



G5 Installation Instructions

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Notes

Proper Installation of your new PowerPUC Wheel Lighting Kit accounts for 98% of trouble free operation. It requires more patience than skill. Instructions are broken into 4 parts. Some general rules to follow:

- 1) Be patient
- 2) Thoroughly plan your design and layout
- 3) Work Cleanly and comfortably
- 4) Be patient (Yes, again!)
- 5) Follow directions
- 6) If you have a problem or question STOP!! Email or call us.



PART I



Mounting of your LEDs.

The most important rule is to make sure all LEDs and wires are securely fastened to your wheels. Anywhere two-sided tape is used must be perfectly clean and prepared with the adhesive promoter provided in your kit.

Design your wheel layout and all LED placements with the wiring towards the hub. The less wire between the LED and hub, the better.

There are almost unlimited ways to mount LEDs on your wheels. The following are only two samples and general guidelines.

Sample #1 - Spoke Mount.

Attaching the LEDs to spokes is the most common installation and provides the broadest illumination.





"Spoke Mount" does not refer to just wire spokes. Any feature that runs from your hub to rim is considered a "spoke". Wire spokes will require small wire-ties or stainless steel safety wire. Other style spokes will require a relatively flat surface that is a minimum of the width of the LED strips you will be using. Our LEDs are approximately 7/16" wide.

We suggest mounting LEDs on the leading and / or trailing edges of your spokes. This allows viewing from both sides of the bike.

Sample #2 - HUB Wrap

If you don't want LEDs on your spokes, but want the effect only dynamic, rotating lighting can provide and easy installation, then Hub Wraps are right for you.

Hub-Wraps are very effective on polished, chromed or brightly colored rims where light can "bounce around" and reflect off various features of your wheel.

Hub Wraps use LEDs wrapped on each side of your wheel hub (144-288 total) that project extremely bright light outward onto your wheels.





Once your LEDs are mounted and wires running to the hub, you can move on to the next step. (See "Using your EZ-Wiring Backbone System.)

Please contact us if you are uncertain about these instructions or have any questions.

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PART II



Using the EZ-Wiring Backbone



Our new EZ-Wiring Backbone System makes installing your new PowerPUC wheel lights much quicker and easier. It also allows for endless customization and easy maintenance of your setup since any one LED strip can be removed or replaced quickly without affecting the rest of the system.

All Backbones undergo two thorough inspections and live power tests before leaving the factory, ensuring 100% functionality. There is no reason a Backbone should fail **if installed properly**, therefore there is no warrantee.

General suggestions:

- Work clean and comfortable
- Take your time
- Make sure anywhere you use double stick tape is perfectly clean
- Use primer pads for double stick
- PLAN your installation layout beforehand

Step 1: Layout

- 1) Layout your LED strips on your wheel. Be creative. Plan before you start making anything permanent. All wiring should take the shortest possible route toward the hub.
- 2) Attach Backbone to your wheel hub. If it is too long, it can be cut at any point.
- 3) Up to 2 LEDs can be inserted into each connection point.
- 4) Route LED wires to <u>about</u> where you will make your backbone connection. Use cable ties and mounts as required neatness counts.
- 5) Cut wires leaving a little slack to work with. You can always cut off more.

Step 2: Connections. Attach same color wire to same location on each connector. Black or white are always ground wires.

- 1) Strip about 1/2-1" off the outer jacket.
- 2) Strip about 1/4-3/8" from the ends of each wire.
- Twist the strands tightly. When you are placing two (2) wires into each connection point, twist the stands AND jackets together tightly. (See left side of picture)
- 4) Tin wires if you can. (If you have to ask what "tinning" is, forget it.)
- 5) There are small buttons on the connectors that will depress with a pen, opening up the channels for the wires. DO NOT USE ANYTHING SHARP OR DEPRESS TOO HARD or they can break.
- 6) Before depressing button, push the wire in gently until you feel it stop against the closed channel. THEN depress button, push inward, and you should feel it seat. Release button and give a light tug. You will be surprised how firmly they are held.
- 7) If button sticks in the down position, use pen tip to lightly push down AND back. It will return to the starting position.
- 8) Insert Power Wire from PUC Ring into a connector using the same method as above. You can combine an LED wire with the power wire in the same connector.



