

Gateway 505/506/605/805 Symptom Flow Chart



GTWY 505/506/605/805 Module



AFIS 505/506/605/805 Display



AFIS 505/506/605/805 Door Ajar Display

The Gateway 505/506/605/805 is a wheelchair lift safety interlock which will only work with the ignition on. It will enable the lift when certain vehicle safety conditions are met, and will lock the transmission shifter in Park when the lift door is open and/or the Park Brake is applied. The Gateway module also includes our Advanced Fast Idle system. The Advanced Fast Idle System (AFIS) elevates engine idle speed in response to a number of triggers in order to assist electrical or mechanical systems on the vehicle.

Technician knowledge base and testing procedures

These diagnostic instructions are designed to help a qualified technician diagnose a potential issue with the InterMotive Gateway 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 Gateway 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 Gateway system connector on the harness side to read connector inputs, outputs, and check for harness continuity.



Index

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

Acronyms

AFIS - Advanced Fast Idle System
 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

GTWY505/506/605/805 Installation Instructions and Vehicle Configuration Documentation are available from:

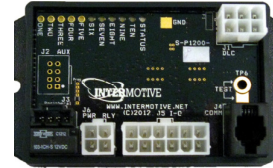
**InterMotive Customer Care
 530-823-1048 Ext. 159**

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

Gateway 505/506/605/805 Symptom Flow Chart

Begin diagnosis by performing the system post installation test.

1. Turn the ignition ON to wake up and initialize the GTWY 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 GTWY505/506/605/805 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:

- 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 40 seconds.



1. Turn ignition key on (to "Run"), verify the module wakes up and all 5 LEDs illuminate for approximately 2 seconds then turn off. The lower icon LEDs are backlit and will remain illuminated whenever the module is awake.
2. Verify that the Park LED, the Park Brake LED, and the Shift Lock LED remain illuminated.
3. Attempt to deploy the Lift. The Lift must not deploy with the Lift Door closed.
4. With key on, Lift Door open, Park Brake set and transmission in Park, all 5 LEDs will be illuminated. Attempt to deploy the Lift. The Lift should deploy. Stow the lift. Note: If the Lift does not operate, check the GTWY 505 LIFT connector. Pin 4 should have 12V (Lift power input), and pin 2 should have 12V (Lift Power/Vehicle Secure output).
5. With key on, Lift Door open, transmission in Park, release Park Brake. verify that the Park Brake (PB) LED goes out.
6. Attempt to deploy the Lift. Verify the Lift does not deploy.
7. With key on, Lift Door closed, Park Brake set, attempt to shift transmission out of Park. Verify transmission will not shift out of Park.
8. With key on, Lift Door open, Park Brake released, attempt to shift transmission out of Park. Verify transmission will not shift out of Park.
9. With key on, Lift Door closed, Park Brake released and the Service Brake applied, attempt to shift transmission out of Park. The transmission shift lever will now 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 Gateway 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"> No prove out of any display panel LEDs or All LEDs flash in unison. 	<ul style="list-style-type: none"> Connections Power/Ground LED panel Harness(es) Module 	<ul style="list-style-type: none"> Go to Pinpoint Test A.
<ul style="list-style-type: none"> Some display panel LEDs do not prove out properly. 	<ul style="list-style-type: none"> Connections Harness(es) LED panel Module 	<ul style="list-style-type: none"> Go to Pinpoint Test H.
<ul style="list-style-type: none"> One or more LEDs not illuminated, when condition(s) met. 	<ul style="list-style-type: none"> Connections Power/Ground LED panel Harness(es) 	<ul style="list-style-type: none"> Go to Pinpoint Test C.
<ul style="list-style-type: none"> Backlighting of some or all display panel icons are not lit. 	<ul style="list-style-type: none"> Connections Harness(es) LED panel Module 	<ul style="list-style-type: none"> Go to Pinpoint Test I.
<ul style="list-style-type: none"> Shift lock status LED is illuminated, but shifter does not lock. 	<ul style="list-style-type: none"> Connections Harness(es) OEM-shift lock solenoid OEM-fuse Module 	<ul style="list-style-type: none"> Go to Pinpoint Test B.
<ul style="list-style-type: none"> All LEDs illuminated but lift not operating. 	<ul style="list-style-type: none"> Connections Harness(es) Fuse Lift Lift switch 	<ul style="list-style-type: none"> Go to Pinpoint Test D.
<ul style="list-style-type: none"> Lift operates when safety conditions not met. 	<ul style="list-style-type: none"> Connections Harness(es) Lift Module 	<ul style="list-style-type: none"> Go to Pinpoint Test E.
<ul style="list-style-type: none"> Vehicle can shift out of PARK with the vehicle secure LED lit 	<ul style="list-style-type: none"> Connections OEM-shift lock solenoid Module Harness(es) 	<ul style="list-style-type: none"> Go to Pinpoint Test F.
<ul style="list-style-type: none"> Lift operates intermittently. 	<ul style="list-style-type: none"> Connections Harness(es) Park brake/park/lift door signals Lift Module 	<ul style="list-style-type: none"> Go to Pinpoint Test G.
<ul style="list-style-type: none"> Shift lock LED flashes on/off continuously (GTWY605 Only) 	<ul style="list-style-type: none"> Connections Harness(es) Shift lock solenoid 	<ul style="list-style-type: none"> Go to Pinpoint Test J.

