



clearwater
LIGHTS™



Installation Manual

Yamaha FJR

Darla LED Light Kit

Dimmable

Patent Pending



Made in USA

Parts List and Bike Preparation

Please be sure to read our instructions thoroughly before attempting installation.

- Check Parts list supplied with your kit to be sure all parts are handy.
- First, park the motorcycle on hard pavement or concrete to insure the bike will be stable during the installation. If you can mount the bike on a stand with tie-down straps, this will help secure the motorcycle.
- Follow the manufacturers guidelines for disconnecting the battery. This is important to prevent damage to the electrical system.

Note:

We suggest keeping your lights on all the time, we do not furnish an “on-off” switch. It is important to be sure that the wire you use will turn off when the bike is turned off. Otherwise, you will end up with a dead battery. Nobody likes that.

Clearwater Lights include a simple and high quality means of connecting to the motorcycle's electrical system. “Posi” devices made by Posi-Products are used to securely and safely make electrical connections on the bike. You can view instructions on the proper installation of the Posi-Products on the manuals page of our website or on Posi-Product's web site at <http://www.posi-lock.com>. They simply screw together and mate the wires. Reminder: Wires must be twisted together first.

Parts List and Bike Preparation

Model Kit Non-ES (2002-2015):

2 Light Assembly



B709 - POT HARDWARE BAG

1 Pot Assembly



- 1 M5 x 0.8 x 30mm
- 1 M6 X 10 BH
- 1 M5 Flat Washer
- 1 #7 Spacer (3/16 X 5/16")
- 1 L-Bracket
- 1 Plastic Plug

B816 - CONNECTION BAG

- 1 Ring Terminal
- 2 Large Posi Tap
- 12 6" Zip Ties
- 1 Zip Tie Pad

B761 - HARNESS BAG



2' Daria Extension



Last Updated: 1/25/21

B13 - HARDWARE BAG

- 2 602 Brackets
- 4 M6 X 14 HH
- 6 M6 Flat Washers
- 2 M6 X 25 SHCS

B705 - ISOLATION RELAY BAG

- 1 Relay
- 1 Posi Tap
- 1 Posi Lock
- 1 Instructions

B705 - ISOLATION RELAY BAG

- 1 Relay
- 1 Posi Tap
- 1 Posi Lock
- 1 Instructions

LED Headlight Model Kit Non-ES (2016+):

2 Light Assembly



B709 - POT HARDWARE BAG

1 Pot Assembly



- 1 M5 x 0.8 x 30mm
- 1 M6 X 10 BH
- 1 M5 Flat Washer
- 1 #7 Spacer (3/16 X 5/16")
- 1 L-Bracket
- 1 Plastic Plug

B816 - CONNECTION BAG

- 1 Ring Terminal
- 2 Large Posi Tap
- 12 6" Zip Ties
- 1 Zip Tie Pad

B761 - HARNESS BAG



2' Daria Extension



Last Updated: 1/25/21

B13 - HARDWARE BAG

- 2 602 Brackets
- 4 M6 X 14 HH
- 6 M6 Flat Washers
- 2 M6 X 25 SHCS

B705 - ISOLATION RELAY BAG

- 1 High Beam Relay
- 1 Posi lock
- 1 Posi-Tap

B730 - FJR CONNECTOR BAG NON-ES

- 1 FJR Jumper Plug
- 2 Posi lock

Parts List and Bike Preparation

ES Model Kit (2014-2015):

2 Light Assembly



B709 - POT HARDWARE BAG

1 Pot Assembly



- 1 M5 x 0.8 x 30mm
- 1 M6 X 10 BH
- 1 M5 Flat Washer
- 1 #7 Spacer (3/16 X 5/16")
- 1 L-Bracket
- 1 Plastic Plug

