

LEYMAN

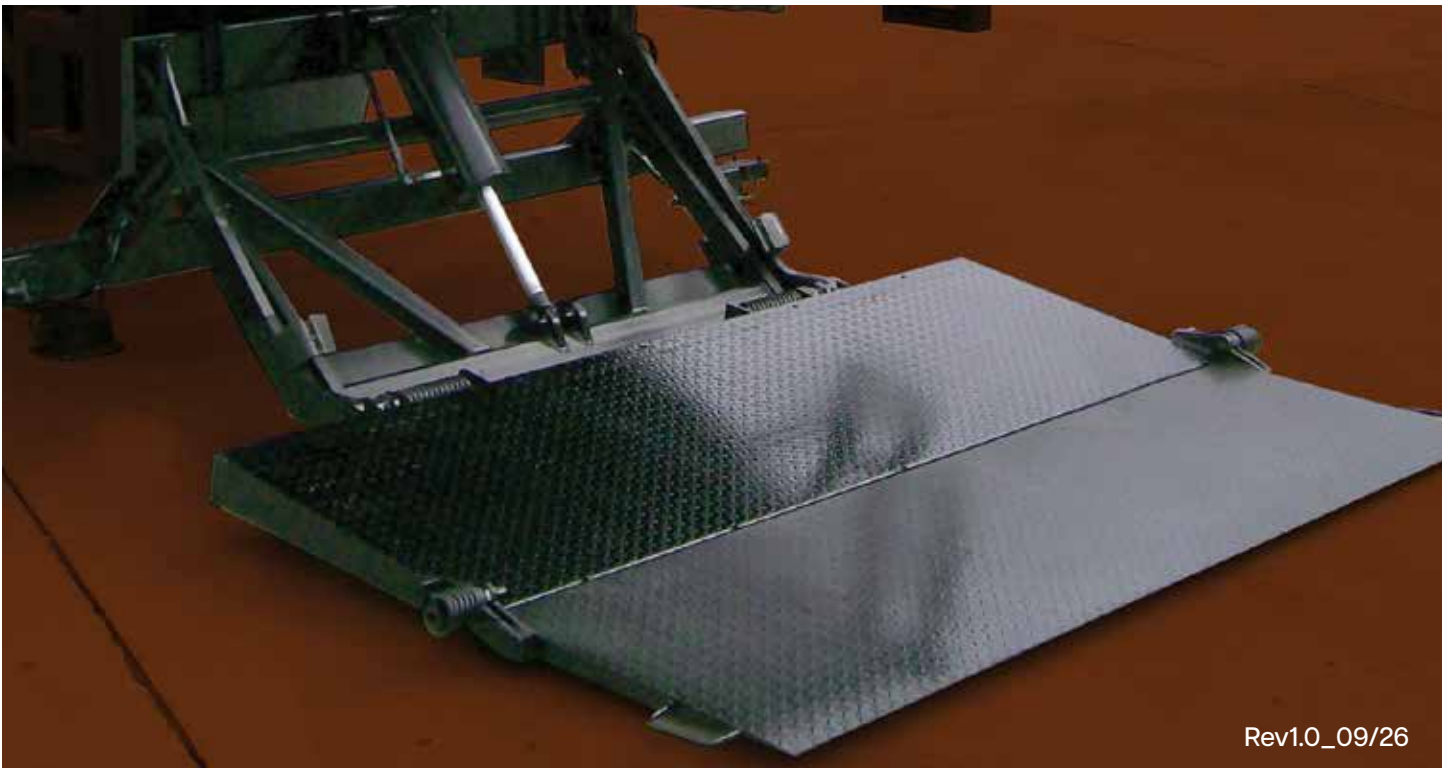
LIFT GATES

OPERATIONS MANUAL

Liberty™ SLP®

**3500W
3500WLB**

Hide-A-Way® Tuckunder Style



Rev1.0_09/26

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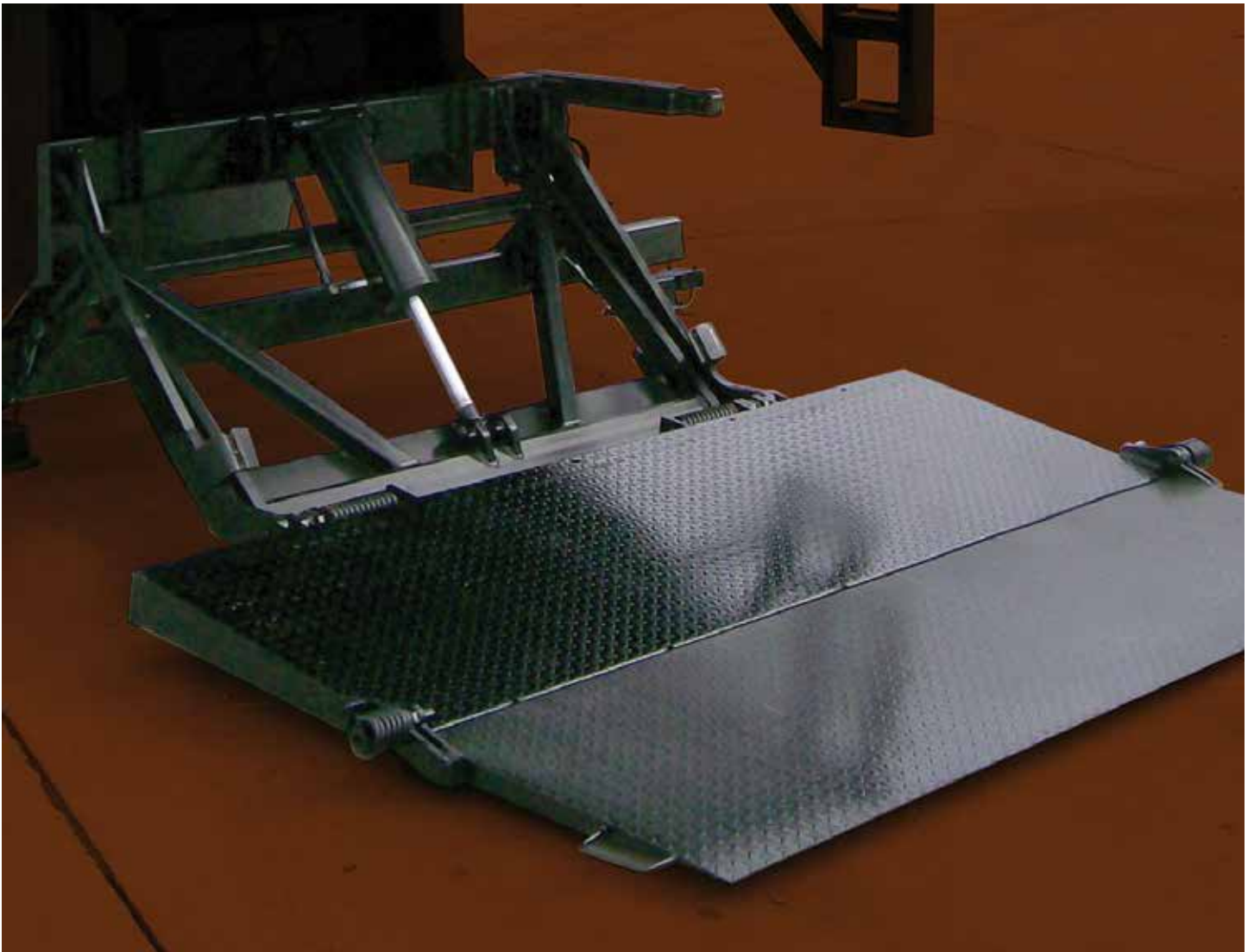
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SPECIFICATIONS



