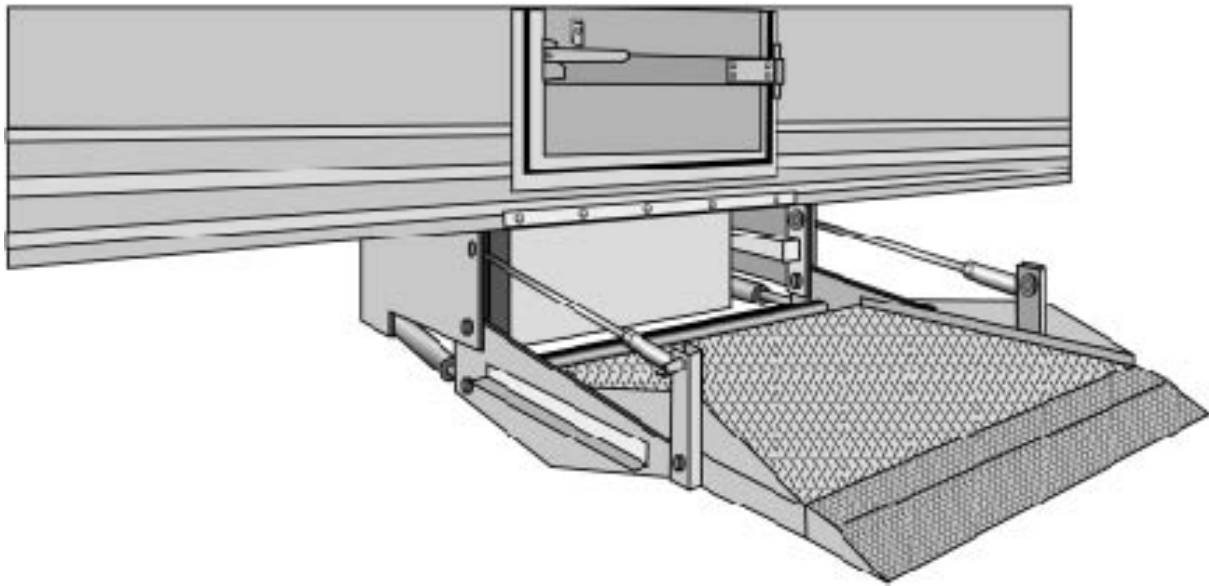




Owner & Repair Parts Manual

LPS4500RL Hide-A-Way® Trailer Side Gate



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GENERAL SPECIFICATIONS

CUSTOMER: _____
 MODEL: LPS _____
 SERIAL #: _____
 CAPACITY: _____ lbs.
 TYPE: Trailer Side Door Lift Gate
 OPERATION: Power up/Gravity down
 Power in/out
 HYDRAULIC PRESSURE: 2000PSI – Up Function
 800PSI – In/Out Function

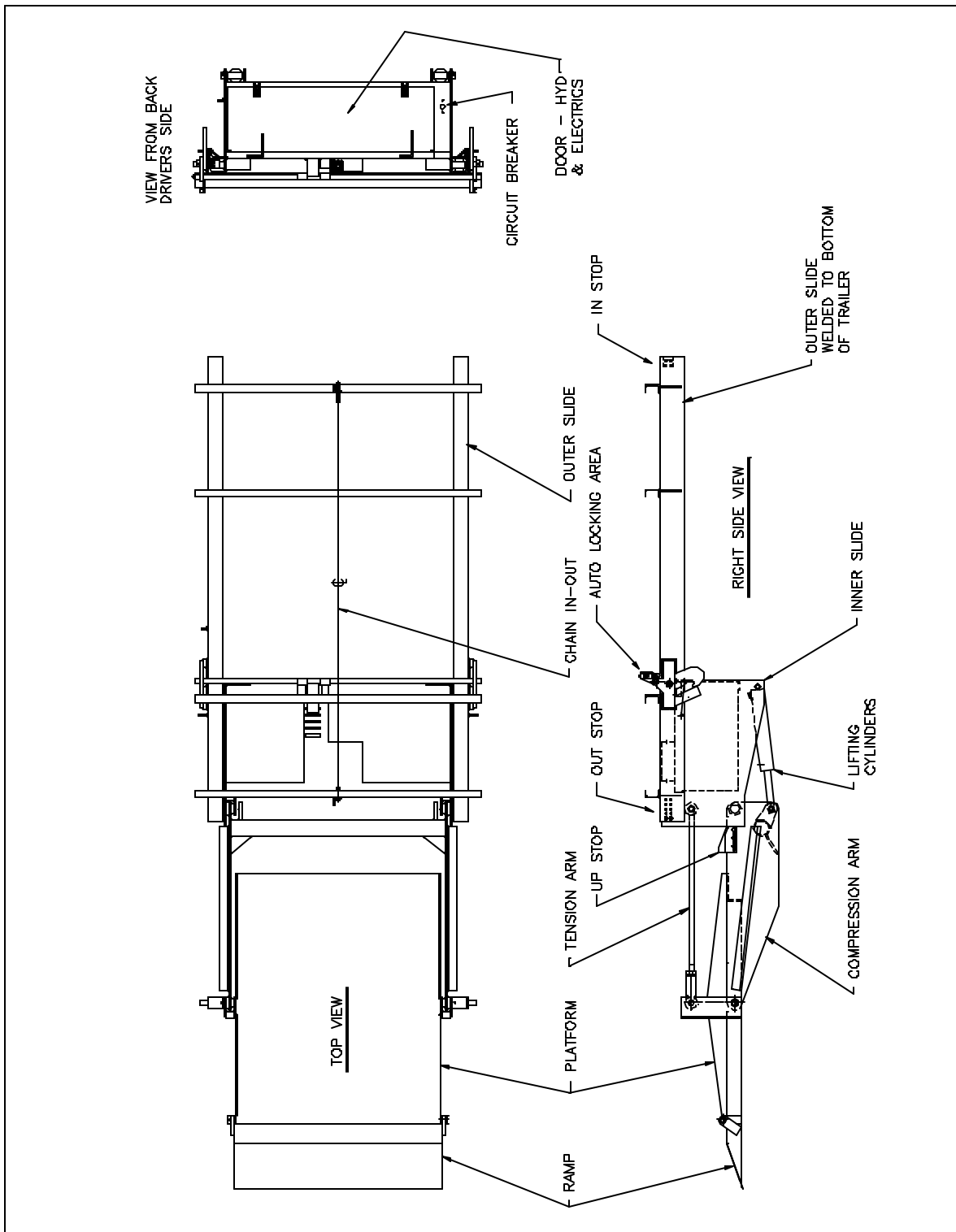
RECOMMENDED HYDRAULIC OILS/LUBRICATION

HYDRAULIC OILS	Manufacturer	Type	Temp. Range
Level 1 Normal Conditions	Mobile	DTE 11	-15° F to + 150° F
	Shell	TELLUS-T15	-15° F to + 150° F
	Exxon	UNIVIS-N15	-15° F to + 150° F
Level 2 Cold Conditions	Mobile	AERO-HFA	-50° F to + 80° F
	Shell	AERO FLUID#4	-50° F to + 80° F
	Exxon	UNIVIS-HVI13	-50° F to + 80° F
	Mil	H-5606	-50° F to + 80° F
HYDRAULIC TANK CAPACITY			
2 ½ gallons			
LUBRICATION	Rollers, if grease fitting provided		Lithium Base Grease
Grease			
BATTERIES			
Two (2) 12 V D.C. Group 31 Heavy Duty Lead Acid or AGM			
ELECTRICAL COMPONENTS CONNECTIONS			
Use battery terminal protection Bowman Part#21948			
AMPERAGE DRAW OF MOTOR			
When raising platform (empty) approximately 65 AMPS @ 13.5 volts. At bypass approximately 195 AMPS @ 13.5 volts			
LIFTING PRESSURE SETTING			
With platform at floor level and pump in bypass 2000PSI			
IN-OUT PRESSURE SETTING			
When sliding gate in-out and pump in bypass 800PSI (rollers); 1000PSI (slide pads)			
MINIMUM VEHICLE FLOOR HEIGHT LADEN			
With any size of platform – vehicle floor height 48”			
MAXIMUM VEHICLE FLOOR HEIGHT UNLADEN			
With any size of platform – vehicle floor height 58”			
APPROXIMATE TIMES EMPTY AT 80° F WITH 2 GROUP 31 BATTERIES			
Time up: 14 – 18 seconds, Time down(gravity down): 12 –16 seconds			

WARNING:

The use of a battery charger as the sole power source to operate the lift gate is unauthorized and will prevent the lift gate from working properly. The lift gate must always be operated in conjunction with at least one (1) 12 volt heavy duty lift gate battery. A minimum of 9.5 volts must be maintained in order for the valves to operate.

GENERAL TERMINOLOGY



OPERATING INSTRUCTIONS

Before operating the lift gate, read and understand this manual and all urgent warning decals.

Do not stand in front of the lift gate while unfolding or using the platform.

With the gate in the over-the-road (stored) position, proceed with the following steps:

1. To relieve the tension on the auto lock, push the up switch (the gate will go up), pull the handle to release the auto lock.
2. Use the down switch to lower the lift until arms are parallel to the ground.
3. Stand to the side of the lift gate. Push the power in/out switch down. Gate will run out. Run the gate out until it stops and locks into its fully extended position.
4. Unfold the ramp.

To lower the platform, use the down switch only.

To raise the platform, use the up switch only.

To store the gate in the over-the-road (stored) position:

1. Raise the platform off the ground until the arms are parallel to the ground.
2. Fold ramp over.
3. Raise locking bar handle and push the in/out switch upward. Run the gate all the way under the trailer until the lift stops.
4. Run gate up (use the up switch). The auto lock will latch.
5. Lower the gate until resting on the auto lock. Use the down switch only.

EMERGENCY HAND PUMP OPERATION

If an emergency hand pump was supplied with this lift gate its intended use is to restore the gate to the transit position.

CAUTION: Do not try to operate the power unit when using the hand pump.

Steps to secure the gate, so the trailer can be moved:

1. Remove the pump handle from the holder and insert into the hand pump socket.
2. Raise the platform off the ground about 6", pump up/down.
3. Retract the gate, disconnect the in/out chain and manually push the gate under the trailer all the way until it stops.
4. Pump the gate until fully up.
5. With the handle unscrew the valve on the bottom of the hand pump. This will let the gate down into its over the road position.

PREVENTATIVE MAINTENANCE

1. Lubrication
This gate has been designed with greaseless bearings. All pivot or turning points have these special bearings. No lubrication is required. If rollers are supplied with great fittings, grease every 90 days using a lithium base grease.
2. Hydraulic
With the platform on the ground, check the oil level. Fill to about 1" from the top of the tank.
3. Electrical
Check for corrosion and/or loose connections.

PREVENTATIVE MAINTENANCE SCHEDULE

MAINTENANCE by CYCLES

MODEL LPS4500RL

DATE: _____

CUSTOMER		GATE MODEL #	
LOCATION		GATE SERIAL #	
VEHICLE #		SERVICED BY	

v = OK

X = REPAIR

A = ADJUSTED

N = NOT APPLICABLE

3000	MOTOR / PUMP COMPONENTS	3000	MOTOR / PUMP COMPONENTS
	Check batteries for corroded, loose or broken connections		Check charge line/power line for corroded, loose or broken connections at both ends
	Check batteries for proper voltage level and charging		Check amp draw of motor with fully charged batteries and tight clean connections
	Check all wiring in pump box for corroded, loose or broken connections		Check all ground wires for corroded, loose or broken connections
	Check power unit solenoids for proper operation		Check pressure setting of relief valve
	Check reservoir for proper oil level (Gate down on the ground, fluid level should be 1" from top of tank)		Clean all wiring connections in pump and battery box and spray with Fluid Film Corrosion Protection by Eureka Chemical.
	Inspect circuit breakers and fuses for proper operation		Check emergency hand pump for proper operation if equipped.
	Check all fittings/hoses in power unit for tightness and leaks		Check hydraulic motor sprockets for worn bushings and proper operation.

3000	STRUCTURAL COMPONENTS	3000	STRUCTURAL COMPONENTS
	Check for correct operation of the gate up, down, in, and out.		Check IN/OUT chain for proper adjustment (no more than 1/2" play)
	Check wiring harness on side of gate for chaffed, frayed, or broken wires .		Check all pivot points for loose, broken, or missing roll pins
	Check wiring harness on side of gate for loose, broken, or missing clamps.		Check UP stops for proper positioning of the platform and adjust as needed.
	Check the ground cable on side of gate for loose or corroded connections.		Check the IN/OUT stops for loose, broken, or missing bolts
	Check hydraulic cylinders for leaks		Check rollers for proper operation
	Check hydraulic cylinder pins for loose, broken, or missing roll pins.		Check over-all gate for damage or broken welds and repair as needed.
	Check auto lock mechanisms for proper operation and adjust as needed.		Check compression and tension arms for worn bushings
	Check all warning lights for proper operation if equipped		

3000	LUBRICATION		PERIODICAL CHECK LIST
	Standard Chain - Clean and lubricate the IN/OUT chain (do not use WD40 or acid base lubricants) Stainless Steel Chain should not require any lubrication.	12000	Check all pivot point bushings for wear or damage
	Grease power unit door hinge pins with #1 lithium grease		Check hydraulic motor sprockets for worn bushings and proper operation.
		15000	Flush hydraulic system and change hydraulic oil
			Clean and repaint as necessary

MAINTENANCE MINDER² READINGS MENU 2

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

MAINTENANCE MINDER 2® OVERVIEW

Power unit is equipped with the Maintenance Minder 2® Controller. It will:

- Automatically keep track of maintenance intervals, and warn the user when maintenance is due, based on the number of lifts
- Record low voltage occurrences
- Record high temperature faults
- Record maximum run time faults, when a single operation exceeded the maximum continuous run time limit
- Give helpful trouble-shooting information on MENU 4, “Last Lift Info”

FAULT CODES

A decal in the power unit enclosure lists the following signal codes for these faults:

1 BEEP	Service Fault (reached the number of lifts when maintenance is due)
2 BEEPS	Low Voltage Fault (check battery condition and power line connections)
3 BEEPS	Max. Time Fault (exceeded the maximum continuous run time allowed)
4 BEEPS	High Temperature Fault (unit will not run until motor cools)

All fault signals will be repeated FOUR times except the service fault, which will be given just once. Controller will prevent power unit from operating during the time period when a fault signal is sounding (about 5 to 10 sec.). The controller is also equipped with an anti-doorbelling feature, which prevents rapid ON / OFF operation of the power unit.

RESETTING after MAINTENANCE IS PERFORMED

To RESET the Maintenance Minder 2® after maintenance has been performed:

- 1) Go to MENU 2, hit “Enter”, and toggle down to the “Reset All Info” screen
- 2) Press and hold the hidden RESET button under the Maintenance Minder 2 logo at top of faceplate
- 3) Follow the instructions on the screen regarding a second button, which must be pressed while holding the RESET button to complete the reset operation.

