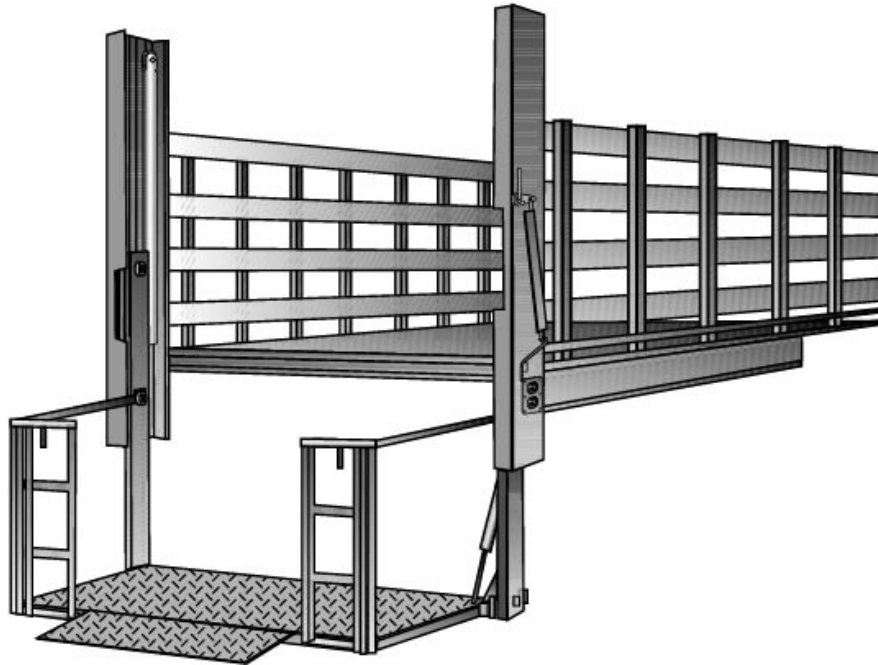




Owner's Manual

FBGxxRM Power Unfold Fold-A-Vador® Rail Style



10900 Kenwood Road • Cincinnati, OH 45242
Ph: 513.891.6210 • Toll-Free: 866.539.6261
Fax: 513.891.4901
www.leymanlift.com • sales@leymanlift.com

LML00125-06-30-15

TABLE OF CONTENTS

Introduction	2
Words of Caution	3
General Terminology	4
Operating The Lift Gate	5
Maintaining the Lift Gate	
Recommended Hydraulic Oil – Preventative Maintenance Schedule	6 - 7
Trouble Shooting – General Maintenance	
Troubleshooting chart	8 - 9
Electrical Diagrams – Battery Hook Up – Grounding Recommendations	10 – 15
Maintenance Minder® STARTER Solenoid Switch (with green LED light on starter)	16
Maintenance Minder 2® Controller Menus (orange box inside power unit enclosure)	17 – 19
General Tips	20
Bleeding The Power Fold Cylinder – Lift Cylinders – Power Down Gates	21 - 22
Adjustment of The Equalizer Valve - Straightening The Tie Bar	23 - 24
Lubricating The Roller Tracks	25
Parts Replacement	
Hydraulic Assembly Lift Cylinders – Power Fold Cylinder	26 - 27
Replacement Roller	28 - 29
Platform Pins and Bushings	30
Hand Rails: Standard, Collapsible	31 - 33
Power Unit	34 - 35
Safety Decals	36 – 39
Notes	41
Electrical Part Replacement - See Electrical Diagrams (page 10-14)	

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

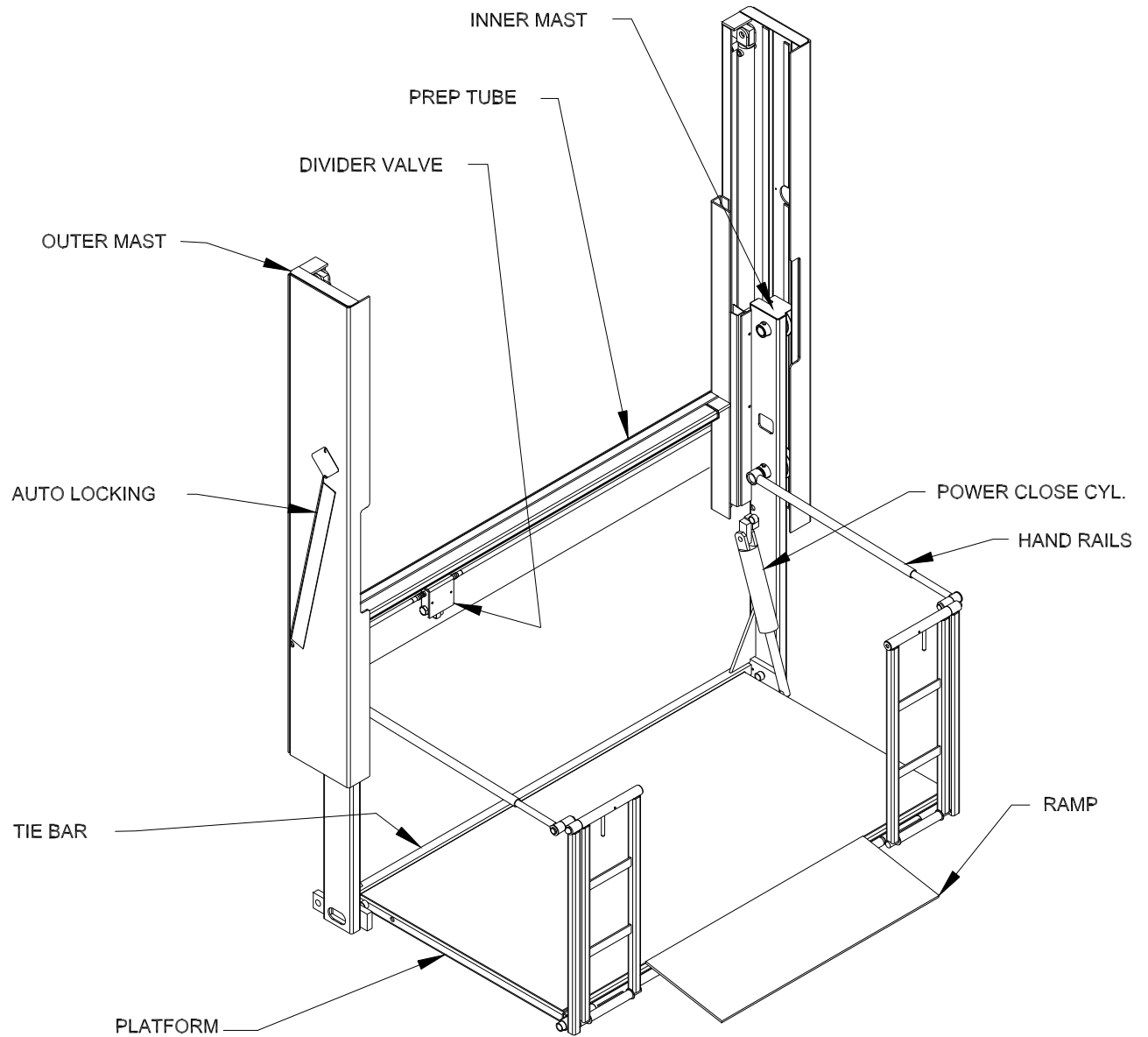
1. BEFORE ANY MAINTENANCE IS PERFORMED ON THIS UNIT, READ AND UNDERSTAND THIS MANUAL COMPLETELY.
2. DO NOT STAND ON OR BEHIND THE PLATFORM WHEN OPERATING GATE IN THE FOLDED POSITION.
3. DO NOT STAND IN FRONT OF THE PLATFORM WHEN LOWERING FROM VERTICAL POSITION OR OPERATING IN ANY MANNER.
4. MAKE SURE 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 THAN 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 - MAXIMUM 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 raise platform, use the up switch only.



To lower platform, use the down switch only.



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

1.- PUSH THE UP SWITCH ALL THE WAY UP

TO ENSURE PLATFORMS EARS ARE AT SLOTS IN OUTER MASTS READY TO BE DISENGAGED.



2.- UNFOLD PLATFORM BY HOLDING DOWN THE UNFOLD SWITCH AND THEN HOLDING DOWN THE DOWN SWITCH. GATE WILL UNFOLD.

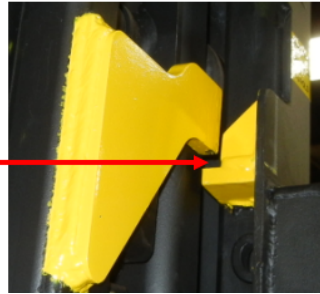


To fold platform:

1.- RAISE THE PLATFORM
ALL THE WAY UP UNTIL THE
ARROWS ALIGN.



2.- FOLD THE PLATFORM
COMPLETELY UNTIL
PLATFORM EARS STOP.



3.- LOWER THE PLATFORM
INTO THE LOCKS.

To dock load:

1.- RAISE THE PLATFORM ALL THE WAY
UP AND THEN UNFOLD IN ORDER TO
CLEAR THE LIGHTS.



