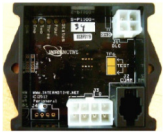


# ILISP301/510/515/610 Symptom Flow Chart



ILISP Micro Module



ILIS LED Display

The ILISP301/510/515/610 system is a wheelchair lift safety interlock which will work with the ignition on or off. It will enable the lift when certain vehicle safety conditions are met, and will lock the transmission shifter in Park when the lift is deployed. Optional Plug and Play harnesses are available for most applications, making installation fast and easy.

## Technician knowledge base and testing procedures

These diagnostic instructions are designed to help a qualified technician diagnose a potential issue with the InterMotive ILIS system. The technician should have a basic electrical understanding of current flow, be able to read NEMA standard wiring diagrams, and know how to use a Digital Volt/Ohm Meter. (DVOM) They should be familiar with the ILIS system and may need to contact InterMotive Customer Care for wiring schematics prior to starting any diagnostics. The Estimated Time To Complete times at the top of each pinpoint test are to help guide the technician and are not authorization for any warranty repair labor claims.



**USING A TEST LIGHT OR POWER PROBE TO DIAGNOSE ANY INTERMOTIVE PRODUCT MAY GIVE INCORRECT DIAGNOSTIC INFORMATION AND RESULT IN DAMAGING THE SYSTEM.**

### Testing connector outputs and harness continuity

Using a Digital Volt/Ohm Meter (DVOM) back probe the ILIS system connector on the harness side to read connector inputs, outputs, and check for harness continuity.



## Index

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1	Description of system / Testing connector outputs
2	Performing the system post installation test.
3	Fault Code Chart
4	Pin Point Tests

## Acronyms

CAN - Controller Area Network  
 DLC - Data Link Connector  
 DVOM - Digital Volt/Ohm Meter  
 ILIS - Intelligent Lift Interlock System  
 LCO - Low Current Output  
 LED - Light Emitting Diode  
 LIN - Local Information Network  
 OEM - Original Equipment Manufacture

**ILISP System Installation Instructions and Vehicle Configuration Documentation are available from:**

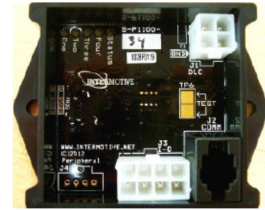
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 530-823-1048 Ext. 159**

★ **Contact InterMotive to ensure you are using the latest ILISP-DIAG revision.** ★

## ILISP301/510/515/610 System Symptom Flow Chart

**Begin diagnosis by performing the system post installation test.**

1. Turn the ignition ON to wake up and initialize the ILIS module.
2. If the circuit board LEDs are scrolling sequentially it indicates that the VIN has either not been found or is not valid. Cycle the key off then back on. If the circuit board LEDs continue scrolling sequentially please contact InterMotive.



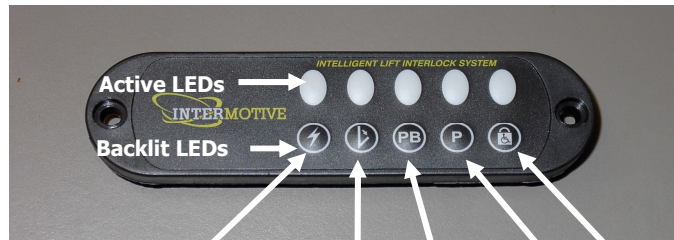
**The following checks must be made of the system, to ensure correct and safe operation of the lift. If any of the checks do not pass, recheck all connections as per the ILISP system installation instructions.**



**CAUTION**

All electronic products are susceptible to damage from Electrostatic Discharge or ESD. Ground yourself before handling or working with the module and harnessing by first touching chassis ground, such as the barrel of the cigarette lighter.

**Begin the checklist with the vehicle in the following state:**



**Vehicle Secure/Lift Enable, Lift Deployed, Park Brake, Park, Shift Lock**

- Lift stowed
  - Lift Door Closed
  - Park Brake set (PB)
  - Transmission in Park (P)
  - Ignition off (Key off). Wait until the module goes into "Sleep" mode, which takes approximately 5 minutes.
1. Press the Lift Deploy Request button on the remote fob (electric door), or open door and press button on pendant (manual door). Verify the module wakes up and all 5 LED's illuminate for approximately 2 seconds. The lower icon LEDs are backlit and will remain illuminated whenever the module is awake. The fob button may have to be held for 2 seconds or more to wake up the system.
  2. Turn the ignition key on.
  3. With Lift Door open, Park Brake set and transmission in Park, all LED's except Lift Deployed will be illuminated. Attempt to deploy the lift. Verify the lift deploys and all 5 LED's are illuminated.
  4. With the Lift deployed and Service Brake applied, verify the vehicle cannot be shifted out of Park
  5. Stow the lift but leave door open.
  6. With Lift Door open, Lift Stowed, transmission in Park, release Park Brake. Verify that the Park Brake LED goes out. Attempt to deploy the lift. Verify the lift does not deploy with Park Brake released.
  7. With lift door open, Park Brake set, lift stowed, Transmission in Neutral, verify the lift does not deploy.
  8. With key on. Lift Door closed, Park Brake released and the Service Brake applied, verify the transmission shift level will shift out of Park.

