

Document ID: 4080899**Off Road Lamp Attachment Kit Installation****Installation Instructions Part Number**

23459869

Kit Contents

| Part Number | Description | Qty |
|---|---|------------|
| Parts Unique to Specific Kits | | |
| 84168417 | Parts Package-Appearance Body (DEALER INSTALLED) Applies to Chevrolet & GMC with Front Fog Lamps - EXCEPT MY16 GMC | — |
| 84168423 | Switch Assembly - Headlamp, Blue Lighting with Front Fog | 1 |
| 84168418 | Parts Package-Appearance Body (DEALER INSTALLED) Applies to Chevrolet & GMC without Front Fog Lamps - EXCEPT MY16 GMC | - |
| 84168426 | Switch Assembly - Headlamp, Blue Lighting | 1 |
| MY 16 GMC with Front Fog Lamps ONLY | | |
| 84168419 | PARTS PKG-APPEARANCE BODY (DEALER INSTALLED) | - |
| 84168424 | Switch Assembly - Headlamp | 1 |
| MY 16 GMC without Front Fog Lamps ONLY | | |

| Part Number | Description | Qty |
|--------------------------------------|--|-----|
| Parts Unique to Specific Kits | | |
| 84168420 | PARTS PKG-APPEARANCE BODY (DEALER INSTALLED) | - |
| 84168425 | Switch Assembly - Headlamp | 1 |
| Parts Common all Kits | | |
| 23459869 | INSTALLATION INSTRUCTIONS - DEALER ACCESSORY | 1 |
| 23213284 | LABEL- DEALER ACCESSORY | 1 |
| 84095190 | HARNESS PACKAGE - ACCESSORY WIRING | 1 |
| 11509086 | Strap (7" Zip Tie) - Accessory Wiring Harness | 5 |
| 84095191 | Harness Assembly-Accessory Wiring (Underhood Harness - Replaces Sport Bar Underhood Harness) | 1 |
| 23307928 | GROMMET-ACCESSORY WIRING HARNESS | 5 |
| 14016210 | Colorado/Canyon Red Wire Power Lead with Fuse Holder and Crimp Splice | 1 |
| 14016700 | Single Tyco Terminated 750mm Blue Wire - H/L Switch to BCM | 1 |
| 14016800 | Single JST Terminated 750mm Grey Wire - H/L Switch to BCM | 1 |

| Part Number | Description | Qty |
|--------------------------------------|---|-----|
| Parts Unique to Specific Kits | | |
| 14016900 | Single JST Terminated 200mm Red Wire - Relay to BCM & BCM to H/L Switch | 1 |
| 14016910 | Orange Wire Lead Kit, 200mm | 1 |
| 84139227 | LAMP ASSEMBLY-OFF ROAD | 2 |
| 23194637 | LAMP ASSEMBLY-OFF ROAD | 1 |
| 84139242 | Attachment Kit-Off Road Lamp | 1 |
| 84139247 | Bracket-Off Road Upper | 1 |
| 84139248 | Bracket-Off Road Upper | 1 |
| 23319122 | SPACER-HEADLAMP MOUNT | 2 |
| 11548430 | BOLT/SCREW-OFF ROAD LAMP BAR | 2 |
| 11548431 | NUT-OFF ROAD LAMP BAR | 2 |
| 23458498 | Cover-Off Road Lamp PROTV | 1 |
| 23365545 | Retainer Assembly-Right Front Panel Jet Finish Molding | 1 |
| 11546772 | BOLT/SCREW-F/TOP S/RL Garnish Molding | 4 |
| 11546389 | Nut-Right Front Rear HDR Garnish Molding | 4 |

After completing the installation of the Sport Bar; the routing of the CHMSL Harness, and performing the preliminary installation of the Underbody Harness according to the directions in Pickup Box Ornamentation Bar Package Installation [Pickup Box Ornamentation Bar Package Installation](#), proceed with installation of the Off Road Lamps (ORL) below. This harness in this replaces the engine compartment

harness that is included in the Sport Bar (ONLY) Package. Refer to the Wire harness Schematic on the last page to identify the various branches as they are referenced in the instructions.

Note: This kit was designed for Silverado/ Sierra (FST) and includes instructions for adapting the kit to work with the Colorado/Canyon (MST). Additionally the wire harnesses are sized to fit FST Crew or 4 Door cabs; installing the kit on smaller/shorter vehicles requires the installer to ensure excess length is securely stored, zip ties are included in the kit for routing and shortening the harness.

Note: For Sport Bar Installation and associated Wire Harness Routing, Refer to [Pickup Box Ornamentation Bar Package Installation](#).

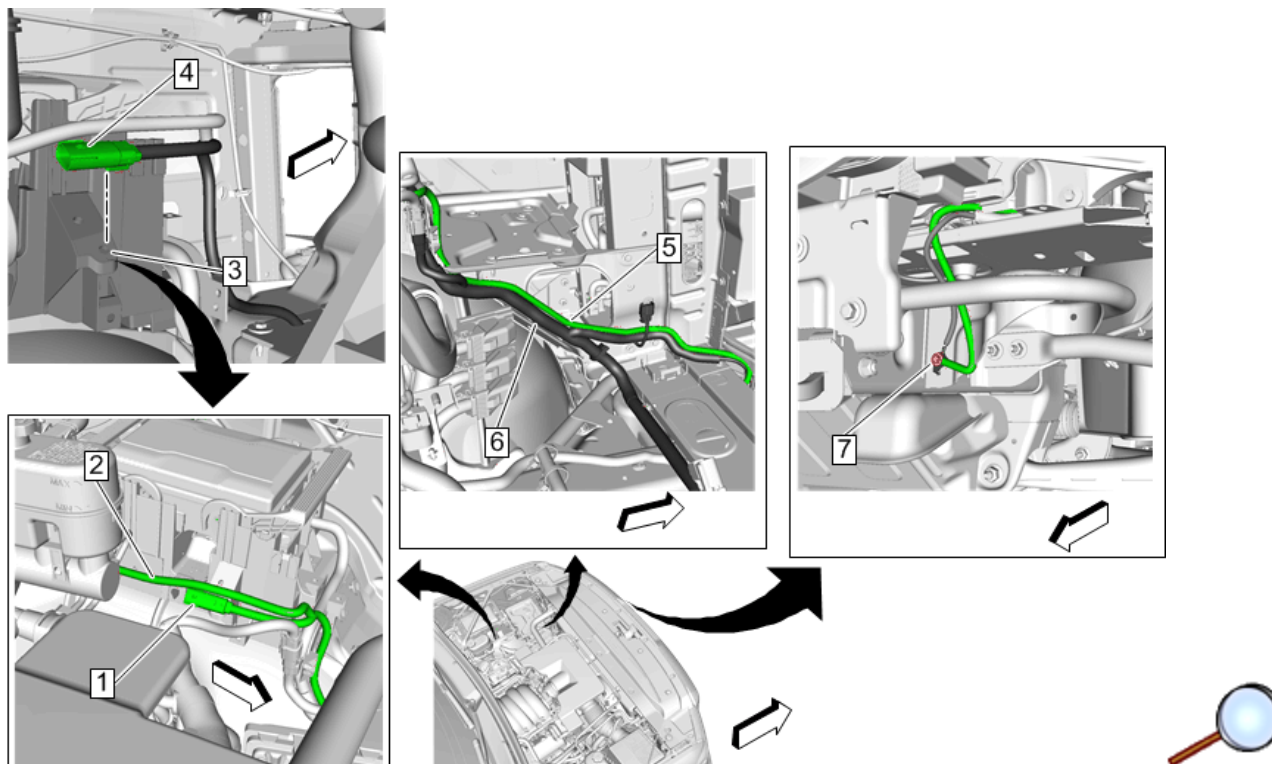
Note: Terminated wires not seated into connectors are referred to as leads in this instruction guide.

