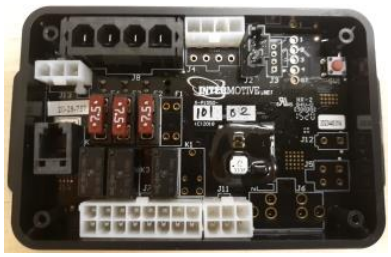
An ISO 9001:2015 Registered Company

ILISC900-B Shift Interlock (Manual Lift Door)
2019 - 2023 Mercedes Benz Sprinter



Introduction

The ILISC900 is a system for controlling wheelchair lift operation. Lift operation will only be allowed when the vehicle ignition power is off, the Parking Brake is applied, and the lift door is open.

The ILISC900 also will not allow the engine to be started if the lift is not fully stowed and Lift door is not closed.
When the lift door is opened, the ILISC900 LED panel will prove out (all 5 LED's will turn on for approximately 2 seconds). After prove out, only the lower LED's should remain illuminated. These LED's are backlit icons that will be illuminated anytime the module is not in "sleep" mode. When the wheelchair lift is stowed and ignition power is not present for 5 minutes, the ILISC900 will enter a low current "sleep" mode of operation. To wake up from "sleep" mode open any door or press unlock button on the key fob.

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.

CAUTION

All electronic products are susceptible to damage from Electrostatic Discharge or ESD. Ground yourself before handling or working with the module and harnessing by first touching chassis ground, such as the barrel of the cigarette lighter.

Installation Instructions

Disconnect vehicle battery before proceeding with installation.

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

A-ILISC900 Module

Remove the lower dash panel below the steering column area and find a suitable location to mount the module so that the module's 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.

Accessing the OBDII and Start/Stop Button Connectors

(The instructions below may differ depending on the specific trim level of the vehicle. All should be similar.)

1. Remove the center cup holder using a plastic trim removal tool.

2. Remove the 4 screws securing the underdash.

3. Remove the trim panel to the left of the headlight switch using a plastic trim removal tool. It will be necessary to remove the rubber seal from the door frame.

Accessing the OBDII and Start/Stop Button Connectors (Continued)

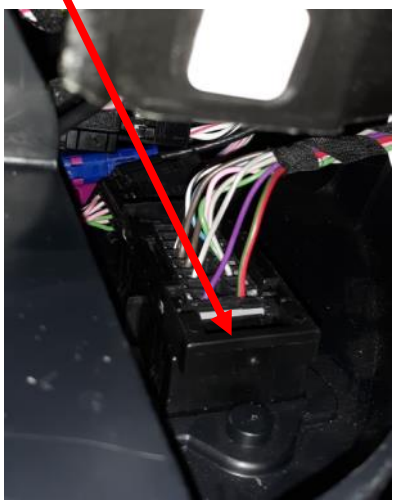
4. Remove the 2 screws securing the underdash.

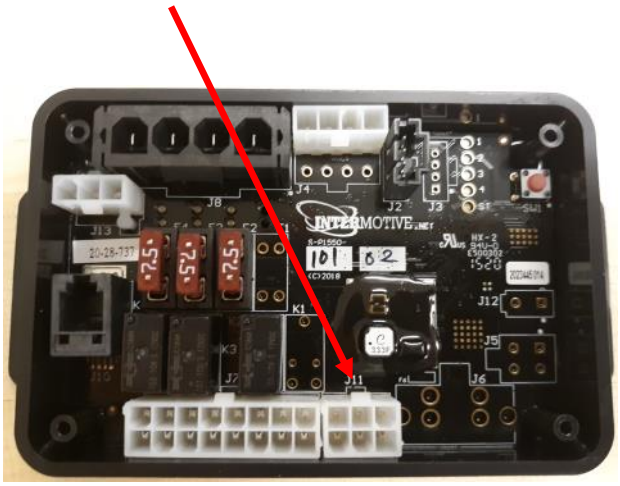
5. Remove the underdash using a plastic trim removal tool.

6. Remove the headlight switch assembly by pushing in on the 4 silver tabs on the back of the switch. Remove the connector from the back of the switch.

