

ILISC301-A

Wheel Chair Shift Interlock (Manual Lift Door)

2012 Nissan NV Full Size Van

Introduction

The ILISC301-A is a wheel chair lift interlock, intended for commercial use with a Nissan NV full size van. It can be configured to use either the manual side or rear doors. It can be used with the ignition key on or off. It will lock the transmission shifter in Park when the designated lift door is open or when the Park Brake is set. The lift will not be powered until all the safety conditions are met: Transmission in Park, Park Brake set, Lift Door open, etc.



Installation Instructions

Be sure the vehicle's battery is disconnected before proceeding with installation.



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

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.

Remove the lower dash panel below the steering column and find a suitable location to mount the module. 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. It is recommended the module be mounted with two screws, however 2-sided foam tape may also be used. Be careful to route the harnesses such that a tilt steering column does not contact them in the full down position. When installing the harnesses, leave several inches of take-out such that the module can be removed so the diagnostic LEDs can be viewed if necessary. Locate the module in an area away from any high heat sources such as heater ducts.

Data Link Harness Installation

Locate the vehicle's OBDII Data Link Connector. It is mounted in the lower dash panel which was removed in the previous step. Remove the OBDII connector from the panel by pushing in the tabs on the right and left sides of the connector and pulling it out from the back.

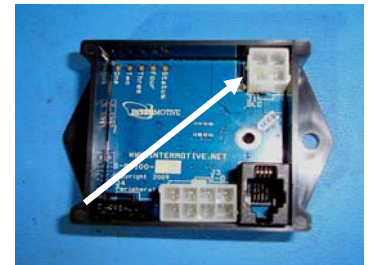
- Plug the red connector from the ILISC301-A Data Link Harness into the vehicle's OEM OBDII connector just removed. Ensure the connection is fully seated and secure with the supplied wire tie.



- Mount the White pass through connector from the ILISC301-A Data Link Harness in the former location of the vehicle's OBDII connector in the lower dash panel. It should snap into place when properly seated.
- Secure the ILISC301-A Data Link harness so that it does not hang below the lower dash panel when the panel is re-installed.
- Plug the free end of the Data Link harness into the mating 4-pin connector on the ILISC301-A module.



Pass Through Connector



LED Dash Mounted Panel

Two types of panels are available, depending on the part number ordered.



Standard LED display panel



Optional Door Ajar LED panel

Mounting the LED Display Panel

Locate a suitable position on the dashboard, within view of the driver to mount the LED Display Panel. Make sure that there is open space behind the dash for the harness where the panel is mounted. The harness is 40" in length, which is the maximum distance the display can be from the module. Drill a 5/8" hole in the dash where you wish the center of the display to be. Attach the Black 4-pin connector of the LED display panel harness to the module. Run the other end of the harness under the dash and out through the 5/8" hole. Attach the end to the LED Display Panel. Place the panel on the dash, ensure it is level, and secure using supplied screws.



LED Panel Harness



4 pin LED panel Connector

Control Inputs/Outputs - 8-pin connector

Refer to the ILISC301-A CAD drawing (last pages) as a reference when reading these instructions.

The 8 pin Input/Output harness provides three different functions:

1. Connection to the OEM shift lock solenoid
2. Connection to the OEM Park Brake circuit—Optional
3. Connection to the Wheel Chair Lift

