

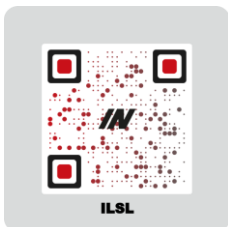
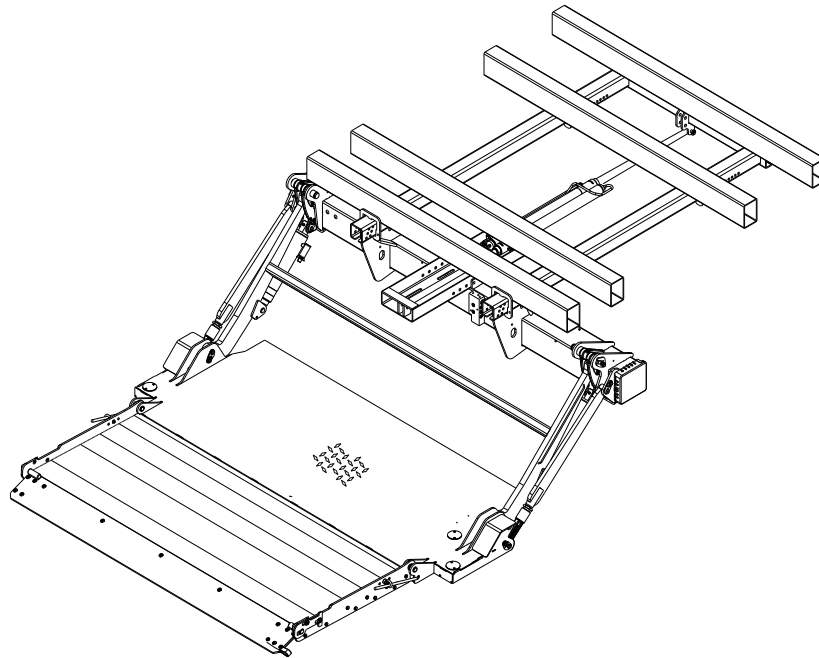
INTERLIFT



OWNER'S MANUAL

ILSL 30, 3000 lbs. Capacity

ILSL 40, 4000 lbs. Capacity



ILSL 30/40 Owner's Manual
Document Part Number: ML90-1614-002, 14-686_90-00_00-02
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Visit www.palfinger.com for up to date information and notifications.

If you received this product with damaged or missing parts,
contact INTERLIFT Liftgates at (888)-774-5844

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Company Information:

Company Name: _____

Advisor Name: _____

Trailer Year Make & Model: _____

Liftgate Information:

Liftgate Serial Number: _____

Liftgate Model Number: _____

Date of Purchase: _____

Date of Installation: _____

Thank you for choosing INTERLIFT Liftgates.

1 Manual Updates

Revision	Description
v1.3	<ul style="list-style-type: none">• Changed the logos, from Palfinger to Interlift
V1.4	<ul style="list-style-type: none">• Added QR code decal• Added torsion bar lubrication, Section 8.2

2 Important Notes

2.1 Attention

Before starting any operations of the liftgate, please read and understand this OWNER'S MANUAL. It is intended to act as a guide for the operation personal as well as to give help with preventive maintenance but does not take place of unauthorized usage or repair by unqualified personnel.

Please contact your nearest INTERLIFT Liftgates distributor or INTERLIFT Liftgates in California or New Jersey for assistance if you have questions regarding installation, operation or maintenance.

This owner's manual applies to the following models: **ILSL 30, 40**



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury.

2.2 Important Notes

The INTERLIFT Liftgates ILSL model is an electro-hydraulically driven liftgate, designed to be stored underneath the trailer for ultimate dock loading as well as offering up to 6-1/2 feet platform.

The Hydraulic Power Unit (HPU) is easily accessible for service and exchange.

The platform folded in half is supported by two torsion springs, each on one side, one support folding the other unfolding operation. Lifting actions are carried out by hydraulic cylinders mounted on the lift arms.

The liftgate is equipped with swing fixtures mounted to the bottom on each lift cylinder. This enables the platform to lower down the tip towards the ground. The hydraulic cylinders are equipped with solenoid operated valves located at the port of each cylinder which prevents the platform from lowering accidentally unless the operator is activating the controls. This system also enables you to store the liftgate without a separate platform latch.

The piston rods are treated against corrosion. The HPU is equipped with a built-in pressure relief valve, which prevents overloading when lifting.



The valves do not prevent overloading of the platform when lowering or tilting down.



The electric supply is taken from the auxiliary batteries. The electric control power is protected via a 20 Amp fuse and an on-off switch. Trailer application has an on-off switch located in the lockable control box. The liftgate is operated from an outside control box which is located on the curbside of body. Foot controls are optional, which enables the operator to handle the cargo and operate the liftgate by foot. A variety of different product options can be purchased with the liftgate as well.

2.3 General Information

REMEMBER!

It is the fleet manager's responsibility to educate the operator on the liftgate and its intended use. The operator's attention should be drawn to the permitted load limits and an understanding of the operation to ensure the safety throughout the operation.

ONE-MAN OPERATION!

Never let an "outsider" operate the liftgate while you are handling the cargo. A "misunderstanding" can result in serious personal injury or even death.



In the interest of safety it is important that all operating personnel properly understand the functions of the liftgate, possible hazards, dangers, the load limits and load positioning for that specific unit.

IMPORTANT NOTICE!



Before the operator uses the liftgate, they should be thoroughly familiar with the lift's functions and usage according to the following:

1. Improper operation of this lift can result in serious personal injury. Do not operate unless you have been properly instructed, have read and are familiar with the operation instructions. If you do not have a copy of the instructions please obtain them from your employer, distributor or lessor, as appropriate, before you attempt to operate the lift.
2. Be certain the vehicle is properly and securely stopped before using the lift.
3. Always maintain the liftgate and inspect it for damage before usage. If there are signs of improper maintenance, damage to vital parts, or slippery platform surface, do not use the lift. Do not attempt your own repairs unless you are specifically trained.
4. Do not overload. See the Rating Label on the unit for the rated load. Remember that this limit applies to both raising and lowering operations.
5. Each load should be placed in a stable position as near as possible to the body of the trailer.
6. Never stand in, move through or allow anyone else to stand in or move through the area in which the lift operates, including that area in which a load might fall.
7. This is not a passenger lift. Do not ride the lift with unstable loads or in such a manner that a failure would endanger you. The lift is not equipped with a back-up system to prevent falling cargo in the event of a failure.

The maximum loads must be observed and followed!**IMPROPER USE**

It is not permitted to use the liftgate:

- As an elevating work platform.
- To push loads.
- To carry people (Only the operator may travel on the platform).
- To clear snow.

Please read through the operational and technical description of the INTERLIFT Liftgate.

3 Safety Information

This manual follows the Guidelines set forth in ANSI X535.4-2007 for alerting you to possible hazards and their potential severity.



DANGER indicates an imminently hazardous situation which, if not avoided, **will result** in death or serious injury.



WARNING indicates potentially hazardous situation which, if not avoided, **could result** in death or serious injury.



CAUTION indicates a potentially hazardous situation which, if not avoided, **may result** in minor or moderate injury.



CAUTION without the safety alert symbol is used to address practices not related to personal injury. *(In this manual we use it to alert you to potentially hazardous situation which, if not avoided, may result in property damage.)*



NOTICE without the safety alert symbol is used to address practices not related to personal injury. *(In this manual we use it to alert you to special instructions, steps, or procedures.)*

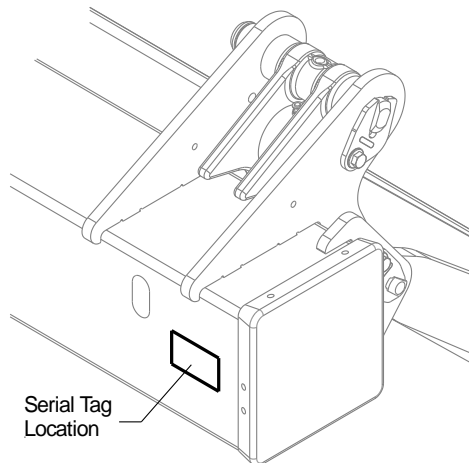


Improper operation of this liftgate may result in severe personal injury or death. DO NOT operate unless you have been properly instructed, have read and are familiar with the procedures in this manual. We have designed this manual to illustrate the steps needed for the basic operation of this ILSL liftgate. It also provides safety information and simple preventive maintenance tips.

This manual is not intended for use as a repair or troubleshooting guide. Repairs should be performed by a INTERLIFT Liftgates Authorized Service Center.

This manual has been designed for use in conjunction with the ILSL series liftgates only which is designed for different capacities. There are four options to determine the model and serial number of the installed liftgate:

- 1) Refer to the serial number tag on the liftgate (Top of Mount Frame).



Left Side of Mount Frame

PALFINGER	
ILSL	
ML686-VL-A	
0123456789	

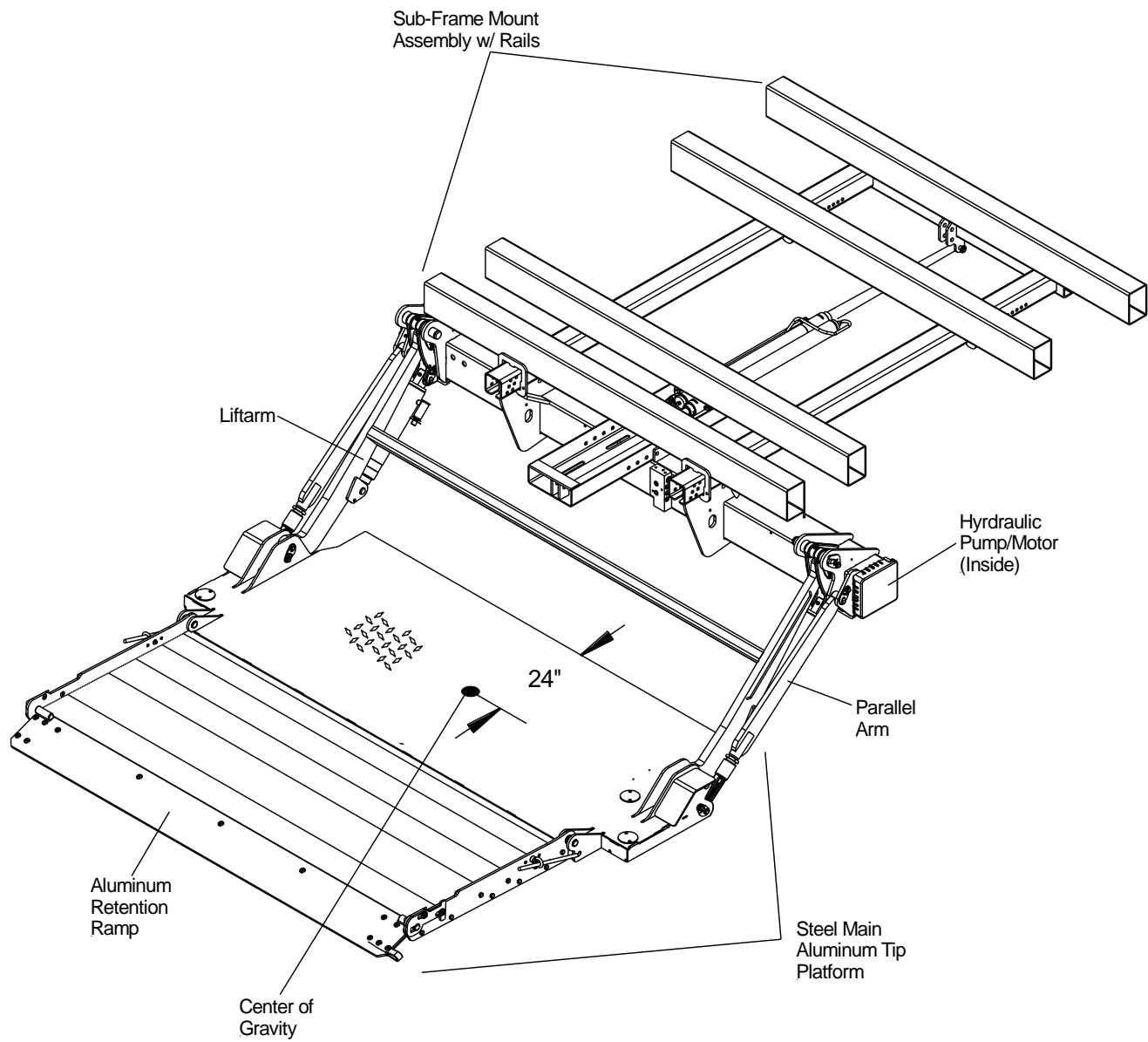
OR

PALFINGER		
(888) 774-5844		
Cerritos, CA. Trenton, N.J.		
Model	Serial No.	Date
<input type="text"/>	<input type="text"/>	<input type="text"/>

