An ISO 9001:2008 Registered Company

Gateway 505/605 – Symptom Flow Chart – Lift Interlock

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

Observing the operation of the status indicator LED's on the 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
• No prove out of any display panel LED's.	• Connections • Power • Ground • LED panel • Harness(es) • Module	• Go to Pinpoint Test A.
• Some display panel LED's do not prove out properly.	• Connections • Harness(es) • LED panel • Module	• Go to Pinpoint Test H.
• All LED's flash in unison.	• Connections • Power • Ground • LED panel • Harness(es) • Module	• Go to Pinpoint Test A.
• Backlighting of some or all Display panel icons is inop.	• Connections • Harness(es) • LED panel • Module	• Go to Pinpoint Test I.
• Shift lock status LED is illuminated, but shifter does **not** lock.	• Connections • Harness(es) • OEM-shift lock solenoid • OEM-fuse • Module	• Go to Pinpoint Test B.

Condition	Possible Causes	Action
• All LED's illuminated but lift not operating.	• Connections • Harness(es) • Fuse • Lift • Lift switch • Module	• Go to Pinpoint Test D.
• Lift operates when safety conditions **not** met.	• Connections • Harness(es) • Lift • Module	• Go to Pinpoint Test E.
• Vehicle can shift out of PARK with the vehicle secure LED lit	• Connections • Harness(es) • OEM-shift lock solenoid • Module	• Go to Pinpoint Test F.
• Lift operates intermittently.	• Connections • Harness(es) • Park brake/park/lift door signals • Lift • Lift switch (if equipped) • Module	• Go to Pinpoint Test G.
• Shift lock LED flashes on/off continuously (GTWY605 Only)	• Connections • Harness • Shift lock solenoid	• Go to Pinpoint Test J.

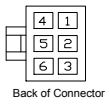
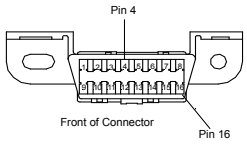
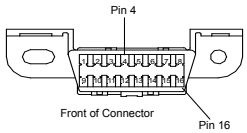
The following is necessary for proper diagnosis:

- **Minimum system voltage (battery voltage) of 12.4 volts.**
- **Digital multimeter (do not use test lamp as circuit damage will result).**
- **GTWY 505 or GTWY 605 documentation as per the application.**
- **Documentation available at www.InterMotive.net.**

PINPOINT TEST A: NO PROVE OUT OF ANY LEDs

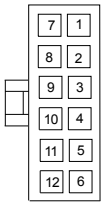
No proveout (all LED's light up) of the LED's when the Ignition is turned on indicates that:
- the GTWY 505/506/605 module is not powered up
- the LED display is inoperative

Estimated Time To Complete: 18 Minutes

Test Step	Result/Action to Take
A1 Ensure that all connectors are installed correctly	
• Carefully inspect module and harness(es) • Refer to schematics in GTWY 505/506/605 documentation • Are all harness connectors properly installed into module?	Results_____ Yes Go to A2 No Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.
Test Step	
A2 Ensure that all wires are in their correct connector cavity	
• Carefully inspect all harness connectors • Verify that each connector has the correct wires in the correct connector pin cavity • Refer to schematics in GTWY 505/506/605 documentation for wire colors and pin locations • Are all wires in their correct connector pin cavity?	Results_____ Yes Go to A3 No Contact InterMotive for assistance with harness and connectors
Test Step	Result/Action to Take
A3 Check voltage at Data Link at module	
• Disconnect the 6-Pin connector at module • Using a digital multimeter measure voltage between pin 1 and pin 4 of data link connector  Back of Connector • Is the voltage greater than 10 Volts?	Results_____ Yes Contact InterMotive for assistance with GTWY 505/506/605 module No Go to A4
Test Step	Result/Action to Take
A4 Check the voltage at Data Link Connector (DLC)	
• Using a digital multimeter, measure voltage between pin 4 and pin 16 of Data link connector  • Is the voltage greater than 10 Volts?	Results_____ Yes Contact InterMotive for assistance with the InterMotive Data Link harness No Go to A5
Test Step	Result/Action to Take
A5 Check the voltage at Data Link Connector (DLC)	
• Remove GTWY 505/506/605 Data link T harness, measure voltage at OEM Data link connector between pin 4 and pin 16  • Is the voltage greater than 10 Volts?	Results_____ Yes Contact InterMotive for assistance with the InterMotive Data Link harness 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. If the DLC fuse is okay, contact OEM dealer for OEM electrical system service.

