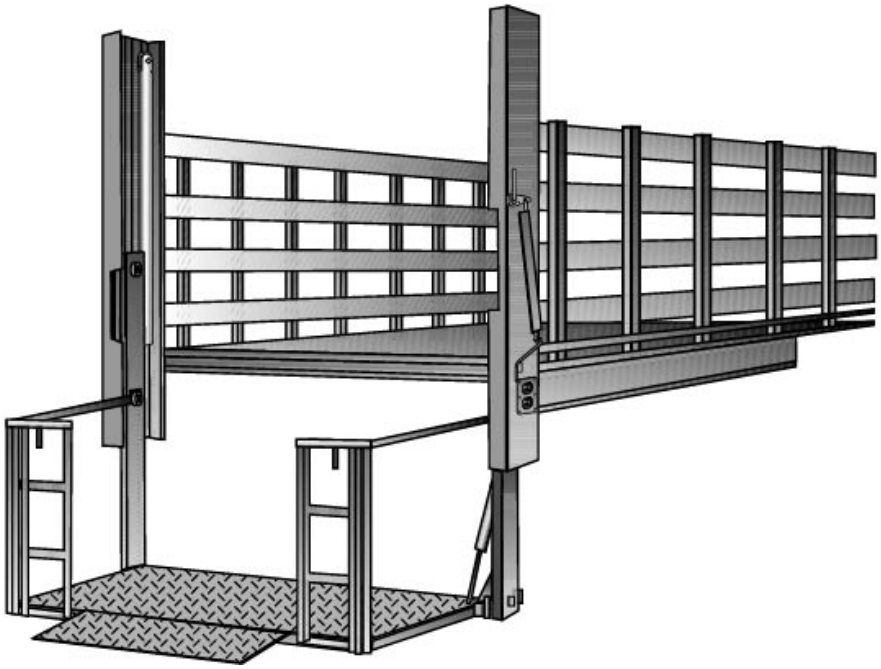
LEYMAN LIFT GATES

Owner's Manual

FBGxxRM & FBGxxRMPD
Fold-A-Vador® Rail Style



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INTRODUCTION

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 instruction, 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 weigh several hundred pounds.

Again, let us remind you that there are moving parts on this product that weigh several hundred pounds. These parts, when not under proper control, can cause physical damage to 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: _____
CAPACITY: _____
TYPE: _____
POWER: **12** VOLT_____
PLATFORM: _____
SERIAL: _____
OPTIONS _____
_____
_____
_____

MAXIMUM HEIGHT: 60”
HYDRAULIC PRESSURE: LOADED 2,500 PSI AT THE PUMP
AMP DRAW: LOADED 235 UNLOADED 100

POWER UP
GRAVITY DOWN OR POWER DOWN

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

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 VERTICAL POSITION OR OPERATING IN ANY MANNER.

4. MAKE SURE THE GROUND IS CLEAR UNDER THE PLATFORM WHEN LOWERING.

5. CHECK THE AREA AROUND THE UNIT FOR ANY PERSONS BEFORE OPERATING THE LIFT GATE.

6. THIS LIFT GATE SHOULD OPERATE SMOOTHLY AND THE ONLY NOISE THAT SHOULD BE HEARD IS THE POWER UNIT. ANY OTHER AUDIBLE SOUNDS OTHER THAT THE NORMAL POWER UNIT OPERATION SOUND SHOULD BE THOROUGHLY CHECKED AND THE CAUSE OF THE NOISE SHOULD BE LOCATED AND CORRECTED.

7. NEVER EXCEED THE RATED LOAD CAPACITY OF THIS GATE. DO NOT OVERLOAD - MAXIMUN RATED CAPACITY IS BASED ON AN EVENLY DISTRIBUTED LOAD OVER THE PLATFORM FLAT SURFACE. STAY WITHIN THE LOAD CENTER RESTRICTIONS.

8. ALWAYS LOAD AS CLOSE TO THE CENTER OF THE PLATFORM AND AS CLOSE TO THE CENTER OF THE TRUCK SILL AS POSSIBLE.

9. DO NOT ALLOW PERSONS TO OPERATE THE UNIT UNLESS THEY HAVE BEEN PROPERLY TRAINED TO DO SO.

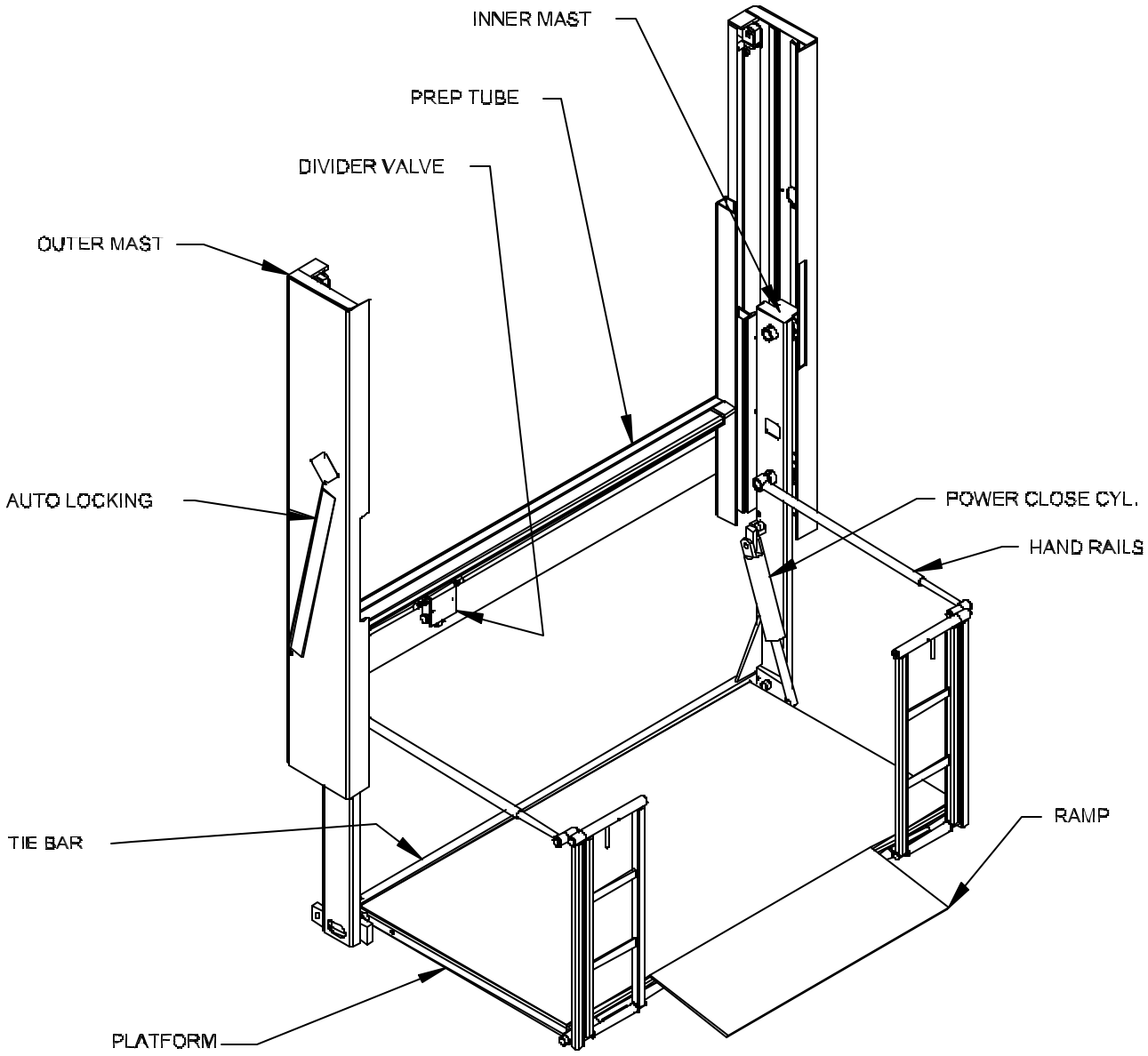
10. USE ONLY FACTORY AUTHORIZED PARTS FOR REPLACEMENT.

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: THIS GATE HAS POLYMER GREASELESS BEARINGS IN THE ROLLERS, PLATFORM PIVOTS, AND CYLINDER. WHEN WELDING, BE SURE TO GROUND DIRECTLY TO THE COMPONENT BEING WELDED.

UNPLUG THE MAINTENANCE MINDER 2® CONTROLLER TO AVOID ANY DAMAGE TO THE UNIT.

GENERAL TERMINOLOGY



OPERATION OF THE LIFT GATE

Before operating the lift, read and understand the decal, urgent warning decals and the owner's manual.

Do not stand behind the lift gate while unfolding or using the platform.

To unfold the platform from the over-the-road position:

1. Momentarily fold the gate. Push the fold and up switches at the same time, as to ensure the gate is fully folded.
2. To relieve tension on the auto lock, push the up switch (gate will go up), pull the handle to release the auto lock.
3. Lower the platform by pushing the down switch until platform ears are at slots in outer mast.
4. Push the unfold switch (gate will unfold).

To dock load:

1. To relieve the tension on the auto lock, push the up switch (gate will go up), pull the handle to release the auto lock.
2. Lower the gate until the ears on the platform rest on the stops of the outer mast.
3. WARNING! Never use the platform as a "bridge" to a dock or other vehicle. Platform can fold unexpectedly and cause injury.

To lower platform, use the down switch only.

To raise platform, use the up switch only.

Safe loading of platform:

1. The cart stop or retention ramp must be in place whenever lifting or lowering a load. Also, see the urgent warning decal.

To fold platform:

1. Raise the platform off the ground about two feet.
2. Push the fold and up switch together using both hands. Platform will fold. Platform ears must pass through slots and go inside masts. Continue to raise the platform to the full up position, auto lock will latch.

HOW TO OPERATE THE EMERGENCY HAND PUMP FOR GRAVITY DOWN LIFT GATE

Before 4-1-07

Step 1 Inside the power unit enclosure, find the ball valve handle (plastic covered handle). Open the ball valve by turning the handle so that it is parallel with the fitting that connects the hydraulic line to the ball valve.

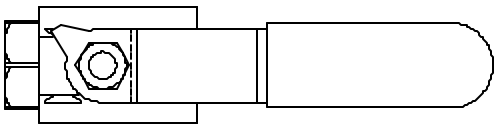
Step 2 Insert the handle into the pump and jack upward. The gate will rise completely to the up stops. Continue pumping the handle until the gate folds up completely. (Do this until the platform ears are tight against the outer mast).

Step 3 Close the plastic covered handle ball valve. Turn the handle so that it is 90 degrees from the fitting that connects the hydraulic line to the ball valve.

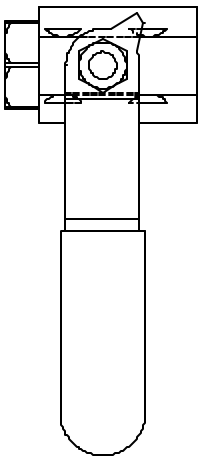
Step 4 Using the handle, slowly turn the valve (located on the hand pump) to let the gate down until the platform ears go into the notch on the outer mast. Shut the valve.

Step 5 Jack the platform up until the gate is completely up and locked in the "over the road" driving position.

OPEN POSITION



CLOSED POSITION



HOW TO OPERATE THE EMERGENCY HAND PUMP FOR POWER DOWN LIFT GATE

Before 4-1-07

Step 1 Inside the power unit enclosure, open both ball valves (plastic covered handles turned in-line with valve body).

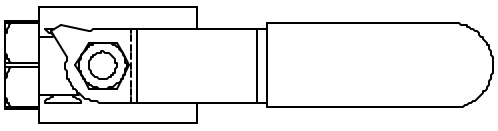
Step 2 Insert the hand pump handle and jack the platform up to the full up position. Continue pumping to fold the platform up until the platform ears are tight against the outer mast.

Step 3 Close both ball valves (plastic covered handles turned 90 degrees to valve body).

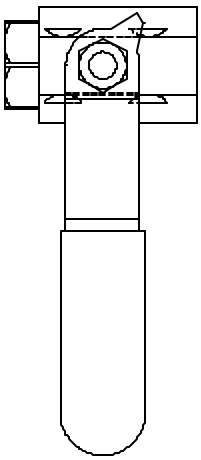
Step 4 Using the handle slowly turn the valve (located on the hand pump) counter-clockwise to lower the platform until ears go into the notch on the outer mast. Close valve on the hand pump.

Step 5 Open the ball valve located on the reservoir tank only and jack the platform up until the ears engage the auto-lock in the over-the-road driving position.

OPEN POSITION



CLOSED POSITION



HOW TO OPERATE THE EMERGENCY HAND PUMP FOR GRAVITY DOWN LIFT GATE

After 4-1-07

Step 1 To raise or lower the gate using the hand pump, the ball valve in the **REAR** next to the filter must be **OPEN**, and the valve in the **FRONT** must be **CLOSED**.

Step 2 To raise, insert the handle into the pump and jack up. To lower, use the end of the handle to slowly open the small valve at the base of the hand pump.

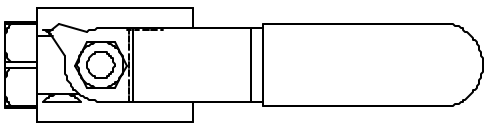
Step 3 To fold or unfold the platform using the hand pump, the ball valve in the **REAR** next to the filter must be **CLOSED**, and the valve in the **FRONT** must be **OPEN**.

Step 4 To fold, insert the handle into the pump and jack to fold. To unfold, use the end of the handle to slowly open the small valve at the base of the hand pump. After folding, close ball valve in front to maintain folded position.

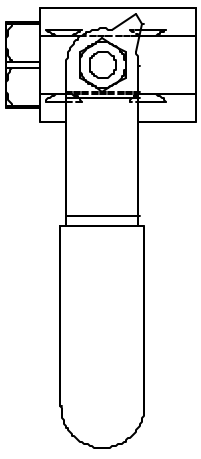
Step 5 To store gate in transit position, raise platform off the ground about two feet by following Steps 1 and 2 above. Then fold the platform by following Steps 3 and 4 above. Platform ears must pass through slots and go inside masts. Continue raising the platform (Steps 1 and 2) to the full up position until the Auto Locks latch.

Step 6 When using the power unit, normal positions for ball valves in the hand pump circuit are – rear valve next to filter **OPEN**, front valve **CLOSED**, and small valve at base of hand pump closed (tight clockwise).

OPEN POSITION



CLOSED POSITION



HOW TO OPERATE THE EMERGENCY HAND PUMP FOR POWER DOWN LIFT GATE

After 4-1-07

Locate all 3 ball valves in the Hand Pump circuit. Follow the chart for proper ball valve settings:

	Ball Valve on tank In front	Ball Valve above Motor in front	Ball Valve above Filter in rear
RAISE using Hand Pump	OPEN	CLOSE	OPEN
LOWER using Hand Pump	CLOSE	CLOSE	OPEN
FOLD/UNFOLD	OPEN	OPEN	CLOSE
Std. Valve Setting When using Pwr. Unit	CLOSE	CLOSE	OPEN

Step 1 To raise the gate using the hand pump, set the ball vales as given above. Then insert the handle into the hand pump and jack up.

Step 2 To lower the gate using the hand pump, set the ball valves as given above. Then use the end of the handle to slowly open the small valve at the base of the hand pump.

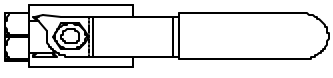
Step 3 To fold the platform using the hand pump, set the ball valves as given above. Insert the handle into the hand pump and jack to fold. Then close ball valve in front above motor to maintain folded position.

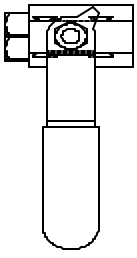
Step 4 To unfold the platform using the hand pump, set the ball valves as given above. Then use the end of the handle to slowly open the small valve at the base of the hand pump.

Step 5 To store gate in transit position, position the platform about two feet off the ground by following Steps 1 or 2 above. Then fold the platform by following Step 3. Platform ears must pass through slots and go inside masts. Continue raising the platform (Step 1) to the full up position until the Auto Locks latch.

Step 6 Return ball valves to the Standard Valve Setting given above.

OPEN POSITION CLOSED POSITION





RECOMMENDED HYDRAULIC OILS

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
	Chevron	RYKON ISO-15	-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
	Chevron	AVIATION-A	-50° F to + 80° F

HYDRAULIC TANK CAPACITY
2 ½ gallons

LUBRICATION	
Grease	Militec #1
Hinge Barrels (center platform)	W.W. Grainger – Part #6Y834 – Needle Nose Adapter
Dry Lubricant	ZEP45 (do not use corrosive lubricants like WD40, etc.)
	Dri Slide Multi-Purpose Lube (produced by Lubritek)

LIFT GATE SPECIFICATION

BATTERIES
Two (2) 12 V D.C. Group 31 Heavy Duty lead acid Dual Purpose, or AGM
ELECTRICAL COMPONENTS CONNECTIONS
Use battery terminal protection Bowman Part#21948
AMPERAGE DRAW OF MOTOR
When raising platform (empty) approximately 100 AMPS @ 13.5 volts. At bypass approximately 235 AMPS @ 13.5 volts
LIFTING PRESSURE SETTING
With platform at floor level and pump in bypass 2500PSI
MINIMUM VEHICLE FLOOR HEIGHT LADEN
With main platform 36” – vehicle floor height 40” With main platform 42” – vehicle floor height 46”
MAXIMUM VEHICLE FLOOR HEIGHT UNLADEN
With main platform 36” – vehicle floor height 60” With main platform 42” – vehicle floor height 60”
APPROXIMATE TIMES EMPTY AT 80° F WITH 2 GROUP 31 BATTERIES
Time up: 24 – 28 seconds Time down(gravity down): 12 –14 seconds Time down(power down): 16 – 18 seconds

PREVENTATIVE MAINTENANCE SCHEDULE

MAINTENANCE by CYCLES

FBG MODELS

DATE:

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

v = OK **X = REPAIR** **A = ADJUSTED** **N = NOT APLICABLE**

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
	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 poppet solenoids for proper operation		Check pressure setting of relief valve
	Check reservoir for proper oil level "***Gravity Down***" (Gate open and down on the ground, 1" from top of tank)		Clean all wiring connections in pump and battery box and spray with Bowman #21948 connection protection or equivalent
	Check reservoir for proper oil level "***Power Down***" (Gate open and up at floor level, 1" from top of tank)		Check charge line/power line for corroded, loose or broken connections at both ends
	Inspect circuit breakers and fuses for proper operation		Dual power units, run secondary unit for proper operation
	Check all fittings/hoses in power unit for tightness and leaks		

3000	***STRUCTURAL COMPONENTS***	***3000***	***STRUCTURAL COMPONENTS***
	Check switches for proper operation, check connections for tightness and corrosion		Remove hydraulic guard for fold cylinder line and check for loose/missing clamps, frayed lines and proper alignment
	Check all fittings/hoses on cylinders for tightness and leaks		Check lift gate for proper operation up and down
	Check fold cylinder for leaks/worn packing		Check lift gate for proper operation folding and unfolding
	Check for broken/missing roll pins at rollers, fold cylinder, primary/secondary platform pin		Check for impact damage on inner/outer masts
	Check snap rings on lift and fold cylinder pins		Check for broken/missing bolts at platform pins
	Check for broken/missing torsion bar assembly at platform		Check and re-weld any cracked/broken welds
	Check aluminum platform for loose bolts on side brackets and threaded plugs at hinge pins		Replace all safety and warning labels as needed

3000	***LUBRICATION***		***PERIODICAL CHECK LIST***
	Grease primary and secondary platform pin at grease holes with #1 lithium grease	**12000**	Check all pivot point bushings for wear or damage
	Grease power unit door hinge pins with #1 lithium grease	**15000**	Flush hydraulic system and change hydraulic oil
	Grease rollers with #1 lithium grease (if shafts are equipped with grease fittings) DO NOT use grease in roller tracks.		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**

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

Rev. 5-13-09

TROUBLE-SHOOTING – GENERAL MAINTENANCE

TROUBLE SHOOTING CHART

The following troubleshooting chart covers the standard power unit (12 volt power unit) used with the FBG.

PROBLEM	PROBABLE CAUSE	REMEDY
Platform will not go up or reach the floor of the vehicle.	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 the 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.	1. Recharge the battery. 2. Clean and check switch connections. 3. Clean/replace as necessary.
Platform does not go up smoothly.	1. Insufficient oil in power unit tank. 2. Air lock in hydraulic system. 3. Dirt or foreign material in guides. 4. Mechanical wear.	1. Fill tank. 2. Run platform to stop. Open up bleeders in each ram while power unit is running. Close bleeders and refill the tank. 3. Clean guides with steam and check for excessive wear, obstructions, and burrs. 4. Replace worn parts.
Platform creeps down.	1. Hydraulic leak. 2. Ram seals failing. 3. Dirt under the ball of check valve, the ball is pitted or worn or the spring is weak. 4. Check lowering valve.	1. Check all hoses and fittings. 2. Replace ram seals. 3. Clean/replace as necessary.
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 all hydraulic system components. 3. Use Mobile Aero-HFA in cold weather.
Platform goes up crooked.	1. Equalizer valve is out of adjustment. 2. Air trapped in one of the rams. 3. Tie bar is bent.	1. Adjust equalizer valve. 2. Bleed air out of the ram. 3. Straighten the tie bar.

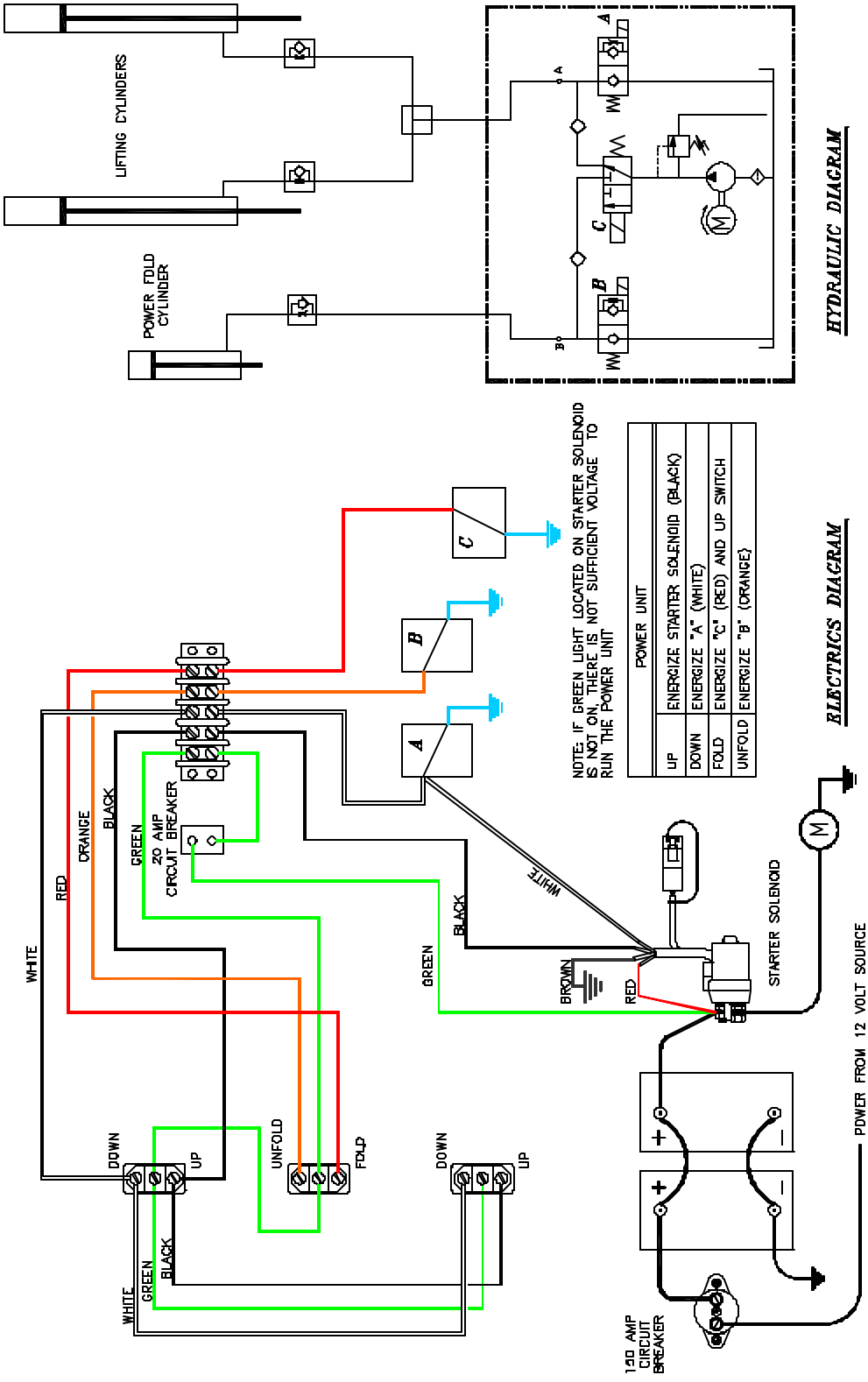
TROUBLE SHOOTING CHART

The following troubleshooting chart covers the standard power unit (12 volt power unit) used with the FBG.

PROBLEM	PROBABLE CAUSE	REMEDY
Platform comes down crooked.	1. Dirt in flow control, not adjustable. 2. Dirt in hydraulic line at the bottom of the ram. 3. Mechanical bind on one (1) side of gate. 4. Tie bar is bent.	1. Clean/replace flow control as necessary. 2. Clean hydraulic line and bleed ram. 3. Clean and inspect inner mast and rollers. Check wear of parts and replace if necessary. 4. Straighten tie bar.
Gate will not lift the rated load.	1. Hydraulic pump is worn. 2. Battery is too low.	1. Change the pump. 2. Recharge the battery to full charge.
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. Maintenance Minder™ solenoid has shut down the system due to low voltage condition. 5. Maintenance Minder 2 controller has shut down the system due to 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. Recharge battery. 9.5 volts must be maintained under load. 5. Use the “Last Lift Menu” to read maximum and minimum voltages. Recharge battery.