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).**
- GTWY505/506/605/805 documentation as per the application.**
- Documentation available at:**


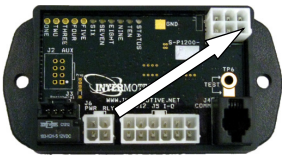
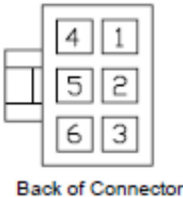
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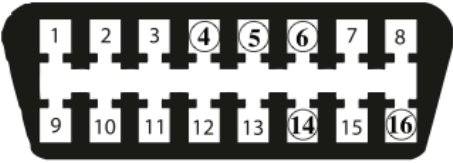
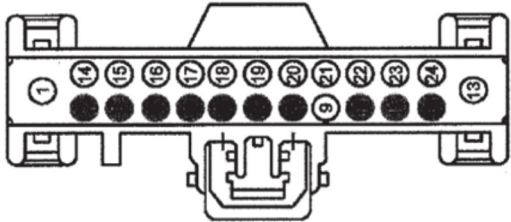
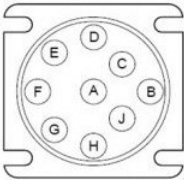
PINPOINT TEST A: No prove out of any LEDs or all LEDs flash in unison.



No prove out (all LED's light up) of the GTWY Display Panel LEDs when the Ignition is turned on, indicates that:
 - the GTWY505/506/605/805 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"> Carefully inspect the GTWY505/506/605/805 module and harness(es). Verify harness connectors are fully seated into the GTWY505/506/605/805 module. Refer to the schematics in the GTWY505/506/605/805 documentation. Are all harness connectors properly installed into module? 	<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"> Carefully inspect all harness connectors. Verify that each connector has the correct wires in the correct connector pin cavity. Refer to the schematics in the GTWY505/506/605/805 documentation for wire colors and pin locations. Are all wires in their correct connector pin cavity? 	<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"> Disconnect the white 6 pin J1 DLC connector at module. Using a digital multimeter measure the voltage between the red wire pin 1 and the gray wire pin 4 of J19 DLC connector. Is the voltage greater than 11.5 Volts?  	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with further diagnostic steps.</p> <p>No A-GTWY505, 506, 605 Go to A4 B-GTWY506 Go to A5 A-GTWY805 Go to A6</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"> • Disconnect the Red data link connector at the OEM DLC. • Using a digital multimeter, measure voltage between pin 4 and pin 16 of OEM Data Link Connector.  <ul style="list-style-type: none"> • Is the voltage greater than 10 Volts? 	<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>																				