# Fault Code Chart

**Observing the operation of the status indicator LED's on the 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.**

Condition	Possible Causes	Action
<ul style="list-style-type: none"> <li>No prove out of any display panel LEDs or All LEDs flash in unison.</li> </ul>	<ul style="list-style-type: none"> <li>Connections</li> <li>Power/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 LEDs 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 H.</li> </ul>
<ul style="list-style-type: none"> <li>One or more LEDs not illuminated, when condition(s) met.</li> </ul>	<ul style="list-style-type: none"> <li>Connections</li> <li>Power/Ground</li> <li>LED panel</li> <li>Harness(es)</li> </ul>	<ul style="list-style-type: none"> <li>Go to Pinpoint Test C.</li> </ul>
<ul style="list-style-type: none"> <li>Backlighting of some or all display panel icons are not lit.</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 I.</li> </ul>
<ul style="list-style-type: none"> <li>Shift lock status LED is illuminated, but shifter does not 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 B.</li> </ul>
<ul style="list-style-type: none"> <li>All LEDs 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> </ul>	<ul style="list-style-type: none"> <li>Go to Pinpoint Test D.</li> </ul>
<ul style="list-style-type: none"> <li>Lift operates when safety conditions not 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 E.</li> </ul>
<ul style="list-style-type: none"> <li>Vehicle can shift out of PARK with the shift lock LED lit</li> </ul>	<ul style="list-style-type: none"> <li>Connections</li> <li>OEM-shift lock solenoid</li> <li>Module</li> <li>Harness(es)</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 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>Module</li> </ul>	<ul style="list-style-type: none"> <li>Go to Pinpoint Test G.</li> </ul>
<ul style="list-style-type: none"> <li>Shift lock LED flashes on/off continuously (ILISP610-A Only)</li> </ul>	<ul style="list-style-type: none"> <li>Connections</li> <li>Harness(es)</li> <li>Shift lock solenoid</li> </ul>	<ul style="list-style-type: none"> <li>Go to Pinpoint Test J.</li> </ul>

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

- Minimum system voltage (battery voltage) of 12.4 volts.**
- Digital Volt/Ohm Multimeter (do not use test lamp as circuit damage will result).**
- ILISP301/510/515/610 documentation as per the application.**
- Documentation available at:**

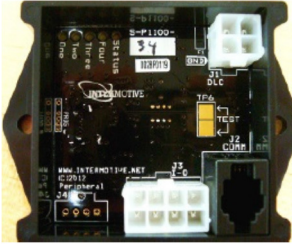
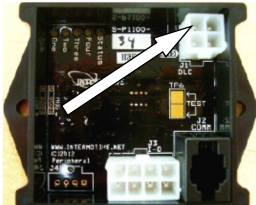
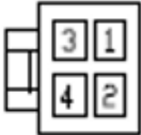
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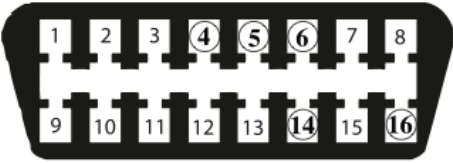
# PINPOINT TEST A: No prove out of any LEDs or all LEDs flash in unison.



No prove out (all LED's light up) of the ILISP Display Panel LEDs when the Ignition is turned on, indicates that:  
 - the ILISP module is not powered up.  
 - the LED display is inoperative.

**Estimated Time To Complete: 15 Minutes**

Test Step	Result/Action to Take
<p>A1 Ensure that all connectors are installed correctly.</p> <ul style="list-style-type: none"> <li>Carefully inspect the ILISP module and harness(es).</li> <li>Verify harness connectors are fully seated into the ILISP module.</li> <li>Refer to the schematics in the ILISP documentation.</li> <li>Are all harness connectors properly installed into module?</li> </ul> 	<p>Results _____</p> <p>Yes Go to A2</p> <p>No Review install instructions, reinstall all connectors in their proper position. Test system operation.</p>
<p>A2 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 the schematics in the ILISP documentation for wire colors and pin locations.</li> <li>Are all wires in their correct connector pin cavity?</li> </ul>	<p>Results _____</p> <p>Yes Go to A3</p> <p>No Contact InterMotive for assistance with harness and connectors</p>
<p>A3 Check voltage at the White 6 Pin J1 DLC connector at module.</p> <ul style="list-style-type: none"> <li>Disconnect the white 4 pin J1 DLC connector at module.</li> <li>Using a digital multimeter measure the voltage between the red wire pin 1 and the gray wire pin 4 of J1 DLC connector.</li> <li>Is the voltage greater than 11.5 Volts?</li> </ul>  	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with further diagnostic steps.</p> <p>No Go to A4</p>

