

LEYMAN

LIFT GATES

INSTALLATION MANUAL

FREEDOM™ FXD Power Down on Demand

Extreme Duty Column Gate





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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 the operator. Because of the weights that are involved, carelessness and neglect of training can make these units dangerous.

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

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

PLEASE FILL IN FOR YOUR RECORDS

CUSTOMER:	_____
MODEL:	_____
CAPACITY:	_____
TYPE:	_____
POWER:	12 VOLT _____
PLATFORM:	_____
SERIAL:	_____
OPTIONS	_____

MAXIMUM HEIGHT:	56"
HYDRAULIC PRESSURE:	AT BY-PASS 2,500 PSI AT THE PUMP
AMP DRAW:	AT BY-PASS 235, UNLOADED 130
POWER DOWN ON DEMAND	

**WHEN PLACING A PARTS ORDER, PLEASE PROVIDE
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 the 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** 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.
- 7** Always load as close to the center of the platform and as close to the center of the truck sill as possible.
- 8** Do not allow persons to operate the unit unless they have been properly trained to do so.
- 9** 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 PLATFORM PIVOTS, AND CYLINDER. **WHEN WELDING BE SURE TO GROUND DIRECTLY TO THE COMPONENT BEING WELDED.**

PREPARATION OF THE VEHICLE

Read the Installation manual completely before proceeding with the installation of the **FREEDOM** FXD®.

Do not remove any packing, banding or shipping straps until instructed to do so in the manual.

The **FREEDOM** FXD® must be installed as described in this manual. Any deviation from the installation method described herein without written permission from Leyman Manufacturing Corporation will void any warranty issued with this unit.



NOTE

Special preparation must be completed before installing the **FREEDOM** FXD® on vehicles with aluminum rear corner posts. Contact Leyman Manufacturing Corporation before proceeding with any installation involving aluminum rear corner posts.



NOTE

The use of a battery charger as the sole power source to operate the lift gate is unauthorized and will prevent the lift gate from working properly. The **FREEDOM** FXD® must always be operated in conjunction with at least one (1) 12-volt heavy-duty dual purpose or AGM battery on a trailer application, although we recommend using two (2) batteries. A minimum of 9.5 volts must be maintained in order for the valves to operate.

If installing on a truck, you must disconnect the ground from the battery. If this is ignored, the motor controls and charging system can be damaged.

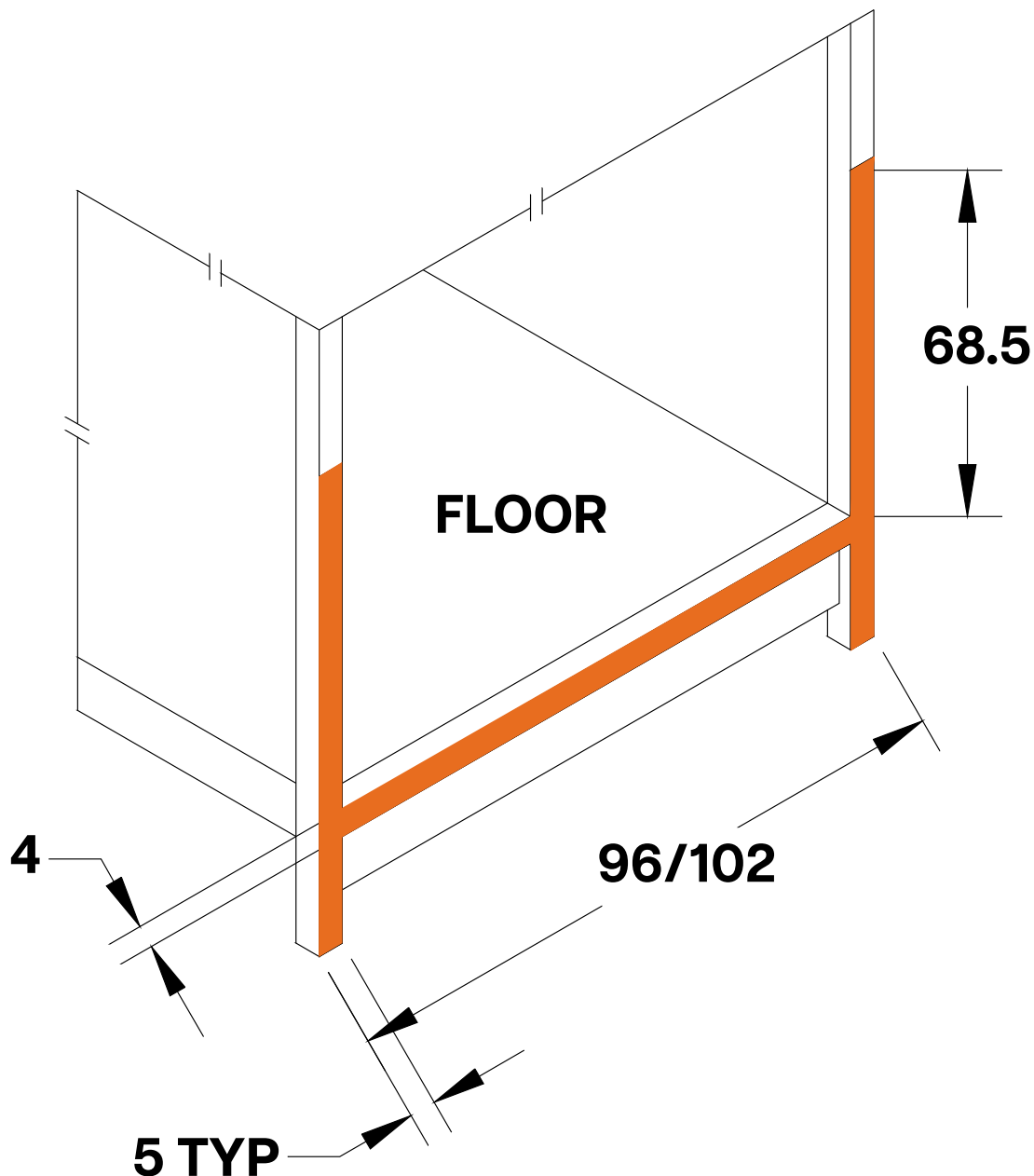
Also, verify that the Maintenance Minder 2® Controller (if equipped) has been unplugged before welding the gate to the vehicle, in order to prevent damage to the MM2® Controller.



PREPARATION REQUIRED TO THE REAR OF THE VEHICLE BEFORE MOUNTING GATE TO VEHICLE

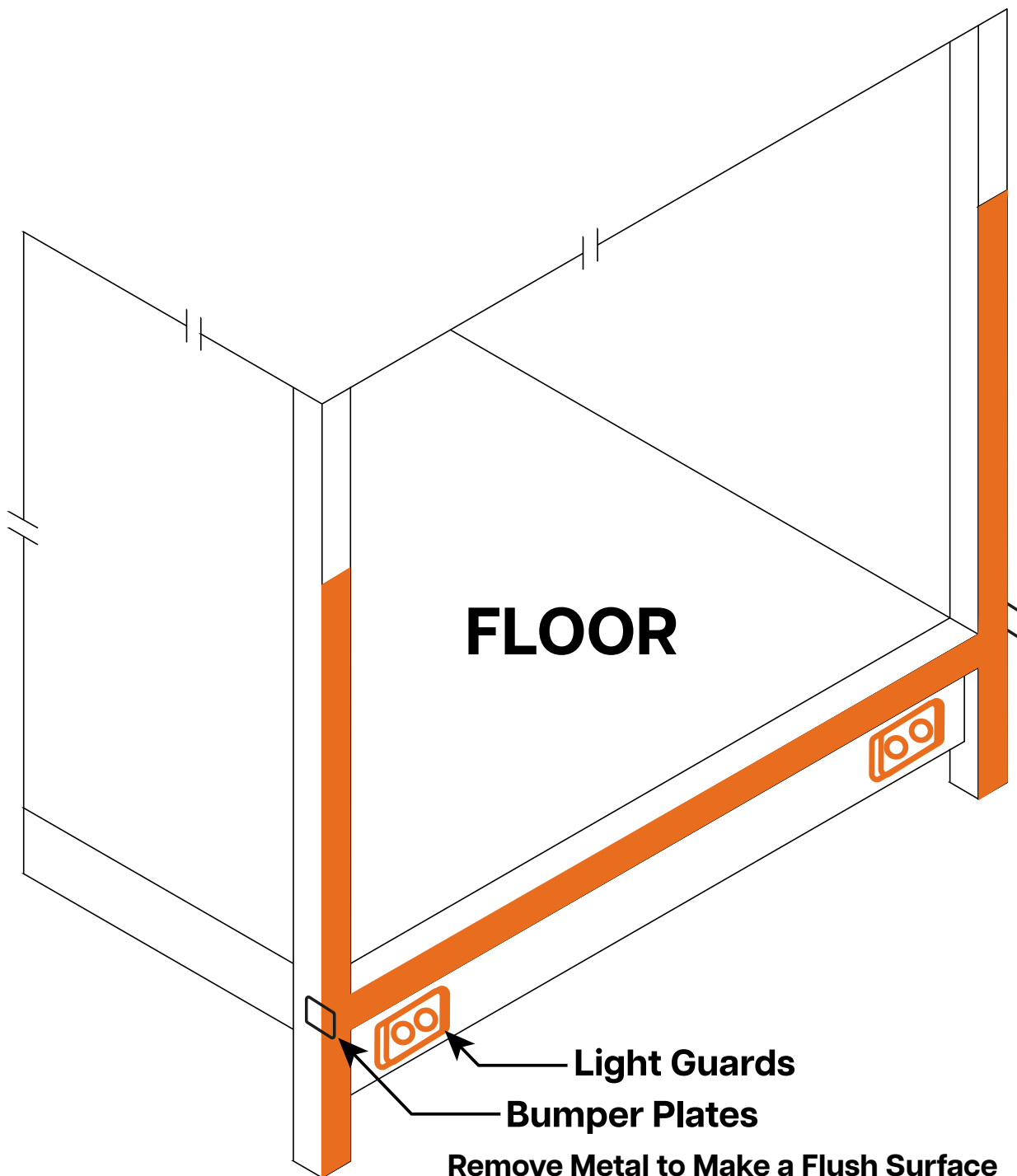
There are many different types of trucks and trailers. Some will have to be modified for proper **FREEDOM** FXD® installation. The rear corner posts must be flat and flush with the rear sill. An example is shown below, and over the next few pages, to assist you in preparing the vehicle for lift gate installation.

The shaded area is the surface the **FREEDOM** FXD® mounts to. This area must be all in one plane and square to the ground. This can be accomplished by removing metal or adding fillers. hits Up Stops and arrow indicates locked position. Do not move vehicle unless gate is in locked position.



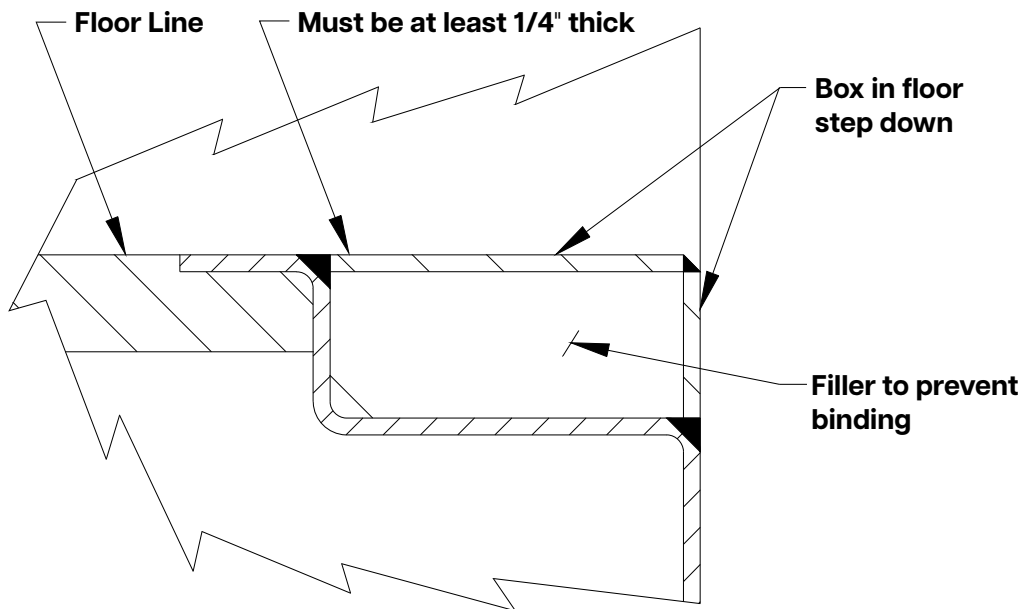
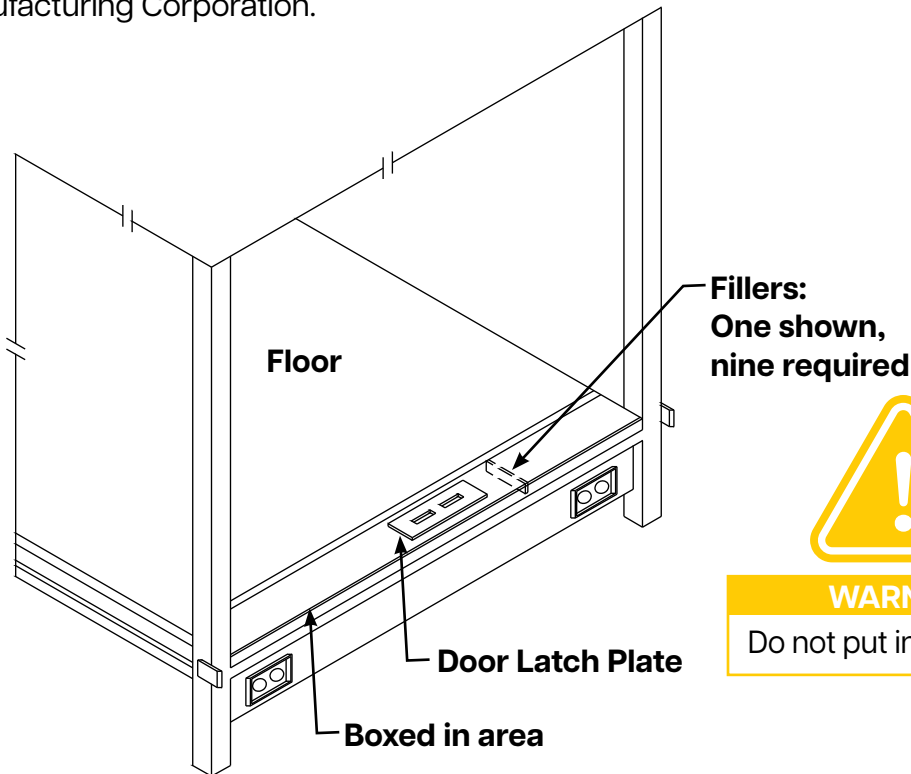
PREPARATION REQUIRED TO THE REAR OF THE VEHICLE BEFORE MOUNTING GATE TO VEHICLE

Cut off obstructions such as light guards and bumper plates that extend beyond the rear sill and rear posts in the areas as shown below. Remove the lights, if permissible. The **FREEDOM** FXD® has LED lights on the masts.



