



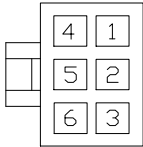
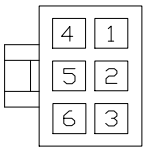
GUARDIAN 602 A - Symptom Flow Chart - Lift Interlock

Condition	Possible Causes	Action
<ul style="list-style-type: none"> No prove out of LED's 	<ul style="list-style-type: none"> Connections Power Ground Wake up LED panel Harness(es) Module 	<ul style="list-style-type: none"> Go to Pinpoint Test A
<ul style="list-style-type: none"> LED's not illuminated when conditions met 	<ul style="list-style-type: none"> Connections Harness(es) Lift power Lift not stowed Module 	<ul style="list-style-type: none"> Go to Pinpoint Test B
<ul style="list-style-type: none"> LED's properly illuminate but lift not operating 	<ul style="list-style-type: none"> Connections Harness(es) Lift Module 	<ul style="list-style-type: none"> Go to Pinpoint Test C
<ul style="list-style-type: none"> LED's properly illuminate 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 D
<ul style="list-style-type: none"> LED's flash lift does not operate 	<ul style="list-style-type: none"> Current draw of lift Module revision 	<ul style="list-style-type: none"> Go to Pinpoint Test E
<ul style="list-style-type: none"> Lift operates when safety conditions are not met 	<ul style="list-style-type: none"> Connections Harness(es) Lift Module 	<ul style="list-style-type: none"> Go to Pinpoint Test F
<ul style="list-style-type: none"> Shifter never locks 	<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 G
<ul style="list-style-type: none"> Can not shift out of park 	<ul style="list-style-type: none"> Connections Harness(es) OEM-shift lock solenoid Lift stowed circuit Module 	<ul style="list-style-type: none"> Go to Pinpoint Test H
<ul style="list-style-type: none"> Lift operates intermittently 	<ul style="list-style-type: none"> Connections Harness(es) Park Park brake Lift Module 	<ul style="list-style-type: none"> Go to Pinpoint Test J

The following items are necessary for proper diagnosis:

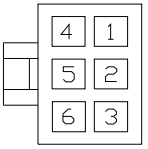
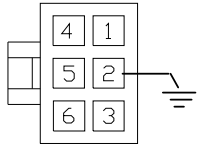
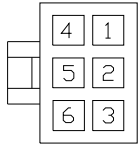
- Digital multimeter (do not use a test lamp)
- Guardian 602 A documentation
(Available at www.intermotive.net)

PINPOINT TEST A: NO PROVE OUT OF LEDS

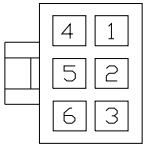
Test Step	Result/Action to Take
A1 Ensure that all connectors are installed correctly <ul style="list-style-type: none"> ▪ Carefully inspect module and harness(es) ▪ Verify correct harness connector in the correct module plug ▪ Refer to schematics in Guardian documentation 	Results _____ Yes Go to A2 No Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.
<ul style="list-style-type: none"> ▪ Are all harness connectors properly installed into module? 	
Test Step	Result/Action to Take
A2 Ensure that all wires are in their correct connector cavity <ul style="list-style-type: none"> ▪ Carefully inspect all harness connectors ▪ Verify that each connector has the correct wire in each cavity ▪ Refer to schematics in Guardian documentation for wire colors 	Results _____ Yes Go to A3 No Contact InterMotive for assistance with harness
<ul style="list-style-type: none"> ▪ Are all wires in their correct connector cavity? 	
Test Step	Result/Action to Take
A3 Check power and grounds <ul style="list-style-type: none"> ▪ Key in the On position ▪ With only the lift harness and display harness plugged into module, measure voltage between pin 4 and pin 6 ▪ Measure voltage between pin 4 and pin 3 ▪ Red lead on pin 6 and pin 3 ▪ Black lead on pin 4 (back probe connector) <div style="text-align: center; margin: 10px 0;">  <p>Back of lift Connector</p> </div>	Results _____ Yes Go to A5 No Go to A4
<ul style="list-style-type: none"> ▪ Are voltages greater than 10v? 	
Test Step	Result/Action to Take
A4 Check fuse <ul style="list-style-type: none"> ▪ Inspect the 7.5 Amp inline fuse 	Results _____ Yes Go to A5 No Replace fuse; Retest system for normal operation
<ul style="list-style-type: none"> ▪ Is the 7.5 Amp inline fuse good? 	
Test Step	Result/Action to Take
A5 Check LED display <ul style="list-style-type: none"> ▪ Key in the On position ▪ Measure voltage between chassis ground and pin 1 of the display connector (Back probe connector) <div style="text-align: center; margin: 10px 0;">  <p>Back of display Connector</p> </div>	Results _____ Yes Contact InterMotive for assistance with LED display No Contact InterMotive for assistance with harness
<ul style="list-style-type: none"> ▪ Is voltage greater than 4.5v? 	