Test Step	Result/Action to Take
<p>A4 Check voltage at the OEM Data Link Connector. (DLC)</p> <ul style="list-style-type: none"> <li>• Disconnect the Red data link connector at the OEM DLC.</li> <li>• Using a digital multimeter, measure voltage between pin 4 and pin 16 of OEM 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 Check the fuse for the DLC (Data Link Connector). Refer to the owner's guide or service publications for the location of this fuse.</p> <p>If the DLC fuse is okay, contact OEM dealer for OEM electrical system service.</p>

## PINPOINT TEST B: Shift lock status LED is illuminated, but the shifter does not lock.

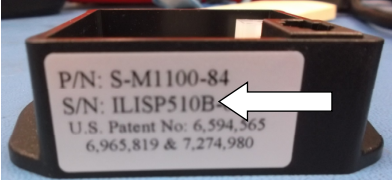
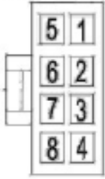
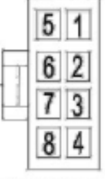

If the transmission range selector does not lock in PARK with the shift lock status LED lit:

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



**Estimated Time To Complete: 10 Minutes**

Test Step	Result/Action to Take
<p>B1 Ensure that all connectors are installed correctly.</p> <ul style="list-style-type: none"> <li>• Carefully inspect the ILISP module and harness(es).</li> <li>• Verify harness connectors are fully seated into the ILISP module.</li> <li>• Refer to the schematics in the ILISP documentation.</li> <li>• Are all harness connectors properly installed into module?</li> </ul>	<p>Results_____</p> <p>Yes Go to B2</p> <p>No Review install instructions, reinstall all connectors in their proper position. Test system operation.</p>
<p>B2 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>• Refer to the schematics in the ILISP documentation for wire colors and pin locations.</li> <li>• Verify that each connector has the correct wires in the correct connector pin cavity.</li> <li>• Are all wires in their correct connector pin cavity?</li> </ul>	<p>Results_____</p> <p>Yes Contact InterMotive for assistance with LED LIN Harness.</p> <p>No Contact InterMotive for assistance with ILISP module.</p>

Test Step	Result/Action to Take
<p>B3 Identify the vehicle ILISP system.</p> <ul style="list-style-type: none"> <li>Which ILISP system are you working on?</li> </ul>  <p>Side of the ILISP module</p>	<p>Results _____</p> <p>ILISP301 Go to B4.</p> <p>ILISP610 Go to B6.</p> <p>ILISP510/515 Contact InterMotive for assistance with further diagnostic steps.</p>
<p>B4 Check for voltage at shift lock output.</p> <ul style="list-style-type: none"> <li>Key in the ON position, and the lift door is open, Shift Lock LED is lit.</li> <li>Using a digital multimeter, measure the voltage between pin 2 (Blue wire) at the 8 pin connector on the ILISP module, and chassis ground.</li> <li>Is the voltage greater than 10 Volts?</li> </ul>  <p>Back of the connector</p>	<p>Results _____</p> <p>Yes Go to B5.</p> <p>No Contact InterMotive for assistance with ILISP module.</p>
<p>B5 Checking the OEM shift lock operation.</p> <ul style="list-style-type: none"> <li>Remove 8 pin connector from the ILISP module.</li> <li>Jump the pin 2 blue wire with the pin 6 yellow wire.</li> <li>Key in the ON position.</li> <li>Do NOT step on the service brake pedal.</li> <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>
<p>B6 Check for voltage at shift lock output.</p> <ul style="list-style-type: none"> <li>Key in the ON position, and the lift door is open, Shift Lock LED is lit.</li> <li>Using a digital multimeter, measure the voltage between pin 7 (Blue wire) at the 8 pin connector on the ILISP module, and chassis ground.</li> <li>Is the voltage greater than 10 Volts?</li> </ul>  <p>Back of the connector</p>	<p>Results _____</p> <p>Yes Go to B7.</p> <p>No Contact InterMotive for assistance with ILISP module.</p>
<p>B7 Checking the OEM shift lock operation.</p> <ul style="list-style-type: none"> <li>Remove 8 pin connector from the ILISP module.</li> <li>Jump the pin 2 blue wire with a 12 volt power source.</li> <li>Key in the ON position.</li> <li>Do NOT step on the service brake pedal.</li> <li>Does shift lock solenoid lock the gear selector in PARK?</li> </ul>  <p>Chevy Express Shift Lock Solenoid</p>	<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 C: One or more LEDs are not illuminated, when condition(s) are met.