GENERAL SPECIFICATIONS

Model Number	Lifting Capacity	Platform Size		Primary Platform	Secondary Platform	Approx. Weight	Vehicle Width	Vehicle Height
		W"	D"	D"	D"			
SLP 3500W	3,500 lbs.	80"	52"	27"	25"	975 lbs	96" / 102"	44" Laden to 56" Unladen
SLP 3500WLB	3,500 lbs.	80"	50"	25"	25"	975 lbs	96" / 102"	36" Laden to 46" Unladen

This manual contains the operating procedures on the equipment your company is using that was manufactured by Leyman Manufacturing Corporation.

Past experience has indicated that it is most unwise to operate these units without proper instructions which should be instituted by the purchaser.

While these products have certain safety features engineered into their design, they are all operated by human beings. Therein lies the problem of safety and one should always have caution in mind when operating this or any other machine that has parts that weight several hundred pounds.

Again, let us remind you that there are moving parts on this product that weight several hundred pounds. These parts, when not under proper control can cause physical damage to the operator. Because of the weights that are involved: carelessness and neglect of training can make these units dangerous.

Do not overload this product. Maintain it properly. Stand clear of moving parts.

Operate as instructed.

This lift gate has a long life expectancy and will take some abuse. Use good judgment when operating this equipment.

PLEASE FILL IN FOR YOUR RECORDS

CUSTOMER: _____
 MODEL: SLP _____
 SERIAL #: _____
 CAPACITY: _____ lbs.
 TYPE: Hide-A-Way
 POWER 12 Volt _____
 PLATFORM _____
 OPTIONS _____

 MAX HEIGHT 56"
 HYDRAULIC PRESSURE: 2,500 psi MAX. at by-pass
 AMP DRAW: Pump at by-pass 210, empty platform 130

WHEN PLACING PARTS ORDER, YOU WILL NEED THE SERIAL NUMBER AND MODEL OF THE LIFT GATE.



NOTE

Add 4-1/2" to Dim. "D" for over-all length

NOTE

Max. spread of gate mounting plates is 42-1/2" inside to inside.

WORDS OF CAUTION

- 1** Before any maintenance is performed on this unit, **READ AND UNDERSTAND THIS MANUAL COMPLETELY.**
- 2 DO NOT STAND ON OR BEHIND THE PLATFORM** when operating gate in the folded position.
- 3 DO NOT STAND IN FRONT OF THE PLATFORM** when lowering from the vertical position or operating in any manner.
- 4** Make sure the ground is clear under the platform when lowering.
- 5** Never exceed the rated load capacity of this gate. **DO NOT OVERLOAD** - Maximum rated capacity is based on an evenly distributed load over the platform flat surface.
- 6** Do not allow persons to operate the unit unless they have been properly trained to do so.
- 7** Use only factory authorized parts for replacement.
- 8** Check the area around the unit for persons before operating the lift gate
- 9** This lift gate should operate smoothly and the only noise that should be heard is the power unit. Any audible sounds other than the normal power unit operation sound should be thoroughly investigated, and the cause of the noise should be pinpointed and corrected.
- 10 DO NOT OVERLOAD** – the maximum rated capacity is based on an evenly distributed load all over the platforms flat surface.
- 11** Always load as close to the center of the platform and as close to the truck sill as possible.
- 12** 150 Amp circuit breaker (not supplied) must be installed between the starter solenoid and the battery source. Order from factory as Option #111-Circuit Breaker.

We urge the installation of a safety cut-off switch for all truck mounted lift gates.

These are installed in the cab of the vehicle, so the power to the lift gate can be turned on/off.



WARNING

Pressure relief valve in power unit must NEVER be set above 2500 psi. Pressure above 2500 psi can damage lifting arms. Failure to follow this warning could result in accident or injury.



CAUTION

Since this gate has greaseless bearings in the main pivot points, (Tension and Compression Arms and platform parts) any welding on these parts must be grounded or you will damage the cylinder and / or hose.

RECOMMENDED HYDRAULIC OILS/LUBRICATION

HYDRAULIC OILS	MANUFACTURER	TYPE	TEMP RANGE
Level 1 Normal Conditions	Mobil	DTE 11	-15° F to + 150° F
	Shell	TELLUS-T15	-15° F to + 150° F
	Chevron	RYKON ISO-15	-15° F to + 150° F
Level 2 Cold Conditions	Mobil	AERO-HFA	-50° F to + 80° F
	Shell	AERO FLUID #4	-50° F to + 80° F
	Chevron	AVIATION-A	-50° F to + 80° F

HYDRAULIC TANK CAPACITY

3 quarts

LUBRICATION - GREASE

Militec #1 (or Lithium base NLGI grade 1 grease)

BATTERIES

Two (2) 12 V D.C. Group 31 Heavy-Duty lead acid DUAL PURPOSE, or AGM

ELECTRICAL COMPONENTS CONNECTIONS

Use Fluid Film Rust & Corrosion Protection by Eureka, except on Start Solenoid.
On Start Solenoid, use Color Guard by Loctite, or Liquid Electrical Tape

