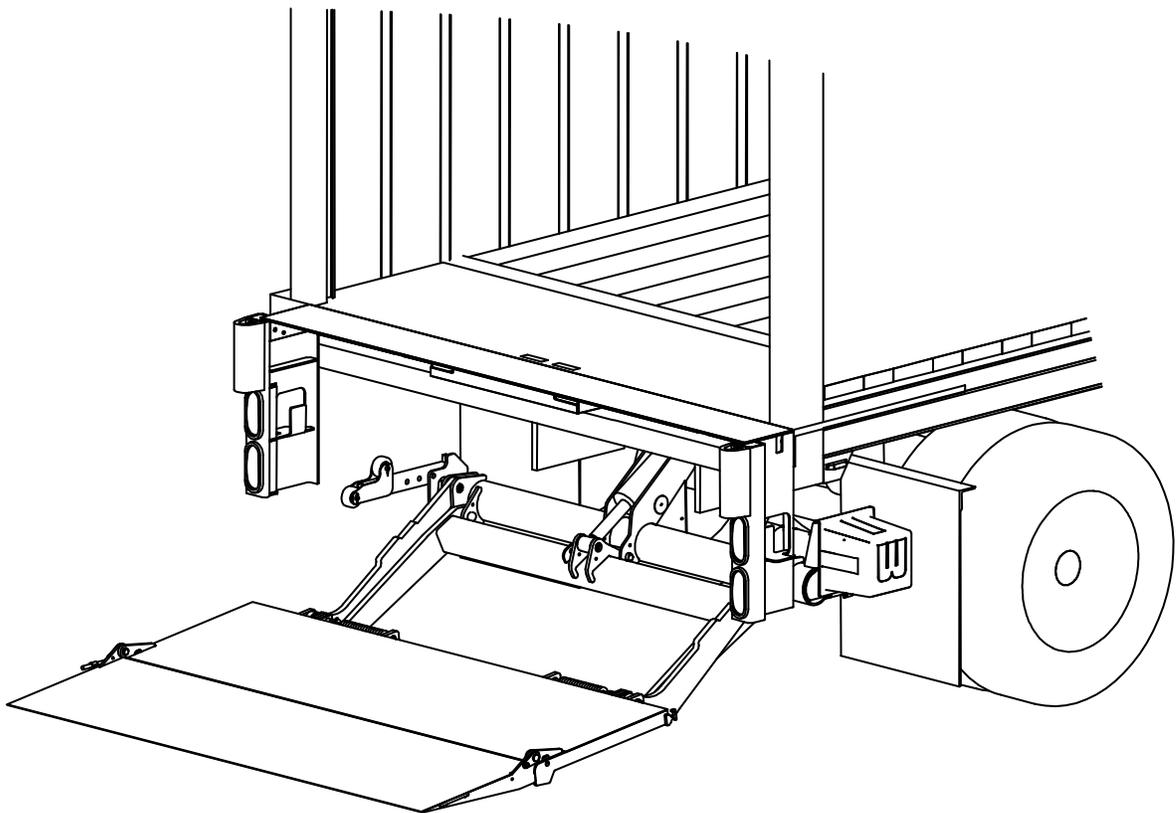


# Installation Manual

## EM25, EM33

2500, 3300 lb. Capacity Flipaway Liftgates



### Last Change

Date	Page(s)	Description
4-2016	28, 43	P28 – Added bleeding instructions P43 – Clarified battery cable routing

**Waltco Lift Corp.**  
**Corporate Office United State**  
285 Northeast Ave.  
Tallmadge, OH 44278  
P: 330.633.9191  
F: 330.633.1418

**Waltco Lift Corp.**  
**United States**  
620 S Hambledon Ave.  
City of Industry, CA 91744  
P: 626.964.0990  
F: 626.964.0149

**Waltco Lift Inc.**  
**Canada**  
90 North Queen St.  
Etobicoke, ON M8Z 2C5  
P: 888.343.4550

# Table of Contents



**Improper installation of this liftgate could result in severe personal injury or death.**

**Read and understand the contents of these instructions before proceeding.**

**When installed, this liftgate must not alter or prevent vehicle compliance to any existing state or federal standards.**

**Each chassis manufacturer's recommendations should be consulted for compliance.**

Introduction .....	3
Safety Information.....	4
Liftgate Terminology .....	6
Basic Mounting Requirements .....	9
Installation.....	11
Placement of Decals .....	36
Lubrication Instructions .....	37
Final Inspection .....	38
<u>Optional Kit Instructions:</u>	
Hand Held Remote Kit .....	39
Kit #80000430	
Aux Battery Kit .....	40
Kit #80001456	
Tractor Wiring Kit .....	46
Kit #80000618	
Dual Control Kit.....	47
Kit #80000437	
Theft Deterrent Kit.....	48
Kit #80001313	
Cab Shut-Off Kit.....	49
Kit #80000827	
Remote Pump Mount Kit.....	50
Kit #80000979	
Underride Kit.....	51
Kits #26495001 & 26495102	
Trailer Hitch	
Recommended Bed Heights (Trailer Hitch).....	52
Options #26470027 & 26570027	
Swing Door Bed Extension .....	53
Kits 26460015 & 26460016	
How to Order Parts .....	55

# INTRODUCTION

If anyone observes improper installation, improper operation, or damage, they should immediately contact a qualified person for assistance and correction. We strongly urge anyone that has any questions or doubts as to the installation, condition, use, operation, maintenance or repair of the liftgate to contact us at Waltco where we have qualified personnel that will be happy to assist you. Telephone numbers and addresses of these locations are listed in the Owner's Manual and Installation Instructions.

## INSTALLATION

Waltco liftgates should only be installed by those with sufficient basic skills to understand the installation and operation of the liftgate, along with the equipment on which the liftgate is being installed. Waltco's installation instructions are not intended to give rationale for all the instructions that are given; however, it is the intent of these instructions to give the installer both the operations and what we believe to be the most desirable sequence of implementing these operations. These instructions can in no way expand into an area where they will replace a qualified person, or clear thinking and a basic knowledge that must be possessed by the installer.

It has been our experience that a knowledgeable journeyman following these instructions and observing the operation of the liftgate will have a sufficient comprehension of the liftgate to enable this person to troubleshoot and correct all normal problems that may be encountered.

Failure to follow the installation instructions, adjustments and mounting dimensions may result in improper and unsafe operation of the liftgate. Unauthorized alterations of the liftgate can cause an undesirable and dangerous condition.

## OWNER'S MANUAL

The Waltco Owner's Manual is intended to act as a guide for operation and routine maintenance but is no way intended to encourage usage or repair of the liftgate by those who are not qualified to do so.

The contents of the owner's manual include, but are not limited to general operation instructions, routine lubrication, parts lists, and an outline of things that should be checked but may not be obvious to those not technically qualified. This manual assumes the liftgate is properly installed, undamaged and operates correctly. Improper installation, improper operation, or damage should be immediately corrected by a qualified person.

## INSPECTION

As part of the regular inspection of a liftgate and after damage or suspicion of an overload, inspect for wear or structural damage and make necessary repairs or replacements. Check all structural components and their attachment to the liftgate for cracked welds, loose fasteners, wear and part deformation. Check cylinder and hose for leaks. Inspections and repairs should be made by a qualified mechanic.

## REPLACEMENT PARTS

Use only Waltco original equipment replacement parts. Components of other liftgate manufacturers may outwardly appear to be the same but are not interchangeable with Waltco products. Waltco components are specifically designed for safety requirements, reliability and compatibility with our products. Refer to your Waltco parts manual when ordering parts. NOTE: When ordering, give model and serial number of liftgate.

## DECALS

It is important that every vehicle that has a WALTCO Liftgate have legible DECALS clearly posted on the vehicle and an OWNER'S MANUAL in the vehicle at all times as a guide for proper operation and maintenance.

Additional DECALS and OWNER'S MANUALS can be obtained from WALTCO LIFT CORP.

80101388 Rev 03 EO 7820

# Chapter 1 Safety Information

## WARNING

**Read, understand, and follow all of the warning listed below.**

**Failure to follow these warning could result in severe personal injury or death.**

- Read and understand the Owner's Manual, all decals and warning on liftgate before operating liftgate.
- Do not operate liftgate without a thorough knowledge and understanding of the operation of the liftgate.
- Liftgate hazards can result in crushing or falling.
- This liftgate is designed for loading and unloading of cargo. If personnel are required to ride liftgate, observe and familiarize yourself with the liftgate operation, decals and manuals. Ensure stable footing at all times.
- Do not ride liftgate with unstable loads.
- Wheeled loads must be properly retained from rolling.
- Tall, high center of gravity loads must be retained from falling over.
- Never overload liftgate:  
Load platform as close to the vehicle, and towards the middle of the platform as possible. Refer to owner's manual and capacity decal of liftgate for maximum load and load placement.
- Keep hands and feet clear of all potential pinch points.
- Never use liftgate if it makes any unusual noise, has unusual vibration, raises or lowers unevenly, or fails to operate smoothly.
- Never use liftgate if it shows any signs of structural damage such as cracked welds, bent or distorted members.
- Do not attempt any repairs unless you are qualified to do so. Care should be taken when work is performed on a disabled liftgate located near moving traffic. When possible the vehicle should be moved away from traffic areas for repair. Precautionary measures should be taken to ensure personal safety including those recommended in Federal Motor Vehicle Safety Standards 571.125.
- When welding to liftgate, or liftgate components, take all necessary safety precautions, including using respiratory protection and other pertinent personal protective gear when welding harmful materials.
- All protective covers, guards, and safety devices must be in place and access doors closed before operating liftgate.
- Do not allow anyone to stand in, or near area, in which Platform will open and close before opening or closing Platform.
- Do not allow anyone to stand near the Platform where a falling load could land on them.
- Platform is always to be properly stored and secured for transit. See the Owner's Manual for details.
- Take care to retain cargo during transit for liftgate Platforms which function as the tailgate or door of the cargo area. Small objects can fall through the space between the vehicle and the folded Platform.
- A Lock-Out device or Shut-Off Switch should always be used to prevent unauthorized use of liftgate.
- For liftgates with Runners, never use liftgate if Runners do not travel freely and smoothly.
- For liftgates with Roller Lifting Chain, the Chain should be replaced every (5) five years or 15,000 cycles, whichever comes first. Replace only with Waltco approved Roller Chain.
- Never transfer loads which exceed lifting capacity on or over any part of the Platform unless the liftgate is equipped with a special reinforced Platform and Platform Support Bars for use when the Platform is used as loading ramp (dock board). Refer to the "Using Platform as a loading ramp" Chapter in the Operation Instructions of the BZ/RZ series Owner's Manual.
- For liftgates equipped with Trailer Hitches, never exceed the rated capacity of the hitch. Do not exceed the vehicle's weight rating. Refer to the vehicle's Owner's Manual.
- Vehicle must comply with all state and federal standards.
- Follow the "Maintenance Guide" chapter in the Owner's Manual.

# Chapter 1 Safety Information

## Liftgates with Tilt Function

- Proper use of the Control Switches is of extreme importance.
- Improper use of Tilt Switch could cause load to fall from the Platform or damage the liftgate.
- Platform should be in a generally horizontal position when raising or lowering with a load.
- In any tilt position, the Platform may vary from level while raising or lowering the Platform.

## Liftgates equipped with spring operated Cam Closer

- Replace Cam Release Spring every five (5) years or 15,000 cycles, whichever comes first.

## RGL-Series Liftgates

- Make certain Platform Brake mechanisms are operating properly.
- The Runners are always to remain powered up against the Upstops Pins when in transit.
- Inspect Cables every three (3) months or 750 cycles, whichever comes first. Cables must be replaced if they show signs of wear, distortion, kinking or if any broken wires are visible
- Replace cables every five (5) years or 10,000 cycles, whichever comes first.



This is the safety alert symbol. This manual uses this symbol to alert you to potential personal injury hazards.

Obey all safety messages that follow this symbol to avoid personal injury or death.

## SIGNAL WORDS

### WARNING

Indicates a potentially hazardous situation, which if not avoided, could result in death or serious injury.

Black letters on an orange background

### CAUTION

Indicates a potentially hazardous situation, which if not avoided, may result in minor or moderate injury. May also be used to alert against unsafe practices.

Black letters on a yellow background.

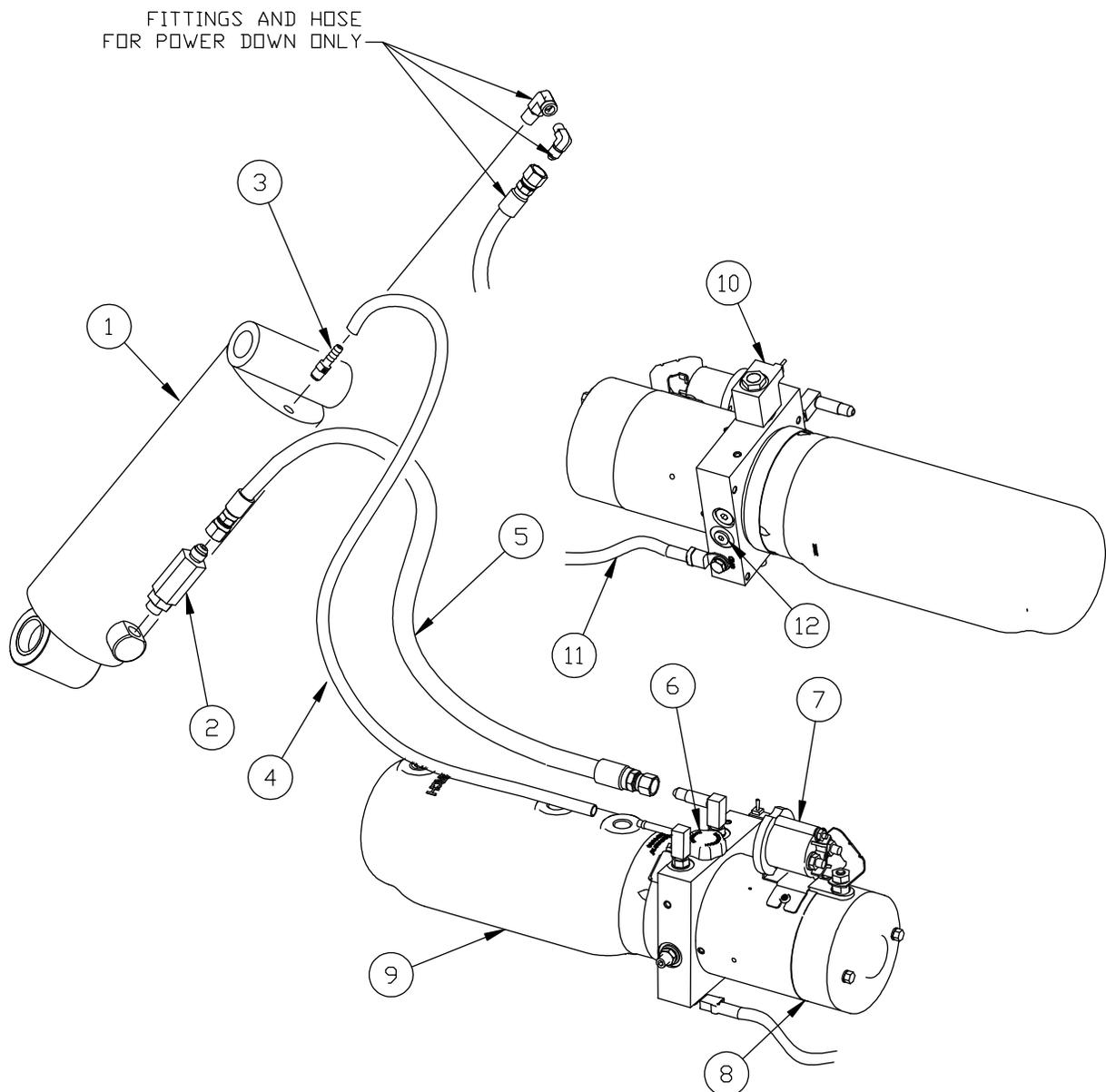
### NOTICE

Indicates a potentially hazardous situation, which if not avoided, may result in property damage.



# Chapter 2 Liftgate Terminology

- |   |  |
|---|--|
| <ol style="list-style-type: none"><li>1. Hydraulic Cylinder</li><li>2. Flow Control Valve</li><li>3. Return Line Barbed Fitting (Gravity Down)</li><li>4. Return Line (Gravity Down)</li><li>5. Raise Hose Assembly</li><li>6. Breather Cap</li><li>7. Pump Unit Starter Solenoid</li></ol> | <ol style="list-style-type: none"><li>8. Motor</li><li>9. Reservoir</li><li>10. Lowering Valve Coil</li><li>11. Ground Cable</li></ol> |
|---|--|

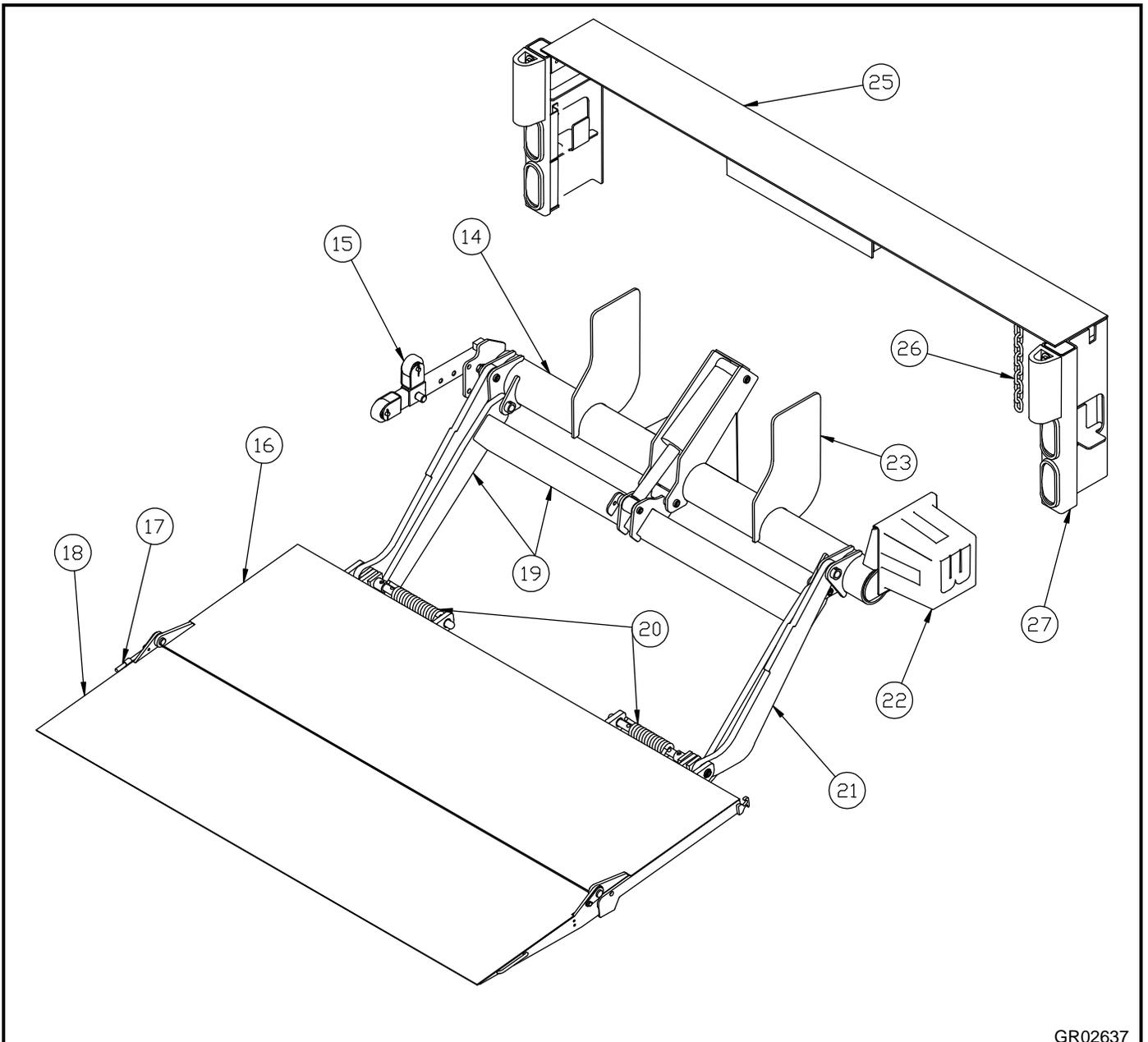


GR02636

# Chapter 2 Liftgate Terminology

- 14. Mount Tube Assembly
- 15. Parting Bar Assembly
- 16. Deck Assembly
- 17. Torsion Bar
- 18. Deck Extension Assembly
- 19. Lift Arm Assembly

