Installation tutorial for Cheapestmodz PS3

Rapid Fire Kit for Sixaxis and Dualshock 3 controllers

www.ps3rapidfire.com

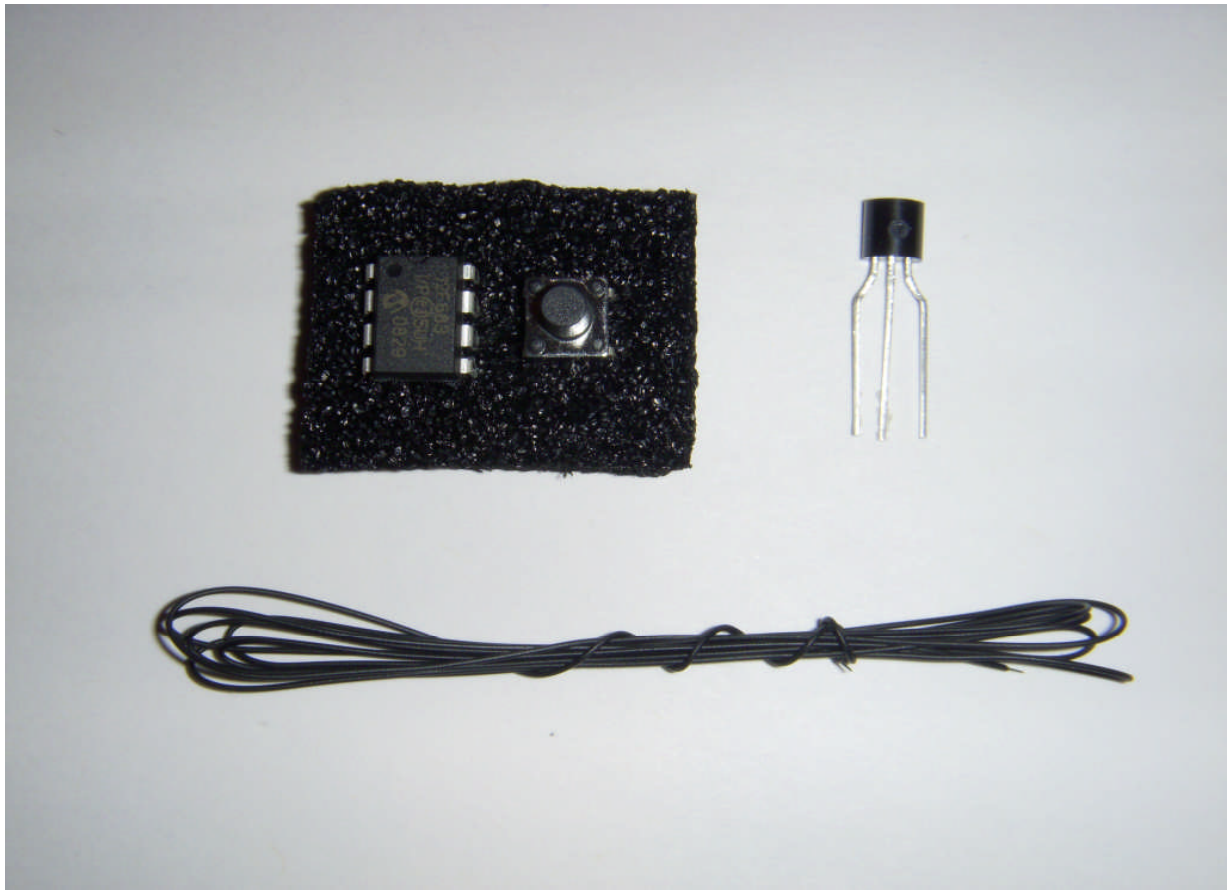
Please proceed with this installation at your own risk. I will not be held responsible for any damage to yourself, your controller, your PS3 console or any other equipment. Installation of this kit requires soldering into small, confined spaces. There is no single RIGHT way to install the kit, but the suggested way is outlined below. Please proceed with caution.

Suggested Tools:

- Small Phillips head screwdriver
- Soldering iron (any radio shack brand works well)
- Solder (rosin core works best)
- Wire strippers (needed for 30 gauge wire)
- Wire cutters
- Hot glue gun
- 9/64th drill bit (or close to it, a 1/8th will work as well but the hole will be a little big)
- Small pocket knife or razor blade (optional but helpful)