AMPERAGE DRAW OF MOTOR

When raising platform (empty) approximately 130 AMP @ 12 volts. At bypass approximately 210 AMP @ 12 volts

LIFTING PRESSURE SETTING

With platform at floor level and pump in bypass 2500PSI

MINIMUM VEHICLE FLOOR HEIGHT LADEN

36" vehicle floor height

MAXIMUM VEHICLE FLOOR HEIGHT UNLADEN

56" vehicle floor height

APPROXIMATE TIME EMPTY AT 80° F WITH 2 153 AMP HOUR BATTERIES

Time up: 8 – 12 seconds. Time down: 9 – 12 seconds

PREVENTIVE MAINTENANCE SCHEDULE

MAINTENANCE by CYCLES for PREMIER™ LPS MODELS

Date: _____

Customer		Gate Model #	
Location		Gate Serial #	
Vehicle #		Serviced By	

√ = OK

X = Repair

A = Adjusted

N = Not Applicable

3000	MOTOR / PUMP COMPONENTS
	Check batteries for corroded, loose, or broken connections
	Check batteries for proper voltage level and charging
	Check all wiring in pump box for corroded, loose, or broken connections
	Check pop-it solenoids for proper operation
	Check reservoir for proper oil level (Gate down on the ground and tilted 1" from top of tank)
	Inspect circuit breakers and fuses for proper operation
	Check charge line / power line for corroded, loose or broken connections at both ends
	Check amp draw of motor with batteries fully charged batteries and tight clean connections
	Check all ground wires for corroded, loose, or broken connections
	Check pressure setting of relief valve
	Clean and all wiring connections in pump and battery box and spray with Bowman # 21948 connection protection or equivalent
3000	STRUCTURAL COMPONENTS
	Check for proper operation of gate up/ (power and gravity) down, fold/unfold
	Check platform and lifting gear for any impact damage
	Check cylinders and hydraulics line for leaks, abrasions, cuts, or broken lines and fittings
	Check all cylinder pins for loose, broken, or missing roll pins
	Check all pivot pins for loose, broken, or missing roll pins and snap rings
	Adjust platform level at adjusting screws on compression arms at platform as needed
	Adjust alignment bolts as needed between primary and secondary platforms
	Steam / pressure wash all components as needed
	Check proper operation of cart stops
3000	LUBRICATION
	Grease bearings through grease fittings mounted on platform pin and compression arm pin. All other pivot points may need penetrating oil to avoid freezing (every 3000 cycles or 3 months, whatever comes first).
	Grease power unit and battery box door hinges
12000	PERIODIC CHECK LIST
	Check pivot point bushings for wear or damage
15000	PERIODIC CHECK LIST
	Flush hydraulic system and change hydraulic oil
	Clean and repaint as necessary

MAINTENANCE MINDER2® (IF EQUIPPED) READINGS MENU 2

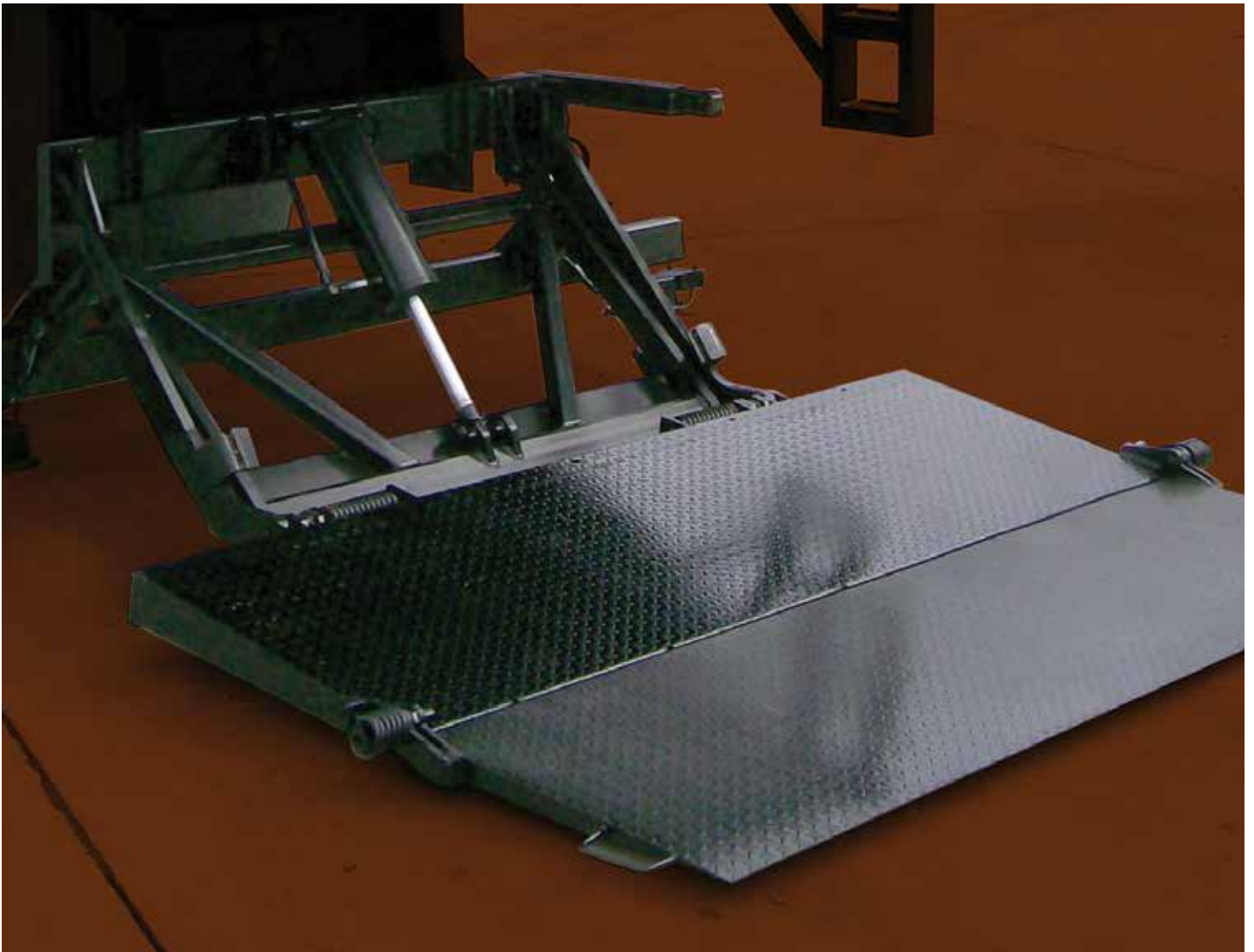
Screen 1 # Lifts	Screen 3 Service Faults	Screen 4 Low Voltage Faults	Screen 6 High Temperature Faults