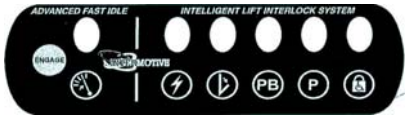
PINPOINT TEST B: SHIFT LOCK STATUS LED IS ILLUMINATED, BUT SHIFTER DOES NOT LOCK

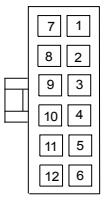
If the transmission range selector does not lock in PARK with the shift lock status LED lit:
- there is a problem with the shift lock solenoid and/or circuit
- there is a problem with the OEM electrical system
- the GTWY 505/506/605 module may be incorrectly configured or needs replacement
Estimated Time To Complete: 18 Minutes

Test Step	Result/Action to Take
B1 Ensure that all connectors are installed correctly	
▪ Carefully inspect module and harness(es) ▪ Refer to schematics in GTWY 505/506/605 documentation ▪ Are all harness connectors properly installed into module?	Yes Results_____ Go to B2 No Review install instructions reinstall all connectors in their proper position. Test system for normal operation.
Test Step	**Result/Action to Take**
B2 Ensure that all wires are in their correct connector cavity	
▪ Carefully inspect all harness connectors ▪ Verify that each connector has the correct wires in the correct connector pin cavity ▪ Refer to schematics in GTWY 505/506/605 documentation for wire colors and pin locations ▪ Are all wires in their correct connector pin cavity?	Yes Results_____ Go to B3 No Contact InterMotive for assistance with harness and connectors
Test Step	**Result/Action to Take**
B3 Identify vehicle GTWY system	
▪ Is the vehicle a Ford E/F series chassis?	Results_____ Yes Contact InterMotive for assistance with GTWY 505/506 module No Vehicle is a GM chassis GO to B4
Test Step	**Result/Action to Take**
B4 Check for Shift Lock Power	
▪ 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 GTWY 605 module, and chassis ground ▪ Is the measured voltage greater than 10 volts?  Back of Connector	Results_____ Yes Go to B5. No Contact InterMotive for assistance with GTWY 605 module
Test Step	**Result/Action to Take**
B5 Check OEM shift lock operation	
▪ Remove GTWY 605 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?	Results_____ Yes Contact InterMotive for assistance with Shift Lock harness No Contact OEM dealer to service Shift Lock system

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

If a LED indicator fails to light with its associated condition(s) met:
- there is a problem with an input and/or input circuit
- there is a problem with the OEM electrical system
- the GTWY 505/506/605 module may be incorrectly configured or needs replacement
Estimated Time To Complete: 18 Minutes

