

## **OEM Lip Mount Camera with Harness and OnStar Mirror for GM Vehicles with 16-pin Mirror Connector (Kit part number 9002-8722)**

**Please read thoroughly before starting installation  
and check that kit contents are complete.**

### **Items Included in the Kit:**

Bubble bag containing:  
Camera with Mount  
Mirror  
Mirror Harness  
Chassis Harness  
Zip lock bag containing:  
12 Zip Ties  
2 Rubber Well Nuts  
2 Bolts  
2 sets of T-taps  
Zip lock bag containing:  
These Instructions  
Self-adhesive Template

### **Tools & Supplies Needed:**

Phillips Screwdriver  
5/16" Drill Bits  
7/8" or 22mm Center Hole Saw  
Power Drill  
Deburring Tool or Round File  
Multi-meter or computer safe test light  
Wire Crimper  
Rust Inhibitor (Recommended)  
Soldering Iron (Recommended)  
Solder (Recommended)  
Plastic Trim Removal Tool

**ATTENTION: 16 Pin Mirror Connector required** - This kit only works on vehicles that are equipped with the 16-pin Mirror Connector illustrated on Page 4. Some GM vehicles with OnStar are equipped with a 10-pin connector. For these applications, purchase a 10-pin mirror kit BrandMotion part number 9002-8723

For a current list of GM vehicles equipped with a 10 pin connector, download the latest application guide at [www.brandmotion.com/docs2/rvsappguide.pdf](http://www.brandmotion.com/docs2/rvsappguide.pdf)

### **Safety Precautions:**

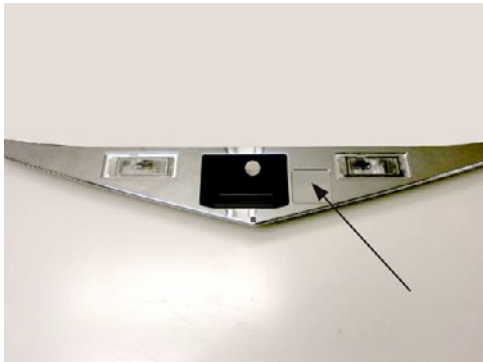
- Work in a well ventilated area that is clear of obstructions.
- Secure vehicle with tire chucks in both front and rear of tires.
- Turn vehicle accessories OFF and ensure ignition key is in OFF position.
- Wear safety goggles and snug fitting clothes.
- Use tools only for their intended purpose and which are in good repair.
- Only perform this task if confidence, skill, and physical ability permit.

**NOTE: We strive to provide accurate and up-to-date installation instructions.  
For the latest full color instructions, please visit [www.brandmotion.com](http://www.brandmotion.com)**

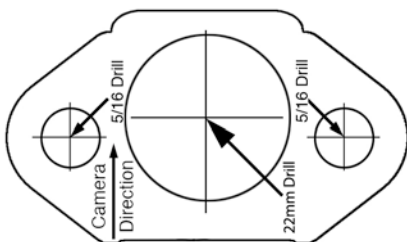
**Step 1:** Place Camera Mount in desired position to confirm fitment. (**IMPORTANT:** Some states prohibit items blocking the vehicle license plate; check local authorities to confirm legal status for your specific application).



Note: the rear trim of several GM vehicles such as the Chevy Equinox and Cadillac CTS have slight depressions (indicated by the arrow below) where factory installed rear view cameras are mounted. These positions are ideal camera locations.



**Step 2:** Peel adhesive backing from supplied Camera Mount Template and apply to the desired location making sure that the camera direction is correct.



**NOTE:** If self-adhesive Template is missing or damaged, cut out the image above and affix with Masking Tape.

## INSTALLATION INSTRUCTIONS

**Step 3:** Use a Center Punch to mark the centers of the required three holes and drill three pilot holes using a 1/8" drill bit. NOTE: If your vehicle has a liftgate panel/trunk trim cover, it must be removed.



**Step 4:** Drill two 5/16" holes for the camera mounting bolts and one 7/8" hole for the camera harness. Use a Deburring Tool or Round File to smooth edges.

**Step 5** (if necessary): Using a 7/8" drill bit, drill an opening in the trunk or liftgate for the head of the Camera Harness to pass through. Insert Camera Harness head through the backside of the hole so that the gray connector end of the Camera Harness is inside the trunk or liftgate. (**RECOMMENDED:** Protect Camera Harness with a rubber grommet or by applying a small amount of silicone caulk to the area that comes into contact with the edges of the hole. Additional recommendation: If drilling through sheet metal, apply a Corrosion Inhibitor.)