Step 3: Securing.

Use long wire-tie to wrap hub and secure wires. This provides a fail-safe should any of the small wire-ties / mounts fail.



Wrap Backbone and connecting wires with electrical tape, self-vulcanizing silicone tape, or any other tape that will shield it from road grime and give a water-resistant covering.

Please contact us if you are uncertain about these instructions or have any questions.

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PART III



EZ-Mount PUC Adapter Instructions.

The new EZ-Mount PUC Adapter makes installation quicker and easier while ensuring proper alignment. It's not absolutely necessary, but we recommend that PowerPUC installations be done with the wheels removed from the bike. It is easier to work without calipers, shocks, chains, etc., getting in your way. The following instructions apply whether the wheels are on or off the bike.

Understanding your Fitment Code:

The Fitment Code refers to what size EZ-Mount Adapter and PUC ring are included in your Kit and where they are designed to mount. A copy of your particular code is on your order confirmation email and packing slip included with your order.

Example: E3FLR/B7RS The first half of the code before the "/"refers to your front wheel. The second half after the "/" refers to your back wheel.

Front wheel:

A Through F refer to the adapter mount size. If your code does not have a letter, it must be mounted without adapter. (Reference "Old School Mounting" in Section IV) Numbers 1 through 8 refer to RUC ring size. FLR or FRR refer to Front Left Rotor or Front Right Rotor

Rear Wheel:

The first letter and number refer to the adapter & ring size, just as on the front wheel.

RS and RR refer to Rear Sprocket or Rear Rotor.

Good Working Practices

- Work clean and comfortable
- Take your time
- Make sure any place you use double stick is perfectly clean.
- Use primer pads for double stick.
- PLAN your installation layout beforehand

There are 3 components to each assembly

- 1) PUC Ring (silver)
- 2) EZ-Mount (clear)
- 3) Bushings (small dark circles on mounts)



Use split in EZ-Mount to slip over fork / swing arm. Rotate to "screw" it over fork / swing arm.



Each EZ-Mount can be used for multiple bikes and will have multiple mounting holes / slots. The adapter will always use 3 rotor or sprocket bolts. Notice the EZ-Mount below uses the slots at the 8 o'clock, 10 o'clock and 3 o'clock positions. Yours may be different. The easiest way to tell what bolt pattern is correct for your bike is to lay the adapter on the rotor or sprocket and see what 3 holes or slots line up. Remove only those bolts.



EXTREMELY IMPORTANT!!

In the picture below, notice the bushings in the adapter beneath the bolt head. They are also shown in the very first picture of these instructions. They can be moved to the slots / holes necessary for your installation. You MUST use these to get proper torque on your bolts without breaking the adapter.



Mount the adapter and torque bolts to factory specs.



Place pieces of double stick all around the EZ-Mount.

Place PUC ring on bike using same split / rotate / screw motion as the EZ-Mount.



Place PUC wire through slot on EZ-Mount. Rectangular insulation on back of ring should line up with slot.



Press insulation into slot until ring sits flush on EZ-Mount. Trim insulation if necessary.



Align PUC Ring with outside edge of EZ-Mount. In some cases, it will be the INSIDE of PUC ring that needs to be aligned with INSIDE edge of EZ-Mount. It will be apparent that outside diameter of ring and EZ-Mount are not the same. In this case, use the inside edge of EZ-Mount to align ring. This edge will either be circular or resemble a "cloverleaf" pattern. *The EZ-Mount will ALWAYS contain a design feature that allows you to properly align the PUC Ring*



Make sure one piece of double stick sits below split in PUC Ring. If not, add a piece.



Remove backer from **one** (1) piece of tape. Place ring on tape.



Working your way around ring, remove backer from tape and place ring. Tweezers or needle-nose pliers are helpful for removing backer. You can make minor adjustments in ring / mount alignment during this process.



Once PUC Ring is completely mounted on EZ-Mount, press firmly to make sure it is seated. It should now look like pictures below and be perfectly flat, centered and concentric.







PART IV



G5 Power Block Mounting

The G5 Power Block and mount are designed to cover a wide range of applications.

