

OWNERS MANUAL

InPower Model ITM125 Platform Lift Interlock System 2009 Through 2012 Ford E-Series Vehicles

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1. Introduction

This product is intended for installation in 2009 through 2012 Ford E-Series chassis with FMVSS compliant, public-use platform lifts manufactured by The Braun Corporation, Ricon Corporation or Maxon Mobility. If another type of lift is to be used, contact the lift manufacturer to determine compatibility.

This interlock system is designed to meet the requirements of FMVSS 403/404 and therefore must be installed in accordance with the lift manufacturer's instructions. The installer must be trained and skilled in installing FMVSS compliant lift systems. The installation must also comply with SAE (Society of Automotive Engineers) and Ford Motor Company electrical wiring procedures.

2. Product Description

The ITM125 interlock system consists of the following components:

1. ITM125 Control Module
2. DSP-ITM2 Remote Driver's Display
3. 7201.018B Chassis Wiring Harness
4. Mounting screws for Remote Driver's Display

The interlock system layout is shown on Page 3.

The Chassis Wiring Harness uses a 12-pin connector (P1) to plug into the interlock control module. This harness contains six blunt-cut 18 inch wires, and two "plug and play" tee-cables that connect to the parking brake switch and shift lock solenoid (located under the dash).

The remote driver's LED status display has indicators for Park, Lift Enabled, Shifter Locked, Park Brake Set and Door Ajar. The door ajar indicator is a large two inch block that flashes if the lift door or driver's door is open or ajar.

3. Installation Procedures

3.1 Safety Precautions



WARNING

This interlock product has been designed and manufactured to meet the intended application requirements and specifications. Any modifications to the product or to the installation procedure can be dangerous and will void InPower's warranty.

- Read and understand the instructions in this manual and other manuals before starting the installation.
- Make sure that the vehicle battery power is disconnected during installation of the Interlock and lift systems.
- Reconnect the battery when the system installation is complete.
- Wear appropriate safety equipment, such as protective eyeglasses, face shield and clothing when installing equipment and handling the battery.
- Be careful when working near a battery. Make sure that the area is well ventilated and that there are no flames near the battery. Never lay objects on the battery that can short the terminals together. If battery acid gets in your eyes, immediately seek first aid. If acid gets on your skin, immediately wash it off with soap and water.

3.2 Getting Started

This manual provides instructions for installing the InPower Model ITM125 Interlock System in a 2009 - 2012 Ford E-Series chassis with a FMVSS compliant, public use (commercial) platform lift. It is important that you follow these instructions carefully and contact InPower if you need assistance or more information. Note that product technical documents are available on InPower's web site.



WARNING

This interlock system installation requires additional parts and materials that are not supplied with the interlock product. Identify all required parts before starting the installation and ensure that these items are the correct type and quality.

Inspect the interlock product and all other components for damage before starting the installation. Do not perform the installation if any problems exist.