Data Link Harness Installation

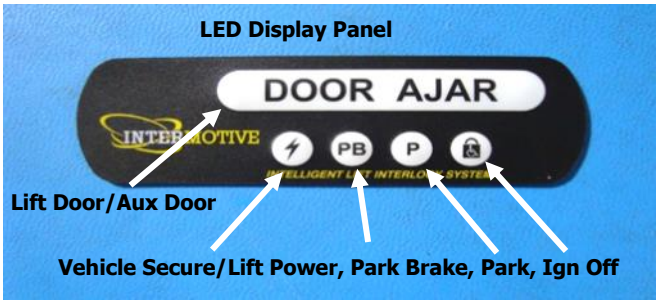
1. Locate the vehicle OBDII Data Link Connector, mounted below the lower left dash panel.
2. Remove the OBDII connector from the dash panel by sliding the lock tab forward.
3. Plug the Red connector from the ILISC900 Data Link Harness into the vehicle's OBDII connector. Ensure the connection is fully seated and secure with the supplied wire tie.
4. Mount the Black pass through connector from the ILISC900 Data Link Harness in the former location of the vehicle's OBDII connector and slide the locking tab to secure it.
5. Secure the A-ILISC900 Data Link harness so that it does not hang below the lower dash panel.
6. Plug the free end of the Data Link harness into the mating 6-pin connector on the A-ILISC900 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.

Start Stop Button Harness Installation

1. Remove the dash panels to get to the Start stop button (pages 2 and 3).
2. Find the Stop/Start harness shown in picture.
3. Cut the **Blue/Violet** wire so there is enough slack to work with.
4. Take the **Blue/White** wire in the four pin pigtail and solder and heat shrink it to the BCM side of the **Blue/Violet** wire.
5. Take the **Blue** wire in the four pin pigtail and solder and heat shrink it to the switch side of the **Blue/Violet** wire.
6. Cut the **Blue/Red** wire so there is enough slack to work with.
7. Take the **Green/White** wire in the four pin pigtail and solder and heat shrink it to the BCM side of the **Blue/Red** wire.
8. Take the **Green** wire in the four pin pigtail and solder and heat shrink it to the switch side of the **Blue/Red** wire.
9. Cut the **Brown/Black** wire so there is enough slack to work with.
10. Take the **Brown/White** wire in the four pin pigtail and solder and heat shrink it to the BCM side of the **Brown/Black** wire.
11. Take the **Brown** wire in the four pin pigtail and solder and heat shrink it to the switch side of the **Brown/Black** wire.
12. Plug the other side of the harness into the mating connectors on the A-ILISC900 module.

Stop/Start Pigtails

Lift Power Installation

The A-ILISC900 provides 2 ground side inputs and one 12V, 7.5 amp output.

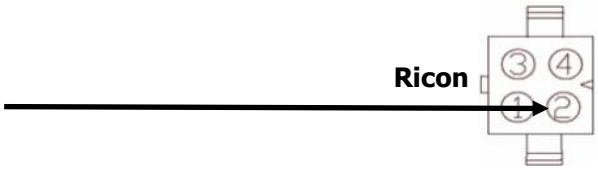
Refer to the A-ILISC900 CAD drawing as reference when reading these instructions.
Lengthen the following wires appropriately, using solder and heat shrink tubing or tape.

The blunt-cut harness provides for control connections to the vehicle as follows:

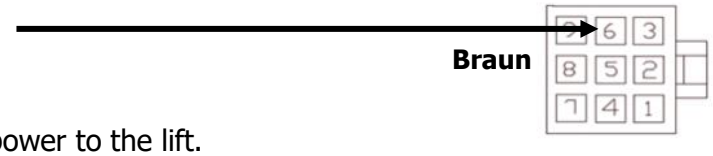
**** Optional Plug & Play Lift Harness ****

Orange – This output provides 12V @ 7.5 amp 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 pin into the correct cavity.

Ricon lifts**:** Connect Orange wire to pin #2 of the connector.



Braun lifts**:** Connect to pin #6 of the 9-pin connector.



Yellow - Connect this wire to external 12V to supply power to the lift.