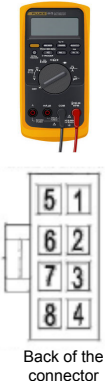


- If a LED indicator fails to light with its associated condition(s) met:**
- there is a problem with an input and/or input circuit.
  - there is a problem with the OEM electrical system.
  - the ILISP module may be incorrectly configured or needs replacement.


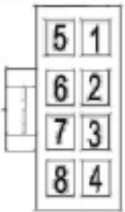
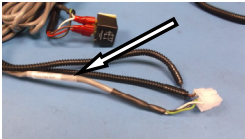
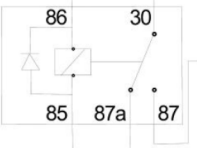
**Estimated Time To Complete: 10 Minutes**

Test Step	Result/Action to Take
<p>C1 Ensure that all connectors are installed correctly.</p> <ul style="list-style-type: none"> <li>• Carefully inspect the ILISP module and harness(es).</li> <li>• Verify the harness connectors are fully seated into the ILISP module.</li> <li>• Refer to the schematics in the ILISP documentation.</li> <li>• Are all harness connectors properly installed into module?</li> </ul>	<p style="text-align: right;">Results _____</p> <p>Yes Go to C2</p> <p>No Review install instructions, reinstall all connectors in their proper position. Test system operation.</p>
<p>C2 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>• Refer to the schematics in the ILISP documentation for wire colors and pin locations.</li> <li>• Verify that each connector has the correct wires in the correct connector pin cavity.</li> <li>• Are all wires in their correct connector pin cavity?</li> </ul>	<p style="text-align: right;">Results _____</p> <p>Yes Go to C3</p> <p>No Contact InterMotive for assistance with harness and connectors</p>
<p>C3 Check LED indicators on ILISP Display.</p> <p><b>Reminder:</b> Prove out of LEDs on the display panel (all status indicator LEDs light up) occurs whenever the ignition is cycled from OFF to ON. The icons do not light up until after the status indicator LEDs prove out.</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> <li>• Do all LEDs on the display panel light up during the prove out cycle when the ignition key is initially turned on?</li> </ul>	<p style="text-align: right;">Results _____</p> <p>Yes Go to C4</p> <p>No Go to A3</p>



Test Step	Result/Action to Take
<p>C4 Observe the ILISP LED display panel.</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> <li>• Which Status Indicator LED does not illuminate correctly? (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 LEDs located directly above each icon.</p> 	<p>Results_____</p> <ul style="list-style-type: none"> <li> Park - Go to C5.</li> <li> Park Brake - Go to C6.</li> <li> Lift Not Stowed - Go to C7.</li> <li> Shift Lock - Contact InterMotive for assistance with the ILISP module.</li> <li> Lift Power - Go to C10.</li> </ul>
<p>C5 Checking the OEM park operation.</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> <li>• Does the gear selector correlate to the transmission range sensor data on the scan tool?</li> </ul> 	<p>Results_____</p> <p>Yes Contact InterMotive for assistance with ILISP module.</p> <p>No Contact OEM dealer concerning transmission range sensor and network communication issues.</p>
<p>C6 Checking the OEM park brake operation.</p> <p>Key in the ON position.</p> <ul style="list-style-type: none"> <li>• Alternately release and apply the parking brake.</li> <li>• Does the park brake indicator (PB) on the dash illuminate properly?</li> </ul>	<p>Results_____</p> <p>Yes Contact InterMotive for assistance with ILISP module.</p> <p>No Contact OEM dealer or check park brake switch and circuits.</p>
<p>C7 Check lift stowed switch circuit operation.</p> <ul style="list-style-type: none"> <li>• Using a digital multimeter, measure the voltage from pin 8 (Gray wire) of the J3 white 8 pin connector on the ILISP module to chassis ground.</li> <li>• Alternately stow and deploy the lift.</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 lift in the deployed position.)</p> <ul style="list-style-type: none"> <li>• Does the voltage on pin 8 measure higher than 4.5 volts with the lift deployed, then drop to less than 0.2 volts with the lift fully stowed?</li> </ul> 	<p>Results_____</p> <p>Yes Contact InterMotive for assistance with the ILISP module.</p> <p>No The voltage does not change when the lift is alternately stowed and deployed. Go to C8.</p>