Check owner's manual for proper hydraulic oil, motor amp draw, and pressure setting of power unit

Serviced By: _____ Date: _____

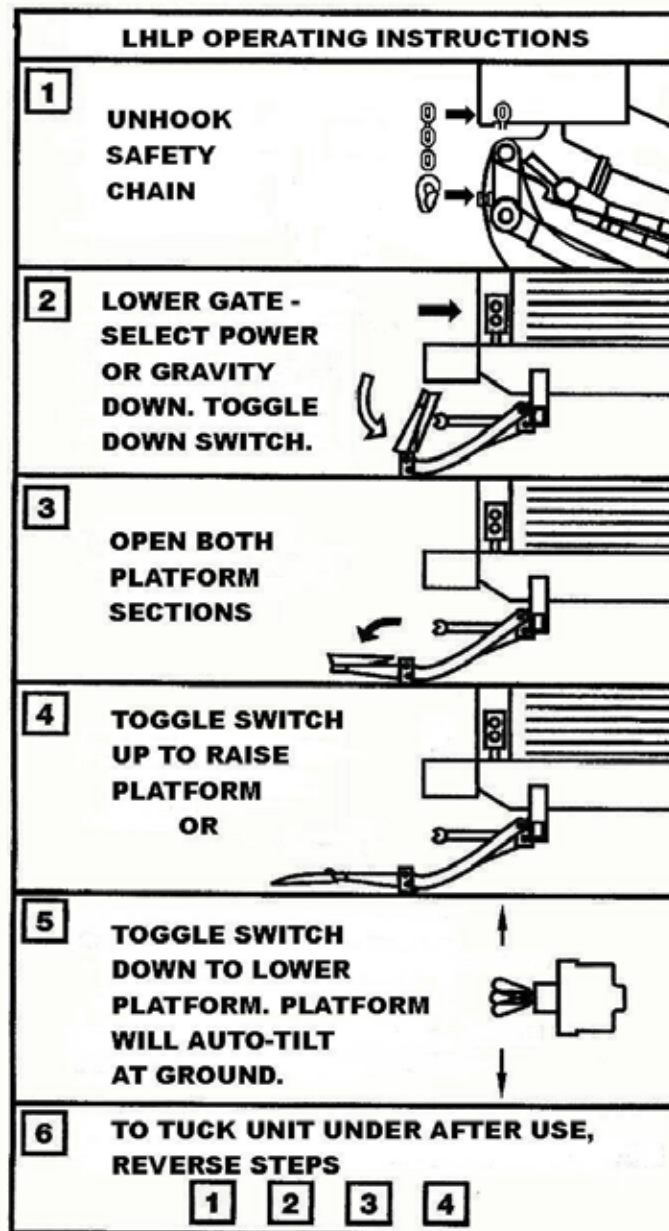
LEYMAN
LIFT GATES

OPERATING



LIFT GATE OPERATING INSTRUCTIONS

- Before operating the lift gate, read and understand this decal, urgent warning decal and the Owner manual.
- Do not stand behind the lift gate while unfolding or using the platform.