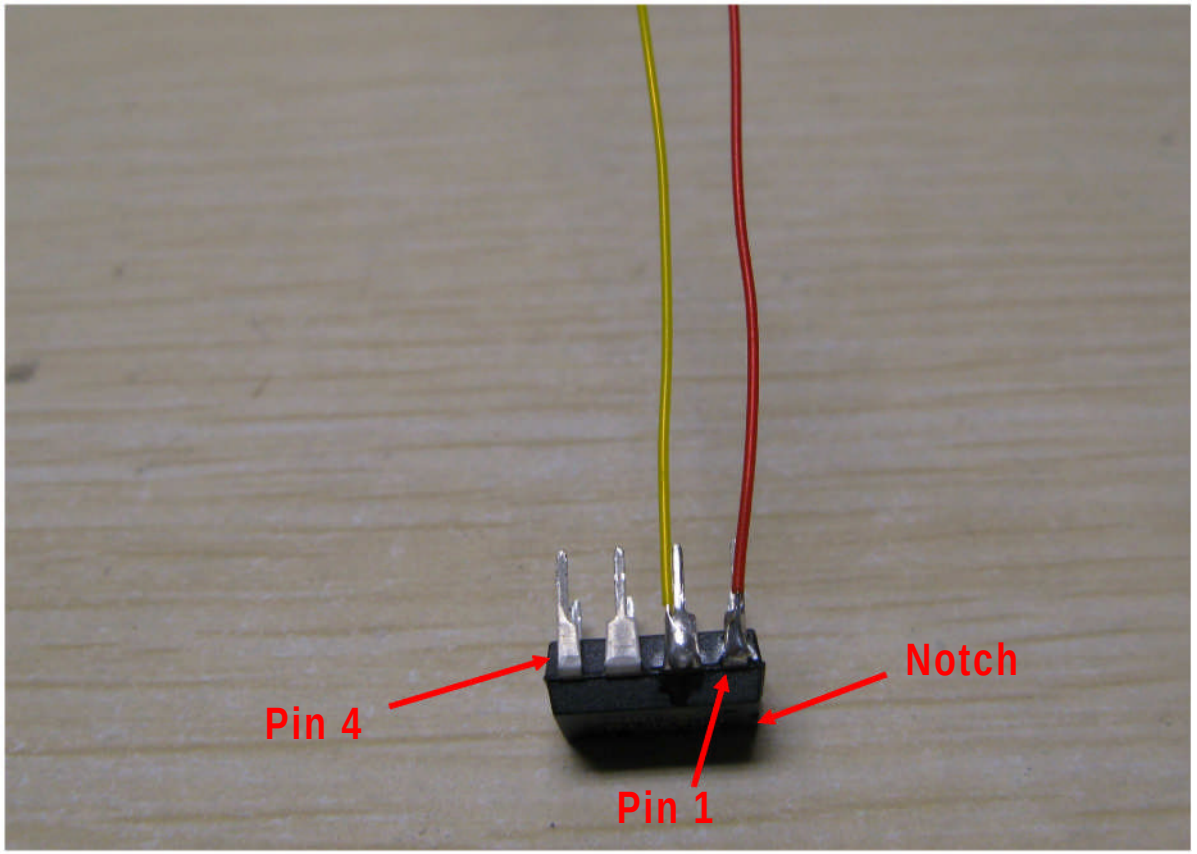
Step 1: Kit Contents

- You should have the following items in your kit
  1. (1) 8 pin PIC microcontroller
  2. (1) NPN Transistor
  3. (1) Tactile switch
  4. 3 Feet of Kynar Wire



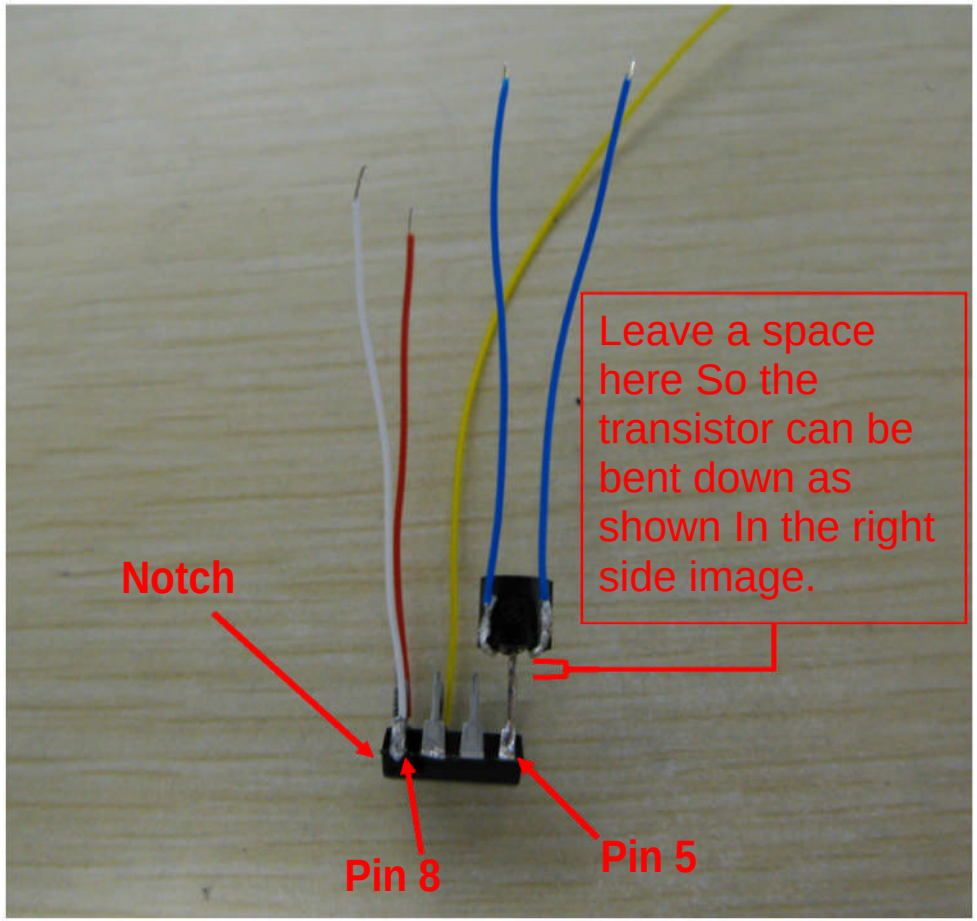
Step 2: Soldering the Power and button wires to the chip.

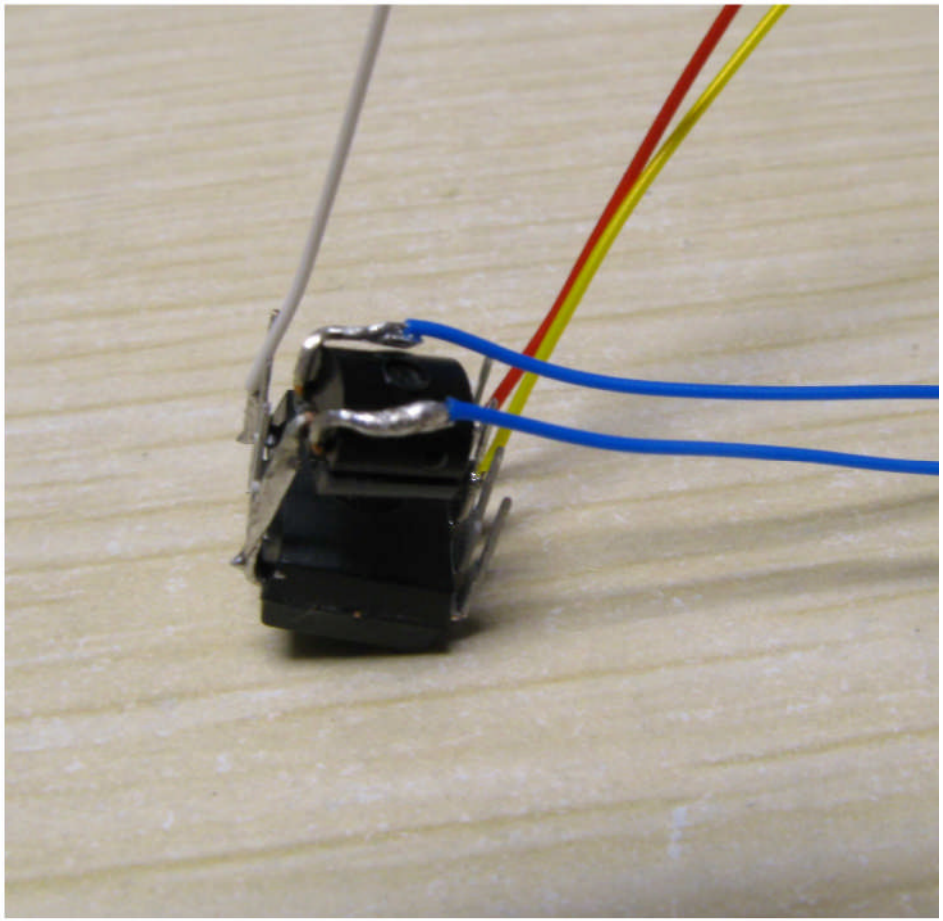
- You will start by putting the chip on it's back (also called dead bug) or on it's side like have done here. Note the location of the notch that is on top of the chip. Be sure you orient the chip correctly or it will not work.
- Start by soldering a short piece of wire approximately 1.5 inches long to pin 1. This is the power wire and is the red wire in this picture.
- Next solder another wire to pin 2. This wire should be approximately 5 inches long. This is the yellow wire in the picture. This wire will go to the button that we will install later in the tutorial.



