

OWNERS MANUAL

ITM-FT Ford Transit Platform Lift Interlock System



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1. Introduction

This system is intended for installation in Ford Transit 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.

The 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

InPower's Model ITM-FT platform lift interlock system consists of a control module with integral driver's status display and a chassis wiring harness (See Interlock System Diagram on Page 3). The interlock's control/display module is designed to mount on the dash with its wiring harness routed through the dash. The harness contains two T-cables that connect to the Shift Lock Solenoid and Data/Power Cable Connection.

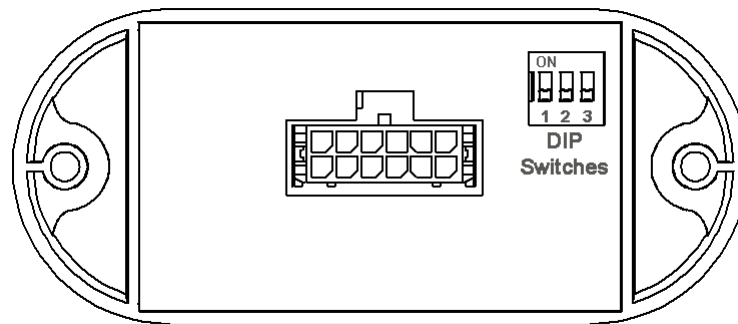
The Chassis Wiring Harness uses a 12-pin connector (P1) to plug into the interlock control module. This harness contains three blunt cut 12 inch wires of which one provides the lift Enable 12V, and the two others (GND True) to be used in Cut-Away Chassis (Lift Door Open, and Remote Door Open), one "plug and play" T-cable that connects to the shiftlock solenoid, and another T-cable that connect to the Data Cable

Connection on the Steering Column Control Module SCCM. This Data Cable connection provides the Park Brake Status, Shifter Position, and Door Open/Closed Status.

There 3 DIP Switches on the rear of the unit that control operation. The Default Operation is with all switches OFF

- S1: OFF - Lift on Side Door
ON - Lift on Rear Door
- S2: OFF - Lift Door Locks Shifter to avoid Rolloff
ON - All Doors Lock Shifter
- S3: OFF - Only Lift Door Flashes the DOOR AJAR
ON - All Doors Flash the DOOR AJAR

NOTE: These DIP Switches should be set prior to mounting the Unit since they are located on the rear of the assembly.



Bottom View of ITM-FT

The ITM-FT interlock systems provide inputs from the platform lift door switch and gathers status from other OEM door switches via the Ford Data Bus. On a Cutaway Chassis, these doors are the Lift and Non-Lift User Installed doors.

Door Ajar Operation: When Door Status switches are activated (doors are not fully closed) the DOOR AJAR display indicator will flash (Dependent on DIP SW S3). When the Lift Door Switch is activated (door not fully closed) the DOOR AJAR display indicator will flash. If Dip SW3 is set to ON, any Door being open will Flash the DOOR AJAR indicator -this includes OEM and the Cut-Away Chassis Remote, Customer Installed type Doors.

Park Brake Operation/Shifter Operation

Mechanical Park Brake: If the vehicle has a Mechanical Park Brake (A Dually Chassis) then when the Park Brake is "Set" then the Shift Lock will be "Set". This interlock will avoid inadvertant "Drive Off".

Electronic Park Brake: if the chassis has an Electric Park Brake, the interlock will not set the shift lock until the lift door is open. One reason why the Interlock doesn't control the Shiftlock with an Electronic Park Brake, is the Auto Release function of the Park Brake with the shift out of Park.

Remote Door Inputs (Cutaway User Installed Doors): There are two optional other inputs available for Cutaway Chassis (User Installed Doors) both Ground True (GND = Open).

- **IN1 P1**-Pin3 Remote Not Lift Door (Use with Cutaway Only - User Installed Door) Gnd True-Open
- **IN2 P1**-Pin4 Remote Lift Door (Use with Cutaway Only - User Installed Door) Gnd True-Open

Warning: These 2 Remote Door Inputs are ONLY to be used with User Installed Doors (in a Cutaway Chassis). The Door switches for these 2 Switches are NOT to be wired into the OEM wiring since that will cause an error. The OEM interface uses switches that are GND when the Doors are Closed, whereas this interface for these two expect GND when the Doors are Open.

Operational Note: The OEM Door switches are read by the ITM-FT via the Data Bus (these are interrogated first), and then these two IN1 and IN2 interfaces are interrogated.

It should be noted that the ITM-FT can be operated with the Ignition ON or OFF.