PINPOINT TEST B: LEDES NOT ILLUMINATED WHEN CONDITIONS MET

Test Step	
B1 Ensure that all connectors are installed correctly <ul style="list-style-type: none"> ▪ Carefully inspect module and harness(es) ▪ Verify correct harness connector in the correct module plug ▪ Refer to schematics in Guardian documentation 	<p>Yes Go to B2</p> <p style="text-align: right;">Results_____</p> <p>No Review install instructions, reinstall all connectors in their proper positions. Test system for normal operation.</p>
<ul style="list-style-type: none"> ▪ Are all harness connectors properly installed into module? 	
Test Step	Result/Action to Take
B2 Ensure that all wires are in their correct connector cavity <ul style="list-style-type: none"> ▪ Carefully inspect all harness connectors ▪ Verify that each connector has the correct wire in correct cavity ▪ Refer to schematics in Guardian documentation for wire colors 	<p>Yes Go to B3</p> <p style="text-align: right;">Results_____</p> <p>No Contact InterMotive for assistance with harness</p>
<ul style="list-style-type: none"> ▪ Are all wires in their correct connector cavity? 	
Test Step	Result/Action to Take
B3 Check operation <ul style="list-style-type: none"> ▪ Key in the On position ▪ Perform each function, set park brake, open lift door 	<p>Park brake - Go to B4</p> <p>Park - Go to B7</p> <p>Lift door open - Go to B6</p>
<ul style="list-style-type: none"> ▪ Which LED does not illuminate? 	

Test Step	Result/Action to Take
B4 Check park brake operation <ul style="list-style-type: none"> ▪ Key in the On position ▪ Apply and release park brake 	<p style="text-align: right;">Results _____</p> <p>Yes Go to B5</p> <p>No Contact OEM dealer for assistance</p>
B5 Check park brake operation <ul style="list-style-type: none"> ▪ Key in the On position ▪ Apply and release park brake ▪ Measure voltage between chassis ground and pin 1 of the (vehicle 1 connector) <div style="text-align: center;">  <p>Back of Connector</p> </div> <ul style="list-style-type: none"> ▪ Does the voltage read 0v with park brake applied and 12v with park brake released? 	<p style="text-align: right;">Results _____</p> <p>Yes Contact InterMotive for assistance with module</p> <p>No Contact InterMotive for assistance with harness</p>
B6 Check lift door <ul style="list-style-type: none"> ▪ Key in the On position ▪ At the 6 pin connector at module labeled lift, back probe pin 2 and jump to chassis ground <div style="text-align: center;">  <p>Back of Connector</p> </div> <ul style="list-style-type: none"> ▪ Does the lift door open LED illuminate? 	<p style="text-align: right;">Results _____</p> <p>Yes Inspect lift door switch or door adjustment</p> <p>No Contact InterMotive for assistance with module</p>
B7 Check park circuit <ul style="list-style-type: none"> ▪ At the vehicle 1 connector at module, measure voltage at pin 4 (back probe connector) <div style="text-align: center;">  <p>Back of Connector</p> </div> <ul style="list-style-type: none"> ▪ Is there 12v in park only? 	<p style="text-align: right;">Results _____</p> <p>Yes Contact InterMotive for assistance with module</p> <p>No Contact InterMotive for assistance with harness</p>
PINPOINT TEST C: LED's PROPERLY ILLUMINATE BUT LIFT DOES NOT OPERATE	
Test Step	Result/Action to Take
C1 Ensure that all connectors are installed correctly <ul style="list-style-type: none"> ▪ Carefully inspect module and harness(es) ▪ Verify correct harness connector in the correct module plug ▪ Refer to schematics in Guardian documentation 	<p style="text-align: right;">Results _____</p> <p>Yes Go to C2</p> <p>No Review install instructions, reinstall all connectors in their proper positions. Test system for normal operation.</p>
<ul style="list-style-type: none"> ▪ Are all harness connectors properly installed into module? 	