B816 - CONNECTION BAG

- 1 Ring Terminal
- 2 Large Posi Tap
- 12 6" Zip Ties
- 1 Zip Tie Pad

B761 - HARNESS BAG



2 2' Darla Extension



Last Updated: 1/25/21

B42 - HARDWARE BAG

- 2 855Y Yamaha Logo Bracket
- 4 #2 Spacer
- 4 M6 X 14 HH
- 8 M6 Flat Washers
- 4 M6 X 35 SHCS

B705 - HIGH BEAM RELAY BAG

- 1 High Beam Relay
- 1 Posi lock
- 1 Posi-Tap

B705 - HORN RELAY BAG

- 1 Relay
- 1 Posi lock
- 1 Posi-Tap

ES Model LED Headlight (2016+):

2 Light Assembly



B709 - POT HARDWARE BAG

1 Pot Assembly

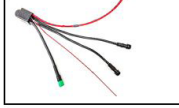


- 1 M5 x 0.8 x 30mm
- 1 M6 X 10 BH
- 1 M5 Flat Washer
- 1 #7 Spacer (3/16 X 5/16")
- 1 L-Bracket
- 1 Plastic Plug

B816 - CONNECTION BAG

- 1 Ring Terminal
- 2 Large Posi Tap
- 12 6" Zip Ties
- 1 Zip Tie Pad

B761 - HARNESS BAG



2 2' Darla Extension



Last Updated: 1/25/21

B42 - HARDWARE BAG

- 2 855Y Yamaha Logo Bracket
- 4 #2 Spacer
- 4 M6 X 14 HH
- 8 M6 Flat Washers
- 4 M6 X 35 SHCS

B729 - FJR CONNECTOR BAG ES

- 1 FJR Jumper Plug
- 2 Posi lock

B705 - GROUND SWITCHED HORN RELAY

- 1 RELAY
- 1 Posi lock
- 1 Posi-Tap

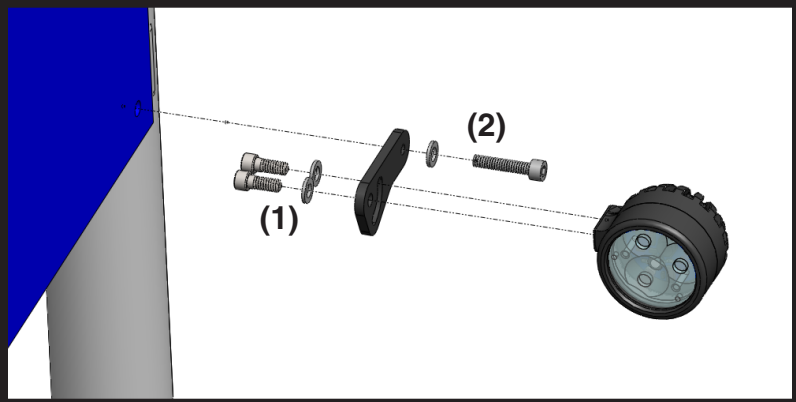
Step 1: Mounting The Lights (2002-Present, Non-ES)

Fender Mount Overview:

- Remove the fender bolt, and assemble the light bracket on one side of the bike at a time. Handle the fender with care. Use a wire tie or piece of wire to hold the fender up until you are ready to install the new bolts. Inspect the female threads on the brackets for dirt or foreign substances. If possible, use compressed air (wear protective glasses) or small bottle brush to clean the threads.
- Use the figures below as reference.

(1) Attach the light to the bracket with (2) M6 x 14mm HH bolts. Make sure the bolts are tight.

(2) Attach the bracket to the fender with a single M6 x 25mm SH bolt. The bracket can be pivoted on this bolt, thus allowing the angle of the light to be adjusted.