- 20. Folding Assist Springs
- 21. Parallel Arm
- 22. Pump Cover
- 23. Mount Plate
- 24. Spec Tag (see following page)
- 25. Bed Extension
- 26. Transit Chain
- 27. Dock Bumper

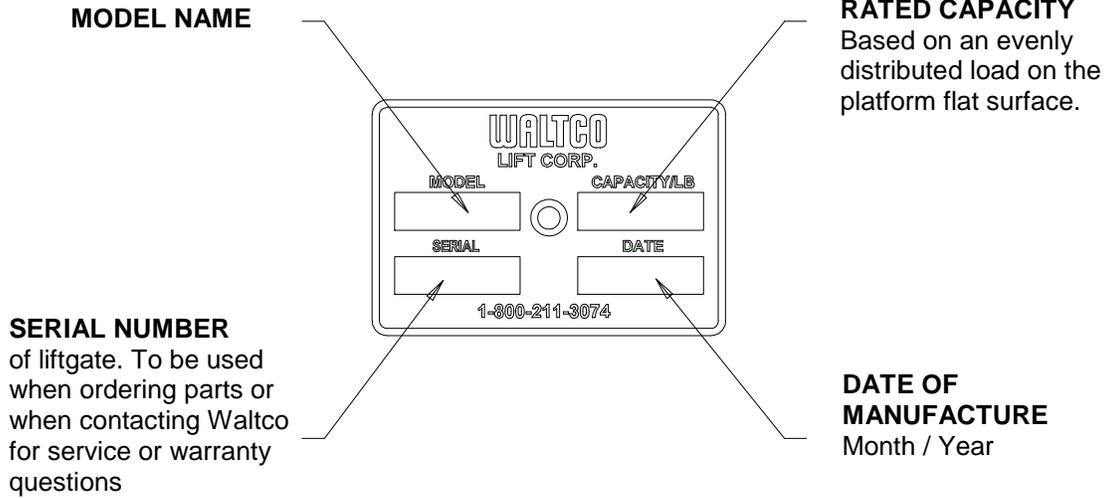


GR02637

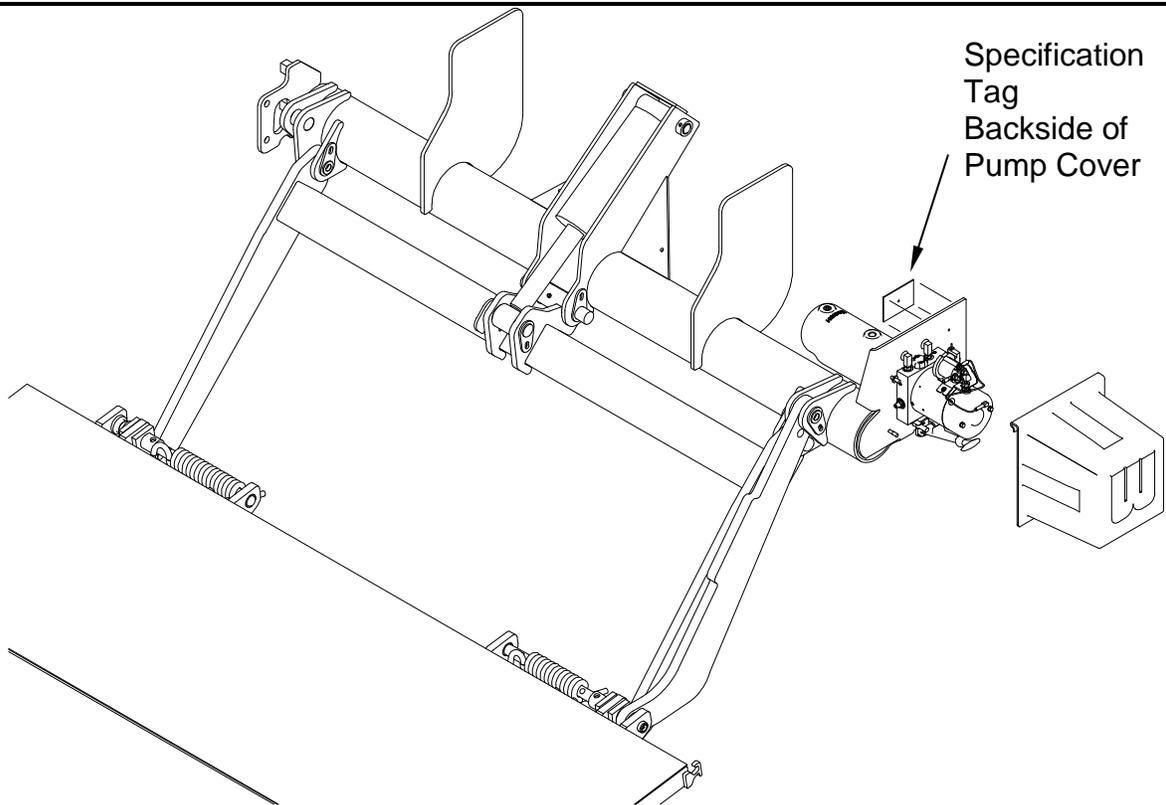
# Chapter 2 Liftgate Terminology

## Explanation of Specification Tag

Model Name	Description	Capacity
EM	Single Cylinder	2500 lb.
EM	Single Cylinder	3300 lb.



GR00241



GR02773

# Chapter 3 Determine Basic Mounting Requirements

Measure distance from ground to floor level. This is the bed height.

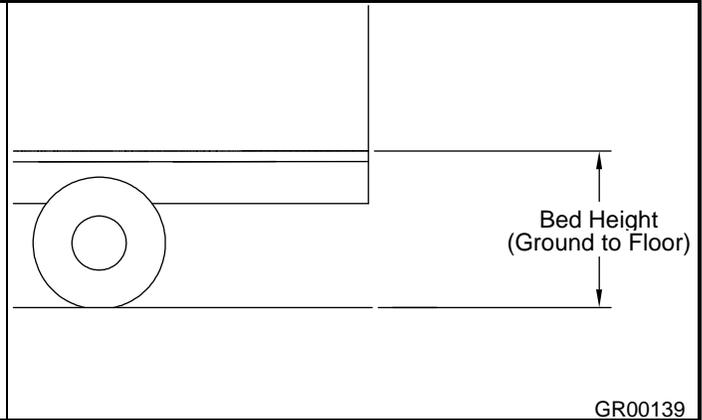
Refer to bed height dimension on mounting chart to determine basic mounting dimension "A" and minimum mount frame clearance required.

**NOTE:**

**Max bed height dimensions for unloaded vehicle.**  
**Min bed height dimensions for fully loaded vehicle**

**NOTE:**

**Tire clearance should be 6" minimum between tire and mount frame.**



GR00139

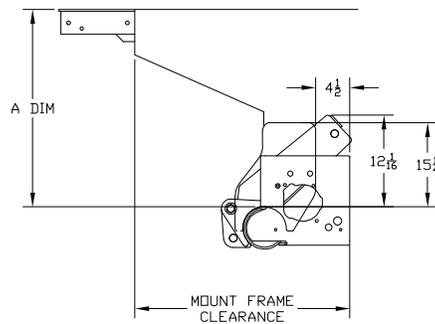
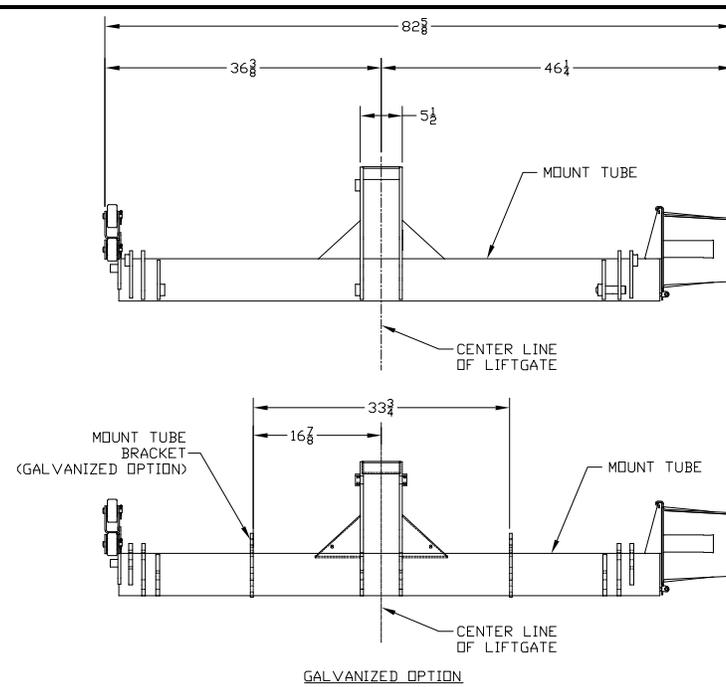
**MOUNTING CHART**

Bed Height	"A" Dimension	Mount Frame Clearance
*36"-43"	19"	34-1/2"
44"-54"	24"	30-1/2"
55"-56"	26"	28-3/8"

**\*IMPORTANT: Minimum Bed Height for 50" deep wedge platforms is 39".**

**IMPORTANT: If your bed height is in the 44" to 54" range, continue to Chapter 4 Installation. If your bed height is out of this range read next page to determine stop blocks needed.**

**Note: For min bed height with trailer hitch, see Tech Tip TT100005 in back of this manual.**

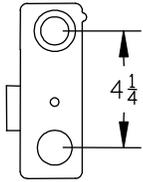


**NOTE: "A" Dimension is from top of floor (bed) to top of Mount Tube**

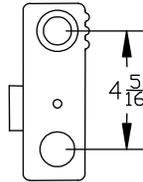
GR02638

# Chapter 3 Determine Basic Mounting Requirements

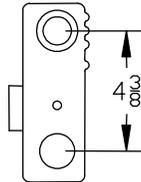
Stop Blocks shipped with liftgate are based on the depth and style of platform.



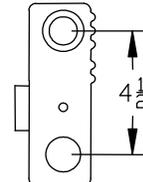
26450001/GV  
26450051/GV



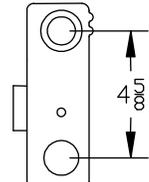
26450003/GV  
26450053/GV



26450004/GV  
26450054/GV



26450005/GV  
26450055/GV



26450002/GV  
26450052/GV

Below in **bold** indicates which stop blocks are shipped with different platforms.

Below are stop block recommendations for different bed height ranges.

**Notes:**

The larger the stop block hole spacing, the more tilt up the platform will achieve at bed height.

“GV” indicates Galvanized option.

**44” Deep Wedge Platform**

Bed Height Range	A-Dim	Recommend Stop Blocks
56 - 55	26	26450003/GV & 26450053/GV
<b>54 - 44</b>	<b>24</b>	<b>26450004/GV &amp; 26450054/GV</b>
43 - 36	19	26450002/GV & 26450052/GV

**50” Deep Wedge Platform**

Bed Height Range	A-Dim	Recommend Stop Blocks
56 - 55	26	26450001/GV & 26450051/GV
<b>54 - 44</b>	<b>24</b>	<b>26450003/GV &amp; 26450053/GV</b>
43 - 39	19	26450005/GV & 26450055/GV

# Chapter 4

# Installation

## PREPARATION OF BODY SILL

Remove all obstructions that would interfere with operation of Liftgate; such as dock bumpers, trailer hitches, projections, etc.

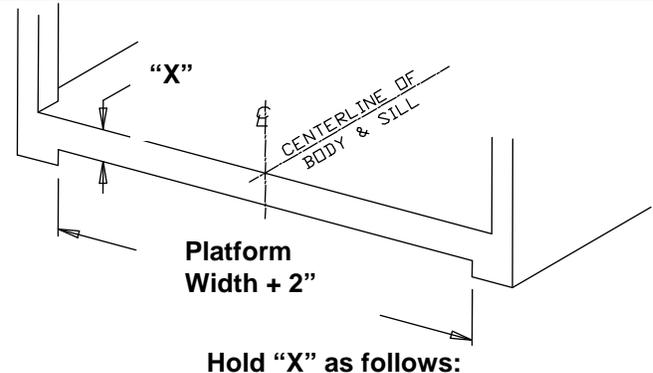
Locate and mark the center of body sill.

### NOTE:

**All mounting measurements for centering liftgate will come from centerline mark.**

Body sill must have clearances indicated. Cut or notch Rear Sill to obtain these clearances.

Refer to chart on first page of Chapter 3, (Determine Basic Mounting Requirements).



Hold "X" as follows:

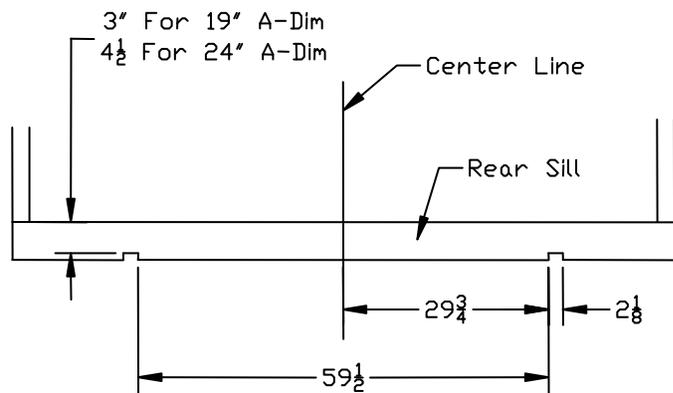
"A" Dimension	"X" Max.
19"	4"
24"	5-1/2"
26"	6"

GR02184

### Note: For aluminum platforms only.

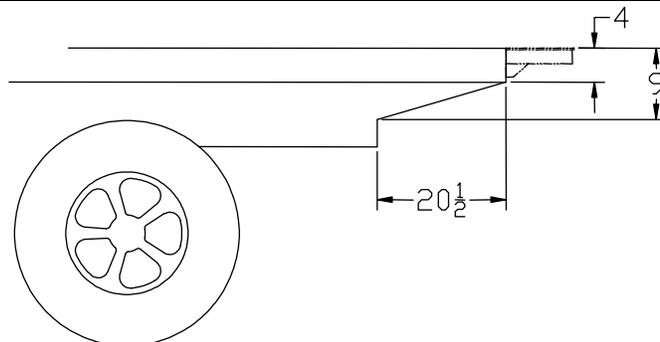
On units that have aluminum platforms, additional notching of the rear sill will be necessary.

Notches not required for 26" A-Dimension.



GR02184

Cut away vehicle frame as required to obtain the minimum clearance indicated.



36" TO 43"  
BED HEIGHT

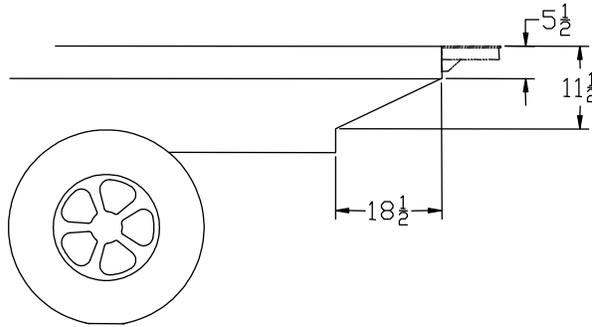
19"  
"A" Dimension

GR01896

# Chapter 4

# Installation

Cut away vehicle frame as required to obtain the minimum clearance indicated.

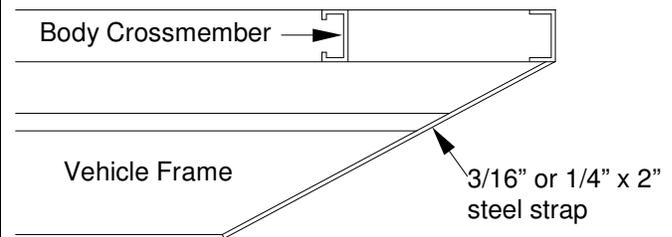


44" TO 56"  
BED HEIGHT

24" and 26"  
"A" Dimensions

GR02079

Cap Vehicle Frame, using a 3/16" or 1/4" X 2" steel strap.



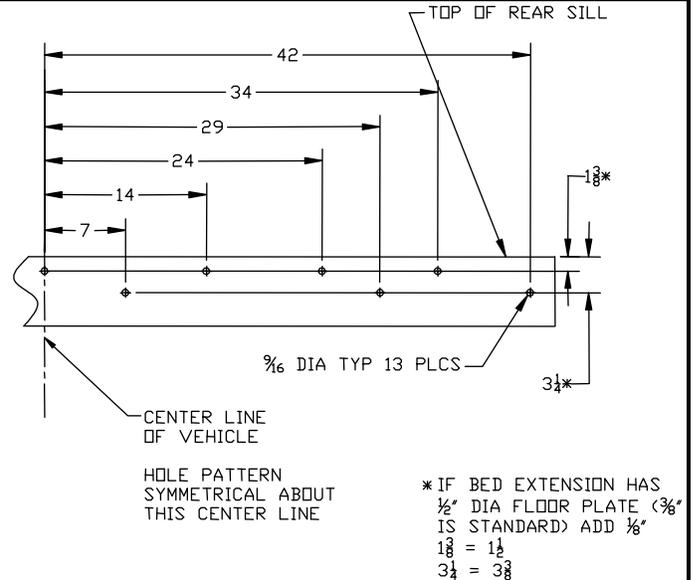
GR00625

## INSTALLATION OF BED EXTENSION

If bed extension is to be bolted on, use pattern at right for drilling holes.

Twelve (12) 9/16" diameter holes required.

**NOTE:**  
This requires an optional bolt-on style bed extension with mounting holes.



GR02760

## INSTALLATION OF BED EXTENSION

Position Bed Extension up to rear sill using a forklift or crane.

Make certain bed extension is centered on vehicle body and level with bed.

If corner posts of vehicle body extend beyond rear sill of body, shims may be added behind bed extension to prevent extension from bowing.



**Other means may be used to support Bed Extension in position. ALWAYS verify the safety of your supporting method before proceeding.**

### If bolting bed extension:

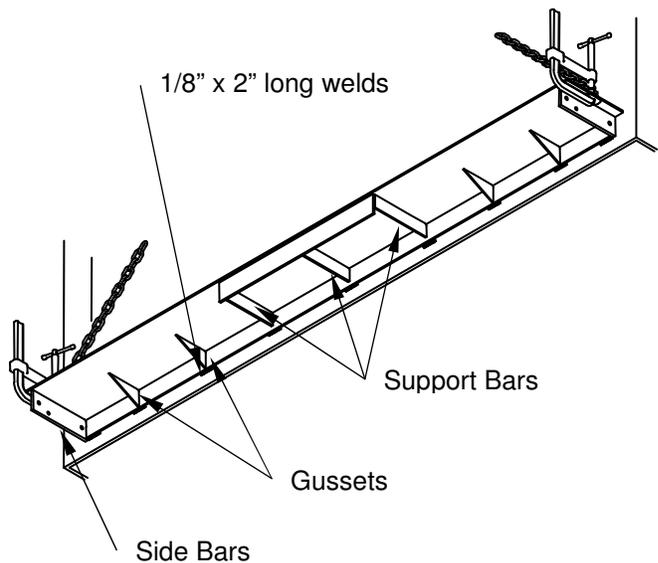
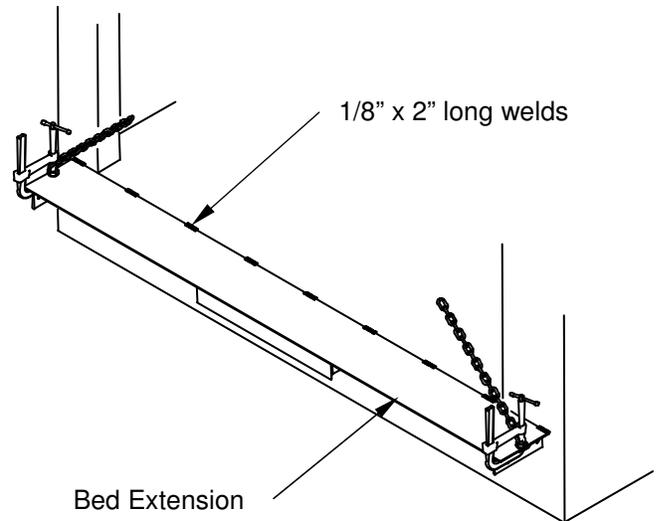
Use twelve (12) 1/2" bolts, nuts, and washers provided with kit.  
Torque bolts to 90 ft. lbs.

