



Service Bulletin

File in Section: -

Bulletin No.: P11030

Date: August, 2013

PRELIMINARY INFORMATION

Subject: Local Motion Hardware Installation/Removal Instructions and Troubleshooting Information

Models: 2014 Chevrolet Spark EV (U.S. Only)

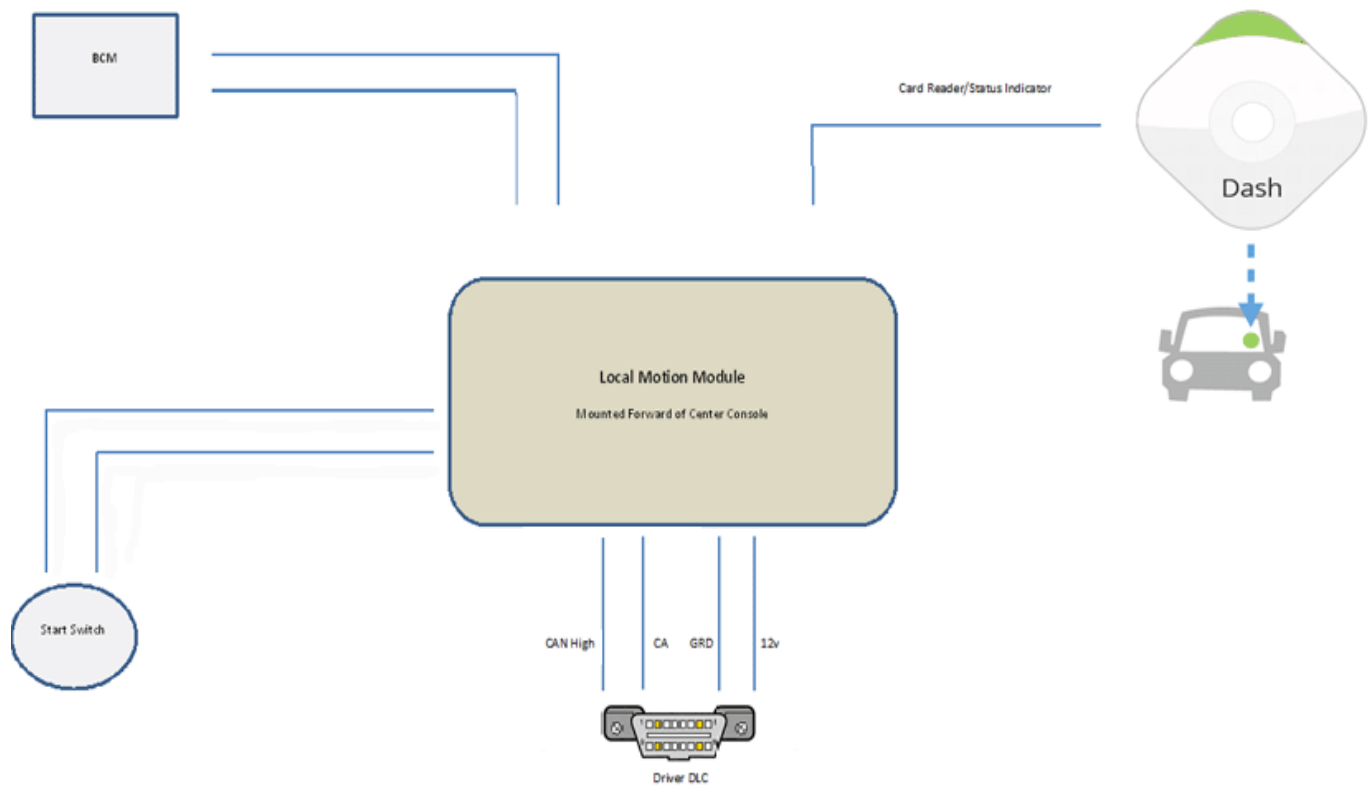
Local Motion provides a vehicle starting system for corporations, campuses, and government fleets. Local Motion uses employee card badges to tap on the windshield to activate the card reader, which interacts with the vehicle body control module. Once activated, the vehicle doors can unlock and the vehicle can be started by using the push button start. This type of system eliminates the need for multiple keys and key fobs. Fleets can allow employees to sign out vehicles through their cell phones or office computers to attend meetings across campus, commute to and from home, or visit offsite business locations.

