



LIFTGATES

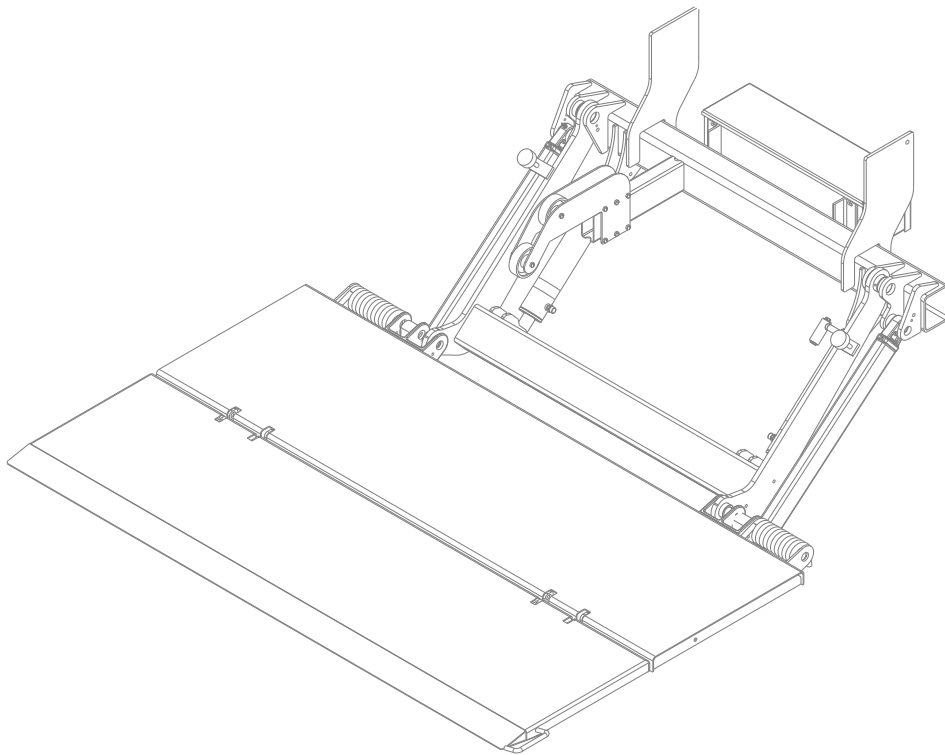
OWNER'S MANUAL

PLR 20S, 2000 lbs. Capacity

PLR 25S, 2500 lbs. Capacity

PLR 25D, 2500 lbs. Capacity

PLR 33D, 3300 lbs. Capacity



PLR 20S/25S/25D/33D Owner's Manual

Document Part Number: 90-0316-001 / 16-695_90-00_00-01

ECN-M1044, Rev. 1.1, 06-12-17

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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 Palfinger Liftgates at (888)-774-5844**

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Company Information:

Company Name: _____

Advisor Name: _____

Vehicle Year Make & Model: _____

Liftgate Information:

Liftgate Serial Number: _____

Liftgate Model Number: _____

Date of Purchase: _____

Date of Installation: _____

Thank you for choosing Palfinger Liftgates.

1 Manual Updates

Revision	Description
v1.1	<ul style="list-style-type: none">• Changed product name from PLP to ILP.
v1.2	<ul style="list-style-type: none">• Revised Sections 13.9, 13-10: Toggle switch wire colors updated.
v1.3	<ul style="list-style-type: none">• Updated Sections 8.6 & 8.7

2 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

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

WARNING

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

CAUTION

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

CAUTION

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

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.)*

2.1 General Safety

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 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 truck/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.



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 PLR liftgate. It also provides safety information and simple preventive maintenance tips.

3 Important Information

Before Getting Started

“READ FIRST”

NOTICE

Before starting any operations of the liftgate, please read and understand this Owner’s Manual. The intention of this manual is to provide the user a guide for the operation as well as preventive maintenance. Do not attempt to modify or repair the liftgate unless performed by qualified personnel. Please contact your nearest Palfinger Liftgates distributor or Palifinger Liftgates in California or New Jersey for assistance if you have any questions regarding operation or maintenance at 888-774-5844.

This owner’s manual applies to the following models: **PLR 20S / 25S / 25D /33D**

Important notes

The electric supply is taken from the vehicle battery. If the vehicle battery is not sufficient, an auxiliary battery kit needs to be installed. The electric control power is secured via a 15-Amp fuse and an on-off switch located inside the cab.

Trailer applications have an on/off switch near the rear curb side corner post.

The liftgate is operated from a standard toggle switch. A hand held remote control is optional with up and down functions. A variety of different control options can be purchased with the Palfinger Liftgates product.



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



NOTICE

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

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

1) Refer to the serial number tag on the liftgate, the tag can be found on the driver side of the mount frame, at approximate location shown, **Fig.1**.

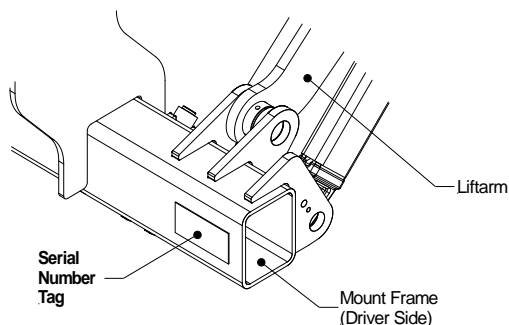


Fig.1

2) Ask your employer or lessor;

3) Call your Palfinger Liftgates Authorized Service Center for assistance.

4) Call Palfinger Liftgates for assistance in the USA at 888-774-5844. You can also contact Palfinger Liftgates by fax (562) 924-8318 or on the internet- www.palfinger.com

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

3.1 Improper Usage

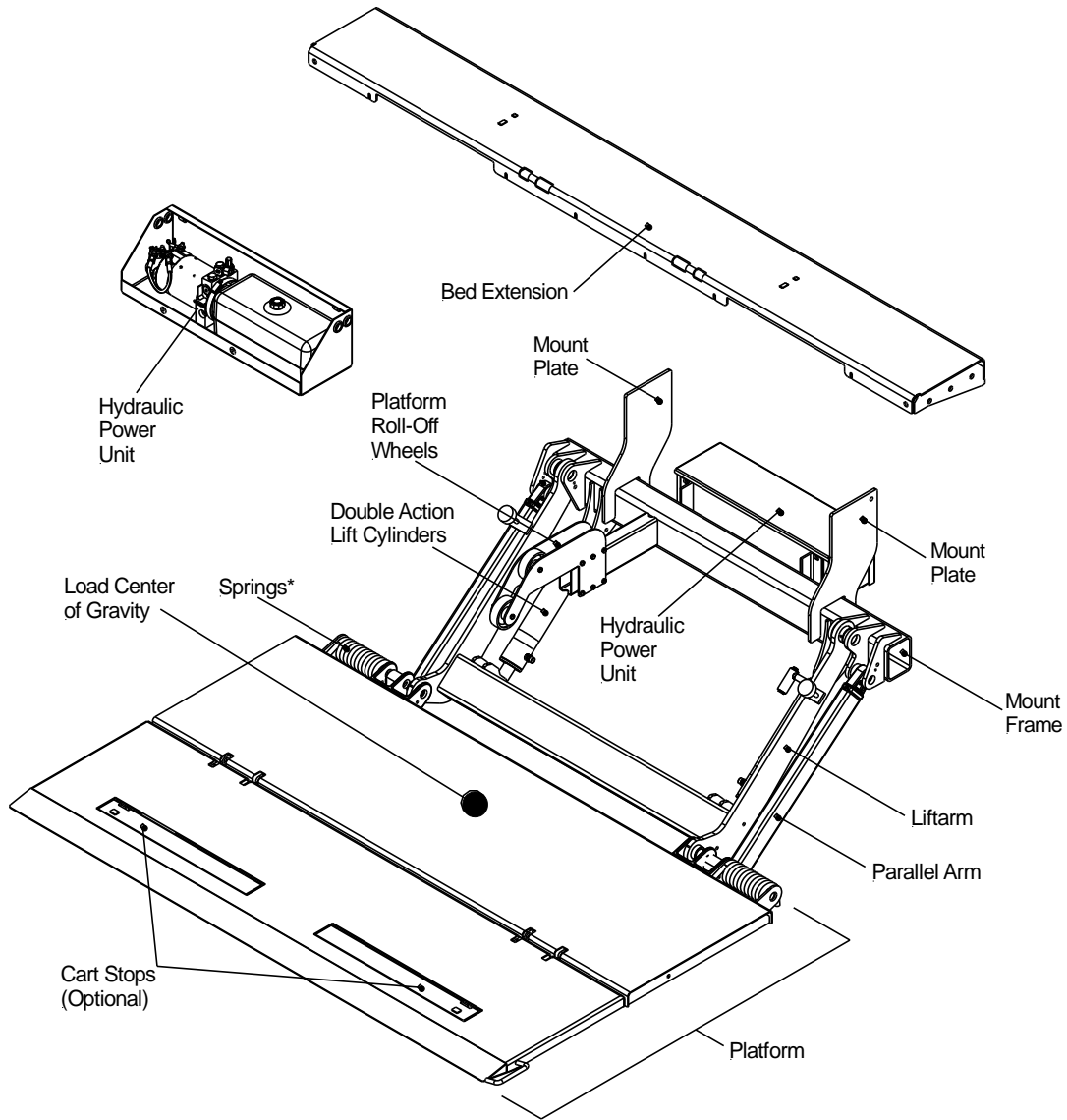
⚠ DANGER

Some examples of improper use of the liftgate may include, but are not limited to:

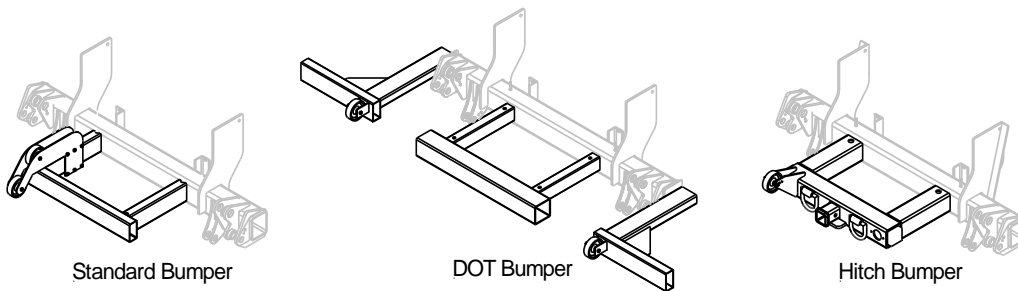
- Using the liftgate as an elevating work platform
- Using the liftgate to push, pull, or tow loads or other objects.
- Using the liftgate to carry people (Only the operator may travel on the platform)
- Using the liftgate to clear snow
- Trying to use the liftgate as a “launching pad”
- Using force of the hydraulic system to bend, shear, or break objects
- Driving a forklift over the liftgate
- Driving the truck or trailer with the platform open
- Plowing with the platform

