



Intelligent Lift Interlock System (ILIS) Installation Instructions

Part No: ILIS602-G 2000 – 2005 Chevrolet Venture Mini-Van

To aid in installation, first gain access to the connection points. Remove the lower dash panel below the steering column. Also, gain access to the lift power switch and the lift door switch circuits. These are usually accessible in the front control panel. It is not necessary to cut any Chevrolet wires during the installation of the ILIS wire harness.

LED DISPLAY PANEL – Using the supplied Velcro strips, mount the display panel to the right of the steering column on the dashboard. Ensure that the panel is visible from the driver's seat before securing. Run the display wire harness through the gap between the steering column and the lower dash panel. Snap the 6-pin connector into the matching connector in the control module. Ensure that the connector is fully seated. Do not permanently mount the control module until the main harness is installed.

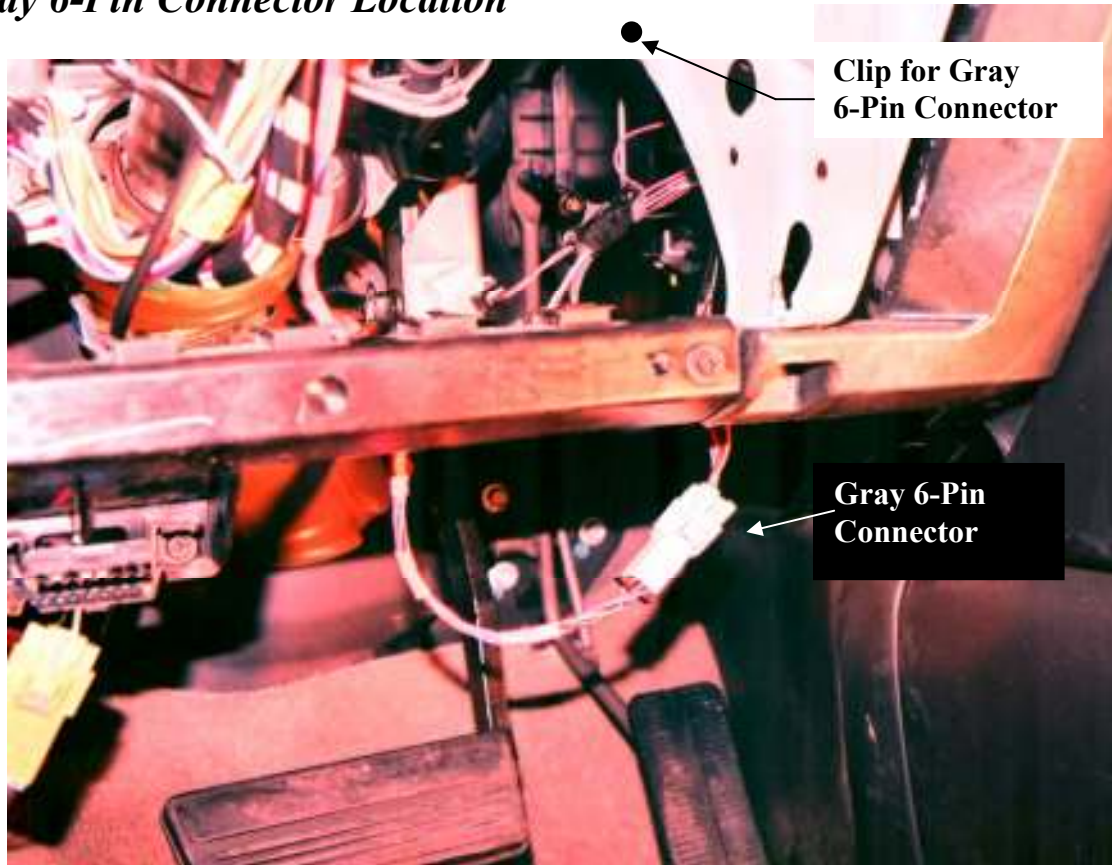
MAIN HARNESS - Position the main harness such that the 12- pin connector is in position to be installed into the control module. *The connector should not be installed into the module until the main harness is fully installed. All Connections must be made with ignition power OFF!* The connection points to be made for the installation of the main harness are listed below.