Procedure

Off-Road Lamp Engine Compartment Harness

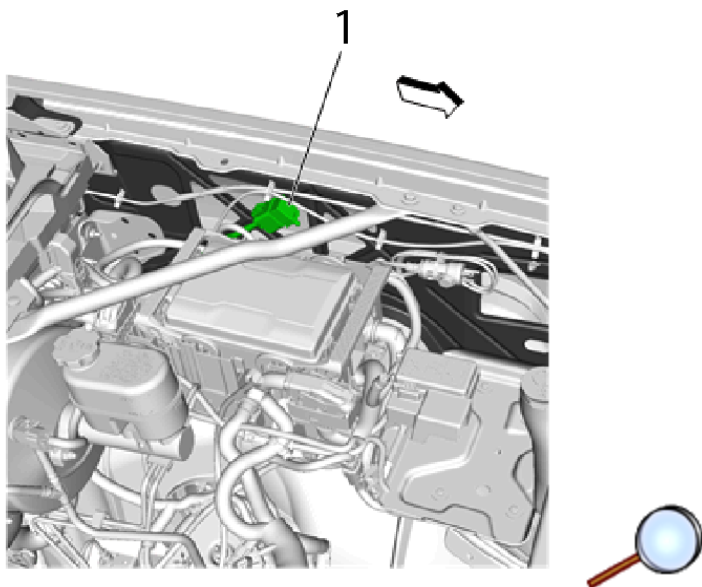
1. Remove the paper tape and separate out the loose wires (1 ea. Blue. Grey, Red w/fuse holder, Red and Orange. They will be needed when making connections in the vehicle interior.

Note: In lieu of disconnecting the battery, the power connection will completed prior to system test and alignment.

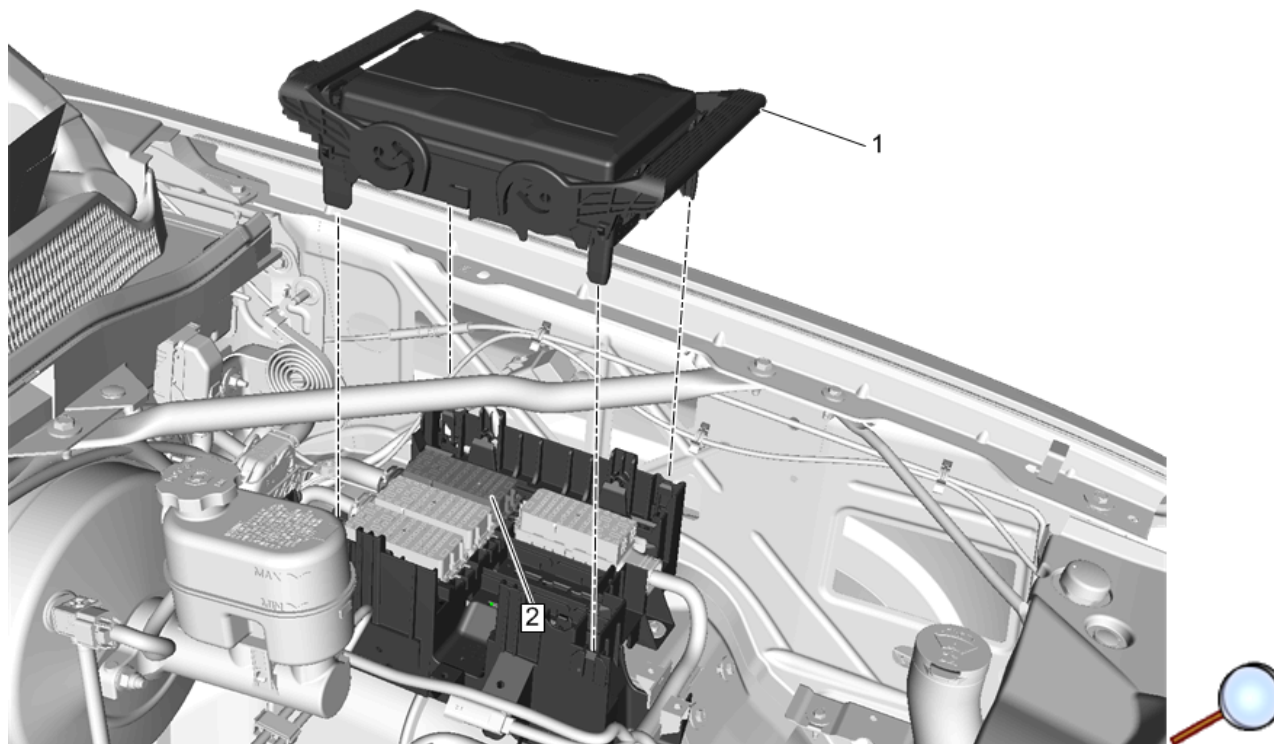


2. **3-Way Inline Connector Mounting:** Locate forward, inboard mounting hole on the UEC (Underhood Electrical Center) case (3); using the Fir Tree fastener on the 3 - way connector (4) mount the connector to the UEC case and make the connection to the Underbody harness Inline.

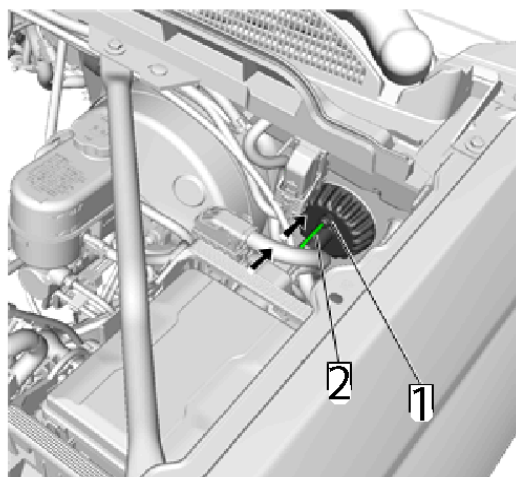
3. **Ground Wire Routing:** After the 3 - way connector (1) is mounted, route the ground eyelet branch as shown (5) and secure to forward lamp harness (6). Continue routing the ground eyelet branch and secure the ground eyelet (7) to the forward lamp eyelet location. Item (2) is the wire harness branch with the relay. Remove the LF Wheel Well liner to gain access to the ground bolt. Leave the Wheel Well liner off as it will provide access to the FOD grommet in a later step.



4. **Relay Mounting:** The relay (1) mounts to the left inner fender, just rearward and outboard of the UEC. Strap the relay to a cut out rib. Route the branch around, under and behind the UEC to keep the wire branch secure and hidden as much as possible.