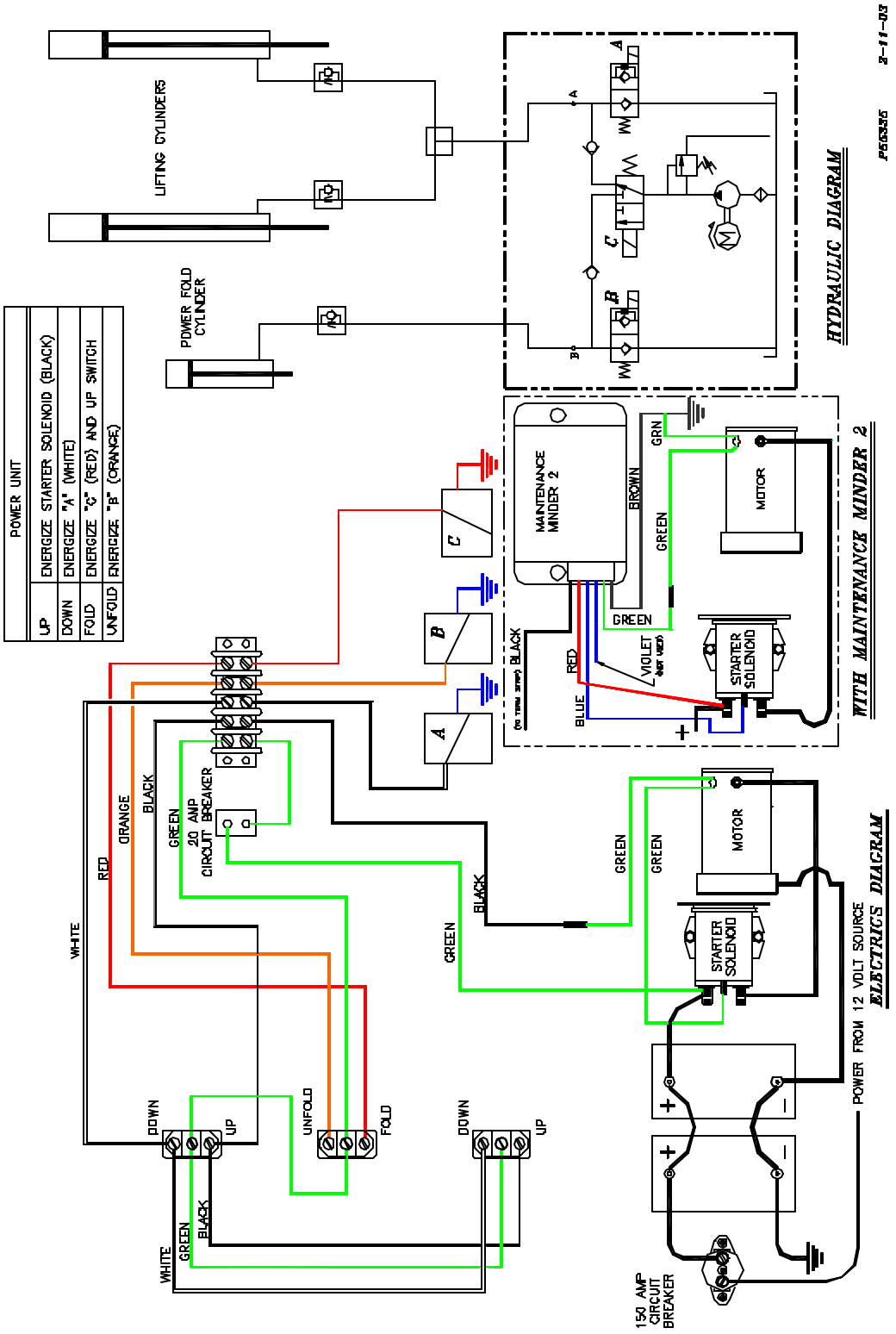
ELECTRICAL DIAGRAM GRAVITY DOWN

SPX / FENNER POWER UNIT (gold motor) with Smart Start solenoid (before 4/03)



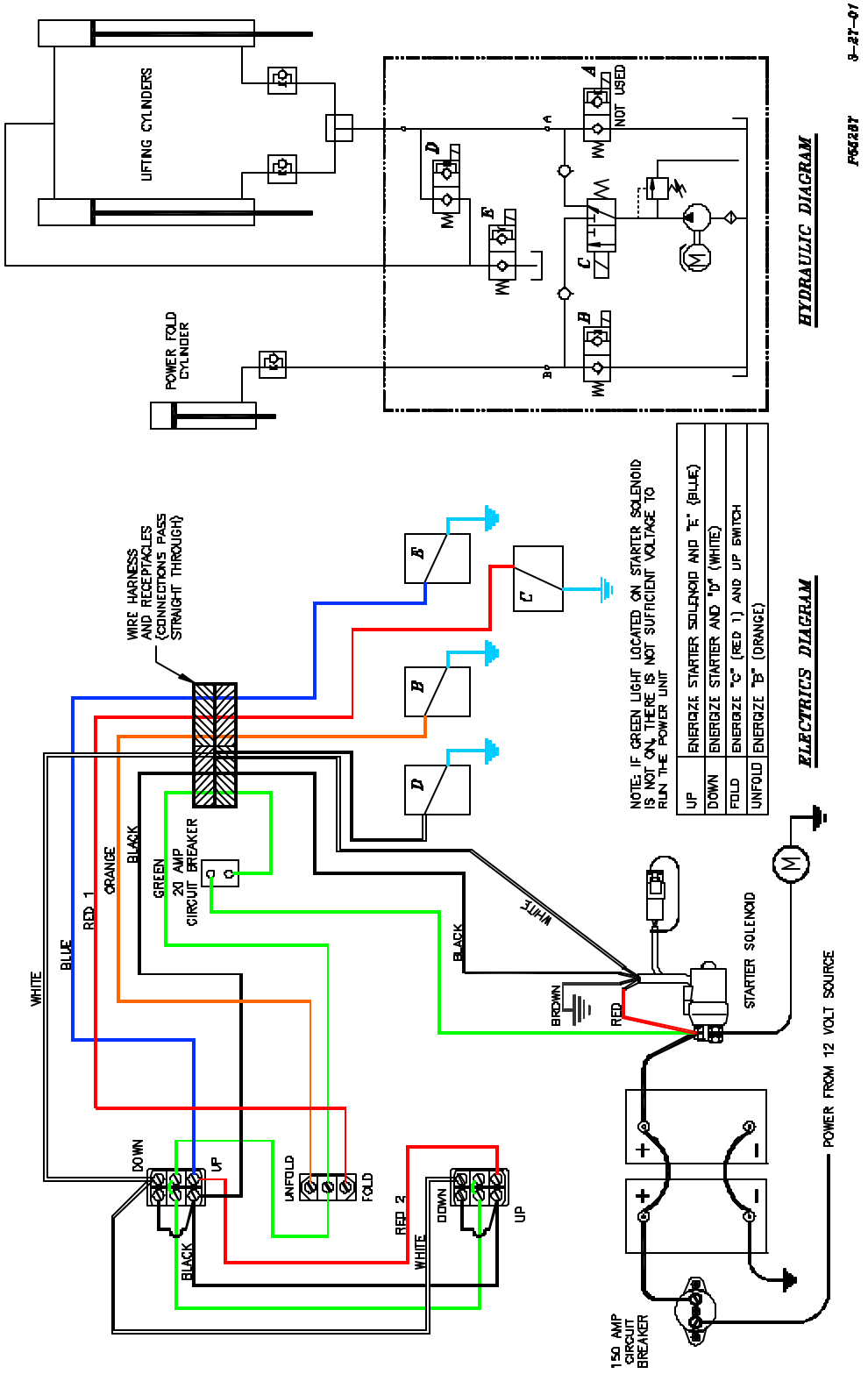
ELECTRICAL DIAGRAM GRAVITY DOWN

MONARCH POWER UNIT (black motor) with MAINTENANCE MINDER 2® (after 4/03)



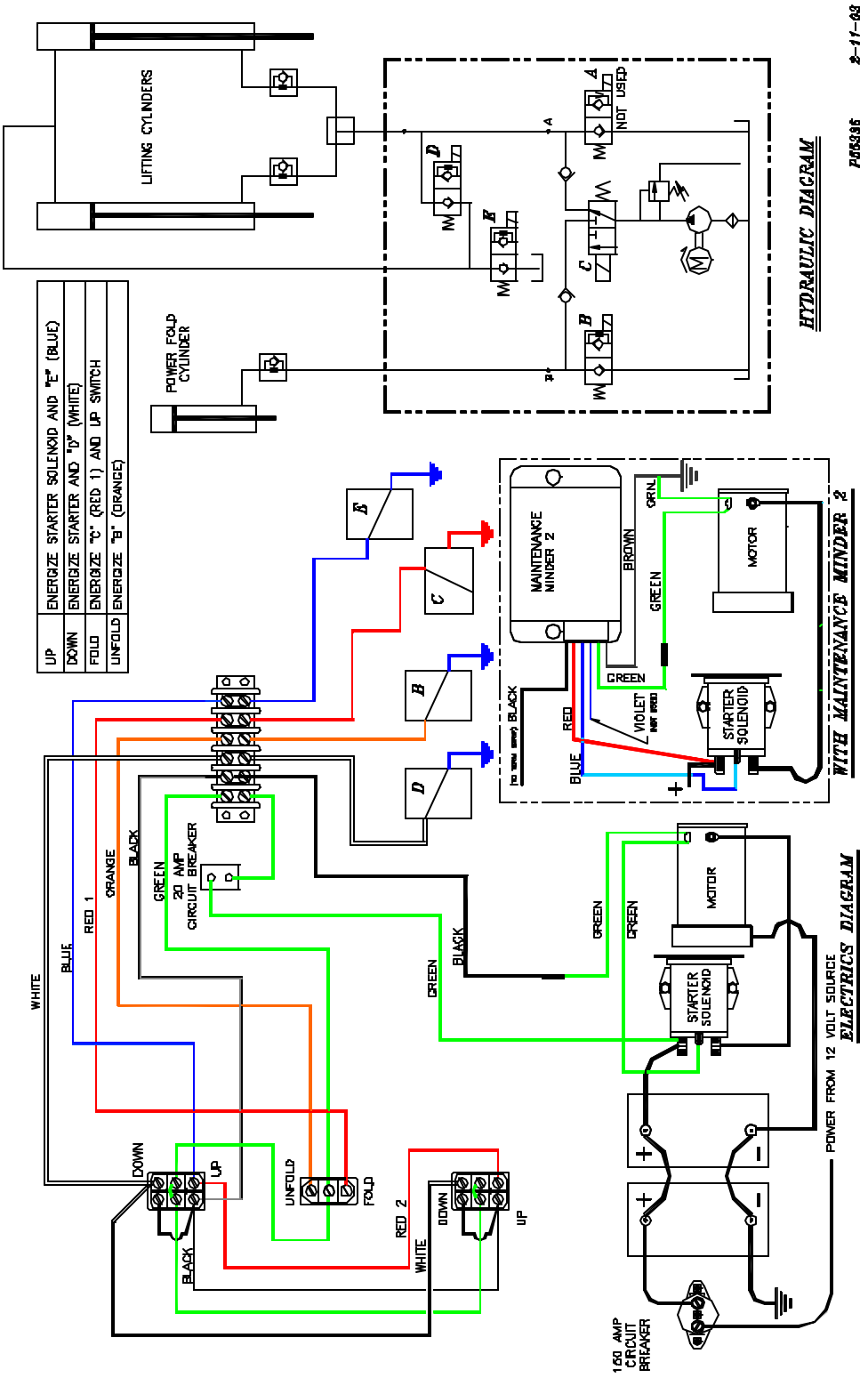
ELECTRICAL DIAGRAM POWER DOWN

SPX / FENNER POWER UNIT (gold motor) with Smart Start® solenoid (before 4/03)

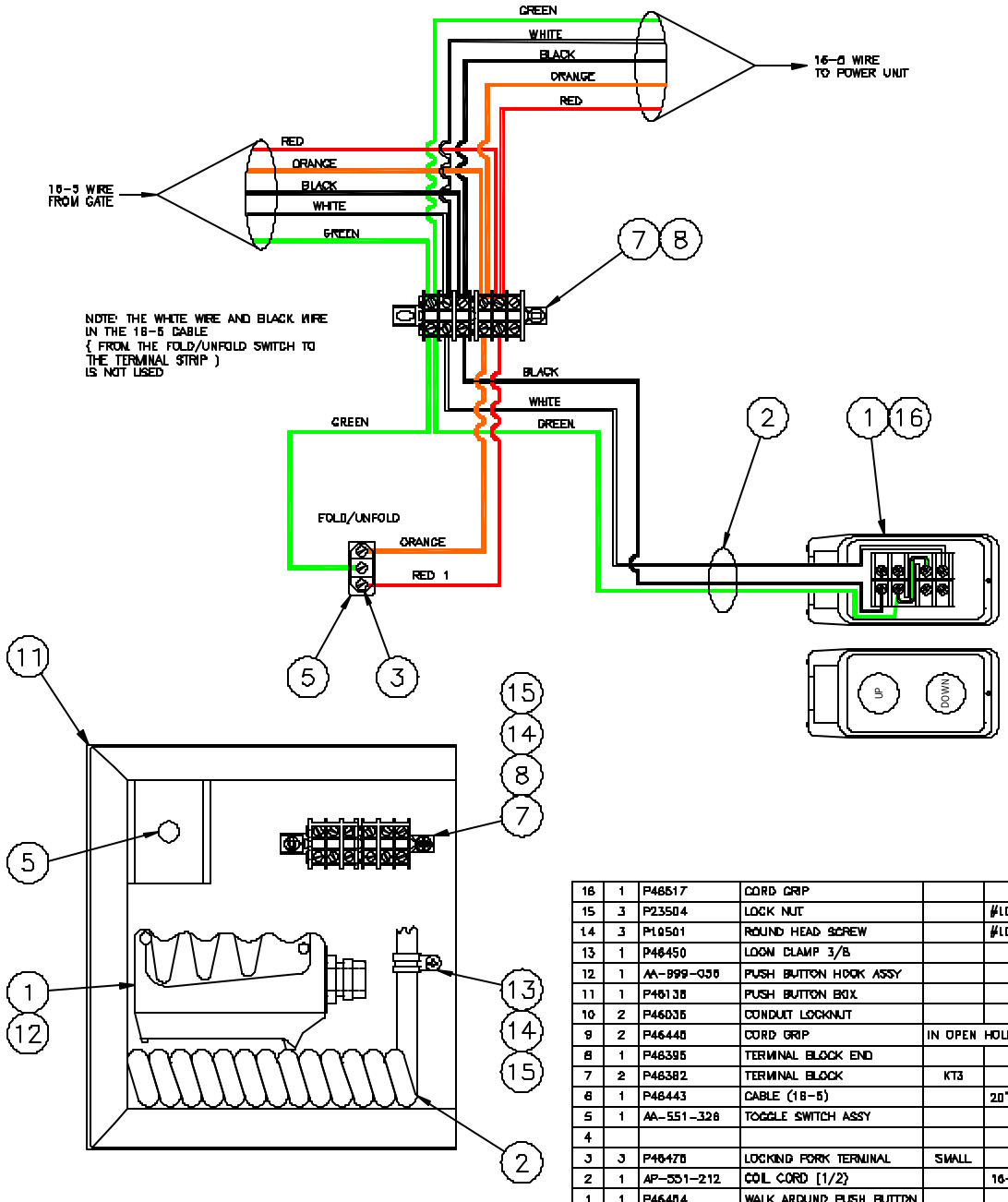


ELECTRICAL DIAGRAM POWER DOWN

MONARCH POWER UNIT (black motor) with MAINTENANCE MINDER 2® (after 4/03)

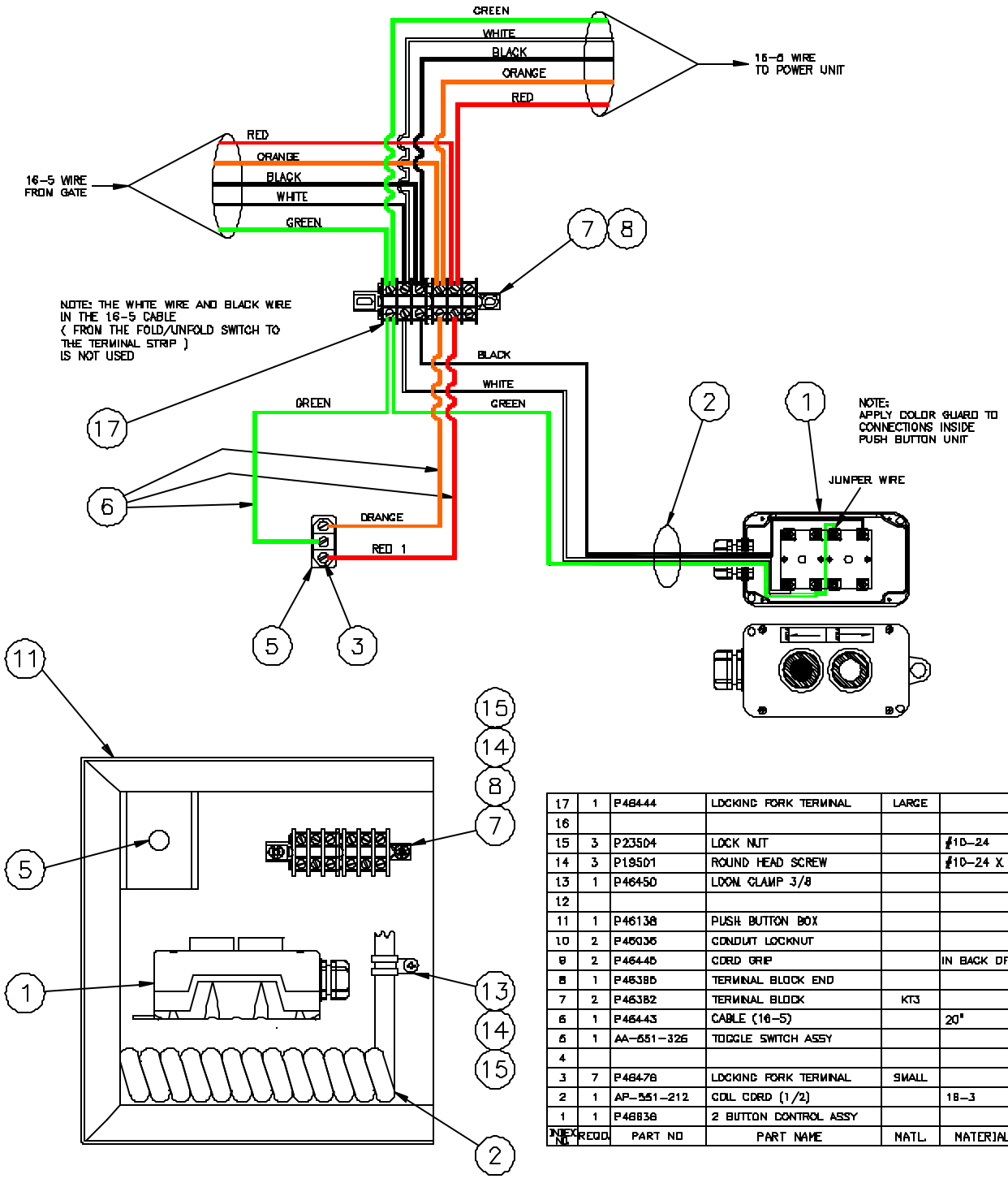


WALK AROUND ELECTRICS
FOR GRAVITY DOWN – BEFORE 3-06



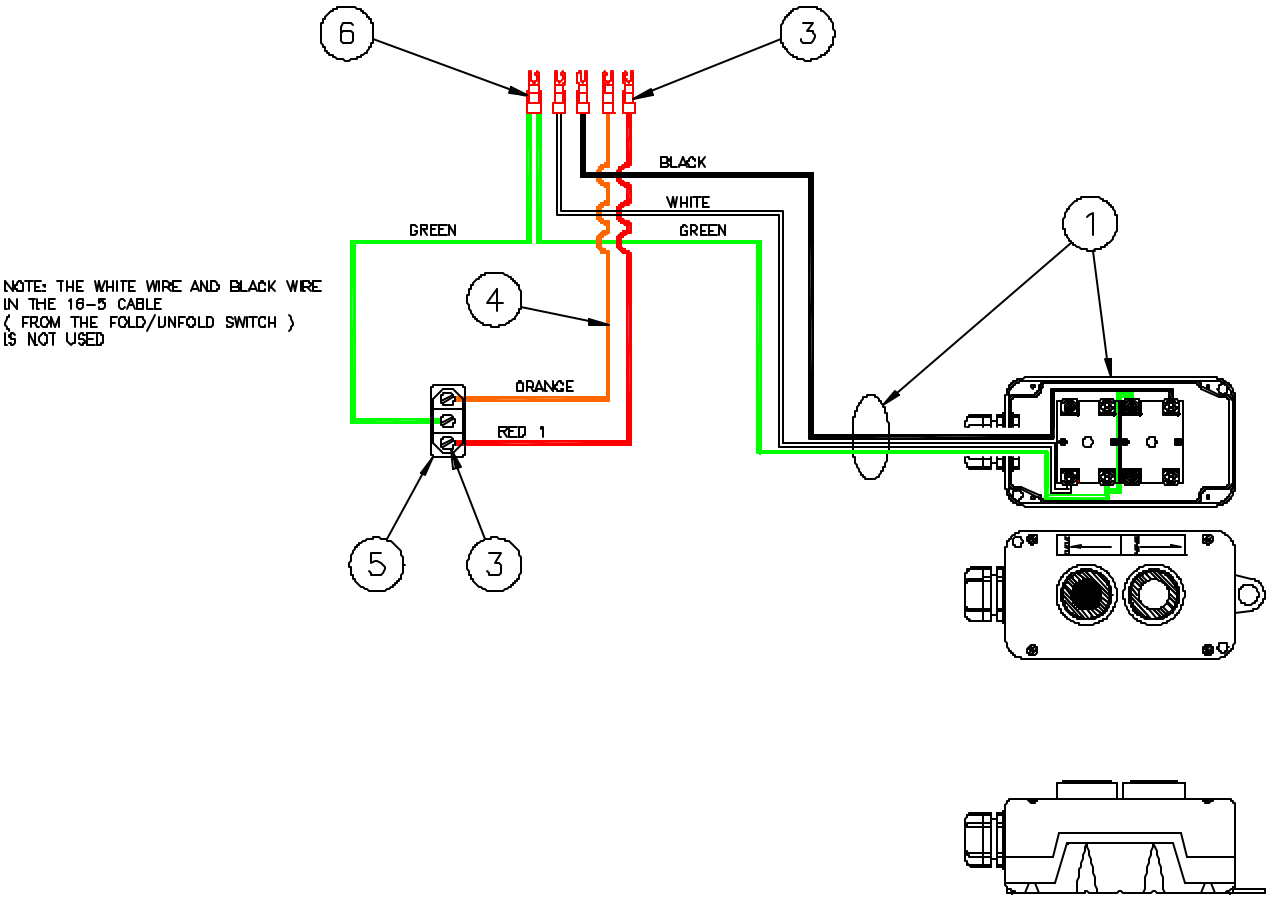
INDEX NO	REQD	PART NO.	PART NAME	MATL.	MATERIAL SIZE
16	1	P46517	CORD GRIP		
15	3	P23504	LOCK NUT		#10-24
14	3	P10501	ROUND HEAD SCREW		#10-24 X 1/2
13	1	P46450	LOOM CLAMP 3/8		
12	1	AA-899-036	PUSH BUTTON HOOK ASSY		
11	1	P46138	PUSH BUTTON BOX		
10	2	P46036	CONDUIT LOCKNUT		
9	2	P46448	CORD GRIP	IN OPEN HOLES IN BACK OF BOX	
8	1	P46395	TERMINAL BLOCK END		
7	2	P46382	TERMINAL BLOCK	KT3	
6	1	P46443	CABLE (16-5)		20"
5	1	AA-551-328	TOGGLE SWITCH ASSY		
4					
3	3	P46478	LOCKING FORK TERMINAL	SMALL	
2	1	AP-551-212	COIL CORD (1/2)		16-3
1	1	P46484	WALK AROUND PUSH BUTTON		

WALK AROUND ELECTRICS
FOR GRAVITY DOWN – AFTER 3-06



INDEX NO.	REQD.	PART NO	PART NAME	MATL.	MATERIAL SIZE
17	1	P46444	LOCKING FORK TERMINAL	LARGE	
16					
15	3	P23504	LOCK NUT		#10-24
14	3	P19501	ROUND HEAD SCREW		#10-24 X 1/2
13	1	P46450	LOOM CLAMP 3/8		
12					
11	1	P46138	PUSH BUTTON BOX		
10	2	P45035	CONDUIT LOCKNUT		
9	2	P46445	CORD GRIP		IN BACK OF BOX
8	1	P45385	TERMINAL BLOCK END		
7	2	P45382	TERMINAL BLOCK	KT3	
6	1	P46443	CABLE (16-5)		20"
5	1	AA-551-326	TOGGLE SWITCH ASSY		
4					
3	7	P46478	LOCKING FORK TERMINAL	SMALL	
2	1	AP-551-212	COIL CORD (1/2)		18-3
1	1	P46838	2 BUTTON CONTROL ASSY		

ELECTRIAL DIAGRAM GRAVITY DOWN DUAL POWER UNIT – WALK AROUND



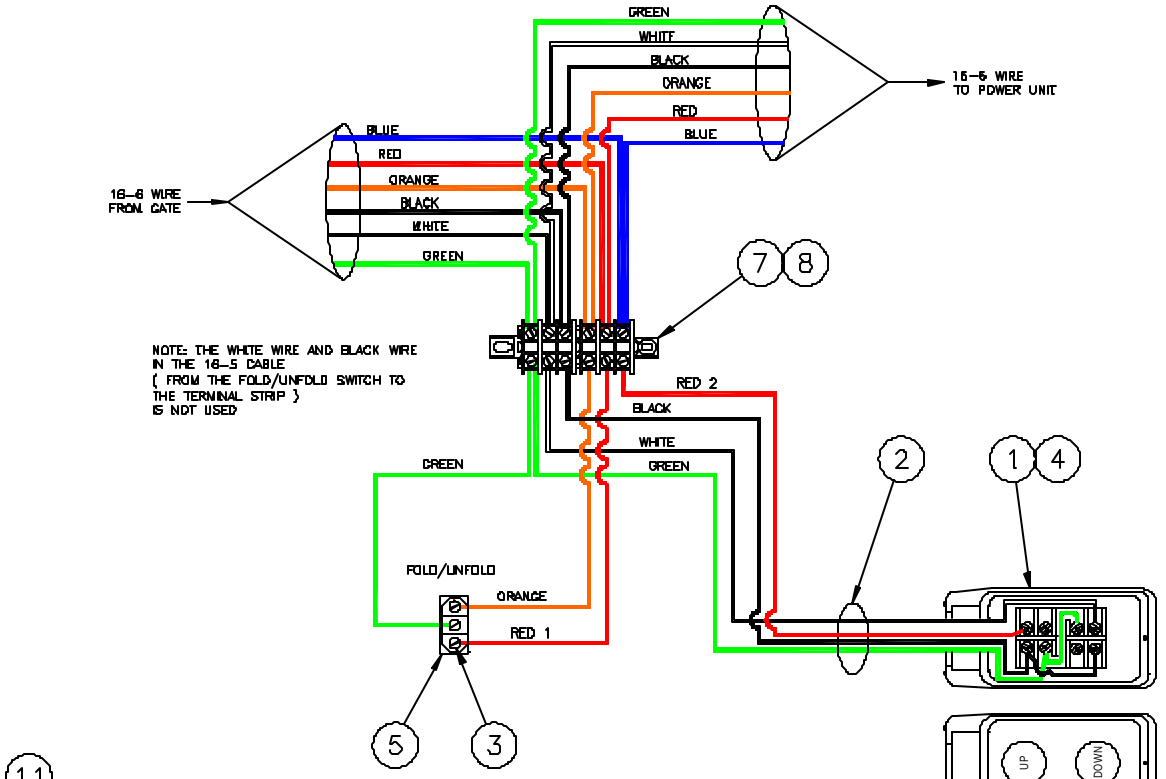
NOTE: THE WHITE WIRE AND BLACK WIRE IN THE 16-5 CABLE (FROM THE FOLD/UNFOLD SWITCH) IS NOT USED

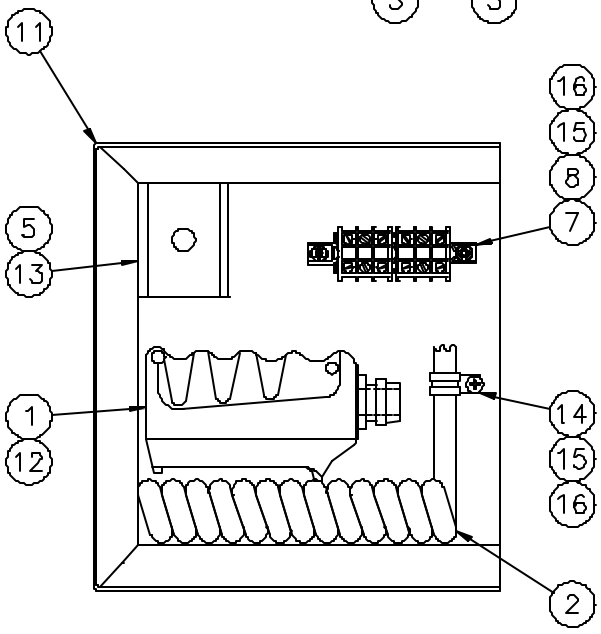
INDEX NO	REQD.	PART NO.	PART NAME	MATL.	MATERIAL SIZE	REMARKS
8	1	P17518	SELF-TAP SCREW			
7	1	P48450	LOOM CLAMP			
6	1	P46444	FORK TERM. LARGE			
5	1	AA-551-326	TOGGLE SWITCH ASSY			
4	1	P46443	CABLE (16-6)		25"	TO FOLD SWITCH
3	7	P48476	LOCKING FORK TERMINAL	SMALL		
2						
1	1	BA-551-316	GRV. DOWN WALK AROUND SUB ASSY			

LEYMAN MANUFACTURING CORPORATION

TOLERANCE			PART NAME	MODEL
FRACTIONS ± 1/64 DECIMAL ± .005 DR. HOLE ± .003-.001 ANGLE ± 1/2° UNLESS OTHERVISE NOTED	DRAWN		WALK AROUND ELECTRICS	ASSY.
	CHECK			CA-551-315
	APPR.		FDC DUAL POWER UNIT, GRAV DOWN	
			TOTAL WEIGHT / SCALE 1/2	SH. OF

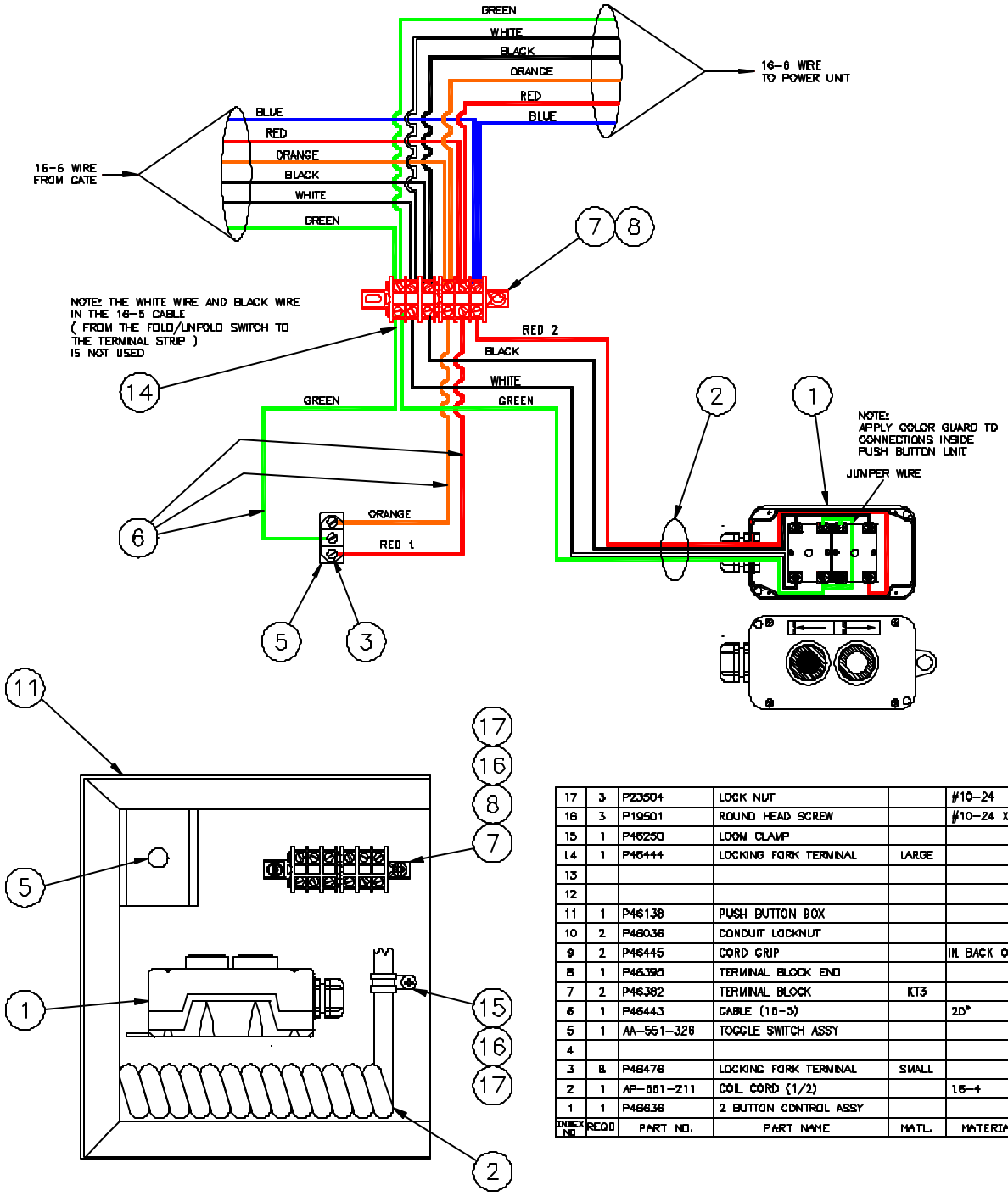
WALK AROUND ELECTRICS
FOR POWER DOWN – BEFORE 3-06