Grey – Optional Discrete Lift Door Input other than the OEM sliding or OEM rear door. If a discrete door is used this input must "tap in" to the existing Lift Door switch wire.

Connect Mating connectors to ILISC900 module

Lift Harness

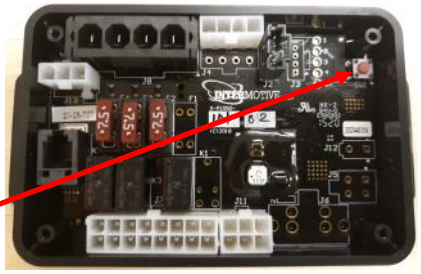
Ignition OFF sticker

Place ignition off sticker to the right of the start stop button.

Ensure all the harnesses are properly connected and routed. With all connections made, turn KEY to RUN position — the display panel should prove out with all LEDs lit for about 2 seconds.

Lift Door Identification

The module's default setting have the lift door as the rear door and door status on the vehicle communication network. If the vehicle has the OEM side and rear doors with built in switches, the module needs to know which of the two possible doors (side or rear) is defined to be the lift door. The following procedure must be performed in order to accomplish this:



1. Assure Side and Rear Doors are completely closed
2. Vehicle is in PARK with Key in the RUN position and engine OFF
3. Park Brake is applied
4. Put the module in diagnostic mode page 2 by pressing the test button twice. The status LED will flash twice then pause for a second and repeat.
5. The LEDs display which door is currently being used as a lift.
6. LED1: Discrete Input (Gray wire), LED2: Sliding Door, LED3 Rear Roor.
5. Pump the Service Brake pedal (3 times within 10 sec) until you see module LED4 turn on. LED4 indicates that the Lift Door can be changed.
6. Open the lift door; LED4 will turn off and the LEDs 1-3 will indicate which Lift Door is selected.
7. Verify the lift door is "known" by opening and closing it while watching the "Lift Door Open" LED on the display panel. If there is no indication or if the sense seems opposite to what it should be, the previous sequence must be repeated.

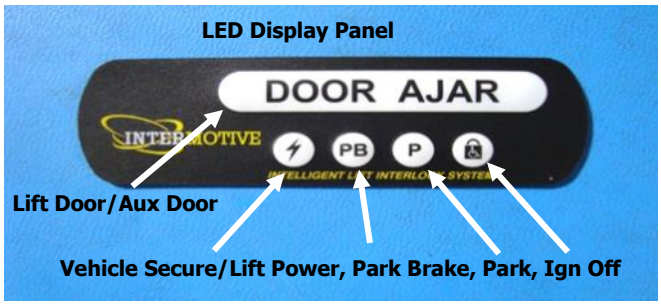
Post Installation / Check List

A-ILISC900 (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.
Note: When any door (other than the lift door) is open (CAN sensing) or an optional door input is installed at pin 4 and said door is OPEN, the large "Door Ajar" section will blink, however if the lift door is also open, it overrides any other door and illuminates the section in a steady manner.

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 (Engine off)



1. Verify that the Park, Park Brake, and the Igniton Off LED remain ON.
2. Attempt to deploy the lift. The lift must not deploy with the Lift Door closed. Next, open the lift door.
3. With Lift Door open, Park Brake set and transmission in Park, all 5 LEDs will be ON. Attempt to deploy the lift. Verify the lift deploys. Stow the lift.
4. With Lift Door open and transmission in Park, release Park Brake. Verify that the Park Brake (PB) and Vehicle Secure LEDs turn OFF, and attempt to deploy the lift. Verify the lift does not deploy.
5. Close the Lift Door and verify module goes to sleep after 5 min. The LEDs on the panel will turn off.
6. Open the Lift Door and verify module wakes up with display LED's proving out; then Park, Shift Lock, and Lift Door Open LEDs remain ON.

