



**An ISO 9001:2000 Registered Company**

**Gateway – Symptom Flow Chart – Lift Interlock (Revision E)  
GTWY201-HL, GTWY401-A1, GTWY501-A1, GTWY801-A1, GTWY820-A1 or  
GTWY901-A1 with Lift Interlock Kit**

**Begin diagnosis by performing the system post installation instructions and notating system operation while doing checks.**

**Observing the operation of the status indicator LED's on the ILIS LED display panel is the primary diagnostic tool for diagnosis of the InterMotive ILIS system.**

**Choose the condition from the chart below that best fits with the symptom identified.**

<b>Condition</b>	<b>Possible Causes</b>	<b>Action</b>
<ul style="list-style-type: none"> <li>No prove out of any display panel LED's.</li> </ul>	<ul style="list-style-type: none"> <li>Connections</li> <li>Power</li> <li>Ground</li> <li>LED panel</li> <li>Harness(es)</li> <li>Module</li> </ul>	<ul style="list-style-type: none"> <li>Go to Pinpoint Test A.</li> </ul>
<ul style="list-style-type: none"> <li>Some display panel LED's do not prove out properly.</li> </ul>	<ul style="list-style-type: none"> <li>Connections</li> <li>Harness(es)</li> <li>LED panel</li> <li>Module</li> </ul>	<ul style="list-style-type: none"> <li>Go to Pinpoint Test K.</li> </ul>
<ul style="list-style-type: none"> <li>LED's scroll (light up one after another).</li> </ul>	<ul style="list-style-type: none"> <li>Connections</li> <li>No network (CAN) communication</li> <li>Network VIN-info error</li> <li>Power</li> <li>Harness(es)</li> <li>Module</li> </ul>	<ul style="list-style-type: none"> <li>Go to Pinpoint Test B.</li> </ul>
<ul style="list-style-type: none"> <li>The <u>3 center</u> LED's flash together in unison.</li> </ul>	<ul style="list-style-type: none"> <li>Excessive current draw on lift output circuit</li> <li>Module</li> </ul>	<ul style="list-style-type: none"> <li>Go to Pinpoint Test C.</li> </ul>
<ul style="list-style-type: none"> <li><u>All</u> LED's flash in unison.</li> </ul>	<ul style="list-style-type: none"> <li>Connections</li> <li>Power</li> <li>Ground</li> <li>LED panel</li> <li>Harness(es)</li> <li>Module</li> </ul>	<ul style="list-style-type: none"> <li>Go to Pinpoint Test A.</li> </ul>
<ul style="list-style-type: none"> <li>Backlighting of some or all Display panel icons is inop.</li> </ul>	<ul style="list-style-type: none"> <li>Connections</li> <li>Harness(es)</li> <li>LED panel</li> <li>Module</li> </ul>	<ul style="list-style-type: none"> <li>Go to Pinpoint Test L.</li> </ul>
<b>Condition</b>	<b>Possible Causes</b>	<b>Action</b>

<ul style="list-style-type: none"> <li>Shift lock status LED is illuminated, but shifter does <b>not</b> lock.</li> </ul>	<ul style="list-style-type: none"> <li>Connections</li> <li>Harness(es)</li> <li>OEM-shift lock solenoid</li> <li>OEM-fuse</li> <li>Module</li> </ul>	<ul style="list-style-type: none"> <li>Go to Pinpoint Test D.</li> </ul>
<ul style="list-style-type: none"> <li>One or more LED's not illuminated when condition(s) met.</li> </ul>	<ul style="list-style-type: none"> <li>Connections</li> <li>Harness(es)</li> <li>Park brake</li> <li>Park</li> <li>Door open</li> <li>Shift lock solenoid</li> <li>Lift power</li> </ul>	<ul style="list-style-type: none"> <li>Go to Pinpoint Test E.</li> </ul>
<ul style="list-style-type: none"> <li>All LED's illuminated but lift not operating.</li> </ul>	<ul style="list-style-type: none"> <li>Connections</li> <li>Harness(es)</li> <li>Fuse</li> <li>Lift</li> <li>Lift switch</li> <li>Module</li> </ul>	<ul style="list-style-type: none"> <li>Go to Pinpoint Test F.</li> </ul>
<ul style="list-style-type: none"> <li>Lift operates when safety conditions <b>not</b> met.</li> </ul>	<ul style="list-style-type: none"> <li>Connections</li> <li>Harness(es)</li> <li>Lift</li> <li>Module</li> </ul>	<ul style="list-style-type: none"> <li>Go to Pinpoint Test G.</li> </ul>
<ul style="list-style-type: none"> <li>Cannot shift out of PARK.</li> </ul>	<ul style="list-style-type: none"> <li>Park brake or lift door switches</li> <li>Connections</li> <li>Harness(es)</li> <li>OEM-shift lock solenoid</li> <li>Module</li> </ul>	<ul style="list-style-type: none"> <li>Go to Pinpoint Test H.</li> </ul>
<ul style="list-style-type: none"> <li>Lift operates intermittently.</li> </ul>	<ul style="list-style-type: none"> <li>Connections</li> <li>Harness(es)</li> <li>Park brake/park/lift door signals</li> <li>Lift</li> <li>Lift switch (if equipped)</li> <li>Module</li> </ul>	<ul style="list-style-type: none"> <li>Go to Pinpoint Test J.</li> </ul>
<ul style="list-style-type: none"> <li>Shift lock LED flashes on/off continuously</li> </ul>	<ul style="list-style-type: none"> <li>Connections</li> <li>Harness</li> <li>Shift lock solenoid</li> </ul>	<ul style="list-style-type: none"> <li>Go to Pinpoint Test M.</li> </ul>

**The following is necessary for proper diagnosis:**

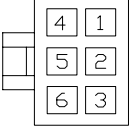
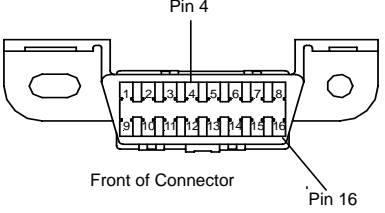
- Minimum system voltage (battery voltage) of 12.4 volts.**
- Digital multimeter (do not use test lamp as circuit damage will result).**
- Gateway ILIS501H1, ILIS601H2, ILIS605H3 or ILIS601H4 documentation as per the application.**
- Gateway GTWY201-HL, GTWY401-A1, GTWY501-A1, GTWY801-A1, GTWY820-A1 or GTWY901-A1, documentation (available at [www.InterMotive.net](http://www.InterMotive.net)).**
- Scan tool or InterMotive "CANalyzer".**

## PINPOINT TEST A: NO PROVE OUT OF ANY LEDs or ALL LEDs FLASH TOGETHER IN UNISON

**No proveout (all LED's light up) of the LED's when the Ignition is turned on, or all of the LEDs flashing together in unison, indicates that:**