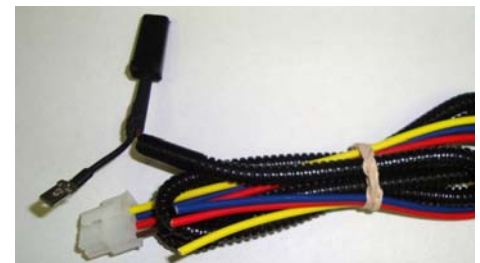
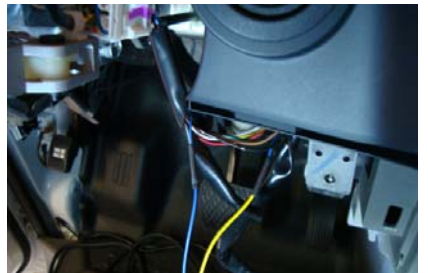
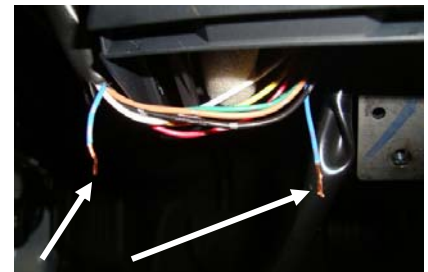
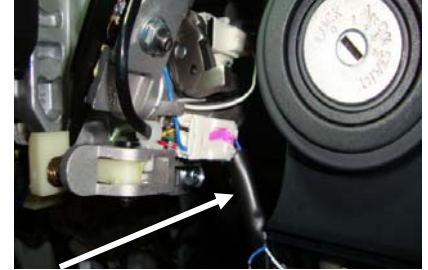
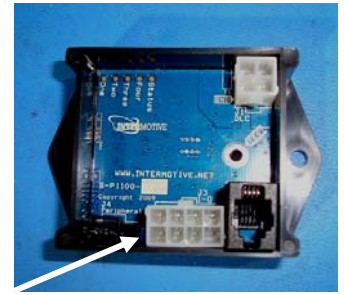
1. Shift Lock Solenoid Harness Installation

Remove the steering column plastic cover. Locate the black wiring harness below the ignition switch that terminates at the white 8-pin connector mounted to the steering assembly. Carefully remove the tape surrounding the wires. See photo.

- Find the Blue wire and cut it in a location which will allow easy connection to both ends.
- Slide the supplied heat shrink over both ends of the Blue wire.
- Attach the side of the Blue wire coming from the shift lock solenoid to the ILISC301-A Blue wire, which is pin #2 of the 8 pin connector (see CADs for pin number identification). Use solder to make a solid, reliable connection.
- Attach the other side of the OEM Blue wire coming from the PCM to the ILISC301-A harness Yellow wire, which is pin #6 on the 8 pin connector. Solder connection.
- Position the two pieces of heat shrink directly over the solder joints and using a heat gun or other heat source, shrink to complete the shift lock wiring.

2. Optional Park Brake Harness Installation

Brown wire pin 4 – Connect this wire only if "key off" lift operation is desired. This optional Plug and Play T-harness (shown) connects to the OEM Park Brake switch located behind the Park Brake pedal, (as shown) such that the switch is made (GND) when the Park Brake is set. This connection is required if lift operation is desired when the vehicle ignition is OFF.

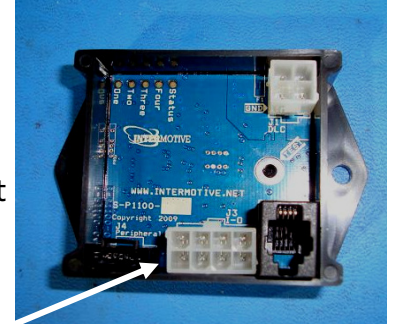


Park Brake connection behind pedal

Control Inputs/Outputs - 8-pin connector (Continued)

3. Connection to the Wheel Chair Lift

There are three different lift harness options available for the ILISC310-A. Refer to the appropriate section for the harness you have. Note that the only signal required to interface to the lift is the Red wire Vehicle Secure signal. Lift door information is acquired over the vehicle's CAN network, so no upfitter door switch is required.

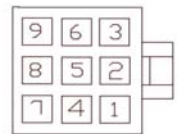


3 Possible Harnesses

- Standard Generic "flying lead" harness
- Braun Plug and Play harness
- Ricon Plug and Play harness with integral relay/diode

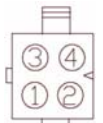
a. **Generic Flying Lead Harness**—A single Red wire flying lead Vehicle Secure signal is provided from pin 3 which should be wired to the lift to enable operation. Extend this wire (solder/heat shrink) back to the lift and connect per the lift instructions. If the lift draws more than 1/2A, a relay **with diode** must be added, as shown on the CAD drawing.

b. **Braun Plug and Play Harness**—this harness connects the ILISC310-A Red wire to the Braun pin #6 of their 9-pin connector. Simply plug it in.



