

LEYMAN

LIFT GATES

OPERATIONS MANUAL

Hero™ LHLP®

2500

3500

4500

5500

Hide-A-Way® Tuckunder Style



Rev1.0_08/26

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SPECIFICATIONS



GENERAL SPECIFICATIONS

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: LHLP _____
 SERIAL #: _____
 CAPACITY: _____ lbs.
 TYPE: Hide-A-Way
 HYDRAULIC PRESSURE: 2,500 psi MAX. at by-pass

Model Number	Vehicle Width	Lifting Capacity	Platform Size		Approx. Weight
			W"	D"	
LHLP 5500G	96" / 102"	5,500 lbs.	86"	60"	1,150 lbs
LHLP 4500G		4,500 lbs.			1,000 lbs
LHLP 3500G		3,500 lbs.	80"		795 lbs
LHLP 2500G		2,500 lbs.			770 lbs

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

WORDS OF CAUTION

- 1** Before any maintenance is performed on this unit, **READ AND UNDERSTAND THIS MANUAL COMPLETELY.**
- 2 DO NOT STAND IN FRONT OR BEHIND THE PLATFORM** When Lowering From The Stored Position Or When Operating The Gate In Folded Position.
- 3** Make sure the ground is clear under the platform when lowering, check the area around the gate for any persons before operating the gate.
- 4** This lift gate should operate smoothly and the only noise that you should be heard is the power unit. Any audible sounds other than normal power unit operation sound should be thoroughly inspected and the cause of noise should be pin-pointed and corrected.
- 5** Never exceed the rated load capacity of this gate.
- 6** Always load as close to the center of the platform and close to the truck or trailer sill.
- 7** Do not allow persons to operate the unit unless they have been properly trained to do so.
- 8** Inspect the hydraulic cylinders seals for leakage every six (6) months.
- 9** Inspect hydraulic lines for cracks or deterioration every six (6) months.
- 10** Check the level of the hydraulic oil in the power unit tank once a month.
- 11** Clean the hydraulic power unit strainer and in-line filter every three (3) months.
- 12** Always disconnect the battery from the power source before servicing the unit.
- 13** Use only factory authorized parts for replacement.

This manual reflects most changes and updates of materials that are common to this type of lift gate. Some may differ due to individual customer requirements. This manual has been established to reflect the common items.



WARNING

SINCE THIS GATE HAS POLYMER GREASELESS BEARINGS IN SOME OF THE MAIN PIVOT POINTS, (TENSION ARM, COMPRESSION ARM AND CYLINDER PIVOTS) ATTACH GROUND WIRE CLOSE TO WHERE YOU ARE WELDING OR YOU WILL DAMAGE CYLINDER AND OTHER COMPONENTS

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

3.6 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 120 AMP @ 12 volts. At bypass approximately 250 AMP @ 12 volts

LIFTING PRESSURE SETTING

With platform at floor level and pump in bypass 2500PSI

MINIMUM VEHICLE FLOOR HEIGHT LADEN

46" vehicle floor height

MAXIMUM VEHICLE FLOOR HEIGHT UNLADEN

59" vehicle floor height

APPROXIMATE TIMES EMPTY AT 80° F WITH 2 GROUP 31 BATTERIES

Time up: 17 – 19 seconds. Time down: 17-19 seconds (power down)

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

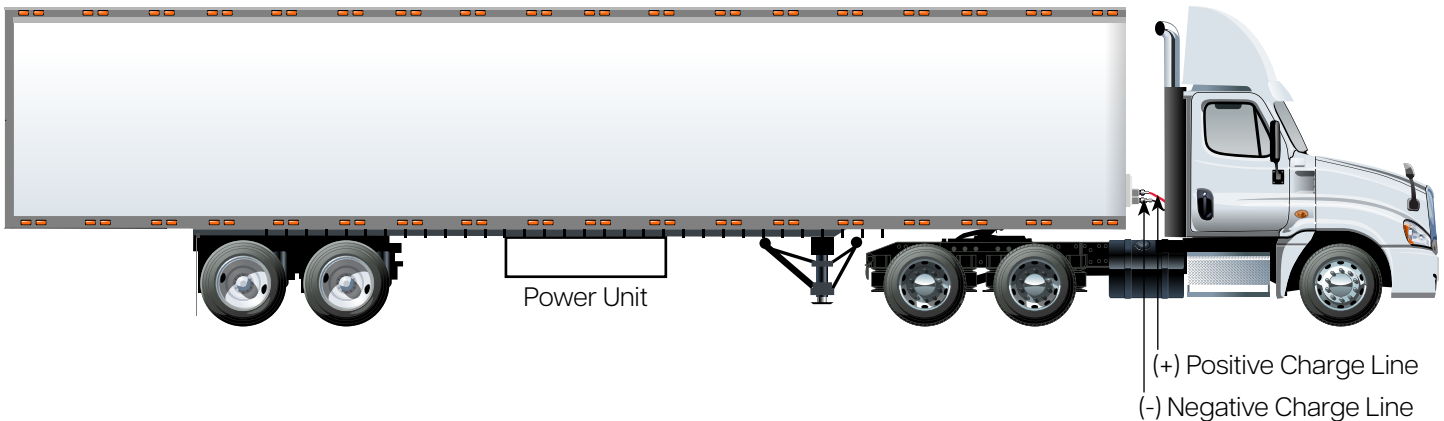
Serviced By: _____ Date: _____



INSTALLATION & ADJUSTMENTS



CHARGE LINE RECOMMENDATIONS FOR TRACTOR/TRAILER



Utilization of a single positive cable does not provide sufficient ground. Therefore, our recommendations for grounding trailers with a **Hero™LHLP®** gate are as follow:

Two (2) cables: one (1) positive and one (1) negative, both running to the tractor batteries.

The Maintenance Minder 2® controller (optional) requires that a minimum of 8 volts be maintained under load in order for the **Hero™LHLP®** to operate.

NOTE



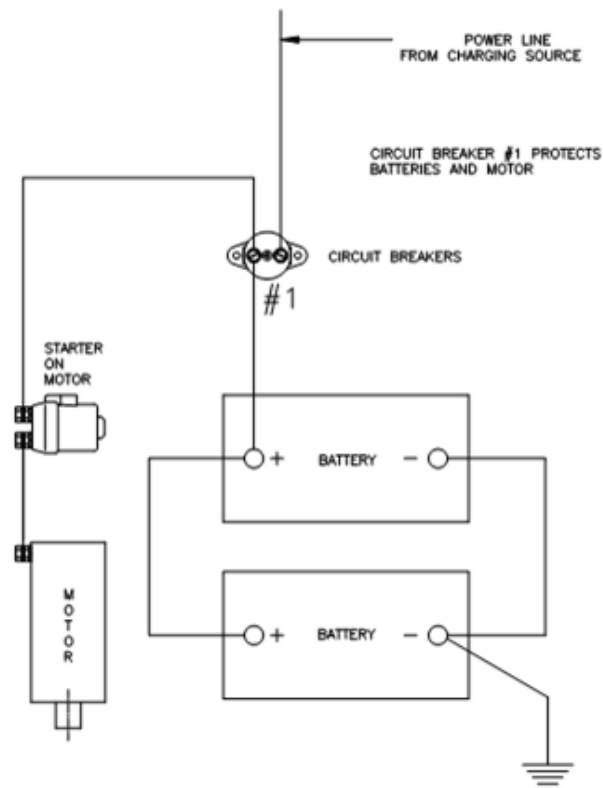
The use of a battery charger as the sole power source to operate the LHLP is unauthorized and will prevent the LHLP from working properly. The lift gate must always be operated in conjunction with a least one (1) 12 volt heavy duty lift gate battery. The **Hero™LHLP®** Power Unit must be properly grounded. A 5/16" Ground Screw is provide on the pump block to connect a ground wire to the vehicle frame.

