

ILISC702-A Shift Interlock (Manual Lift Door) 2014 - 2019 RAM ProMaster 3.6L Gas Engine Only Not for use with diesel engine models*

Introduction

The ILISC702 is a wheel chair lift interlock system which is capable of working with the ignition key on or off (can be configured to only operate with key off). Key off operation requires the use of discrete wires for sensing lift door and Park Brake status. Lift operation is enabled when Park and Park Brake are set and the lift door is open. The shifter is locked when either Park Brake is set, or the lift door is open. Optional lift harnesses are available for most popular wheel chair lifts.

The ILISC702 comes with an LED panel which can be mounted to the dash, and informs the user of the system status.



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, or 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.

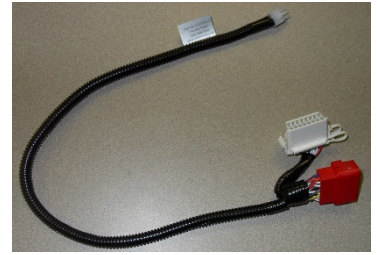
ILISC702 Module

Remove the lower dash panel below the steering column area and find a suitable location to mount the module. Attempt to position the module for the ability to view the Diagnostic LEDs during testing. Place the module in an area away from any high external heat sources (engine heat, heater ducts, etc.). Do not mount the module until all wire harnesses are routed and secured. The last step of the installation is to mount the module.

***The transmission on diesel models does not provide the necessary means for locking the shifter.**

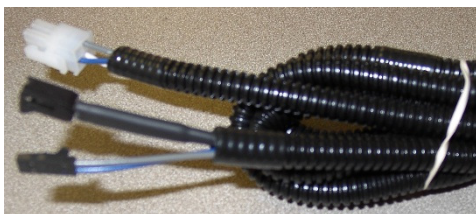
Data Link Harness — 6 pin connector

1. Locate the vehicle OBDII Data Link Connector. It will be mounted below the lower left dash panel.
2. Remove the OBDII Data Link Connector by squeezing the sides of the connector and pushing/pulling it out. Plug the red connector from the ILISC702 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 White pass through connector from the ILISC702 Data Link Harness in the former location of the vehicle's OBDII connector.
4. Secure the ILISC702 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 6-pin connector on the ILISC702 module.



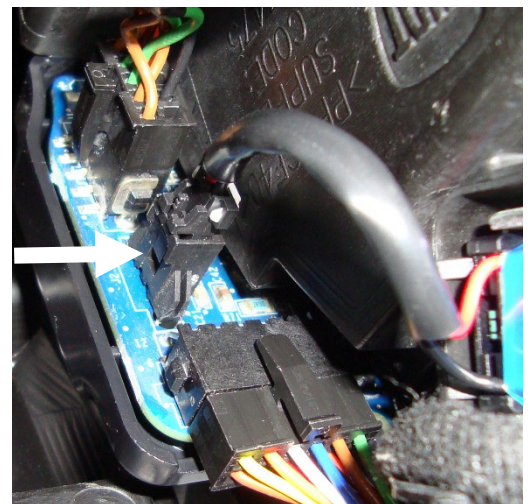
Shift Lock Solenoid T Harness - 4-pin connector

1. Remove the four screws from the lower center panel below the shifter. It will be necessary to remove the cup holder to access the lower 2 screws.
2. Remove the lower center panel by firmly grasping the panel and pulling toward the rear of the vehicle.
3. The ILISC702 kit provides a "T" Shift Lock harness which must be installed between the OEM harness and the shifter PCB. Locate the OEM 2-pin shift lock solenoid connector (located on the underside of the shifter), pinch the connector tab, unplug it, and insert it into the ILISC702 mating connector. Plug the ILISC702 male connector into the OEM shift lock solenoid connector on the PCB.



ILISC702 Shift Lock T—harness

4. Route the shift lock harness 4 pin connector over to where the module will be installed and plug the white 4 pin connector into the module.



View from floor looking up at underside of transmission shifter PCB. Arrow points to the 2 pin Shift Lock Harness.



LED Display Panel Mounting

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 panel will be located, being careful not to damage anything behind the dashboard.
2. Attach the Black 4-pin connector of the LED display panel harness to the ILISC702 module.
3. Route the other end of the harness behind the dash and out through the 5/8" hole. Secure harness leaving enough takeout to prevent strain on the connectors.
4. Plug the harness into the back of the LED Display Panel.
5. Ensure the panel is level and secure using supplied screws.

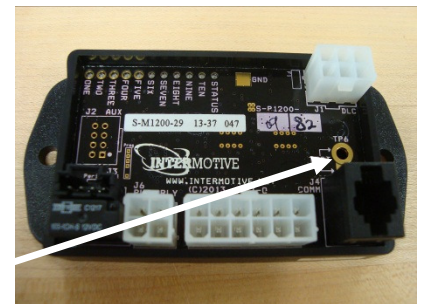


Key on only applications

For applications which only use the lift when the key is on, the ILISC702 will read lift door status via the OBDII CAN network. Connecting a discrete lift door sense wire is not required; however, the module will then need to be assigned a lift door, if different from the default. The module comes with the passenger side slider door set as the default lift door. If this is the door being used for the lift, nothing further needs to be done. If the lift is installed using the rear doors, the following procedure must be done to tell the module to use the rear door.