MAINTENANCE MINDER 2® CONTROLLER MENUS

(Press MENU)

MENU 1 – LIFT GATE INFO

(Press ENTER, then ARROW DOWN for each item)

Model Number, Serial Number, Manufacture Date, Vehicle ID, Hardware Version, Firmware Version, Software Version

(Press MENU and ARROW DOWN once)

MENU 2 – PERIOD INFO (data for the current maintenance period)

(Press ENTER, then ARROW DOWN for each item)

Number of Lifts (gives the number during this maintenance interval / and the set number when maintenance is due)

Motor ON (Total motor run time in minutes for this maintenance period)

Service Faults (number of times gate was operated while PAST the maintenance limit)

High Pressure Faults (not being used, no sensor available)

Max. Time Faults (times motor exceeded its maximum allowable continuous run time)

High Temperature Faults (times thermal switch in motor tripped, if switch provided)

Low Voltage Faults (times low voltage occurred)

Reset all Info (Reset data after performing maintenance, once maintenance limit is reached – instructions will flash on screen after limit reached)

(Press MENU and ARROW DOWN twice)

MENU 3 – LIFE TIME INFO (data for the total life time of the gate)

(Press ENTER, then ARROW DOWN for each item)

Same items will appear as under PERIOD INFO, except this is LIFE TIME data

Reset History (reviews history for each maintenance interval)

Press ENTER, then ARROW DOWN to show history. Most recent period is highest #.

Screen shows Period #, # of Lifts, and Total Run Time in minutes.

Press MENU and ARROW DOWN three times)

MENU 4 – LAST LIFT INFO (Trouble Shooting Screen – it records data that occurred during the last lift made)

(Press ENTER, then ARROW DOWN for each item)

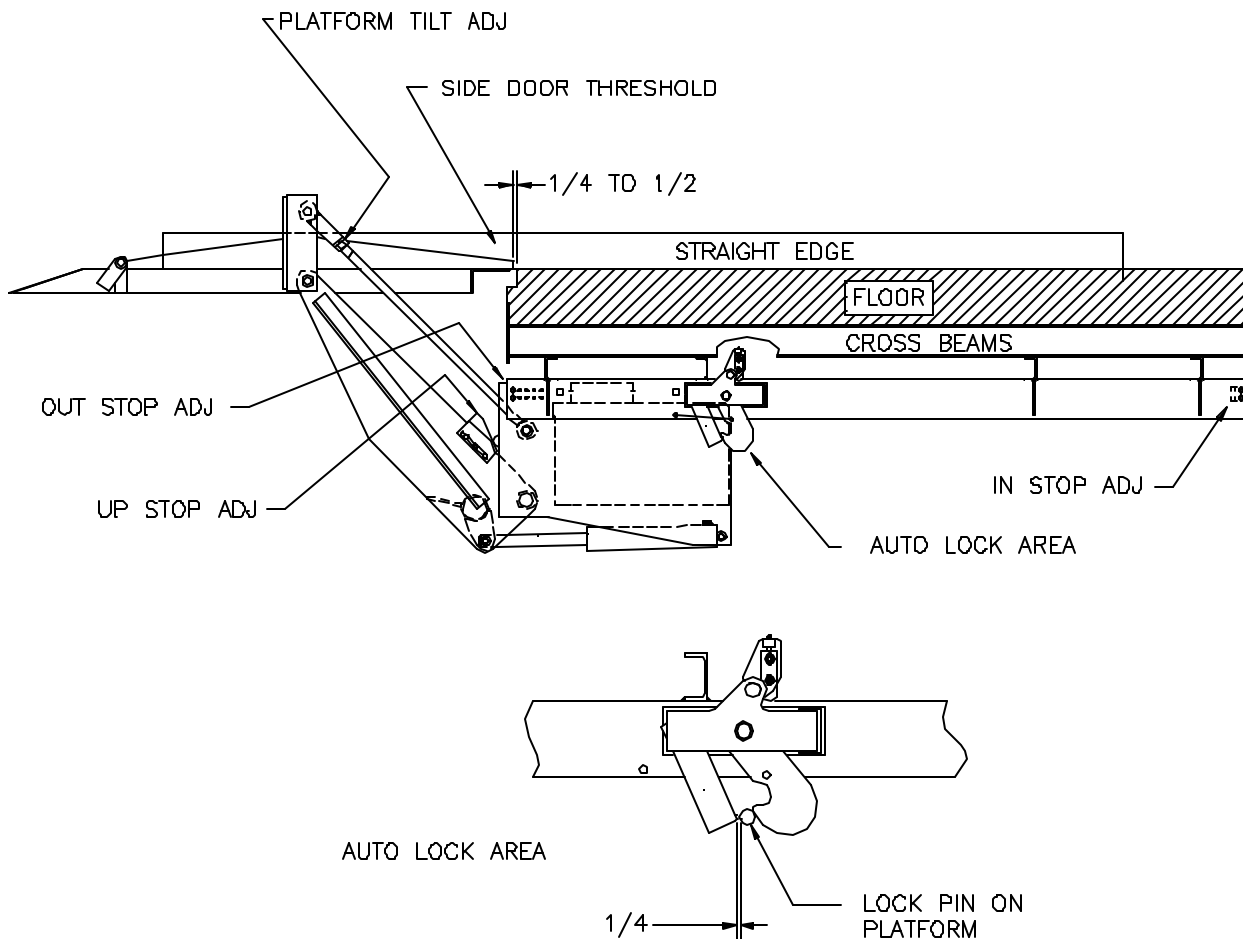
Supply Voltage (first voltage is the minimum voltage that occurred during the last lift – if below 6 volts gate will stop / second voltage is the supply voltage just before gate operation, must be at least 10 volts)

Motor ON Time (motor run time in seconds during last lift, gate will stop at 180 seconds)

Window Time (time in milliseconds during the last lift that the voltage dropped in between 6 and 8 volts – must not be any longer than 3 seconds or gate will stop)

Note: Controller has an anti-doorbellling feature. Motor will not operate if UP switch is toggled rapidly. This prevents start solenoid contact welding.

INSTALLATION ADJUSTMENTS



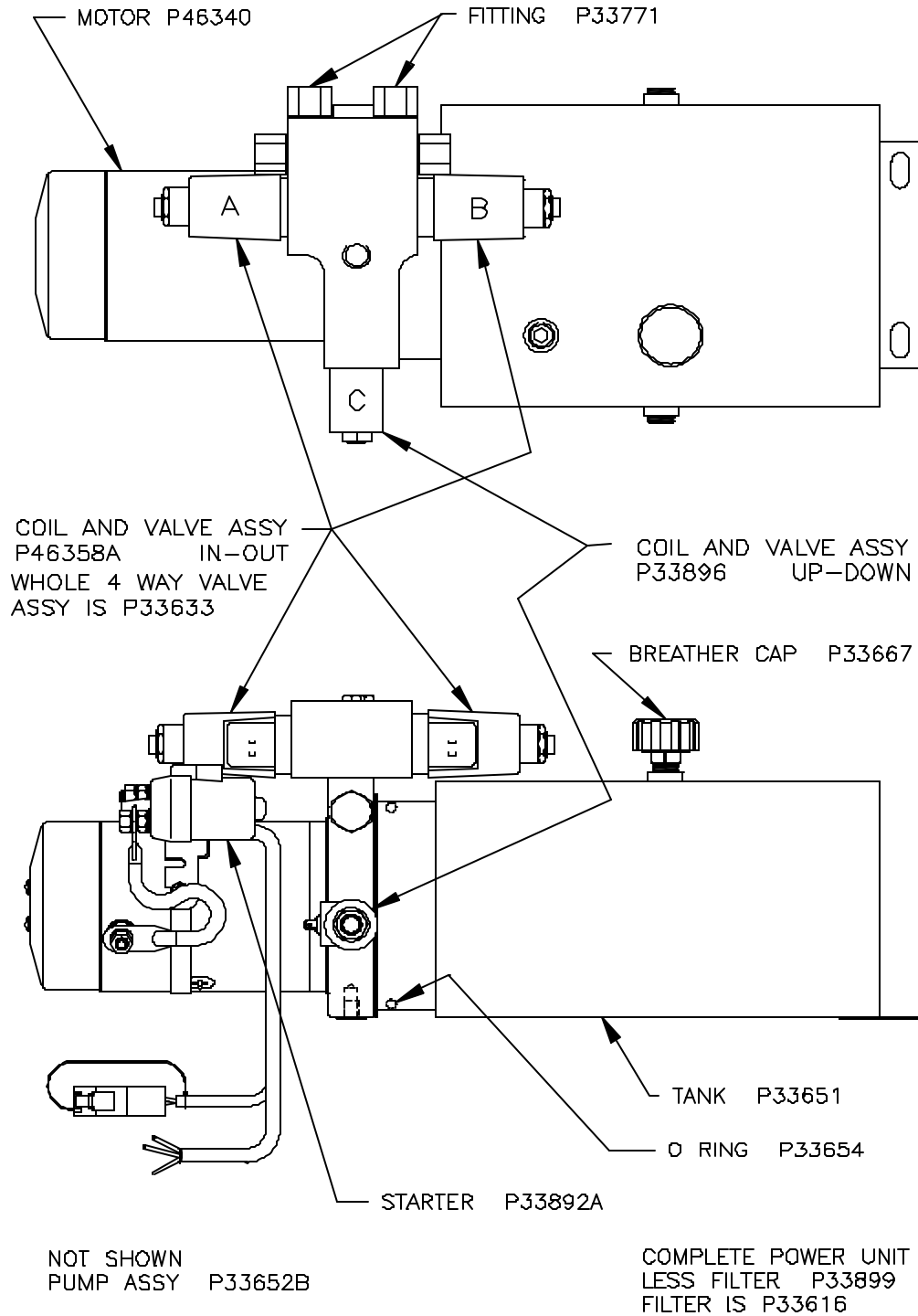
- Step 1: The platform was preset at the factory to be level to the floor of the trailer within $\frac{1}{4}$ ". With a straight edge, check this. If it is okay, proceed to step 2. If not, let the platform down to the ground. Remove the two (2) roll pins and the top tension arm pivot pins (one on each side).
NOTE: One full turn moves the tip of the platform $\frac{1}{4}$ " (turn the end in, this moves the tip off of the platform up, unscrewing moves the tip of the platform down). Make necessary adjustments. Replace pins, raise the platform up and check. Repeat if necessary. Replace roll pins.
NOTE: Each side must be adjusted the same amount.
CAUTION: If this adjustment has been made, the in stop must be adjusted to provide the $\frac{1}{4}$ " clearance with the auto locking pin (see sketch 2).
- Step 2: Adjust the up stops. Platform should be even with the floor of the trailer.
- Step 3: Adjust the out stops. The tip of the platform should be $\frac{1}{4}$ " to $\frac{1}{2}$ " from the edge of the threshold.
- Step 4: Adjust the in stops. See sketch 2 and adjust for the $\frac{1}{4}$ " dimension

TROUBLESHOOTING CHART

PROBLEM	PROBABLE CAUSE	REMEDY
The motor is running, but the platform will not go up or reach the floor of the vehicle.	<ol style="list-style-type: none"> 1. Insufficient oil in power unit tank. 2. Platform is over-loaded. 3. Pressure setting is low. 	<ol style="list-style-type: none"> 1. Fill tank to the appropriate level. 2. Load only to the rated capacity. Remove some product if necessary. 3. Check and adjust the pressure to the proper setting.
The platform will not go up or reach floor level and the motor does not run.	<ol style="list-style-type: none"> 1. Low battery. Green light on starter solenoid must be on to run. 2. Tripped circuit breaker. 3. Power line is loose. 4. Bad motor, starter or switch 	<ol style="list-style-type: none"> 1. Recharge or replace battery. 2. Reset the circuit breaker. 3. Check the connections. If loose, tighten. Check for corrosion and clean if necessary. 4. To test-push the up switch, if motor does not run, jump the two terminals on the starter solenoid. The motor should run, if not, the motor is bad. If it does run, the solenoid is bad or is not getting a signal from the switch. Use a test light to check (black wire).
Platform will not lower.	<ol style="list-style-type: none"> 1. Low battery. Green light on starter solenoid must be on to run. 2. Bad ground or poor electrical connections. 3. Solenoid valve not opening. 4. Check for obstructions in rails. 	<ol style="list-style-type: none"> 1. Recharge or replace battery. 2. Check connections, if loose-tighten. Check for corrosion and clean if necessary. 3. Lower "C" valve (white wire). Must activate when the switch is pushed. Use test light to check. 4. Visually check.
Platform creeps down.	<ol style="list-style-type: none"> 1. Hydraulic leak. 2. Defective cylinder or piston seal. 3. "C" valve (white wire) not closing. 4. 4-way valve on hand pump may be open. 	<ol style="list-style-type: none"> 1. Visually check for leaks. 2. Replace seals or cylinder. 3. Clean and inspect. 4. Check to see if valve on hand pump is closed tightly. Should be tightly closed.
Platform goes down slowly.	<ol style="list-style-type: none"> 1. Check for obstructions or damage to arms. 2. Restricted or pinched hydraulic lines. 3. "C" valve (white wire) not opening. 4. Incorrect hydraulic oil for cold weather operation 	<ol style="list-style-type: none"> 1. Visually check. 2. Check for bent or pinched lines. 3. Clean and inspect. 4. Use Mobile DTE 11 or Aero-HFA for extreme conditions.
Gate will not go out and/or in.	<ol style="list-style-type: none"> 1. Check for obstructions in rails. 2. Low battery. Green light on starter solenoid must be on to run. 3. Tripped circuit breaker. 4. Power line is loose. 5. Bad motor, starter or switch. 6. Insufficient oil in power unit tank. 	<ol style="list-style-type: none"> 1. Visually check. 2. Recharge or replace battery. 3. Reset the circuit breaker. 4. Check the connections. If loose, tighten. Check for corrosion and clean if necessary. 5. To test: push out switch and motor does not run, jump the two terminals on the starter solenoid. The motor should run, if it does not run, you have a bad motor. If it does run, the solenoid is bad or it is not getting a signal from the switch. Use test light to check (out is "A" valve "red wire", in is "B" valve "orange wire").

