

ILISC510-B Shift Interlock (Manual Lift Door) 2009-2019 Ford E Series Contact InterMotive for specific applications



Introduction

The ILISC510-B is a microprocessor driven system for controlling wheelchair lift operation. The system will operate with the vehicle ignition on or off. Lift operation will be enabled when specific vehicle safety conditions are met and will lock the transmission shifter in Park when the wheelchair lift is in use. Optional Plug and Play harnesses are available for most applications, making installation fast and easy.

ILISC510 Add-On Option

ILISC510-BD with Door Ajar: Monitors an additional door other than lift door.

IMPORTANT—READ BEFORE INSTALLATION

It is the installer's responsibility to route and secure all wiring harnesses where they cannot be damaged by sharp objects, mechanical moving parts and high heat sources. Failure to do so could result in damage to the system or vehicle and create possible safety concerns for the operator and passengers. Avoid placing the module where it could encounter strong magnetic fields from high current cabling connected to motors, solenoids, etc. Avoid radio frequency energy from antennas or inverters next to the module. Avoid high voltage spikes in vehicle wiring by always using diode clamped relays when installing upfitter circuits.

Installation Instructions

Disconnect vehicle battery before proceeding with installation.



WARNING
Disconnect the battery to
prevent setting a check engine
light.

ILISC510-B Module

Remove the lower dash panel below the steering column area and find a suitable location to mount the module so that the Diagnostic LED's can be viewed with the lower dash panel removed. Locate the module in an area away from any high heat sources (engine heat, heater ducts, etc.). Do not actually mount the module until all wire harnesses are routed and secure. The last step of the installation is to mount the module.

Data Link Harness Installation

1. Locate the vehicle OBDII Data Link Connector, mounted below the lower left dash panel.
2. Remove the mounting screws for the OBDII connector. Plug the red connector from the ILISC510-B Data Link Harness into the vehicle's OBDII connector. Ensure the connection is fully seated and secure with the supplied wire tie.
3. Mount the Black pass through connector from the ILISC510-B Data Link Harness in the former location of the vehicle's OBDII connector.
4. Secure the ILISC510-B Data Link harness so that it does not hang below the lower dash panel.
5. Plug the free end of the Data Link harness into the mating 4-pin connector on the ILISC510-B module.



LED Display Panel Mounting - Black 4-pin connector

Locate a suitable position on the dashboard, within view of the driver to mount the LED Display Panel. Ensure there is open space behind the dash where the panel is mounted. The harness is 40" in length, which is the maximum distance the display can be from the module.

1. Drill a 5/8" hole in the dash where the center of the display will be located.
2. Attach the Black 4-pin connector of the LED display panel harness to the module.
3. Run the other end of the harness under the dash and out through the 5/8" hole.
4. Attach the end to the LED Display Panel.
5. Ensure the panel is level and secure using supplied screws.

Control Inputs/Outputs - 8-pin connector

The ILISC510-B provides three ground side inputs and one 12V, 1/2 amp output.

Refer to the ILISC510-B CAD drawing as reference when reading these instructions. A control relay may be needed to power some lifts, due to the lift drawing more than 1/2 amp. Install a TVS (diode clamped) relay as shown on the CAD drawing.

Lengthen the following **two** wires, (three if optional Green wire used), using solder and heat shrink or tape.

The blunt-cut (4-wire) harness provides for control connections to the vehicle as follows:

Red – connect this output to the lift or lift relay. Refer to the particular lift model drawing when making this connection. This output provides 12V @ 1/2 amp when it is safe to operate the lift.

Gray – connect this input to the Lift Door switch. Ensure a ground signal is provided with the door open. When the door is open the vehicle is prevented from shifting out of Park. This door must be open in order to allow lift operation.

Green – ***Supplied with Optional Display Panel*** Connect this wire only if the optional Door Ajar panel is used and an additional door connection is desired. This input is an **optional** connection for an additional door (passenger). This door does not have to be open to allow lift operation. Insert the pin and wire into cavity #4 of the 8-pin connector.