Google has purchased several Chevrolet Spark EVs, which have been updated with the Local Motion kit. Local Motion will assist with the installation and future diagnostics and part replacement. If the Spark EV needs to be repaired, the Local Motion system may need to be bypassed by using a diagnostic jumper. Please see the instructions below for additional information and Local Motion contacts.

Hardware Components

- Local Motion Module
- Local Motion Card Reader
- Main Wiring Harness
- Radio Frequency Identification (RFID) Badge

Installation Instructions



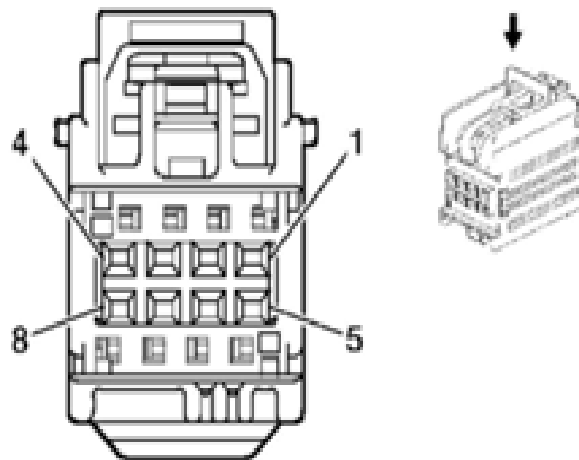
3535664

1. Disconnect the 12V negative battery cable.
2. Remove the LH windshield garnish molding. Refer to the Windshield Garnish Molding Replacement procedure in SI.
3. Remove the LH instrument panel outer trim cover. Use a flat bladed plastic trim tool to aid in the removal of the trim cover.
4. Remove the left front side door sill garnish molding. Refer to the Front Side Door Sill Garnish Molding Replacement in SI.
5. Remove the instrument panel knee bolster bolts (Qty: 4) and knee bolster. Use a flat bladed plastic trim tool in order to release the retainers securing the knee bolster to the instrument panel assembly. Refer to the Instrument Panel Knee Bolster Replacement procedure in SI.
6. Remove the driver side instrument panel lower airbag. Refer to the Driver Side Instrument Panel Lower Airbag Replacement procedure in SI.
 - 6.1. Remove the inflatable restraint instrument panel lower module nut.
 - 6.2. Remove inflatable restraint instrument panel lower module bolts (Qty: 2).
 - 6.3. Disconnect the electrical connector.
7. Remove the front floor console. Refer to the Front Floor Console Replacement procedure in SI.
 - 7.1. Remove the front floor console bolt access hole covers (Qty: 2). Use a flat-bladed plastic tool to release the cover from the front floor console assembly.
 - 7.2. Remove the front floor console rear cup holder liner.
 - 7.3. Remove the front floor console bolts (Qty: 3).
 - 7.4. Disconnect the electrical connections.
8. Place the Local Motion card reader on the instrument panel and route the cable down so that the connector is hanging near the accelerator pedal.
9. Connect the main harness to the Local Motion module.



