

# ILD-Plus

## Troubleshooting: ILD+ with circuit board

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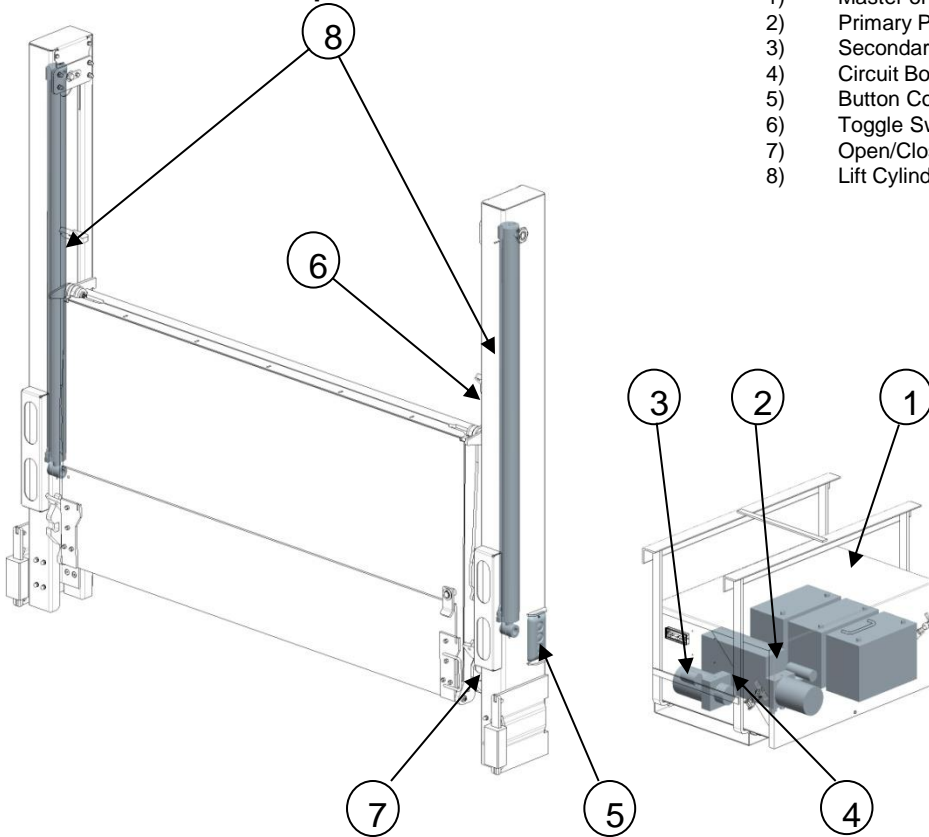
### Tools needed:

- 1.) Voltmeter
- 2.) Test light
- 3.) 8" jumper cable (16ga. or smaller)
- 4.) Screw driver flat head and 13mm (1/2") wrench
- 5.) Small Phillips screwdriver

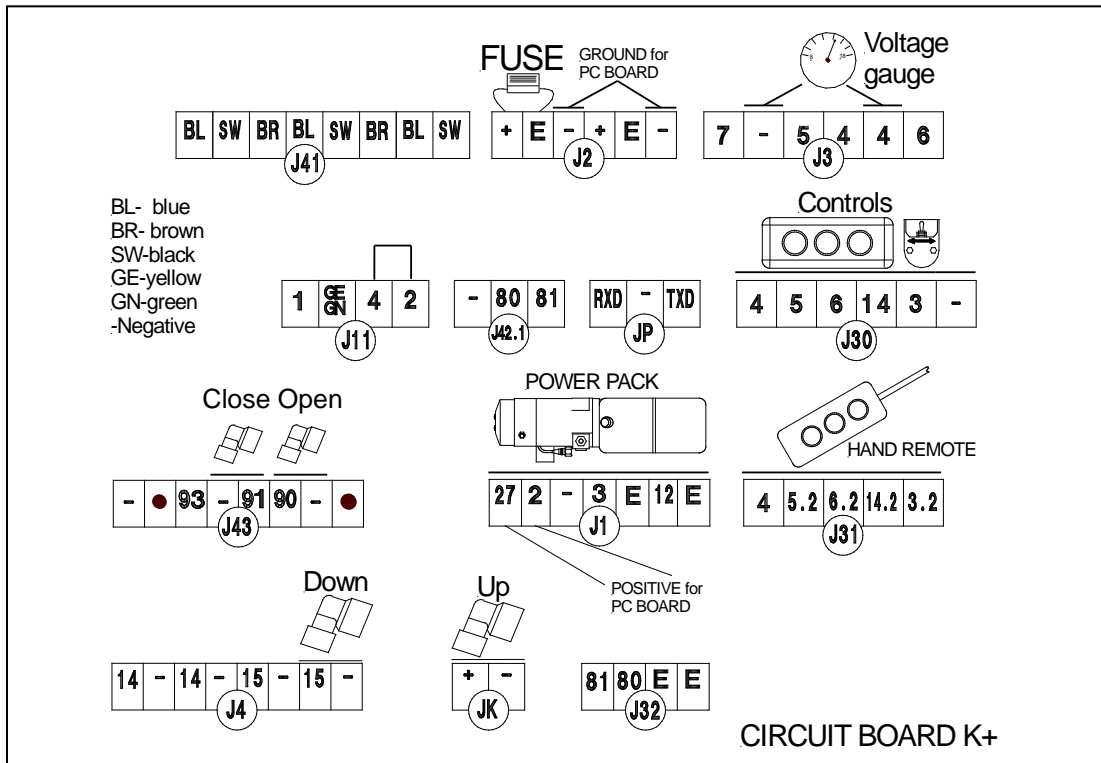
**\*\*\*\*\*MAKE SURE YOUR BATTERIES ARE FULLY CHARGED  
AND IN GOOD CONDITION\*\*\*\*\***