PREPARATION REQUIRED TO THE REAR OF THE VEHICLE BEFORE MOUNTING GATE TO VEHICLE

Use ¼" flat stock as fillers to fill the step down area for the overhead door. Remove the door latch plate, so it can be reinstalled after the floor is filled in. Filler flat stock is not provided by Leyman Manufacturing Corporation.

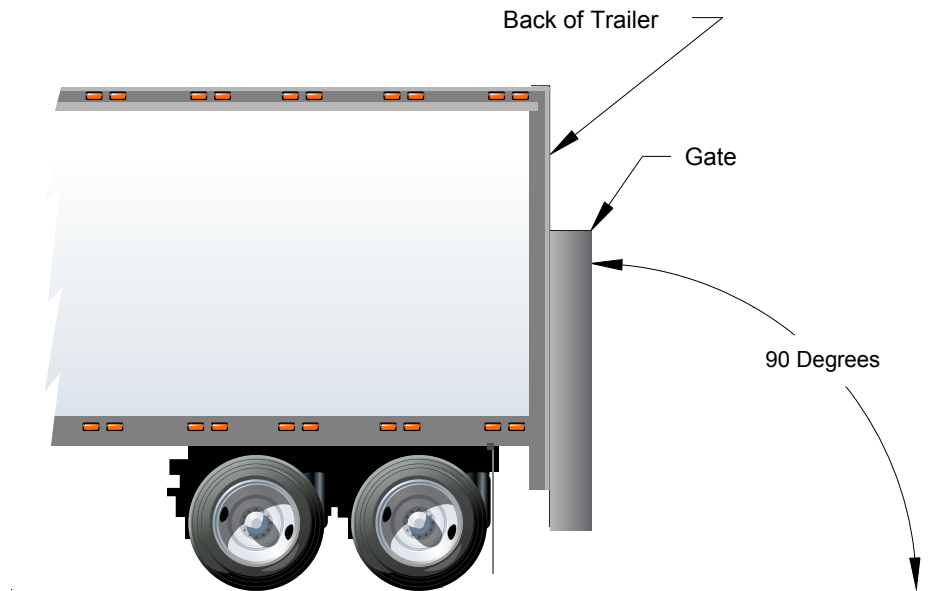


THE BACK OF VEHICLE MUST BE SQUARE

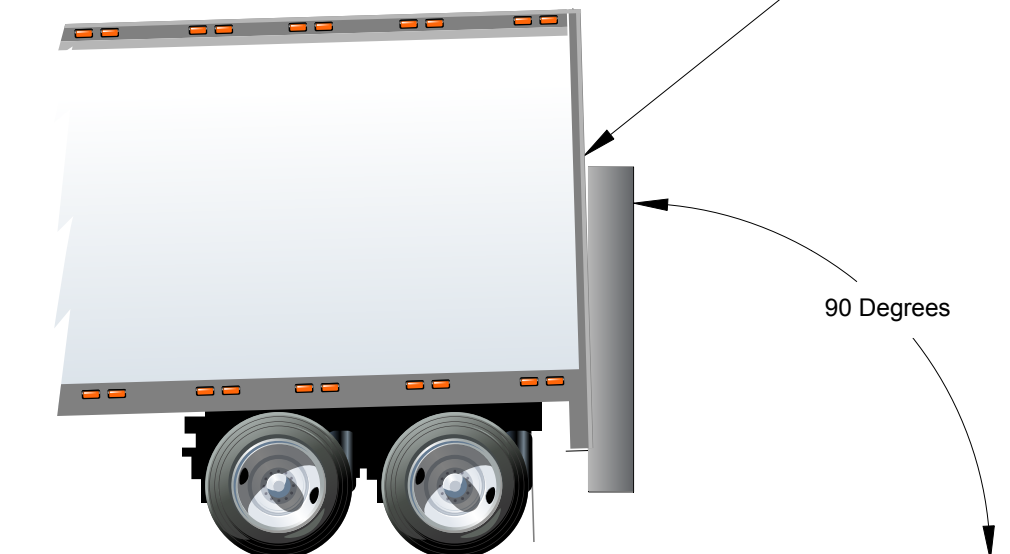


NOTE

The back of the vehicle must be square to the ground within 1/2" deviation (see drawing). This can be checked with a plum bob. If there is any doubt, weld the **FREEDOM FXD®** temporarily in place, with the Bolt-On Kit attached to the rail gate, then unfold the platform, and lower the platform to ground level. The tip of the platform should touch the ground. If it does not, the gate can be shimmed out until it touches. Then follow all Bolt-On Kit and final welding instructions later.



If the vehicle is not square; 4" x 5" long shims maybe used with varying thicknesses to fill the gap. see the "**Welding Instructions**"



REINFORCEMENT FOR “BREAK-AWAY” BODIES

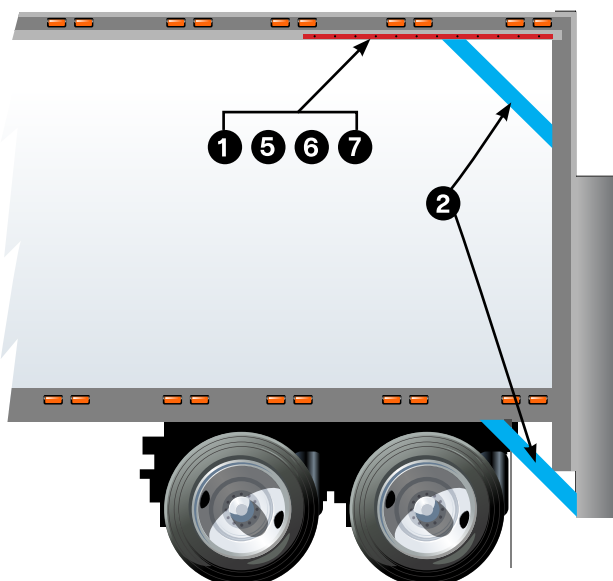
It is the installer’s responsibility to determine if a lift gate is being mounted on a “break-away” style body. If so, all of the bracing listed below must be added. Reinforcement parts are not supplied by Leyman Manufacturing Corporation, unless requested as an option.



NOTE

1. Cut the bottom brace (**Item #3**) to length as needed to clear the wheels.
2. Cut the support (**Item #4**) to length as needed to fit behind the wheels. Cut the ends at 45 degrees.
3. Space supports (**Item #8**) evenly across the width of the body. Weld to bottom rear sill and the cross members.

ITEM	QTY	DESCRIPTION	MATERIAL
1	2	Top Brace	St. Tube 1-1/2" sq. x 1/8" x 60"
2	2	Gusset	H.R. Flat 1/4" x 4" x 36"
3	2	Bottom Brace	St. Tube 2" sq. x 3/16" x 60"
4	2	Support	St. Tube 2" sq. x 3/16" x 40"
5	12	H.H. Bolt	3/8" – 16 x 2-1/2"
6	12	Hex Nut	3/8" – 16 x 2-1/2"
7	24	Washer	3/8"
8	4	Support	H.R. Flat 1/4" x 4" x 8"

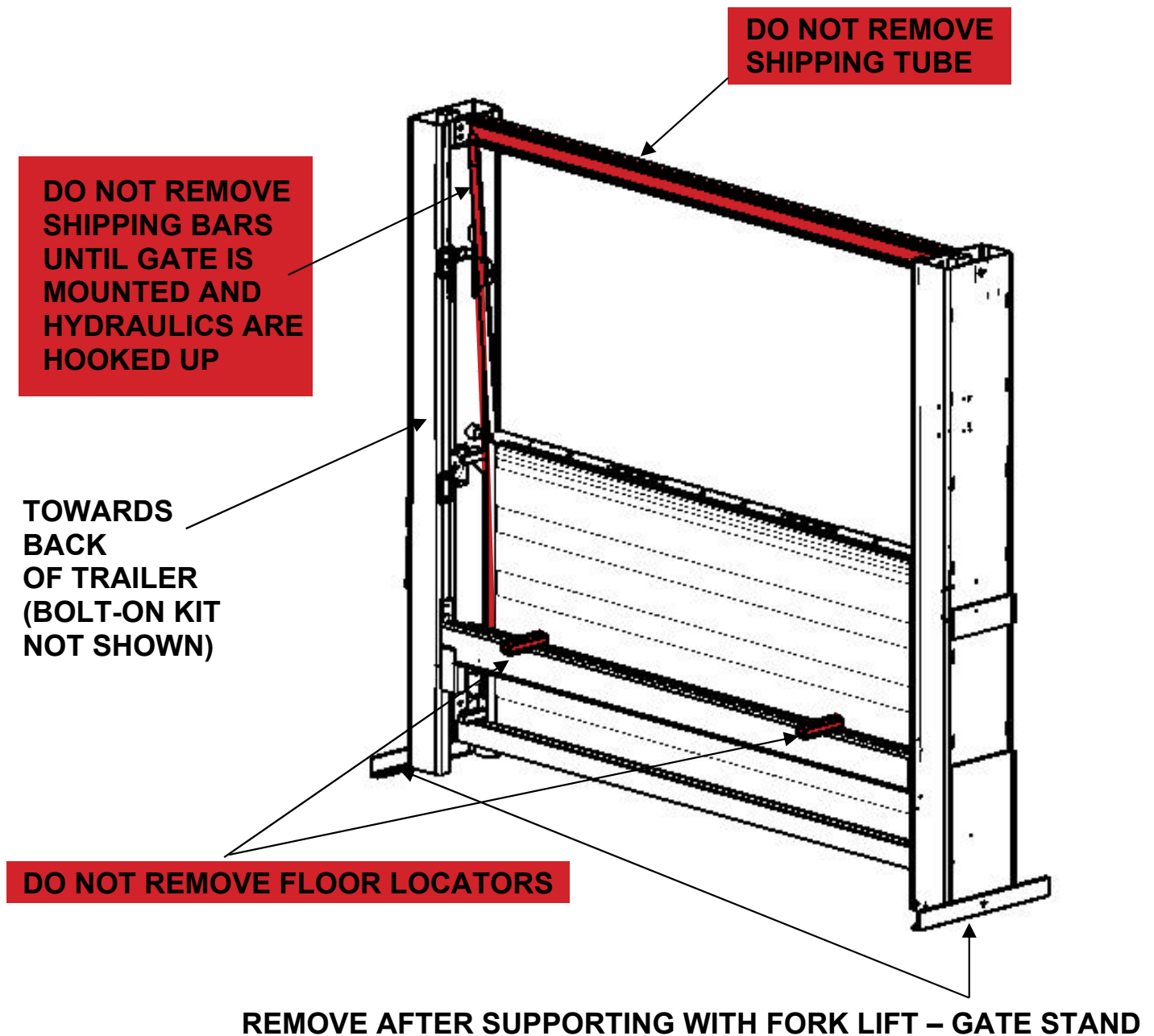


FLAT BED INSTALLATION

The **FREEDOM FXD®** rail gate Bolt-On Mounting Kit option is not suitable for flat bed installations; the standard version of the gate must be used. All flatbed installations require diagonal bracing from the flatbed to the rail gate masts.

UNPACKING THE FREEDOM™ FXD®

The **FREEDOM** FXD® is packaged to protect it during shipping. Do not remove any of the shipping material until the **FREEDOM** FXD® is standing upright on the floor and it is supported by placing the forks of a forklift under the shipping tube. Once this is done, remove only the shipping material as shown. The remaining items will not be removed until the gate is completely installed on the vehicle. Bolt-On Kit is **NOT** shown on gate mounting face.

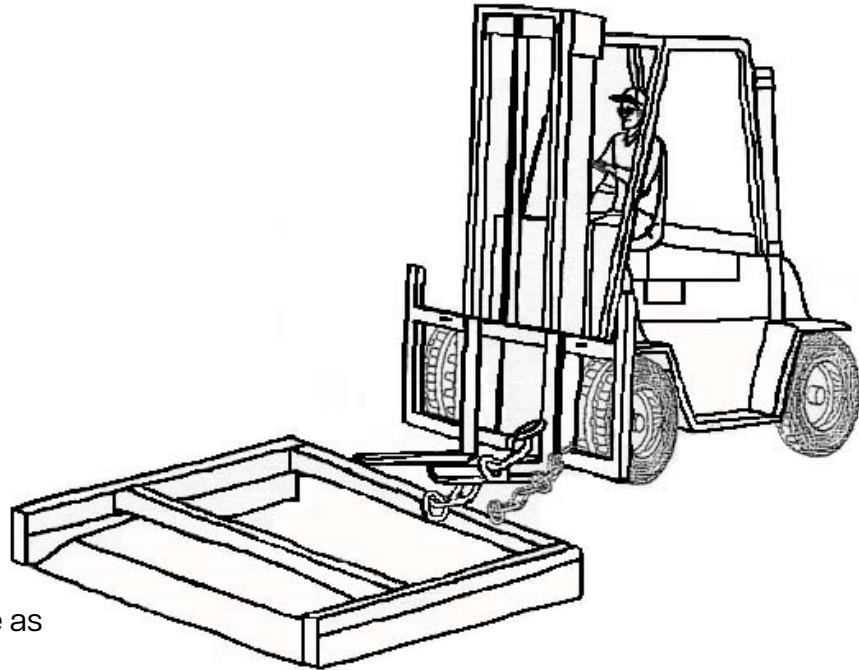


UNPACKING THE FREEDOM™ FXD® (cont.)

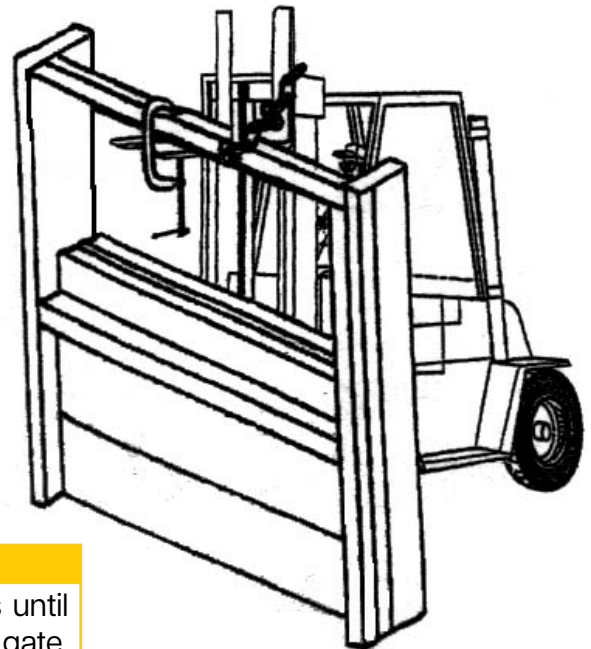


CAUTION

Always use a safety chain so the lift gate can not slide off the forks.
Lift **FREEDOM** FXD® slowly to vertical position, pictured below.