4 General View of Liftgate

4.1 PLR D Series Liftgate (Dual Cylinder)

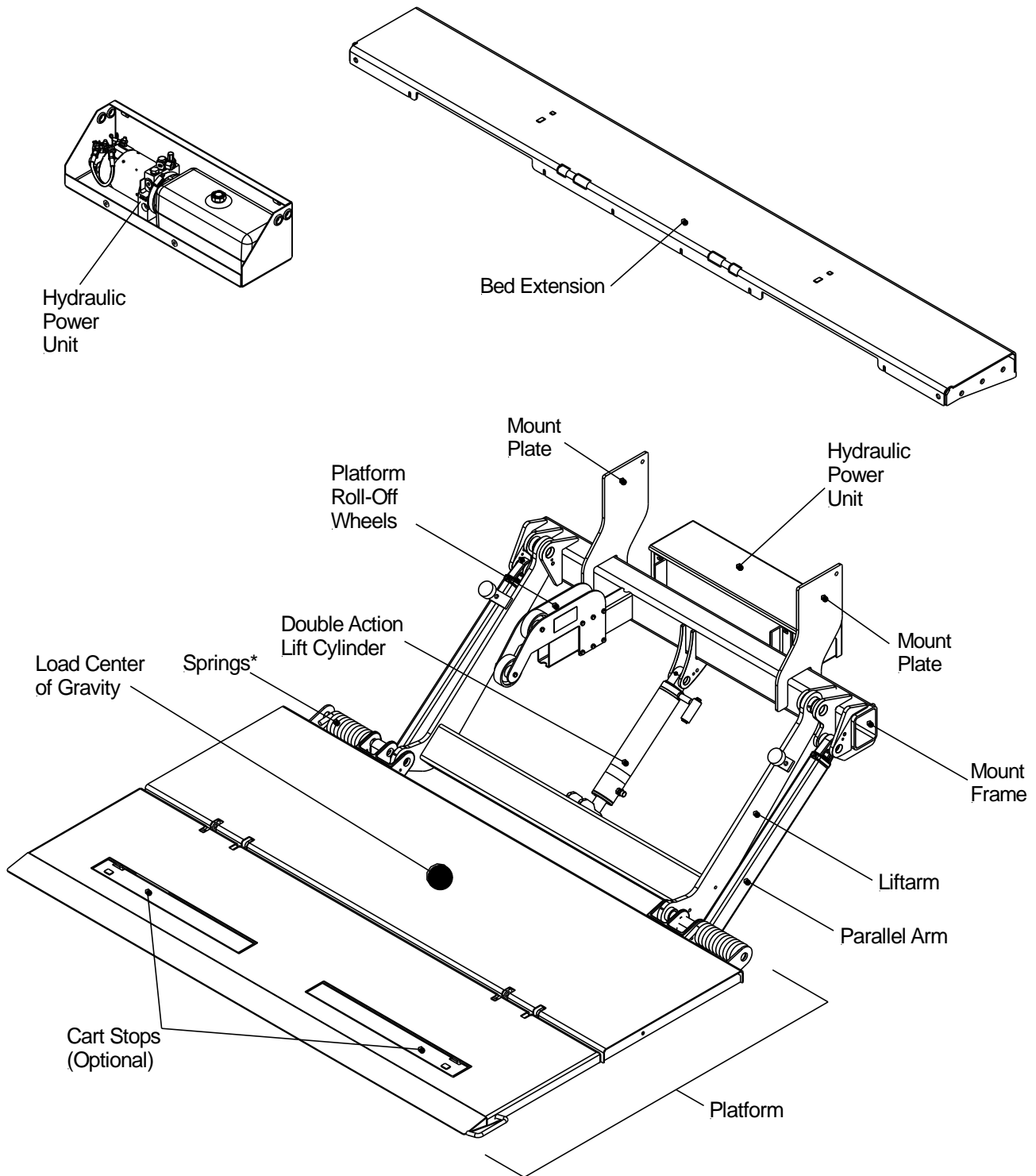


PLR Liftgate Optional Configurations



**No spring installed on left side for 42" and 48" aluminum platforms only.*

4.2 PLR S Series Liftgate (Single Cylinder)



**No spring installed on left side for 42" and 48" aluminum platforms only.*

5 Maximum Load and Placing of Load on Platform

Every Palfinger 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 rear of the bed extension out to the platform, **Fig.2.**

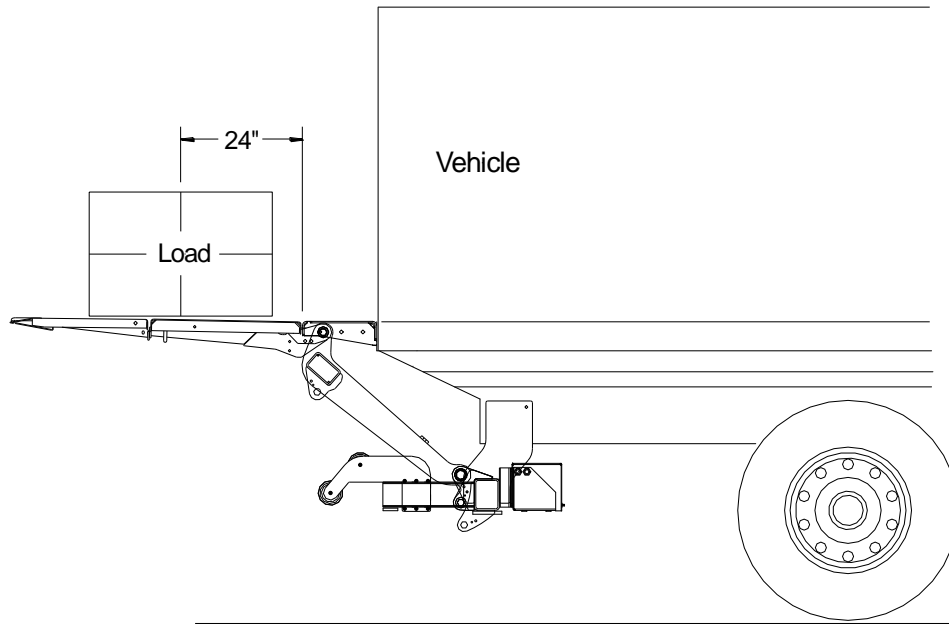
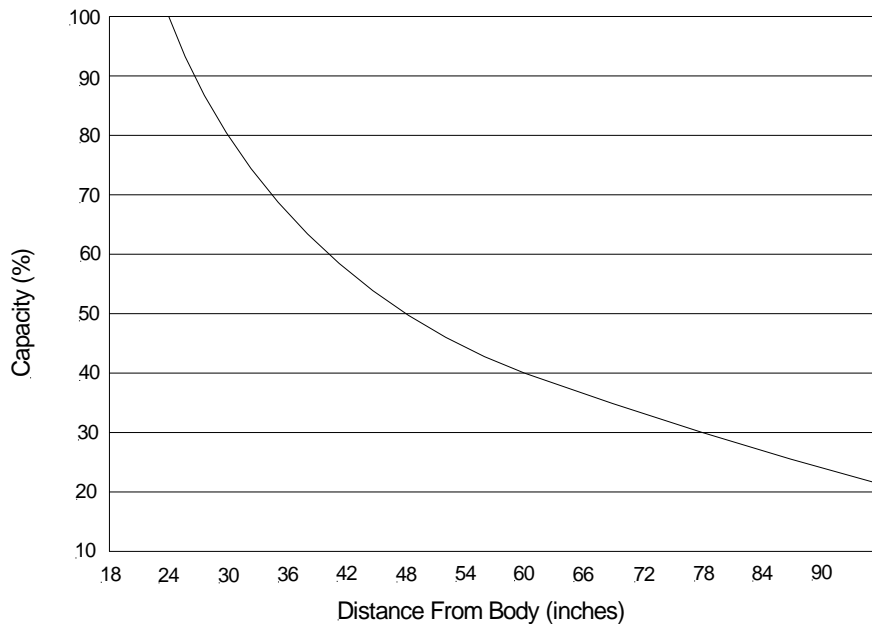


Fig.2



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

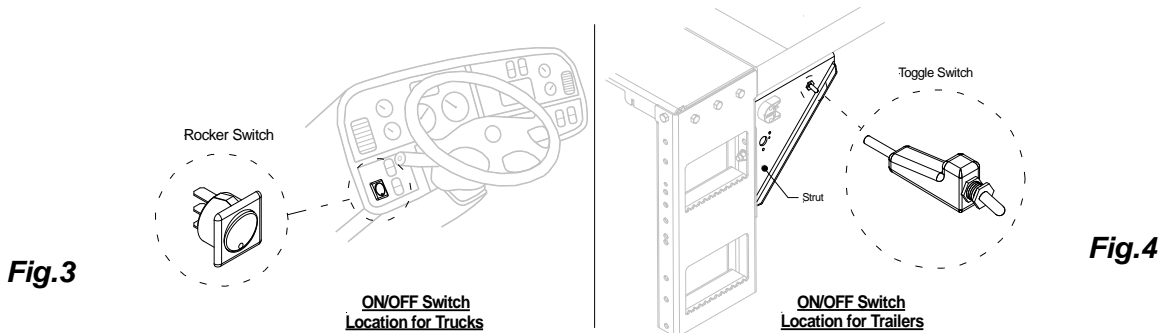
6.1 Operation by Toggle Switch/Hand Held Remote Control



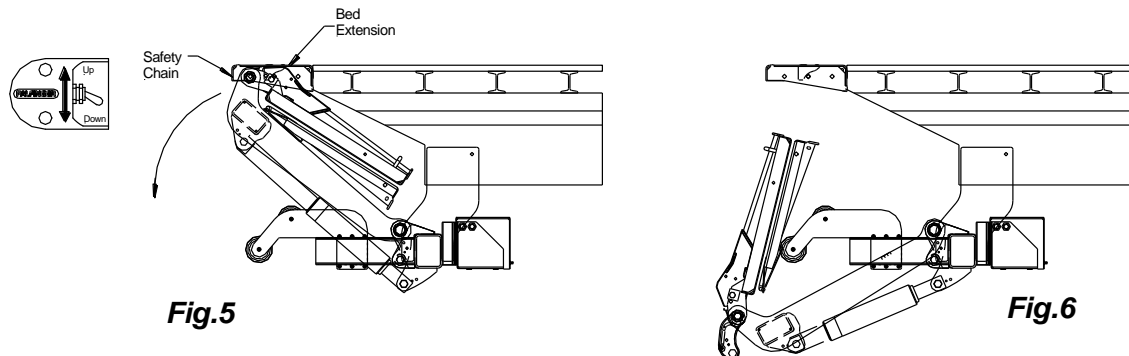
Always stand clear of platform area when operating the liftgate.

To Open Liftgate

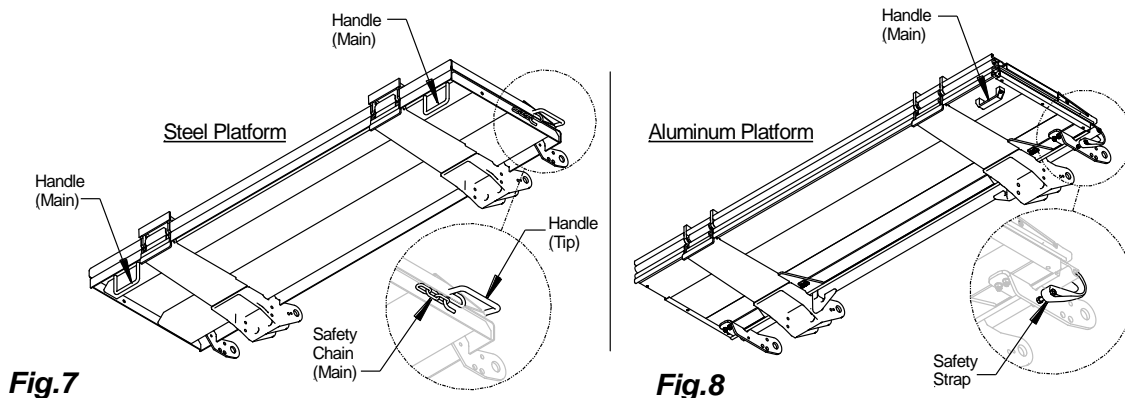
1. Power on the liftgate by switching the ON/OFF switch ON. ON/OFF switch location for a truck is located in the cab, **Fig.3**, for a trailer it will be located on the dock bumper strut, **Fig.4**.



2. On single cylinder PLR models only, unhook the safety chain from the bed extension before using the down function on the toggle switch. Use the **Down** function of the toggle switch to lower the gate from stored position, **Fig.5**, until the platform rest on the platform roll off wheels, **Fig.6**.



3. Identify the type of platform installed. Steel and aluminum platforms have different safety features. Steel platforms have a safety chain to secure the tip to the main, **Fig.7**. Aluminum platforms have a safety strap that secures the tip and main, **Fig.8**.



- Use the handle on the main to manually pull the platform away from the roll off wheels down to the ground, **Fig.9**. Unhook the chain on the side of the platform that secures the main section to the tip. Use the handle on the tip section to manually unfold the tip, **Fig.10**. For aluminum platforms, unhook the strap, and use the strap to unfold the platform tip manually.

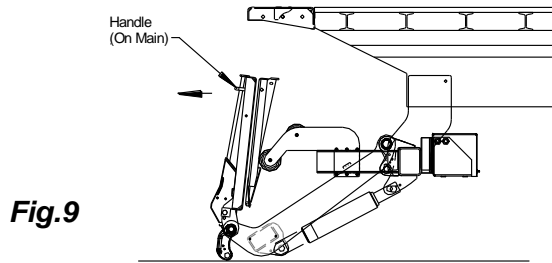


Fig.9

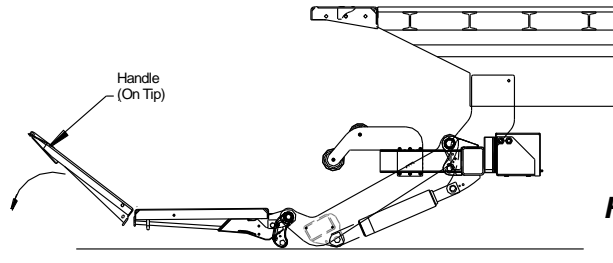


Fig.10

- Center the load on the platform 24" away from the rear of the bed extension, **Fig.11**. Use the toggle switch to lift the platform/load up and down, **Fig.12**.