Test Step	Result/Action to Take
<p>C8 Check lift stowed switch circuit operation.</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 lift in the deployed position.</p> <ul style="list-style-type: none"> <li>While using a digital multimeter to monitor the voltage on pin 8 (gray wire) at the 8 pin connector on the ILISP module in the previous step, does the voltage always stay high (above 4.5 Volts)?</li> </ul> 	<p>Results _____</p> <p>Yes Repair the lift stowed switch or stowed switch circuit for open circuit condition and/or check stowed switch adjustment.</p> <p>No The voltage stays low (below 0.2 Volts) - Go To C9</p>
<p>C9 Check lift stowed switch for short to ground.</p> <ul style="list-style-type: none"> <li>Disconnect the 8 pin connector on the ILISP module. (Leave all other connectors in place.)</li> <li>Key in the ON position.</li> <li>Using a digital multimeter, measure the voltage from pin 8 of the 8 pin connector on the ILISP module to chassis ground.</li> <li>Is the voltage at pin 3 between 4.5-5.0 volts?</li> </ul>  <p>Back of the connector</p>	<p>Results _____</p> <p>Yes Repair short to ground in lift stowed switch circuit or stuck closed lift stowed switch.</p> <p>No Contact InterMotive for assistance with ILISP module.</p>
<p>C10 Check for the presence of a lift control relay.</p> <ul style="list-style-type: none"> <li>Locate the white J3 8 pin connector on the ILISP module.</li> <li>If the black wire connected to pin 8 joining the red, green, or orange wire connected to pin 3 in a gray harness cover. Check the part number on the harness. Is it on the list?</li> </ul>  <p>s-h106bx s-h106rx s-h107bx s-h107rx s-h109bx s-h109rx</p>	<p>Results _____</p> <p>Yes Go to pinpoint test C11.</p> <p>No Contact InterMotive for assistance with ILISP module.</p>
<p>C11 Checking the function of the lift control relay.</p> <ul style="list-style-type: none"> <li>The lift control relay is located approximately 12 inches from the harness connection with the lift.</li> <li>With the key on and in vehicle secure, check all inputs and output of the lift control relay.</li> </ul> <p>Pin #86 12 volts input Pin #30 12 volts input Pin #87 12 volts output Pin #85 Ground input</p>  <ul style="list-style-type: none"> <li>Are all inputs and output correct?</li> </ul>	<p>Results _____</p> <p>Yes Replace defective lift control relay.</p> <p>No Repair input/output wiring to lift control relay.</p>

# PINPOINT TEST D: LEDS Properly Illuminated, No lift function.



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 ILISP module may be incorrectly configured or needs replacement.

**Estimated Time To Complete: 5 Minutes**

Test Step	Result/Action to Take
<p>D1 Ensure that all connectors are installed correctly.</p> <ul style="list-style-type: none"> <li>Carefully inspect the ILISP module and harness(es). Verify harness connectors are fully seated into the module.</li> <li>Refer to the schematics in the ILISP documentation.</li> <li>Are all harness connectors properly installed into module?</li> </ul>	<p>Results_____</p> <p>Yes Go to D2.</p> <p>No Review install instructions, reinstall all connectors in their proper position. Test system operation.</p>
<p>D2 Ensure that all wires are in their correct connector cavities.</p> <ul style="list-style-type: none"> <li>Carefully inspect all harness connectors.</li> <li>Refer to the schematics in the ILISP documentation for wire colors and pin locations.</li> <li>Verify that each connector has the correct wires in the correct connector pin cavity.</li> <li>Are all wires in their correct connector pin cavity?</li> </ul>	<p>Results_____</p> <p>Yes Go to D3.</p> <p>No Reconnect harness properly. Retest system operation.</p>
<p>D3 Check for lift power.</p> <ul style="list-style-type: none"> <li>Disconnect the white J3 8-pin connector from module, using a jumper wire, jump a 12 volt power source to pin 3 at the 8 pin harness connector.</li> <li>Attempt to operate lift.</li> <li>Does the lift operate?</li> </ul> <div data-bbox="467 1266 792 1476" data-label="Diagram"> </div>	<p>Results_____</p> <p>Yes Contact InterMotive for assistance with further diagnostic steps.</p> <p>No Go to D4.</p>
<p>D4 Check for lift operation.</p> <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. You may need to match up which wire on the lift connects to the "lift power" pin 3 from the module wire on the J3 connector harness in order to determine which lift wire to power up.</li> <li>Does the lift operate?</li> </ul>	<p>Results_____</p> <p>Yes Repair lift interlock harness from ILISP module to lift connector.</p> <p>No Check lift circuits and system. Contact lift manufacturer if lift still does not operation.</p>


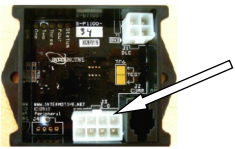
# PINPOINT TEST E: Lift operates when safety conditions are not met.