2.- LOWER THE
PLATFORM UNTIL THE
PLATFORM EARS
REACH THE CUT OUT
BELOW THE LIGHTS.



3.- FOLD THE PLATFORM BACK
INTO THE FOLDED POSITION
THROUGH THE CUT OUT.



4.- LOWER THE
PLATFORM ONTO THE
DOWN STOPS.



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.

MAINTAINING THE LIFT GATE

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	

√ = 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 " <u>Gravity Down</u> " (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 " <u>Power Down</u> " (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.

LEYMAN **LIFT
GATES®**

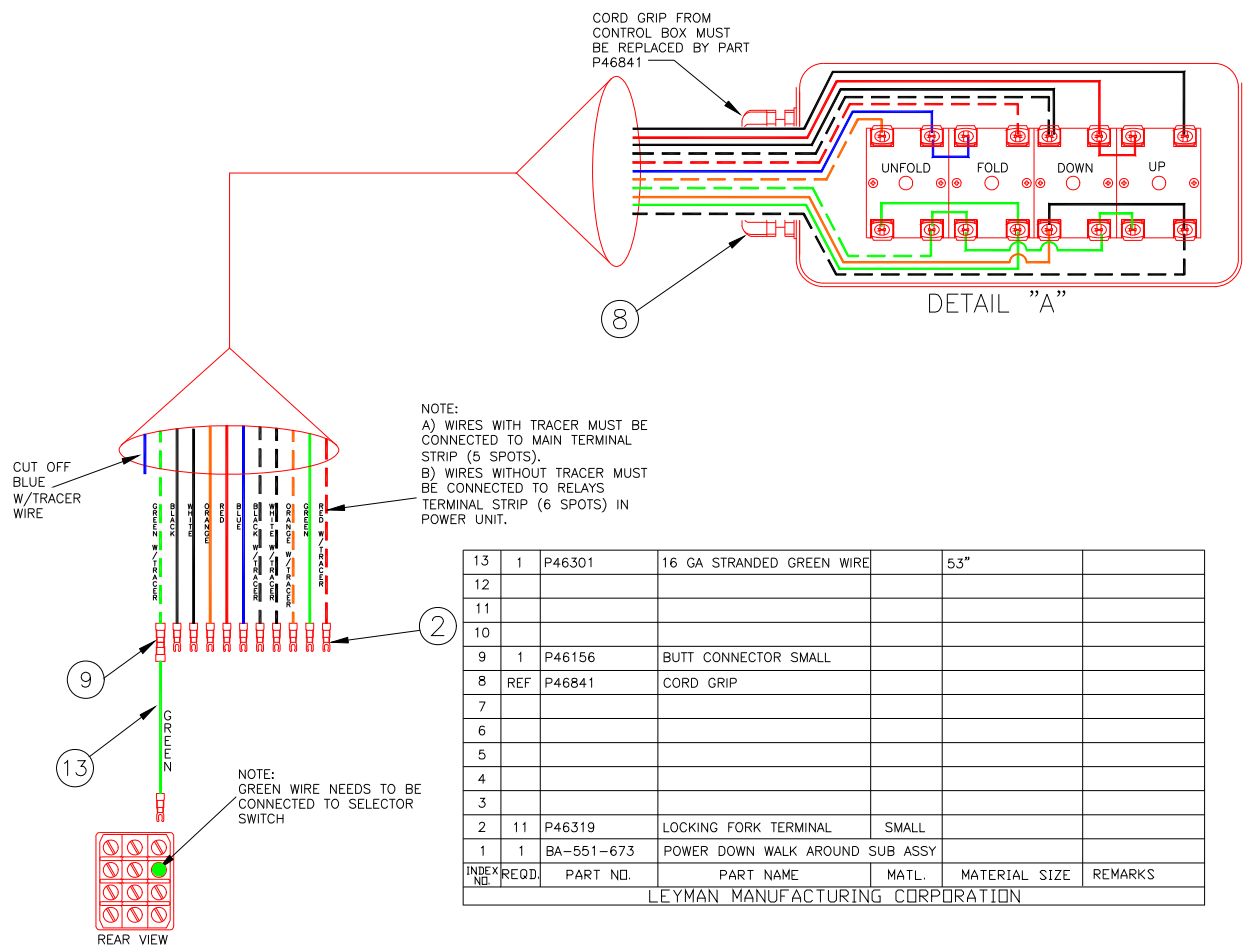


ELECTRICS' DIAGRAM DUAL POWER UNIT, POWER UNFOLD

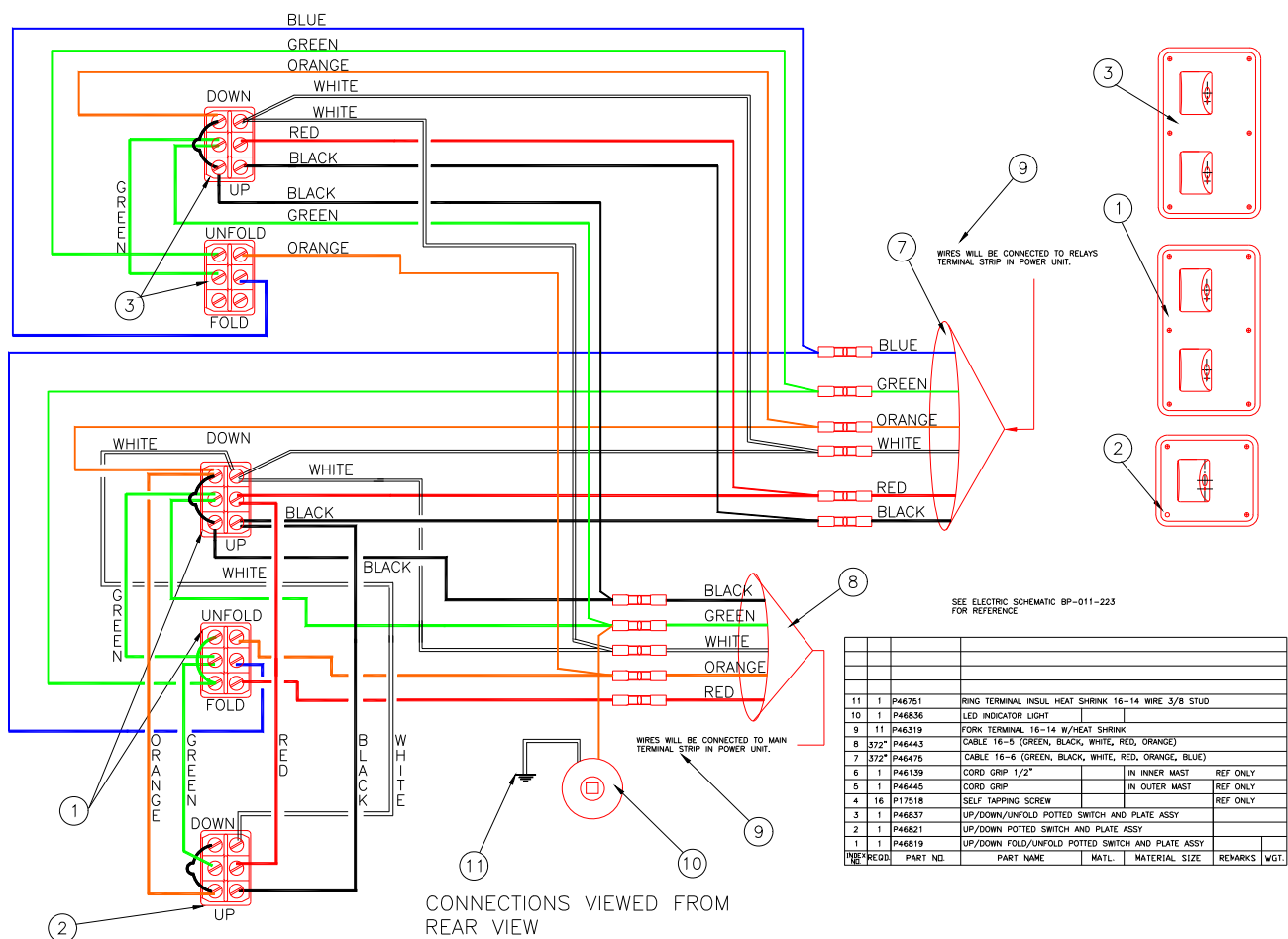
POWER FROM 12 VOLT SOURCE