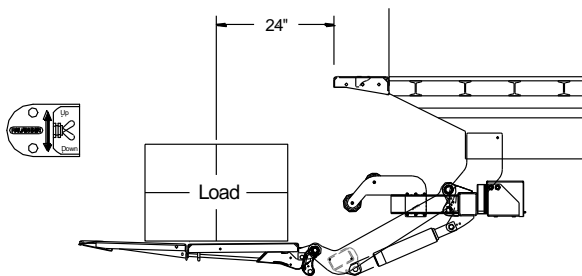


Fig.11

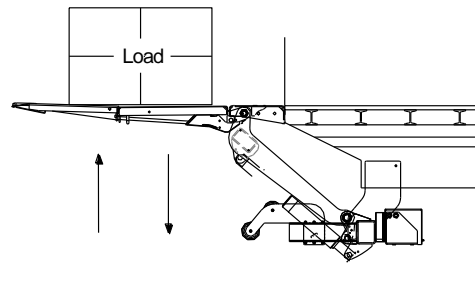


Fig.12

To Close Liftgate

- Raise platform approximately 16" from the ground, fold the tip manually using the handle/strap and secure the tip to the main with the safety chain/strap. Manually lift the platform to rest against the wheels.

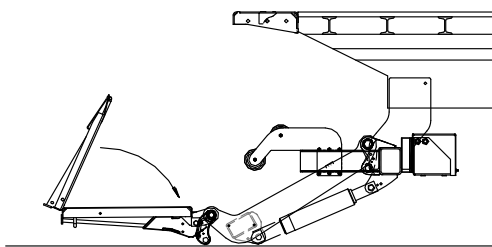


Fig.13

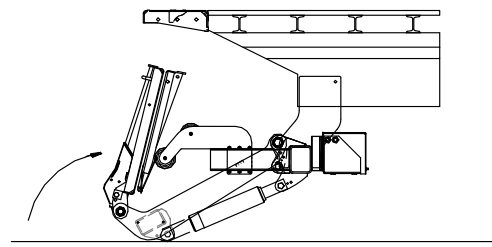


Fig.14

- Use the **UP** function on the toggle switch to store the platform, **Fig.15**.

NOTE: For single cylinder PLR models, hook the safety chain to the platform main.

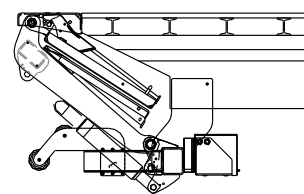
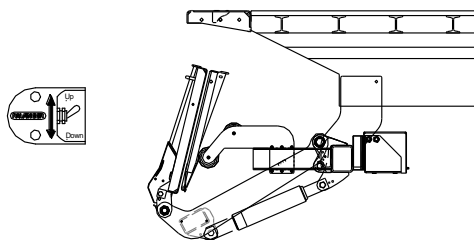


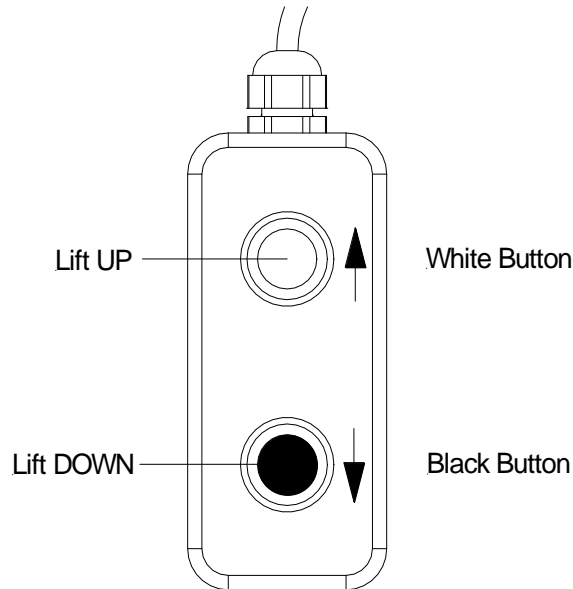
Fig.15

- Turn the ON/OFF switch **OFF** when liftgate is not in use.

6.2 Hand Held Remote Control (Optional)

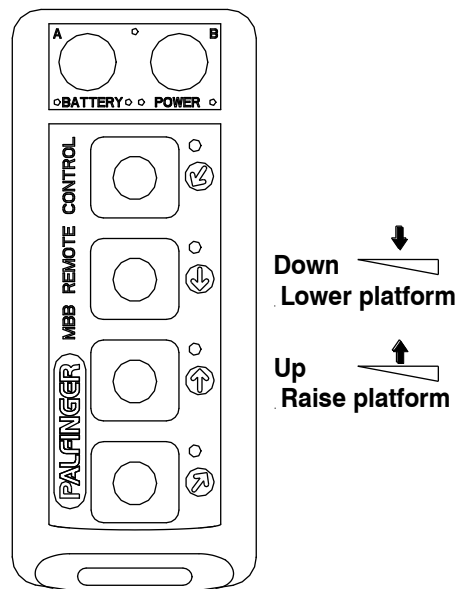
Reminder: Do not store remote inside refrigerated vehicles. Control will be damaged.

1. **Lowering Down**
Press and hold the black button to lower platform.
2. **Lifting Up**
Press and hold the white button to raise platform.



6.3 Wireless Hand Held Remote (Optional)

1. Read the wireless remote Owner's Manual before operating the liftgate.
2. Power the remote by using the ON/OFF switch on the rear of the control.
3. Each function has a separate button. Functions are displayed below.
4. After finishing using the gate, switch the power OFF on the remote.
5. Maintain the remote in the cab of the vehicle.



6.4 Platform Cart Stops Operation (Optional)

Aluminum Platform Cart Stops

1. Push the cart stop latch out toward the curb side, **Fig.14**. Both cart stops will spring open automatically once the latch has been moved from its original position, **Fig.15**.
2. To close the cart stops, push the cart stop latch inward towards the street side, **Fig.16**. After the latch is in place close each cart stop by stepping on each stop down.

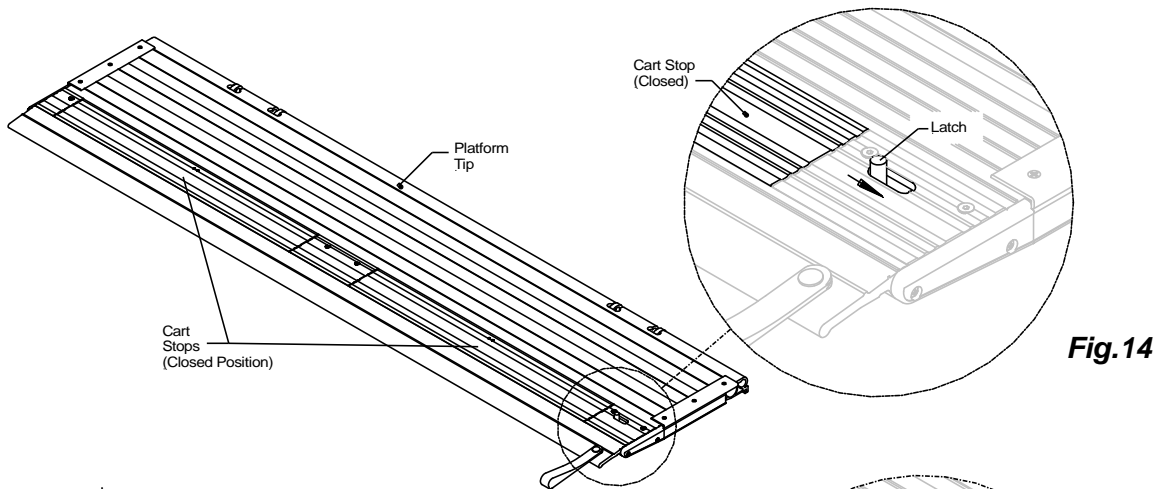


Fig.14

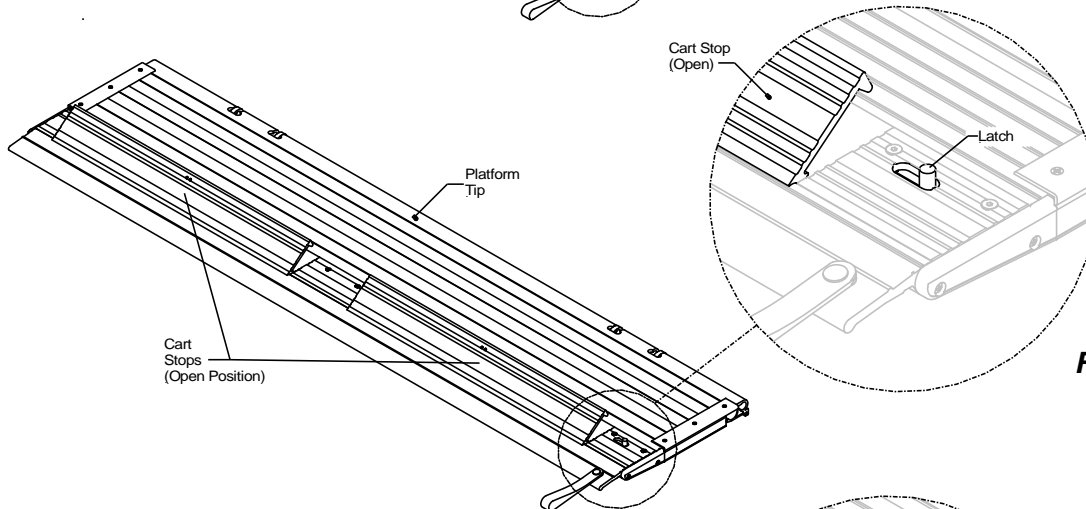


Fig.15

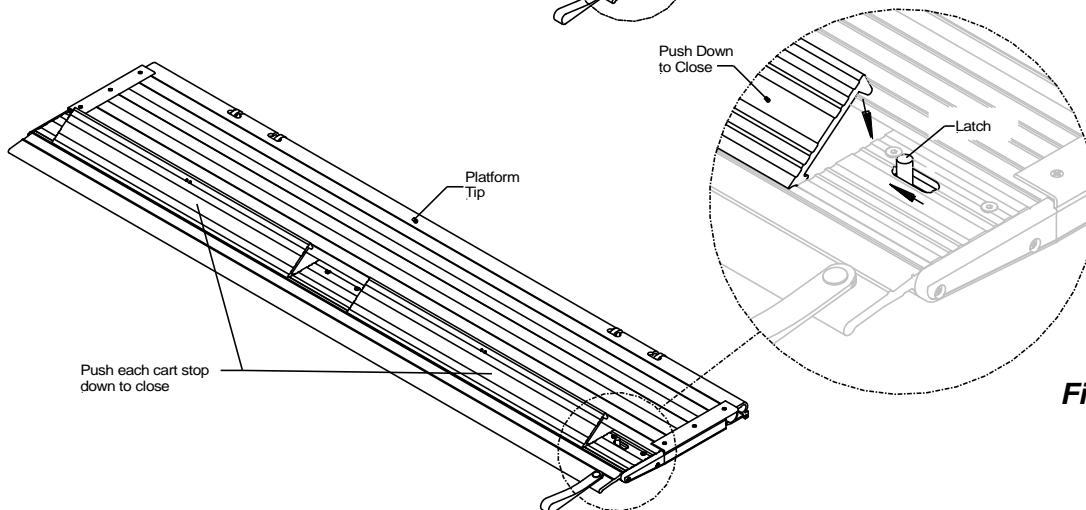


Fig.16

Steel Platform Cart Stops

1. Each cart stop is equipped with a retaining latch. Push each latch inward to open the cart stop, **Fig. 17**. The cart stop will automatically spring open once the latch has been pushed, **Fig. 18**.
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, **Fig. 19**.