<p>A5 Check voltage at the OEM Data Link Connector. (DLC)</p> <ul style="list-style-type: none"> • Disconnect the OEM white 24 pin connector from the GTWY data link harness at the back of the OEM Gateway module. • Using a digital multimeter, measure voltage between pin 1 and pin 13 of OEM 24 pin Data Link Connector.  <ul style="list-style-type: none"> • Is the voltage greater than 10 Volts? 	<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>																				
<p>A6 Check voltage at the OEM Data Link Connector. (DLC)</p> <ul style="list-style-type: none"> • Disconnect the OEM J1939 9 pin connector from the GTWY data link harness. • Using a digital multimeter, measure voltage between pin A and pin B of OEM 9 pin Data Link Connector. <table border="1" data-bbox="175 1507 483 1734"> <thead> <tr> <th>Pin</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>+12V</td> </tr> <tr> <td>B</td> <td>Ground</td> </tr> <tr> <td>C</td> <td>CAN Shield</td> </tr> <tr> <td>D</td> <td>CAT Data Link (CDL) Hi</td> </tr> <tr> <td>E</td> <td>CAT Data Link (CDL) Lo</td> </tr> <tr> <td>F</td> <td>CAN/J1939 Lo</td> </tr> <tr> <td>G</td> <td>CAN/J1939 Hi</td> </tr> <tr> <td>H</td> <td>ATA/J1587/J1708 Lo</td> </tr> <tr> <td>J</td> <td>ATA/J1587/J1708 Hi</td> </tr> </tbody> </table>  <p>9-Pin Deutsch – CAT Industrial Connector (J1708/J1587, J1939, CAT Data Link)</p> <ul style="list-style-type: none"> • Is the voltage greater than 10 Volts? 	Pin	Value	A	+12V	B	Ground	C	CAN Shield	D	CAT Data Link (CDL) Hi	E	CAT Data Link (CDL) Lo	F	CAN/J1939 Lo	G	CAN/J1939 Hi	H	ATA/J1587/J1708 Lo	J	ATA/J1587/J1708 Hi	<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>
Pin	Value																				
A	+12V																				
B	Ground																				
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F	CAN/J1939 Lo																				
G	CAN/J1939 Hi																				
H	ATA/J1587/J1708 Lo																				
J	ATA/J1587/J1708 Hi																				


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

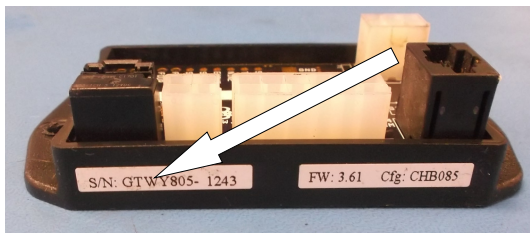
If the transmission range selector does not lock in PARK with the shift lock status LED lit:


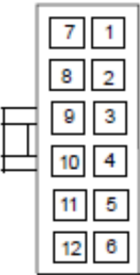
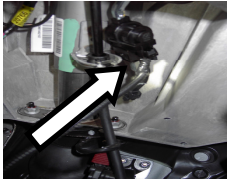

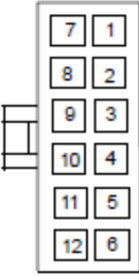
- there is a problem with the shift lock solenoid and/or circuit.
- there is a problem with the OEM electrical system.
- the GTWY 505/506/605/805 module may be incorrectly configured or needs replacement.