POWER UNIT REPLACEMENT PARTS

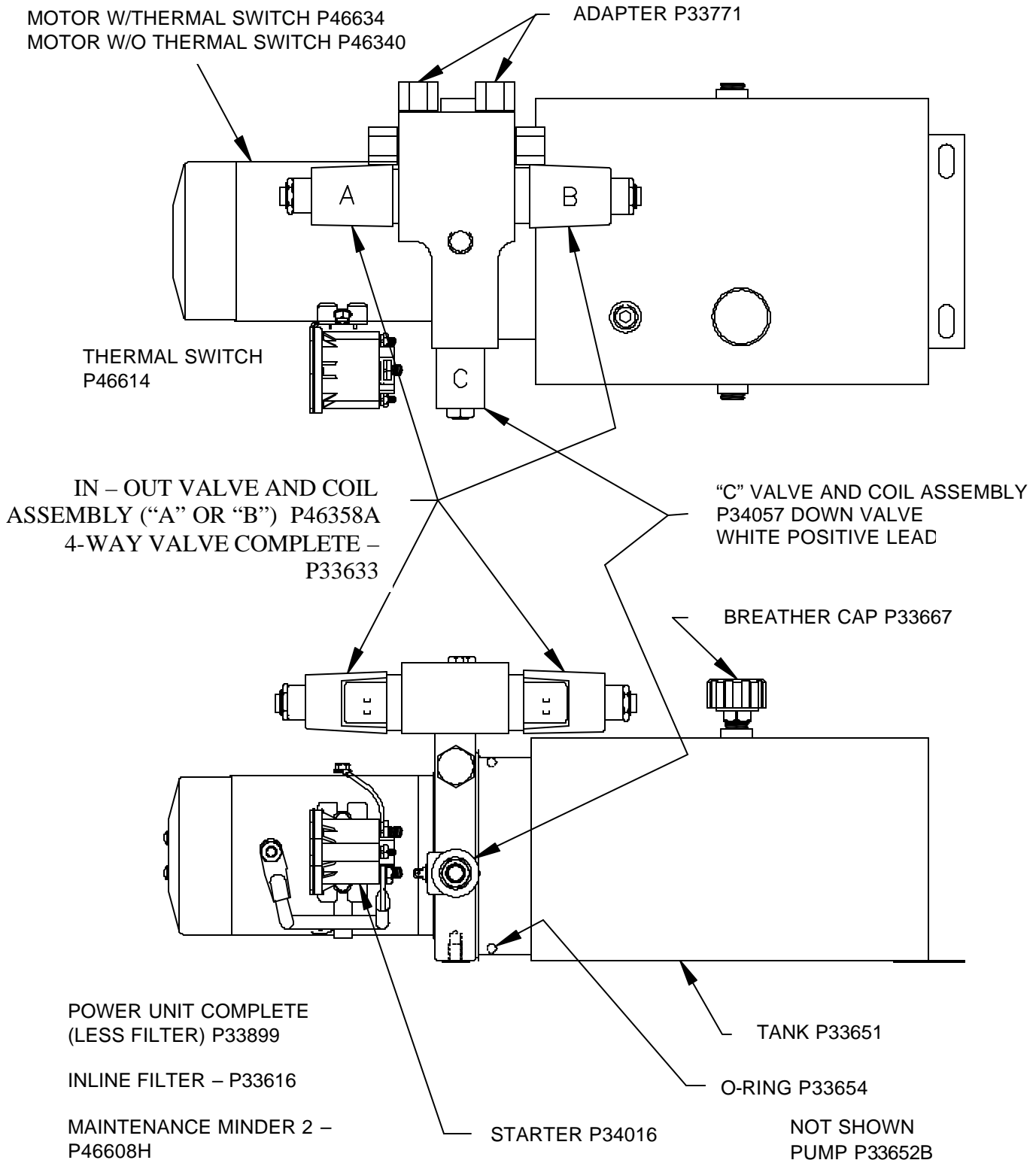
FENNER (GOLD MOTOR) AND SMART START SOLENOID



Service Note: Starter Solenoid P33892A has been discontinued and will be replaced with P34016.

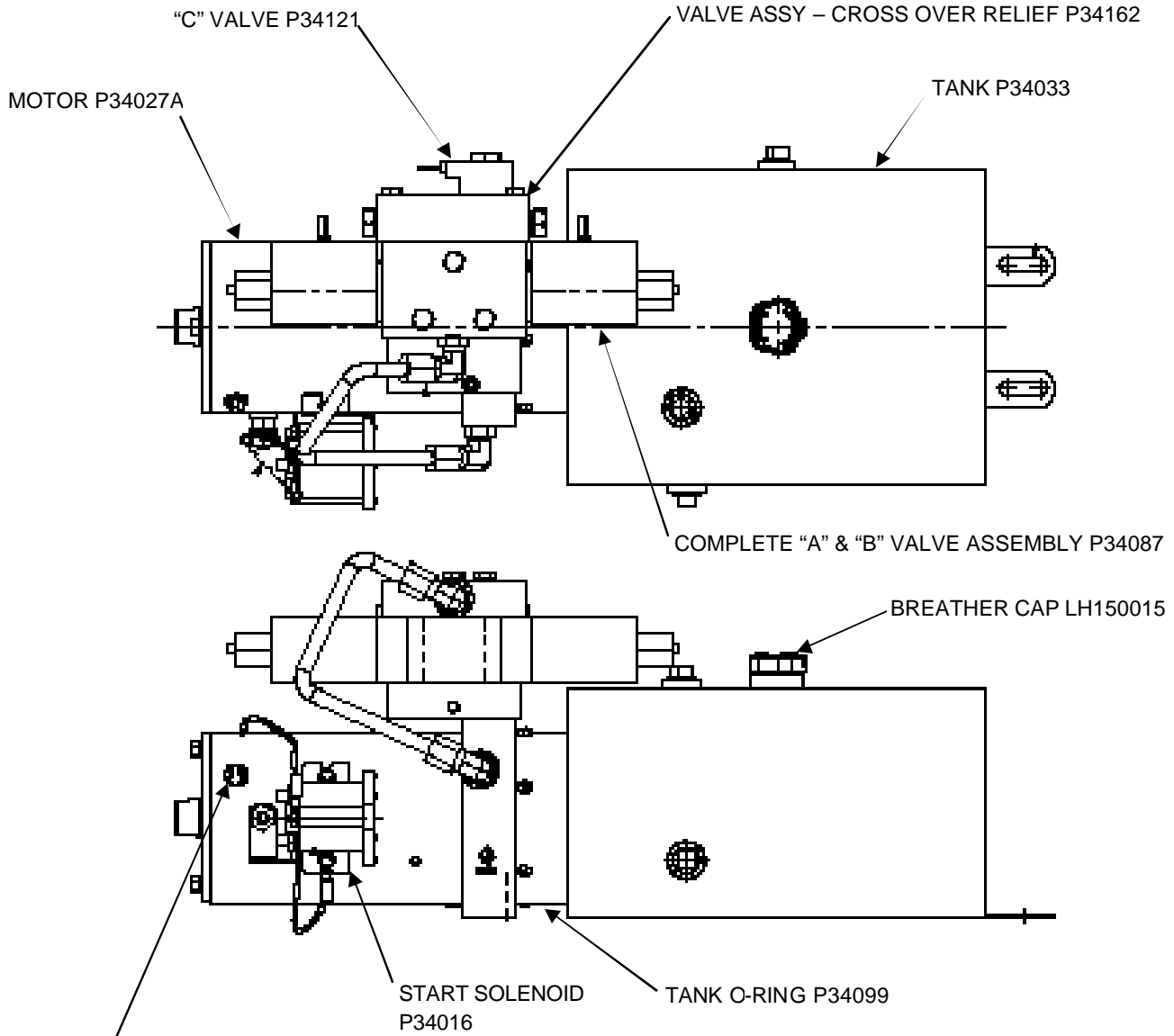
POWER UNIT REPLACEMENT PARTS

FENNER (GOLD MOTOR) AND MAINTENANCE MINDER 2



POWER UNIT REPLACEMENT PARTS

MONARCH (BLACK MOTOR) AND MAINTENANCE MINDER 2



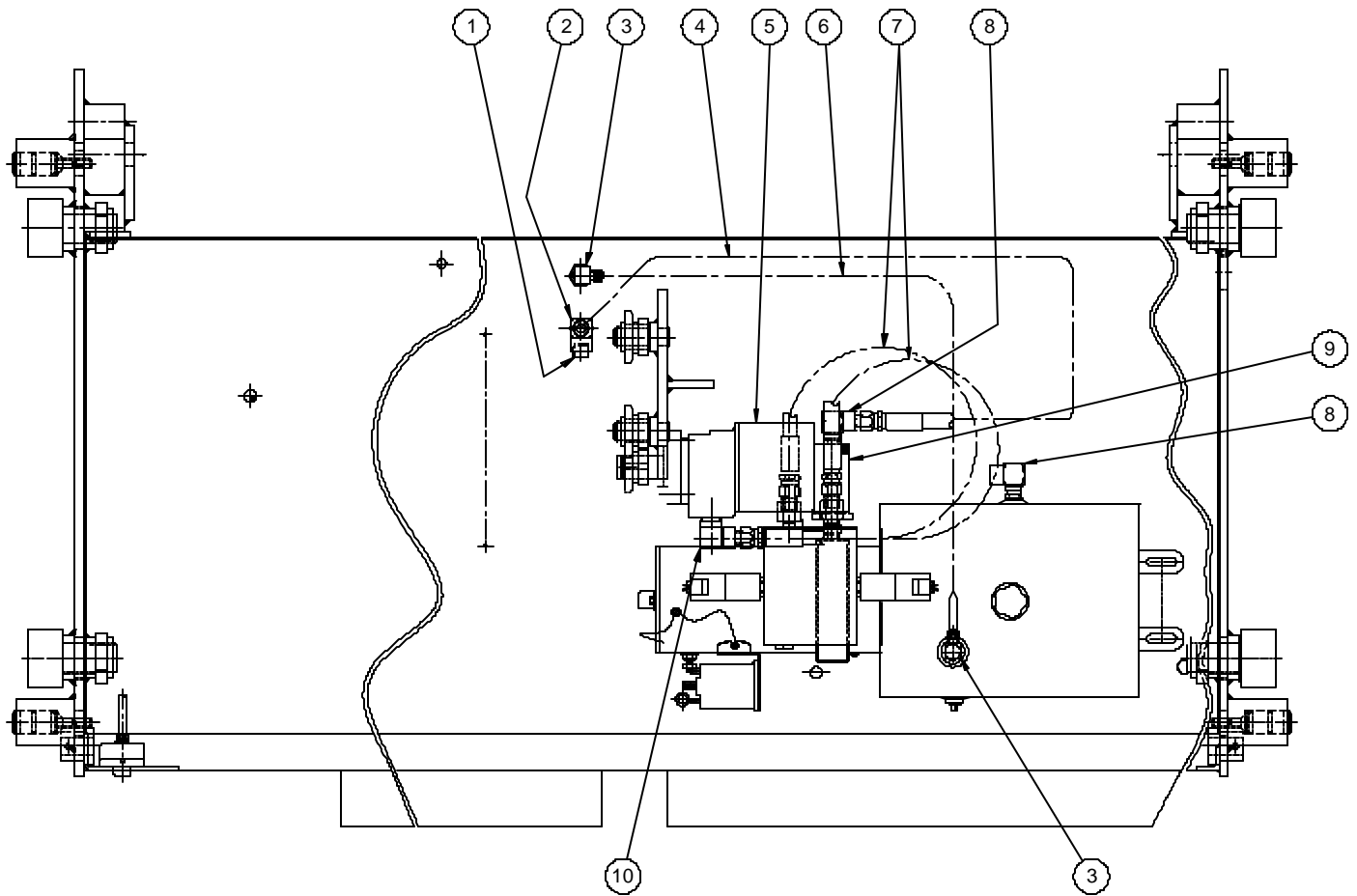
TEMP. SWITCH P34056 THRU 5/07 FOR BOSCH MOTORS.
TEMP SWITCH NOT AVAILABLE SEPARATELY FOR PRESTOLITE MOTORS

NOT SHOWN:
PUMP ASSY P34056
SUCTION STRAINER P34089

COMPLETE POWER UNIT (LESS FILTER) P34013A
INLINE FILTER - P33616

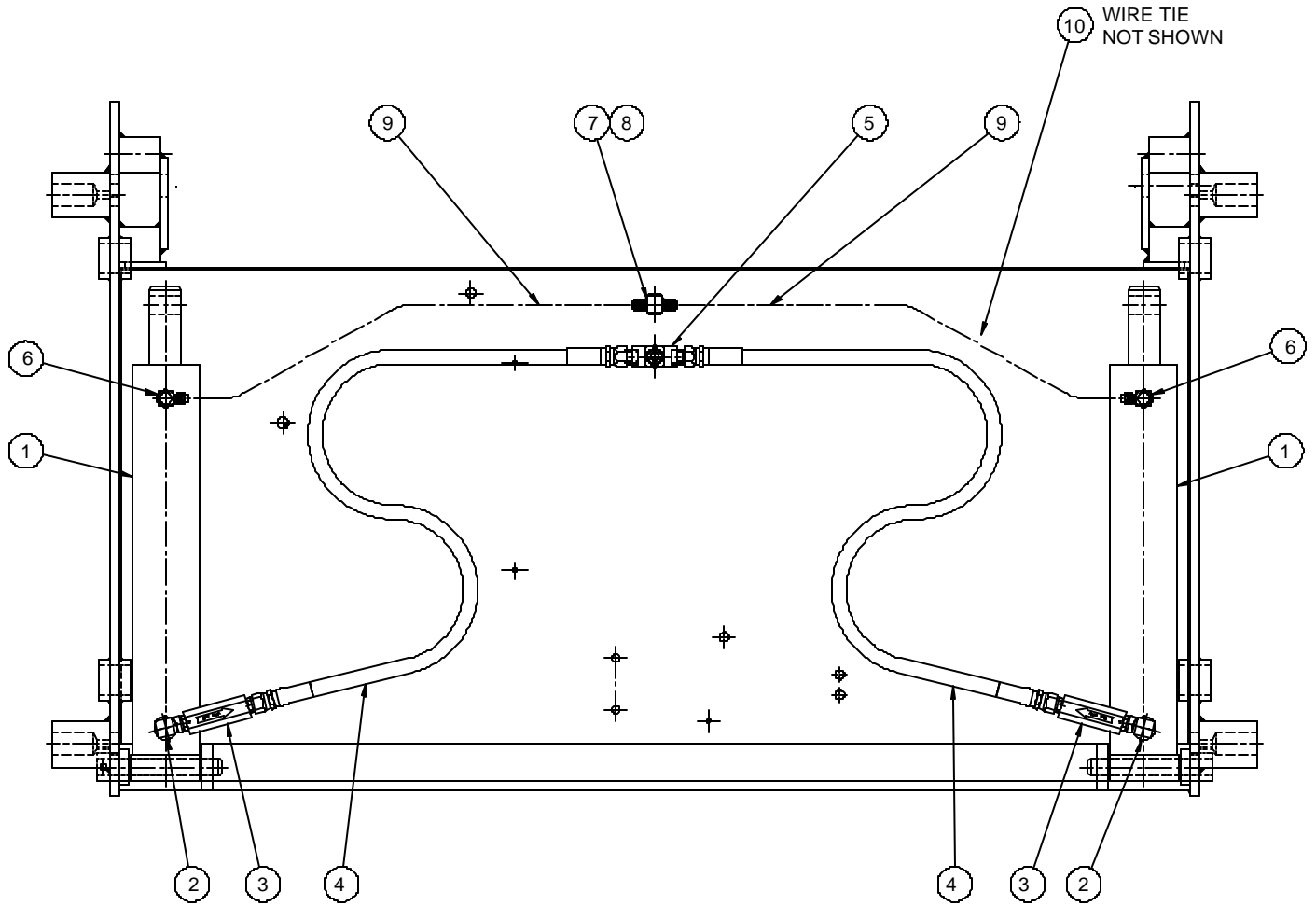
MAINTENANCE MINDER 2®
CONTROLLER – P46608H

HYDRAULICS - INTERIOR REPLACEMENT PARTS



Index No.	Req'd	Part Number	Description	Comments
1	1	P31048	PIPE PLUG	3/8
2	1	P33216	STREET TEE	3/8
3	2	P33932	BRASS MALE ELBOW	3/8NPT TO 1/4" HOSE
4	1	AT-501-100-027	HYDRAULIC HOSE	
5	1	P33625	HYDRAULIC MOTOR	
6	1	P33702-026	1/4" POLY TUBE	
7	2	AT-501-100-020	HYDRAULIC HOSE	
8	2	P33006	STREET ELBOW	3/8
9	1	P33616	INLINE FILTER	
10	2	P33202	STREET ELBOW	1/2M TO 3/8F