### If welding bed extension:

Weld top side of bed extension, 1/8" x 2" long welds over each of the side bars, gussets, and support bars on underside of extension.

If bed extension has notches along the top side, weld notches to rear sill.

Weld underside of bed extension, 1/8" x 2" long welds under each of the side bars, gussets, and support bars.



# Chapter 4

# Installation

Remove liftgate from shipping pallet, and all banding. Do not unfold platform until instructed to do so.

**STOP** Before proceeding; verify vehicle bed height and A-dimension to be used!

### SET MOUNTING BAR FOR PROPER A-DIMENSION

Refer to Chapter 3 of this manual; Mounting Bar must be set to correct A-Dimension for vehicle bed height.

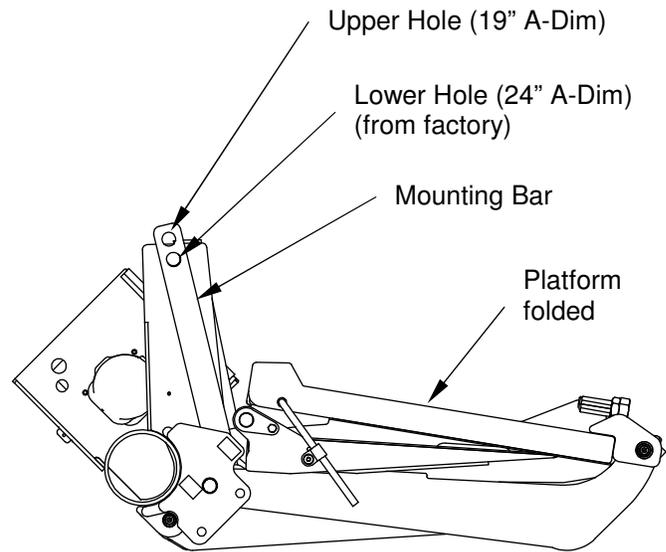
Mount Bar is set for 24" A-Dimension when shipped from factory (as shown).

To change hole, remove cotter pin from upper cylinder pin, pull mounting bar off pin and rotate cylinder tower.

Push mounting back onto pin and reinsert cotter pin.

### IMPORTANT:

Do not remove Mounting Bar until instructed to do so.



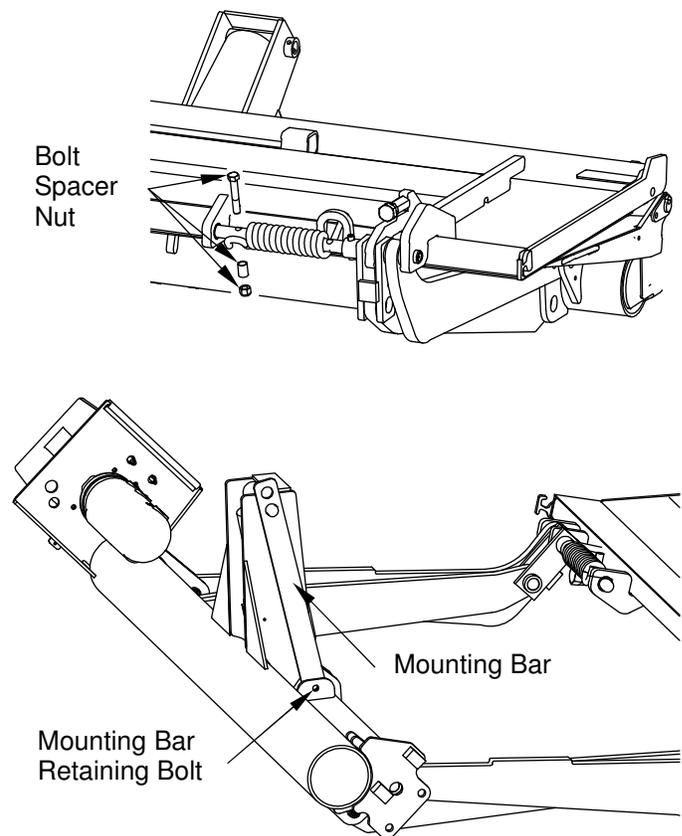
GR02732

### NOTE:

If mounting to 26" A-Dimension, the Mounting Bar and platform spring Retaining Bolt(s) will need to be removed before proceeding.

With platform still folded, remove 1/2" Bolt(s), Nut(s), and Spacer Tube(s) from deck spring pin(s). Keep parts for re-assembly later

Unfold platform to open position and remove Mounting Bar.



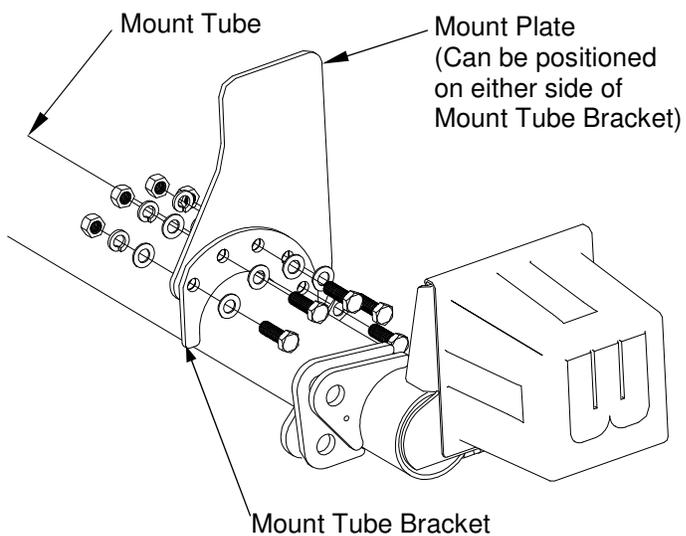
GR02925 & GR02650

## BOLT-ON MOUNT PLATE ATTACHMENT

For galvanized option, mount plates must be bolted onto mount tube prior to installation.

Use twelve (12) 3/4" bolts, nuts, and washers provided with kit.

Torque bolts to 300 ft. lbs.



GR02954

# Chapter 4

# Installation

Position liftgate up under vehicle.

Using a forklift or crane, raise platform up to bed extension. Use 3/16" spacers to space platform away from bed extension.

Butt platform and bed extension skins together.

Platform to be centered on vehicle, and level with floor (bed) of vehicle.

A jack can be used to help position mount tube to proper A-Dimension.

Be sure platform is centered on vehicle body and bed extension.

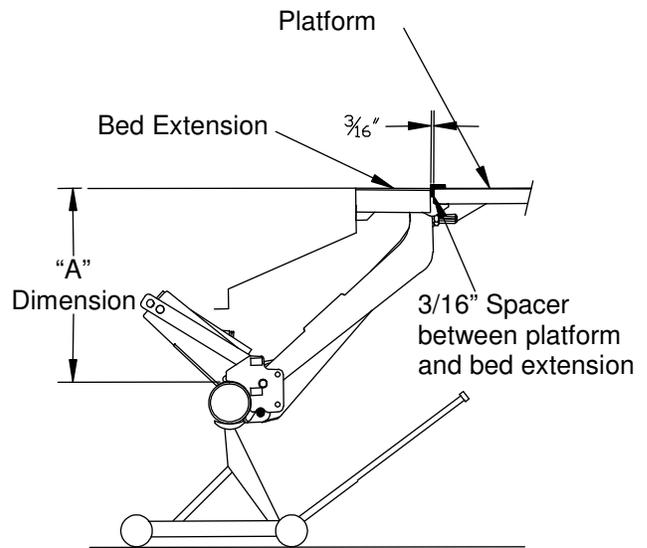
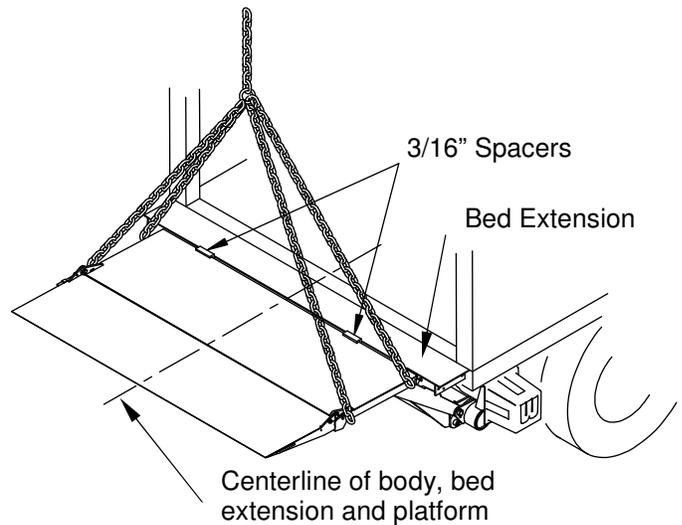


**Other means may be used to support Liftgate in position. ALWAYS verify the safety of your supporting method before proceeding.**

Position platform so it is level with vehicle body, and verify proper A-Dimension.

**NOTE:**

**If unable to obtain correct A-Dimension with platform level, it may be necessary to screw in the Platform Adjustment Bolts as shown below.**



GR02659 & 2651

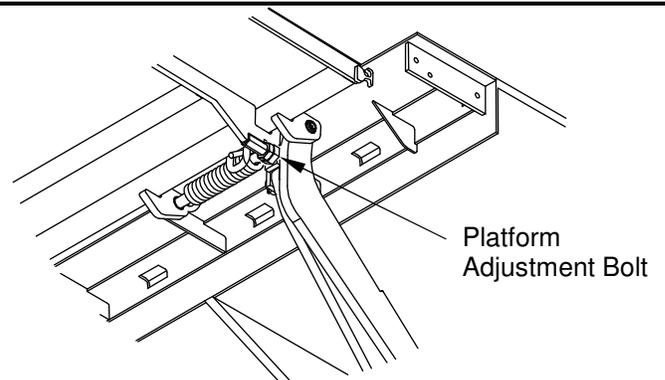
Bolts heads should be contacting platform hinges, if they are not, it may be necessary to rotate the cylinder tower towards the front of the vehicle.

**Note:**

**Platform springs are engaged and under tension.**



**Take care when adjusting liftgate.**



GR02660

# Chapter 4

# Installation

Use two 3" channels (tubes, or similar), lay on vehicle floor and clamp to bed extension and platform as shown.

Install counter weight on channels as required.

Platform is to be held parallel with vehicle floor, and is to butt up to 3/16" spacers on bed extension, centered with vehicle body.



**Other means may be used to support Liftgate in position. ALWAYS verify the safety of your supporting method before proceeding.**

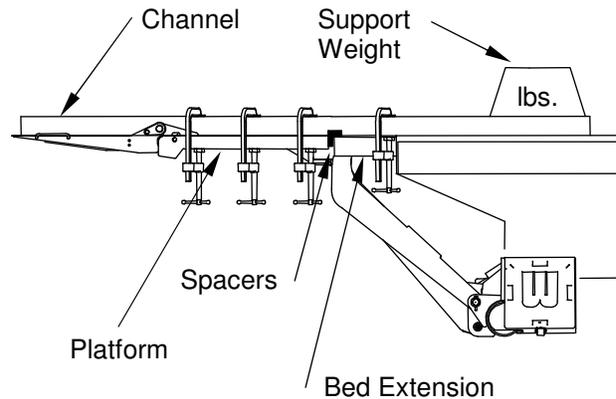
**NOTE:**

**Platform springs are under tension, therefore the platform must be held in position as shown.**

**IMPORTANT:**

**Verify mount tube is at correct A-Dimension before proceeding to next step:**

- Correct A-Dimension for bed height
- Correct hole used in mounting bar
- If using 26" A-Dimension and no mounting bar, square up pump bracket with ground.



GR02660

## MOUNT PLATE INSTALLATION

Locate mount plates on mount tube. Mount plates should be approximately 90° to vehicle frame.

Check that mount plates extend a minimum of 5-1/4" above bottom of vehicle frame. If dimension cannot be held, refer to the optional installation.



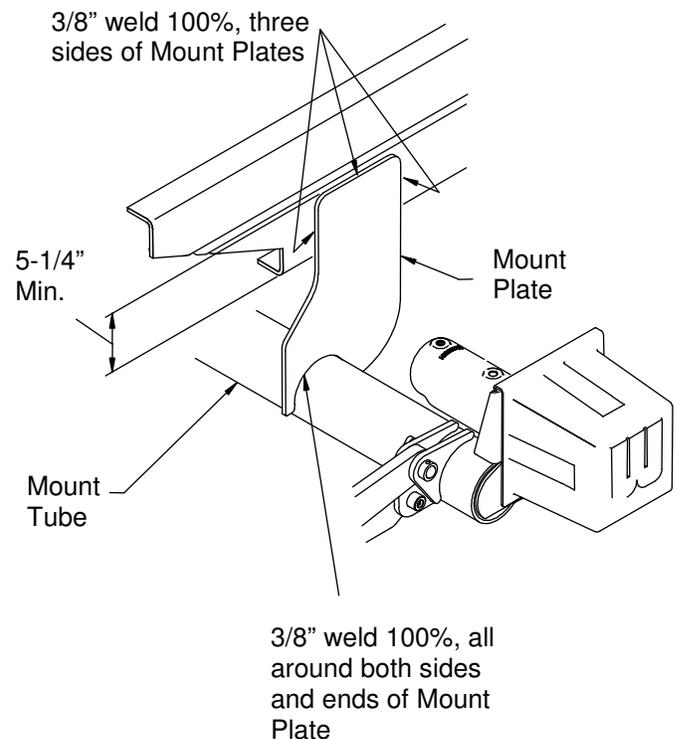
**Shield all wires and hoses from heat and weld splatter.**

Recheck "A" dimension. Weld three sides of mount plates 100% to vehicle frame with 3/8" weld.

Weld mount tube to the mount plates. Weld all around, both sides of the mount plates, and ends, with 3/8" weld.



**To avoid injury or property damage, do not remove clamps from deck. Use forklift, crane, or other safe means to support deck and then remove clamps.**



GR02658

# Chapter 4

# Installation

## OPTIONAL INSTALLATION

If the 5-1/4" dimension cannot be met a 3/8" thick plate must be added.



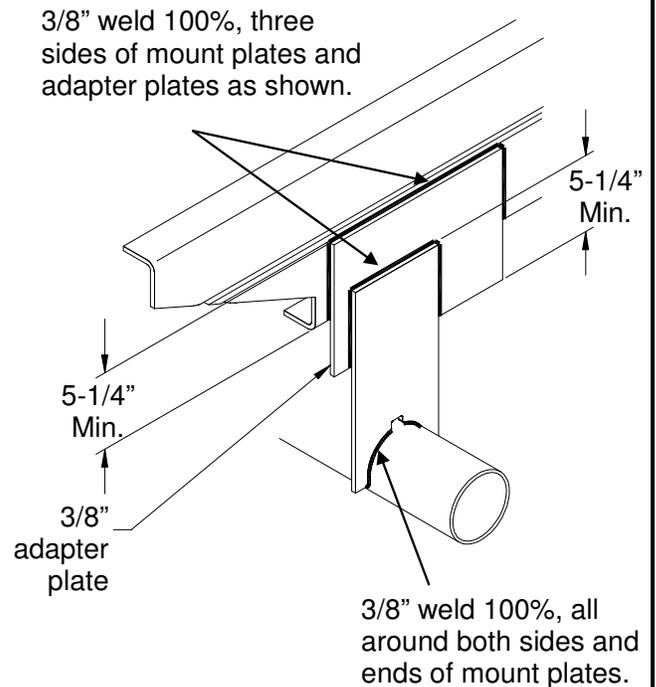
**Shield all wires and hoses from heat and weld splatter.**

Recheck "A" dimension. Weld three sides of mount plates and three sides of 3/8" plate 100% with 3/8" weld.

Weld mount tube to mount plates. Weld all around, both sides of mount plates, and ends, with 3/8" weld.



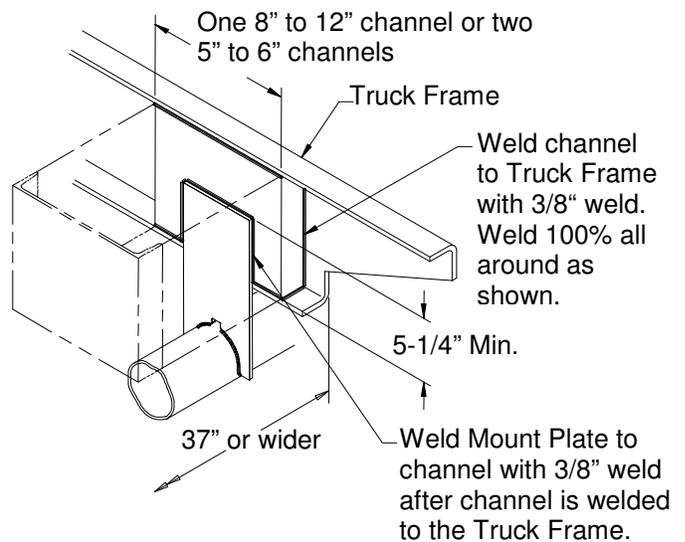
**To avoid injury or property damage, do not remove clamps from deck. Use forklift, crane, or other safe means to support deck and then remove clamps.**



GR00473

## NOTE:

If necessary, liftgate may be mounted to inside of frame as shown.



GR01713

# Chapter 4

# Installation

## INSTALL U-BAR

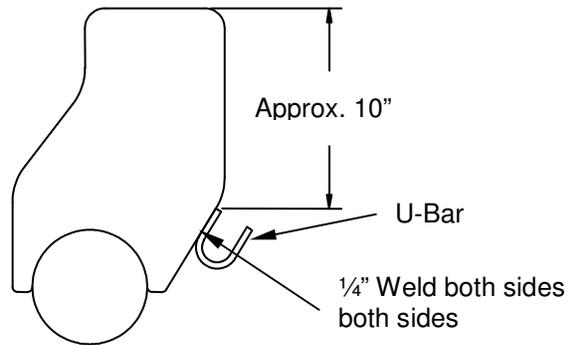
Locate U-Bar on curbside mount plate as shown.

Weld both sides of bar with  $\frac{1}{4}$ " weld, approximately  $\frac{1}{2}$ " long.



**Shield all wires and hoses from heat and weld splatter.**

Remove all sharp weld and weld splatter that could contact hose wrapping.

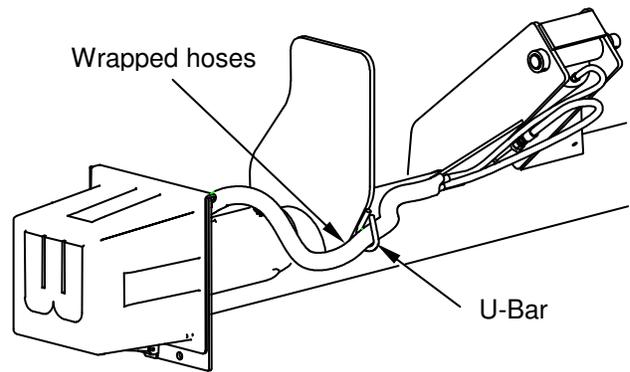


GR02820

Secure wrapped hydraulic hoses in U-Bar and then hammer U-Bar closed.