# Gate overview and connector

## setup

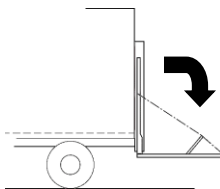


- 1) Master on/off switch
- 2) Primary Pump/Motor/Reservoir
- 3) Secondary Pump/Motor
- 4) Circuit Board
- 5) Button Control (External)
- 6) Toggle Switch (Internal)
- 7) Open/Close Cylinder
- 8) Lift Cylinders



# 1) GATE IS NOT OPENING

## 1.1) Initial Checks



ILD+

- a) Check Master Disconnect is "ON".
- b) Check that Circuit Breaker at Battery box and inside Pump/Motor compartment has not been tripped.
- c) Check that the circuit board has power. A yellow light will be flashing on the board if it has power.
- d) Make sure all the circuit board plugs are securely pushed on to their connection. [J43#90]
- e) Check for shorts, ground faults or open circuits, e.g., power lines connected to the ground or a broken cable or connection.
- f) Check batteries. Batteries should be fully charged and in good condition.
- g) Check voltage minimum 10 volts at motor after 10 sec holding the switch for closing function.

## 1.2) Motor does not run

- a) Check motor solenoid. If it is getting power but you do not hear a click, you should change the motor solenoid. If you hear it clicking, check if the motor gets power. If yes, check if the motor is functioning.

## 1.3) Motor runs but platform does not move

- a) Check power on the open valve #90.

## 1.4) No Power at Coil

- a) Make sure the circuit board has power and that all the plugs are securely pressed onto their connection. Determine no power by following the schematic diagram. Bad switch or broken wire?

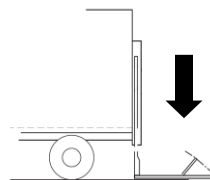
## 1.5) Coil has power

- a) If in your test the platform closes fine but will not open (or the opposite), either the one coil is bad or the valve. If coil is getting power, you can reverse the two coils and try the function again. If the opposite function is now working, the coil is bad. If the opposite does not happen, replace both coils and the bad valve. If the opposite does happen, replace the bad valve and bad coil.

## 1.6) Possible Malfunctions that may also occur

- a) Fitting with orifice on open/close cylinder plugged. Check for contamination in the upper cylinder fitting by unplugging the hose to bleed out the fitting.
- b) Hydraulic hose plugged. Check for contamination in the relevant fittings by unplugging hoses to bleed out hoses or cylinders.

