

Basic Wiring of Auxiliary Light Systems (or) Lighting for the Electrically Challenged

Uncomfortable when working on electrical projects? Can't understand the instructions that came with your lights? We were too, at first, until we'd done a few installations. We wrote these instructions in plain English so your lighting installations will go much easier. Follow these instructions and you should have your lights up and running in less than an hour. These instructions are "generic" and will work for most lighting systems.

These instructions are provided as a courtesy to our customers. The value of these instructions is exactly what you paid for them – nothing. BestRest makes no representation that the information contained is technically accurate or that it will work for your application. It worked for us, but your mileage may vary.

Unpack the box and check that all the parts and systems are present. You should have the following: Light assemblies with bullet connectors, a handlebar pushbutton switch, a wiring harness with assorted leads, a relay box, a small package of sticky pads, a small package of electro-tap connectors.

You'll need a few tools – we recommend having these tools to make the project go easier, but it's not required: Screwdriver, wire stripper, crimping pliers, standard pliers, soldering gun, volt ohmmeter multi-tester.

It's usually easiest to remove the gas tank, that way you can route the wires against the frame and you can bundle the wires neatly out of sight. Use caution when removing the tank so that you don't spill gas or create a fire hazard.

Disconnect the negative (-) black battery terminal first, then disconnect the positive (+) red terminal. Cover the terminals with tape to prevent accidental contact with the terminals during the installation process.

At first the wiring harness may seem hopelessly complicated and you might be tempted to throw everything back in the box and send it back to the supplier, but if you read these instructions you'll soon understand the basics of wiring projects.

Layout the wiring harness on the floor and plan your attack. Examine the connections and temporarily fit them together up so you see how everything fits. Once you've done this the "light bulb" should come on and the rest of the job will be much easier.

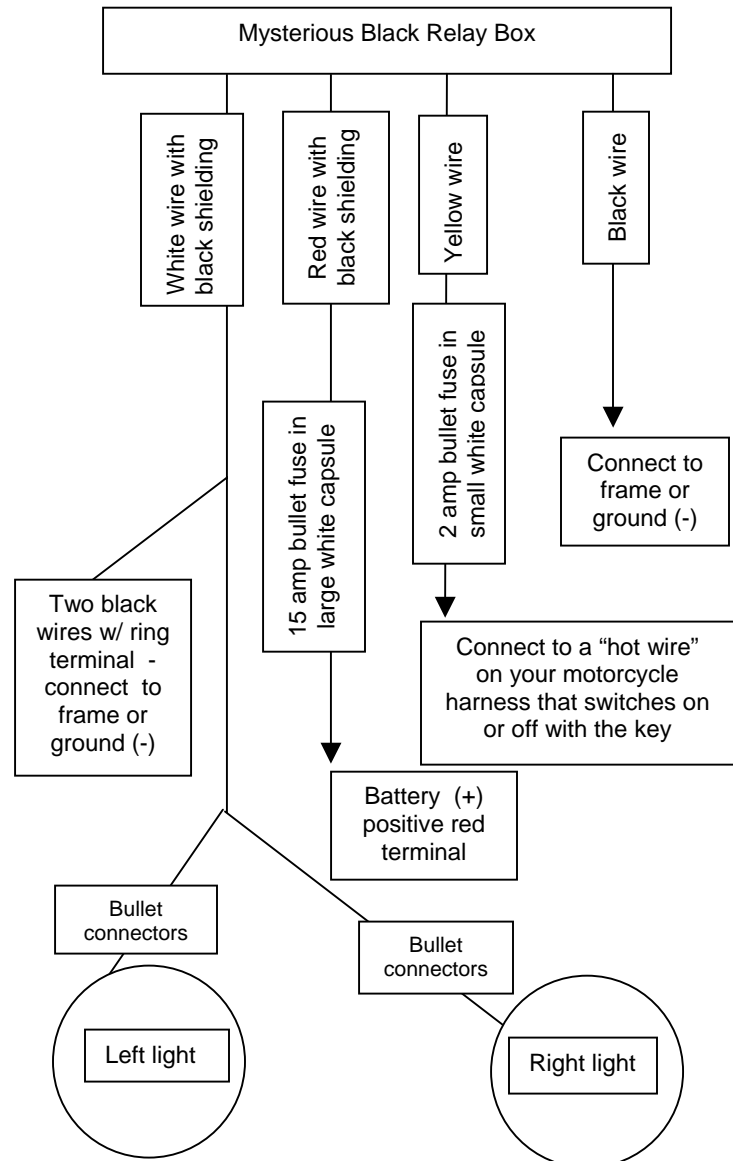
The relay is a mysterious little black box that uses a small amount of current to control a large amount of current. In other words, it's the gatekeeper that controls the large rush of current needed to run the lights. The relay has a small yellow command wire coming out of it, with a small fuse. You'll connect that wire to any "hot circuit" wire on your motorcycle.

Some people connect the yellow command wire to the wire that leads to the low beam headlight, but if you do this then your auxiliary lights won't work when you switch your lights from low beam to high beam. Instead we like tapping into the taillight wire, since it's always on. Don't tap into the brake light wire, or the auxiliary lights will only work when you apply your brakes!

Make sure you mount the relay in a position that the wires will reach the lights, and make sure the power wires will reach the battery.

Mount the relay so it's protected from road debris. Mount it so the wires coming out of the relay are pointed DOWN so any water that gets inside will drain away. The relay housing is "waterproof" under most conditions, but don't go swimming across a river to test the system.

Here's a simple wiring diagram. Note that some lighting systems may use different colors of wires than those we've listed below.



Connect all ground wires to a frame member or other well-grounded connection.