**Do not crush or damage hoses.**

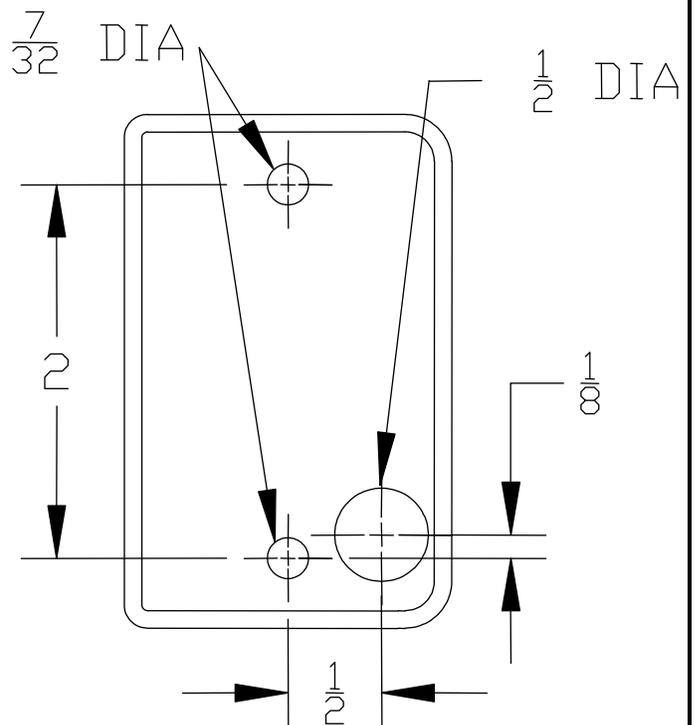


GR02821

## INSTALLATION OF CONTROLS

Locate switch such that, when operating liftgate, operator will have clear view of entire platform area and will not be in area that liftgate will pass through.

Use this template to locate screw holes, and hole for control cord.



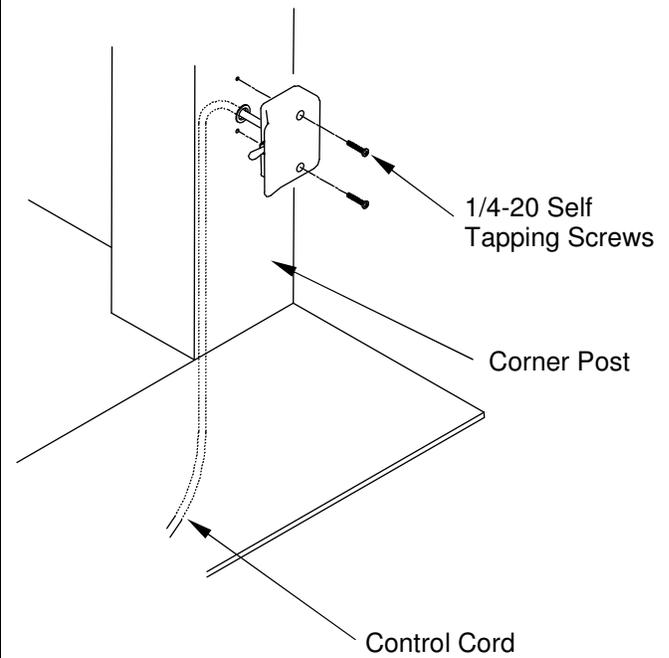
GR02662

# Chapter 4

# Installation

If Control Cord will be run through a hole of body, remove all sharp edges from hole.

Use 1/4" Self-tapping Screws to secure switch.



GR02761

# Chapter 4

# Installation

Route Control Cord from Switch, and Battery Cables through Pump Plate.

Install grommets (supplied) as shown on Control Cord and Battery Cables. Secure cables to vehicle with cable ties provided.

Connect Control Cord and Battery Cables to pump as shown. Connectors are gendered to help assure correct connections.

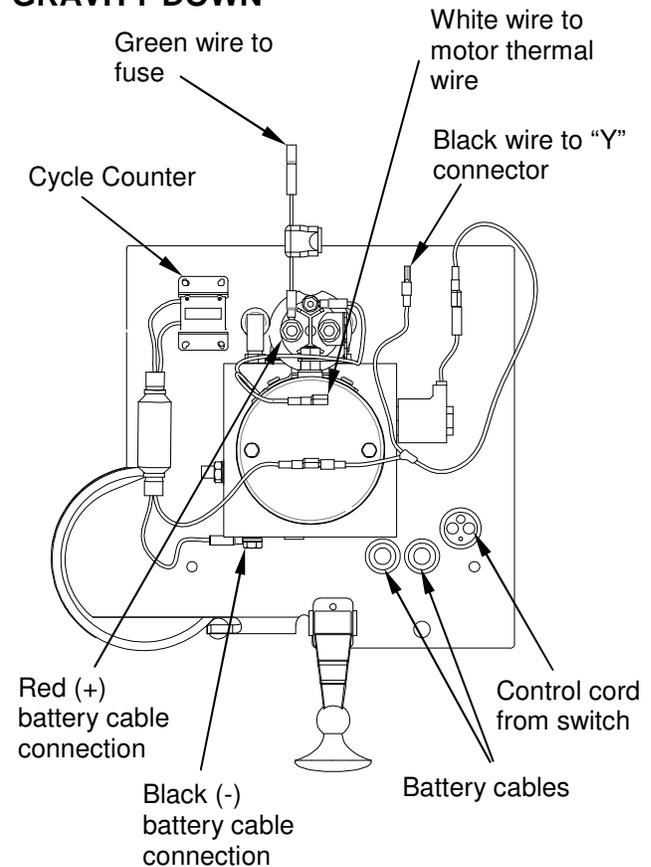
Add generous amount of dielectric grease to all electrical terminals and connections.

Also refer to electrical schematics on following pages.

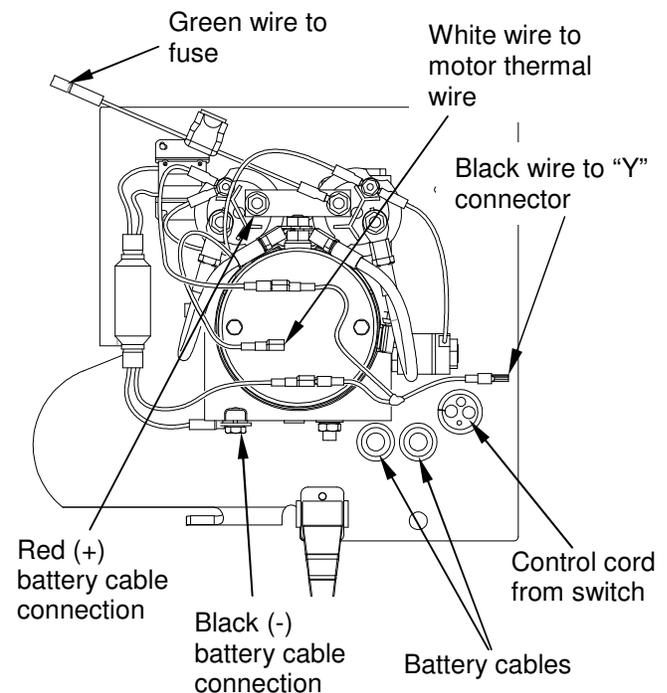
**NOTE:**

**Do not connect battery cables to battery at this time.**

## GRAVITY DOWN



## POWER DOWN



GR10049 GR10050

# Chapter 4

# Installation

## INSTALLATION OF POWER CABLES

Locate and mount 150 Amp circuit breaker directly to batteries using copper terminal link supplied.

Circuit breaker must be mounted to give good protection against any objects coming into contact with circuit breaker terminals and causing a short. Position must also be readily accessible to reset breaker.

### NOTE:

**Circuit Breaker is to rest solidly on battery to prevent vibration during transit.**

If unable to connect circuit breaker direct to batteries, an optional 24", maximum length, 2 Ga. battery cable may be used.

Connect end of red (+) battery cable from liftgate to circuit breaker as shown.

Connect black (-) battery cable from liftgate to negative post of batteries as shown.

Apply a generous amount of Dielectric Grease to all Battery terminals and Circuit Breaker terminals.

Secure all battery cables to chassis frame with cable ties provided.

### IMPORTANT:

**Original equipment ground cable furnished on vehicle should be at least a number 2 ga. to insure proper operation of pump unit. An auxiliary ground cable should be added between engine block and chassis frame if engine is not adequately grounded to chassis frame. When there are two or more batteries, all cables connecting batteries together must be 2 ga. or heavier. This includes all original equipment batteries on vehicle.**



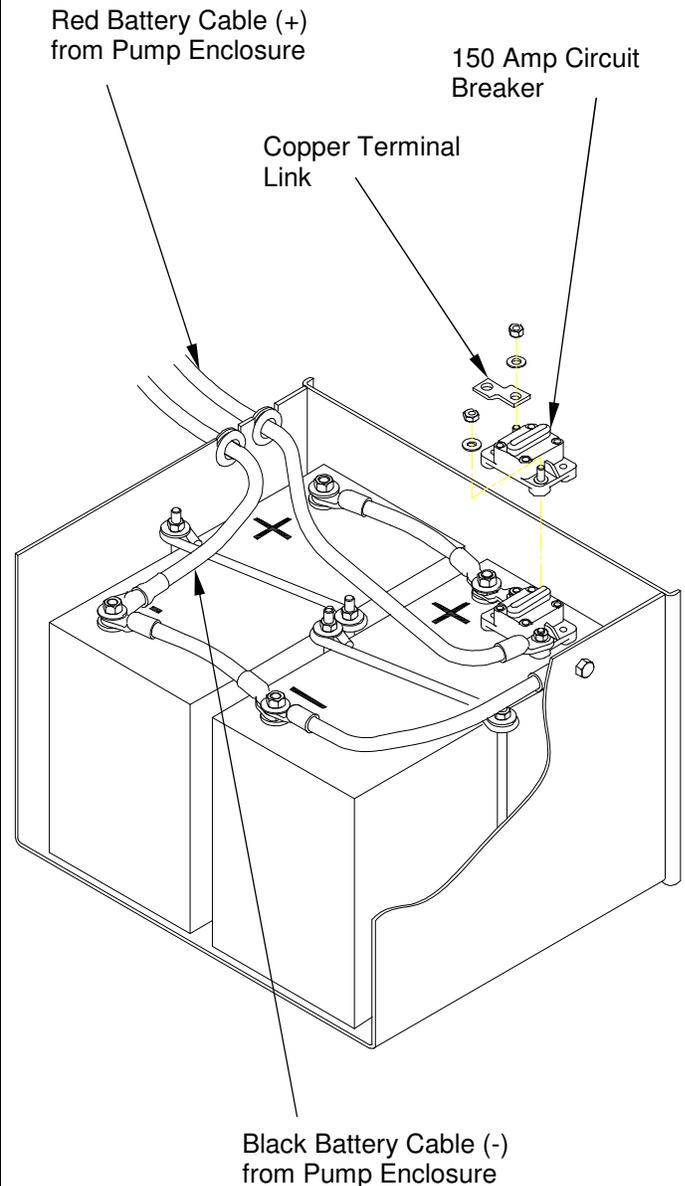
**Protect wires from any sharp edges or holes that may abrade insulated covering of wires.**



**Secure battery cable so it does not come near, or in contact with, other vehicle wiring, fuel lines, brake lines, air hoses, exhaust system, etc.**

### IMPORTANT:

**DO NOT operate liftgate until Mounting Bar has been removed.**

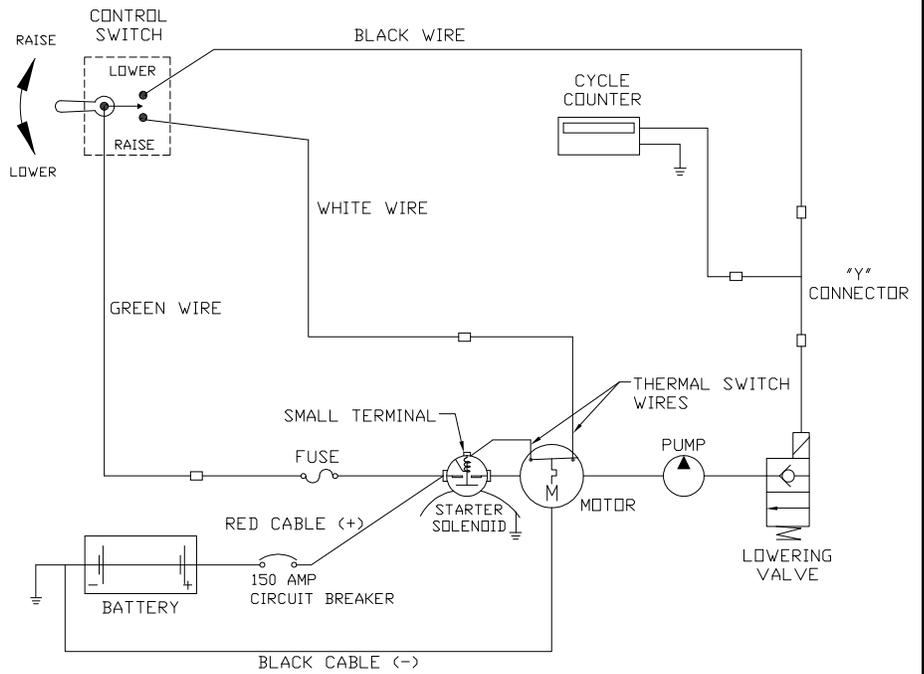


GR10051

# Chapter 4

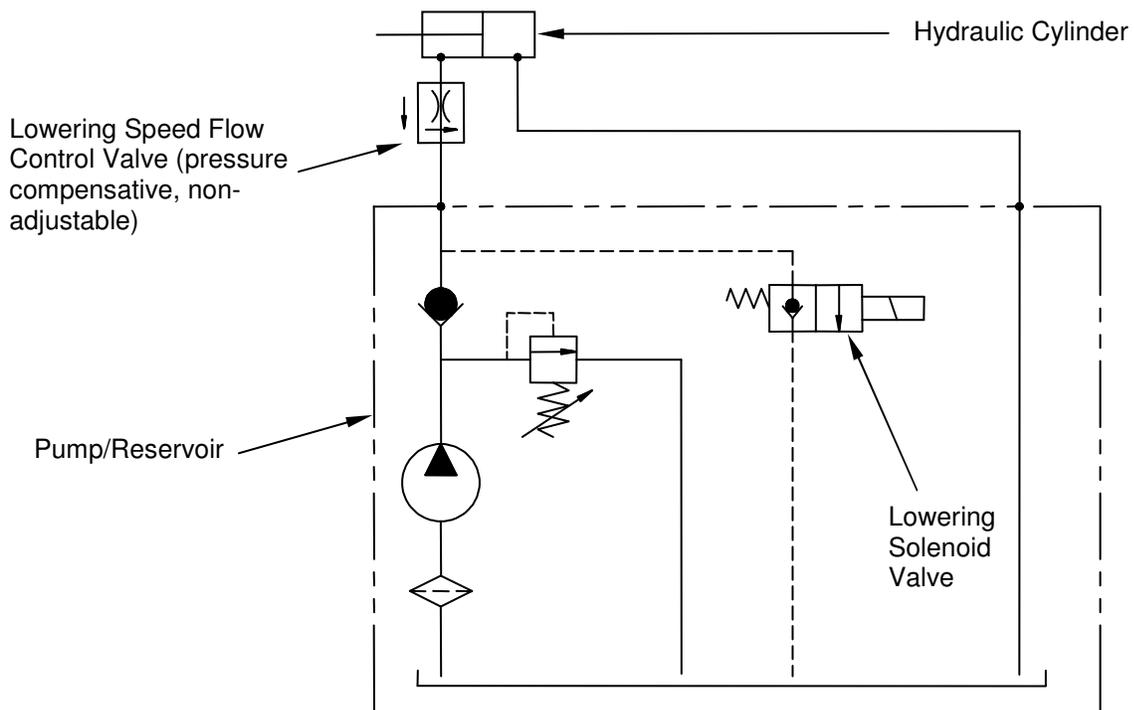
# Installation

## Basic gravity down liftgate wiring



GR10052

## Hydraulic Schematic – Gravity Down

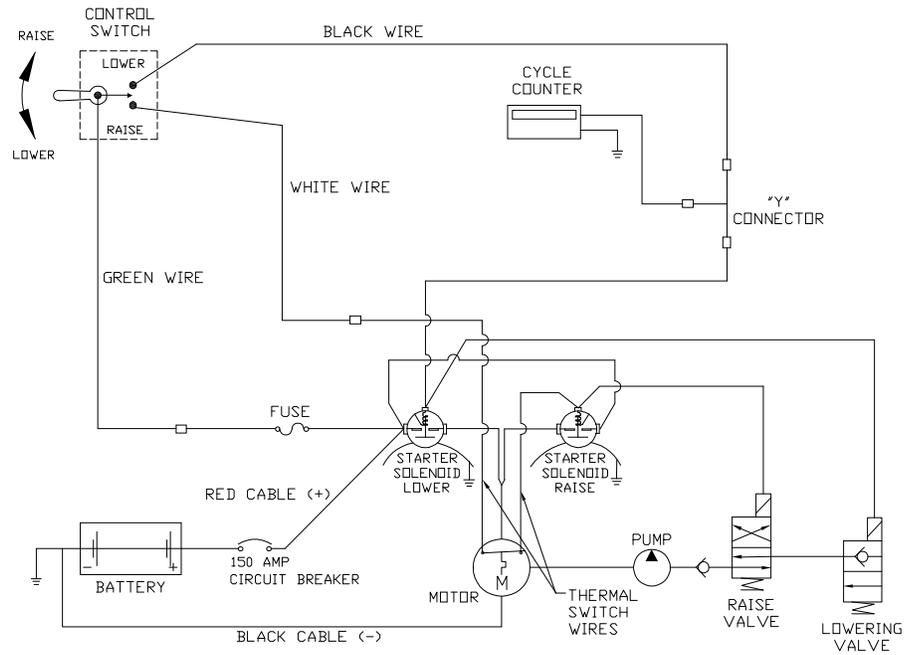


GR02595

# Chapter 4

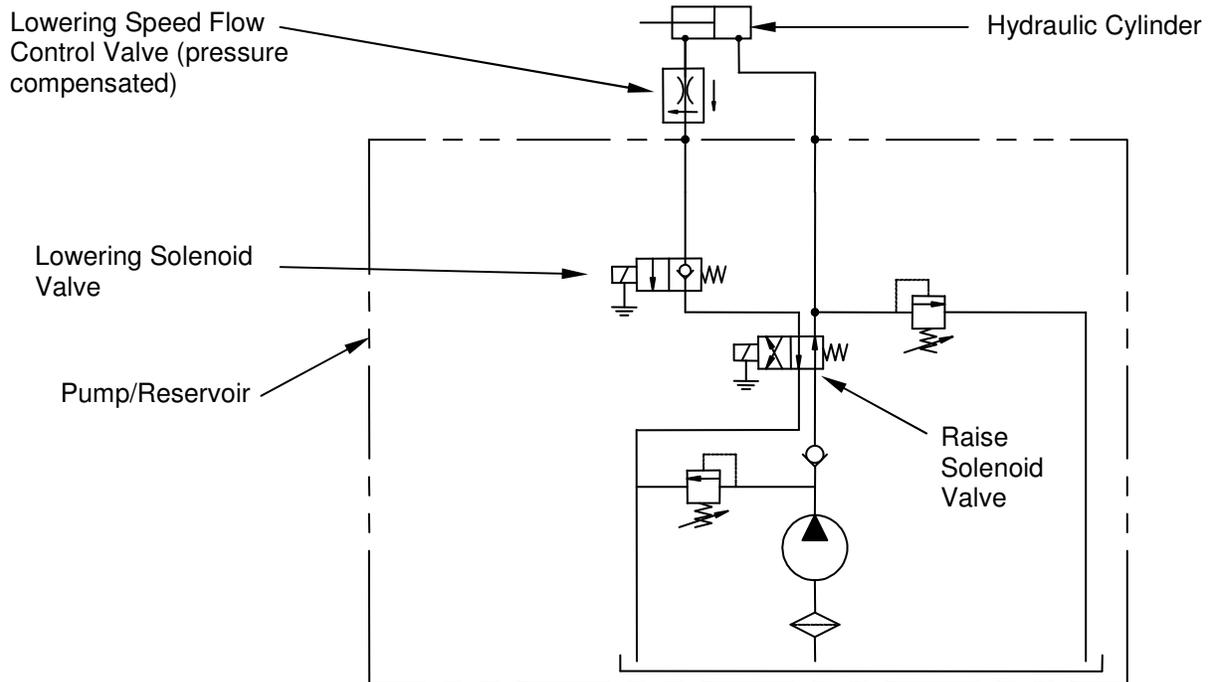
# Installation

## Basic power down liftgate wiring



GR10053

## Hydraulic Schematic – Power Down



GR02596

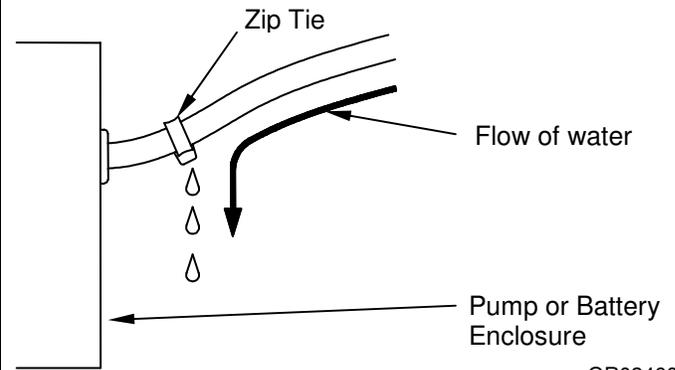
# Chapter 4

# Installation

## DIVERT WATER FROM ENCLOSURE

To help prevent channeling water into pump or battery enclosures:

- Secure hoses, cables and cords downward as they exit the enclosure.
- If a downward exit is impractical, a Zip Tie can be installed around hose or cable to help interrupt the flow of water as shown.