3541166

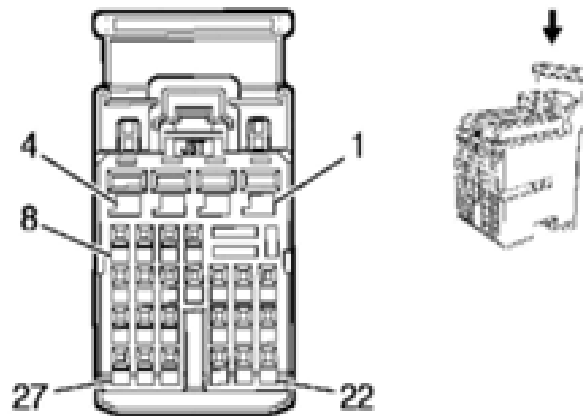
10. Secure the Local Motion module to the top of the pedestrian sound alert module using a hook and loop fastener (Velcro®). The connectors should face toward the rear of the vehicle.
11. Connect the Local Motion card reader connector to the module.
12. Disengage the driver side data link connector (DLC) tab and remove the connector from the instrument panel DLC bracket.
13. Connect the male OBDII connector on the Local Motion module main harness to the DLC.
14. Install the female OBDII connector on the Local Motion module main harness to the instrument panel DLC bracket.
15. Connect the Local Motion module main harness to the vehicles starter disabling circuits.
 - 15.1. Disconnect the ignition and start (vehicle on/off) switch connector.



3535480

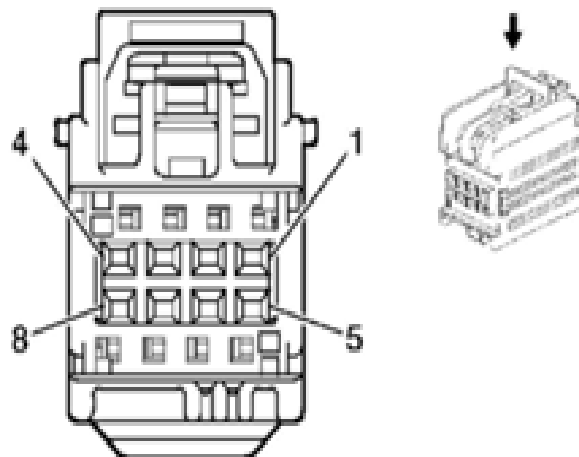
- 15.2. On the start switch connector, locate circuit 3558 (green/black wire, pin 3) and cut the wire approximately 51 mm (2 in) from the connector. Tape the exposed ends of the wires. This circuit will remain open.
- 15.3. On the start switch connector, locate circuit 5723 (blue/green wire, pin 6). Cut the wire approximately 51 mm (2 in) from the connector and strip approximately 7.5 mm (0.313 in) of insulation from both wires.
- 15.4. On the module main harness, locate the two yellow wires. Strip approximately 7.5 mm (0.313 in) of insulation from both wires.
- 15.5. Splice one yellow wire to each cut wire of circuit 5723 using a splice clip. Solder and tape the splices.
- 15.6. Connect the ignition and start (vehicle on/off) switch connector.

16. Connect the Local Motion module main harness to the vehicles lock and unlock circuits.
 - 16.1. Disconnect the X6 and X7 connectors from the body control module (BCM).



3535478

- 16.2. On the X6 connector, locate circuit 780 (brown/yellow wire, pin 15) and remove a 12 mm (0.5 in) strip of insulation approximately 51 mm (2 in) up from the connector.
- 16.3. On the module main harness, locate the pink wire. Strip approximately 7.5 mm (0.313 in) of insulation from the wire.
- 16.4. Splice the pink wire into circuit 780 using a splice clip. Solder and tape the splice.



3535480

- 16.5. On the X7 connector, locate circuit 781 (brown/white wire, pin 14) and remove a 12 mm (0.5 in) strip of insulation approximately 51 mm (2 in) up from the connector.
- 16.6. On the module main harness, locate the orange wire. Strip approximately 7.5 mm (0.313 in) of insulation from the wire.
- 16.7. Splice the orange wire into circuit 781 using a splice clip. Solder and tape the splice.
- 16.8. Connect the X6 and X7 connectors to the body control module (BCM).
17. Secure the wires and cables with tape and tie straps ensuring there is no interference with the instrument panel lower airbag.
18. Install the front floor console.
 - 18.1. Connect the electrical connectors.
 - 18.2. Install the front floor console bolts (Qty: 3).