Braun

c. **Ricon Plug and Play Harness**—this harness connects the ILISC310-A Red wire to pin 86 of an integral relay in the harness which is connected to the Ricon 4 pin connector. See Ricon CAD page which shows Yellow, Red, and Black wires connected to the Ricon 4 pin connector pins 1, 2, & 3, respectively. Simply plug it in.



Ricon

Note: A control relay may be needed to power some lifts, due to the lift drawing current of more than 1/2 amp on the Vehicle Secure signal. Install a diode or diode-clamped relay as shown on the CAD drawing. The diode is **required** to prevent high voltage spikes from damaging electronic control module components.

Connect I/O harness to module—Plug the 8 pin Input / Output connector into the ILISC301-A module, reconnect the battery and proceed to the post installation test.

ILISC301-A Post Installation / Check List

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 per the installation instructions. If needed, call InterMotive Tech Sppt for assistance.

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 LED's OFF) which takes approximately 5 minutes after reconnecting the battery.

Post Installation check list (continued)

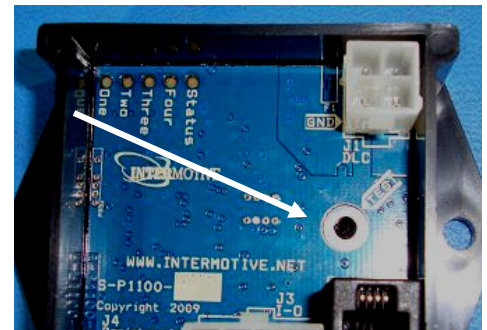
1. Verify the module wakes up when turning key on or opening door. All 5 LED's should illuminate for approximately 2 seconds. The lower icon LED's on the standard LED panel are backlit and should remain illuminated whenever the module is awake. See Operator Instructions page for definition of LED panel icons.
2. Verify that the Park, the Park Brake, and Shift Lock LEDs remain illuminated.
3. Attempt to deploy the lift. The lift must not deploy with the Lift Door closed.
4. Block wheels or otherwise make sure vehicle can not roll. With key on, transmission in Neutral, Park Brake set, lift door open, make sure lift will **not** deploy with transmission in neutral.
5. With key on, Lift Door open, Park Brake set and transmission in Park, all 5 LED's should be illuminated. Attempt to deploy the lift. The lift should deploy. Stow the lift.
5. With key on, Lift Door open, transmission in Park, release Park Brake verify Park Brake (PB) and Vehicle Secure LED's go out. Attempt to deploy the lift; the lift **must not** deploy.
6. With key on, Lift Door closed, Park Brake set, make sure transmission will not shift out of Park.
7. With key on, Lift Door open, Park Brake released, make sure transmission will not shift out of Park.
8. With key on, Lift Door closed, Park Brake released and Service Brake applied, the transmission shift lever should be able to shift out of Park.

If any of the previous Post Installation tests fail, enter diagnostic mode below.

Lift Interlock Diagnostic Mode Testing

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

- Place transmission in Park and turn ignition switch to run position.
- Touch a grounded wire to the Test Pad (on the module) to go into Diagnostic Mode. LED's on the module will prove out, then become status indicators.
- LED 1 should be on when Shift Lock enabled.
- LED 2 should be on when transmission is in park.
- LED 3 should be on when Park Brake is set.
- LED 4 should 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, or grounding the test pad again will exit Diagnostic Mode and all module LED's will be off.



Selecting which door is the Lift Door

The module comes from the factory with the passenger side slider door defined to be the Lift Door, but this can be changed to the rear door of the vehicle. To do this, perform the following steps:

1. Sit at the wheel with all doors closed, vehicle in Park, and Park Brake ON.
2. Have the vehicle Key in the ON position.
3. Put the ILISC301-A module into Diagnostic mode (see previous section.)
4. Press and release the Service Brake rapidly several times until you see all LED's on the module turn ON. NOTE: all LED's on the panel display will blink as well.
5. You now have 1 minute to select which door (passenger slider or rear) is to be the Lift Door. To do this, open the required door. The module will detect this, store the information, and from this point, the selected door becomes the Lift Door. If the 1 minute time elapses before a door is selected, the Lift Door remains as it was. Verify the correct Lift Door by opening and closing it while observing the display panel for proper indication.