BATTERY HOOK UP

WE RECOMMEND BATTERIES WITH THE FOLLOWING SPECIFICATION:

- **12 Volt Heavy Duty Dual Purpose or AGM**
- **B.C.I. Group – Size 31**
- **Terminal Type – TS**
- **Cold Cranking Amp - 580**

ONE CIRCUIT BREAKER
WIRING DIAGRAM

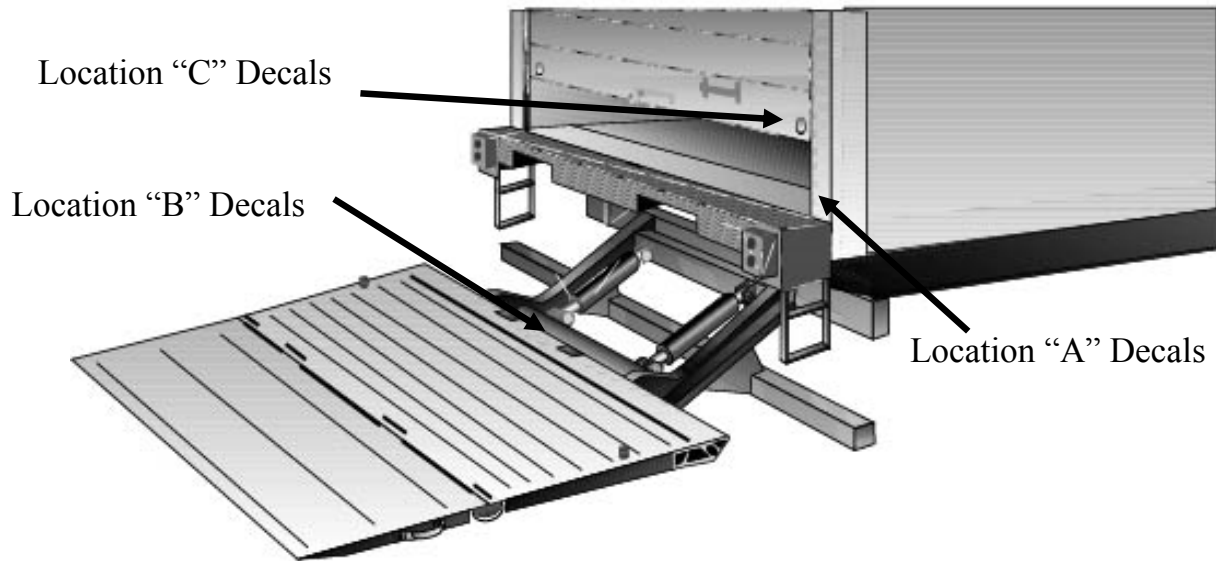


FAILURE TO USE CORRECT BATTERIES WILL VOID WARRANTY

INSTALLING SAFETY DECALS


IMPORTANT!

All decals should be positioned so they can be seen with the LHLP2500G in both the operating and stored positions. Decals must NEVER be covered by components or elements of the vehicle (hooks, locks, cloths, etc.).


Location “A”

DESCRIPTION	DIMENSIONS	PART #
Urgent Warning	4 ½" x 4 ½"	P55199
After using Lift Gate	4" x 2"	P55201
Read & Understand	4" X 3"	P55203
LHLP Operation Instructions	6" x 3"	P55329
CAUTION Maximum Load 2500 lbs	4" x 7"	P55383

Location “B”, on face of Tension Arm Tube with gate UP

DESCRIPTION	DIMENSIONS	PART #
Secure Latch	4" x 2"	P55202

Location “C”, on the UP/DOWN switch box – 4500/5500

DESCRIPTION	DIMENSIONS	PART #
UP – DOWN POWER DOWN	3 1/8" X 1 3/8"	P55330

If any decals are missing or become damaged, free replacements are always available from LEYMAN.

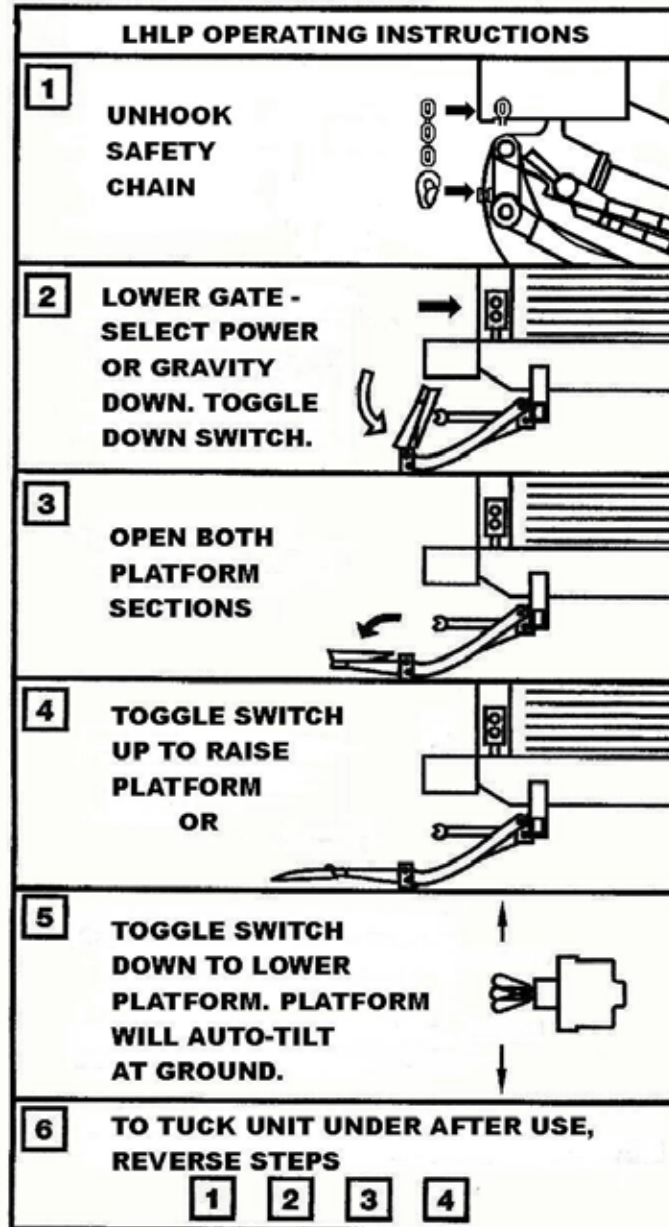


OPERATING



LIFT GATE OPERATING INSTRUCTIONS

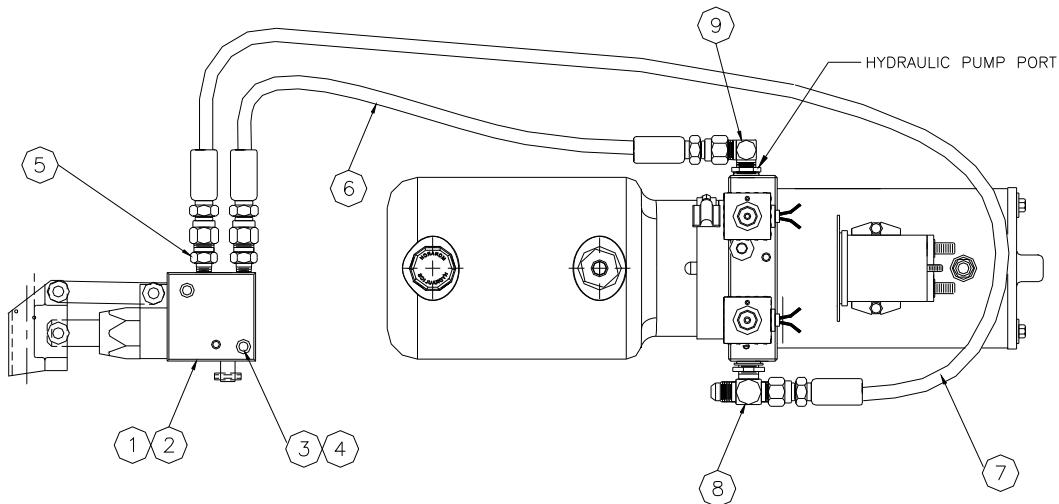
- Before operating the lift gate, read and understand this decal, urgent warning decal and the Owner manual.
- Do not stand behind the lift gate while unfolding or using the platform.



OPERATING THE HAND PUMP (OPTIONAL)

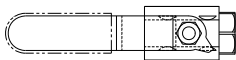
2500G/3500G

1. Optional Hand Pump is located inside power unit box.
2. Insert handle into pump and stroke to raise.
3. Twist valve at pump base counter-clockwise to lower.
4. Close valve (turn clockwise) at pump base when finished.