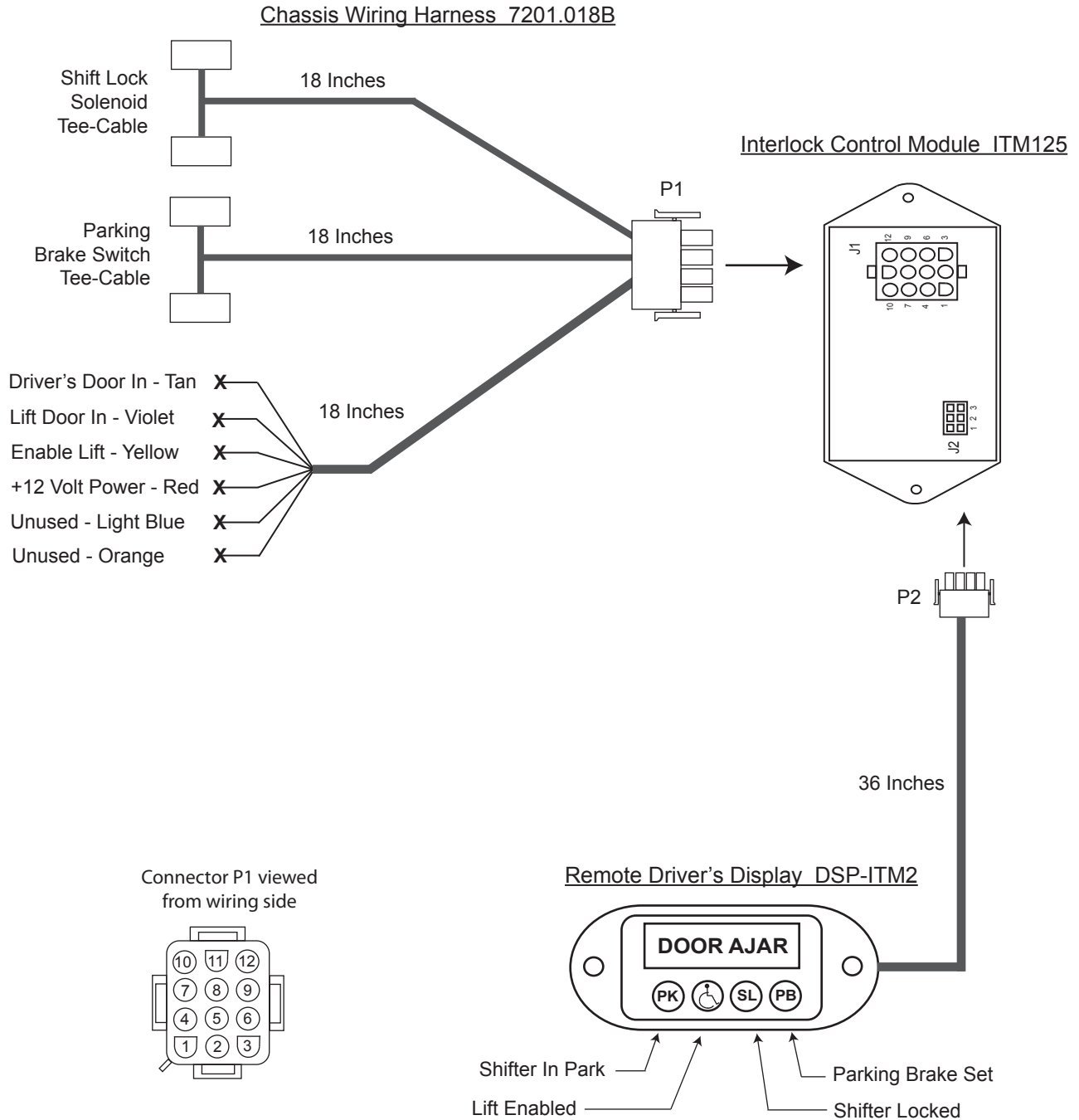
Determine the type of interlock interface required for the platform lift. This interlock system provides a +12 volt @ 1.8 amps Enable Lift output to allow the platform lift to be operated. If the lift system is not compatible with this interface signal you must take the necessary actions to adapt the lift system interface to the interlock system's interface. Refer to the lift manufacturer's installation instructions for further details.

The recommended mounting location for the ITM125 interlock module is under the dash, to the left of the steering column, due to the proximity of the wiring connections. **The unit must not be located in the engine compartment or any location that is not protected from the environment.**