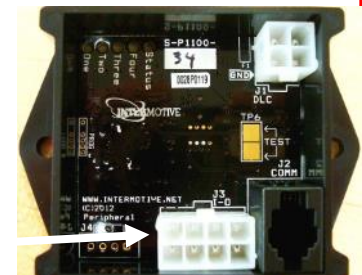
Brown – Connect this wire only if "key off" lift operation is desired. Connect this **optional input** to the OEM Park Brake switch (as shown) such that the switch is made when the Park Brake is set. Install a standard rectifier diode (RL202-TPCT-ND or equivalent) as shown in the Blunt Cut CAD drawing, to isolate the Parking Brake ground signal. Strip back some insulation off the White/Violet wire, solder the Brown wire on and tape or use heat shrink tubing. This connection is required if lift operation is desired when the vehicle ignition is OFF.

- Pin #1— N/C
- Pin #2 — N/C
- Pin #3 — Red (Vehicle Secure (12V) Output)
- Pin #4 — Green (Passenger Door Open (GND) Input)
*Option provided only with Door Ajar Display Panel
- Pin #5 — Brown (Park Brake (GND) Input) *Optional
- Pin #6 — N/C
- Pin #7 — Red (From Pin#3)
- Pin #8 — Grey (Lift Door Open (GND) Input)

Connect the 8 pin connector to the module



Optional Display Panel



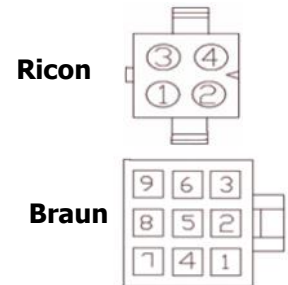
Optional Plug & Play Lift Harness

Red – This output provides 12V @ 1/2 amp when it is safe to operate the lift.

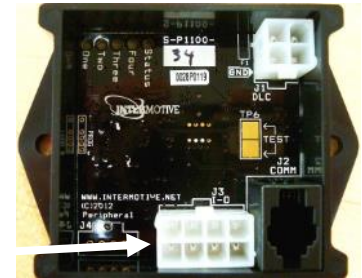
A relay is recommended. If no relay is being used, measure the current draw of the lift enable pin and ensure it does not exceed 1/2 Amp. Cut the wire to the correct length and attach one of the pins provided using a crimping tool and insert pin into the correct cavity. Refer to the Blunt Cut CAD drawing for pinout.

Black – Connect this input to the Lift Door switch, as the CAD drawing shows. Cut the wire to the correct length and attach to the Lift Door switch, ensuring a ground signal is provided with the door open. When the door is open the vehicle is prevented from shifting out of Park. This door must be open in order to allow lift operation.

- Pin #1— N/C
- Pin #2— N/C
- Pin #3 — Red (Vehicle Secure (12V) Output)
- Pin #4 — Green (Passenger Door Open (GND) Input) *Optional
* Provided only with Door Ajar Display Panel
- Pin #5 — Brown (Park Brake (GND) Input) *Optional
- Pin #6 — N/C
- Pin #7 — Red (Jumpered to Pin#3)
- Pin #8 — Black (Lift Door Open (GND) Input)



Connect the 8 pin connector to the module



**** Optional Braun Plug & Play Relay Kit #900-00001 ****

Current models of Braun lifts draw more than 1 amp and will require the Braun plug and play relay kit.



Orange – This output provides 12V when it is safe to operate the lift. Cut the wire to the correct length and attach one of the pins provided using a crimping tool and insert at pin #86 of the included relay.

Red - Connect to pin #6 of the 9-pin Braun lift connector.

Yellow (eyelet) - Connect to External +12V at the lift.