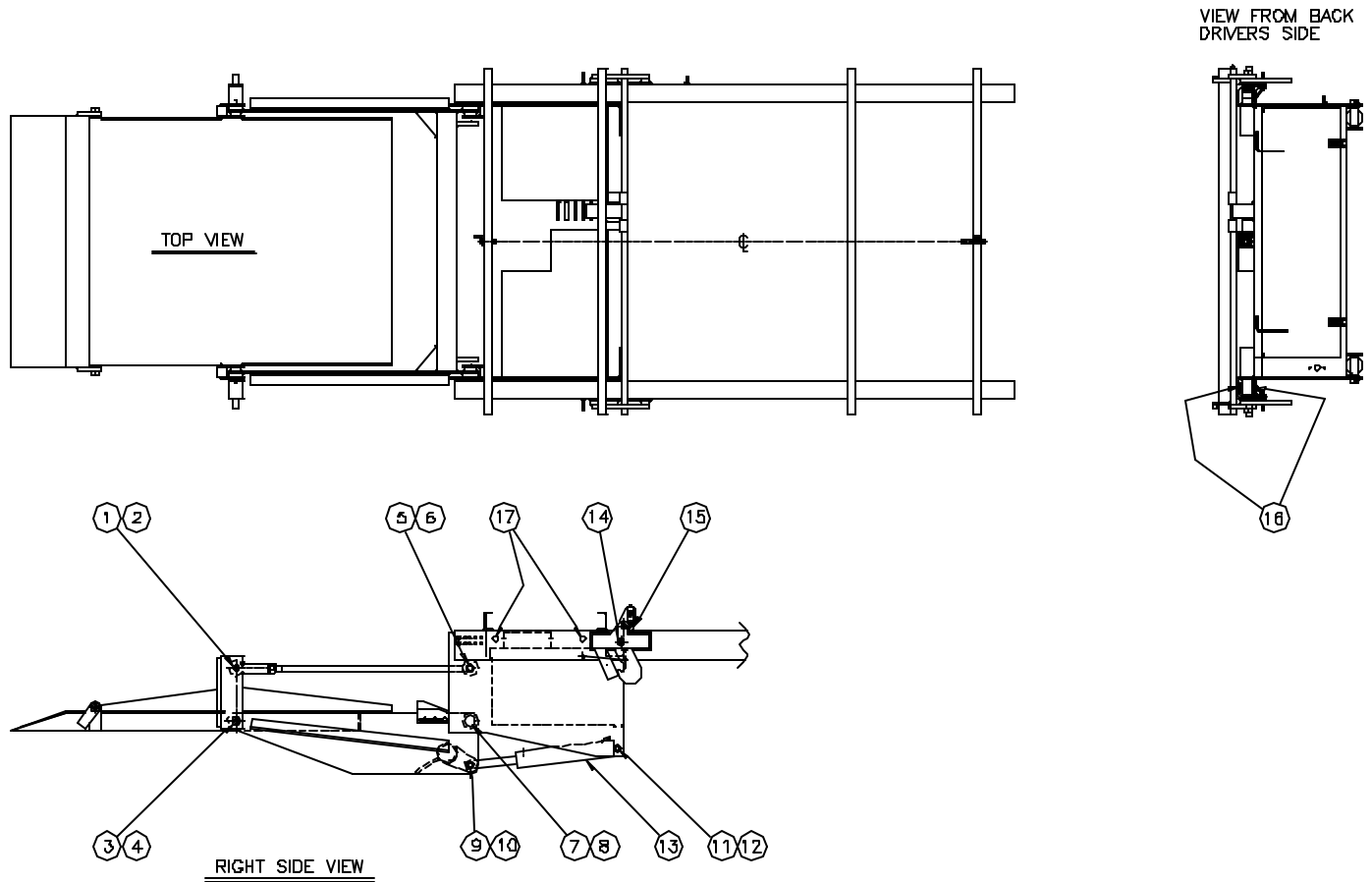
HYDRAULICS BOTTOM-SIDE REPLACEMENT PARTS



Index No.	Req'd	Part No.	Description	Comments
1	2	P33944	HYDRAULIC CYLINDER	Seal kit – P33905
2	2	P33217	MALE ELBOW	
3	2	P33671	FLOW CONTROL	1.5GPM
4	2	SEE CHART	HYDRAULIC LINE	
5	1	P33606	HYDRAULIC TEE	
6	2	P33932	BRASS MALE ELBOW	
7	1	P33699	BRASS TEE	¼ NPT TO ¼ HOSE
8	1	P33617	REDUCER	3/8 – 1/4
9	2	SEE CHART	1/4 " POLY TUBE	
10	4	P46335	WIRE TIE	

Gate width	Item 4 Hydraulic line w/ends	Item 9 Poly tube
42	AT-501-100-026	P33702-021
48	AT-051-100-029	P33702-028
60	AT-501-100-035	P33702-034
72	AT-501-100-041	P33702-037

REPLACEMENT BEARINGS AND SHAFTS



Replacement Bearings and Shafts						
Index #	Req'd	Part #	Part Name	Matl.	Matl. Size	
1	2	P43567	Bearing		1 id. x 1-1/2 lg.	
2	2	BA-817-085	Pin & Boss	CHR RD	1 dia. x 7-5/8 lg.	
3	2	P43567	Bearing		1 id. x 1-1/2 lg.	
4	2	AT-999-129-001	Pin & Boss	CHR RD	1 dia. x 3-1/4 lg.	
5	2	P43567	Bearing		1 id. x 1-1/2 lg.	
6	2	AT-999-129-001	Pin & Boss	CHR RD	1 dia. x 3-1/4 lg.	
7	2	P43566	Bearing		1-1/4 id. x 1-1/2 lg.	
8	2	AA-817-108	Pin & Boss	CHR RD	1-1/4 dia. x 3-1/4 lg.	
9	2	P43574	Bearing (cyl. rod end)		3/4 id. x 1-1/4 lg.	
10	2	AT-817-088-001	Pin	CHR RD	3/4 dia. x 3-3/8 lg.	
11	4	P43573	Bearing (cyl. Base)		3/4 id. x 3/4 lg.	
12	2	AT-817-088-002	Pin	CHR RD	3/4 dia. x 5-7/16 lg.	
13	2	P33944	Hyd. Cylinder		2-1/2 Bore x 12 Stroke	
14	2	P43570	Bearing		1 id. x 1/2 lg.	
15	2	AP-817-233	Skid Pad		To unlock platform	
16	4	P37550	Roller		One Each Corner	
17	4	AP-817-044	Side Skid Pad		1 od. x 1-13/16 lg.	
18	4	P47514	Roll pin		Use w/items 10 and 12	

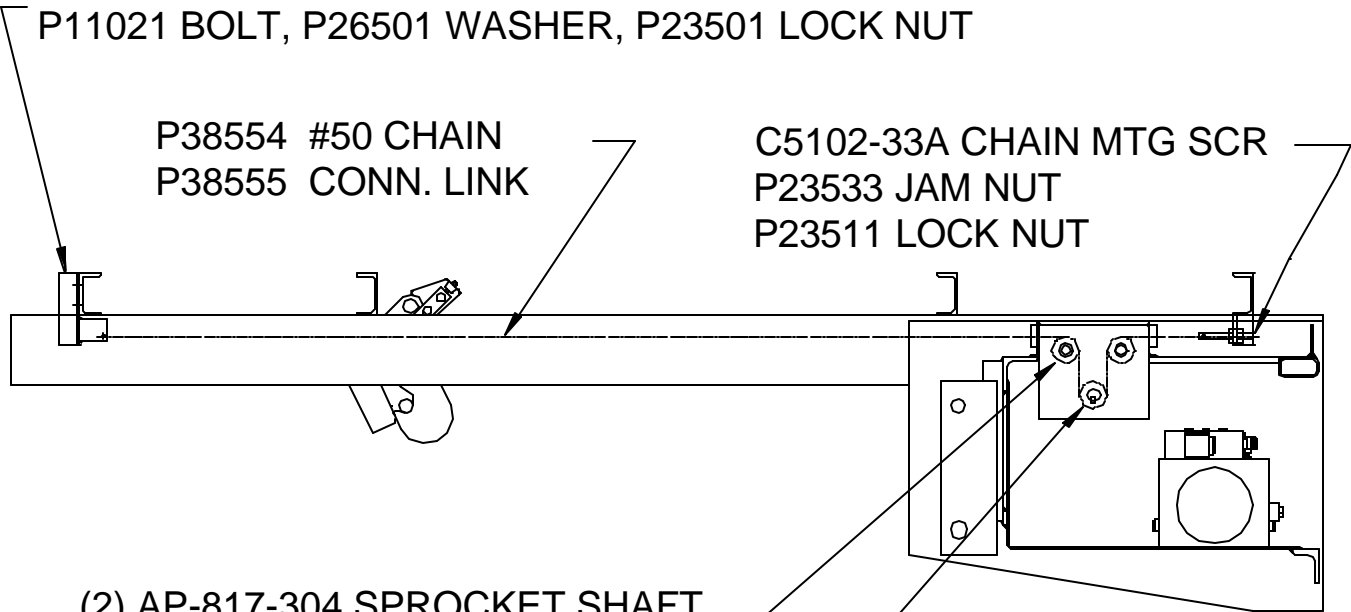
CHAIN AREA REPLACEMENT PARTS

AA-817-124 FRONT CHAIN ANCHOR ASSY

P11021 BOLT, P26501 WASHER, P23501 LOCK NUT

P38554 #50 CHAIN
P38555 CONN. LINK

C5102-33A CHAIN MTG SCR
P23533 JAM NUT
P23511 LOCK NUT

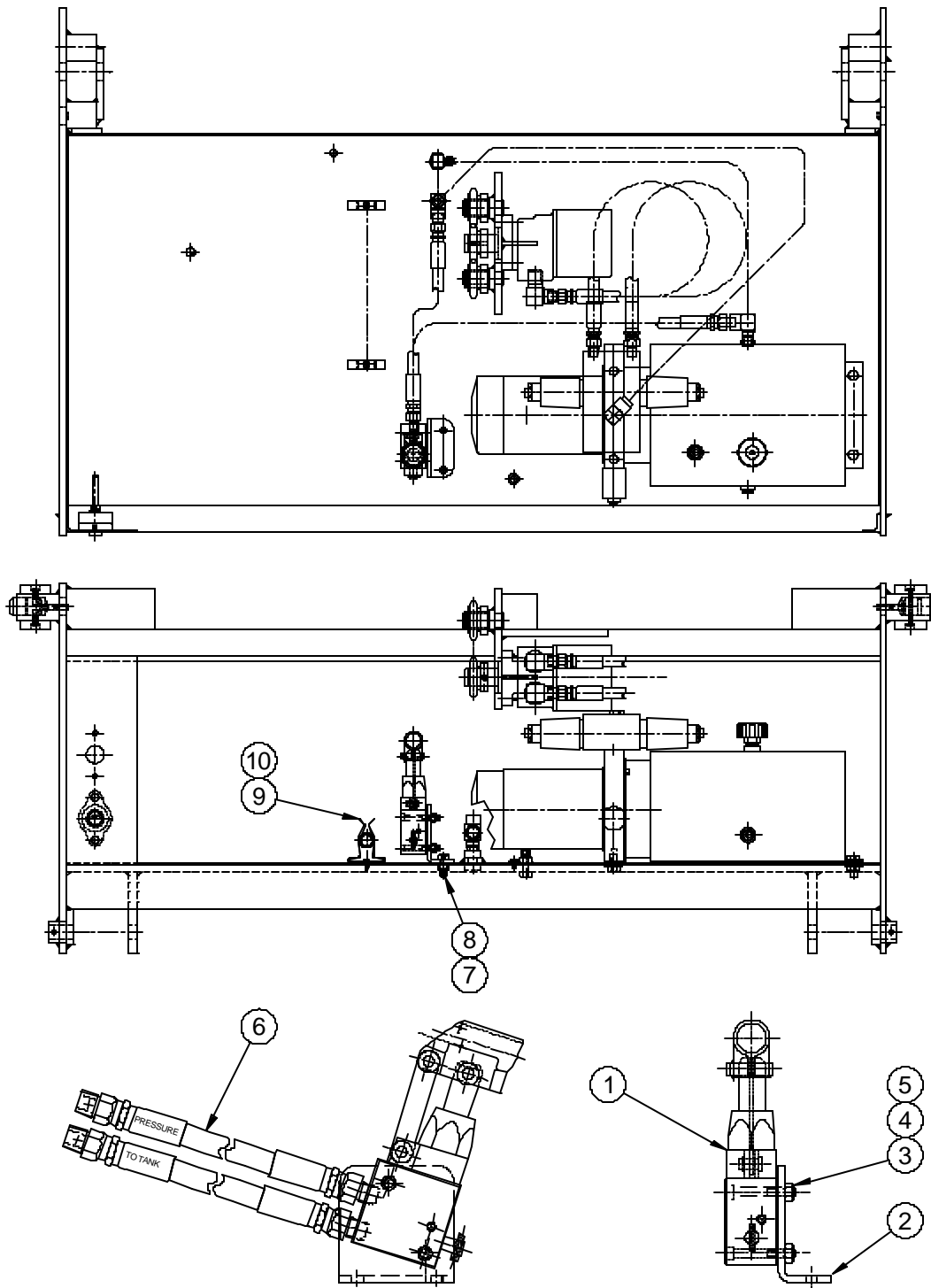


(2) AP-817-304 SPROCKET SHAFT
(2) AA-706-027 IDLER SPROCKET
INCLUDES P43559 BEARING

(2) P26019 FLAT WASHER
(2) P24018 RETAINING RING

P25157 DRIVE SPROCKET

EMERGENCY HAND PUMP OPTION #184



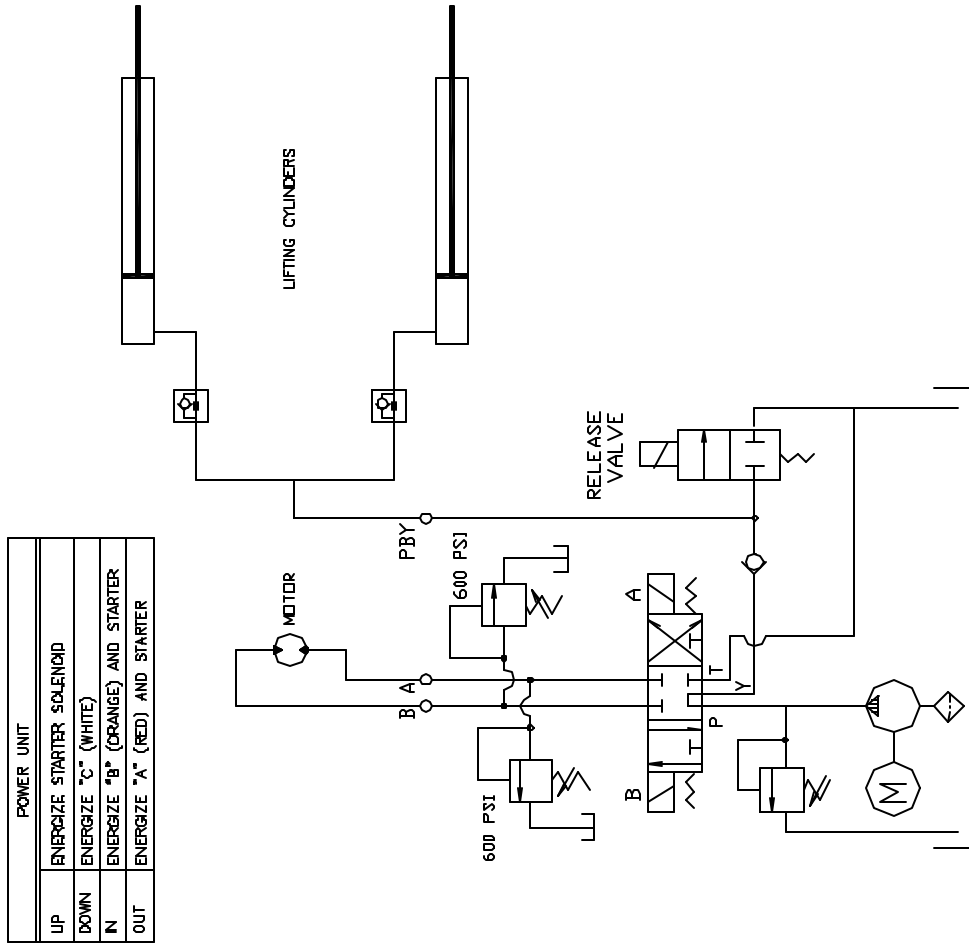
REMOVE TWO PIPE PLUGS
ONE FROM HYD TANK AND
ONE FROM TEE IN FLOOR