Diagnostics Using Module LEDs

The module has 5 on-board LEDs which are used to convey information about the operation of the module. In the normal mode all LEDs are OFF, but they come ON in different situations:

VIN Errors - If there is an error while getting the vehicle VIN during initial installation, LEDs 1-4 will scroll 2 times then another LED will turn on to ID the error as follows:

LED1 ON - Wrong Manufacture (Not Ford)
LED2 ON - Wrong chassis (Not a Transit)
LED3 ON - Wrong engine
LED4 ON - Wrong model year (Not model 2015-2018)
STATUS ON - Bogus VIN (e.g. all characters the same)
No LEDs ON - No VIN response

Status - One can put the module into a diagnostic mode where each LED represents a system status. The module is fully functional in this mode. To enter diagnostic mode, press the Red Test button on the module. There are a total of 4 pages of diagnostics and pressing the button will move though them.

	Page 1	Page 2	Page 3	Page 4
LED 1	Vehicle Secure conditions not met	Lift door = discrete	n/a	input 1 active (GND)
LED 2	All conditions met, but start button is not interrupted	Lift door = slider	Slider open	input 2 active (GND)
LED 3	n/a	Lift door = rear	Rear open	input 3 active (+5v)
LED 4	Vehicle Secure	pnr active	n/a	input 4 active (GND)

Leave in Vehicle
A-ILISC900-B Shift Interlock (Manual Lift Door) Operating Instructions
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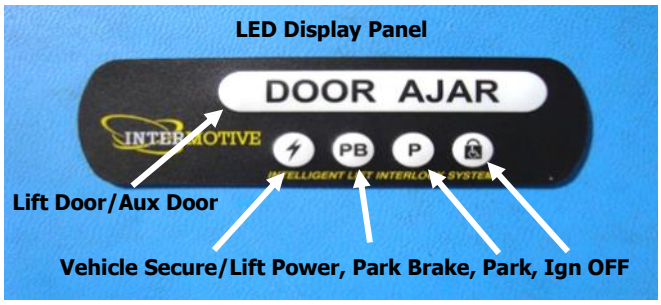
A-ILISC900 (Manual Lift Door)

The ILISC900 is a system for controlling wheelchair lift operation. Lift operation will only be allowed when all of the following conditions are met:

1. The vehicle ignition power is off.
2. The parking brake is applied.
3. The lift deploy switch is activated.

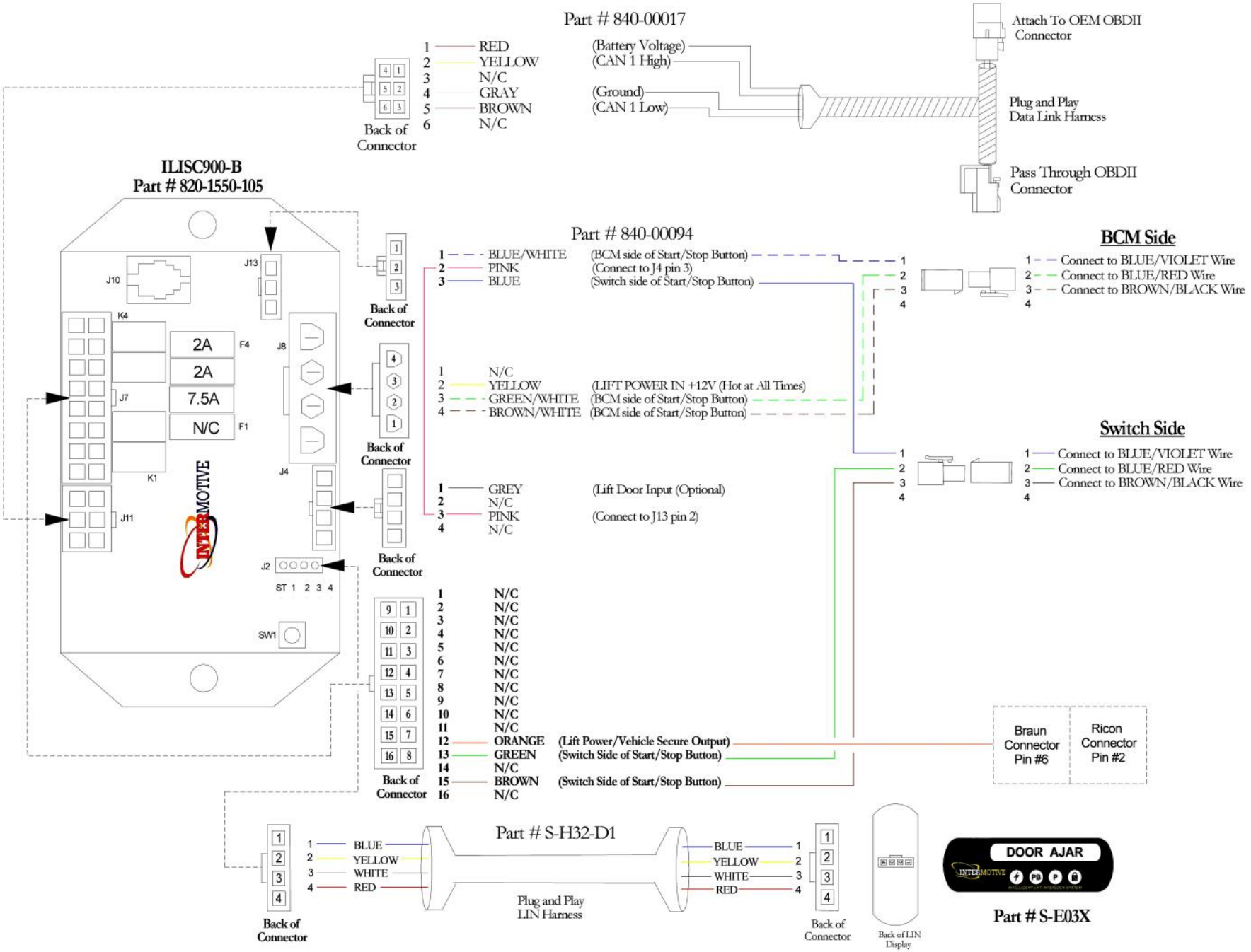
The ILISC900 also will not allow the engine to be started if the lift is not fully stowed.