- the Gateway module is not powered up
- the LED display is inoperative

**Estimated Time To Complete: 18 Minutes**

Test Step	Result/Action to Take
<p><b>A1 Ensure that all connectors are installed correctly</b></p> <ul style="list-style-type: none"> <li>▪ Carefully inspect module and harness(es)</li> <li>▪ Verify correct harness connector in the correct module plug</li> <li>▪ Refer to schematics in Gateway documentation</li> </ul> <p>▪ Are all harness connectors properly installed into module?</p>	<p>Results _____</p> <p>Yes Go to A2</p> <p>No Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.</p>
<p><b>A2 Ensure that all wires are in their correct connector cavity</b></p> <ul style="list-style-type: none"> <li>▪ Carefully inspect all harness connectors</li> <li>▪ Verify that each connector has the correct wires in the correct connector pin cavity</li> <li>▪ Refer to schematics in Gateway documentation for wire colors and pin locations</li> </ul> <p>▪ Are all wires in their correct connector pin cavity?</p>	<p>Results _____</p> <p>Yes Go to A3</p> <p>No Contact InterMotive for assistance with harness and connectors</p>
<p><b>A3 Check voltage at Data Link at module</b></p> <ul style="list-style-type: none"> <li>▪ Disconnect Data Link connector at module</li> <li>▪ Using a digital multimeter measure voltage between pin 1 and pin 4 of data link connector</li> </ul> <div style="text-align: center;">  <p>Back of Connector</p> </div> <p>▪ Is the voltage greater than 10 Volts?</p>	<p>Results _____</p> <p>Yes Go to A6</p> <p>No Go to A4</p>
<p><b>A4 Check the voltage at Data Link Connector (DLC)</b></p> <ul style="list-style-type: none"> <li>▪ Using a digital multimeter, measure voltage between pin 4 and pin 16 of Data link connector</li> </ul> <div style="text-align: center;">  <p>Front of Connector</p> </div> <p>▪ Is the voltage greater than 10 Volts?</p>	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with the InterMotive Data Link harness</p> <p>No Go to A5</p>

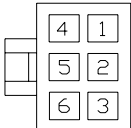
Test Step	Result/Action to Take
<p><b>A5 Check the voltage at Data Link Connector (DLC)</b></p> <ul style="list-style-type: none"> <li>Remove Gateway Data link T harness, measure voltage at OEM Data link connector between pin 4 and pin 16</li> </ul> <div data-bbox="386 241 768 457" data-label="Diagram"> </div> <ul style="list-style-type: none"> <li>Is the voltage greater than 10 Volts?</li> </ul>	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with the InterMotive Data Link harness</p> <p>No Check the fuse for the DLC (Data Link Connector). This fuse is also for the "Cigar Lighter" on Ford and GM vehicles. Refer to the owner's guide or service publications for the location of this fuse.</p> <p><b>FORD:</b> Typical location for the DLC / cigar lighter fuse is in the central junction box (fuse panel under the dash) (Fuse #26 (20A) on E-Series)</p> <p><b>GM:</b> Typical location for the DLC / cigar lighter fuse is in the Underhood Bussed Electrical Center (fuse panel under the hood)</p> <p>If the DLC / cigar lighter fuse is okay, contact OEM dealer for OEM electrical system service.</p>
Test Step	Result/Action to Take
<p><b>A6 Check voltage from the module at the ILIS LED connector</b></p> <ul style="list-style-type: none"> <li>Key in the ON position</li> <li>At the Gateway module, unplug the connector labeled ILIS LED.</li> <li>Using a digital multimeter, measure voltage between pin 1 and pin 4 of the connector receptacle on the module</li> </ul> <div data-bbox="414 993 748 1161" data-label="Diagram"> </div> <ul style="list-style-type: none"> <li>Is the voltage greater than 4.5 Volts?</li> </ul>	<p>Results _____</p> <p>Yes <b>Reconnect ILIS LED connector</b> and Go to A7</p> <p>No Contact InterMotive for assistance with Gateway module</p>
Test Step	Result/Action to Take
<p><b>A7 Check voltage at ILIS LED display connector</b></p> <ul style="list-style-type: none"> <li>Key in the ON position</li> <li>Disconnect the ILIS LED display</li> <li>Using a digital multimeter measure voltage at 10 pin display connector, back probe the harness connector at pin 1 and pin 4</li> </ul> <div data-bbox="643 1392 797 1587" data-label="Diagram"> </div> <ul style="list-style-type: none"> <li>Is the voltage greater than 4.5 Volts?</li> </ul>	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with ILIS LED display panel</p> <p>No Contact InterMotive for assistance with the ILIS LED Display harness</p>

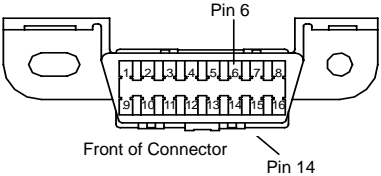
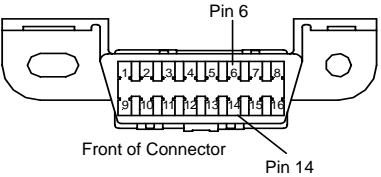
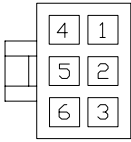
## PINPOINT TEST B: LED INDICATORS SCROLL

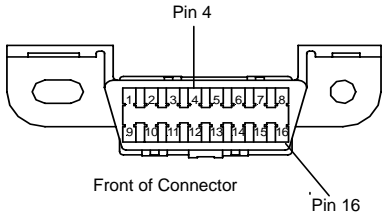
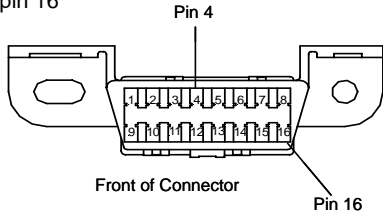
Scrolling of the LED's (LED's lighting up one after another) indicates that:

- the Gateway module cannot communicate with the OEM vehicle communications network
- the Gateway module has lost power (on some installation configurations)

**Estimated Time To Complete: 18 Minutes**

Test Step	
<b>B1 Ensure that all connectors are installed correctly</b> <ul style="list-style-type: none"> <li>▪ Carefully inspect module and harness(es)</li> <li>▪ Verify correct harness connector in the correct module plug</li> <li>▪ Refer to schematics in Gateway documentation</li> </ul> <ul style="list-style-type: none"> <li>▪ Are all harness connectors properly installed into module?</li> </ul>	<p>Yes Go to B2</p> <p>Results_____</p> <p>No Review install instructions, reinstall all connectors in their proper positions. Test system for normal operation.</p>
Test Step	Result/Action to Take
<b>B2 Ensure that all wires are in their correct connector cavity</b> <ul style="list-style-type: none"> <li>▪ Carefully inspect all harness connectors</li> <li>▪ Verify that each connector has the correct wires in the correct connector pin cavity</li> <li>▪ Refer to schematics in Gateway documentation for wire colors and pin locations</li> </ul> <ul style="list-style-type: none"> <li>▪ Are all wires in their correct connector pin cavity?</li> </ul>	<p>Yes Go to B3</p> <p>Results_____</p> <p>No Contact InterMotive for assistance with harness and connectors</p>
Test Step	Result/Action to Take
<b>B3 Check module for power and ground</b> <p>If the Gateway module has proper power and ground, the icons on the display panel should be backlit whenever the ignition key is on.</p> <ul style="list-style-type: none"> <li>▪ Ignition ON</li> <li>▪ Observe ILIS LED panel icons</li> </ul> <p>(Note: you may need to cup your hands around the panel to see if the icons are lit. Compare with the key OFF vs. key ON)</p> <ul style="list-style-type: none"> <li>▪ Are the LED panel icons backlit with the key ON?</li> </ul>	<p>Results_____</p> <p>Yes Go to B4</p> <p>No None of the icons are backlit with the key ON - Go to B8</p>
Test Step	Result/Action to Take
<b>B4 Check for data communication</b> <ul style="list-style-type: none"> <li>▪ Disconnect connector marked "Data Link" at Gateway module</li> <li>▪ Using a digital multimeter, measure voltage between pin 3 at the back of the harness connector and chassis ground, and between pin 6 at the back of the harness connector and chassis ground</li> </ul> <div style="text-align: center; margin: 10px 0;">  <p>Back of Connector</p> </div> <ul style="list-style-type: none"> <li>▪ Are both voltage readings 2.4-2.6 Volts?</li> </ul>	<p>Results_____</p> <p>Yes Go to B7</p> <p>No Go to B5</p>