**Step 6:** Mount the Camera using the supplied hardware. Insert the two Rubber Well Nuts into the outer 5/16" camera mount holes.

**Step 7:** Thread the two supplied bolts through the Camera Mount and into the Well Nuts using a Phillips Screwdriver but do not tighten the Bolts all the way down just yet.

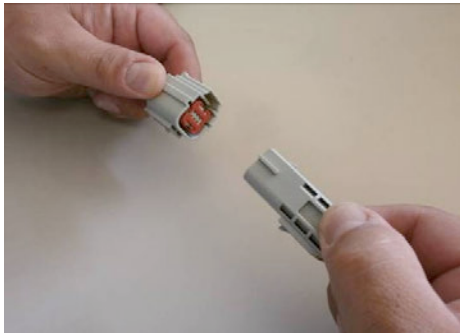
**Step 8:** Determine location of vehicle power and reverse from the chart on Page 6.

**Step 9:** Route Camera Harness towards the side of the vehicle that supplies power. It may be necessary to remove sill plates, pillar covers, seat bottoms, side panels, etc. In some cases even the seatbelt bolts at the bottom of the pillars must be removed.



**CAUTION:** Any bolts removed for safety devices must be retightened to manufacturer's specified torque specifications). Use a plastic trim removal tool to avoid damage to trim pieces.

**Step 10:** Connect Camera Harness to supplied Chassis Harness.



The optimal location for this junction may occur at the top of the liftgate or the inner edge of the trunk. (**Note:** Most vehicles have existing wires passing through this area; use this route if at all possible).



## INSTALLATION INSTRUCTIONS

**Step 11:** Route Chassis Harness forward. It may be necessary to remove sill plates, pillar covers, seat bases, side panels, etc. using a Plastic Trim Removal Tool. In some cases, seatbelt bolts must be removed. (**CAUTION:** Any bolts removed for safety devices must be retightened to manufacturer's torque specifications).

**Step 12:** Secure Camera Harness to existing vehicle wiring with supplied Wire Ties. This will minimize chance of binding or otherwise damaging the harness.



**Step 13:** Remove vehicle mirror. Unplug the 16-pin connector from the rear of the vehicle's mirror, use a T20 Torx bit to loosen the screw securing the mirror, and slide the mirror off the windshield mounting tab.

**CAUTION:** Removing the mirror can cause damage to the windshield.

**NOTE:** Some vehicles have Mirror Mounting Covers (the 2012 Equinox is shown below). Refer to our application guide for affected vehicles. If equipped, remove the cover with a plastic trim tool. If the vehicle has a center portion, remove it.



**Next, using a Roto Tool remove the striped area of the center cover as shown below.** The reworked cover is on the right.



**Step 14: Attach supplied Mirror to the windshield using a T20 Torx Driver.** This mirror has a Wedge/ D-tab style mounting base. Please check our compatibility chart to make sure it is compatible with your vehicle (adapters are available for specific applications separately).

**CAUTION:** Torque for the mirror screw that attaches to the windshield tab is 1.8 Nm (16 lb-in) and cannot exceed 2.2 Nm (19.5 lb-in).

**Step 15:** Plug the 16-pin connector of the supplied Mirror Harness into the supplied Mirror.

**Step 16:** Route the 6-pin connector end of the Mirror Harness along with the green, red, and black wires under the headliner.

**Step 17:** Route the Mirror Harness down the inside of the A-pillar trim closest to the ignition and reverse locations for the vehicle.

**Step 18 (if required): Wiring the Mirror Harness.**

**NOTE:** It may not be necessary for you to use the Green and Red supplied wires below; most GM vehicles already have these locations populated. If wires already exist in these locations, test the leads using a multimeter for the correct signal).

If the wires do not exist, splice the red and green wire leads to the wires listed for the vehicle on Page 6. (Soldering recommended or T-taps as optional connection method):

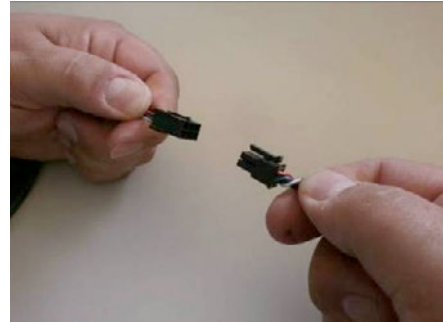
**Red** - Ignition controlled power 12v+ when key is turned ON and 14.4v or better when vehicle is running.

