Caliper Mount

You should allow about two to three hours for installation. We suggest you use a well-lighted space for installation. **PLEASE READ ALL THE INSTRUCTIONS**. Some mechanical knowledge is necessary. If you have any problems send us an email.

Tools you'll need. A torque wrench, sockets to fit caliper bolts, tools to disconnect your battery terminals and ground strap at your motorcycle, a pair of pliers, side cutter, and a bubble or digital level for aiming.

Cautions:

1. Motolight® caliper mounts are designed to be mounted on the brake caliper mounting boss. **Before removing the caliper bolt be certain you have the manufactures recommended torque settings for your make, model and year.**

2. When considering mounting locations **use extreme caution** not to create any interference with steering, suspension, or braking. Be sure to also check with suspension at full compression and steering at full lock.

3. Disconnect your battery. Never work on the electrical system of a motorcycle while the battery is connected. If you're not sure how, check your owner's manual, or consider having your dealer install the lights

4. Motolights®, like any light, get hot when operating. Do not touch any part of the housing when the Motolights® are in operation and for at least 15 minutes after they have been turned off.

5. If you are transferring your Motolights® to another bike or have obtained the lights secondhand, it is VERY IMPORTANT that you contact us at 800-567-8346 or 513-474-7530 for new caliper bolts of proper grade and size. Do not attempt to use bolts from a local hardware store. Most hardware store fasteners with no markings are probably grade 3 or 5 and are not acceptable.

Parts List

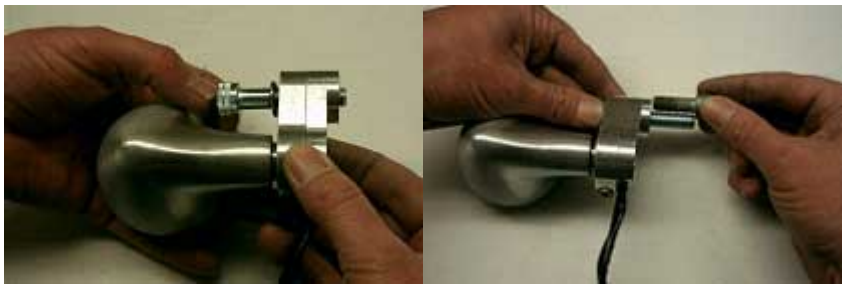
Step 1 Unpack the Motolight® system. Take this chance to familiarize yourself with everything. Below is the list of what is included.

1. (2) Housings, aluminum, assembled with lens, lamp and 33" leads
2. (2) Mounting blocks, aluminum, left (marked) and right
3. (2) Spacer blocks, aluminum, left (marked) and right
4. (2) #8 x 1/2" stainless steel flat head screws
5. (2) 1/4" x 20 x 5/8" stainless steel socket head cap screws
6. (1) Motolight® black wiring harness with relay and 20 amp fuse
7. (1) Motolight® switch housing with rocket switch and 40" wire lead
8. (3) 1" x 1" Dual lock adhesive backed pads
9. (15) Black cable ties
10. (1) Short arm 3/16" hex wrench
11. (1) 1/8" short arm hex wrench
12. (1) Scotchlok™ quick tap wire connector
13. (2) Motolight® decals (1 helmet size, 1 regular)
14. (1) Rubbing alcohol cleaning pad
15. (1) Aiming tube

Mounting

Step 2 Assemble of bracket to light housing. ***Remove 8-32 flat head screw*** from spacer block. Pass the bulb lead through mounting block hole and fully engage light housing; insert and lightly snug the 1/4" x 20 x 5/8" socket head pinch screw (Final aiming and tightening in Step 9). Next, re-attach spacer block with flat head screw. The bulb lead should exit downward and to the rear of the bracket.

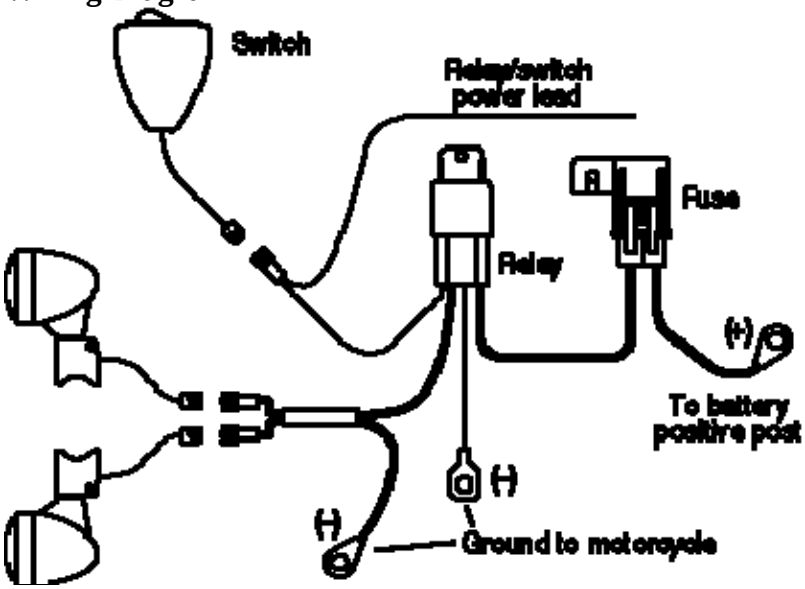
2.1 Confirm replacement bolt length. Remove the appropriate caliper bolt. With the replacement bolt inserted in the assembled Motolight Caliper bracket, compare the bolt length extending from the back side of the bracket (and spacer if required) to the stock bolt length. They should be the same lengths. If the replacement bolt is shorter than stock it will result in reduced holding force and if it is longer it could interfere with the brake disk or wheel travel. **In either case they should not be used.** Do not attempt to use bolts from a local hardware store. Most hardware store fasteners with no markings are probably grade 3 or 5 and are not acceptable. Contact Motolight® 800-567-8346 for the proper replacement bolts.