TROUBLESHOOTING



TROUBLESHOOTING CHART

The following troubleshooting chart covers the Liberty™ SLP®

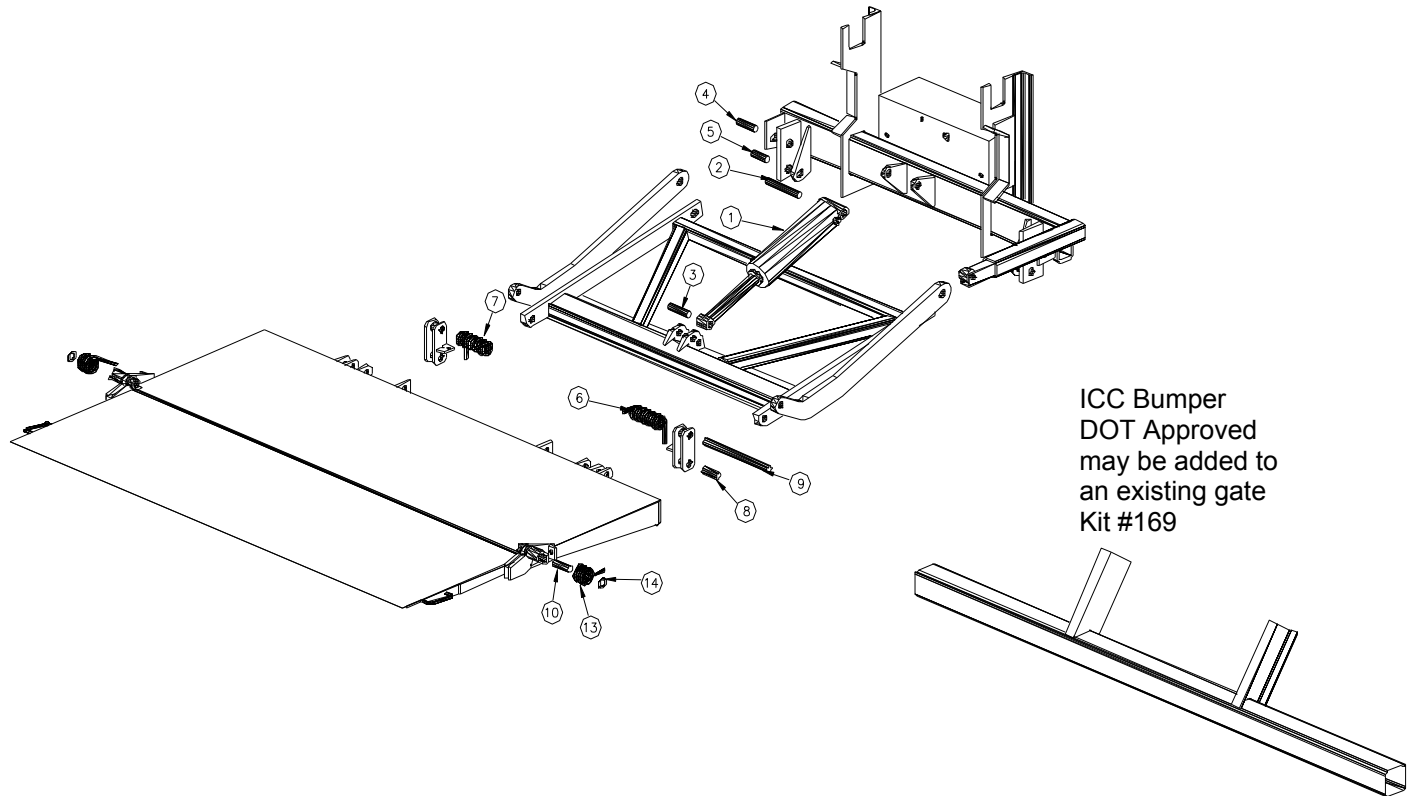
PROBLEM	PROBABLE CAUSE	REMEDY
The platform will not go up or reach floor level.	1. Battery is low 2. Slave line is disconnected or connections are loose (battery and motor). 3. Insufficient oil in power unit tank 4. Poor switch connections	1. Recharge battery 2. Connect the slave line properly. 3. Fill the power unit tank 4. Clean and check switch connections.
Platform will not lower.	1. Battery is low. 2. Poor switch connections. 3. Check lowering valve (2-way valve).	1. Recharge the battery. 2. Clean and check switch connections. 3. Clean/replace as necessary.
Platform creeps down.	1. Dirt under the ball of the check valve, the ball is pitted, worn or the spring is weak. 2. Hydraulic leak. 3. Cylinder piston seals failing.	1. Clean. 2. Check all hoses and fittings. 3. Replace cylinder seals.
Platform goes down slowly.	1. Excessive wear of mechanical components. 2. Restriction in hydraulic system. 3. Incorrect hydraulic oil in system for cold weather	1. Insure free movement of all mechanical parts. 2. Check strainers on valve stems. 3. Use Mobile Aero-HFA in extreme cold weather.
Platform comes down crooked	1. Flow control valve problem. 2. Air in system.	1. Replace flow control. 2. Bleed cylinder.
Gate will not lift the rated load.	1. Hydraulic pump is worn. 2. Battery is too low. 3. Hoses switched at power unit.	1. Change the pump. 2. Recharged the battery to full charge. 3. Switch hoses.
Pump will not operate	1. Battery too low. 2. Electrical hookup to motor not making contact. 3. Control switches are not making good contact. 4. Optional Maintenance Minder2® Controller has shut down the system due to the low voltage. Must maintain 8 volts minimum under load.	1. Recharge the battery and check to be sure that the slave line has a good connection. 2. Clean connections and re-tighten. 3. Clean and check the connections. 4. Use the "Last Lift Menu" data on screen to read maximum and minimum voltages, recharge battery.



PARTS



REPLACEMENT PARTS



ITEM #	PART #	QTY	DESCRIPTION
1	P33989	1	Cylinder 2500/3000 gate
1	P33990	1	Cylinder 3500 gate
	P43578	3	Cylinder bushing (for all cylinders)
2	AP-800-227	1	Pin for cylinder, base end
3	AP-800-233	1	Pin for cylinder, rod end
4	AP-800-229	2	Pin, Tension Arm / Frame Tube
5	AP-800-231	2	Pin, Comp. Arm / Frame Tube
6	P25179	1	Spring RH
7	P25178	1	Spring LH
8	AP-800-235	2	Pin, Cam Plate / Comp. Arm
9	AP-800-237	2	Pin, Platform / Cam / Tension Arm
10	AP-800-486	2	Ramp Pin
11	P43575	4	Greaseless bearing (1" ID)
12	P43576	4	Greaseless bearing (1-1/4" ID)
13	P25219	2	Ramp Spring
14	P26020	2	Washer
	P47531	12	Roll Pin 1/4 x 1-3/4
	P47532	2	Roll Pin 1/4 x 2-1/4

CYLINDER SEAL KITS

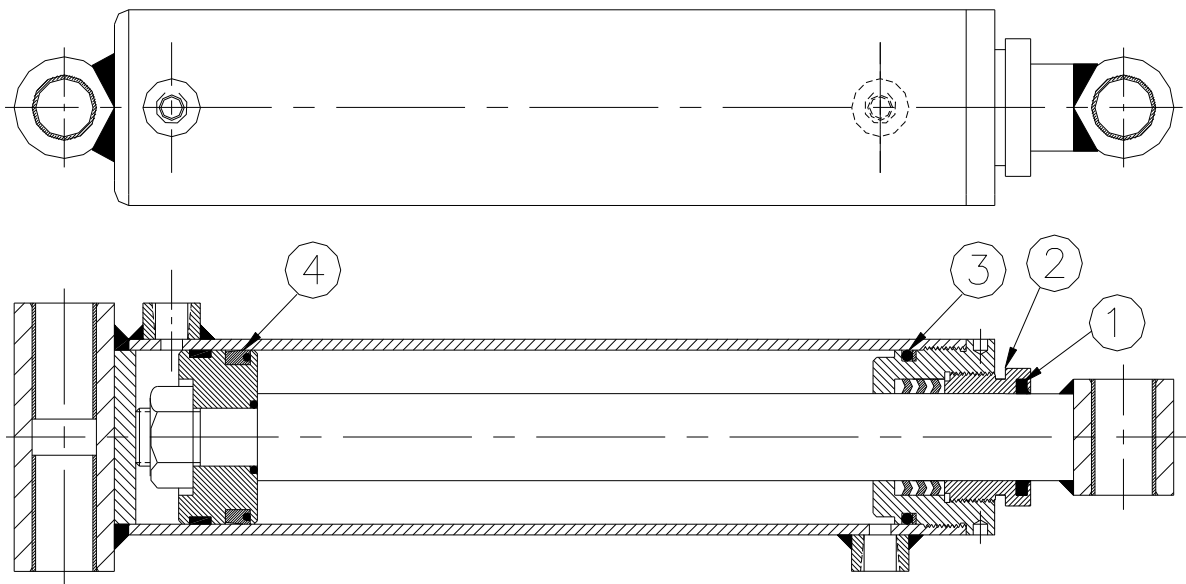
GATE	PART #	DESCRIPTION
2500 / 3000	P33875	Complete seal kit
3500	P33876	Complete seal kit