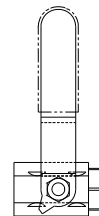


4500G/5500G

1. Inside the power unit enclosure, turn the ball valve (plastic covered handle) 90° to the full open position. The handle will be inline with the valve body and hose when fully open.
2. Using the handle, slowly turn the valve located on the hand pump to let the lifting gear down. Fold platform closed. Close valve at pump base.
3. Insert the handle into the pump and pump to raise lifting gear.
4. Latch over-the-road safety chain. Close ball valve in power unit.



BALL VALVE CLOSED
(HANDLE IN-LINE WITH BODY)



BALL VALVE OPEN
(HANDLE PERPENDICULAR TO BODY)



TROUBLESHOOTING



TROUBLESHOOTING CHART

The following troubleshooting chart covers the Hero™ LHLP®

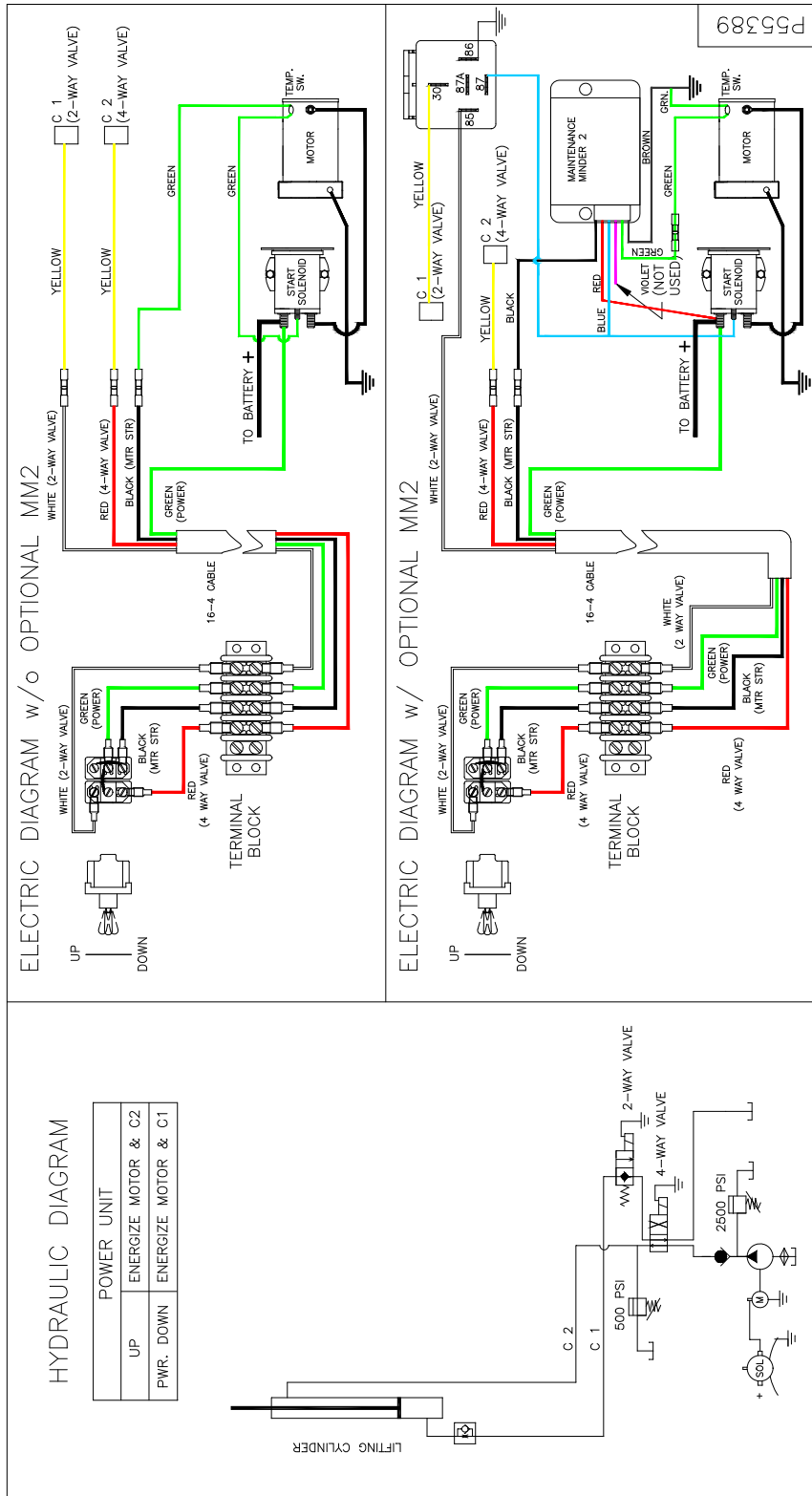
PROBLEM	PROBABLE CAUSE	REMEDY
The platform will not go up or reach floor level.	1. Battery is low 2. Slave line is disconnected or connections are loose (battery and motor). 3. Insufficient oil in power unit tank 4. Poor switch connections	1. Recharge battery 2. Connect the slave line properly. 3. Fill 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.