- 2) Ask your employer or lessor;
- 3) Call your INTERLIFT Liftgates Authorized Service Center for assistance.
- 4) Call INTERLIFT Liftgates for assistance in the USA at 888-774-5844. You can also contact INTERLIFT Liftgates by fax (562) 924-8318 or on the internet at www.palfinger.com

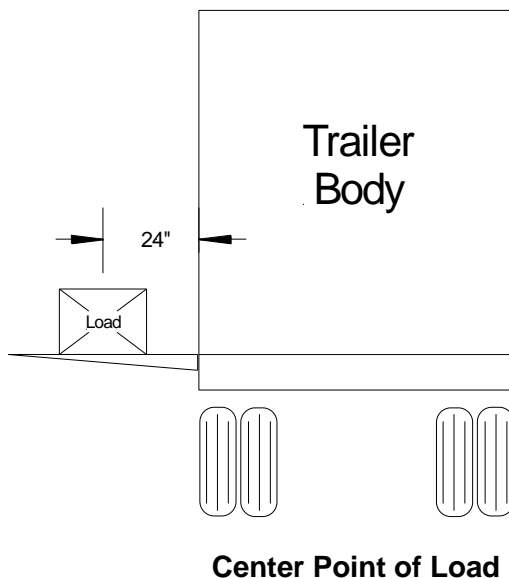
For technical support, contact INTERLIFT Liftgates or an authorized INTERLIFT service center. www.palfinger.com

4 General View of Liftgate



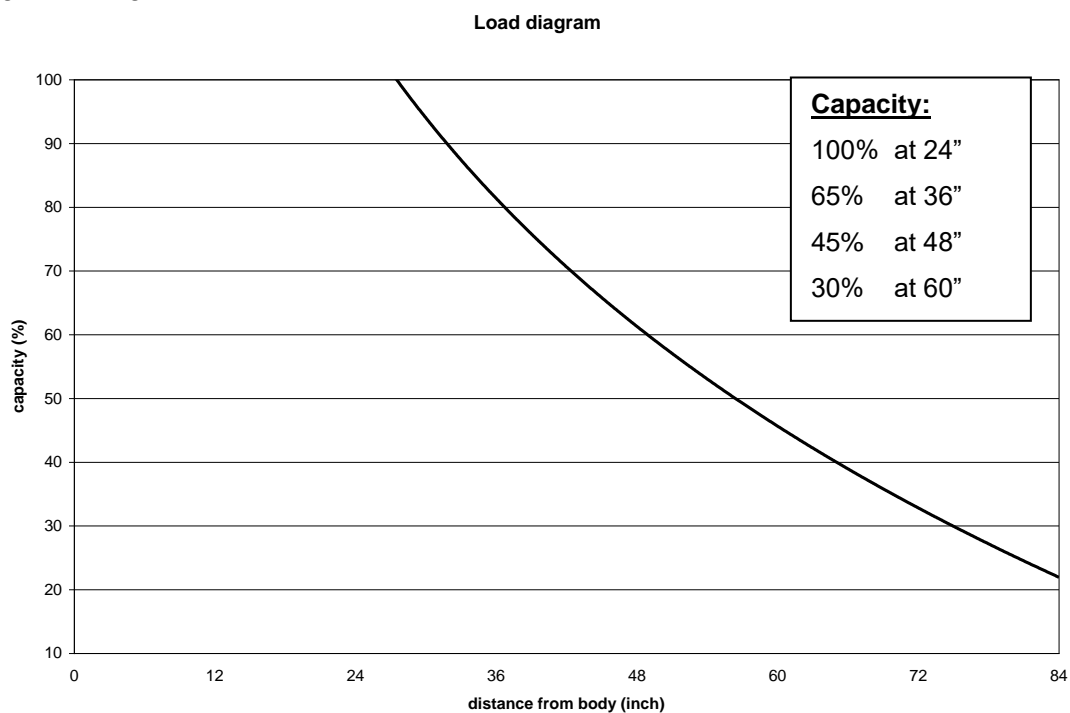
5 Maximum Load and Placing of Load on Platform

Every INTERLIFT Liftgate is rated up to a maximum load. The point of maximum load is rated at a defined distance. The center point of maximum load is at 24" from the outside of the trailer body to center of load.



By increasing this distance the maximum load of the liftgate is decreasing.

An overview about the rating depending, on the distance from the end of the platform is shown in the following load diagram.



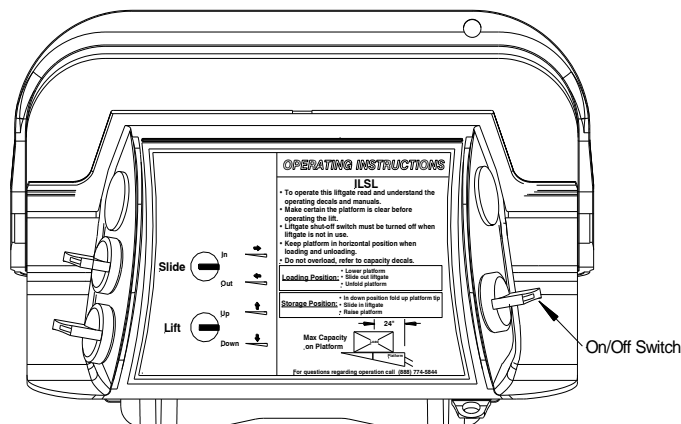
6 Operation of Liftgate

6.1 Operation by Control Box/Hand Control

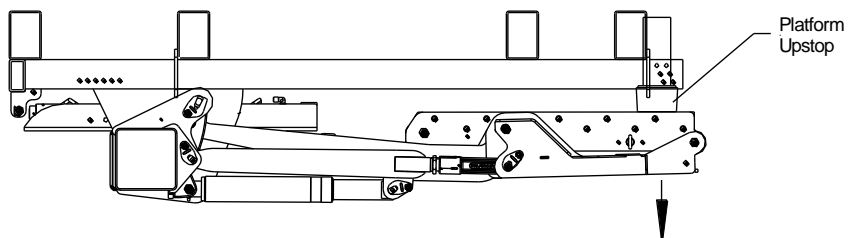
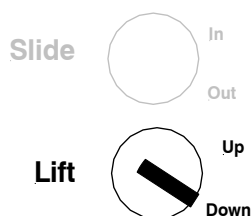


NOTE: Never slide platform in or out with a load on the platform.

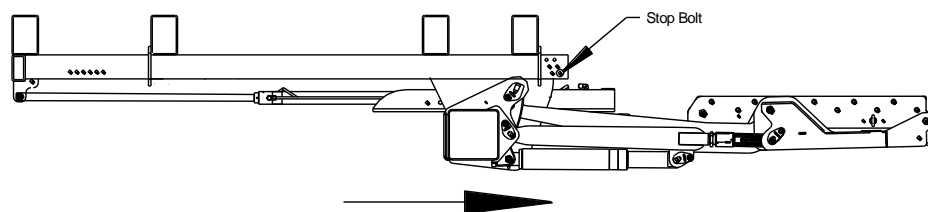
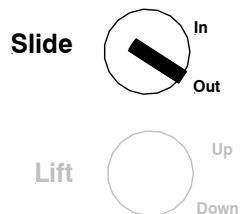
1. Power the liftgate by turning the ON/OFF switch down.



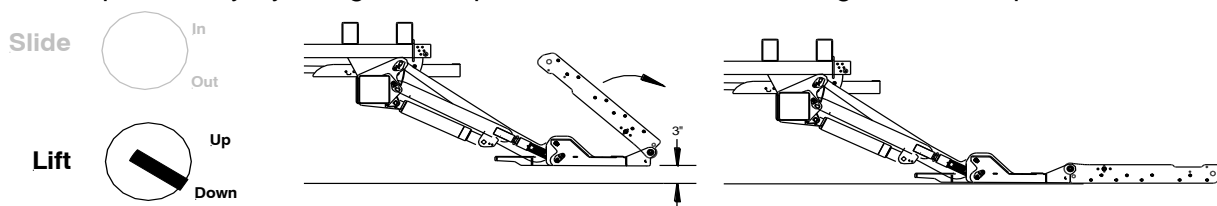
2. Rotate the **Lift** switch **Down** to lower the platform enough that it clears the platform storage upstops.



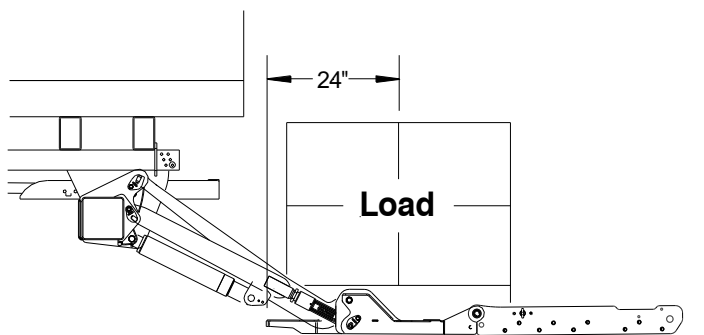
3. Use the **Slide** switch **Out** to slide the liftgate out from its stored position until it meets the stop bolt at the front of the slide rail.



- Use the **Lift** switch **Down** to lower the platform to approximately 3" off the ground. Unfold the platform tip manually by using the straps. Use **Lift** switch **Down** again to lower platform to the floor.

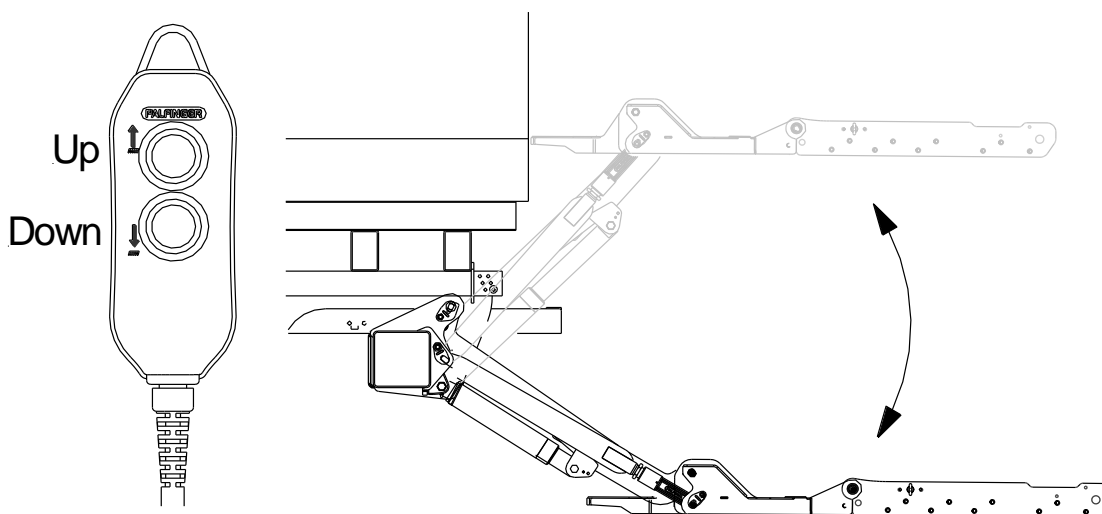


- Load the platform. Center the load 24" away from the front of the platform.



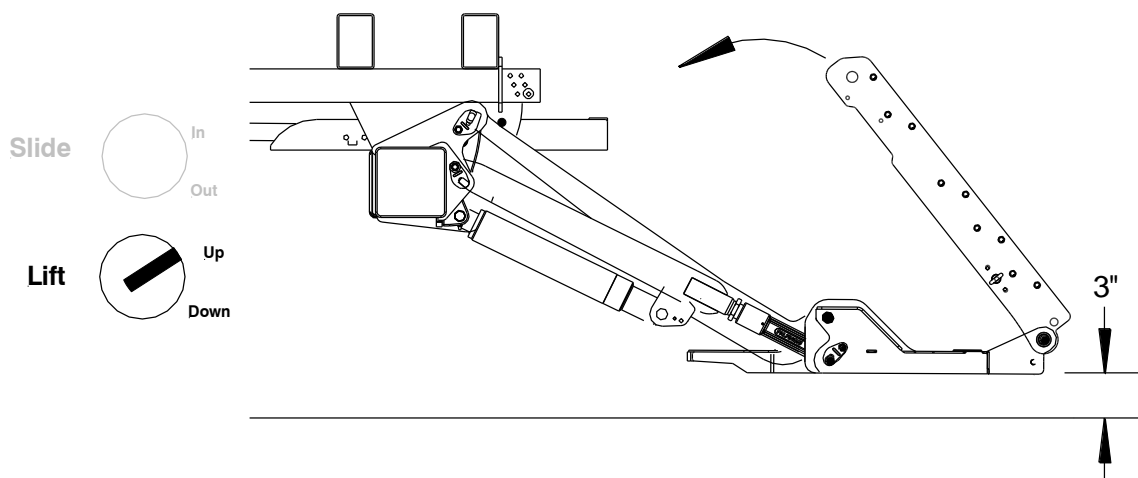
- At this point, the operator must use the 2-Button Hand Held Remote (HHR) to raise the platform to bedlevel and lower the platform to ground. Toggle switches and Foot Controls may also be used if these options have been installed. If using the Toggle Switch or Foot Controls, see pages 13 for operating instructions.
- Press and hold the UP (Top) button on the 2-Button Hand Held (HHR) Control to raise the platform. Place the control on the holster while removing the cargo from the platform. Press and hold the DOWN (bottom) button to lower the platform back to the ground.