Selecting the Lift door

1. To change to the rear door, make sure the Rear and Slider doors are closed.
2. Sitting at the wheel, make sure the vehicle is in Park with the Park Brake set.
3. The vehicle ignition switch must be in the ON position.
4. Enter the module's Diagnostic Mode by shorting the two test pads together (some modules use a push button instead of a test pad). The Status LED will begin flashing Status Codes (the expected code will be a 1-5). Press the Service Brake 6 times within 5 seconds. The Status LED will begin to flash rapidly. Open the Rear door within 1 minute to select it as the Lift door. The module will exit Diagnostic Mode after it senses the door opened.
5. To revert back to the side slider door as the lift door, perform the steps above starting at step 2 and open the slider during step 4.



Key off applications

For applications which require the use of the lift when the ignition switch is off, the door status is not available over the OBDII CAN network, a discrete wire must be connected to a lift door switch. The above lift door selection process must still be performed, even though a discrete wire is being used for the lift door. There is also a Park Brake harness that must be installed for key off operation. See next page.

Control Inputs/Outputs - 12-pin connector

The ILISC702 can be ordered with optional full length harnesses for Braun and Ricon wheel chair lifts, which can be cut to length. The mating specific lift connectors are included in the kits. See schematics for pin numbering information. There is also a short universal blunt cut harness option. All three of the lift harnesses provide control connections to the vehicle/lift as follows:

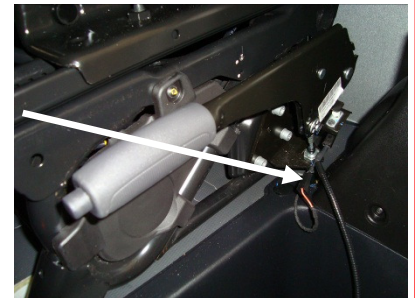
Vehicle Secure - Light Green (output) - Pin-8 This output provides 12V @ 1/2 Amp when it is safe to operate the lift. The lift should not operate unless this output is asserted (12V). Connect this wire to a diode clamped relay (Digikey # PB682-ND). See schematics for wiring Ricon & Braun lifts.

Lift Door - Yellow (optional input) - Pin-10 Connect this to the Lift door switch if the system must operate with the key off. Leave disconnected and tape up or remove this wire if the lift will only be used when the key is in Run. If used, ensure a ground signal is provided when the lift door is open. This should cause the Door Ajar dash panel indicator to light continuously when the lift door is open. This will also lock the shifter if in Park. See page 7 for instructions on how to install in a vehicle with dual sliding doors.

Aux Door - Dark Green (optional input) - Pin-11 Only use to indicate a non-lift door(s) is ajar. This does not affect lift operation and does not lock the shifter. This pre-crimped Green wire is included in the Door Ajar dash panel bag. Insert the terminated end of this wire into Pin #11 of the 12-pin connector with the terminal tabs oriented towards the connector housing tab. You should feel it click into place. Improperly oriented terminals will back out and cause problems. Extend this wire as needed and connect to desired door switch(es) which provide ground when the door is open.

Park Brake - Brown (optional input) - Pin-4 Only needed to operate the lift with the key off. Connect this Plug and Play T-harness between the OEM Park Brake wire where it mates to the Park Brake switch. Leave disconnected and tape up or remove this wire if the lift will only be used when the key is in Run.

Connect the 12-Pin connector to the module and dress out harnesses appropriately.



OEM Park Brake Switch

Pin #1 - N/A

Pin #2 - N/A

Pin #3 - N/A

Pin #4 - BROWN (Park Brake, GND Input) *Optional

Pin #5 - N/A

Pin #6 - N/A

Pin #7 - N/A

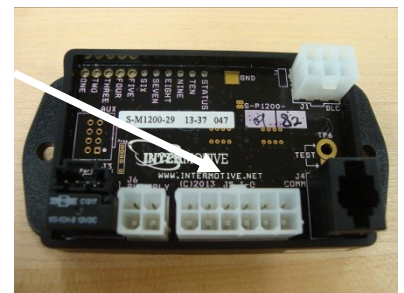
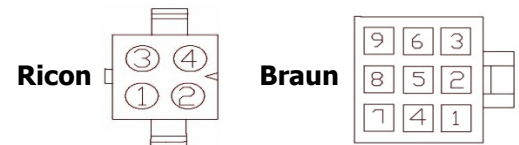
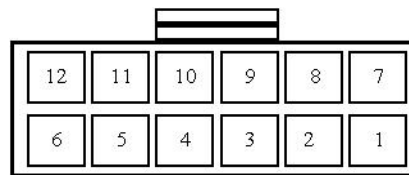
Pin #8 - LIGHT GREEN (Vehicle Secure, 12V 1/2A max Output)

Pin #9 - N/A

Pin #10 - YELLOW (Door, Input) *Optional

Pin #11 - DARK GREEN (Aux Door, Input) *Optional

Pin #12 - N/A



ILISC702 Module Mounting

Ensure all the harnesses are properly connected, routed, and are not hanging below the dash area. Mount the ILISC702 module as described on page one. Secure using screws or doubled sided tape.