COMPONENTS NOT SOLD SEPARATELY

COMPLETE SEAL KIT CONSISTS OF:

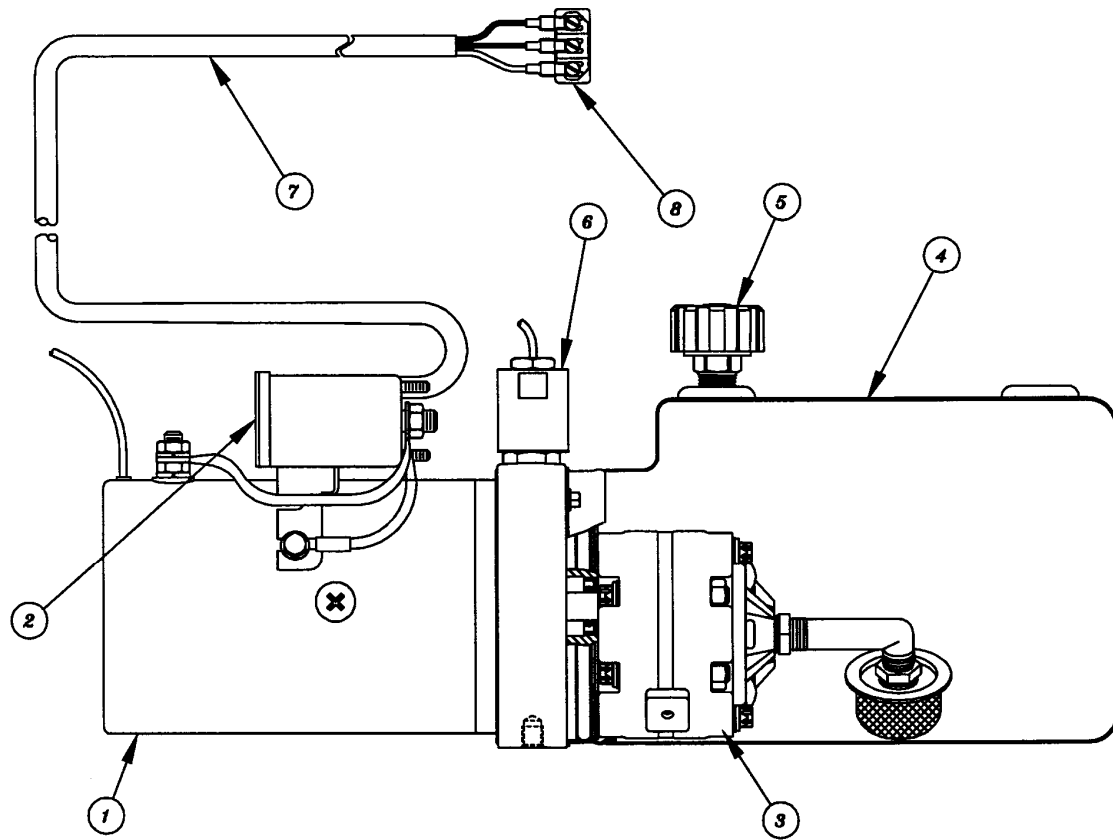
1. Wiper
2. Packing Gland Nut
3. "V" Packing Kit
4. Piston Seal and wear ring

Some cylinders do not have gland nuts and "V" packing for rod seal.



MONARCH POWER UNIT

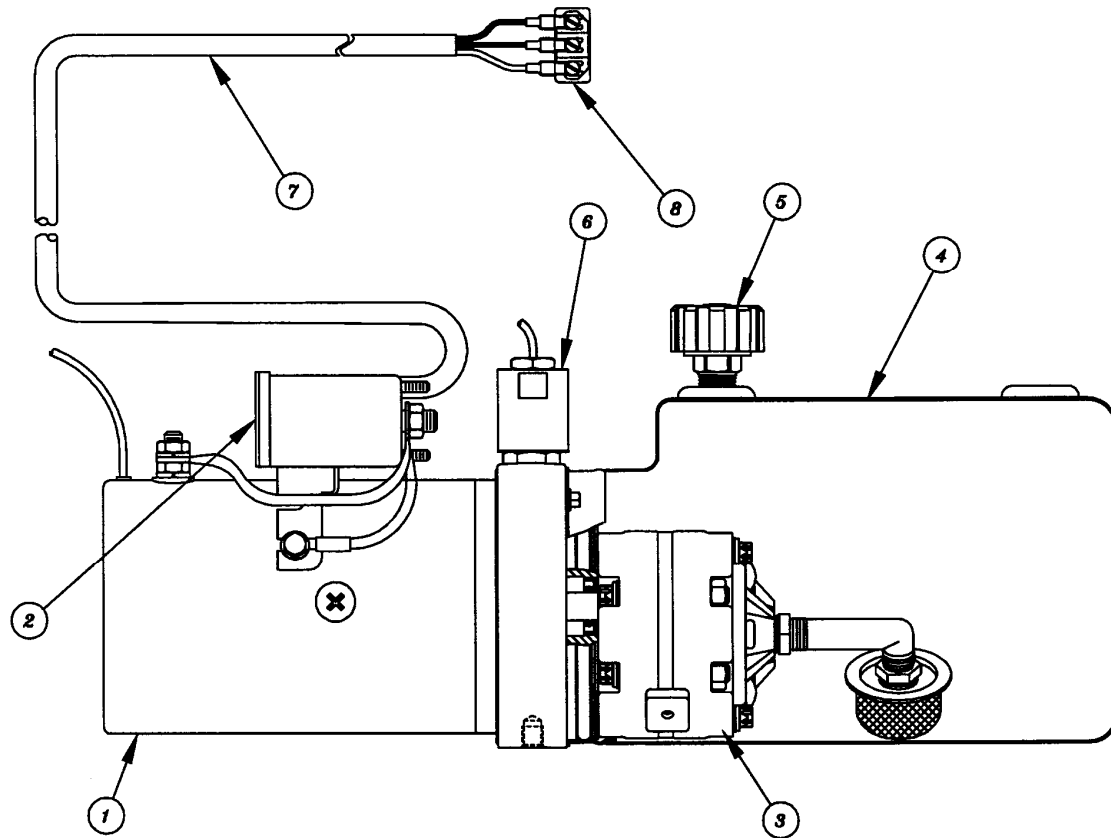
(GOLD/SILVER MOTOR WITH THERMAL SWITCH PROTECTION)