5. **UEC (CHMSL Circuit connection):** Remove the top of the UEC (1), exposing the large connectors below.
- 5.1. Locate the CHMSL circuit in UEC connector X3 cavity M6. It will be the grey, rear, outboard connector (2).
- Note:** Do not cut off the removed CHMSL circuit terminal, the vehicle owner may, at some future time wish to remove the Sport Bar and need to return to the original configuration.
- 5.2. Remove the terminal from cavity M6. It will be a VT/GY wire. Replace the removed wire with the shorter of the two black wires which has a white plastic sleeve covering the terminal.
- 5.3. Cover the terminal that was removed from the UEC and the un-needed black wire lead covered with a (clear sleeve) from the accessory harness with vinyl tape and store them out of the way (tape them on to the harness).
- 5.4. Reassemble the UEC making sure it is fully seated before engaging the locking levers.



6. Interior Connections Through Front of Dash (FOD) Installation:

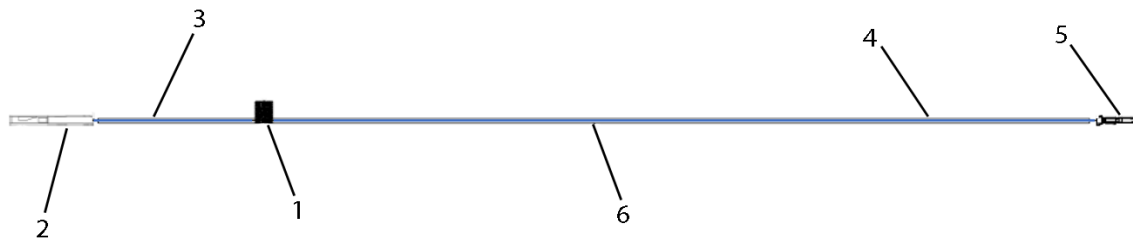
- 6.1. The long single yellow wire leads route through the FOD panel grommet into the vehicle interior connecting to reach the BCM and headlamp switch.
- 6.2. Cut a small hole in the small nipple (1) of the dash panel grommet. With the assistance of a fishing tool insert the two yellow wires (2) through the grommet and into the vehicles interior. From the interior pull the yellow wires through until the wire takeout is snug but not tight.
- 6.3. After the wire installation is complete, the grommet nipple must be sealed with a product similar to RTV or Liquid Tape.
- 6.4. Replace the LF Wheel Liner.

7. Interior Installation – Refer the images below for Single Lead Wire and Terminal information:



7.1. Single Lead Red Wire (200mm):

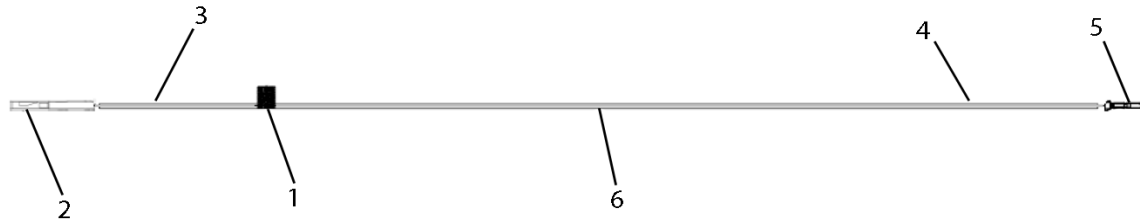
- Flag Tape (1)
- JST BCM Terminal SNAC3-A021T-M064 (2)
- Flag or Short End (3)
- Long or NON-Flag End (4)
- JST H/L SW Terminal SAIT-A03T-M064 Delphi H/L Sw Connector (5)



7.2. Single Lead Blue Wire (750mm):

- Flag Tape (1)
- TE BCM Terminal 1924727-1 (2)

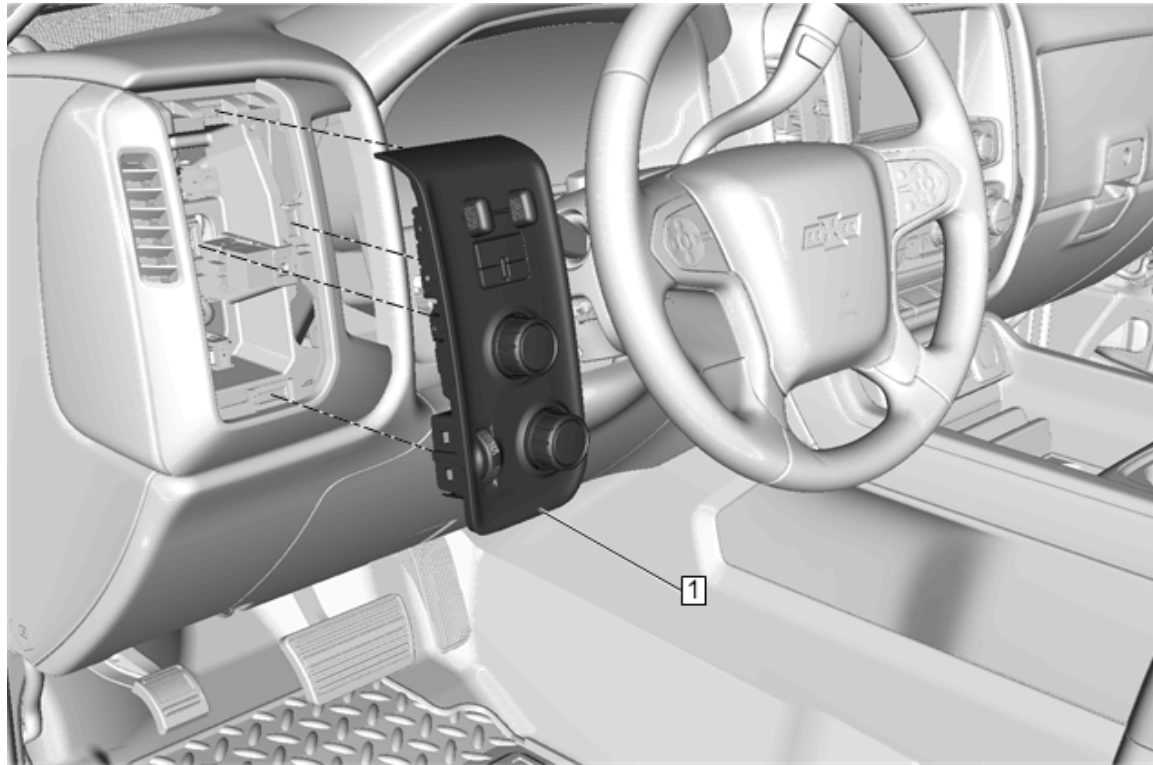
- Flag or Short End (3)
- Long or NON-Flag End (4)
- TE H/L SW Terminal 1924955-3 Molex H/L Sw Connector (5)
- Tape over Blue Wire (6)