REMINDER: Do not store HHR inside refrigerated bodies.

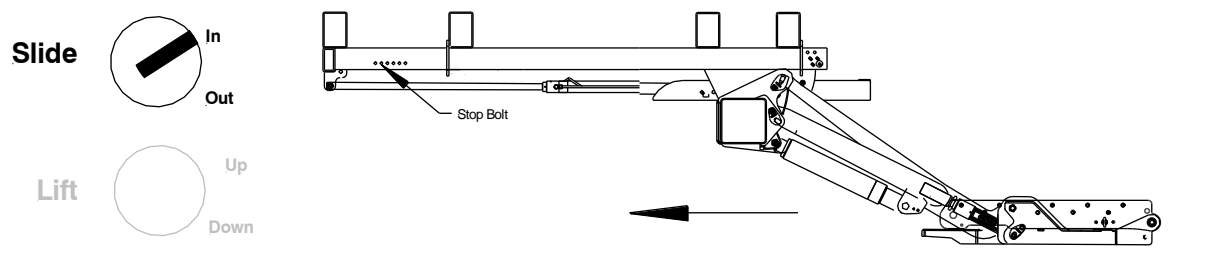


To Store Liftgate

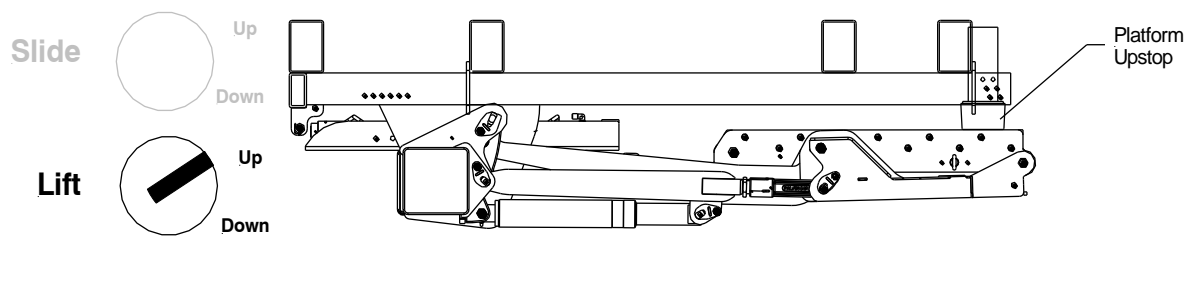
1. When platform is on the ground, use the **Lift** switch **Up** to get the platform 3" off from the ground. Manually fold the tip of the platform.



2. Use the **Slide** switch **In** until the sliding plates hit the stop bolt in the rear of the sliding rail.



3. When the sliding plates have stopped and reached the stop bolt in the rear, use the **Lift** switch **Up** to secure the platform flush with the upstops until the upstop.



6.2 Operation by Foot Control (Optional)

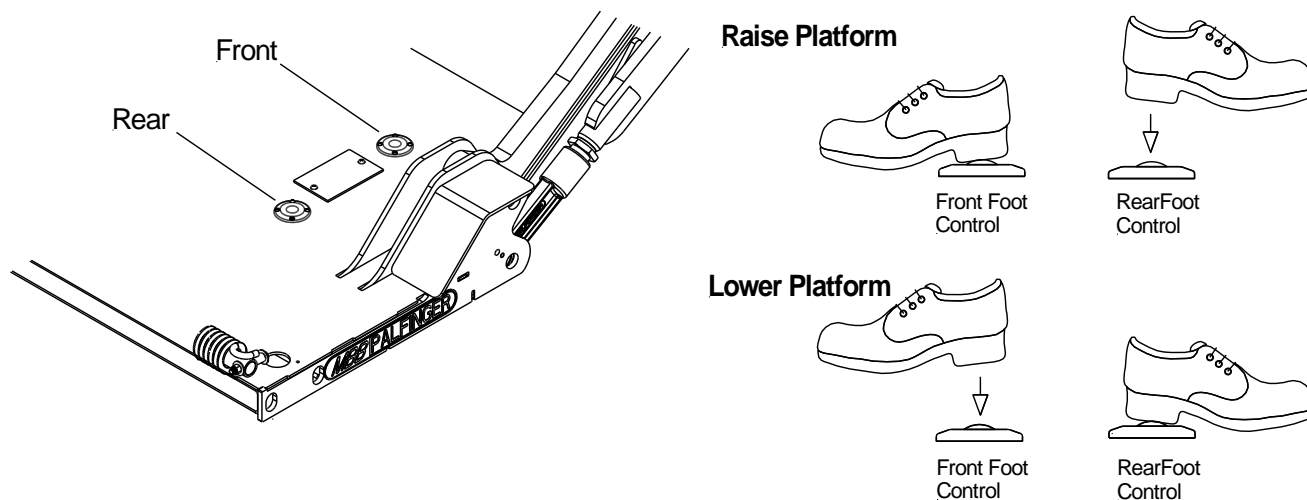
Lower Platform:

Step on the front foot control and hold, wait three seconds before stepping on the rear foot control.

Raise Platform:

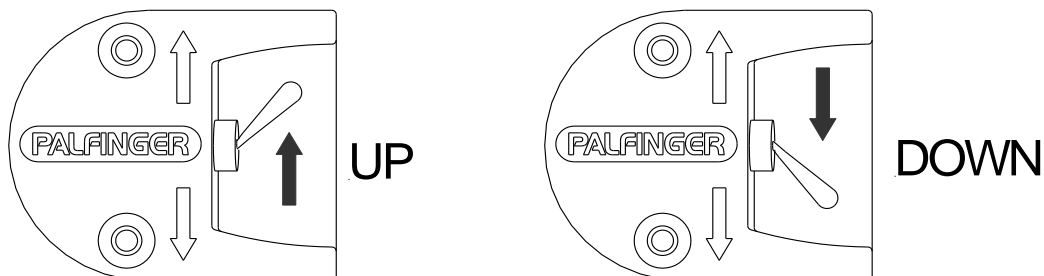
Step on the rear foot control and hold, wait three seconds before stepping on the front foot control.

If the platform is not responding to the controls within three seconds, repeat steps above.

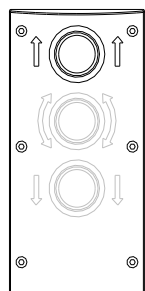


6.3 Toggle Switch (Optional)

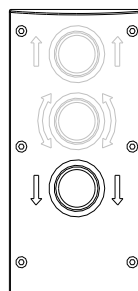
1. Toggles switches are an alternative to the 2-Button HHR Control.
2. Toggles switches only raise the platform up and down only.



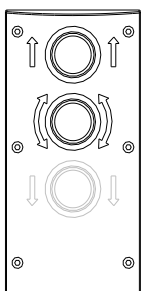
6.4 3-Button Flush Mount Control, Vertical Mount (Optional)



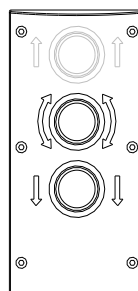
Raise Platform
Push and hold **Top** button



Lower Platform
Push and hold the **Bottom** button

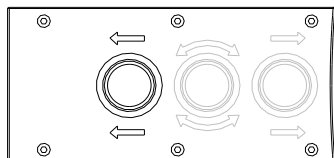


Slide In Platform
Push and hold the **Top** and **Middle** buttons simultaneously

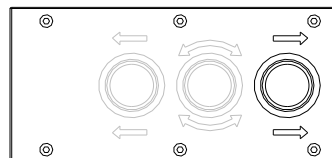


Slide Out Platform
Push and hold the **Bottom** and **Middle** buttons simultaneously

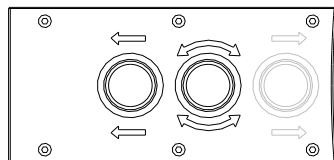
6.5 3-Button Flush Mount Control, Horizontal Mount (Optional)



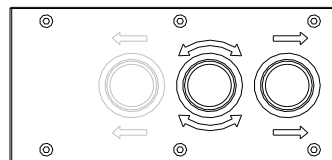
Lower Platform
Push and hold the **Bottom** button



Raise Platform
Push and hold **Top** button



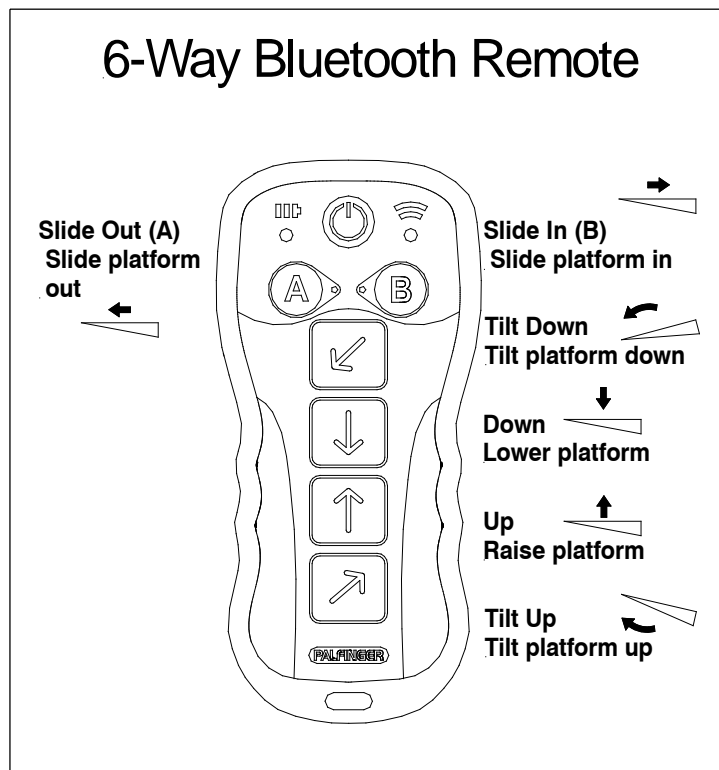
Slide Out Platform
Push and hold the **Bottom** and **Middle** buttons simultaneously



Slide In Platform
Push and hold the **Top** and **Middle** buttons simultaneously

6.6 6-Way Wireless Remote (Optional)

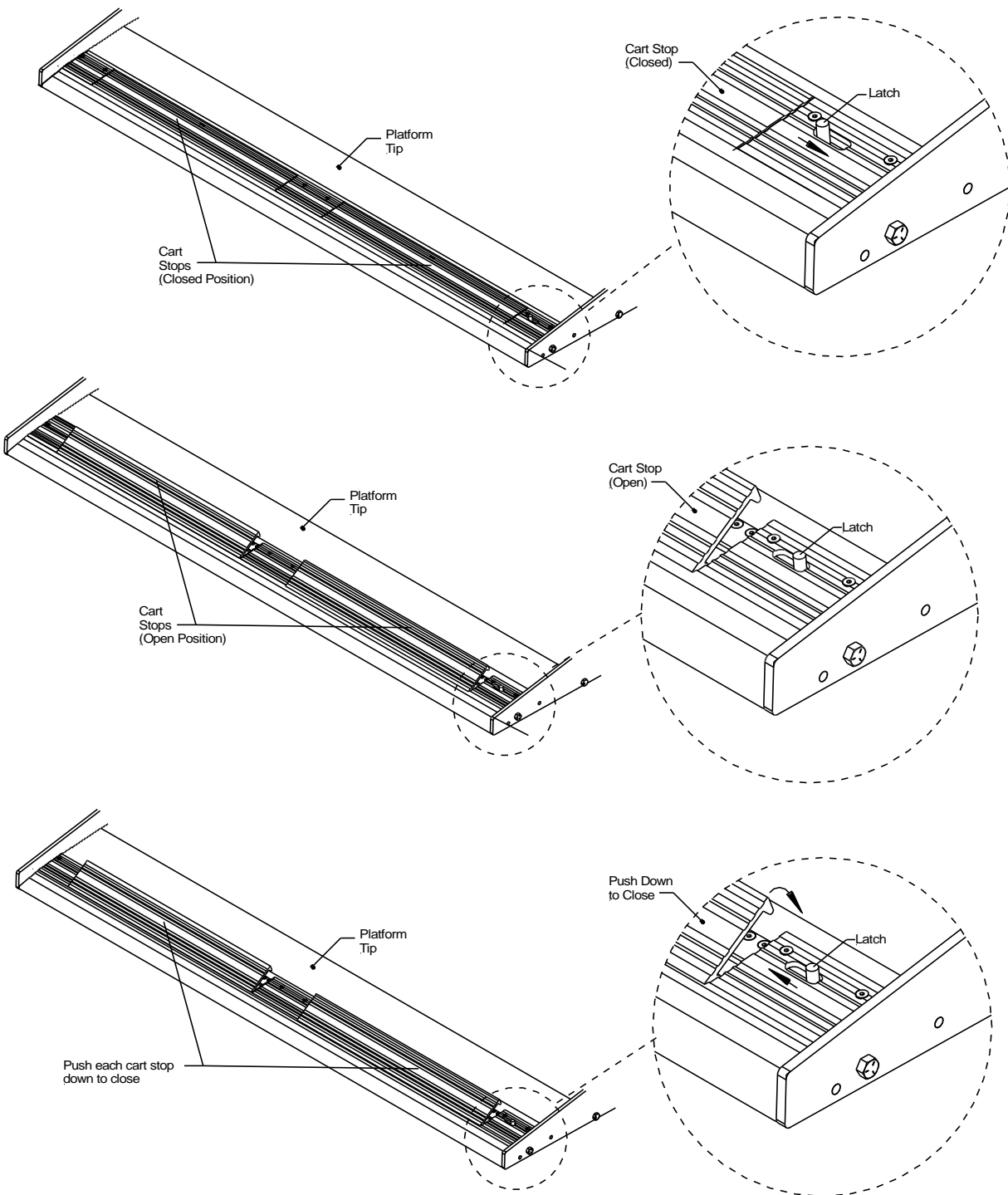
1. Power the remote control unit using the ON/OFF switch located on the rear side of the control
2. Reference illustration below for liftgate operation(s).