- **Gray 6-Pin Connector** – Locate the gray, 6-pin Chevrolet connector located behind the lower dash panel to the right of the data link connector (see diagram). Separate the Chevrolet connector and plug the ILIS 6-pin connector between the two ends of the Chevrolet connector.
- **Black 2-Pin Connector** – Locate the black, 2-pin Chevrolet connector located on the shift lock solenoid (see diagram). Separate the Chevrolet connector and plug the ILIS 2-pin connector between the two ends of the Chevrolet connector.
- **Black 1-Pin Connector** – Disconnect the black, single-wire Chevrolet connector from the park brake switch (see diagram). Plug the female side of the connector from the Brown wire on the ILIS main harness to the parking brake. Install the male side of the connector on the brown wire to the female connector in the Chevrolet harness.

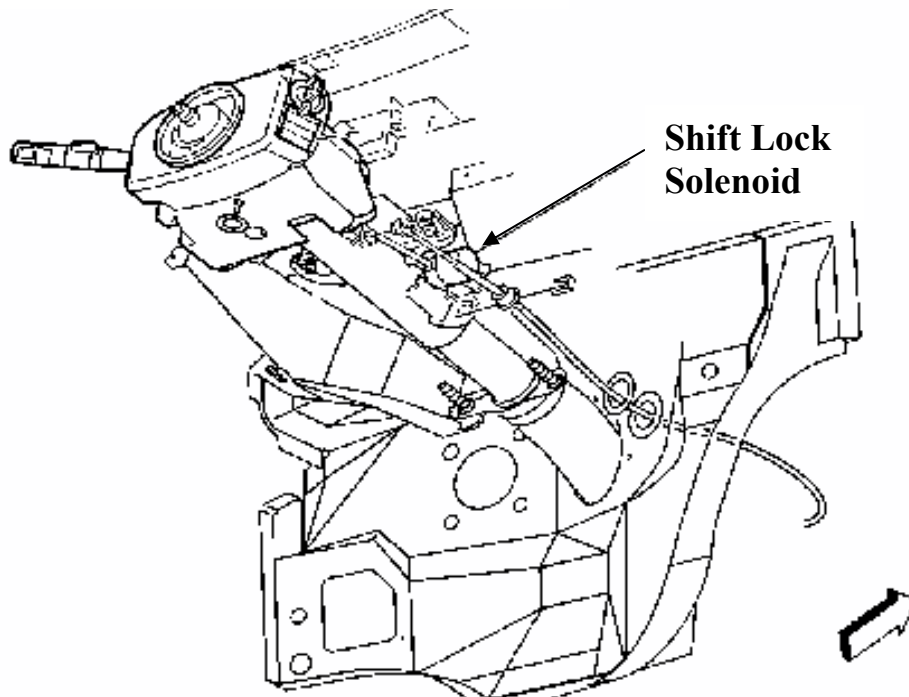
- **Park Input Circuit** – Locate the light blue, 32-pin Chevrolet Body Control Module (BCM) connector located behind the right side kick panel (see diagram) and identify circuit D6 (Light Green). Connect the Black/White wire from the ILIS main harness to this circuit by stripping the insulation, soldering, and taping.
- **Lift Power Circuits** – Locate the lift power switch. Disconnect the circuit from the switch that goes to the lift relay. **Note: this must be a power switch, not a grounding switch.** Connect this circuit to the Blue/White wire from the main harness with a spade terminal. Connect the Yellow wire from the main harness to the power switch using a spade terminal. The lift power circuit must only activate the lift power relay/solenoid and must not draw more than 7.0 Amps. **Do not power any other loads (ie: lights, motors, etc.) off this circuit.**
- **Lift Door Circuit** – **Note: the door switch must provide a ground with the door open. A switch that provides power with the door open will not operate correctly!** Locate the lift door switch circuit. Connect the Red/White wire from the main harness to this wire by stripping the insulation, soldering, and taping.
- **Park Output Circuit** – This is an optional circuit that provides a ground in Park gear only. This circuit is useful if the operator wishes to activate or deactivate an accessory only in Park (ie: power operated front door). Attach the **White** wire from the main harness to the ground side of the accessory. If this option is not desired, cut the wire at the 12-pin connector and discard the wire. **Note: This output can only carry low current loads such as a relay primary coil. Higher loads can cause damage to the control module. The current of the load must first be determined and can not exceed 500 milliamps continuous load. This wire must not be attached directly to power without a load, or damage to the control module will result**

Finally, snap the 12-pin connector of the main wire harness into the control module. Make sure the connector is fully seated. Secure the control module on the metal support bracket behind the lower dash panel using 2-sided foam tape or wire ties.