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"> • Carefully inspect the GTWY505/506/605/805 module and harness(es). • Verify harness connectors are fully seated into the GTWY module. • Refer to the schematics in the GTWY505/506/605/805 documentation. • Are all harness connectors properly installed into module? 	<div style="text-align: center;">  </div> <p style="text-align: center;">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"> • Carefully inspect all harness connectors.. • Refer to the schematics in the GTWY505/506/605/805 documentation for wire colors and pin locations. • Verify that each connector has the correct wires in the correct connector pin cavity. • Are all wires in their correct connector pin cavity? 	<p style="text-align: center;">Results _____</p> <p>Yes Go to B3</p> <p>No Contact InterMotive for assistance with harness and connectors</p>
<p>B3 Identify the vehicle GTWY system.</p> <ul style="list-style-type: none"> • Which GTWY system are you working on? 	<p style="text-align: center;">Results _____</p> <p>GTWY505/506 Contact InterMotive for assistance with GTWY505/506 module.</p> <p>GTWY605 Go to B4.</p> <p>GTWY805 Go to B6.</p>



Test Step	Result/Action to Take
<p>B4 Checking for Shift Lock Power.</p> <ul style="list-style-type: none"> • Key in the ON position, and the lift door is open, Shift Lock LED is lit. • Using a digital multimeter, measure the voltage between pin 1 (Blue wire) at the 12-Pin connector on the GTWY605 module, and chassis ground • Is the voltage greater than 10 Volts?   <p>Back of Connector</p>	<p>Results _____</p> <p>Yes Go to B5.</p> <p>No Contact InterMotive for assistance with GTWY605 module</p>
<p>B5 Checking the OEM shift lock operation.</p> <ul style="list-style-type: none"> • Remove GTWY605 shift lock T harness, reconnect OEM shift lock harness to the shift lock solenoid. • Key in the ON position. • Do NOT step on the service brake pedal. • Does shift lock solenoid lock the gear selector in PARK?  <p>Chevy Express</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>
<p>B6 Check GTWY805 Shift Lock/ Range Inhibit output.</p> <ul style="list-style-type: none"> • Key in the ON position, and the lift door is open, Shift Lock LED is lit. • Using a digital multimeter, measure the voltage between pin 2 (Yellow wire) at the 12-Pin connector on the GTWY805 module, and chassis ground • Is the voltage greater than 10 Volts?   <p>Back of Connector</p>	<p>Results _____</p> <p>Yes Contact OEM dealer to service Shift Lock/Range Inhibit system</p> <p>No Contact InterMotive for assistance with GTWY805 module.</p>

PINPOINT TEST C: One or more LEDs are not illuminated, when condition(s) are met.



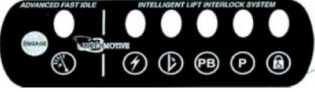






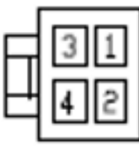
If a LED indicator fails to light with its associated condition(s) met:


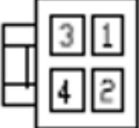
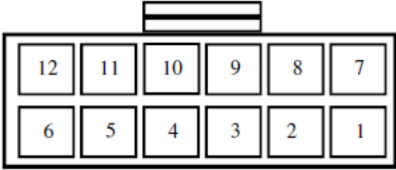
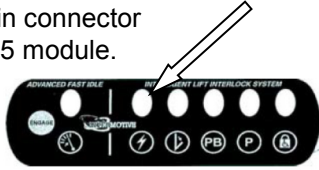
- there is a problem with an input and/or input circuit.
- there is a problem with the OEM electrical system.
- the GTWY 505/506/605/805 module may be incorrectly configured or needs replacement.

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"> • Carefully inspect the GTWY505/506/605/805 module and harness(es). • Verify the harness connectors are fully seated into the GTWY505/506/605/805 module. • Refer to the schematics in the GTWY505/506/605/805 documentation. • Are all harness connectors properly installed into module? 	<p>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"> • Carefully inspect all harness connectors. • Refer to the schematics in the GTWY505/506/605/805 documentation for wire colors and pin locations. • Verify that each connector has the correct wires in the correct connector pin cavity. • Are all wires in their correct connector pin cavity? 	<p>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 GTWY505/506/605/805 Display.</p> <p>Reminder: Prove out of LEDs 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 LEDs prove out.</p> <ul style="list-style-type: none"> • Turn the ignition off for at least 5 secs, then turn the ignition on to initiate LED prove out. • Do all LEDs on the display panel light up during the prove out cycle when the ignition key is initially turned on? 	<p>Results _____</p> <p>Yes Go to C4</p> <p>No Go to A3</p>