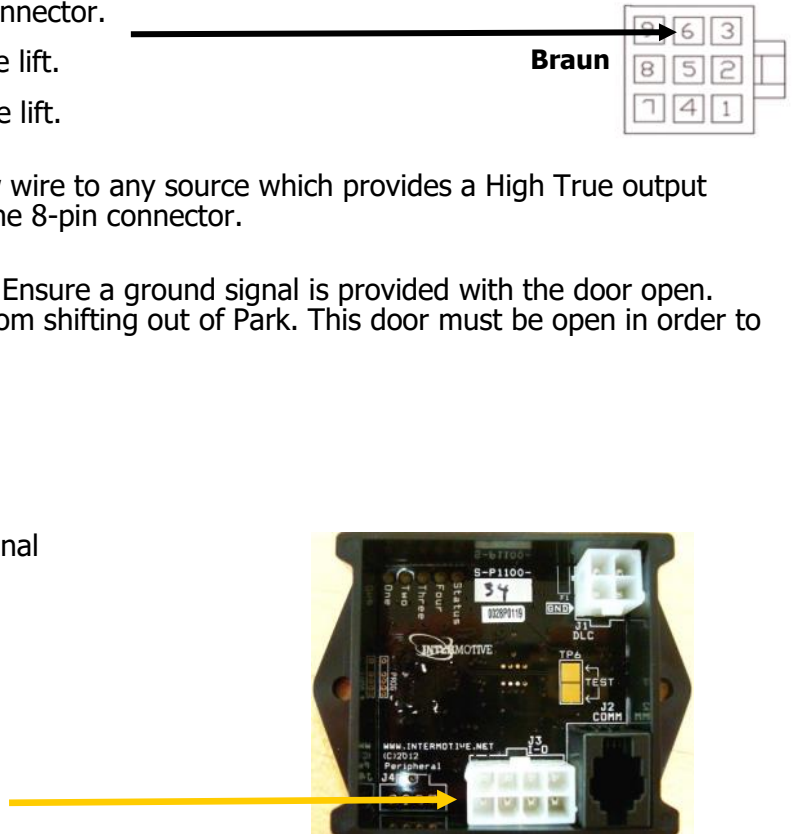
Black (eyelet) - Connect to External ground at the lift.

Optional Shift Lock Input: Connect the Yellow wire to any source which provides a High True output to enable shift lock and insert pin into pin #1 at the 8-pin connector.

Grey – connect this input to the Lift Door switch. Ensure a ground signal is provided with the door open. When the door is open the vehicle is prevented from shifting out of Park. This door must be open in order to allow lift operation.

- Pin #1 — OPEN (Optional Shift Lock Input)
- Pin #2 — N/C
- Pin #3 — Red (Vehicle Secure (12V) Output)
- Pin #4 — N/C
- Pin #5 — Brown (Park Brake (GND) Input) *Optional
- Pin #6 — N/C
- Pin #7 — Red (Jumpered to Pin#3)
- Pin #8 — Grey (Lift Door Open Input)

Connect the 8 pin connector to the module



ILISC510-B Module

Ensure all the harnesses are properly connected and routed, and are not hanging below the dash area. Mount the ILISC510-B module as described on page one and secure using screws or doubled sided tape.

Reconnect vehicle battery

Post Installation / Check List

ILISC510-B (Manual Lift Door)

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

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 (all panel LEDs OFF) which takes approximately 5 minutes



1. Turn ignition key on (to "Run"), verify the module wakes up and all 5 LEDs illuminate for approximately 2 seconds. The lower icon LEDs are backlit and should 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. Verify the lift deploys. Stow the lift.
5. With key on, Lift Door open, transmission in Park, release Park Brake. Verify that the Park Brake (PB) and Vehicle Secure LEDs goes out, and attempt to deploy the lift. Verify the lift does not deploy.
6. With key on, Lift Door closed, Park Brake set, verify transmission will not shift out of Park.
7. With key on, Lift Door open, Park Brake released, verify transmission will not shift out of Park.
8. With key on, Lift Door closed, Park Brake released and the Service Brake applied, verify the transmission shift lever will shift out of Park.

Optional Door Ajar LED Display Panel

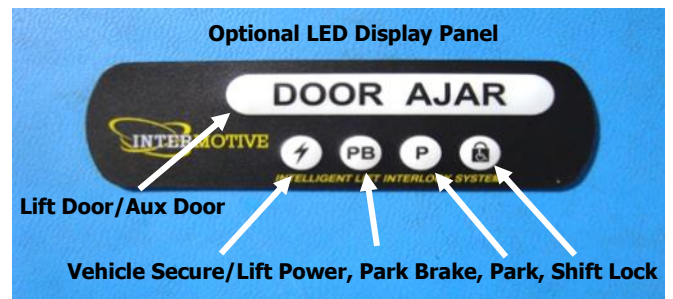
Perform the same checks as above.

Optional input: If equipped with a connection for an additional door (Aux Door) the Door Ajar LED will blink on the display panel until the door is closed. If the **Lift Door** is open, the Door Ajar LED will stay on steady, taking priority over the additional door input.