Gray 6-Pin Connector Location

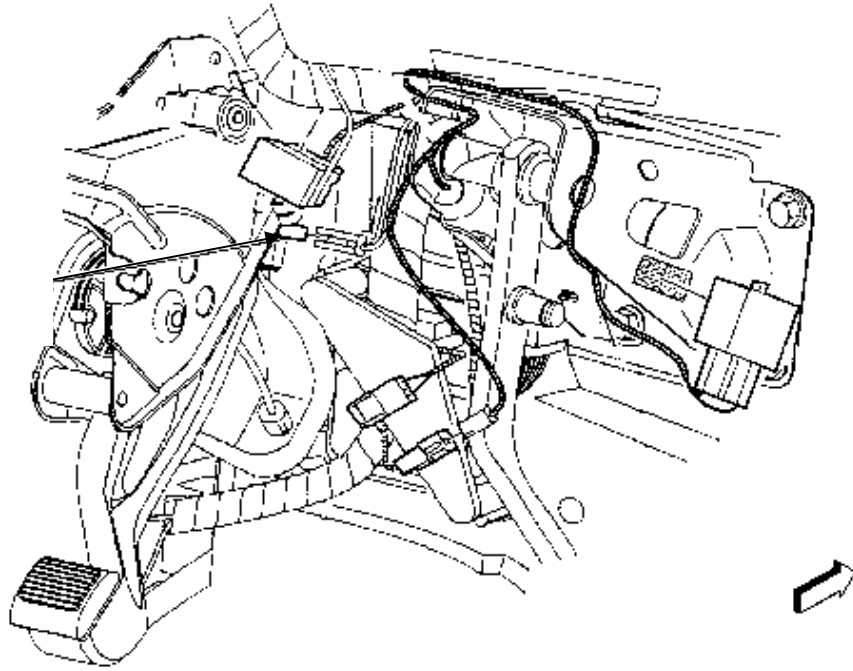


Black 2-Pin Connector Location

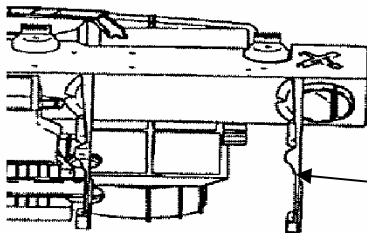


Black 1-Pin Connector Location

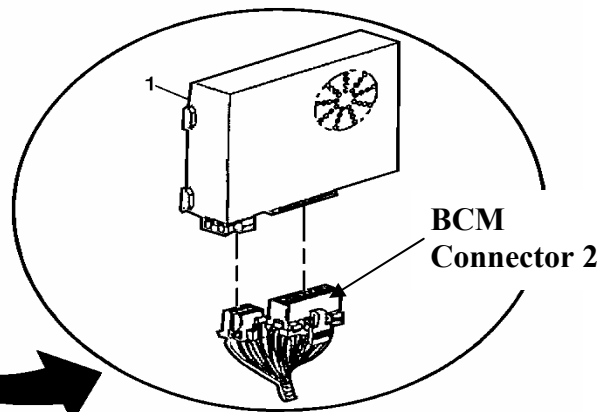
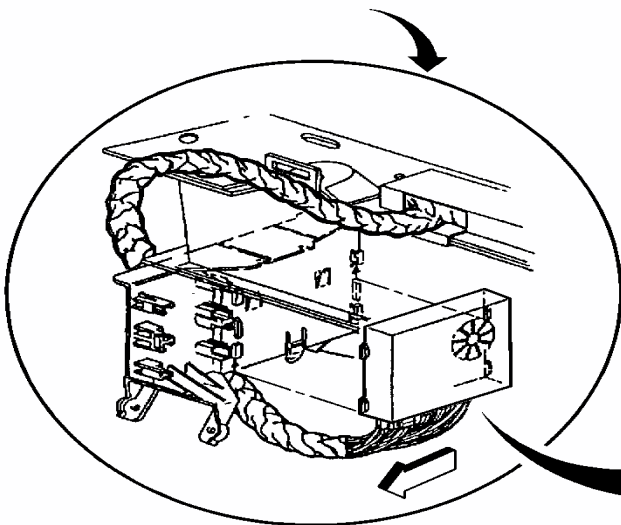
**Park Brake
Connector**