ITEM	PART #	DESCRIPTION
	AA-501-407	Power unit (complete)
1	P33992A	Motor
2	P34016	Starter Solenoid
3	LH150003	Pump
4	P34018	Tank
5	LH150015	Breather Cap
6	LH121	Drain Valve
7	P46600	Wire Harness w/switch (gray plastic box)
7	BA-551-639	Wire Harness w/switch (steel housing, surface mount)
8	AA-551-547	Potted Replacement Switch

INDIANA FLUID POWER - POWER UNIT

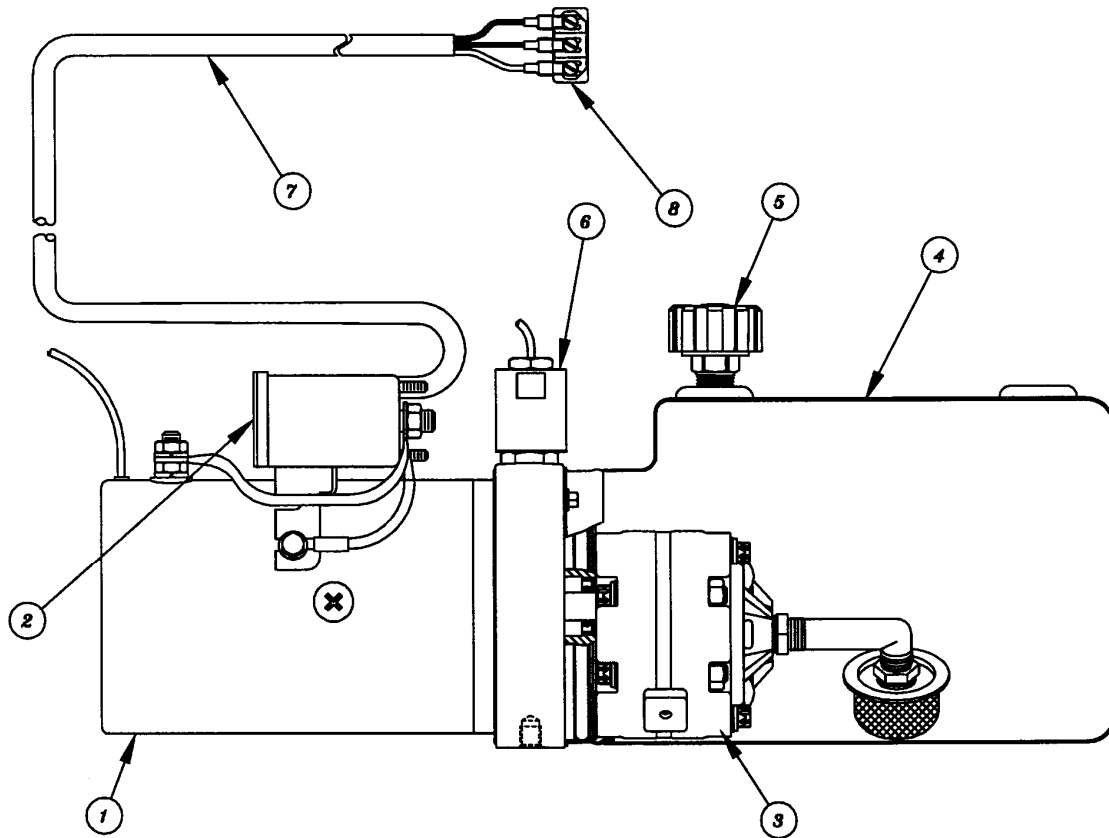
(BLACK MOTOR WITH THERMAL SWITCH PROTECTION)



ITEM	PART #	DESCRIPTION
	AA-501-407	Power unit (complete)
1	P34210	Motor
2	P34211	Starter Solenoid
3	P34213 or P34222	Pump
4	P34212	Tank
5	P34214 or P34234	Breather Cap
6	P34215	Valve
6	P34233	Coil
7	P46600	Wire Harness w/switch (gray plastic box)
7	BA-551-639	Wire Harness w/switch (steel housing, surface mount)
8	AA-551-547	Potted Replacement Switch

MTE - POWER UNIT

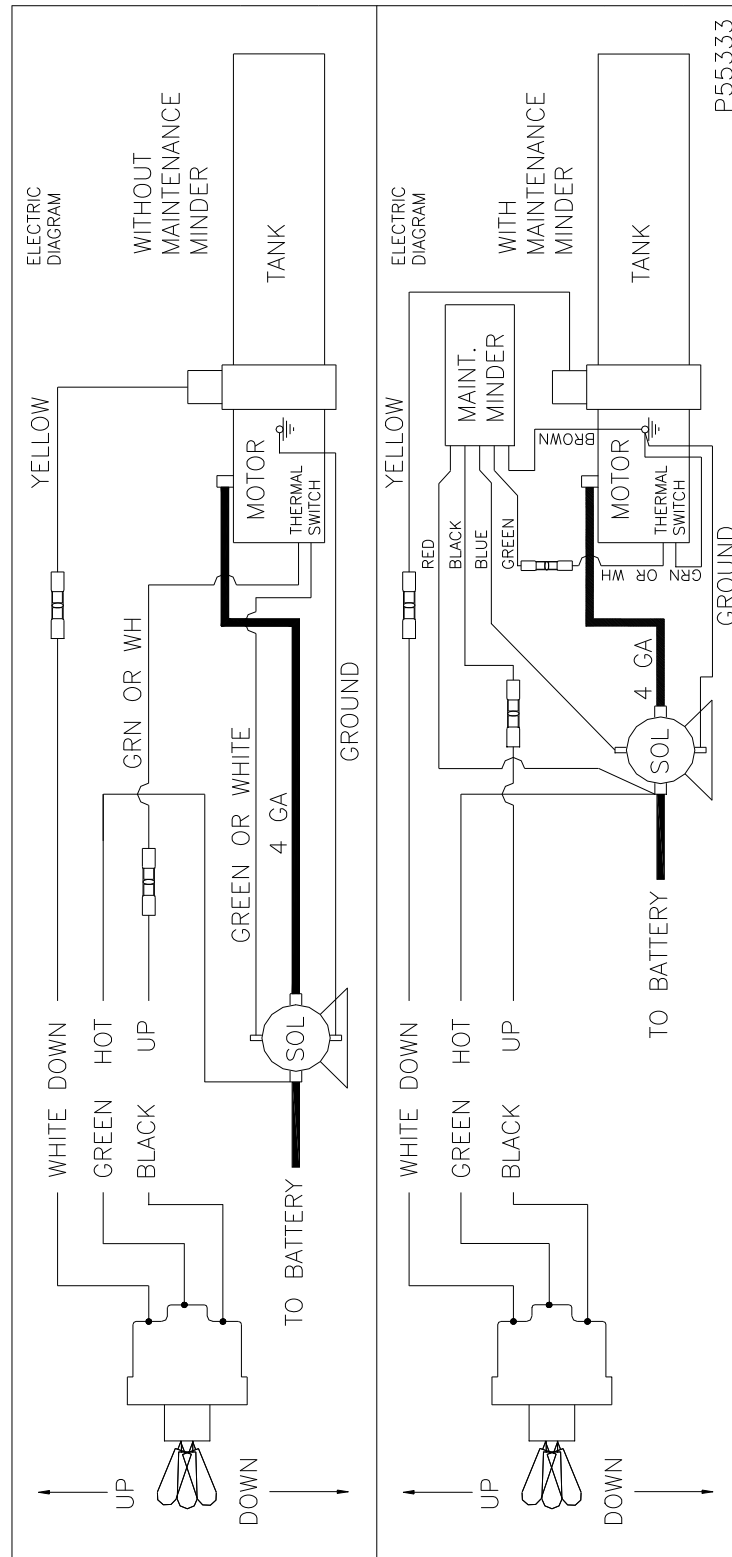
(BLACK MOTOR WITH THERMAL SWITCH PROTECTION)