Test Step	Result/Action to Take
C1 Ensure that all connectors are installed correctly	
• Carefully inspect module and harness(es) • Refer to schematics in GTWY 505/506/605 documentation • Are all harness connectors properly installed into module?	Yes Results_____ Go to C2 No Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.
Test Step	**Result/Action to Take**
C2 Ensure that all wires are in their correct connector cavity	
• Carefully inspect all harness connectors • Verify that each connector has the correct wires in the correct connector pin cavity • Refer to schematics in GTWY 505/506/605 documentation for wire colors and pin locations • Are all wires in their correct connector pin cavity?	Results _____ Yes Go to C3 No Contact InterMotive for assistance with harness and connectors
Test Step	**Result/Action to Take**
C3 Check LED indicators	
Reminder: Prove out of LED's on the display panel (all status indicator LED's light up) occurs whenever the ignition is cycled from OFF to ON. The icons do not light up until after the status indicator LED's prove out. • Turn the ignition off for at least 5 secs, then turn the ignition on to initiate LED prove out. • Do all LED's on the display panel light up during the prove out cycle when the ignition key is initially turned on?	Results_____ Yes Go to C4 No Go to A3
Test Step	**Result/Action to Take**
C4 Observe LED display panel	
Note: Please review system operation before trying to identify faulty status indicator LED operation. • 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)? Reminder: The icons on the display panel should be backlit whenever the ignition key is on and after status indicator LED prove out. The sole purpose of the icons is to identify the status indicator LED's located directly above each icon.	Results_____ (PB) Park Brake - Go to C5 (P) PARK - Go to C6 Door open - Go to C7 Shift lock - Contact InterMotive for assistance with the GTWY 505/506/605 module Lift power - Go to C10
Test Step	**Result/Action to Take**
C5 Check park brake operation	
• Key in the ON position • Alternately release and apply the parking brake • Does the park brake indicator on the dash illuminate properly?	Results_____ Yes Contact InterMotive for assistance with GTWY 505/506/605 module No Contact OEM dealer or check park brake switch and circuits

Test Step	Result/Action to Take
C6 Check park operation	
• 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 scan tool?	Results_____ Yes Contact InterMotive for assistance with GTWY 505/506/605 module No Contact OEM dealer concerning Transmission Range sensor and network communication issues
Test Step	Result/Action to Take
C7 Check lift door switch circuit operation	
• Using a digital multimeter, measure the voltage from Pin #3 (Gray wire) of the 4-Pin connector on the GTWY 505/506/605 module to chassis ground • Alternately open and close the lift door (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)  Back of Connector • 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?	Results_____ Yes Contact InterMotive for assistance with GTWY 505/506/605 module No The voltage does not change when the lift door is open and closed - Go to C8
Test Step	Result/Action to Take
C8 Check lift door switch circuit operation	
(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) • While using a digital multimeter to monitor the voltage on Pin #3 (gray wire) at the 4-Pin connector on the GTWY 505/506/605 module in the previous step, does the voltage always stay high (above 4.5 Volts)?	Results_____ Yes Repair door switch or door switch circuit for open circuit condition and/or check door adjustment. No The voltage stays low (below 0.2 Volts) - Go To C9
Test Step	Result/Action to Take
C9 Check lift door switch circuit operation	
• Disconnect the 4-Pin connector on the GTWY 505/506/605 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 GTWY 505/506/605 module to chassis ground.  4-Pin receptacle on the GTWY module • Is the voltage at Pin #3 between 4.5-5.0 Volts?	Results_____ Yes Repair short to ground in door switch circuit or stuck closed door switch. No Contact InterMotive for assistance with GTWY 505/506/605 module
Test Step	Result/Action to Take
C10 Check for the presence of a lift disable/enable switch	
• Locate the 12-Pin connector on the GTWY 505/506/605 module. • Is there a wire connected to Pin #2?  Back of Connector	Results_____ Yes Go to pinpoint test C11 No Contact InterMotive for assistance with GTWY 505/506/605 module
Test Step	Result/Action to Take
C11 Check lift disable/enable switch	
• Key in the ON position • Ensure that all conditions met: parking brake on, vehicle in PARK, lift door open, and that their respective LED indicators are lit. • Disconnect the 12-Pin connector on the GTWY 505/506/605 module • Observe the Lift Power LED • Is the Lift Power LED now illuminated?	Results_____ Yes Repair short to ground in the lift switch circuit or lift switch No Contact InterMotive for assistance with GTWY 505/506/605 module

PINPOINT TEST D: LEDS PROPERLY ILLUMINATED, BUT LIFT NOT OPERATING

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

- there is a problem with the wiring harness to the lift

- there is a problem with the lift

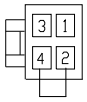
- the GTWY 505/506/605 module may be incorrectly configured or needs replacement

Estimated Time To Complete: 18 Minutes

Test Step	Result/Action to Take
D1 Ensure that all connectors are installed correctly	
• Carefully inspect module and harness(es) • Refer to schematics in GTWY 505/506/605 documentation • Are all harness connectors properly installed into module?	Yes Results_____ Go to D2 No Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.