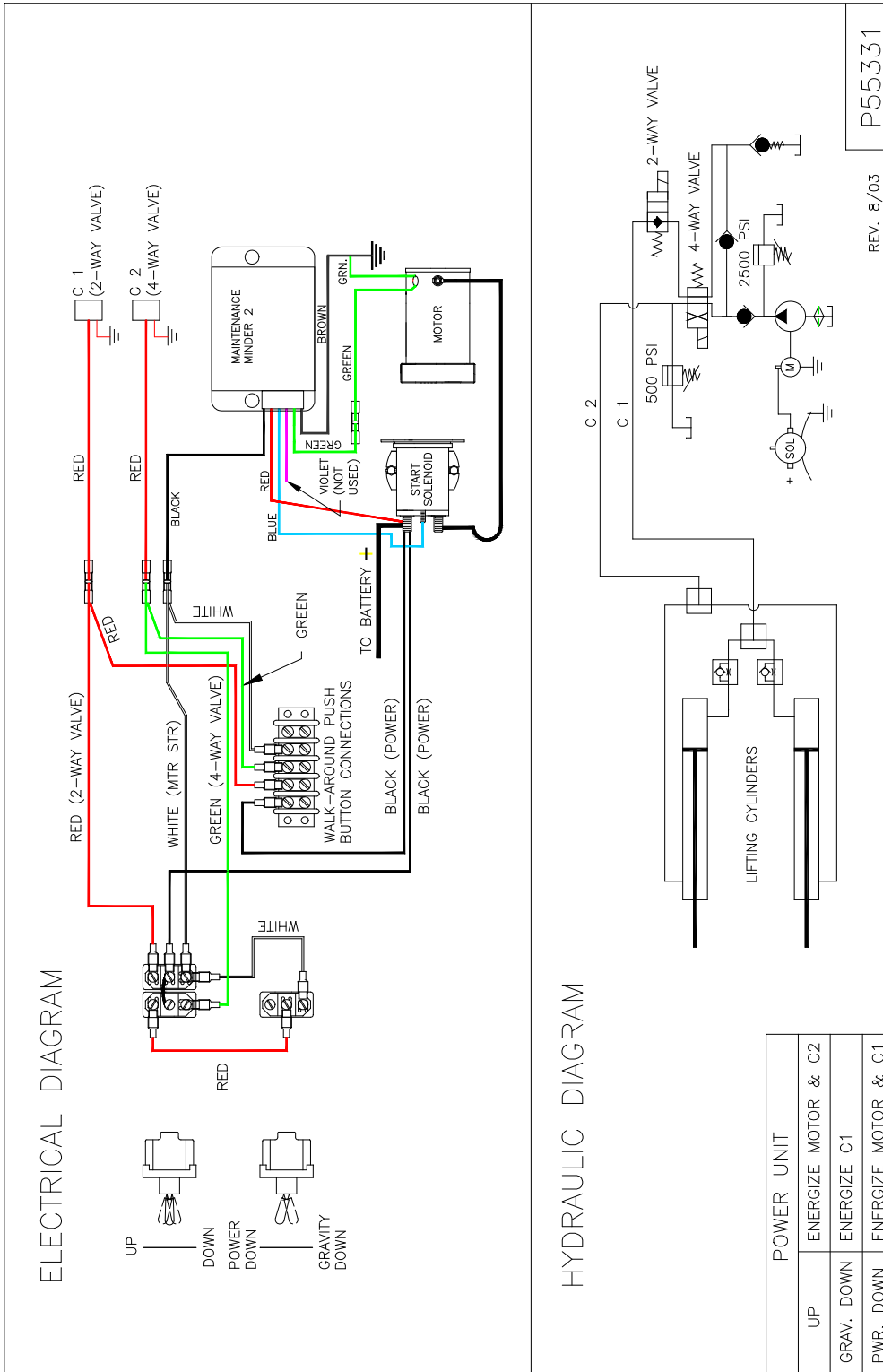
DIAGRAMS

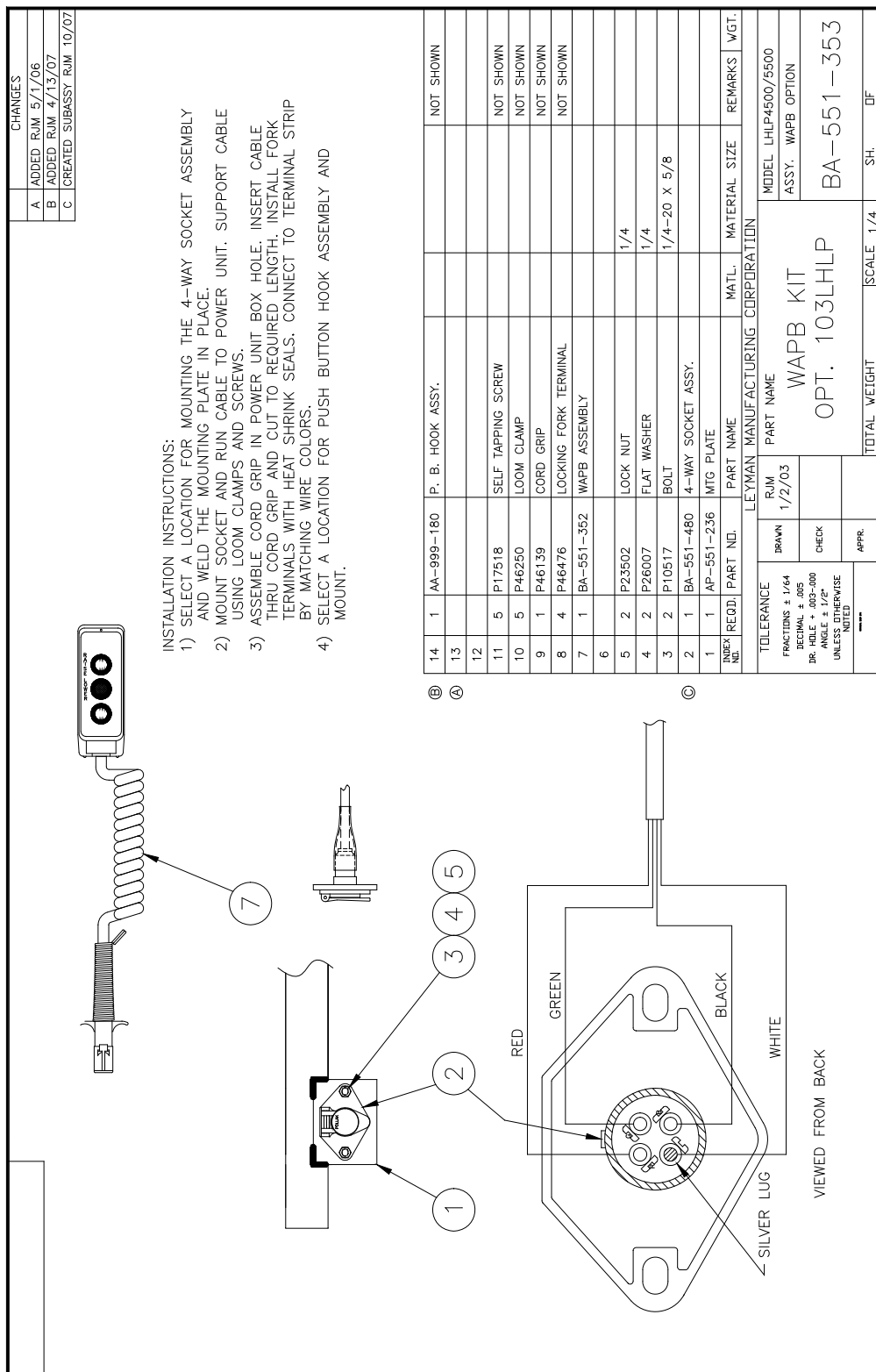


ELECTRICAL & HYDRAULIC DIAGRAM – 2500/3500

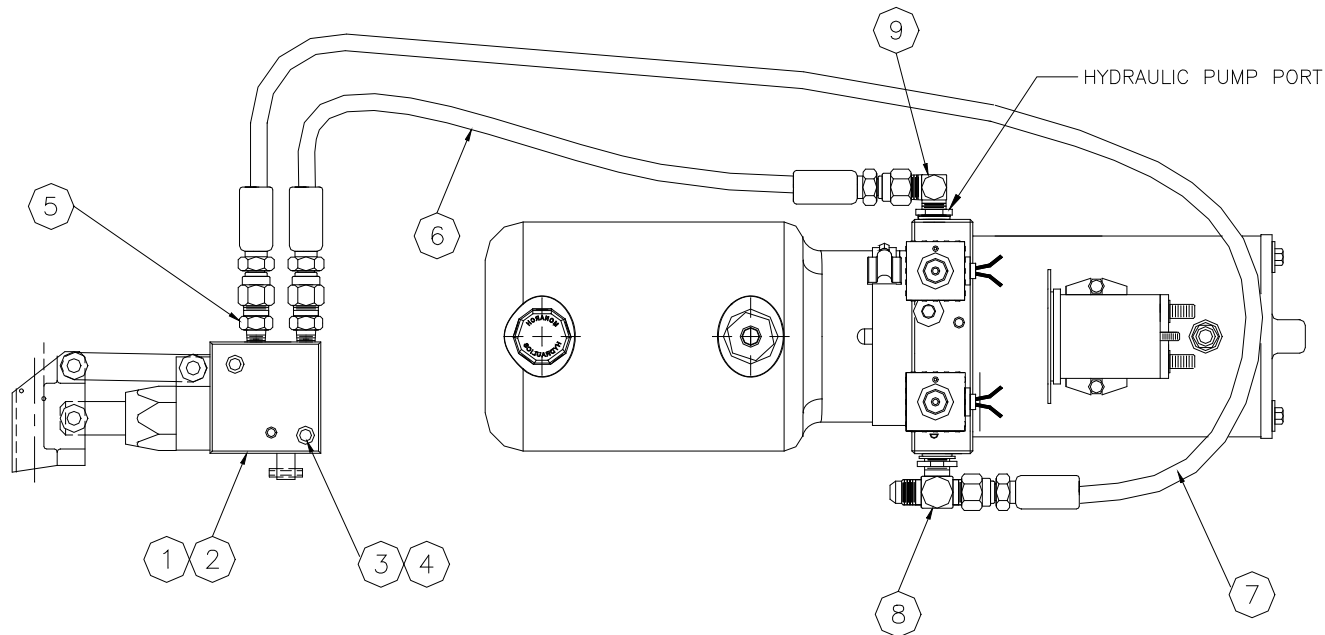


ELECTRICAL & HYDRAULIC DIAGRAM – 4500/5500





EMERGENCY HAND PUMP OPTION 224 – 2500/3500

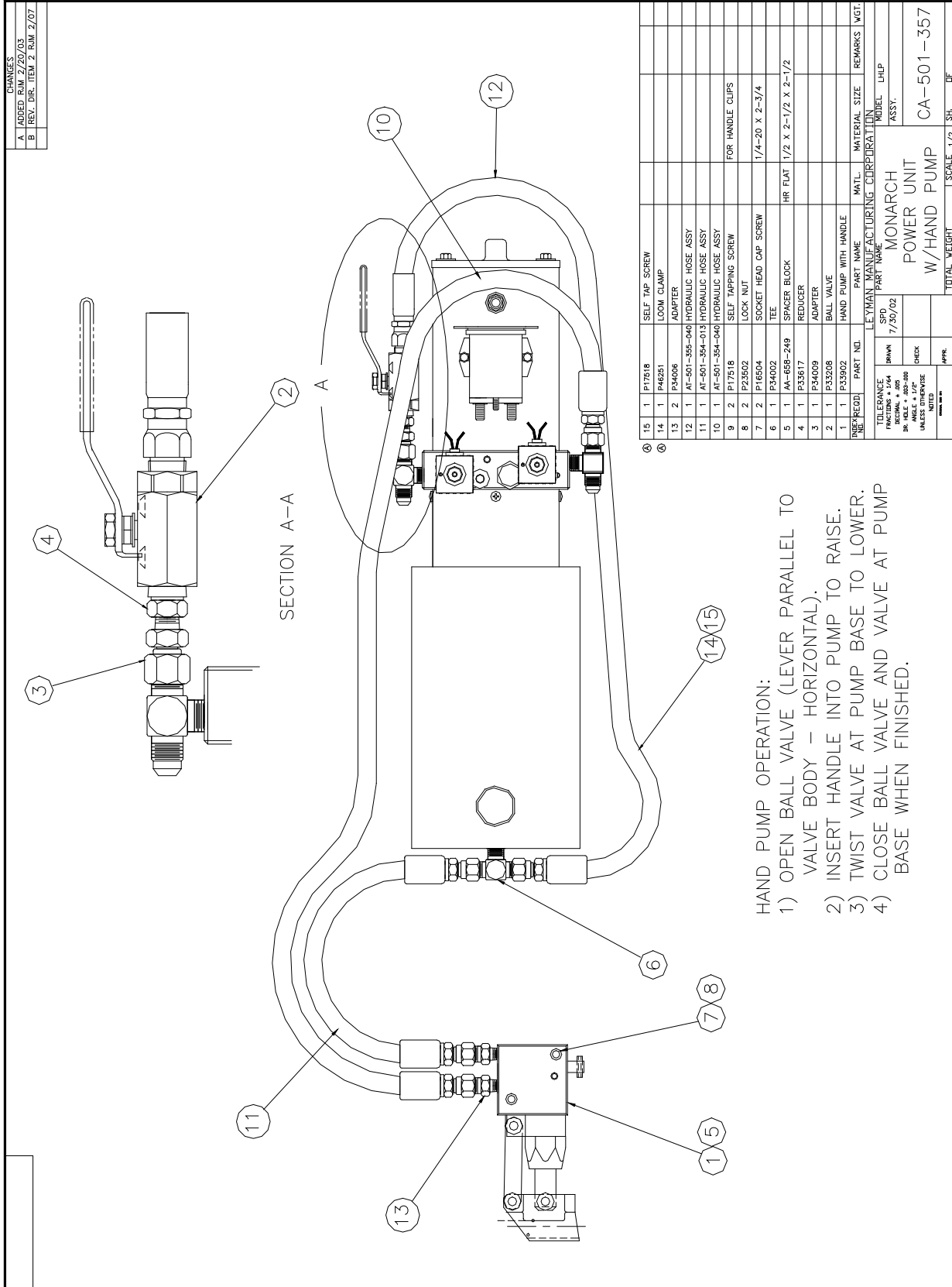


INDEX #	QTY	PART #	DESCRIPTION
1	1	P33902	Hand pump with handle
2	1	AA-658-249	Spacer block