Note: Use same procedure for front and rear wheels. The only known exceptions are GSXR and Hyabusa front wheels. Installation for these exceptions are covered at the end of these instructions.

1. Loosen axle to create small space (1/16") between front fork / swing arm and wheel spacer.



2. Determine the proper configuration of the mount for your application. Below are samples of various configurations. Several more are possible depending on how you arrange the parts. Do NOT attach Power Block to mount yet. Leave assembly slightly loose for future adjustment.



3. Insert "U" section of mount over axle and into gap you created between wheel spacer and front fork or swing arm. If "U" section does not fit over axle, remove ONLY the first section of "U" mount. (Picture shows removal of second section. This applies only to GSXR and BUSA front wheel)

Tighten axle to manufacturer specifications. This will clamp the mount securely.



4. With mount loosely adjusted at farthest position from ring, attach the Power Block to mount.



Adjust mount and Power block. Contact points on Power Block must align with tracks of PUC Ring. Power Block contact points are spring loaded and should be compressed so main body of Power Block is 1/16 - 1/8" away from PUC Ring. Tighten all adjustments. Check axle and adjustment points for proper tightness after first 10 miles of riding and on a regular basis thereafter.



GSXR and BUSA front wheel mount.

Due to the unique front axle design on these bikes, the mount must be attached under the axle flange per the below photo. This may require removal of the second "U" section of the mount. All other procedures remain the same.



We invite you to share your finished creations with us and others by emailing pictures and video to info@rawdesigncycles.com

Enjoy your new PowerPUC System and as always, Ride Safe!



PART V



"OLD SCHOOL" PUC RING MOUNTING

If your Kit Code begins with a number (versus letter) you will need to mount your PUC Ring by manual alignment.

It's very important that the ring be concentric, or centered, on the wheel within about 1/16". On most bikes there is an existing feature of the wheel that will substantially help with this. It can be an existing bolt pattern, shoulder of some sort, or other natural feature on the wheel. The correct feature will vary between manufacturers and models. In the picture below, we can use the bolt pattern as our guide. It will become fairly apparent what feature you should use on your wheels once the PUC is next to the wheel.



The supplied Velcro will be used to mount the ring. In rare cases you may need to use double sided tape without velcro. (not included). It is possible that the PUC will mount over the rotor bolts in some applications. This is another reason for using the velcro – to allow easy removal of the PUC and access to these bolts. When mounted, the velcro will act as a spacer between the rotor and PUC to clear the bolts.



PART VI



Alternate method for wiring hollow cored wheels.

This method is more labor intensive and should be considered by more advanced installers. It can be a good way to hide wiring. Make sure the hub has openings you can work with. It is compatible with most Sport Bikes (stock wheels) and some cruisers.

This is the general concept and pictures are in sequence. It is shown on a wheel that has the hub cut away for clarity.

Each wire, or pair of wires comes into the hub and wraps around the axle housing once. They are then zip-tied together, wrapped again and zip-tied to the first wrap. You can do this a third time and / or take a final zip tie, wrap it around the axle hub and wires, then cinch tight. (Take note of the holes at the far end of this photo. They are referenced latter for routing the finished bundle.)





- 2) Take the loose end of the bundle of wire and feed through one of the holes in the side of the wheel where the PUC Ring is mounted.
- 3) Take the loose end of the bundle of wires, cut so they are all the same length, Strip and twist all red together, blue together, etc. Put pieces of shrink tube over the ends of the red, blue, green and black groups. **Do not shrink yet!**

4) Take the wire from the PUC Ring, cut to a minimal length that you can work with and connect to corresponding colors of the bundle. Soldering each bundle together is a nice thing to do at this point. If you can get shrink tube that comes with glue pre-applied to the inside, it is the next-best thing to soldering.

5) Route the assembled bundle back inside the opening. Wrap another Zip-tie around this bundle and axle housing. Cinch tight.

The only way this can go bad is for something to pull HARD on one of the wires, or a zip-tie broke / came loose etc.

ALWAYS CHECK, DOUBLE CHECK AND CHECK ONE MORE TIME. ALSO CHECK ON A REGULAR BASIS.