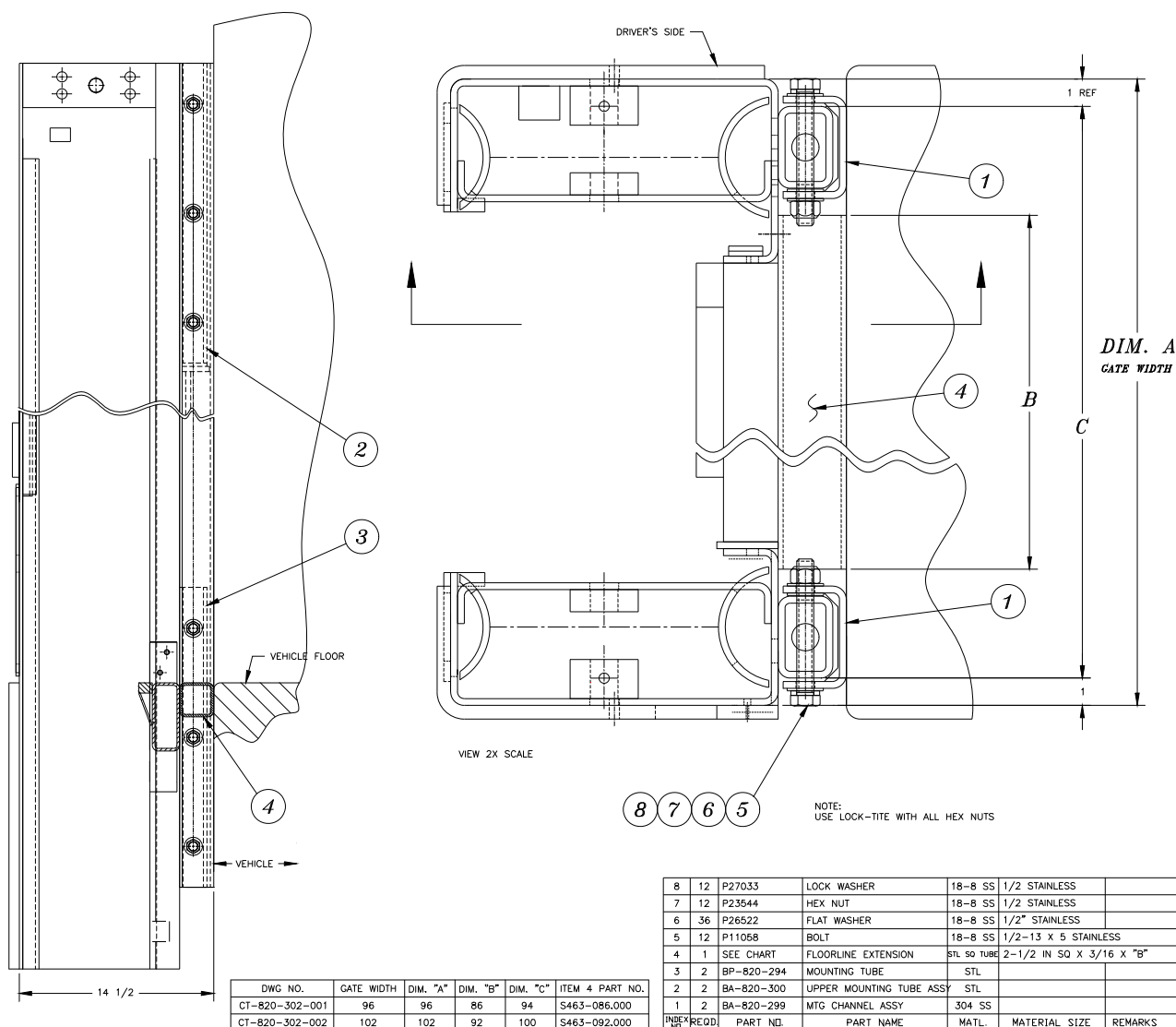
Clamp forks to the shipping tube as shown in picture below.



CAUTION

Do not remove shipping tube or the platform support bars until the hydraulics and power pack are hooked up and the gate, with Bolt-On Kit, is welded solid to the vehicle.

OPTIONAL BOLT-ON KIT for FREEDOM™ FXD®



The primary purpose of the Bolt-On Kit is to avoid damage to the Extreme Shield® paint or galvanized finish during welding. **Item 1**, which must be welded to the vehicle, is unpainted stainless steel. The Bolt-On Kit comes fully assembled to the lift gate rails. It can remain assembled during installation.



IMPORTANT

When welding the stainless steel Mounting Channels (Item 1) to the rear frame of the vehicle (which could be either mild steel or stainless steel), you must use stainless steel welding wire in order to achieve good quality welds.

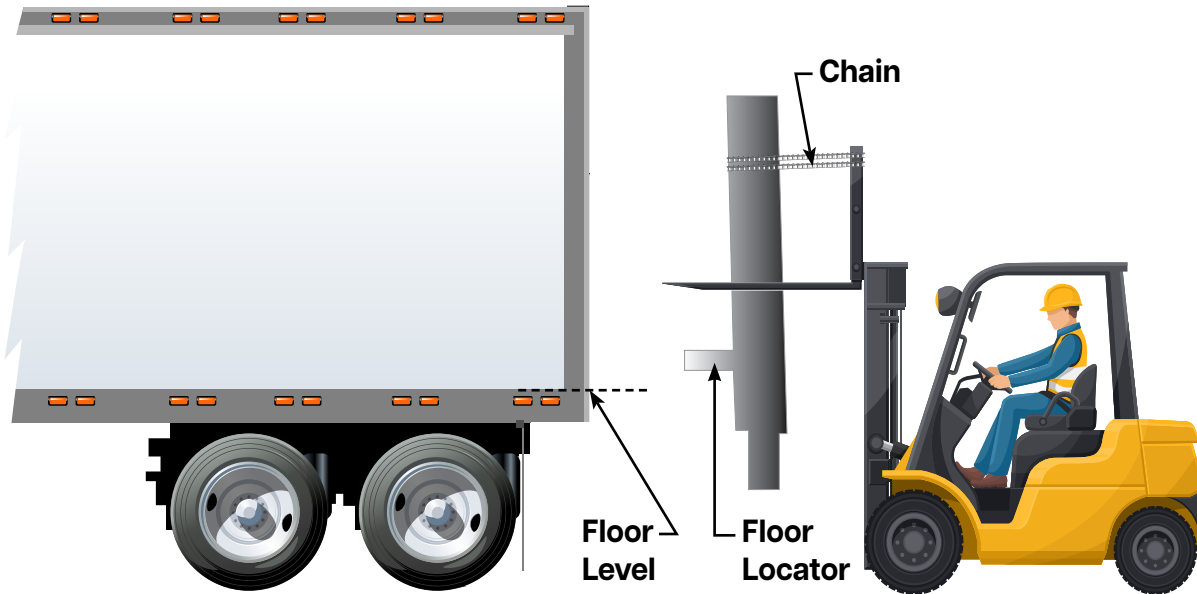


CAUTION

The Bolt-On Kit offsets the lift gate Outer Masts 2-1/2" from the rear face of the vehicle. This means that the Rear Impact Guard must be brought back within the 12" horizontal limit. The 1/2" thick steel bumper plates on the lift gate Outer Masts are excluded from the 12" maximum dimension. Consult trailer manufacturer for Rear Impact Guard kits that are available to make up for this 2-1/2".

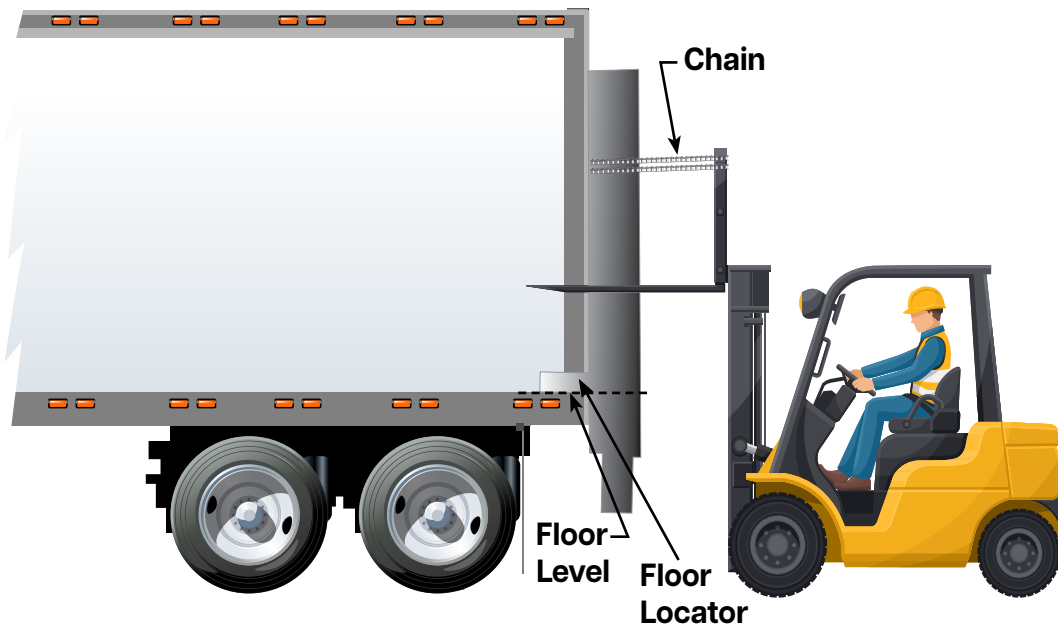
HOISTING THE FREEDOM FXD® INTO POSITION FOR INSTALLATION

Lift the **FREEDOM FXD®** off the ground with a forklift and approach the vehicle.



NOTE

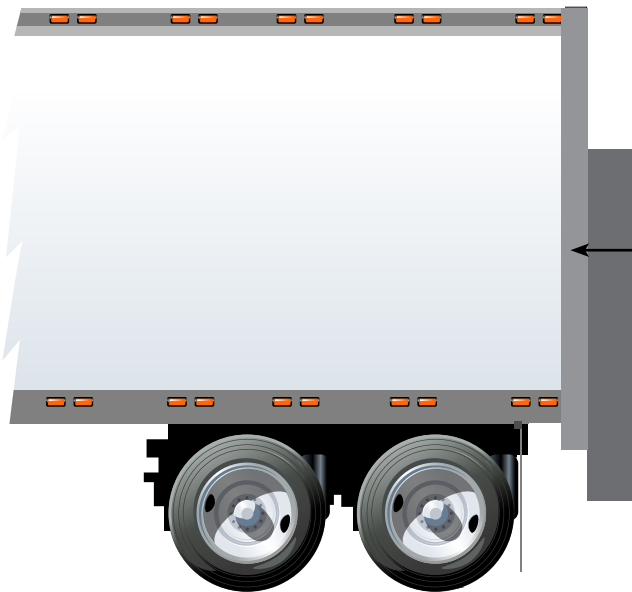
The floor locators must rest on the vehicle.



WELD FREEDOM™ FXD® TO VEHICLE

Center the **FREEDOM** FXD® on the vehicle. Once the gate is centered, and resting on the vehicle floor, weld stainless steel Mounting Channels on Outer Masts to vehicle.

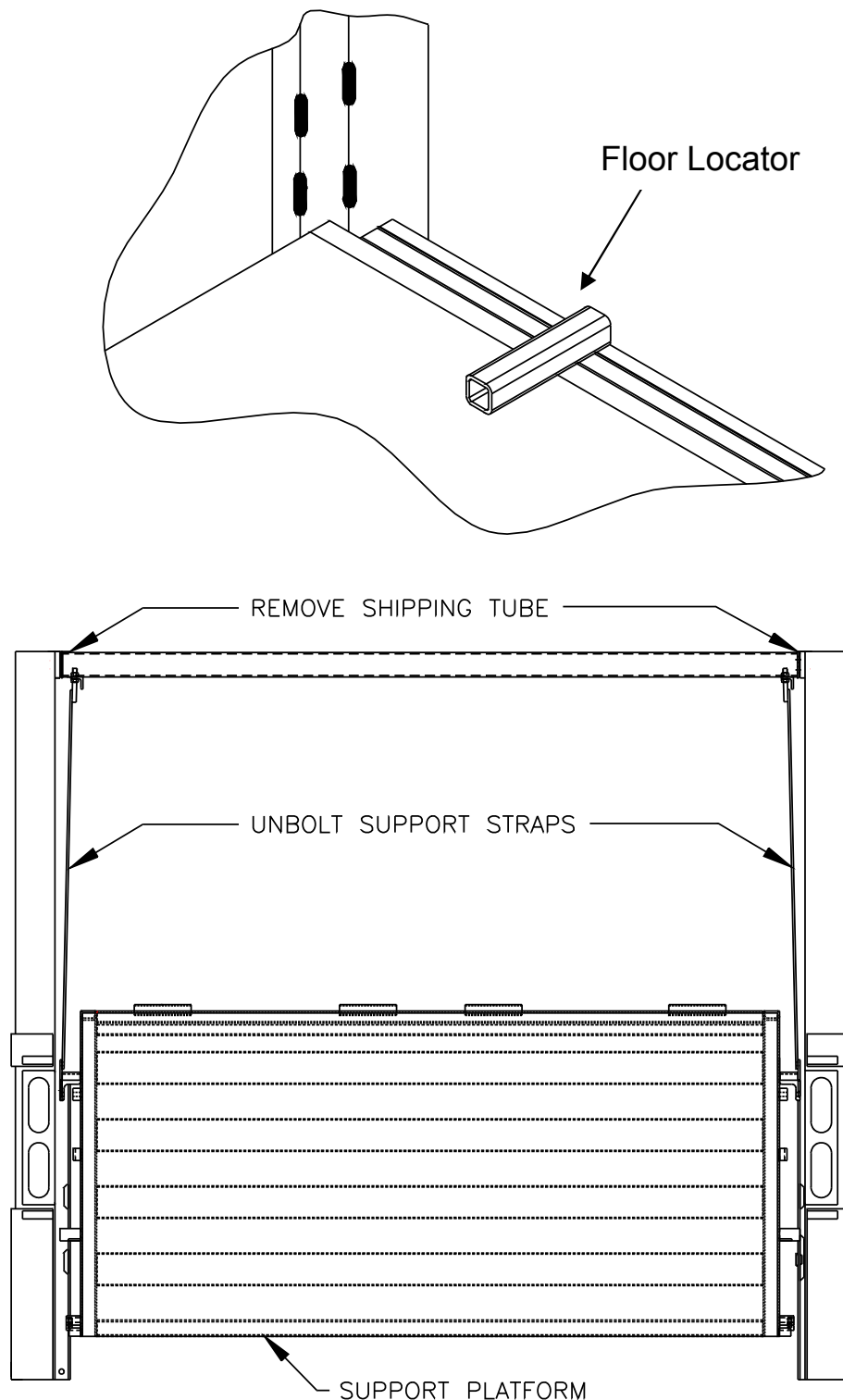
Use 1/4" fillet welds 2" long and spaced 10" apart on both inside and outside vertical surfaces of the Mounting Channels. No welds are required across the Floor Line Extension Tube
(Item 4 on the Bolt-On Kit drawing, p.12)