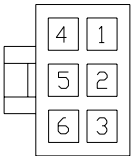
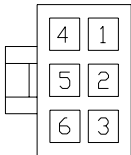
Test Step	Result/Action to Take
<p><b>B5 Check voltage at data link connector</b></p> <ul style="list-style-type: none"> <li>Measure voltage at data link connector between pin 6 and chassis ground and between pin 14 and chassis ground</li> </ul>  <ul style="list-style-type: none"> <li>Are both voltage readings 2.4-2.6 Volts?</li> </ul>	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with the InterMotive Data Link harness</p> <p>No Go to B6</p>
<p><b>B6 Check voltage at data link harness</b></p> <ul style="list-style-type: none"> <li>Disconnect data link T harness, measure voltage at OEM data link connector between pin 6 and chassis ground and between pin 14 and chassis ground</li> </ul>  <ul style="list-style-type: none"> <li>Are both voltage readings 2.4-2.6 Volts?</li> </ul>	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with the InterMotive Data Link harness</p> <p>No Contact OEM dealer</p>
<p><b>B7 Check for CAN-Communication</b></p> <ul style="list-style-type: none"> <li>Disconnect data link "T" harness.</li> <li>Using a Scan Tool, or InterMotive "Canalyzer", insert into OEM data link connector, attempt to communicate with the PCM by retrieving fault codes or reading data.</li> </ul> <ul style="list-style-type: none"> <li>Is communication with PCM successful?</li> </ul>	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with the InterMotive Data Link harness</p> <p>No Contact OEM dealer for network communication concerns</p>
<p><b>B8 Check voltage at data link at module</b></p> <ul style="list-style-type: none"> <li>Disconnect data link connector at module</li> <li>Using a digital multimeter measure voltage between pin 1 and pin 4 of data link connector</li> </ul>  <ul style="list-style-type: none"> <li>Is the voltage greater than 10 Volts?</li> </ul>	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with Gateway module</p> <p>No Go to B9</p>

Test Step	Result/Action to Take
<p><b>B9 Check the voltage at Data Link Connector (DLC)</b></p> <ul style="list-style-type: none"> <li>Using a digital multimeter measure voltage between pin 4 and pin 16 of Data link connector</li> </ul>  <ul style="list-style-type: none"> <li>Is the voltage greater than 10 Volts?</li> </ul>	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with the InterMotive Data Link harness</p> <p>No Go to B10</p>
<p><b>B10 Check the voltage at Data Link Connector (DLC)</b></p> <ul style="list-style-type: none"> <li>Remove Gateway Data link T harness, measure voltage at OEM Data link connector between pin 4 and pin 16</li> </ul>  <ul style="list-style-type: none"> <li>Is the voltage greater than 10 Volts?</li> </ul>	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with the InterMotive Data Link harness</p> <p>No Check the fuse for the DLC (Data Link Connector). This fuse is also for the "Cigar Lighter" on Ford and GM vehicles. Refer to the owners guide, or service publications for the location of this fuse.</p> <p>FORD: Typical location for the DLC / cigar lighter fuse is in the central junction box (fuse panel under the dash) (Fuse #26 (20A) on E-Series)</p> <p>GM: Typical location for the DLC / cigar lighter fuse is in the Underhood Bussed Electrical Center (fuse panel under the hood)</p> <p>If the DLC / cigar lighter fuse is okay, contact OEM dealer for OEM electrical system service.</p>







Test Step	Result/Action to Take
<p>D5 Identify vehicle ILIS system</p> <ul style="list-style-type: none"> <li>Is this a GM C-series (Kodiak/Topkick) (560) medium duty chassis?</li> </ul>	<p>Results_____</p> <p>Yes Go to D6</p> <p>No Vehicle is a GM G-series (Express/Savana) (610) light duty chassis GO to D8</p>
Test Step	Result/Action to Take
<p>D6 Check for Ignition power (GM C-series (Kodiak/Topkick))</p> <ul style="list-style-type: none"> <li>Key in the ON position</li> <li>Using a digital multimeter, measure the voltage between pin 1 (red wire) at the back of the ILIS connector at the Gateway module, and chassis ground</li> </ul>  <p>Back of Connector</p> <ul style="list-style-type: none"> <li>Is the measured voltage greater than 10 volts?</li> </ul>	<p>Results_____</p> <p>Yes Contact InterMotive for assistance with Shift Lock harness and solenoid</p> <p>No Go to D7</p>
Test Step	Result/Action to Take
<p>D7 Check for Ignition power (GM C-series (Kodiak/Topkick))</p> <ul style="list-style-type: none"> <li>Key in the ON position</li> <li>Using a digital multimeter, measure the voltage at the OEM vehicle harness connector side opposite the red wire in the 3-pin InterMotive connector at the lower, left kick panel, and chassis ground. <i>(Refer to the ILIS system installation instructions to help identify this connection made between the InterMotive and OEM harness. The Gateway module picks up power off of the OEM harness to operate the shift lock from this connection.)</i></li> </ul> <ul style="list-style-type: none"> <li>Is the measured voltage greater than 10 volts?</li> </ul>	<p>Results_____</p> <p>Yes Contact InterMotive for assistance with Shift Lock harness and solenoid</p> <p>No Contact OEM dealer to service power to OEM harness connector at the 3-pin connector at the lower, left kick panel (no power to InterMotive harness connector)</p>
Test Step	Result/Action to Take
<p>D8 Check for Ignition power (GM G-series (Express/Savana))</p> <ul style="list-style-type: none"> <li>Key in the ON position</li> <li>Using a digital multimeter, measure the voltage between pin 1 (red wire) at the back of the ILIS connector at the Gateway module, and chassis ground</li> </ul>  <p>Back of Connector</p> <ul style="list-style-type: none"> <li>Is the measured voltage greater than 10 volts?</li> </ul>	<p>Results_____</p> <p>Yes Go to D9</p> <p>No Repair ignition power circuit (red wire)</p>
Test Step	Result/Action to Take
<p>D9 Check OEM shift lock operation</p> <ul style="list-style-type: none"> <li>Remove Gateway shift lock T harness, reconnect OEM shift lock harness to the shift lock solenoid</li> <li>Key in the ON position</li> <li>Do <b>NOT</b> step on the service brake pedal</li> </ul> <ul style="list-style-type: none"> <li>Does shift lock solenoid lock the gear selector in PARK?</li> </ul>	<p>Results_____</p> <p>Yes Contact InterMotive for assistance with Shift Lock harness</p> <p>No Contact OEM dealer to service Shift Lock system</p>

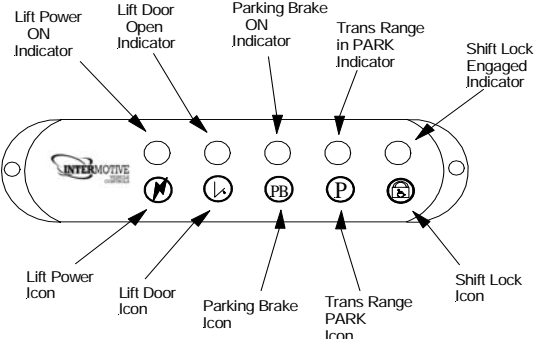






## PINPOINT TEST E: ONE OR MORE LEDS NOT ILLUMINATED, WHEN CONDITION(S) MET

If a LED indicator fails to light with its associated condition(s) met:

- there is a problem with an input and/or input circuit
- there is a problem with the OEM electrical system
- the Gateway module may be incorrectly configured or needs replacement