Body Control Module Connector Location

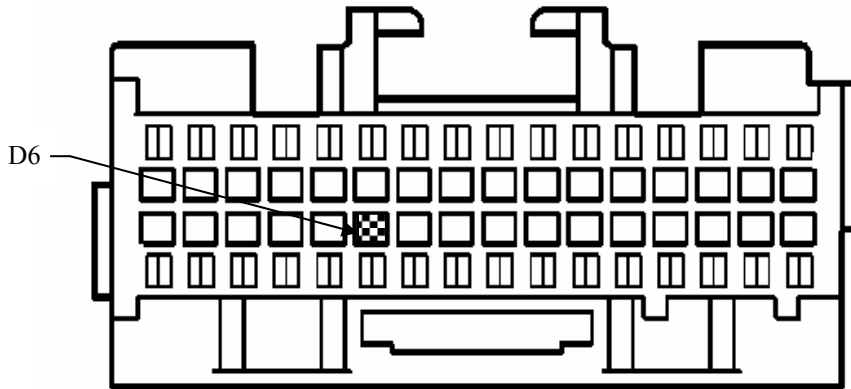


**Passenger Side
Kick Panel**



Body Control Module Connector Endview

Light Blue



Body Control Module (BCM) C2

Connector Part Information		<ul style="list-style-type: none"> • 12110207 • 32-Way F Micro-pack 100 Series (BLU) 	
Pin	Wire Color	Circuit No.	Function
C1	TAN	159	Driver Door Ajar Switch Input (GND)
C2	WHT	156	Interior Light On Request Input (GND)
C3	DK BLU	49	Passenger Door Ajar Switch Input (GND)
C4	ORN	54	Sliding Door Ajar Input (GND)
C5	ORN/BLK	781	Key Cylinder Door Unlock Input (GND) (RPO UA6)
C6	WHT	194	Door Unlock Input (GND)
C7	LT BLU	195	Door Lock Input (GND)
C8	BLK/WHT	1455	RFA Link Input/Output (RPO AU0)
C9	ORN/BLK	1445	BCM Program Input Signal (B+)
C10	--	--	Not Used
C11	RED/BLK	780	Key Cylinder Door Lock Input (GND) (RPO UA6)
C12	DK GRN	19	Right Turn Signal Input (B+)
C13	PNK	39	Ignition 1 Input Signal (B+)
C14	YEL	18	Left Turn Signal Input (B+)
C15	DK GRN	389	Vehicle Speed Input Signal
C16	--	--	Not Used
D1	BLK/WHT	238	Driver Seat Belt Input (GND)
D2	LT GRN	80	Key In Ignition Switch Input (GND)
D3	--	--	Not Used
D4	YEL	43	Accessory Input Signal (B+)
D5	LT BLU	1872	Park/Head Lamps OFF Input (B+)
D6	LT GRN	275	Transaxle PARK Position Input Signal (B+)
D7-D9	--	--	Not Used



Post Installation Instructions

ILIS 401/501/502/601/602/604

Upon completion of installation of the Intelligent Lift Interlock System, the following procedure **MUST BE PERFORMED TO VERIFY PROPER INTERLOCK INSTALLATION AND FUNCTION:**