7 Platform Cart Stop

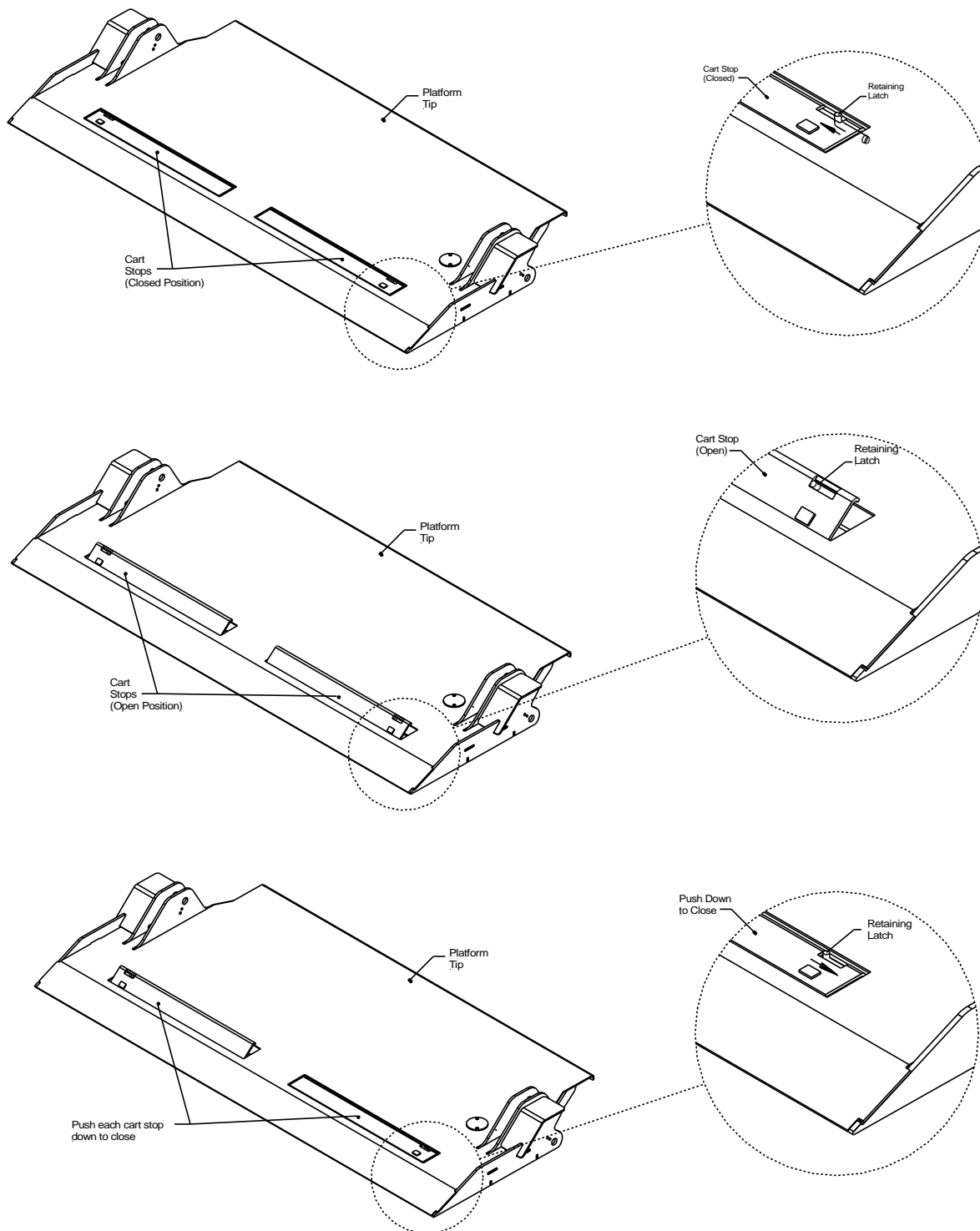
7.1 Aluminum Platform Cart Stops

1. Push the cart stop latch out toward the curb side. The cart stop will spring open automatically once the latch has been moved from its original position.
2. To close the cart stops, push the cart stop latch inward towards the street side. After the latch is in place, close each cart stop by pushing/stepping on each stop.

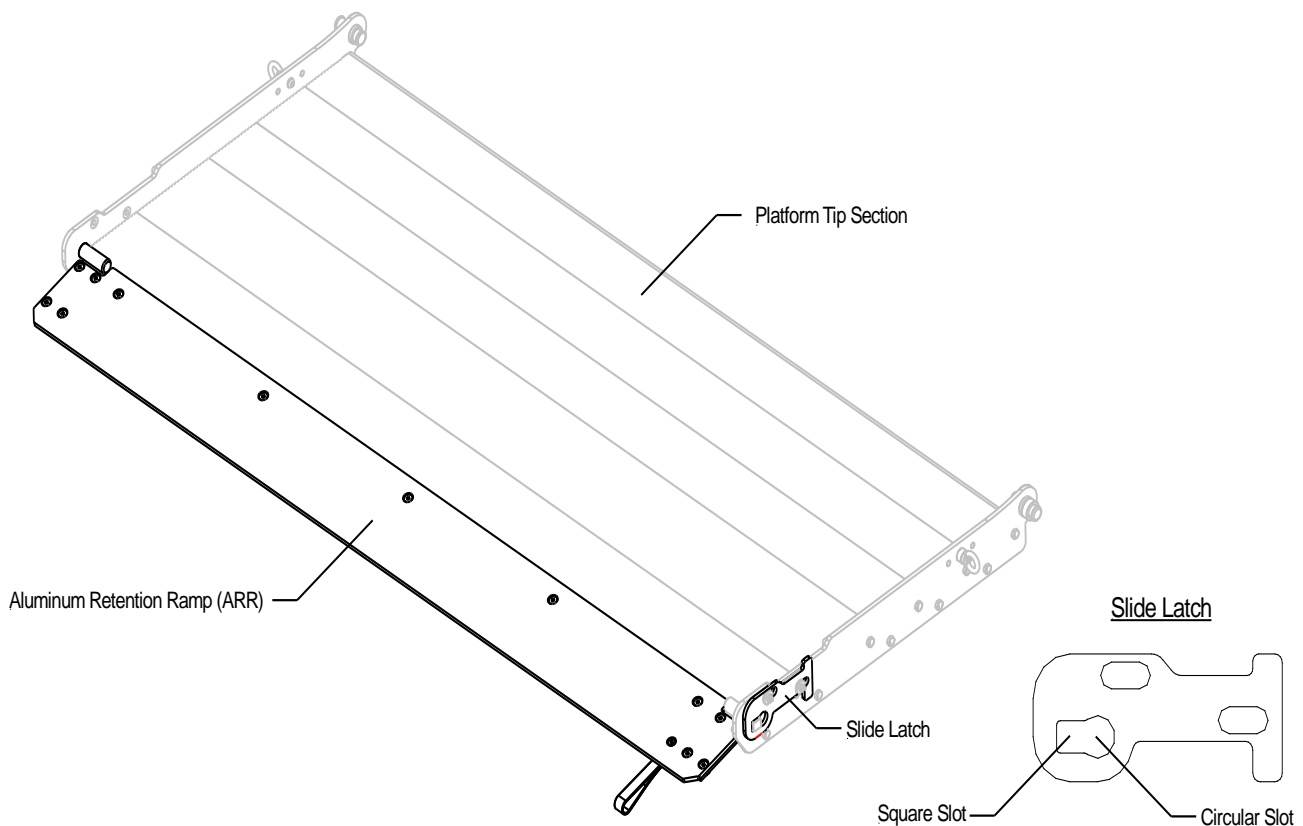


7.2 Steel Platform Cart Stops

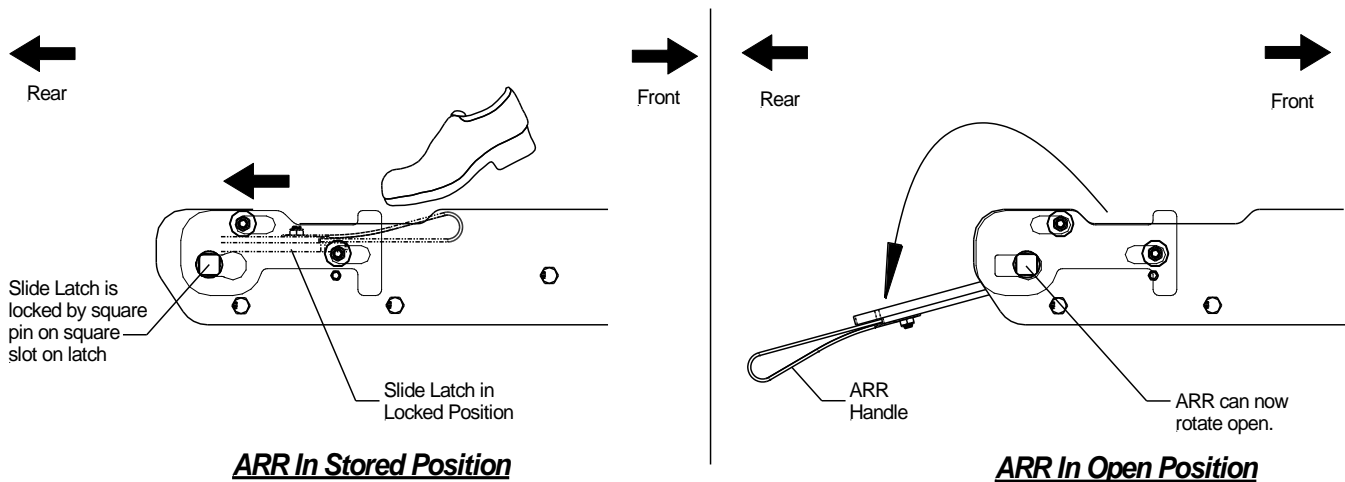
1. Each cart stop is equipped with a retaining latch. Push each latch inward to open the cart stop. The cart stop will automatically spring open once the latch has been pushed.
2. To close the cart stop, push and hold each cart stop down in close position and lock each cart stop with the retaining latch.



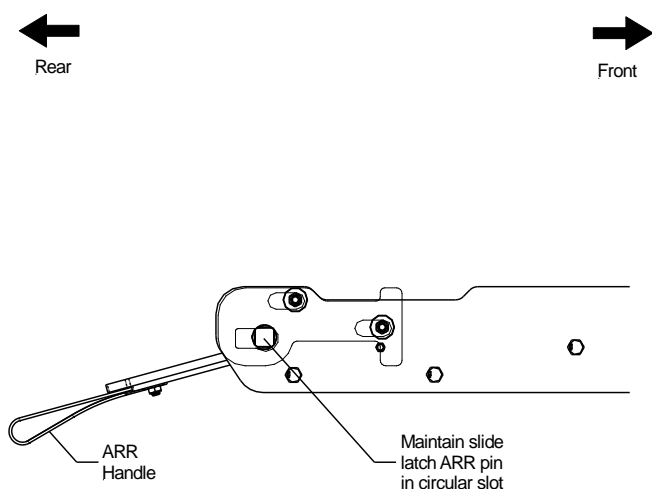
7.3 Aluminum Retention Ramp (ARR)



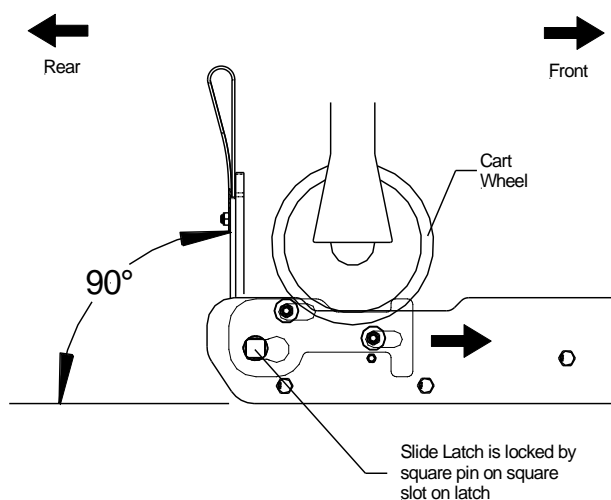
1. To open the ARR, strike the slide latch on the front to slide it back so the square pin ends up in the round slot of the slide latch. At this point the ARR can move freely while the square pin is in the round slot of the slide latch. Use the handle to rotate the ARR to open position.