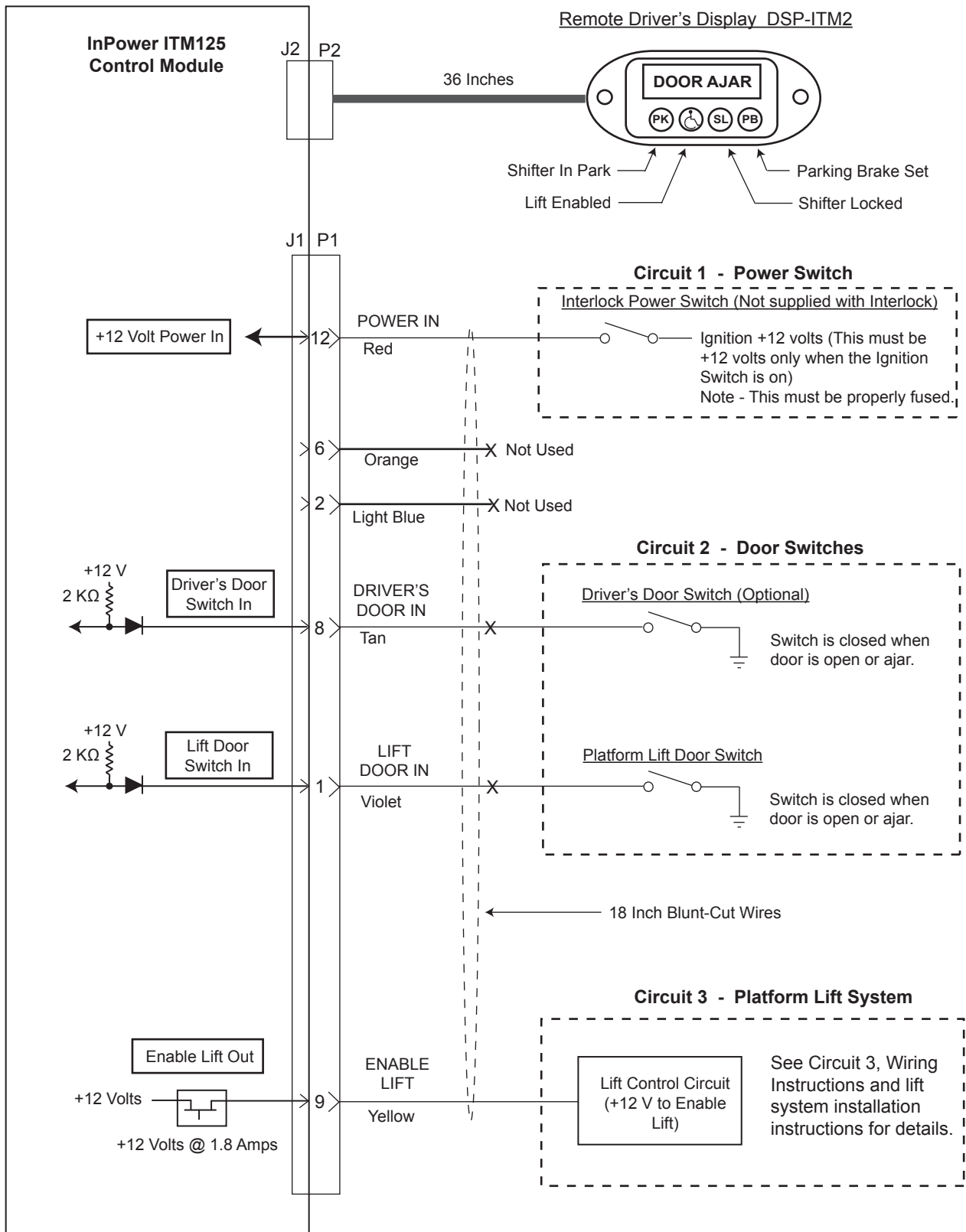
4. System Circuit Diagrams

The following pages show the individual circuits that need to be wired. Refer to Section 5. Wiring Instructions for details on how to wire these circuits.

