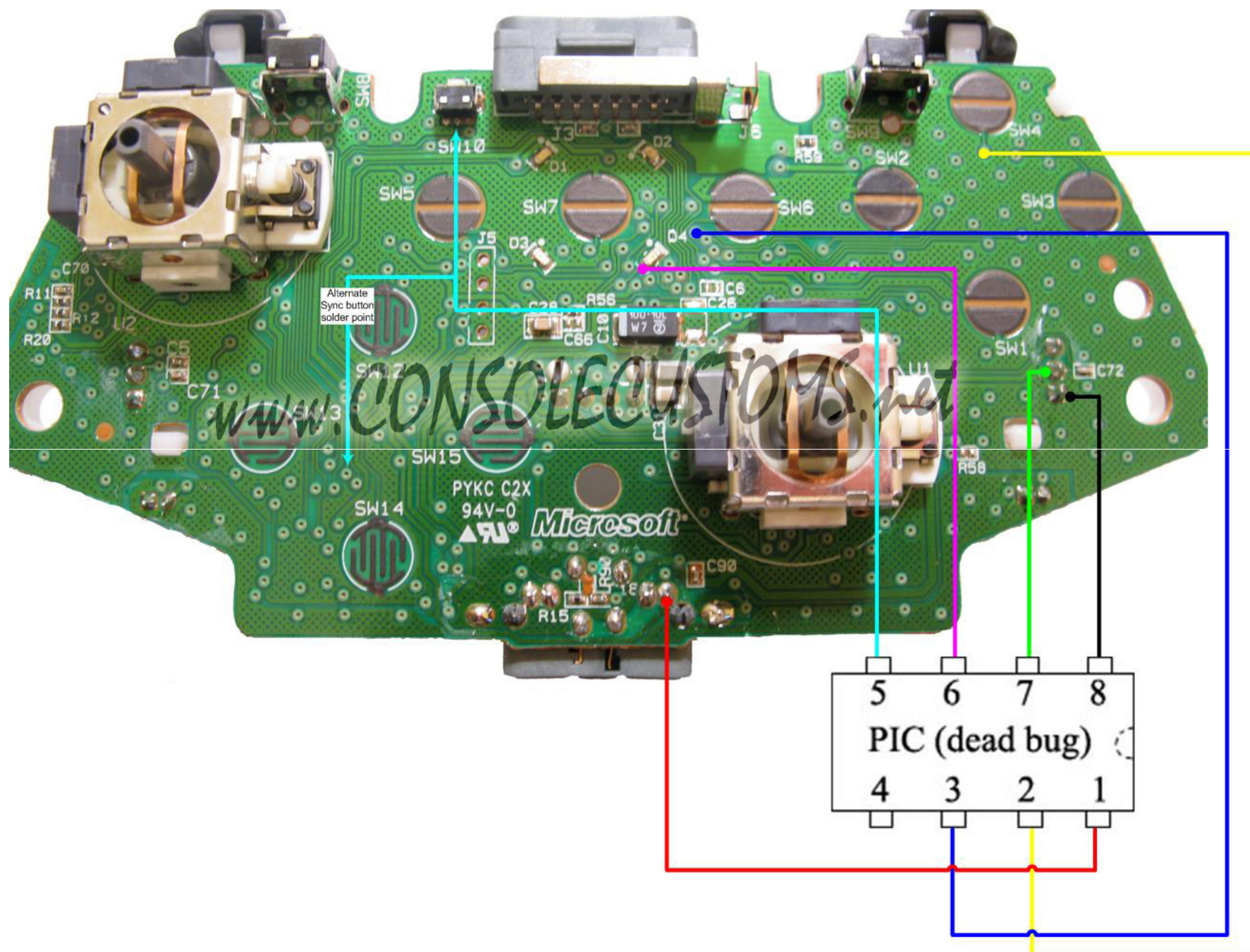7. Once you are at the desired speed follow steps 2 and 3 above to return to the user adjustable game mode.