Test Step	Result/Action to Take
D2 Ensure that all wires are in their correct connector cavity	
• Carefully inspect all harness connectors • Verify that each connector has the correct wires in the correct connector pin cavity • Refer to schematics in GTWY 505/506/605 documentation for wire colors and pin locations • Are all wires in their correct connector pin cavity?	Yes Results_____ Go to D3 No Contact InterMotive for assistance with harness and connectors

Test Step	Result/Action to Take
D3 Check for lift power	
• Key in the ON position • Using a digital multimeter, measure the voltage between Pin #4 (Yellow wire) at the 4-Pin connector on the GTWY 505/506/605 module, and chassis ground  Back of Connector • Is the measured voltage greater than 10 volts?	Yes Results_____ Go to D3 No Repair fused ignition power circuit (Yellow wire)

Test Step	Result/Action to Take
D3 Check for lift power	
• Disconnect 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 Back of Connector  • Does the lift operate? Jumper Wire	Results_____ Yes Contact InterMotive for assistance with GTWY 505/506/605 module No Go to D4

Test Step	Result/Action to Take
D4 Check for lift operation	
• 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?	Results_____ Yes Repair lift interlock harness from GTWY 505/506/605 module to lift connector (orange wire from the module) No Check lift circuits and system. Contact lift manufacturer if still no lift operation.

PINPOINT TEST E: LIFT OPERATES WHEN SAFETY CONDITIONS NOT MET

If the lift operates even though the lift output LED indicator is not lit:
- there is a problem with the wiring harness to the lift
- there is a problem with the lift
- the GTWY 505/506/605 module may be incorrectly configured or needs replacement
Estimated Time To Complete: 18 Minutes

Test Step	Result/Action to Take
E1 Ensure that all connectors are installed correctly	
• Carefully inspect module and harness(es) • Refer to schematics in GTWY 505/506/605 documentation • Are all harness connectors properly installed into module?	Yes Results_____ Go to E2 No Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.
Test Step	**Result/Action to Take**
E2 Ensure that all wires are in their correct connector cavity	
• Carefully inspect all harness connectors • Verify that each connector has the correct wires in the correct connector pin cavity • Refer to schematics in GTWY 505/506/605 documentation for wire colors and pin locations • Are all wires in their correct connector pin cavity?	Yes Results_____ Go to E3 No Contact InterMotive for assistance with harness and connectors
Test Step	**Result/Action to Take**
E3 Check lift operation	
• Disconnect 4-Pin connector from GTWY 505/506/605 module and attempt to operate lift • Does the lift operate?	Results_____ Yes Check for bypass jumper wires or short to power on lift circuit or at the lift No Contact InterMotive for assistance with GTWY 505/506/605 module

PINPOINT TEST F: VEHICLE CAN SHIFT OUT OF PARK WHEN 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 GTWY 505/506/605 module may be incorrectly configured or needs replacement
Estimated Time To Complete: 18 Minutes

Test Step	Result/Action to Take
F1 Ensure that all connectors are installed correctly	
• Carefully inspect module and harness(es) • Refer to schematics in GTWY 505/506/605 documentation • Are all harness connectors properly installed into module?	Yes Results_____ Go to F2 No Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.
Test Step	**Result/Action to Take**
F2 Ensure that all wires are in their correct connector cavity	
• Carefully inspect all harness connectors • Verify that each connector has the correct wires in the correct connector pin cavity • Refer to schematics in GTWY 505/506/605 documentation for wire colors and pin locations • Are all wires in their correct connector pin cavity?	Yes Results_____ Go to F3 No Contact InterMotive for assistance with harness and connectors
Test Step	**Result/Action to Take**
F3 Check shift lock solenoid	
• Key in the ON position, lift door open, park brake set. • Step on the service brake pedal • Can vehicle be shifted out of park?	Results_____ Yes Contact InterMotive for assistance with GTWY 505/506/605 module