2. Use the ARR to load cargo on to the platform. To secure the cargo from sliding off the platform, use the handle to rotate the ARR to a 90 degree position. Once the ARR is standing at 90 degrees, slide the latch forward so the square pin of the ARR is in the square slot of the sliding latch, locking the ARR in place.

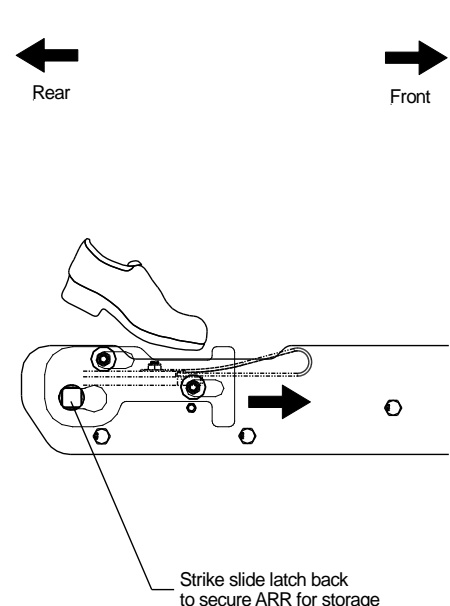
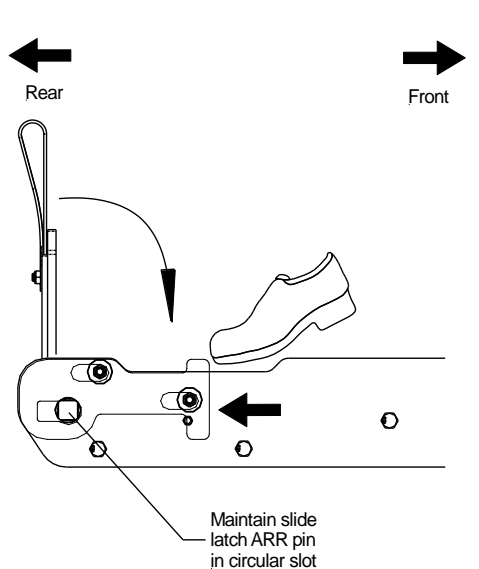


Ramp Ready for Loading Platform



Ramp Retention

3. To store the ARR, lower the platform to the ground. Strike the slide latch on the front to slide it towards the rear so the square pin ends up in the circular slot of the slide latch. Use the handle to rotate the ARR back to stored position. Strike the slide latch forward to secure the ARR for storage



8 Preventive Maintenance and Quick Check

The ILSL needs preventive maintenance to perform at its fullest capability. Lubricate and inspect regularly. Also, check on hoses, cables, controls, etc. and make sure these components are not damaged.



REPAIR OR REPLACE IMMEDIATELY FAULTY PARTS



8.1 Maintenance and Care

The following “inspection and maintenance” should be performed at the recommended intervals depending on operation and amount of cycles or at the time when the unit shows any signs of damage or abuse. In order to prolong the liftgates longevity it is important to maintain and perform preventive care as indicated below.

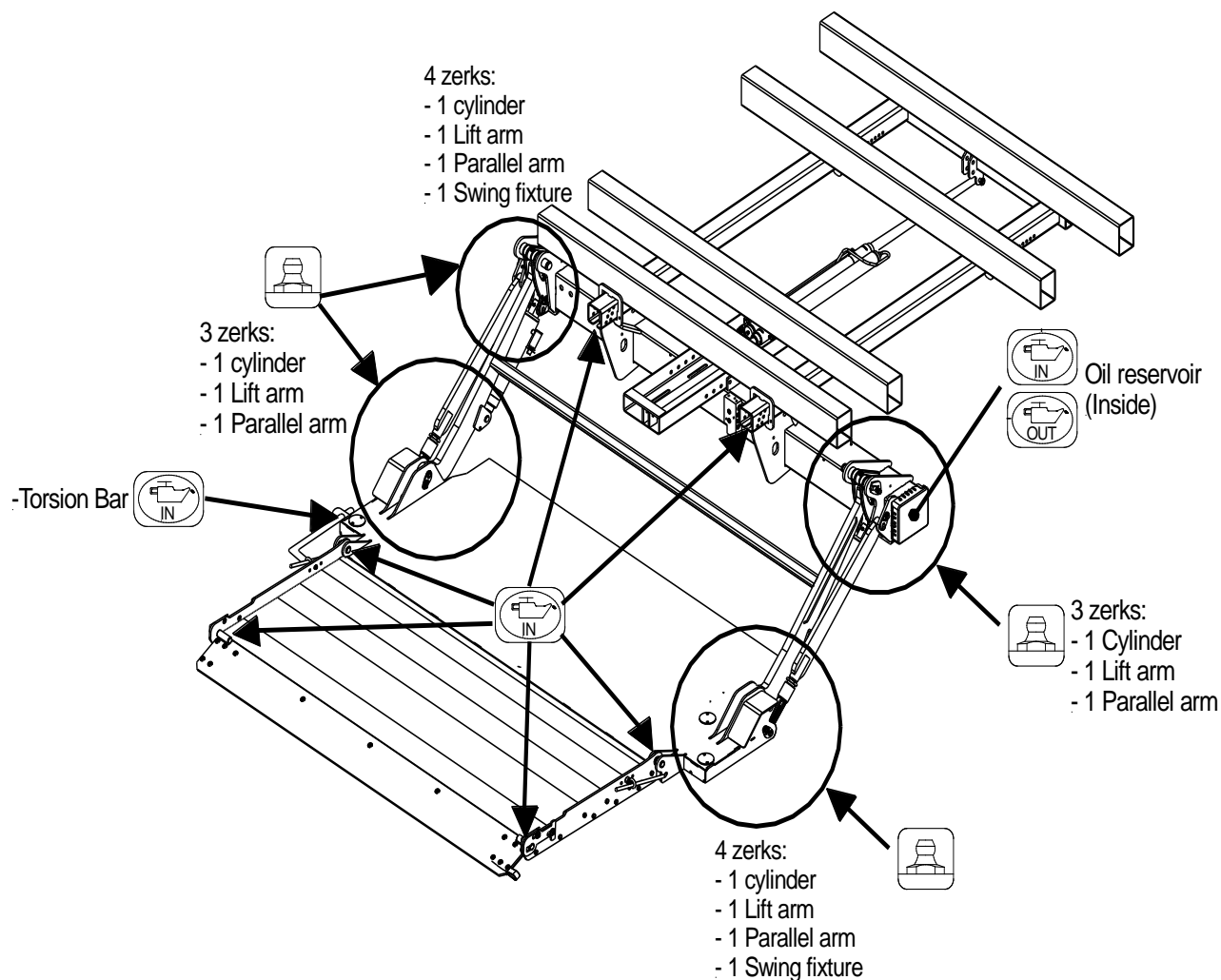
* Recommended bases for inspection and maintenance	Depending on use	Daily	Monthly	Quarterly
Cleaning	x			
General lubrication of pins and bushings				x
Oil level inspection				x
Oil change	x			
Check hydraulic hoses and pipes for leaks				x
Check controls and connections				x
Check pins and pin retaining bolts			x	
Check batteries and connections				x
Check warning labels and other safety equipment for effectiveness and visibility		x		
Visual check for loose or missing parts and un-usual noise during operation		x		
Check lock bolts and pins for tightness				x
Check complete function of liftgate		x		
Check mounting brackets of liftgate to frame for cracks or damage visually		x		

8.2 Lubrication

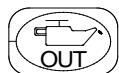
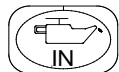
Properly lubricated, the ILSL series INTERLIFT Liftgates will ensure longevity. Lubricate the liftgate at the same time as the trailer. Grease more frequently if the liftgate is heavily used. The liftgate should be greased every 500 cycles (depending on use – estimated every 3 month).

All bearing points must be lubricated in accordance with the maintenance intervals.

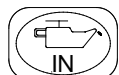
Reminder: Lubricate all points with the platform at ground level.



Grease – 12 places, (3 in the mount frame, 3 in the cylinder/platform area).



Oil level in the power pack tank (see marking inside of power pack reservoir).

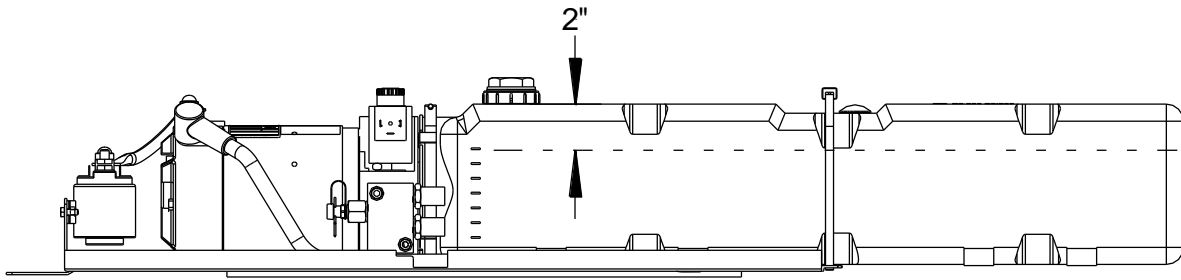


Lubricate - Platform hinges and Cart Stops if present (use ZEP-45 spray for lubrication).

NOTE: Avoid using grease on rails to help prevent any mud and dirt build up.

8.3 Checking and Changing the Oil

From the manufacturer, the ILSL liftgates include Hydrex MV Arctic 15 hydraulic fluid. The hydraulic reservoir will be filled to maximum level by the manufacture (2" from the top of the reservoir).



When changing or adding fluids, it is highly recommended to use alternatives fluid brands and types listed below:

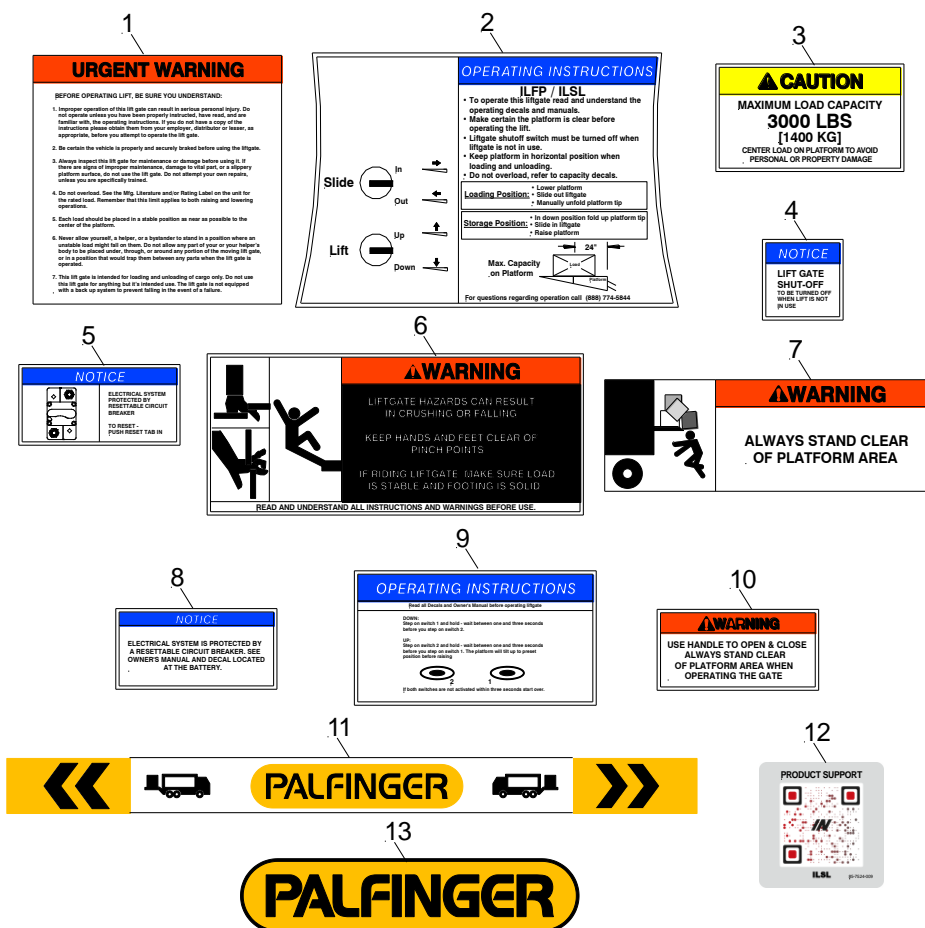
Alternative Fluids	
Temperature Range	Fluid Brand
30° to 150° F	EXXON UNIVIS J26
	MOBIL DTE 13M
	CHEVRON AW MV32
	ROSEMEAD MV 150 (32)
-50° to 150° F	PETRO CANADA HYDREX MV ARCTIC 15
	MOBILE DTE 11
	SHELL AERO FLUID 4/41
	SHELL TELLUS 15
Extreme Cold Temperature	MIL H5606 (Military Spec.)