Test Step	Result/Action to Take
C2 Ensure that all wires are in their correct connector cavity <ul style="list-style-type: none"> Carefully inspect all harness connectors Verify that each connector has the correct wire in correct cavity Refer to schematics in Guardian documentation for wire colors 	<p>Results _____</p> <p>Yes Go to C3</p> <p>No Contact InterMotive for assistance with harness</p>
<ul style="list-style-type: none"> Are all wires in their correct connector cavity? 	

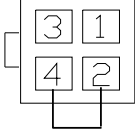
Test Step	Result/Action to Take
C3 Check lift operation <ul style="list-style-type: none"> Key in the On or Off position Ensure that all conditions met, park brake set, lift door open, vehicle in park Measure voltage at pin 1 of the lift harness connector (back probe) 	<p>Results _____</p> <p>Yes Go to C4</p> <p>No Contact Intermotive for assistance with module</p>
 <p>Back of Connector</p> <ul style="list-style-type: none"> Is voltage greater than 10v? 	

Test Step	Result/Action to Take
C4 Check lift operation <ul style="list-style-type: none"> Key in the On position Measure voltage at the lift output at the lift (red wire) 	<p>Results _____</p> <p>Yes Contact left manufacturer or installer</p> <p>No Contact InterMotive for assistance with lift harness</p>
<ul style="list-style-type: none"> Is voltage greater than 10v? 	

PINPOINT TEST D: LEDS PROPERLY ILLUMINATE, BUT SHIFTER DOES NOT LOCK

Test Step	Result/Action to Take
D1 Ensure that all connectors are installed correctly <ul style="list-style-type: none"> Carefully inspect module and harness(es) Verify correct harness connector in the correct module plug Refer to schematics in Guardian documentation 	<p>Results _____</p> <p>Yes Go to D2</p> <p>No Review install instructions reinstall all connectors in their proper position. Test system for normal operation.</p>
<ul style="list-style-type: none"> Are all harness connectors properly installed into module? 	

Test Step	Result/Action to Take
D2 Ensure that all wires are in their correct connector cavity <ul style="list-style-type: none"> Carefully inspect all harness connectors Verify that each connector has the correct wire in correct cavity Refer to schematics in Guardian documentation for wire colors 	<p>Yes Results _____</p> <p>Go to D3</p> <p>No</p> <p>Contact InterMotive for assistance with harness</p>
<ul style="list-style-type: none"> Are all wires in their correct connector cavity? 	

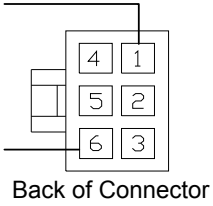
Test Step	Result/Action to Take
D3 Check shift lock solenoid <ul style="list-style-type: none"> Disconnect vehicle 2 connector from module, using a jumper wire, jump pin 2 to pin 4 Key in the On position Service brake not applied <div style="text-align: center;">  <p>Back of Connector</p> </div>	<p>Yes Results _____</p> <p>Contact InterMotive for assistance with module</p> <p>No</p> <p>Go to D4</p>
<ul style="list-style-type: none"> Does shift lock solenoid lock gear selector? 	