EMERGENCY HAND PUMP OPTION #184

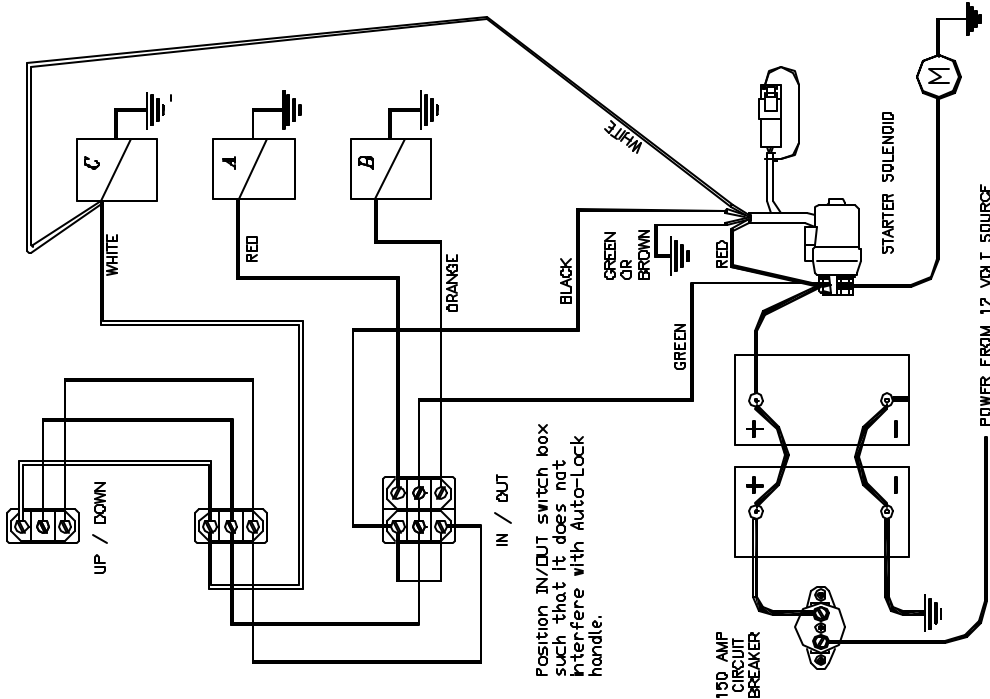
REPLACEMENT PARTS

Index No.	Req'd	Part Number	Description	Comments
1	1	P33902	Hand Pump	
2	1	AP-817-110	Mounting Bracket	
3	2	P15541	Soc. Hd Cap Screw	¼ - 20 x 2
4	2	P26001	Flat Washer	¼
5	2	P23502	Lock Nut	¼ - 20
6	2	AT-501-292-020	Hydraulic Line	
7	2	P10040	Hex Hd Cap Screw	5/16 – 18 x 1
8	2	P23510	Lock Nut	5/16
9	2	P46192	Handle Holder	
10	2	P17518	Self Tapping Screw	10-32 x 1/2

WIRING DIAGRAM – SPX WITH SMART START SOLENOID GOLD MOTOR AND NO TEMPERATURE SWITCH



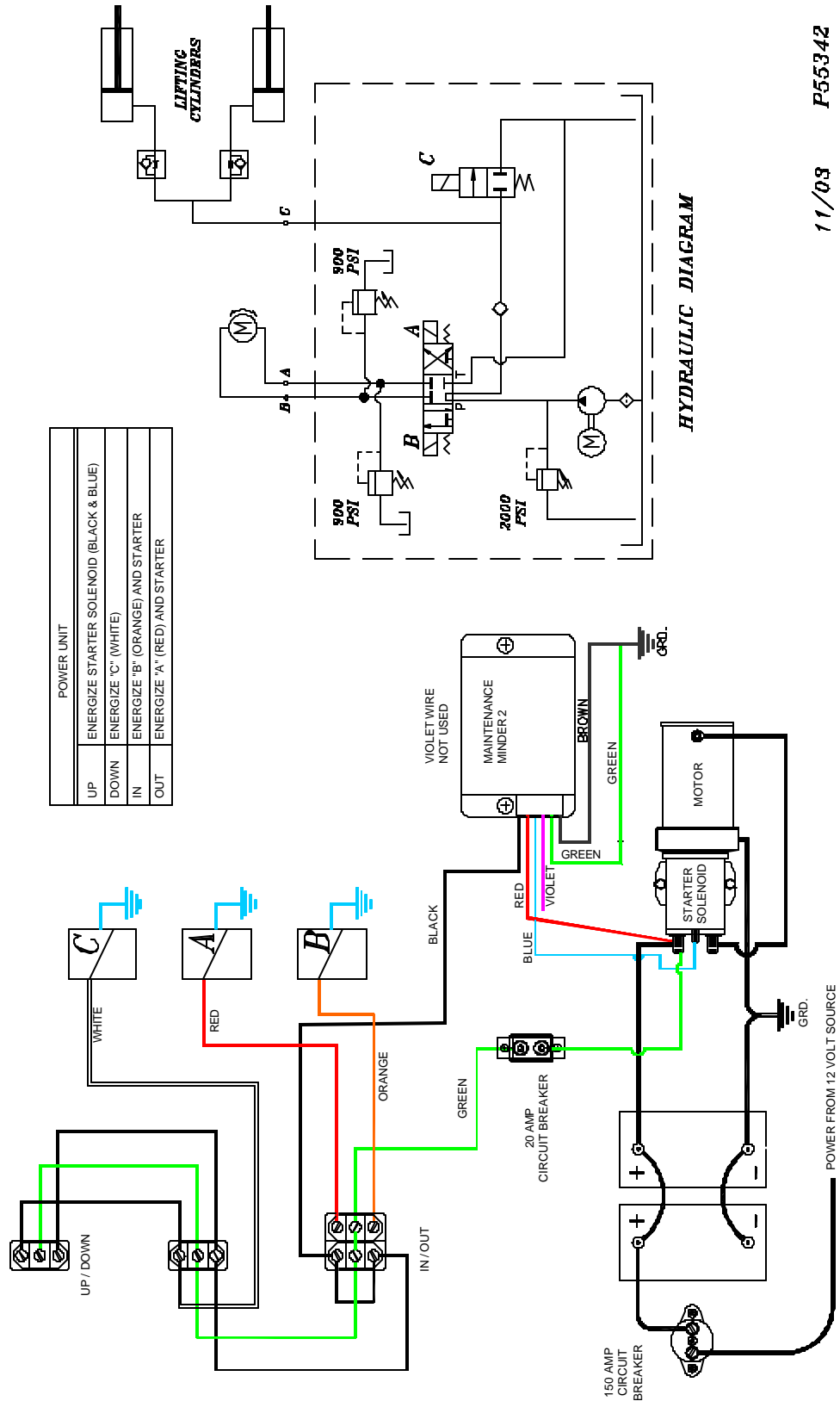
POWER UNIT	
UP	ENERGIZE STARTER SOLENOID
DOWN	ENERGIZE "C" (WHITE)
IN	ENERGIZE "B" (ORANGE) AND STARTER
OUT	ENERGIZE "A" (RED) AND STARTER



Position IN/OUT switch box such that it does not interfere with Auto-Lock handle.

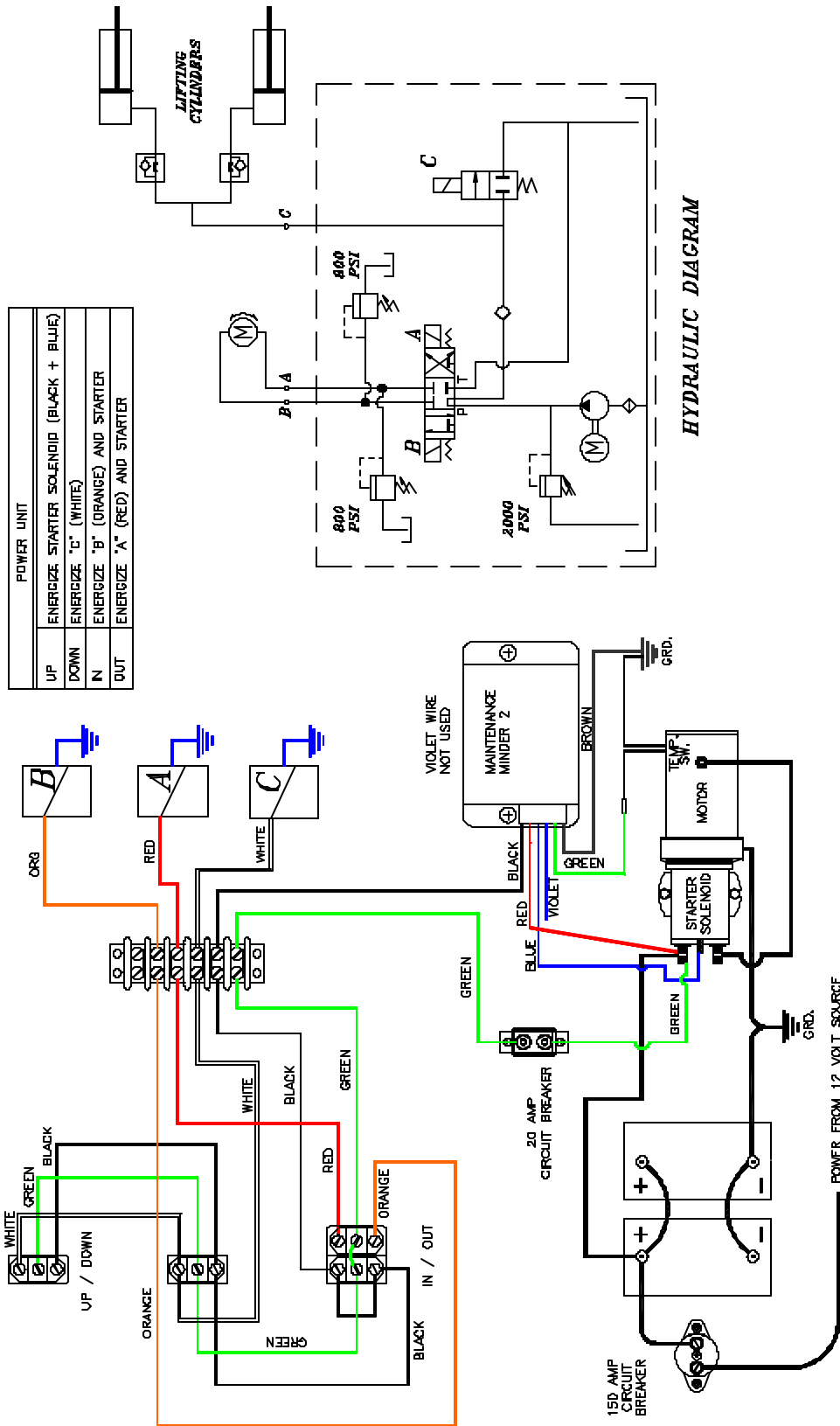
Apply NICO NCP-2 corrosion protection sealer, or equivalent, at all connections made during installation.

WIRING DIAGRAM – SPX WITH MAINTENANCE MINDER 2 GOLD MOTOR AND NO TEMPERATURE SWITCH



11/03 P55342

WIRING DIAGRAM - SPX OR MONARCH (MM2 + TEMP SW.)

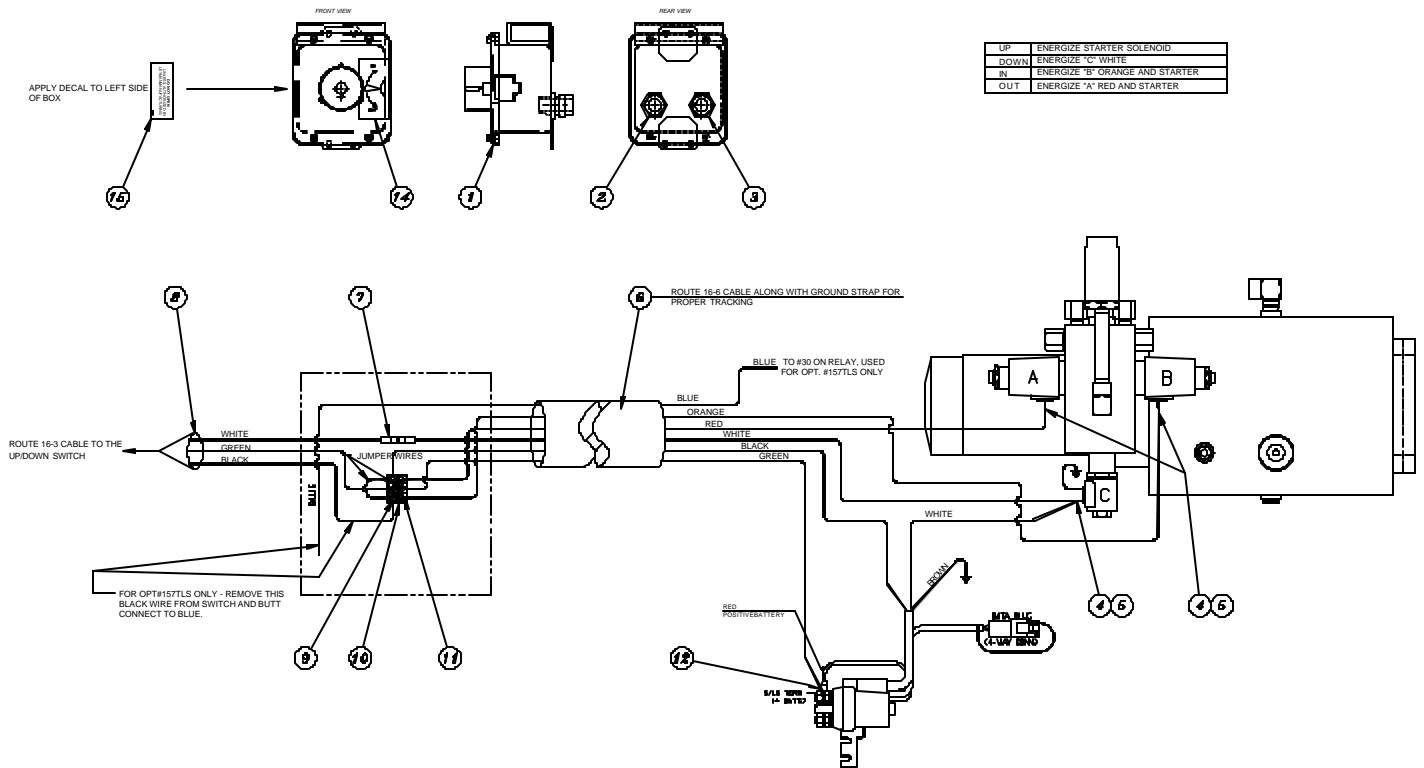


10/08 P55345

BASIC ELECTRICS – WIRING DIAGRAM / REPLACEMENT PARTS

SPX (GOLD MOTOR AND SMART START SOLENOID)