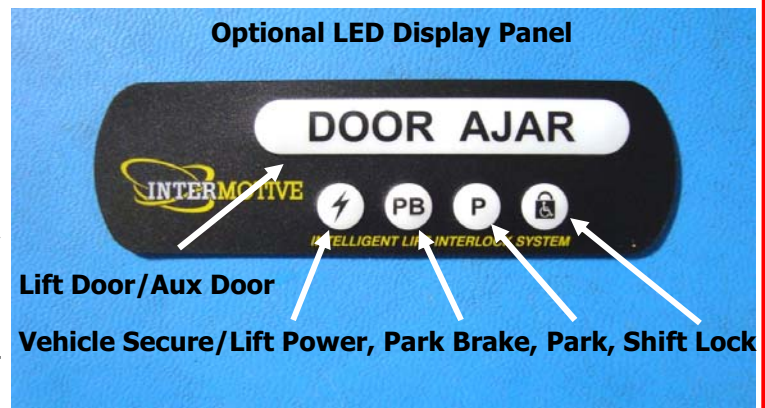
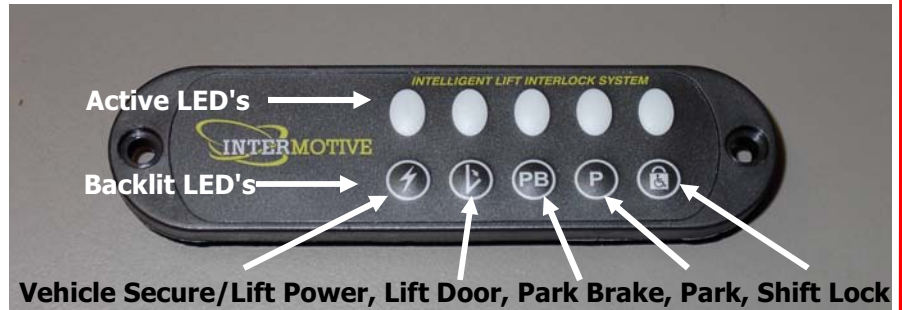
Once the door has been reconfigured or the 1-min. window has elapsed, the module and display panel will return to normal operation.

Leave with vehicle
Operating Instructions
ILISC301-A Wheel Chair Shift Interlock
2012 Nissan NV Van

The ILISC301-A is an electronic system for controlling wheelchair lift operation. It will lock the shifter when the lift door is open which minimizes the possibility of driving away with the lift out. It also locks the shifter when Park Brake is set, which can prevent excessive brake wear. The ILISC301-A will not allow the lift to be used unless the transmission is in Park, Park Brake is set, and the Lift Door is open.

Key On/Off* operation:

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. When in Park and either the Park Brake is applied or the Lift Door is open, the Shift Lock LED will be illuminated, and you will be unable to shift 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. At this point **all** LED's will be illuminated on either display panel.