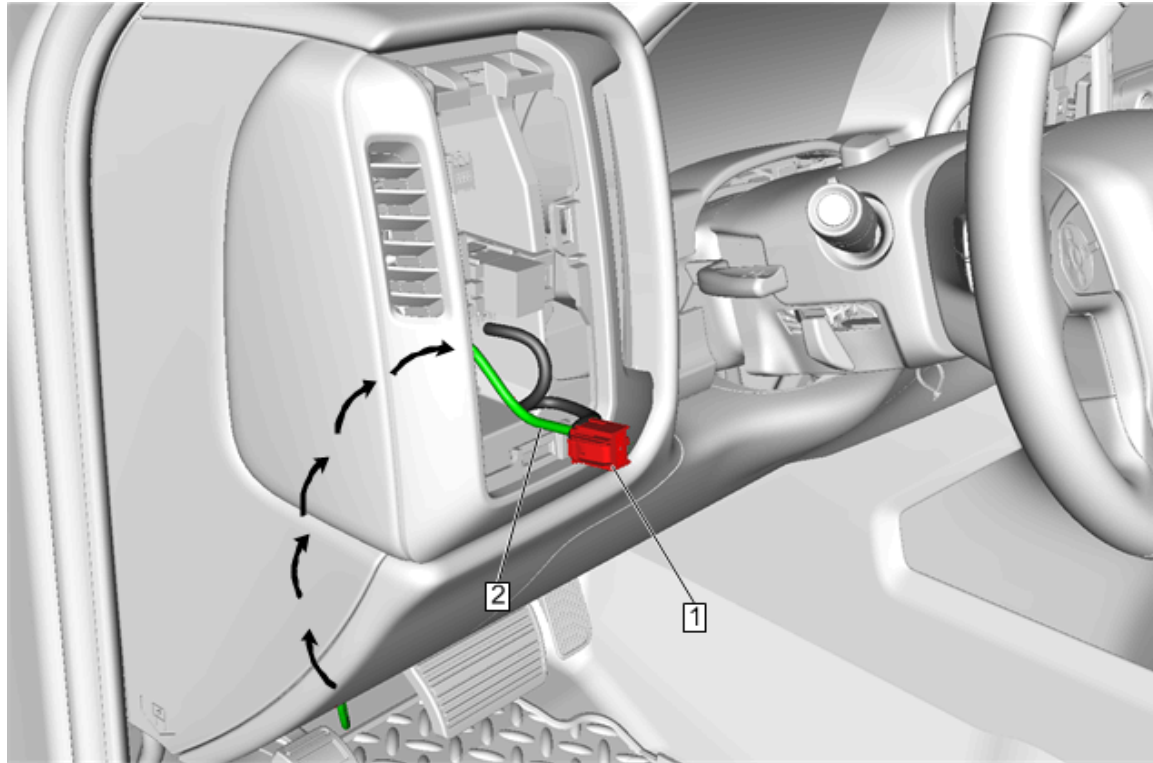
7.3. Single Lead Grey Wire (750mm):

- Flag Tape (1)
- JST BCM Terminal SNAC3-A021T-M064 (2)
- Flag or Short End (3)
- Long or NON-Flag End (4)
- JST H/L SW Terminal SAIT-A03T-M064 Delphi H/L Sw Connector (5)
- Tape over Grey Wire (6)

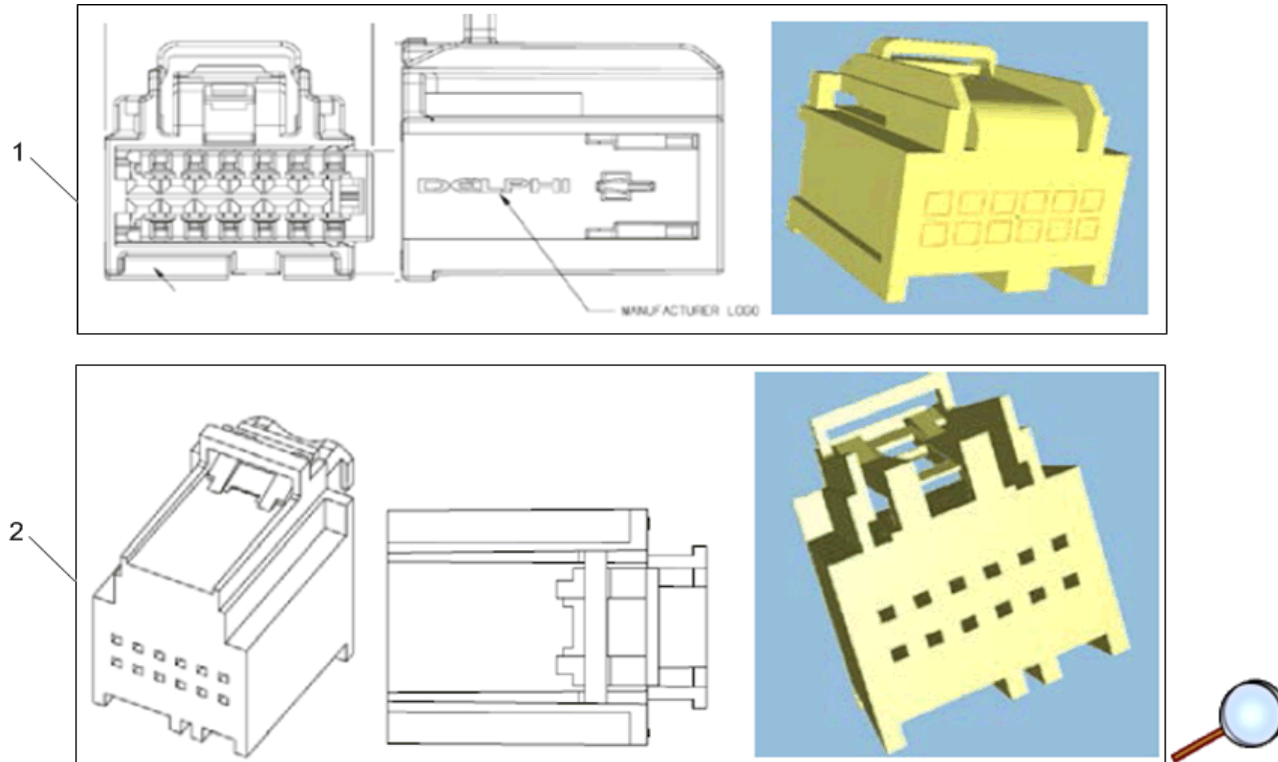
8. Headlamp Switch Connections:



8.1. Using a flat bladed plastic trim tool, release the retainer clips securing the applique (1) to the left instrument panel trim plate and pull the insert free of the dash panel.



- 8.2. Between the 2 Yellow wires pulled through the FOD there is a 50mm (2") length difference in length. The longer (2) of the two has the Tyco Terminal used with the Molex Connector and the shorter wire (flagged) has the Tyco Terminal For connection with the BCM.
- 8.3. Locate the Yellow wire lead for the headlamp switch (longer Yellow Lead) and route to opening for Headlamp Switch.
- 8.4. Disconnect electrical connection at the Headlamp Switch (1).

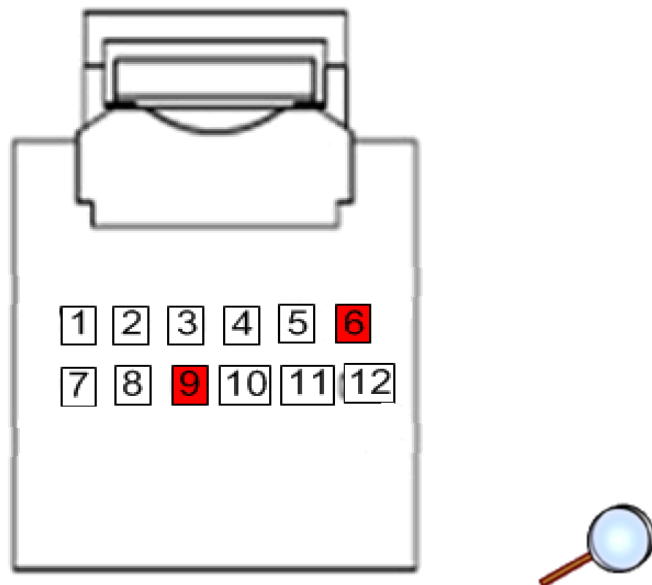


8.5. Determine the manufacturer of the Headlamp Switch Connector; either Delphi (1) or Molex (2).

Note: Delphi Connector (1) GM PN 13582582 Requires Terminal JST SAIT-A03T-M064.