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 ILISP module may be incorrectly configured or needs replacement.

**Estimated Time To Complete: 15 Minutes**

Test Step	Result/Action to Take
<p>E1 Ensure that all connectors are installed correctly.</p> <ul style="list-style-type: none"> <li>• Carefully inspect the ILISP module and harness(es). Verify harness connectors are fully seated into the module.</li> <li>• Refer to the schematics in the ILISP documentation.</li> <li>• Are all harness connectors properly installed into module?</li> </ul> 	<p>Results_____</p> <p>Yes Go to E2.</p> <p>No Review install instructions, reinstall all connectors in their proper position. Test system operation.</p>
<p>E2 Ensure that all wires are in their correct connector cavities.</p> <ul style="list-style-type: none"> <li>• Carefully inspect all harness connectors.</li> <li>• Refer to the schematics in the ILISP documentation for wire colors and pin locations.</li> <li>• Verify that each connector has the correct wires in the correct connector pin cavity.</li> <li>• Are all wires in their correct connector pin cavity?</li> </ul>	<p>Results_____</p> <p>Yes Go to E3.</p> <p>No Contact InterMotive for assistance with ILISP Harness.</p>
<p>E3 Check for lift operation.</p> <ul style="list-style-type: none"> <li>• Disconnect white J3 8 pin connector from ILISP module and attempt to operate lift.</li> <li>• Does the lift operate?</li> </ul> 	<p>Results_____</p> <p>Yes Go to E4.</p> <p>No Contact InterMotive for assistance with ILISP module.</p>
<p>E4 Checking the function of the lift control relay.</p> <ul style="list-style-type: none"> <li>• The lift control relay is located approximately 12 inches from the harness connection with the lift.</li> <li>• Remove the lift control relay from the harness.</li> <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 Go to C11.</p>

# PINPOINT TEST F: Vehicle can shift out of park when the shift lock LED is lit.



If the transmission range selector can be shifted out of PARK when the shift lock LED is lit:

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

**Estimated Time To Complete: 15 Minutes**

Test Step	Result/Action to Take
<p>F1 Ensure that all connectors are installed correctly.</p> <ul style="list-style-type: none"> <li>• Carefully inspect the ILISP module and harness(es). Verify harness connectors are fully seated into the module.</li> <li>• Refer to the schematics in the ILISP documentation.</li> <li>• Are all harness connectors properly installed into module?</li> </ul>	<p>Results _____</p> <p>Yes Go to F2.</p> <p>No Review install instructions, reinstall all connectors in their proper position. Test system operation.</p>
<p>F2 Ensure that all wires are in their correct connector cavities.</p> <ul style="list-style-type: none"> <li>• Carefully inspect all harness connectors.</li> <li>• Refer to the schematics in the ILISP documentation for wire colors and pin locations.</li> <li>• Verify that each connector has the correct wires in the correct connector pin cavity.</li> <li>• Are all wires in their correct connector pin cavity?</li> </ul>	<p>Results _____</p> <p>Yes Go to F3.</p> <p>No Contact InterMotive for assistance with the ILISP Harness.</p>
<p>F3 Check shift lock solenoid operation.</p> <ul style="list-style-type: none"> <li>• Key in the ON position, lift deployed, park brake set.</li> <li>• Step on the service brake pedal.</li> <li>• Can vehicle be shifted out of park?</li> </ul> <div style="display: flex; justify-content: space-around;"> <div data-bbox="269 1640 451 1785"> <p data-bbox="256 1797 440 1831">Chevy Express</p> </div> <div data-bbox="607 1514 836 1785"> <p data-bbox="639 1797 807 1831">Ford E-Series</p> </div> </div>	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with the ILISP module.</p>






# PINPOINT TEST G: Lift operates intermittently.



The Lift Display Panel LEDs should indicate conditions met when in vehicle secure. Key on, in park, parking brake set.