***Key off operation:**

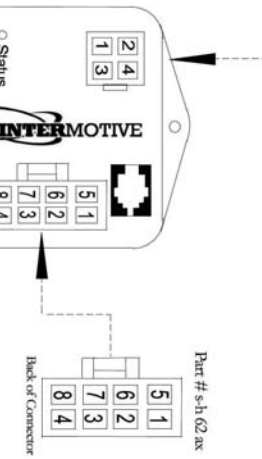
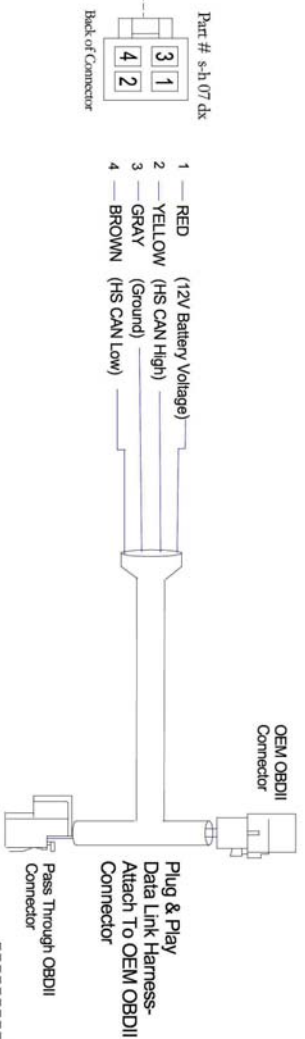
Note: The Park Brake must be wired to the system for it to operate the lift with the key off. The module goes to sleep ~5 minutes after the key is turned off, but will wake up when either the key is turned on, or any door is opened. Upon wake up, all display LED's will illuminate for approximately 2 seconds as a "prove out". The backlit LED's remain on as long as the module is awake.

The functioning of the system and the display panel with key off is similar to key on operation. The vehicle must be in Park, with Park Brake set, and the Lift Door open (all LEDs on) to operate the lift.

Optional Display Panel: If equipped with the optional LED display panel the Door Ajar LED will blink if any door other than the lift door is open. If the Lift Door is open, the Door Ajar LED will be on solid, taking priority over any other door. If using the standard display panel, there will be no indication for any doors other than the Lift Door.

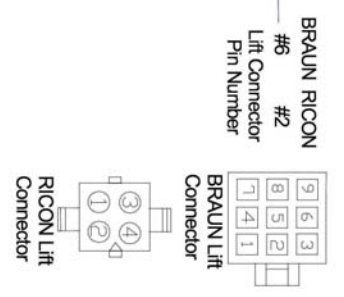
Important note:

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 as the lift will remain powered up. This could result in a dead battery.

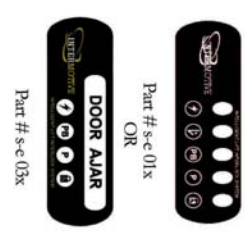
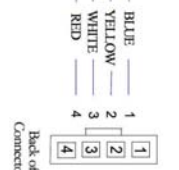
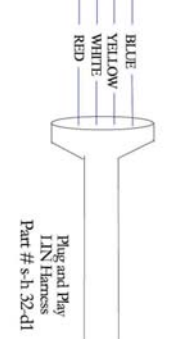
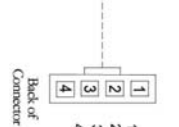
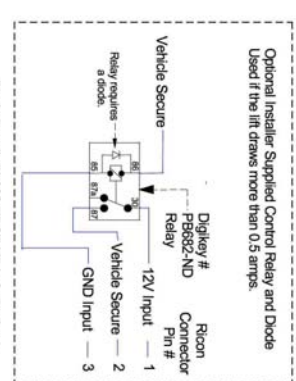


ILISC301-A
Part # s-m 1100-22

- 1 — Not Used
- 2 — BLUE (Shift Interlock Output)
- 3 — RED (Vehicle Secure 12V@12 Amp Output)
- 4 — BROWN (Optional Park Brake (GND) Input)
- 5 — Not Used
- 6 — YELLOW (Shift Interlock Output)
- 7 — Not Used
- 8 — Not Used



Optional Park Brake (GND) Input
Shift-A (Attach to the BLUE wire from the shift lock solenoid)
Shift-B (Attach to the BLUE wire going to the PCM)