INDEX NO.	REQD	PART NO.	PART NAME	MATL.	REMARKS
16	3	P23504	LOCK NUT		#10-24
15	3	P19501	ROUND HEAD SCREW		#10-24 X 1/2
14	1	P46250	LOOM CLAMP		
13	1	AP-551-016	TOGGLE SWITCH BRACKET		
12	1	AA-899-056	PUSH BUTTON HOOK ASSY		
11	1	P48138	PUSH BUTTON BOX		
10	2	P46036	CONDUIT LOCKNUT		
9	1	P46445	CORD GRIP	IN OPEN HOLES IN BACK OF BOX	
8	1	P48395	TERMINAL BLOCK END		
7	2	P46382	TERMINAL BLOCK	KIT3	
6	1	P45443	CABLE (16-5)		20'
5	1	AA-551-328	TOGGLE SWITCH		
4	1	P46139	CORD GRIP	IN WALK AROUND PUSH BUTTONS	
3	3	P46476	LOCKING FORK TERMINAL	SMALL	
2	1	AP-551-211	COIL CORD (1/2)		16-4
1	1	P48454	WALK AROUND PUSH BUTTON		

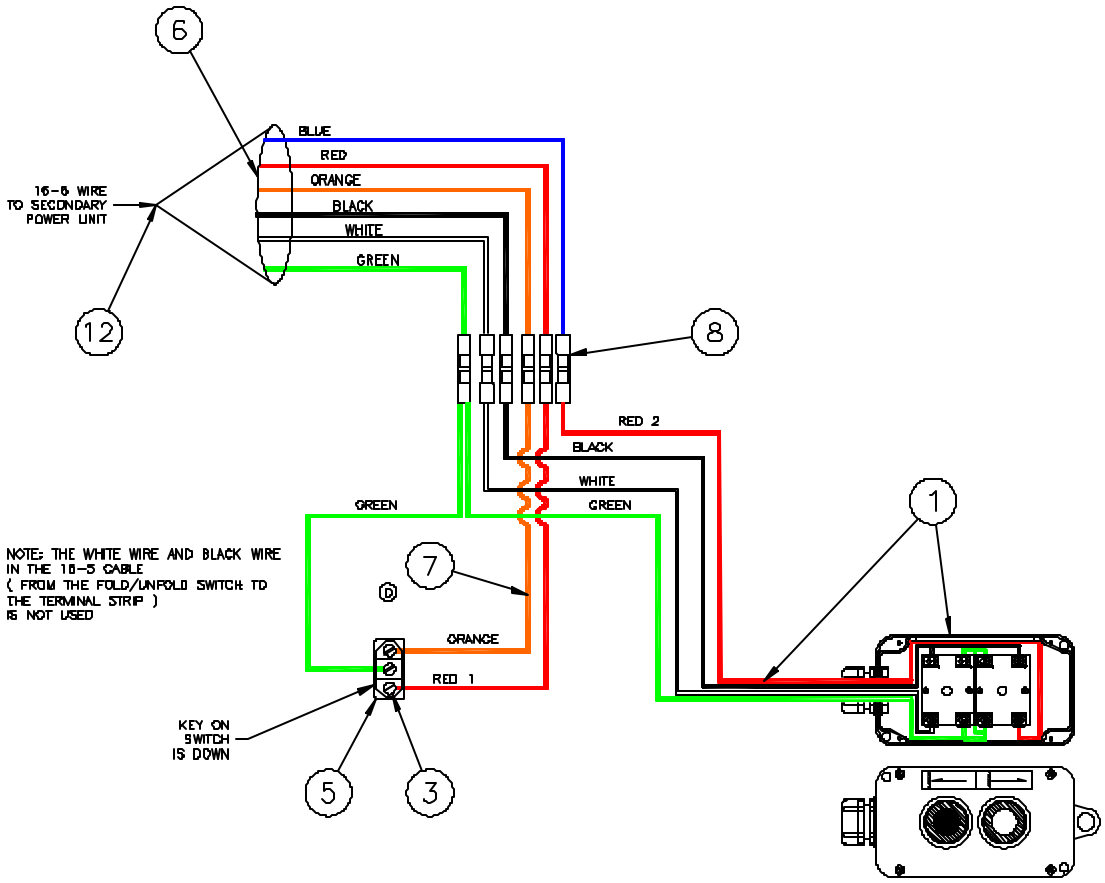
WALK AROUND ELECTRICS
FOR POWER DOWN – AFTER 3-06



INDEX NO	REQD	PART NO.	PART NAME	MATL.	MATERIAL SIZE
17	3	P23504	LOCK NUT		#10-24
16	3	P19501	ROUND HEAD SCREW		#10-24 X 1/2
15	1	P46250	LOOM CLAMP		
14	1	P46444	LOCKING FORK TERMINAL	LARGE	
13					
12					
11	1	P46138	PUSH BUTTON BOX		
10	2	P48038	CONDUIT LOCKNUT		
9	2	P46445	CORD GRIP		IN BACK OF BOX
8	1	P46398	TERMINAL BLOCK END		
7	2	P46382	TERMINAL BLOCK	KT3	
6	1	P46443	CABLE (16-5)		20'
5	1	AA-551-328	TOGGLE SWITCH ASSY		
4					
3	8	P48478	LOCKING FORK TERMINAL	SMALL	
2	1	AP-881-211	COIL CORD (1/2)		16-4
1	1	P48838	2 BUTTON CONTROL ASSY		

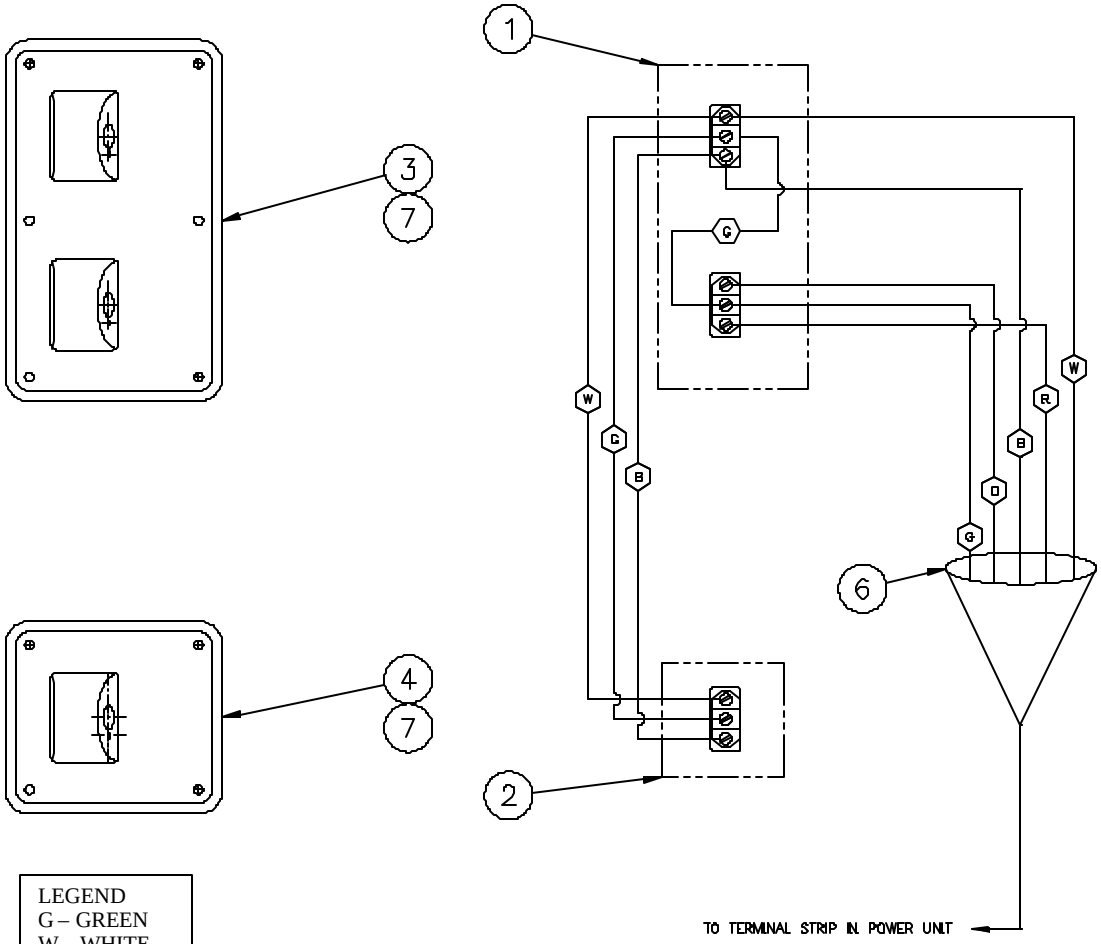
ELECTRICAL DIAGRAM POWER DOWN

DUAL POWER UNIT – WALK AROUND



Index No.	Req.	Part No.	Description	Comments
1	1	BA-551-359	PWR DN Walk Around Sub Assy	
2				
3	3	P46476	Locking Fork Terminal	
4				
5	1	AA-551-326	Toggle Switch Assembly	
6	1	P46475	Cable 16-6	16-6 x 30”
7	1	P46443	Cable 16-5	16-5 x 25”
8	6	P46156	Butt Connector	
9				
10	1	P46250	Loom Clamp	
11	1	P17518	Self Tapping Screw	
12	6	P46319	Lrg. Fork Terminal	

SWITCH WIRING GRAVITY DOWN RM SERIES

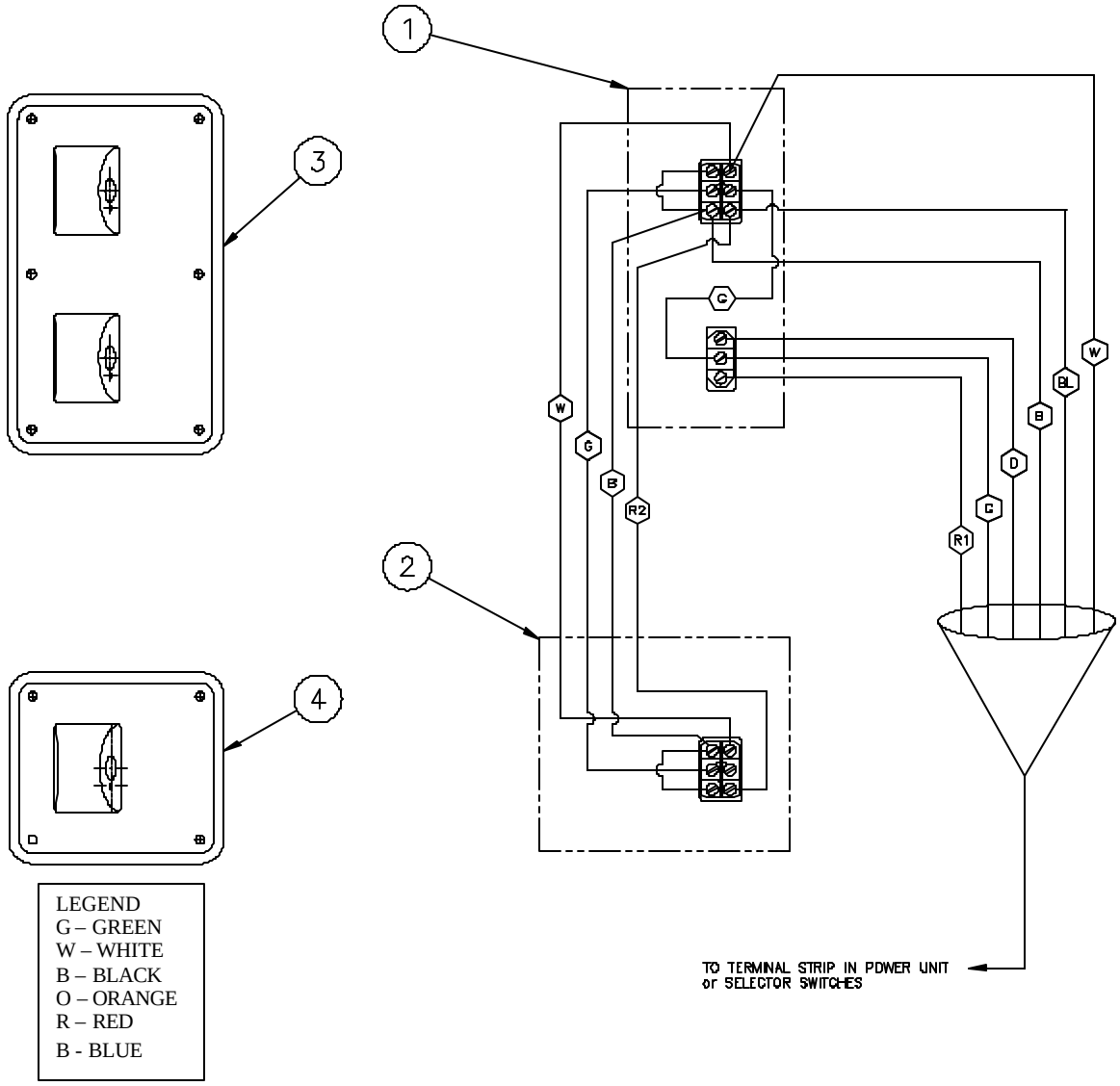


LEGEND
G – GREEN
W – WHITE
B – BLACK
O – ORANGE
R – RED
B - BLUE

REPLACEMENT SWITCHES ARE SUPPLIED WITH THE NECESSARY HARDWARE TO CONNECT INTO THE EXISTING WIRING.

Index No.	Req.	Part No.	Part Name	Matl.	Remarks
1	1	AA-551-519	POTTED OUTER TWO SW. ASSY		
2	1	AA-551-520	POTTED INNER SINGLE SW ASSY		
3	1	BP-805-256	RECESSED SWITCH PLATE		
4	1	BP-805-258	RECESSED SINGLE SWITCH PLATE		
5	1	P46746	JACKETED WIRE – HIGH FLEX	16-3	10 FT. (120”)
6	1	P46443	JACKETED WIRE	16-5	40 FT. (480”)
7	10	P17518	SELF TAPPING SCREW		
8	1	P46445	CORD GRIP		IN OUTER MAST
9	1	P46139	CORD GRIP		IN INNER MAST

SWITCH WIRING POWER DOWN RMPD SERIES



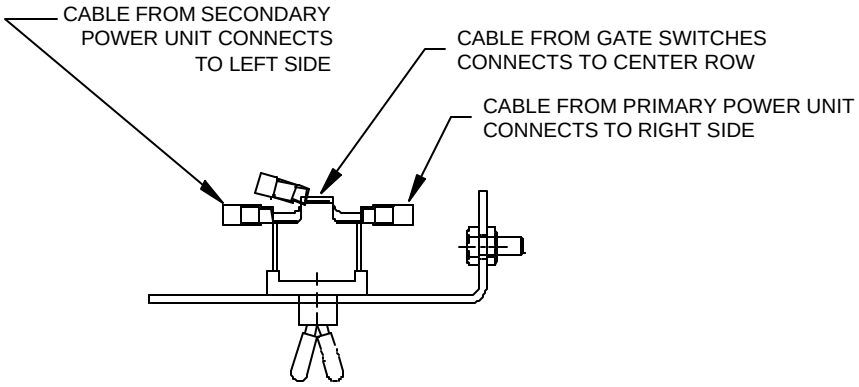
REPLACEMENT SWITCHES ARE SUPPLIED WITH THE NECESSARY HARDWARE TO CONNECT INTO THE EXISTING WIRING.

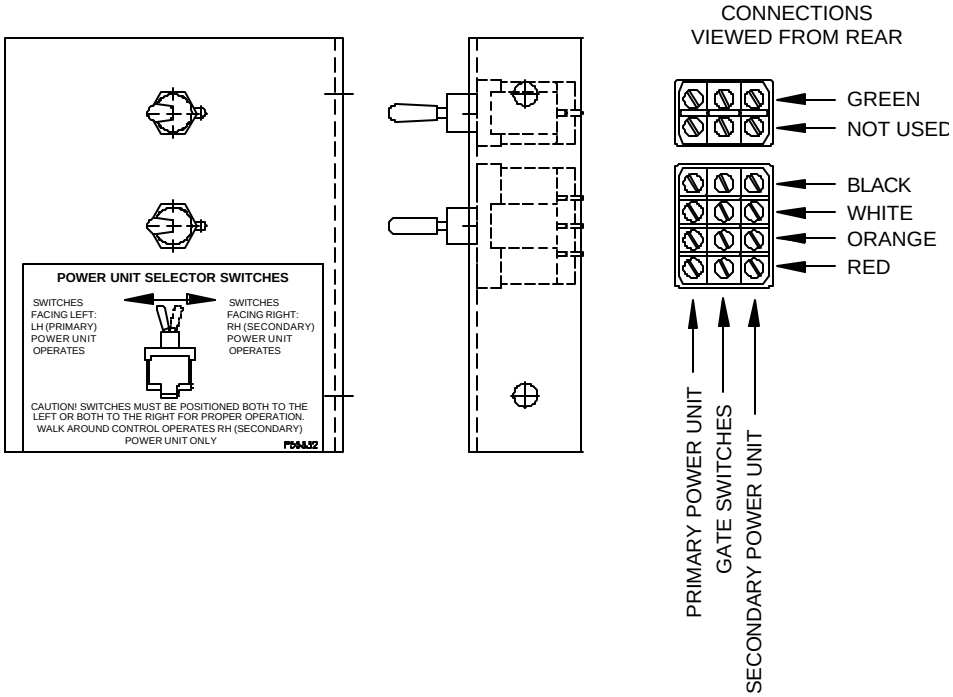
Index No.	Req.	Part No.	Part Name	Matl.	Remarks
1	1	AA-551-521	POTTED OUTER TWO SW. ASSY		
2	1	AA-551-522	POTTED INNER SINGLE SW ASSY		
3	1	BP-805-256	RECESSED SWITCH PLATE		
4	1	BP-805-258	RECESSED SINGLE SWITCH PLATE		
5	1	P46747	JACKETED WIRE – HIGH FLEX	16-4	10 FT. (120”)
6	1	P46475	JACKETED WIRE	16-6	40 FT. (480”)
7	10	P17518	SELF TAPPING SCREW		
8	1	P46445	CORD GRIP		IN OUTER MAST
9	1	P46139	CORD GRIP		IN INNER MAST

CONNECTING THE GATE ELECTRICS GRAVITY DOWN

ROUTE THE CABLE FROM THE GATE ELECTRICS INTO THE POWER UNIT ENCLOSURE AND CONNECT THE WIRE TERMINALS TO THE CENTER COLUMN OF THE SELECTOR SWITCHES. MATCH COLOR TO COLOR ACROSS THE ROWS FOR PROPER OPERATION.

NOTE: THE SELECTOR SWITCHES BRACKET CAN BE UNBOLTED FROM THE ENCLOSURE TO MAKE THE CONNECTIONS EASIER TO ACCESS.

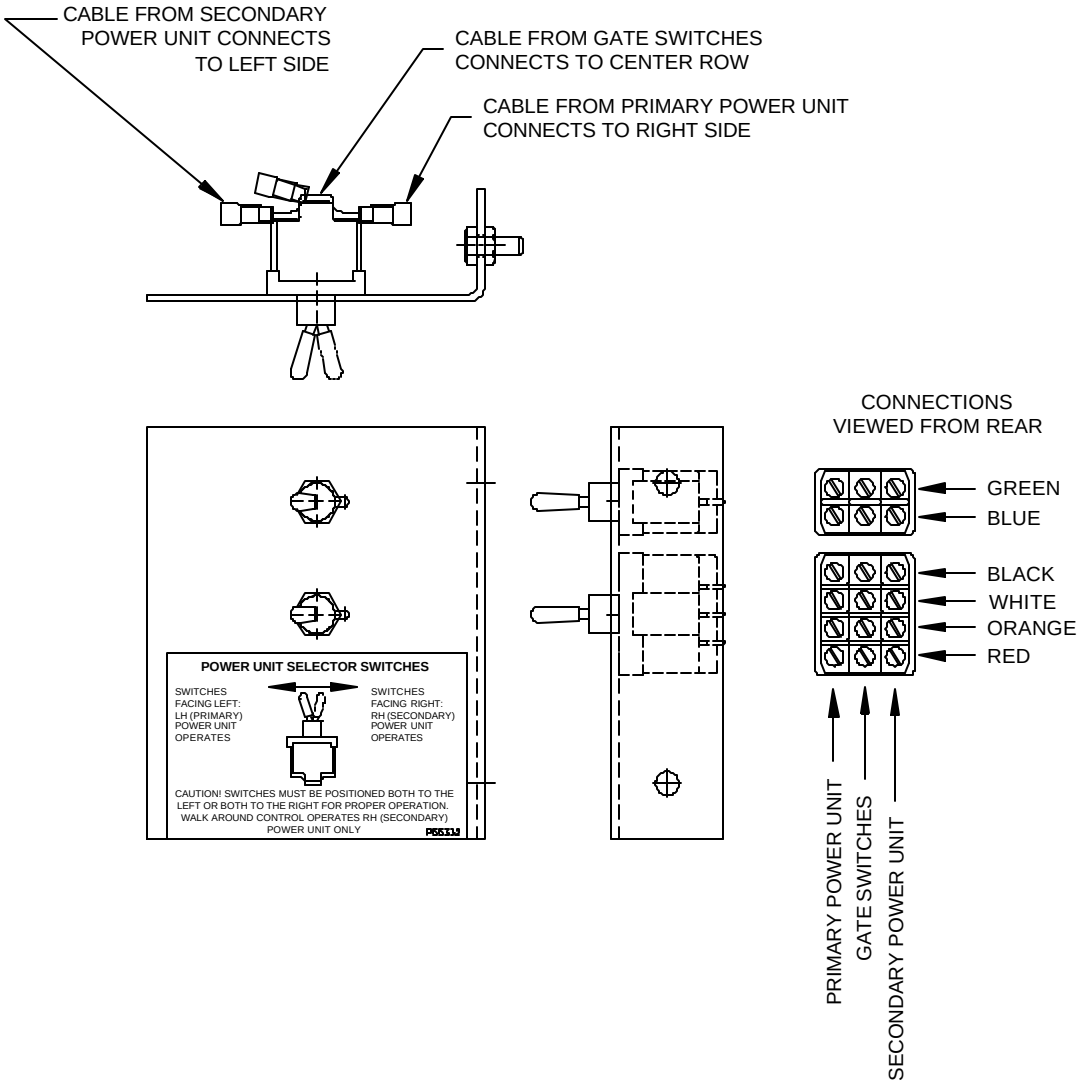




CONNECTING THE GATE ELECTRICS POWER DOWN

ROUTE THE CABLE FROM THE GATE ELECTRICS INTO THE POWER UNIT ENCLOSURE AND CONNECT THE WIRE TERMINALS TO THE CENTER COLUMN OF THE SELECTOR SWITCHES. MATCH COLOR TO COLOR ACROSS THE ROWS FOR PROPER OPERATION.

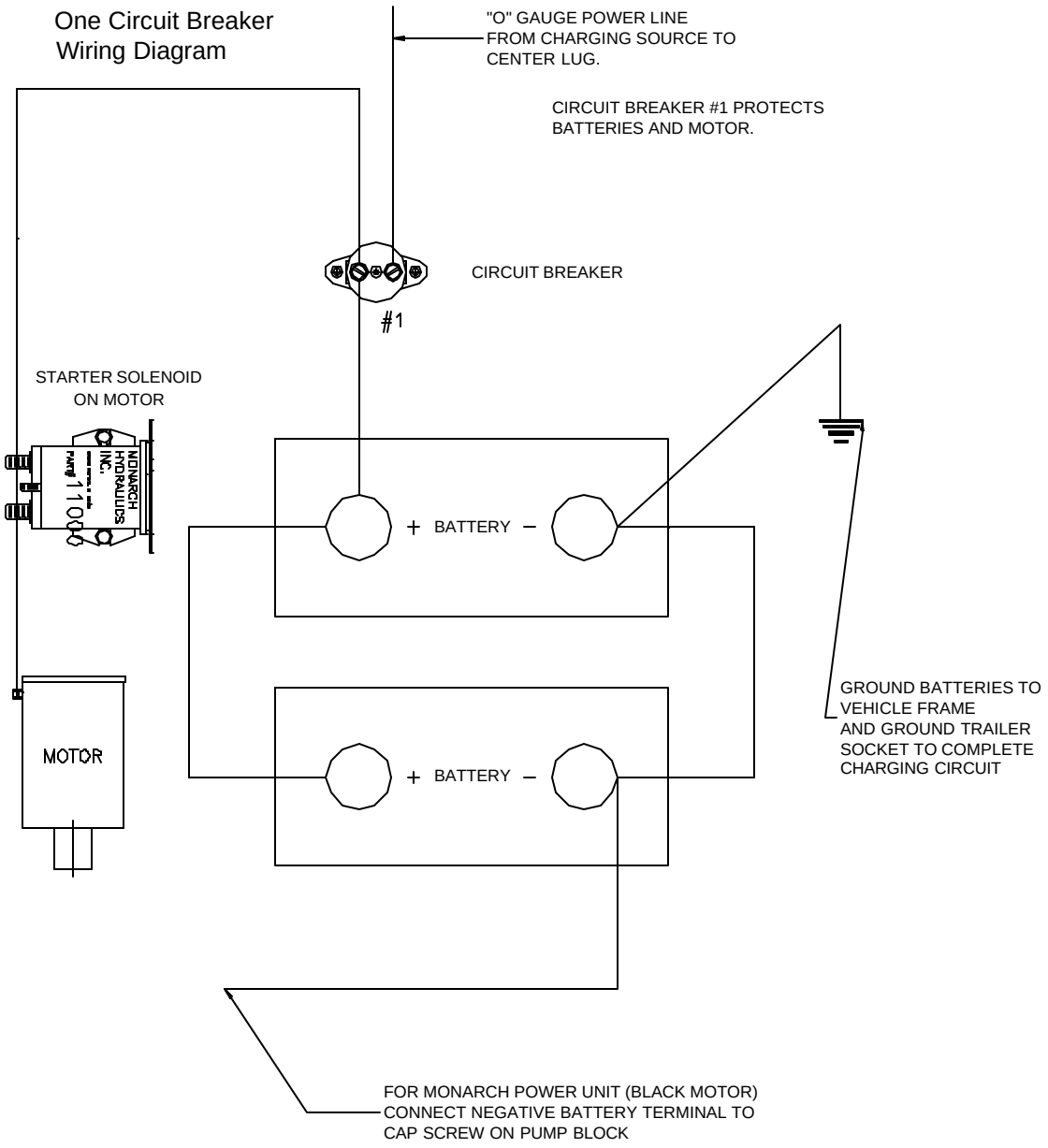
NOTE: THE SELECTOR SWITCHES BRACKET CAN BE UNBOLTED FROM THE ENCLOSURE TO MAKE THE CONNECTIONS EASIER TO ACCESS.



BATTERY HOOK UP

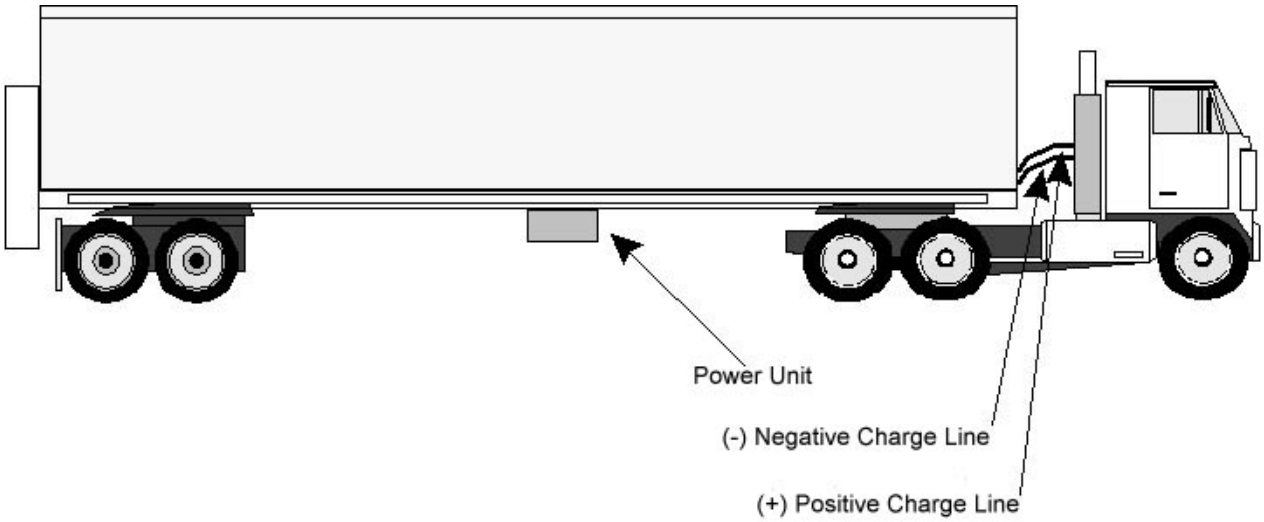
We recommend batteries with the following specifications:
12 Volt heavy duty lead acid Dual Purpose or AGM
B.C.I. Group – Size 31
Terminal Type – TS
Cold Cranking Amps - 580

One Circuit Breaker
Wiring Diagram



FAILURE TO USE CORRECT BATTERIES WILL VOID WARRANTY

GROUNDING RECOMMENDATIONS FOR TRACTOR/TRAILER



The Maintenance Minder® requires a minimum of 9.5 volts in order for the FBG to operate. Utilization of a single positive cable does not provide sufficient ground. Therefore, our recommendation for grounding tractor/trailers with a FBG gate are as follows:

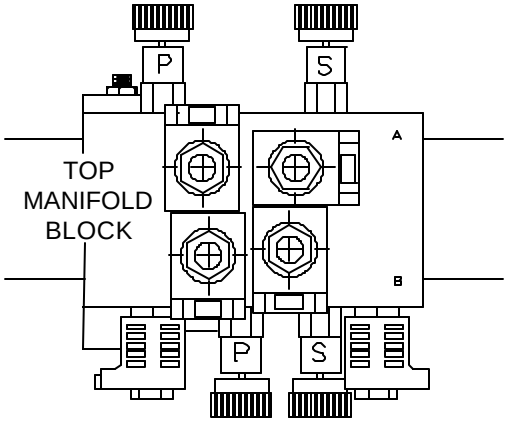
Two (2) cables one: (1) positive and one (1) negative, both running to the tractor batteries.