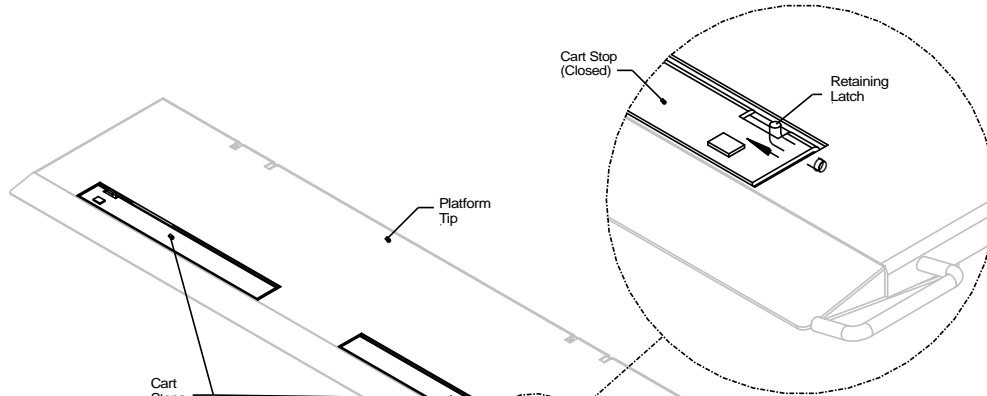


Fig.17

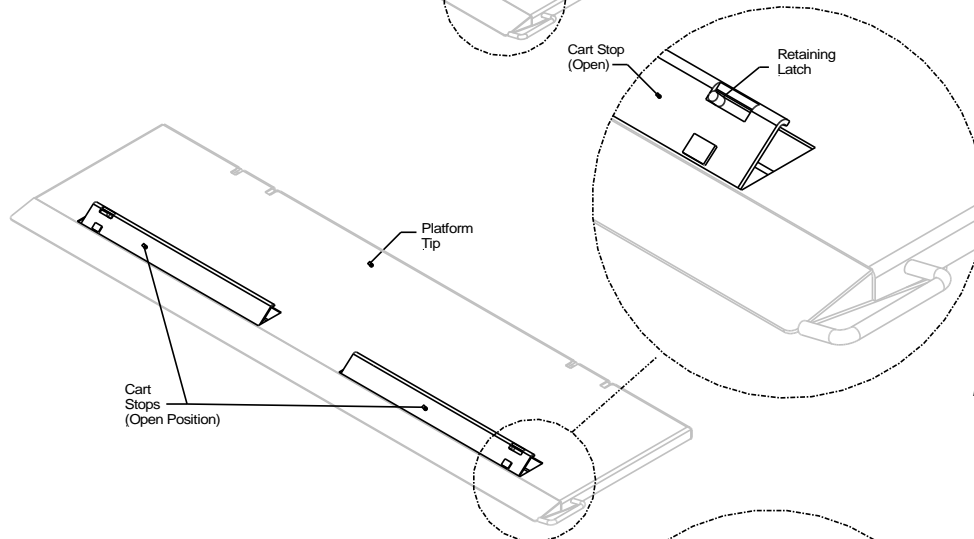


Fig.18

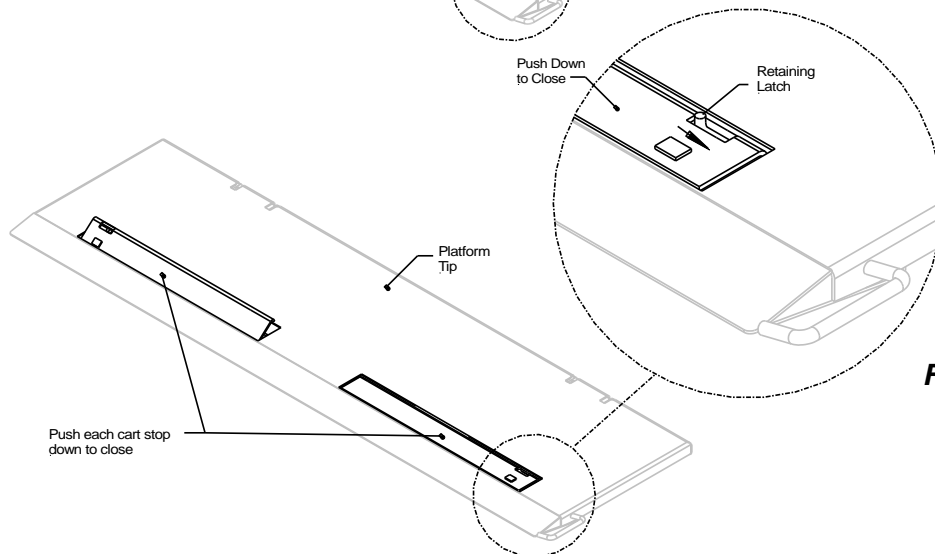


Fig.19

7 Preventive Maintenance and Quick Check

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



REPAIR OR REPLACE FAULTY PARTS IMMEDIATELY



7.1 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 gate		x		
Check mounting brackets of lift gate to frame for cracks or damage visually		x		

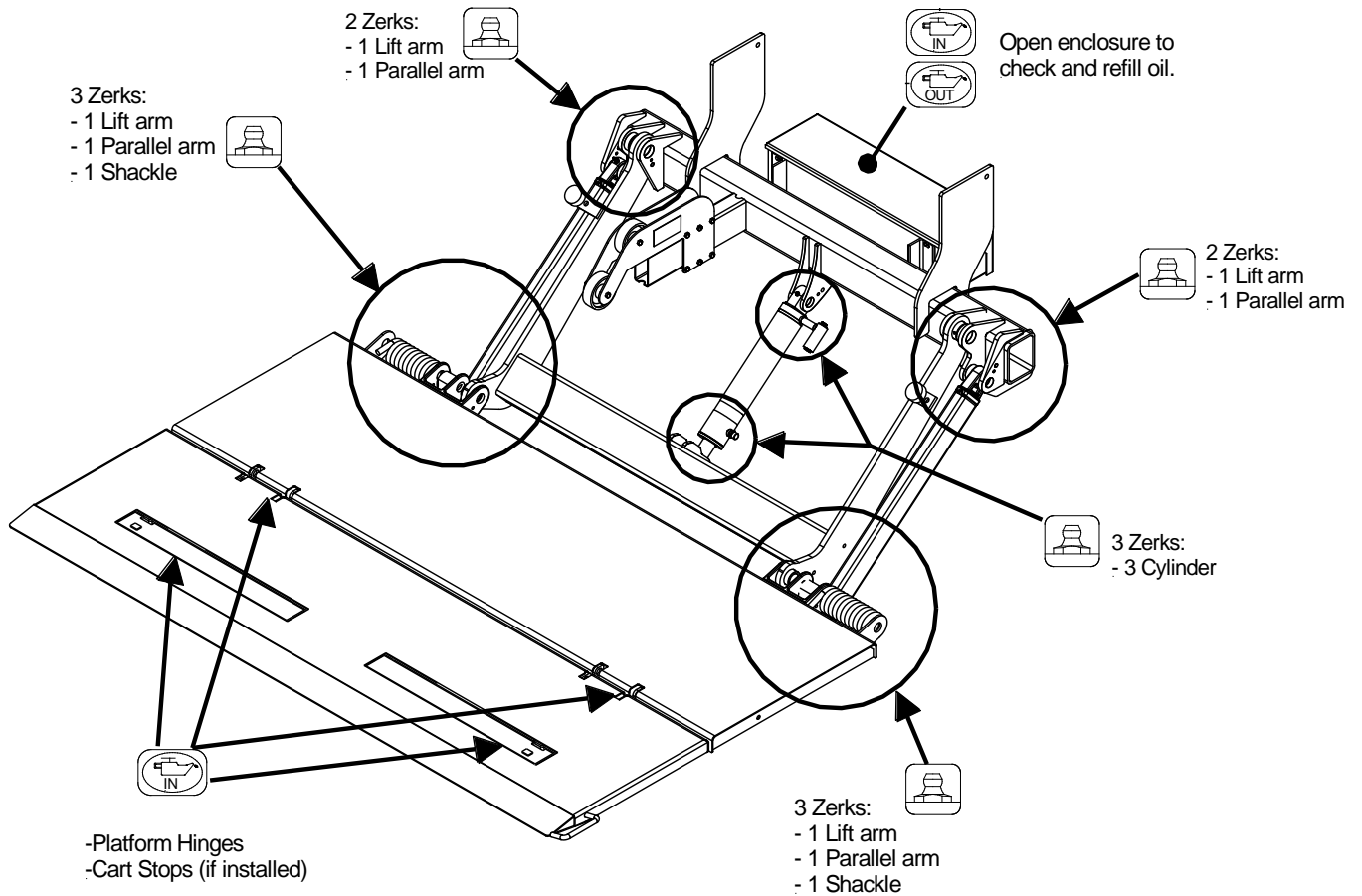
Maintenance Schedule

7.2 Lubrication

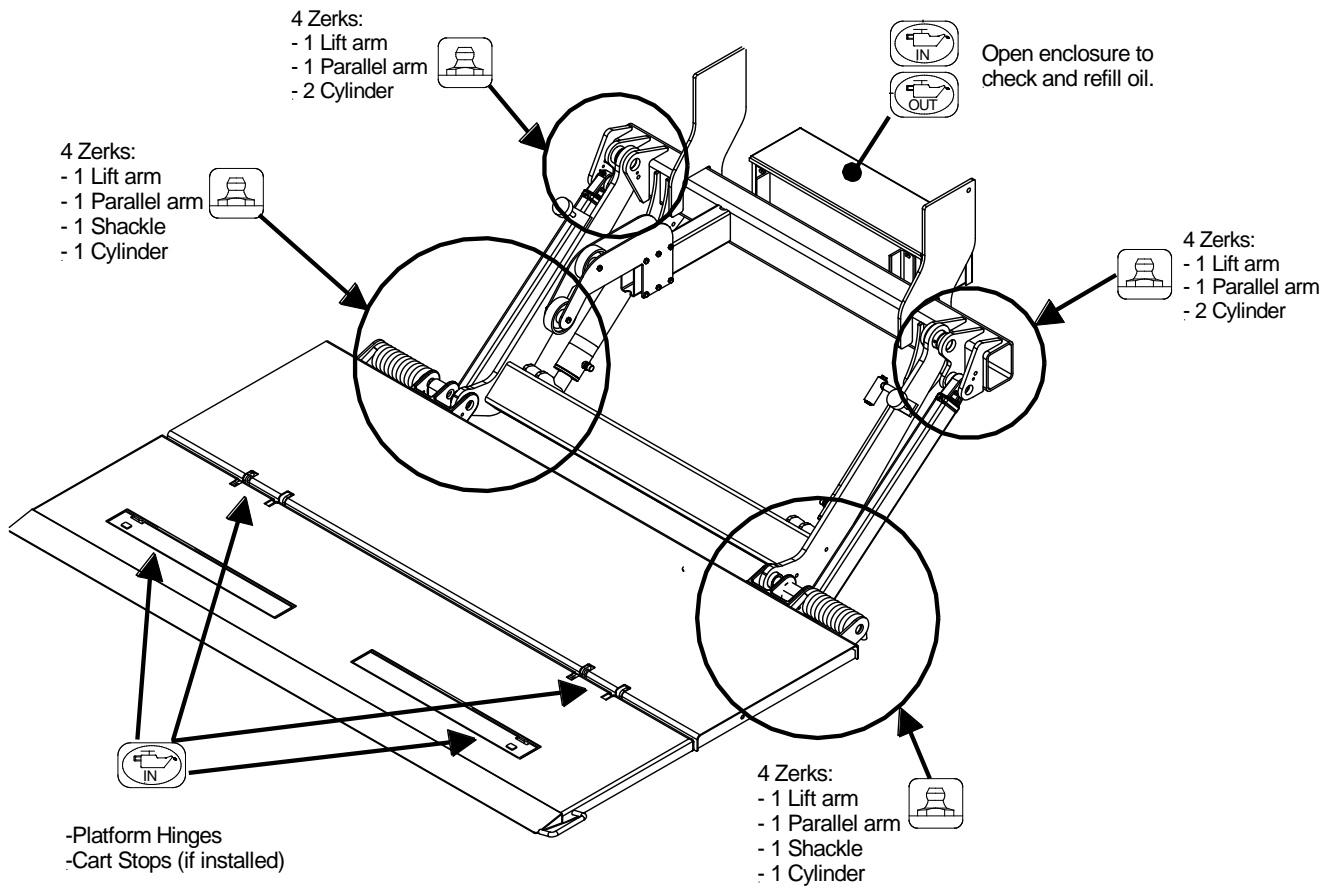
Properly lubricated, the PLR series Liftgates will ensure longevity. Lubricate the liftgate at the same time as the truck/trailer. Grease more frequently if the liftgate is often used. The liftgate should be greased every 500 cycles (depending on use – estimated every 3 month).

All bearing points must be lubricated in accordance with the maintenance intervals from Section 6.1.

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



PLR Single Cylinder



PLR Dual Cylinder



Grease: Location of Grease Zerks



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



Lubricate: Platform hinges, Slide Rails and optional Cart Stops.