3	2	P16504	1/4-20 SHCS
4	2	P23502	Lock nut
5	2	P34006	Adapter
6	1	AT-501-354-018	Hydraulic hose
7	1	AT-501-354-035	Hydraulic hose
8	1	P34076	Tee
9	1	P34020	90° Elbow
10	2	P17518	Self Tapping Screw

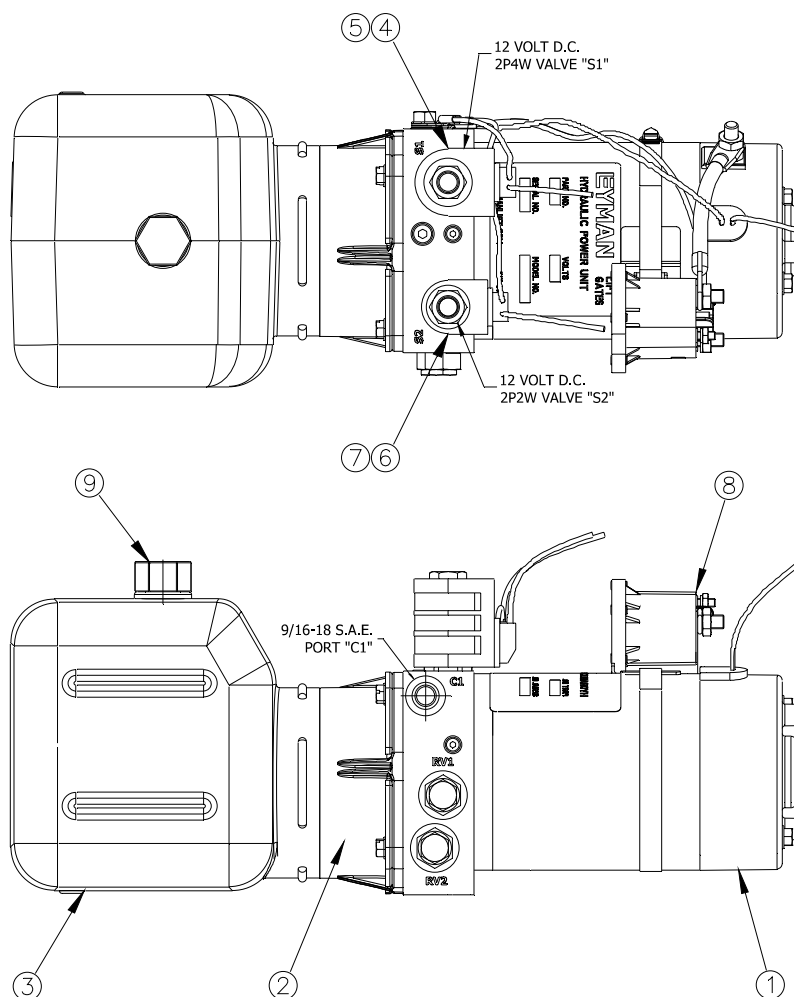
HAND PUMP OPERATIONS

- 1) INSERT HANDLE INTO HAND PUMP TO RAISE.
- 2) TWIST VALVE AT PUMP BASE TO LOWER
- 3) CLOSE VALVE AT PUMP BASE WHEN FINISHED