GR02460

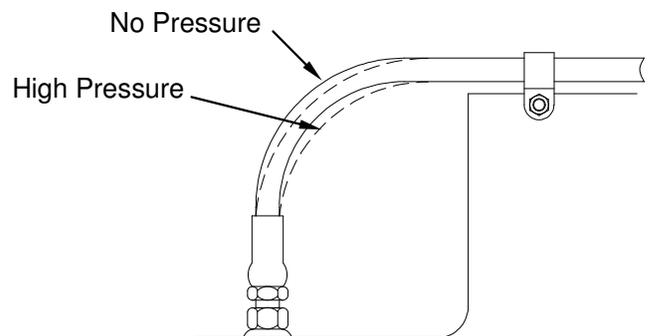
## HOSE INSTALLATION

Avoid twisting of hoses.

Avoid sharp bends when routing hoses

Hoses will contract under pressure. Allow plenty of slack between connecting points.

Do not clamp hoses at bends to allow for length changes when hose is pressurized.



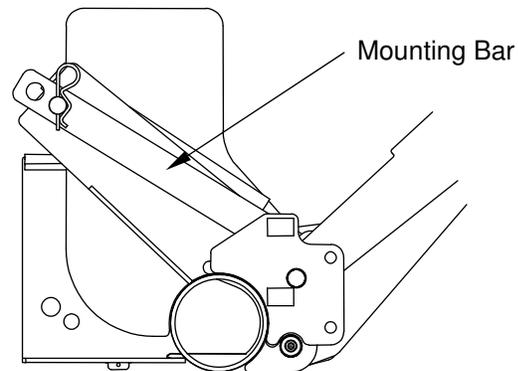
GR00717

## REMOVE MOUNTING BAR

Insure platform is properly supported before disconnecting the Mounting Bar.



**Do not be under platform or lift arms when disconnecting the Mounting Bar. Access bar from forward side of mount tube.**



GR00717

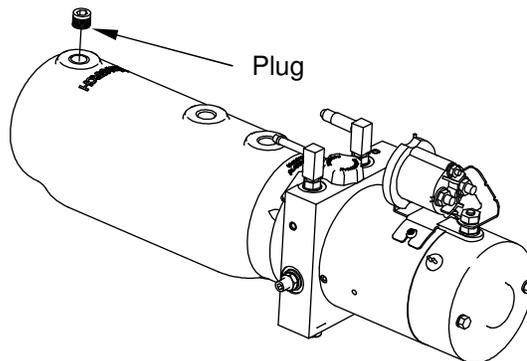
# Chapter 4

# Installation

## FILLING HYDRAULIC RESERVOIR

Position liftgate deck per chart below (use forklift, crane, or other safe device).  
 Remove Reservoir Plug.  
 Oil level should be 1/2" from top of reservoir.  
 If low, fill as required. Use appropriate fluid per chart.  
 Replace Plug.  
 Run liftgate full cycle several times to release trapped air from system.

**Note;**  
**If any hydraulic components were removed and replaced, or disconnected during installation, or you suspect there is air in the system, the system should be bled per the instructions on following pages.**



GR02130

## LIFTGATE POSITION FOR OIL LEVEL CHECK

	Gravity Down Pump:	Power Down Pump:
Deck should be in this position:	Ground Level	Bed Level

### Recommended Fluids

Temperature Range	Acceptable Fluids
0° to 120° F	Waltco Biodegradable Liftlube™ part #85803860
	Shell Tellus S2 V 32
	Chevron Rando HDZ 32
-20° to 90° F	Waltco Biodegradable LiftLube Arctic part #85803866
	Waltco All Season Hyd Oil Part 85803867
	Shell Tellus S2 V 15
	Mobil DTE 10 Excell 15

A good quality SAE 10W motor oil may also be used in temperatures above 32° F.

### Fill reservoir

- Fill with recommended fluid or equivalent.
- Fill the reservoir to within 1/2" from the top.
- Fluids are available from the Waltco parts Dept. 1-800-411-5685 [www.waltco.com](http://www.waltco.com)

### NOTE:

**Do not use the following fluids:**

- Brake Fluid**
- Power steering fluid**
- Automatic Transmission Fluid (ATF)**

Rev 06

# Chapter 4

# Installation

**There is no speed adjustment on this liftgate.**

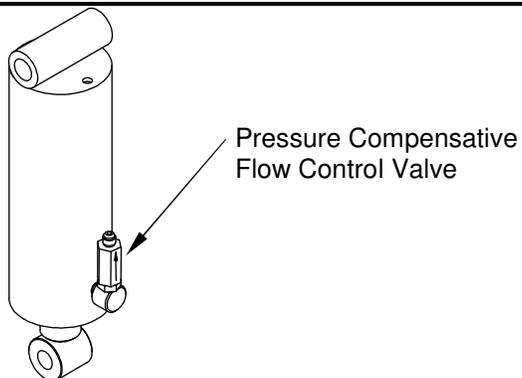
Lowering speed is controlled by the pressure compensative valve plumbed at the cylinder.

Regardless of weight on platform, liftgate should lower at approximately six (6) inches per second.

$$\frac{\text{Bed Height (inches)}}{6} = \text{Lowering Time (seconds)}$$



**This liftgate must have the correct pressure compensative valve install:  
EM & EM-TC = 7010001-19**



GR02665

## BLEEDING HYDRAULIC SYSTEM

### GRAVITY and POWER DOWN LIFTGATES

**Note:** Fluid level in reservoir will need to be checked before and after bleeding system.

Check fluid level, to be 1/2" from top of reservoir with platform at ground for gravity down units, platform at bed height for power down units.

Lower platform to ground, place a bucket or pan under the raise line and cylinder to catch hydraulic fluid.

Disconnect raise line at the flow control valve.

With someone holding the raise line in the bucket/pan, press the raise switch and activate the pump. Do this until a steady, air free, stream of fluid flows from the hose.

Reconnect hose to cylinder. Again, check fluid level of reservoir and fill as may be required.

### POWER DOWN LIFTGATES ONLY

On power down liftgates the upper hose (lowering) will also have to be bled of air.

Again, check fluid level with platform at bed level.

Lower platform to ground.

Disconnect upper lowering line.

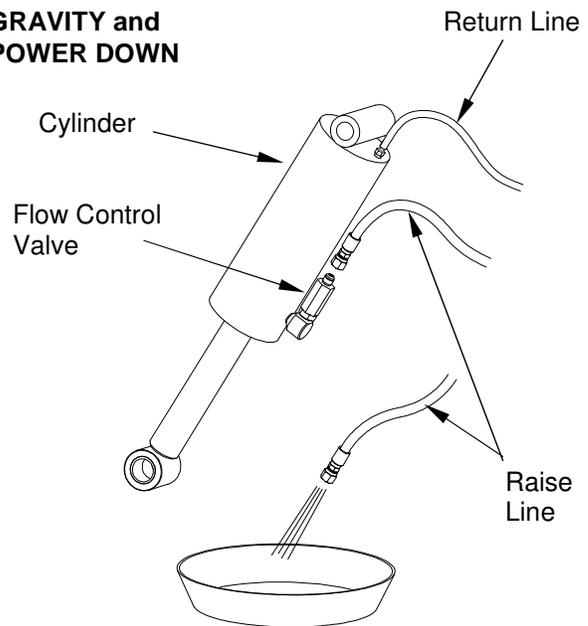


**CAUTION** as hydraulic line may be pressurized

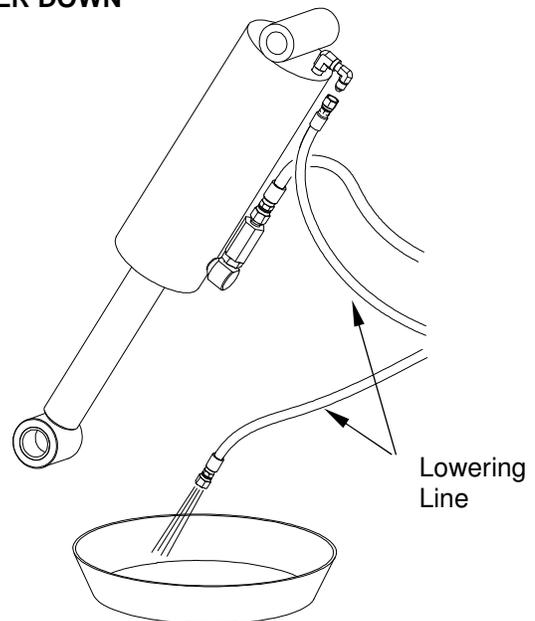
With someone holding the lowering line in the bucket/pan, press the lower switch and activate the pump. Do this until a steady, air free, stream of fluid flows from the hose.

Reconnect hose to cylinder. Again, check fluid level and fill as may be required.

### GRAVITY and POWER DOWN



### POWER DOWN



GR10058

# Chapter 4

# Installation

## INSTALLATION OF PARTING BAR

### IMPORTANT:

Install parting bar and rubber snubbers before attempting to fold platform and raise to stored position.

The snubbers are necessary to protect platform from contacting the chassis frame and damaging paint on platform.

GR02667

To assist the opening of the platform:

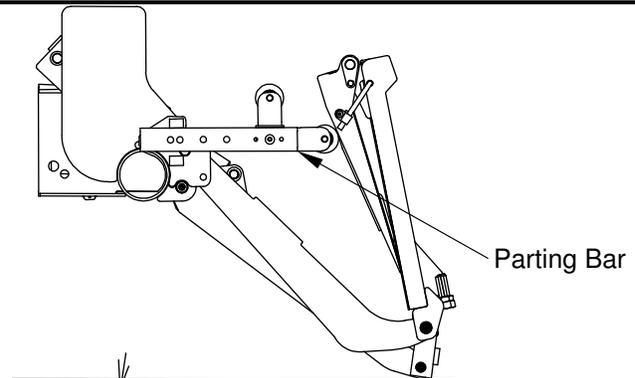
Locate parting bar using correct holes based on platform and bed height of vehicle (see below).

Bolt into position. Torque to only 40 – 50 ft-lbs.

Check opening and closing operation of platform.



**Platform is to lean in towards parting bar when at ground. It is not to fall open to ground.**



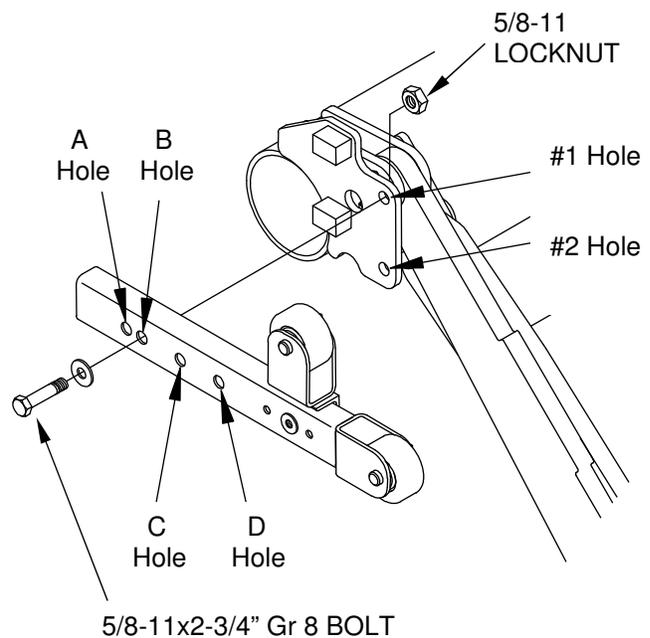
GR02667

Install parting bar using #1 or #2 hole on mount tube, and A, B, C, or D hole in parting bar as indicated.

Platform Depth	Bed Height	A-Dim	Holes
44" Wedge	36" – 43"	19"	2 - A
50" Wedge	39" – 43"	19"	2 - A
ALL	44" – 45"	24" & 26"	1 - A
ALL	46" – 49"	24" & 26"	1 - B
ALL	50" – 56"	24" & 26"	2 - D

### IMPORTANT:

**Improper installation of parting bar can result in damage to the liftgate platform, by powering into the chassis frame of vehicle.**



GR02668

## ADJUST PLATFORM ANGLE

Lower platform until stop blocks hit ground.

**Note:**

**On higher bed heights stop blocks may not reach ground.**

Tip of platform should touch ground without platform breaking (starting to fold) as shown in top drawing.

If platform tip is off the ground, adjust platform down until it reaches ground.

If platform tip reaches ground before stop blocks, and platform starts to fold, adjust platform up.

Be sure both adjusting bolts are adjusted the same.



**Always secure jam nuts after any adjustment is made.**

Raise platform back to bed level to check kick-up of platform.

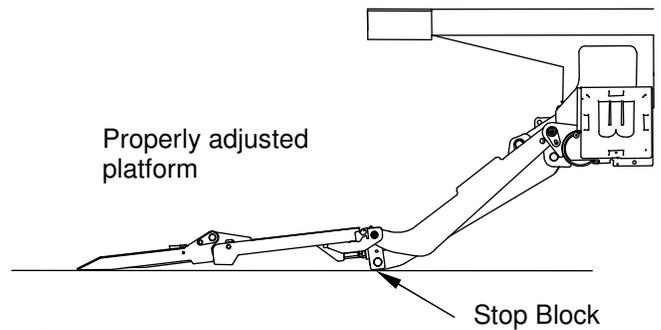
**Note:**

**If kick-up is too little, or too great, it may be due to bed height of vehicle. Different stop blocks may be required to achieve desired kick-up.**

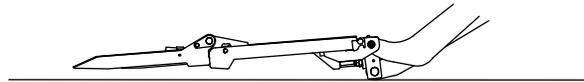
**Larger the stop block hole spacing, the more tilt-up the platform will achieve at bed height.**

**See bed height range and stop block recommendations in Chapter 3 of this manual.**

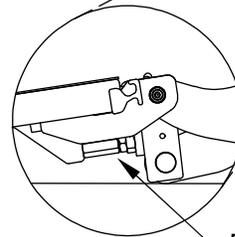
For additional assistance contact Waltco Tech Support.



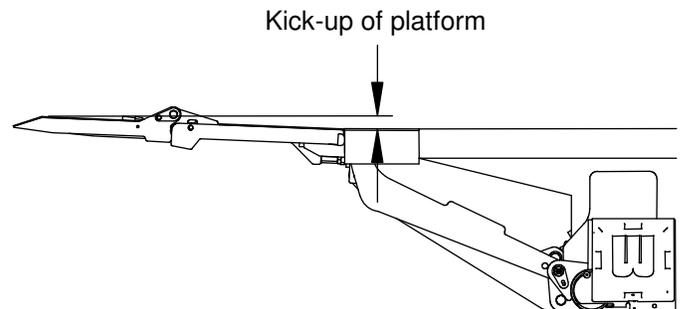
Platform off ground  
adjust platform down



Platform breaking  
adjust platform up



Platform Adjusting Bolt



GR02816 GR02817

# Chapter 4

# Installation

## INSTALLATION OF RUBBER SNUBBER

Rubber snubbers are important for holding the platform tight in stored position. If platform, deck and deck extension are not tight excessive ware can occur.

Raise platform up 1" below the bed extension as shown.

**Note:**

**Take care not to fully raise platform so as to contact chassis frame and damage paint on platform.**

Locate Rubber Snubber flat against deck tube or against the aluminum extrusion as shown.

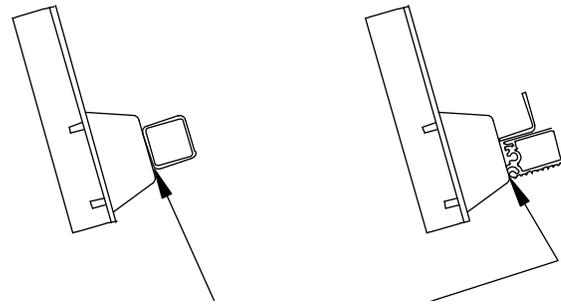
Weld Snubber in place and check operation:

- Check that snubber holds platform tight.
- Check that platform clears snubber while opening.

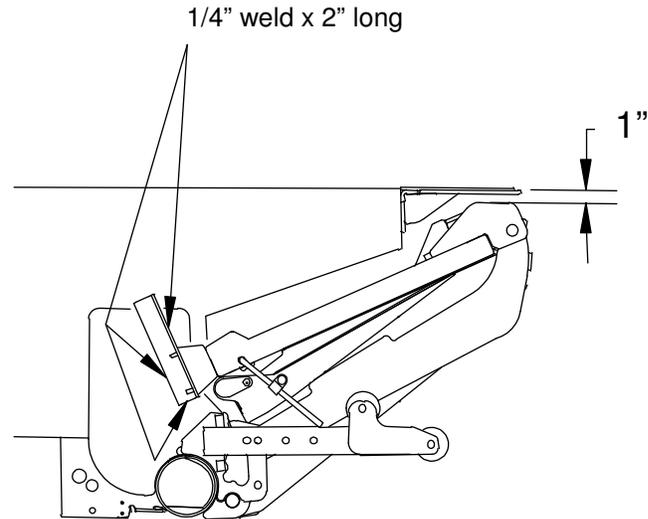
**Note:**

**Weld snubber to mount plate or chassis frame as required. Steel angle of snubber may be trimmed as needed.**

After installing parting bar and snubber, carefully run liftgate up to stored position and verify platform clears the chassis frame cutout (see beginning of this chapter).



Locate snubber flat against platform cross tube or against the aluminum extrusion as shown



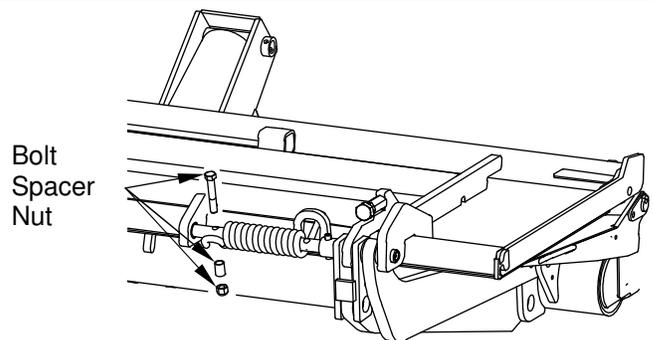
GR02691

## RE-ASSEMBLY OF SPRING BOLT(S)

If spring retainer bolt(s) were removed earlier, fold platform and raise to horizontal position.

Re-install 1/2" bolt(s), nut(s), and spacer(s) as shown.

Torque bolts to 110 ft.- lbs.