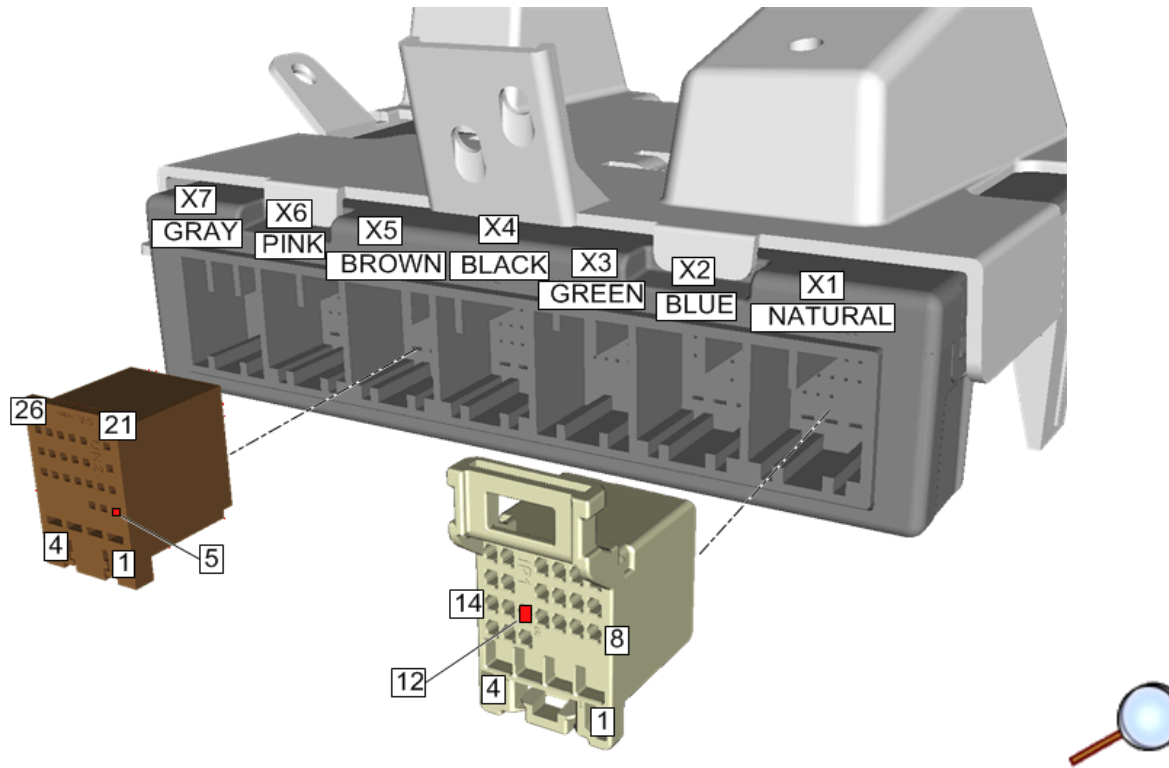
Note: Molex Connector (2) GM PN 89047364 Requires Terminal Tyco 1924955-1.

8.6. If the JST Terminal is required (Delphi Connector). Cut the terminal from Red Single Lead Wire Non-Flag end and after removing the Tyco Terminal splice the newly created Red lead onto the non-flagged yellow wire.



Note: Headlamp Switch Connector Wire Side View Shown

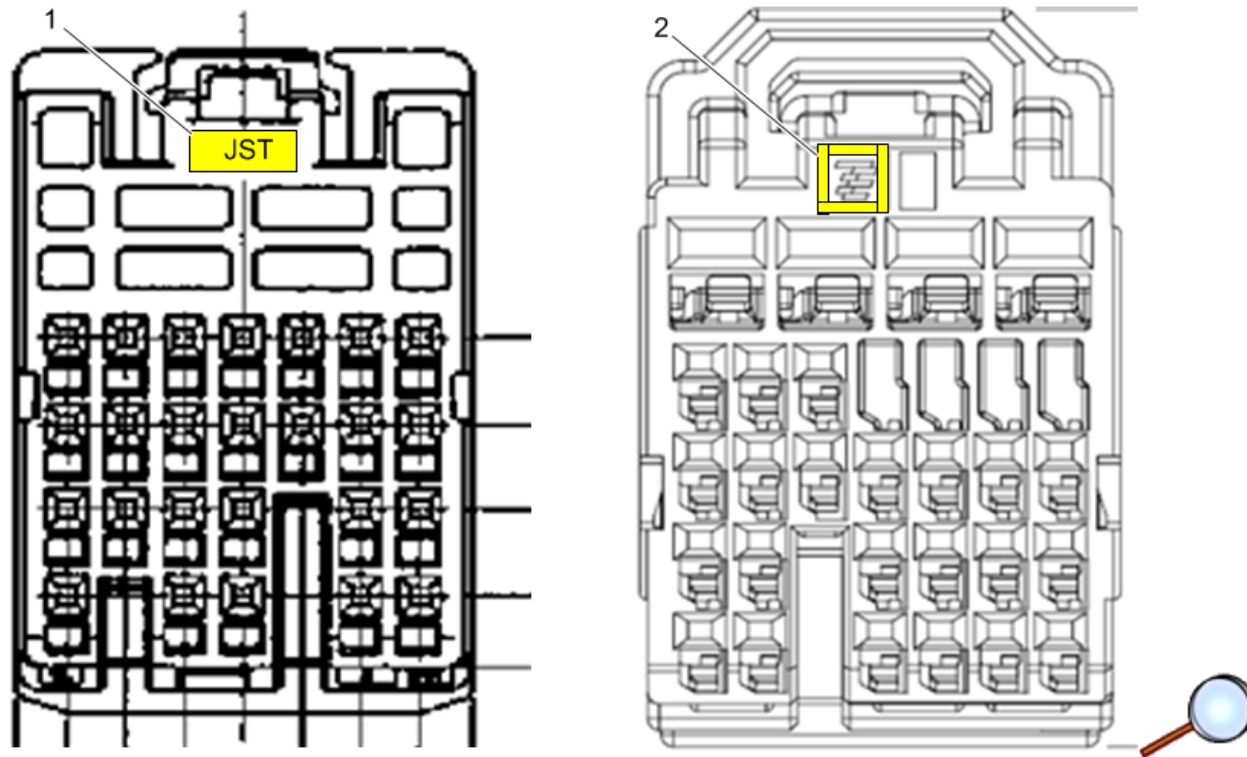
- 8.7. Based on the connector manufacturer, follow the applicable connector service guidelines and insert the terminated lead into cavity 9 of the Headlamp Switch Connector.
- 8.8. If the Headlamp Switch is Molex Use the Single Lead Blue Wire; If the Headlamp Connector Switch is Delphi use the Single Lead Grey Wire; on the selected lead insert the non-flagged end into cavity 6.
- 8.9. Route the newly installed Blue or Grey Lead through the Headlamp Switch open towards the FOD and over to the BCM.