Test Step	Result/Action to Take
D4 Check shift lock solenoid <ul style="list-style-type: none"> Remove Guardian gray T harness, and reinstall OEM harness Key in the On position Service brake not applied 	<p>Results _____</p> <p>Yes</p> <p>Contact InterMotive for assistance with harness</p> <p>No</p> <p>Contact OEM dealer</p>
<ul style="list-style-type: none"> Does shift lock solenoid lock gear selector? 	

PINPOINT TEST E: LED'S FLASH, LIFT DOES NOT OPERATE

Test Step	Result/Action to Take
E1 Ensure that all connectors are installed correctly <ul style="list-style-type: none"> Carefully inspect module and harness(es) Verify correct harness connector in the correct module plug Refer to schematics in Guardian documentation 	<p>Yes Results _____</p> <p>Go to E2</p> <p>No</p> <p>Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.</p>
<ul style="list-style-type: none"> Are all harness connectors properly installed into module? 	

Test Step	Result/Action to Take
E2 Ensure that all wires are in their correct connector cavity <ul style="list-style-type: none"> Carefully inspect all harness connectors Verify that each connector has the correct wire in correct cavity Refer to schematics in Guardian documentation for wire colors 	<p>Yes Results _____</p> <p>Go to E3</p> <p>No</p> <p>Contact InterMotive for assistance with harness</p>
<ul style="list-style-type: none"> Are all wires in their correct connector cavity? 	

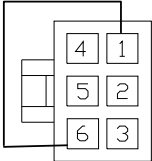
Test Step	Result/Action to Take
E3 Check for overcurrent condition <ul style="list-style-type: none"> At the lift connector at module, using multimeter leads to pin 1 and pin 6 Disconnect lift connector from module Set scale on meter to 10Amp Activate lift 	<p>Results _____</p> <p>Yes</p> <p>It will be necessary to install a relay on the lift output circuit</p> <p>No</p> <p>Contact InterMotive for assistance with module</p>
 <p>Back of Connector</p> <ul style="list-style-type: none"> Is the current draw greater than 8 Amps during lift activation? 	

PINPOINT TEST F: LIFT OPERATES WHEN SAFETY CONDITIONS ARE NOT MET

Test Step	Result/Action to Take
F1 Ensure that all connectors are installed correctly <ul style="list-style-type: none"> Carefully inspect module and harness(es) Verify correct harness connector in the correct module plug Refer to schematics in Guardian documentation 	<p>Yes Results _____</p> <p>Go to F2</p> <p>No</p> <p>Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.</p>
<ul style="list-style-type: none"> Are all harness connectors properly installed into module? 	

Test Step	Result/Action to Take
F2 Ensure that all wires are in their correct connector cavity <ul style="list-style-type: none"> Carefully inspect all harness connectors Verify that each connector has the correct wire in correct cavity Refer to schematics in Guardian documentation for wire colors 	<p>Results _____</p> <p>Yes</p> <p>Go to F3</p> <p>No</p> <p>Contact InterMotive for assistance with harness</p>
<ul style="list-style-type: none"> Are all wires in their correct connector cavity? 	

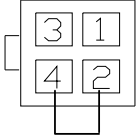
Test Step	Result/Action to Take
F3 Check lift operation	
<ul style="list-style-type: none"> Disconnect lift connector from Guardian module and attempt to operate lift 	<p>Results_____</p> <p>Yes Check for short to power on lift circuit or at the lift</p> <p>No Go to F4</p>
<ul style="list-style-type: none"> Does the lift operate? 	