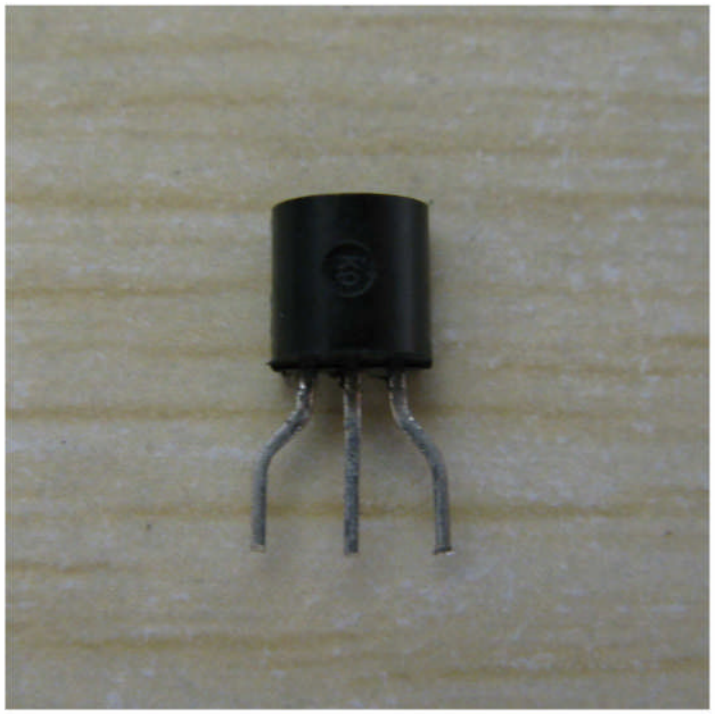
Step 3: preparing the transistor.

- You will need to attach the transistor to one leg of the chip. So we will cut and bend the legs to make that process easier.
- The Left image shows the transistor as you will receive it, in your kit.
- The middle image shows the legs of transistor cut to the length they should be. This is approximately 1/4 inch.
- Finally you will take and bend the outside two legs over the rounded edge of the transistor





as shown in the right side image.


Step 4: Soldering the transistor, ground wire and R1 wires to the chip.

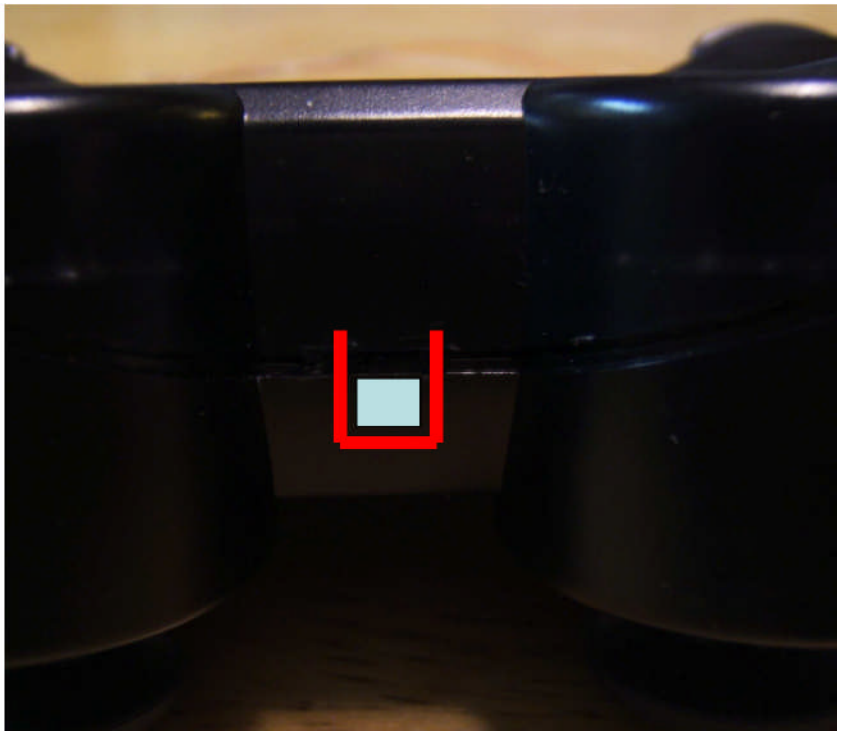
- Now take the transistor that you just prepared and solder it to pin number 5 of the chip. Make sure that the black part of the transistor sits higher than the top if the pins.

- Solder a wire to each of the two pins you bent back on the transistor. Shown here in blue. These two wires should be approximately 1.5 inches and will go to the connections in the controller for R1 or R2.

- Finally on Pin 8 solder a 1.5 inch wire that will later connect to ground inside the controller.