Note: BCM Shown in the Installed Position

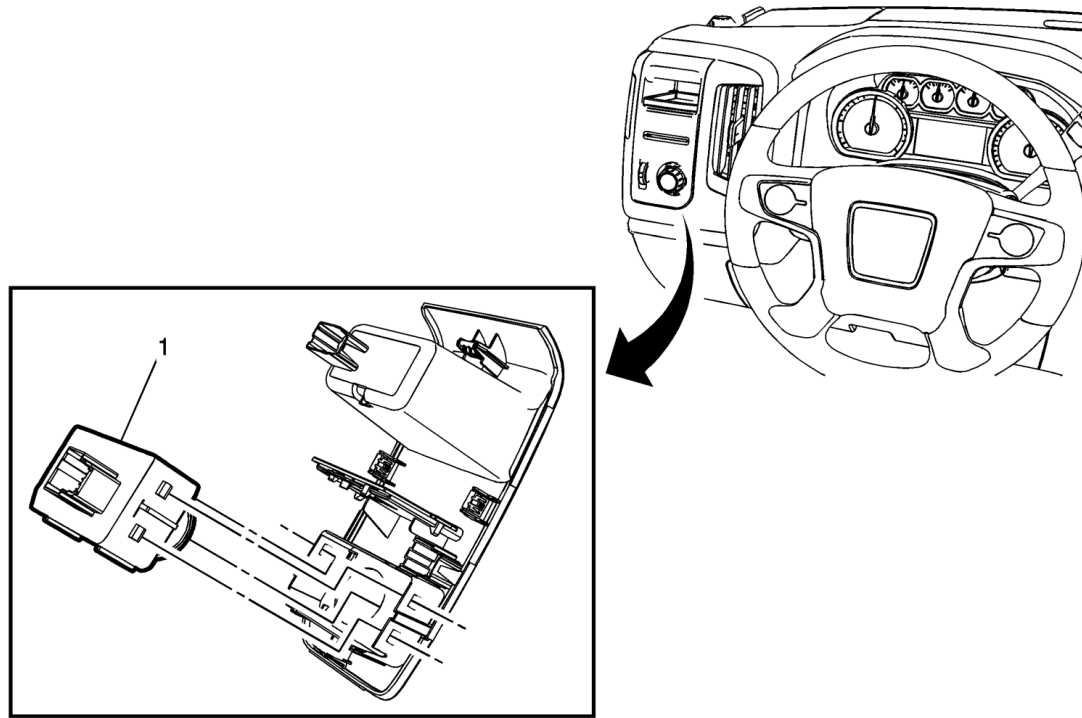
9. BCM Connector Layout and Connections:

- 9.1. BCM and connectors (X5) Cavity 5 and (X1) Cavity 12) shown in vehicle position.
- 9.2. Disconnect Connectors X1 (Neutral/Cream) and X5 (Brown).

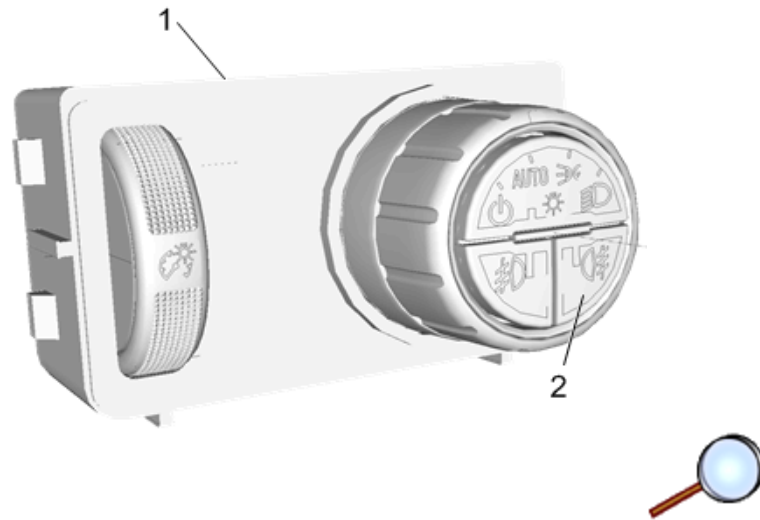


Note: Manufacturer Connector Logo – JST (1), Tyco (TE) (2)

- 9.3. Due to interchangeability of Tyco and JST BCM connectors verify the Manufacturer of EACH connector. Look at the mating face of each connector at the top (locking tab up) center is the manufacturer logo JST or TE, determine which connector you have for both X1 and X5.
- 9.4. The shorter (yellow) (from the engine compartment) of the two wires routes to the BCM connector X5 cavity 5 and is built with a Tyco Terminal if a JST terminal is required cut and splice the Red Single Lead Flag End Terminal in place of the Tyco Terminal.
- 9.5. The Blue or Grey Single Lead wire runs between the headlamp switch and the BCM. The end wire with a tape flag connects to the BCM connector X1, cavity 12. Blue for Tyco, Grey for JST. Again if the incorrect terminal (Blue – Tyco, Grey – JST) is on the wire for the installed connector, cut and splice the Flagged end terminal of the unused single lead wire on to the connecting circuit.



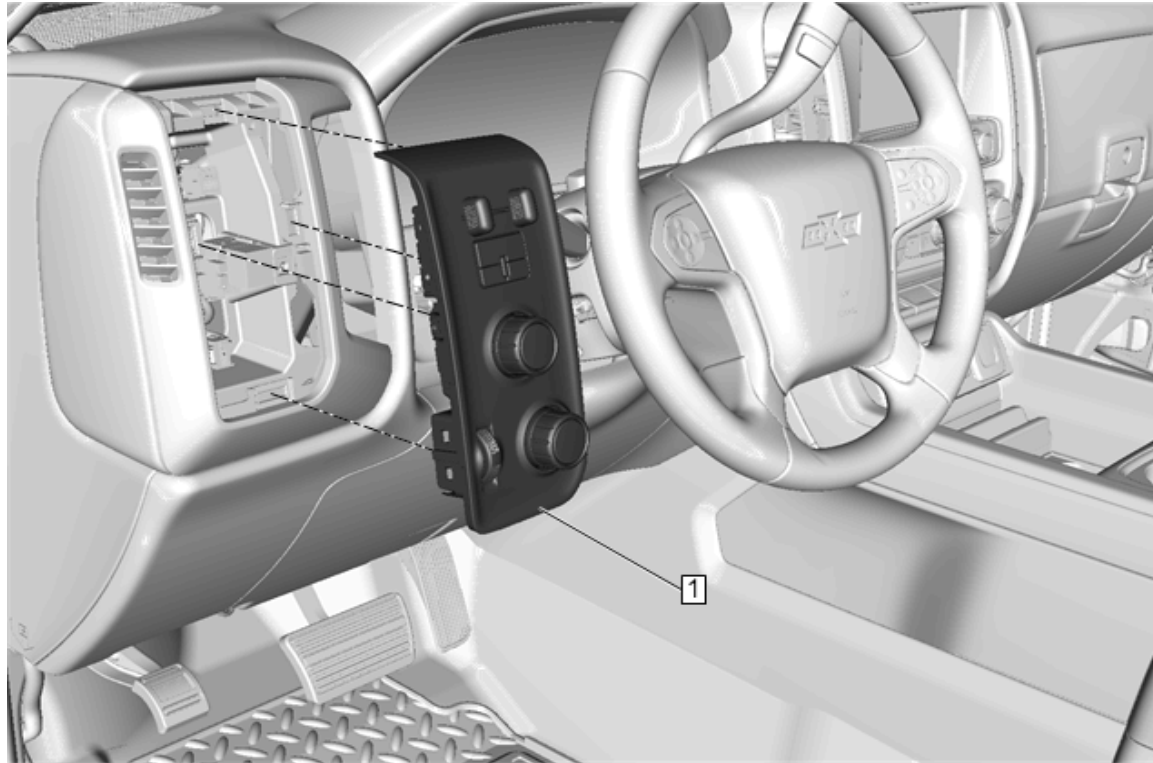
9.6. Using the appropriate tool gently press tabs to remove the factory installed headlamp switch (1) from the instrument panel applique and replace with the accessory headlamp switch.