Step 1: Mounting The Lights (2014+, ES Model)

For ES model (2014+):

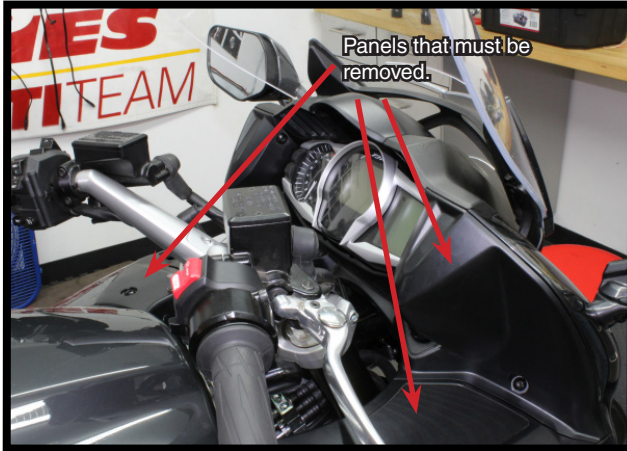
A special 2 bolt-hole bracket is used for the ES model (2014+). Use the same bracket installation process as seen on the previous page.



Step 2: Disassembly

Note:

To install the wiring harness, the panels shown below will have to be removed, the process here is shown for 2016+ models. A similar process can be used for older models, be sure to consult the owner's manual.

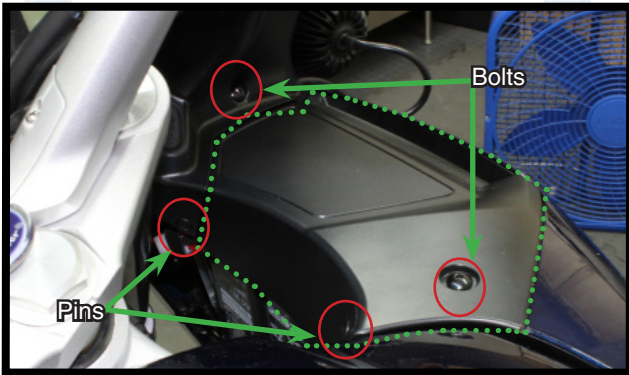


Remove the screw holding down the knob on the right and left side of the bike using a JIS screwdriver (similar to a Phillips, but with a slightly different head pattern). The above photo shows the knob on the right side.

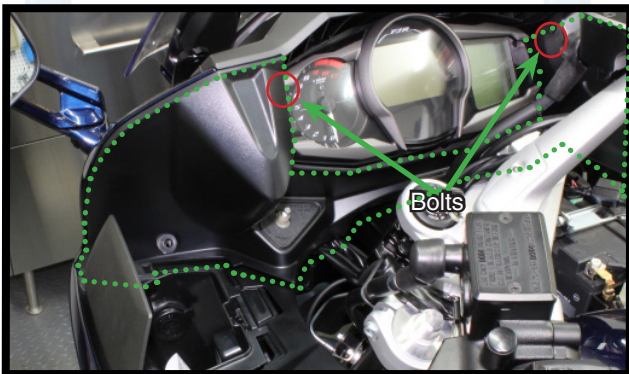
Step 2: Disassembly



To remove the panel covering the battery, the side panel shown here must be removed. Unscrew the hand bolt shown and gently remove the panel. This process might be slightly different on older models.



To remove the panel outlined above, the (2) circled pins, and (2) circled bolts will have to be removed. Use a hex key for the bolts. Remove the same panel on the left side of the bike.



Remove the two upper dash bolts shown here with a hex key. The dash panel can then be carefully pulled out.

Step 3: Mounting The Volume Control Knob

Mounting The Volume Control Knob: (Handlebar Mount)

Mount the volume control knob next to the clutch assembly on the handlebars. Use the dimmer box L bracket and associated hardware that came in your kit to mount the dimmer as shown below.