Installation Notes:

Location: The recommended mounting location for the ITM-FT interlock control module is in the center console below the shifter, 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.**

DIP Switch Setting: Selection needs to be made **prior** to mounting Display (DIP Switches are on the Rear of the Unit)

Power and Ground Connection: The ITM-FT receives +12Vdc power from the P4-Pin 1 of the Data Bus T-harness and comes from the Group 2 Red 12V Battery wire. The ITM-FT gets its Ground from the Black Wire, Group 2 Data Bus T-Harness, P4-Pin14.

The feed for the Battery Red Wire is powered by Fuse F13 on BCM (Rated at 7.5 Amps). However the ITM-FT only draws 2 Amps Maximum.

ENABLE: 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.

3. System Operation

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

Step 1 - Set the parking brake.

- The Shift Lock will activate (if Manual Park Brake Chassis)
- SL Indicator will illuminate
- PK Indicator will illuminate
- PB Indicator will illuminate

Step 2 - Open lift door.

- The display Door Ajar indicator will flash
- The Lift Enable will activate, allowing operation of platform lift.
- The Shift Lock will Set.

Step 3 - The platform lift may now be operated (Refer to the platform lift operating instructions).

- During the Lift Enable sequence,

Note: For lift operation, the Parking Brake must be engaged and the Lift Door must be open.

Step 4 - When the lift cycle is completed, return the lift to its fully stowed position.

Step 5 - Close the lift door.

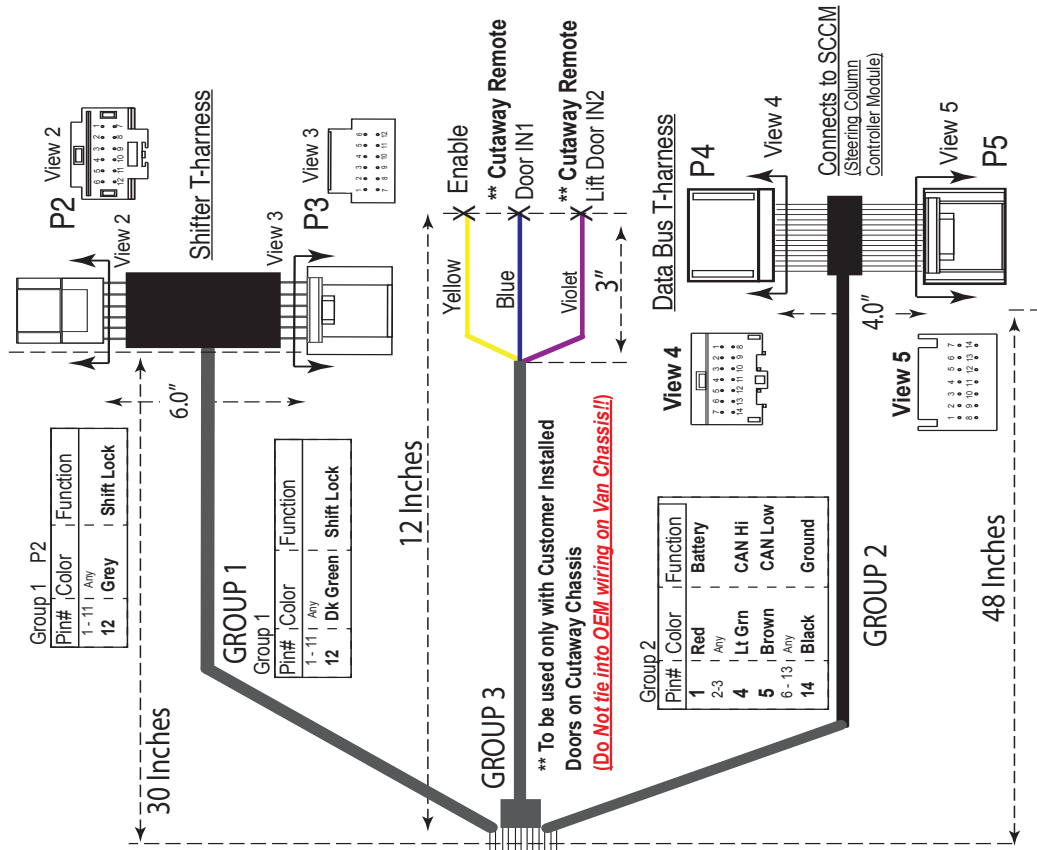
- The Lift Enable is now deactivated.

Step 6 - Release parking brake.