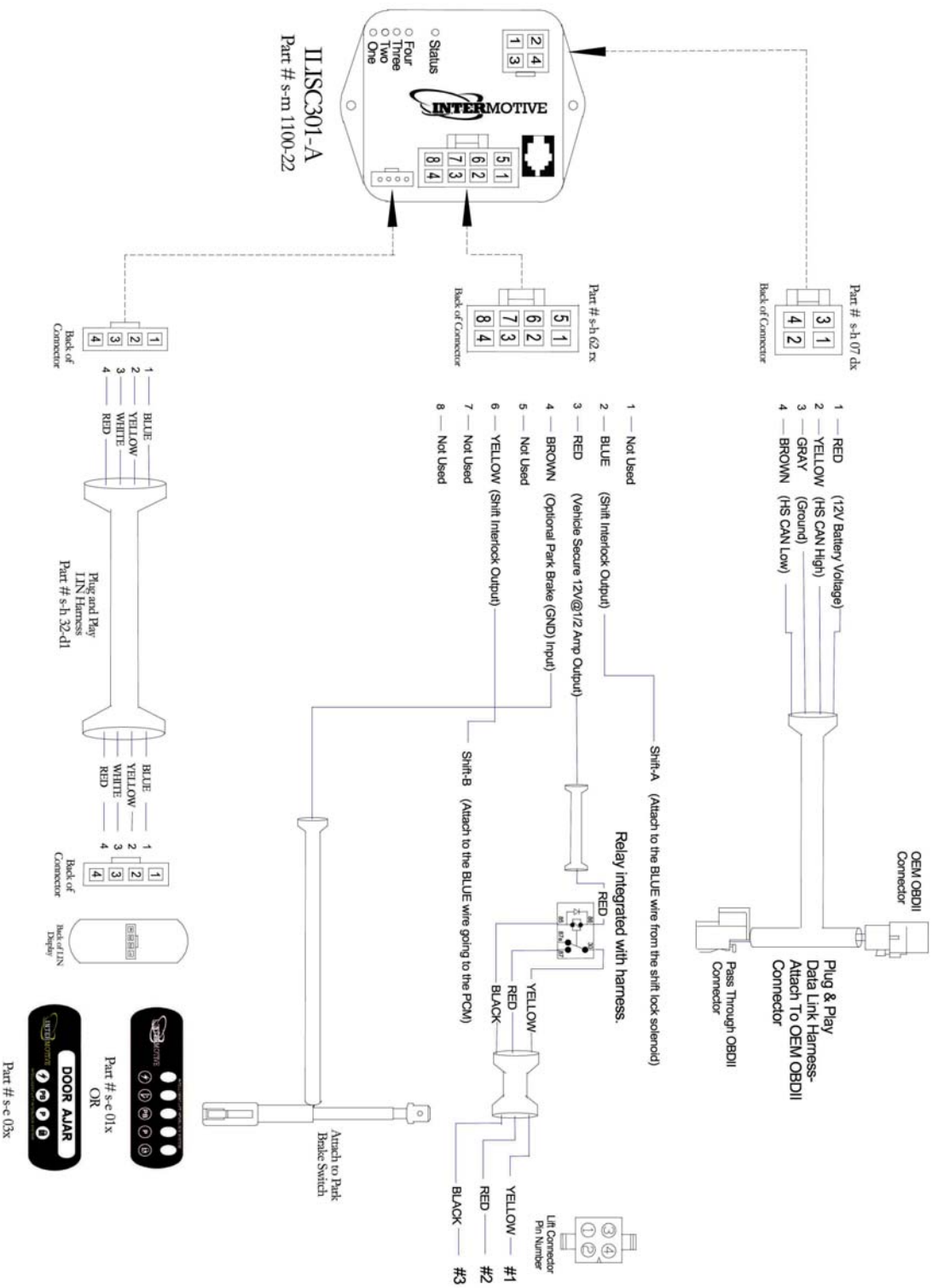
Submit product registration at www.intermotive.net

If the ILISC301-A fails any step in the Post Installation Test, review the installation instructions and check all connections. If necessary, call

Intermotive Technical Support @ (530) 823-1048.