GR02925

# Chapter 4

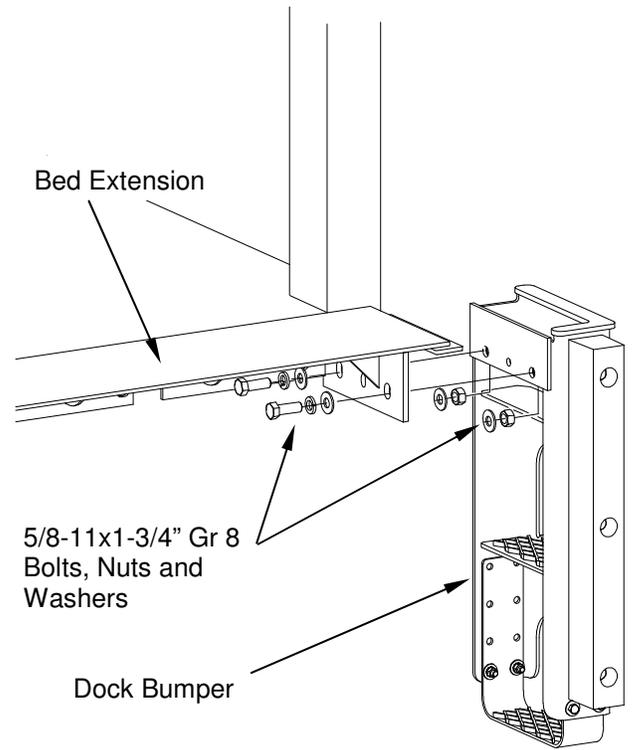
# Installation

## INSTALL DOCK BUMPERS

Slip dock bumpers on to bed extension.

Bolt bumpers to bed extension using bolts, nuts, washers, and lock washers.

Torque bolts to 167-179 ft. lbs.

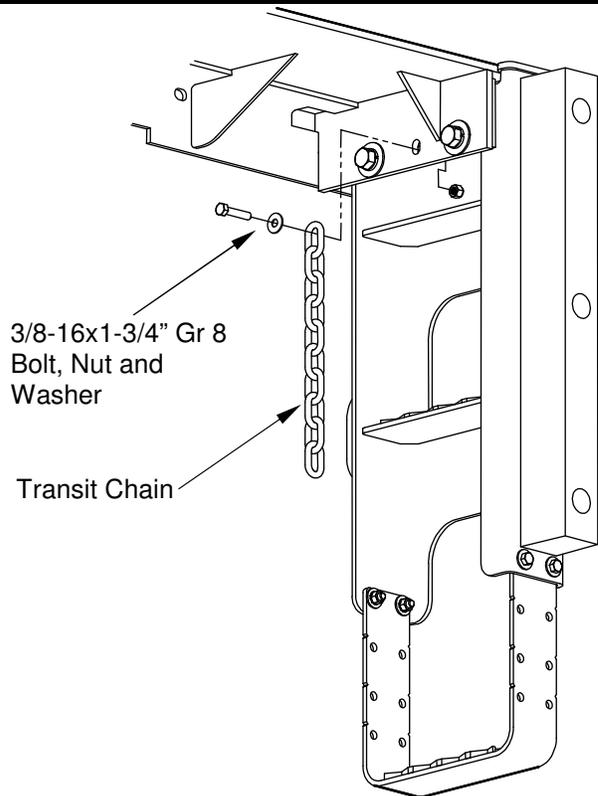


GR02740

## TRANSIT CHAIN INSTALLATION

Bolt Transit Chain to Bed Extension with Bolt, Washer and Locknut as shown.

Note: If Dock Bumpers are included, they must be installed prior to installing Transit Chain.



GR02898

# Chapter 4

# Installation

## INSTALL BRACES

Bolt brace and support angles as shown.

Support angle to span a minimum of 3 or 4 crossmembers.

**Note:**

**Brace Angles are left and right handed.**

**Note:**

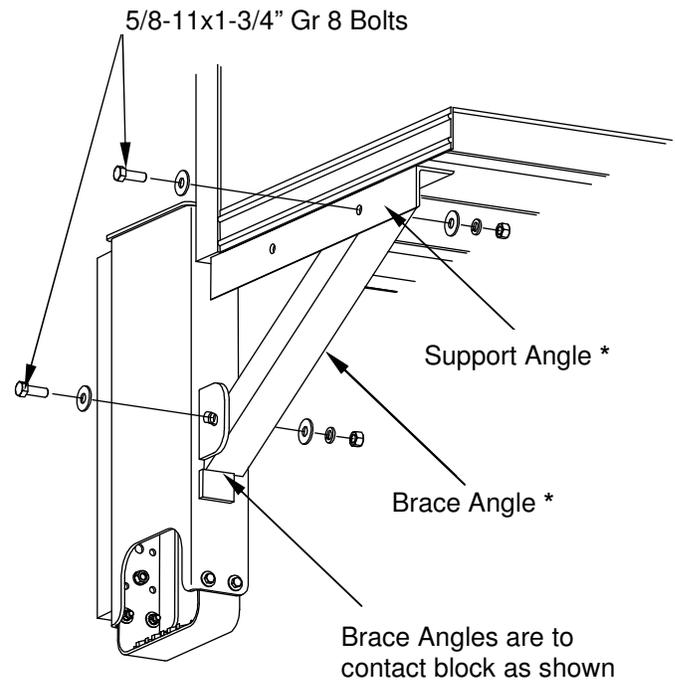
**It may be necessary to trim rearward end of support angles to clear rear sill and/or dock bumper.**

Weld support angles to all crossmembers it contacts with minimum four (4) inches of 3/16" weld.

Brace Angles are to contact block as shown.

**\*Note:**

**Bracing is not used on short (13" tall) bumpers.**



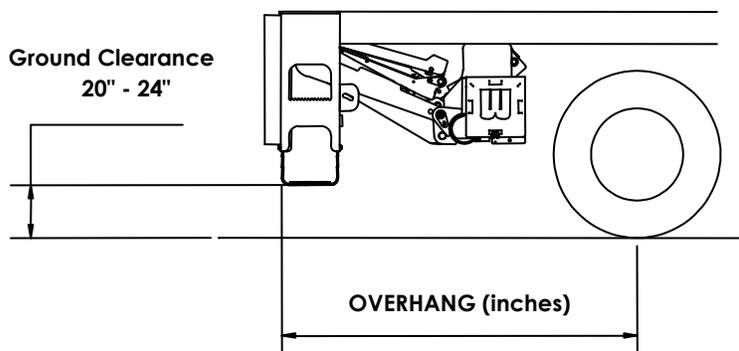
GR02921

After installation of dock bumpers, ground clearance needs to be considered. If dock bumper steps are too low, they may hit the ground when driving in or out of driveways, etc.

Adjust dock bumper steps to achieve recommended ground clearance of 20" – 24" as shown below.

Note: Overhangs greater than 11 feet may need dock bumper steps set higher to maintain a 10° departure angle. Use formula below to calculate ground clearance.

Bed heights below 46" may require the lower step to be completely removed to achieve sufficient ground clearance.



Calculate Ground Clearance for 10° departure angle:  
Ground Clearance = Overhang x .176

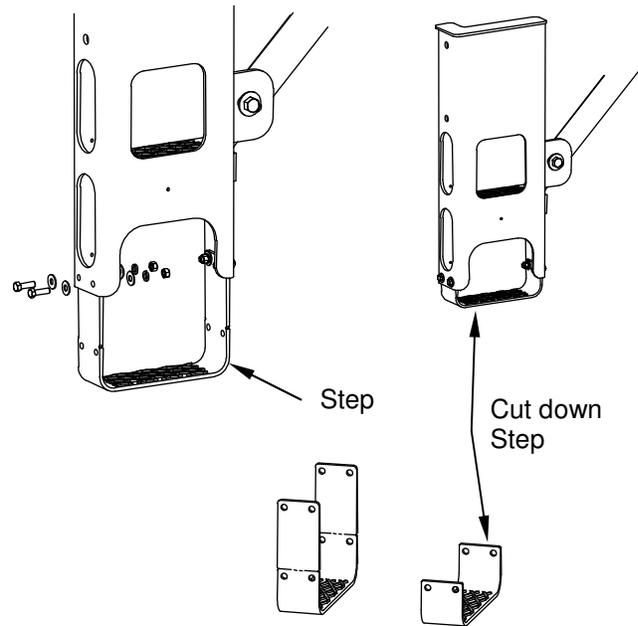
GR02896

## STEP ADJUSTMENT

If more ground clearance is desired, Steps can be cut down.

Cut each side of Step as shown.

Reinstall steps and torque bolts to 34-37 ft. lbs.



GR02744

# Chapter 4

# Installation

Waltco offers three suggestions for the installation of the vehicle taillights. We believe these suggested locations meet D.O.T. regulations but do not warrant that they do. Your installation of the vehicle taillights should meet all applicable regulations and requirements. This is in no way to infer that these suggestions are the only correct method of installing taillights.

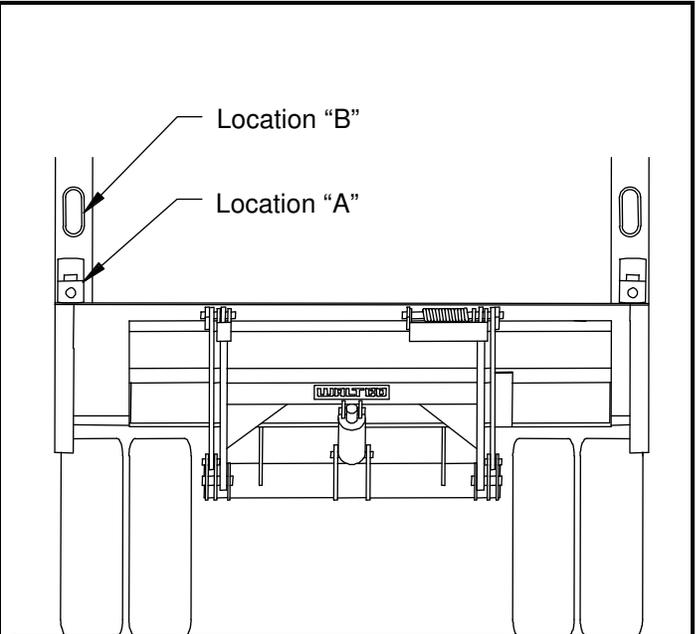
Location "A": Mount lights above bed extension and to the rear of the body rear corner posts.

Location "B": Mount lights into the rear corner posts.

**Waltco also offers dock bumpers with lights pre-installed.**

**IMPORTANT:**

**All lights must be installed in accordance with all applicable D.O.T. regulations.**



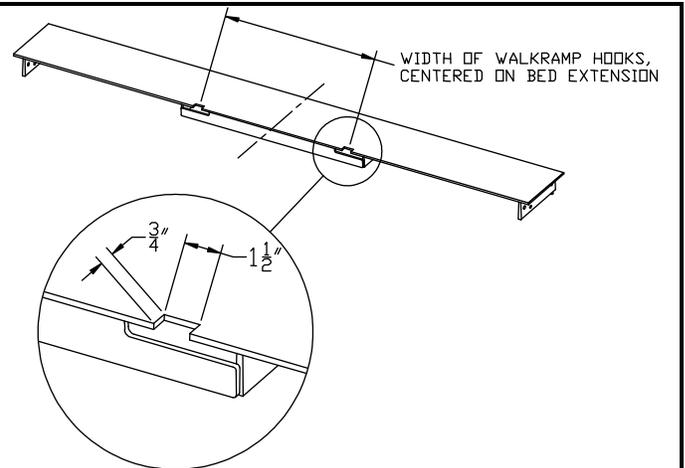
GR02762

## NOTCHING FOR WALK RAMP

Measure walk ramp hook spacing.

Using this measurement, center it on the bed extension, and mark where the walk ramp hooks will rest.

Notch the bed extension as shown.

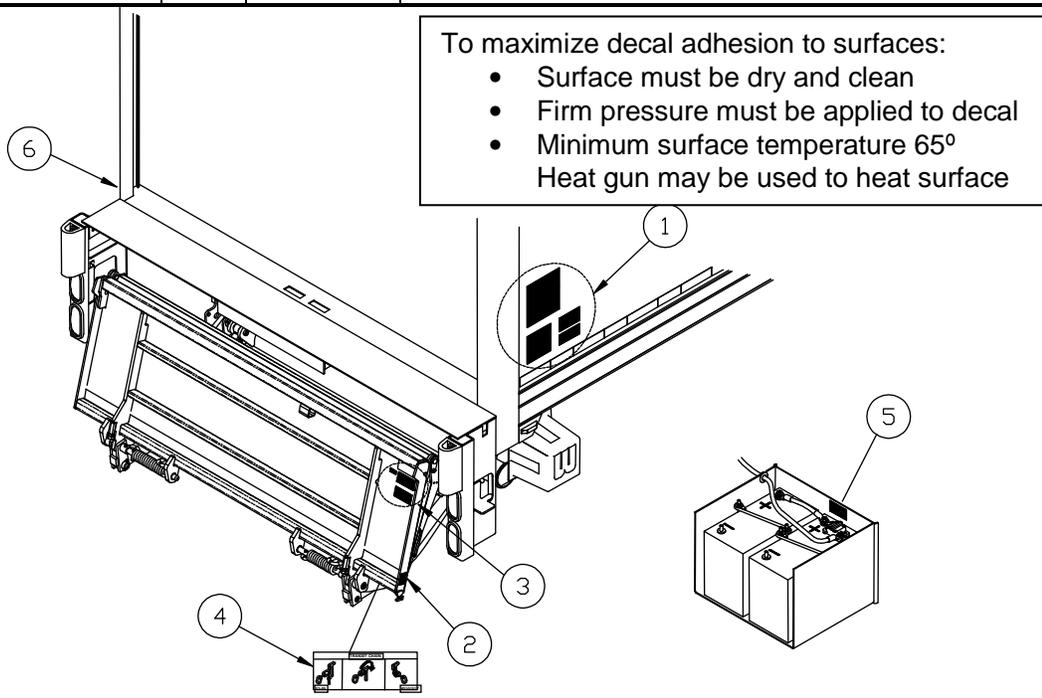


GR02635

# Chapter 5 Placement of Decals

 All decals must be in place and legible or all warranties are void.

ITEM	DECAL	QTY	PART NO.	LOCATION
1	Safety Instructions	1	80100850	<b>Locate in a conspicuous place near controls.</b>  <b>If your liftgate is equipped with dual controls, an additional Safety Instruction decal (80100850) is to be placed in a conspicuous place near the second set of controls.</b>  Refer to the following diagram showing decal locations.
	Operation	1	80101528	
	Hazard Decal	1	80101370	
	Important Decal	1	80100828	
	Stand Clear Decal	1	75089296	
2	Capacity Decal – 2500 lb	1	80100255	<b>Locate on curbside of platform</b> (Position so as to be read when platform is open)
	Capacity Decal – 3300 lb	1	80100585	
3	Use Handle Decal	1	75089295	<b>Locate near platform handle</b> (Positioned so as to be read when platform is being unfolded into loading position)
	Stand Clear Decal	1	75089296	
	Capacity Decal – 2500 lb	1	80100255	
	Capacity Decal – 3300 lb	1	80100585	
4	Transit Chain Decal	1	80101517	<b>Locate on back of deck on curbside</b> (Visible when platform is stored)
5	Circuit Breaker Decal	1	80100829	<b>Locate next to liftgate circuit breaker.</b> In applications where more than one circuit breaker is used, this decal must be placed in both locations
6	Stand Clear Decal	1	75089296	<b>Locate on driver's side of vehicle body near liftgate</b>



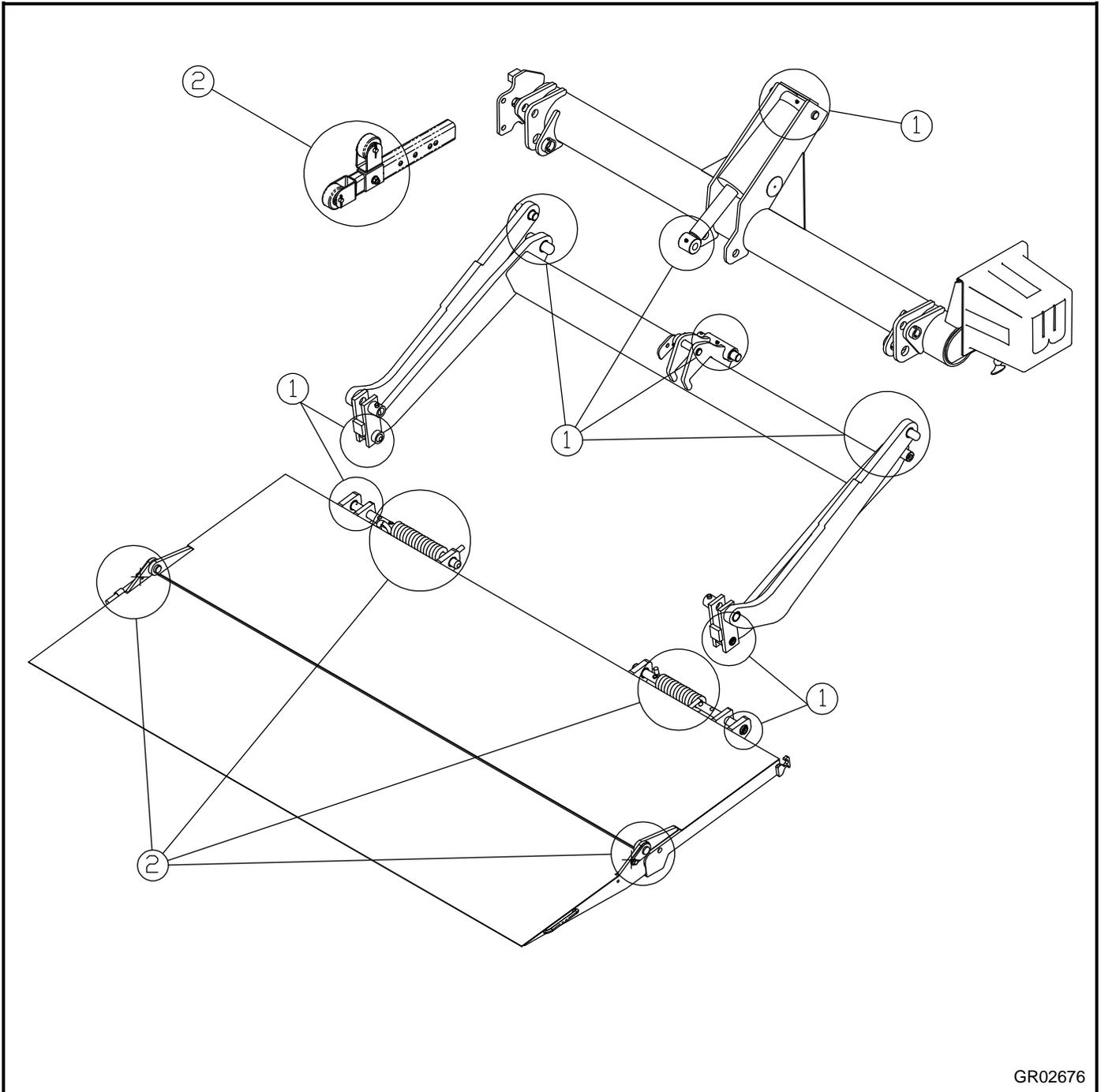
GR02655

# Chapter 6 Lubrication Instructions

The liftgate should be lubricated every 120 days.

#1 – Grease all grease fittings in pins, arms, and cylinder with grease gun.

#2 - Oil with a light weight machine oil (do not use on bearings in platform).



GR02676

# Chapter 7 FINAL INSPECTION SHEET

## IMPORTANT:

All of the following are to be checked and verified before installation is complete.

- A. Is grade 8 bolt installed through collar and upper cylinder pin and retained with self-locking nut?
- B. Are all pivot pins secured with retaining bolt and lock washer?
- C. Are all roll pins securely in place?
- D. Does liftgate fold and unfold properly?
- E. Does the platform meet the vehicle properly?
- F. Is transit chain installed on bed extension?
- G. Do controls operate properly?
- H. Are bed extension, mount frame, mount plates, dock bumpers, bumper braces, taillight guards and taillights all bolted tight and/or finish welded?
- I. Are hydraulic hoses and fittings properly connected with no leaks?
- J. Are battery cables attached and clamped tight?
- K. Is 150 amp circuit breaker installed at battery?
- L. Are all electrical connections coated with dielectric grease?
- M. Has hydraulic system been properly bled of all air?
- N. Is pump reservoir full of oil?
- O. Are all parts properly lubricated according to the lubrication instructions?
- P. Do lights operate properly  
(Note: Lights must be installed in accordance with all applicable state and federal D.O.T. regulations)
- Q. Is license plate properly installed?