Test Step	Result/Action to Take
<p>C4 Observe the GTWY505/506/605/805 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"> • Key in the ON position. • Perform each function; set park brake, transmission in park, lift door open. • Which Status Indicator LED does not illuminate properly (stays off with conditions met, or always on)? <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">  Park - Go to C5.  Park Brake - Go to C6.  Door Open - Go to C7.  Shift Lock - Contact InterMotive for assistance with the GTWY505/506/605/805 module.  Lift Power - Go to C10.
<p>C5 Checking the OEM park operation.</p> <ul style="list-style-type: none"> • Verify that the vehicle transmission range selector is in the park position. • Using a scan tool, monitor the transmission range sensor data. • Does the gear selector correlate to the transmission range sensor data on the scan tool? 	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with GTWY505/506/605/805 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"> • Alternately release and apply the parking brake. • Does the park brake indicator (PB) on the dash illuminate properly? 	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with GTWY505/506/605/805 module.</p> <p>No Contact OEM dealer or check park brake switch and circuits.</p>
<p>C7 Check lift door switch circuit operation.</p> <ul style="list-style-type: none"> • Using a digital multimeter, measure the voltage from pin 3 (Gray wire) of the J6 white 4-pin connector on the GTWY505/506/605/805 module to chassis ground. • Alternately open and close the lift door. <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>  <p>Back of the J6 Connector</p> <ul style="list-style-type: none"> • Does the voltage on pin 3 measure higher than 4.5 Volts with the lift door closed, then drop to less than 0.2 volts with the lift door open? 	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with GTWY505/506/605/805 module.</p> <p>No The voltage does not change when the lift door is open and closed - Go to C8.</p>

Test Step	Result/Action to Take
<p>C8 Check lift door 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 door in the closed position.</p> <ul style="list-style-type: none"> While using a digital multimeter to monitor the voltage on pin 3 (gray wire) at the 4-pin connector on the GTWY505/506/605/805 module in the previous step, does the voltage always stay high (above 4.5 Volts)? 	<p>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 C9</p>
<p>C9 Check lift door switch for short to ground.</p> <ul style="list-style-type: none"> Disconnect the 4-Pin connector on the GTWY505/506/605/805 module. (Leave all other connectors in place.) Key in the ON position. Using a digital multimeter, measure the voltage from pin 3 (Gray wire) of the 4-pin connector on the GTWY505/506/605/805 module to chassis ground. Is the voltage at pin 3 between 4.5-5.0 Volts?  <p>Back of the J6 Connector</p>	<p>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 GTWY505/506/605/805 module.</p>
<p>C10 Check for the presence of a lift disable/enable switch.</p> <ul style="list-style-type: none"> Locate the white J5 12-pin connector on the GTWY505/506/605/805 module.  <p>Back of the J5 Connector</p> <ul style="list-style-type: none"> Is there a wire connected to Pin #2? 	<p>Results _____</p> <p>Yes Go to pinpoint test C11.</p> <p>No Contact InterMotive for assistance with GTWY505/506/605/805 module.</p>
<p>C11 Check lift disable/enable switch.</p> <ul style="list-style-type: none"> Ensure that all conditions met: parking brake on, vehicle in park, lift door open, and that their respective LED indicators are lit. Disconnect the white J5 12-pin connector on the GTWY505/506/605/805 module. Observe the Lift Power LED.  <ul style="list-style-type: none"> Is the Lift Power LED now illuminated? 	<p>Results _____</p> <p>Yes Repair short to ground in the lift switch circuit or lift switch.</p> <p>No Contact InterMotive for assistance with GTWY505/506/605/805 module.</p>

PINPOINT TEST D: LEDs Properly Illuminated, No lift function.