The MAINTENANCE MINDER 2® controller requires that a minimum of 8 volts be maintained under load in order for the FBG to operate.

NOTE:
The use of a battery charger as the sole power source to operate a FBG is unauthorized and will prevent the FBG 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.

PROPER MANUAL VALVE SETTINGS FOR DUAL POWER UNIT

PROPER MANUAL VALVE SETTINGS FOR DUAL POWER UNIT



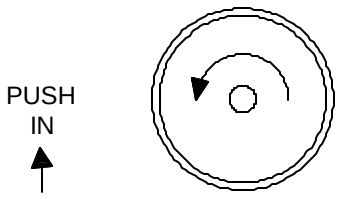
PRIMARY POWER UNIT

TOP MANIFOLD BLOCK

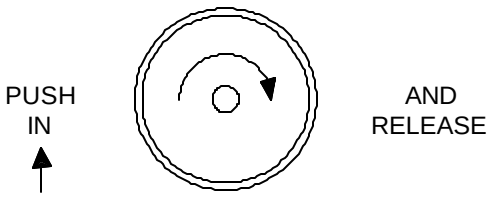
SECONDARY POWER UNIT

PRIMARY POWER UNIT OPERATING - OPEN BOTH "P" VALVES, CLOSE BOTH "S" VALVES

SEC. POWER UNIT OPERATING - OPEN BOTH "S" VALVES, CLOSE BOTH "P" VALVES



TO OPEN



TO CLOSE

P55348

MAINTENANCE MINDER® STARTER SWITCH

Before 4-1-03

SYMPTOM	PROBABLE CAUSE	CORRECTION
LED on start switch does not glow.	Poor ground	Check for proper ground, remove any paint or corrosion that may be inhibiting a good ground between the lug or the brown wire and the grounded surface.
	Poor positive connection	Check for a loose connection at the red wire.
	Battery voltage below 9 volts	Charge the battery.
	Voltage at the start switch is below 9 volts	Check the supply cable between the battery and the switch for loose connections and/or corrosion.
	Faulty switch	Replace the start switch.
LED on start switch glows then goes off when attempting to operate lift gate.	Poor ground	Check the battery ground and the switch ground (brown wire) for good connections.
	Battery voltage below 9 volts	Charge the battery.
	Excessive voltage drop	Increase the battery cable size between the battery and the Maintenance Minder® .

MAINTENANCE MINDER 2® CONTROLLER MENUS

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 of high temperature faults.
- Record of 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”.

FAULTS 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 rapids 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 Maintenance Minder 2® logo at top of faceplate.
3. Follow the instructions on the screen regarding a second button, which must be pressed 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 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 Fault (number of times gate was operated while PAST the maintenance limit)
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 – follow instructions for Resetting after Maintenance is PERFORMED.

(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 (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-doorbelling feature. Motor will not operate if UP switch is toggled rapidly. This prevents welding of the start solenoid contacts.

GENERAL TIPS

LIFT GATE

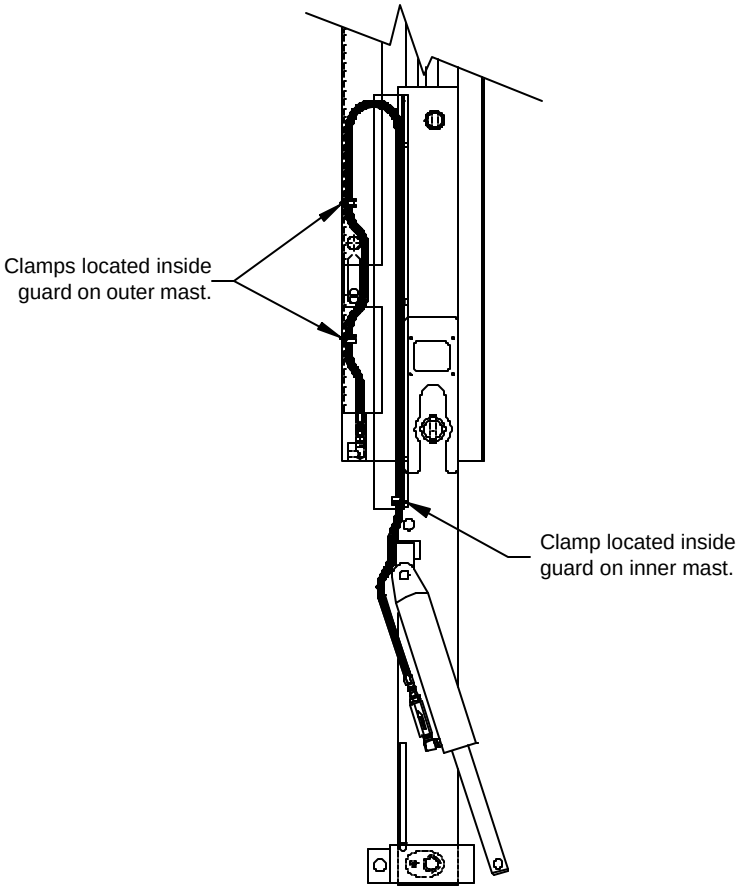
1. This gate can run up or down uneven from the vehicle floor by 1" to 1 ½" without damaging the mechanical workings on the gate.
2. The equalizer valve is only for adjusting the up stroke (while the gate is loaded).
3. The flow control valves are for controlling the down stroke only. They should be cleaned and/or changed in sets.
4. Determining if the tie bar is bent:
   Raise the platform to its full up position (level to the vehicle floor). Push the down switch. If the tie bar is bent, one side will always drop quicker than the other. If you have a bent tie bar, it is best to straighten it. See this manual for information on how to straighten the tie bar.
   Before adjusting or attempting to fix any of the four items above, check the following first:
   a. Check the cylinder rods for lubrication. Dry rods may cause sticking or slow down the movement of the gate.
   b. Check for bent inner mast.
   c. Check to see if the back edge of the platform is hitting the floor level tube.
   d. Check to see if the inner mast is rubbing on the outer mast. Some hitting is normal, but if it hinders the up/down operation, it must be lubricated.
5. Premature motor failure is almost always caused by low batteries.
6. Inadequate grounding is also a major reason for motor failure.

POWER UNIT

1. If the motor runs and the gate does not rise, you may have one of the these problems:
   a. The Emergency Hand Pump Valve is open (or partially open).
   b. You have a bad pump.
   c. Manual valves are closed (dual power unit only).
2. To get the gate down, energize the two-way valve (white wire). *The motor will not run in this operation.*
3. To get the gate up, push one of the switches up. No valves must be shifted. *The motor will run.*
4. To unfold the platform, energize the two-way valve (orange wire). *The motor will not run in this operation.*
5. To fold the platform, energize the three-way valve (red wire). You must push the fold switch and the up switch. *The motor will run.*
6. If the unit has an emergency hand pump and the gate goes up, hits the up stops and the platform starts to fold, the ball valve is open (or partially open). To correct this, close the ball valve.
7. The pressure setting with platform at floor level and pump in bypass is 2500 PSI.

TO BLEED THE POWER FOLD CYLINDER

1. Unfold and lower the platform down to the ground.
2. Loosen the hose at the cylinder but do not remove completely.
3. Activate the pump (just long enough to product an air free stream of oil from the hose).
4. Re-tighten the hose and check the oil level in the reservoir tank. Note: hold line while tightening to ensure it does not twist.
5. Fold and unfold the platform several times. The platform should now fold and unfold smoothly.



The electric line is routed along the hydraulic line to match the loop.
When re-attaching the lines, ensure that there is no "twist" in the line. "Twist" in the line can cause uneven or erratic tracking.

CHECK OIL LEVEL AFTER BLEEDING THE CYLINDER:

GRAVITY DOWN GATES – Check with platform unfolded and on ground.
POWER DOWN GATES – Check with platform unfolded and up at bed height.

BLEEDING THE LIFT CYLINDERS - GRAVITY DOWN

The FBG is shipped with the cylinders pre-filled with hydraulic fluid from the factory. *The cylinders must be bled before making any other adjustments.*

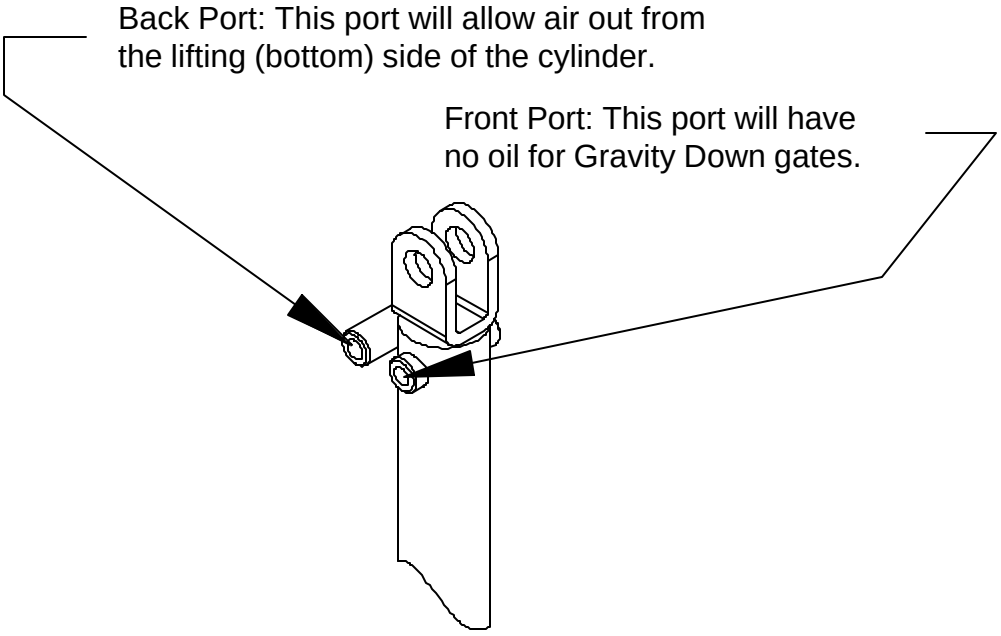
To Bleed the Lifting Cylinder – Bottom Side:

1. Unfold and lower the platform to the full down position. **CYLINDERS SHOULD BE EXTENDED TO THEIR FULL LENGTH (GATE EXTENDED DOWN 56") TO REMOVE AS MUCH AIR FROM THE BOTTOM SIDE OF THE CYLINDER AS POSSIBLE. DEPENDING ON THE FLOOR HEIGHT OF THE VEHICLE, IT MAY BE NECESSARY TO RAISE THE BODY OF THE VEHICLE OR LOWER THE GATE PLATFORM INTO A PIT TO ACHIEVE MAXIMUM CYLINDER EXTENSION.**
2. Loosen the plugs in the back ports (ports closest to the vehicle body), but do not remove completely.
3. Activate the pump just long enough to produce an air-free stream of oil from the ports.
4. Re-tighten the plugs in the ports, lower the platform to the full down position, and check the oil level in the reservoir tank. The oil level should be approximately 1" from the top of the tank, **except** for DUAL UNITS with individual plastic tanks where oil level should be 2" from top of tank. Add oil if necessary. On DUAL UNITS with individual plastic tanks, allow time for oil level to equalize between tanks.

To Bleed the Lifting Cylinders – Top Side

1. Not applicable on gravity down.

NOTE: FOR GRAVITY DOWN GATES, OIL LEVEL SHOULD ALWAYS BE CHECKED WITH THE PLATFORM UNFOLDED AND ALL THE WAY DOWN.



BLEEDING THE LIFT CYLINDERS – POWER DOWN

The FBG is shipped with the cylinders pre-filled with hydraulic fluid from the factory. *The cylinders must be bled before making any other adjustments.*

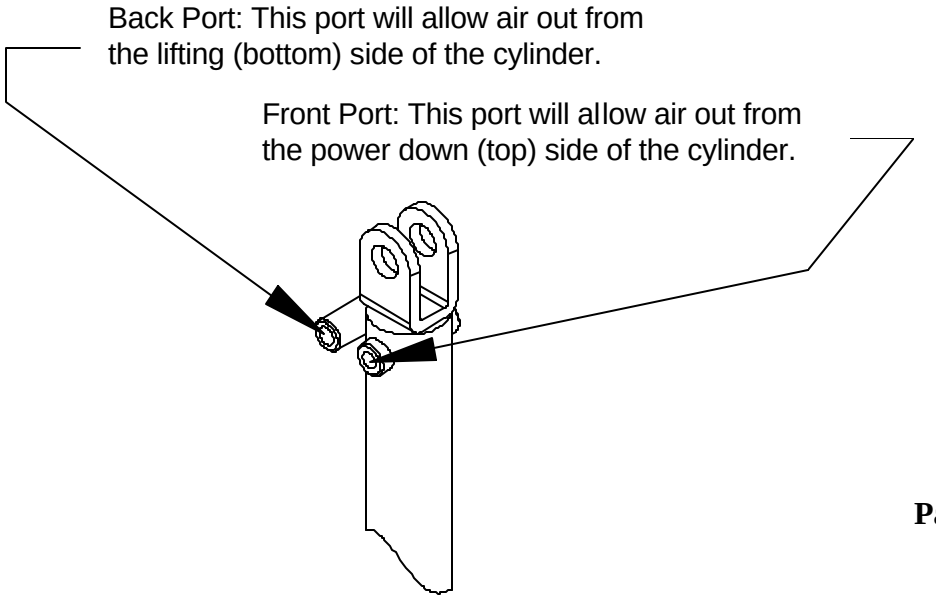
To Bleed the Lifting Cylinder – Bottom Side:

1 Unfold and lower the platform to the full down position. **CYLINDERS SHOULD BE EXTENDED TO THEIR FULL LENGTH (GATE EXTENDED DOWN 60") TO REMOVE AS MUCH AIR FROM THE BOTTOM SIDE OF THE CYLINDER AS POSSIBLE. DEPENDING ON THE FLOOR HEIGHT OF THE VEHICLE, IT MAY BE NECESSARY TO RAISE THE BODY OF THE VEHICLE OR LOWER THE GATE PLATFORM INTO A PIT TO ACHIEVE MAXIMUM CYLINDER EXTENSION.**
2. Loosen the plugs in the back ports (ports closest to the vehicle body), but do not remove completely.
3. Activate the pump just long enough to produce an air-free stream of oil from the ports.
4. Re-tighten the plugs in the ports, raise the platform to the full up position, and check the oil level in the reservoir tank. The oil level should be approximately 1" from the top of the tank **except** for DUAL UNITS with individual plastic tanks where oil level should be 2" from top of tank. Add oil if necessary. On DUAL UNITS with individual plastic tanks, allow time for oil level to equalize between tanks.

To Bleed the Lifting Cylinders – Top Side

1. Unfold and raise the platform to the full up position to remove as much air from the top side of the cylinder as possible.
2. Loosen the plugs in the front ports (ports furthest from the vehicle body) but do not remove completely.
3. Activate the pump just long enough to produce an air-free stream of oil from the ports.
4. Retighten the plugs in the ports, raise the platform to the full up position if not already there, and check the oil level in the reservoir tank. The oil level should be approximately 1" from the top of the tank, **except** for DUAL UNITS with individual plastic tanks where oil level should be 2" from top of tank. Add oil if necessary. On DUAL UNITS with individual plastic tanks, allow time for oil level to equalize between tanks.

NOTE: FOR POWER DOWN GATES, OIL LEVEL SHOULD ALWAYS BE CHECKED WITH THE PLATFORM UNFOLDED AND RAISED ALL THE WAY UP.



ADJUSTMENT OF THE EQUALIZER VALVE

NOTE:
Before making any adjustments, read the general tips page to be sure this is the problem.

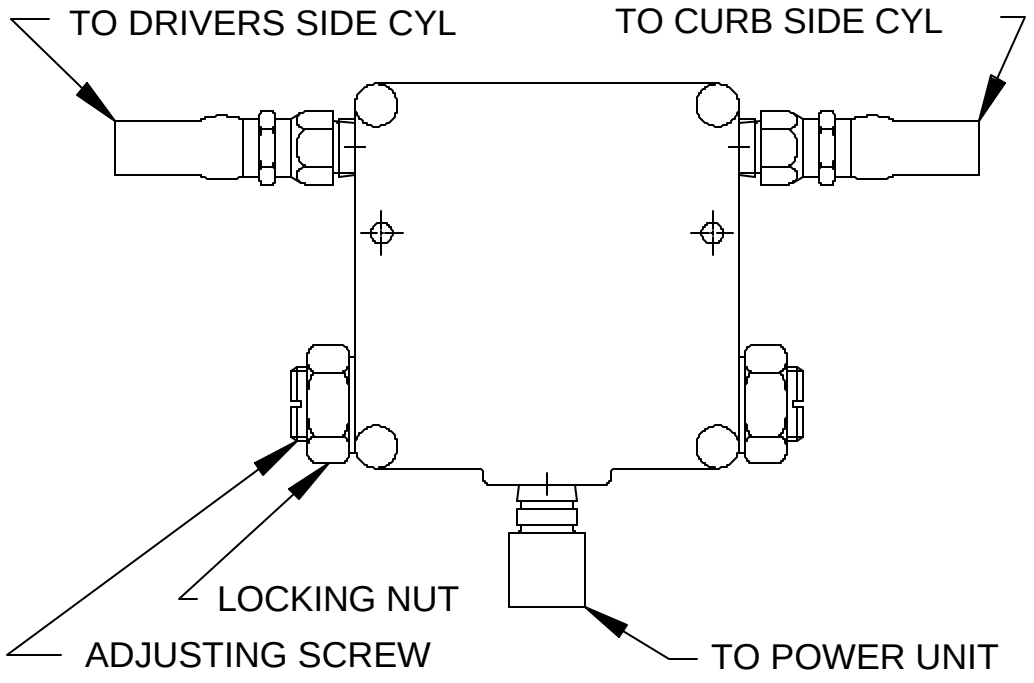
Remember adjusting the equalizer valve will control the ***up*** stroke only.

Locate the equalizer valve. Stand on the unfolded platform, look at the back of the truck/trailer. The equalizer valve is about 4 inches below the floor line and to the left of center.

Back off the lock nut on the side that is running slow (lagging) turn the adjusting screw out ¼ turn, lock nut and try. Repeat if necessary.

Although this can be done with no load on the platform, it normally helps to have a light load on the platform.

NOTE:
Turn the adjusting screw in = decreases the flow of oil
Turn the adjusting screw out = increases the flow of oil
Units shipped after 7/08 have a High Accuracy Equalizer Valve. We do NOT recommend adjusting these valves.



STRAIGHTENING THE TIE BAR

NOTE:
Before bending the tie bar, read the general tips page to be sure this is the problem.

To check that you have a bent tie bar, raise the platform to the full *up* position (level to the floor). Push the down switch, one side will always drop quicker than the other side. If one side is lower by more than one inch (1"), adjust the tie bar.

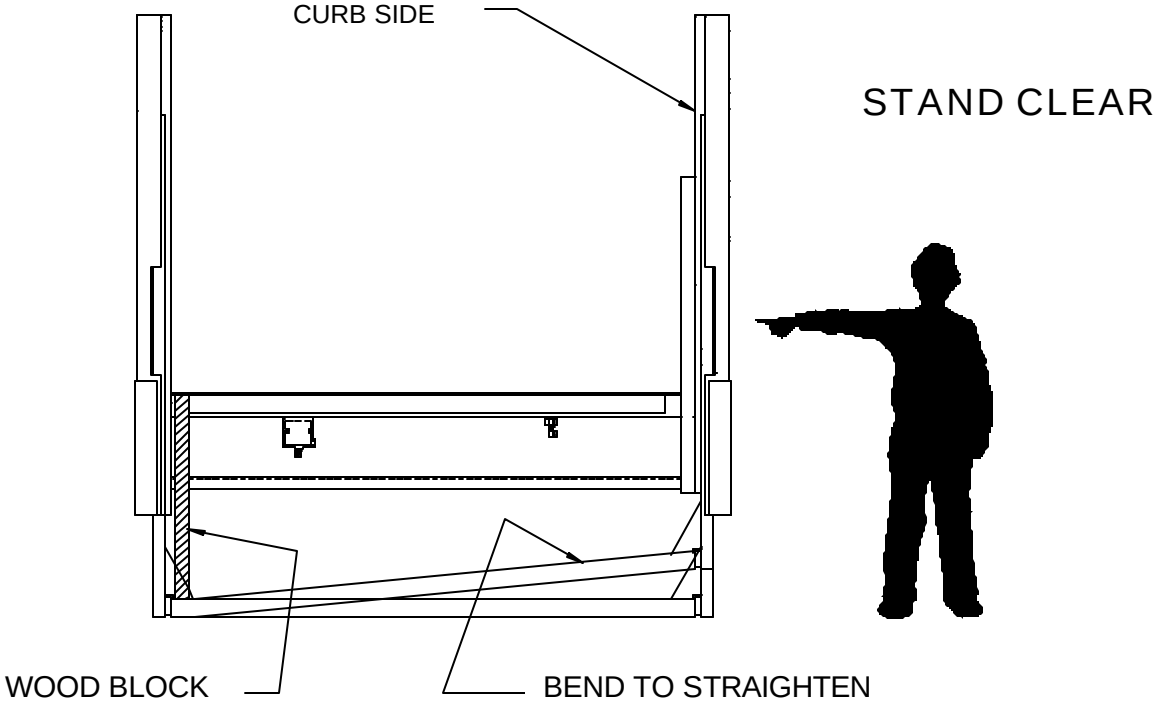
The tie bar is at the back edge of the platform. It is 1 ½" wide, and holds the two inner masts together.

Acquire a piece of wood 4" x 4" x 2' long and place the wood between the tie bar and the up stop area near the floor line area. **Caution!** Check for cracked welds before proceeding. **Stand clear while performing this procedure.**

NOTE:
If the curbside is dropping first, place the wood on the driver's side. Run the gate up until the wood is secure, keep running the gate up another 6 to 8 inches. Let the gate down, remove the wood, cycle the lift gate to see if this has fixed the problem. If not, re-bend, except go up another inch or two. Keep repeating until corrected.

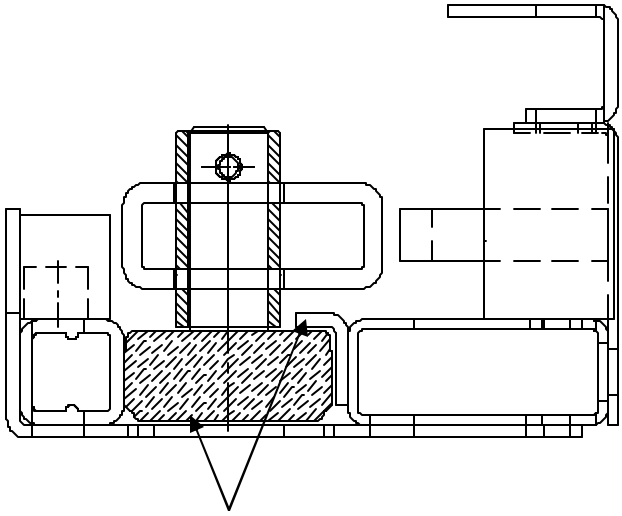
Sometimes, the power from the gate is not enough to correct the problem. If you have a hand pump, use it to take it up further. If you do not have a hand pump, use a floor jack and continue jacking the gate in an upward cycle.

PICTURE SHOWS HOW TO STRAIGTHEN A BENT TIE BAR ON CURBSIDE.
(CURB SIDE DROPS QUICKER)



LUBRICATING THE ROLLER TRACKS

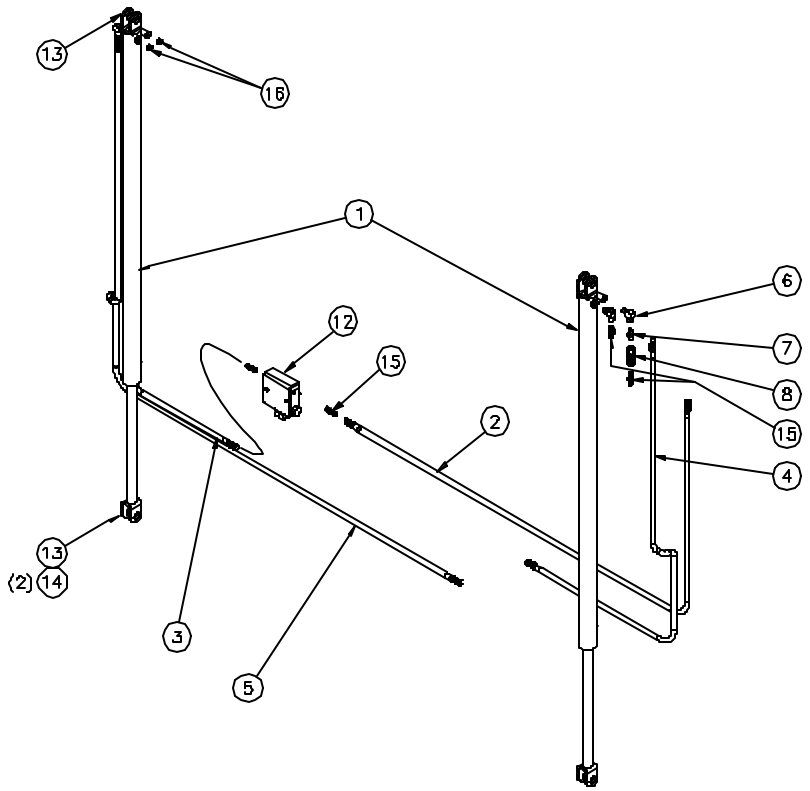
Do NOT use grease or oil to lubricate the roller tracks. Wet lubricants will allow dirt and grit to stick and cause premature wear.



If lubrication is necessary, use Dri-Slide dry lubricant from Lubritek.