Optional input: If equipped with key off lift function, the Park Brake will need to be set for the system to be operational.

Note: If the vehicle has Daytime Running Lights they will be activated when the Lift Door is open and/or the Park Brake is on and the Ignition Key is on.

Confirmation Signal- (2009-2010 model year vehicles). The vehicle lamps and radio will cycle briefly when the ignition is on and the lift door is initially closed. This signal is sent from the Ford PCM.

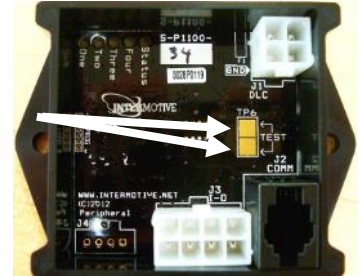


Post Installation/Checklist (continued)

Lift Interlock Diagnostic Mode Testing

Enabling Diagnostic Mode allows a visual indication of system status and is a good troubleshooting tool used in conjunction with the previous tests. The module is fully functional in this mode. Enter Diagnostic Mode by the following steps:

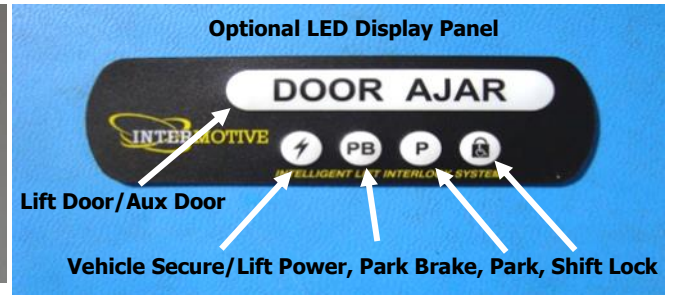
1. Place transmission in Park and turn the ignition switch to the run position.
2. Momentarily short the two Gold "Test" pads together on the module. LEDs on the module will prove out, then become status indicators:
 - LED 1 will be on when Shift Lock enabled.
 - LED 2 will be on when transmission is in park.
 - LED 3 will be on when Park Brake is set.
 - LED 4 will be on when Lift Door is open.
 - LED marked "status" indicates "Vehicle Secure" or "Lift enabled" meaning there is 12V on Pin 3 (Red wire) which connects to the lift.
 - Cycling the key will exit Diagnostic Mode and all LED's will be off.



Leave in vehicle ILISC510-B Shift Interlock (Manual Lift Door) Operating Instructions 2009-2019 Ford E Series

ILISC510-B (Manual Lift Door)

The ILISC510-B is microprocessor driven system for controlling wheelchair lift operation. The system will operate with the vehicle ignition on or off (if optional Park Brake input supplied). Lift operation will be enabled when specific vehicle safety conditions are met and will lock the transmission shifter in Park when the wheelchair lift is in use. The ILISC510-B prevents the vehicle from being shifted out of park if the lift door is open. As an added feature, the vehicle cannot be shifted out of park anytime the parking brake is applied. This eliminates excessive parking brake wear due to driving with the parking brake applied.



Key On function:

1. When the vehicle is in "Park" the (P) LED will be illuminated.
2. When the Park Brake is applied, the (PB) LED will be illuminated.
3. When the Lift Door is open, the Lift Door LED will be illuminated. (Door Ajar LED on (optional display panel).
4. With the vehicle in Park and either the Park Brake is applied or the Lift Door is open, the Shift Lock LED will be illuminated, and the transmission cannot be shifted out of Park.
5. With the vehicle in Park, Park Brake applied and Lift Door open, the Vehicle Secure LED will be illuminated and the lift will be operational. **All** LEDs will be illuminated on either display panel.

Key off function: (if optional Park Brake input supplied)

- Vehicle must be in Park before turning key off.
- With the vehicle in Park, the (P) LED and Shift Lock LED will be illuminated.
- With the Park Brake applied and the Lift Door open, all LEDs will be illuminated and the lift will be operational.

Optional input: If equipped with a connection for an additional door (Aux Door) the Door Ajar LED will blink on the display panel until this door is closed. If the Lift Door is open, the Door Ajar LED will stay on solid, taking priority over the additional door input.