## 2) GATE IS NOT LOWERING DOWN



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### 2.1) Check Battery Power

- a) Check resettable Circuit Breakers in pump/motor box (qty 2) → Push Reset Tab back, if popped out.
- b) Check condition of ground cable on driver side attached to gate frame and trailer/truck body.**
- c) Check fuse(s) on the motors
- d) Check power on board between [J11#4] and [J2#(-)] with voltmeter while pushing the lift up button and hold for 10 sec with gate in stored position (DEADHEAD GATE) (above 10 Volt is necessary for proper use of lift gate) → less than 10V; → See “e”.
- e) Test for charged batteries and a solid working truck/trailer charging system.
- f) Check Ground connection from front of trailer/truck to batteries and lift gate. Check for tight connections

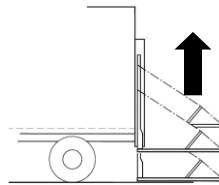
### 2.2) Check for short in optional equipment

- a) Unplug [J1] (Main power), wait 10 seconds and plug [J-1] back to the board (Resetting the board)
- b) Unplug each connector. Then plug each connector back one at a time and check functions of gate after plugging in each

### 2.3) Check voltage supply to release valves on lift cylinder

- a) Check voltage between Ground [J2#(-)] and [J4#15] (lower valve) while pushing the lower button.  
No voltage → check for bad button or loose wire at control panel
- b) Listen for clicking of the release valves (down valve)  
→ If valves are not clicking → check wire for damaged spots or loose connections

### 3) GATE IS NOT LIFTING UP



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#### 3.1) Check Battery Power

- a) Check resettable Circuit Breaker inside pump/motor box → Push Reset Tab back in, if popped out
- b) Check condition of ground cable attached to power pack box frame and trailer/truck body.**
- c) Check fuse(s) on the motors
- d) Test for charged batteries and a solid working truck/trailer charging system
- e) Check power on board between [J11#4] and [J2#(-)] with voltmeter
- f) Check Ground connection from front of trailer/truck to batteries and lift gate. Check for tight connections

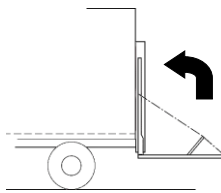
#### 3.2) Check function of control box

- a) Check voltage at [J30#4] to Ground [J2#(-)] for power supply of the control box
- b) Check voltage at [J30#5](lift) to Ground [J-2#(-)] for lifting signal  
→ Signal on [J30#5] → control box is ok; if no signal check for damaged wire or loose connectors inside control box or damaged push button

#### 3.3) Check motor solenoid power to run the motor

- a) Check for voltage at [J1#3] and [J1#12] to Ground [J2#(-)] to engage motor solenoid while pushing lift button
- b) Check for voltage at one of the small motor solenoid studs to Ground [J2#(-)] while pushing button and listen for clicking of the motor solenoid – no voltage or clicking → check wire to motor solenoid
- c) Check voltage across the small motor solenoid terminals (#3 and -) with test light while pushing button  
See a light → power is reaching solenoid
- d) Check for main power at the large solenoid studs one has voltage; if not check connections to battery
- d) Check both big solenoid studs for voltage while pushing up button → if not → solenoid is bad
- e) Jump large terminals at motor solenoid
  - If motor runs → motor solenoid is bad
  - If motor does not run → Bad motor or bad ground (check for loose wire, hanging on driver side)
  - Tap on motor → motor starts running – bad brushes

## 4) GATE IS NOT CLOSING



ILD+

### 4.1) Initial Checks

- a) Check Master Disconnect is "ON".
- b) Check that Circuit Breaker at Battery box and inside Pump/Motor compartment has not been tripped.
- c) Check that the circuit board has power. A yellow light will be flashing on the board if it has power.
- d) Make sure all the circuit board plugs are securely pushed on to their connection. [J43#91]
- e) Check for shorts, ground faults or open circuits, e.g., power lines connected to the ground or a broken cable or connection.
- f) Check batteries. Batteries should be fully charged and in good condition.
- g) Check voltage minimum 10 volts at motor after 10 sec holding the switch for closing function.

### 4.2) Motor does not run

- a) Check motor solenoid. If it is getting power but you do not hear a click, you should change the motor solenoid. If you hear it clicking, check if the motor gets power. If yes, check if the motor is functioning.

### 4.3) Motor runs but platform does not move

- a) Check power on the close valve #91.