The two vertical rails must be welded to Vehicle both Inside and Outside

REMOVE FLOOR LOCATOR TUBES AND SHIPPING TUBE

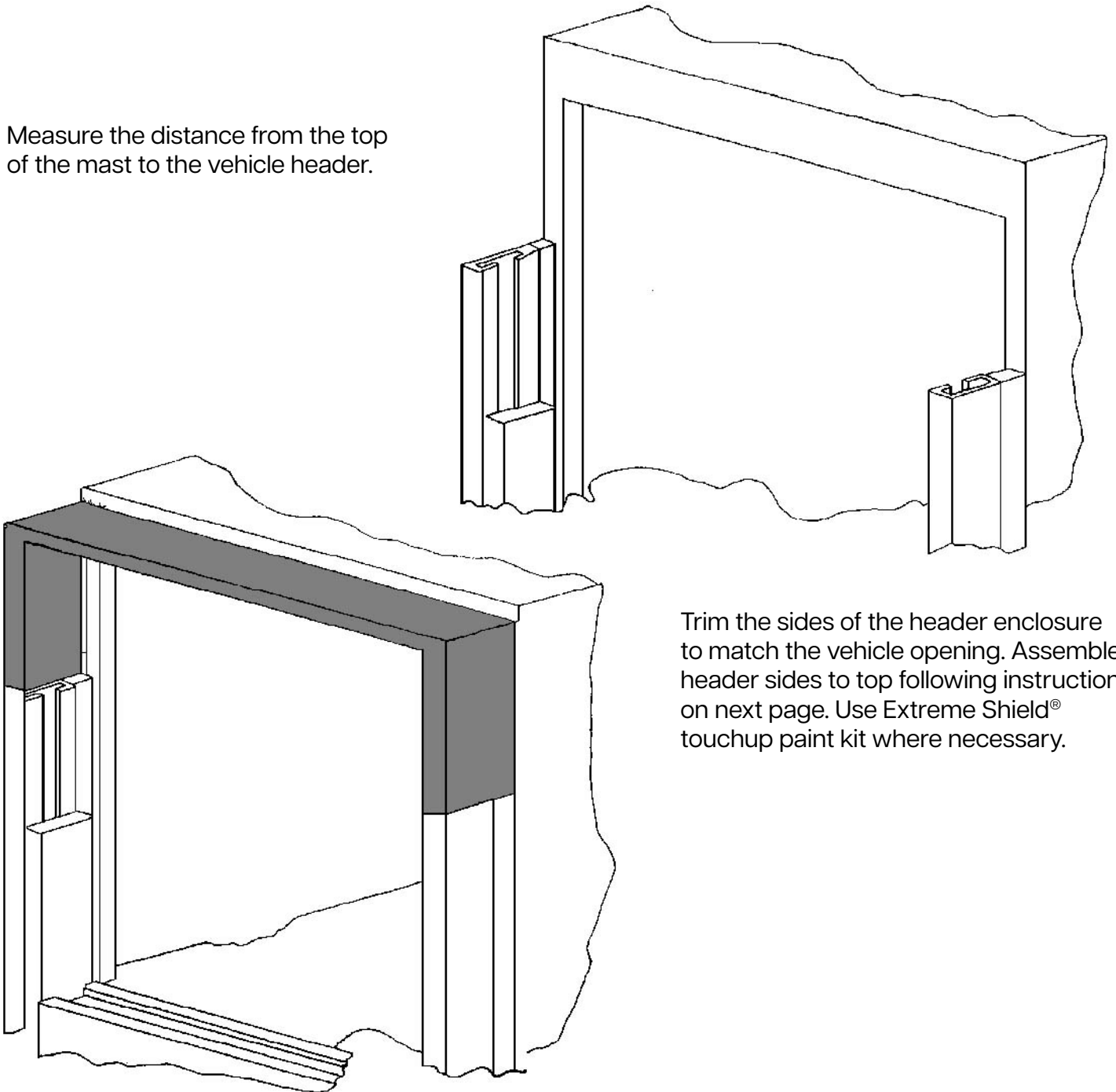
Once the lift gate has been welded to the vehicle and meets previously stated specifications, remove floor locator tubes, unbolt the platform support straps while supporting the platform, and remove the shipping tube by unbolting.



INSTALLING HEADER ENCLOSURE

The Header Kit is an optional item on FREEDOM FXD®. The general method of installation is shown here. More detailed instructions are on the next page. Attach Header Kit to vehicle using rivets supplied to prevent damage to Extreme Shield® paint. **DO NOT WELD.**

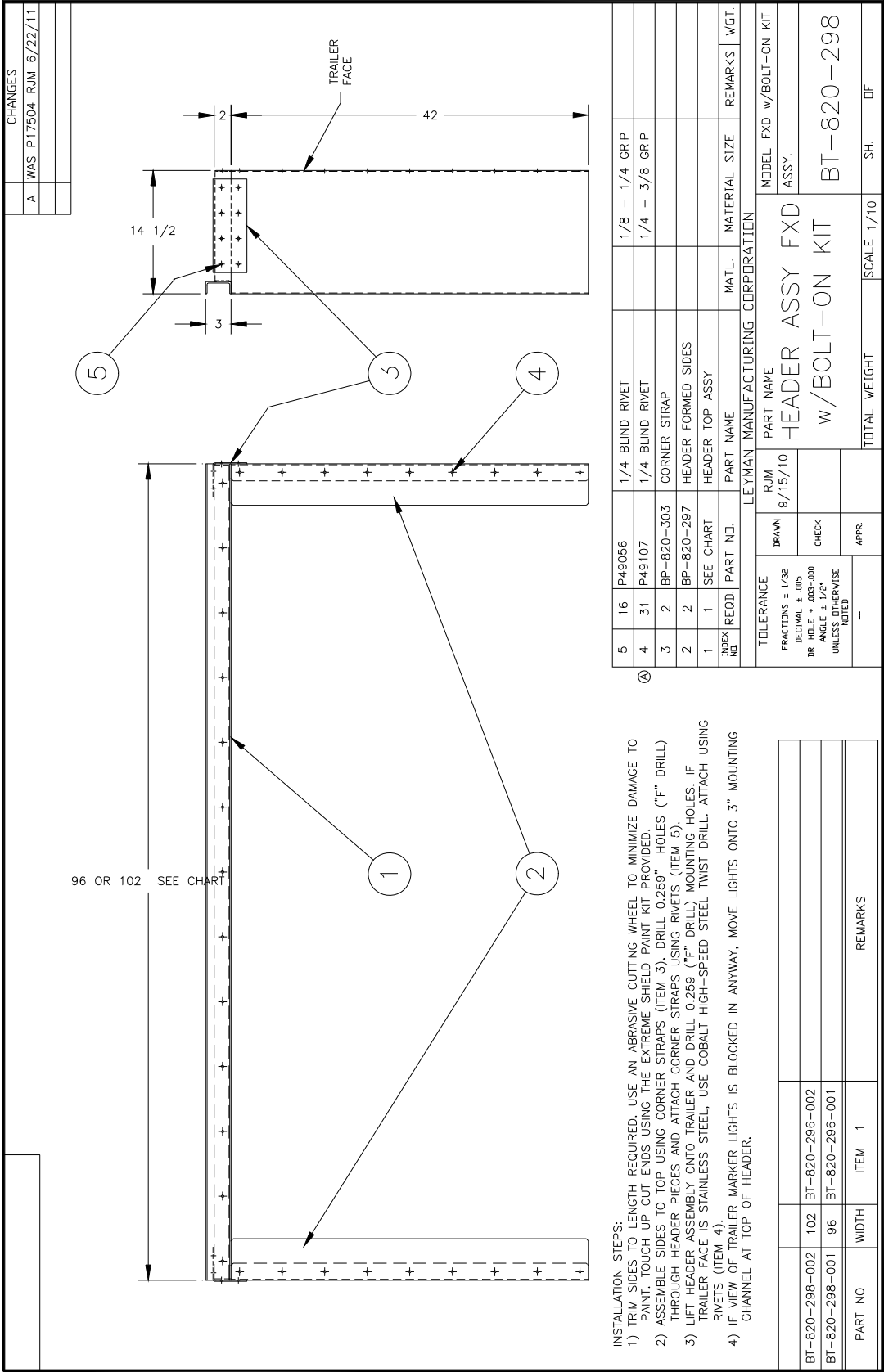
Measure the distance from the top of the mast to the vehicle header.



Trim the sides of the header enclosure to match the vehicle opening. Assemble header sides to top following instructions on next page. Use Extreme Shield® touchup paint kit where necessary.

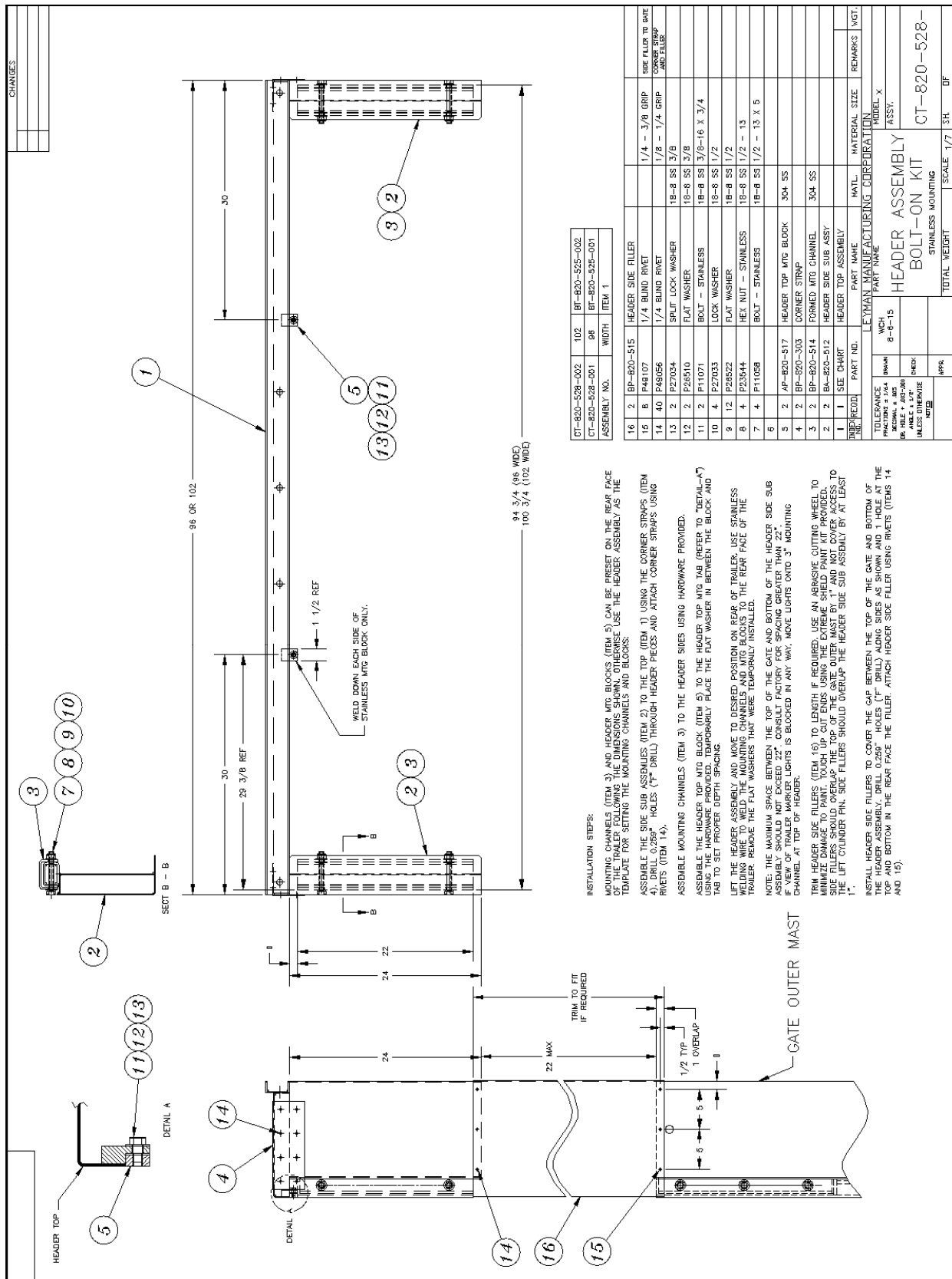
3" channel at the top of the header faces to the rear, **NOT** against the vehicle header. The lights can be installed inside the channel.

INSTALLING HEADER ENCLOSURE (cont.)



LEYMAN
LIFT GATES

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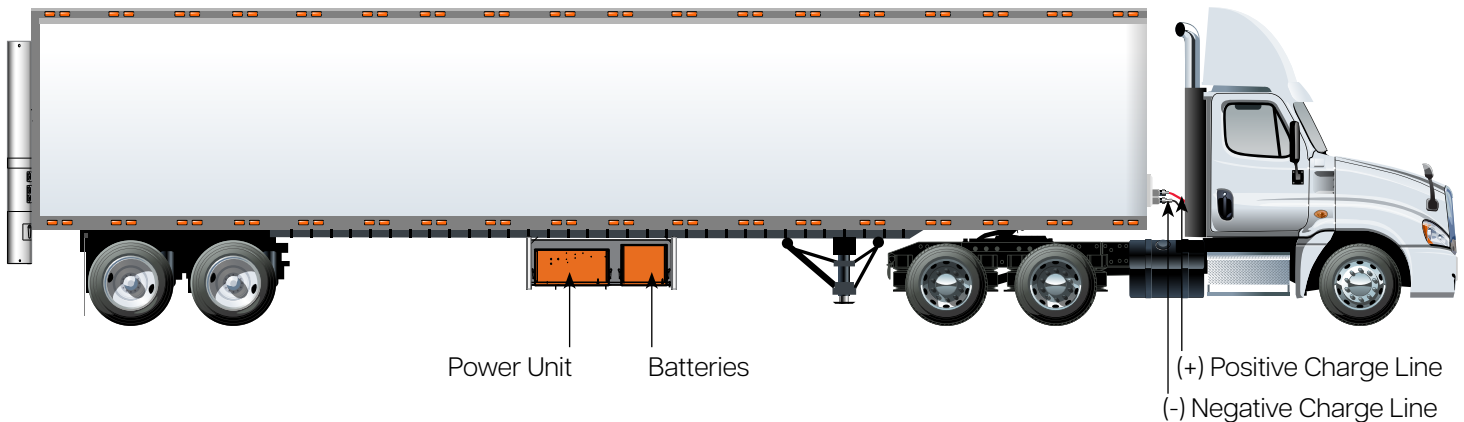


MOUNTING POWER UNIT FRAME

Mount the power unit frame as close to the electrical source as possible. Center the power unit frame under the vehicle and weld to all “I” beams that the power unit frame touches. Use full welds. When installing the power unit frame to a truck, you may mount it on either side, however, we recommend the installation on the curbside of the vehicle.