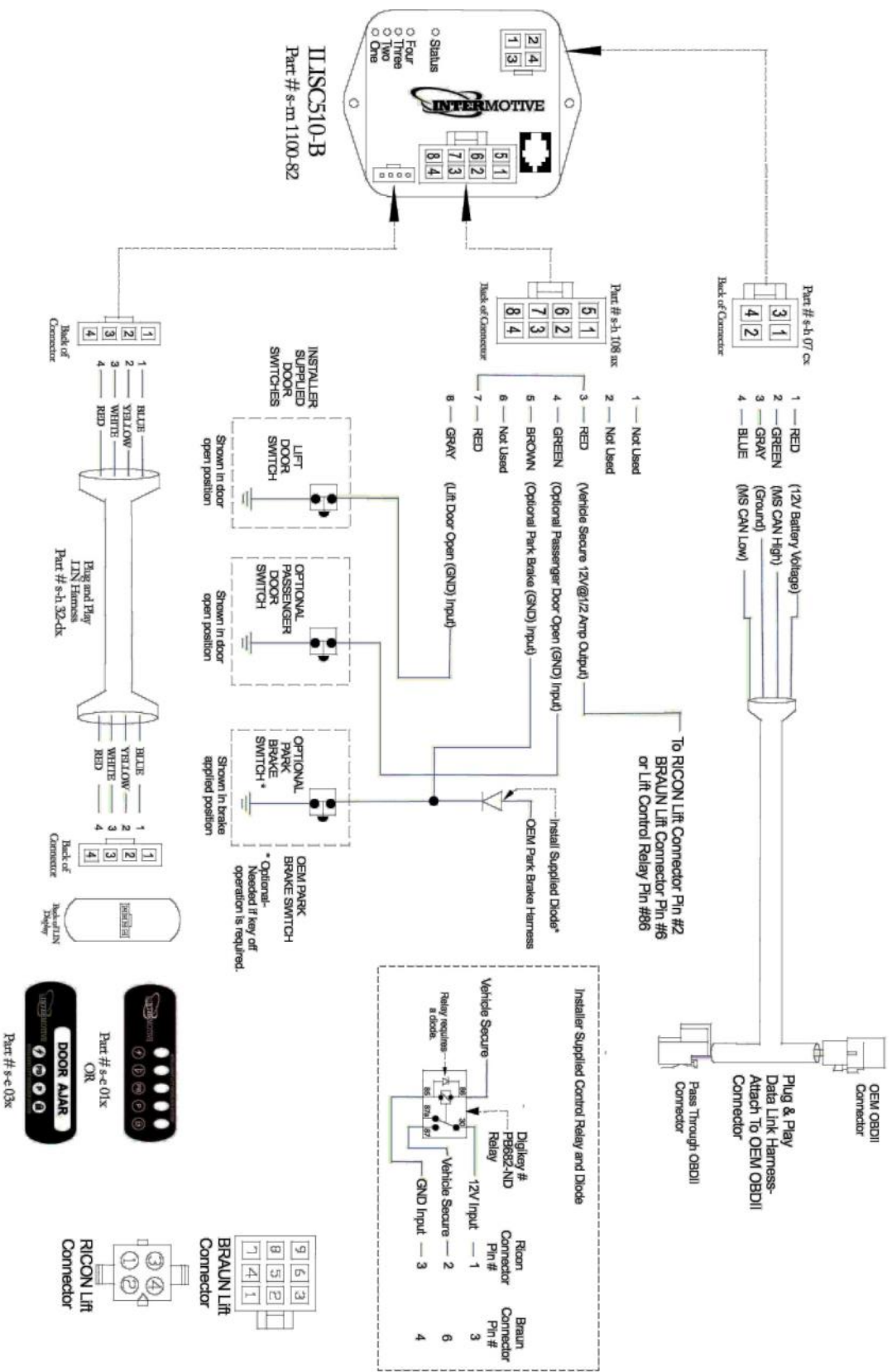
When the lift door is closed and ignition power is not present for 5 minutes, the system will enter a low current "sleep" mode of operation. To wake from "sleep" mode, turn the ignition on (key on) or open the lift door. All display LEDs will illuminate for approximately 2 seconds as a "prove out". The backlit LEDs remain on as long as the module is awake.

Note: If the vehicle has Daytime Running Lights they will be activated when the Lift Door is open and/or the Park Brake is on and the Ignition Key is on.

