



Commercial Lift Interlock (LOCK503-A) Installation Instructions

Ford Econoline 2009-2010

It is not necessary to cut any Ford wires during the installation of the LOCK503-A wire harnesses. Always disconnect the battery before installing any electrical devices. *It is imperative that each harness be installed into the correct module connector, or damage to the module will result. The connections are color coded to assist with proper installation.*

Identify each harness connector before installation into the LOCK503-A module.

- **Do not** simply match up the number of pins in a harness connector with the number of pins in a module connector receptacle. **There are several connectors on the harness and module that if swapped, may cause permanent module or vehicle damage.**
- The harness will have a colored tape on the module connector end that will identify which module receptacle to plug into. The color of the tape on the harness must be matched up to the color of the lettering that identifies the connector receptacles on the module.

DATA LINK HARNESS

Locate the vehicle **Data Link Connector**. It will be mounted below the lower dash panel on the driver's side. (See photo). Remove the 2 mounting screws for the Data Link Connector. Plug the red connector from the **LOCK503-A Data Link Harness** into the vehicle **Data Link Connector**. Ensure the connection is fully seated and secure with the supplied wire tie. Mount the black connector from the **LOCK503-A Data Link Harness** where the vehicle Data Link Connector originally was. Secure the Data Link Harness such that it does not hang below the lower dash panel.



WHITE 6 PIN DATA LINK 1

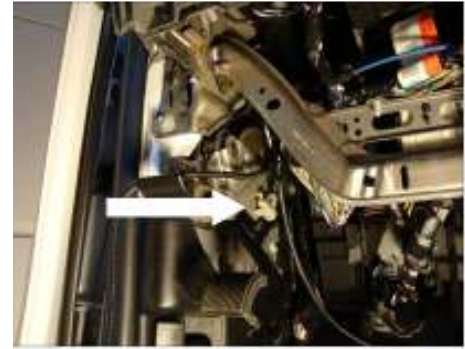
Plug the **White 6 pin Data Link 1 (Red Tape)** connector from the Data Link Harness into the **“Data Link 1” (Red Connection)** on the Control Module.

BLACK 6 PIN DATA LINK 2

Plug the **Black 6 pin Data Link 2 (Black Tape)** connector from the Data Link Harness into the **“Data Link 2”** connector on the Control Module.

PARKING BRAKE CIRCUIT

Disconnect the black Ford connector from the Parking Brake switch. Plug the female side of the connector from the **Park Brake Harness** to the parking brake switch. Install the male side of the connector on the **Park Brake Harness** to the female connector in the Ford harness. Plug the **White 4 pin Park Brake (Orange Tape)** connector from the **Park Brake Harness** into the “Park Brake” (Orange Connection) on the Control Module.



LIFT HARNESS (Wire must be added to reach lift.)

This harness contains the **Battery Power, Vehicle Secure, and Lift Door Switch Circuits.**

- **Battery Power Circuit** – Connect the **Yellow** wire from **pin # 3** of the **white 6-pin LIFT connector** to a battery power source (Hot at all times). **Note: This connection must be to a battery power source (Hot at all times), or the lift threshold warning will not operate with the ignition off.**
- **Vehicle Secure Circuit** – The lift must be power-side switched. Connect the **Orange** wire (Vehicle Secure) from **pin # 2** of the **white 6-pin LIFT connector** to the lift power relay. **The Vehicle Secure circuit must only activate the lift power relay/solenoid and must not draw more than 8.0 Amps.**

Make all open-ended wire connections by stripping the insulation, soldering, and taping!

- **Lift Door Circuit** – Locate the lift door switch circuit. Connect the **Gray** wire from **pin # 6** of the **white 6-pin LIFT connector** to this circuit. **Note: the door switch must provide a ground with the door open. A switch that provides power with the door open will not operate correctly.**

Plug the **White 6 pin LIFT connector (Yellow Tape)** from the **Lift Harness** into the “LIFT” (Yellow Connection) on the Control Module.

IGNITION POWER HARNESS

Connect the **RED** wire from **Pin #4** of the **Ignition Power Harness** to **a fused, hot in run and start, ignition power source.** **VERY IMPORTANT! Hot in run and start only!**

Plug the **White 6 pin Ignition Power (Blue Tape)** connector from the **Ignition Power Harness** into the “Ign Power” (Blue Connection) on the Control Module.