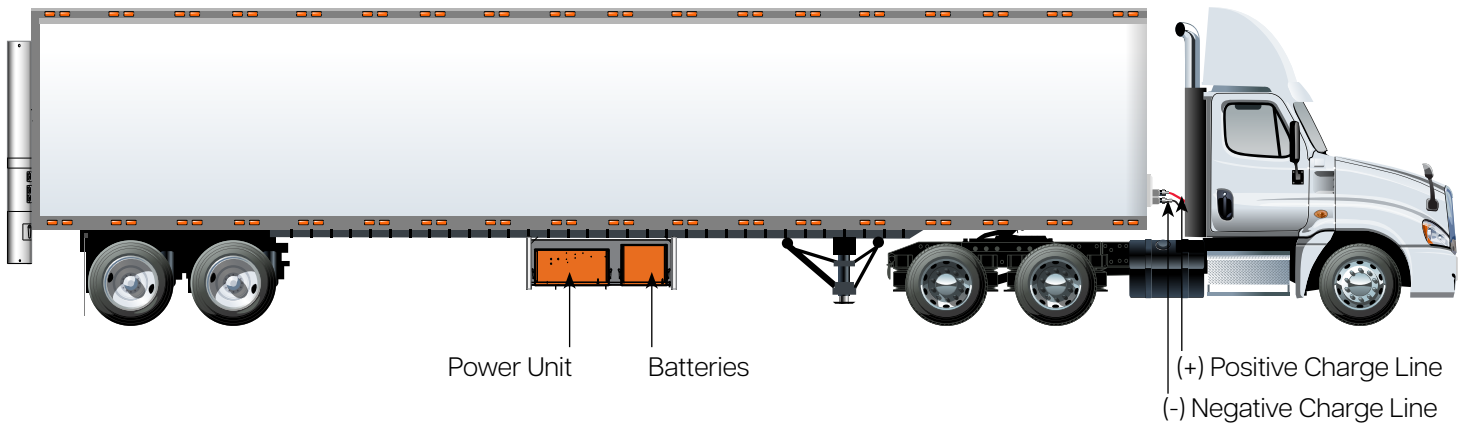
When mounting power unit frame on truck body cross-members, Installer **MUST INSTALL** a ground wire between the power unit frame and the truck chassis ground. Wire **NOT** supplied by Leyman.



GROUNDING RECOMMENDATIONS FOR TRACTOR/TRAILER

The MAINTENANCE MINDER 2® controller (if equipped) requires that a minimum of 8 volts be maintained under load in order for the **FREEDOM™** FXD® power unit to operate. Using a single positive cable and utilizing the fifth wheel plate as the ground may not be adequate. Therefore, our recommendation for grounding tractor/trailers with an **FREEDOM™** FXD® gate is as follows:

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



NOTE

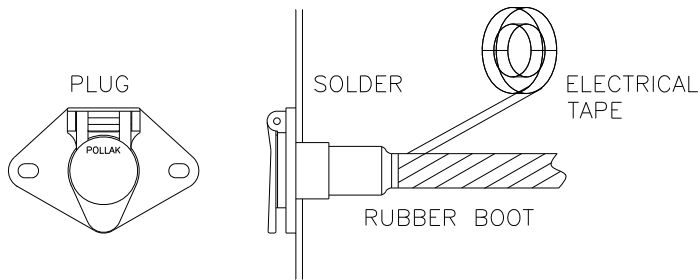


The use of a battery charger as the sole power source to operate a **FREEDOM™** FXD® is unauthorized and will prevent the **FREEDOM™** from working properly. The lift gate must always be operated in conjunction with at least one (1) 12-volt dual purpose heavy-duty lift gate battery. A minimum of 10.5 volts must be maintained in order for the valves to operate.

CHARGE LINE

When installing the charge line, be sure the cable goes through three (3) "I" beams at the very least, past the fifth wheel plate and through the clear vinyl loom. Mount the remaining cable with loom clamps and self-tapping screws to the "I" beams.

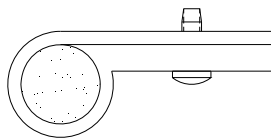
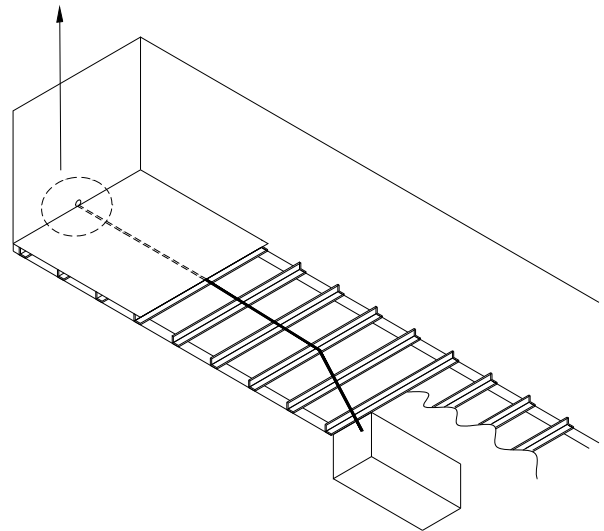
USE "2" GAUGE CABLE AT MINIMUM



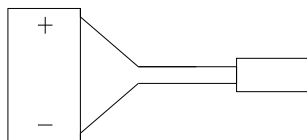
NOTE

We recommend that you take the vehicle to a refrigeration distributor if the reefer unit will be used for recharging

WE RECOMMEND THAT YOU USE AT LEAST A 90 AMP ALTERNATOR ON THE TRACTOR TO RECHARGE THE BATTERIES ON THE FXD®.



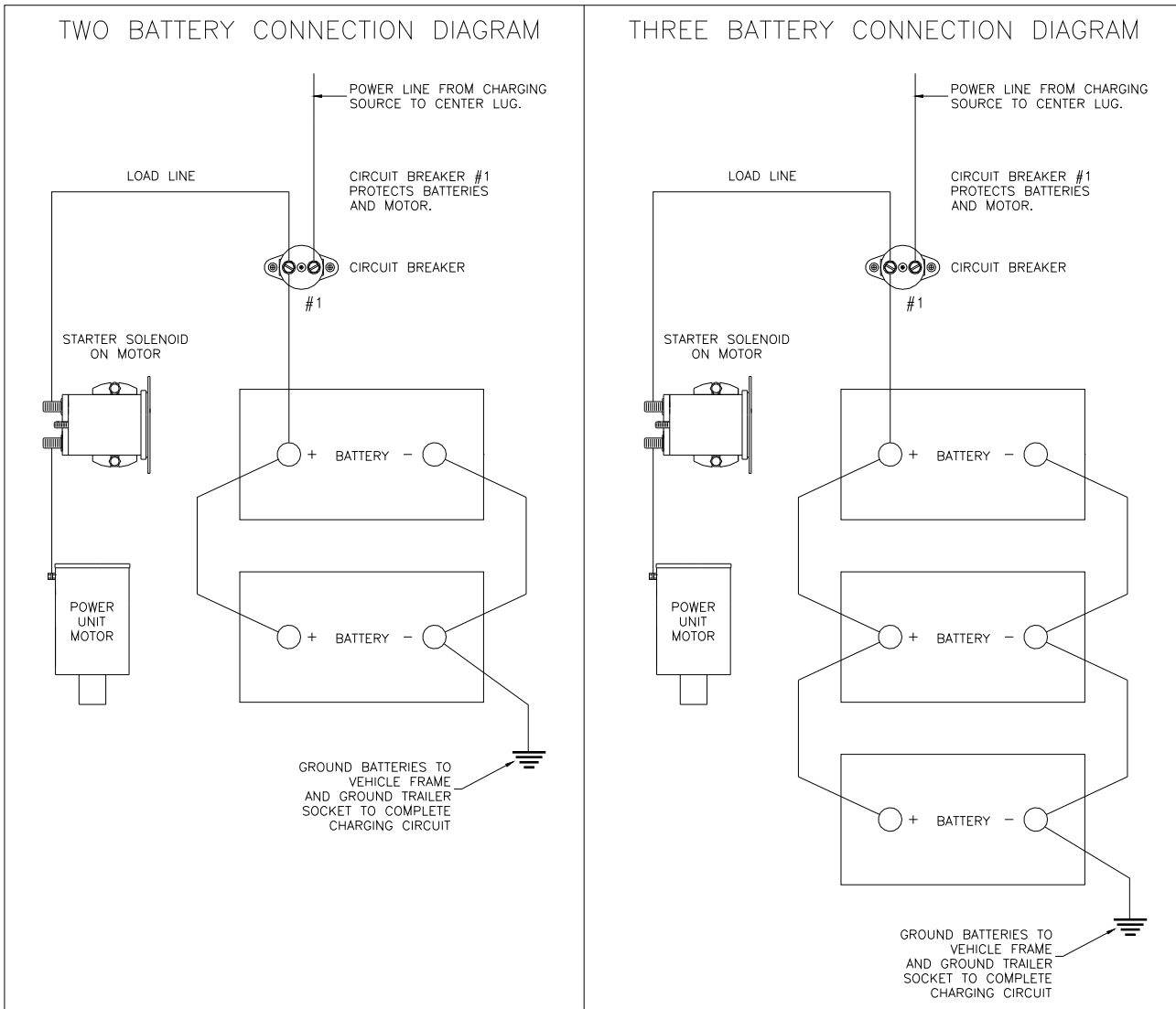
TRACTOR PLUG



The plug that is on the tractor must have a hot wire and ground wire to the lug that plugs into the trailer.

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 – Threaded Stud
Cold Cranking Amps – 580 Min.



NOTE

Placing the charge line(s), load line(s) and ground cable on the same battery will result in unequal charging and discharging of the batteries. The (+) and (-) connections must be made across the entire battery bank (one connection on the first battery and the other connection on the last battery).

Place rubber pads under each battery to prevent movement, and securely tighten Battery Clamp.

FAILURE TO USE CORRECT BATTERIES WILL VOID WARRANTY

RECOMMENDED HYDRAULIC OILS*

HYDRAULIC OILS	MANUFACTURER	TYPE	TEMP RANGE
Level 1 Normal Conditions	Mobil	DTE 10 EXCEL 15	-15° F to + 150° F
	Shell	TELLUS S2 VX 15	-15° F to + 150° F
	Chevron	RANDO HDZ 15	-15° F to + 150° F
Level 2 Cold Conditions	Mobil	AERO-HFA	-50° F to + 80° F
	Shell	AERO FLUID #4	-50° F to + 80° F
	Chevron	5606A	-50° F to + 80° F

HYDRAULIC TANK CAPACITY

3 gallons

LUBRICATION MANUFACTURER TYPE TEMP RANGE

Grease	Level 1 Normal Conditions NLGI #2 Lithium base grease Level 2 Cold Conditions NLGI #1 Lithium base grease DO NOT USE CHASSIS or 5th WHEEL GREASE
Rollers at Inner Masts	CAUTION! Do not over-grease to avoid seal damage
Hinge Barrels (center of platform)	W.W. Grainger – Part #6Y834 – Needle Nose Adapter
Retention Ramp hold-up tab shaft	W.W. Grainger – Part #6Y834 – Needle Nose Adapter
Dry Lubricant, if needed	ZEP45 (do not use corrosive lubricants like WD40, etc.)

*ISO 15 petroleum-based fluid required; see chart for manufacturer cross reference. If necessary, use higher viscosity oil when temperatures are near 100° F. **DO NOT USE BRAKE FLUID OR ATF.**

LIFT GATE SPECIFICATION

BATTERIES TYPE TEMP RANGE

Two (2) 12 V D.C. Group 31 Heavy Duty Lead Acid Dual Purpose or AGM

ELECTRICAL COMPONENTS CONNECTIONS TYPE TEMP RANGE

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

AMPERAGE DRAW OF MOTOR

When raising platform (empty) approximately 130 AMPS @ 13.5 volts. At bypass approximately 240 AMPS @ 13.5 volts

LIFTING PRESSURE SETTING

With platform at floor level and pump in bypass 2500 PSI. Power down circuit in bypass 800 PSI

MINIMUM VEHICLE FLOOR HEIGHT LADEN

With 42" Inner Platform – vehicle floor height 46"

MAXIMUM VEHICLE FLOOR HEIGHT UNLADEN

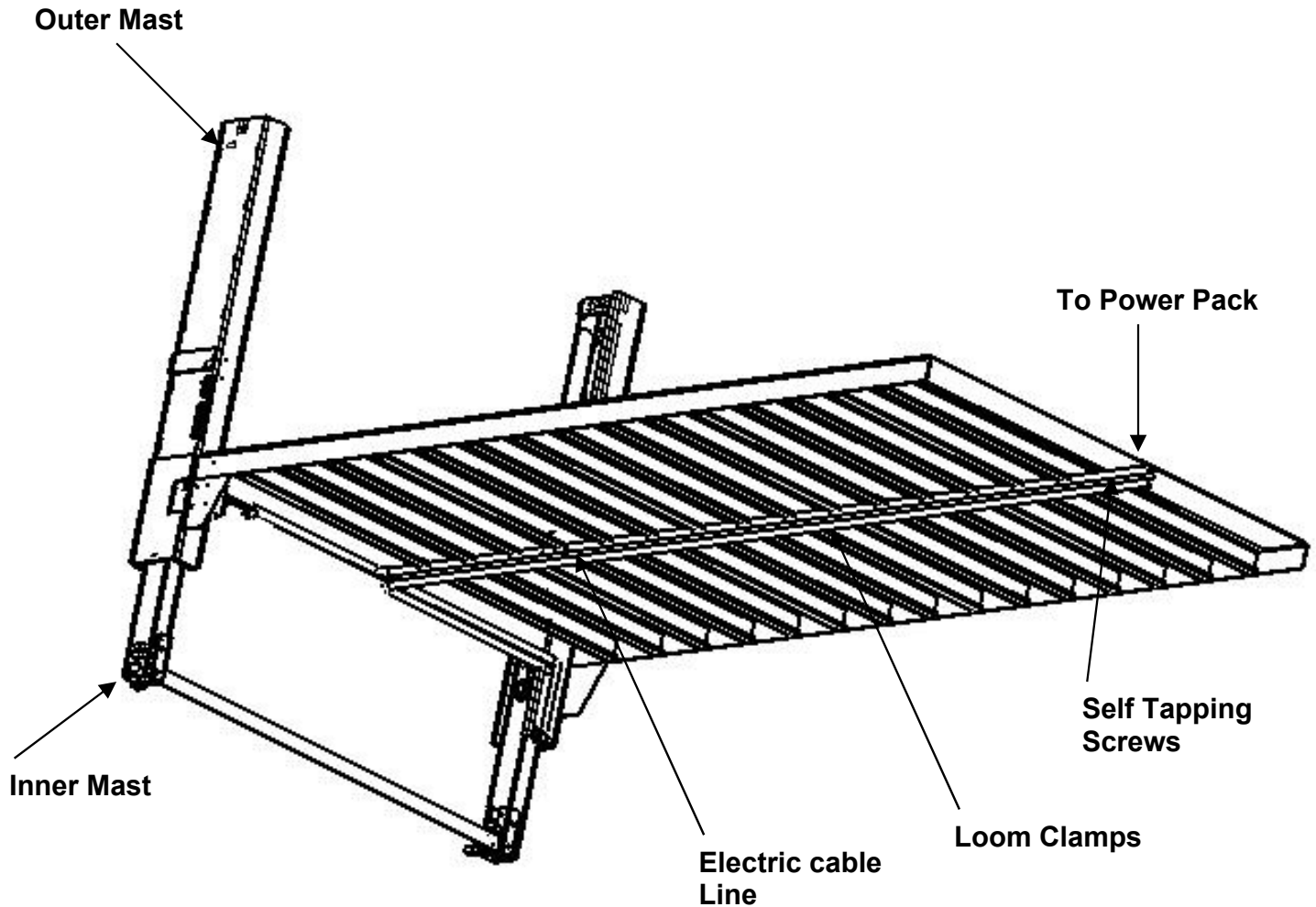
With 42" Inner Platform – vehicle floor height 56"

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

Time up: 24 – 26 seconds
Time down (gravity down): 24 – 26 seconds
Time down (power down): 14 – 17 seconds

CONNECTING SWITCH WIRING TO POWER UNIT

The **FREEDOM™** FXD® arrives with the electric wiring connected to both the inside and outside toggle switches. Unroll and secure the wire to the underside of the “I” beams (pictured below) using the loom clamps and self-tapping screws. Then route cable through power unit box cord grip and connect all leads with fork terminals to the terminal strips on the rear and right side walls.