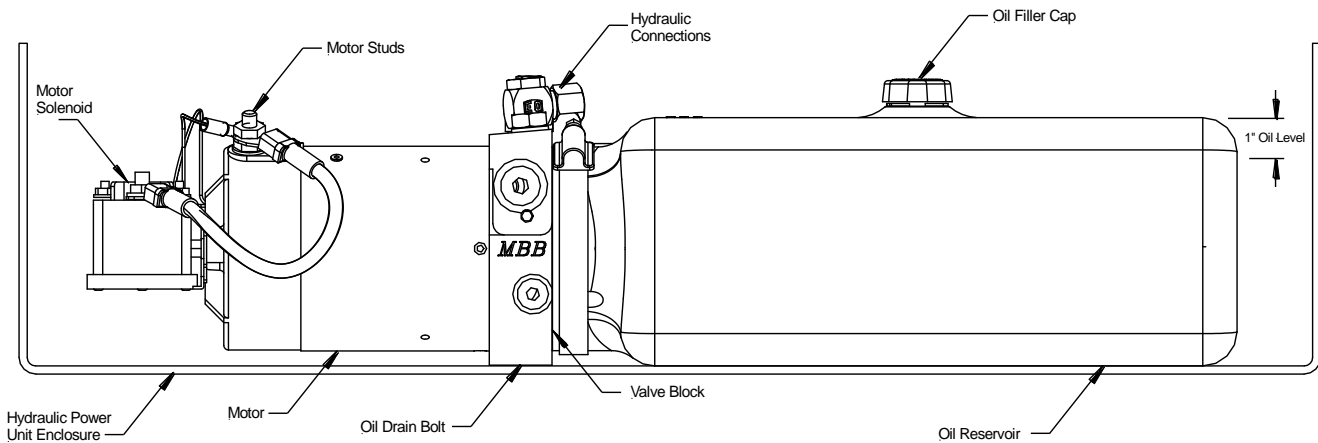
7.3 Checking and Changing the Oil

To check fluid:

1. To begin, lower gate to ground and tilt platform down.
2. Remove the cover from the Hydraulic Power Unit enclosure.
3. The level of the oil should be between 1.0" to 1.5" from the top of the oil reservoir when the platform is at ground level. If fluid is required, remove the Oil Filler Cap and use the recommended fluid from the 6.3.1 fluids table.

To change fluid:

1. Unscrew the Oil Drain Bolt and let the fluid drain out of the reservoir into an approved container. When reservoir is empty fill the reservoir up between 1.0"-1.5" from the top of the reservoir. Change oil at least once a year, preferable in the fall before the weather gets cold.
2. Place the cover back on to the Hydraulic Power Unit enclosure.



7.3.1 Recommended Hydraulic Fluids Table

<u>TEMP. RANGE</u>	<u>BRAND</u>	
-10° TO 150° F	EXXON	UNIVIS J26
	MOBIL OIL	DTE 13M
	CHEVRON	AW MV32
	ROSEMEAD	MV 150 (32)
-50° TO 150° F	MOBIL	DTE 13M
	SHELL	AERO FLUID 4
EXTREME COLD TEMPERATURE:	USE MILITARY SPEC:	MIL H5606

7.4 Decal Placement and Inspection



For operator's safety, all decals appearing in "Decal Kit" must be placed visibly on the control side of liftgate to be read by operator. This is typically a combination of decals on the liftgate and truck/trailer body.

Important: Never remove or paint over any decal. If any decals below require replacement contact Palfinger Liftgates for replacements.

Decal Kit			
Decal	Qty.	Part No.	Description
A	1	ATG-URGWA	Urgent Warning: Elevating gate instructions
B	1	ATG-ILR-ILFS	Operating Instructions
C	1	ATG-BKR	Circuit Breaker Reset (must be located at the circuit breaker)
D	2	ATG-XXXX	Capacity (check the serial number plate to find out the gates specific capacity).
E	1	ATG-RESET	Circuit Breaker Protection
F	2	ATG-WLH	Warning: liftgate can crush
G	2	ATG-PLAT	Warning: Always stand clear of platform area
H	1	ATG-CAB	Liftgate Shut-Off (Place Decal next to the On-Off Switch in the Cab)
I	1	ATG-UD	Toggle Switch Decal (located on post for Trucks) Or (located on strut brace for flatbeds)
J	1	ATG-WNG	Warning: Use handle to open (must be located underneath handle (main section))

NOTICE

It is the installer's responsibility to determine that the vehicle meets DOT (Department of Transportation) and federal lighting regulations. Keep in mind that there are different requirements depending on the classification of the vehicle. This document is not intended to replace published agency regulations, and it is strongly recommended that the installer references the Code of Federal Regulations (CFR) which can be viewed at <http://www.ecfr.gov>

Decal - A

URGENT WARNING

BEFORE OPERATING LIFT, BE SURE YOU UNDERSTAND:

1. Improper operation of this lift gate can result in serious personal injury. Do not operate unless you have been properly instructed, have read, and are familiar with, the operating instructions. If you do not have a copy of the instructions please obtain them from your employer, distributor or lesser, as appropriate, before you attempt to operate the lift gate.
2. Be certain the vehicle is properly and securely braked before using the liftgate.
3. Always inspect this lift gate for maintenance or damage before using it. If there are signs of improper maintenance, damage to vital part, or a slippery platform surface, do not use the lift gate. Do not attempt your own repairs, unless you are specifically trained.
4. Do not overload. See the Mfg. Literature end/or 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 center of the platform.
6. Never allow yourself, a helper, or a bystander to stand in a position where an unstable load might fall on them. Do not allow any part of your or your helper's body to be placed under, through, or around any portion of the moving lift gate, or in a position that would trap them between any parts when the lift gate is operated.
7. This lift gate is intended for loading and unloading of cargo only. Do not use this lift gate for anything but it's intended use. The lift gate is not equipped with a back up system to prevent falling in the event of a failure.

ATG-UBR000ALD

Decal - B

NOTICE

The owner is to use liftgate. Follow operation in details from #1 to #4.

To close and put away liftgate:
 • To close platform to #4
 • To lift to platform #10
 • Release the #10 #15

MBB
 UP
 DOWN

All starting #10:
 • Start #10
 • Start #10
 • Start #10

Adjusting #10:
 • Start #10
 • Start #10

4. If necessary, the liftgate will be in gear during cycle.
 #15 - #15 - #15: Level Side
 Release any level during cycle. Release down (up all ground if switch is engaged)

Decal - C

NOTICE

ELECTRICAL SYSTEM PROTECTED BY RESETTABLE CIRCUIT BREAKER

TO RESET - PUSH RESET TAB IN

ATG-BKN

CAUTION

Maximum Load Capacity

xxxx pounds.

Center load on platform to avoid personal or property damage.

ATG-1000

NOTICE

ELECTRICAL SYSTEM IS PROTECTED BY A RESETTABLE CIRCUIT BREAKER. SEE OWNER'S MANUAL AND DECAL LOCATED AT THE BATTERY.

ATG-RESET

WARNING

LIFTGATE HAZARDS CAN RESULT IN CRUSHING OR FALLING

KEEP HANDS AND FEET CLEAR OF PINCH POINTS

IF RIDING LIFTGATE, MAKE SURE LOAD IS STABLE AND FOOTING IS SOLID

READ AND UNDERSTAND ALL INSTRUCTIONS AND WARNINGS BEFORE USE.

ATG-000

Decal - E

WARNING

ALWAYS STAND CLEAR OF PLATFORM AREA

ATG-000

Decal - F

NOTICE

LIFT GATE SHUT-OFF TO BE TURNED OFF WHEN LIFT IS NOT IN USE

ATG-CAS

NOTICE

UP

DOWN

ATG-UD

Decal - D

WARNING

USE HANDLE TO OPEN ALWAYS STAND CLEAR OF PLATFORM AREA WHEN OPERATING THIS GATE

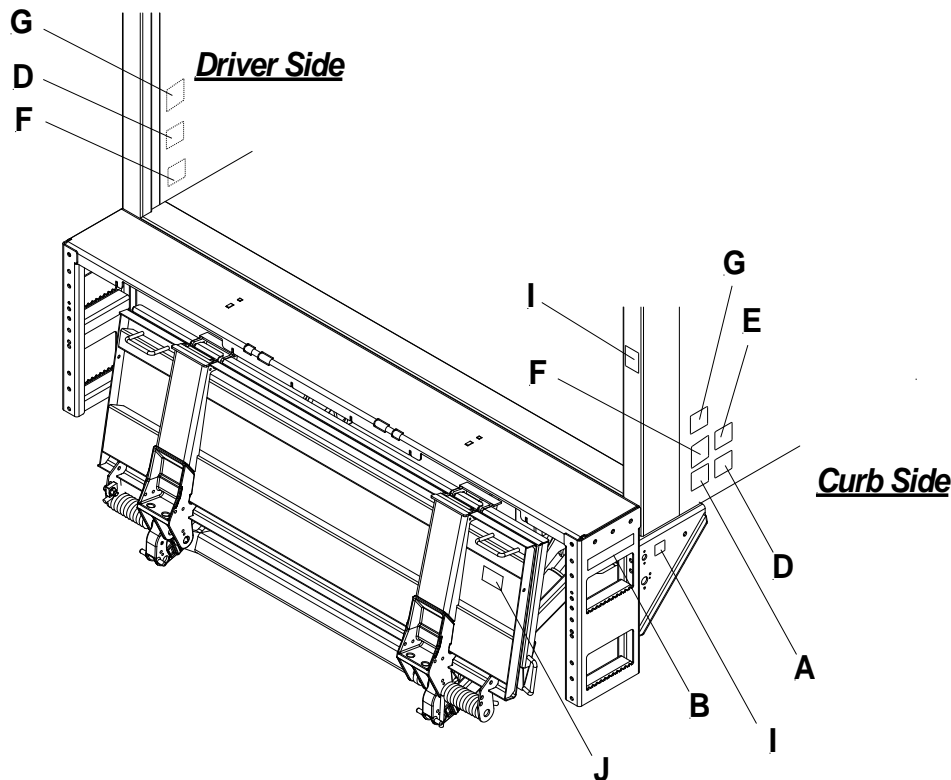
ATG-MHNS

Decal - H

Decal - I

Decal - G

Decal - J



7.5 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 lift arm 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. The oil level should be 1.0" from the top of the reservoir. 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 Palfinger Liftgates distributor or call Palfinger Liftgates directly.

DANGER

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

8 Troubleshooting

WARNING



Please check the following points before identifying any faults.



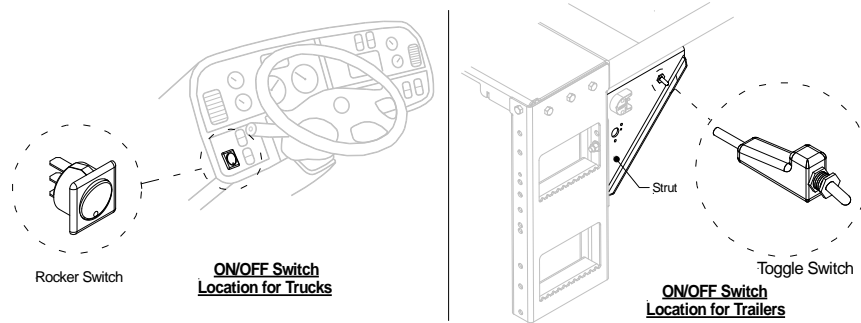
Serious injuries are possible from tools short circuiting main battery connections. Do not leave tools or other equipment that may cause shorts around the battery.

- 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.

8.1 Liftgate will not power on.

1. Check the shut off switch.

Turn ON the ON/OFF switch located inside the vehicles cab (Truck) or on the dock bumper strut (Trailer).



2. Check the circuit breaker at the main batteries.

Every truck has a circuit breaker on top of the main batteries or if you have an auxiliary battery kit as shown in the illustration below, **Fig.20**.

If circuit breaker reset tab is exposed, push the tab back in as shown, **Fig.21**.