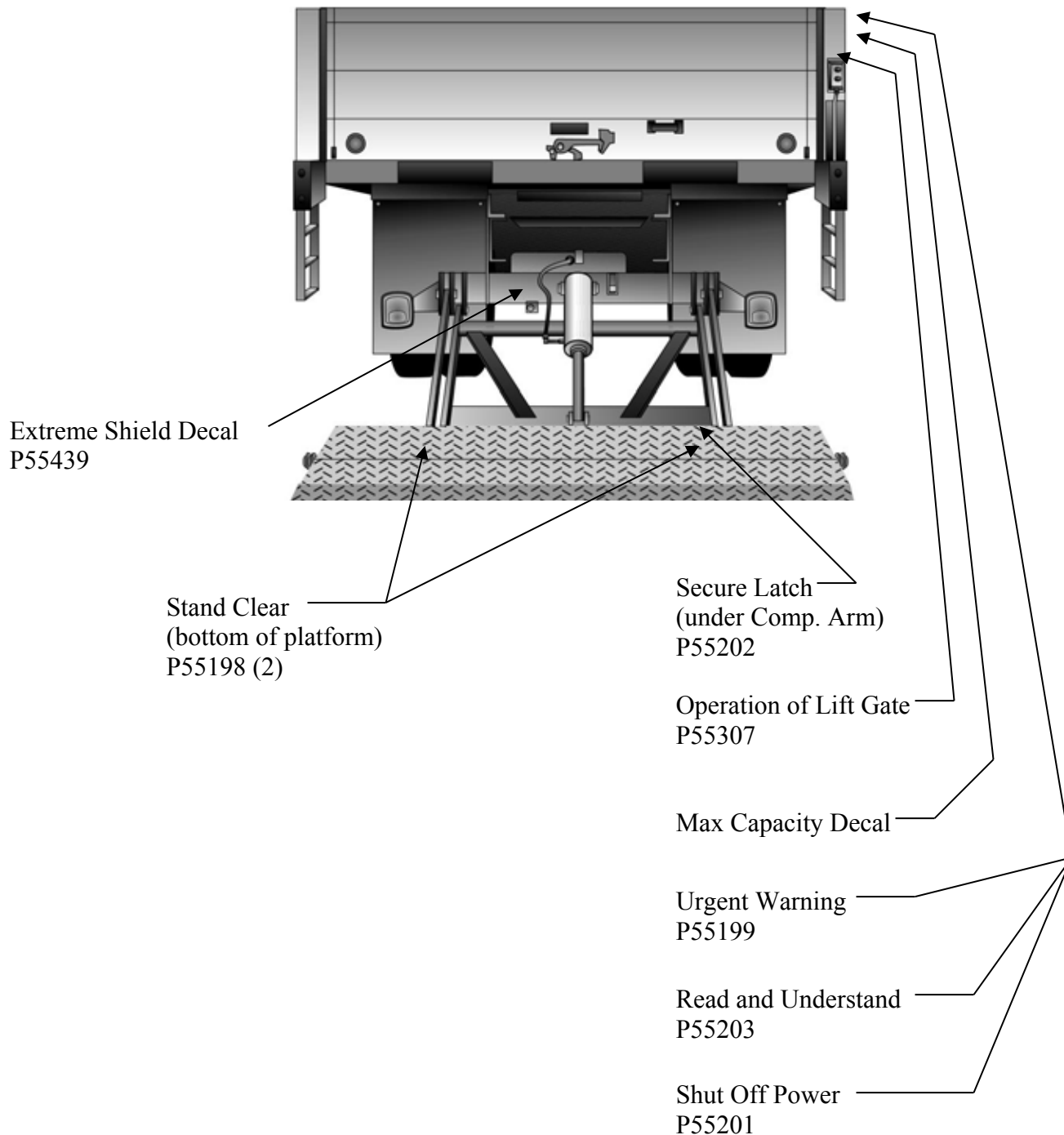
ITEM	PART #	DESCRIPTION
	AA-501-407	Power unit (complete)
1	P34210	Motor
2	P34211	Starter Solenoid
3	P34222	Pump
4	P34237	Tank
5	P34234	Breather Cap
6	P34215	Valve
6	P34233	Coil
7	P46600	Wire Harness w/switch (gray plastic box)
7	BA-551-639	Wire Harness w/switch (steel housing, surface mount)
8	AA-551-547	Potted Replacement Switch

LIBERTY™ SLP® WIRING

GATES WITH THERMAL SWITCH IN MOTOR



DECAL PLACEMENT



LEYMAN WILL REPLACE ANY DECAL AT NO CHARGE

NOTES

[illegible]