WALKAROUND ELECTRICS POWER UNFOLD

DUAL PWR. UNIT with COMMON TANK



SWITCH WIRING POWER UNFOLD RM SERIES

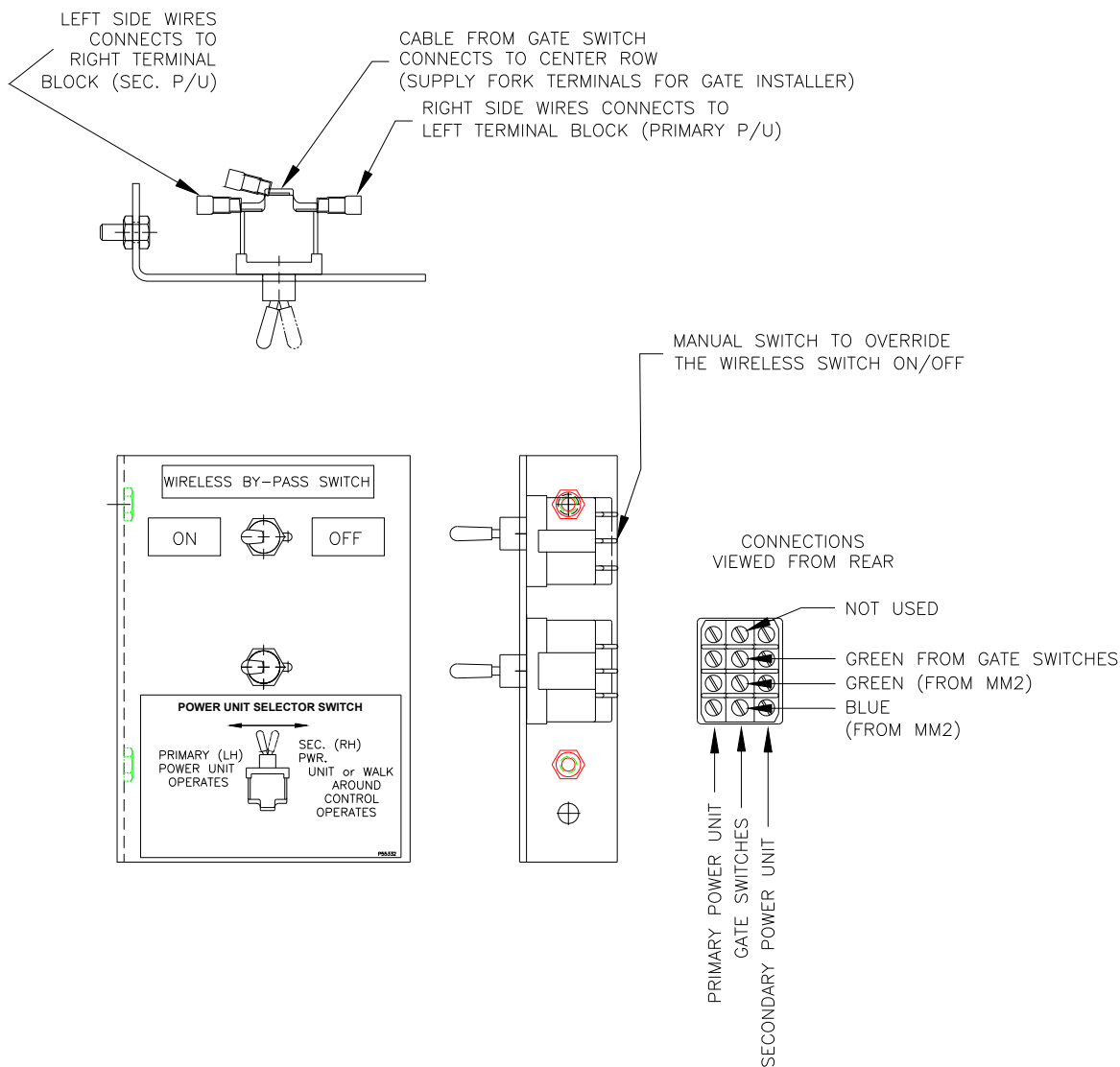


CONNECTING GATE ELECTRICS – POWER UNFOLD, DUAL POWER UNIT with COMMON OIL TANK

CONNECTING THE GATE ELECTRICS

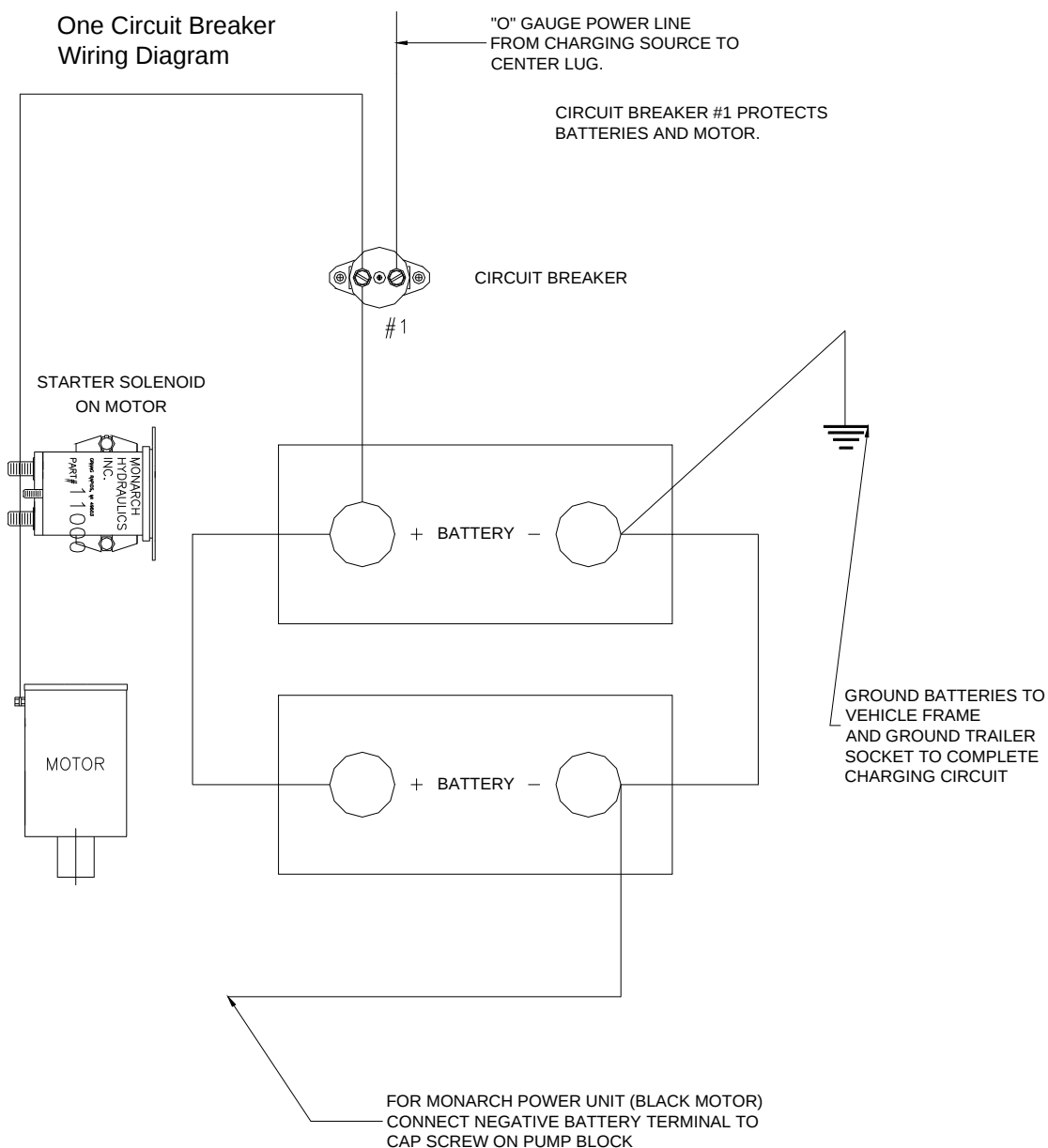
ROUTE THE CABLE FROM THE GATE ELECTRICS INTO THE POWER UNIT ENCLOSURE AND CONNECT THE WIRE TERMINALS TO THE CENTER COLUMN OF THE SELECTOR SWITCHES. MATCH COLOR TO COLOR ACROSS THE ROWS FOR PROPER OPERATION.

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



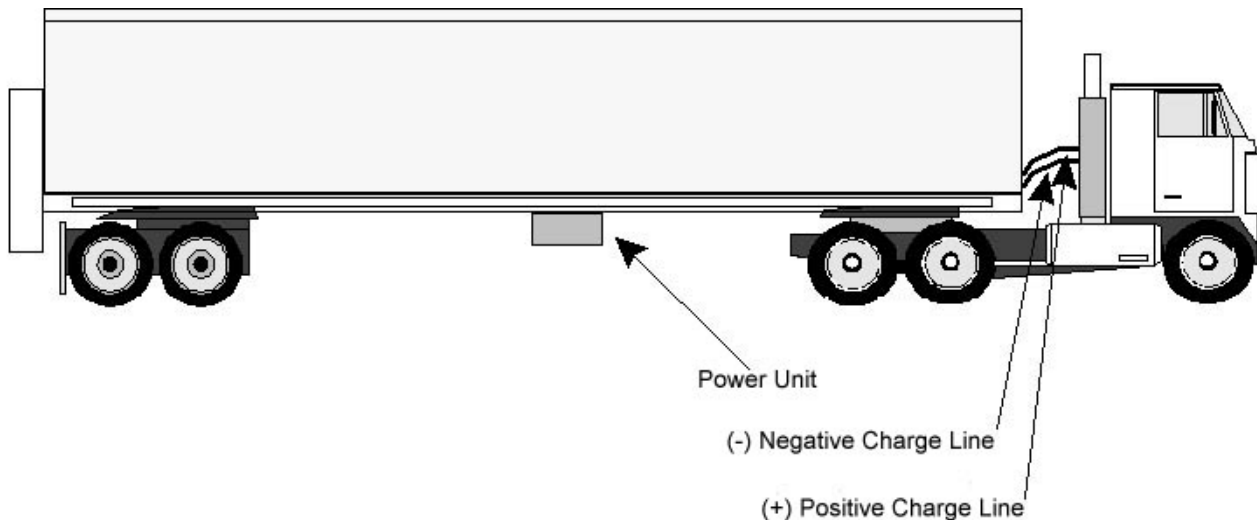
BATTERY HOOK UP

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



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.