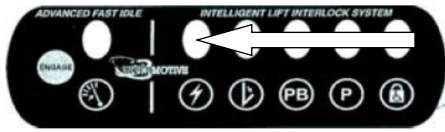


- If the lift does not operate with the lift power LED indicator lit:
- there is a problem with the wiring harness to the lift.
 - there is a problem with the lift.
 - the GTWY505/506/605/805 module may be incorrectly configured or needs replacement.

Estimated Time To Complete: 5 Minutes

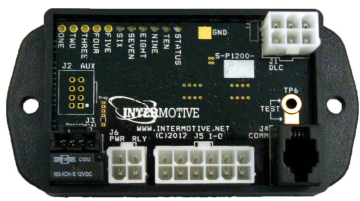
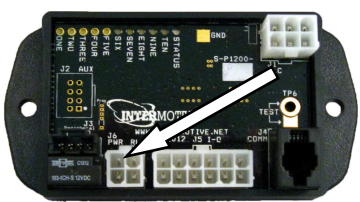
Test Step	Result/Action to Take
<p>D1 Ensure that all connectors are installed correctly.</p> <ul style="list-style-type: none"> Carefully inspect GTWY505/506/605/805 module and harness(es). Verify harness connectors are fully seated into the module. Refer to the schematics in the GTWY505/506/605/805 documentation. Are all harness connectors properly installed into module? 	<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"> Carefully inspect all harness connectors. Refer to the schematics in the GTWY505/506/605/805 documentation for wire colors and pin locations. Verify that each connector has the correct wires in the correct connector pin cavity. Are all wires in their correct connector pin cavity? 	<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"> Disconnect the white J6 4-pin connector from module, using a jumper wire, jump pin 2 (Orange wire) to pin 4 (Yellow wire) at the 4-pin connector. Attempt to operate lift. Does the lift operate? <div data-bbox="451 1346 792 1514" style="text-align: center;"> <p>Back of the J6 Connector</p> <p>Jumper Wire</p> </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"> Disconnect lift interlock connector from lift. 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.) Does the lift operate? 	<p>Results _____</p> <p>Yes Repair lift interlock harness from GTWY505/506/605/805 module to lift connector. (Orange wire from the module.)</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 GTWY 505/506/605 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"> Carefully inspect the GTWY505/506/605/805 module and harness(es). Verify harness connectors are fully seated into the module. Refer to the schematics in the GTWY505/506/605/805 documentation. Are all harness connectors properly installed into module? 	<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"> Carefully inspect all harness connectors. Refer to the schematics in the GTWY505/506/605/805 documentation for wire colors and pin locations. Verify that each connector has the correct wires in the correct connector pin cavity. Are all wires in their correct connector pin cavity? 	<p>Results _____</p> <p>Yes Go to E3.</p> <p>No Contact InterMotive for assistance with GTWY505/506/605/805 Harness.</p>
<p>E3 Check for lift operation.</p> <ul style="list-style-type: none"> Disconnect white J6 4-pin connector from GTWY505/506/605/805 module and attempt to operate lift. Does the lift operate? 	<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 GTWY505/506/605/805 module.</p>


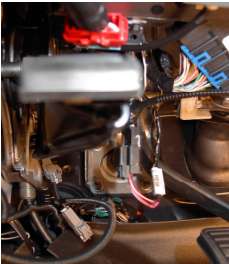
PINPOINT TEST F: Vehicle can shift out of park when lift power / vehicle secure LED is lit.



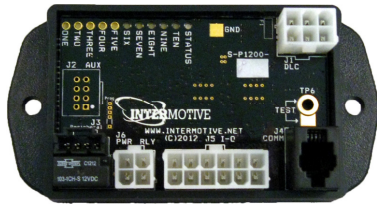
If the transmission range selector can be shifted out of PARK with when vehicle secure LED is lit:

- there is a problem with the shift lock solenoid and/or circuit.
- there is a problem with the OEM electrical system.
- the GTWY505/506/605/805 module may be incorrectly configured or needs replacement.

