



210073MB, 210073MC  
UNDER GRIP HEAT DEMONS  
INSTALLATION INSTRUCTIONS



This Under Grip Heat Demon Kit is designed to fit most models of motorcycles which have inserts inside the handlebar. The heaters are installed under the clutch grip and inside the throttle grips and the 4 level Controller is mounted on the handlebar.

**!!Warning!! A Service Manual is required to install this kit. The rider's safety depends upon the correct installation of this kit. If the procedure is not within your capabilities or you do not have the correct tools, have your dealer perform the installation. Improper installation of this kit could result in death or serious injury.**

**WARRANTY AND DAMAGE:** This product has a 1 (one) year Limited Warranty. The warranty does not cover misuse of this product or operation outside of the design specifications. Symtec, Inc. WILL NOT be responsible for damages made to products that are not installed properly. Symtec, Inc. products have recommended installation instructions that are written to provide proper guidelines for product installations. Warranties WILL NOT be honored on broken items or damaged electronics due to shorting or pinched wires.

**Components:** The Under Grip Heat Demon Kit includes the adhesive backed heaters, the 4 level temperature Controller, the backside clamp\*, spacers\*\*, cap screws and washers, the electrical wires and connectors, rubber grommet, plastic tubing, adhesive, a plastic snake and Template to assist the installation.

\* **The Backside Clamp:** This clamp is used to attach the controller to the handlebar if it is not possible to fasten the controller to the brake reservoir, clutch reservoir or clutch bracket. Add the washers to the cap screws to attach the controller to the backside clamp but do not over tighten.

\*\***Spacers:** These spacers are used to mount the controller on a 7/8 inch diameter handlebar. One spacer should be inserted in the bottom of the controller and the other in the backside clamp.

**Tools:** A 3/8" Drill Motor, 5 sharp drills from 3/32" to 3/8" or a step drill, a hammer and center punch, a round file, a pliers and wire cutter, a small straight blade screw driver, Allen wrenches, **safety glasses** and a felt tip marker.

#### **Installation:**

A. Open or remove the seat according to the service-manual instructions.

**!!! Warning !!! Warning**

**To protect against shock and accidental start-up of the vehicle, disconnect the battery cables, negative cable first, before proceeding. Inadequate safety precautions could result in death or serious injury.**

**!!! Warning !!! Warning**

**Always disconnect the negative battery cable first. If the positive battery cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.**

B. Disconnect the battery, negative cable first, according to the service-manual instructions.

#### **Installation of Heaters and Controller**

**The 4 level Controller can be mounted on the left or right side of the handlebar so choose the side and location that will provide the easiest installation and most convenient operation. The width between the holes will allow the Controller to be mounted directly to the clutch bracket or brake reservoir on many Yamaha, Honda, Kawasaki, Suzuki or Triumph motorcycles. On other motorcycles the back side clamp and cap screws are provided to mount the Controller to the handlebar.**

This instruction will describe the installation of the Controller on the throttle or right side; however the same basic steps would be followed for the installation on the clutch or left side.