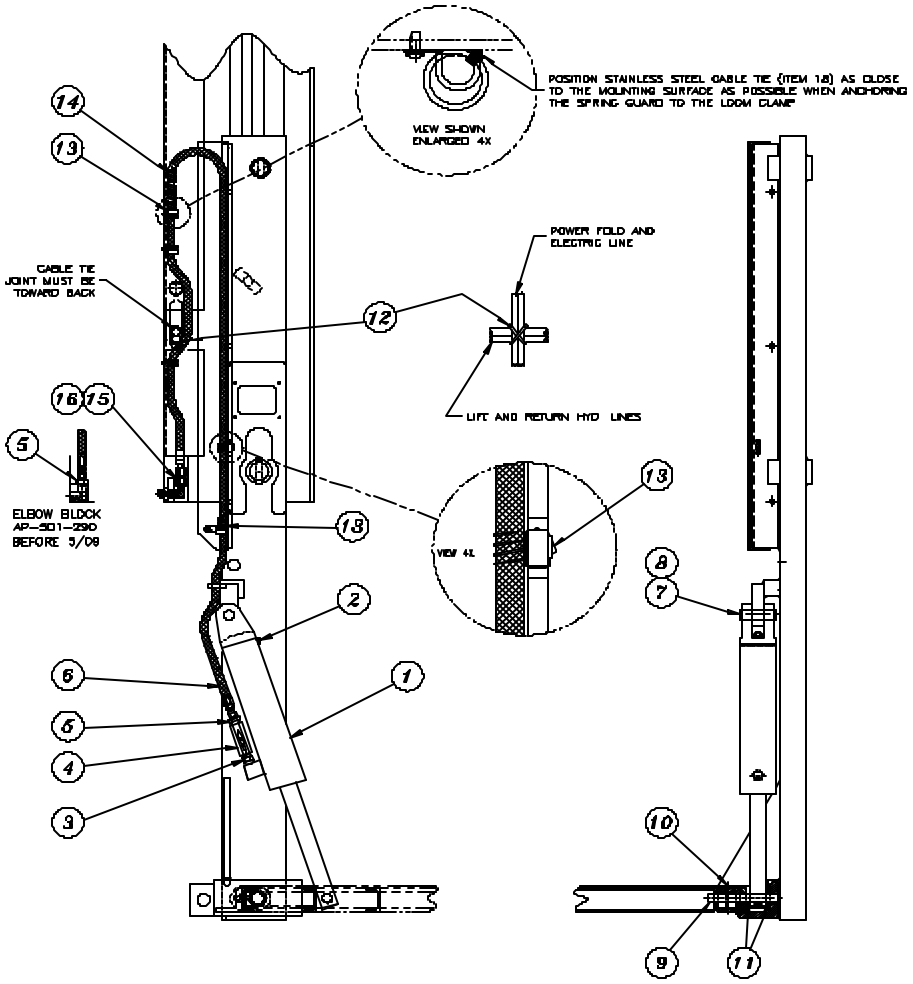
PARTS REPLACEMENT – HYDRAULIC ASSEMBLY

Index No.	Qty Req'd	Part Number	Part Name	Remarks
1	2	P33950	Hyd. Cylinder	58 Stroke
2	1	See chart	Hydraulic line assy (incl. item 15)	RH Lifting
3	1	See chart	Hydraulic line assy (incl. item 15)	LH Lifting
4	1	See chart	Hydraulic line assy (incl. item 15)	RH "Down" Line
5	1	See chart	Hydraulic line assy (incl. item 15)	LH "Down" Line
6	4	P33006	Street elbow 3/8	
7	2	P33064	Nipple Pipe 3/8	
8	2	P33619	Flow control 2.8 GPM	Gravity Down
8	2	P33914	Flow control 2.0 GPM	Power Down
9	8	P46251	Loom clamp ¾ in.	Not Shown
10	6	P17518	Self tapping screw	Not Shown
11	4	P46497	¾" Split loom	24" Lg ea.
12	1	P33547K	Equalizer with adapter fittings (incl. item 15)	SAE "O" Ring Ports
13	4	AA-811-328	Cylinder Pin with 2 snap rings	Not Shown
14	4	P43577	Cylinder Mounting Block Bearing	Not Shown
15	4	P34014	Straight Adapt. 3/8 NPT(M) – 9/16-18 JIC(M)	
16	4	P31048	Plug, Pipe 3/8 SHCS	



Grav Dn Assy	Power Dn Assy	Gate Width	Qty Req'd	RH Lifting Item 2	LH Lifting Item 3	RH "Down" Line Item 4	LH "Down" Line Item 5
CT-819-084-002	CT-819-035-002	102"	1 ea.	BT-501-442-129	BT-501-442-085	BT-501-442-093	BT-501-442-131
CT-819-084-001	CT-819-035-001	96"	1 ea.	BT-501-442-123	BT-501-442-085	BT-501-442-093	BT-501-442-125

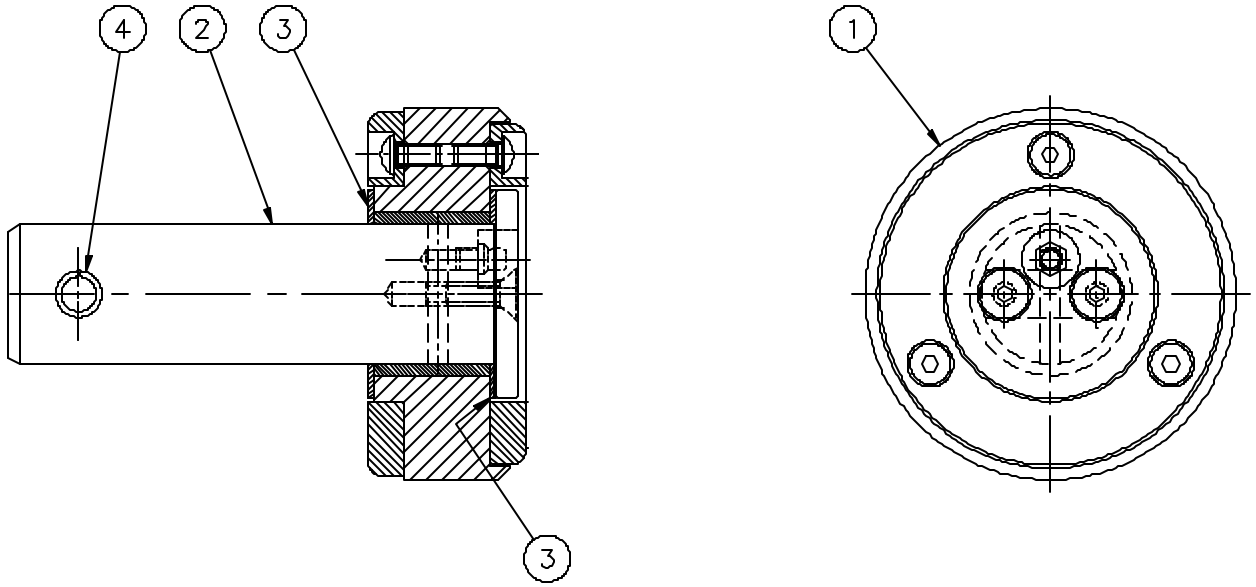
POWER FOLD ASSEMBLY



Index No.	Qty.	Part No.	Description
1	1	P33877	Hyd. Cylinder
2	1	P33915	Breather Vent - 1/8 NPT
2	1	P33646	Breather Vent – 3/8 NPT
3	1	P33064	Pipe Nipple
3	1	P33217	Male Elbow (used when cylinder port is recessed)
4	1	P33671	Flow Control – steel platform
5	1	P33750	Adapter (Qty. 2 if using elbow block)
6	1	AT-501-284-074	Hose Assembly
7	1	AP-811-200	Top Ram MTG Shaft
8	2	P24019	Retaining Ring
9	1	S754-005.500	Bottom Ram MTG Pin
10	1	P47532	Roll Pin
11	4	P26019	Washer
12	2	P46462	Cable Tie 11”
13	2	P46750	Stainless Steel Cable Tie
14	1	P34174	Spring Guard
15	1	P34106	Bulkhead Elbow
16	1	P34110	Straight Adapter

REPLACEMENT ROLLER

4" REPLACEMENT UPPER ROLLER PARTS
GREASED / GREASELESS ROLLERS
WITH SIDE PADS

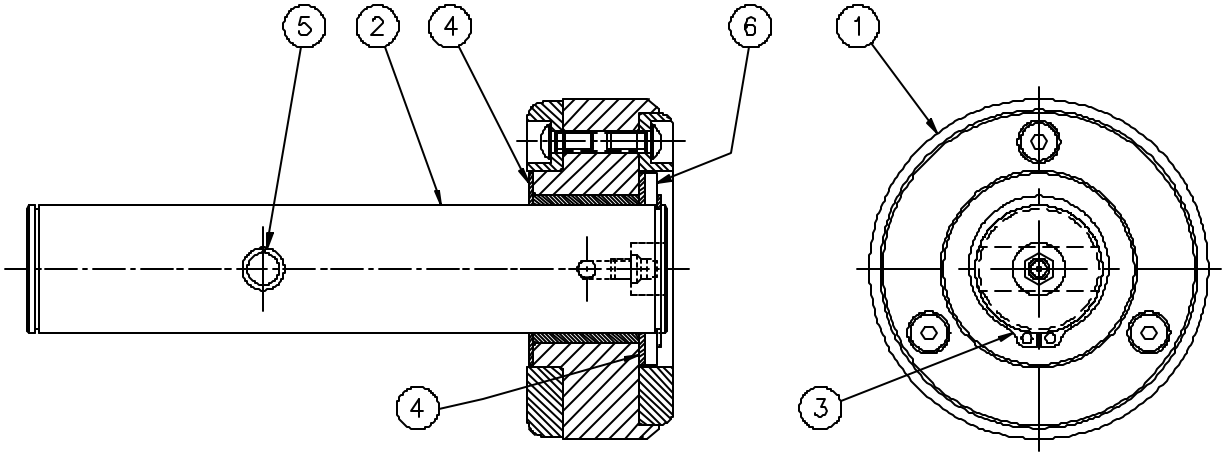


ROLLER ASSEMBLY CAN BE ORDERED COMPLETE UNDER PART NO. BA-818-435 OR BY INDIVIDUAL COMPONENTS LISTED BELOW.

NOTE: FLAT WASHER P26517 WAS USED WITH PREVIOUS SHAFT BP-805-297-1. IT IS NO LONGER NEEDED WITH SHAFT BA-805-300 OR BA-805-304.

Index No.	Qty Req'd	Part Number	Part Name
1	1	BA-818-382	Roller Sub Assembly
2	1	BA-805-304	Roller Shaft Assy.
3	2	P43565	Thrust Bearing
4	1	P47507	Roll Pin
5	1	P32016	Grease Fitting

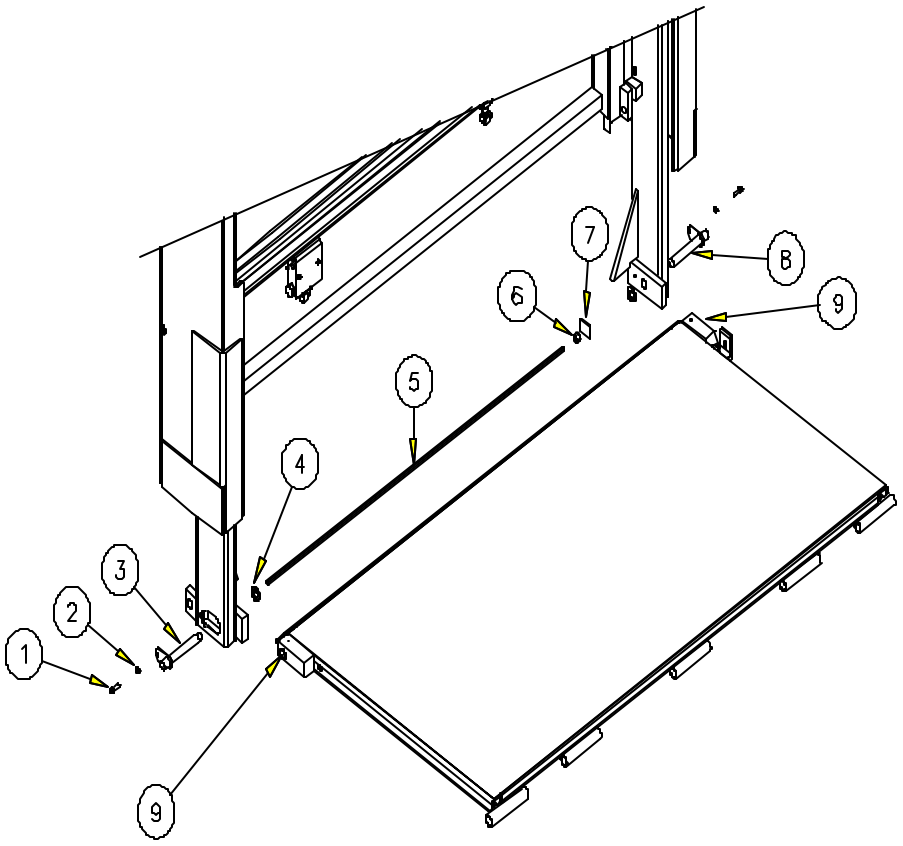
4" REPLACEMENT LOWER ROLLER PARTS
GREASED / GREASELESS ROLLERS
WITH SIDE PADS



ROLLER ASSEMBLY CAN BE ORDERED COMPLETE UNDER PART NO. BA-819-175 OR BY INDIVIDUAL COMPONENTS LISTED BELOW.

Index No.	Qty Req'd	Part Number	Part Name
1	1	BA-818-382	Roller Sub Assembly
2	1	BA-819-177	Roller Shaft Assy.
3	2	P24021	Retaining Ring
4	2	P43565	Thrust Bearing
5	1	P47507	Roll Pin
6	1	P26517	Flat Washer
7	1	P32016	Grease Fitting

PLATFORM PINS AND BUSHINGS

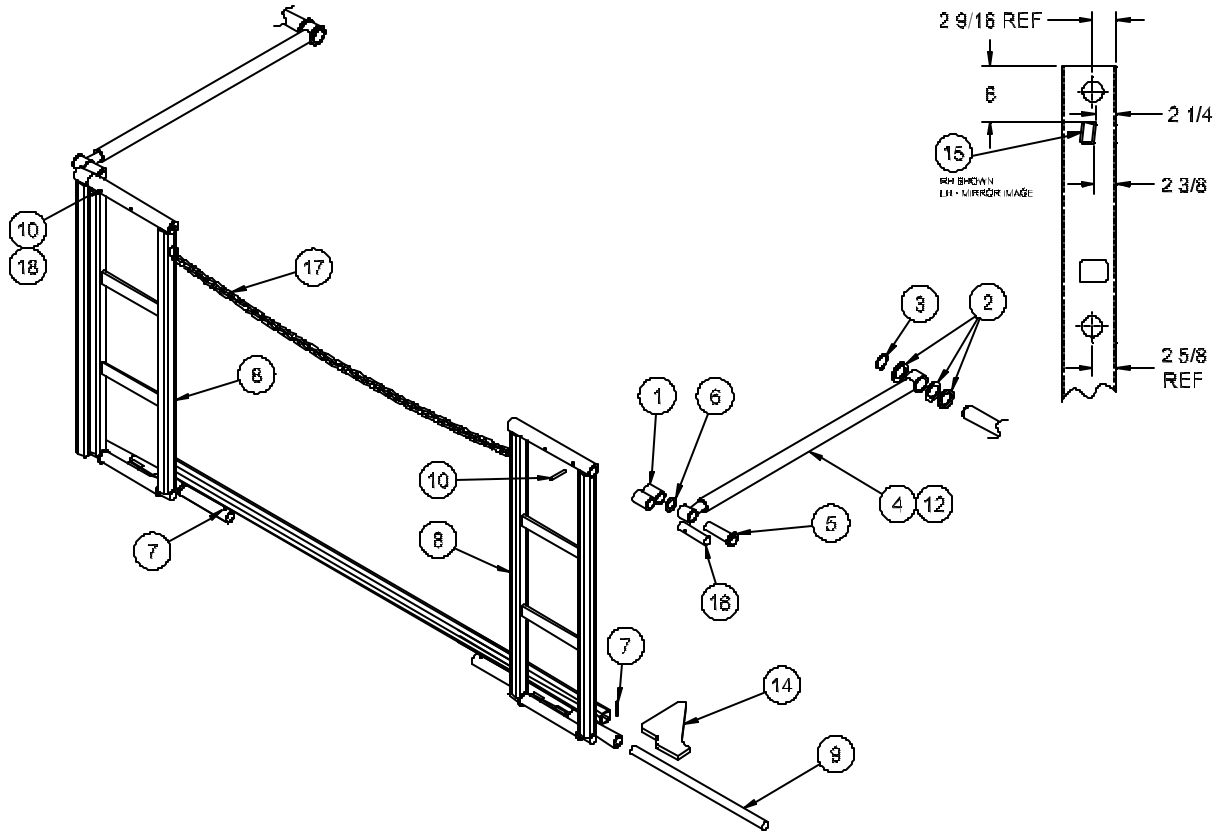


PLATFORM BEARING
(1 REQ'D EACH SIDE)

Index No.	Qty.	Part Number	Part Name	Material Size/Notes
1	2	P11048	Bolt	3/8 16 x 1 ¼ gr. 8
2	2	P26017	Washer Lock Split 3/8	
3	1	BA-818-205	Pin Sub Assy	Driver Side
4	2	P26020	Spacer Washer	
5	1	S790-060.000	Torsion Bar	60" lg
6	1	AP-808-108	Hex Sleeve	
7	1	S055-002.000	Mtg. Plate	
8	1	BA-818-206	Pin Sub Assy	Curb Side
9	2	P43567	Platform Bearing	

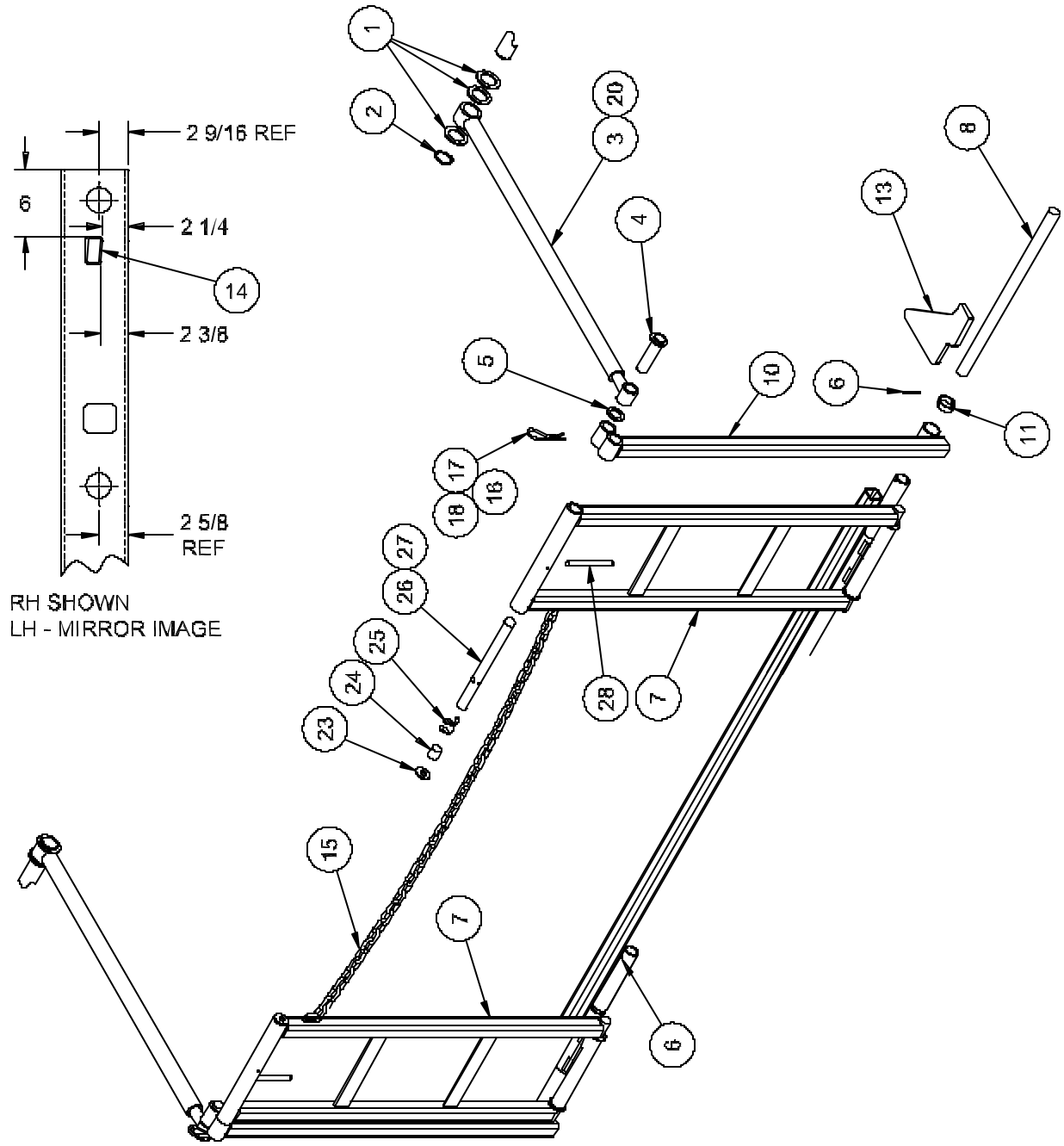
Hand Rail Parts

Standard Hand Rails



Index No.	Qty.	Part Number	Part Name	Material Size/Notes
1	2	AA-811-384	Spacer – Double Barrel	
2	6	P26517	Washer	
3	2	P24021	Retaining Ring	
4	2	BA-811-363	Side Rail –Front	
5	2	AA-811-383	Pin for FBG	
6	2	P26020	Narrow Rim Washer	
7	4	P47514	Roll Pin	¼ x 1-1/2
8	2	CA-811-371	Front Rail Assembly	
9	2	S758-020.250	Shaft	
10	2	P47508	Roll Pin	
11	2	S403-000.250	Spacer	
12	2	BA-811-362	Side Rail – Back	
13	2	S149-002.500	Flat	For ear on platform
14	2	BP-811-385	Platform Ear	
15	2	S498-002.500	Rail Stop	
16	1	BP-999-045	Sign Plate	Not shown
17	1	AA-999-021	Chain Assembly	
18	2	AP-811-459	Pin for Std Hand Rail	
19	1	S057-007.000	Spacer	For platform ear
20	2	S192-001.750	Stop Block	For Front Rail Assembly

Collapsible Hand Rails

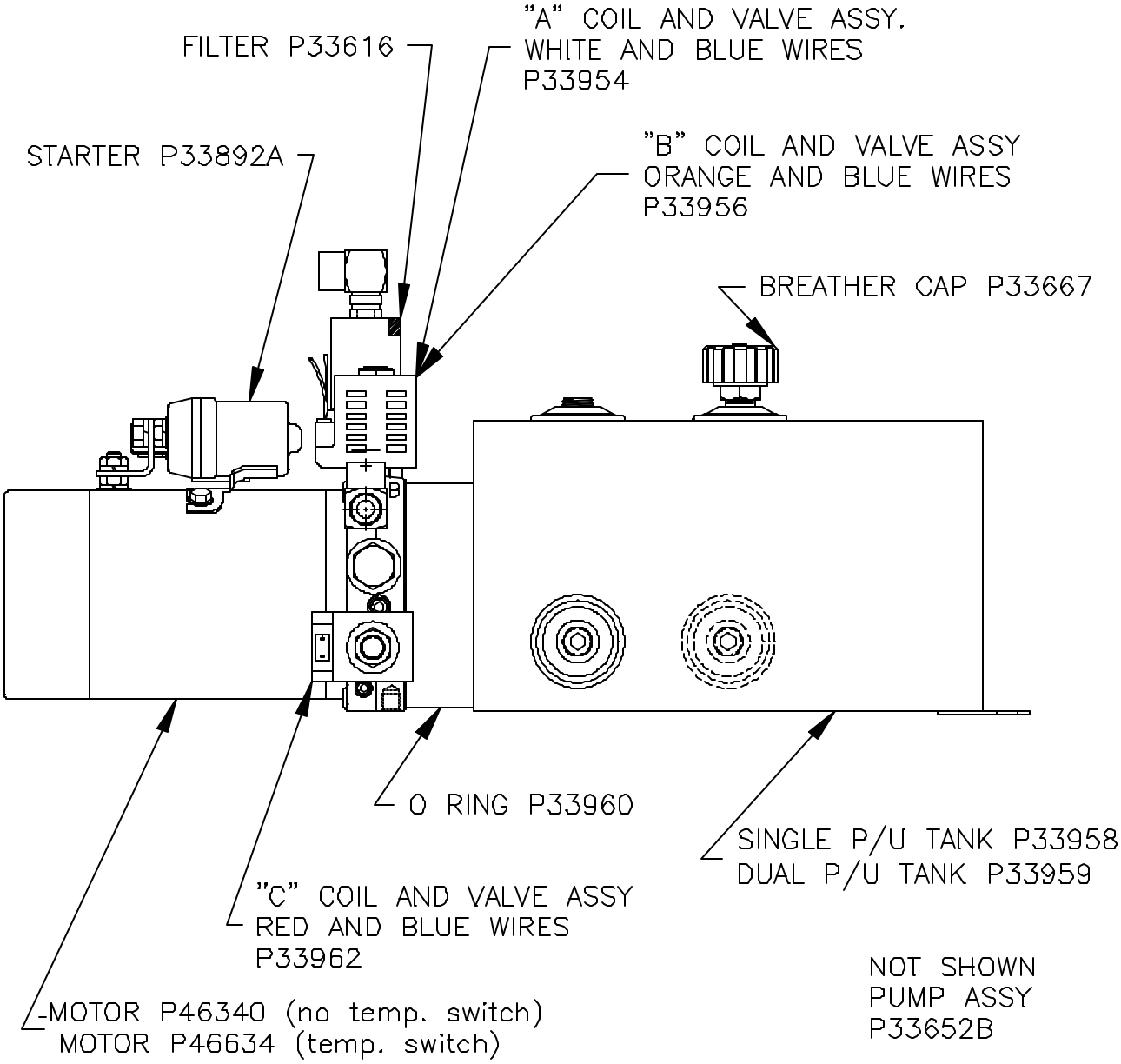


Collapsible Hand Rails

Index No.	Qty.	Part Number	Part Name	Material Size/Notes
1	6	P26517	Washer	
2	2	P24021	Retaining Ring	
3	2	BA-811-363	Side Rail – Front	
4	2	AA-811-383	Pin for FBG	
5	2	P26020	Narrow Rim Washer	
6	4	P47514	Roll Pin	¼ x 1-1/2
7	2	CA-811-373	Front Rail Assembly	Includes items 23 - 28
8	2	S758-020.250	Shaft	
9	2	S403-000.250	Spacer	Not shown
10	2	BA-811-364	Front Side Assembly	
11	2	AP-811-377	Spacer	
12	2	S149-002.500	Flat	For ear on platform (not shown)
13	2	BP-811-385	Platform Ear	
14	2	S498-002.500	Rail Stop	
15	1	AA-999-012	Chain Assembly	
16	2	P17518	Self Tapping Screw	
17	2	P56577	Lanyard Assembly	
18	2	P29020	Hair Spring Cotter Pin	
19	1	S057-007.000	Spacer	For platform ear (not shown)
20	2	BA-811-362	Side Rail - Back	
21	2	S413-000.500	Spacer	For Front Side Assembly
22	2	S192-001.750	Stop Block	For Front Rail
23	2	P26004	Washer	
24	2	S777-000.875	Spring Spacer	
25	2	P25201	Spring	
26	2	BP-811-367	Pin	
27	2	P47521	Roll Pin	
28	2	BP-811-368	Handle	

POWER UNIT PARTS

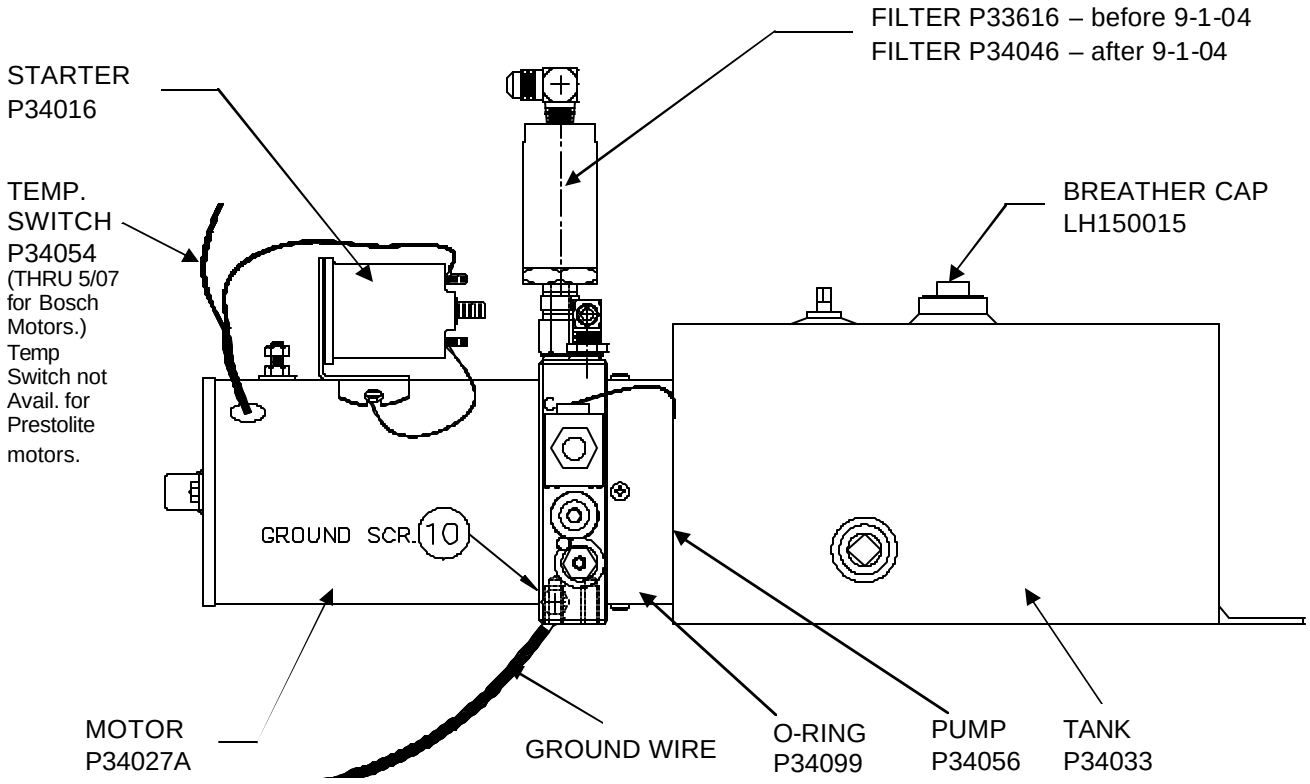
SPX POWER UNIT



COMPLETE SINGLE POWER UNIT LESS FILTER P33952
COMPLETE DUAL POWER UNIT LESS FILTER P33999

NOTE: THE POWER UNIT'S BLUE WIRES ARE GROUND WIRES.
REVERSING THESE WIRES WILL CAUSE PERMANENT DAMAGE
TO THE COILS.