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 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 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.)



MAINTENANCE MINDER 2® CONTROLLER MENUS

(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

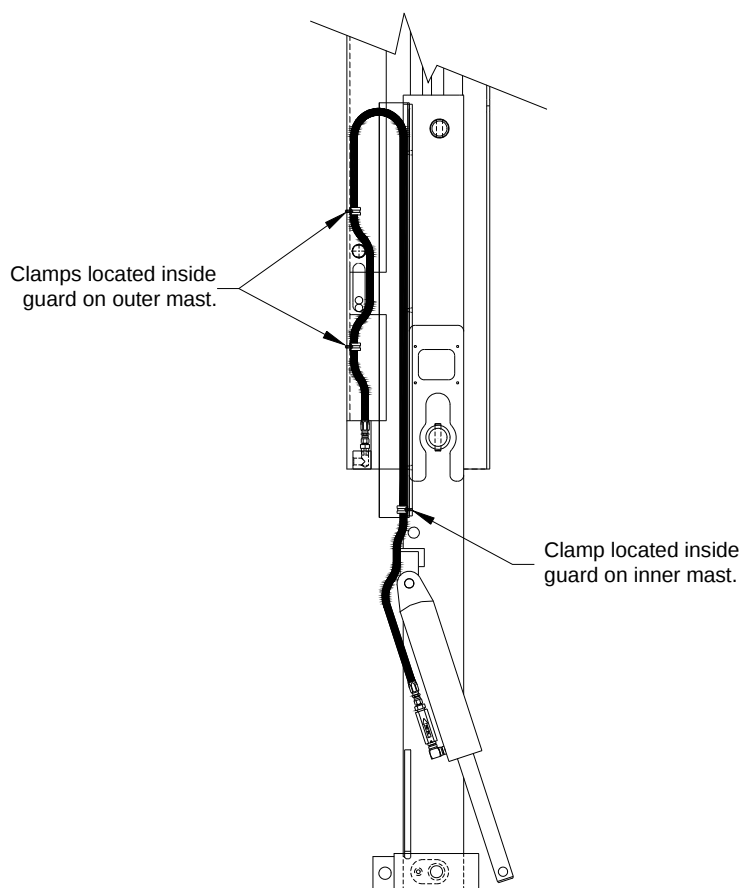
1. This gate can run up or down uneven from the vehicle floor by 1" to 1 ½" without damaging the mechanical workings on the gate.
2. The equalizer valve is only for adjusting the up stroke (while the gate is loaded).
3. The flow control valves are for controlling the down stroke only. They should be 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 (power unfold)

1. If the motor runs and the gate does not rise, you may have one of the two problems:
 - a. The Emergency Hand Pump Valve is open (or partially open).
 - b. You have a bad pump.
2. To get the gate down, push one of the switches down and valves SV3 & SV4 will be energized. *The motor will run in this operation.*
3. To get the gate up, push one of the switches up and SV4 valve will be energized. *The motor will run.*
4. To unfold the platform, first push the unfold switch and secondly the up switch, this will energize SV1 and SV2. *The motor will run in this operation.*
5. To fold the platform, first push the fold switch and secondly the up switch, this will energize SV1 valve. *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.
8. If the unit has a wireless on/off switch and a keyfob, and any issue like low battery is experienced overtime, then push the toggle switch named "wireless by-pass switch" to the ON position while keyfob battery is replaced.

TO BLEED THE POWER FOLD CYLINDER

1. Unfold and lower the platform down to the ground.
2. Disconnect the hose from the fitting on the upper portion of the cylinder.
3. Loosen the hose at the cylinder but do not remove completely.
4. Activate the pump (just long enough to product an air free stream of oil from the hose).
5. Re-tighten the hose and check the oil level in the reservoir tank. Note: hold line while tightening to ensure it does not twist.
6. 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:
POWER DOWN GATES – Check with platform unfolded and up at bed height.

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.*

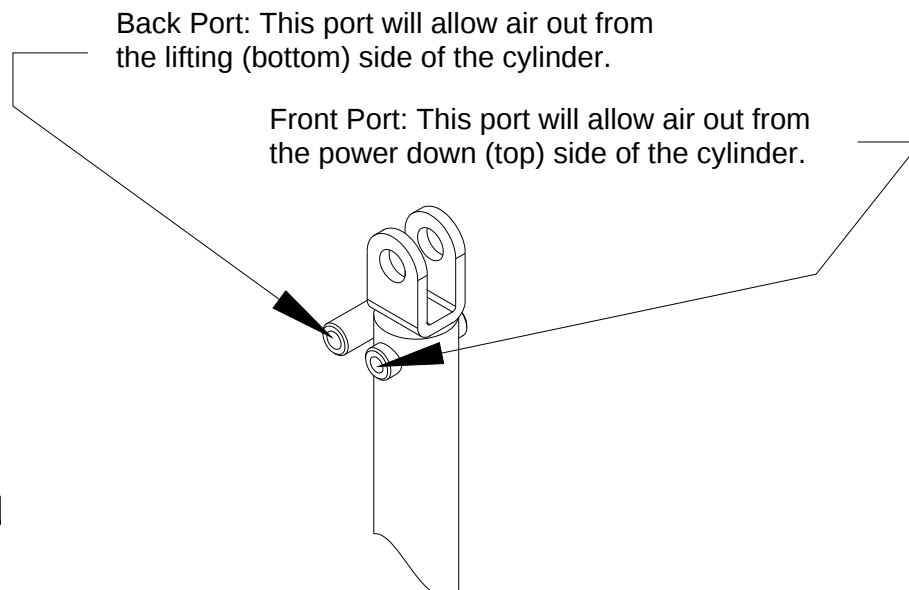
To Bleed the Lifting Cylinder – Bottom Side:

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.**
1. Loosen the plugs in the back ports (ports closest to the vehicle body), but do not remove completely.
2. Activate the pump just long enough to produce an air-free stream of oil from the ports.
3. 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 $\frac{1}{4}$ turn, lock nut and try. Repeat if necessary.

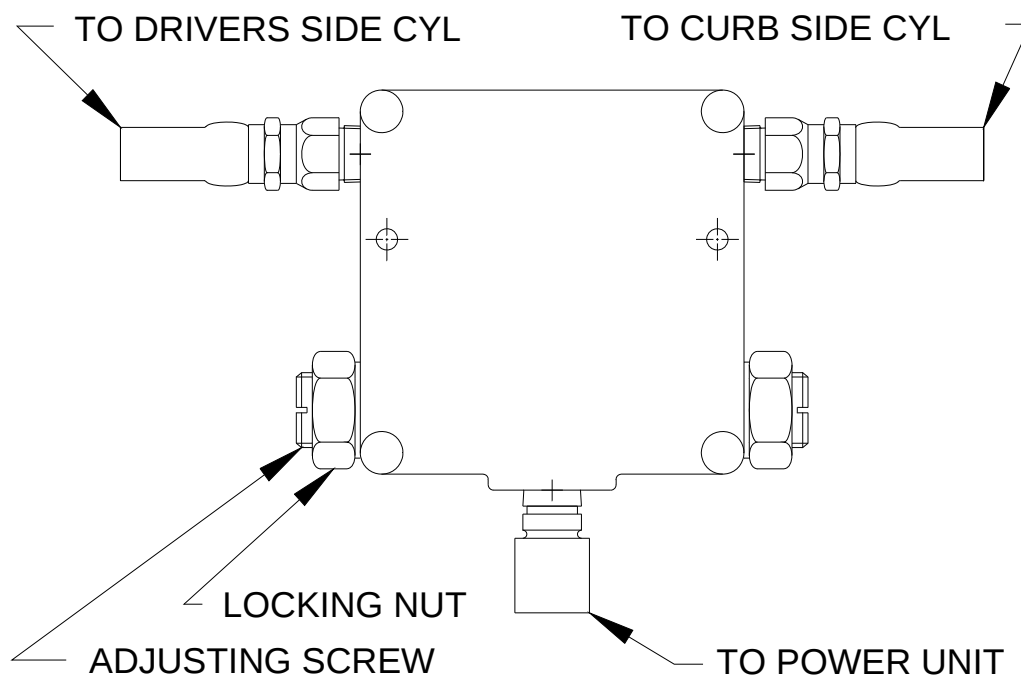
Although this can be done with no load on the platform, it normally helps to have a light load on the platform.

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.