When planning placement of the fuses, remember if that when the fuse burns out you'll need to gain access – don't bury the fuses somewhere under the gas tank or in a position that's inconvenient or impossible to find at a later date.

When connecting the yellow wire, tap into a wire that's "hot" when the ignition is turned on, but goes "cold" when the ignition is turned off. The tail light wire is usually a good choice. IPF provides a red tapping connector in the parts package.

When choosing placement of the switch, protect it from direct contact with water. The switch case is water resistant, but it is not waterproof. When washing your motorcycle or when riding in rainy weather you can protect the switch with a plastic baggie or cover it with electrical tape. The switch contains electrical circuits and could be damaged if immersed in water. Should your switch get wet, carefully remove the back (4 small screws) and allow it to dry. Reassemble the unit and it should work fine.

When you begin wiring the circuits use caution to prevent electrical short circuits. Disconnect the positive (+) terminal of the battery until you have completed all circuits, then connect it and run a systems check before you replace all body panels or gas tank.

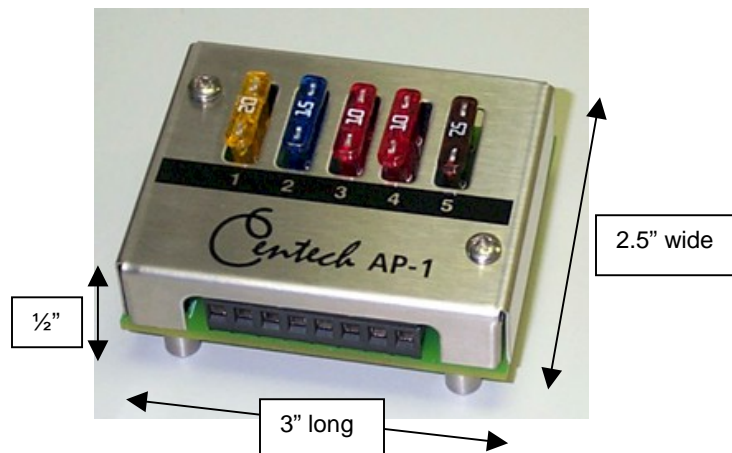
Centech Fuse Panels (Optional Items)

Because we run auxiliary lights, electric clothing, radar detector, GPS, and a host of other accessories on our motorcycle, we need a fuse panel that can handle all the circuits, and still work independently from the factory wiring system.

The Centec AP1 fuse panel is perfect for this application, because it's capable of 8 different circuits and 5 independent fuse ratings. It measures only 1/2 x 2 1/2 x 3" so it fits practically anywhere. It's available from BestRest for about \$50.00

The Centech AP2 fuse panel is a recent addition to the Centech line. It has TWO separate circuits within the box. One circuit is always HOT, the other circuit is switched on or off when you turn the ignition on or off. The AP2 is available from BestRest for about \$50.00

The AP2 will also require a switching relay. The AP-130R relay is available for about \$30.00.



Safety & Other Notices

Adjust your auxiliary lights so that you don't blind oncoming traffic. Auxiliary lights are usually sold for "off-road use only". Obey all local laws as may apply. Use caution when mounting auxiliary lighting system. Off-road travel or washboard surfaces place high stress loadings on mounting systems. Off road travel can lead to premature metal fatigue and/or structural failure.

If a structural failure occurs your lighting system could fall downward and interfere with the wheel, resulting in handling or control problems. It's very important to check the mounting brackets on a daily basis for signs damage, metal fatigue, and/or loose or missing hardware. If these are discovered you should immediately remove the lighting system from service until repairs can be made.

Do not proceed with product installation unless you are qualified to complete the installation in a safe fashion and as described herein. Do not use these products unless you have read all instructions and understand how these products work and what limitations, if any, they may have.

BestRest shall not be responsible for any personal injury or damage caused by installation of an electrical component or auxiliary lighting system. In other words, don't blame us if these techniques didn't work for you!

It is the responsibility of the Consumer to evaluate the suitability of these products for personal use. Consumers must evaluate whether the products meet their needs and whether these products can be mounted and used in a safe fashion. The Consumer accepts full and complete responsibility for selection of products and for mounting and maintenance of these products. The Consumer agrees to follow and abide by all instructions, warnings, recommendations, or other information supplied or published by BestRest Products or other lighting manufacturer.

It is the Consumer's responsibility to inspect all screws, fasteners and fittings on a daily basis, tighten or replace them as necessary, and to regularly inspect the entire lighting system and mounting hardware for signs of missing parts, excessive wear, metal fatigue, or imminent failure. Should any of these be observed the assembly should be removed from the motorcycle and not used until inspected and repaired by a qualified motorcycle technician.

BestRest Products, it's employees, agents, and owners assume no liability whatsoever for property damage, personal injury or other losses resulting from the Reader's failure to properly maintain the products, for unauthorized modifications of any kind, for use of unauthorized parts (including bushings, screws, pins, or other fasteners), or for use of any IPF or BestRest Product in a fashion not intended by BestRest or described as a suggested application in BestRest literature.

Because installation of these products is done by others outside our control, we cannot assume any liability or responsibility whatsoever for improper or unsafe installation, or installation which is contrary to published instructions, for products that are improperly secured or maintained, or that are improperly tightened or otherwise secured, or which are otherwise improperly fitted to the motorcycle.

Only authorized, and approved replacement parts, assemblies, nuts, washers, screws, fasteners or fittings may be used when mounting, installing, or repairing any product. Authorized replacement parts may be purchased only from BestRest Products. Parts from other sources or vendors are not covered under warrantee and will void any Consumer claims against BestRest or others. Any use, modifications, or applications of any BestRest Product, other than those authorized by us in writing, are specifically prohibited.

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