Reconnect the vehicle battery

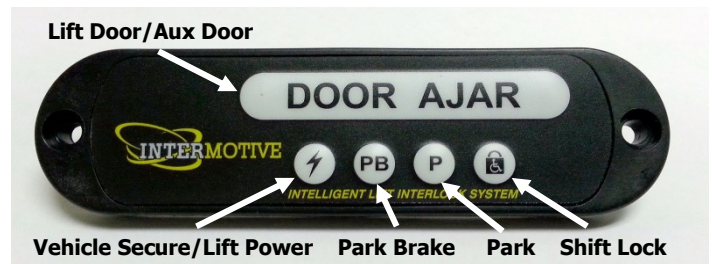
Post Installation / Check List

ILISC702

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. If operate in key off only mode, make sure to open the Lift door before power on the module to initialize discrete signal. After module initialization, proceed to the checklist.

Begin the checklist with the vehicle in the following state:

- Lift stowed
- All vehicle doors 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 to the Run position, verify the module wakes up and all LEDs illuminate for approximately 2 seconds. Verify that the Park, Park Brake, and Shift Lock LEDs remain illuminated. Verify that the Door Ajar and Vehicle Secure indicators are off.
2. Attempt to deploy the lift. The lift must not deploy with the lift door closed.
3. Open the lift door and all LEDs should be illuminated. Attempt to deploy the lift. Verify the lift deploys, then stow the lift, leaving the lift door open.
4. Release Park Brake. Verify that the Park Brake (PB) and Vehicle Secure LEDs go out. Attempt to deploy the lift. Verify the lift does not deploy with Park Brake released.
5. Close the lift door. Press Service Brake and attempt to shift vehicle out of Park. Verify transmission will not shift out of Park (due to Park Brake being set—prevents inadvertent driving with Park Brake on).
6. Release Park Brake, press Service Brake and verify transmission will shift out of Park.
7. Open lift door, press Service Brake and verify transmission shifter is locked.
8. If Aux Door input has been connected to a door switch, open door. Door Ajar indicator will flash.

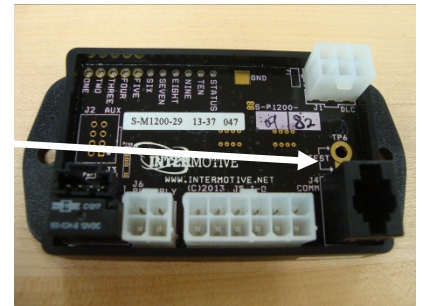
If the system fails any of the above tests, do not release the vehicle into service. Perform the diagnostic tests on the next page.

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, Park Brake set, and turn the ignition switch to the run position.
2. Momentarily short the two 'Test' pads together (some modules use a push button instead of a test pad) to enter Diagnostic Mode. The Status LED will initially flash twice, then will repeatedly flash two sequences. The second sequence can be counted, and the table below used to indicate the system status.



Diagnostic Test

Example: After the initial Status LED flashes twice: the Status LED flashes once, a brief pause, flashes 5 times, and repeats. This would signify that the Lift Door is not open and the module is currently in Page 1 of Diagnostics.

Second Digit = Status State	
Status Code	Description
1	Lift ready for use
2	PB not set
3	TR = Park
4	Key = Off
5	Lift door not open
6	Key Off only operation

"Key OFF Only" procedure (discrete Park Brake and Lift Door inputs must be installed)

The ILISC702 module comes from the factory with the ability to power the lift with the Key On or Off. To enable the module to work with Key Off only, perform the following procedure:

1. Sit at the wheel with the vehicle in Park, Park Brake not engaged, and the key in the Run position.
2. Enter special "Page 2" diagnostics by grounding the Test pad once (some modules use a push button instead of a test pad), waiting 5 seconds, and grounding the Test pad once more. The Status LED should flash twice repeatedly as the first digit.
3. Press the Service Brake 6 times within 5 seconds.
4. Verify no Vehicle Secure/Lift Door operation with the Key On.
5. To revert back, perform steps 1-3 again.

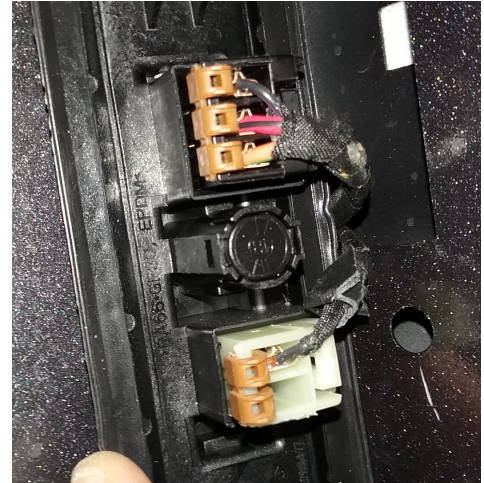
***** Dual Slide Door is only supported by firmware version v4.57 and higher *****

ILISC702 (Dual Slide Doors)

The ILISC702 is capable of working with single slide door and dual slide doors. If the module is being used on a dual slide doors vehicle, a discrete lift door signal wire and a diode must be installed. If key off only function is desired, Park Brake signal will also be required to install.

Key On function

- Lift door discrete wire with diode installation is required.
- Yellow Wire: Connect this input to the OEM Lift door switch such that the switch is made (GND) when the door is open. Install a standard rectifier diode (Digikey RL202-TPCT-ND or equivalent) as shown in the schematic pages 12-14 to isolate the door GND signal. Strip back some insulation off the black and violet wire from the door switch, solder the Yellow wire on and tape or use heat shrink tubing.
- To initialize module after finished installation, make sure to open the door with discrete wire connected before power on the module.