- 18.3. Install the front floor console rear cup holder liner.
- 18.4. Install the front floor console bolt access hole covers (Qty: 2).
- 19. Install the instrument panel knee bolster and bolts.
- 20. Install the driver side instrument panel lower airbag.
 - 20.1. Install the inflatable restraint instrument panel lower module nut.
 - 20.2. Install the inflatable restraint instrument panel lower module bolts (Qty: 2).
 - 20.3. Connect the electrical connector.
- 21. Install the left front side door sill garnish molding.
- 22. Install the LH instrument panel outer trim cover.
- 23. Install the LH windshield garnish molding. The tabs must be installed prior to retainers. Ensure the tether is reattached.



3535522

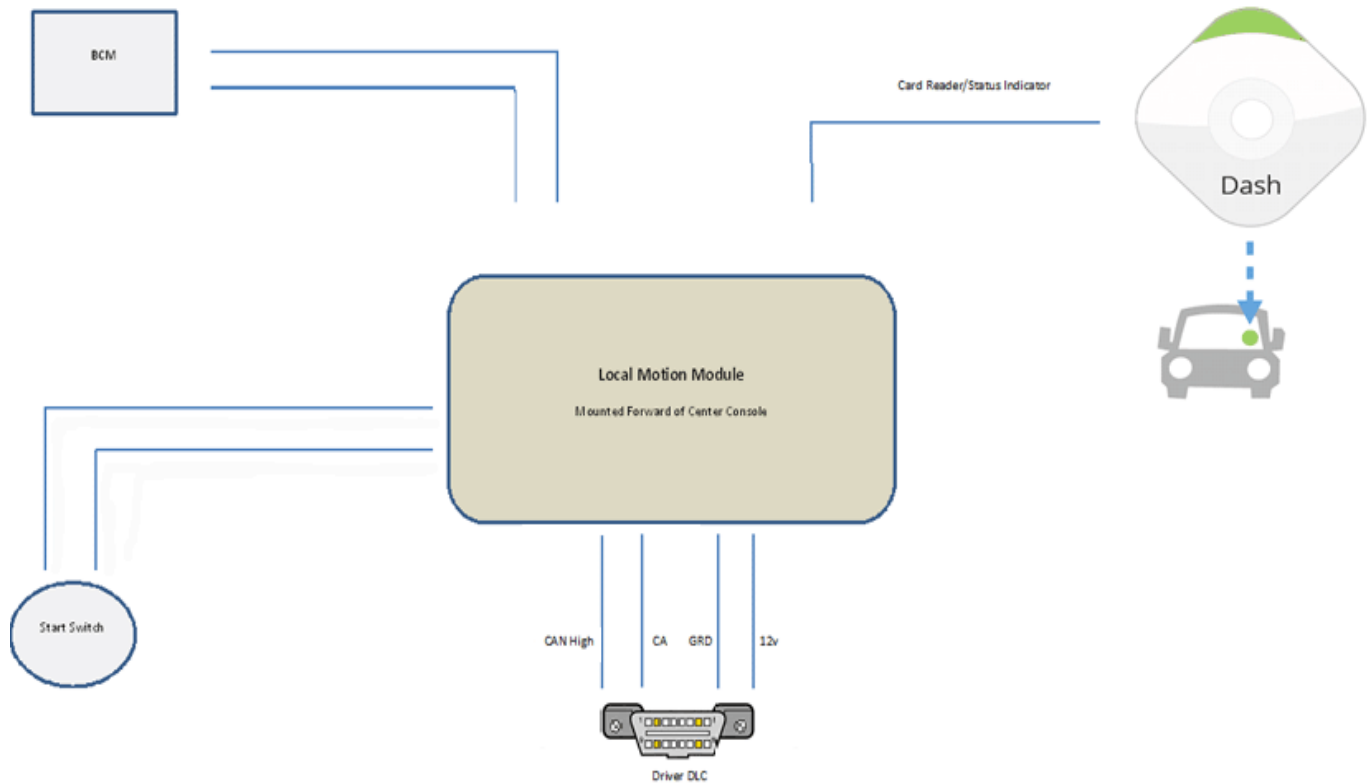
- 24. Secure the Local Motion card reader to the windshield. Make sure the unit is well positioned, perfectly vertical and the cable is hidden (as shown).
 - 25. Connect the 12V negative battery cable.
- Tip:** The card reader LED should turn solid red. If the LED is flashing red, there is a communication error between the card reader and the module. Please double check the card reader connector, and test the module using another card reader.
- 26. Once the 12V battery has been connected, the Local Motion module will power on. After a few seconds, the card reader should turn on as well, emit two beeps and its LED should turn red.