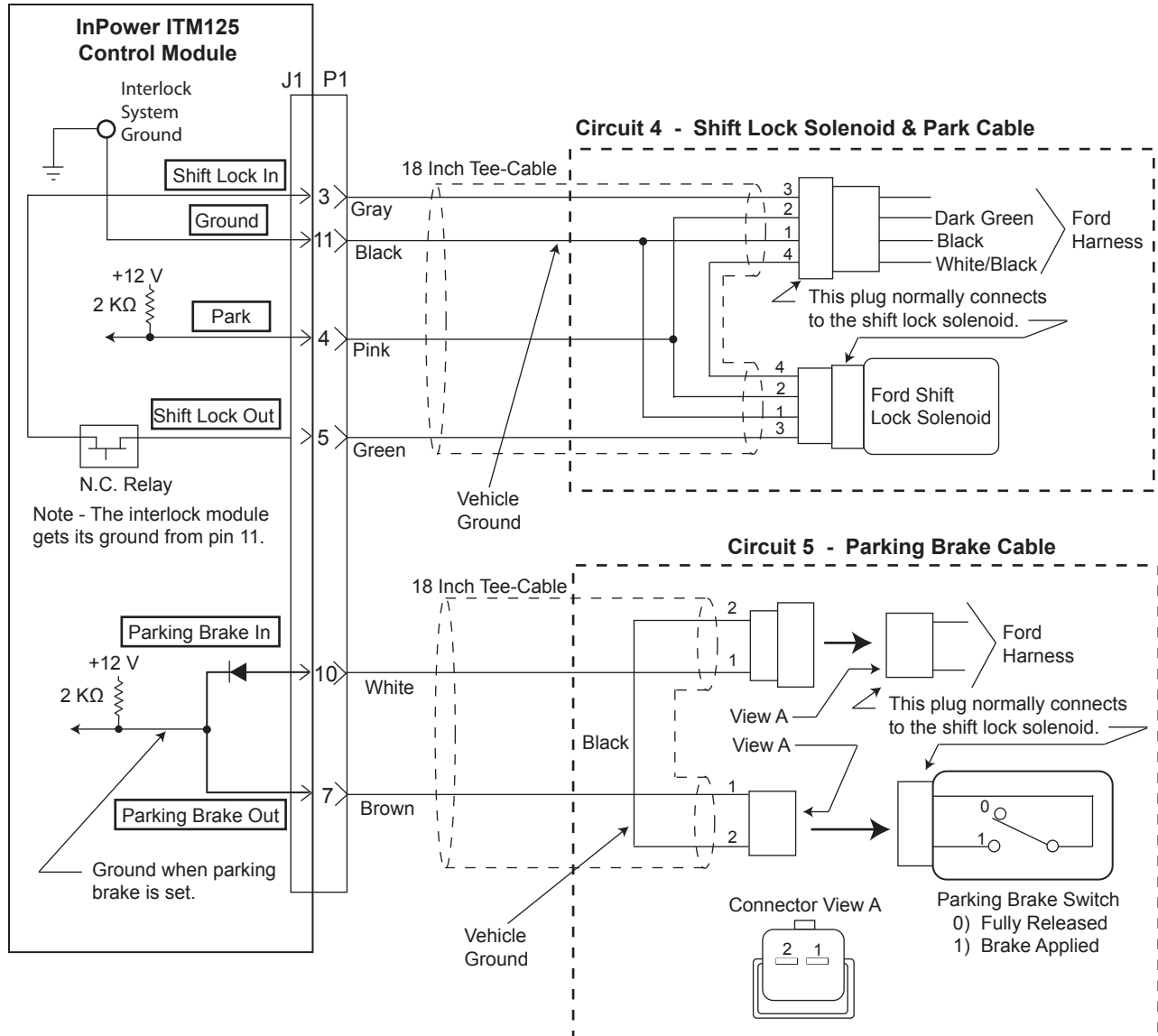
Interlock System Layout



4. System Circuit Diagrams (Cont'd)



4. System Circuit Diagrams (Cont'd)



5. Wiring Instructions



WARNING

Make sure that the vehicle battery power is disconnected during installation of the interlock and lift system. Reconnect the battery when the system installation is complete.

5. Wiring Instructions (Cont'd)

Circuit 1 Wiring (Interlock System Power Switch)

The installer must supply a two-position On-Off Interlock power switch. This switch may be mounted on the dash at a convenient location. NOTE - An alternative method is to wire the interlock module power input directly to a +12 volt fused power source that is powered by the Ignition Switch, and delete the Interlock Power Switch.

1. Mount the Interlock Power Switch.
2. Wire the "common" side of the Power On/Off switch to a properly fused +12 volt ignition switch source (powered when the ignition switch is On). Refer to the Ford documentation for location of customer access ignition circuits.
3. Wire the "On" position side of the switch to the Red harness wire that goes to pin 12 on the interlock module.
4. When complete, you should have +12 volt fused power on the interlock module pin 12 when the ignition switch is On and the Interlock Power Switch is On.

NOTE - Do not power the interlock system directly from the Battery or any power source that is not fused and turned off with the ignition switch.

Circuit 2 (Lift Door Switch and Optional Driver's Door Switch)

The interlock system contains two inputs for vehicle door switches. These switches are activated when a door is ajar or open, applying a ground to the interlock system inputs. There are two methods of obtaining the door switch signals. The first method is to cut and splice into the Ford door switch wires. This can be done at the door switches or where the switch wires enter the Ford Smart Junction Box (located near the parking brake). Refer to Ford documentation for details. The second method is to install a new door switch dedicated to the interlock system. Note that the lift door switch signal is used for the interlock system's logic and to operate the driver's display flashing Door Ajar indicator. The driver's door switch signal is only used to activate the Door Ajar flashing indicator on the driver's display. Ensure that these switch signals apply a ground to the interlock input when the door is open/ajar.