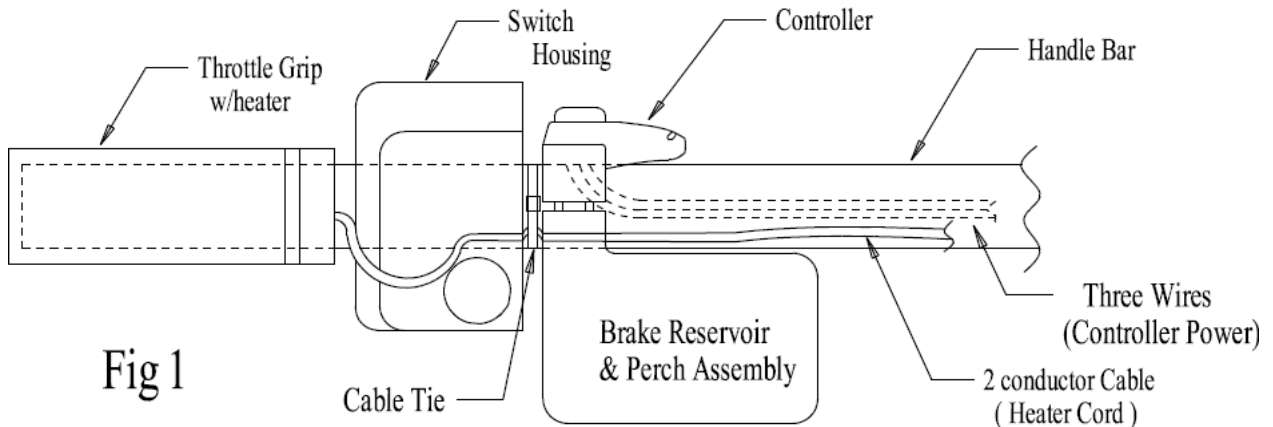
This Kit has components for mounting the heaters and Controller two ways:

**Version A: For motorcycles with Standard Handlebars that are hollow except for the ends of the bar.**

**Version B: For Motorcycles with Clip On handlebars or where the wires will not fit inside the bar.**

### Version A: Installation

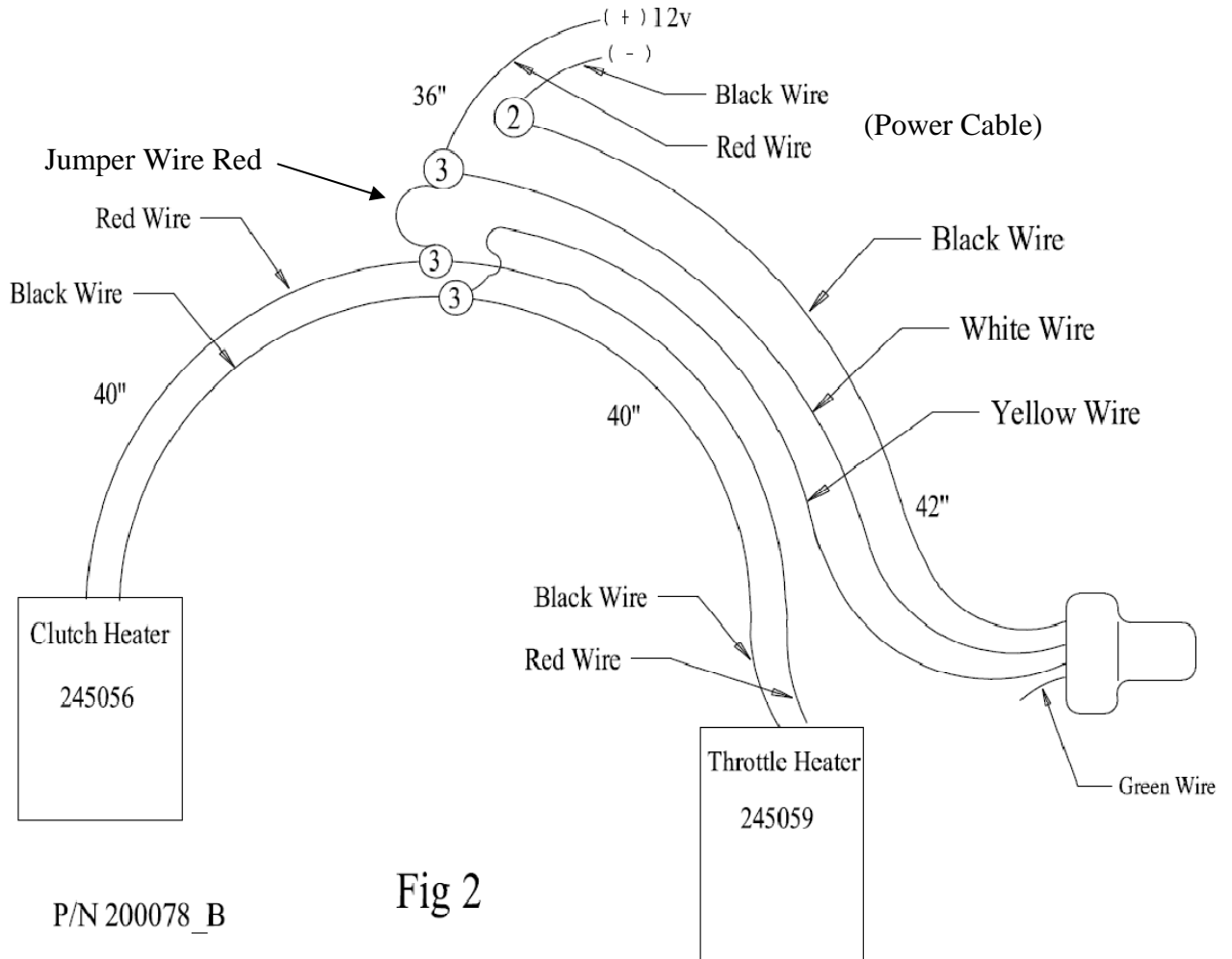
1. The new 4 level Controller will replace the perch clamp that secures the brake reservoir to the handlebar, like shown in the picture on the front of this package. On some motorcycles the mirror is attached to the perch clamp so the backside clamp in the Kit needs to be utilized to secure the Controller slightly forward toward the yoke. A hole needs to be drilled in the side of the handlebar to install the electrical wires from the bottom of the Controller. To assure that the Controller gets mounted in the same location as the perch clamp, the location of the clamp should be marked before it is removed. With a felt tip pen mark the handlebar where the brake reservoir is mounted. Also place a mark on the bar where the clamp and reservoir meet so the Controller can be remounted in the same orientation around the handlebar.
2. With an Allen Wrench remove the perch clamp that holds the brake reservoir to the handlebar but hold the reservoir against the bar where it was mounted. With the felt tip marker place a line on the handlebar that would be in line with the center of the two screw holes in the reservoir.
3. Remove the reservoir and place the template that is included in the kit on the handlebar where the marks are located. Place the centerline of the holes on the template over the line that you marked on the handlebar indicating the center of the two screw holes in the brake reservoir. Rotate the template so the top edge of the outline lines up with the mark where the clamp and reservoir meet. Place a mark on the handlebar for the hole location where the hole is punched in the template.
4. Center punch and drill a 3/8" hole in the side of the bar. At the spot marked earlier with the template, punch a hole location with a center punch to pierce the chrome. **Use safety glasses that completely cover the eyes to protect from steel chips while drilling!** Start with a small drill like a 3/32" size to make the initial hole. Then use progressively larger drills or a step drill to increase the hole size to 3/8". After the hole is drilled use a round file or deburring tool to remove the sharp edges.
5. Another hole needs to be drilled in the handlebar for routing the Controller wires. A hole should be drilled on the bottom center of the handlebar in the yoke area so the Controller wires can be brought out the bottom and connected to the other wires. The bolts that secure the handlebar can be loosened and the bar rotated so a hole can be drilled in the bottom. Repeat step 4 to add the hole.
6. Use the plastic snake or the string in the kit to assist pulling the 3 Controller wires from the first hole and out the bottom hole. The string can be used with a vacuum. Tape off all the holes in the bar except the 2 just added. Apply the vacuum to the bottom hole. Tie a knot in the end of the string and feed it from the top hole out the bottom hole. Once the plastic snake or string is routed between the holes, the 3 wires from the Controller should be attached and pulled through the bar and out the bottom. Attach the Controller to the brake reservoir and perch assembly, as shown in Figure 1, but do not tighten.