- Set Park Brake, place transmission to Park position, close lift door, and turn Lift Power Switch to the off position. Turn ignition to the “Run” position. Do not start vehicle.
- Verify LED prove-out on LED Status Panel
 - All five (5) LEDs should illuminate for approximately one (1) second upon initial power on.
- Verify that the Park LED, the Park Brake LED, and the Shift Lock LED remain illuminated.
- Place foot on service brake and attempt to shift out of Park. Shift lever should not be allowed to shift out of the Park position. If shift lever is allowed to move, check for loose connections at all connection points.
- Release Park Brake. Verify Park Brake LED and the Shift Lock LED on the LED Status panel are no longer illuminated. Remove foot from service brake and attempt to shift out of Park. Shift lever should not be allowed to shift out of the Park position. If shift lever is allowed to move, check for loose connections at all connection points.
- With Park Brake still released, place foot on service brake and attempt to shift out of park. Shift lever should now be allowed to shift out of Park position. Verify that all LEDs are not illuminated with transmission in any other gear. If shift lever is not allowed to move, check for loose connections at all connection points.
- Place shift lever back to the Park position and verify that the Park LED on the LED Status Panel is illuminated.
- With Park Brake still released, have an assistant open the lift door(s). Verify that the Lift Door LED and the Shift Lock LED on the LED Status Panel are now illuminated. Place foot on service brake and attempt to shift out of Park. Shift lever should not be allowed to shift out of “Park” position. If shift lever is allowed to move, check for loose connections at all connection points.
- Set Park Brake. Verify that the Park Brake LED on LED Status Panel is again illuminated. Turn on Lift Power Switch. Verify that the Lift Power LED on the LED Status Panel is now illuminated. All five (5) LEDs on the LED Status Panel should now be illuminated. Have assistant verify lift operation. Lift should now be operational.
- Release Park Brake. Verify that the Park Brake LED and Lift Power LED on the LED Status Panel are not illuminated. Have assistant attempt to operate lift. Lift should not be operational. If lift operates, check for loose connections at all connection points.
- If any irregular operational issues persist, contact InterMotive at 530-346-1801 for technical assistance.



Intelligent Lift Interlock System (ILIS) – Operating Instructions

The Intelligent Lift Interlock System (ILIS) is a microprocessor driven system for controlling wheelchair lift operation. Lift operation will only be allowed when all of the following conditions are met:

1. The vehicle is in “Park”
2. The parking brake is applied.
3. The vehicle ignition is on.
4. The lift power switch is on.
5. The lift door is open.

The Intelligent Lift Interlock System (ILIS) also will not allow the vehicle to be shifted out of park if the lift door is open. As an added feature, it also will not allow the vehicle to be shifted out of park anytime the parking brake is applied. This feature eliminates excessive parking brake wear due to driving with the parking brake applied.

When the vehicle is first started, or if the key is turned to the “Run” position the five LED’s on the display panel will illuminate for 1-2 seconds as a prove out of the LED’s. After prove out, the operation of the LED’s are as follows:

- Lift Power – Illuminates in green if power is available to the lift. This means that all conditions for lift operation have been met.
- Park Brake – Illuminates in red when the parking brake is applied.
- Park - Illuminates in red when the vehicle is in park range.
- Door Open - Illuminates in red when the lift door is open.
- Shift Lock - Illuminates in amber when the lift door is open and/or the parking brake is applied. If illuminated, the driver will not be allowed to shift out of park.

All five LED’s must be illuminated for the lift to operate.

The LED’s can also be used for diagnostic purposes. For example, if the Door Open LED is not illuminated when the lift door is open, the lift will not operate. This means that the ILIS module does not detect that the door is open. Thus, the technician should inspect the lift door switch and its circuit.



Intelligent Lift Interlock System (ILIS) – Diagnostic Procedures

Ford Econoline & Chevy GMT 600

The following is to provide an aid in understanding the System Status Display Panel function and diagnostics of the Intelligent Lift Interlock System. If the diagnostic steps do not lead to a repair, please contact InterMotive Products directly at 530-346-1801 for technical assistance. If installing an ILIS on a vehicle that previously had a lift interlock system installed (retrofit), please verify that all components of the previous system have been removed from the vehicle.

SYSTEM STATUS DISPLAY PANEL

Park Brake LED – Illuminates in red when parking brake is applied.