Step 4: Wiring (Pre-2016)

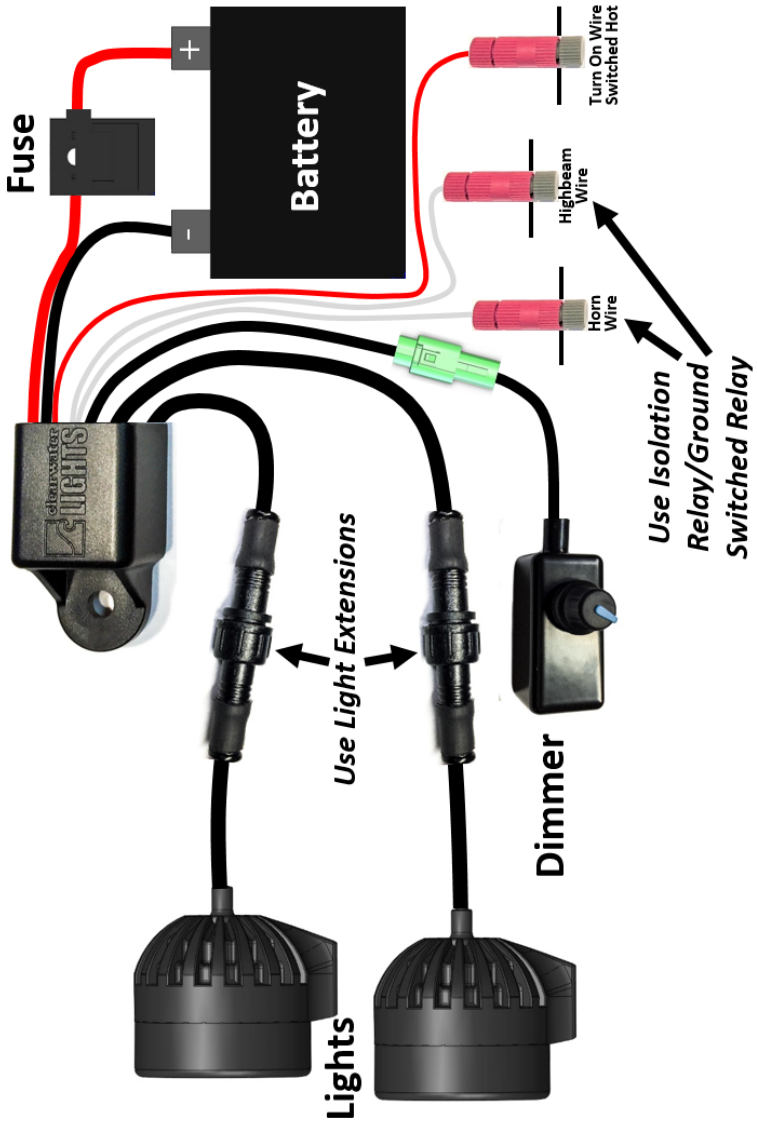
Electrical:

- When routing the wires, be sure to make note of any interference with steering or suspension components. Check suspension travel by pressing down on the handlebars while holding the front brake on. Route the cable in a manner that will not allow it to be pinched or cut by any movement. Use the supplied zip-ties to fasten the wires. Connect the Darla wiring harness to the battery, attaching the fuse holder to the positive terminal, and the black wire to the negative terminal. The harness wire can be shortened as needed. Reference the wiring diagram for an overview.

- The cavity exposed from the removed panels is a great location to mount the wiring harness, and wire connections. Secure the relay portion of the harness to a solid frame point. Bring both light wires and the volume control wire behind the headlight in an area near the Darla relay, then tie together the (4) red wires by using a supplied "Posi-Twist" connector (*see wiring diagram*). Then continue by tying together the (4) black wires, and then the (3) green wires. The black wires will also be tied with the blue wire from the High Beam-Isolation relay.