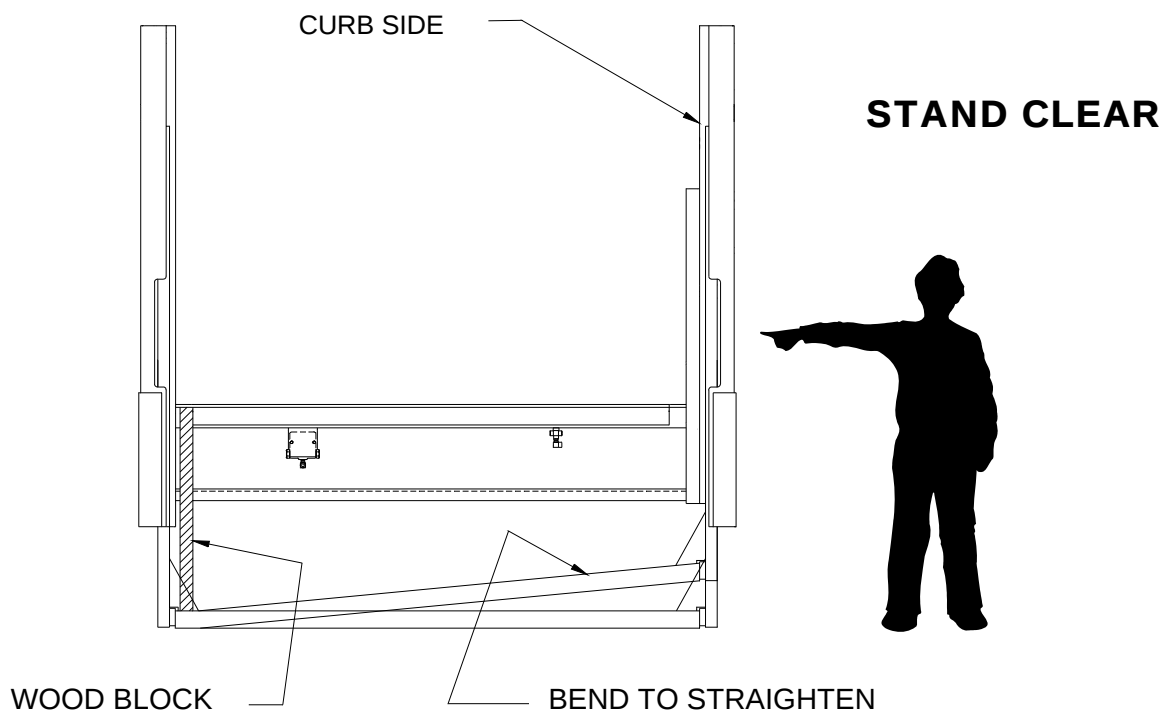
Acquire a piece of wood 4" x 4" x 2' long and place the wood between the tie bar and the up stop area near the floor line area. **Caution!** Check for cracked welds before proceeding. **Stand clear while performing this procedure.**

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.

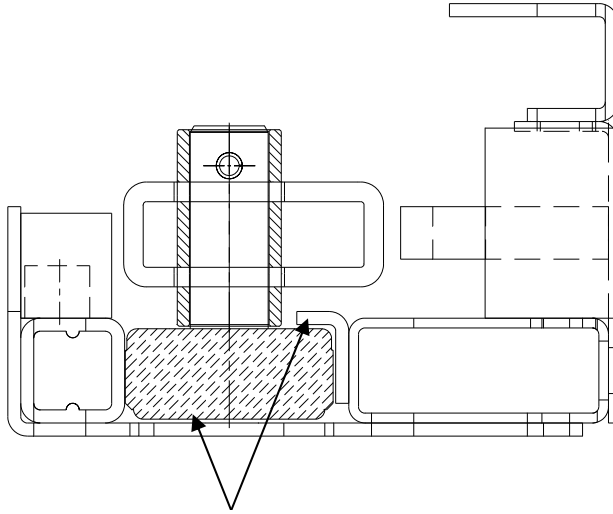
Sometimes, the power from the gate is not enough to correct the problem. If you have a hand pump, use it to take it up further. If you do not have a hand pump, use a floor jack and continue jacking the gate in an upward cycle.

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



LUBRICATING THE ROLLER TRACKS

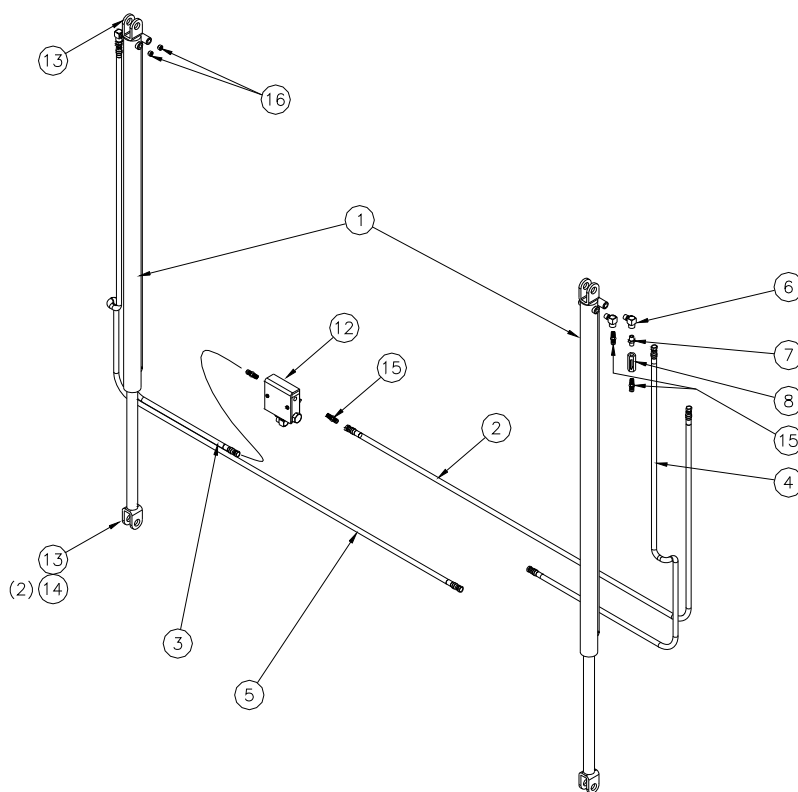
Do NOT use grease or oil to lubricate the roller tracks. Wet lubricants will allow dirt and grit to stick and cause premature wear.



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

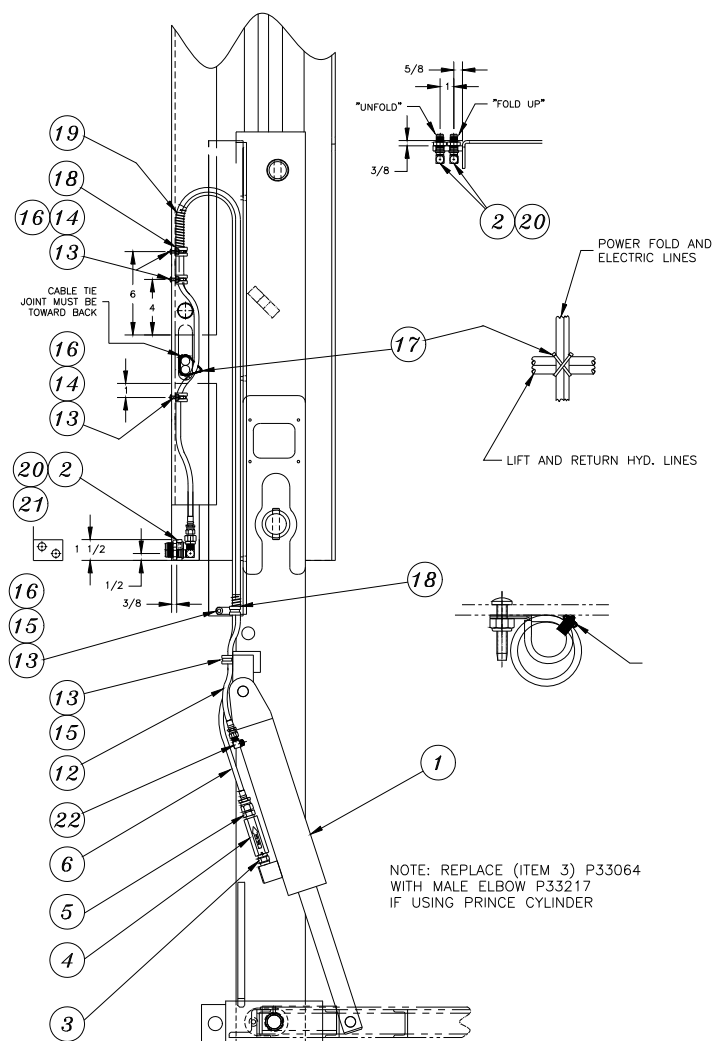
PARTS REPLACEMENT – HYDRAULIC ASSEMBLY

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 3/4 in.	Not Shown
10	6	P17518	Self tapping screw	Not Shown
11	4	P46497	3/4" 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