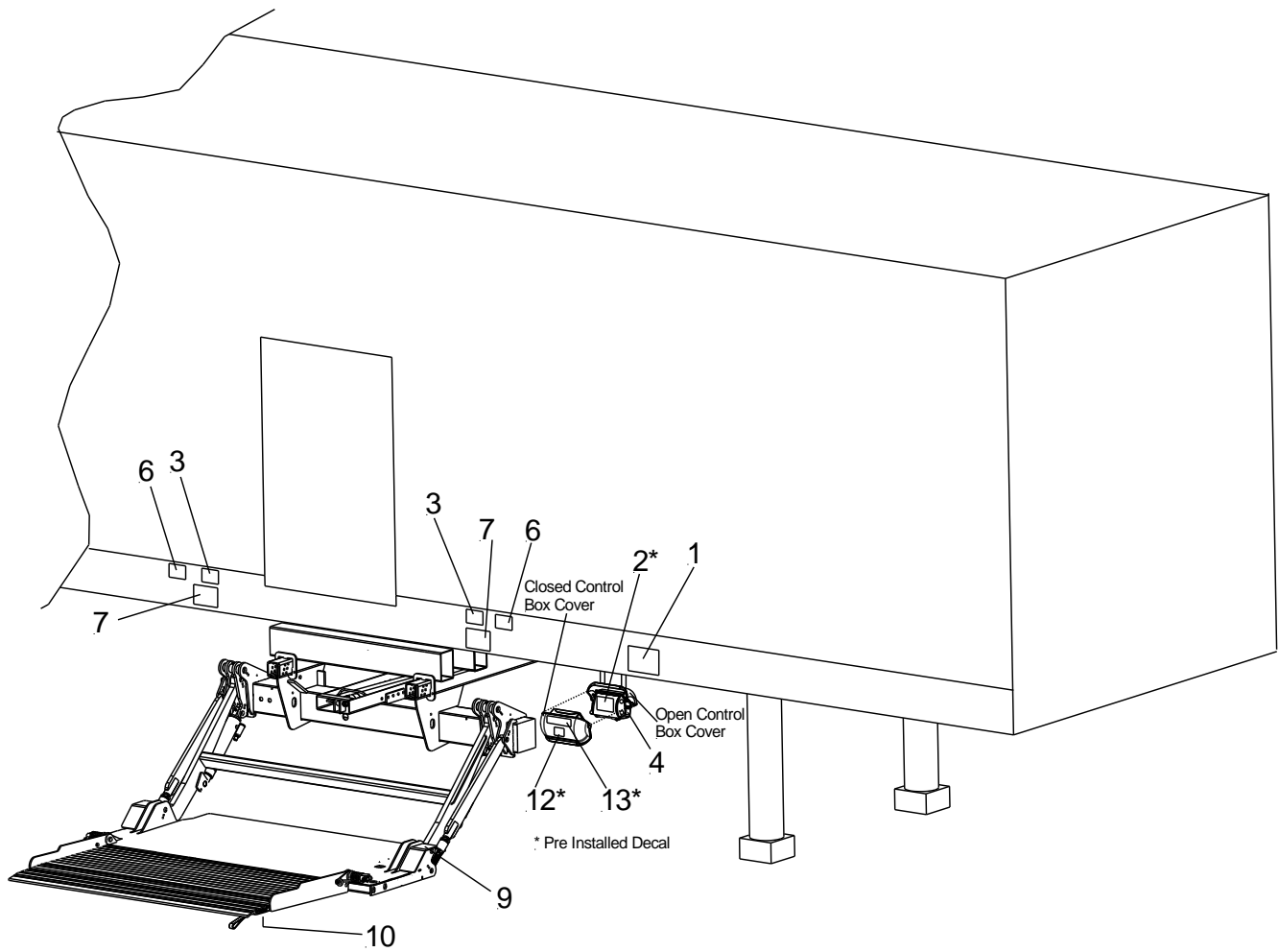
NOTES

8.4 Decal Placement and Inspection

For operator's safety, all decals appearing in "Decal Kit" must be in a conspicuous place on control side of liftgate to be read by operator. This is typically a combination of decals on the liftgate and truck body. Please make sure to place the maximum capacity decal on both sides of the door.

Decal Kit			
Decal	Qty.	Part No.	Description
1	1	ATG-URGWA	Urgent Warning: Elevating gate instructions
2	1	85-1614-000	Operating Instructions (Control Box)
3	2	ATG-XXXX	Capacity (please check the serial number plate to find out your specific capacity)
4	1	ATG-CAB	Liftgate Shut-Off (located next to shut-off switch)
5	1	ATG-BKR	Max. Circuit Breaker Reset (must be located at the circuit breaker)
6	2	ATG-WLH	Warning: Liftgate can crush
7	2	ATG-CTN	Caution: Always stand clear of platform area
8	1	ATG-RESET	Circuit Breaker Protection
9	1	ATG-FT	Notice for Foot Control (if applicable)
10	1	ATG-WNG	Warning: Use handle to open
11	1	P-2032626	Palfinger Logo
12	11	85-7524-009	QR Scan Code Decal, ILSL
13	1	ML2038837	Palfinger Logo (Yellow)





8.5 Quick Check List

1. Operate the liftgate throughout its entire operation and check for noise and damage such as bent parts or cracked welds.
2. Inspect all welds and fasteners that attach the mount frame to the truck. All pins and bolts that connect the liftarm to the mount frame and to the platform.
3. Visually inspect the hydraulic lines for damage, scratches, bending or leakage.
4. Inspect the cylinders for leakage and that the cylinder pins are secured with lock bolts.
5. Check the oil level when the platform is down at ground level. We recommend replacing oil after the first 1200 cycles, after that on a yearly basis in the fall before winter begins.
6. Check for oil leakage around the power pack and inside mount tube. Tighten or replace components if needed. If you perform work on any hydraulic components bleed the air out of the system by operating all functions several times.
7. Check all electrical connections. Clean and protect battery terminals and check for tightness.
8. Inspect all the terminals on the solenoid-operated valves at the port of the cylinder. Lubricate the terminals for better protection from oxidation if needed.
9. Grease all zerks on the liftgate and make sure they all take grease. Sometimes it helps to operate the liftgate while you do this.
10. Test all the liftgate functions.
11. Check the function of the pressure relief valve.
12. When doing daily checks and you find any kind of damage that can make the use of the liftgate dangerous, it must be repaired before using. All repairs should be made by an authorized technician. Use only original spare parts. If in doubt contact, your INTERLIFT Liftgates distributor or call INTERLIFT Liftgates directly.



Do not cover up any accidents or damage; it can be dangerous for you and your co-workers.

9 Troubleshooting

ATTENTION:



Please check the following points before identifying any faults.



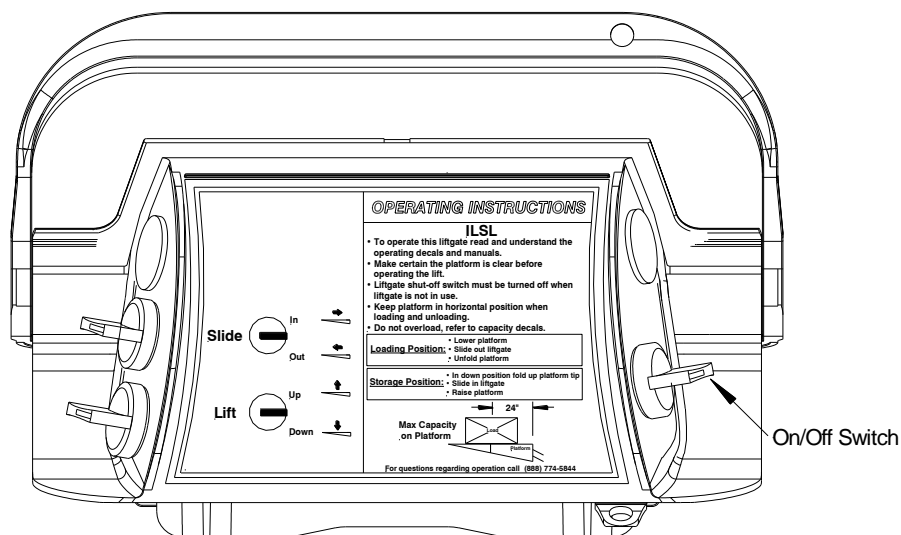
Serious injuries are possible from tools short circuiting main battery connections. Do not leave tools or other equipment that may cause shorts around the battery.

- Please change oil after working on hydraulic unit (removal of valves, opening of cylinder etc.)
- There is a possibility of injury if somebody other than an authorized technician works on the liftgate.
- Injuries are possible if short circuits are caused by tools, jewelry, or other conductive objects on or near the battery connections.

9.1 Liftgate will not power on.

1. Check the shut off switch.

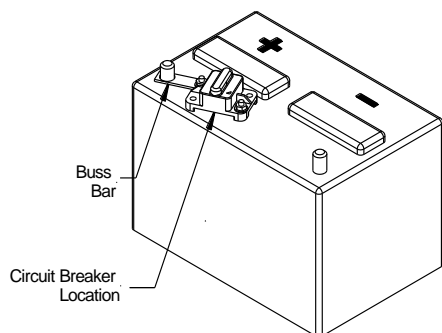
Turn ON the ON/OFF switch located in the control box.



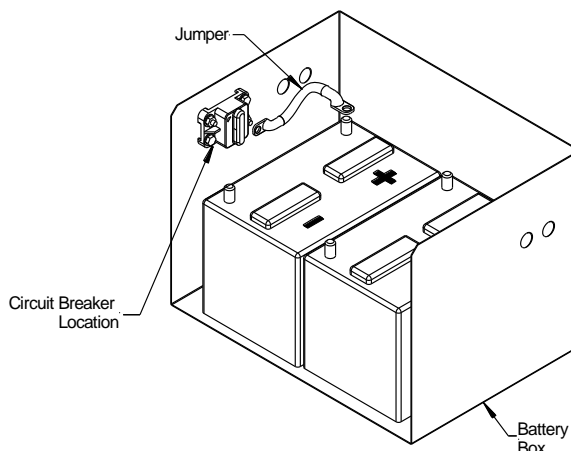
2. Check the circuit breaker at the main batteries.

Every truck has a circuit breaker on top of the main battery or if you have a studio unit, or a trailer, you will also find an auxiliary battery kit as shown in the illustration below. If the circuit breaker reset tab is exposed, push it back in as shown on the decal ATG-BKR next to the circuit breaker or on battery box lid.