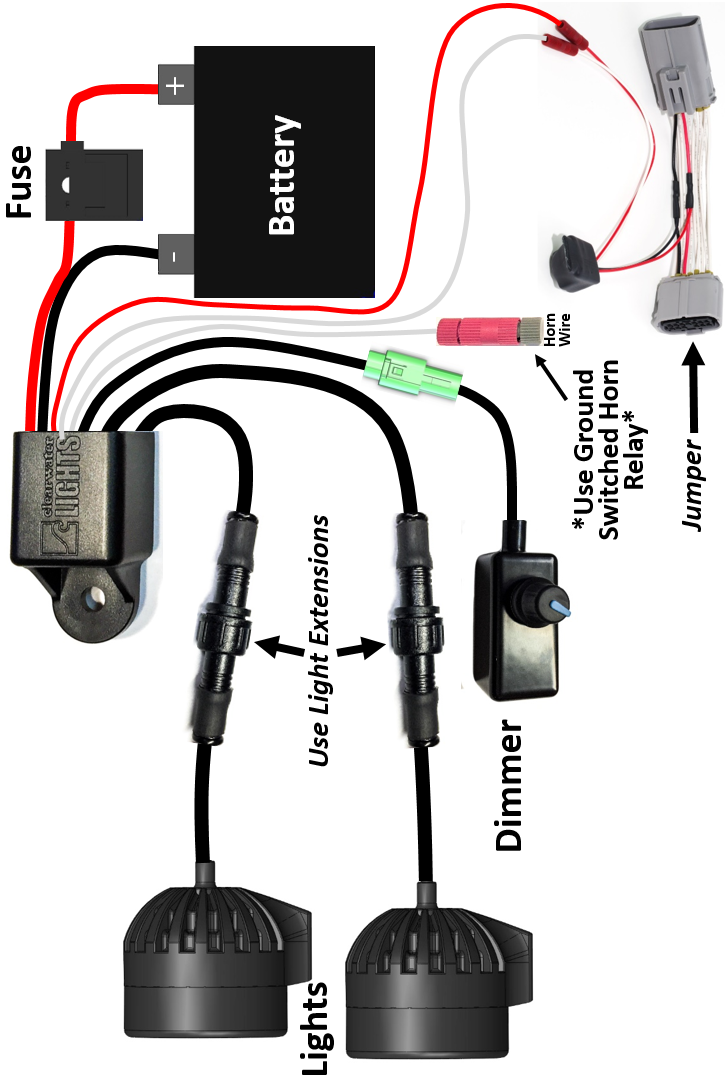
Step 4: Wiring (For Pre-2016 Models)

Single Channel Harness Wiring Diagram



Step 4: Wiring (For 2016+ Models)

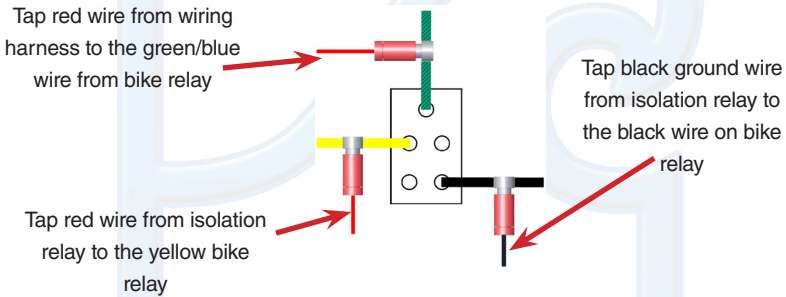
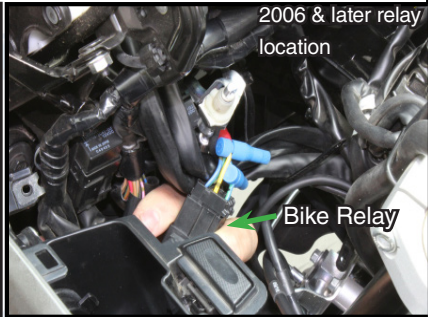
Single Channel Harness Wiring Diagram (w/ Headlight Jumper)



Step 4: Wiring (Pre-2016 Non-LED headlight)



The isolation relay is needed for the high beam and horn features on pre-2016 models. Refer to the isolation relay half sheet of paper.