MONARCH POWER UNIT



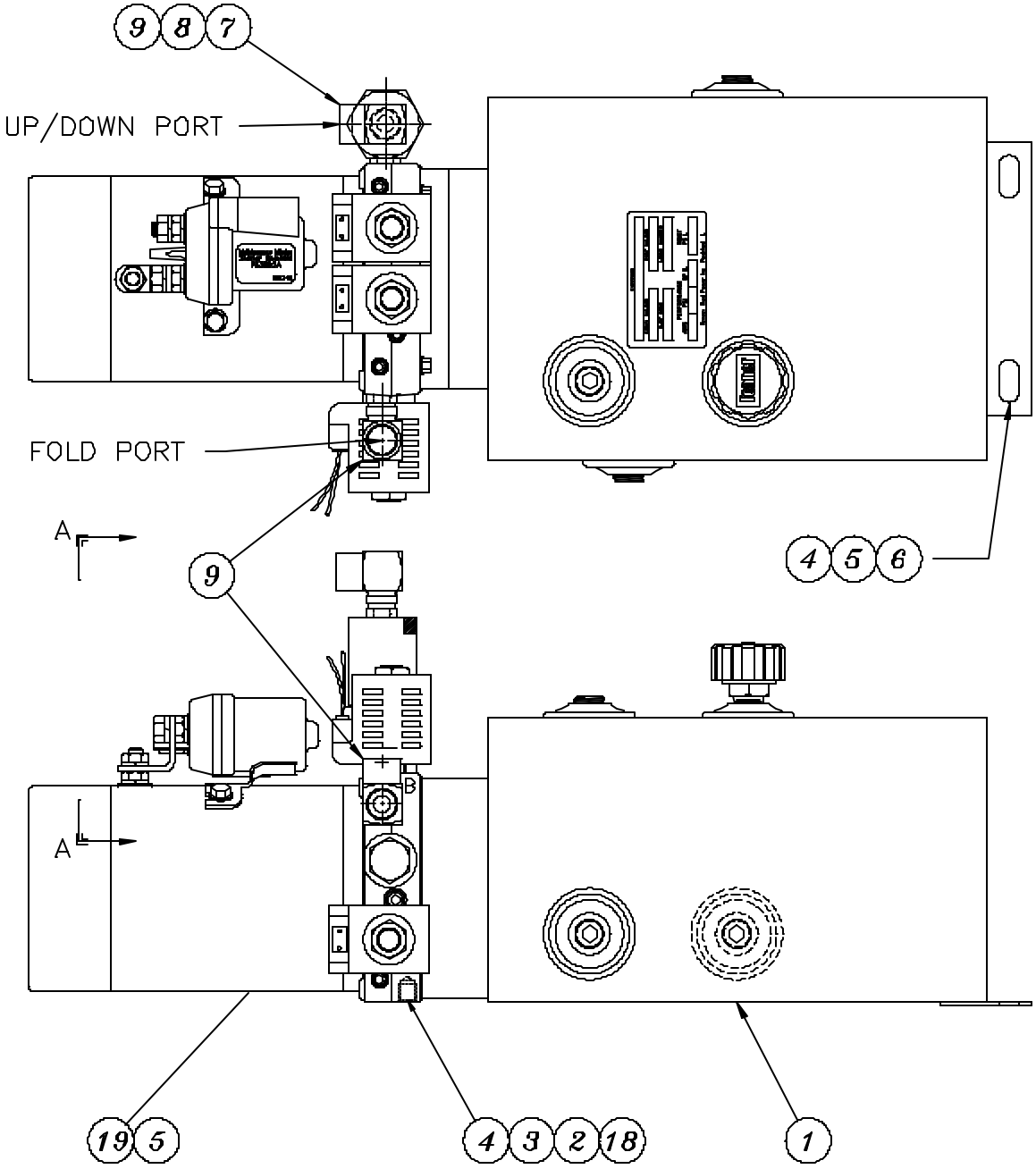
COMPLETE SINGLE POWER UNIT LESS FILTER P33994B

"A" VALVE (white wire, back) P33954
"B" VALVE (orange wire, back) P33956
"C" VALVE (red wire, front) P34063

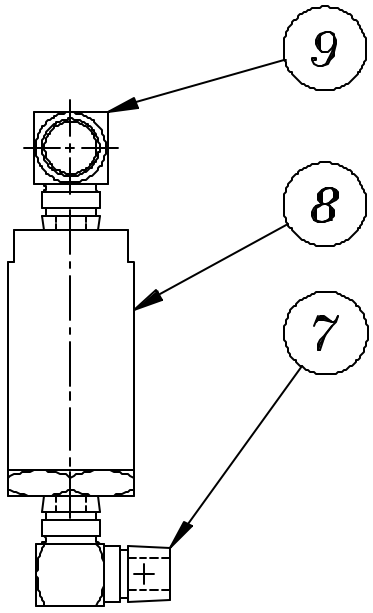
COMPLETE DUAL POWER UNIT LESS FILTER P34012A

"A" VALVE (white wire, top) P33954
"B" VALVE (orange wire, top) P33956
"C" VALVE (red wire, back) P34036 – before 6-1-05
"C" VALVE (red wire, back) P34063 – after 6-1-05
Dual Tank P34074
Manual Isolation valve (4) per unit P34075

SPX POWER UNIT - GRAVITY DOWN

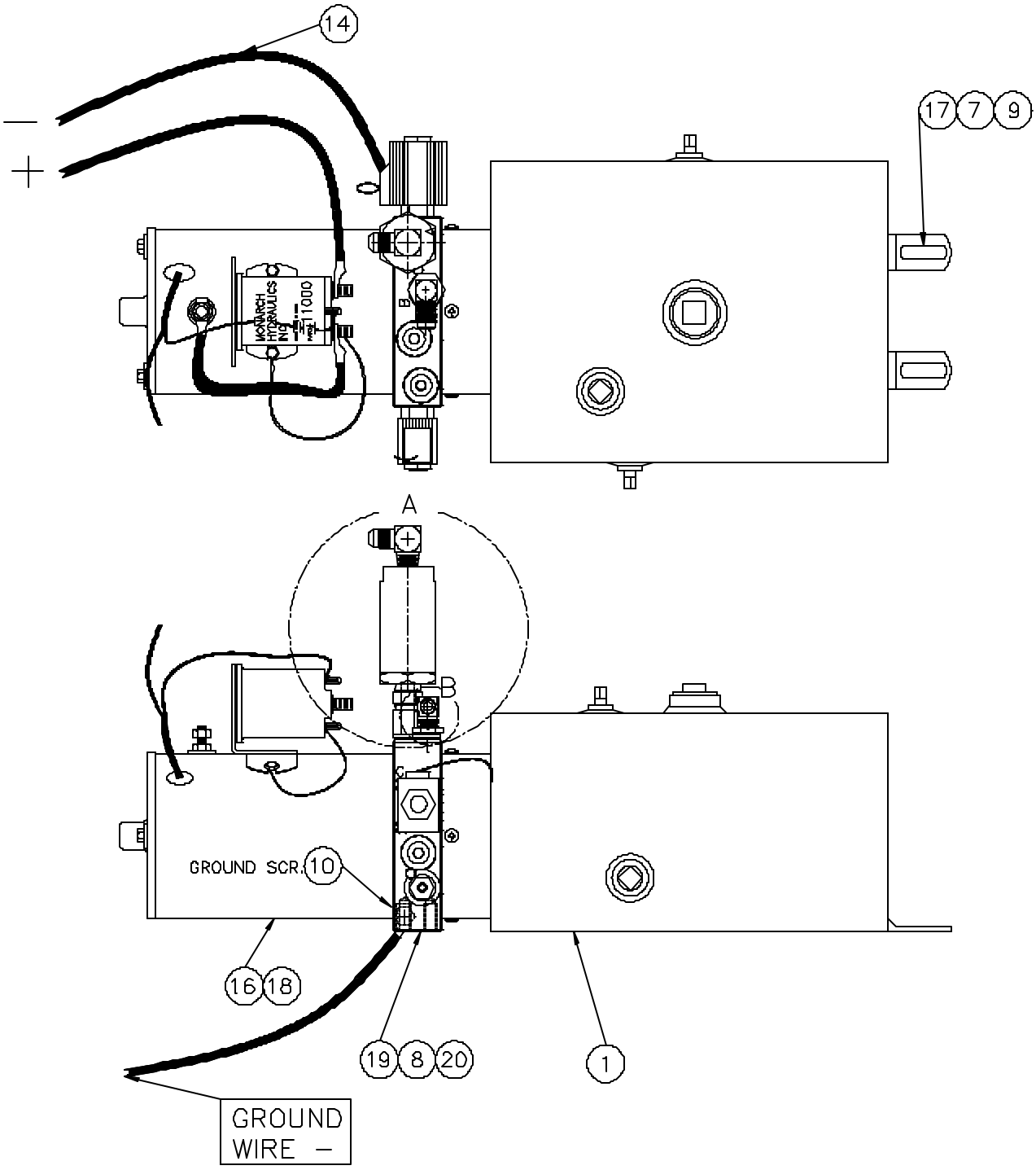


SPX POWER UNIT - GRAVITY DOWN

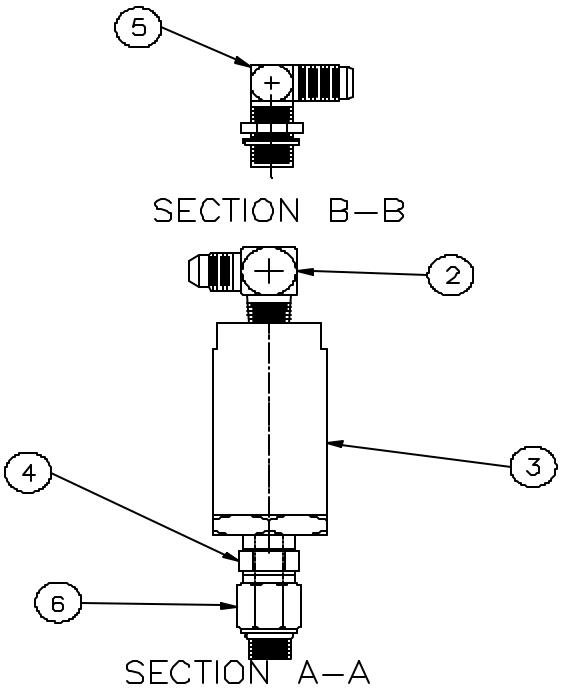


Index No.	Qty.	Part Number	Part Name	Material Size/Notes
1	1	P33952	Power Unit	
2	2	P10526	Hex Hd. Bolt	3/8 – 16 x 3/4
3	2	P27030	Star Lock Washer	
4	8	P26501	Flat Washer	
5	3	P10501	Hex Hd. Bolt	3/8 – 16 x 1
6	2	P23501	Lock Nut	
7	1	P33217	Male Elbow	
8	1	P33616	Inline Filter	
9	2	P33006	Street Elbow	
10	1	P46507	Ring Terminal	
11	1	P46405	Circuit Breaker	
12	2	P18519	Screw	
13	2	P23504	Nut	
14	1	P46127	Battery Cable	4 Ga. X 30” long
15	2	P46403	Battery Terminal	
16	1	P17550	Self Tapping Screw	
17	1	P27029	Star Washer (small)	
18	2	P26017	Split Lock Washer	
19	1	P23538	Hex Nut	3/8 - 16

MONARCH POWER UNIT - GRAVITY DOWN

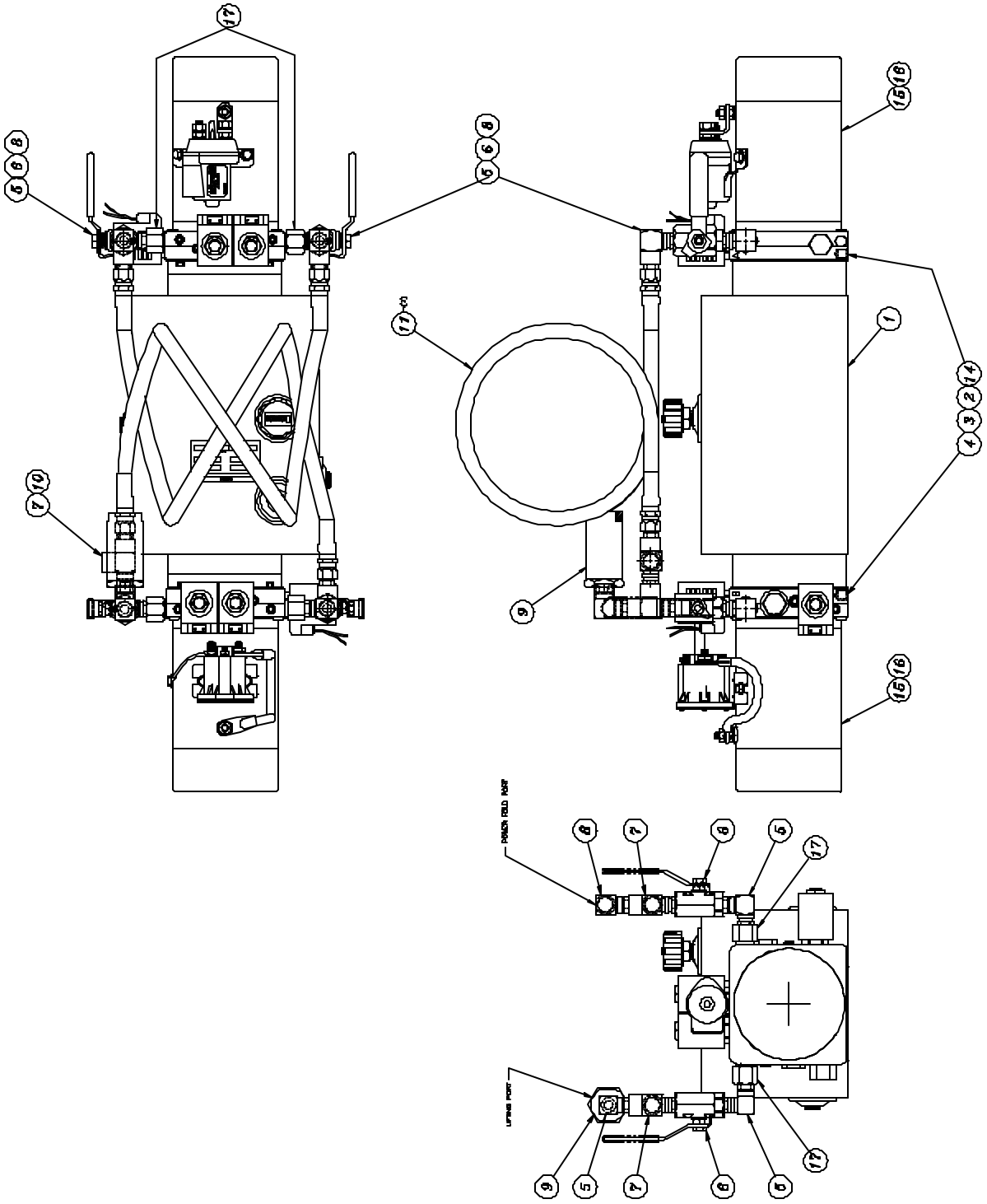


MONARCH POWER UNIT - GRAVITY DOWN



Index No.	Qty.	Part Number Before June 2004	Part Number After July 2004	Part Name
1	1	P33994A	P33994B	Monarch Power Unit
2	1	P34005	P34020	90 - Elbow
3	1	P33616	P34046	Inline Filter
4	1	P33064	P34050	Straight Nipple
5	1	Not Required	P34020	Elbow
6	1	Not Required	P33771	Adapter
7	2	P10040	P10040	Hex HD Bolt
8	2	P26017	P10040	Split Lock Washer
9	4	P26506	P26506	Flat Washer
10	1	P10572	P10572	Hex HD Bolt
11	1	P46405	P46405	Circuit Breaker
12	2	P18519	P18519	10-24x1 Screw
13	2	P23504	P23504	10-24 Lock Nut
14	2	P46127	P46127	Battery Cable 4 GA.
15	4	P46403	P46403	Battery Terminal
16	1	P11048	P11048	Hex HD Bolt
17	2	P23510	P23510	Lock Nut
18	1	P23538	P23538	Hex Nut
19	2	P10526	P10526	Hex HD Bolt
20	4	P26501	P26501	Flat Washer
21	1	P55337	P55337	Important Instructions Decal

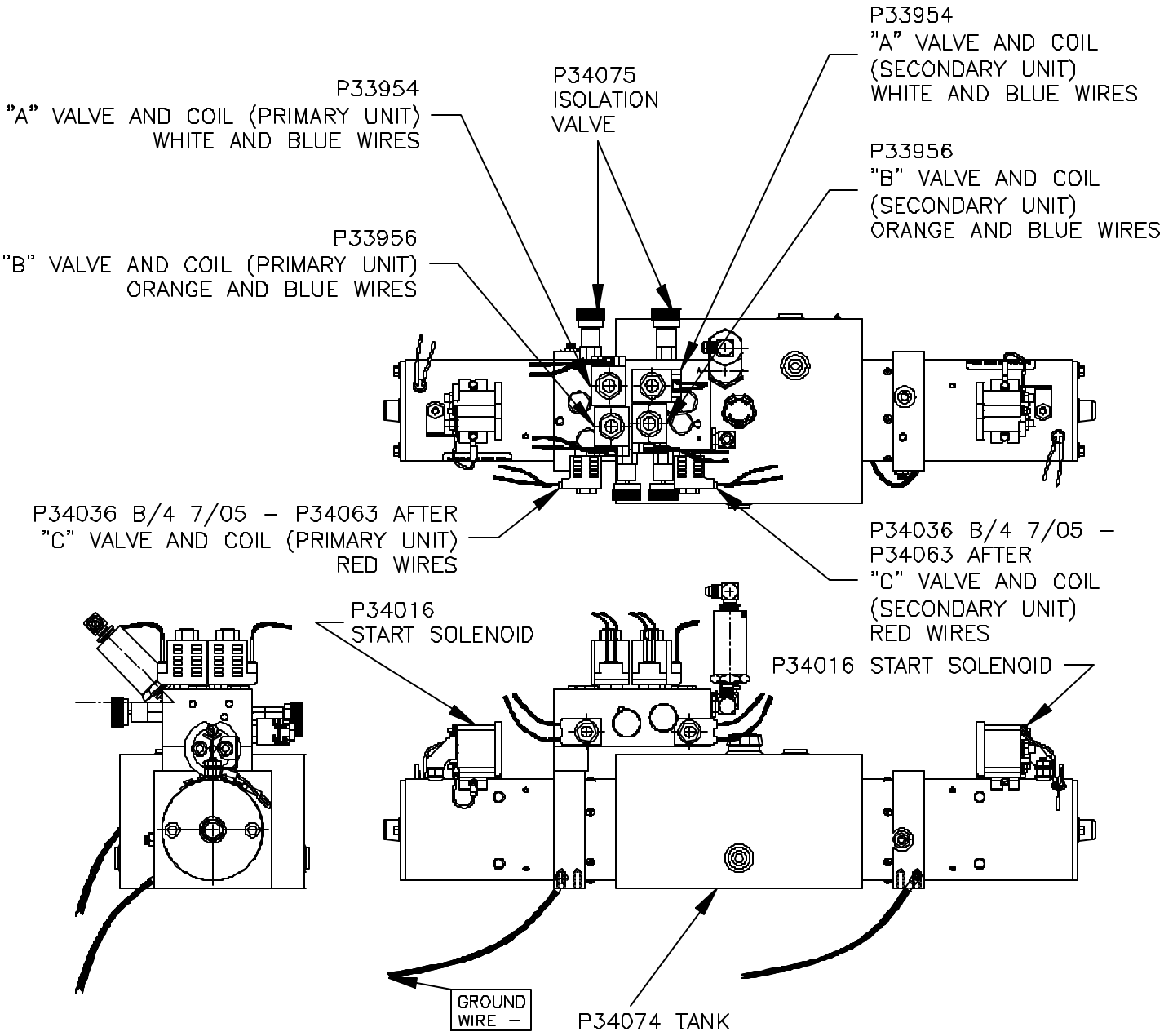
SPX DUAL POWER UNIT - GRAVITY DOWN



SPX DUAL POWER UNIT - GRAVITY DOWN

Index No.	Qty.	Part Number	Part Name	Material Size
1	1	P33999	Dual Power Unit	SPX DC – 1056 Modified
2	4	P10526	Bolt	3/8 – 16 x 3/4
3	4	P27030	Star Washer	
4	8	P26501	Flat Washer	
5	5	P33217	Male Elbow	
6	4	P33208	Ball Valve	Before 7/04
6	4	P34049	Ball Valve	After 7/04
7	3	P33216	Tee Street Male	
8	3	P33006	Street Elbow	
9	1	P33616	Inline Filter	Before 7/04
9	1	P34046	Inline Filter	After 7/04
10	1	P33588	Plug	
11	2	AT-501-100-020	Hyd. Line Assembly	Before 7/04
11	2	AT-501-354-020	Hyd. Line Assembly	After 7/04
12	2	P27029	Star Washer	Under Ground Wire
13	1	P17518	Self Tapping Screw	
14	4	P26017	Split Lock Washer	
15	2	P23538	3/8 x 1 – ¼ HH Scr.	
16	2	P11048	3/8 – 16 Hex Nut	
17	4	P33771	Fitting	

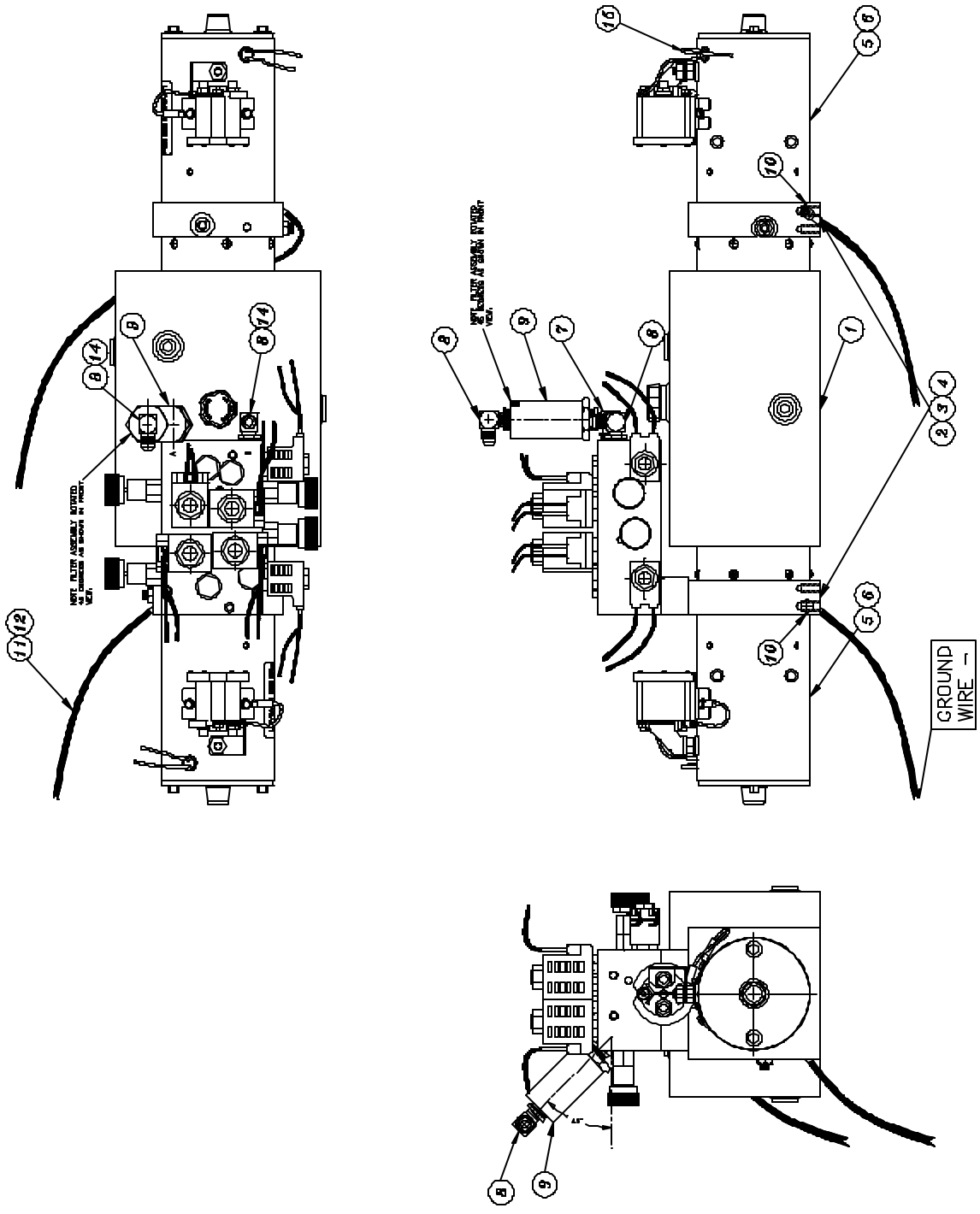
MONARCH DUAL POWER UNIT PARTS



COMPLETE POWER UNIT LESS ELBOWS AND FILTER – P34012A

THE POWER UNIT'S BLUE WIRE ARE TYPICALLY GROUND WIRES EXCEPT AS NOTED

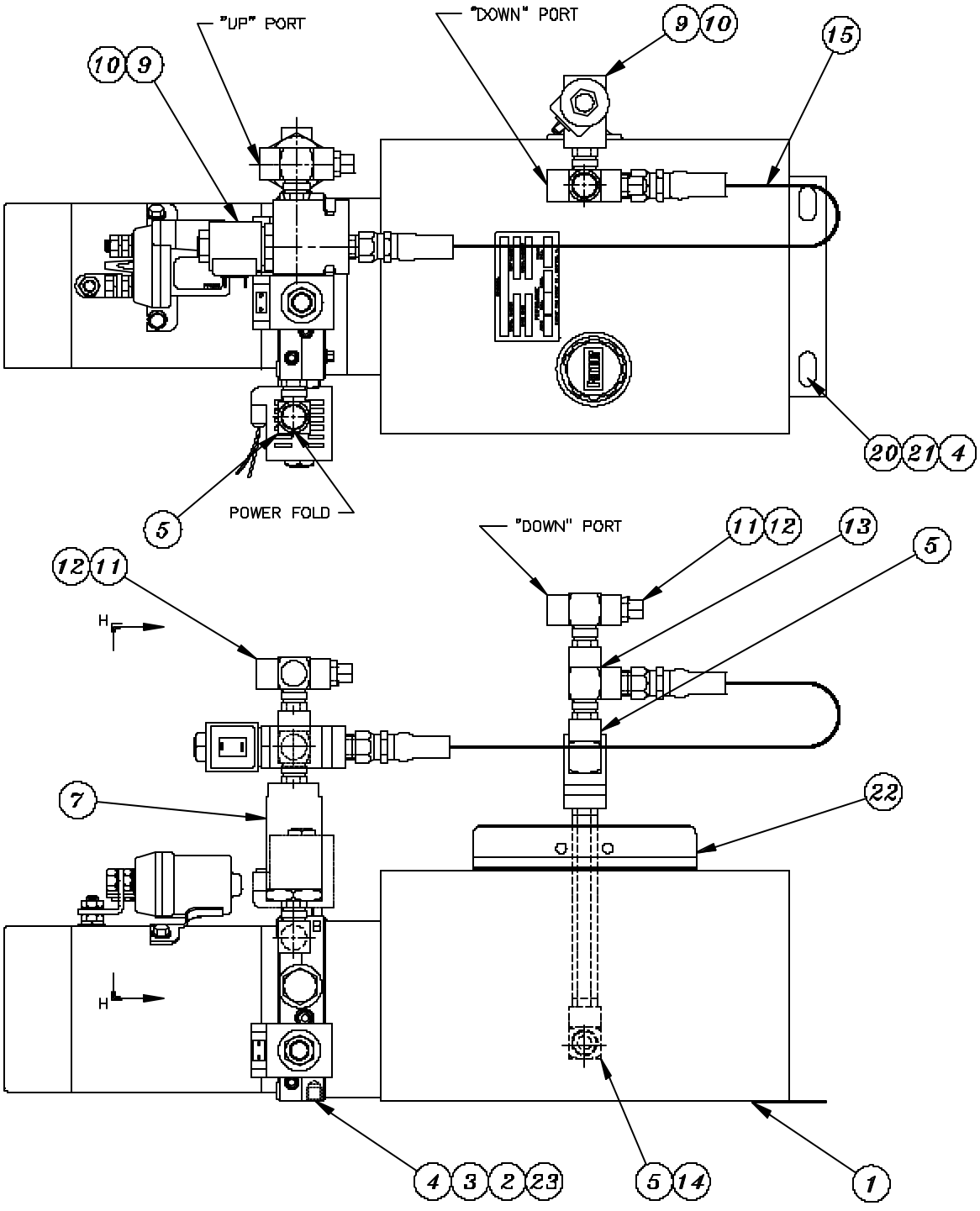
MONARCH DUAL POWER UNIT - GRAVITY DOWN



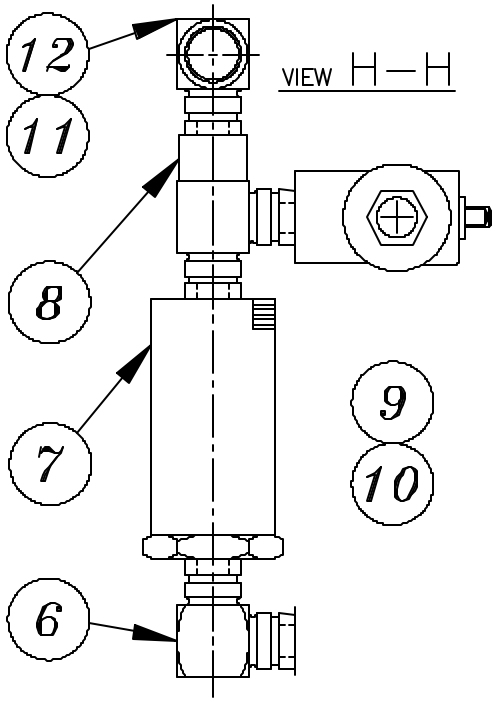
MONARCH DUAL POWER UNIT - GRAVITY DOWN

Index No.	Qty.	Part Number	Part Name	Material Size
1	1	P34012A	Dual Power Unit	
2	4	P10526	Hex Bolt	3/8 – 16 x ¾
3	4	P26017	Split Lock Washer	3/8
4	8	P26501	Flat Washer	3/8
5	2	P11048	Hex Bolt	3/8 – 16 x 1 1/4
6	2	P23538	Hex Nut	3/8 - 16
7	1	P34041	90 Elbow	Both Male ORB
8	2	P34020	90 Elbow	Male ORB – Male JIC
9	1	P34046	Inline Filter	
10	2	P10572	Hex Hd. Bolt	5/16 – 18 x ½ long
11	2	P46127	Battery Cable 4 GA.	1 pc – 35” – 1 pc – 14”
12	4	P46403	Battery Terminal	
13	1	P55337	Decal	Important Instructions
14	2	P34004	Cap Nut	
15	1	P46649	Shrink Tube	1 pc. – 5” long