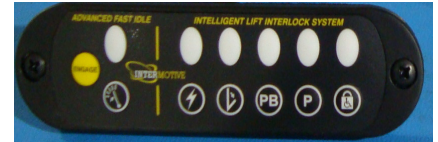
Estimated Time To Complete: 15 Minutes

Test Step	Result/Action to Take
<p>F1 Ensure that all connectors are installed correctly.</p> <ul style="list-style-type: none"> Carefully inspect the GTWY505/506/605/805 module and harness(es). Verify harness connectors are fully seated into the module. Refer to the schematics in the GTWY505/506/605/805 documentation. Are all harness connectors properly installed into module? 	<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"> Carefully inspect all harness connectors. Refer to the schematics in the GTWY505/506/605/805 documentation for wire colors and pin locations. Verify that each connector has the correct wires in the correct connector pin cavity. Are all wires in their correct connector pin cavity? 	<p>Results _____</p> <p>Yes Go to F3.</p> <p>No Contact InterMotive for assistance with GTWY505/506/605/805 Harness.</p>
<p>F3 Check shift lock solenoid operation.</p> <ul style="list-style-type: none"> Key in the ON position, lift door open, park brake set. Step on the service brake pedal. Can vehicle be shifted out of park? <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Chevy Express</p> </div> <div style="text-align: center;">  <p>Ford E-Series</p> </div> </div>	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with GTWY505/506/605/805 module.</p>






PINPOINT TEST G: Lift operates intermittently.



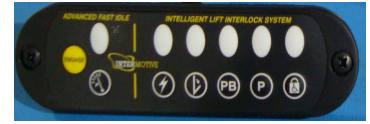
The Lift Display Panel LEDs should indicate conditions met when in vehicle secure. Key on, in park, parking brake set, and lift door open.



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"> Carefully inspect the GTWY505/506/605/805 module and harness(es). Verify harness connectors are fully seated into the GTWY module. Refer to the schematics in the GTWY505/506/605/805 documentation. Are all harness connectors properly installed into module? 	<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"> Carefully inspect all harness connectors.. Refer to the schematics in the GTWY505/506/605/805 documentation for wire colors and pin locations. Verify that each connector has the correct wires in the correct connector pin cavity Are all wires in their correct connector pin cavity? 	<p>Results_____</p> <p>Yes Go to G3.</p> <p>No Contact InterMotive for assistance with harness and connectors</p>
<p>G3 Observe the GTWY505/506/605/805 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"> Key in the ON position. Perform each function; set park brake, transmission in park, lift door open. Which status Indicator LED does not illuminate properly? (Stays off with conditions met, or always on.) <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">  Park - Go to C5.  Park Brake - Go to C6.  Door Open - Go to C7.  Shift Lock - Contact InterMotive for assistance with the GTWY505/506/605/805 module.  Lift Power - Go to C10.

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

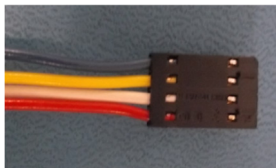
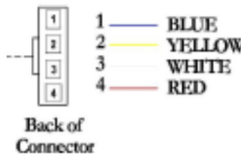


If an LED indicator does not light when the ignition key is initially turned to ON:

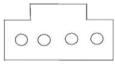
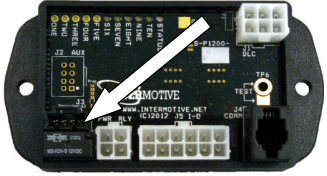
- there is a problem with the LED indicator display and/or circuit.
- the GTWY 505/506/605/805 module may be incorrectly configured or needs replacement.