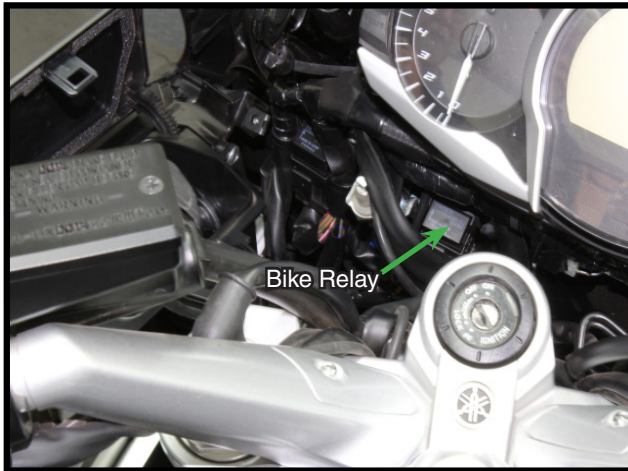
TAPPING INTO BIKE RELAYS

- There are two bike relays located behind the speedometer cluster. One relay has 5 wires, another relay has 4 wires. You want the relay with 5 wires. On 2006 and newer bikes, the 5 wire relay is on the left side. For 2005 & earlier bikes, the relay is on the right side.
- **Turn on Wire** - Use a Posi-tap to connect the red wire from the wiring harness to the green with a blue stripe wire (most models) or green with a yellow stripe wire (a few other models) on the bike relay.
- **High Beam Wire** - Use a Posi-tap to connect the red wire from the isolation relay to the yellow wire on the bike relay.
- **Ground Wire** - Use a Posi-tap to connect the black wire from the isolation relay to the black wire on the bike relay.

Step 4: Wiring (Pre-2016 Non-LED headlight)

Tapping location for 2014-2015 ES model:

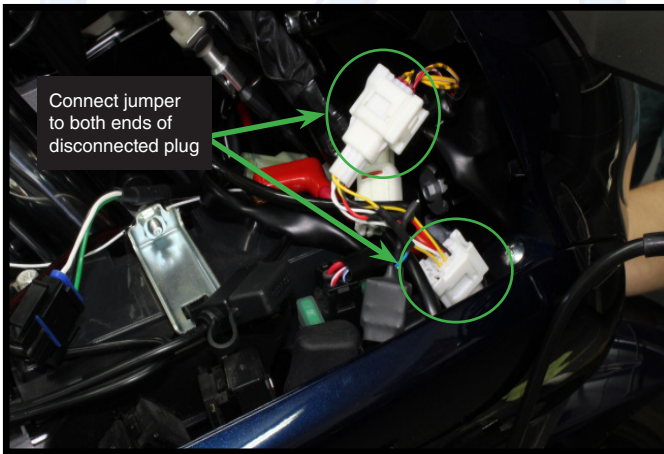
The photo below shows the location of the bike relay we will be using. The yellow high beam wire, and blue/green power wire are tapped on this relay. See wiring diagram on pg. 11.



Step 4: Wiring (2016+ Non-ES Models: LED Headlight)

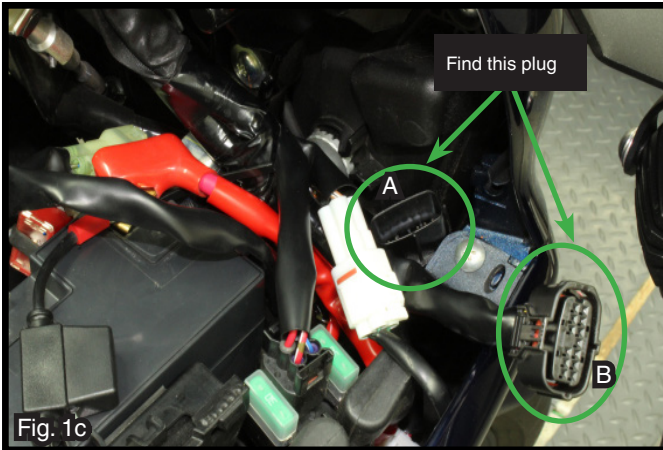


Disconnect the 6 pin plug seen in the photo above which is located near the battery. The FJR jumper will connect to both ends of this plug.