ILISC301A-01-CAD

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



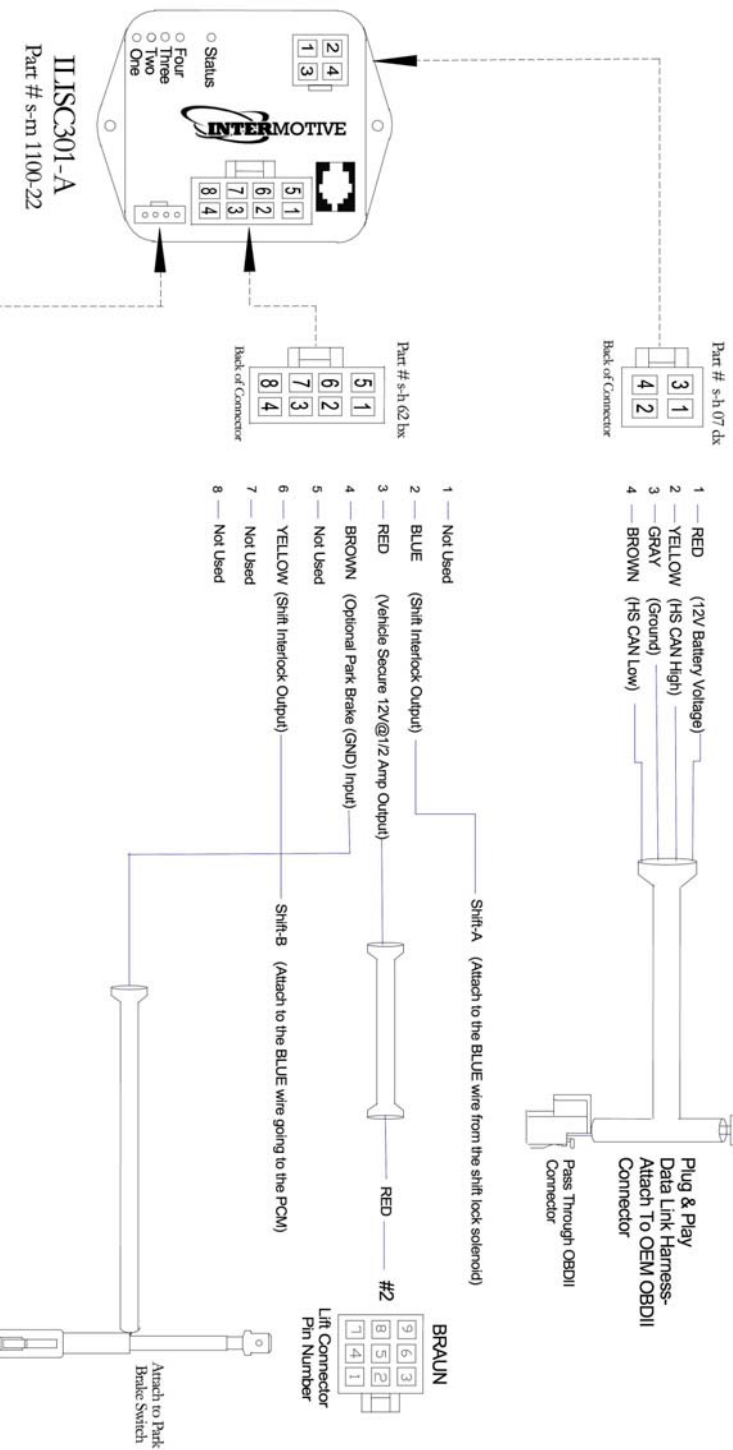
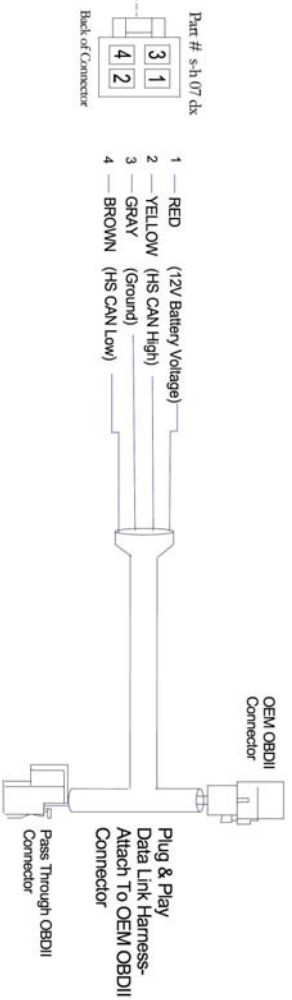
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ILISC301A-01-CAD

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



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ILISC301A-01-CAD