Key off function (if installed with this capability - requires discrete lift door and Park Brake connections)

- Park Brake discrete and Lift Door discrete connection is required for key off only function to be able to operate properly.

***** Dual Slide Door is only support by firmware version v4.57 and higher *****

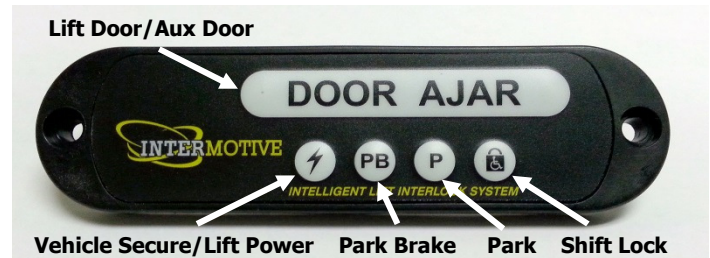
Leave in vehicle
ILISC702-A Wheel Chair Lift Interlock Operating Instructions
2014—2018 Ram ProMaster 3.6L gas engine

ILISC702 (Manual Lift Door)

The ILISC702 is a microprocessor driven system for controlling wheelchair lift operation. Depending on installation, the system may operate with the vehicle ignition On or Off. Lift operation will be enabled when transmission is in Park, Park Brake is set, and the lift door is open. It will lock the transmission shifter in Park when the wheelchair lift is in use or when Park Brake is set. This eliminates excessive Brake wear due to driving with the Park Brake on.

Key On function

- When the vehicle is in Park the (P) LED will be illuminated.
- When the Park Brake is applied, the (PB) LED will be illuminated.
- When the Lift door is open, the Door Ajar LED will be illuminated.
- When the Park Brake is applied or the Lift door is open, the Shift Lock LED will be illuminated, and the vehicle cannot be shifted out of Park.
- 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. At this point **all** LEDs will be illuminated.



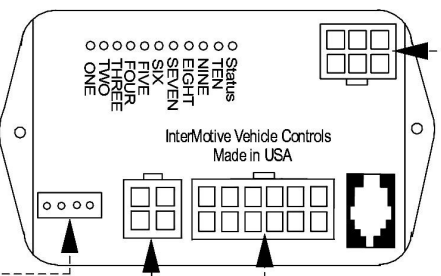
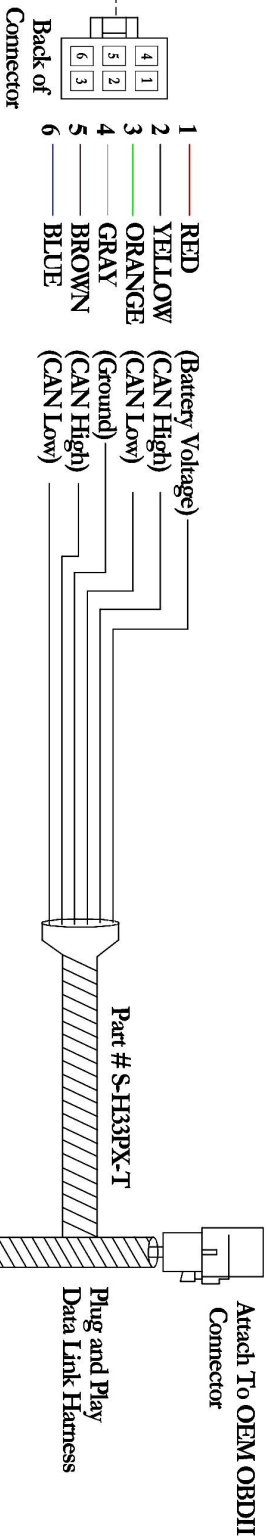
Key off function (if installed with this capability - requires discrete lift door and Park Brake connections)

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

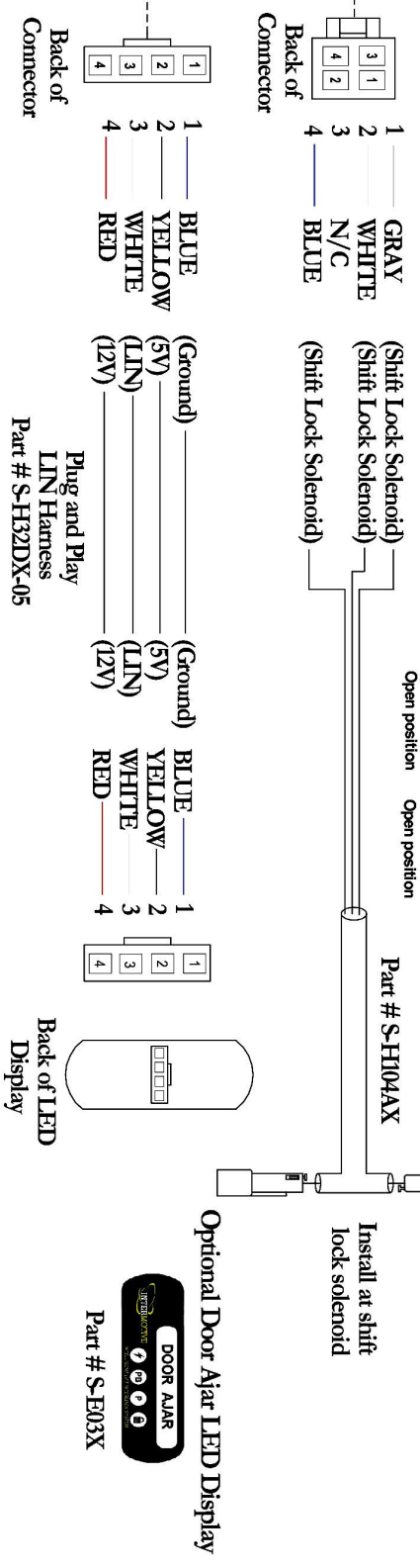
Aux Door Ajar indication: When the lift door is open, the Door Ajar LED will light solid. If the lift door is closed and any other door is open, the Door Ajar LED will flash.