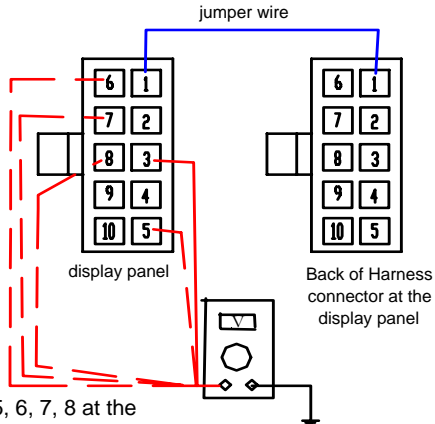
**Estimated Time To Complete: 18 Minutes**

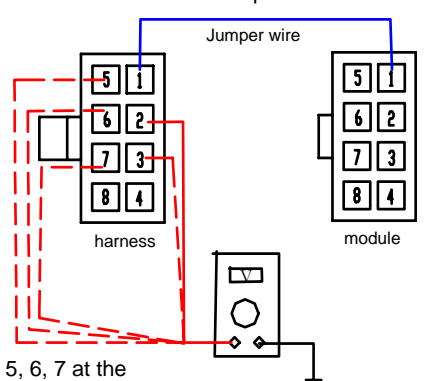
Test Step	Result/Action to Take
<b>E1 Ensure that all connectors are installed correctly</b> <ul style="list-style-type: none"> <li>▪ Carefully inspect module and harness(es)</li> <li>▪ Verify correct harness connector in the correct module plug</li> <li>▪ Refer to schematics in Gateway documentation</li> </ul> <ul style="list-style-type: none"> <li>▪ Are all harness connectors properly installed into module?</li> </ul>	Results _____  Yes Go to E2  No Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.
Test Step	Result/Action to Take
<b>E2 Ensure that all wires are in their correct connector cavity</b> <ul style="list-style-type: none"> <li>▪ Carefully inspect all harness connectors</li> <li>▪ Verify that each connector has the correct wires in the correct connector pin cavity</li> <li>▪ Refer to schematics in Gateway documentation for wire colors and pin locations</li> </ul> <ul style="list-style-type: none"> <li>▪ Are all wires in their correct connector pin cavity?</li> </ul>	Results _____  Yes Go to E3  No Contact InterMotive for assistance with harness and connectors
Test Step	Result/Action to Take
<b>E3 Check LED indicators</b> Reminder: Prove out of LED's on the display panel (all status indicator LED's light up) occurs whenever the ignition is cycled from OFF to ON. The icons do not light up until after the status indicator LED's prove out. <ul style="list-style-type: none"> <li>▪ Turn the ignition off for at least 5 secs, then turn the ignition on to initiate LED prove out.</li> </ul> <ul style="list-style-type: none"> <li>▪ Do all LED's on the display panel light up during the prove out cycle when the ignition key is initially turned on?</li> </ul>	Results _____  Yes Go to E4  No Go to E15

Test Step	Result/Action to Take
<p><b>E4 Observe LED display panel</b></p> <p>Note: Please review system operation before trying to identify faulty status indicator LED operation.</p> <ul style="list-style-type: none"> <li>▪ Key in the ON position</li> <li>▪ Perform each function; set park brake, transmission in PARK, lift door open</li> </ul> <p style="text-align: center;"><b>Status Indicator LED's</b></p>  <p style="text-align: center;"><b>Backlit LED Icons</b></p> <ul style="list-style-type: none"> <li>▪ Which Status Indicator LED does not illuminate properly (stays off with conditions met, or always on)?</li> </ul> <p>Reminder: The icons on the display panel should be backlit whenever the ignition key is on and after status indicator LED prove out. The sole purpose of the icons is to identify the status indicator LED's located directly above each icon.</p>	<p style="text-align: right;">Results_____</p> <ul style="list-style-type: none"> <li> Park Brake (Ford) - Go to E5</li> <li> Park Brake (GM) - Go to E12</li> <li> PARK - Go to E6</li> <li> Door open - Go to E7</li> <li> Shift lock - Contact InterMotive for assistance with the Gateway module</li> <li> Lift power - Go to E10</li> </ul>
Test Step	Result/Action to Take
<p><b>E5 Check park brake operation</b></p> <ul style="list-style-type: none"> <li>▪ Key in the ON position</li> <li>▪ Alternately release and apply the parking brake</li> </ul> <p>▪ Does the park brake indicator on the dash illuminate properly?</p>	<p style="text-align: right;">Results_____</p> <p>Yes Contact InterMotive for assistance with Gateway module</p> <p>No Contact OEM dealer or check park brake switch and circuits</p>
Test Step	Result/Action to Take
<p><b>E6 Check park operation</b></p> <ul style="list-style-type: none"> <li>▪ Verify that the vehicle transmission range selector is in the PARK position</li> <li>▪ Using a scan tool, monitor the transmission range sensor data</li> </ul> <p>▪ Does the gear selector correlate to the Transmission Range sensor data on scan tool?</p>	<p style="text-align: right;">Results_____</p> <p>Yes Contact InterMotive for assistance with Gateway module</p> <p>No Contact OEM dealer concerning Transmission Range sensor and network communication issues</p>

Test Step	Result/Action to Take
<p><b>E7 Check lift door switch circuit operation</b></p> <ul style="list-style-type: none"> <li>Using a digital multimeter, measure the voltage from the back of pin 6 (gray wire) at the connector labeled ILIS on the Gateway module to chassis ground</li> <li>Alternately open and close the lift door</li> </ul> <p>(Note: depending on original circuit installation, the voltage on this circuit may be anywhere between 4.5 Volts to battery voltage with the door in the closed position)</p> <div data-bbox="621 430 751 562" style="text-align: center;"> </div> <p style="text-align: center;">Back of Connector</p> <ul style="list-style-type: none"> <li>Does the voltage on pin 6 measure higher than 4.5 Volts with the lift door closed, then drop to less than 0.2 Volts with the lift door open?</li> </ul>	<p style="text-align: center;">Results_____</p> <p>Yes Contact InterMotive for assistance with Gateway module</p> <p>No The voltage does not change when the lift door is open and closed - Go to E8</p>
<p style="text-align: center;"><b>Test Step</b></p> <p><b>E8 Check lift door switch circuit operation</b></p> <p>(Note: depending on original circuit installation, the voltage on this circuit may be anywhere between 4.5 Volts to battery voltage with the door in the closed position)</p> <div data-bbox="600 835 730 968" style="text-align: center;"> </div> <p style="text-align: center;">Back of Connector</p> <ul style="list-style-type: none"> <li>While using a digital multimeter to monitor the voltage on pin 6 (gray wire) at the connector labeled ILIS on the Gateway module in the previous step, does the voltage always stay high (above 4.5 Volts)?</li> </ul>	<p style="text-align: center;">Results_____</p> <p>Yes Repair door switch or door switch circuit for open circuit condition and/or check door adjustment.</p> <p>No The voltage stays low (below 0.2 Volts) - Go To E9</p>
<p style="text-align: center;"><b>Test Step</b></p> <p><b>E9 Check lift door switch circuit operation</b></p> <ul style="list-style-type: none"> <li>Disconnect the connector labeled ILIS on the Gateway module (leave all other connectors in place)</li> <li>Key in the ON position</li> <li>Using a digital multimeter, measure the voltage at the pin 6 of the connector receptacle, labeled ILIS <b>on the Gateway module</b>, to chassis ground</li> </ul> <div data-bbox="621 1348 751 1480" style="text-align: center;"> </div> <p style="text-align: center;"><b>ILIS receptacle on the Gateway module</b></p> <ul style="list-style-type: none"> <li>Is the voltage at pin 6 of the ILIS receptacle between 4.5-5.0 Volts?</li> </ul>	<p style="text-align: center;">Results_____</p> <p>Yes Repair short to ground in door switch circuit or stuck closed door switch.</p> <p>No Contact InterMotive for assistance with Gateway module</p>