Note: Offroad Lamp Symbol (2) as shown on switch.

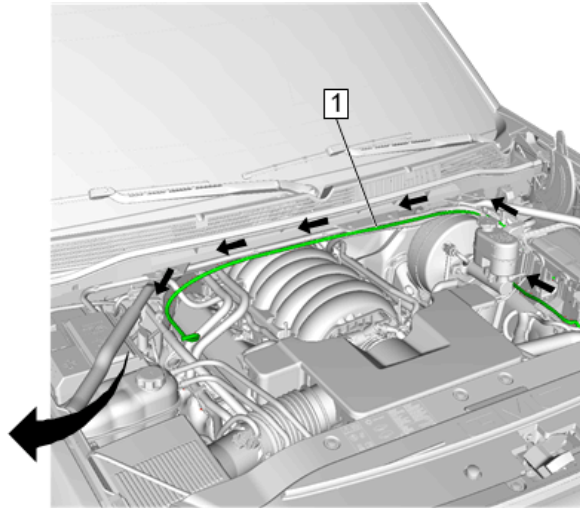
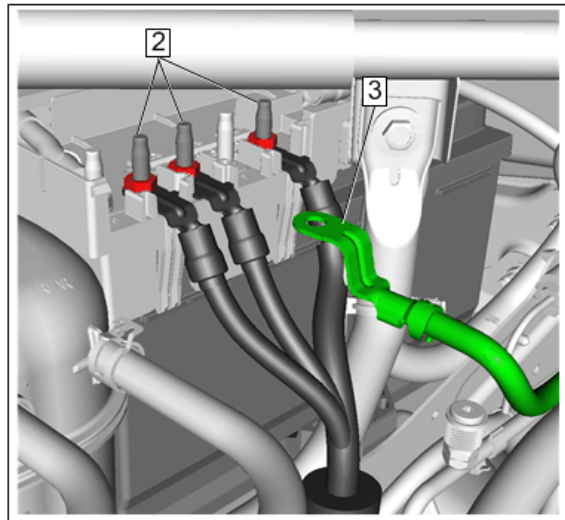
9.7. Press the new Included Headlamp Switch (1) into the panel applique.

9.8. Insert Headlamp Switch connector in to the Headlamp Switch (Listen for click).



9.9. Reseat panel (1) into dash, ensure all clips are engaged.

9.10. Secure the wires routed to the BCM and Headlamp Switch using the included Zip Ties.



10. Battery Power Connection:

10.1. The takeout with the attached inline fuse holder and fuse and M8 connect to the battery on the right side of the vehicle to power the lights through the relay.

Note: On an FST with the available diesel engine option there is an Up Fitter's PDC, (Power Distribution Center), mounted to the front left battery. Use the M8 eyelet at that location.

10.2. Route harness (1) across the dash panel noting where you will later tie strap the takeout to the dash panel.

10.3. There are three M8 studs (2) on top of the battery. Remove the nut from the stud that has none or only one eyelet or the thinnest gauge wire present.

Caution: Use the correct fastener in the correct location. Replacement fasteners must be the correct part number for that application. Fasteners requiring replacement or fasteners requiring the use of thread locking compound or sealant are identified in the service procedure. Do not use paints, lubricants, or corrosion inhibitors on fasteners or fastener joint surfaces unless specified. These coatings affect fastener torque and joint clamping force and may damage the fastener. Use the correct tightening sequence and specifications when installing fasteners in order to avoid damage to parts and systems.

10.4. Add the new Driving Light power eyelet (3), replace the nut and torque to 22 Nm (16 lb ft).

11. Lamp Installation:

11.1. Remove the top plate from the Sport Bar. There is thread locker on the bolt threads, so they will be difficult to remove.

11.2. While on a bench or tailgate, loosely install the brackets to the lamps with the feet angled outboard.

- 11.3. The 7/16" bolt will rest in a slot in the side of the lamp, followed by a black plastic spacer with the alignment tab nested in the slot in the side of the lamp. This would be followed by the mounting bracket, flat washer and lock nut.
- 11.4. Slide the pre-assembled brackets off the lamps and install them to the top plate with the brackets angled forward, although it doesn't really matter which direction they angle. Use the four black torx fastener to attach the lamp brackets. The large wiring pass through holes will be rearward of the lamps.
- 11.5. After the brackets are snugged up to the top plate, add the lamps to the brackets.
- 11.6. Tighten the lock nut with a 7/16" or 11 mm socket to 6 Nm.
- 11.7. Tighten the lamp mounting bracket to top plate to 16 Nm.
- 11.8. The wiring connector may be hanging outside the sport bar holes near the top corner. If it is not, they are inside the sport bar. Remove the CHMSL from the rear of the sport bar and pull the wiring take outs out through the CHMSL mounting hole. Remove the mating connectors that are used as a sealing plug. The lamp take out that is combined with the CHMSL routes to the right side, while the lone lamp takeout routes to the left. With the assistance of a fishing wire, pull the lamp connectors through the sport bar and out through the holes in the top corners of the sport bar. Reinstall the CHMSL.
- 11.9. There are 5 rubber hole liners intended to protect the wiring as it passes through the sport bar and top plate. Install the two hole liners over the wiring and into the sport bar holes.
- 11.10. Place the top plate and lamps on top of the sport bar. Run the wires through the top plate and install two more hole liners in the top plate, protecting the wiring.
- 11.11. There will be one spare hole liner should one get lost or damaged during installation. If not used, you could leave it with the customer for possible future needs.
- 11.12. Plug the wiring into the back of the lamps.
- 11.13. Reinstall the top plate and torque all the fasteners to 20 Nm.

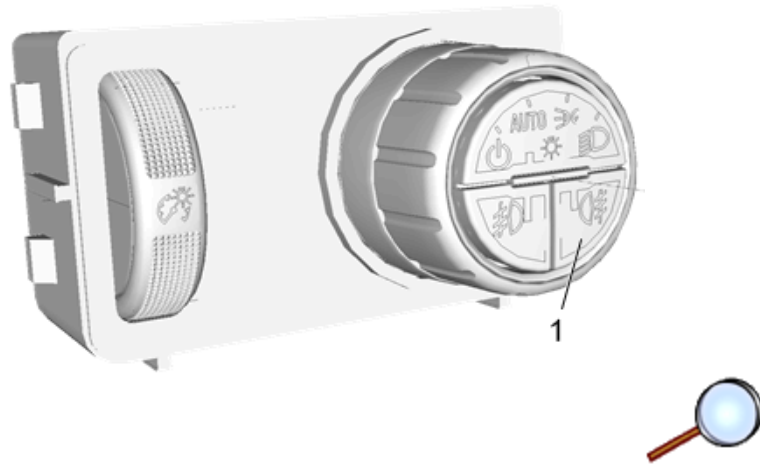
Note: Ensure the wire harness is snug and secured underneath the vehicle.