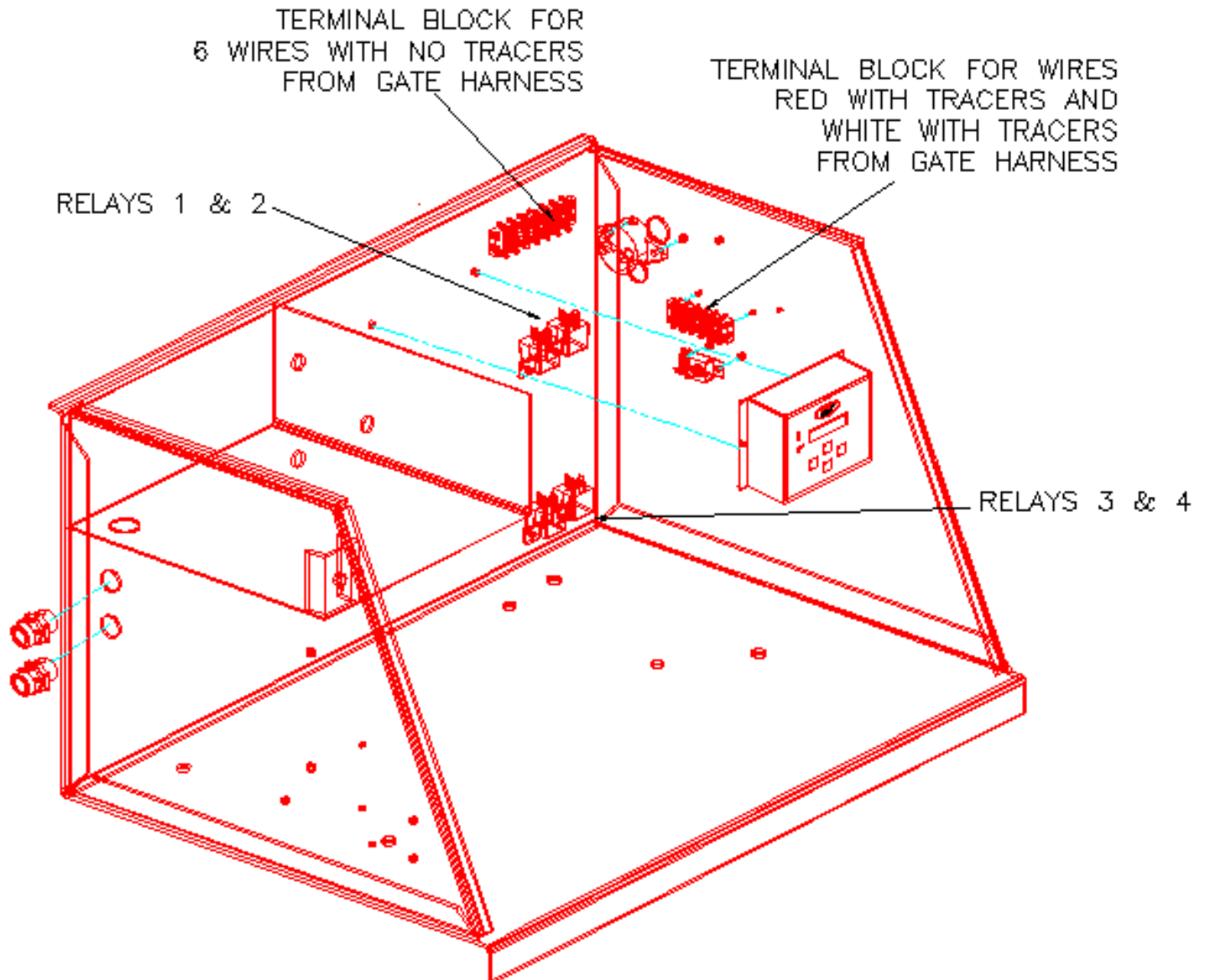


Wire mounts to underside of “I” beams

DUAL POWER UNIT CONNECTIONS

Match wire colors of the switch harness to wire colors on the terminal strips inside the power unit enclosure, paying specific attention to red and white wires – there are plain red and white wires, and red and white wires with a black tracer line on the insulation. Red with tracer and white with tracer wires connect to the terminal strip on the right-hand wall of the power unit enclosure.

Improperly connecting red with tracer and white with tracer to the red and white wires of the terminal strip on the rear wall will result in the lift gate not operating correctly.



HYDRAULIC LINES

Up Line:

First fill both tanks with a recommended hydraulic oil to within 4" from the top. Then connect one of the hydraulic lines to one of the exit ports of the equalizer valve behind the power unit. Take the second up/down line and connect it to the other exit port. Run both lines back to the gate. Before connecting to bulkhead elbows on gate, run the power unit to fill the lines with oil. Next, remove the caps on the bulkhead elbows at the bottom of the left Outer Mast and connect the hydraulic lines. See sketch on next page for port identification. Elbow fittings are provided with the hose kits to route the hoses straight up from the rail gate mast to the vehicle cross-members, if desired. Now, attach the hydraulic lines to the "I" beams with the loom clamps and self-tapping screws that are provided in the lift gate kit.

Down Line:

Connect the hydraulic line to the bulkhead fitting mounted at the back of the power unit box and run the "down" line back to the bulkhead elbow located at the bottom of the left Outer Mast. Before connecting to the elbow, run the power unit to fill the hydraulic line with oil. Next, remove the cap at the elbow and connect the hydraulic line. See sketch on next page for port identification. Now, attach the hydraulic line to the "I" beams with the loom clamps and self-tapping screws that are provided with the lift gate kit.

Power Fold Line: Connect the hydraulic line to bulkhead fitting mounted at the back of power unit box and run the line back to the bulkhead elbow at the bottom of the left Outer Mast. Make sure this elbow is the one connected to the hydraulic line that is hooked up to the folding cylinder. Before connecting to the elbow, run the power unit to fill the line with oil. Next, attach the hydraulic line to the "I" beams with the loom clamps and self-tapping screws provided with the lift gate kit.

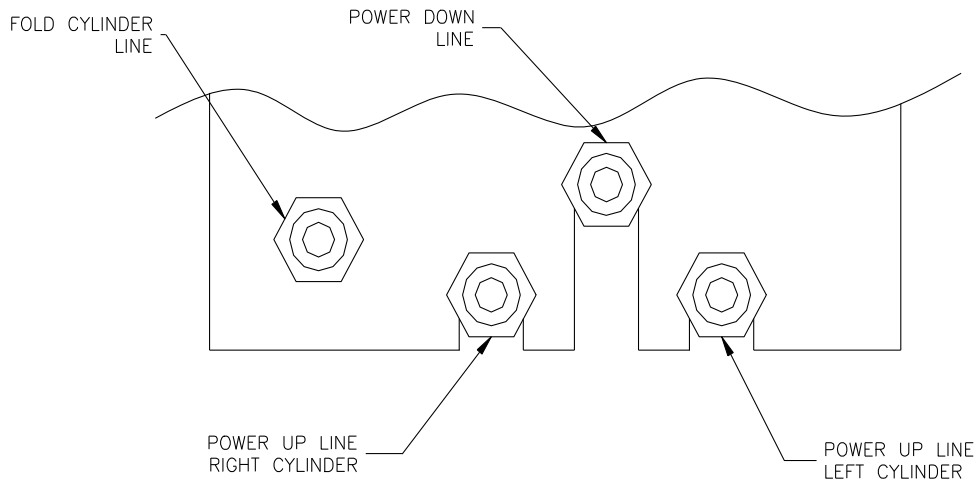


NOTE

This procedure should minimize the amount of air trapped in the fold cylinder or hydraulic line. If the gate does not raise and lower smoothly or unfold and fold smoothly, see the page on bleeding the cylinders.

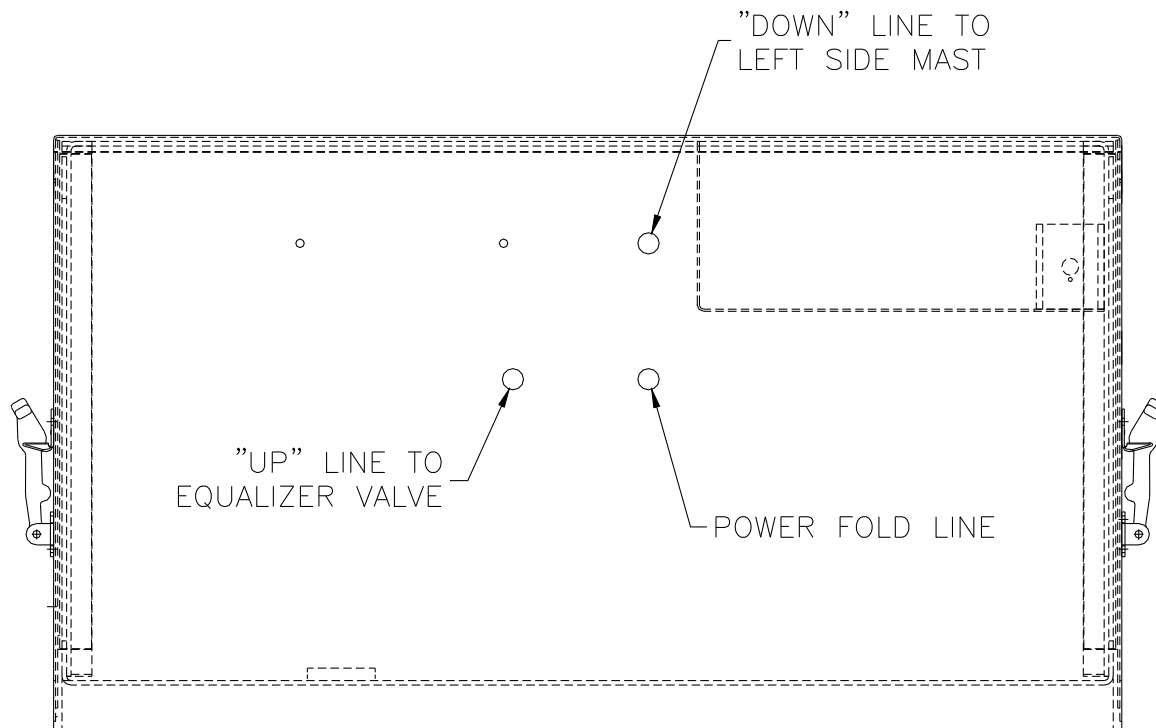
Oil Level Check: Unfold the platform and run to the full up position and recheck the oil level in the power unit. Oil level should be 4" from top of tank, wait several minutes for oil level to even out.

HYDRAULIC LINES (Cont.)



BOTTOM OF LEFT OUTER MAST
VIEW FROM BACK OF THE GATE

TORQUE ALL HOSE CONNECTIONS TO 18 - 20 FT-LBS



CONNECTIONS AT REAR OF POWER UNIT BOX

BLEEDING THE LIFT CYLINDERS

The FREEDOM™ FXD® 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, raise the platform to the full up position, and check the oil level in the reservoir tank. The oil level should be approximately 4" from top of the tank.

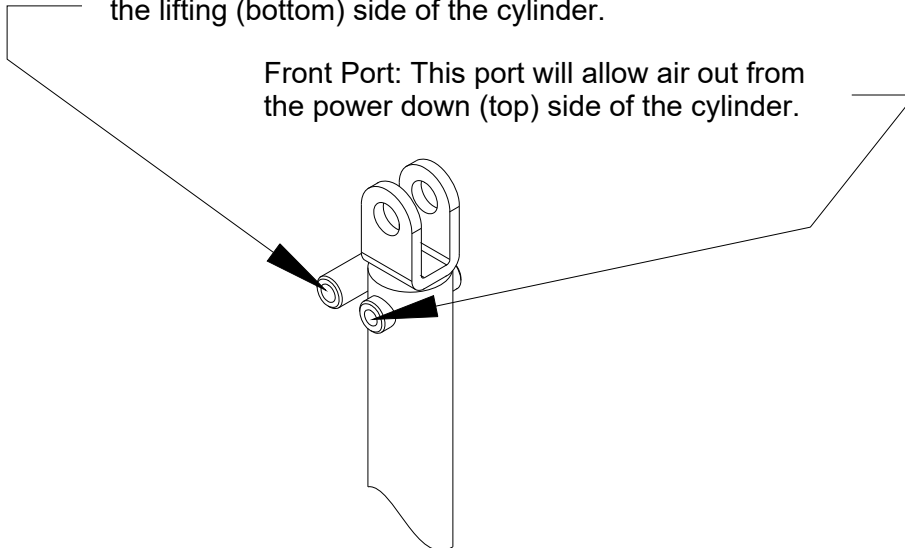
To Bleed the Lifting Cylinders – Top Side

- 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 (DOWN) 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 2" from top of the tank for DUAL power units.

NOTE: FOR POWER DOWN GATES, OIL LEVEL SHOULD ALWAYS BE CHECKED WITH THE

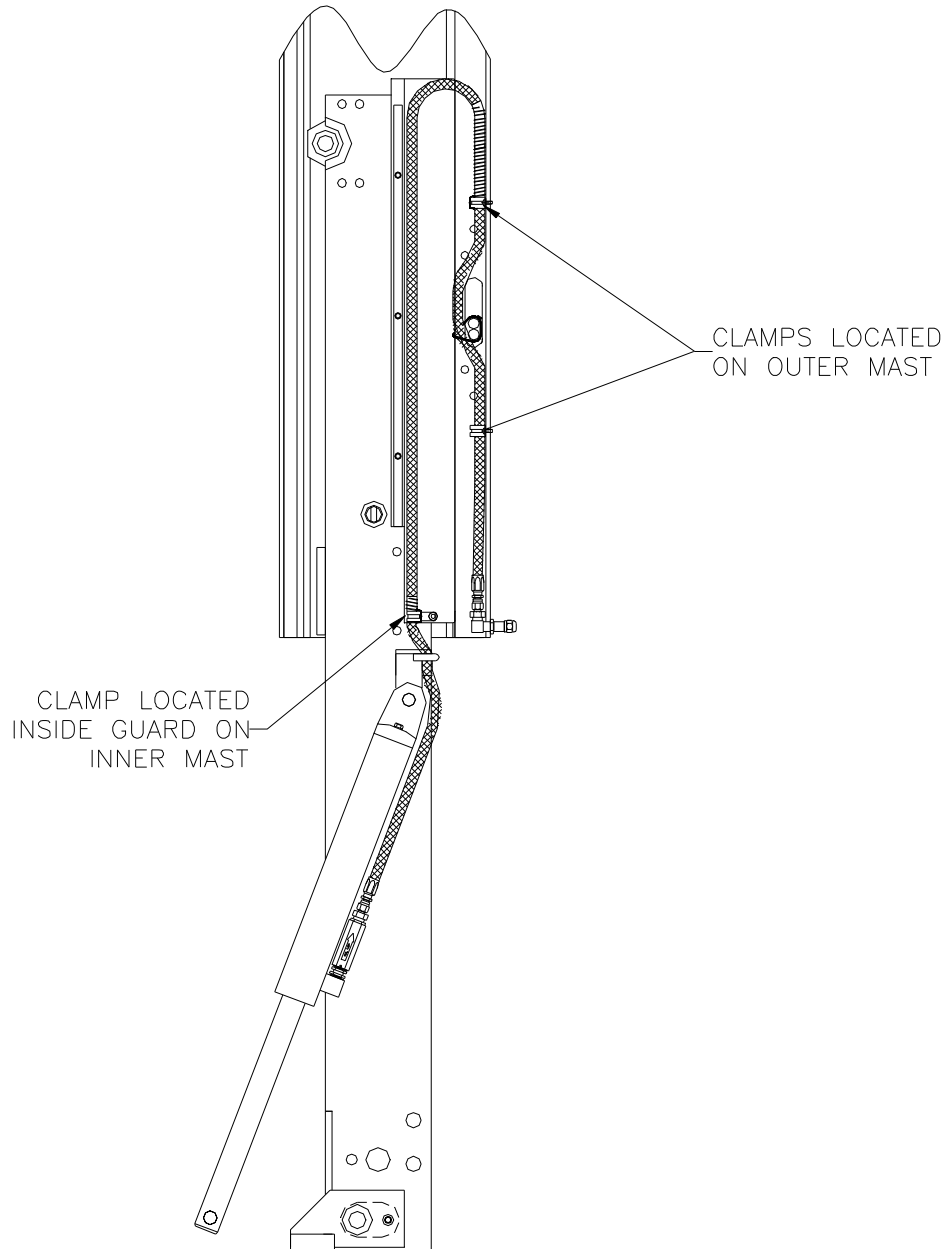
Back Port: This port will allow air out from the lifting (bottom) side of the cylinder.