Step 5: Opening the controller

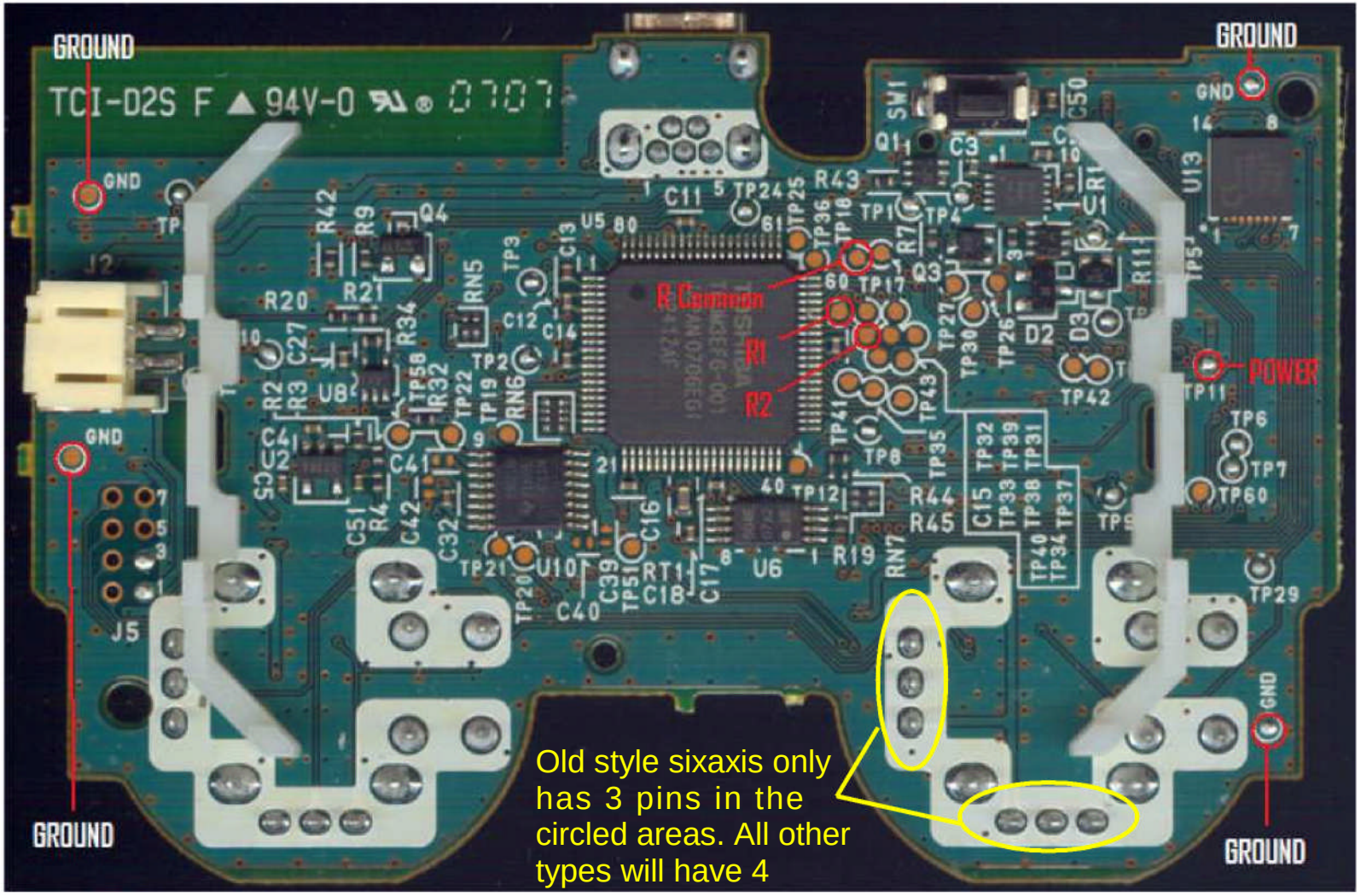
- Remove the 5 screws indicated below.
- The controller also has a clip holding it together in-between the two thumbsticks at the bottom. The left image shows approximately how the clip is located inside the controller. You can usually squeeze the back cover of the controller together at the center to pop off the back cover. But you may need to use a small knife or screwdriver to unlatch the clip.



Step 6: Identifying your controller

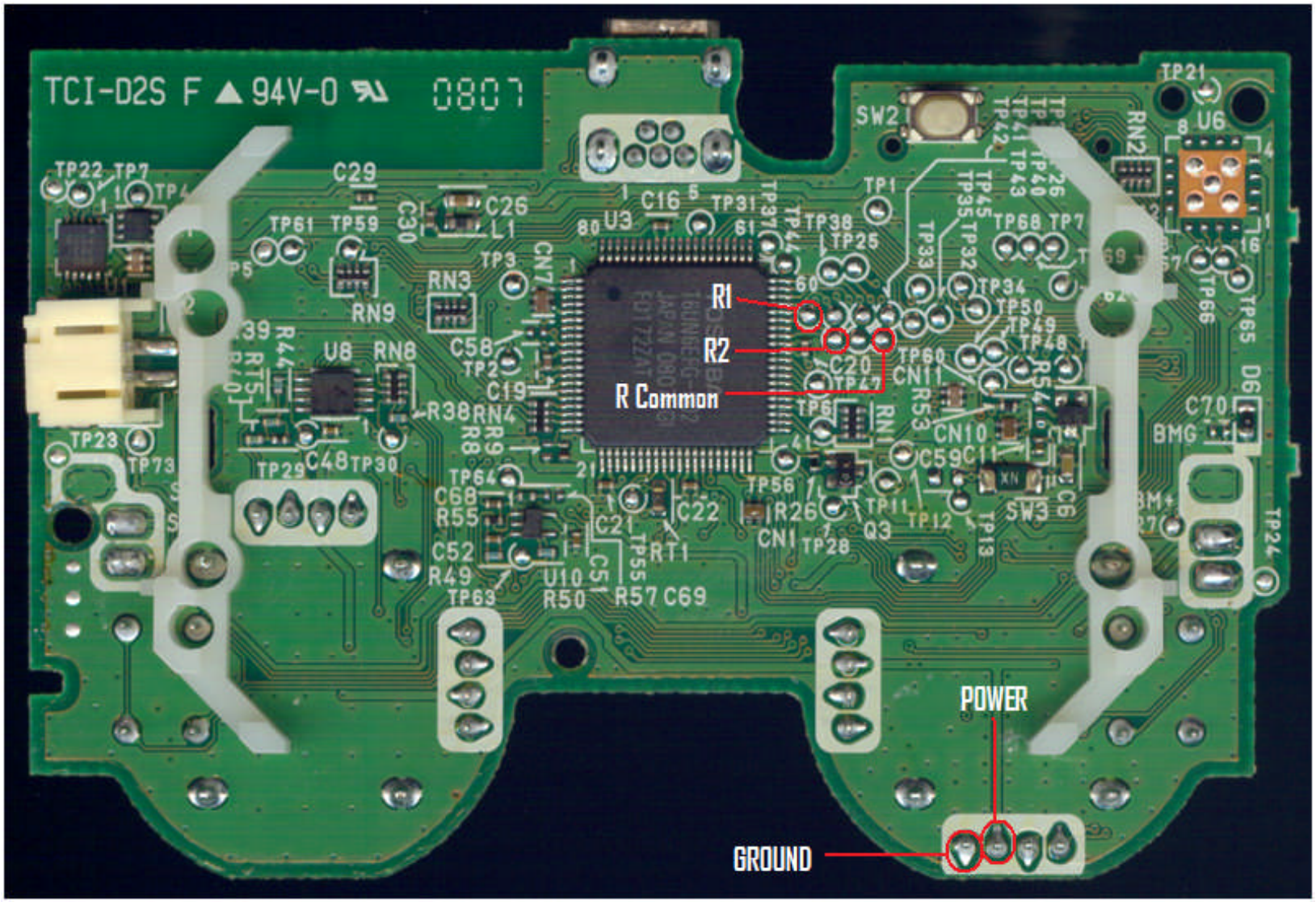
- Currently there are 2 different types of Sixaxis controllers (no Rumble) and 3 types of dualshock 3 controllers. Below you will find pictures and solder locations for each type of controller.