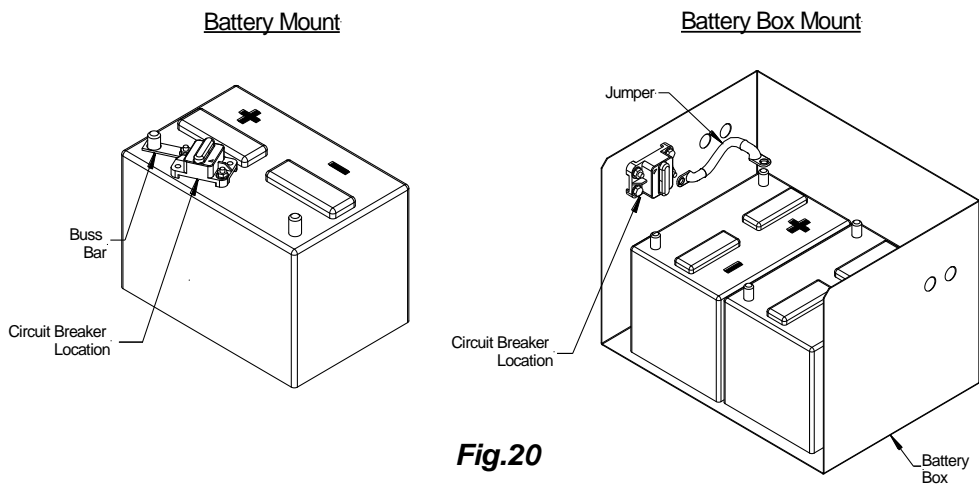
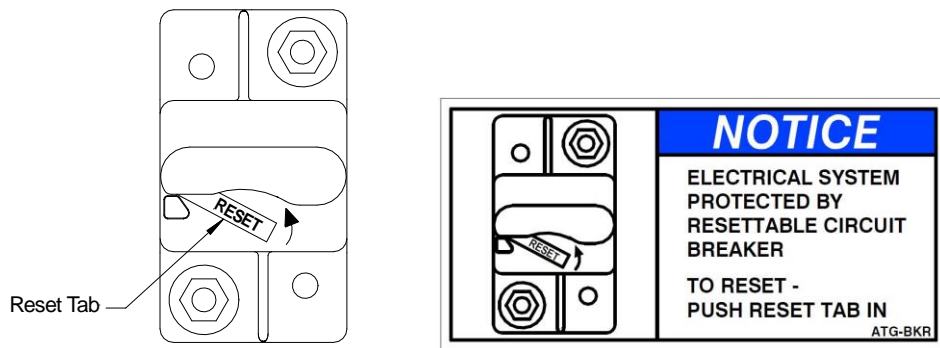


Fig.20



Circuit Breaker Needs to be Reset when Reset tab is exposed

Fig.21

3. Are the vehicle batteries charged?

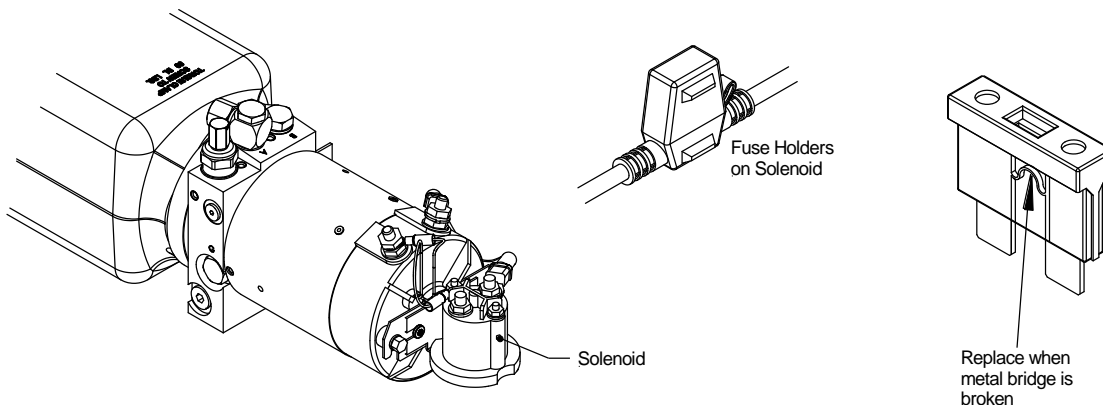
Check batteries and the truck/trailer charging system. Start truck and run engine in fast idle for charging the batteries. If liftgate starts working, recharge and load test batteries. Measure battery voltages: Flooded Batteries = 12.6V; AGM Batteries = 12.8V

4. Check the fuse(s) at the hydraulic power unit.

The Hydraulic Power Unit has a 15A fuse attached to the solenoid. Check for burned fuse and replace with the same amperage fuse, if necessary, **Fig.22**.



DO NOT use higher amperage fuse.



In-Line ATC Fuse 15 Amp at solenoid. Replace with same amperage fuse when necessary. **NOTICE: DO NOT attempt to jump in-line fuse(s) 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.**

Fig.22

5. Is the connection to ground on hydraulic power unit OK?

Is the ground connection from the liftgate to vehicle properly grounded?

6. Check the oil level in the hydraulic power unit.

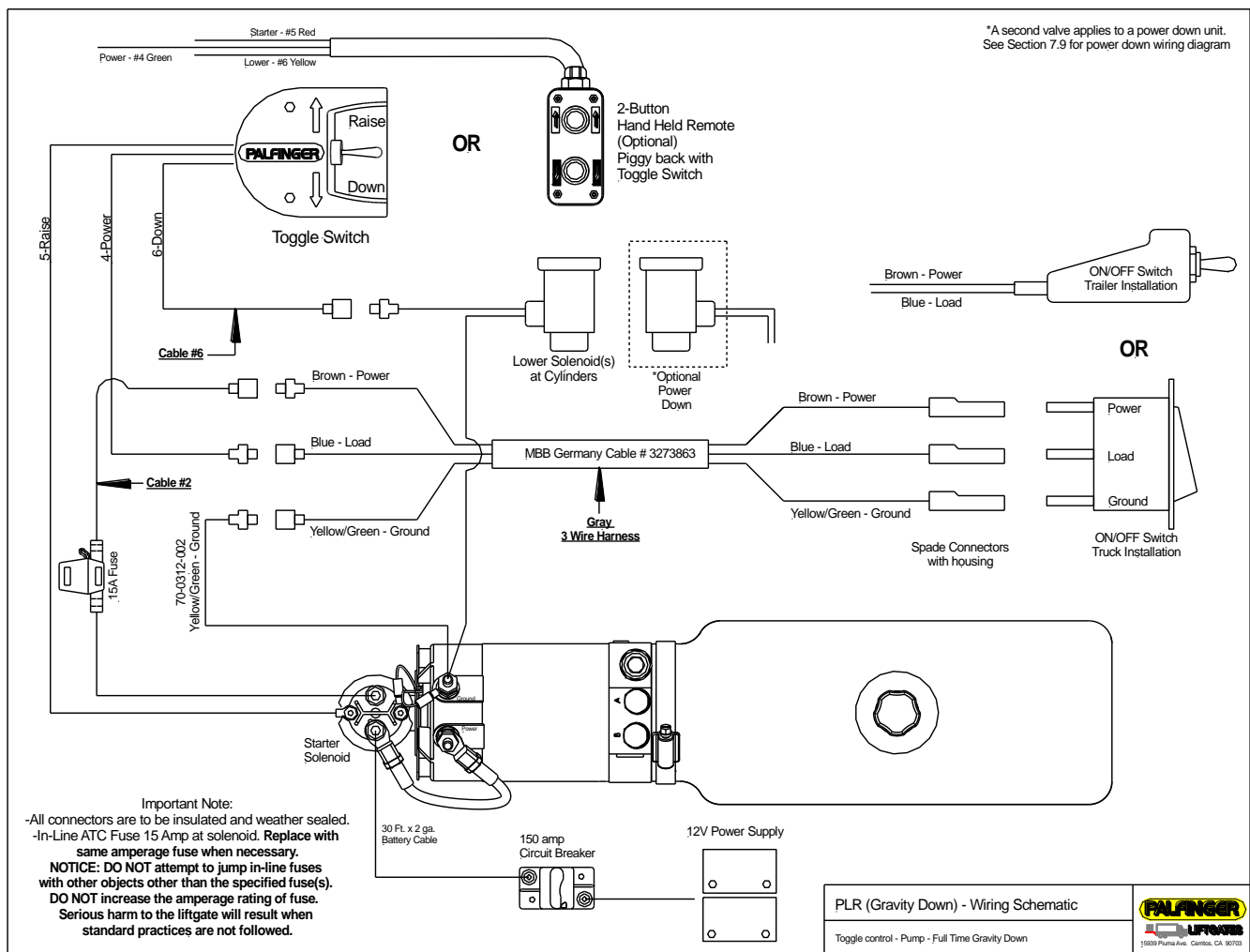
The power unit is located inside the enclosure mounted on the mount frame. To access the oil reservoir, remove the enclosure cover. The oil must be 1.0" down from the top of the reservoir.

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.

8.2 Liftgate does not Lower Down

1. Visually check the valves at cylinders for mechanical damage such as bent or broken valves.
2. Open the cover at the Hydraulic Power Unit and unplug the black cable (#2) with the inline fuse.
3. Unplug cable #6 from toggle switch to both the two wire release valve harnesses.
4. Connect female end #2 and male end #6 to energize release valves.
 - a. If gate lowers down :
 - Check toggle switch harness and 3 wire harness for any damage.
 - b. If gate does not lower down:
 - Check both release valves wires for any damage.
 - Unscrew plugs of valves and insert voltmeter lead into plugs and hit the down function. Check each connection for voltage.
 - If the voltmeter reads a voltage the cable is not damaged.
 - If the voltmeter shows 0 volts, the cable is damaged.
 - c. Remove the plastic cap of the release valves – keep coil in place- hold a screwdriver close to steel valve stem while pressing the down function on the toggle switch – if screwdriver did not get magnetically pulled towards the valve, the coil is bad.



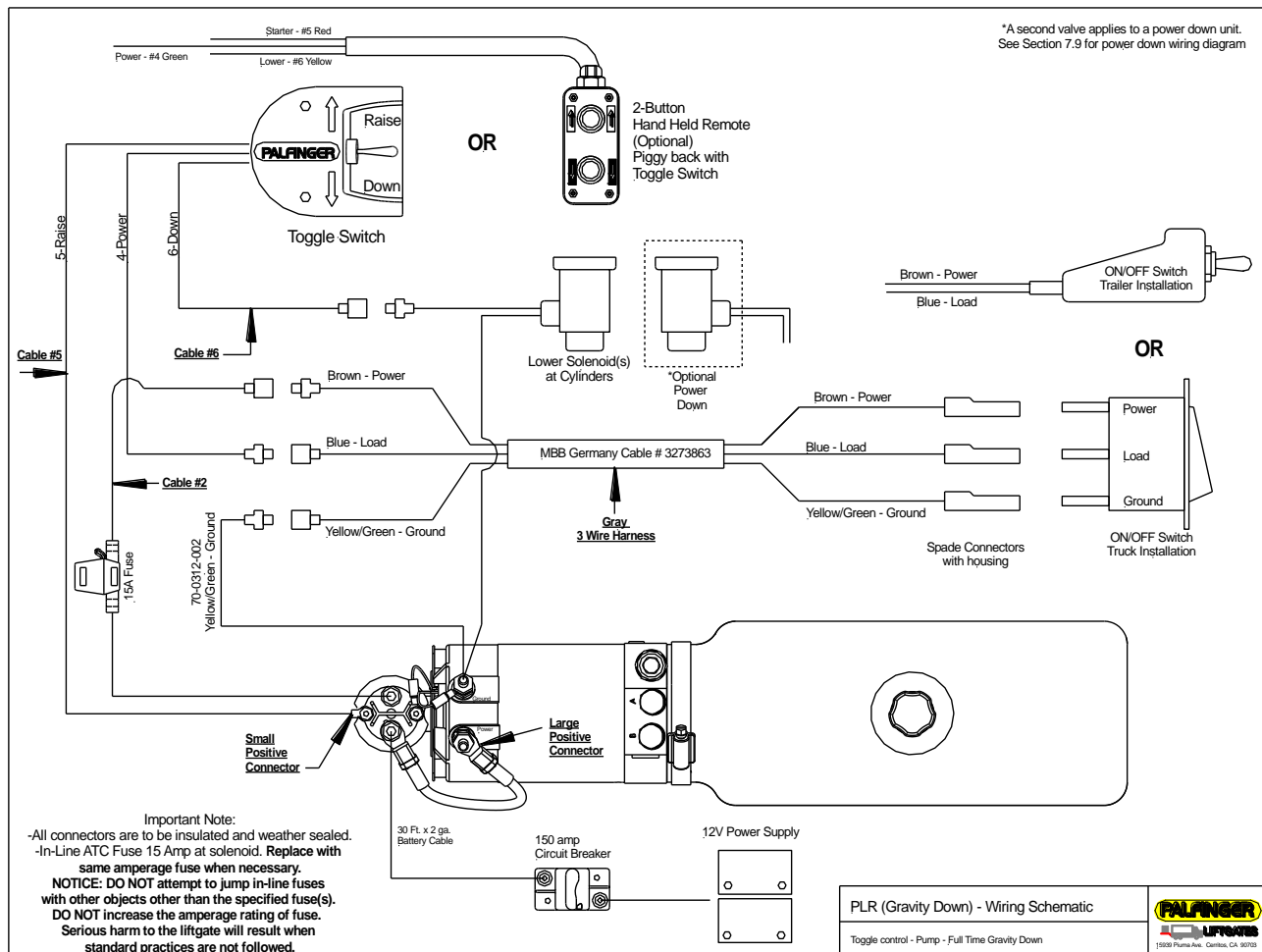
8.3 Liftgate does not Lift Up

1. Visually check the valves at cylinders for mechanical damage such as bent or broken valves.
2. Jump female end of cable #2 to small positive connector on motor solenoid



Be aware of your surroundings at all times. Do NOT stay between platform and truck body.