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"> Carefully inspect the GTWY505/506/605/805 module and harness(es). Verify harness connectors are fully seated into the GTWY module. Refer to the schematics in the GTWY505/506/605/805 documentation. Are all harness connectors properly installed into module? 	<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"> Carefully inspect all harness connectors.. Refer to the schematics in the GTWY505/506/605/805 documentation for wire colors and pin locations. Verify that each connector has the correct wires in the correct connector pin cavity. Are all wires in their correct connector pin cavity? 	<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"> Disconnect the black 4 pin connector from the back of the LED display panel. 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. Are all voltages correct? 	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with LED display panel.</p> <p>No Go to H4.</p>



- 1 - Ground Source
- 2 - 5 volts
- 3 - 1-12 volts
- 4 - Battery Voltage

Test Step	Result/Action to Take
<p>H4 Checking LIN voltages at the GTWY module.</p> <ul style="list-style-type: none"> Disconnect the black 4 pin J3 connector from the GTWY module. <div style="text-align: center;">  <p>4 3 2 1 J3 LIN Connector</p> </div> <ul style="list-style-type: none"> Using a digital multimeter, measure voltage at pin 1, pin 2, pin 3, and pin 4 on the module. <div style="text-align: center;">  </div> <p>1 - Ground Source 2 - 5 volts 3 - 1-12 volts 4 - Battery Voltage</p> <ul style="list-style-type: none"> Are all voltages correct? 	<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 GTWY module.</p>

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



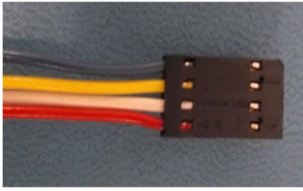


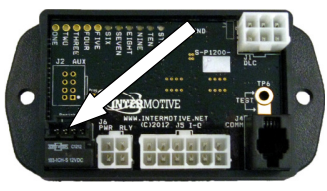
If all LEDs flash on and off on the display panel when the ignition key is ON:

- there is a problem with the LED display and/or circuit.
- there is a problem with power to the GTWY505/506/605/805 module.
- there is a problem with the OEM electrical system.
- the GTWY 505/506/605/805 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"> Carefully inspect the GTWY505/506/605/805 module and harness(es). Verify harness connectors are fully seated into the GTWY module. Refer to the schematics in the GTWY505/506/605/805 documentation. <p>Are all harness connectors properly installed into module?</p>	<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"> Carefully inspect all harness connectors.. Refer to the schematics in the GTWY505/506/605/805 documentation for wire colors and pin locations. Verify that each connector has the correct wires in the correct connector pin cavity. Are all wires in their correct connector pin cavity? 	<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"> • Disconnect the black 4 pin connector from the back of the LED display panel. • 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.    <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 GTWY module.</p> <ul style="list-style-type: none"> • Disconnect the black 4 pin J3 connector from the GTWY module. • Using a digital multimeter, measure voltage at pin 1, pin 2, pin 3, and pin 4 on the module.  <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 GTWY module.</p>
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PINPOINT TEST J: Shift Lock LED flashes on/off continuously. (GTWY605 module only!)



Estimated Time To Complete: 18 Minutes

Test Step	Result/Action to Take
<p>J1 Ensure that all connectors are installed correctly.</p> <ul style="list-style-type: none"> • Carefully inspect the GTWY605 module and harness(es). • Verify harness connectors are fully seated into the GTWY module. • Refer to the schematics in the GTWY605 documentation. • Are all harness connectors properly installed into module? 	<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"> Carefully inspect all harness connectors.. Refer to the schematics in the GTWY605 documentation for wire colors and pin locations. Verify that each connector has the correct wires in the correct connector pin cavity. Are all wires in their correct connector pin cavity? 	<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"> Apply the Park Brake. Does the Shift Lock LED flash on/off continuously? 	<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"> Disconnect the InterMotive shift lock harness from vehicle. Turn the ignition key to the on position. Apply the Park Brake. Does the shift lock LED flash on/off continuously with the InterMotive shift lock harness removed from the vehicle?  	<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>

GTWY505/506/605/805

Installation Instructions and Vehicle Configuration Documentation
are available from:

InterMotive Customer Care
530-823-1048 Ext. 159