EMERGENCY HAND PUMP – 4500/5500

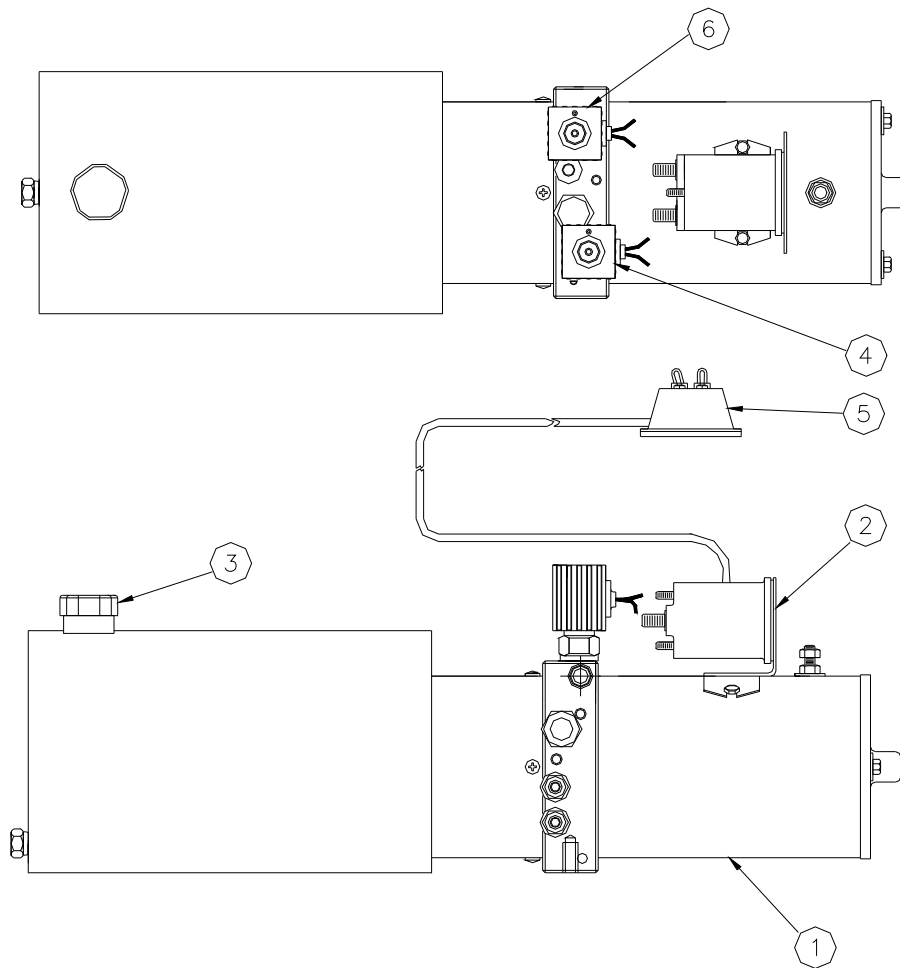


POWER UNIT PARTS – 2500/3500



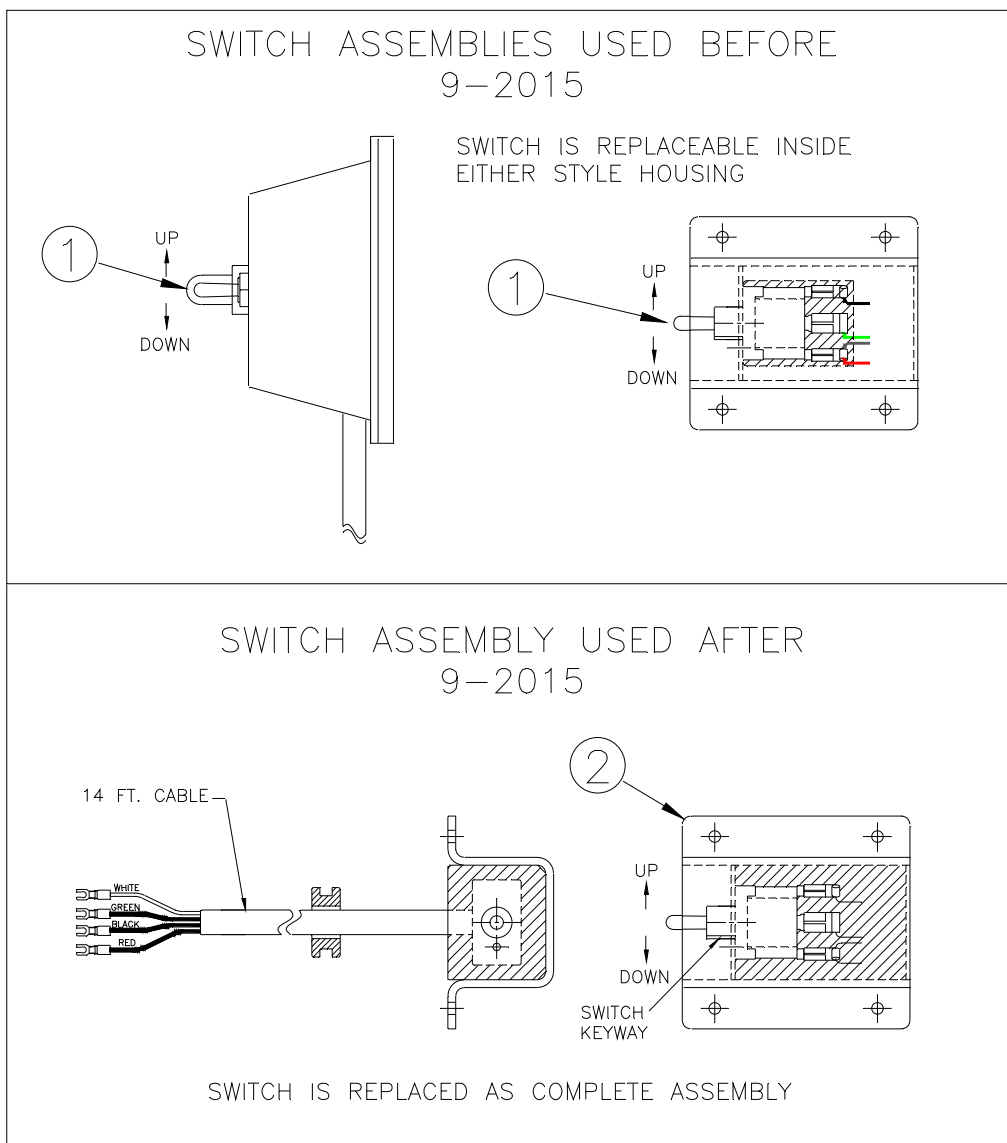
INDEX #	PART #	DESCRIPTION
	P34219	Power Unit (complete)
1	P34221	Motor
2	P34222	Pump Kit
3	P34229	Reservoir Tank
4	P34230	C2 Valve Stem 2P4W
5	P34231	C2 Coil (Size 10)
6	P34232	C1 Valve Stem 2P2W
7	P34233	C1 Coil (Size 8)
8	P34016	Starter Solenoid
9	P34234	Breather Fill Cap

POWER UNIT PARTS – 4500/5500



INDEX #	PART #	DESCRIPTION
	P34000B	Power Unit (complete)
1	P34027A	Motor
2	P34016	Start Solenoid
3	LH150015	Breather Cap
4	P34025	C1, 2 Way, 2 Pos. Solenoid Valve
5	P34001	Wire Harness w/ Switch
6	P34026	C2, 4 Way, 2 Pos. Solenoid Valve
7	P34056	Pump Kit
8	P34089	Suction Screen
9	P34178	Reservoir Tank
10	P34099	Tank O-Ring

SWITCH WIRING COMPONENTS – 2500/3500



INDEX #	PART #	DESCRIPTION
1	AA-551-546	Replacement switch (switch only) before 9-2015
2	BA-551-620	Switch assembly (complete) after 9-2015

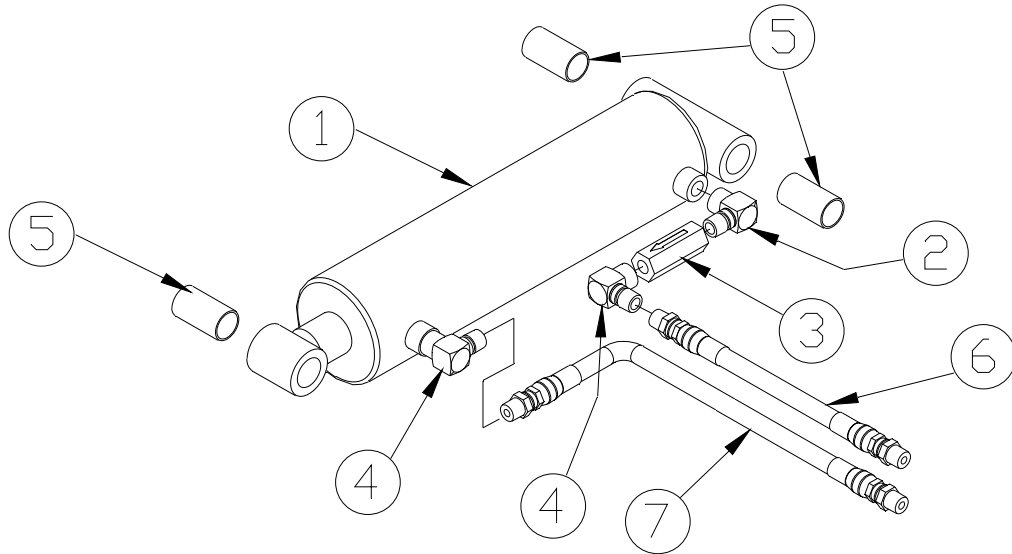


NOTE

BA-551-620 can be used to replace older switch supplied before 9-2015.