3. Gate is raising up – Check toggle switch harness and gray wire harness to switch for damaged spots.
4. If gate does not raise up:
 - a. Check the motor solenoid for proper function and listen for clicking.
 - No clicking = Motor solenoid or thermo switch at motor is bad.
 - Clicking = Check for voltage on both big positive studs to ground. If voltage is present the solenoid is ok. If not, the solenoid is not connecting internally and is bad.
 - b. Motor Solenoid is ok:
 - Check for power on large positive motor stud.
 - If no power is present, either the motor or the brushes are bad. If there is no power at the motor stud, check the connection to the solenoid. If gate is still not working, take truck/trailer and gate to an authorized repair station



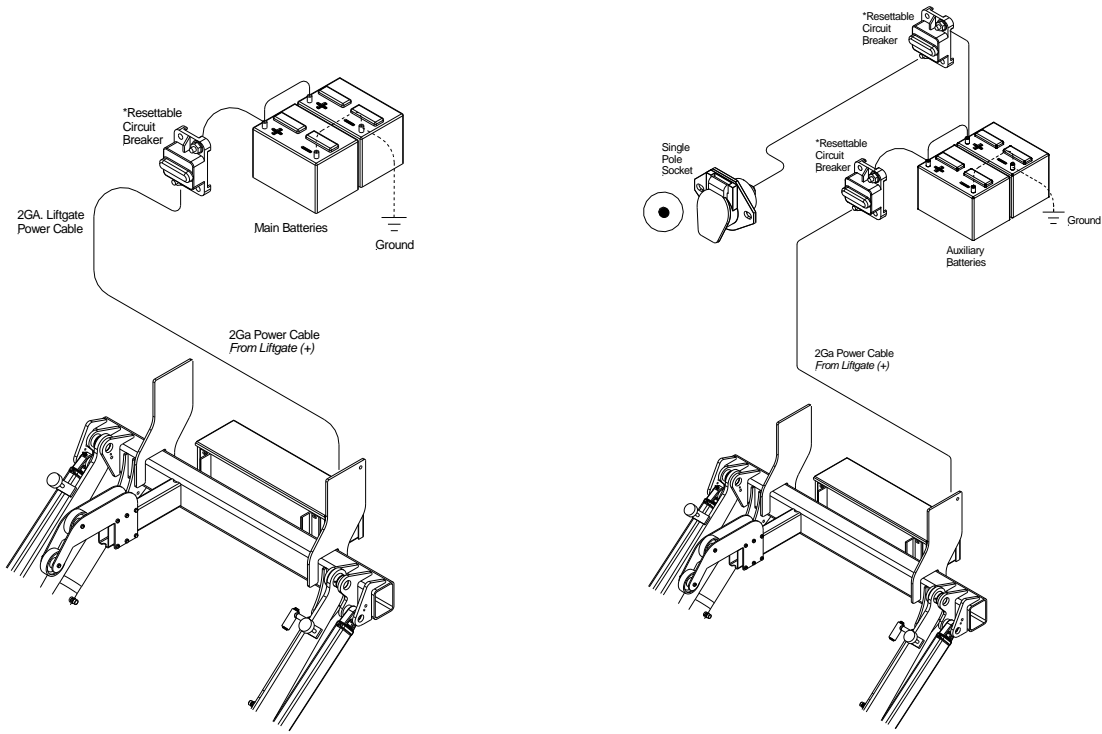
8.4 Wiring Diagram – Battery Setup

*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.

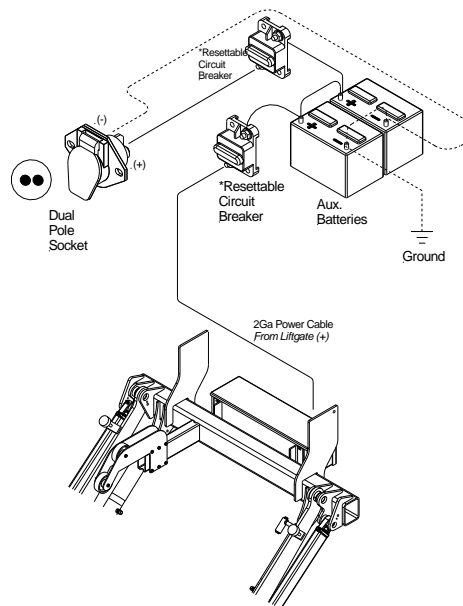
NOTICE: DO NOT attempt to jump in-line fuses with other objects other than the specified fuse.

Do not increase the amperage rating of fuse. Serious harm to the liftgate will result when standard practices are not followed.



Wiring Diagram – Truck

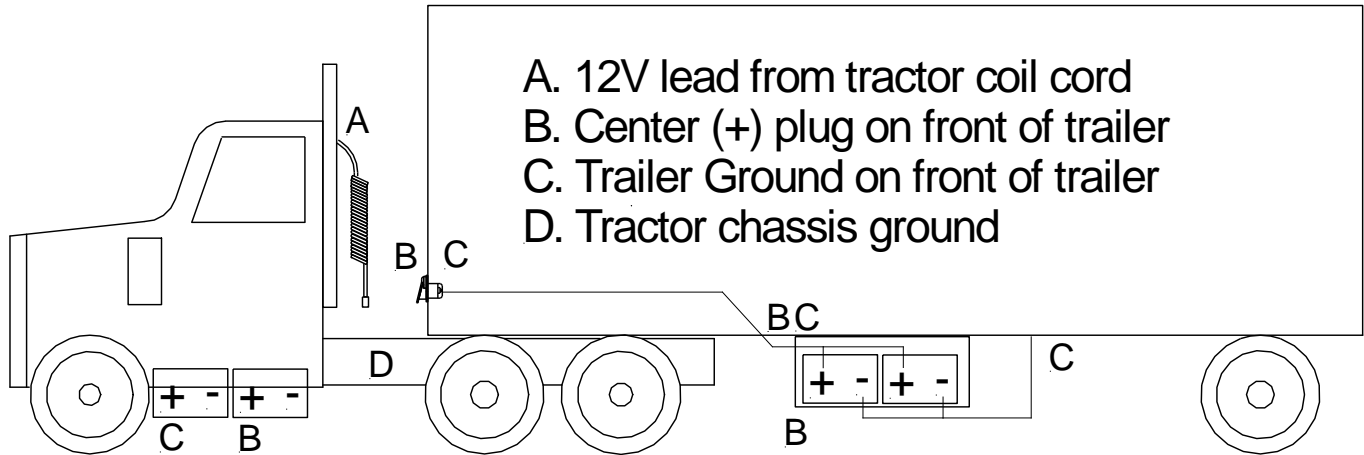
Wiring Diagram – Single Pole - Trailer



Wiring Diagram – Dual Pole - Trailer

8.5 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 tractor 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:

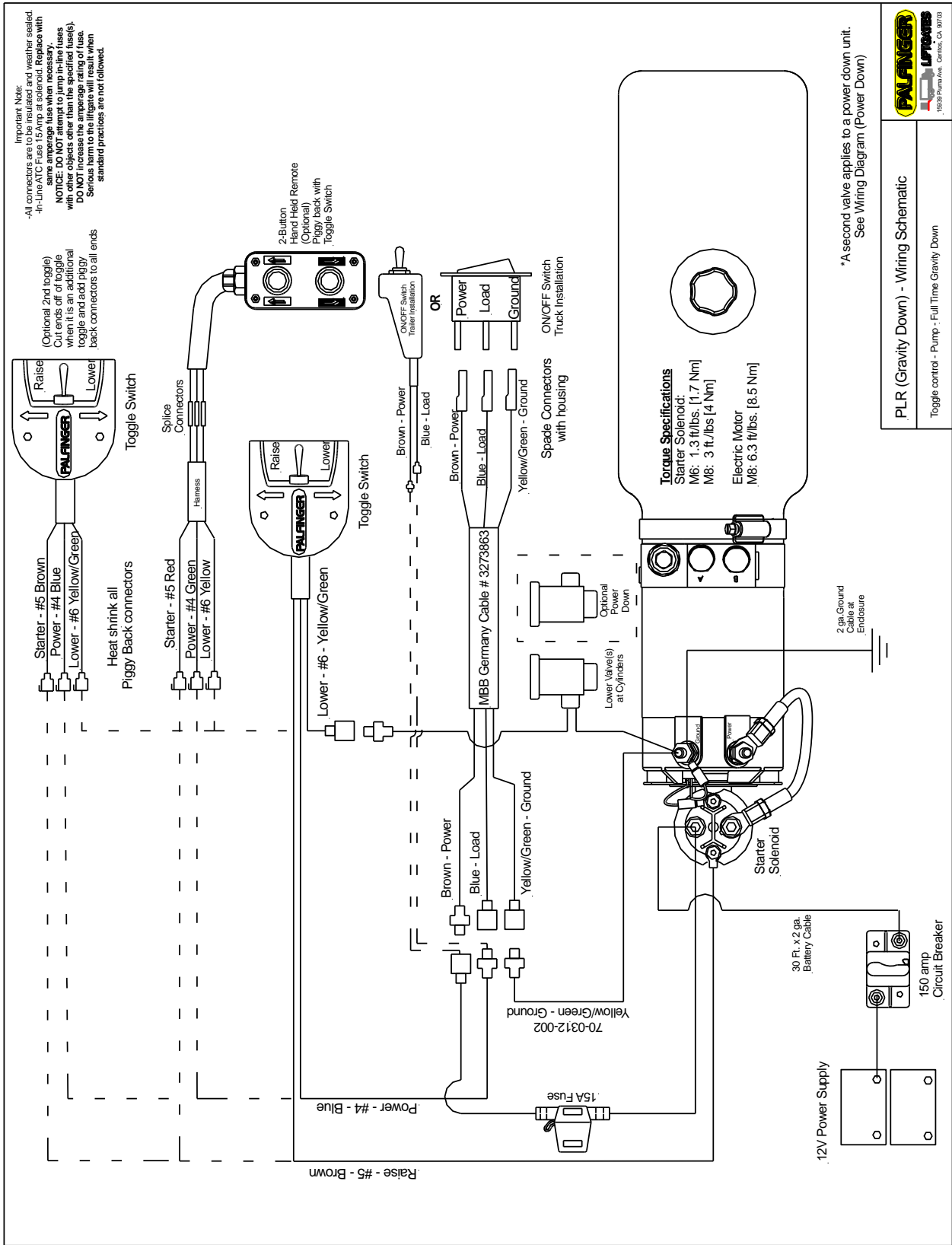
- Ground battery load tester on trailer chassis point (C)
- Connect positive cable on positive pole of single pole plug receptacle on trailer (B).
- Run load test- This will test entire circuit on tractor including circuit breakers and ground between trailer batteries and trailer chassis.