Confirmation Signal- (2009-2010 model year vehicles). The vehicle lamps and radio will cycle briefly when the ignition is on and the lift door is initially closed. This signal is sent from the Ford PCM.

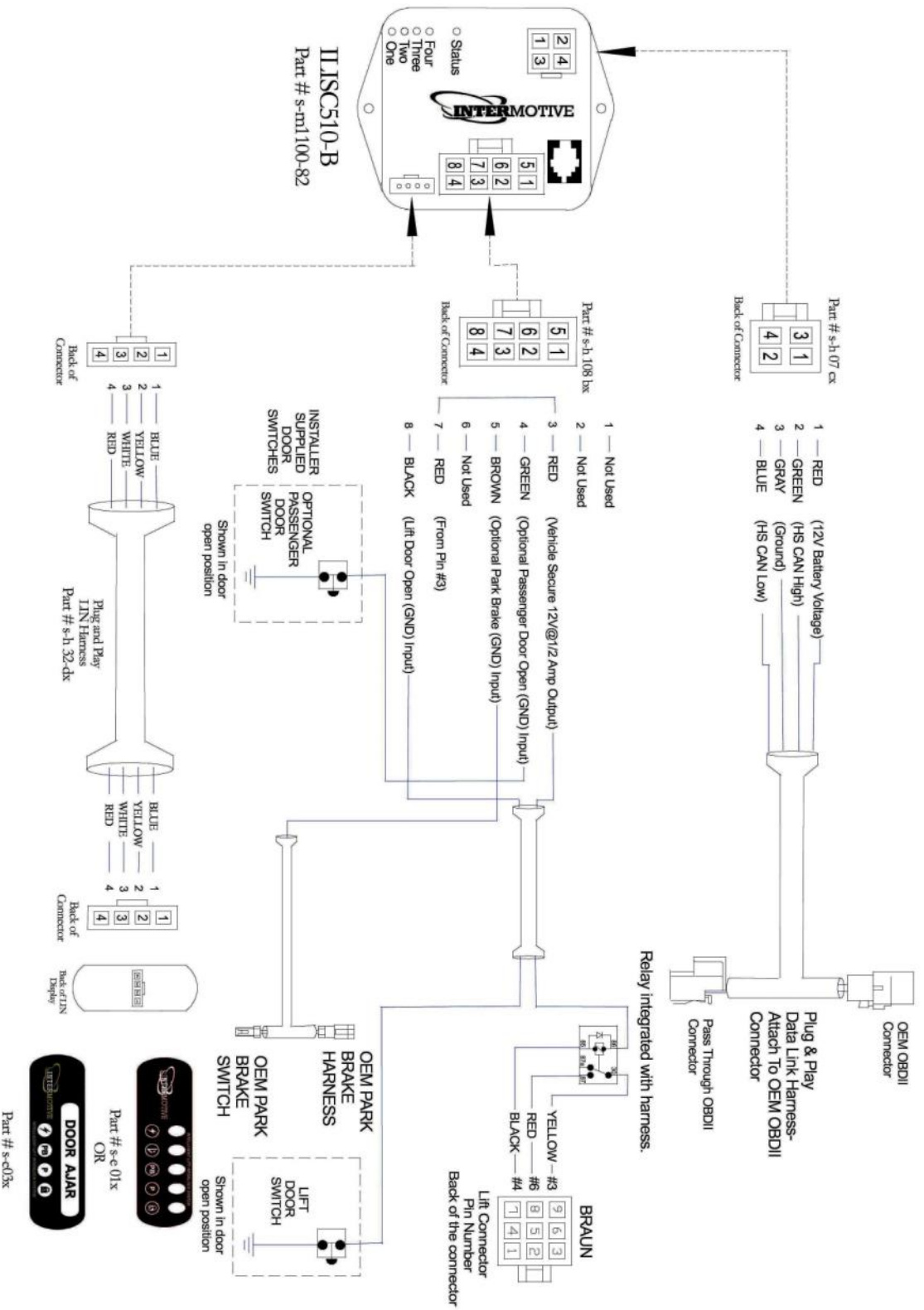
Do not leave the lift door open when the vehicle is not in use. This will cause a draw on the vehicle's electrical system and may result in a dead battery.