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 Lift Harness****

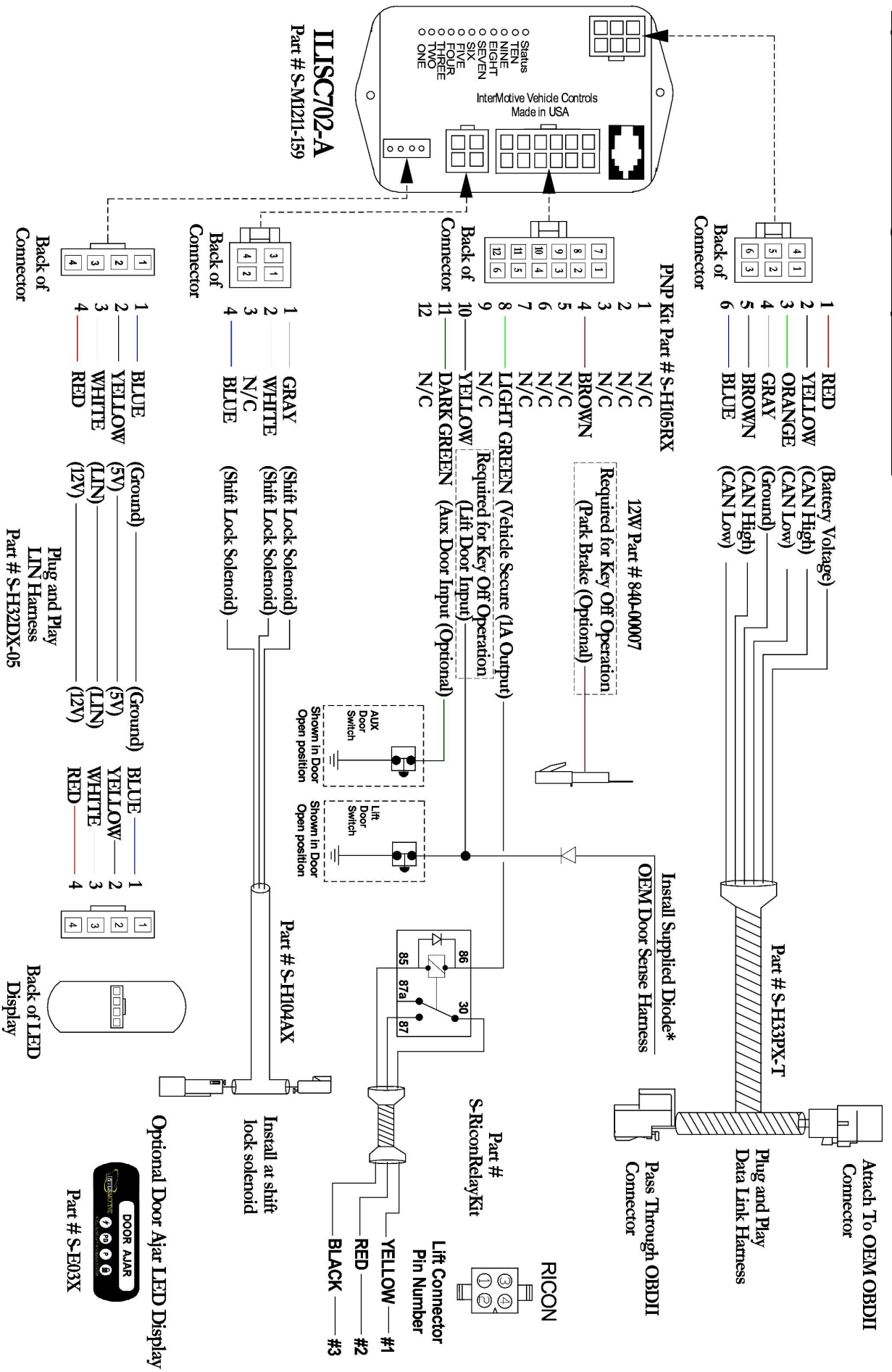


ILISC702
Part # S-M1211-159



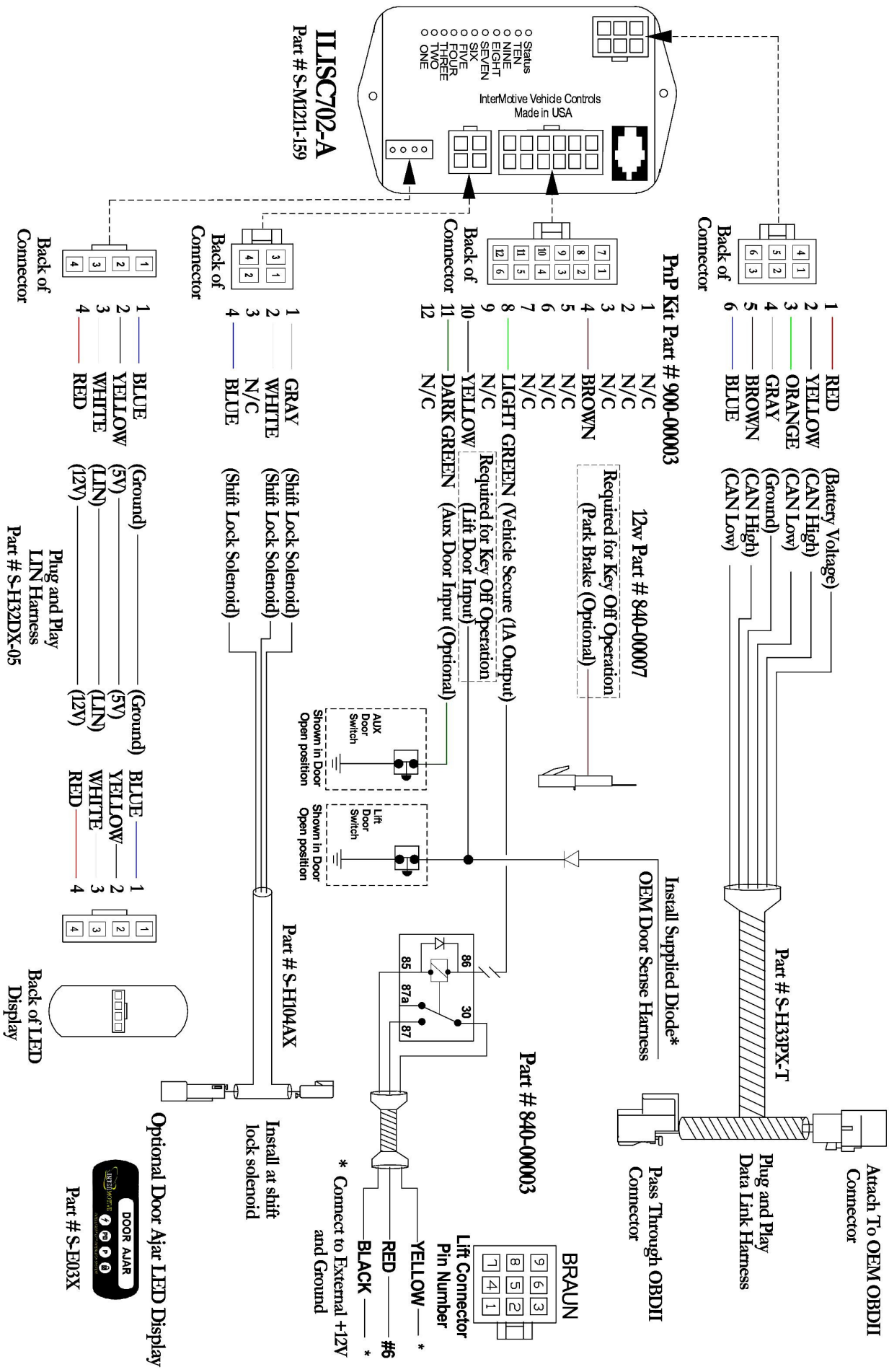
If the ILISC702 fails any step in the Post Installation Test, review the installation instructions and check all connections.