SPX POWER UNIT - POWER DOWN



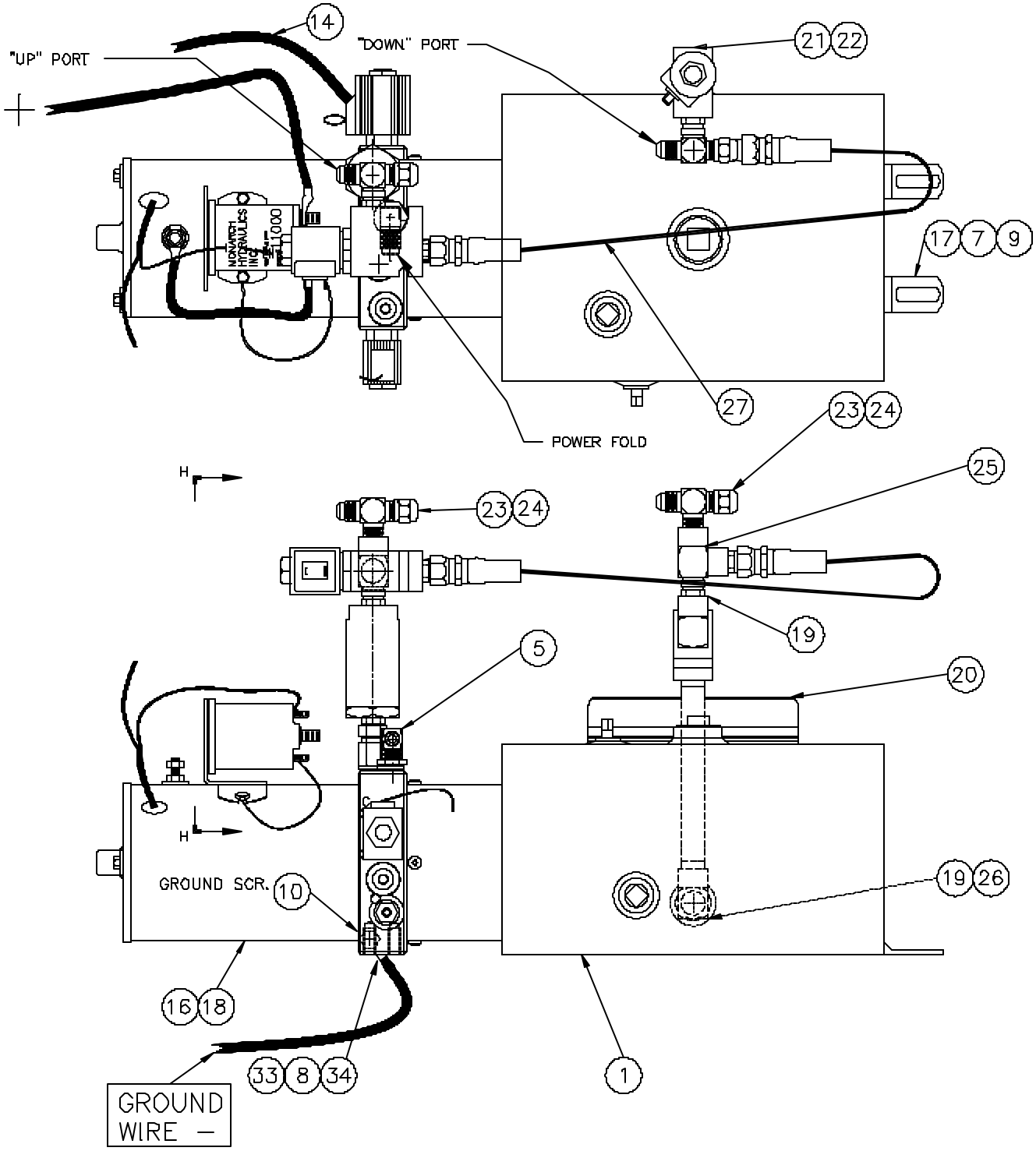
SPX POWER UNIT - POWER DOWN



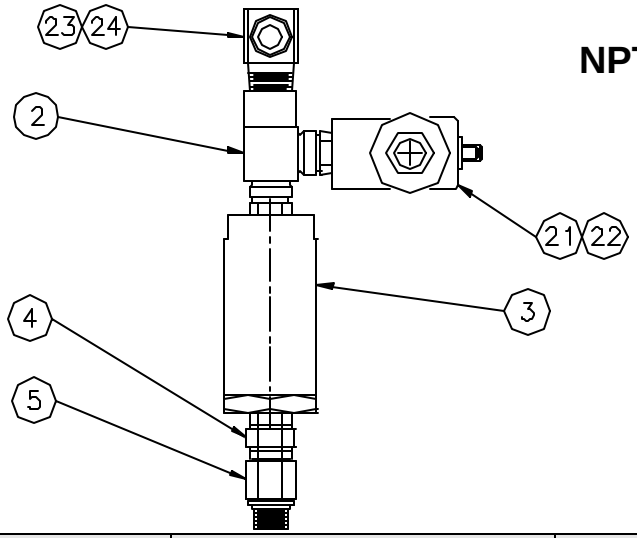
Index No.	Qty.	Part Number	Part Name	Material Size
1	1	P33952	Power Unit	
2	2	P10526	Hex HD Bolt	3/8 x ¾ lg.
3	2	P27030	Star Lock Washer	For 3/8 bolt
4	8	P26501	Flat Washer	3/8 inch
5	3	P33006	Street Elbow	3/8
6	1	P33217	Male Elbow Pipe	3/8
7	1	P33616	Inline Filter	
8	1	P33199	Male Street Tee	3/8
9	2	P33871	Valve Block	
10	2	P33896	Valve & Coil Assembly	
11	2	P33606	Male Branch Tee	3/8
12	2	P31050	Pipe Plug Stl.	3/8
13	1	P33216	Tee Street Male	
14	1	P33007	Nipple	
15	1	AT-501-100-020	Hyd. Line Assy	
16	2	P46318	Female Connect Terminal	
17	2	P46471	Blue Ground Wire	4 pcs. 8” lg. each
18	1	P46507	Ring Term.	
19	1	P17550	Self Tapping Screw	
20	2	P11048	Bolt	
21	2	P23501	Lock Nut	3/8-16

POWER UNIT ASSEMBLY

MONARCH POWER UNIT - POWER DOWN



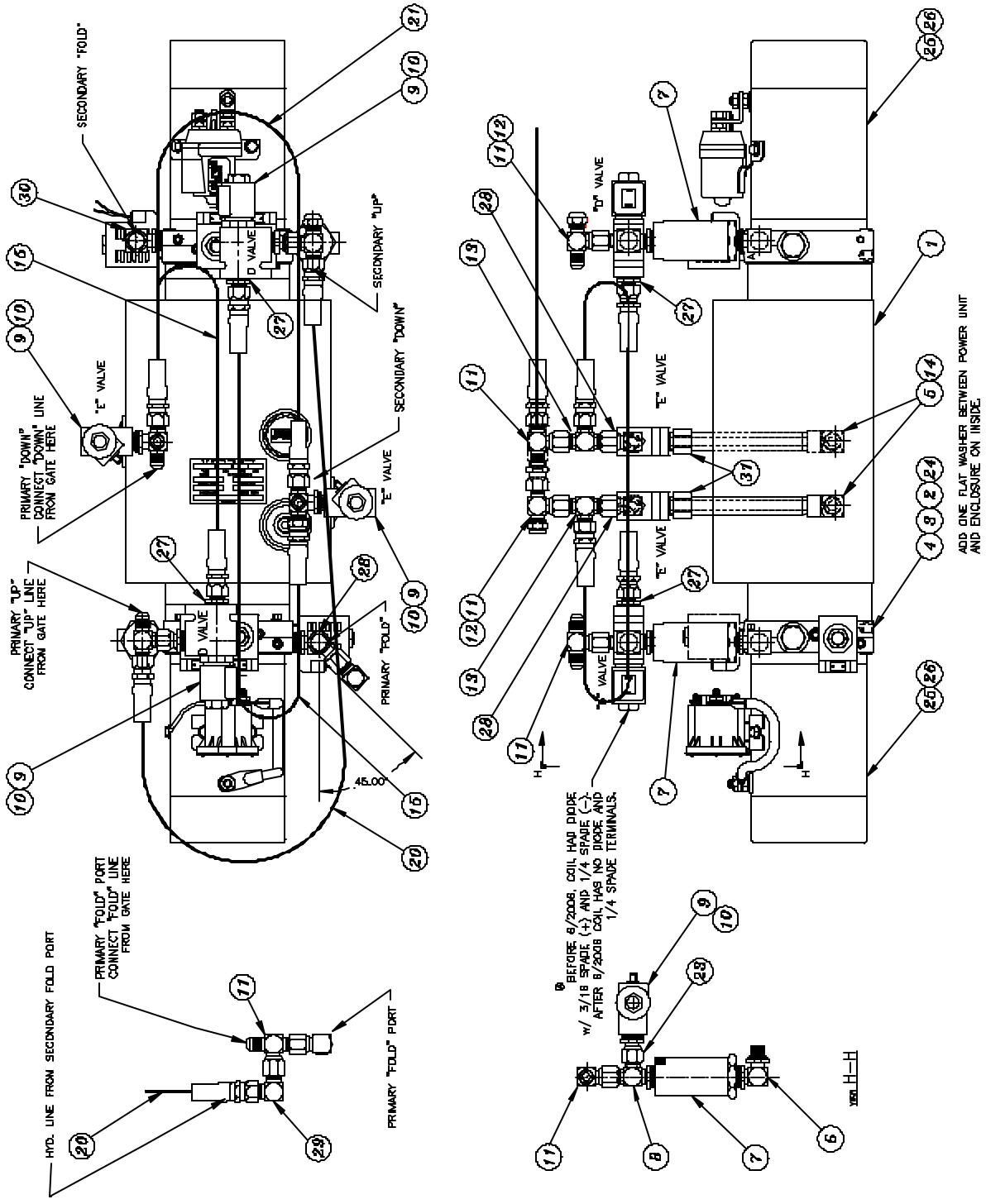
MONARCH POWER UNIT - POWER DOWN



NPT Connections

Index No.	Qty.	Part Number	Part Name	Material Size
1	1	P33994B	Monarch M-3553 Power Unit	
2	1	P33199	90 – Elbow	
3	1	P33616	Inline Filter	Before June 2004
3	1	P34046	Inline Filter o-ring connections	After July 2004
4	1	P33064	Straight Nipple	3/8 NPT – 9/16 –18-37
5	1	P34020	Elb O-ring Boss 37' Flare	9/16-18 O-ring-9/16-19-37
6	1	P33771	Adapter	9/16-18 SAE-3/8 NPT
7	2	P10040	Hex HD Bolt	5/16 – 18x1
8	2	P26017	Split Lock washer	3/8
9	4	P26506	Flat Washer	5/16
10	1	P10572	Hex HD Bolt	5/16-18x1/2 long
11	1	P46405	Circuit Breaker	Not Shown
12	2	P18519	10-24x1 Screw	Not Shown
13	2	P23504	10-24 Lock Nut	Not Shown
14	2	P46127	Battery Cable 4 GA.	1pc 30" – 1pc 20"
15	4	P46403	Battery Terminal	
16	1	P11048	Hex HD Bolt	3/8-16x1-1/4
17	2	P23510	Lock Nut	5/16-18
18	1	P23538	Hex Nut	3/8-16
19	2	P33006	Street Elbow	
20	1	BA-501-340	Valve Support. Bracket Kit	
21	2	P33871 / P34047	Valve Block	Before 6/04 – After 7/04
22	2	P33896	Valve & Coil Assy	
23	2	P34002	Male Branch Tee	3/8 NPT
24	2	P34004	Cap Nut	9/16 SAE 37'
25	1	P33216	Tee	
26	1	P33007	Nipple 6" long	
27	1	AT-501-100-020	Hyd. Line Assy.	
28	1	P46017	#16 Black Wire (12" long)	Not Shown
29	1	P46156	Butt Conn. Insulated	Not Shown
30	2	P46318	Female Connect Terminal	Not Shown
31	2	P46471	Blue Ground Wire	2pcs-16" long Not Shown
32	2	P46507	Ring Terminal	Not Shown
33	2	P10526	Hex HD Bolt	3/8 – 16x ¾ long
34	4	P28501	Flat Washer	3/8

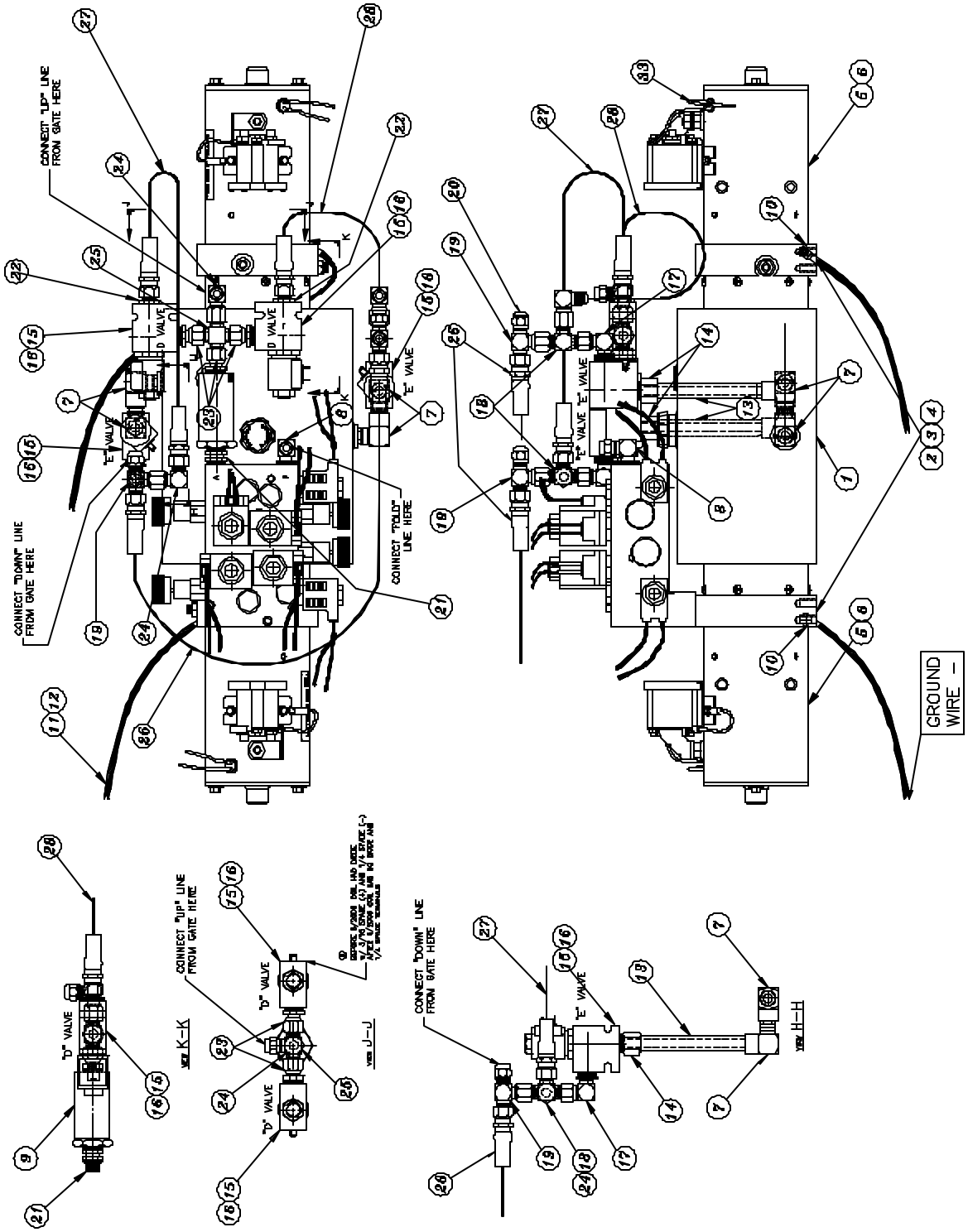
SPX DUAL POWER UNIT - POWER DOWN
After 7/04 (SAE 0-ring / JIC fittings)



SPX DUAL POWER UNIT - POWER DOWN

Index No.	Qty.	Part Number	Part Name	Material Size
1	1	P33999	Dual Power Unit	
2	4	P10526	Hex HD Bolt	3/8 x 34 long
3	4	P27030	Star Washer	For 3/8 Bolt
4	8	P26501	Flat Washer	
5	2	P33006	Street Elbow	
6	2	P34041	90 Elbow, Both Male ORB	
7	2	P34046	Inline Filter	
8	2	P34040	Tee, Male ORB Side – Male J Rest	
9	4	P34047	Valve Block	
10	4	P33896	Valve & Coil	
11	5	P34043	Tee, Female J Bott. – Male J Sides	
12	2	P34004	Cap Nut	
13	2	P34010	Tee, All Male J	
14	2	P33007	Nipple	
15	2	AT-501-354-020	Hyd. Line Assy.	
16	4	P46318	Female Connect Terminal	
17	4	P46471	Blue Ground wire	4pcs-8” long
18	2	P46507	Ring Terminal	
19	1	P17550	Screw	
20	2	AT-501-354-027	Hyd. Line Assy.	
21	1	AT-501-354-015	Hyd. Line Assy.	
22	1	BA-501-336	Valve Support Bracket	
23	2	P34042	Adapter, Female J – Male ORB	
24	4	P26017	Split Lock Washer	
25	2	P23538	3/8 – 16 Hex Nut	
26	2	P11048	3/8 x 1- ¼ HH Screw	
27	2	P34044	Adapter, Male J – Male ORB	
28	3	P34045	90 Elbow, Male ORB – Female J	
29	1	P34015	90 Elbow, Both Male J	
30	1	P34020	90Elbow Male ORB – Male J	
31	2	P33771	Adapter, Male ORB – Female NPT	

MONARCH DUAL POWER UNIT - POWER DOWN



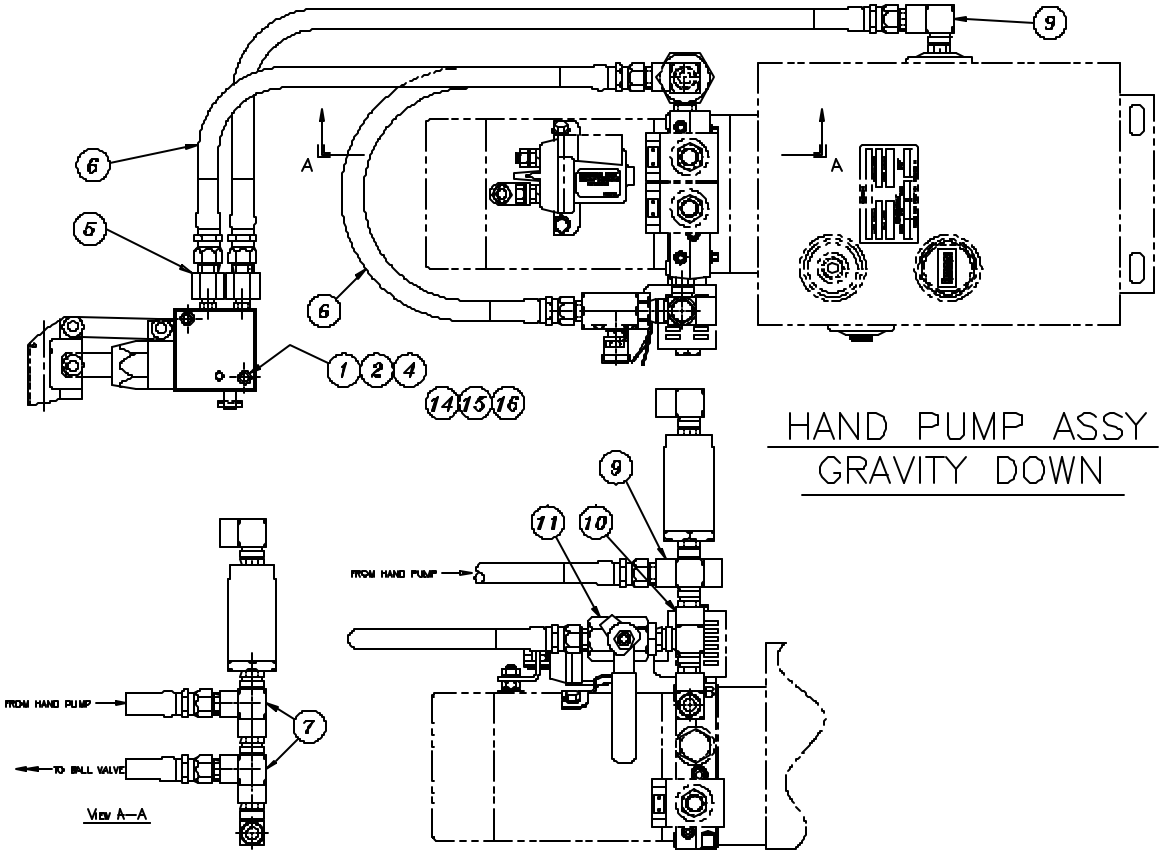
POWER UNIT ASSEMBLY

MONARCH DUAL POWER UNIT - POWER DOWN

Index No.	Qty.	Part Number	Part Name	Material Size
1	1	P34012A	Dual Power Unit	
2	4	P10526	Hex Bolt	3/8-16 x 3/4
3	4	P26017	Split Lock Washer	3/8
4	8	P26501	Flat Washer	3/8
5	2	P11048	Hex Bolt	3/8 – 16 x 1-1/4
6	2	P23538	Hex Nut	3/8 - 16
7	4	P33006	Street Elbow	
8	1	P34020	90 elbow, Male ORB – Male JIC	
9	1	P34046	Inline Filter	
10	2	P10572	Hex HD Bolt	5/16 – 18 x 1/2
11	2	P46127	Battery Cable 4 GA.	1pc 35” – 1pc 14”
12	4	P46403	Battery Terminal	
13	2	P33007	Nipple	
14	2	P33771	Adapter, Male ORB – Female NPT	
15	4	P34047	Valve Block	
16	4	P33896	Valve & Coil Assy.	
17	2	P34045	90 elbow, Male ORB – Female JIC	
18	2	P34010	Tee, All Male JIC	
19	2	P34043	Tee, Female JIC Bott – Male JIC	
20	4	P34004	Cap Nut	
21	1	P34050	Str. Nipple, Male ORB – Male ORB	
22	2	P34044	Adapter, Male JIC – Male ORB	
23	3	P34042	Adapter, Female JIC – Male ORB	
24	3	P34051	90 elbow, Female JIC – Male JIC	
25	1	P34053	Cross, All Male JIC	
26	1	AT-501-354-020	Hyd. Line Assy.	
27	1	AT-501-354-015	Hyd. Line Assy.	
28	1	AT-501-354-018	Hyd. Line Assy.	
29	1	BA-501-383	Valve Support Bracket	Not Shown
30	1	P55337	Decal Important Instructions	
31	1	P46471	16 GA. Blue Ground Wire	4pcs – 16”
32	4	P46318	Female Disconnect Spade	Not Shown
33	1	P46649	Heat Shrink (black)	1pc – 5”

HAND PUMP ASSEMBLY

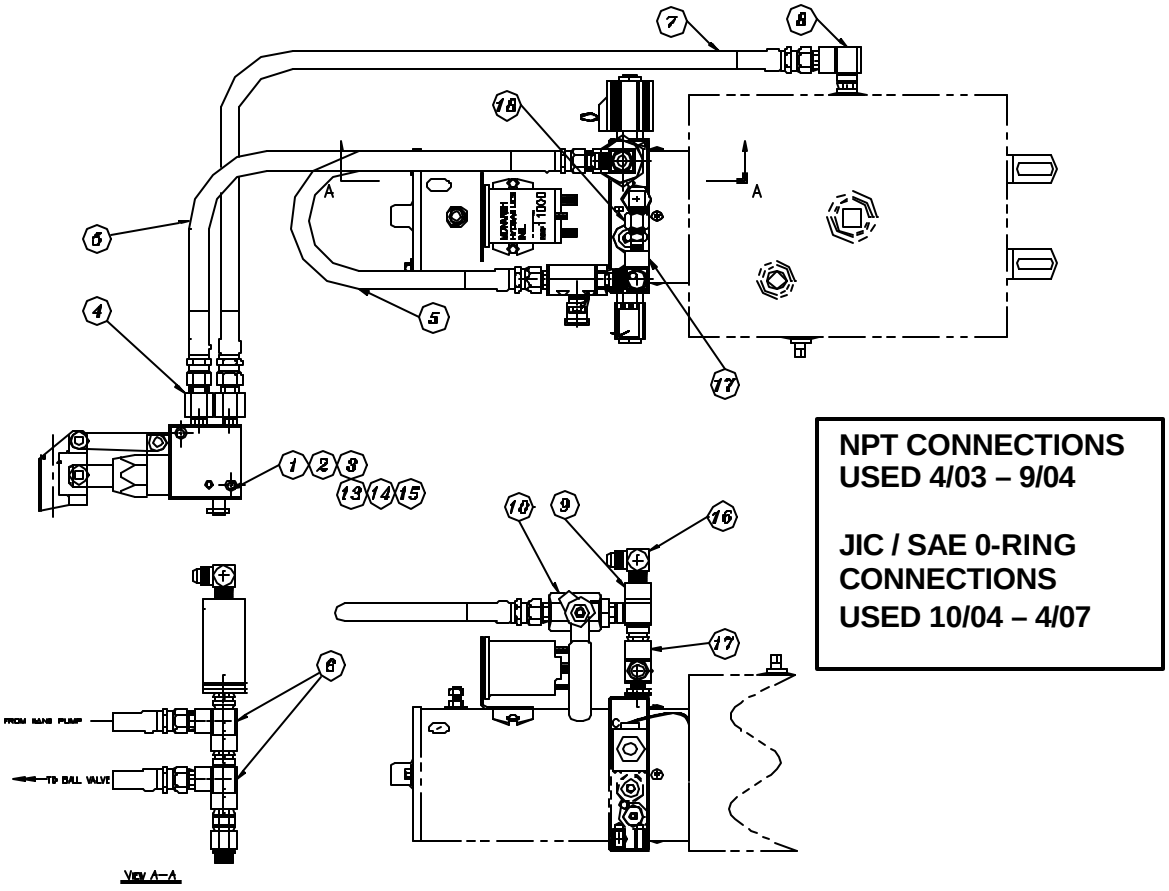
GRAVITY - DOWN FOR SPX POWER UNIT BEFORE 4/03



Index No.	Qty.	Part Number	Part Name	Material Size
1	1	P33902	Hand Pump with Handle	
2	2	P15540	Socket Head Cap Screw	
3				
4	2	P23502	Lock Nut	
5	2	P33101	Adapter	
6	2	AT-501-100-015	Hyd. Line Assy	
7	2	P33216	Street Tee	
8	1	AT-501-100-018	Hyd. Line Assy	
9	2	P33006	Street Elbow	3/8 NPT(M) – 3/8 NPT(F)
10	1	P33199	Male Street Tee	
11	1	P33208	Ball Valve	
12	2	P46192	Holder	
13	2	P17518	Self Tapping Screw	
14	2	P10040	Bolt	5/16 – 18 x 1
15	2	P23510	Lock Nut	5/16
16	1	AP-501-267	Mounting Bracket	

HAND PUMP ASSEMBLY

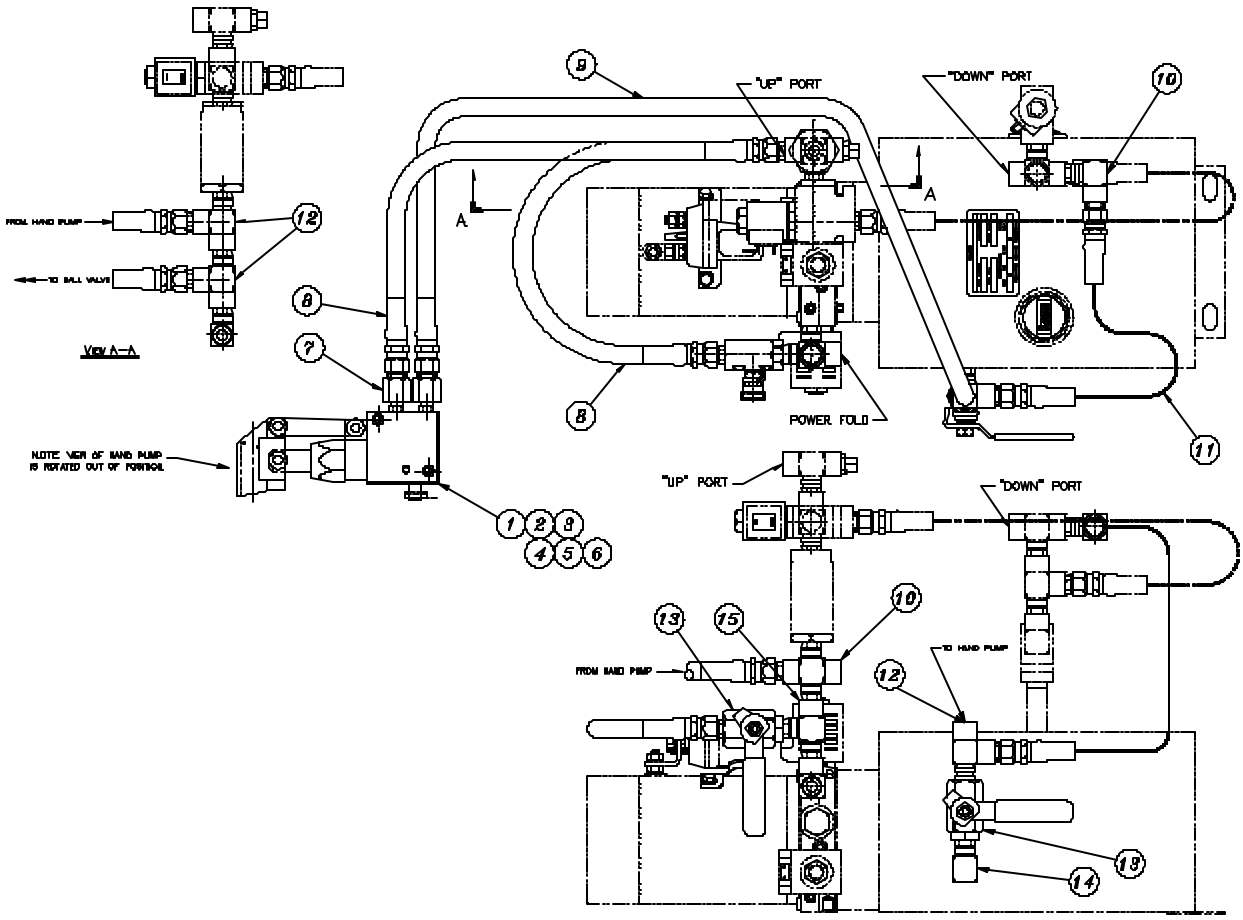
GRAVITY DOWN - FOR MONARCH POWER UNIT 4/03 – 4/07