3541173

27. Since the key/transmitter will remain in the vehicle, using the vehicle setting menu on the radio, turn off the "Remote Left in Vehicle Reminder."
28. Reprogram the BCM using the Service Programming System (SPS) with the special calibration available on TIS2WEB labeled "Special BCM Calibration for GM LocalMotion Google Project." Refer to the Body Control Module Programming and Setup in SI.

Removal Instructions



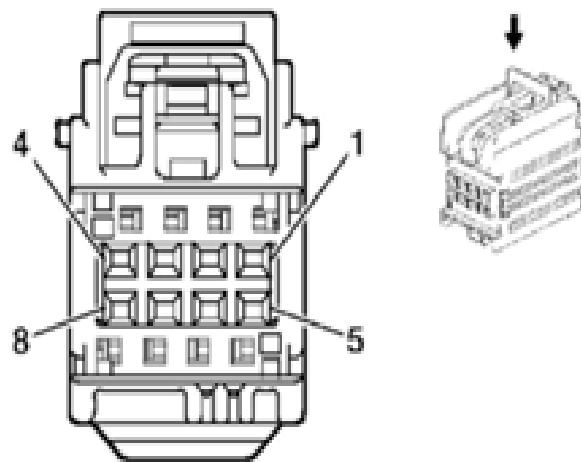
3535664

1. Disconnect the 12V negative battery cable.
2. Remove the LH windshield garnish molding.
3. Remove the LH instrument panel outer trim cover. Use a flat bladed plastic trim tool to aid in the removal of the trim cover.
4. Remove the left front side door sill garnish molding.
5. Remove the instrument panel knee bolster bolts (Qty: 4) and knee bolster. Use a flat bladed plastic trim tool in order to release the retainers securing the knee bolster to the instrument panel assembly.
6. Remove the driver side instrument panel lower airbag.
 - 6.1. Remove the inflatable restraint instrument panel lower module nut.
 - 6.2. Remove inflatable restraint instrument panel lower module bolts (Qty: 2).
 - 6.3. Disconnect the electrical connector.
7. Remove the front floor console.
 - 7.1. Remove the front floor console bolt access hole covers (Qty: 2). Use a flat-bladed plastic tool to release the cover from the front floor console assembly.
 - 7.2. Remove the front floor console rear cup holder liner.
 - 7.3. Remove the front floor console bolts (Qty: 3).
 - 7.4. Disconnect the electrical connections.



3541166

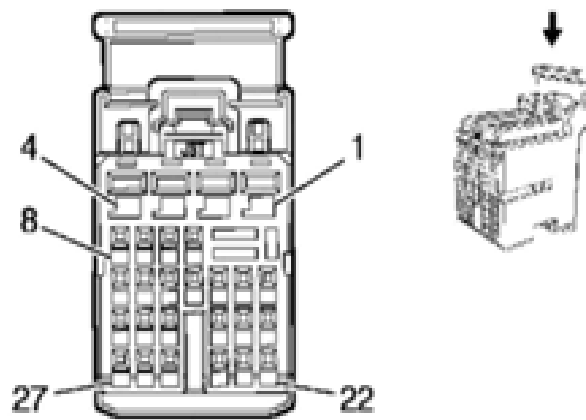
8. Disconnect the main harness from the Local Motion module.
9. Disconnect the Local Motion card reader connector from the module.
10. Remove the Local Motion module from the top of the pedestrian sound alert module.
11. Remove the Local Motion module main harness OBDII female connector from the data link connector (DLC) (driver side)
12. Disconnect the Local Motion module main harness OBDII male connector from the vehicles data link connector.
13. Install the vehicles data link connector to the instrument panel DLC bracket.
14. Disconnect the Local Motion module main harness from the vehicles starter disabling circuits.
 - 14.1. Disconnect the ignition and start (vehicle on/off) switch connector.