Blunt Cut Harness



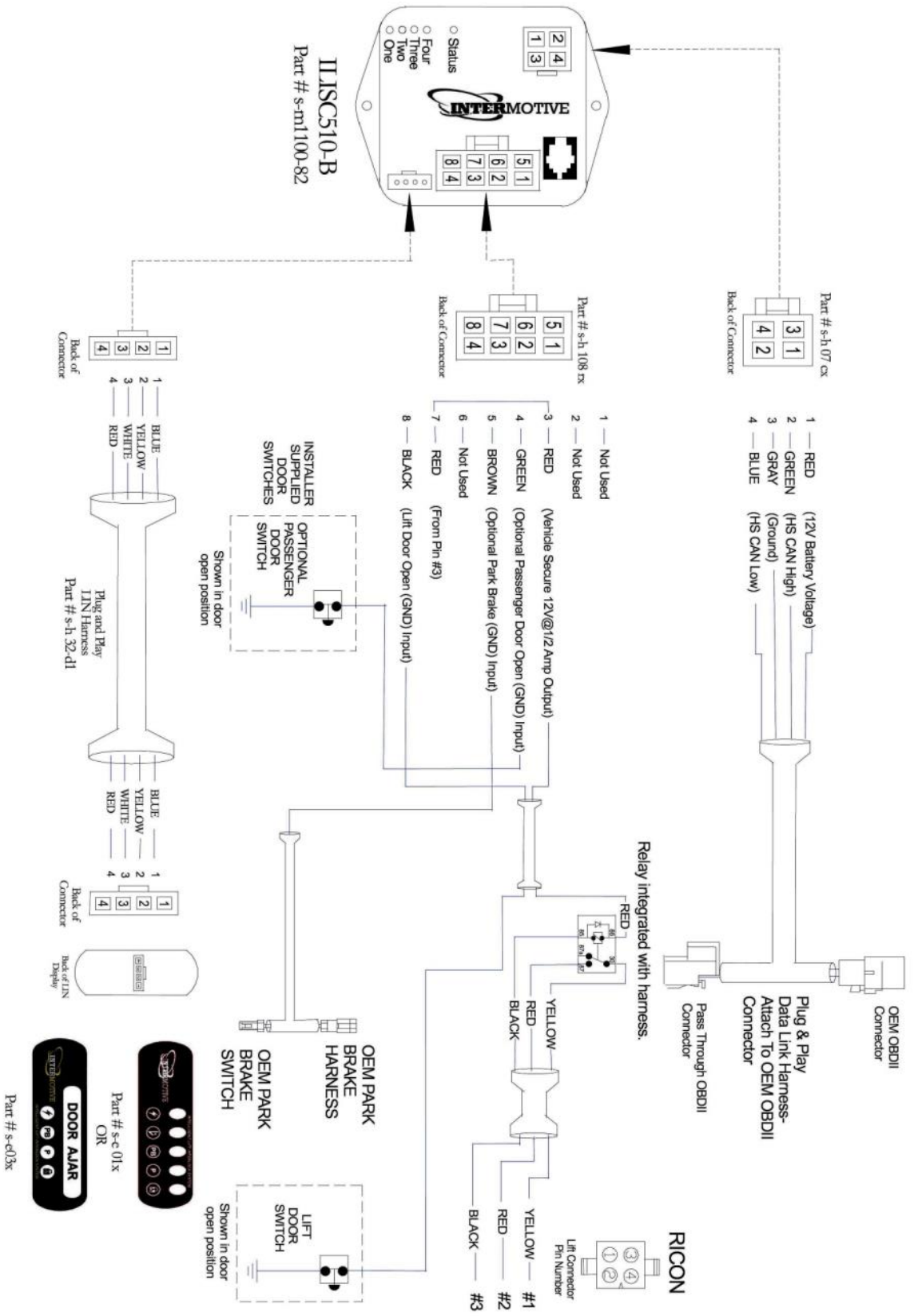
If the ILISC510-B fails any step in the Post Installation Test, review the installation instructions and check all connections. If necessary, call InterMotive Technical Support at (530) 823-1048.