PINPOINT TEST G: LIFT OPERATES INTERMITTENTLY
Estimated Time To Complete: 9 Minutes

Test Step	Result/Action to Take
G1 Check lift operation	
• Observe LED's when lift won't operate • What does the LED panel display?	Refer to the symptom chart for diagnosis based on the LED display indicators during faulty operation

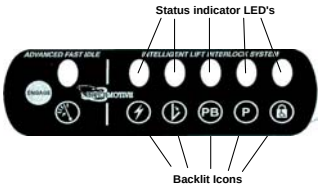
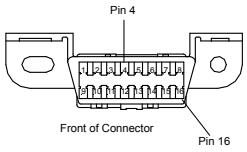
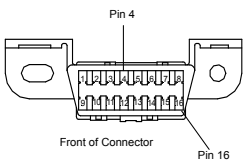
PINPOINT TEST H: SOME, but not all, DISPLAY PANEL LEDs DO NOT PROVE OUT PROPERLY

If an LED indicator does not light when the ignition key is initially turned to ON:
- there is a problem with the LED indicator display and/or circuit
- the GTWY 505/506/605 module may be incorrectly configured or needs replacement
Estimated Time To Complete: 9 Minutes

Test Step	Result/Action to Take
H1 Ensure that all connectors are installed correctly	
• Carefully inspect module and harness(es) • Refer to schematics in GTWY 505/506/605 documentation • Are all harness connectors properly installed into module?	Yes Results_____ Go to H2 No Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.
Test Step	**Result/Action to Take**
H2 Ensure that all wires are in their correct connector cavity	
• Carefully inspect all harness connectors • Verify that each connector has the correct wires in the correct connector pin cavity • Refer to schematics in GTWY 505/506/605 documentation for wire colors and pin locations • Are all wires in their correct connector pin cavity?	Results_____ Yes Contact InterMotive for assistance with LED Display Panel. No Contact InterMotive for assistance with harness and connectors

PINPOINT TEST I: BACKLIGHTING OF SOME OR ALL DISPLAY PANEL ICON's IS INOP

If an LED display panel icons do not light when the ignition key is ON:
- there is a problem with the LED display and/or circuit
- there is a problem with power to the GTWY 505/506/605 module
- there is a problem with the OEM electrical system
- the GTWY 505/506/605 module may be incorrectly configured or needs replacement
Estimated Time To Complete: 18 Minutes