**** Optional Ricon Plug & Play Lift Harness ****



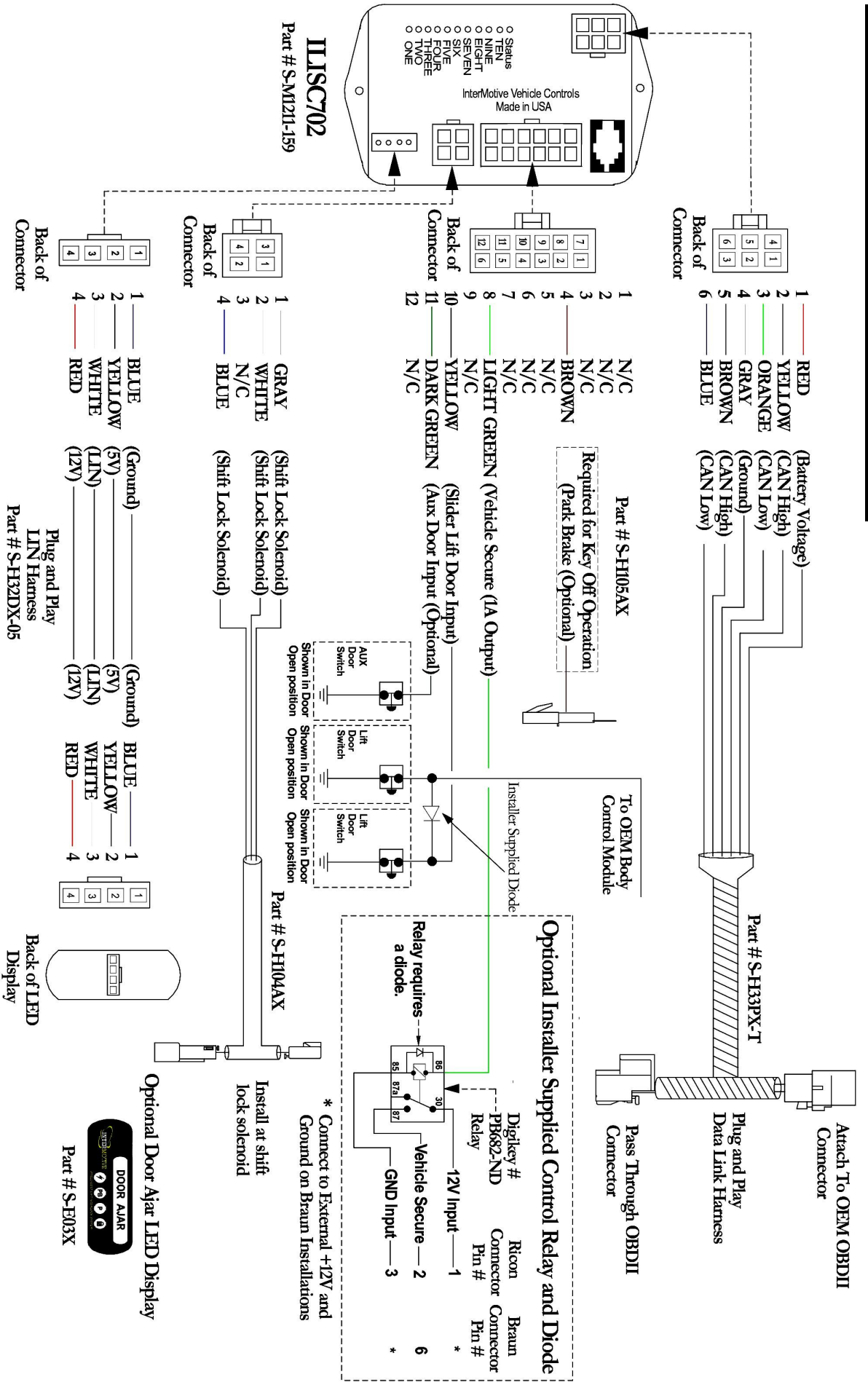
If the ILISC702 fails any step in the Post Installation Test, review the installation instructions and check all connections. If necessary, call