OLDEST SIXAXIS PCB



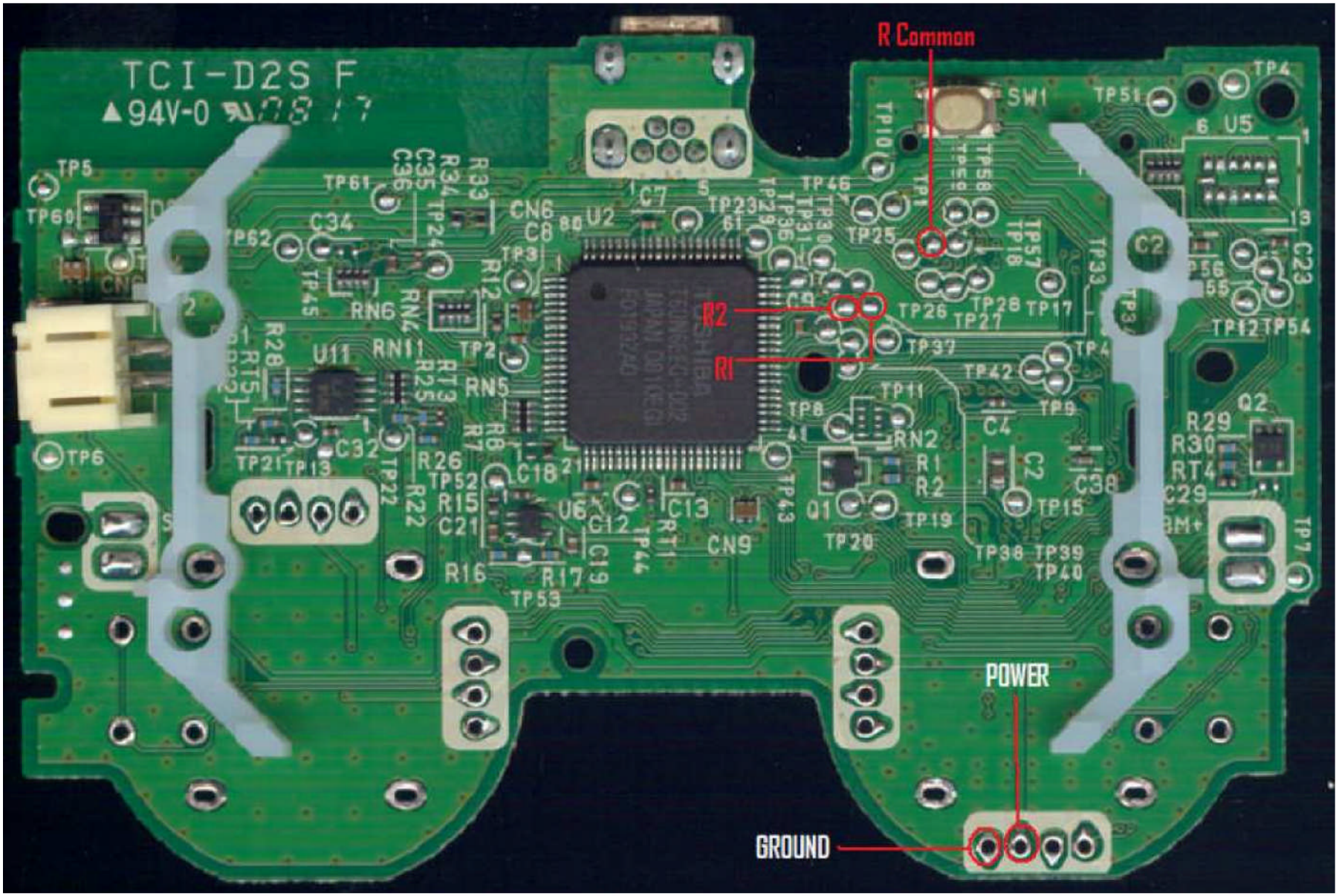
Step 6 cont.: Identifying your controller

NEWEST SIXAXIS/OLDEST DUALSHOCK 3 PCB



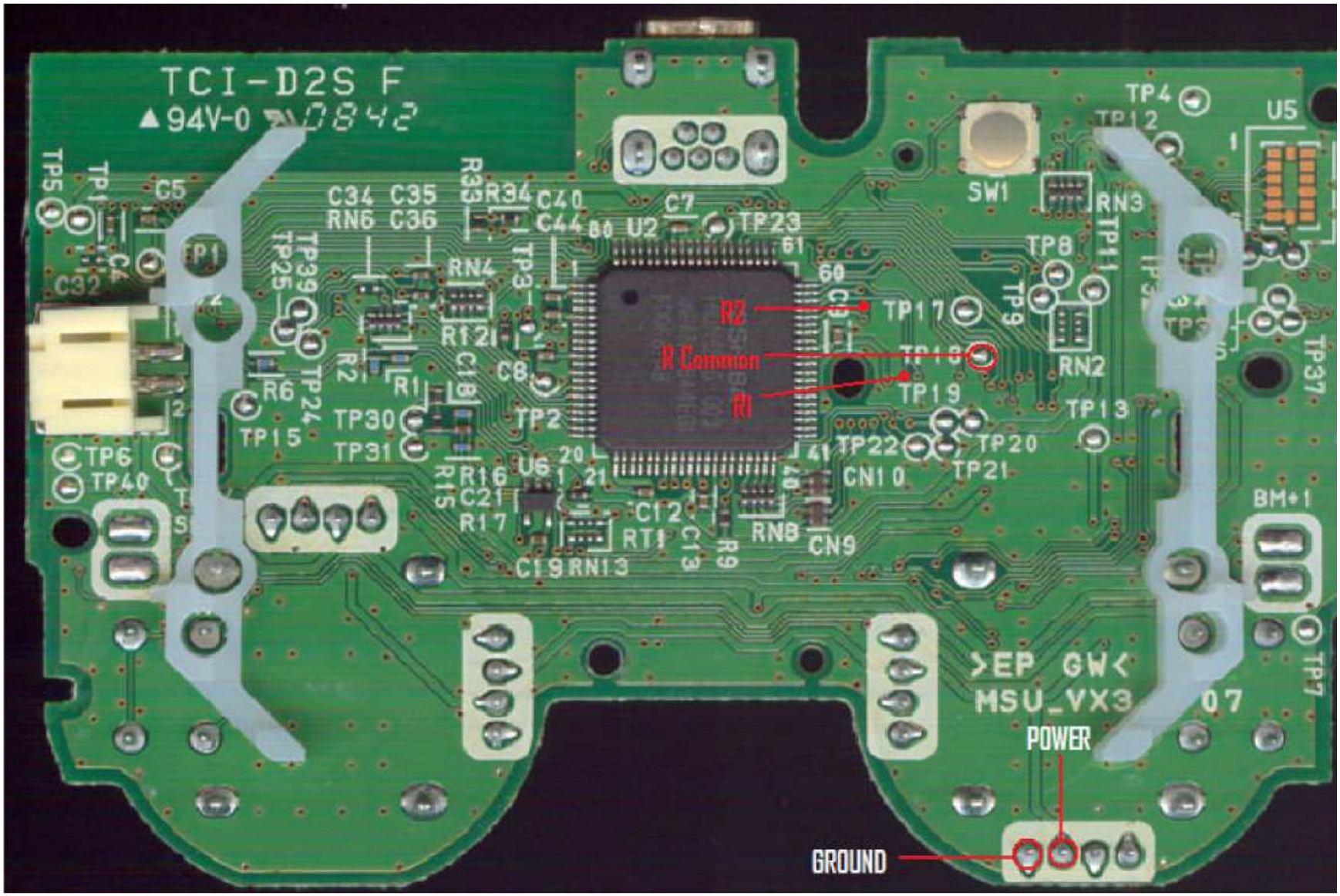
Step 6 cont.: Identifying your controller