Test Step	Result/Action to Take
I1 Ensure that all connectors are installed correctly	
• Carefully inspect module and harness(es) • Refer to schematics in GTWY 505/506/605 documentation • Are all harness connectors properly installed into module?	Yes Results_____ Go to I2 No Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.
Test Step	Result/Action to Take
I2 Ensure that all wires are in their correct connector cavity	
• Carefully inspect all harness connectors • Verify that each connector has the correct wires in the correct connector pin cavity • Refer to schematics in GTWY 505/506/605 documentation for wire colors and pin locations • Are all wires in their correct connector pin cavity?	Results_____ Yes Go to I3 No Contact InterMotive for assistance with harness and connectors
Test Step	Result/Action to Take
I3 Check Display panel icon backlighting	
Reminder: The icons on the display panel should be backlit whenever the ignition key is on. The sole purpose of the icons is to identify the status indicator LED's located directly above each icon. • Ignition ON • Observe each individual backlit icon for proper backlighting  • Are some icons backlit, while others are not?	Results_____ Yes Contact InterMotive for assistance with LED display panel No None of the icons are backlit with the key ON - Go to I4
Test Step	Result/Action to Take
I4 Check the voltage at Data Link Connector (DLC)	
• Using a digital multimeter measure voltage between pin 4 and pin 16 of Data link connector  • Is the voltage greater than 10 Volts?	Results_____ Yes Go to I5 No Go to I6
Test Step	Result/Action to Take
I5 Check the voltage at Data Link Connector (DLC)	
• Disconnect the 6-Pin connector at module • Using a digital multimeter measure voltage between pin 1 and pin 4 of data link connector  • Is the voltage greater than 10 Volts?	Results_____ Yes Contact InterMotive for assistance with the GTWY 505/506/605 module. No Contact InterMotive for assistance with the InterMotive Data Link harness
Test Step	Result/Action to Take
I6 Check the voltage at Data Link Connector (DLC)	
• Remove GTWY 505/506/605 Data link T harness, measure voltage at OEM Data link connector between pin 4 and pin 16  • Is the voltage greater than 10 Volts?	Results_____ Yes Contact InterMotive for assistance with the InterMotive Data Link harness No Check the fuse for the DLC (Data Link Connector). Refer to the owners guide, or service publications for the location of this fuse. If the DLC fuse is okay, contact OEM dealer for OEM electrical system service.

PINPOINT TEST J: Shift Lock LED flashes on/off continuously
GTWY 605 module only!
Estimated Time To Complete: 18 Minutes

Test Step	Result/Action to Take
▪ Remove GTWY 605 Data link T harness, measure voltage at OEM Data	
J1 Ensure that all connectors are installed correctly	
▪ Carefully inspect module and harness(es) ▪ Refer to schematics in GTWY 605 documentation ▪ Are all harness connectors properly installed into module?	Yes Results_____ Go to J2 No Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.
Test Step	**Result/Action to Take**
J2 Ensure that all wires are in their correct connector cavity	
▪ Carefully inspect all harness connectors ▪ Verify that each connector has the correct wires in the correct connector pin cavity ▪ Refer to schematics in GTWY 605 documentation for wire colors and pin locations ▪ Are all wires in their correct connector pin cavity?	Yes Results_____ Go to J3 No Contact InterMotive for assistance with harness and connectors
Test Step	**Result/Action to Take**
J3 Check the shift lock LED	
▪ Turn the ignition key to the on position. ▪ Apply the Park Brake. ▪ Does the Shift Lock LED flash on/off continuously?	Yes Results_____ Go to J4. No Go to symptom flow chart and match up additional symptoms and follow the approprate pinpoint test.
Test Step	**Result/Action to Take**
J4 Check shift lock harness	
▪ 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?	Yes Results_____ Contact InterMotive for assistance with harness. No Contact OEM dealer for an over current condition (over 400ma draw) on the shift lock soleniod circuit.

An ISO 9001:2008 Registered Company

Gateway 505/506/605 AFIS – Diagnostics

Before beginning diagnostics make sure the technician has thoroughly reviewed the Gateway 505/506/605 installation instructions as well as the Gateway 505/506/605 operating instructions. Both are available on www.intermotive.net or by contacting InterMotive at 530-346-1801.

LED's don't proveout on initial start-up.

- Ensure LED harness is fully seated in Gateway 505/506/605 module.
- Ensure 6-Pin Data Link Connector is fully seated in the Gateway 505/506/605 module.
- Ensure Data Link Harness Connector is fully seated to the vehicle Data Link (below dash panel).

LED's flash alternately and fast idle does not operate.

- No CAN communication with vehicle. Ensure 6-Pin Data Link Connector is fully seated in the Gateway 505/506/605 module. Ensure Data Link Harness Connector is fully seated to the vehicle Data Link (below dash panel).
- Vehicle does not have a valid VIN # in the powertrain control module (PCM). PCM must have proper VIN programmed in by OEM Dealer.

LED's proveout but vehicle will not enter, or does not complete Fast Idle mode

- Verify all safety conditions are met.
- Check for Diagnostic Trouble Codes.