InterMotive Technical Support at (530) 823-1048.

**** Optional Braun Plug & Play Lift Harness ****



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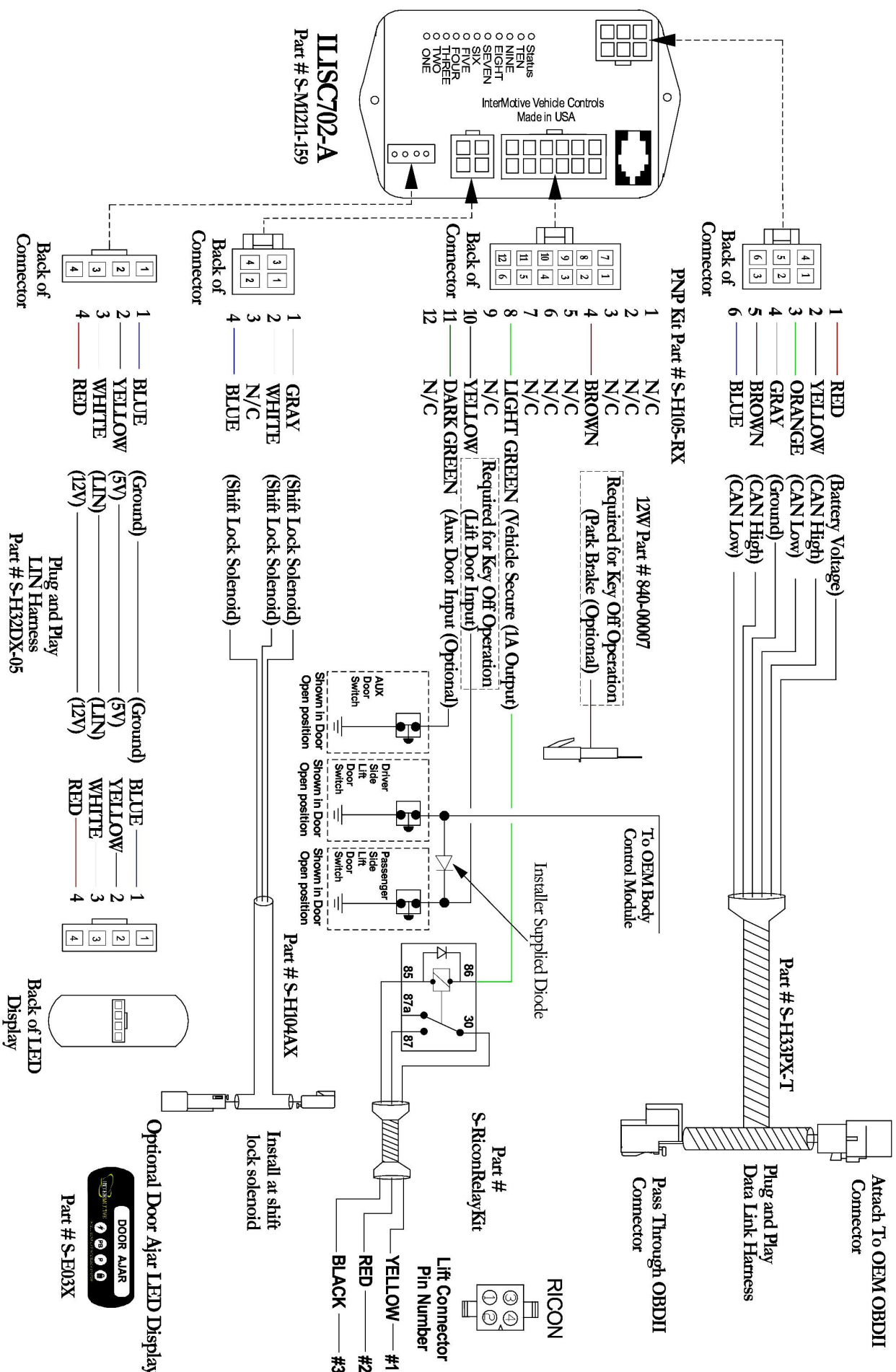
**** Blunt Cut Lift Harness with Dual Slider****