- LED on all the time
 1. Short to ground on the Brown wire
 2. Faulty park brake switch (stuck closed)
- LED off all the time
 1. Open in the Brown wire
 2. Faulty park brake switch (stuck open or contaminated contacts)

Park LED – Illuminates in red when the vehicle is in the “Park” range.

1999 – Present Chevy Van

- LED on but shifter not in park
 1. Short to power in Black/White wire.
- LED off but shifter in park
 1. Open in Black/White wire
 2. Short to ground in Black/White wire.

1997 - Present Econoline

- LED on but shifter not in park
 1. Short to ground on one or both of the Green wires (check for MIL in instrument cluster)
 2. Open in one of the Green wires
- LED off but shifter in park
 1. Open in both of the Green wires (check connector)

Door Open LED – Illuminates in red when the lift door is open.

- LED on but lift door is closed
 1. Faulty lift door switch
 2. Short to ground on Red/White wire
- LED off but lift door is open
 1. Lift door switch not grounding when door is open (incorrect switch installation)
 2. Faulty lift door switch
 3. Short to power on Red/White wire

Shift Lock LED – Illuminates in amber when the when the lift door is open and/or the parking brake is applied. If illuminated, the vehicle will not be allowed to shift out of park.

- LED is on all of the time
 1. Check status of “Door Open” and “Park Brake” LEDs
- LED is off all of the time
 1. Check status of “Door Open” and “Park Brake” LEDs

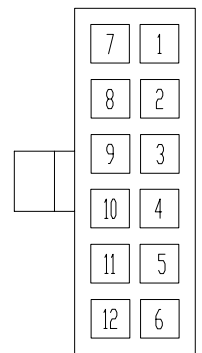
Lift Power LED – Illuminates in green when if all other LEDs are on and the lift power switch is on.

- LED is on when it should be off
 1. Check status of the other four LEDs
- LED is off when it should be on
 1. Check status of the other four LEDs
- LED is on but lift does not operate
 1. Faulty lift solenoid
 2. Open in Blue/White wire between ILIS and lift solenoid

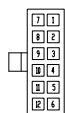
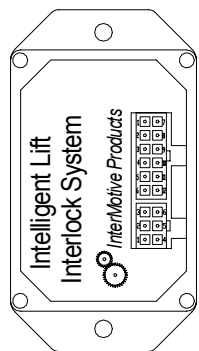
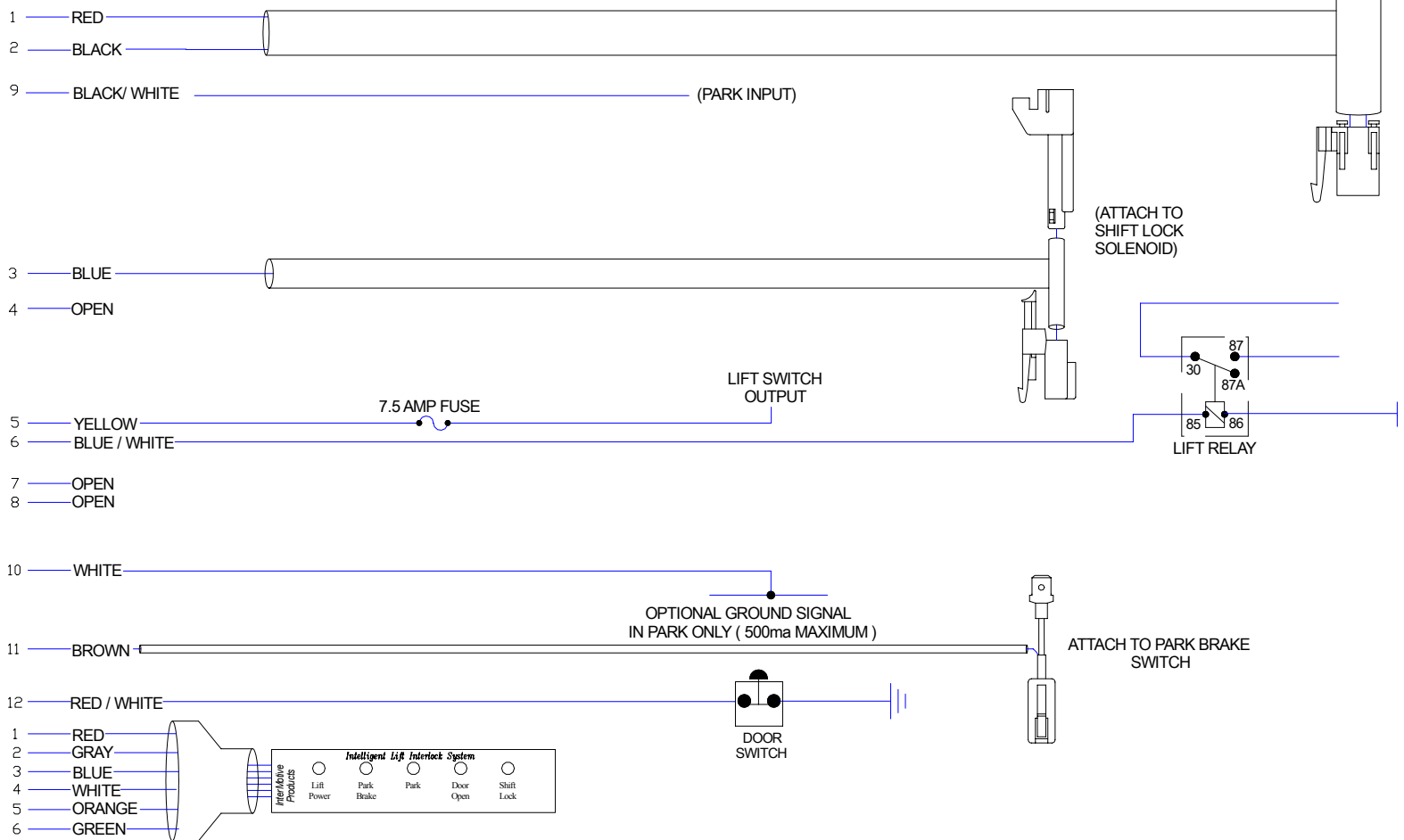
REVISIONS