LOCK503-A Module Suggested Mounting – 2009 Ford

- **Mount the LOCK503-A module above the foam knee bolster within area defined by white line.**
- **Secure the control module using 2-sided foam tape.**
- **Verify that wires are routed such that the tilt steering column will not contact the wires in the full down position.**
- **When installing the harness, leave several inches of take out, such that the lower dash can be removed if necessary.**
- **Reconnect the battery.**
- **Check for proper operation (see Post-Installation Instructions).**





An ISO 9001:2008 Registered Company

Commercial Lift Interlock - (LOCK503-A) Post Installation Check List

The following installation check must be performed after installation of the InterMotive LOCK503-A 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
 - Park brake set
 - Transmission in park
 - Lift access door closed
1. Turn on the ignition. Attempt to deploy the lift. The lift must not deploy.
 2. Release the park brake and open the lift access door. Attempt to deploy the lift. The lift must not deploy.
 3. Attempt to shift the transmission out of park. The transmission shift lever must not be able to shift.
 4. Set the park brake. Attempt to deploy the lift. The lift should deploy.
 5. With the lift deployed, attempt to shift the transmission out of park. The transmission shift lever must not be able to shift.
 6. Stow the lift and close the lift access door.
 7. Turn off ignition. Wait approximately 5 minutes for the module to enter “sleep mode.”
 8. Open the lift access door. The lift should be able to deploy. Deploy the lift.
 9. Stow the lift and close the lift access door. Installation is complete.

Operating Instructions

The LOCK503-A is a microprocessor driven system for controlling wheelchair lift operation. Lift operation will only be allowed when all of the following conditions are met:

1. The vehicle is in “Park”.
2. The parking brake is applied.
3. The lift door is open.

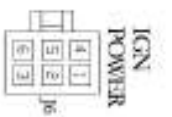
The LOCK503-A also will not allow the vehicle to be shifted out of park if the lift door is open or the parking brake is engaged.

The LOCK503-A will operate with the vehicle ignition on or off. When the lift door is closed and ignition power is not present for 5 minutes, the LOCK503-A will enter a low current “sleep” mode of operation. To wake up from “sleep” mode, the ignition must be turned on or the lift door must be opened.

A B C D E F G H I J K L M N O P Q R S T U

LOCK 503-A

DATE :	REVISIONS
CHANGE :	



4 - RED (Attach to Ignition Power)

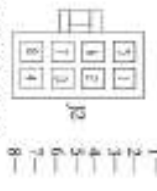


3 - BROWN (Park Brake Input)

Back of connector

(Attach to Park Brake Switch)

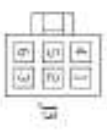
LIFT



(Not Used)

Back of connector

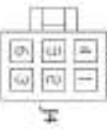
LIFT



1 - OPEN (Not Used)
 2 - YELLOW (Power) (Fused Battery Power Here At All Times)
 3 - ORANGE (Vehicle Speed) (Attach to Lift Relay)
 4 - GREEN (Not Used)
 5 - OPEN (Not Used)
 6 - GRAY (Lift Door) (Attach to Lift Door Switch)

Back of connector

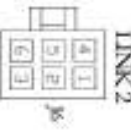
DATA LINK 1



1 - RED (Battery Voltage)
 2 - GREEN (Not Used)
 3 - YELLOW (Front CAN High)
 4 - GRAY (Signal Ground)
 5 - OPEN (Not Used)
 6 - BROWN (Front CAN Low)

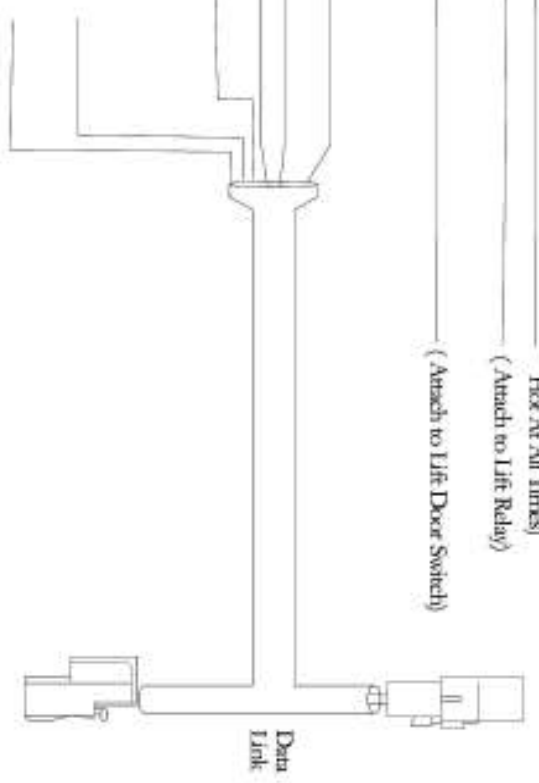
Back of connector

DATA LINK 2



1 - OPEN (Not Used)
 2 - GREEN (Not Used)
 3 - GREEN (Front CAN High)
 4 - OPEN (Not Used)
 5 - OPEN (Not Used)
 6 - BLUE (Front CAN Low)

Back of connector



LOCK 503-A

PRODUCT :	DRAWN BY :	BRUCE HODGE	PART NO. :	LOCK503-A
	DATE DRAWN :	11/5/08	CHECK BY :	Ken Quimby
			DATE CHECKED :	11/20/08