7. Remove the existing grip from the Clutch side. Removing the grip may require blowing compressed air in the end between the grip and the bar, injecting brake cleaner fluid, or cutting it off.
8. Clean the handlebar where the grip was removed with alcohol or a solvent to remove all residue and dry with a clean cloth.
9. Determine where the Clutch side heater will be mounted. Take the heater marked "Clutch" and place it on the handlebar approximately 1/2" from the end and decide the position of the wires. It is recommended to mount

the heater so the wires are at 9:00 o'clock or they can be positioned on the bottom for appearance. Peel off the release paper and adhere the heater to the handlebar with the wires toward the headlight. Route the cable along the handlebar to the yoke area. Add wire ties as required.

10. The Throttle side heater is installed on top of the throttle sleeve under the rubber cover. Remove the rubber cover that is installed over the throttle sleeve so the Throttle side heater can be applied. Applying heat from a heat gun can soften the rubber making it easier to roll off. Some of the throttle sleeves have ribs which need to be cut or ground off so the heater can make full contact with the sleeve surface or it will over heat in the void areas. This overheating may burn out the heater.
11. Determine where the throttle side heater will be mounted. Take the heater marked "Throttle" and place it on the throttle sleeve approximately 1/2" from the end and decide the position of the wires. It is recommended to mount the heater so the wires are at 3:00 o'clock with a loop to allow for the twisting motion of the throttle. Peel off the release paper and adhere the heater to the throttle sleeve with the wires toward the headlight. Route the cable along the handlebar to the yoke area. A loop in the cable, as shown in Figure 1, is required to assure there is free rotation of the throttle. Add wire ties as required.
12. Next make the wire connections shown in Figure 2 at the yoke area. The wires from the Clutch and Throttle Heaters and those from the Controller will be attached to a cable in the Kit that will be connected to the 12V supply later. Use a small plastic connector with 2 holes and yellow cap to connect the black wire from the Controller to the black wire in the cable that will supply the 12V power. Push the wires into the plastic connector as far as possible. The wires can be viewed from one side of the clear plastic. With the wires pushed to the top of the connector, take a pliers and push the yellow cap down completely flat. This will pierce the insulation on the wires and make the electrical connection and protective grease will be pushed out of the connector. The cap needs to be pushed down completely so the grease comes out otherwise it will not make a good electrical connection. Wipe off the grease and pull on the wires to make sure they are connected.



13. The plastic connectors with 3 holes and a red cap should be used to make the other connections shown on Figure 2. The two black wires from the Clutch and Throttle heaters should be connected to the yellow wire from the Controller. Push the wires to the top end of the connector and press the red cap down with a pliers like in step 12. The two red wires from the heaters should be connected to the single red jumper wire from the Kit with another red capped connector. The other end of the red jumper wire can be trimmed to a shorter length and the insulation stripped 5/8" and then connected to the white wire from the Controller and the red wire from the 12V supply cable with a red cap connector. If desired these same connections can be done by soldering and insulating the wires.
14. Temporarily connect the power cable to the battery and confirm the proper operation. Press the button on the Controller multiple times and confirm the 4 LED's light from yellow to red and off. Also feel the heaters and confirm that they are starting to heat up.
15. Mix the high temperature adhesive and apply half to the inside of the Clutch side grip. Install the grip over the heater and let the adhesive cure. Heating the grip before installing it will make it easier to push on.
16. Apply the other half of the adhesive to the surface of the throttle heater only and reroll the rubber grip back on the throttle sleeve. Wipe off any excessive adhesive that may have rolled out.
17. Run the power cable under the gas tank to the battery area. The plastic snake can be used to help route the cable under the gas tank.
18. Connect the power wires to the Accessory circuit. Check the service manual or call your dealer for the correct accessory wire connection. The Heat Demon heaters draw 3 amps so a check should be made to assure the circuit is not overloaded. Connect the Red wire to an accessory wire near the battery or behind the head light with the red splice connector from the Kit. Connect the black wire to a good ground with the ring terminal or to another black ground wire with a red spice connector.
19. Reconnect the battery cables. **!!Warning!! Always connect the positive battery cable first.**
20. Tighten the bolts that hold the Controller and brake perch assembly to the handlebar.
21. Turn on the accessory switch and confirm that the Controller is wired properly and the grips heat up.