2nd Generation Dualshock 3 PCB



Step 6 cont.: Identifying your controller

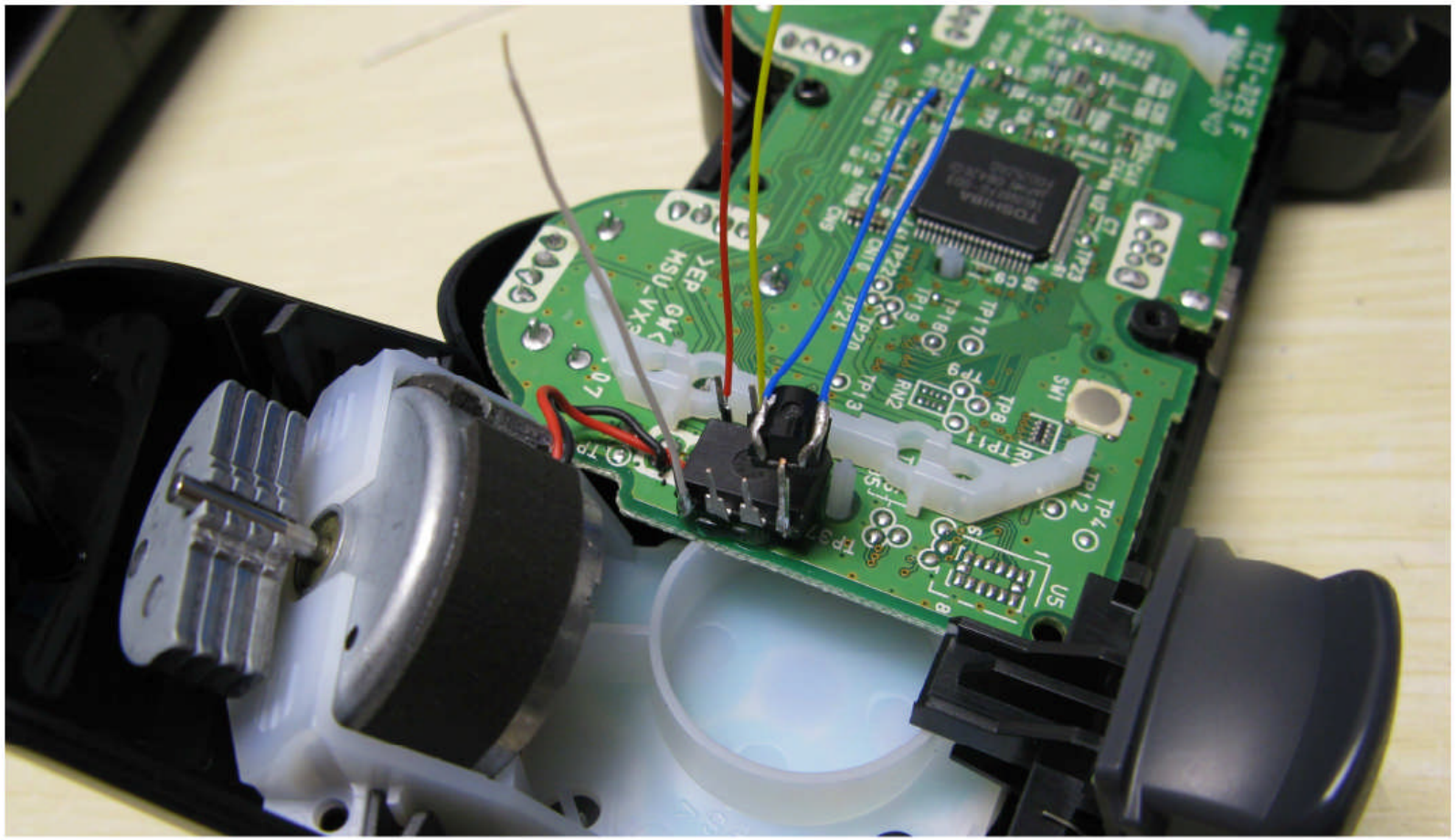
NEWEST Dualshock 3 PCB



Step 7: Mounting your Chip.