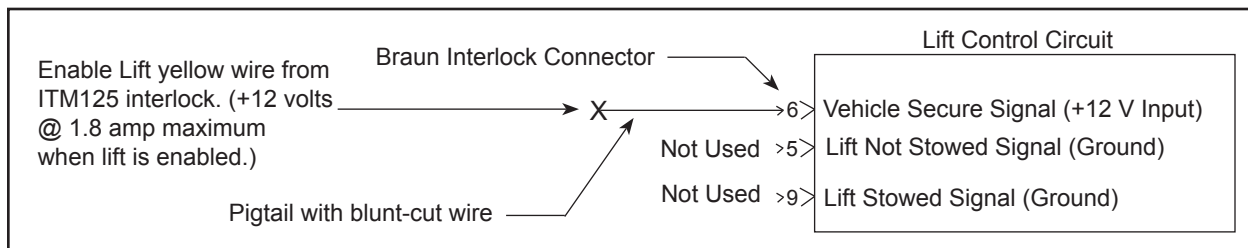
Circuit 3 Wiring (Platform Lift)

Review the platform lift installation manual and determine how to wire the ITM125 interlock system to the platform lift's interlock interface. Note that the Enable Lift is a +12 volt OUTPUT from the interlock system and an INPUT to the lift system. When at +12 volts the platform lift can be operated. Install a wire from the platform lift's Enable Lift input to the yellow blunt-cut wire in the ITM-125 interlock chassis wiring harness.

Note - The ITM125 interlock will supply a +12 volt @ 1.8 amp output to allow operation of the lift. Verify that this is the correct polarity for the platform lift.

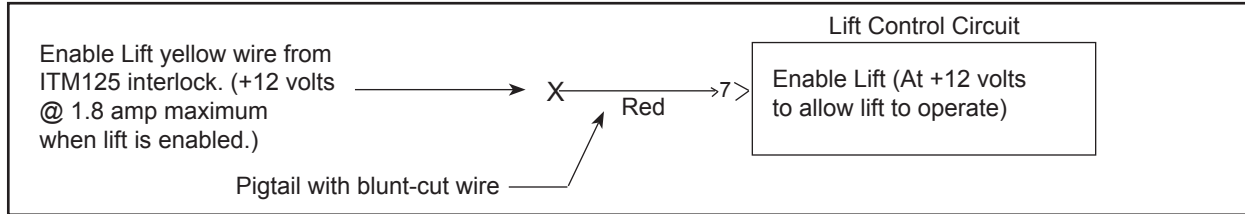
The following diagrams show the wiring interface of typical platform lift systems. Be sure to verify the exact wiring interface for the lift system that you have.

Braun FMVSS Platform Lift

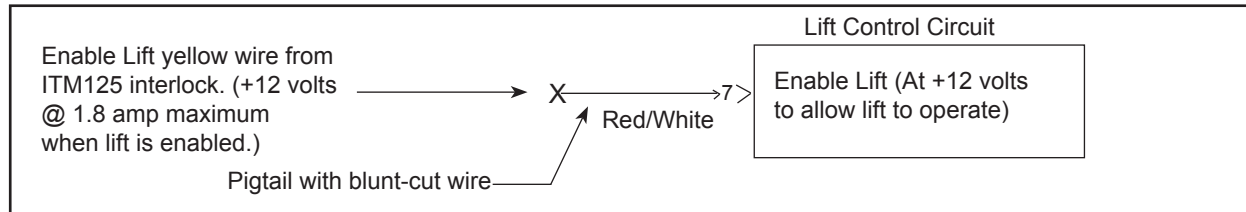


5. Wiring Instructions (Cont'd)

Ricon Series S Platform Lift



Maxon Platform Lift



Circuit 4 Wiring (Shift Lock Solenoid Cable)

1. Locate the shift lock solenoid that is on the bottom left of the steering column behind the dash panel. It has a four-wire harness plugged into it.
2. Remove the harness plug from the solenoid assembly. **DO NOT PULL ON THE WIRES.**
3. Install the tee-cable supplied with the interlock between the solenoid connector and the harness plug that you removed from the solenoid. When complete, the interlock tee-cable will be connected to the Ford harness plug and the shift lock solenoid as shown in Circuit #4 diagram.

Circuit 5 Wiring (Parking Brake Switch Cable)

1. Locate the Parking Brake Switch connector C2015 that is near the parking brake pedal assembly. It has a two-wire harness plugged into it.
2. Remove the harness plug from the switch connector.
3. Install the tee-cable supplied with the interlock wiring harness between the parking brake switch connector and the harness plug that you removed from the parking brake switch connector.
4. When complete, the interlock tee-connector will be connected to the Ford harness plug and to the parking brake switch connector as shown in Circuit # 5 diagram.

Remote Driver's LED Display

NOTE - Consult Ford documentation before drilling to verify the location of all critical components and harnesses.