### Version B: Installation

1. Complete steps 1, 2, and 3 the same as in Version A.
2. The wires from the Controller are connected to the wires from the heaters and the 12V power on the outside of the handlebar, so a second hole needs to be drilled on the other side of the handlebar. Refer to Figure 3 below and mark a location between the switch housing and the brake reservoir where the wires can be routed to the outside. The wire connections and other installation steps will be described later, however Fig 3 shows how the wires will be routed into the switch housing for connections.

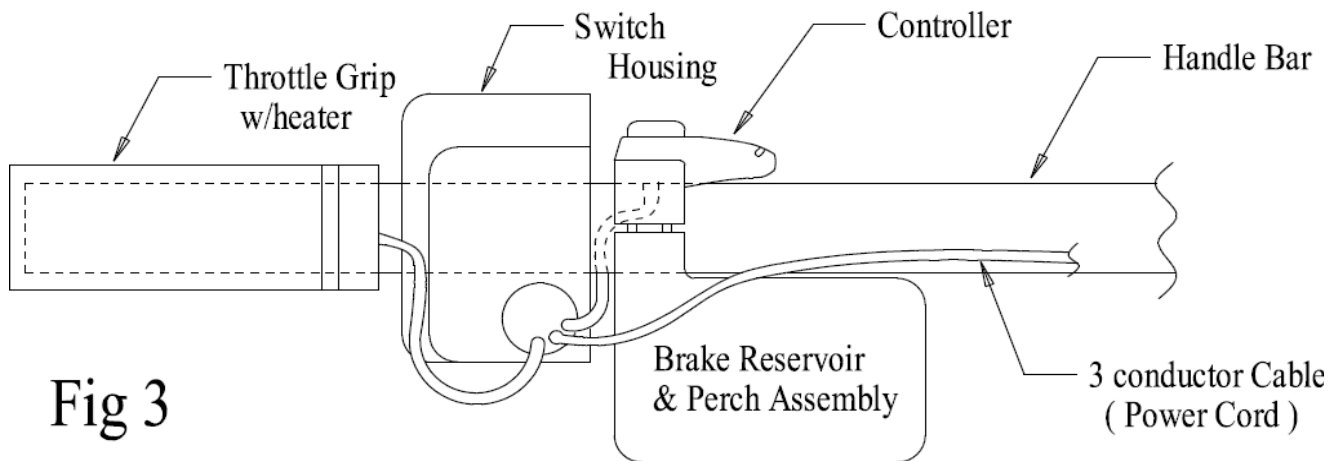


Fig 3

3. Remove the switch housing according to the service manual instructions and leave hanging.
4. Center punch and drill a 5/16" hole in the side of the bar. At the spot marked earlier with the template, punch a hole location with a center punch to pierce the chrome. **Use safety glasses that completely cover the eyes to protect from steel chips while drilling!** Start with a small drill like a 3/32" size to make the initial hole. Then use progressively larger drills or a step drill to increase the hole size to 5/16". After the hole is drilled use a round file or deburring tool to remove the sharp edges.
5. Another hole needs to be drilled in the handlebar to route the Controller wires as shown above. At the point marked in step 4, center punch and drill a 1/4" hole and deburr.