Test Step	Result/Action to Take
<p data-bbox="90 170 846 199">E10 Check for the presence of a lift disable/enable switch</p> <ul data-bbox="90 199 846 520" style="list-style-type: none"> <li data-bbox="90 199 846 409">▪ Locate the Gateway module and observe the connectors plugged into it</li> <li data-bbox="90 409 846 520">▪ Is there a connector and harness plugged into the port labeled <b>AUX I/O</b> on the Gateway module?</li> </ul>	<p data-bbox="846 170 1487 273" style="text-align: center;">Results_____</p> <p data-bbox="846 273 1487 409">Yes Go to pinpoint test E11</p> <p data-bbox="846 409 1487 520">No Contact InterMotive for assistance with Gateway module</p>
Test Step	Result/Action to Take
<p data-bbox="90 554 846 583">E11 Check lift disable/enable switch</p> <ul data-bbox="90 583 846 871" style="list-style-type: none"> <li data-bbox="90 583 846 613">▪ Key in the ON position</li> <li data-bbox="90 613 846 661">▪ Ensure that all conditions met: parking brake on, vehicle in PARK, lift door open, and that their respective LED indicators are lit.</li> <li data-bbox="90 661 846 724">▪ Disconnect the connector and harness plugged into the port labeled <b>AUX I/O</b> on the Gateway module</li> <li data-bbox="90 724 846 756">▪ Observe the Lift Power LED</li> <li data-bbox="90 819 846 871">▪ Is the Lift Power LED now illuminated?</li> </ul>	<p data-bbox="846 554 1487 651" style="text-align: center;">Results_____</p> <p data-bbox="846 651 1487 777">Yes Repair short to ground in the lift switch circuit or lift switch</p> <p data-bbox="846 777 1487 871">No Contact InterMotive for assistance with Gateway module</p>
Test Step	Result/Action to Take
<p data-bbox="90 905 846 934">E12 Check park brake operation (GM)</p> <ul data-bbox="90 934 846 1140" style="list-style-type: none"> <li data-bbox="90 934 846 963">▪ Key in the ON position</li> <li data-bbox="90 963 846 1039">▪ Alternately release and apply the parking brake</li> <li data-bbox="90 1081 846 1140">▪ Does the park brake indicator on the dash illuminate properly?</li> </ul>	<p data-bbox="846 905 1487 1008" style="text-align: center;">Results_____</p> <p data-bbox="846 1008 1487 1081">Yes Go to E13</p> <p data-bbox="846 1081 1487 1140">No Go to E14</p>
Test Step	Result/Action to Take
<p data-bbox="90 1173 846 1203">E13 Check Park Brake signal at module (GM)</p> <ul data-bbox="90 1203 846 1512" style="list-style-type: none"> <li data-bbox="90 1203 846 1232">▪ Key in the on position</li> <li data-bbox="90 1232 846 1281">▪ Using a digital multimeter, measure the voltage between pin 3 at the back of the <b>AUX I/O</b> port connector at the Gateway module, and chassis ground</li> <li data-bbox="90 1281 846 1310">▪ Alternately release and apply the parking brake</li> <li data-bbox="90 1428 846 1512">▪ Does the voltage change from battery voltage, to less than 0.2 Volts?</li> </ul>	<p data-bbox="846 1173 1487 1281" style="text-align: center;">Results_____</p> <p data-bbox="846 1281 1487 1428">Yes Contact InterMotive for assistance with Gateway module</p> <p data-bbox="846 1428 1487 1512">No Contact InterMotive for assistance with brake switch "T" harness</p>

Test Step	Result/Action to Take
<p><b>E14 Check park brake operation (GM)</b></p> <ul style="list-style-type: none"> <li>Disconnect the InterMotive Brake Switch "T" harness at the parking brake switch</li> <li>Connect the OEM parking brake switch connector to the OEM parking brake switch (restoring circuit to OEM factory original)</li> <li>Key in the ON position</li> <li>Alternately release and apply the parking brake</li> </ul> <p>• Does the park brake indicator on the dash illuminate properly?</p>	<p>Results_____</p> <p>Yes Contact InterMotive for assistance with brake switch "T" harness</p> <p>No Contact OEM dealer or check park brake switch and circuits</p>
Test Step	Result/Action to Take
<p><b>E15 Check Shift Lock LED operation</b></p> <p>Reminder: Prove out of LED's on the display panel (all LEDs light up) occurs whenever the ignition is cycled from OFF to ON.</p> <ul style="list-style-type: none"> <li>Turn the ignition off for at least 5 secs, then turn the ignition on to initiate LED prove out.</li> </ul> <p>• Does the Shift Lock LED (the right most LED on the display panel) illuminate at all times with the ignition on, and no other LED's light up?</p>	<p>Results_____</p> <p>Yes With ignition on, unplug the 6-pin connector marked "Data Link" at the Gateway module for 10 seconds, then reconnect the 6-pin Data Link connector and recheck. (this step resets the Gateway module data link connection software)</p> <p>No The system does not exhibit this exact condition - Go to E16</p>
Test Step	Result/Action to Take
<p><b>E16 Check Display panel LED circuits</b></p> <ul style="list-style-type: none"> <li>Disconnect the 10-pin LED display connector at the LED display</li> <li>Connect a jumper from the back of pin 1 (yellow wire) of the LED harness connector to pin 1 of the ILIS LED display</li> <li>Ignition ON</li> </ul> <p>(The jumper wire supplies 5 Volts to the LED display with the display unplugged)</p>  <p>• Check the voltage at pins 3, 5, 6, 7, 8 at the ILIS LED display panel connector</p> <p>• Are any of the measured voltages less than 3V?</p>	<p>Results_____</p> <p>Yes Contact InterMotive for assistance with LED display panel</p> <p>No <b>Reconnect the LED display - Go to E17</b></p>

Test Step	Result/Action to Take
<p><b>E17 Check Display panel LED circuits</b></p> <ul style="list-style-type: none"> <li>▪ Disconnect the 8-pin ILIS LED harness connector at the module</li> <li>▪ Connect a jumper from the back of pin 1 (yellow wire) of the ILIS LED harness connector to pin 1 of the ILIS LED connector receptacle</li> <li>▪ Ignition ON</li> </ul> <p>(The jumper wire supplies 5 Volts to the LED display harness with the harness unplugged)</p>  <ul style="list-style-type: none"> <li>▪ Check the voltage at pins 2, 3, 5, 6, 7 at the back of the ILIS LED harness connector</li> <li>▪ Are any of the measured voltages less than 3V?</li> </ul>	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with ILIS LED display harness</p> <p>No Contact InterMotive for assistance with the Gateway module</p>

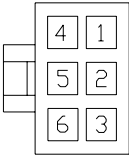
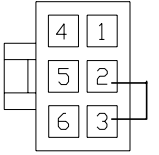


# PINPOINT TEST F: LEDS PROPERLY ILLUMINATED, BUT LIFT NOT OPERATING

If the lift does not operate with the lift power LED indicator lit:

- there is a problem with the wiring harness to the lift
- there is a problem with the lift
- the Gateway module may be incorrectly configured or needs replacement