Note: If not completed earlier Seal the Hole in the FOD with RTV, Liquid Tape or the equivalent, recommend both sealing both sides.

Note: BCM Calibration: The BCM Calibration is already be stored in the BCM giving a plug and play system. NO CALIBRATION REQUIRED for FST.

12. Lamp Function:

- 12.1. The Off-Road Driving Lights will work only with the ignition in the ON position and headlights in the ON position (See note below for Vehicles equipped with Auto Headlamps).



12.2. The Off-Road Driving Lights are turned on with a 'Long Press' (Between 2.5 and 3s) of the button on the Lower Left of the Headlamp switch. They will also turn off with a 2 second button push.

Note: Illumination of this symbol (1) is the only in-vehicle indication the ORLs are on.

Note: If the Headlamp Switch is in Auto and the ambient light is 'daylight' the ORLs will not turn on when the Gear Selector is in Park. If the Gear Selector is NOT in Park turning on the ORLs will force the Low Beams to On. Returning the Gear Selector to Park will leave the ORLs On.

Note: If the ORLs will not turn On or Off wait 2s without depressing the switch and try again.

Note: On the next ignition cycle the lights will be off and will have to be turned on again.

12.3. There are Operator Instructions included with the Lamp Kit, on the opposite side of the one page instruction sheet included with the accessory kit. They should be left with the owner and also encouraged to be kept with the Owner's Manual.

13. Lamp Alignment:

13.1. Please use caution, climbing in and out and working in the pickup box.

13.2. Park the vehicle 15m (50 feet) from a wall.

13.3. **Vertical:** Measure vertically the height from the ground to the center of the Off-Road Lights.

13.4. Make a mark on the wall 175 mm (7 inches) below the center of the lights.

13.5. Turn on the Off-Road Lights (this force the low beams on so they may need to be covered during alignment); if equipped keep the front fog lamps off. Cover one of the Of Road Lights with a shop towel.

13.6. **Vertical:** Using the side mounts and a 7/16" socket or 11mm socket, pivot the light so that it points to the mark made on the wall (175mm below the center of the ORL). Tighten the side mounts to 9 Nm (7 lb ft).

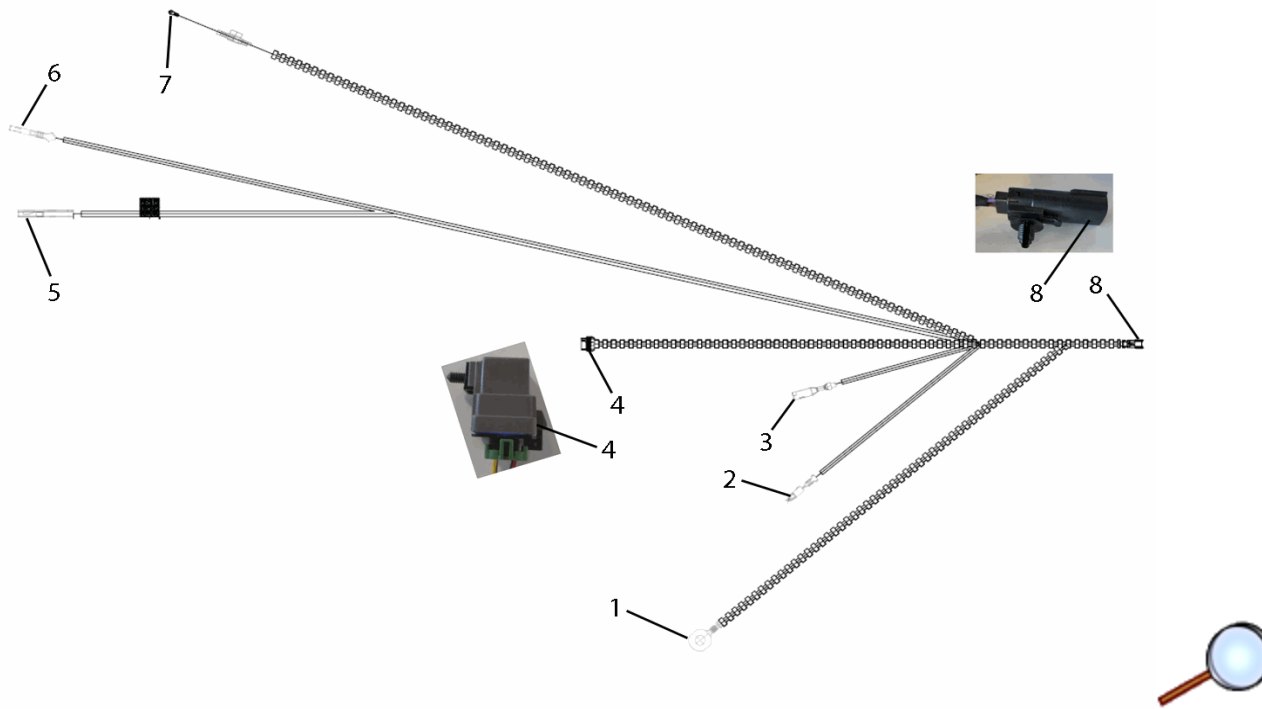
13.7. Swap the shop towel cover from one light to the other and repeat Vertical Alignment process for the other ORL.

- 13.8. **Horizontal:** The outboard mounting hole for the lights to the top plate of the sport bar is slightly slotted, allowing some alignment of the outside of the light front and rear which will move the beam left and right.
- 13.9. Covering one lamp with a shop towel, use a ¼" socket and extension to loosen the outboard fastener and slightly loosen the inboard fastener.
- 13.10. While standing near the rear corners of the vehicle, watch for the lights to point straight ahead from their mountings. Tighten the bottom fasteners to 15 Nm (11 lb ft).
- 13.11. Swap the shop towel to the other and repeat Horizontal Alignment process for the other ORL.

Owners Notes

- Be aware of vehicle height.
- Remove the covers before turning on the lamps.
- Some states, including California, require covers to be on the lights when traveling On-Road.
- It requires a 2 to 3 second button push to turn the lights on or off and 2s between button pushes.
- The Off-Road Lights are strictly for off-road use.
- It is illegal in some states to use them on the road.
- Do not look into the illuminated lights.
- Do not shine the lights into anyone else's face.
- Include the alignment procedure for future corrections.
- The Lamp, Cover and Mounting Kit is serviceable as an assembly through GM Service.
- The Cover, Headlamp Switch, Wiring and Relay are all serviceable individually through GM Service.

Diagram



FST/MST M6 Ground Eyelet Routed to LF Wheel Well (1)

MST CHMSL Relay Delphi Terminal Clear Cover (Black) (2)

FST CHMSL Relay Yazaki Terminal White Cover (Black) (3)

FST/MST Off Road Lamp Relay Mounts to Fender Inner (4)

FST BCM X5:5, Tyco Terminal Routes Through FOD Grommet (Yellow) (5)

FST Headlamp Switch Connector X1:9, Tyco Terminal Routes Through FOD Grommet (Yellow) (6)

M8 Eyelet (FST) connect to Battery Post (Red) (7)

3-way Sealed Connector Inline to Underbody Harness (8)