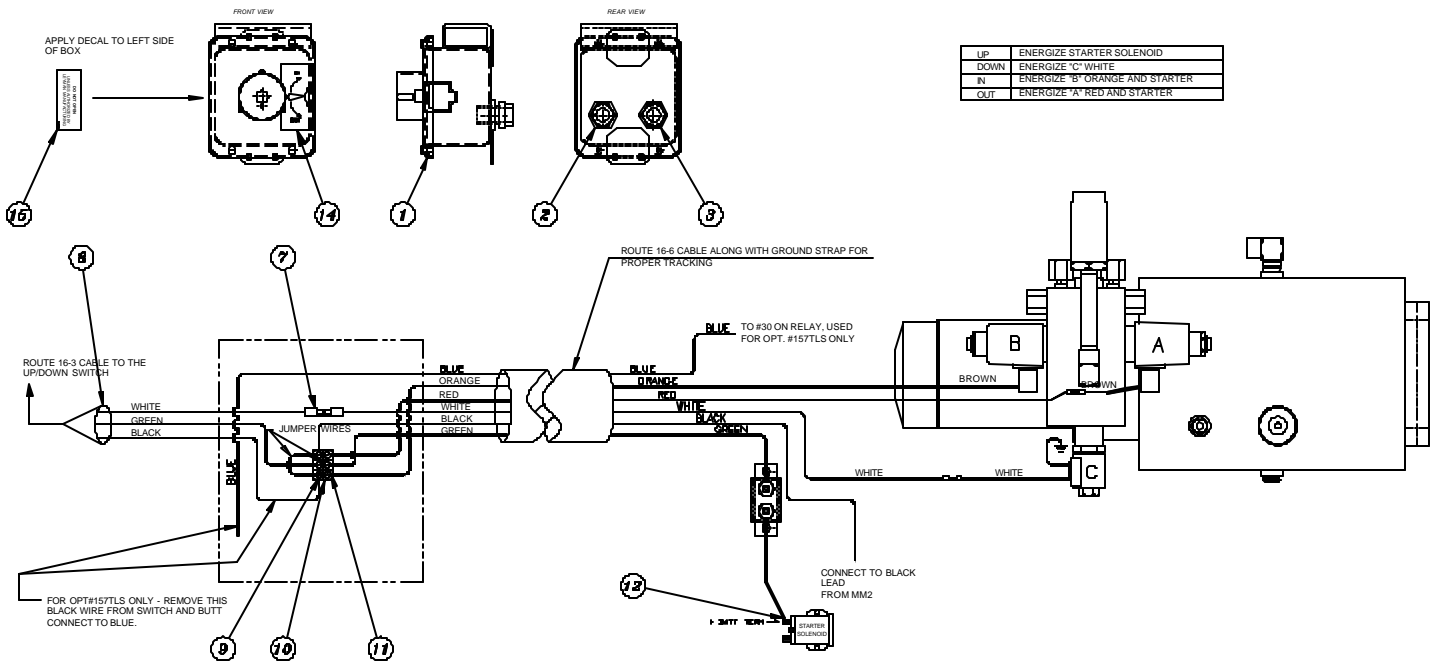
THROUGH 2-03



Index No.	Req'd	Part No.	Description	Comments
1	1	BA-551-317	SWITCH BOX ASSEMBLY	
2	1	P46445	CORD GRIP	FOR 16-6 CABLE
3	1	P46139	CORD GRIP	FOR 16-3 CABLE
4	3	P46300	HEAT SHRINK TUBE	3 PCS – EACH 2" LONG
5	3	P46491	FEMALE CONNECTOR	3/16
6	1	P46475	CABLE 16-6	17 FT LONG
7	1	P46156	BUTT CONNECTOR	
8	1	P46186	CABLE 16-3	5 FT LONG
9	4	P46444	LARGE FORK TERMINAL	
10	1	AA-551-327	TOGGLE SWITCH	
11	2	P46319	SMALL FORK TERMINAL	
12	1	P46235	LARGE RING TERMINAL	
13				
14	1	P55222	IN/OUT DECAL	
15	1	P55317	"DO NOT OPEN" DECAL	
16	6	P46250	LOOM CLAMP	Not shown
17	6	P17518	SELF TAPPING SCREW	Not shown
18	1	P55267	Electrics/Hyd. Diagram	For Smart Start

BASIC ELECTRICS – WIRING DIAGRAM / REPLACEMENT PARTS

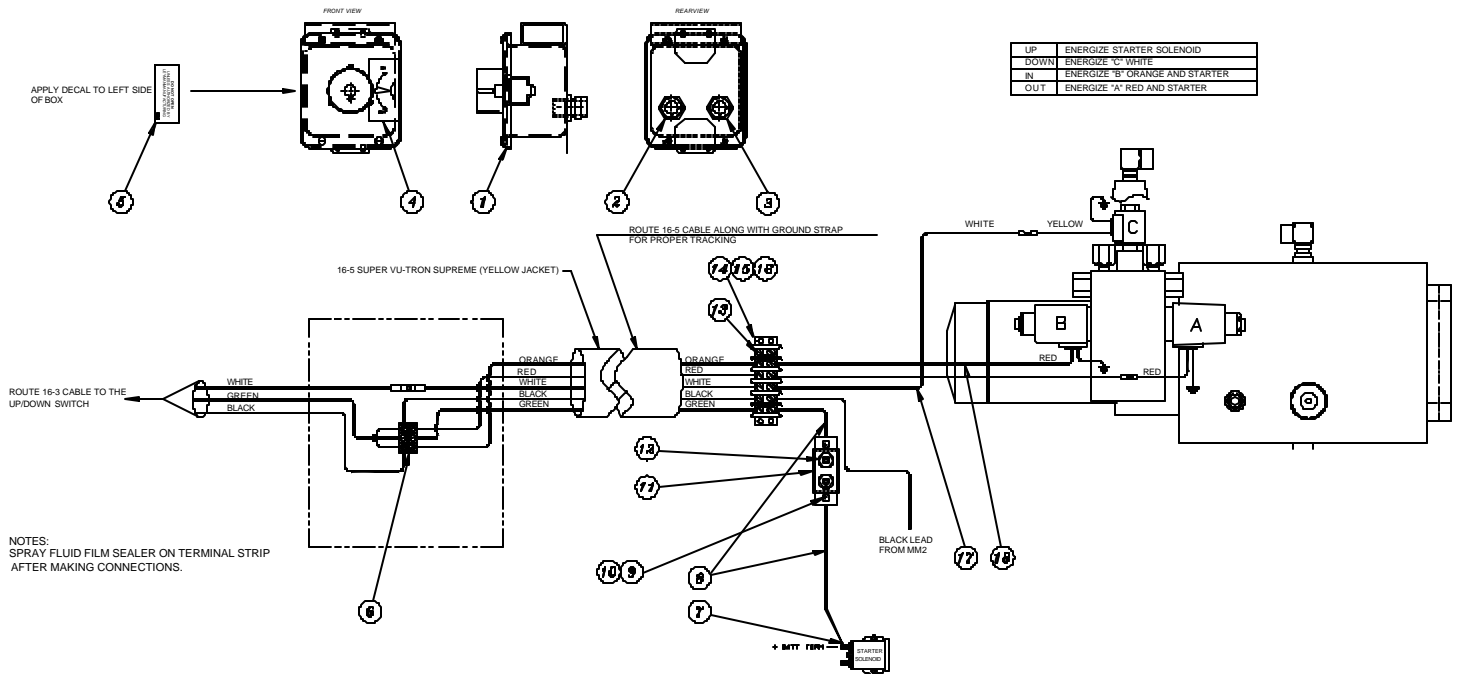
SPX (3-03 THROUGH 12-06) AND MONARCH (6-06 THROUGH 7-08) W/MAINTENANCE MINDER 2



Index No.	Req'd	Part No.	Description	Comments
1	1	BA-551-317	SWITCH BOX ASSEMBLY	
2	1	P46445	CORD GRIP	FOR 16-6 CABLE
3	1	P46139	CORD GRIP	FOR 16-3 CABLE
4	3	P46300	HEAT SHRINK TUBE	3 PCS – EACH 2" LONG
5	3	P46491	FEMALE CONNECTOR	3/16
6	1	P46475	CABLE 16-6	17 FT LONG
7	1	P46156	BUTT CONNECTOR	
8	1	P46186	CABLE 16-3	5 FT LONG
9	4	P46444	LARGE FORK TERMINAL	
10	1	AA-551-327	TOGGLE SWITCH	
11	2	P46319	SMALL FORK TERMINAL	
12	1	P46235	LARGE RING TERMINAL	
13	1	P46236	20 AMP CIRCUIT BREAKER	
14	1	P55222	IN/OUT DECAL	
15	1	P55317	"DO NOT OPEN" DECAL	
16	6	P46250	LOOM CLAMP	Not shown
17	6	P17518	SELF TAPPING SCREW	Not shown
18	1	P55342	Electrics/Hyd. Diagram	For MM2, no temp switch
18	1	P55345	Electrics/Hyd. Diagram	For MM2, +temp switch

BASIC ELECTRICS – WIRING DIAGRAM / REPLACEMENT PARTS

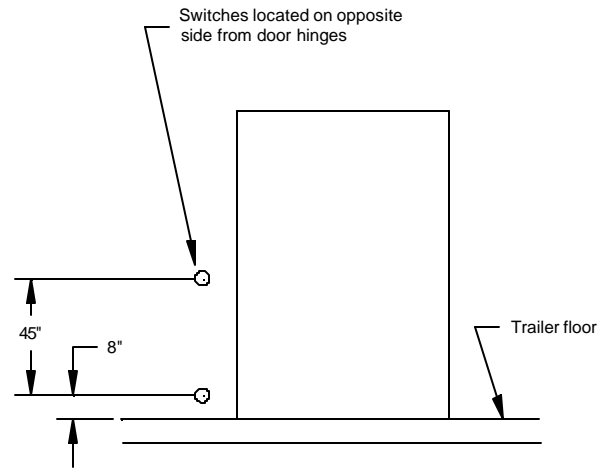
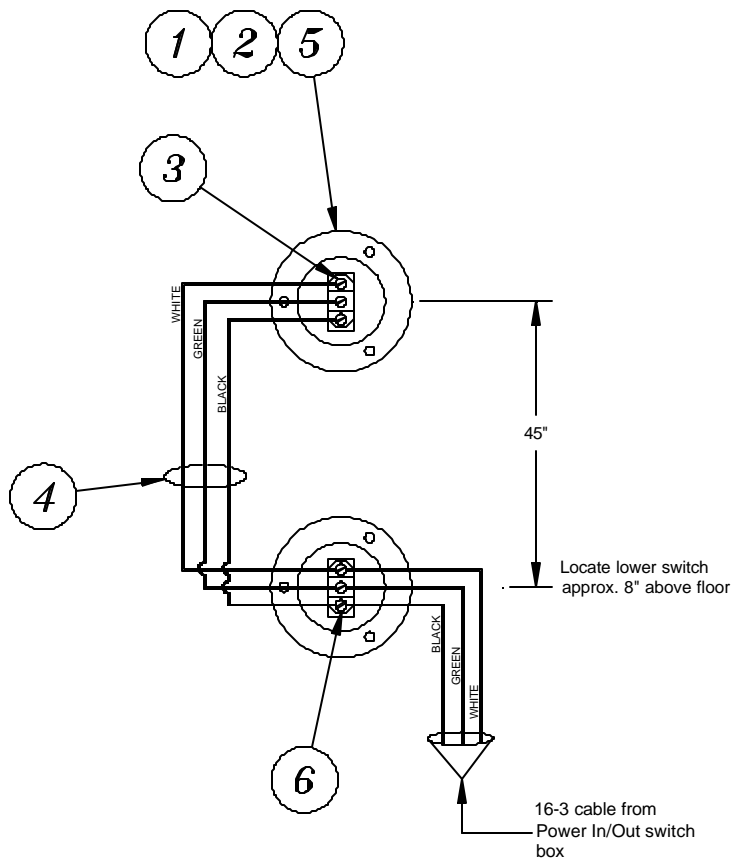
MONARCH W/POTTED SWITCHES after 7-08



Index No.	Req'd	Part No.	Description	Comments
1	1	BA-551-317	SWITCH BOX ASSEMBLY	
2	1	P46445	CORD GRIP	FOR 16-6 CABLE
3	1	P46139	CORD GRIP	FOR 16-3 CABLE
4	1	P55222	IN/OUT DECAL	
5	1	P55317	"DO NOT OPEN" DECAL	
6	1	AA-551-537	IN/OUT POTTED SWITCH ASSY	
7	1	P46235	LARGE RING TERMINAL	
8	2	P46301	WIRE - GREEN	12" LONG EA.
9	2	P19501	SCREW	10-24 X 1/2
10	2	P23504	NUT	
11	1	P46236	20 AMP CIRCUIT BREAKER	
12	2	P46507	SMALL RING TERMINAL	
13	10	P46319	FORK TERMINAL	
14	1	P46449	TERMINAL BLOCK	
15	2	P19510	SCREW	
16	2	P23535	LOCK NUT	
17	1	P46631	WHITE SHRINK TUBE	18" Use to identify wire lead
18	1	P46632	ORANGE SHRINK TUBE	18" Use to identify wire lead
19	1	P55345	Electrics/Hyd. Diagram	For MM2, +temp switch