**Estimated Time To Complete: 10 Minutes**


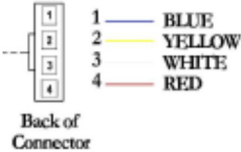
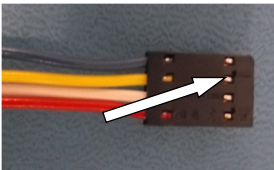
Test Step	Result/Action to Take
<p>G1 Ensure that all connectors are installed correctly.</p> <ul style="list-style-type: none"> <li>Carefully inspect the ILISP module and harness(es).</li> <li>Verify harness connectors are fully seated into the ILISP module.</li> <li>Refer to the schematics in the ILISP documentation.</li> <li>Are all harness connectors properly installed into module?</li> </ul>	<p>Results_____</p> <p>Yes Go to G2.</p> <p>No Review install instructions, reinstall all connectors in their proper position. Test system operation.</p>
<p>G2 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>Refer to the schematics in the ILISP documentation for wire colors and pin locations.</li> <li>Verify that each connector has the correct wires in the correct connector pin cavity</li> <li>Are all wires in their correct connector pin cavity?</li> </ul>	<p>Results_____</p> <p>Yes Go to G3.</p> <p>No Contact InterMotive for assistance with harness and connectors</p>
<p>G3 Observe the ILISP LED display panel.</p> <p><b>Please review system operation before trying to identify faulty status indicator LED operation.</b></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 deployed.</li> <li>Which status Indicator LED does not illuminate? (Stays off with conditions met, or always on.)</li> </ul> <p><b>Reminder:</b> 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 LEDs located directly above each icon.</p>	<p>Results_____</p> <ul style="list-style-type: none"> <li> Park - Go to C5.</li> <li> Park Brake - Go to C6.</li> <li> Lift Not Stowed - Go to C7.</li> <li> Shift Lock - Contact InterMotive for assistance with the ILISP module.</li> <li> Lift Power - Go to C10.</li> </ul>

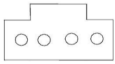
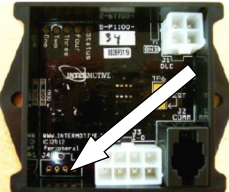
# PINPOINT TEST H: Some display panel LEDs do not prove out properly.



- 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 ILISP module may be incorrectly configured or needs replacement.

**Estimated Time To Complete: 10 Minutes**

Test Step	Result/Action to Take
<p>H1 Ensure that all connectors are installed correctly.</p> <ul style="list-style-type: none"> <li>• Carefully inspect the ILISP module and harness(es).</li> <li>• Verify harness connectors are fully seated into the ILISP module.</li> <li>• Refer to the schematics in the ILISP documentation.</li> <li>• Are all harness connectors properly installed into module?</li> </ul>	<p>Results _____</p> <p>Yes Go to H2.</p> <p>No Review install instructions, reinstall all connectors in their proper position. Test system operation.</p>
<p>H2 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>• Refer to the schematics in the ILISP documentation for wire colors and pin locations.</li> <li>• Verify that each connector has the correct wires in the correct connector pin cavity.</li> <li>• Are all wires in their correct connector pin cavity?</li> </ul>	<p>Results _____</p> <p>Yes Go to H3.</p> <p>No Contact InterMotive for assistance with harness and connectors.</p>
<p>H3 Checking LIN voltages at the back of the LED display panel.</p> <ul style="list-style-type: none"> <li>• Disconnect the black 4 pin connector from the back of the LED display panel.</li> <li>• Using a digital multimeter, measure voltage at pin 1 Blue wire, pin 2 Yellow wire, pin 3 White wire, and pin 4 Red wire. Use the windows on the side of the connector to measure voltage.</li> </ul> <div style="display: flex; align-items: center;">   </div> <div style="display: flex; align-items: center;">  <div> <p>1 - Ground Source 2 - 5 volts 3 - 1-12 volts 4 - Battery Voltage</p> </div> </div> <ul style="list-style-type: none"> <li>• Are all voltages correct?</li> </ul>	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with LED display panel.</p> <p>No Go to H4.</p>

Test Step	Result/Action to Take
<p>H4 Checking LIN voltages at the ILISP module.</p> <ul style="list-style-type: none"> <li>Disconnect the black 4 pin J3 connector from the ILISP module.</li> <li>Using a digital multimeter, measure voltage at pin 1, pin 2, pin 3, and pin 4 on the module.</li> </ul> <div style="display: flex; align-items: center; justify-content: center;"> <div style="text-align: center; margin-right: 20px;">  <p>4 3 2 1 J3 LIN Connector</p> </div> <div style="text-align: center;">  </div> </div> <ul style="list-style-type: none"> <li>1 - Ground Source</li> <li>2 - 5 volts</li> <li>3 - 1-12 volts</li> <li>4 - Battery Voltage</li> </ul> <ul style="list-style-type: none"> <li>Are all voltages correct?</li> </ul>	<p style="text-align: right;">Results _____</p> <p>Yes Contact InterMotive for assistance with LED LIN Harness.</p> <p>No Contact InterMotive for assistance with ILISP module.</p>

## PINPOINT TEST I: No lift function and all LEDs flash on and off on the display panel.

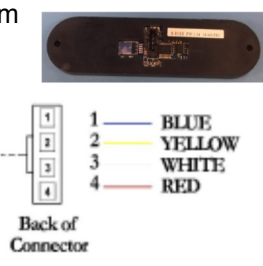
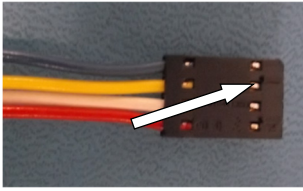