The LED display includes a 36 inch cable that plugs into the connector on the rear center of the display. Mount the display in a suitable location on the dash (usually to the right of the steering wheel). To mount the display drill a hole in the dash so that the cable can be routed through and behind the dash. Attach the display with the two mounting screws provided, route the cable to the interlock control module, and insert the cable plug into connector J2.

6. Interlock System Operation

The interlock system is powered when the Ignition Switch is on. The following is the interlock system sequence of operation:

- Step 1 - Ignition switch on and engine running.
- Step 2 - Press service brake and place shifter in Park.
- Step 3 - Set parking brake.
 - Shift Lock will activate
- Step 4 - Open lift door.
 - The Door Ajar indicator will activate
 - Lift Enable will activate allowing operation of platform lift.
- Step 5 - The platform lift may now be operated (Refer to the platform lift operating instructions).
Note - During the Lift Enable sequence, if the parking brake is released the Lift Enable will be deactivated, preventing lift operation.
- Step 6 - When the lift cycle is completed return the lift to its fully stowed position.
- Step 7 - Close the lift door.
- Step 8 - Release parking brake. When released, the shift lock will be automatically released.
- Step 9 - The cycle is now complete and the vehicle can be taken out of Park and driven.

Notes:

1. The Door Ajar indicator on the driver's LED display will flash when the lift door or driver's door is open/ajar (not fully closed).
3. The lift door switch is used by the interlock systems logic as well as to activate the Door Ajar indicator. The driver's door switch is only used to activate the Door Ajar indicator.

7. System Troubleshooting

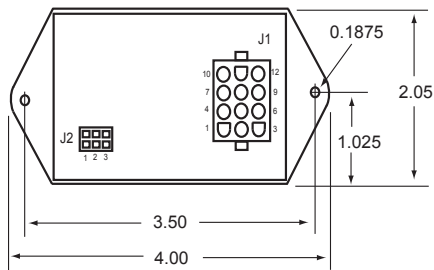
If there is a problem with system operation, there is a very high probability that the control module has: A) either lost its ground or +12 volt power source, or B) that one or more of its inputs are not being actuated by the remote switches (e.g., Lift Door Switch). Most troubles are related to wiring problems, or switches either failing or becoming out of adjustment.

Troubleshooting Procedure:

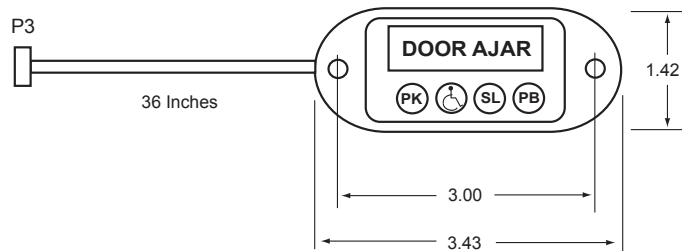
- Step 1 - Determine if the interlock control module is powered. If the LED indicators on the remote driver's display are illuminated you have power. If none are illuminated check the +12 volt power input on pin 12 of connector P1.
- Step 2 - If the ground and power are correct, first reset the interlock system by turning off its power (Ignition Switch off). Then step through the operating sequence as described in Section 6, Interlock System Operation, and pay close attention to the LED indicators on the remote driver's display module.

8. Mechanical Drawings

Interlock Control Module (ITM125)



Remote Driver's Display (DSP-ITM2)



9. Reference Information

9.1 Company Contacts

Ford Motor Company
Truck Body Builder Advisory Service
Product Development Center
MD 410
PO Box 2053
Dearborn, MI 48121-2053
1-877-840-4338
www.fleet.ford.com/truckbbas/index.htm
bbasqa@ford.com

Ricon Corporation
7900 Nelson Road
Panorama City, CA 91402
(818) 267-3038
(800) 322-2884
www.riconcorp.com

The Braun Corporation
631 West 11th Street
Winamac, IN 46966
(574) 946-6153
(800) 946-6158
www.braunlift.com

Maxon Lift Corp.
11921 Slauson Avenue
Sante Fe Springs, CA 90670
(562) 464-0099
(800) 227-4116
www.maxonlift.com

9.2 Required Parts Not Supplied with ITM125 Interlock System

1. Power switch and fuse. See page 4 , Circuit 1.
2. Lift door switch and driver's door switch. (See page 3, Circuit #3)
3. Miscellaneous wire, mounting hardware, wire tie wraps, wire loom.