Test Step	Result/Action to Take
F4 Check lift operation	
<ul style="list-style-type: none"> Disconnect lift connector from Guardian module and jump pin 1 and pin 6 	<p>Results_____</p> <p>Yes Contact InterMotive for assistance with module</p> <p>No Contact InterMotive for assistance with lift harness or lift</p>
 <p>Back of Connector</p>	
<ul style="list-style-type: none"> Does the lift operate? 	

PINPOINT TEST G: SHIFTER NEVER LOCKS

Test Step	Result/Action to Take
G1 Ensure that all connectors are installed correctly	
<ul style="list-style-type: none"> Carefully inspect module and harness(es) Verify correct harness connector in the correct module plug Refer to schematics in Guardian documentation 	<p>Results_____</p> <p>Yes Go to G2</p> <p>No Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.</p>
<ul style="list-style-type: none"> Are all harness connectors properly installed into module? 	

Test Step	Result/Action to Take
G2 Ensure that all wires are in their correct connector cavity	
<ul style="list-style-type: none"> Carefully inspect all harness connectors Verify that each connector has the correct wire in correct cavity Refer to schematics in Guardian documentation for wire colors 	<p>Results_____</p> <p>Yes Go to G3</p> <p>No Contact InterMotive for assistance with harness</p>
<ul style="list-style-type: none"> Are all wires in their correct connector cavity? 	

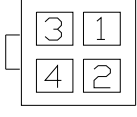
Test Step	Result/Action to Take
G3 Check shift lock <ul style="list-style-type: none"> Disconnect vehicle 2 connector from module, using a jumper jump pin 2 to pin 4 Key in the On position Service brake not applied 	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with module</p> <p>No Go to G4</p>

G4 Check shift lock solenoid <ul style="list-style-type: none"> Remove Guardian gray T harness, and reinstall OEM harness Key in the On position Service brake not applied 	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with harness</p> <p>No Contact OEM dealer</p>
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PINPOINT TEST H: CANNOT SHIFT OUT OF PARK

Test Step	Result/Action to Take
H1 Ensure that all connectors are installed correctly <ul style="list-style-type: none"> Carefully inspect module and harness(es) Verify correct harness connector in the correct module plug Refer to schematics in Guardian documentation 	<p>Results _____</p> <p>Yes Go to H2</p> <p>No Review install instructions, reinstall all connectors in their proper position. Test system for normal operation.</p>

Test Step	Result/Action to Take
H2 Ensure that all wires are in their correct connector cavity <ul style="list-style-type: none"> Carefully inspect all harness connectors Verify that each connector has the correct wire in correct cavity Refer to schematics in Guardian documentation for wire colors 	<p>Results _____</p> <p>Yes Go to H3</p> <p>No Contact InterMotive for assistance with harness</p>

Test Step	Result/Action to Take
H3 Check shift lock solenoid <ul style="list-style-type: none"> Disconnect vehicle 2 connector from module Key in the On position Apply service brake 	<p>Results _____</p> <p>Yes Contact InterMotive for assistance with module</p> <p>No Go to H4</p>

Test Step	Result/Action to Take
<p>H4 Check shift lock solenoid</p> <ul style="list-style-type: none"> ▪ Remove Guardian gray T harness, reinstall OEM harness ▪ Key in the On position ▪ Apply service brake <ul style="list-style-type: none"> ▪ Can vehicle be shifted out of park? 	<p style="text-align: right;">Results_____</p> <p>Yes Contact InterMotive for assistance with harness</p> <p>No Contact OEM dealer</p>

PINPOINT TEST J: LIFT OPERATES INTERMITTENTLY

Test Step	Result/Action to Take
<p>J1 Check lift operation</p> <ul style="list-style-type: none"> ▪ Observe LED's when lift will not operate <ul style="list-style-type: none"> ▪ What does the LED panel display? 	<p>No LED's illuminated - Go to pinpoint test A</p> <p>LED's flash - Go to pinpoint test E</p>