3. Tractor and Trailer Charging system test while connected:

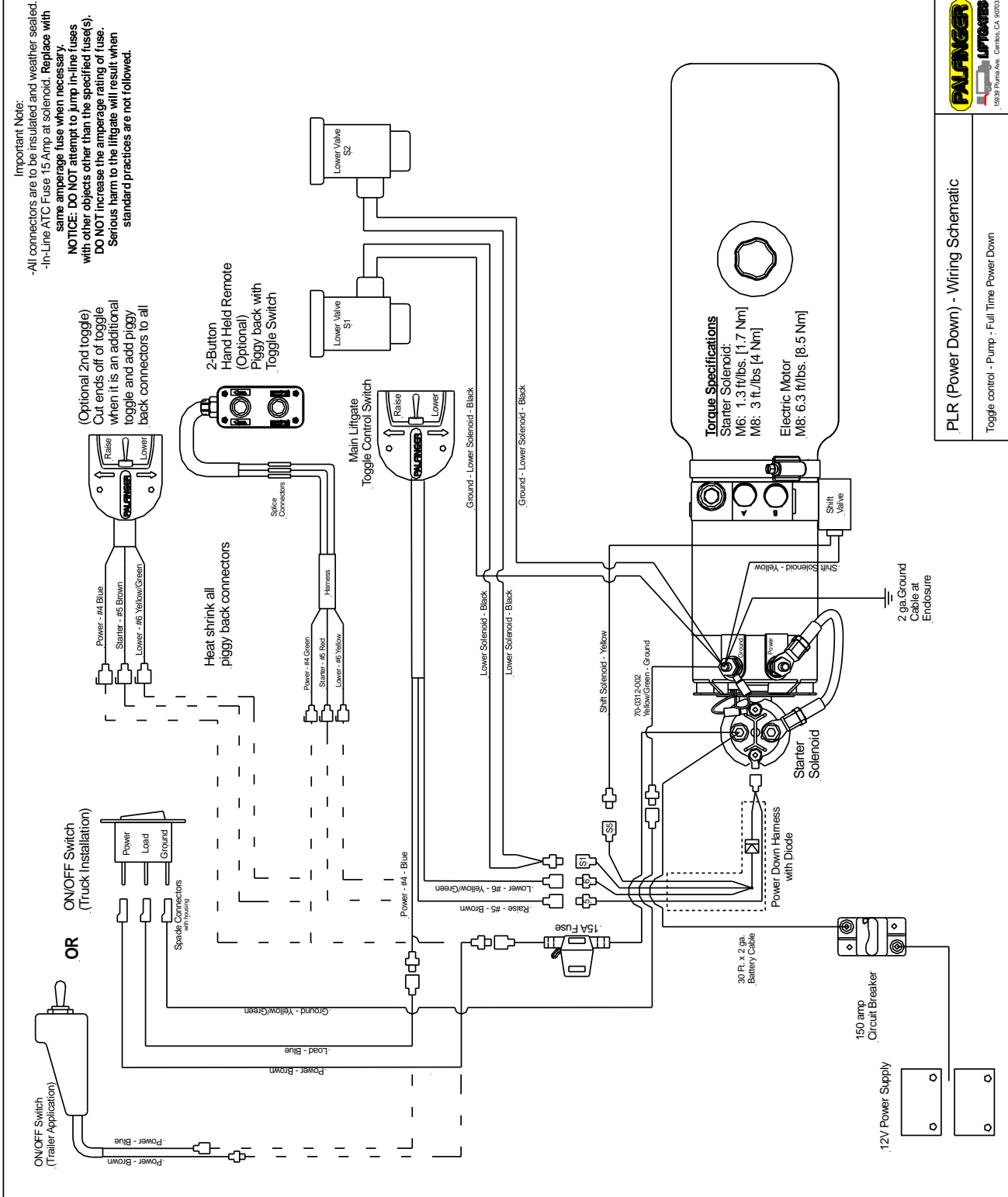
- Ground battery load tester on tractor chassis point (D)
- Connect positive cable on positive pole of single pole plug receptacle on trailer (B).
- Run load test- This will test entire circuit on tractor and trailer including ground between tractor, trailer, and circuit breaker on trailer.

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

8.6 Wiring Diagram (Gravity Down)



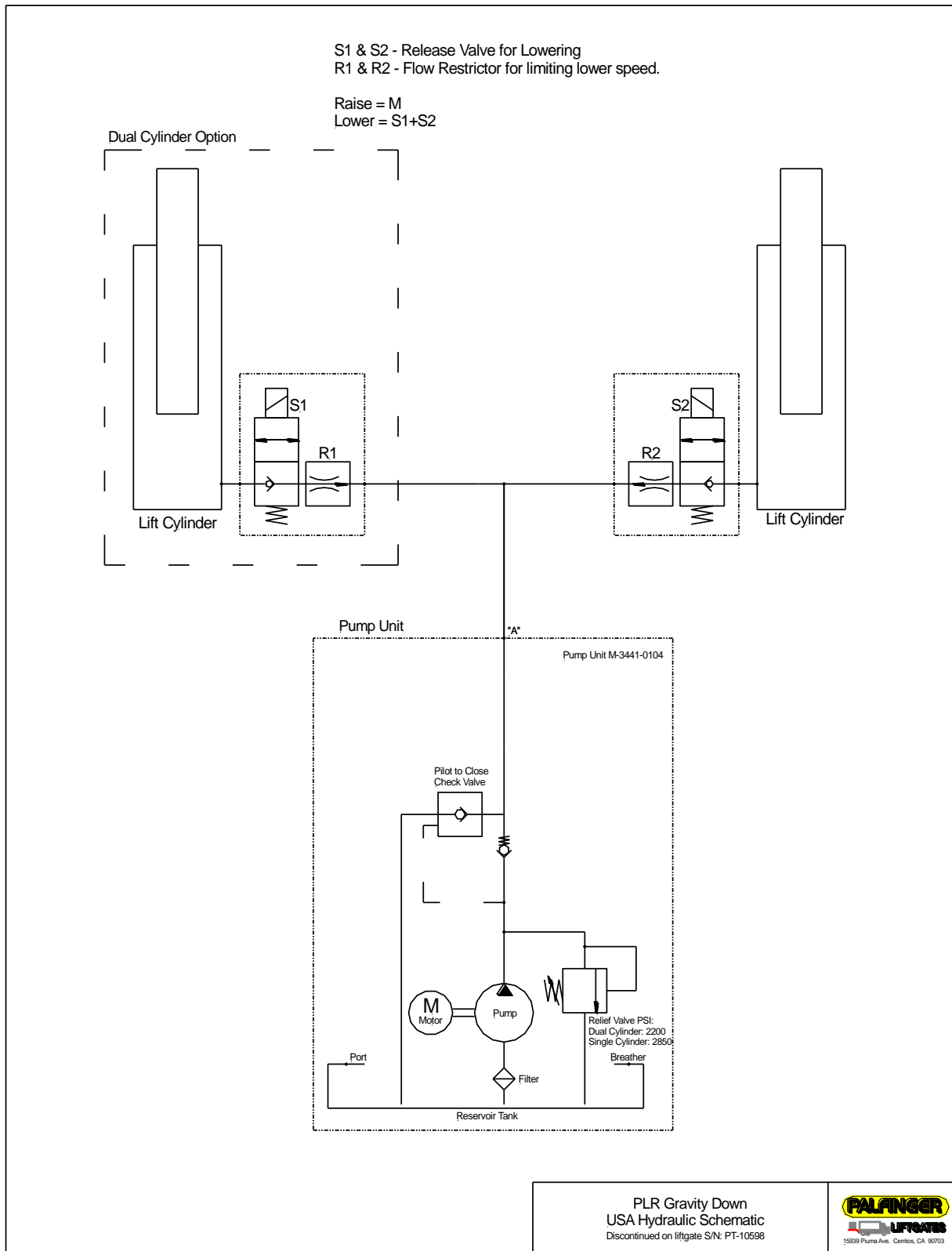
8.7 Wiring Diagram (Power Down)



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LIFTGATES
 18938 Puma Ave. Centes, CA 90703

PLR (Power Down) - Wiring Schematic
 Toggle control - Pump - Full Time Power Down

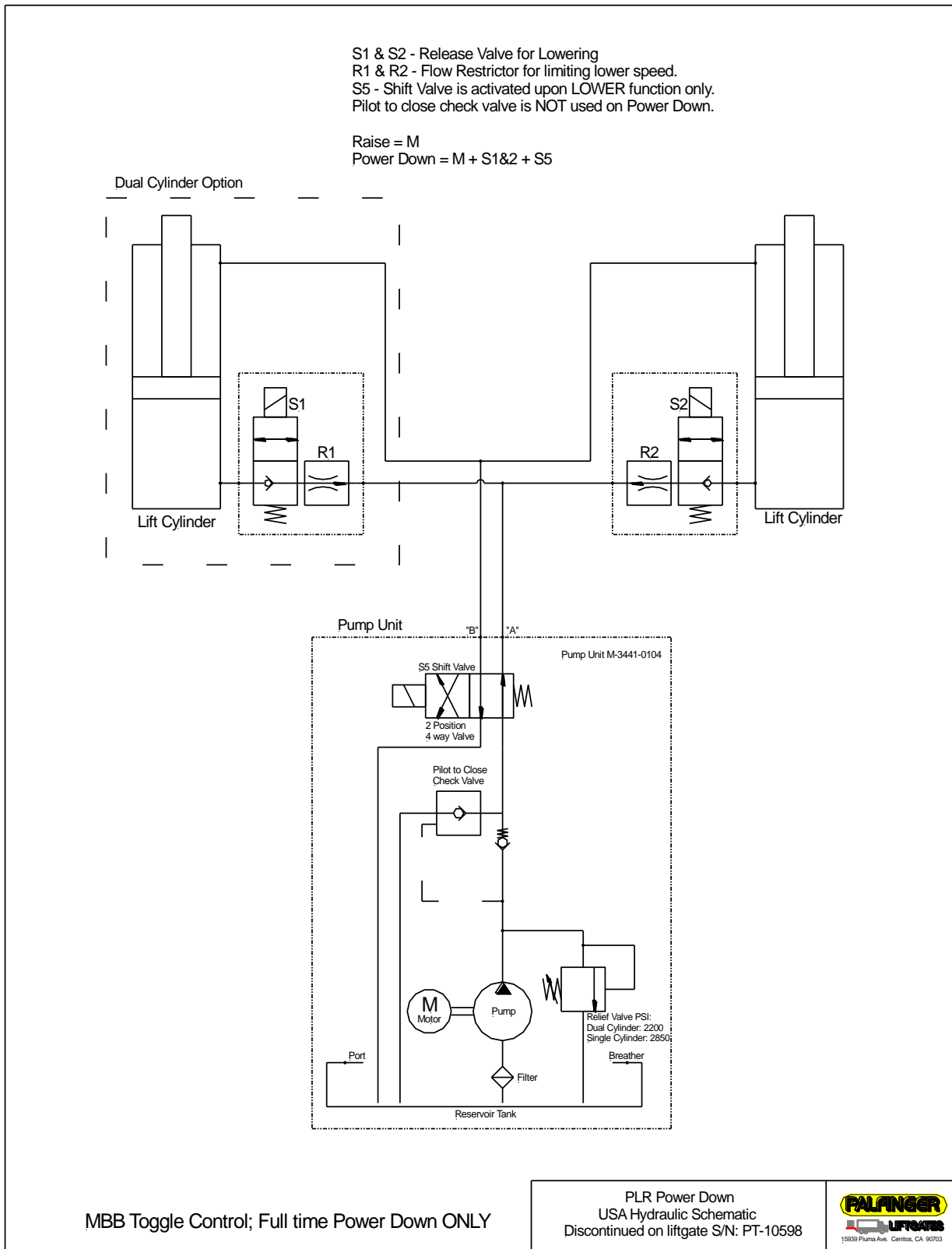
8.8 Hydraulic Schematics (Gravity Down)



8.9 Hydraulic Schematics (Power Down)

S1 & S2 - Release Valve for Lowering
 R1 & R2 - Flow Restrictor for limiting lower speed.
 S5 - Shift Valve is activated upon LOWER function only.
 Pilot to close check valve is NOT used on Power Down.

Raise = M
 Power Down = M + S1&2 + S5



MBB Toggle Control; Full time Power Down ONLY

PLR Power Down
 USA Hydraulic Schematic
 Discontinued on liftgate S/N: PT-10598



9 Needed Information for Ordering Spare Parts and Repairs

9.1 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. Parts manuals are available at www.palfinger.com if necessary.
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).

9.2 Repairs

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

10 Warranty

Palfinger Liftgates provides warranty as part of its conditions of delivery. Spare part deliveries are first of all billed. Palfinger Liftgates then issues credit for all or part of the invoiced sum when Palfinger Liftgates has been able to determine that the warranty claim is justified as defined by its warranty conditions. Palfinger Liftgates does this by inspecting the defected parts which are sent back to Palfinger 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 Palfinger Liftgates, marked with serial number and address, become Palfinger 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 Palfinger Liftgates part number.
6. RMA#.
7. Contact at Palfinger Liftgates, if applicable.

Model	Pump and Motor	Cylinders	Hardware	Control System	Hydraulic
PLR 20S/25S/25D/33D	2 yrs	3 yrs	3 yrs	3 yrs	2 yr

Warranty Coverage Schedule¹

¹ Effective: Aug. 2010

11 Contact Address**LIFTGATES**

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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**LIFTGATES**

572 Whitehead Road

Trenton, NJ 08619

Phone: (609) 587-4200

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