Index No.	Qty.	Part Number	Part Name	Material Size
1	1	P33902	Hand Pump with Handle	
2	2	P15540	Socket Head Cap Screw	
3	2	P23502	Lock Nut	
4	2	P33101	Adapter	
5	2	AT-501-100-015	Hyd. Line Assy	AT-501-354-015 (JIC)
6	2	P33216	Street Tee	
7	1	AT-501-100-018	Hyd. Line Assy	AT-501-354-018 (JIC)
8	2	P33006	Street Elbow	3/8 NPT(M) – 3/8 NPT(F)
9	1	P33199	Male Street Tee	
10	1	P33208	Ball Valve	P34049 (SAE O – RING)
11	2	P46192	Holder	
12	2	P17518	Self Tapping Screw	
13	2	P10040	Bolt	5/16 – 18 x 1
14	2	P23510	Lock Nut	5/16
15	1	AP-501-267	Mounting Bracket	
16	1	P34005	Elbow	3/8 NPT(M) – 9/16-18-37(M)
17	1	P34022	90 Elbow	3/8 NPT(F) – ¼ NPT(F)
18	1	P34009	Street Adapter	¼ NPT(M) – 9/16 SAE 37 (F)

HAND PUMP ASSEMBLY

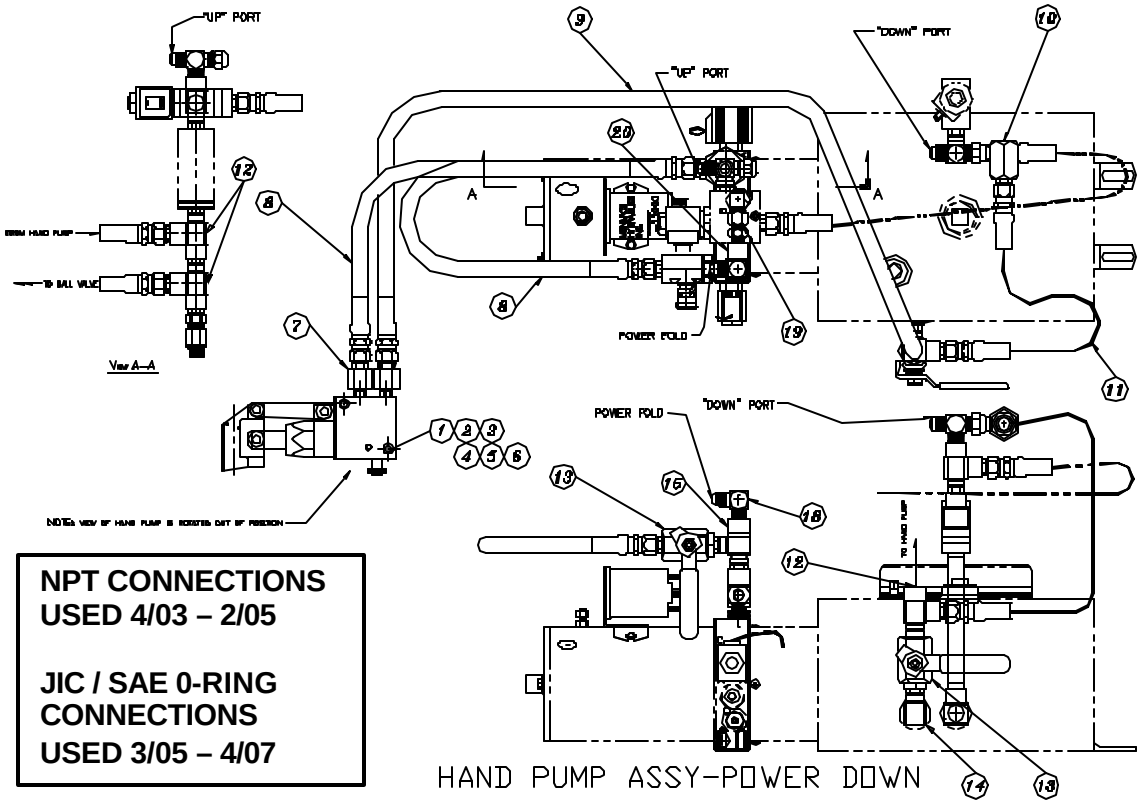
POWER DOWN - FOR SPX POWER UNIT BEFORE 4/03



Index No.	Qty.	Part Number	Part Name	Material Size
1	1	P33902	Hand Pump with Handle	
2	2	P15540	Socket Head Cap Screw	
3	2	P23502	Lock Nut	
4	1	AP-501-267	Mounting Bracket	
5	2	P10040	Bolt	5/16 – 18 x 1
6	2	P23510	Lock Nut	5/16
7	2	P33101	Adapter	
8	2	AT-501-100-015	Hyd. Line Assy.	
9	1	AT-501-100-035	Hyd. Line Assy.	
10	2	P33006	Street Elbow	3/8 NPT(M) – 9/16-18-37(M)
11	1	AT-501-100-020	Hyd. Line Assy.	
12	3	P33216	Tee	
13	2	P33208	Ball Valve	
14	1	P33217	Male Elbow	
15	1	P33199	Male Street Tee	
16	2	P46192	Tool Holder	
17	2	P17518	Self Tapping Screw	

HAND PUMP ASSEMBLY

POWER DOWN - FOR MONARCH POWER UNIT 4/03 – 4/07



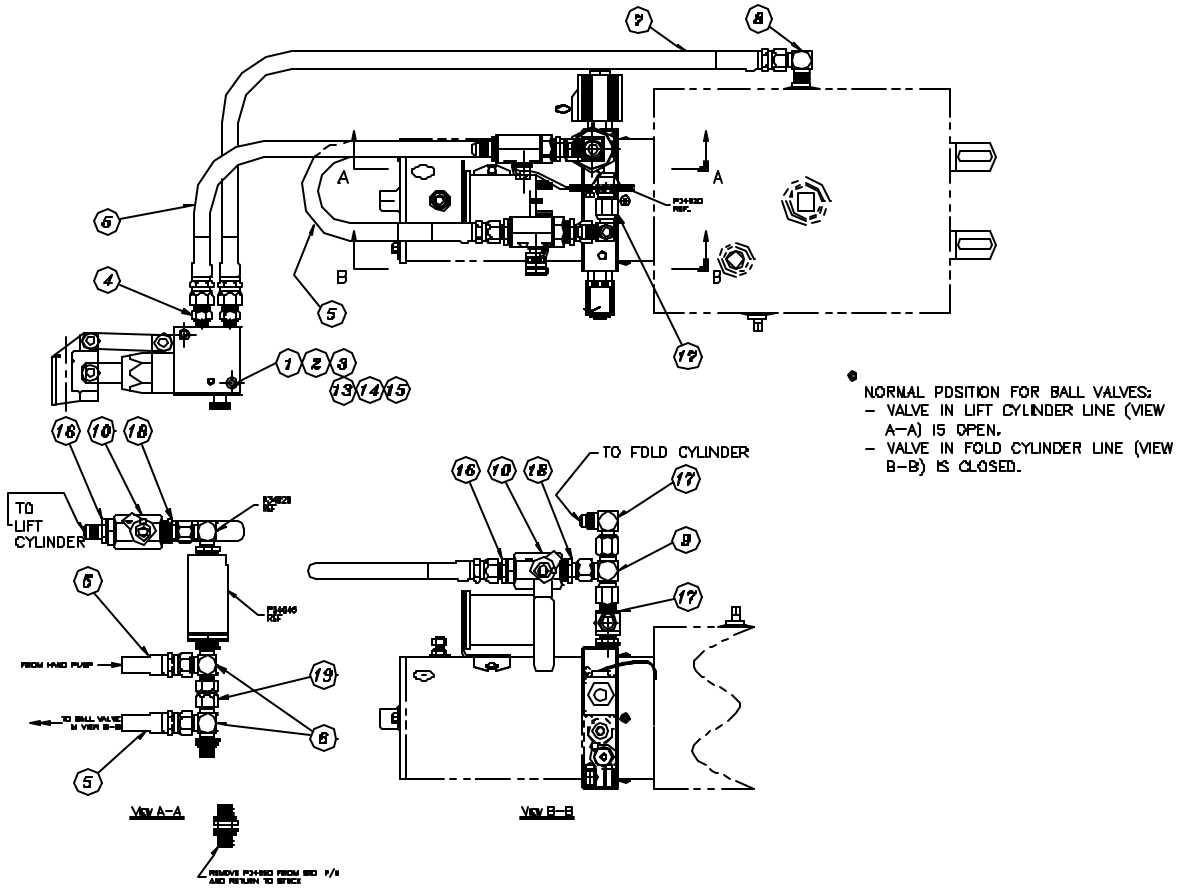
NPT CONNECTIONS USED 4/03 – 2/05

JIC / SAE 0-RING CONNECTIONS USED 3/05 – 4/07

Index No.	Qty.	Part Number	Part Name	Material Size
1	1	P33902	Hand Pump with Handle	
2	2	P15540	Socket Head Cap Screw	
3	2	P23502	Lock Nut	
4	1	AP-501-267	Mounting Bracket	
5	2	P10040	Bolt	5/16 – 18 x 1
6	2	P23510	Lock Nut	5/16
7	2	P33101	Adapter	
8	2	AT-501-100-015	Hyd. Line Assy.	AT-501-354-015 (JIC)
9	1	AT-501-100-035	Hyd. Line Assy.	AT-501-354-035 (JIC)
10	1	P34023	Female Elbow	9/16 – 18-37(F) – 3/8 NPT (F)
11	1	AT-501-100-020	Hyd. Line Assy.	AT-501-354-020 (JIC)
12	3	P33216	Tee	
13	2	P33208	Ball Valve	P34049 (SAE O-RING)
14	1	P33217	Male Elbow	
15	1	P33199	Male Street	
16	2	P46192	Tool Holder	
17	2	P17518	Self Tapping Screw	
18	1	P34005	Elbow	3/8 NPT(M) – 9/16-18-37(M)
19	1	P34009	Street Adapter	¼ NPT(M) – 9/16 SAE 37 (F)
20	1	P34022	90 Elbow	3/8 NPT(F) – ¼ NPT(F)

HAND PUMP ASSEMBLY

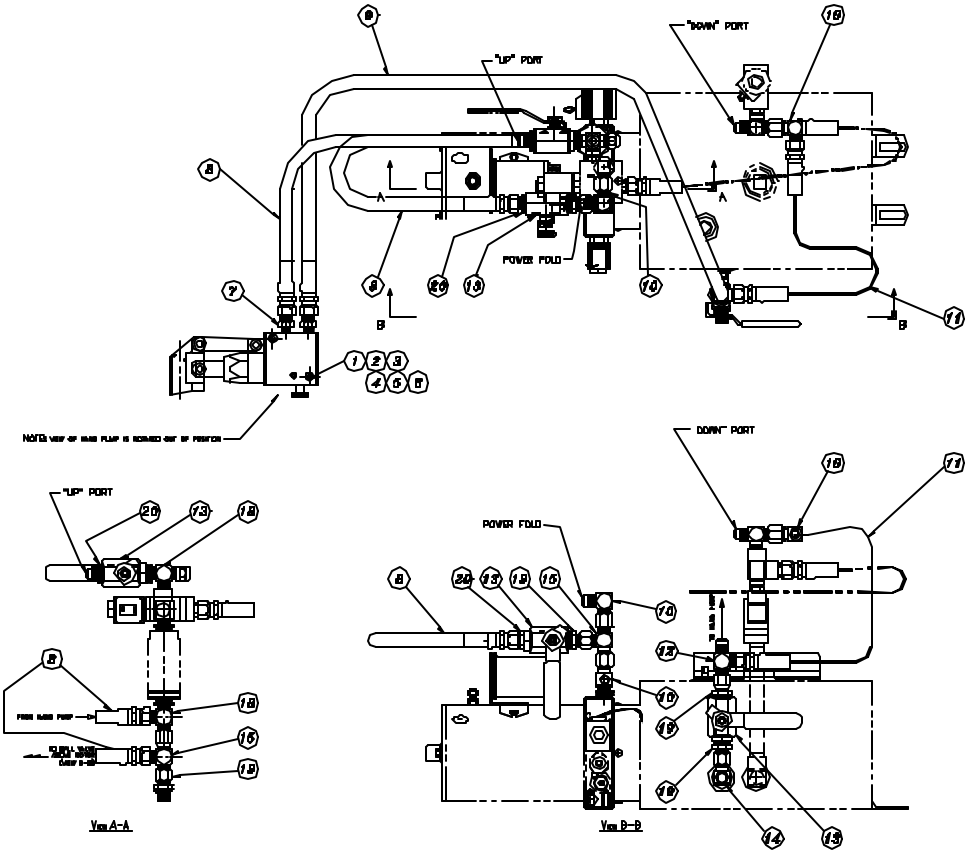
GRAVITY DOWN - FOR MONARCH POWER UNIT AFTER 4-1-07



Index No.	Qty.	Part Number	Part Name	Material Size
1	1	P33902	Hand Pump with Handle	
2	2	P15540	Socket Head Cap Screw	
3	2	P23502	Lock Nut	
4	2	P34006	Adapter	¼ NPT (M) – 9/16-18 JIC (M)
5	2	AT-501-354-015	Hyd. Line Assy	
6	2	P34040	Tee	(2) JIC (M) – (1) ORB (M)
7	1	AT-501-354-018	Hyd. Line Assy	
8	1	P34005	Elbow	3/8 NPT(M) – 9/16-18 JIC (M)
9	1	P4048	Tee	JIC (M) SIDE/BOT – JIC (F) SIDE
10	2	P34049	Ball Valve	
11	2	P46192	Holder	
12	2	P17518	Self Tapping Screw	
13	2	P10040	Bolt	5/16 – 18 x 1
14	2	P23510	Lock Nut	5/16
15	1	AP-501-267	Mounting Bracket	
16	2	P34044	Adapter	9/16-18 JIC (M) – SAE ORB (M)
17	2	P34051	Elbow	9/16 JIC (M) – 9/16 JIC (F)
18	2	P34042	Str. Adapter	9/16 JIC (F) – 9/16 ORB (M)
19	1	P34058	Str. Adapter	9/16 JIC (F) – 9/16 JIC (F)

HAND PUMP ASSEMBLY

POWER DOWN - FOR MONARCH POWER UNIT AFTER 4-1-07

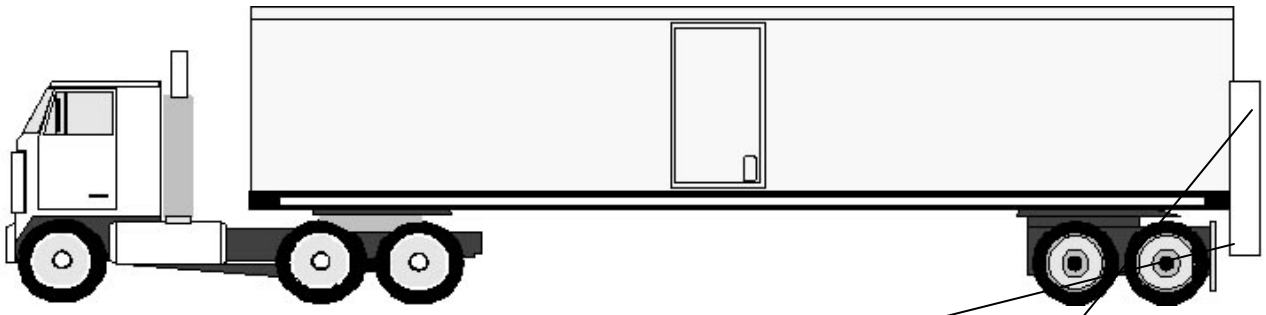


Index No.	Qty.	Part Number	Part Name	Material Size
1	1	P33902	Hand Pump with Handle	
2	2	P15540	Socket Head Cap Screw	
3	2	P23502	Lock Nut	
4	1	AP-501-267	Mounting Bracket	
5	2	P10040	Bolt	5/16 – 18 x 1
6	2	P23510	Lock Nut	5/16
7	2	P34006	Adapter	¼ NPT (M) – JIC (M)
8	2	AT-501-354-015	Hyd. Line Assy.	
9	1	AT-501-354-035	Hyd. Line Assy.	
10	1	P34051	Elbow	JIC (F) – JIC (M)
11	1	AT-501-354-020	Hyd. Line Assy.	
12	3	P34010	Tee	JIC (M) ALL BRANCHES
13	3	P34049	Ball Valve	
14	1	P34005	Elbow	3/8 NPT (M) – JIC (M)
15	2	P34048	Tee	2 JIC (M) – 1 JIC (F)
16	2	P46192	Tool Holder	
17	2	P17518	Self Tapping Screw	
18	2	P34040	Tee	2 JIC (M) – 1 ORB (M)
19	2	P34042	Str. Adapter	JIC (F) – ORB (M)
20	2	P34044	Str. Adapter	JIC (M) – ORB (M)

INSTALLATION OF THE WARNING SIGNS/DECALS

STREET SIDE DECALS

Warning Signs and Decals will be replaced at any time
FREE OF CHARGE

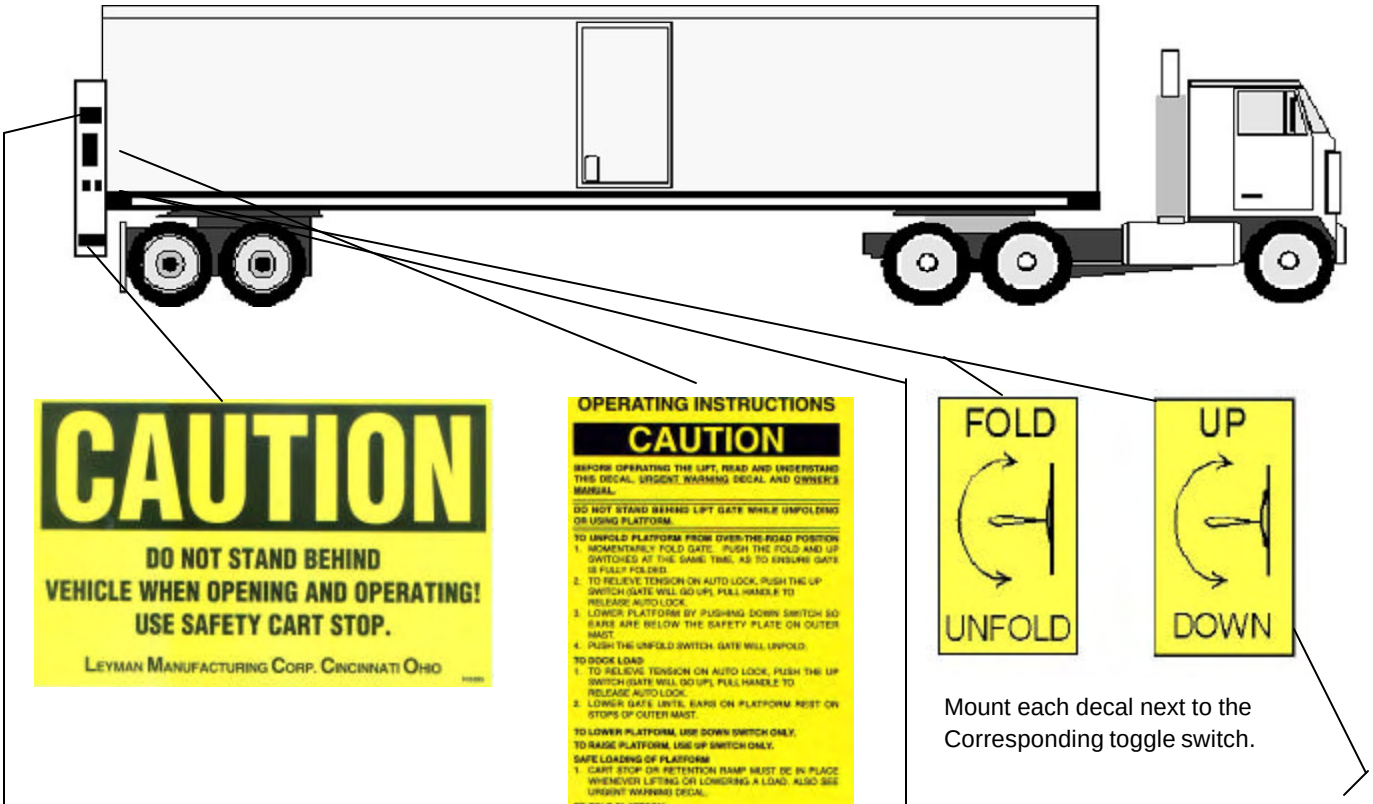


Will receive two of these decals. One goes on each side at bottom of outer mast

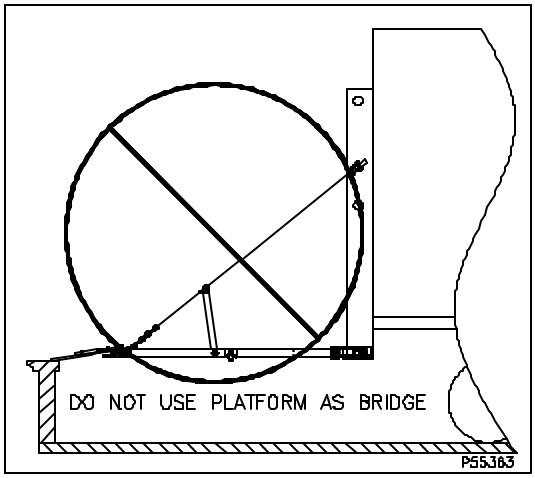
INSTALLATION OF THE WARNING SINGS/ DECALS

CURB SIDE DECALS

Warning Signs and Decals will be replaced at any time
FREE OF CHARGE



Mount each decal next to the Corresponding toggle switch.

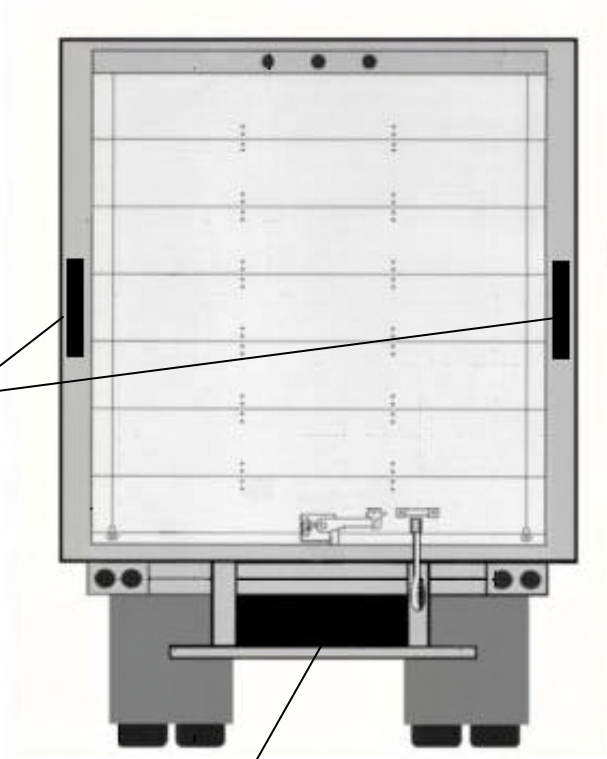


Will receive two of these decals. One goes on outer Mast as marked, the other goes on inner mast next to the switch

INSTALLING SAFETY DECALS

REAR OF VEHICLE DECALS

Warning Signs and Decals will be replaced at any time
FREE OF CHARGE



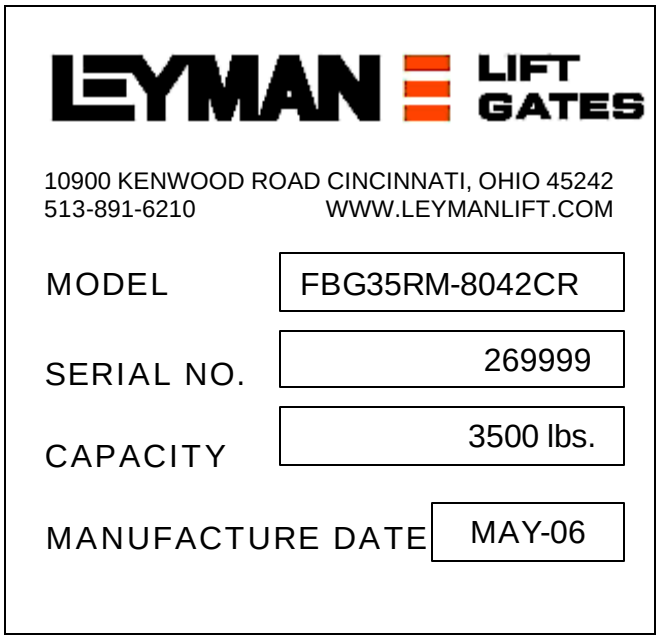
Will receive two of these decals
One goes on each side of the outer mast

CAUTION	KEEP FEET FROM EDGE OF PLATFORM

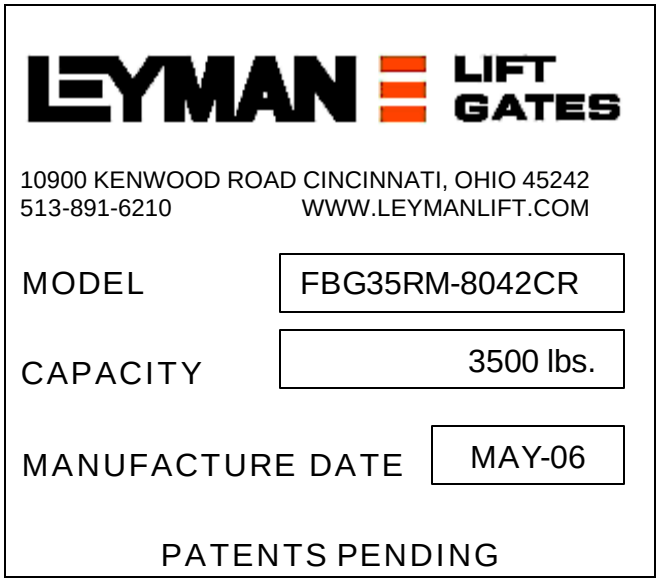
MODEL AND SERIAL NUMBER TAGS

Serial No. is also located in MENU 1 of
Maintenance Minder 2®

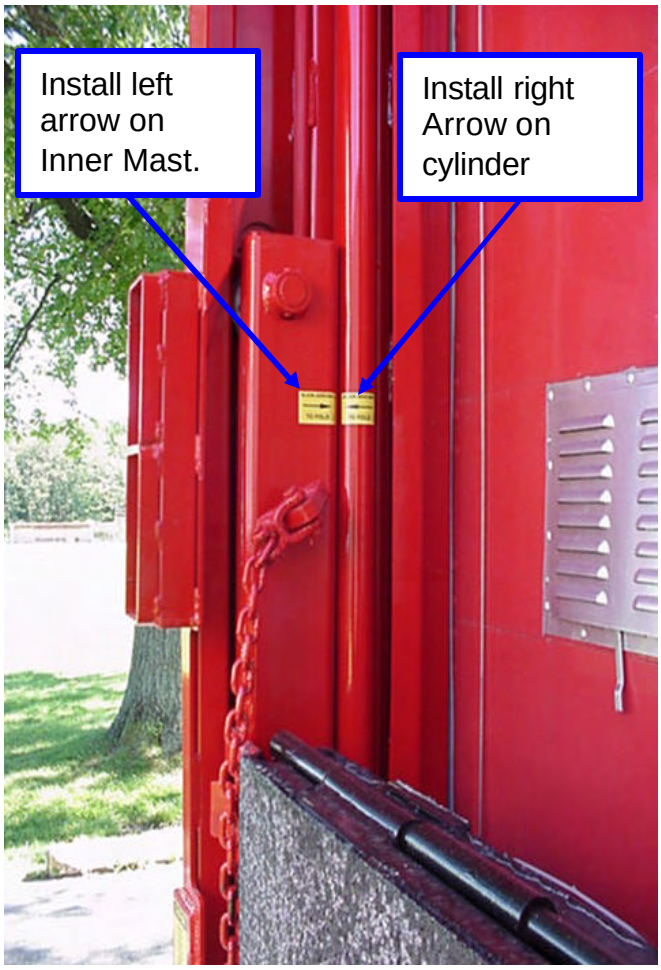
Serial number tag is located inside power unit box.



Model number tag is located on the left-hand outer mast.



ALIGN ARROWS DECALS



P55417

NOTES