Front Port: This port will allow air out from the power down (top) side of the cylinder.



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 produce 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.



CHECK OIL LEVEL AFTER BLEEDING THE CYLINDER:

Check with platform unfolded and up at bed height.

CONNECTING STOP / TAIL / TURN LIGHTS

If **FREEDOM™** FXD® gates are supplied with LED Stop / Tail / Turn lights as standard. The LED lights are normally shipped loose to avoid damage during shipping and gate installation. 16-4 light cable has been run through each Outer Mast at the factory. The standard LED lights should be mounted and connected as follows:

TOP LIGHTS are for TAIL /TURN – leads on lights

WHITE = ground
BROWN = tail light
GREEN = turn light

BOTTOM LIGHTS are for TAIL / STOP – leads on lights

WHITE = ground
BROWN = tail light
GREEN = turn light

It is recommended that the 16-4 cables supplied and pre-installed in the Outer Masts be connected as follows:

16-4 cable in right-hand (curb side) mast-

RED = stop light
BROWN = tail light
GREEN = RH turn
YELLOW = ground

16-4 cable in left -hand (driver's side) mast-

RED = stop light
BROWN = tail light
GREEN = RH turn
YELLOW = ground

Use butt connectors with heat shrink to connect lights to the 16-4 cables. Install oval lights using grommets supplied. At the opposite end of the 16-4 cables, cut to required length and make connections to the main light harness by re-using the light plugs for the trailer lights that the lift gate has covered, or partially covered, and will not be used. Do NOT cut or splice into main trailer light harness. Attach the re-used plugs to the 16-4 cables using butt connectors with heat shrink. The ground wire in a standard trailer light cable is usually **WHITE**. On the curb side match the **RED**, **BROWN**, and **GREEN** wires. Then connect the **YELLOW** on the 16-4 light cable with **WHITE** on the trailer light harness. On the driver's side, match the **RED**, **BROWN**, and **YELLOW** wires. Then connect the **GREEN** wire on the 16-4 light cable with the **WHITE** on the trailer light harness.

PAINTING THE VEHICLE

The adhesion of any paint to any surface depends first and foremost on whether the surface is clean, both physically and chemically. It is critical that all cylinder rods are protected during the painting process.

FREEDOM™ FXD® column gates are painted with Leyman Extreme Shield® at the factory and must be touched up using the Extreme Shield® kit provided. Follow directions on the label.

Painting

Leyman Extreme Shield® can be top coated with alkyds, epoxies, or urethanes, if it is desired to top coat the entire lift gate.

Basic Steps

1. While the vehicle is located in the shop area, perform all preparation to the surface, to include any grinding, etc.
2. Using dry rags, remove all excess dirt, grease, and hydraulic fluid from all metal surfaces that will be painted. Take special care not to create larger problems by spreading the excess on any related surfaces.
3. Using a wax and grease remover, clean all heavily greased areas of dirt, hydraulic oil or any other substances from all metal surfaces that are to be painted. This will not only help clean the surface, but allow the metal prep steps do their job better.



NOTE

Remember that using any removers and metal prep, paint, etc. can be dangerous. Be sure that all directions are followed carefully when using these products.

Metal Preparation:

Using the correct equipment, start the metal preparation operation on the surfaces to be painted.

1. Use a metal preparation brush saturated and diluted with “granodine” to scrub all the areas. Follow all safety requirements listed on the material being used.
2. Rinse the surface clean. An unbroken sheet with all the foam rinsed off will indicate a surface is properly prepared and ready for the “galvaprep” application. The surface does not need to be dry to apply the “galvaprep”.
3. Metal preparation material reduction is 3 to 1. Apply to surface from the bottom to the top, before the roof. Remember to keep the surface wet.
4. Using the applicator, apply the “galvaprep” to the desired surfaces (reduction is 3 to 1), starting from the bottom, to the top and over the roof. Rinse at room temperature with fresh water.



NOTE

Follow any and all safety requirements as listed on the material being used.

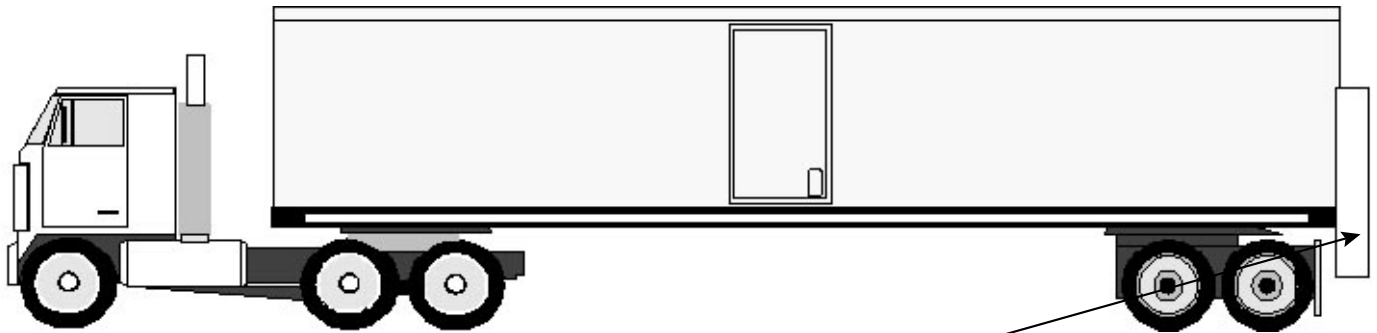
5. Using a clean air supply, blow dry all seams, joints and crevices. Wipe dry any moisture splatters that appear and clean with dry rags.
6. After processing and drying thoroughly, the surface is ready to be painted.

Mask and protect all surfaces not being painted. Remember to read and follow all safety requirements for materials that you use.

SAFETY WARNING SIGNS / DECALS

STREET SIDE DECALS

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



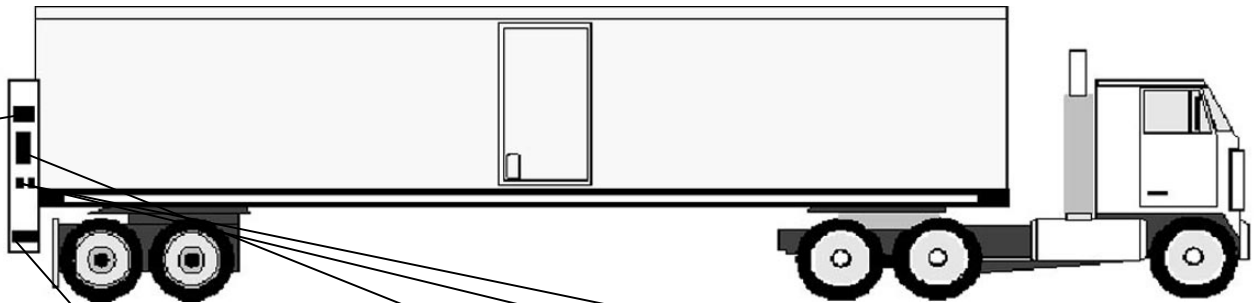
P55295

Will receive two of these decals. One goes
on each side at bottom of Outer Mast

INSTALLATION OF WARNING SIGNS / DECALS

CURB SIDE DECALS

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



P55295



THE SURFACE TO WHICH THIS LABEL IS TO BE APPLIED MUST BE FREE FROM OIL, GREASE, AND OTHER CONTAMINANTS.
Read all decal and label instructions carefully. Write with the proper pen.
If the label does not stay on the surface, it may be necessary to clean the surface. Remove the label and re-apply.

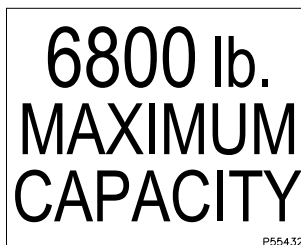
URGENT WARNING
ELEVATING GATE INSTRUCTIONS
Before Operating Lift, Be Sure You Understand
1. Improper operation of this lift can result in serious personal injury. Do not operate unless you have been properly instructed and have read, and are familiar with, the operating instructions. If you do not have a copy of the instructions please obtain them from your employer, distributor, or dealer, 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 Wtg. 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.

P55187

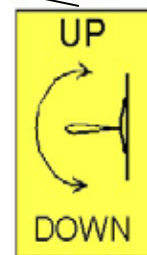
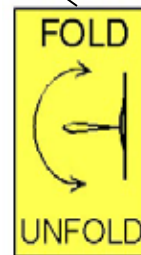
Mount one Max. Cap. decal on outside of Outer Mast near switches. Mount other Max. Cap. decal on Inner Mast just above chain anchor.



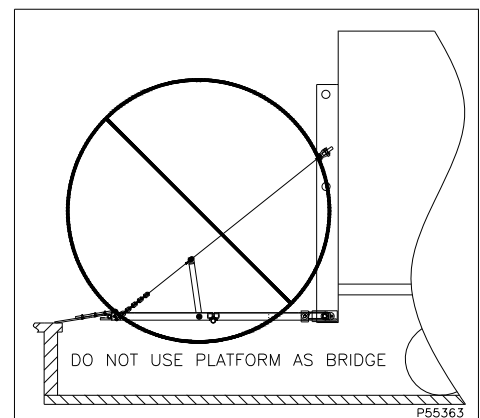
P55433



P55432



Mount each decal next to the corresponding toggle switch. Make sure you mount three UP / DOWN decals (two on the inside of the Outer Mast). Mount two FOLD / UNFOLD decals (next to the dual switch plate).

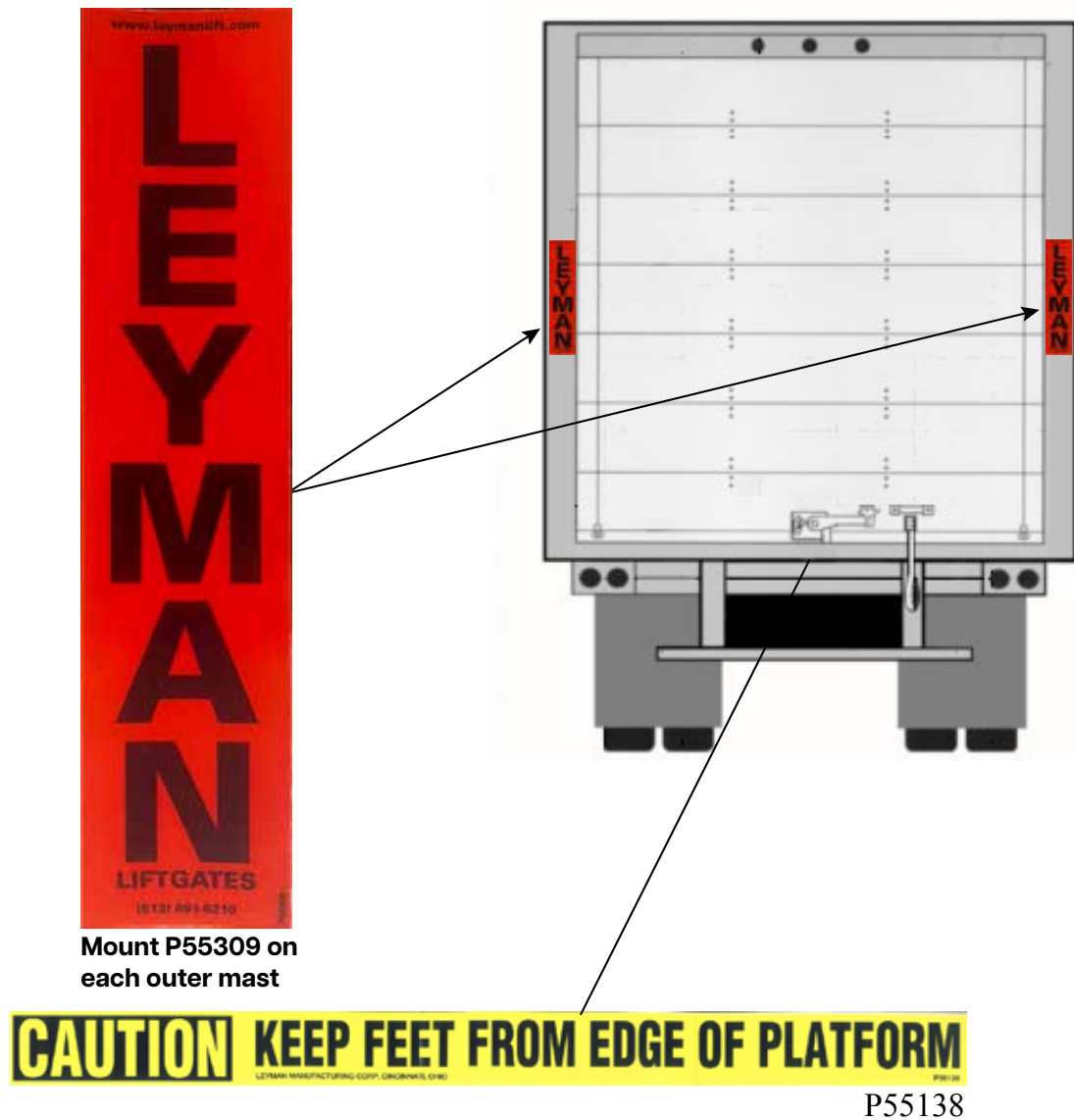


P65363

INSTALLATION OF WARNING SIGNS / DECALS

REAR OF VEHICLE DECALS

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



Decal Part Numbers not listed on diagrams:

(2) 6800 MAX CAP	P55432	(3) FOLD / UNFOLD	P55185
(3) UP / DOWN	P55221	(1) URGENT WARNING	P55157
(1) DO NOT USE AS BRIDGE	P55363		

MODEL AND SERIAL NUMBER TAGS

Serial No. is also located in MENU 1 of
Maintenance Minder 2® (if equipped)
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	FXD68DED-8684RR
SERIAL NO.	289999
CAPACITY	6800 lbs.
MANUFACTURE DATE	08-14-08

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	FXD68DED-8684RR
CAPACITY	6800 lbs.
MANUFACTURE DATE	08-14-08
PATENTS PENDING	

FINAL INSTALLATION INSPECTION

Customer		Gate Model #	
Location		Gate Serial #	
Vehicle #		Unit #/ Vin #	

√ = OK N = Not Applicable

WELDING

	Gate is welded secure to vehicle (2" long welds spaced 10" to 12" inside and outside both Outer Masts) at stainless steel mounting channels.
	Power pack box is welded to cross members using full length welds. If power pack is securely bolted instead, then ground cable is installed.
	Header Kit (dock seal) is securely riveted to vehicle.