**Estimated Time To Complete: 18 Minutes**

Test Step	Result/Action to Take
<b>F1 Ensure that all connectors are installed correctly</b> <ul style="list-style-type: none"> <li>Carefully inspect module and harness(es)</li> <li>Verify correct harness connector in the correct module plug</li> <li>Refer to schematics in Gateway documentation</li> </ul>	Yes Go to F2  No Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.
<b>F2 Ensure that all wires are in their correct connector cavity</b> <ul style="list-style-type: none"> <li>Carefully inspect all harness connectors</li> <li>Verify that each connector has the correct wires in the correct connector pin cavity</li> <li>Refer to schematics in Gateway documentation for wire colors and pin locations</li> </ul>	Yes Go to F3  No Contact InterMotive for assistance with harness and connectors
<b>F3 Check for lift power</b> <ul style="list-style-type: none"> <li>Key in the ON position</li> <li>Using a digital multimeter, measure the voltage between pin 3 (yellow wire) at the back of the ILIS connector at the Gateway module, and chassis ground</li> </ul>	Yes Go to F3  No Repair fused ignition power circuit (yellow wire)
 <p>Back of Connector</p>	
<ul style="list-style-type: none"> <li>Is the measured voltage greater than 10 volts?</li> </ul>	
<b>F3 Check for lift power</b> <ul style="list-style-type: none"> <li>Disconnect ILIS connector from module, using a jumper wire, jump pin 2 (orange wire) to pin 3 (yellow wire) at the back of the ILIS harness connector</li> <li>Attempt to operate lift</li> </ul>	Results_____
 <p>Back of Connector</p>	Yes Contact InterMotive for assistance with Gateway module  No Go to F4
<ul style="list-style-type: none"> <li>Does the lift operate?</li> </ul>	
<b>F4 Check for lift operation</b> <ul style="list-style-type: none"> <li>Disconnect lift interlock connector from lift</li> <li>Jumper 12 Volt battery power to the lift power wire at the lift connector (Note: you may need to match up which wire on the lift connects to the "lift power" (orange wire from the module) wire on the harness in order to determine which lift wire to power up)</li> </ul>	Results_____
<ul style="list-style-type: none"> <li>Does the lift operate?</li> </ul>	Yes Repair lift interlock harness from Gateway module to lift connector (orange wire from the module)  No Check lift circuits and system. Contact lift manufacturer if still no lift operation.

## PINPOINT TEST G: LIFT OPERATES WHEN SAFETY CONDITIONS NOT MET

If the lift operates even though the lift output LED indicator is not lit:

- there is a problem with the wiring harness to the lift
- there is a problem with the lift
- the Gateway module may be incorrectly configured or needs replacement

**Estimated Time To Complete: 18 Minutes**

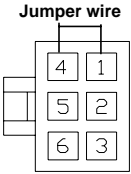
Test Step	Result/Action to Take
<b>G1 Ensure that all connectors are installed correctly</b> <ul style="list-style-type: none"> <li>▪ Carefully inspect module and harness(es)</li> <li>▪ Verify correct harness connector in the correct module plug</li> <li>▪ Refer to schematics in Gateway documentation</li> </ul> <ul style="list-style-type: none"> <li>▪ Are all harness connectors properly installed into module?</li> </ul>	<p>Yes Go to G2</p> <p>Results_____</p> <p>No Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.</p>
Test Step	Result/Action to Take
<b>G2 Ensure that all wires are in their correct connector cavity</b> <ul style="list-style-type: none"> <li>▪ Carefully inspect all harness connectors</li> <li>▪ Verify that each connector has the correct wires in the correct connector pin cavity</li> <li>▪ Refer to schematics in Gateway documentation for wire colors and pin locations</li> </ul> <ul style="list-style-type: none"> <li>▪ Are all wires in their correct connector pin cavity?</li> </ul>	<p>Yes Go to G3</p> <p>Results_____</p> <p>No Contact InterMotive for assistance with harness and connectors</p>
Test Step	Result/Action to Take
<b>G3 Check lift operation</b> <ul style="list-style-type: none"> <li>▪ Disconnect ILIS connector from Gateway module and attempt to operate lift</li> </ul> <ul style="list-style-type: none"> <li>▪ Does the lift operate?</li> </ul>	<p>Results_____</p> <p>Yes Check for bypass jumper wires or short to power on lift circuit or at the lift</p> <p>No Contact InterMotive for assistance with Gateway module</p>

## PINPOINT TEST H: CANNOT SHIFT OUT OF PARK

If the transmission range selector cannot be shifted out of PARK with conditions met:

- there is a problem with the shift lock solenoid and/or circuit
- there is a problem with the OEM electrical system
- the Gateway module may be incorrectly configured or needs replacement

**Estimated Time To Complete: 18 Minutes**

Test Step	Result/Action to Take
<p><b>H1</b> Ensure that all connectors are installed correctly</p> <ul style="list-style-type: none"> <li>▪ Carefully inspect module and harness(es)</li> <li>▪ Verify correct harness connector in the correct module plug</li> <li>▪ Refer to schematics in Gateway documentation</li> </ul> <ul style="list-style-type: none"> <li>▪ Are all harness connectors properly installed into module?</li> </ul>	<p>Yes Go to H2</p> <p>Results_____</p> <p>No Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.</p>
Test Step	Result/Action to Take
<p><b>H2</b> Ensure that all wires are in their correct connector cavity</p> <ul style="list-style-type: none"> <li>▪ Carefully inspect all harness connectors</li> <li>▪ Verify that each connector has the correct wires in the correct connector pin cavity</li> <li>▪ Refer to schematics in Gateway documentation for wire colors and pin locations</li> </ul> <ul style="list-style-type: none"> <li>▪ Are all wires in their correct connector pin cavity?</li> </ul>	<p>Yes Go to H3</p> <p>Results_____</p> <p>No Contact InterMotive for assistance with harness and connectors</p>
Test Step	Result/Action to Take
<p><b>H3</b> Identify vehicle ILIS system</p> <p>(Note: The Ford and GM shift lock solenoids operate differently, and are wired differently. Be sure to follow the correct diagnostic path for the vehicle manufacturer)</p> <ul style="list-style-type: none"> <li>▪ Is the vehicle a GM chassis?</li> </ul>	<p>Results_____</p> <p>Yes Go to H5</p> <p>No Vehicle is a Ford E/F series chassis GO to H4</p>
Test Step	Result/Action to Take
<p><b>H4</b> Check shift lock solenoid (Ford)</p> <ul style="list-style-type: none"> <li>▪ Disconnect ILIS connector from Gateway module, using a jumper wire, jump pin 1 to pin 4</li> <li>▪ Key in the ON position</li> <li>▪ Step on the service brake pedal</li> </ul> <div style="text-align: center; margin: 10px 0;">  <p style="margin: 0;">Jumper wire</p> <p style="margin: 0;">Back of Connector</p> </div> <ul style="list-style-type: none"> <li>▪ Can vehicle be shifted out of park?</li> </ul>	<p>Results_____</p> <p>Yes Contact InterMotive for assistance with Gateway module</p> <p>No Go to H7</p>