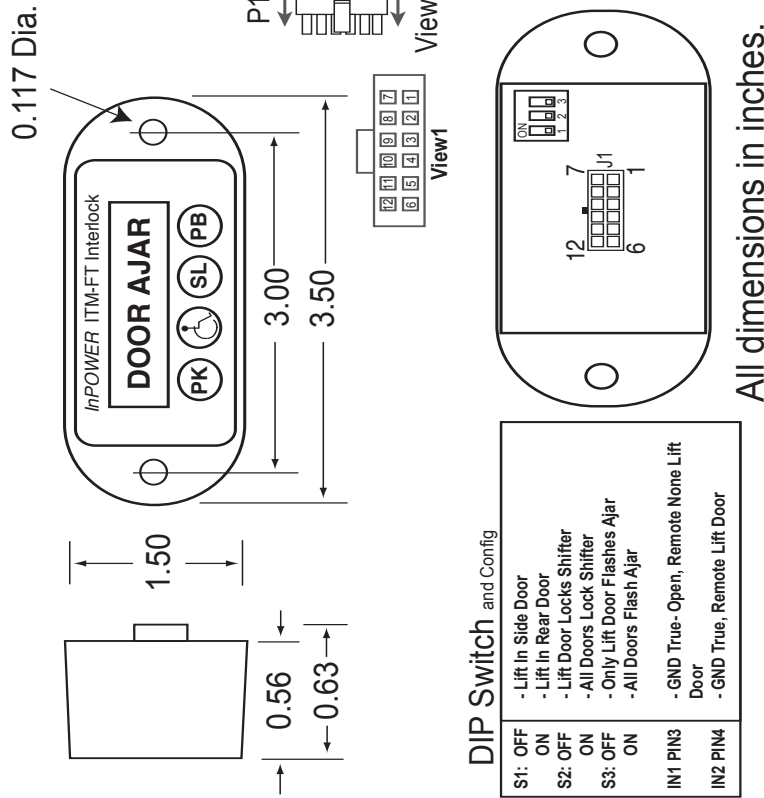
- When released, the interlock will release the shift lock (if a Manual Park Brake).

Step 7 - The cycle is now complete and the vehicle can be taken out of Park and driven.

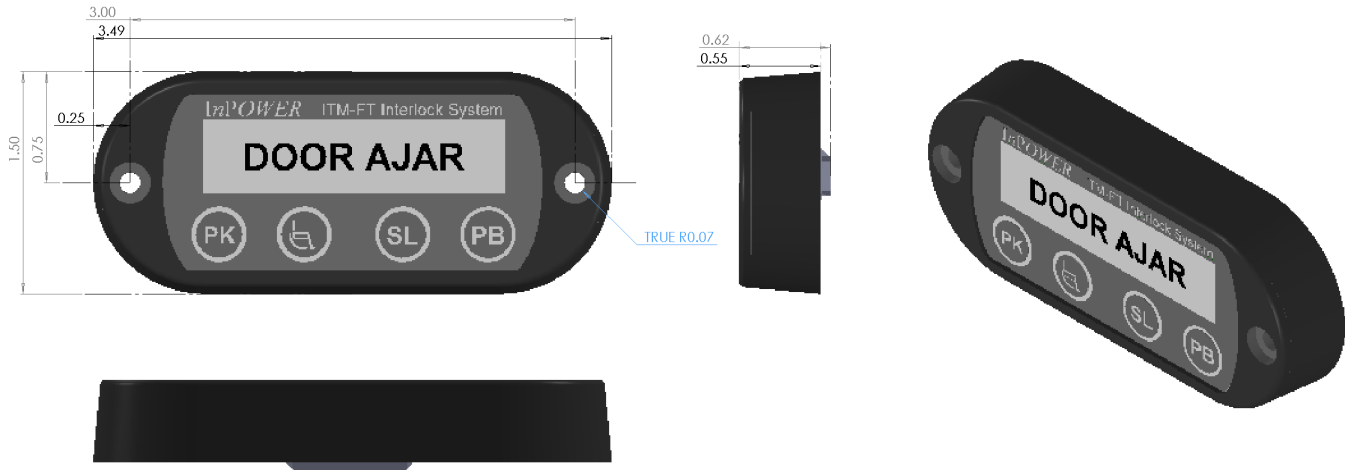
4.0 System Diagram



Interlock Control Module ITM-FT (Ford Transit) System Diagram



5.0 Mechanical



6.0 Installation



Figure 1. Steering column



Figure 2. Steering column with panel removed.