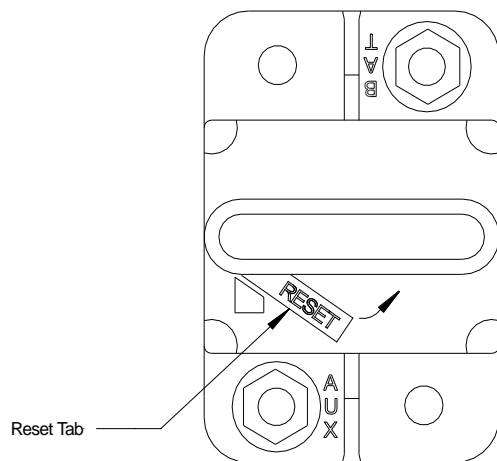
Battery Mount



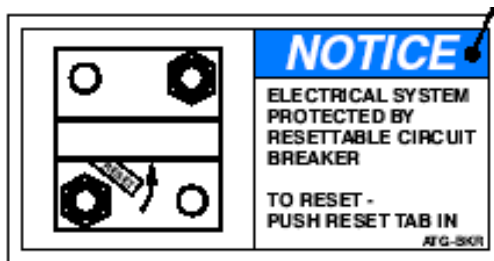
Battery Box Mount



Truck Battery



Auxiliary Battery



Circuit Breaker Needs to be Reset when Reset tab is exposed

3. Are the vehicle batteries charged?

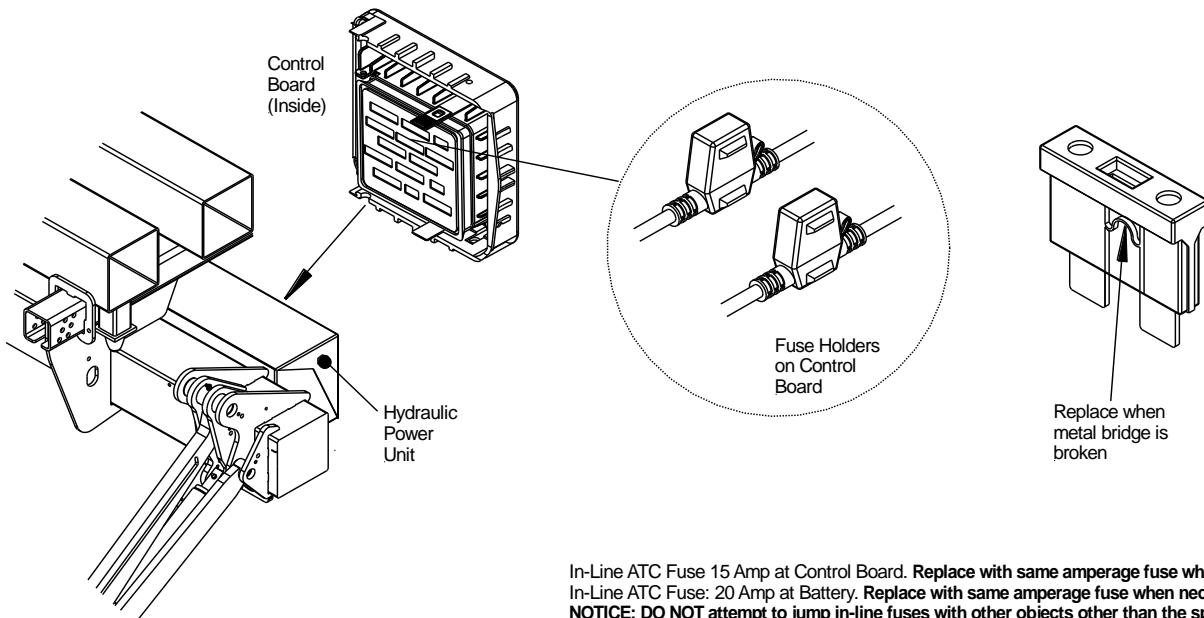
Check batteries and the truck/trailer charging system. Start truck and run engine in fast idle for charging the batteries. If liftgate starts working, recharge and load test batteries.

4. Check the fuse(s) at the control board and battery.

The control board inside the hydraulic power unit box has two 15 Amp fuses and at the batteries there should be a 20 Amp fuse. Check all fuse holders for blown fuse(s) and replace each blown fuse with the same amperage.



DO NOT use higher amperage fuse.



In-Line ATC Fuse 15 Amp at Control Board. Replace with same amperage fuse when necessary.
 In-Line ATC Fuse: 20 Amp at Battery. Replace with same amperage fuse when necessary.
NOTICE: DO NOT attempt to jump in-line fuses with other objects other than the specified fuse(s).
DO NOT increase the amperage rating of fuse. Serious harm to the liftgate will result when standard practices are not followed.

5. Is the connection to ground in power pack OK?

Is the ground connection from the liftgate to vehicle OK? Inspect all wire and cables for any damage or cuts

6. Check the oil level in the Hydraulic Power Unit.

The Hydraulic Power Unit is located inside the mount tube. To access the oil reservoir, remove the screw and slide out the Power Unit until there's access to the oil reservoir. Check the oil level is between the 5 and 7 level.

7. Are there any damages on mechanical or electrical parts (such as damaged cables)?

Perform a visual inspection of all electrical wiring and mechanical components.

9.2 ON/OFF switch is ON but all functions are dead.

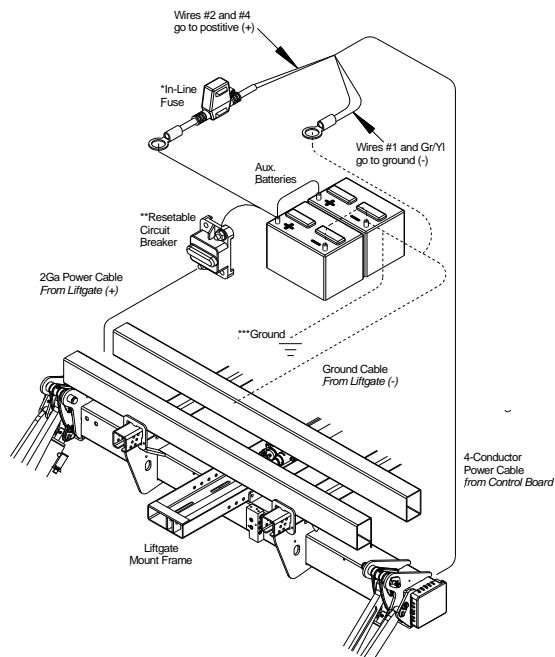
Possible malfunctions:

1. Short in hand held remote or its wire, unplug hand held control at J31. Remove J1 plug for 5 seconds. Reinstall J1, try main control board switches. If gate operates the problem is in the hand held control or its wiring.
 2. Short in control box wire remove J30 plug. Remove J1 plug for 5 seconds. Reinstall J1, try hand held remote. If gate operates the problem is in the control box switches or harness.
- After disconnecting plugs – reboot board by unplugging J-1 for 5 seconds and plug it back.

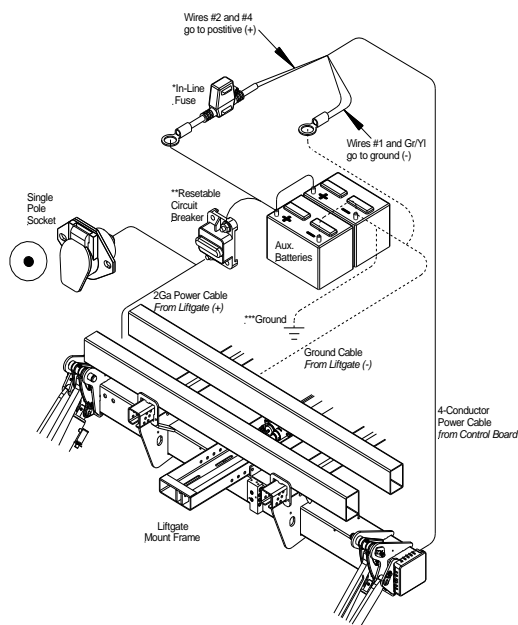


If gate is still not working, take truck/trailer to an authorized repair station.

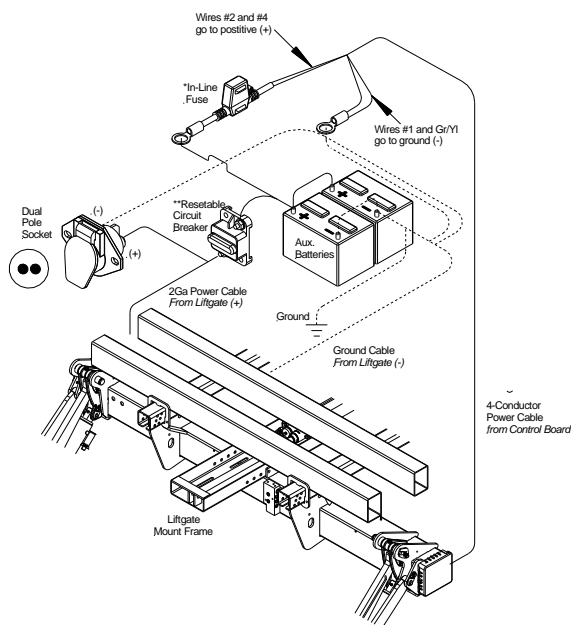
10 Electrical Wiring



Truck Setup



Trailer Setup – Single Pole Charging System



Trailer Setup –Dual Pole Charging System

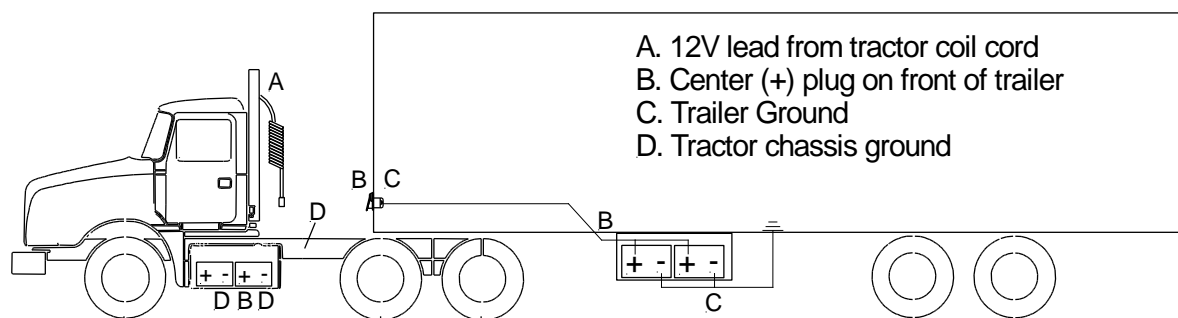
*In-Line ATC Fuse: 20 Amp. **Replace with same amperage fuse when necessary.**

Resettable Circuit Breaker: 150 Amp Min. **Replace with same amperage breaker when necessary.

***Ground: For optimal grounding, ground all batteries and power units to the body side rails of the vehicle.

NOTICE: DO NOT attempt to jump in-line fuses with other objects other than the specified fuse. DO NOT increase the amperage rating of fuse. Serious harm to the liftgate will result when standard practices are not followed.

10.1 Cross Test on Single Pole Plug Charge System



Testing of full system using a battery load tester. Start with testing each individual battery on both tractors and trailer before proceeding to check the system:

1. Tractor Test:

- Ground battery load tester on tractor chassis point (D)
- Connect positive load tester cable on positive pole of single pole plug at end of tractor coil cord (A)
- Run load test- This will test entire circuit on tractor including ground

2. Trailer Test:

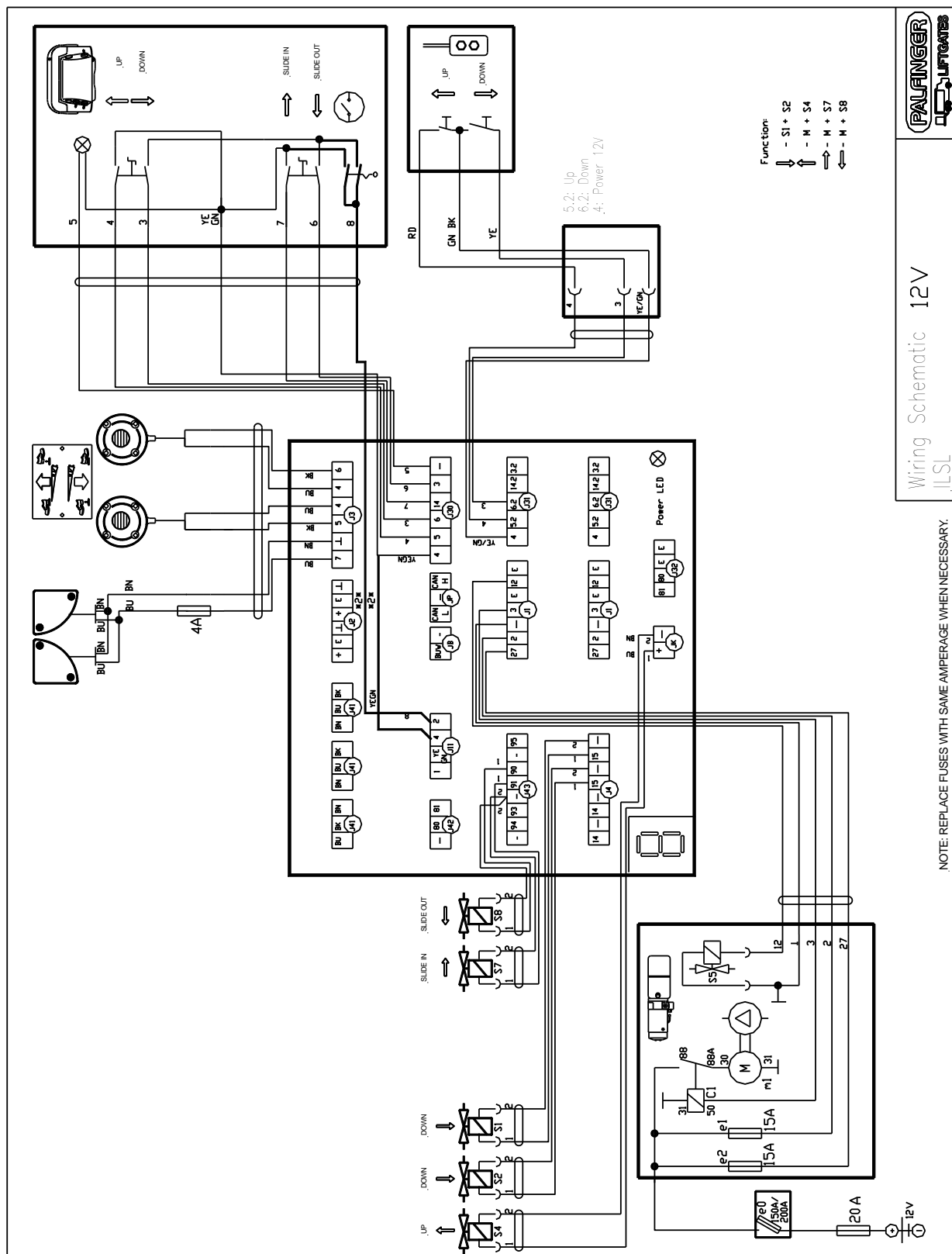
- Ground battery load tester on trailer chassis point (C)
- Connect positive cable on positive pole of single pole plug receptacle on trailer (B).
- Run load test- This will test entire circuit on trailer including circuit breakers and ground between trailer batteries and trailer chassis.