3535480

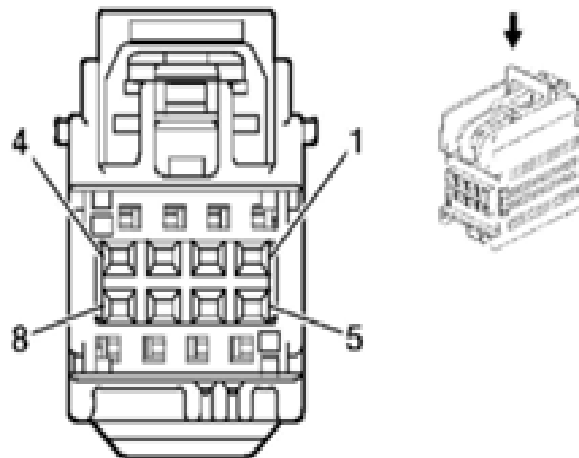
- 14.2. On the start switch connector, remove the tape from the wires of circuit 3558 (green/black wire, pin 3). Strip approximately 7.5 mm (0.313 in) of insulation from the wires.
- 14.3. Splice the two wires of circuit 3558 using a splice clip. Solder and tape the splice.
- 14.4. On the start switch connector, locate circuit 5723 (blue/green wire, pin 6). Cut the two yellow wires coming from the Local Motion module main harness approximately 25 mm (1 in) up from the splice.
- 14.5. On the harness side of circuit 5723, remove the splice clip and strip approximately 7.5 mm (0.313 in) of insulation from the wire.
- 14.6. On the connector side of circuit 5723, strip approximately 7.5 mm (0.313 in) of insulation from the remaining blue wire.

- 14.7. Splice the two wires of circuit 5723 using a splice clip. Solder and tape the splice.
- 14.8. Connect the ignition and start (vehicle on/off) switch connector.
- 15. Disconnect the Local Motion module main harness from the vehicles lock and unlock circuits.
 - 15.1. Disconnect the X6 and X7 connectors from the body control module (BCM).



3535478

- 15.2. On the X6 connector, locate circuit 780 (brown/yellow wire, pin 15) and cut the pink wire as close to the splice as possible. Tape the cut wire.



3535480

- 15.3. On the X7 connector, locate circuit 781 (brown/white wire, pin 14) and cut the orange wire as close to the splice as possible. Tape the cut wire.
- 15.4. Connect the X6 and X7 connectors to the body control module (BCM).
- 16. Remove any tape or tie straps securing the Local Motion module main harness.



3535522

17. Remove the Local Motion card reader from the vehicle.
18. Install the front floor console. Refer to the Front Floor Console Replacement procedure in SI.
 - 18.1. Connect the electrical connectors.
 - 18.2. Install the front floor console bolts (Qty: 3).
 - 18.3. Install the front floor console rear cup holder liner.
 - 18.4. Install the front floor console bolt access hole covers (Qty: 2).
19. Install the instrument panel knee bolster and bolts. Refer to the Instrument Panel Knee Bolster Replacement procedure in SI.
20. Install the driver side instrument panel lower airbag. Refer to the Driver Side Instrument Panel Lower Airbag Replacement procedure in SI.
 - 20.1. Install the inflatable restraint instrument panel lower module nut.
 - 20.2. Install the inflatable restraint instrument panel lower module bolts (Qty: 2).
 - 20.3. Connect the electrical connector.
21. Install the left front side door sill garnish molding. Refer to the Front Side Door Sill Garnish Molding Replacement in SI.
22. Install the LH instrument panel outer trim cover.
23. Install the LH windshield garnish molding. The tabs must be installed prior to retainers. Ensure the tether is reattached. Refer to the Windshield Garnish Molding Replacement procedure in SI.
24. Connect the 12V negative battery cable.