- R. Are all decals properly in place and legible according to the decal placement drawings?
- S. Is pump cover installed and securely latched?
- T. Is the owner's manual in the vehicle?
- U. Does cycle counter add a cycle each time lower switch is activated and held on for 4 seconds or longer?

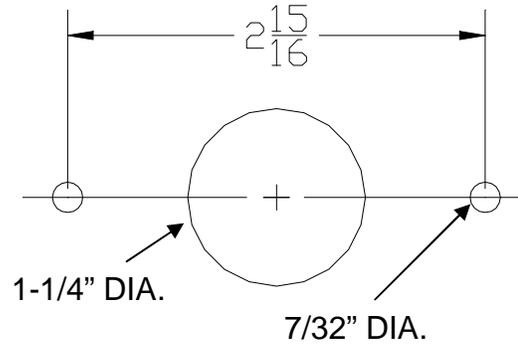
## WARNING:

Do not use liftgate if any of the above are not checked and verified. If you have any questions not covered in this manual, contact your nearest Waltco distributor, or the nearest Waltco factory.

# Hand Held Remote Installation

## DRILL SOCKET HOLES

Using dimension shown, drill mounting holes in desired location for socket.



GR00036

## INSTALL SOCKET

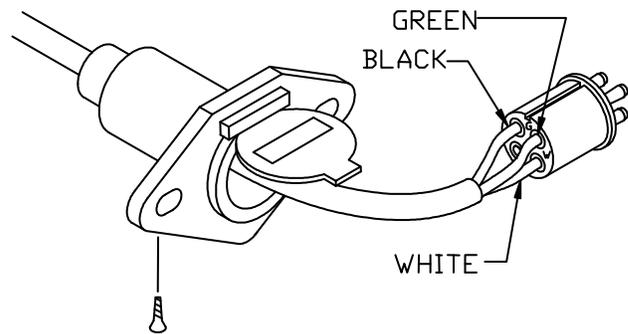
Assemble socket as shown.

Install wires according to colors:

W = White (Raise)

B or BK = Black (Lower)

G = Green (Power)



GR02240

## CONNECT WIRES TO PUMP UNIT

Route Control Cord into pump enclosure.

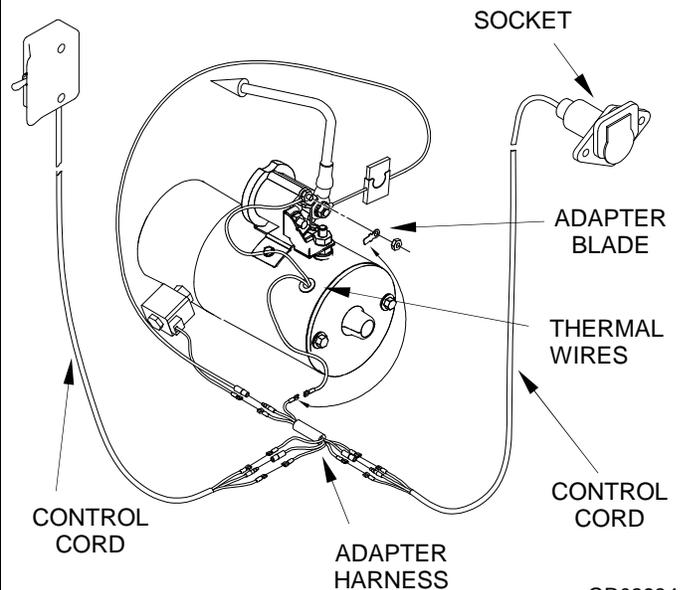
First connect Pump wires to Dual Control Adapter Harness as shown.

Connect both Control Cords to other ends of Adapter Harness as shown.

### Note!

Match wire connections male to female. Color of wire may vary.

If motor does not have Thermal Wires, plug Adapter Harness into Adapter Blade.



GR02934

# Auxiliary Battery Kit w/Dual Cables

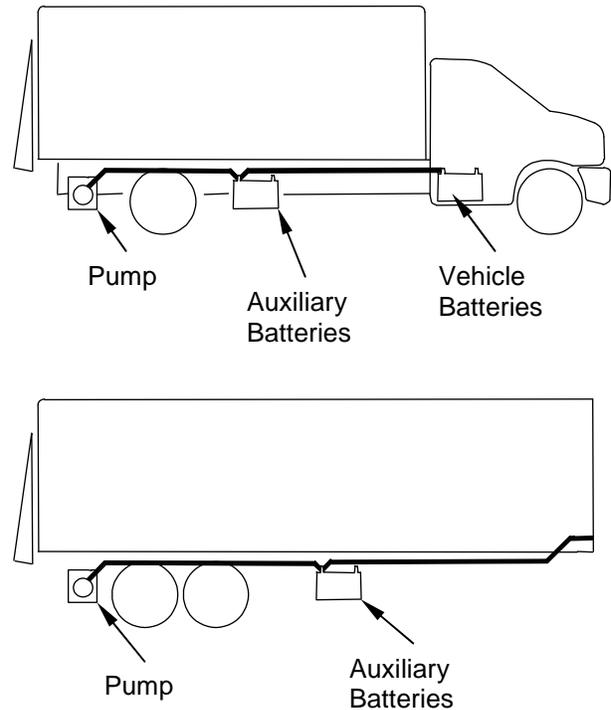
80101569

## DETERMINE BATTERY LOCATION AND CABLE ROUTING

Determine where auxiliary battery box will be mounted on the vehicle.

For trucks your installation will use cables supplied with liftgate.

For trailers additional cables are supplied with the trailer kit.

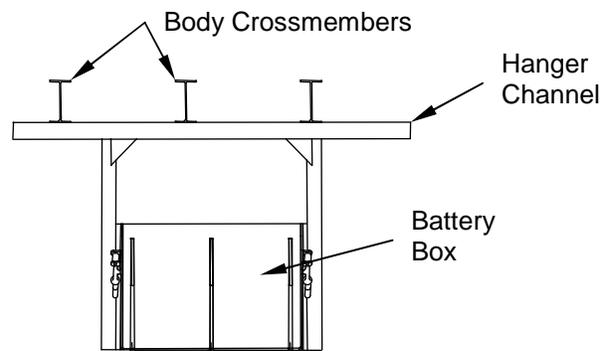


GR02768

Locate battery box in a suitable location under the vehicle body.

Weld hanger channel to body crossmembers.

Install batteries into box.



GR02769

Install #1 ga. power and ground cables to liftgate pump unit per liftgate instructions.

Route cables along chassis frame towards auxiliary battery box, securing them every 24" with cable ties provided.

Do not connect any cables to batteries at this time.



**Be certain cables are protected with grommets when passing through metal holes or over sharp edges.**

# Auxiliary Battery Kit w/Dual Cables

80101569

Cut cables to required length.

Use remaining length of cables to connect from auxiliary batteries to vehicle batteries (for truck applications only, trailers will use additional 0 ga. cables).

Install terminal lugs on ends of cables as shown below.

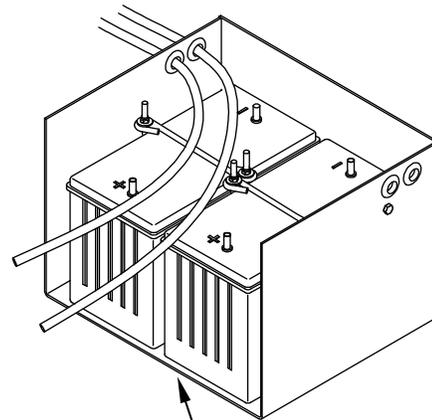


**Protect wires from any sharp edges or holes that may abrade insulated covering of wires.**



**Secure battery cable so it does not come near, or in contact with, other vehicle wiring, fuel lines, brake lines, air hoses, exhaust system, etc.**

Install cable lugs as shown below.



AUXILIARY OR VEHICLE BATTERIES

GR01961

## INSTALLATION OF TERMINAL LUG

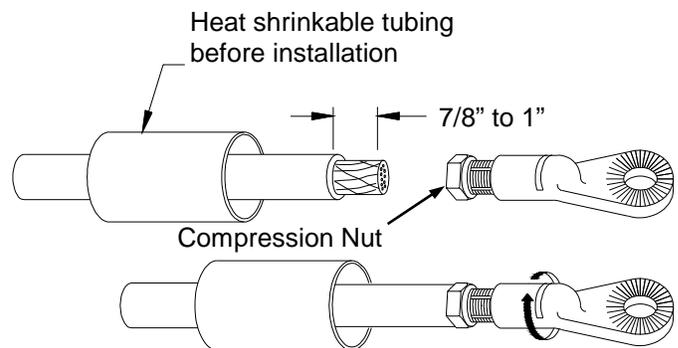
Strip 7/8" to 1" of insulation from end of cable.

Slide heat shrinkable tubing onto cable.

Insert bare wire into compression nut until it seats.

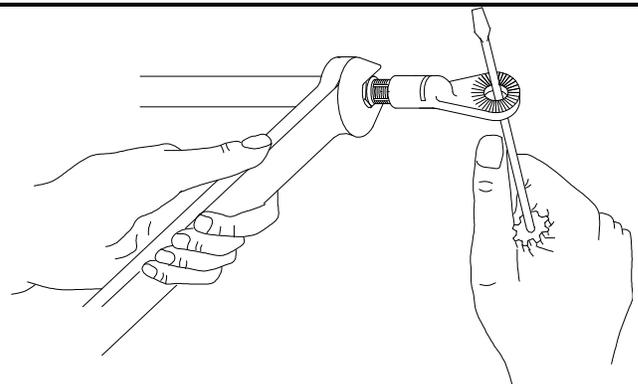
**IMPORTANT: Be sure to use correct compression nut, use 1&2 gauge nut for 1 gauge cable, use 0 gauge nut for 0 gauge cable.**

Note: Copper wire should be flush with, or slightly past nut



GR00299

Grip nut with wrench and turn terminal until nut seats



GR00300

# Auxiliary Battery Kit w/Dual Cables

80101569

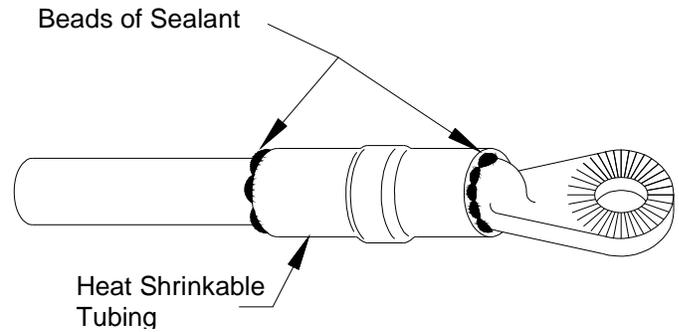
Position heat shrinkable tubing over terminal and end of cable.

**Note: Red heat shrink is applied to power cable and black heat shrink to ground.**

Shrink tubing using electric heat gun or torch.

**Note: To reduce chance of damaging tube and cable, a heat gun is recommended**

Apply sufficient heat to produce thin bead of sealant all around tube edges



GR00301

# Auxiliary Battery Kit w/Dual Cables

80101569

## INSTALLATION OF CIRCUIT BREAKER(S)

Batteries on a truck will require circuit breakers at both the auxiliary batteries and the vehicle batteries.

Locate and mount circuit breaker directly to batteries using copper terminal link supplied.

Circuit breakers must be mounted to give good protection against any objects coming into contact with circuit breaker terminals and causing a short. Positions must also be readily accessible to reset breakers.

**Note: Circuit Breaker is to rest solidly on battery to prevent vibration during transit.**

If unable to connect circuit breaker direct to batteries, an optional 24", maximum length, 2 Ga. battery cable may be used.

Connect cables as shown.

Apply a generous amount of Dielectric Grease to all Positive (Hot) Battery terminals and Circuit Breaker terminals.

Install circuit breaker decal, 80100829, near the circuit breaker.

For trucks, use remaining length of cables supplied with liftgate, and route from auxiliary batteries to vehicle batteries.

Install terminal lugs on cables as required per previous instructions.

Install circuit breaker and cables to vehicle batteries per previous instructions.



**Protect wires from any sharp edges or holes that may abrade insulated covering of wires.**

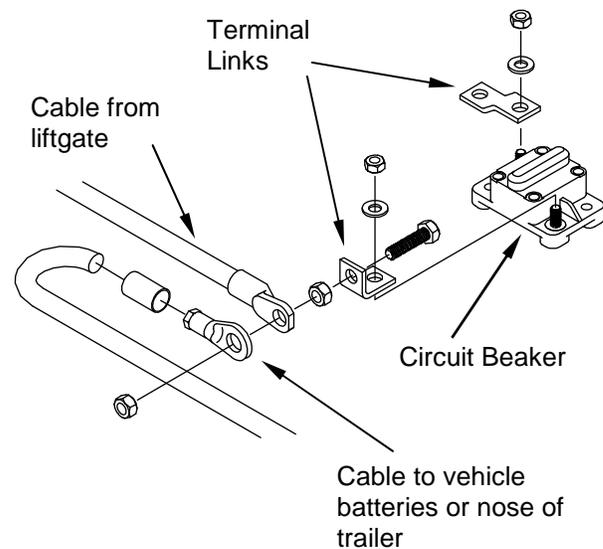
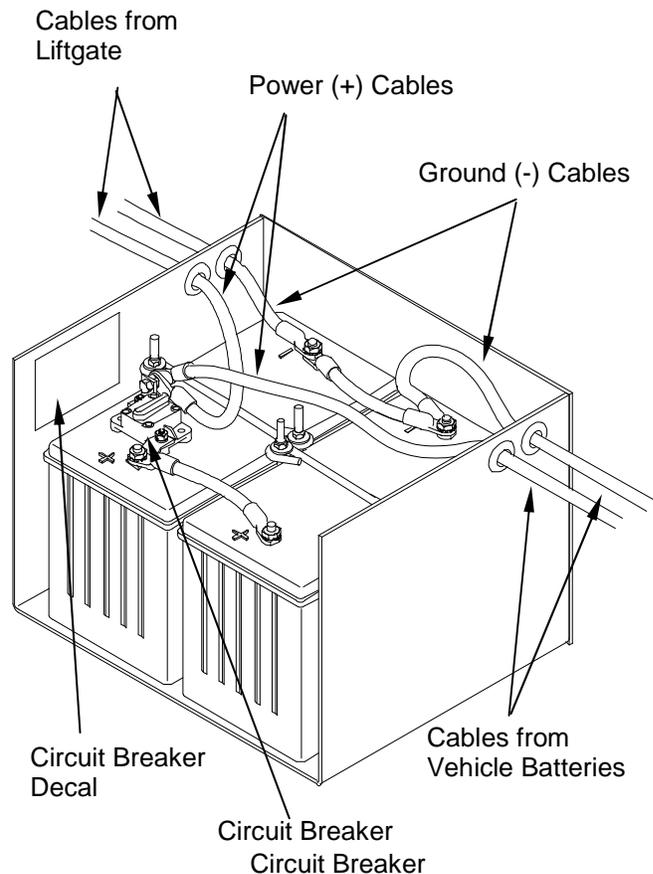


**Secure battery cable so it does not come near, or in contact with, other vehicle wiring, fuel lines, brake lines, air hoses, exhaust system, etc.**

### IMPORTANT:

If liftgate has a Mounting Bar, do not operate liftgate before bar has been removed.

See below for trailer applications.



GR01962

# Auxiliary Battery Kit w/Dual Cables

80101569

## For trailer applications with dual pole socket:

Using 0 ga. cables, supplied with trailer kit, feed each end through battery-box wall and install a compression terminal on both red and black cables.

### Do not connect any cables to batteries at this time.

Run cables from battery box to trailer nose, securing them every 24" with cable ties.

## For trailer applications with dual pole socket:

Install dual pole socket in nose of trailer. Drill 1-3/4" hole in trailer and mount with hardware provided.

Route cables from auxiliary batteries to nose of trailer.

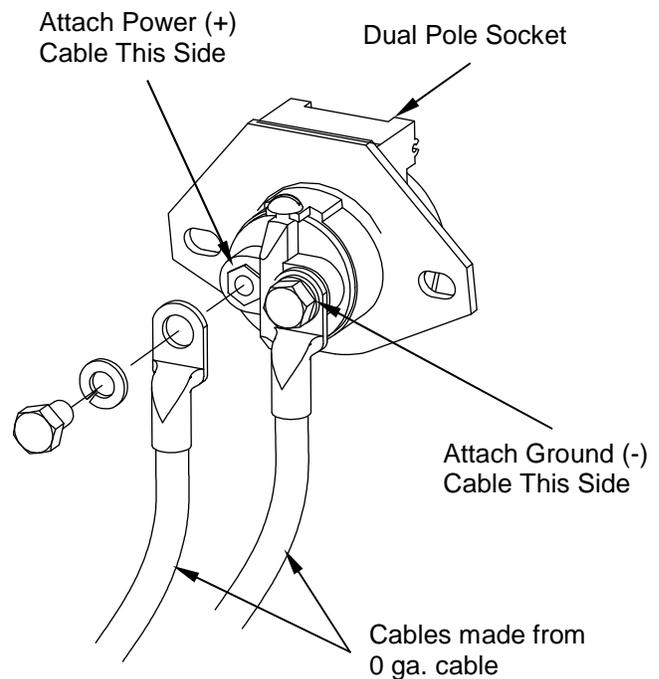
Install cables to socket as shown.

Apply a generous amount of Dielectric Grease over cable terminals.

**IMPORTANT: Be sure to orientate cables as shown, power (+) to the left, ground (-) to the right.**



**Power (charge) cable from tractor batteries to trailer must also be protected with a 150 amp circuit breaker at the tractor batteries.**



GR02770

## Note:

**While these instructions can be used for single pole sockets, Waltco recommends dual pole sockets be used for their superior grounding abilities.**

## For trailer applications with single pole socket:

Using 0 ga. cable, supplied with trailer kit, feed the end through battery-box wall and install a compression terminal on that end.

### Do not connect any cables to batteries at this time.

Run cable from battery box to trailer nose, securing them every 24" with cable ties.

# Auxiliary Battery Kit w/Dual Cables

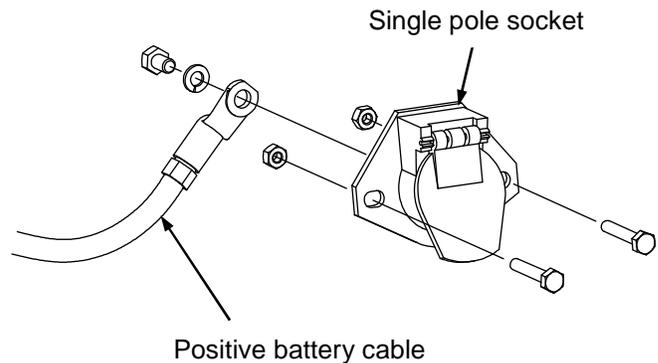
80101569

## For trailer applications with single pole socket:

Drill 1-3/4" hole in nose of trailer for trailer socket.  
Mount socket to trailer with bolts and nuts provided.  
Attach cable to back of socket with bolt provided.  
Apply a generous amount of Dielectric Grease over cable terminal.



**Power (charge) cable from tractor batteries to trailer must also be protected with a 150 amp circuit breaker at the tractor batteries.**

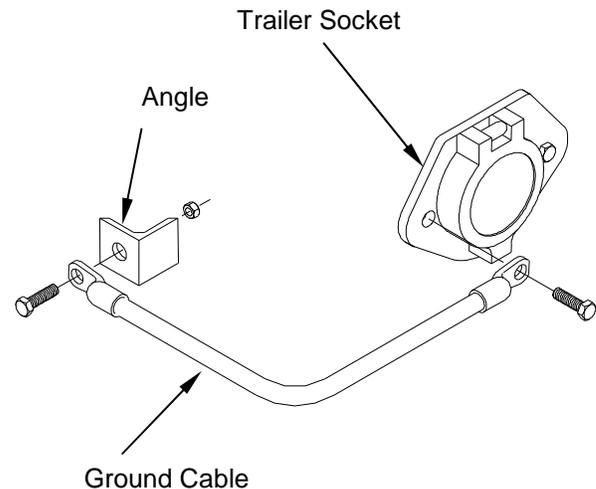


GR02739

Ground trailer socket to main structure of trailer.