3. Tractor and Trailer Charging system test while connected:

- Ground battery load tester on tractor chassis point (D)
- Connect positive cable on positive pole of single pole plug receptacle on trailer (B).
- Run load test- This will test entire circuit on tractor and trailer including ground between tractor, trailer, and circuit breaker on trailer.

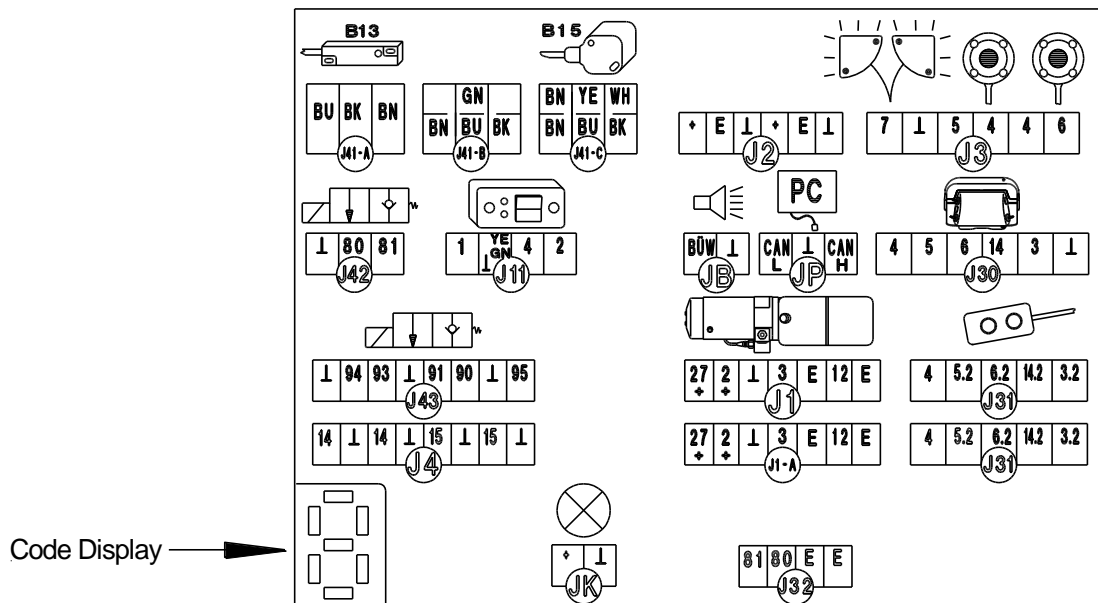
A simple low amp voltage test at the front of the trailer or at the tractor will not show insufficient connections or ground problems.

10.2 Electrical Schematic



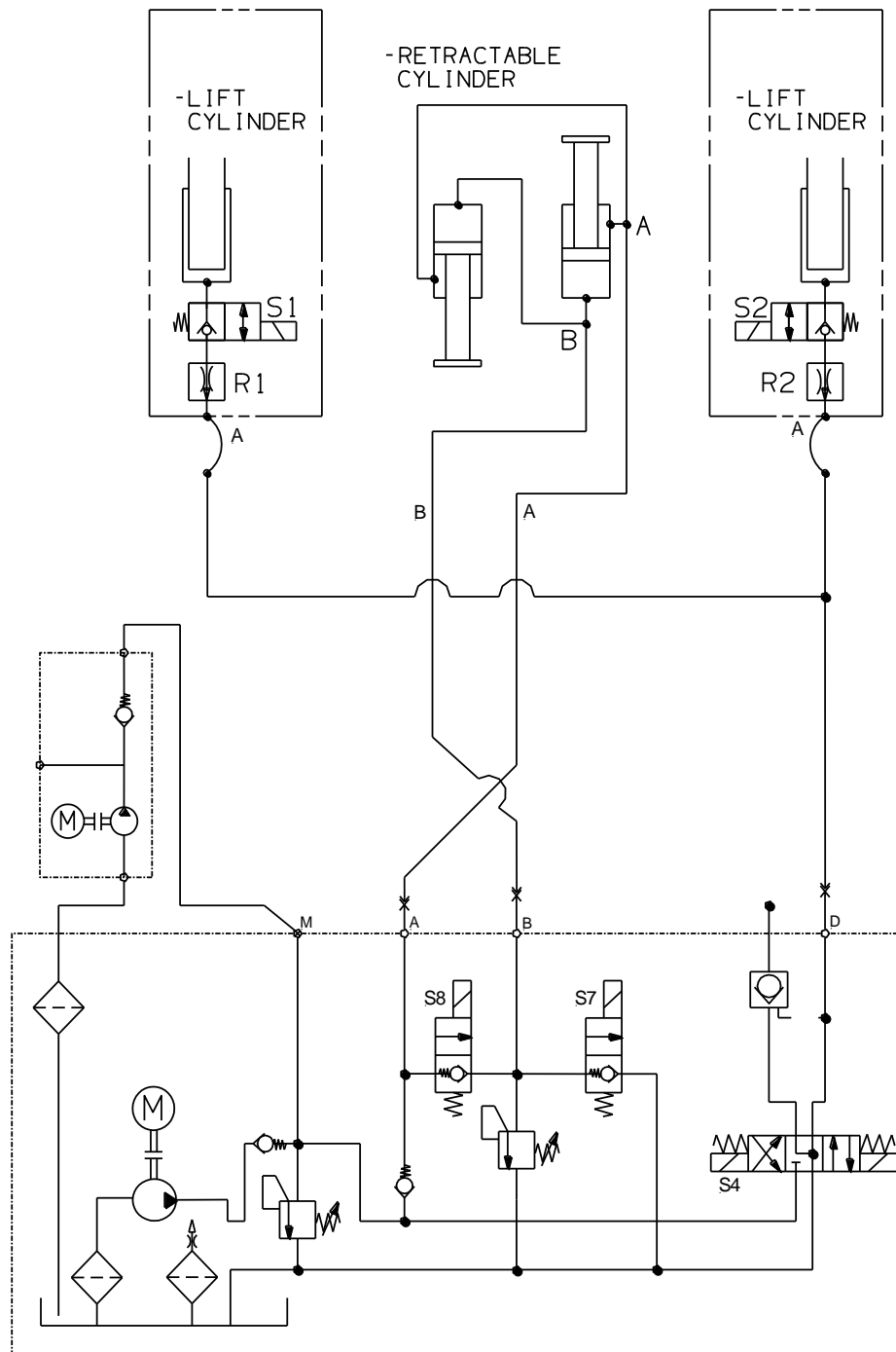
10.3 Electrical System Codes

Code:	Description:	Reason:	Solution 1:	Solution 2:	Solution 3:	Solution 4:
0	System OK / Control System: OFF	System OK / Control System: OFF	System OK / Control System: OFF	--	--	--
1	System OK / Control System: ON	System OK / Control System: ON	System OK / Control System: ON	--	--	--
2	Low Voltage	Voltage J1 Pin 2 too low	Check J-1 & J-2 power cable at PC board and battery for tight connection, oxidation and damage.	Check the battery condition / battery charged	Motor could have worn carbon brushes / motor could be bad	--
5	Platform sensor (B-15): Broken wire, short	J41-C shorted; J41 pin BLUE: wire getting more than 5 Volts (right upper location J41)	Check adjustment B-15 platform	Unplugged, plugged in wrong location	Change B-15 platform sensor	To temporary by-pass, jump Black to Blue
6	Short on warning lights	Power consumption J3 Pin 7 to high	Check J-1 & J-2 power cable at PC board and battery for tight connection, oxidation and damage.	Check warning light cables for damage	--	--
7	Short in cab Switch, control system	Power consumption J11 Pin 1 to high	Check J-1 & J-2 power cable at PC board and battery for tight connection, oxidation and damage.	Check cab cut off / warning light cable for damage	--	--
8	General Short in electric wiring	General power consumption to high	Check J-1 & J-2 power cable at PC board and battery for tight connection, oxidation and damage.	Unplug wires one by one, check for correct plug location	Repair cables, connections, check for burnt or crushed wires	--
9	Defect in motor solenoid during lifting	Power consumption J1 Pin 3 to high	Check J-1 & J-2 power cable at PC board and battery for tight connection, oxidation and damage.	Check the battery condition / battery charged	Possible short in diode jumper wire on Motor Solenoid: Remove Jumper	Possible short in Thermo Switch inside motor Bypass and test, replace Thermo Switch
A	Fuse 15A damaged on power pack (J1, Pin 2)	Defective fuse J1 Pin 2	Check fuses at power pack	Check fuse holder Replace fuse with same amp fuse	--	--
P	Error diagnostic mode active	Attached service plug	--	--	--	--



NOTES

11 Hydraulic Schematic



Functions:

Lift:	S4 + Motor
Lower:	S1 + S2
Slide Out:	S8 + Motor
Slide In:	S7 + Motor

Functional Description of Hydraulics Schematic

Slide Out Function

- As soon as the Motor starts to run, valve S8 is energized.
- Oil pressure exits pump and motor under pressure to A + B ports on push pull cylinder.
- The surface at the end of the piston rod on input "B" is larger than on the shaft at input "A".
- This creates a stronger force at the piston rod ("B") than at the shaft ("A").
- This factor forces the cylinder to extend.
- The liftgate will slide out to the end of the rails.

Lower Down

- The solenoid release valves S1 and S2 at the cylinders get energized.
- The liftgate is designed to lower down by gravity. It will push the hydraulic oil out of the lift cylinder into the reservoir. The oil passes the solenoid release valves S1 and S2.

Lift Up Function

- Motor starts running oil pressure exits pump and motor to the release valves S1 and S2 are forces the fluid to push the lift cylinders to extend. The platform raises up.

Slide In Function

- Motor starts running and S7 valve is energized.
- The Oil pressure exits pump and motor under pressure to input "A" at the cylinder.
- The energized valve S7 is allowing the oil at the bottom of the piston rod to get back through the S5 into the reservoir.
- The pressure on the end of the shaft will force the piston rod to retract. The liftgate will slide in under the body.

12 Needed Information for Ordering Spare Parts and Repairs

12.1 Ordering Spare Parts

In order to assure quick delivery of spare parts, please always state the following information when making orders:

1. Liftgate model & serial number.
2. Designation and number of the spare part in accordance with the spare parts list.
3. Designation and number marked on the individual component (if available).

12.2 Repairs

Parts sent to INTERLIFT Liftgates to repair must be accompanied by a letter (in separate cover) giving details and scope of the repairs required.

13 Warranty

INTERLIFT Liftgates provides warranty as part of its conditions of delivery. Spare part deliveries are first of all billed. INTERLIFT Liftgates then issues credit for all or part of the invoiced sum when INTERLIFT Liftgates has been able to determine that the warranty claim is justified as defined by its warranty conditions. INTERLIFT Liftgates does this by inspecting the defected parts which are sent back to INTERLIFT Liftgates freight-prepaid as well as the written description of the problem which must have been filled out in full.

The parts that are sent back to INTERLIFT Liftgates, marked with serial number and address, become INTERLIFT Liftgates' property if the warranty claim is accepted.

All warranty claims must be received **within 30 days** of repair or replacement. Including the following information:

1. Liftgate model.
2. Liftgate serial number.
3. Description of problem.
4. Itemized bill of repair with breakdown of number of hours to perform warranty work and labor changes per repair.
5. Parts used for repair with INTERLIFT Liftgates part number.
6. RMA#.
7. Contact at INTERLIFT Liftgates, if applicable.

Model	Pump and Motor	Cylinders	Hardware	Control System	Hydraulic
ILSL 30/40	2 yrs	3 yrs	3 yrs	3 yrs	2 yr

14 Contact Address

15939 Piuma Ave
Cerritos, CA 90703
Phone: (562)-924-8218
Fax: (562)-924-8318

E-mail (parts order):
liftgateparts@palfinger.com

E-mail (technical support):
technicalapplications@palfinger.com



572 Whitehead Road
Trenton, NJ 08619
Phone: (609)-587-4200
Fax: (609)-587-4201

E-mail (parts order):
liftgateparts@palfinger.com

E-mail (technical support):
technicalapplications@palfinger.com