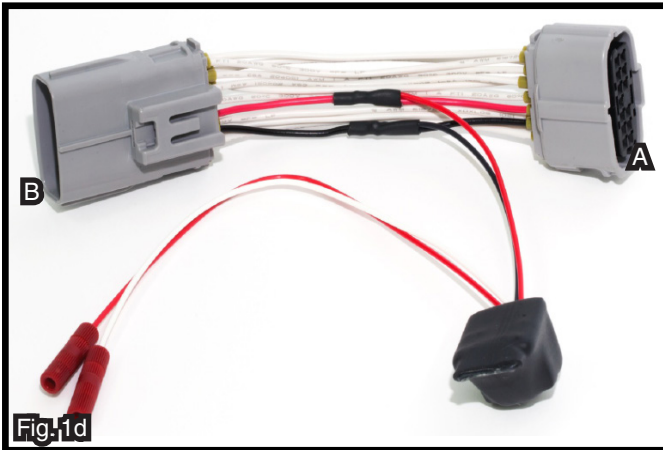


Plug both ends of jumper connector into the male and female ends of the disconnected plug (Fig. 1b). See wiring diagram on page 12.

Step 4: Wiring (2016+ ES Models: LED Headlight)



Locate and disconnect the 13 pin connector shown above in (Fig. 1c). It will be buried under other wires in front of the battery. Following wires from the headlight assembly can be helpful in locating this connector.



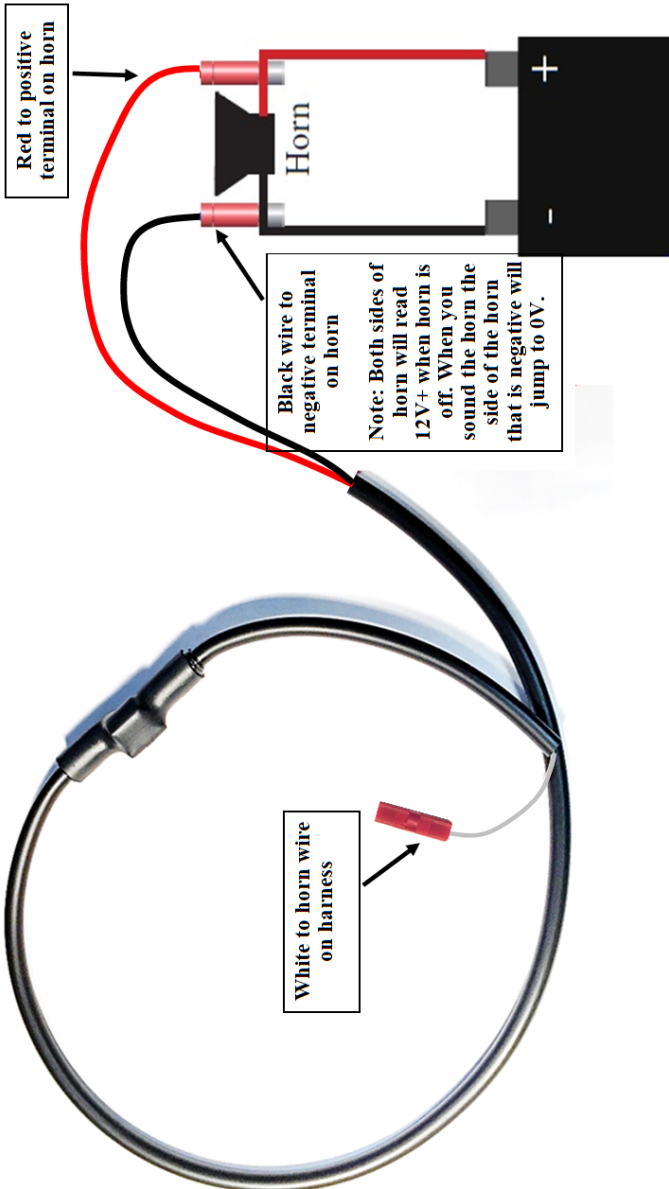
Making reference to the wiring diagram on page 13, and (Fig. 1d) above, connect point A in (Fig. 1d) on the jumper plug to point A in (Fig. 1c). Connect point B in (Fig. 1d) to point B in (Fig. 1c).