To display Status Codes on the Advanced Fast Idle LED, the technician must turn off the vehicle ignition, continuously press the manual engage switch while turning the ignition back on. Keep the switch pressed for 7 seconds. The switch can now be released and codes can be retrieved. A 2-digit code is displayed by flashing the first digit, waiting half of a second, flashing the second digit, and then waiting one second before another code is displayed. For example, if the status code was 2-4, the Advanced Fast Idle LED would flash two times, be off for half of a second, flash four times, and then be off for one second. Codes in *Italics* are functional only if the associated option is included in the Gateway 505/506/605 calibration. If codes are received, check all connections in the Gateway 505/506/605 system. These codes and their meanings are summarized in Table 1 on the next page. These codes are real time codes and may change due to changes on the vehicle.

Code	Meaning
2-1	Fast Idle In Progress Due to Manual Engage Switch
2-4	Fast Idle In Progress Due to Charge Protection (Battery Voltage < VBAT Low)
2-5	Fast Idle In Progress Due to Cab A/C Boost (Ford A/C ON with IAT > 70° F)
2-7	Fast Idle In Progress Due to Heater Boost (ECT < 170° F and IAT < 70° F)
2-8	*Fast Idle In Progress Due to grounded input on I/O Pin 4 (IF ENABLED AS A FAST IDLE INPUT)*
3-1	RPM too Low for Fast Idle
3-2	RPM too High for Fast Idle
3-3	Gear Position Incorrect for Fast Idle
3-4	Vehicle Speed Incorrect for Fast Idle
3-5	Service Brake Incorrect for Fast Idle
3-6	Transmission Fluid Temp too High for Fast Idle
3-8	Engine Coolant Temperature too High for Fast Idle
3-9	IAT < 70° F

Table 1: Diagnostic Trouble Codes

Vehicle intermittently drops out of Fast Idle mode, but currently works properly

- Check for Fast Idle Stop Codes.

  To aid in troubleshooting intermittent concerns, the Gateway 505/506/605 system stores the last five Fast Idle Stop Codes in non-volatile memory. Thus if a Fast Idle operation terminates unexpectedly, the technician can determine the cause. To initiate this feature, turn on vehicle ignition, wait until the LED's proveout, and then press and hold the manual-engage switch continuously for at least seven seconds. Release the switch and the five most recent stop codes will be read sequentially from the most recent to the oldest. A code is displayed by flashing the first digit, waiting half of a second, flashing the second digit, and then waiting one second before another code is displayed. For example if the Fast Idle Stop Code was 1-8, the Advanced Fast Idle LED would flash one time, be turned off for half of a second, flash eight more times, and then remain off for one second. After the codes have been displayed normal operation resumes. If codes are received check all connections in the Gateway 505/506/605 system. Codes in *Italics* are functional only if the associated option is included in the Gateway 505/506/605 calibration. The Fast Idle Stop Codes are listed in Table 2.

Code	Meaning
1-2	Fast Idle Complete due to Vehicle Speed
1-4	Fast Idle Complete due to Transmission Fluid Temperature
1-6	Fast Idle Complete due to RPM
1-7	Fast Idle Complete due to Gear Position
1-8	Fast Idle Complete due to Service Brake
1-9	Fast Idle Complete due to Engine Coolant Temperature
1-10	Fast Idle Complete due to Battery Voltage > VBAT Low +.5V while in Charge Protection
1-11	Fast Idle Complete due to Cab A/C Commanded OFF while in Cab A/C Boost or IAT < 70° F
1-13	Fast Idle Complete due to ECT > 170° or Air Temp > 70° F while in Heater Boost
1-15	*Fast Idle Complete due to Open or Battery voltage on I/O Pin 4 Fast Idle input*

Table 2: Stop Codes

If further assistance is required, contact InterMotive at (530) 346-1801. Be sure to write down any Diagnostic Trouble Codes or Fast Idle Stop Codes received so that you can provide them to InterMotive Technical Support.