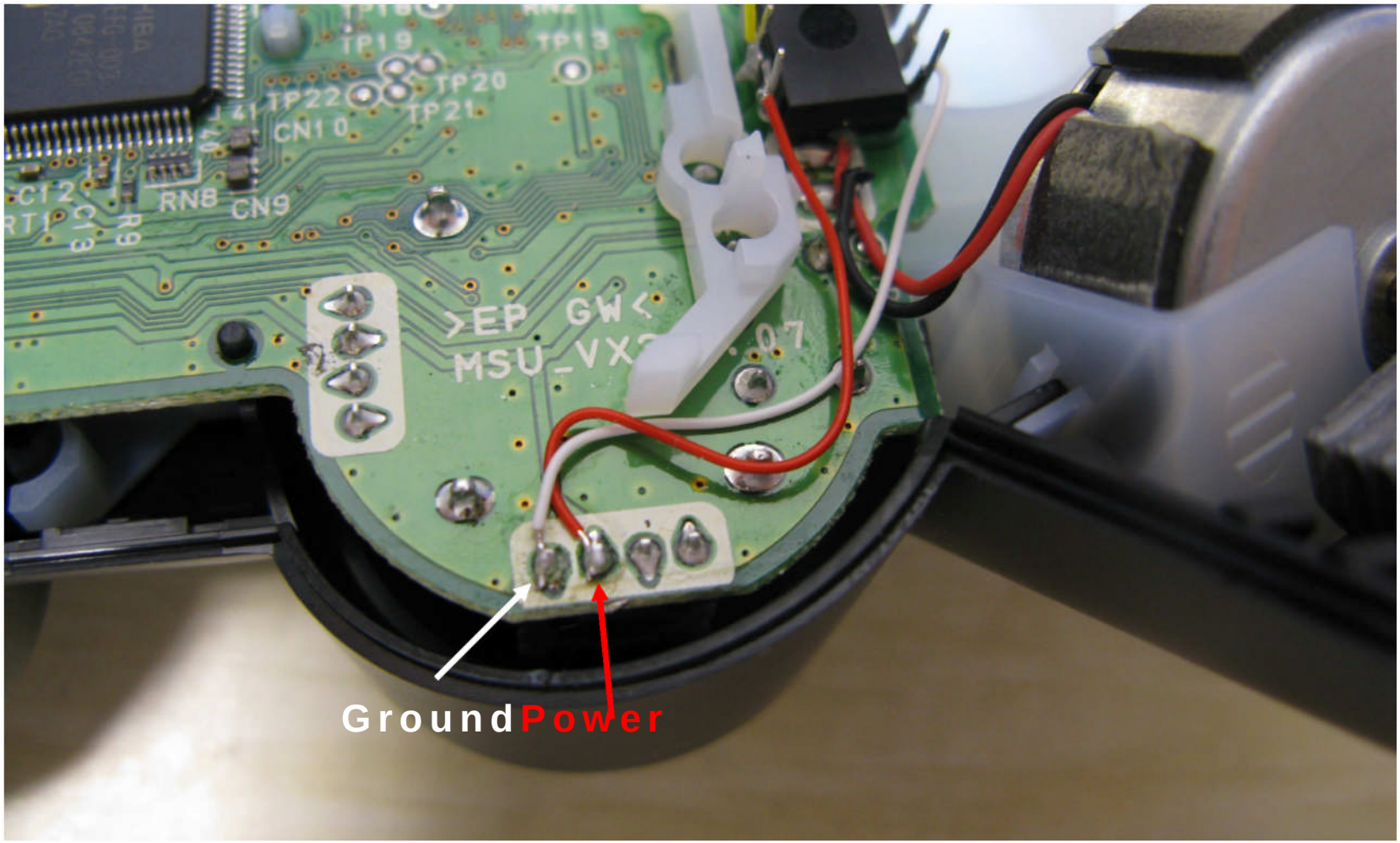
- We will proceed with the installation using the 3rd generation dualshock 3 controller as this is the hardest to work with due to the small solder points for the R1 and R2.

- Start by using some hot glue to hold the chip and transistor in place on the PCB. Notice that we have pushed it right up against the white piece of plastic that is sticking through the PCB. (not all controller versions have this piece, so just mount it anywhere in this general location. Just make sure it is not hanging over the edge of the PCB or the controller will not close correctly.



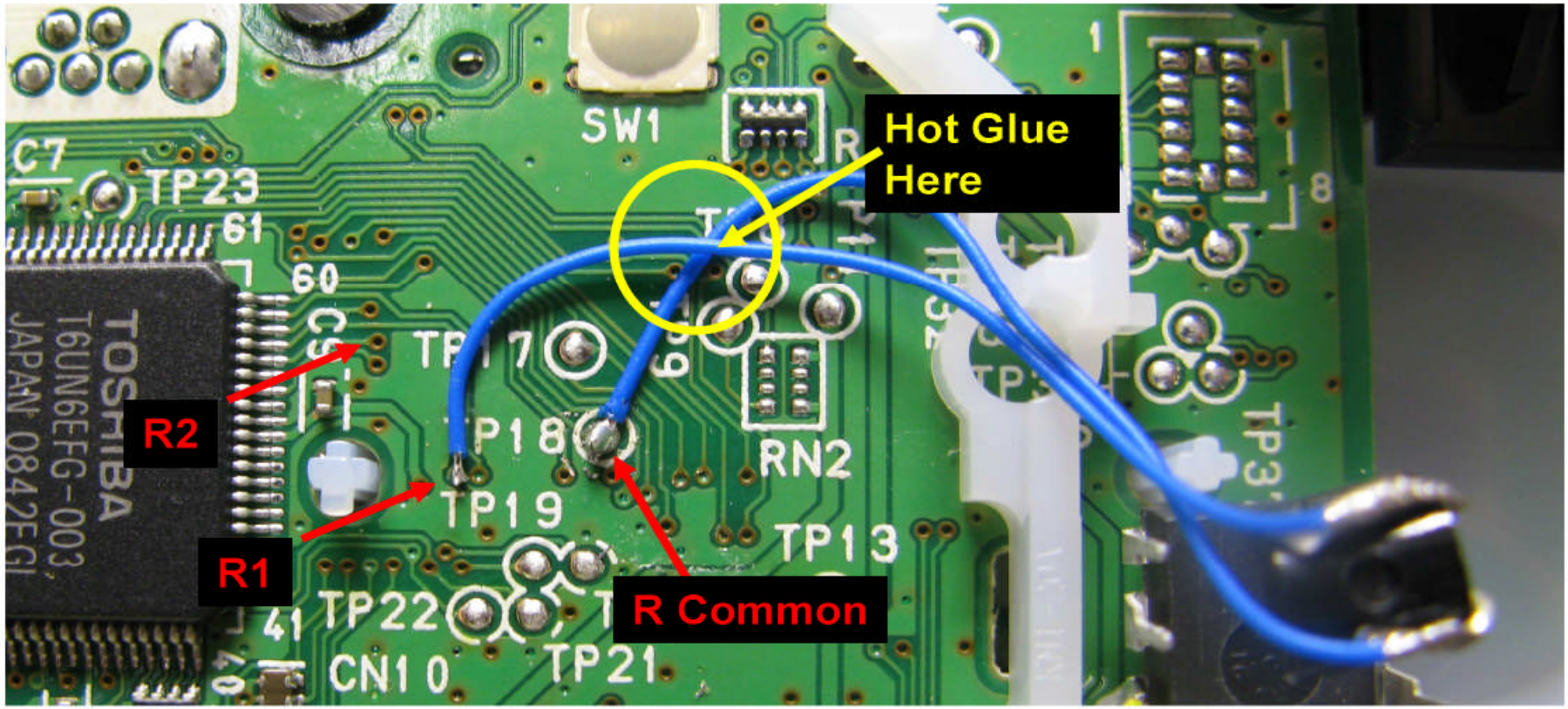
Step 8: Attaching the power and ground.