Tips:
*   Every time you enter the programming mode the speed is set back to 6 shots per second (166 milliseconds per sot)
*   Remember or better yet write down the number of times you pressed the button. So you can go back and make adjustments if needed.
*   This mode works in milliseconds each time you press the button the speed is decreased by 2ms. So you can easily calculate you speed.
*   The default is 6 shots per second or 166ms. There are 1000 milliseconds in 1 second. So 1000/166 = 6.02 or approximately 6 shots per second.
*   If you press the button 20 times you are now at 126ms. 1000/126 = 7.94 approximately 8 shots per second.
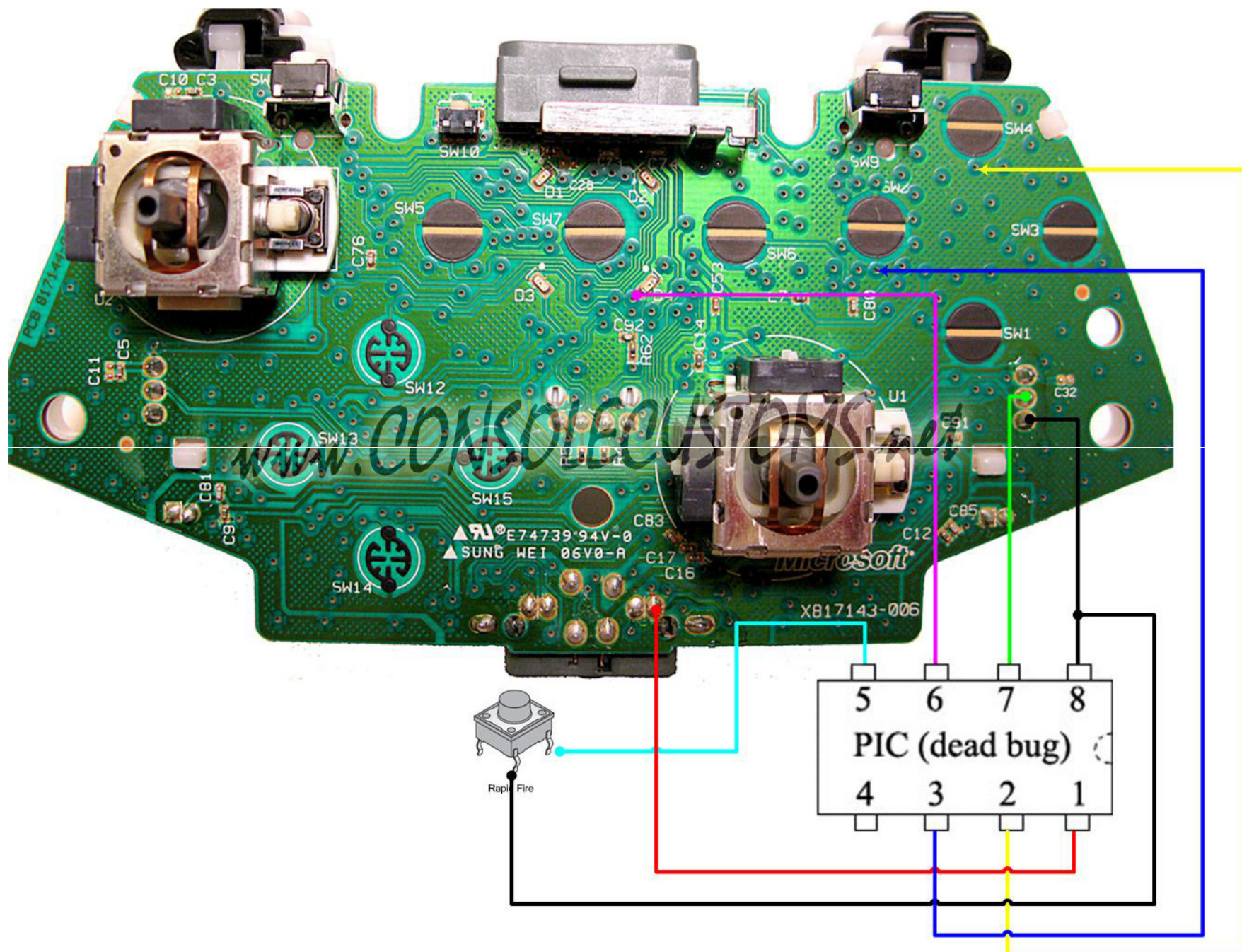*   If you want to go slower in speed you must exit and re-enter the programming mode and start over.

CG PCB Installation Diagram using the button

www.CONSOLECUSTOMS.net

Rapid Fire

PIC (dead bug)

5	6	7	8
4	3	2	1

CG PCB Stealth Installation Diagram

PIC (dead bug)

CG2 PCB Installation Diagram using the button

Rapid Fire

PIC (dead bug)

5 6 7 8

4 3 2 1

CG2 PCB Stealth Installation Diagram