TOGGLE SWITCH ELECTRICS WIRING AND REPLACEMENT PARTS

SWITCHES BEFORE 7-08

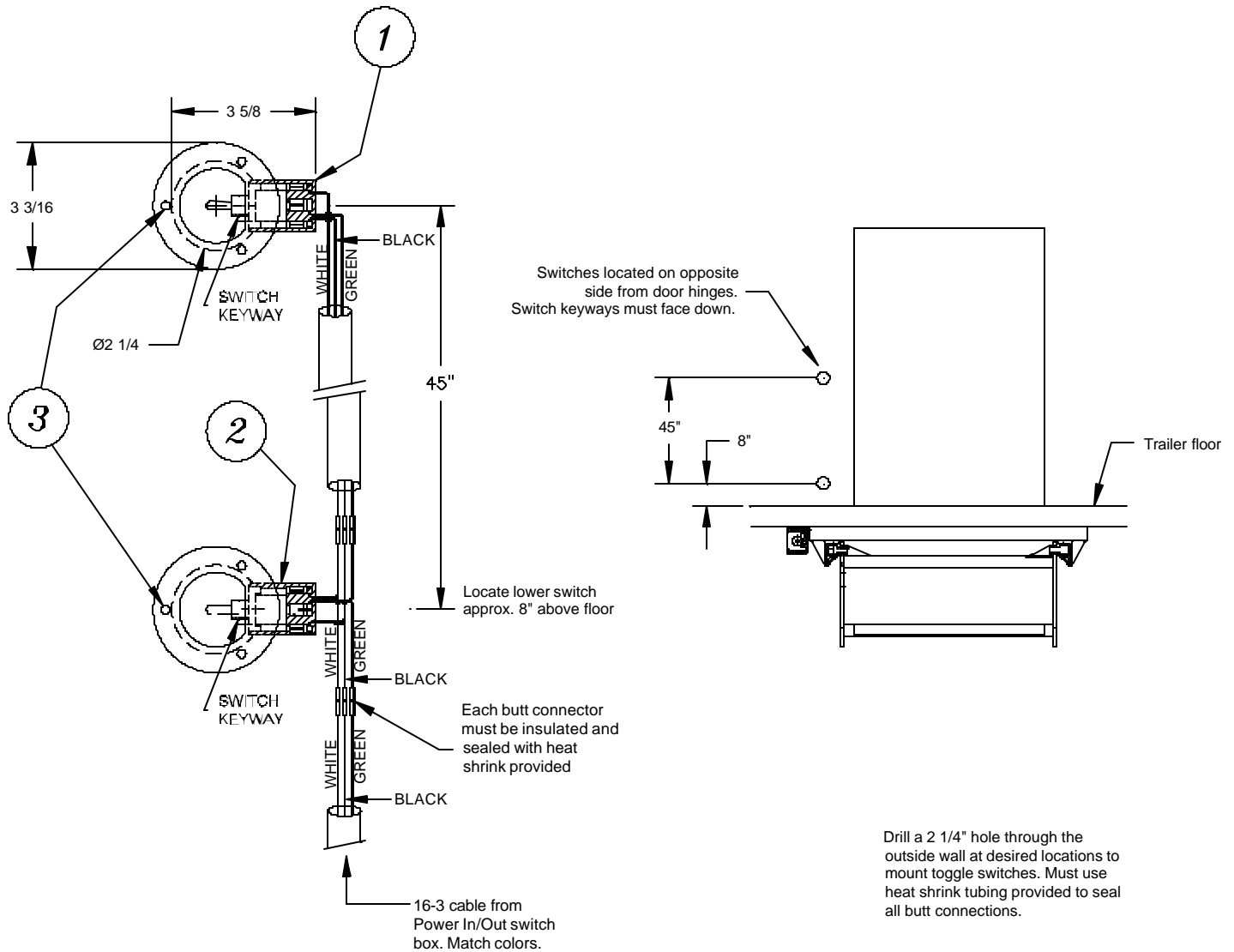


Drill a 2 1/8" hole through the outside wall at desired locations to mount toggle switches. After making all connections to the switches, seal the connections with NOCO NCP-2 corrosion protection sealer, or equivalent.

Index No.	Req'd	Part Number	Description	Comments
1	2	AA-551-326	TOGGLE SWITCH	Includes rubber boot
2	2	P46292	DISH PAN	
3	3	P46319	FORK TERMINAL	
4	1	P46186	CABLE 16-3	8 FT
5	6	P17536	SHEET METAL SCREW	
6	3	P46444	LARGE FORK TERMINAL	
7	4	P46250	LOOM CLAMP	NOT SHOWN
8	4	P17518	SELF TAPPING SCREW	NOT SHOWN

TOGGLE SWITCH ELECTRICS WIRING AND REPLACEMENT PARTS

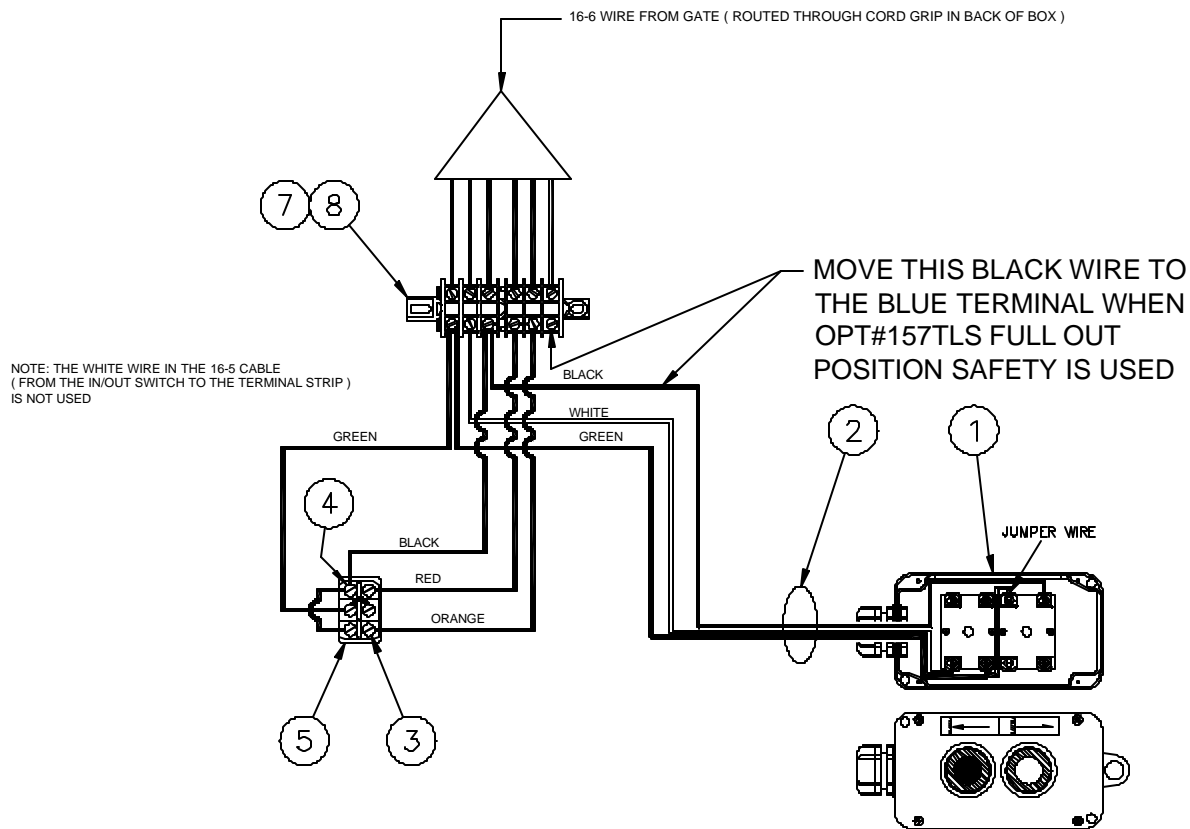
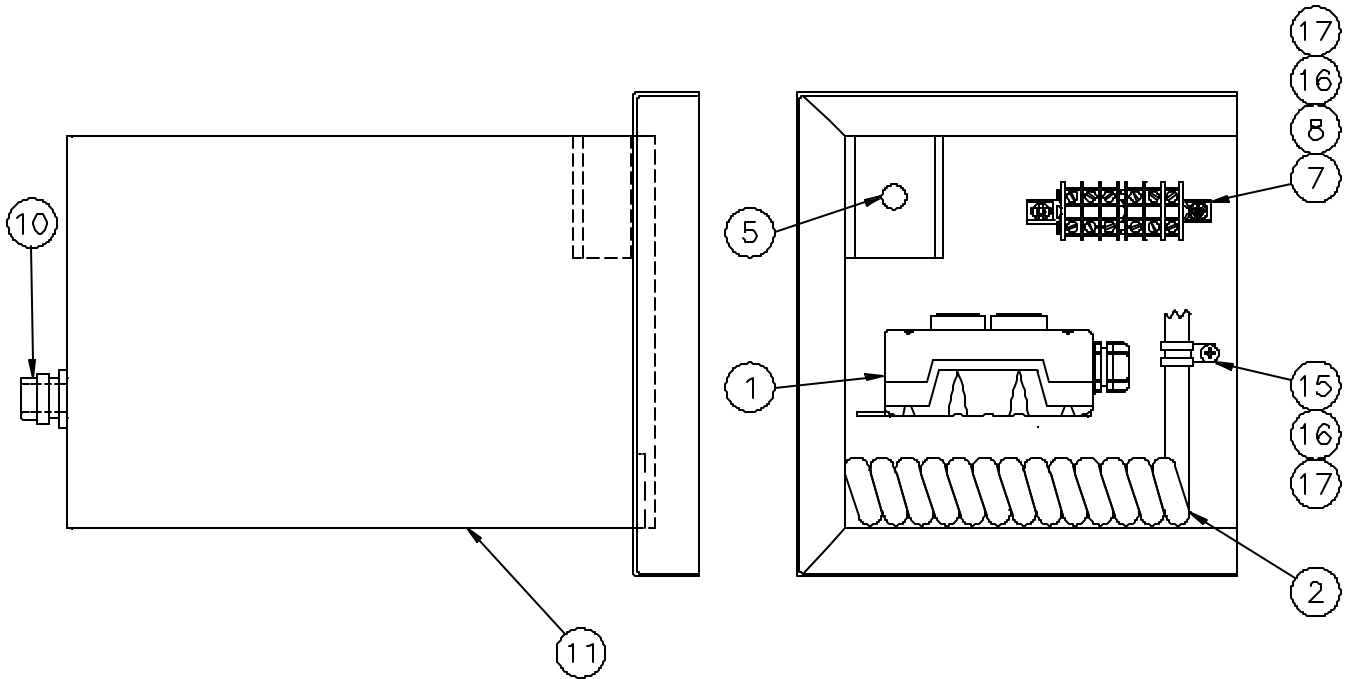
SWITCHES AFTER 7-08



Index No.	Req'd	Part Number	Description	Comments
1	1	AA-551-538	TOP UP/DOWN SWITCH ASSY	POTTED
2	1	P46729	LOWER UP/DOWN SWITCH	POTTED
3	6	P17536	SHEET METAL SCREW	
4	4	P46250	LOOM CLAMP	NOT SHOWN
5	4	P17518	SELF TAPPING SCREW	NOT SHOWN

Walk Around Electrics (Option #183)

Before 9-08



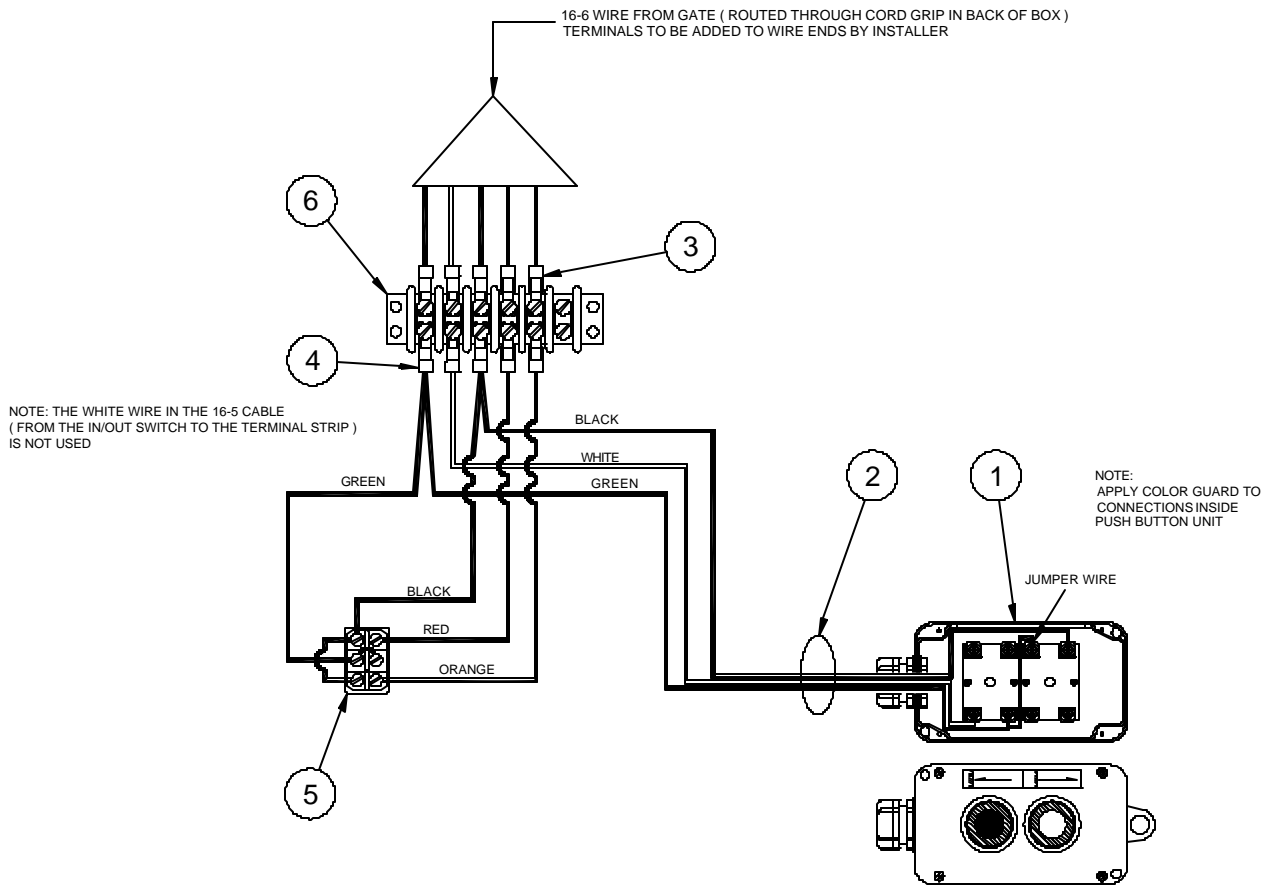
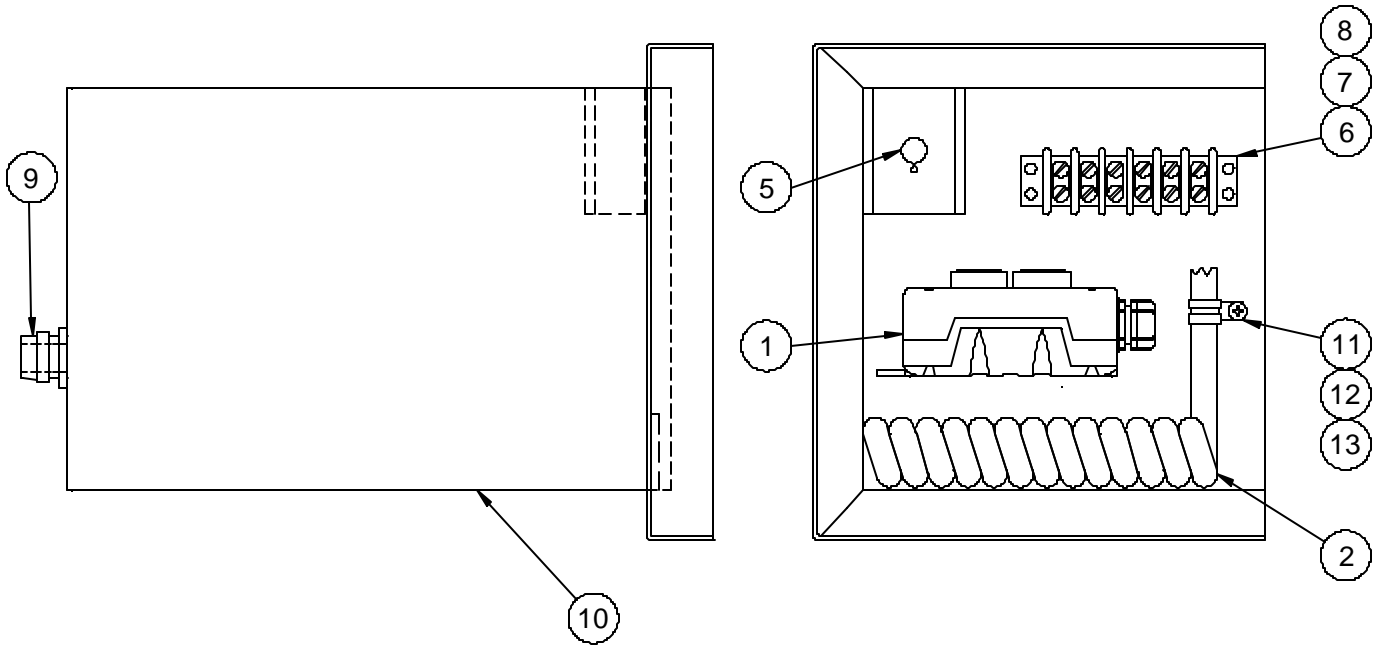
Walk Around Electrics (Option #183)