Test Step	Result/Action to Take
<b>H5 Check shift lock solenoid (GM)</b> <ul style="list-style-type: none"> <li>▪ Disconnect ILIS connector from the Gateway module</li> <li>▪ Key in the ON position</li> <li>▪ Step on the service brake pedal</li> </ul> <ul style="list-style-type: none"> <li>▪ Can vehicle be shifted out of park?</li> </ul>	<p style="text-align: center;">Results_____</p> <p>Yes Contact InterMotive for assistance with Gateway module</p> <p>No Go to H6</p>
Test Step	Result/Action to Take
<b>H6 Identify vehicle ILIS system (GM)</b> <ul style="list-style-type: none"> <li>▪ Is this a GM C-series (Kodiak/Topkick) (560) medium duty chassis?</li> </ul>	<p style="text-align: center;">Results_____</p> <p>Yes Contact InterMotive for assistance with Shift Lock harness and solenoid</p> <p>No Vehicle is a GM G-series (Express/Savana) (610) light duty chassis GO to H7</p>
Test Step	Result/Action to Take
<b>H7 Check OEM shift lock operation</b> <ul style="list-style-type: none"> <li>▪ Remove Gateway shift lock "T" harness at the shift lock solenoid, reconnect OEM shift lock harness to the shift lock solenoid</li> <li>▪ Key in the ON position</li> <li>▪ Step on the service brake pedal</li> </ul> <ul style="list-style-type: none"> <li>▪ Can vehicle be shifted out of park?</li> </ul>	<p style="text-align: center;">Results_____</p> <p>Yes Contact InterMotive for assistance with Shift Lock harness</p> <p>No Contact OEM dealer to service Shift Lock system</p>
<p><b>PINPOINT TEST J: LIFT OPERATES INTERMITTENTLY</b></p> <p><b>Estimated Time To Complete: 18 Minutes</b></p>	
Test Step	Result/Action to Take
<b>J1 Check lift operation</b> <ul style="list-style-type: none"> <li>▪ Observe LED's when lift won't operate</li> </ul> <ul style="list-style-type: none"> <li>▪ What does the LED panel display?</li> </ul>	<p>Refer to the symptom chart for diagnosis based on the LED display indicators during faulty operation</p>

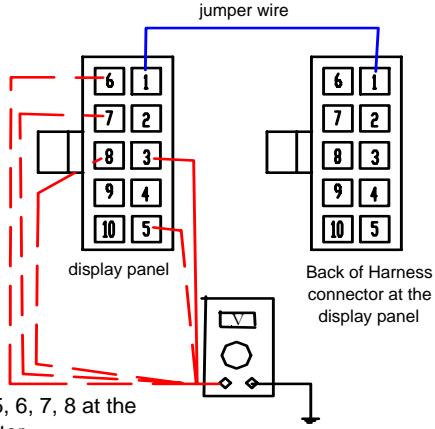
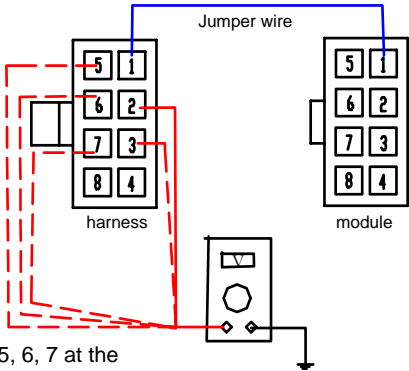
## PINPOINT TEST K: SOME, but not all, DISPLAY PANEL LEDs DO NOT PROVE OUT PROPERLY

If an LED indicator does not light when the ignition key is initially turned to ON:

- there is a problem with the LED indicator display and/or circuit
- the Gateway module may be incorrectly configured or needs replacement

**Estimated Time To Complete: 18 Minutes**

Test Step	Result/Action to Take
<b>K1 Ensure that all connectors are installed correctly</b> <ul style="list-style-type: none"> <li>▪ Carefully inspect module and harness(es)</li> <li>▪ Verify correct harness connector in the correct module plug</li> <li>▪ Refer to schematics in Gateway documentation</li> </ul> <ul style="list-style-type: none"> <li>▪ Are all harness connectors properly installed into module?</li> </ul>	<p style="text-align: right;">Results_____</p> <p>Yes Go to K2</p> <p>No Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.</p>
Test Step	Result/Action to Take
<b>K2 Ensure that all wires are in their correct connector cavity</b> <ul style="list-style-type: none"> <li>▪ Carefully inspect all harness connectors</li> <li>▪ Verify that each connector has the correct wires in the correct connector pin cavity</li> <li>▪ Refer to schematics in Gateway documentation for wire colors and pin locations</li> </ul> <ul style="list-style-type: none"> <li>▪ Are all wires in their correct connector pin cavity?</li> </ul>	<p style="text-align: right;">Results_____</p> <p>Yes Go to K3</p> <p>No Contact InterMotive for assistance with harness and connectors</p>
Test Step	Result/Action to Take
<b>K3 Check Shift Lock LED operation</b> Reminder: Prove out of LED's on the display panel (all LEDs light up) occurs whenever the ignition is cycled from OFF to ON. <ul style="list-style-type: none"> <li>▪ Turn the ignition off for at least 5 seconds, then turn the ignition on to initiate LED prove out.</li> </ul> <ul style="list-style-type: none"> <li>▪ Does the Shift Lock LED (the right most LED on the display panel) illuminate continuously with the ignition on, and no other LED's light up?</li> </ul>	<p style="text-align: right;">Results_____</p> <p>Yes With ignition OFF, unplug the 6-pin connector marked "Data Link" at the Gateway module for 10 seconds, then reconnect the 6-pin Data Link connector and recheck. (this step resets the Gateway module data link connection software) If problem repeats, contact Contact InterMotive for assistance with the Gateway module</p> <p>No The system does not exhibit this exact condition - Go to K4</p>

Test Step	Result/Action to Take
<p><b>K4 Check Display panel LED circuits</b></p> <ul style="list-style-type: none"> <li>Disconnect the 10-pin LED display connector at the LED display</li> <li>Connect a jumper from the back of pin 1 (yellow wire) of the LED harness connector to pin 1 of the ILIS LED display</li> <li>Ignition ON</li> </ul> <p>(The jumper wire supplies 5 Volts to the LED display with the display unplugged)</p>  <ul style="list-style-type: none"> <li>Check the voltage at pins 3, 5, 6, 7, 8 at the ILIS LED display panel connector</li> <li>Are any of the measured voltages less than 3V?</li> </ul>	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with LED display panel</p> <p>No <b>Reconnect the LED display - Go to K5</b></p>
<p><b>K5 Check Display panel LED circuits</b></p> <ul style="list-style-type: none"> <li>Disconnect the 8-pin ILIS LED harness connector at the module</li> <li>Connect a jumper from the back of pin 1 (yellow wire) of the ILIS LED harness connector to pin 1 of the ILIS LED connector receptacle</li> <li>Ignition ON</li> </ul> <p>(The jumper wire supplies 5 Volts to the LED display harness with the harness unplugged)</p>  <ul style="list-style-type: none"> <li>Check the voltage at pins 2, 3, 5, 6, 7 at the back of the ILIS LED harness connector</li> <li>Are any of the measured voltages less than 3V?</li> </ul>	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with ILIS LED display harness</p> <p>No Contact InterMotive for assistance with the Gateway module</p>

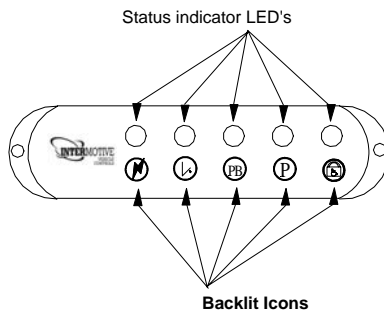
## PINPOINT TEST L: BACKLIGHTING OF SOME OR ALL DISPLAY PANEL ICON'S IS INOP

If an LED display panel icons do not light when the ignition key is ON:

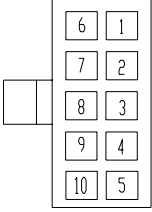
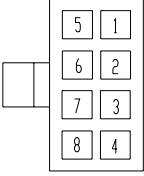
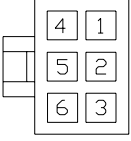
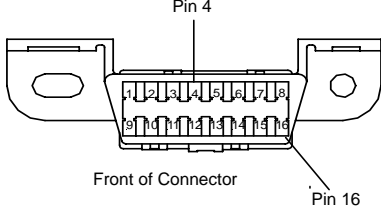
- there is a problem with the LED display and/or circuit
- there is a problem with power to the Gateway module
- there is a problem with the OEM electrical system
- the Gateway module may be incorrectly configured or needs replacement