6. Remove the existing grip from the Clutch side. Removing the grip may require blowing compressed air in the end between the grip and the bar, injecting brake cleaner fluid, or cutting it off.
7. Clean the handlebar where the grip was removed with alcohol or a solvent to remove all residue and dry with a clean cloth.
8. Determine where the Clutch side heater will be mounted. Take the heater marked "Clutch" and place it on the handlebar approximately 1/2" from the end and decide the position of the wires. It is recommended to mount the heater so the wires are at 9:00 o'clock or they can be positioned on the bottom for appearance. Peel off the release paper and adhere the heater to the handlebar with the wires toward the headlight. Route the cable to the yoke area and secure with wire ties.
9. The Throttle side heater is installed on top of the throttle sleeve under the rubber cover. Remove the rubber cover that is installed over the throttle sleeve so the Throttle side heater can be applied. Applying heat from a heat gun can soften the rubber making it easier to roll off. Some of the throttle sleeves have ribs which need to be cut or ground off so the heater can make full contact with the sleeve surface or it will over heat in the void areas. This overheating may burn out the heater.
10. Determine where the throttle side heater will be mounted. Take the heater marked "Throttle" and place it on the throttle sleeve approximately 1/2" from the end and decide the position of the wires. It is recommended to mount the heater so the wires are at 3:00 o'clock with a loop to allow for the twisting motion of the throttle. Peel off the release paper and adhere the heater to the throttle sleeve with the wires toward the headlight. Route the cable into the Switch Housing, cut off the excess length and remove the part of the cover for wiring.
11. The 12V power for the Controller and Heaters is supplied by adding the 3 wire cable that is included in the Kit. Route the 3 wire cable from the yoke area of the motorcycle along the handlebar to the area where the Switch Housing is mounted. It will be routed into the switch housing along with the other wires as shown in Figure 3. Add wire ties where needed.
12. Push the 3 wires from the Controller through the hole in the front side of the handlebar and out the backside as shown in Figure 3. Let the Controller hang down 1 inch from the bar.
13. Slide the small plastic tubing in the Kit over the 3 wires and route the tubing into the slot or hole in the bottom of the Switch Housing along with the 3 wire power cable, the Throttle Heater cable and the large wire bundle.
14. There should be room inside the Switch Housing for the wire connections using the plastic connectors in the Kit otherwise the wires should be soldered. The connections should be made like shown in Fig 4 below where the "A" connections are done in the Switch Housing and the "B" connections in the yoke area.