**Green** - Connect to Reverse + power (backup lamp).

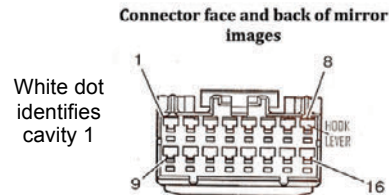
**Step 19:** Attach eyelet of black chassis ground wire of the supplied Mirror Harness to an existing body bolt.

## INSTALLATION INSTRUCTIONS

**Step 20:** Connect the 6-pin connector of the supplied Mirror Harness to the supplied Chassis Harness.



Tuck any excess harness beneath the headliner taking care not to bind the wires.



Mirror Harness Pinouts		
6-PIN Pin # WIRE COLOR	16-PIN Pin # WIRE COLOR	FUNCTION
	1 n/a	n/a
	2 n/a	n/a
	3 n/a	n/a
	4 n/a	n/a
	<b>5 - Gray</b>	<b>Exterior Auto Dimming (+)</b>
<b>1 - White</b>	<b>6 - White</b>	<b>Video +</b>
<b>4 - Brown</b>	<b>7 - Brown</b>	<b>Video -</b>
<b>5 - Black</b>	<b>8 - Black</b>	<b>Ground</b>
<b>3 - Green</b>	<b>9 - Green</b>	<b>Reverse Signal 12V+</b>
	10 n/a	n/a
	<b>11 - Purple</b>	<b>Onstar Keypad Signal</b>
	<b>12 - Blue</b>	<b>Onstar Keypad Supply Voltage</b>
<b>6 - Red</b>	<b>13 - Pink</b>	<b>Ignition Controlled 12V+</b>
	<b>14 - Yellow</b>	<b>Onstar Keypad Green LED Signal</b>
	<b>15 - Orange</b>	<b>Onstar Keypad Red LED Signal</b>
	<b>16 - Red</b>	<b>Exterior Auto Dimming (-)</b>
<b>2 - Blue</b>		<b>Shield</b>

**Step 25: Test the system.** Inspect that all connections are proper and secure. Clear all loose items removed from the area around the vehicle and turn ignition key ON to test system. Once reverse gear is engaged the camera image should appear on the mirror.

**Step 26: Secure Chassis Harness and Mirror Harness with supplied Zip Ties.** If necessary, coil excess harness wire and secure with zip ties. Attach to existing vehicle wiring where possible.