**Estimated Time To Complete: 18 Minutes**

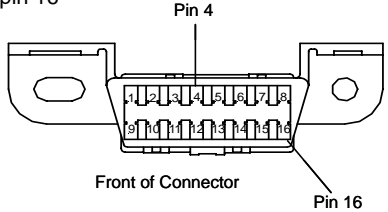
Test Step	Result/Action to Take
<b>L1 Ensure that all connectors are installed correctly</b> <ul style="list-style-type: none"> <li>▪ Carefully inspect module and harness(es)</li> <li>▪ Verify correct harness connector in the correct module plug</li> <li>▪ Refer to schematics in Gateway documentation</li> </ul>	Results _____  Yes Go to L2  No Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.
<b>L2 Ensure that all wires are in their correct connector cavity</b> <ul style="list-style-type: none"> <li>▪ Carefully inspect all harness connectors</li> <li>▪ Verify that each connector has the correct wires in the correct connector pin cavity</li> <li>▪ Refer to schematics in Gateway documentation for wire colors and pin locations</li> </ul>	Results _____  Yes Go to L3  No Contact InterMotive for assistance with harness and connectors
<b>L3 Check Display panel icon backlighting</b> <p>Reminder: The icons on the display panel should be backlit whenever the ignition key is on. The sole purpose of the icons is to identify the status indicator LED's located directly above each icon.</p> <ul style="list-style-type: none"> <li>▪ Ignition ON</li> <li>▪ Observe each individual backlit icon for proper backlighting</li> </ul>	Results _____  Yes Contact InterMotive for assistance with ILIS LED display panel  No None of the icons are backlit with the key ON - Go to L4



- Are some icons backlit, while others are not?

Test Step	Result/Action to Take
<p><b>L4 Check ILIS Display panel backlight circuits</b></p> <ul style="list-style-type: none"> <li>Ignition on</li> <li>Measure voltage between pin 9 and pin 4 at the back of the ILIS LED display connector (Display panel connected)</li> </ul>  <p>Back of Connector</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 10v?</li> </ul>	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with ILIS LED display panel</p> <p>No Go to L5</p>
<p><b>L5 Check ILIS Display panel backlight circuits</b></p> <ul style="list-style-type: none"> <li>Ignition on</li> <li>Measure voltage between pin 8 and pin 4 at the back of the connector marked ILIS LED at the Gateway module</li> </ul>  <p>Back of Connector</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 10v?</li> </ul>	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with ILIS LED harness</p> <p>No Go to L6</p>
<p><b>L6 Check voltage at data link at module</b></p> <ul style="list-style-type: none"> <li>Disconnect data link connector at module</li> <li>Using a digital multimeter measure voltage between pin 1 and pin 4 of data link connector</li> </ul>  <p>Back of Connector</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 10 Volts?</li> </ul>	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with Gateway module</p> <p>No Go to L7</p>
<p><b>L7 Check the voltage at Data Link Connector (DLC)</b></p> <ul style="list-style-type: none"> <li>Using a digital multimeter measure voltage between pin 4 and pin 16 of Data link connector</li> </ul>  <p>Front of Connector</p> <ul style="list-style-type: none"> <li>Is the voltage greater than 10 Volts?</li> </ul>	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with the InterMotive Data Link harness</p> <p>No Go to L8</p>



Test Step	Result/Action to Take
<p data-bbox="94 172 600 199"><b>L8 Check the voltage at Data Link Connector (DLC)</b></p> <ul data-bbox="94 199 824 252" style="list-style-type: none"> <li>Remove Gateway Data link T harness, measure voltage at OEM Data link connector between pin 4 and pin 16</li> </ul> <div data-bbox="386 241 771 451" style="text-align: center;">  <p data-bbox="552 241 609 262">Pin 4</p> <p data-bbox="479 409 625 430">Front of Connector</p> <p data-bbox="690 430 747 451">Pin 16</p> </div> <ul data-bbox="94 493 462 525" style="list-style-type: none"> <li>Is the voltage greater than 10 Volts?</li> </ul>	<p data-bbox="1136 262 1356 294" style="text-align: right;">Results _____</p> <p data-bbox="844 315 1484 399">Yes Contact InterMotive for assistance with the InterMotive Data Link harness</p> <p data-bbox="844 420 1484 556">No Check the fuse for the DLC (Data Link Connector). This fuse is also for the "Cigar Lighter" on Ford and GM vehicles. Refer to the owners guide, or service publications for the location of this fuse.</p> <p data-bbox="844 577 1484 661">FORD: Typical location for the DLC / cigar lighter fuse is in the central junction box (fuse panel under the dash) (Fuse #26 (20A) on E-Series)</p> <p data-bbox="844 661 1484 724">GM: Typical location for the DLC / cigar lighter fuse is in the Underhood Bussed Electrical Center (fuse panel under the hood)</p> <p data-bbox="844 745 1484 808">If the DLC / cigar lighter fuse is okay, contact OEM dealer for OEM electrical system service.</p>

## PINPOINT TEST M: Shift Lock LED flashes on/off continuously

**-Gateway module with 4.01 firmware or higher.**

**-Other symptoms: Ford vehicles will not shift out of Park. Chevrolet vehicles will not lock in Park.**

**Estimated Time To Complete: 18 Minutes**

Test Step	Result/Action to Take
<b>M1 Ensure that all connectors are installed correctly</b> <ul style="list-style-type: none"> <li>▪ Carefully inspect module and harness(es)</li> <li>▪ Verify correct harness connector in the correct module plug</li> <li>▪ Refer to schematics in Gateway documentation</li> </ul>	<p>Yes Go to M2</p> <p>Results_____</p> <p>No Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.</p>
<ul style="list-style-type: none"> <li>▪ Are all harness connectors properly installed into module?</li> </ul>	
Test Step	Result/Action to Take
<b>M2 Ensure that all wires are in their correct connector cavity</b> <ul style="list-style-type: none"> <li>▪ Carefully inspect all harness connectors</li> <li>▪ Verify that each connector has the correct wires in the correct connector pin cavity</li> <li>▪ Refer to schematics in Gateway documentation for wire colors and pin locations</li> </ul>	<p>Yes Go to M3</p> <p>Results_____</p> <p>No Contact InterMotive for assistance with harness and connectors</p>
<ul style="list-style-type: none"> <li>▪ Are all wires in their correct connector pin cavity?</li> </ul>	
Test Step	Result/Action to Take
<b>M3 Check the shift lock LED</b> <ul style="list-style-type: none"> <li>▪ Turn the ignition key to the on position.</li> <li>▪ Apply the Park Brake.</li> </ul>	<p>Yes Go to M4.</p> <p>Results_____</p> <p>No Go to symptom flow chart and match up additional symptoms and follow the appropriate pinpoint test.</p>
<ul style="list-style-type: none"> <li>▪ Does the Shift Lock LED flash on/off continuously?</li> </ul>	
Test Step	Result/Action to Take
<b>M4 Check shift lock harness</b> <ul style="list-style-type: none"> <li>▪ Disconnect the InterMotive shift lock harness from vehicle.</li> <li>▪ Turn the ignition key to the on position.</li> <li>▪ Apply the Park Brake.</li> </ul>	<p>Yes Contact InterMotive for assistance with harness.</p> <p>Results_____</p> <p>No Chevrolet 560 chassis: Contact InterMotive for assistance. All other vehicles: Contact OEM dealer for an over current condition (over 400ma draw) on the shift lock solenoid circuit.</p>
<ul style="list-style-type: none"> <li>▪ Does the shift lock LED flash on/off continuously with the InterMotive shift lock harness removed from the vehicle?</li> </ul>	