DATE : 9/2/05
CHANGE :

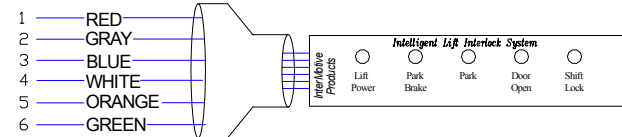
- 1 — RED — POWER INPUT - (GRAY SIX-PIN T-HARNESS CONNECTOR)
- 2 — BLACK — GROUND INPUT - (GRAY SIX-PIN T-HARNESS CONNECTOR)
- 3 — BLUE — SHIFT INTERLOCK OUTPUT - (BLACK TWO-PIN T-HARNESS CONNECTOR)
- 4 — OPEN
- 5 — YELLOW — LIFT POWER INPUT - ATTACH TO OUTPUT SIDE OF LIFT POWER SWITCH
- 6 — BLUE / WHITE — LIFT POWER OUTPUT - ATTACH TO LIFT POWER RELAY
- 7 — OPEN
- 8 — OPEN
- 9 — BLACK / WHITE — PARK INPUT (SEE INSTRUCTIONS)
- 10 — WHITE — OPTIONAL PARK-ONLY OUTPUT (GROUND SIGNAL)
- 11 — BROWN — PARK BRAKE INPUT - ATTACH TO PARK BRAKE SWITCH
- 12 — RED / WHITE — LIFT DOOR INPUT - ATTACH TO LIFT DOOR SWITCH INPUT (GROUND SIGNAL)



ILIS 602
12 PIN
CONNECTOR



- 1 — RED
- 2 — GRAY
- 3 — BLUE
- 4 — WHITE
- 5 — ORANGE
- 6 — GREEN



**INTERMOTIVE
PRODUCTS**

PRODUCT :

INTELLIGENT LIFT INTERLOCK SYSTEM

DRAWN BY: SHAWN CONKLIN

PART NO: ILIS 602 G

DATE DRAWN : 12/11/03

CHECK BY :

Ed Prokopik

DATE CHECKED : 9/2/05