- Refer to the controller identification for the proper power and ground points for your controller type.
  - NOTE - All controllers except the old style sixaxis controller use the same power and ground as this image.
- Here you can see the power and ground wires soldered in place. The power being the red wire and ground being the white wire.



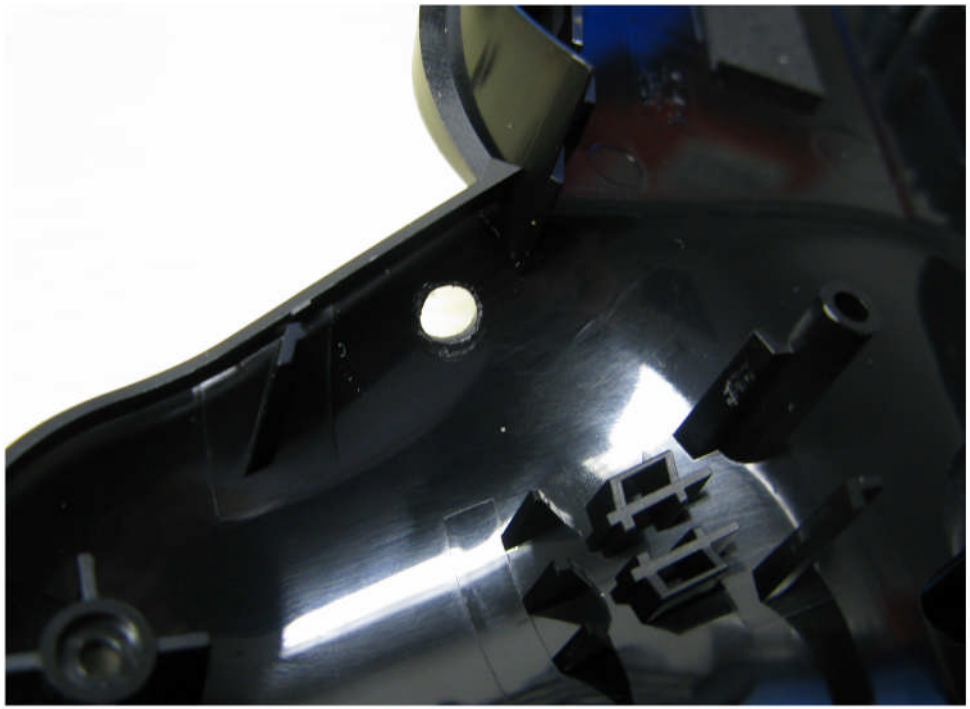
Step 9: Attaching the R1 and R common wires.

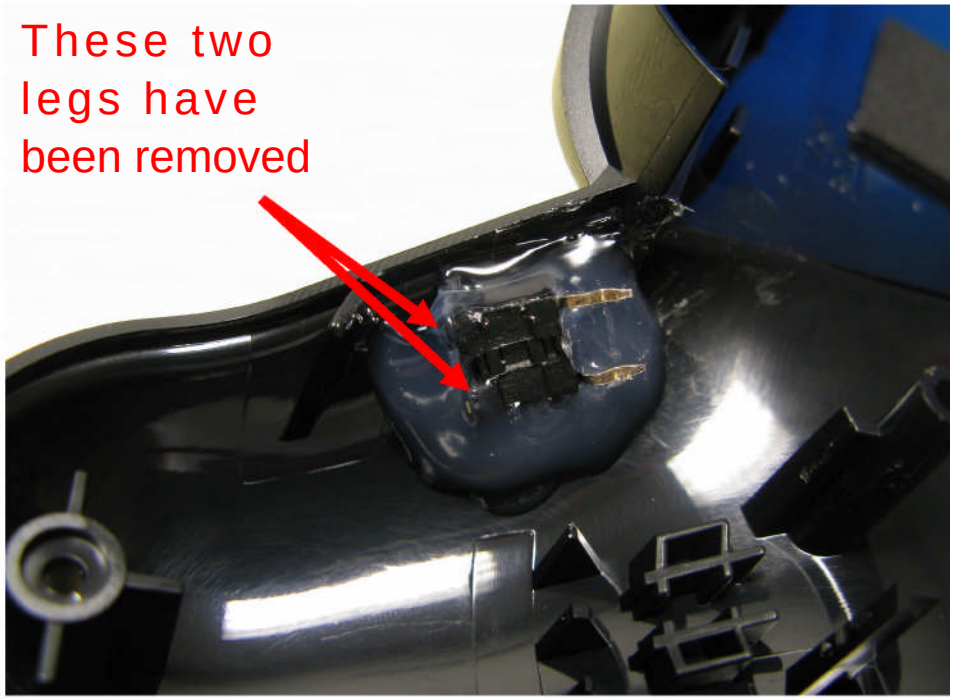
- This is the demo, but refer back up in the tutorial for the solder points for your controller PCB.
- You will solder one of the blue wires from the transistor to the R common point on the controller and the other to either the R1 or R2 solder point depending on which you want the button to perform the rapid fire for.
- As you can see the solder point for the R1 location on the 3rd gen is extremely small. It also has a coating over it that must first be scraped away with a knife to expose the bare metal. Be careful when scraping this small point to not expose metal around the point as this will open up an opportunity for a short causing the rapid fire to not work.
- Once you are done use some hot glue to hold these wires in place. Do not put hot glue directly on the solder points. If you do it will make it much harder to go back and fix a mistake, instead hot glue only the wires away from solder points such as where the two wires cross in our picture.



Step 10: Installing the button.

- Using your 9/64th Drill make a hole for installing the button into your controller. We put ours on the inside of the right side hand grip. You can put where button where ever is comfortable for you. Just be sure there is clearance for the rumble motor or whatever else may interfere with the controller closing correctly.
- You button has 4 legs on it and you really only need 2. When looking at the button you will see it has two legs on one edge of the button and the other two are directly across. You want to remove two legs that are on the same edge. You will end up with a button that has 3 sides with no legs and one side with two legs. See the right side image below for additional information.
- Finally use a generous amount of hot glue to hold the button in place.





Step 11: Final Steps.

- Connect the wire from pin 2 of the PIC to one of the legs of the button. Shown here as the yellow wire.
- Finally use a piece of wire to connect the second leg of the button to ground. In this picture this is the white wire.
- Note: this picture again shows the 3rd gen dualshock 3 controller. All of the controllers can use this same ground point except the oldest style sixaxis. For the old style sixaxis refer to the controller identification images for various ground points.