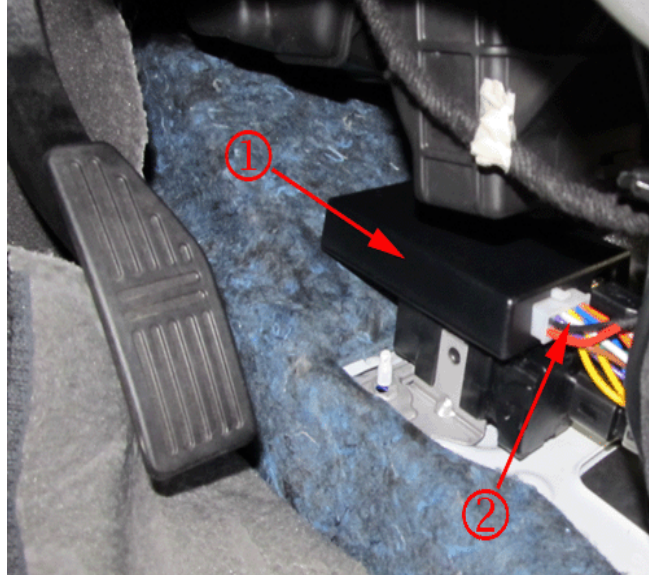


3541173

25. Using the vehicle setting menu on the radio, turn on the Remote Left in Vehicle Reminder.
26. It will be necessary to reset the programming of the BCM to the original factory specifications. Reprogram the BCM using the Service Programming System (SPS). Refer to the Body Control Module Programming and Setup in SI.

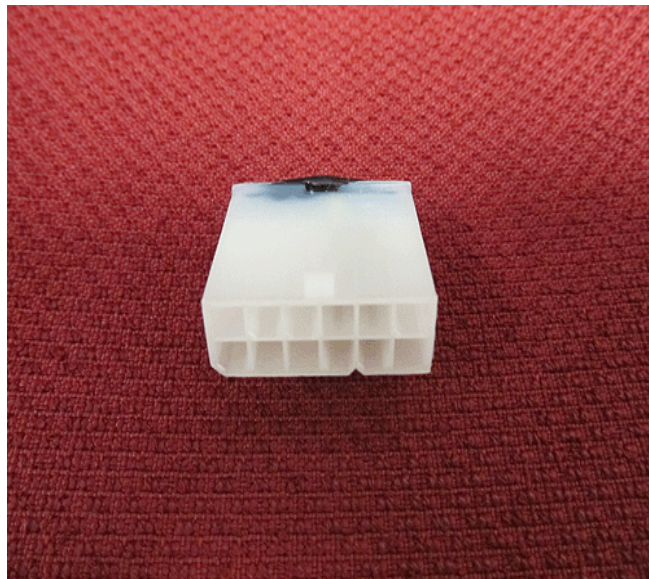
Troubleshooting Information

To aid in the diagnosis of a vehicle that has the Local Motion system installed, the system can be removed/bypassed by performing the following steps.



3553812

1. Access the Local Motion module by pulling back the carpet at the front of the floor console. The Local Motion module (1) is attached to the top of the pedestrian sound alert module.
2. Disconnect the Local Motion module main harness connector (2).



3553725

3. Plug the bypass jumper into the Local Motion main harness connector.
4. Follow published diagnostics in SI for the specific customer concern.
5. Unplug the bypass jumper from the Local Motion main harness connector.
6. Connect the Local Motion module main harness connector.
7. Reinstall the carpet.

For information on the Local Motion system or to obtain additional bypass jumpers, contact Local Motion at 1-866-620-5360 or at support@getlocalmotion.com.