Before 9-08

Index No.	Req'd	Part Number	Description	Comments
1	1	P46636	2-BUTTON CONTROL	
2	1	AP-551-212	COIL CORD	1/2 LENGTH
3	7	P46319	FORK TERMINAL - SMALL	
4	4	P46444	FORK TERMINAL - LARGE	
5	1	AA-551-327	TOGGLE SWITCH ASSY	
6	1	P46443	CABLE 16-5	
7	2	P46382	TERMINAL BLOCK	
8	1	P46395	TERMINAL BLOCK END	
9	1	P56554	STEEL PLUG	
10	1	P46445	CORD GRIP	
11	1	P46138	PUSH BUTTON BOX	
15	1	P46250	LOOM CLAMP	
16	3	P19501	ROUND HEAD SCREW	
17	3	P23504	LOCK NUT	

Walk Around Electrics (Option #183)

After 9-08



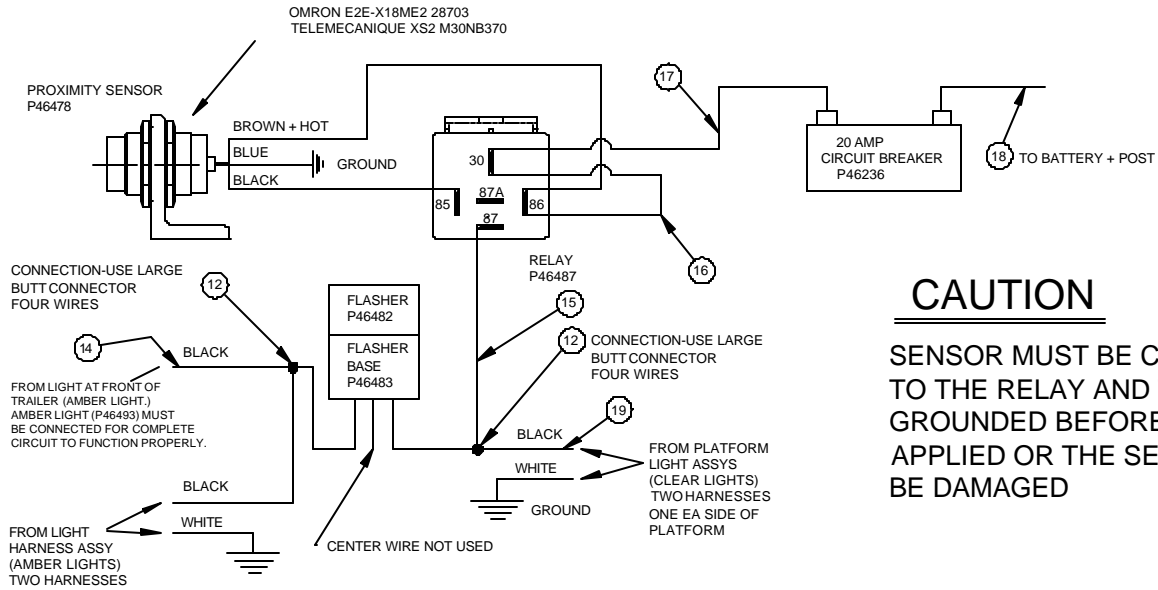
Walk Around Electrics (Option #183)

After 9-08

Index No.	Req'd	Part Number	Description	Comments
1	1	P46636	2-BUTTON CONTROL	
2	1	AP-551-212	COIL CORD	1/2 LENGTH
3	8	P46319	FORK TERMINAL - SMALL	
4	2	P46444	FORK TERMINAL - LARGE	
5	1	P46745	POTTED TOGGLE SWITCH ASSY	
6	1	P46449	TERMINAL BLOCK	
7	2	P19519	ROUND HEAD SCREW	
8	2	P23535	LOCK NUT	
9	1	P46445	CORD GRIP	
10	1	P46138	PUSH BUTTON BOX	
11	1	P46250	LOOM CLAMP	
12	1	P19501	ROUND HEAD SCREW	
13	1	P23504	LOCK NUT	
14	1	P56554	STEEL PLUG	NOT SHOWN

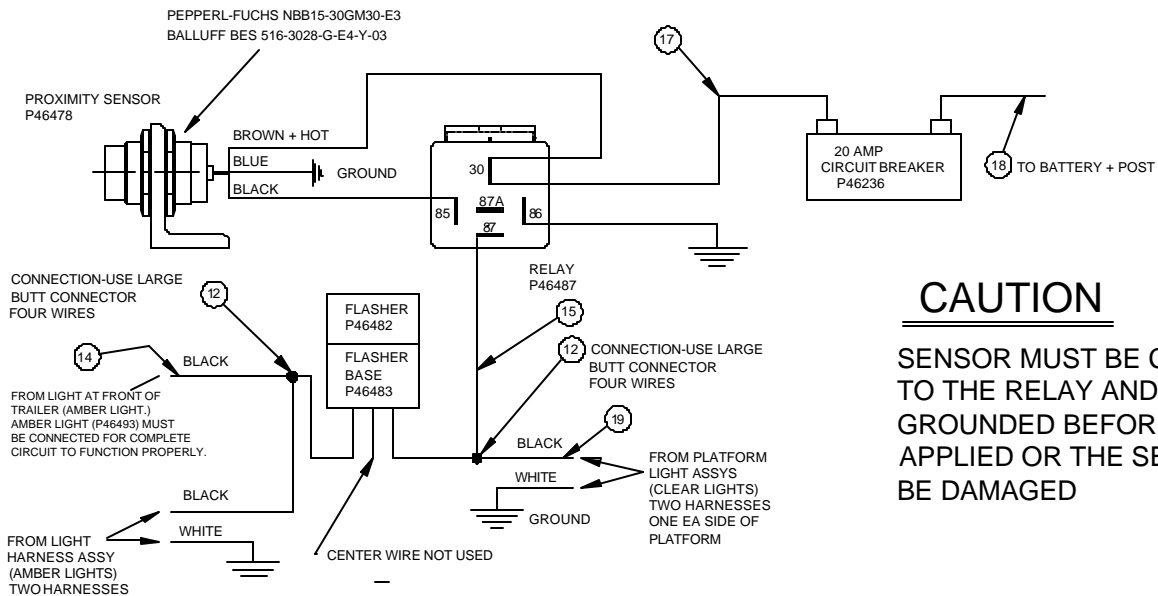
Option #155 (LIGHTS AND SENSORS)

ELECTRIC CONNECTIONS AND PARTS



CAUTION

SENSOR MUST BE CONNECTED TO THE RELAY AND THE RELAY GROUNDED BEFORE POWER IS APPLIED OR THE SENSOR WILL BE DAMAGED



CAUTION

SENSOR MUST BE CONNECTED TO THE RELAY AND THE RELAY GROUNDED BEFORE POWER IS APPLIED OR THE SENSOR WILL BE DAMAGED

Option #155 (LIGHTS AND SENSORS)

ELECTRIC CONNECTIONS AND PARTS

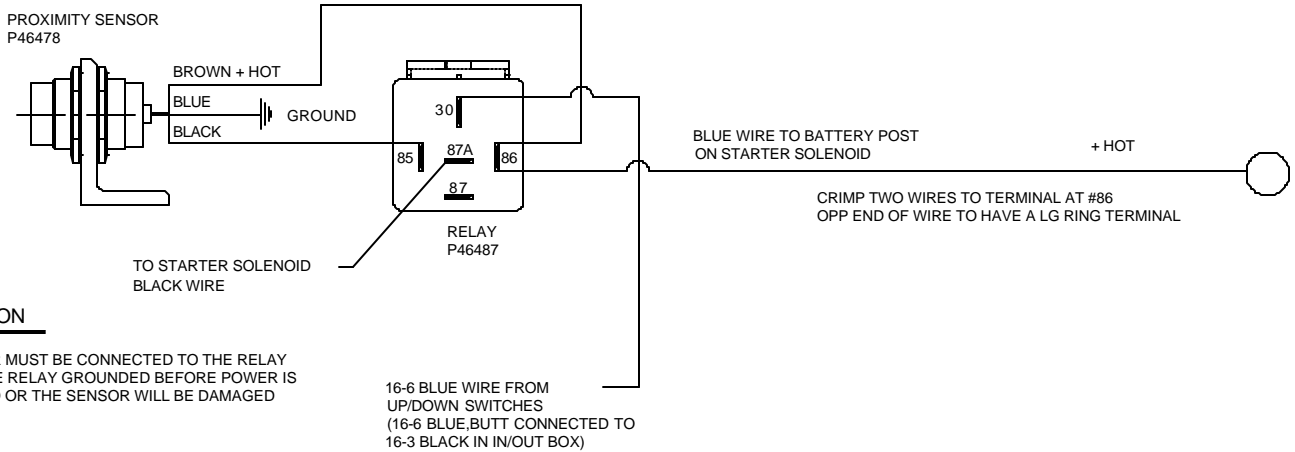
Index No.	Req'd	Part Number	Description	Comments
1	1	P46478	Proximity sensor	
2	1	AP-817-139	Sensor mount	Weld to inner slide cover
3	1	S566-006.000	Sensor target	2 x 1-1/2 x 1/8 x 6
4	1	P46487	Relay	
5	1	P46482	Flasher	Blk wire on sol to blk wire
6	1	P46483	Flasher base	Blk wire on sol to blk wire
7	1	P46236	Circuit breaker	20 amp, auto reset
8	4	P17518	Self tapping screw	CirB-2, relay-1, flasher base-1
9	2	P46751	Large ring terminal	To starter lg hot post
10	3	P46318	Female terminal push on	For relay connections
11	5	P46047	Small ring terminal	To circuit breaker & 3 grounds
12	2	P46157	Lg butt connector	
13	1	BA-551-193	Light harness assy	Includes all lights
14	1	P46017	Black wire 16-GA	600" To front of trailer
15	1	P46017	Black wire 16-GA	8" From clear lights to relay
16	1	P46301	Green wire 16-GA	3" From relay 30 to relay 86
17	1	P46301	Green wire 16-GA	8" From relay to circuit breaker
18	1	P46301	Green wire 16-GA	48" From circuit breaker to battery
19	2	P46017	Black wire 16-GA	180" From relay to clear lights
20	1	P46665	Female terminal push on	For double wire connection
21	1	P46739	Cord grip	
22	1	P46740	Black nylon nut	

Option #157 (FULL OUT POSITION SAFETY)

ELECTRIC CONNECTIONS AND PARTS

ELECTRICAL CONNECTIONS

OMRON E2E-X18ME2 28703
TELEMECANIQUE XS2 M30NB370



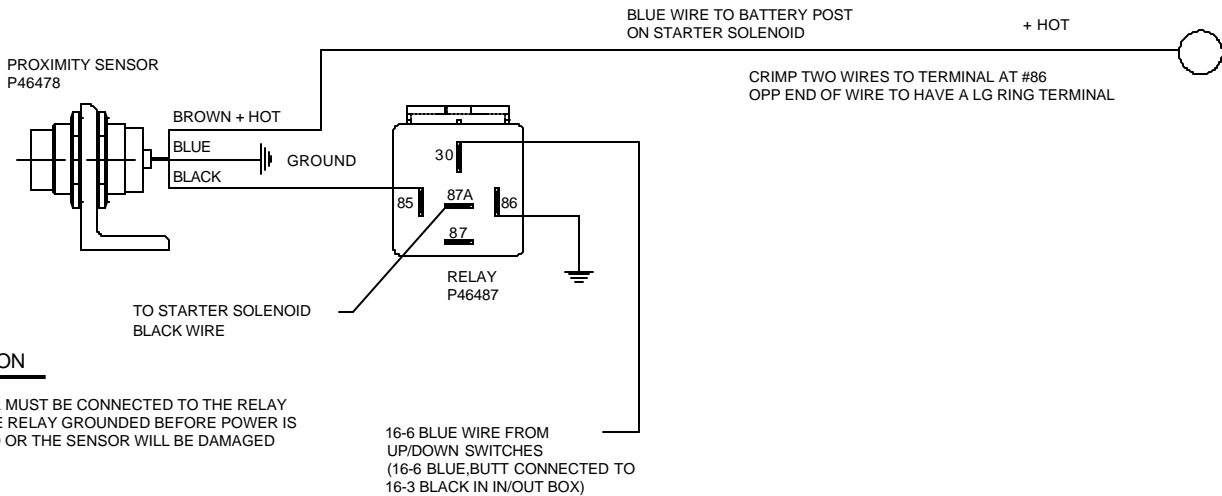
CAUTION

SENSOR MUST BE CONNECTED TO THE RELAY AND THE RELAY GROUNDED BEFORE POWER IS APPLIED OR THE SENSOR WILL BE DAMAGED

16-6 BLUE WIRE FROM UP/DOWN SWITCHES (16-6 BLUE, BUTT CONNECTED TO 16-3 BLACK IN IN/OUT BOX)

ELECTRICAL CONNECTIONS

PEPPERL-FUCHS NBB15-30GM30-E3
BALLUFF BES 516-3028-G-E4-Y-03



CAUTION

SENSOR MUST BE CONNECTED TO THE RELAY AND THE RELAY GROUNDED BEFORE POWER IS APPLIED OR THE SENSOR WILL BE DAMAGED

16-6 BLUE WIRE FROM UP/DOWN SWITCHES (16-6 BLUE, BUTT CONNECTED TO 16-3 BLACK IN IN/OUT BOX)

Index No.	Req'd	Part Number	Description	Comments
1	1	P46478	Proximity sensor	
2	1	P46487	Relay	
3	1	AP-817-139	Sensor mount	Weld to inner slide cover
4	1	S566-024.000	Sensor out target	2 x 1-1/2 x 1/8 x 24
5	1	S566-003.000	Sensor in target	2 x 1-1/2 x 1/8 x 3
6	4	P46318	Female connector	For relay connections
7	1	P46156	Butt connector	Blk wire on sol to blk wire
8	1	P17518	Self tapping screw	To mount relay
9	1	P46751	Large ring terminal	
10	1	P46471	Blue wire – 24" lg.	To provide power to relay

INSTALLATION OF SAFETY DECALS

Leyman Manufacturing will replace safety stickers at any time **FREE OF CHARGE**.

Locate the following decals on trailer side wall near door –

- P55236** Operating Instructions
- P55157** Urgent Warning – Read Before Operation
- P55294** CAUTION Do Not Stand....
- P55193** 4500 lb. Maximum Capacity

Locate the following decal on trailer side wall under door threshold –

- P55138** Keep Feet from Edge....

Locate the following decals at Toggle Switches –

- P55222** IN / OUT
- P55221** UP / DOWN (Qty. 2)