Step 4: Wiring

Horn (Optional) for Ground Switching Bikes

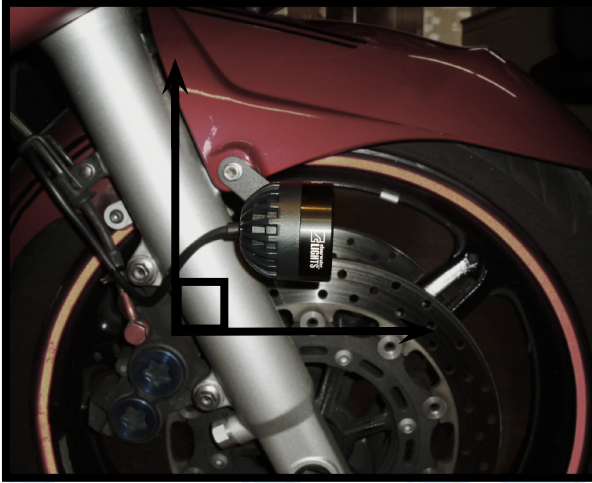
If the horn option is to be used for the bike, the white wire coming out of the dimmer knob will be used to connect to the horn via a diode pack. Because the horn is ground switched, an additional horn relay will have to be used. See the information below.

Ground Switched Horn Relay



Step 5: Alignment

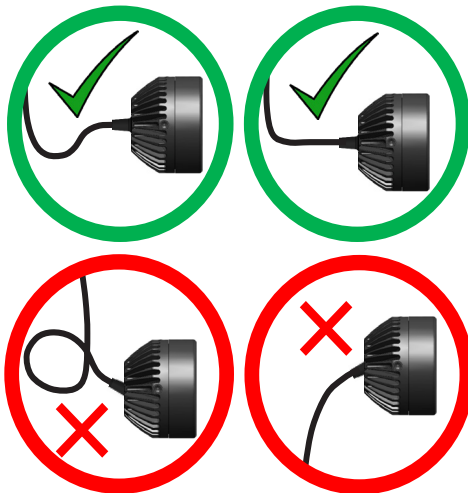
Ask an assistant to help you with this procedure. Make sure the bike is on level ground and have an assistant sit on the bike. With a right angle board or object, position the board on the floor and slide it up to the light. The goal is to adjust the lights so that the light is level with the ground. Passengers and luggage may alter the alignment of the light, so further adjustments may be needed. You may find that a slight downward angle (5 degrees) is helpful.



Do Not Kink The Grommet

To maintain the integrity of the water sealling grommet, do not kink, deform or put pressure on the grommet when dressing the wires during install of Clearwater Lights.

Do Not Kink The Grommet



Notes:



Thank you for purchasing our Clearwater Lights. We hope this product will help make you a safer rider. Please feel free to send us comments or suggestions at any time. We learn from you. Visit our website for more exciting products.

Ride safe!

Sincerely,

Glenn and the team at Clearwater



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| www.clearwaterlights.com |

1/25/21