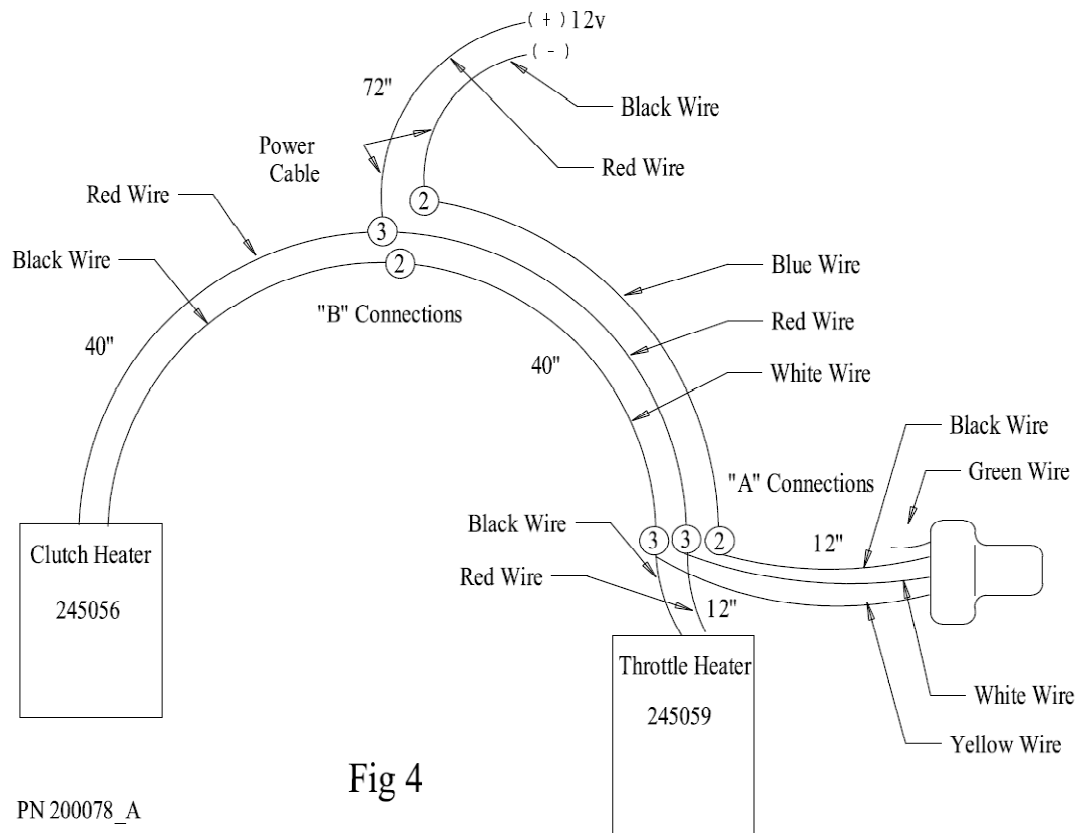


Fig 4

15. Use the plastic connectors in the Kit to make the wire connections. The small ones with 2 holes and a yellow cap are used for those shown on Fig 4 with a 2 in the circle and the ones with 3 holes and a red cap are used for those connections with a 3 in the circle. Push the wires into the connectors to the end and using pliers **push the cap down completely flat to pierce the wires and make the connection.** The connectors are clear on the back side so one can see that the wires are inserted all the way to the top. Grease will also need to be pushed out to assure a good connection. Wipe off the grease and pull on the wires to assure they are connected.
16. Before mounting the Controller and finishing the installation, connect the Red and Black wires of the power cable to 12V temporarily to confirm the proper operation. Press the button on the Controller multiple times and confirm the 4 LED's light from yellow to red and off. Also feel the heaters to confirm they are starting to heat up. Do not leave on for more than 60 seconds to avoid overheating.
17. Mix the two parts of the high temperature adhesive together and apply half to the inside of the Clutch side grip. Install the grip over the heater and let the adhesive cure. Heating the grip before installing it will make it easier to push on.
18. Apply the other half of the adhesive to the surface of the throttle heater only and reroll the rubber grip back on the throttle sleeve. Wipe off any excessive adhesive that may have rolled out.
19. Arrange the cables and install the Switch Housing. Assure that the cable from the Throttle Heater has a loop to allow free rotation of the throttle grip.
20. Attach the Controller to the brake reservoir and tighten so there is an equal gap between the two on each side.
21. Run the power cable under the gas tank to the battery area. The plastic snake in the Kit can be used to help route the cable under the gas tank without removing it.
22. Connect the power wires to the Accessories circuit. Check the service manual or call your dealer for the correct accessory wire connection. The Heat Demons heaters draw 3 amps so a check should be made to assure the circuit is not overloaded. Connect the Red wire to an accessory wire near the battery or behind the head light with the red splice connector from the parts bag. Connect the Black wire to a good ground location with the ring terminal or to another black wire with the red splice connector.
23. Reconnect the battery cables. **!!Warning!! Always connect the positive battery cable first.**
24. Turn on the accessories switch and check that the Controller is wired properly by pressing the button and confirm that each time it is pressed the 4 lights turn on and off.

**Operation:**

The Controller will provide 4 levels of heat to the heaters inside of the handlebar. A thermistor senses the temperature and provides a feedback to the Controller so a precise level of heat is supplied to the grips.

Press the button on the Controller once and the Yellow light or LED shows that the lowest level of heat is selected.

Press the button a second time and the Orange light or LED will indicate the next higher level of heat has been selected.

Pressing the button a third or fourth time will select higher levels of heat for colder conditions.

Pressing the button a fifth time will shut off all of the lights and the power.

Holding the button down for 3 seconds will lower the intensity of the LED's for night operation. Holding it down again for 3 seconds will adjust the LED's for daytime use.



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