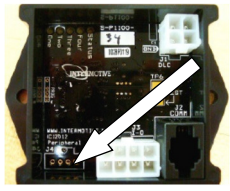
If all LEDs flash on and off on the display panel when the ignition key is ON:

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

**Estimated Time To Complete: 15 Minutes**

Test Step	Result/Action to Take
<p>I1 Ensure that all connectors are installed correctly.</p> <ul style="list-style-type: none"> <li>Carefully inspect the ILISP module and harness(es).</li> <li>Verify harness connectors are fully seated into the ILISP module.</li> <li>Refer to the schematics in the ILISP documentation.</li> <li>Are all harness connectors properly installed into module?</li> </ul>	<p style="text-align: right;">Results _____</p> <p>Yes Go to I2.</p> <p>No Review install instructions, reinstall all connectors in their proper position. Test system operation.</p>
<p>I2 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>Refer to the schematics in the ILISP documentation for wire colors and pin locations.</li> <li>Verify that each connector has the correct wires in the correct connector pin cavity.</li> <li>Are all wires in their correct connector pin cavity?</li> </ul>	<p style="text-align: right;">Results _____</p> <p>Yes Go to I3.</p> <p>No Contact InterMotive for assistance with harness and connectors.</p>

Test Step	Result/Action to Take
<p>I3 Checking LIN voltages at the back of the LED display panel.</p> <ul style="list-style-type: none"> <li>• Disconnect the black 4 pin connector from the back of the LED display panel.</li> <li>• Using a digital multimeter, measure voltage at pin 1 Blue wire, pin 2 Yellow wire, pin 3 White wire, and pin 4 Red wire. Use the windows on the side of the connector to measure voltage.</li> </ul>   <p>1 - Ground Source 2 - 5 volts 3 - 1-12 volts 4 - Battery Voltage</p> <p>• Are all voltages correct?</p>	<p>Results_____</p> <p>Yes Contact InterMotive for assistance with LED display panel.</p> <p>No Go to I4.</p>

<p>I4 Checking LIN voltages at the ILISP module.</p> <ul style="list-style-type: none"> <li>• Disconnect the black 4 pin J3 connector from the ILISP module.</li> <li>• Using a digital multimeter, measure voltage at pin 1, pin 2, pin 3, and pin 4 on the module.</li> </ul>   <p>1 - Ground Source 2 - 5 volts 3 - 1-12 volts 4 - Battery Voltage</p> <p>• Are all voltages correct?</p>	<p>Results_____</p> <p>Yes Contact InterMotive for assistance with LED LIN Harness.</p> <p>No Contact InterMotive for assistance with ILISP module.</p>
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**PINPOINT TEST J: Shift Lock LED flashes on/off continuously. (ILISC610 module only!)**



**Estimated Time To Complete: 15 Minutes**

Test Step	Result/Action to Take
<p>J1 Ensure that all connectors are installed correctly.</p> <ul style="list-style-type: none"> <li>• Carefully inspect the ILISP610 module and harness(es).</li> <li>• Verify harness connectors are fully seated into the ILISP module.</li> <li>• Refer to the schematics in the ILISP610 documentation.</li> <li>• Are all harness connectors properly installed into module?</li> </ul>	<p>Results_____</p> <p>Yes Go to J2.</p> <p>No Review install instructions, reinstall all connectors in their proper position. Test system operation.</p>



Test Step	Result/Action to Take
<p>J2 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>Refer to the schematics in the ILISP610-B documentation for wire colors and pin locations.</li> <li>Verify that each connector has the correct wires in the correct connector pin cavity.</li> <li>Are all wires in their correct connector pin cavity?</li> </ul>	<p>Results _____</p> <p>Yes Go to J3.</p> <p>No Contact InterMotive for assistance with harness and connectors.</p>
<p>J3 Check the shift lock LED</p> <p>Turn the ignition key to the on position.</p> <ul style="list-style-type: none"> <li>Apply the Park Brake.</li> <li>Does the Shift Lock LED flash on/off continuously?</li> </ul> 	<p>Results _____</p> <p>Yes Go to J4.</p> <p>No Go to symptom flow chart and match up additional symptoms and follow the appropriate pinpoint test.</p>
<p>J4 Check shift lock harness.</p> <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> <li>Does the shift lock LED flash on/off continuously with the InterMotive shift lock harness removed from the vehicle?</li> </ul>  	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with harness.</p> <p>No Contact OEM dealer for an over current condition (over 400ma draw) on the shift lock solenoid circuit.</p>

## ILISP301/510/515/610 SYSTEM

**Installation Instructions and Vehicle Configuration Documentation are available from:**

**InterMotive Customer Care  
530-823-1048 Ext. 159**