Braun Plug and Play Lift Harness



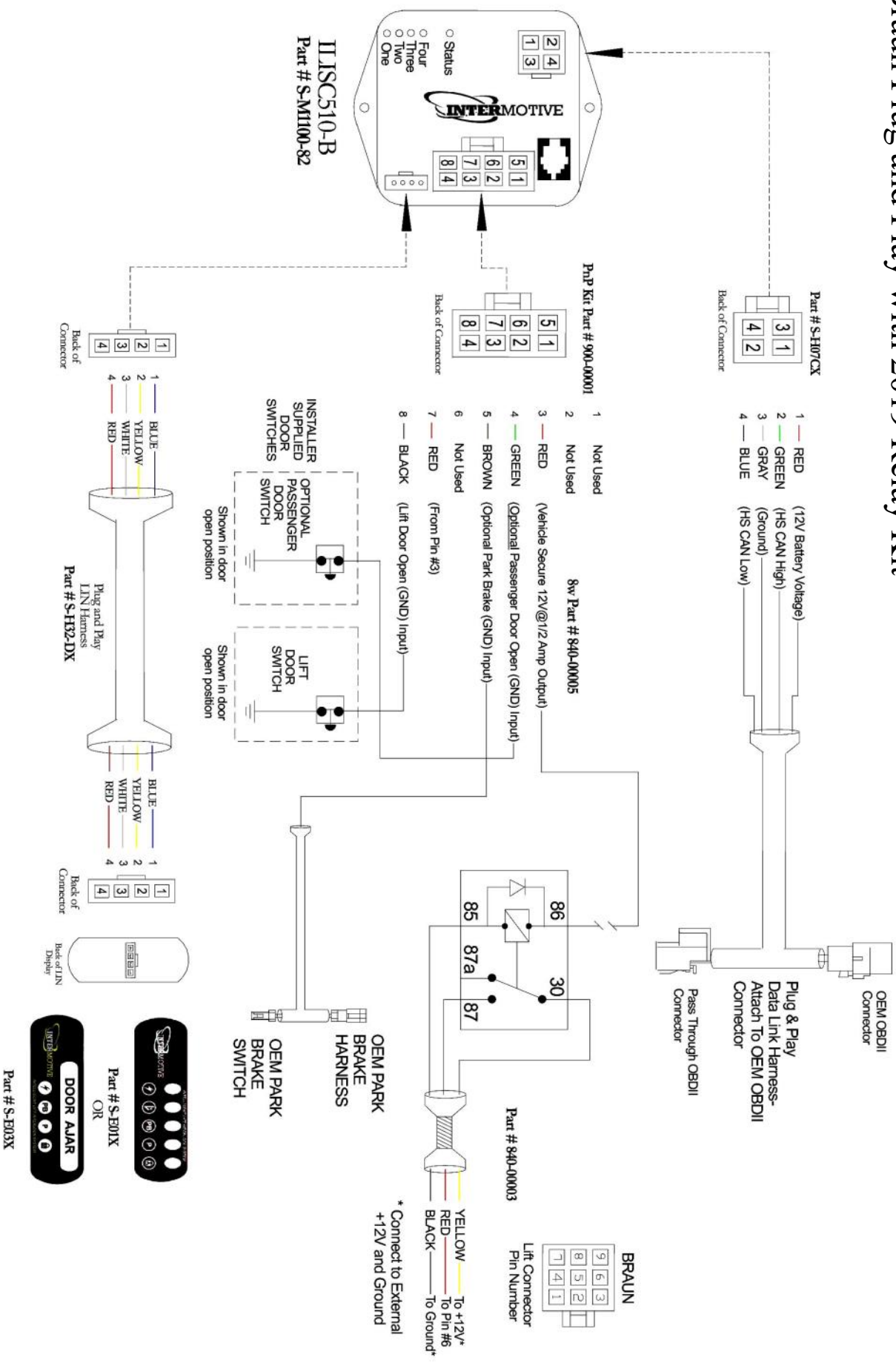
If the ILISC510-B fails any step in the Post Installation Test, review the installation instructions and check all connections. If necessary, call InterMotive Technical Support at (530) 823-1048.

Ricon Plug and Play Lift Harness



If the ILISC510-B fails any step in the Post Installation Test, review the installation instructions and check all connections. If necessary, call InterMotive Technical Support at (530) 823-1048.

Braun Plug and Play with 2019 Relay Kit



If the ILISC510-B fails any step in the Post Installation Test, review the installation instructions and check all connections. If necessary, call InterMotive Technical Support at (530) 823-1048.