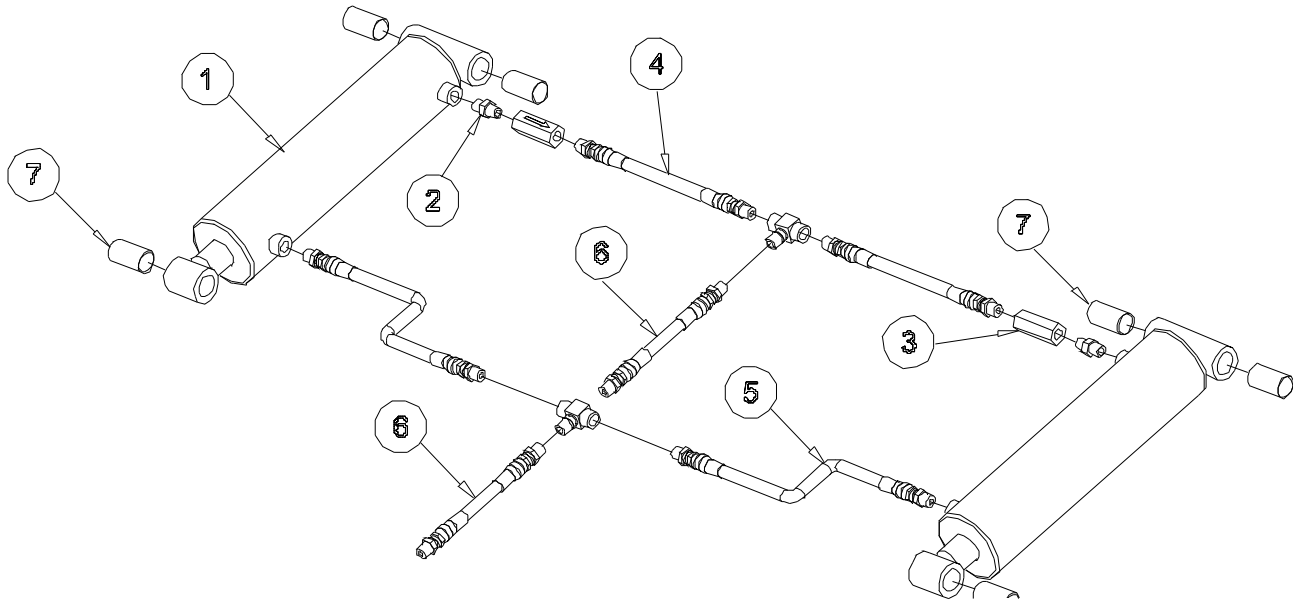
HYDRAULIC ASSEMBLY – 2500/3500

After 9-2014 Power Unit Box Mounted On Gate



INDEX #	QUANTITY	PART #	DESCRIPTION
1	1	P34071	Cylinder
2	1	P33217	3/8" 90° Elbow
3	1	P33984	2.8 GPM Flow Control Valve
4	2	P34005	Adapter Elbow 3/8 NPT - 9/16-18
5	3	P43578	Greaseless Bushings
6	1	AT-501-354-027	Hydraulic Hose.
7	1	AT-501-354-036	Hydraulic Hose.

HYDRAULIC ASSEMBLY – 4500/5500

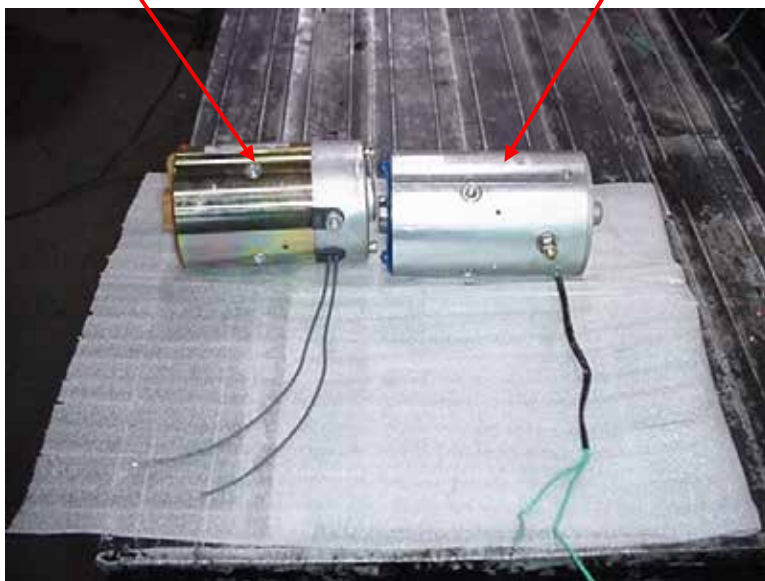


INDEX #	QUANTITY	PART #	DESCRIPTION
1	2	P33998	Cylinder
2	2	P33064	Pipe Nipple
3	2	P33619	2.8 GPM Flow Control Valve
4	2	AT-501-100-020	Hydraulic Line Assembly
5	2	AT-501-100-041	Hydraulic Line Assembly
6	2	AT-501-354-082	Hydraulic Line Assembly
7	6	P43578	Geaseless Bushing

MOTOR REPLACEMENT – 4500/5500

P34027A MOTOR
AFTER 6/1/2007 GOLD
WITH SLIVER END CAP

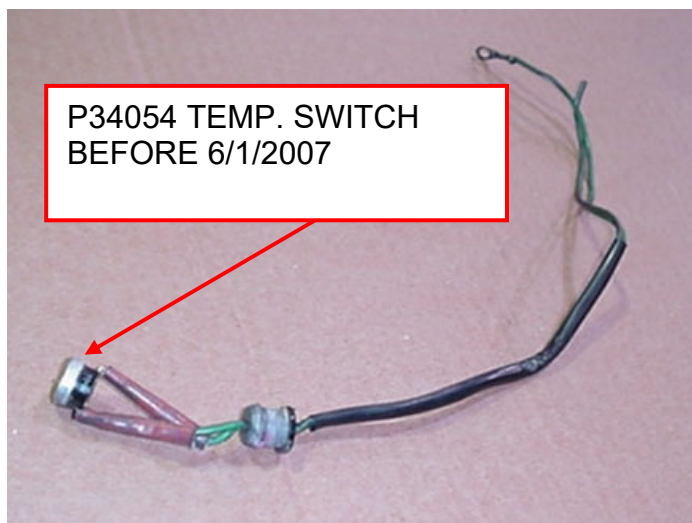
P34027 MOTOR
BEFORE 6/1/2007
BLACK OR SLIVER