ELECTRICS

	Check that battery holds downs are tightened securely, and rubber pads are installed under batteries.
	Check battery (ies) for proper charge level. PROPER CHARGE LEVEL:
	Check all wiring connections for tightness (batteries, switch cable, etc.)
	Inspect and check all circuit breakers
	Charge line/power line (through cross members with rubber grommets or clamped using loom clamps).
	Electric line from gate to power pack (through cross members with rubber grommets or clamped using loom clamps).
	Check operation of inside and outside toggle switches.
	Check operation of lights in Outer Mast

HYDRAULIC

	Hydraulic lines from gate to power pack (through cross members with rubber grommets or clamped using loom clamps).
	Hydraulic lines from gate to power pack – check for leaks by running each function at by-pass.
	Check reservoir for correct amount of fluid (platform should be open & down when checking) (up if power down). 4" below top of tank.
	Bleed air from folding cylinder.
	Bleed air from lifting cylinders.
	Check fold and lift cylinders for leaks
	Dual Power Unit – Check operation of both power units. Also test Emergency Pushbutton unit. Then set to operate on primary unit (Selector Switch toggled left).

OPERATION OF GATE

	Open and close lift gate. Observe for correct operation (use both power units, plus Emergency Control).
	Raise and lower lift gate. Observe for correct operation (use both power units, plus Emergency Control)

MISCELLANEOUS

	Rear Impact Guard extension installed to meet 12" dimension to primary gate structure. Add reflective tape
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PAINTING AND SAFETY STICKERS

	Repaint where needed
	Check hydraulic cylinder rods for over spray
	Install all safety and operation stickers

Serviced By: _____

Date: _____

OPERATING THE LIFT GATE

Before operating the lift, read and understand this decal, **URGENT WARNING DECAL** and **OWNER'S MANUAL**.

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

To unfold the platform from over-the-road position

- 1 Toggle the **DOWN** switch to lower platform.
- 2 Lower the platform until arrow indicates **FOLD / UNFOLD** region.
Toggle both **UNFOLD** switches. Gate will unfold.

To dock load

- 1 Toggle the **DOWN** switch to lower platform.
- 2 Continue lowering until platform rests on dock level stops.



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 Cart stop or retention ramp must be in place whenever lifting or lowering a load. Also, read the Urgent Warning decal.

To fold platform

- 1 Raise the platform until arrow indicates **FOLD / UNFOLD** region. Then toggle both **FOLD** switches until platform completely folds. Raise platform until gate hits Up Stops and arrow indicates locked position. Do not move vehicle unless gate is in locked position.

URGENT WARNING READ BEFORE OPERATION

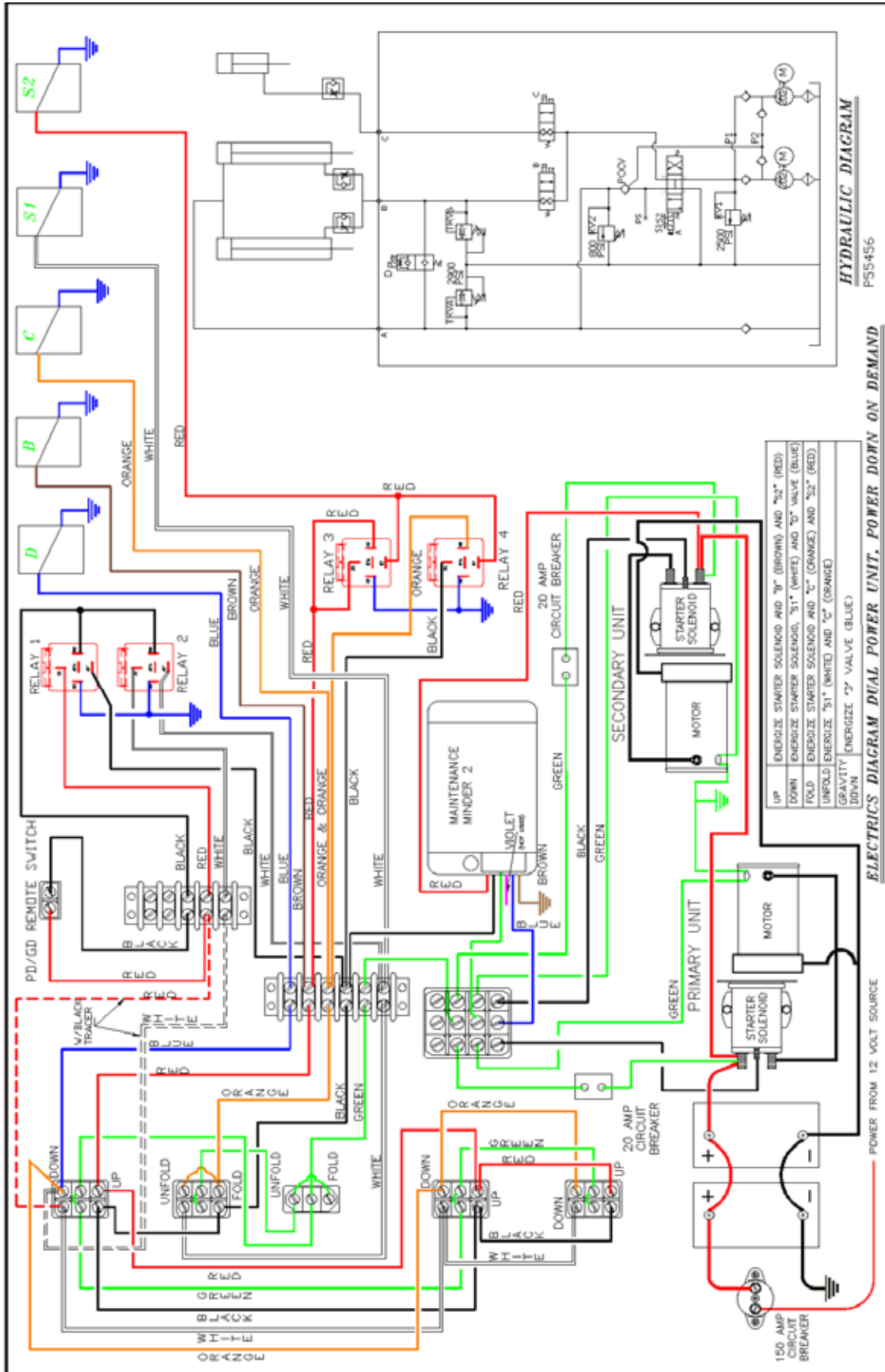
Before Operating Lift, Be Sure You Understand

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

ELECTRICAL DIAGRAM

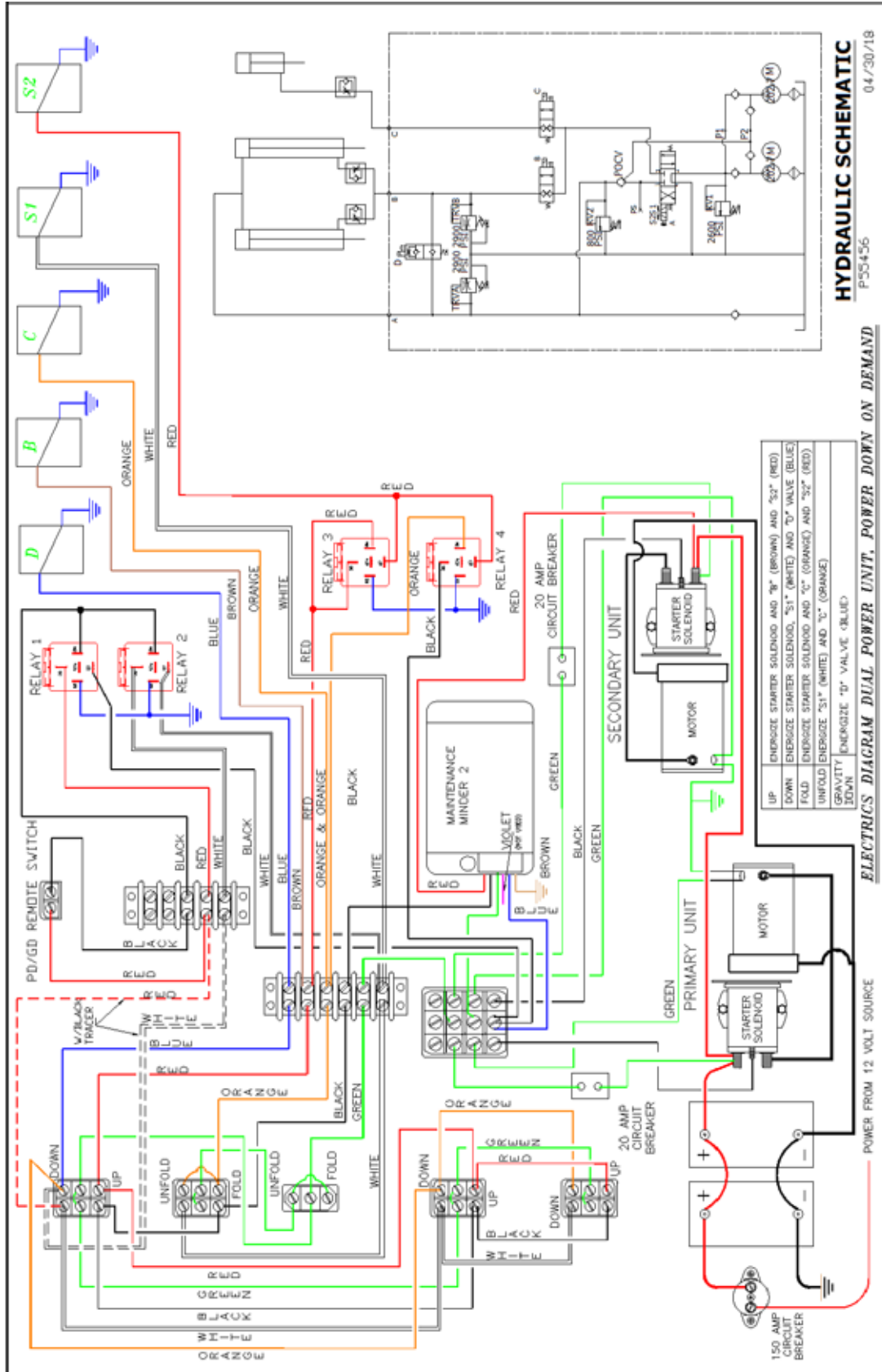
BEFORE NOVEMBER 2016



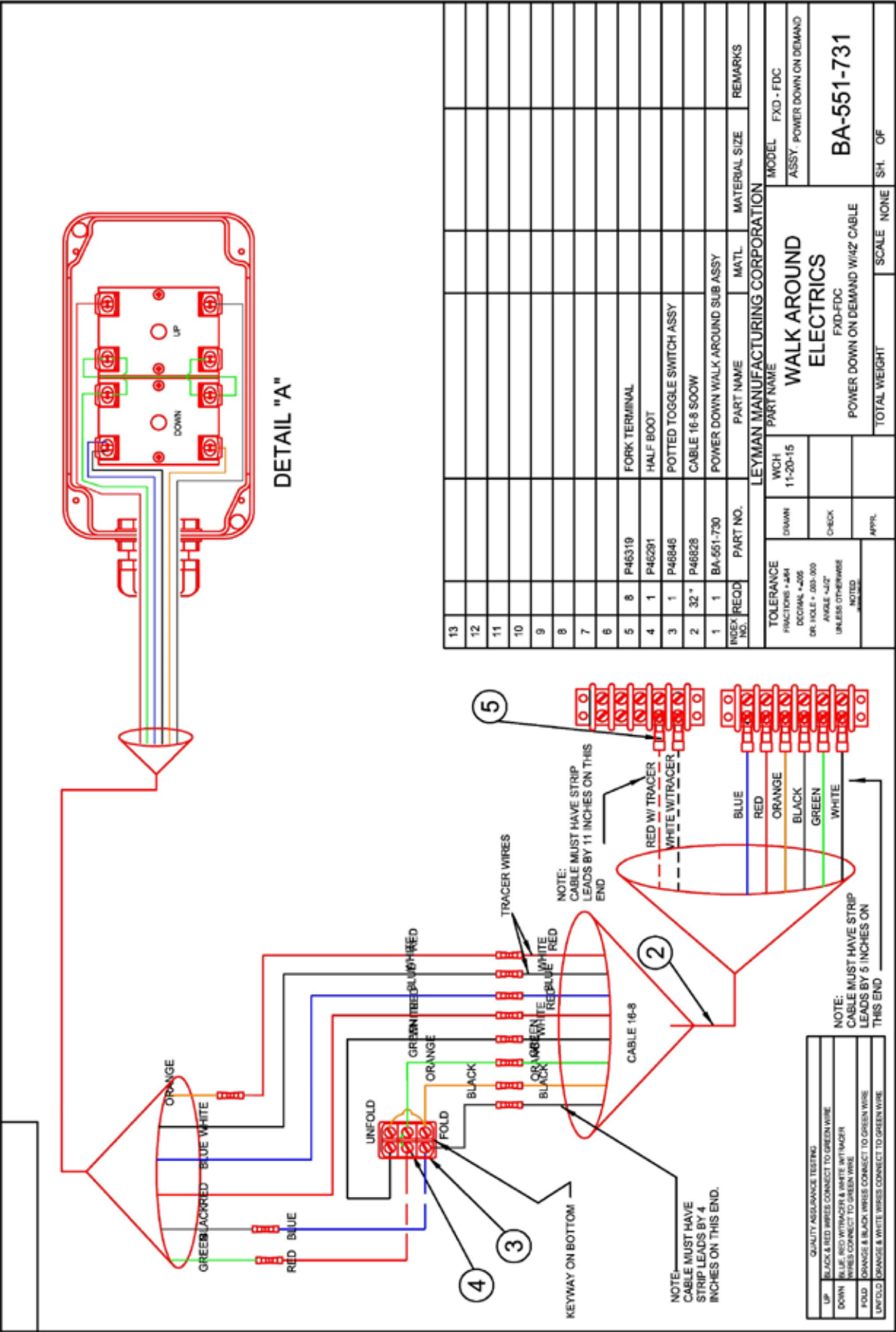
FROM NOVEMBER 2016
TO APRIL 2018



ELECTRICAL DIAGRAM AFTER APRIL 2018



WALK AROUND ELECTRICS



This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.