Step 3 Position the light and bracket so that the 1/4" x 20 x 5/8" pinch bolt is to the rear and bottom. It will be necessary to rotate the light down or up 90 degrees (max rotation) to insert and tighten the replacement bolt. Use the enclosed caliper replacement bolt and washer; apply thread lock if required and **torque to manufacturers recommended settings**. Check for any interference with the brake disk or wheel.

Step 4 Return light to level position. The lights leads can be routed and attached up along the brake lines and terminate near the headlight or in the headlight bucket (this provides dry and simple access for connection to our harness). Do not wrap them around the fork. Use the smaller wire ties for neat appearance.

Wiring Diagram



Wiring Harness

Step 5 Install the harness. MAKE SURE THE BATTERY IS DISCONNECTED. Look over the wiring diagram that details the harness. Since every bike is different, we'll give you a list of guidelines to work with.

5.1 When routing the harness, don't let any part of it rest against any part of the exhaust system or it will melt. Direct contact with cylinder heads should also be avoided.

5.2 The harness is designed as a stand-alone harness and not intended to be wired into your headlight circuit. **Note:** If your state law requires auxiliary lights go off when you switch to high beam, use the low beam as your switched power source. When you turn the ignition on, the relay switch power lead (tapped into an ignition activated hot wire) energizes the relay and the Motolights® can now be switched on using the Motolight® switch. When you turn the ignition off on the bike the Motolights® go off.

5.3 If possible, tap the relay power lead into the taillight hot-wire within the tail light assembly itself (see photo). This way the tap is sealed from the weather when you reassemble the rear light. **Note:** You may use another switched power source or a factory installed accessory switch if the taillight is difficult to access.

5.4 Attach ground eyelet. Generally, the easiest places to attach is the battery negative or follow the negative/ground cable from the battery to where it attaches on the motorcycle and attach the grounds there.

5.5 The terminal blocks for connecting the light leads and the switch lead to the harness are positive locking terminals that click together when properly mated. **Note:** If the light lead/harness connection is exposed to weather or water from washing, it should be sealed to prevent moisture from entering the bulb lead and migrating down into the light housing.

5.6 Here is a checklist for complete installation of the harness.

1. Relay switch power lead quick tap connected into tail light hot lead, not ground or brake light.
2. Main power lead coming from fuse attached to "+" positive battery terminal.
3. Ground eyelet properly grounded to the motorcycle.
4. 2 housing wire lead terminals clicked into the harness, generally in or behind the headlight bucket.

5. Switch wire lead terminal clicked into the harness.

Step 6 Mount the switch. Once you have determined where you want to mount the switch, connect the terminal to the harness and make sure you have sufficient wire length. Clean about a 1" square spot where you will mount the switch with some soap and warm water. Take the alcohol pad and lightly rub the spot on the bike and the bottom of the switch housing and dry off. Peel off the backing from one of the pieces of Dual Lock and press it firmly to the bottom of the switch housing. Do the same thing for another piece at the spot you've cleaned off on the bike. Align the two pads and push firmly to lock them together. An extra piece of Dual Lock is included if you change your switch position.

If you prefer a toggle switch, our switch lead has two ¼" female spade terminals to accommodate an easy change. These are readily available from your dealer, local auto parts or from Motolight®.

Step 7 Turn on your ignition and test the Motolights® before you replace bodywork, seats, etc. If they don't come on, go through the checklist in Step 5.6. **Make certain you have no interference with other components or accessories that could restrict steering, braking or suspension movement. Consider full lock and full compression.**

Step 8 When everything is hooked up; cable tie the harness to the frame. Don't tie it to gas lines or any linkages.

Aiming, Final Check, and Maintenance

Step 9 Aim the lights. The bike should not be on the stand. You will need someone's help. Fit the Aiming tube over the front of the Motolight®, loosen the pinch screw on the mounting post. Hold your level against the aiming tube and rotate the light until it is aiming very slightly downward (87 degrees on a digital level, just breaking the bubble on a traditional level). See photo. You can also rely on the old method of aiming lights at night against a wall (back about 25 feet). The center beam of the light should be the same distance above the ground as the light is from the ground. Tighten pinch screws.

Step 10 Before you ride make certain to complete this "FINAL ROADWORTHY TEST"

1. **Make certain you have no interference with other components or accessories that could restrict steering, braking or suspension movement. Consider full lock and full compression.**
2. Are the caliper bolts tightened to manufacturers recommended torque settings? Are lights tight in mounts?
3. Is the harness cable tied out of the way of any moving parts or your feet?
4. Do the lights operate only when the ignition is on?
5. If everything checks out you're ready to go! Safe riding!
6. After several rides, recheck the lights for tightness. Include inspection of your Motolight® riding lights in your bike manufacturer's pre-ride check.

Maintenance: Include inspection of your Motolight® riding lights, in your bike manufacturer's pre-ride checklist. For polished lights use Mother's® or any high quality aluminum polish to maintain the shine. With the brushed finish, use Formula 409® and on black powder coat finish use W-D 40®. Never spray high-pressure water directly at the switch (nor any other switch) or relay when washing the bike. When the bulb burns out, replacing it is a simple operation. Call us for your replacement bulbs.