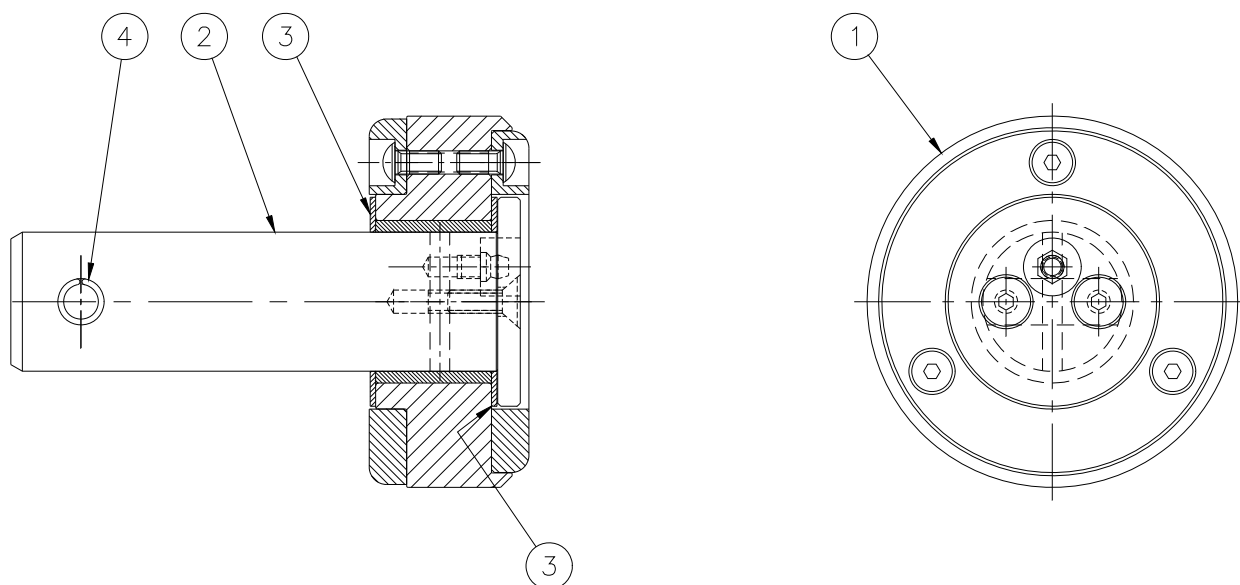
POWER FOLD ASSEMBLY



22	1	P34194	ELBOW		M 1/8 NPT TO M 7/16-20 37°JIC	
21	2	P34110	STRAIGHT ADAPTER			
20	2	P34106	BULKHEAD ELBOW			
19	1	P34174	SPRING GUARD 37" LONG			
18	2	P46750	STAINLESS STEEL CABLE TIE 7.9"			
17	2	P46462	CABLE TIE 11"			
16	1	P23539	LOCK NUT W/NYLON INSERT		#10-32	
15	2	P17518	SELF TAPPING SCREW		#10-32 X 1/2	
14	3	P17560	SELF TAPPING SCREW		#10-32 X 1	
13	5	P46251	LOOM CLAMP			
12	1	AT-501-453-002	1/8 HOSE ASSY - 71.5 LG			
11	2	P24019	RETAINING RING			
10	4	P26019	WASHER			
9	1	S754-005.500	BOTTOM RAM PIN	CR ROUND	ø3/4 X 5-1/2	1144
8	1	P47532	SPIROL PIN		1/4 X 2-1/4	
7	1	AP-811-200	SHAFT - TOP RAM PIN			
6	1	AT-501-453-001	1/8 HOSE ASSY - 77 LG			
5	1	P33750	ADAPTER			
4	1	P33718	FLOW CONTROL 1.0 GPM			
3	1	P33064	PIPE NIPPLE			
2	1	AP-819-189	BULKHEAD MTG			
1	1	P33877	HYD CYLINDER			
INDEX NO.	REQD.	PART NO.	PART NAME	MATL.	MATERIAL SIZE	REMARKS

REPLACEMENT ROLLER

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



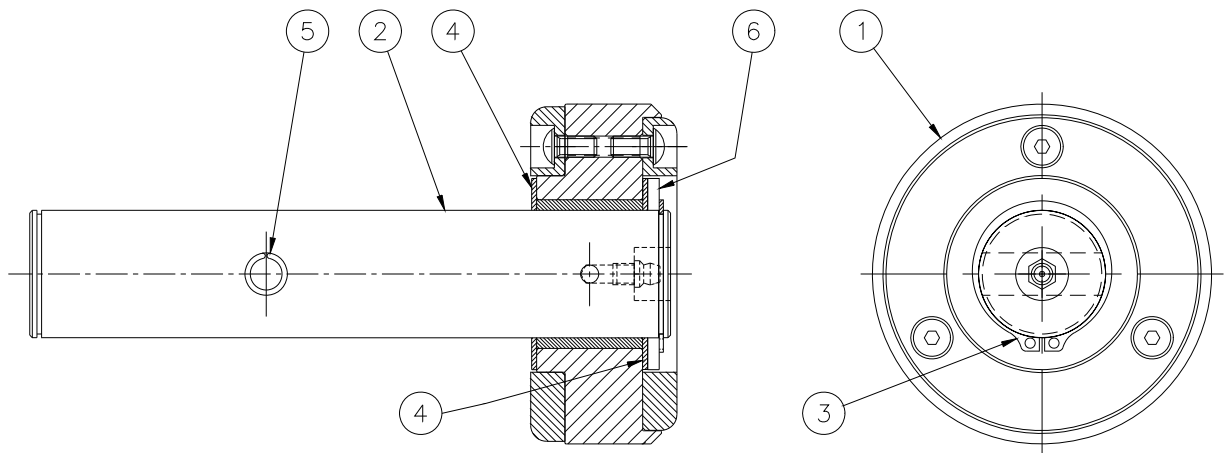
**ROLLER ASSEMBLY CAN BE ORDERED COMPLETE
UNDER PART NO. BA-818-435 OR BY INDIVIDUAL
COMPONENTS LISTED BELOW.**