1. When the vehicle is in "Park" the (P) LED will be ON.
2. When the Park Brake is applied, the (PB) LED will be ON.
3. When the Lift Door is open, the Lift Door LED will be ON. (Door Ajar LED on (optional display panel).
4. With the Ignition Off the Ign Off LED will be ON.
5. With the vehicle in Park, Park Brake applied, Ignition Off and Lift Door open, the Vehicle Secure LED will be ON, and the lift will be operational. **All** LEDs will be illuminated on either display panel. Verify the vehicle cannot be started by pressing the start/stop button.
6. Close Lift Door Verify that the Park, Park Brake, and the Ignition Off LED remain ON.
7. Attempt to deploy the lift. The lift must not deploy with the Lift Door closed. Next, open the lift door.
8. With Lift Door open, Park Brake set and Ignition Off, all 5 LEDs will be ON. Attempt to deploy the lift. Verify the lift deploys. Stow the lift.
9. With Lift Door open and transmission in Park, release Park Brake. Verify that the Park Brake (PB) and Vehicle Secure LEDs turn OFF, and attempt to deploy the lift. Verify the lift does not deploy.
10. Close the Lift Door and verify the vehicle can be started.
11. Place the ignition to Off and verify module goes to sleep after 5 min.
12. Open the Lift Door and verify module wakes up with display LED's proving out; then Park, Ign Off, and Lift Door Open LEDs remain ON.

Start/Stop Inhibit. If the Lift door is open and the ignition is OFF the module will not allow the vehicle to start. The lift door must be closed to start the vehicle.

Sleep Mode: When the lift door is closed and ignition power (Key) is turned OFF, the vehicle CAN communication traffic will stop after a delay. Around five minutes after this, the system will enter a low current "sleep" mode of operation with all LEDs OFF. To wake from "sleep" mode, turn the ignition on (key on) or open the lift door. **Note**: If the Lift Door is open and all conditions are met the module will keep the vehicle awake for 1 hour before going to sleep.
All display LEDs will turn ON for approximately 2 seconds as a "prove out". The backlit LEDs remain ON as long as the module is awake.



If the A-ILISC900 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.