Figure 3. Steering Column Cover Release



Figure 4. SCCM Connector



Figure 5. SCCM Connector T-Harness Data Bus



Figure 6 Cup Holder Center Console



Figure 7. Removed to Access Shift Lock Connector

6.0 Installation Continued

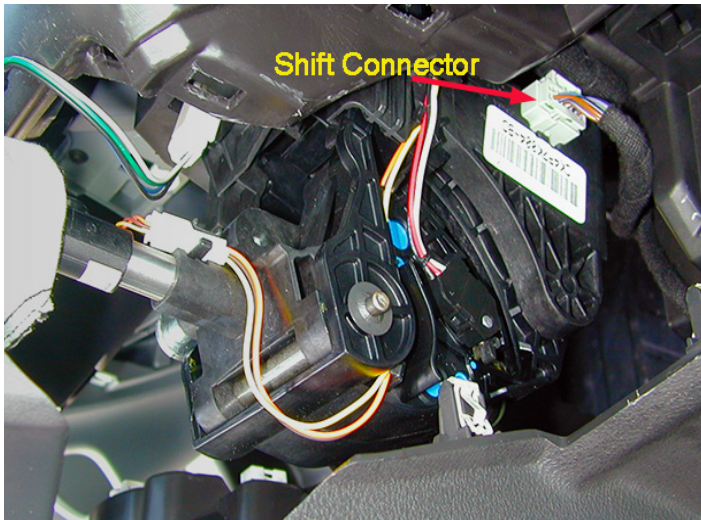


Figure 8 Shift Lock Connector

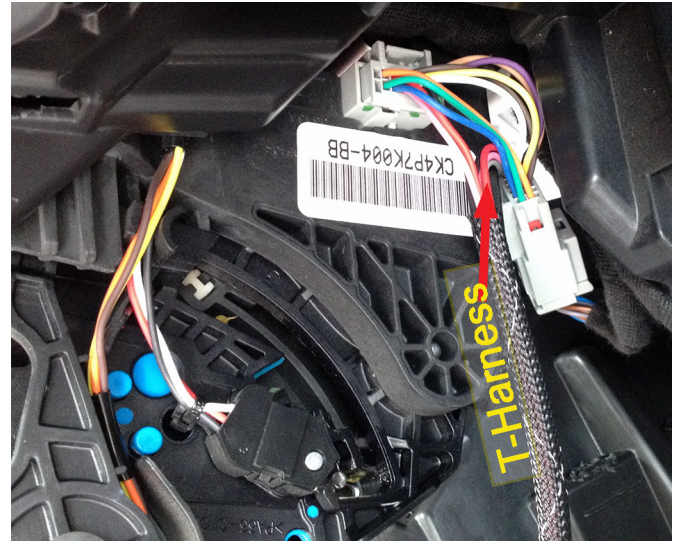


Figure 9 Shift Lock T-Harness Installed

6. System Troubleshooting

If there is a problem with system operation, there is a very high probability that either the control module lost its ground or +12 volt power source, or that one or more of its inputs are not being activated 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. The 2 most common problems are a shorted door switch and a broken lift stow switch. If the lift door switch is shorted the ITM-FT Interlock will keep the lift enabled and drain the battery within a few days. If the lift stow switch is broken or out of adjustment the shifter will be locked in Park.

Troubleshooting Procedure:

Power:

1. Determine if the control module is powered.
2. Ensure that the 12 pin connector is properly connected to the shifter and that the 7.5 amp fuse F13 in the BCM is not blown.

Interconnects:

1. Check that the connectors and fuses are all correct and intact
2. If they are, Start by turning off ignition, setting the Park Brake and closing the Lift Door.
3. Step through the operating sequence described in Section 3.
4. As you step through Section 3, pay particular attention to the Status Indicators on the Display.
5. Verify that Display agrees with system condition.
6. If they do not, check the corresponding wiring and the sensors.

DIP SWITCH SETTINGS

The ITM-FT module contains 3 DIP Switches for selection of operation configurations.

DIP SW 1 LIFT DOOR SELECT: OFF - SIDE DOOR SELECTED,
ON - REAR DOOR SELECTED

DIP SW 2 SHIFT LOCK DOOR: LOCK SHIFTER IF
OFF - ONLY LIFT DOOR IS OPEN
ON - ANY DOOR IS OPEN

DIP SW 3 FLASH DOOR: FLASH "DOOR AJAR" IF
OFF - ONLY LIFT DOOR IS OPEN
ON - ANY DOOR IS OPEN

7. Reference Information

7.1 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

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

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

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

7.2 Required Parts Not Supplied with ITM-FT Interlock System

1. Lift door switch.
2. Miscellaneous wire, mounting hardware, wire tie wraps, wire loom.

Contact Information:

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