### 4.4) No Power at Coil

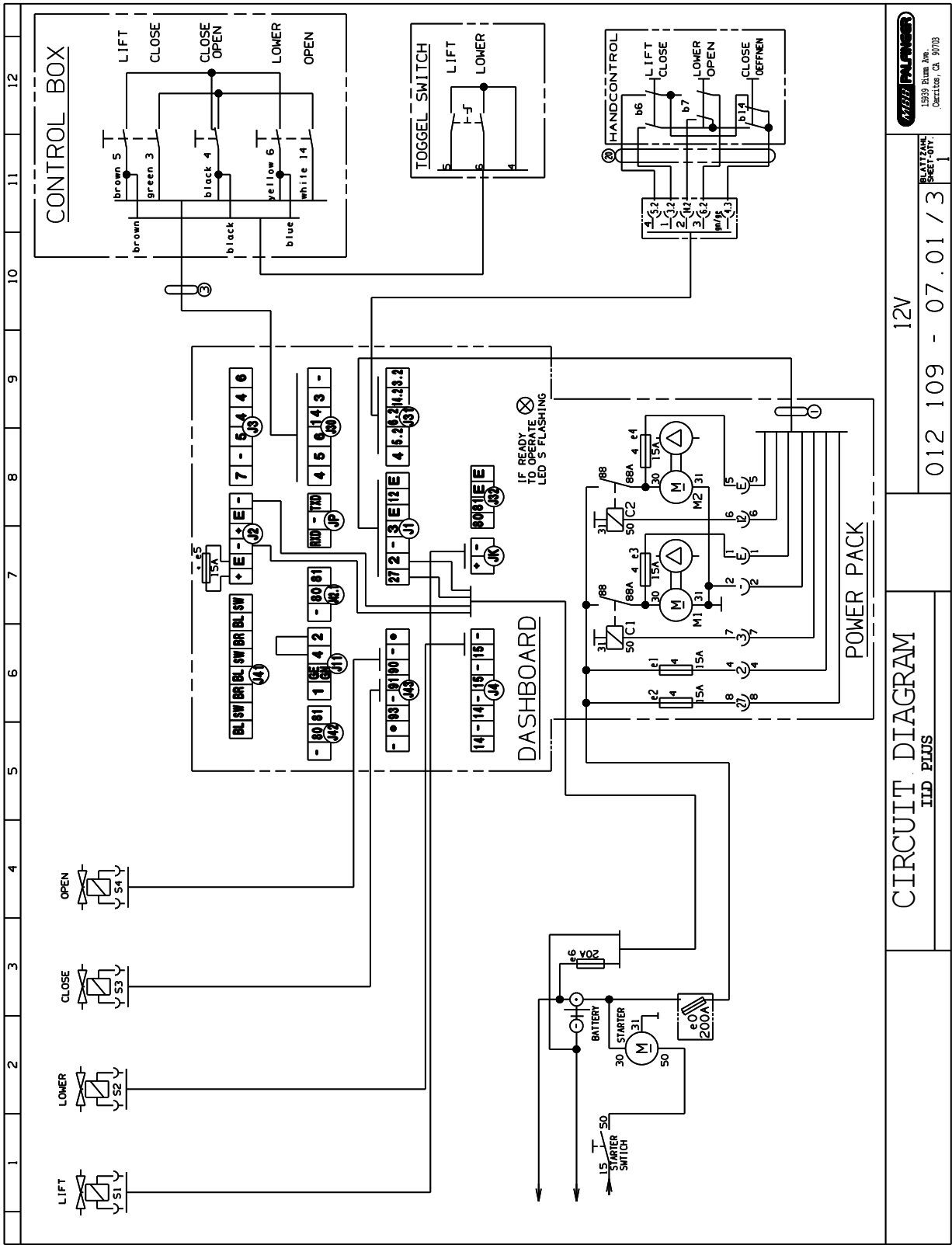
- a) Make sure the circuit board has power and that all the plugs are securely pressed onto their connection. Determine no power by following the schematic diagram. Bad switch or broken wire?

### 4.5) Coil has power

- a) If in your test the platform closes fine but will not open (or the opposite), either the one coil is bad or the valve. If coil is getting power, you can reverse the two coils and try the function again. If the opposite function is now working, the coil is bad. If the opposite does not happen, replace both coils and the bad valve. If the opposite does happen, replace the bad valve and bad coil.

### 4.6) Possible Malfunctions that may also occur

- a) Fitting with orifice on open/close cylinder plugged. Check for contamination in the upper cylinder fitting by unplugging the hose to bleed out the fitting.
- b) Hydraulic hose plugged. Check for contamination in the relevant fittings by unplugging hoses to bleed out hoses or cylinders.



1 2 3 4 5 6 7 8 9 10 11 12

**VALVE**  
 1939 Plum Ave.  
 Merrick, N.Y. 11566

**VALVE**  
 012 109 - 07.01 / 3

**CIRCUIT DIAGRAM**  
 ILD PLUS

12V

# HYDRAULIC SCHEMATIC ILD+

LIFT CYLINDERS

OPEN / CLOSE CYLINDER

TANDEM PUMP/MOTOR  
 OPTIONAL: 3500, 4400  
 STANDARD: 5500, 6600