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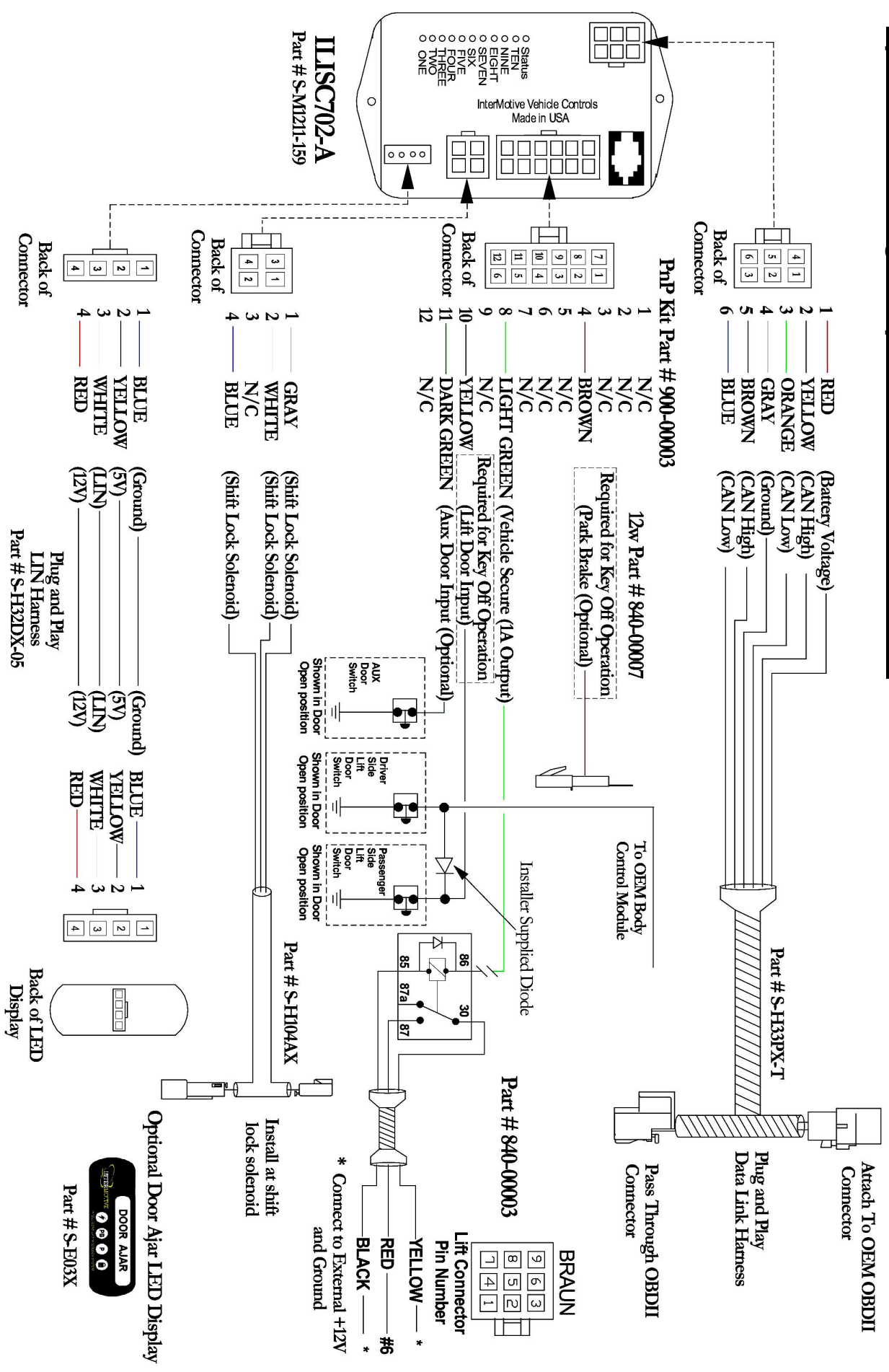
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**** Optional Ricon Plug & Play Lift Harness with Dual Slider****



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**** Optional Braun Plug & Play Lift Harness with Dual Slider ****



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