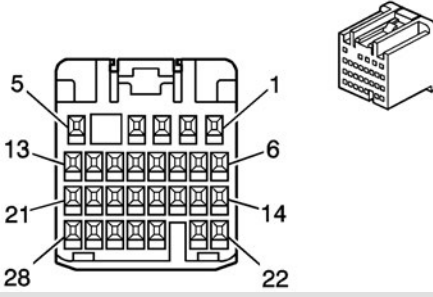
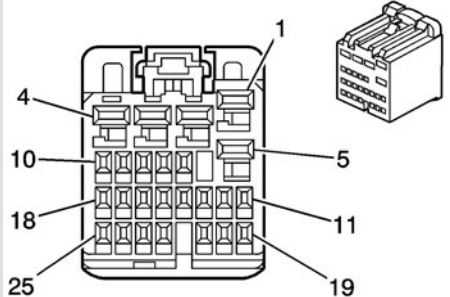
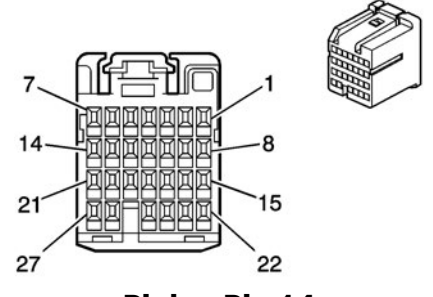
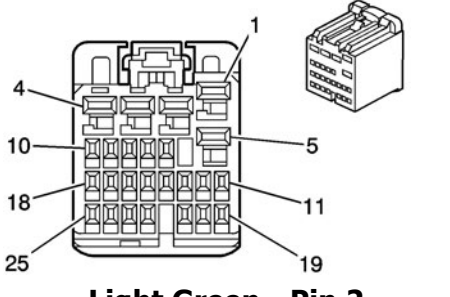
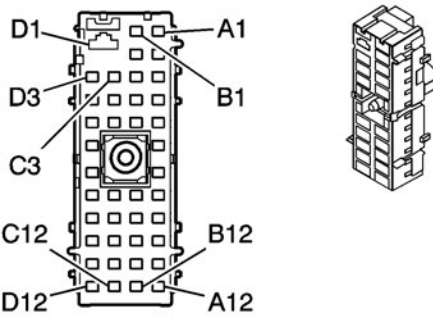
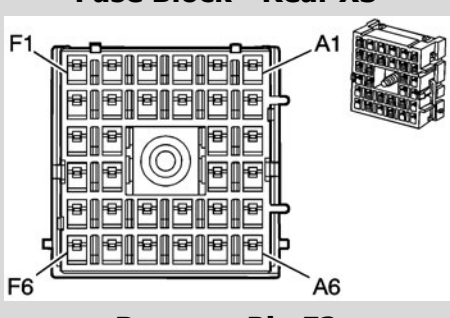
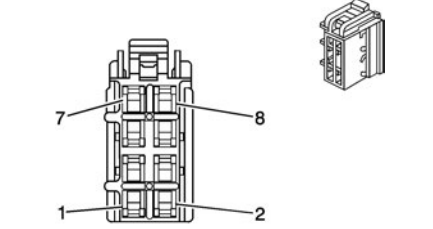
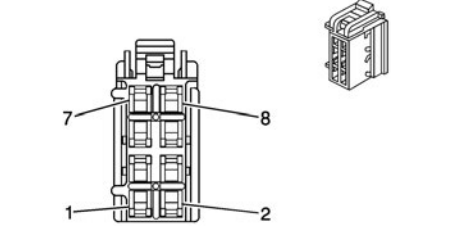
**Step 27: Adjust camera aim.** With the aid of an assistant, move camera to desired view, and tighten the screws that hold the camera in place.

**Step 28: Reassemble vehicle.** Follow your disassembly steps in reverse order, taking care not to bind the harness wiring when reinstalling trim.

## OPERATING INSTRUCTIONS

**Temporary Monitor Manual Shut Down.** If while in reverse you require to turn OFF the camera monitor, simply press and release the POWER button on the mirror. (NOTE: once reverse is disengaged the mirror will go back to normal operation and will turn ON next time reverse is engaged).

**Ignition & Reverse Locations and Wire Colors**

VEHICLE	LOCATION	IGNITION CONNECTOR WIRE COLOR & PIN	REVERSE CONNECTOR WIRE COLOR & PIN
<p><b>Buick Enclave</b> <b>Chevrolet Traverse</b> <b>GMC Acadia</b></p>	<p><b>Driver side below IP cluster left of steering column</b></p>	<p><b>BCM X7</b></p>  <p><b>Yellow- Pin 2</b></p>	<p><b>BCM X6</b></p>  <p><b>Light Green – Pin 2</b></p>
<p><b>Chevrolet Impala</b></p>	<p><b>Driver side below IP, left of the steering column</b></p>	<p><b>BCM X1</b></p>  <p><b>Pink – Pin 14</b></p>	<p><b>BCM X6</b></p>  <p><b>Light Green - Pin 2</b></p>
<p><b>Chevrolet Malibu (Through 2012)</b></p>	<p><b>BCM X3: Center dash below IP cluster</b> <b>Fuse Block - Rear X3: Driver side trunk behind wheel well</b></p>	<p><b>BCM X3</b></p>  <p><b>Pink – Pin A6</b></p>	<p><b>Fuse Block - Rear X3</b></p>  <p><b>Brown – Pin F2</b></p>
<p><b>Chevrolet Silverado</b> <b>Chevrolet Tahoe</b> <b>Chevrolet &amp; GMC Suburban</b> <b>GMC Sierra</b> <b>GMC Yukon</b></p>	<p><b>Driver side below IP left of steering column inside Junction Box</b></p>	<p><b>M-BEC X12 (Brown)</b></p>  <p><b>Pink – Pin 7</b></p>	<p><b>M-BEC X11 (Gray)</b></p>  <p><b>Dark Blue – Pin 5</b></p>