**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-818-196	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

REPLACEMENT ROLLER

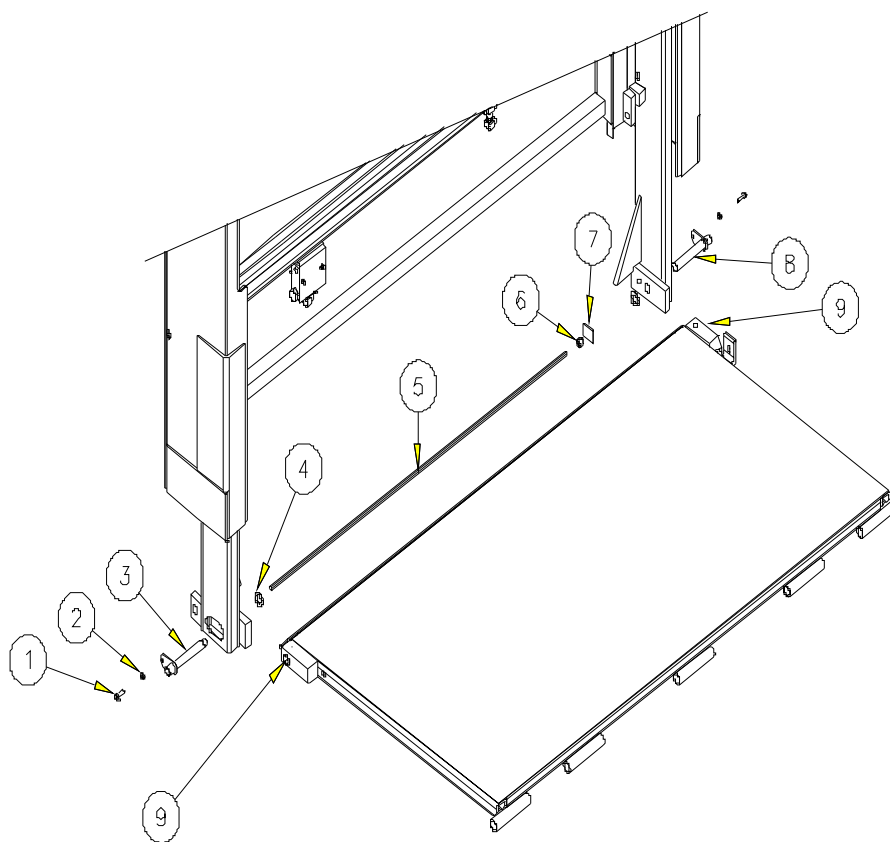
4" REPLACEMENT LOWER ROLLER PARTS GREASED / GREASELESS ROLLERS WITH SIDE PADS



**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

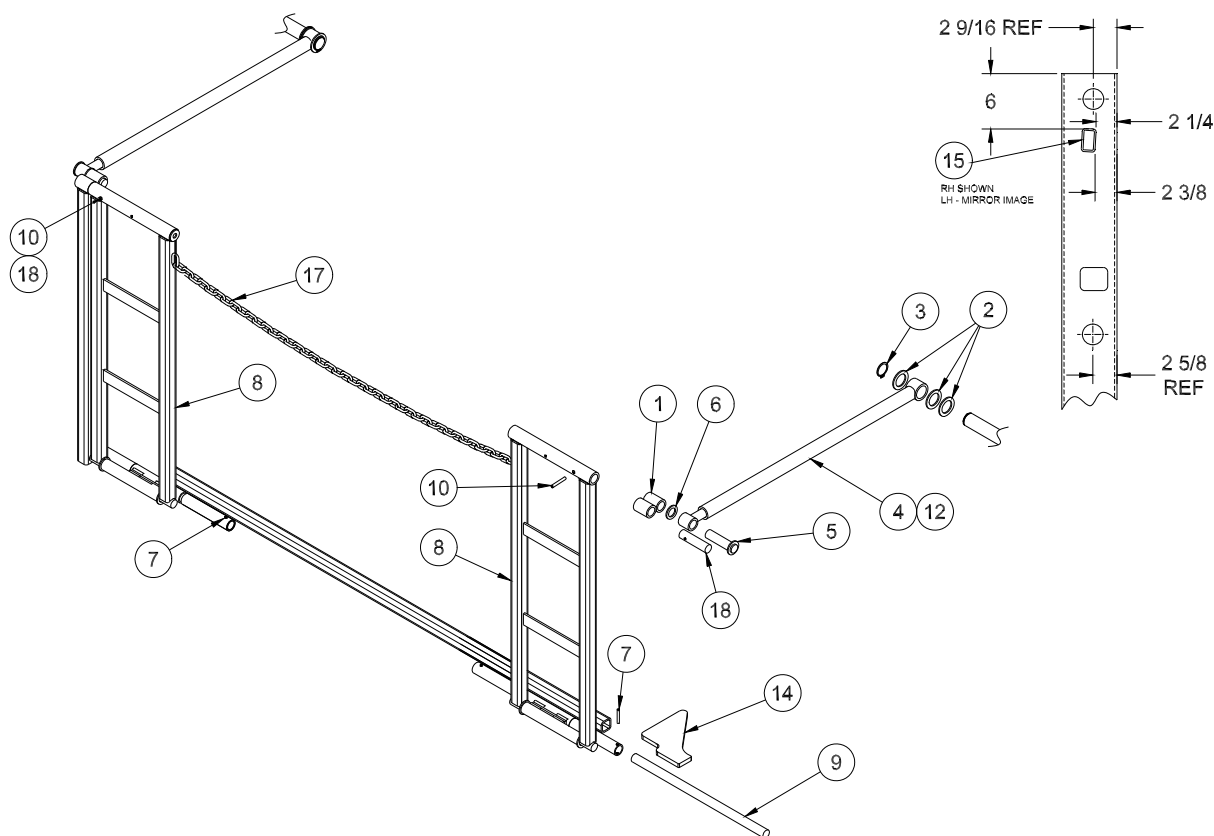


PLATFORM BEARING
(1 REQ'D EACH SIDE)

Index No.	Qty.	Part Number	Part Name	Material Size/Notes
1	2	P11048	Bolt	3/8 16 x 1 1/4 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

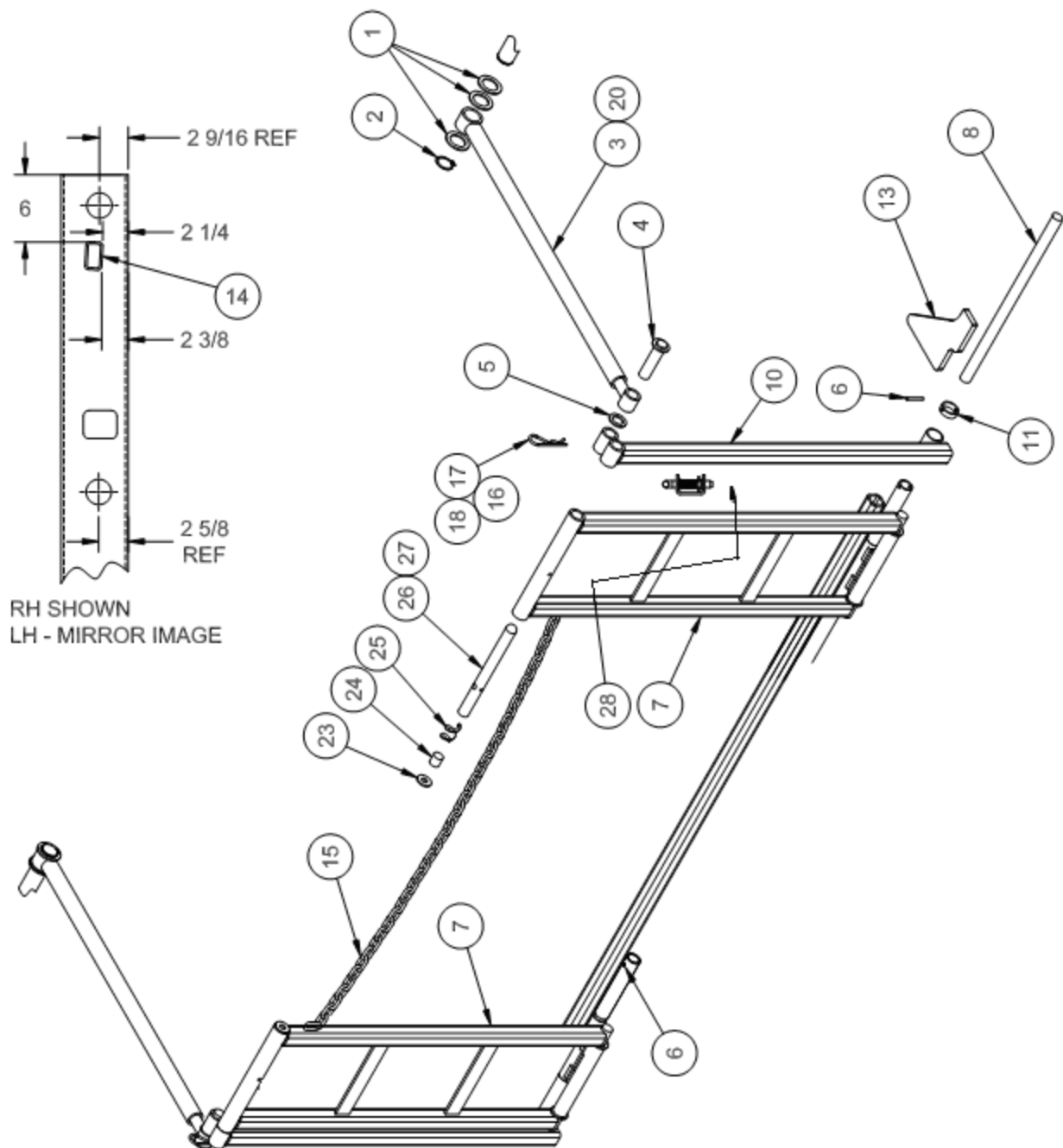
Standard Hand Rails



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	1/4 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

Hand Rail Parts

Collapsible Hand Rails

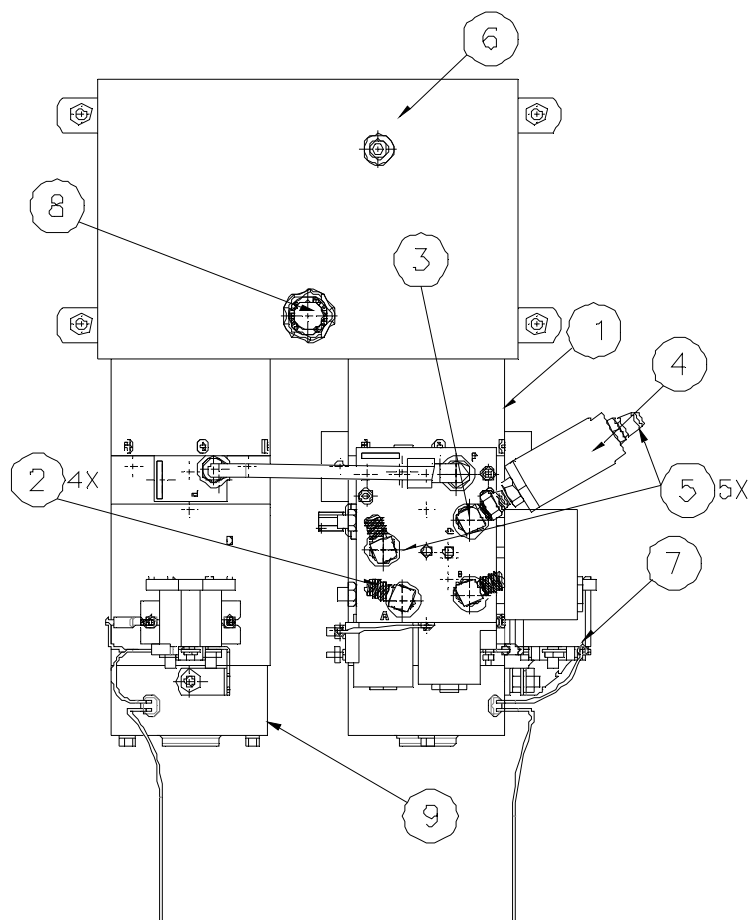


Hand Rail Parts

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	1/4 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	P56612	Spring Latch	