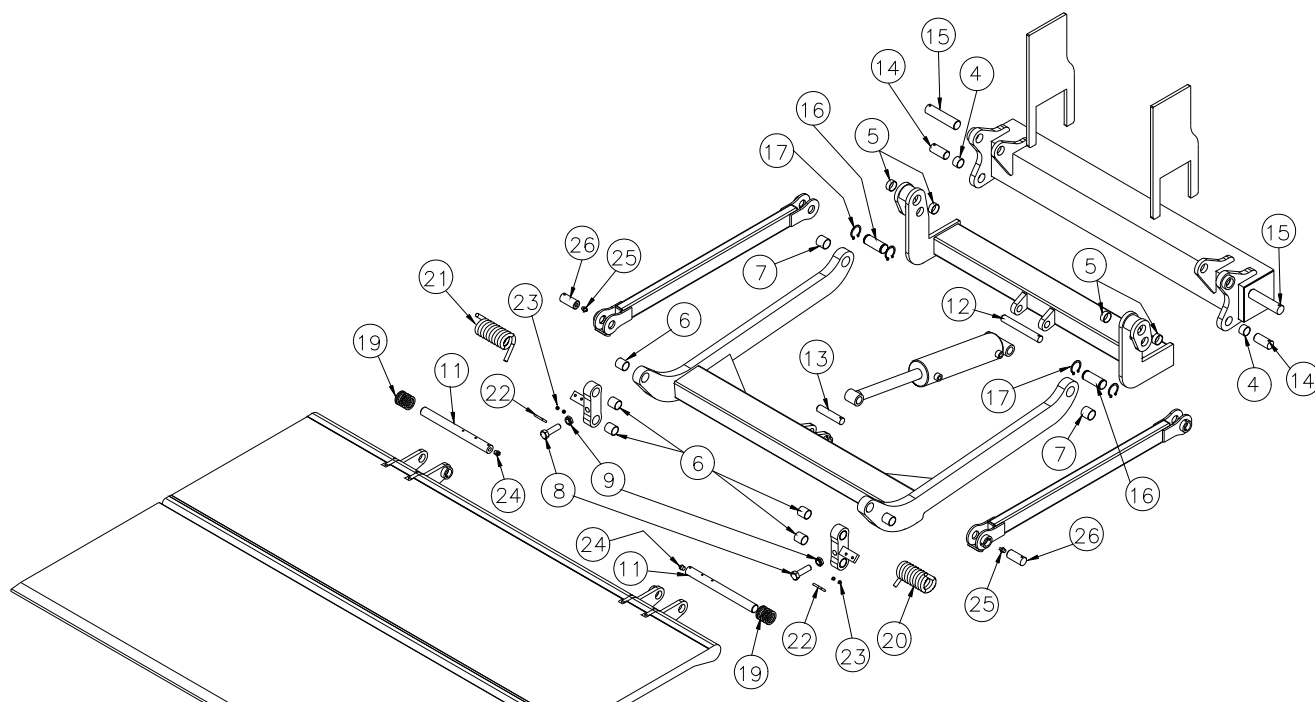
TEMP. SWITCH

P34130 TEMP. SWITCH
WITH BRUSH KIT AFTER
6/1/2007

P34054 TEMP. SWITCH
BEFORE 6/1/2007

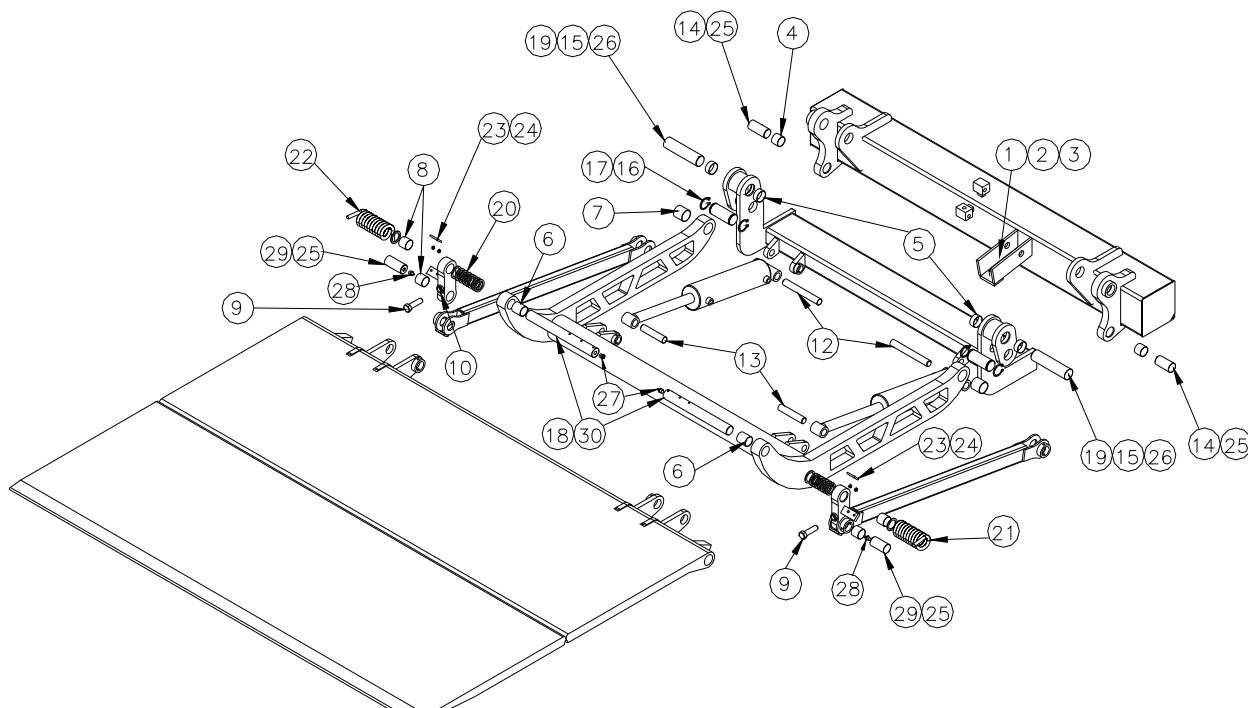


PIVOT PINS, BUSHINGS, SPRINGS 2500/3500



INDEX #	QUANTITY	PART #	DESCRIPTION
1	1	BA-711-114	Pivot Bracket for Radius Arm (Not Shown)
2	1	P14517	Soc Head Set screw 1/2-13 x 2 for Rad. Arm (Not Shown)
3	1	P23533	Hex Jam Nut 1/2-13 for Radius Arm (Not Shown)
4	2	P43596	BRG 1-1/4 ID x 1-3/8 OD x 7/8 LG.
5	4	P43593	BRG 1-3/8 ID x 1-1/2 OD x 1-3/8 LG
6	6	P43608	Pre-lubricated Bearing 1-1/4 ID x 1-3/8 OD (1-3/8)
7	2	P43594	BRG 1-3/8 ID x 1-1/2 OD x 1-3/8 LG
8	2	P10070	HHCS 3/4-10 x 1-3/4 LG. Plated
9	2	P22500	Nut Hex Jam 3/4-10
10	1	BA-712-157	Radius Arm Assembly, less Roller (Not Shown)
11	2	BP-712-125	Platform Bracket Pin
12	1	AP-800-227	Base End Pin
13	1	AP-800-233	Rod End Pin
14	2	AP-712-044	Compression Arm Pin
15	2	AP-712-047	Tilt Tube Pin
16	2	AP-712-046	Tension Arm Pin
17	4	P24024	Retaining Ring
18	1	AP-711-101	Radius Arm Pin (Not Shown)
19	24	P26028	Nylon Washer Nom 2 OD x 1-1/2 ID x 1/8
20	1	P25206	RH Spring
21	1	P25207	LH Spring
22	2	P17566	U-Bolt 1/4 x 1 x 1-3/4 LG
23	4	P23502	Lock Nut 1/4-20
24	2	P32017	Grease Fitting 1/4 NPT
25	2	P32016	Grease Fitting 1/4 - 28
26	2	AP-712-104	Compression Arm Pin – Cam End
27	1	P37553	Radius Arm Roller (Not Shown)
28	1	P11029	Hex Bolt for Roller (Not Shown)
29	1	P23511	Lock Nut for Roller (Not Shown)

PIVOT PINS, BUSHINGS, SPRINGS 4500/5500



INDEX #	QUANTITY	PART #	DESCRIPTION
1	1	BA-711-114	Pivot Bracket for Radius Arm (Not Shown)
2	1	P14517	Soc Head Set screw 1/2-13 x 2 for Rad. Arm (Not Shown)
3	1	P23533	Hex Jam Nut 1/2-13 for Radius Arm (Not Shown)
4	2	P43582	BRG 1-1/2 ID x 1-5/8 OD x 1-1/4 LG.
5	4	P43579	BRG 1-3/4 ID x 1-7/8 OD x 3/4 LG
6	2	P43602	Pre-lubricated Bearing 1-1/2 ID x 2 LG
7	2	P43581	BRG 1-3/4 ID x 1-7/8 OD x 2 LG
8	4	P43605	Pre-lubricated Bearing 1-1/2 ID x 1-3/8 LG
9	2	P10070	HHCS 3/4-10 x 1-3/4 LG. Plated
10	2	P22500	Nut Hex Jam 3/4-10
11	1	BA-711-104	Radius Arm Assembly (Not Shown)
12	2	AP-711-144	Shaft Base End
13	2	AP-711-145	Shaft Rod End
14	2	AP-711-042	Pin, Comp. Arm
15	2	AP-711-044	Pin, Tilt Tube/Frame
16	2	AP-711-045	Pin – Tilt Tube/ Ten Arm
17	4	P24023	Retaining Ring
18	2	BP-711-217	Platform Pin
19	10	P26027	Nylon Washer Nom 2-1/8 x 1-3/4 x 1/8
20	18	P26028	Nylon Washer Nom 2 OD x 1-1/2 id x 1/8
21	1	P25206	RH Spring
22	1	P25207	LH Spring
23	2	P17566	U-Bolt 1/4 x 1 x 1-3/4 LG
24	4	P23502	Lock Nut 1/4-20
25	4	P47532	Roll Pin 1/4 x 2-1/4 LG
26	2	P47538	Roll Pin 1/4 x 2-1/2 LG
27	2	P32017	Grease Fitting 1/4 NPT
28	2	P32016	Grease Fitting 1/4 - 28
29	2	AP-711-197	Compression Arm Pin – Cam End
30	2	P47541	Grooved Pin

NOTES

This image shows a full page of blank, lined paper. It features approximately 28 evenly spaced horizontal blue lines across its entire width. The lines are thin and consistent in color and thickness. There are no margins, text, or other markings on the page.