POWER UNFOLD UNIT ASSEMBLY



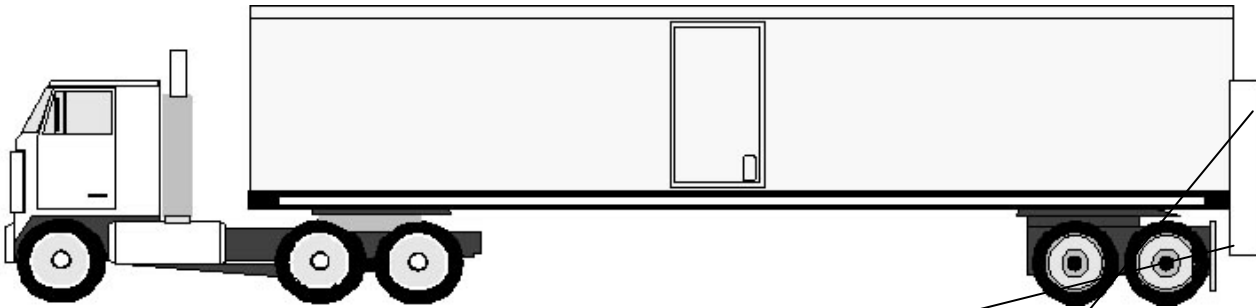
NOTE: JIC FITTINGS TORQUE VALUE 18-20
FT-LB

9	2	P34027A	ELECTRIC MOTORS			
8	1	LH150015	BREATHER CAP			
7	2	P34016	TROMBETTA START SOLENOID			
6	1	P34199	STEEL TANK			
5	5	P34044	ADAPTER		9/16-18 O-RING(M) - 9/16-18 37° (M)	
4	1	P34046	FILTER			
3	1	P34042	ADAPTER		9/16 SAE ORB(M) - 9/16 JIC(F)	
2	4	P34051	ELBOW		9/16-18 JIC (M) - 9/16-18 JIC (F)	
1	1	P34195	BUCHER PWR UNIT - POWER UNFOLD			
INDEX NO.	REQD.	PART NO.	PART NAME	MATL.	MATERIAL SIZE	REMARKS WGT.

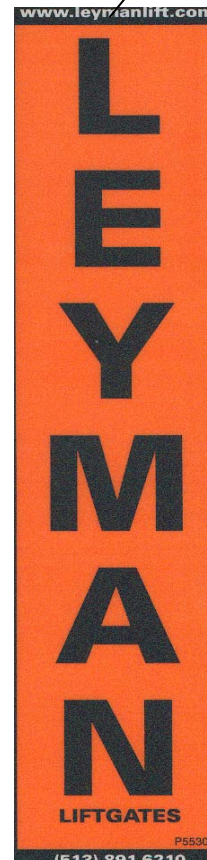
INSTALLATION OF THE WARNING SIGNS/DECALS

STREET SIDE DECALS

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



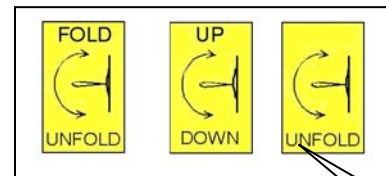
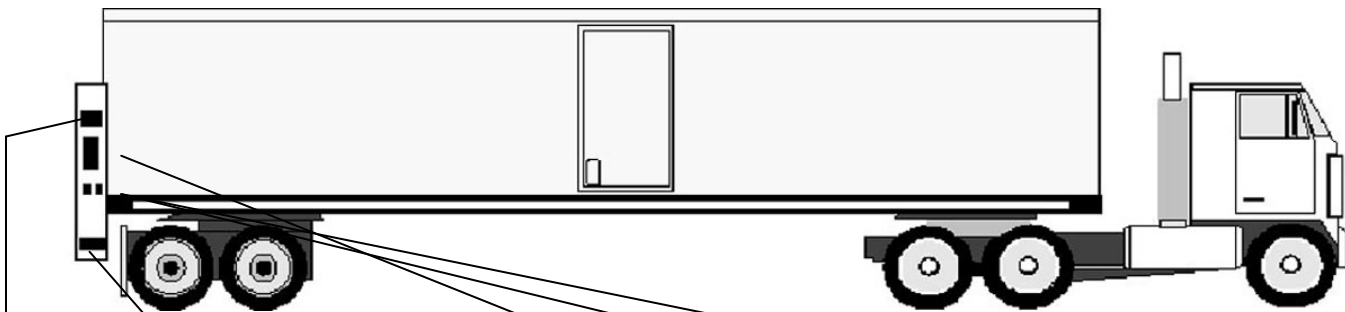
Will receive two of these decals. One
goes on each side at bottom of outer mast



INSTALLATION OF THE WARNING SIGNS/ 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.

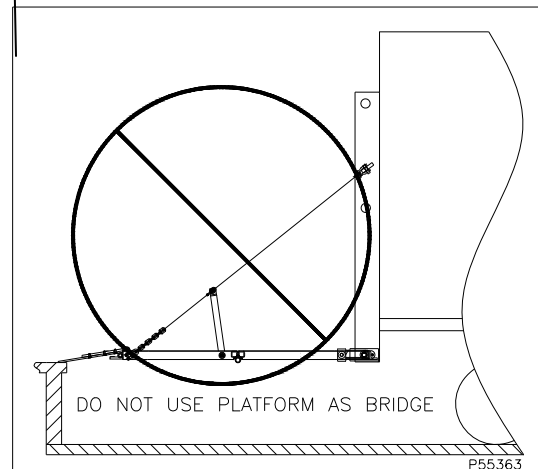
For the 3rd
Switch
ONLY

THE SURFACE TO WHICH THIS LABEL IS TO BE APPLIED MUST BE FREE FROM OIL, GREASE, AND OTHER CONTAMINANTS.
Read all decal and warning labels. Apply with the finger pressure.
TYPED COPY: YORK, PA. A CONNECTION, CALL
If this label does not stick to the surface, it's about the way have been extended, therefore do not use.

URGENT WARNING
ELEVATING GATE INSTRUCTIONS
Before Operating Lift, Be Sure You Understand

1. Improper operation of this lift can result in serious personal injury. Do not operate unless you have been properly instructed and have read, and are familiar with, the operating instructions. If you do not have a copy of the instructions please obtain them from your employer, distributor, or lessor, as appropriate, before you attempt to operate the lift.
2. Be certain the vehicle is properly and securely braked before using the lift.
3. Always inspect this lift for maintenance or damage before using it. If there are signs of improper maintenance, damage to vital parts, or slippery platform surface, do not use the lift. Do not attempt your own repairs, unless you are specifically trained.
4. Do not overload. See the Mfg. Literature and/or Rating Label on the unit for the rated load. Remember that this limit applies to both raising and lowering operations.
5. Each load should be placed in a stable position as near as possible to the center of the platform.
6. Never stand in or move through or allow anyone else to stand in or move through the area in which the lift may operate or into which an upset load might fall.

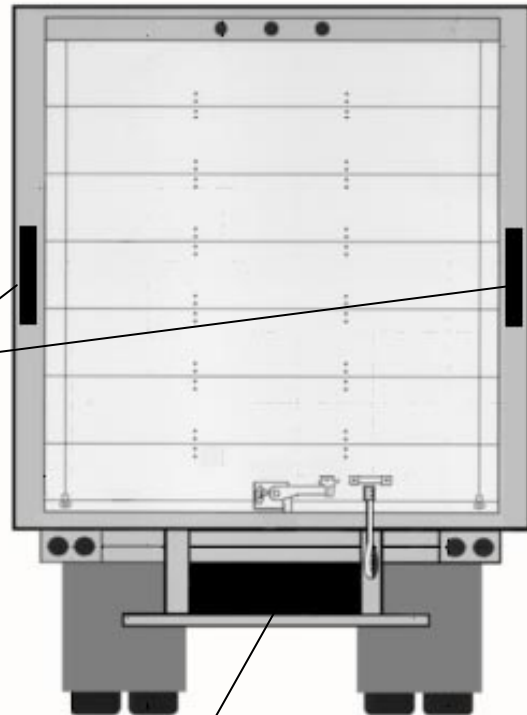
P55157



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.

LEYMAN  LIFT GATES	
10900 KENWOOD ROAD CINCINNATI, OHIO 45242 513-891-6210 WWW.LEYMANLIFT.COM	
MODEL	FBG35RM-8042CR
SERIAL NO.	269999
CAPACITY	3500 lbs.
MANUFACTURE DATE	MAY-06

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

LEYMAN  LIFT GATES	
10900 KENWOOD ROAD CINCINNATI, OHIO 45242 513-891-6210 WWW.LEYMANLIFT.COM	
MODEL	FBG35RM-8042CR
CAPACITY	3500 lbs.
MANUFACTURE DATE	MAY-06
PATENTS PENDING	

ALIGN ARROWS DECALS



Platform must be all the way up to line up both stickers.

P55417

[illegible]