Use the 18" ground cable, supplied, and bolt it to the trailer socket and suitable structure on the nose of the trailer.

An angle has been provided, it can be used by welding it to the crash plate, or other suitable structure.



GR01414

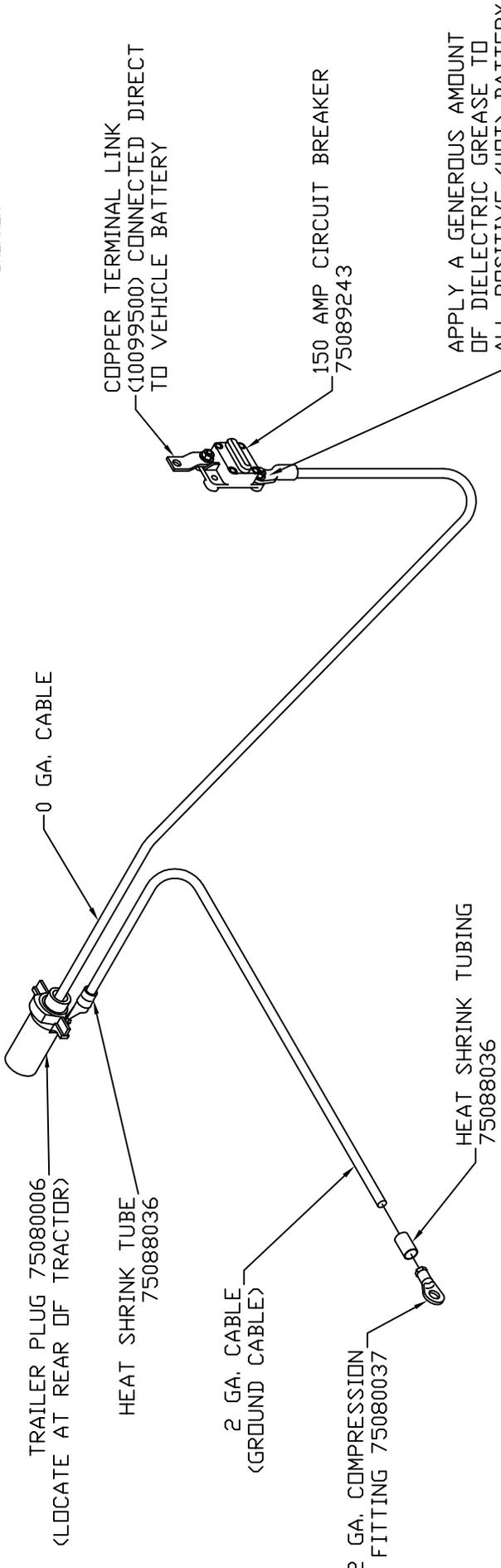
## For all trailer applications:

After single or dual pole socket is installed:

Connect cable(s) to terminals in the battery box as shown previously; using a 150 amp circuit breaker to protect the charge circuit.

EO7903  
Rev 05  
4-2016

E.O. No.	DATE	#	CHANGE	BY
4547	9-14-2001	05	REDRAWN IN AUTOCAD; CHANGED POSITION AND HOOKUP OF CIRCUIT BREAKER	MK



Page 46

**INSTRUCTIONS:**

THE PURPOSE OF THIS KIT IS TO RUN THE LIFTGATE OFF OF THE TRACTOR BATTERIES.

1. LOCATE CIRCUIT BREAKER DIRECTLY ON VEHICLE BATTERY USING COPPER TERMINAL LINK (10099500). NOTE: IF UNABLE TO CONNECT CIRCUIT BREAKER DIRECT TO BATTERY, USE AN OPTIONAL 24" MAXIMUM LENGTH BATTERY CABLE TO CONNECT CIRCUIT BREAKER TO VEHICLE BATTERIES.
2. CUT CABLES TO LENGTH, INSTALL COMPRESSION TERMINALS, AND APPLY HEAT TO HEAT SHRINK TUBING SUPPLIED WITH KIT (SEE DRAWING 80100823).

**IMPORTANT:**  
NEVER SECURE BATTERY CABLE IN SUCH A WAY THAT IT COMES INTO CONTACT WITH OTHER WIRING, FUEL LINES, BRAKE LINES, AIR HOSES, OR EXHAUST SYSTEM.....ETC.

THIS DRAWING IS USED FOR POWER  
KIT NUMBER 80000618

PART NO.	QTY.	DESCRIPTION	MATERIAL & SPEC.
<p>The drawing is confidential and is not to be distributed outside of the organization. It is the property of WALTCO TRUCK EQUIPMENT CO. 250 MONTICENT AVENUE FALLS CHURCH, VA 22024</p>			
<p>INSTALLATION OF TRACTOR WIRING KIT</p>			
DO NOT SCALE DRAWING	PAGE 1 OF 1	DATE 7-17-01	SCALE 1 - 1
DRAWN BY MK		PART NO. 80100822	

NOTES: 1 UNLESS OTHERWISE INDICATED



## Dual Control Switch, Installation Instructions

### For Kit 80000437

**Note:** Kit may include additional parts not used in all installations

#### Locating and Mounting Switch

Locate a position for Switch such that operator has a clear view of entire Platform area and will not be in the area that liftgate passes through.

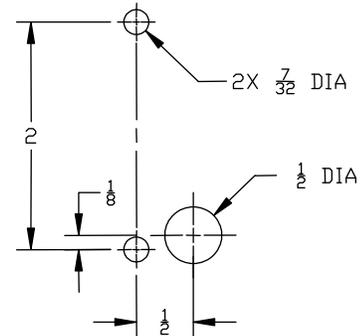
#### **IMPORTANT**

**Verify that Control Cord is long enough to reach pump unit before advancing to the next step.**

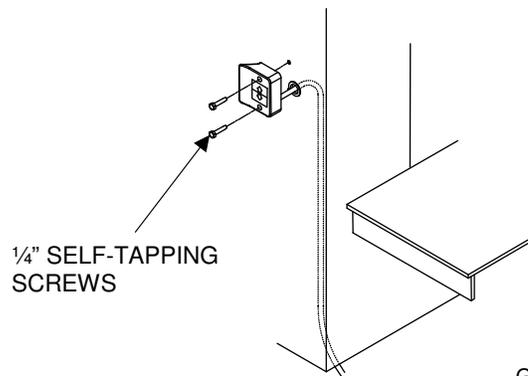
Using Switch Mounting Template or diagram to the right, drill two fastener holes with a 7/32" drill bit.

If Control Cord will be run through a hole in the side of the truck, drill 1/2" dia hole and remove all sharp edges and insert a grommet.

Mount Switch with 1/4" Self-tapping screws provided.



GR02652



GR02653

Route Control Cord into pump enclosure.

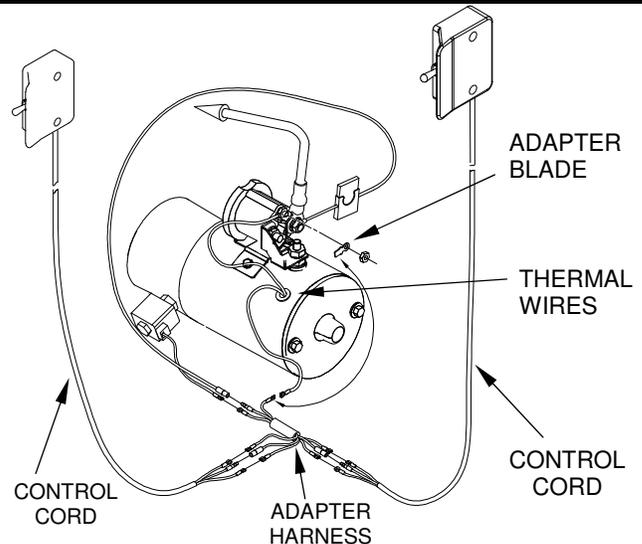
First connect Pump wires to Dual Control Adapter Harness as shown.

Connect both Control Cords to other ends of Adapter Harness as shown.

#### **NOTE:**

Match wire connections male to female. Color of wire may vary.

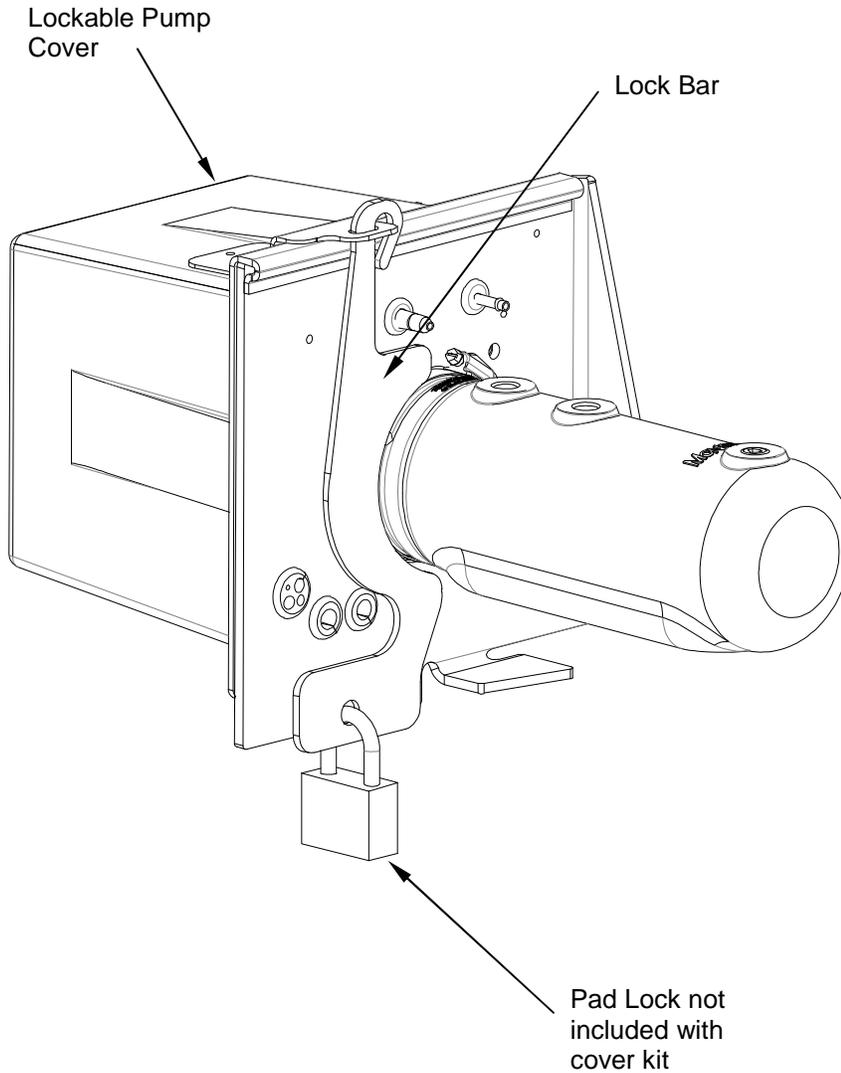
If motor does not have Thermal Wires, plug Adapter Harness into Adapter Blade.



GR02935

# Theft Deterrent

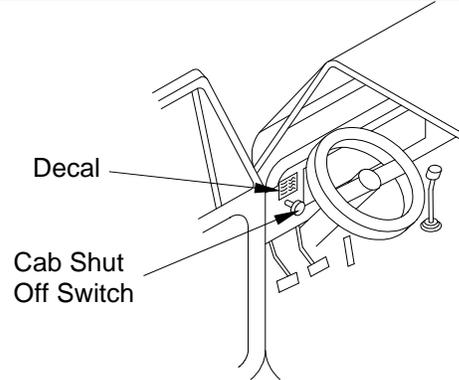
## PUMP UNIT THEFT DETERRENT OPTION



GR10055

# Installation of Cab Shut Off Switch

Install cab shut off switch and shut off switch decal in convenient location in vehicle cab.

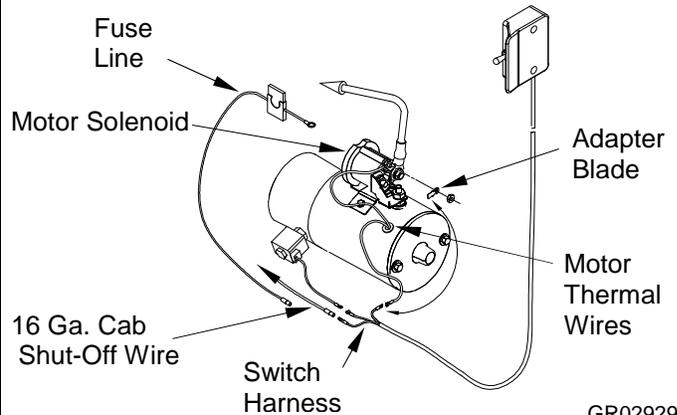


GR00379

Remove fuse line from motor solenoid. Unplug fuse line from switch harness and save for later installation.

Plug green 16 ga. x 40 ft. cab shut-off wire into switch harness.

**Note:**  
If motor does not have Thermal Wires, plug switch wire into Adapter Blade.



GR02929

Run green 16 ga. x 40 ft. cab shut-off wire to cab shut-off switch.

Cut off excess wire and connect to cab shut off switch with supplied #10 ring terminal.

Re-using the fuse line, plug into excess 16 ga. wire.

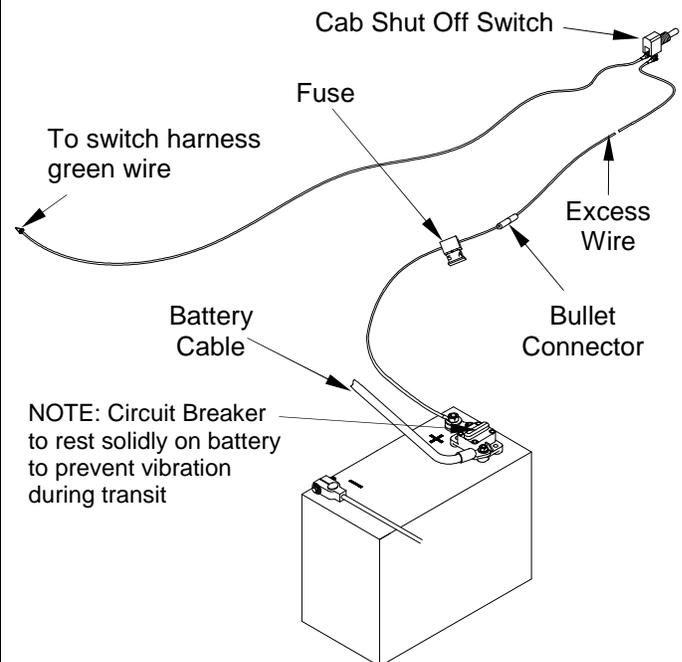
Run excess 16 ga. wire from vehicle battery to cab shut off switch. Fuse end to be toward battery.

**Note: Do not connect to battery at this time.**

Connect 16 ga. wire to cab shut off switch with supplied #10 ring terminal.

Connect fuse line to battery with attached 3/8" ring terminal.

**Important: Heat shrink all connectors.**

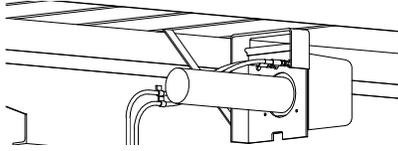


GR00716

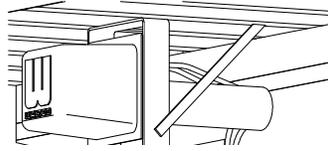
# REMOTE MOUNT BRACKET INSTALLATION INSTRUCTIONS

1. Locate a position for the pump on the truck frame as near to the rear of the vehicle as practical. Shown below are three possible ways the pump may be mounted. If the pump will be mounted on the driver's side of the vehicle, use the dual control switch kit (part no. 80000429) so that a switch can be mounted on the curb side.

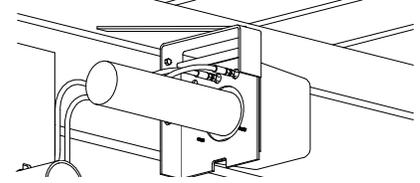
Mounted on crossmembers parallel to the vehicle frame



Mounted on crossmembers perpendicular to the vehicle frame



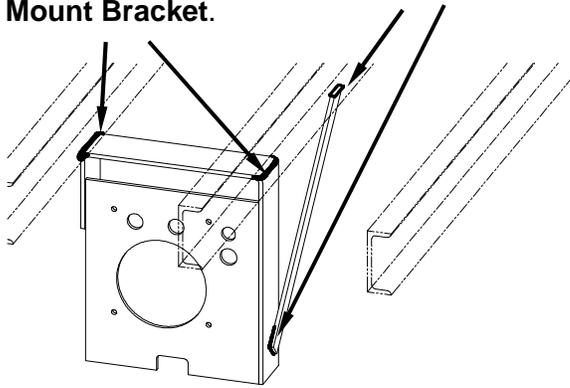
Bolted or welded to the vehicle frame



2. Install Remote Bracket on to the vehicle.

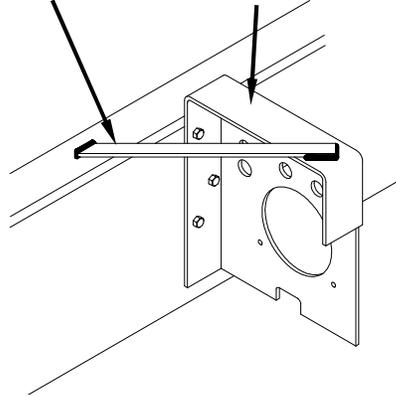
### If welding to crossmembers

Weld top ends of Mount Bracket to a crossmember.  
Weld both sides of one end of Brace to a crossmember.  
Weld (3) sides of other end of **Brace** to the **Mount Bracket**.



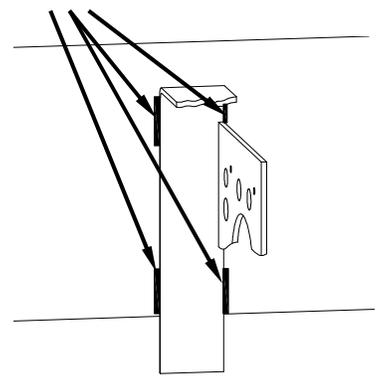
### If bolting Mount Bracket to vehicle frame

Weld both sides of one end of Brace to the body long member.  
Weld (3) sides of other end of **Brace** to the **Mount Bracket**.



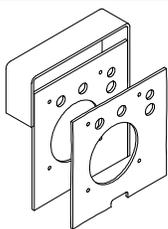
### If welding Mount Bracket to vehicle frame

Weld the Mount Bracket as shown

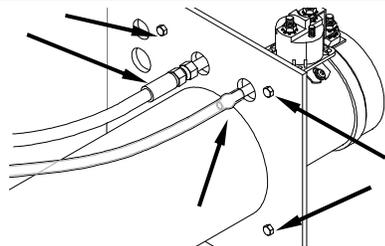


Also weld Brace as shown in previous picture.

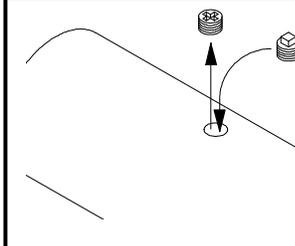
3. Add Gasket to Mount Bracket.



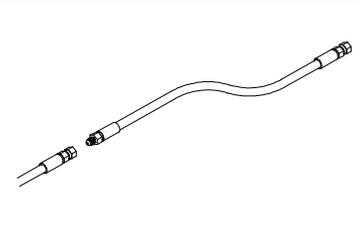
4. Detach hoses and unfasten (4) hex-screws to remove pump.



5. Replace vented plug with Square Head Plug

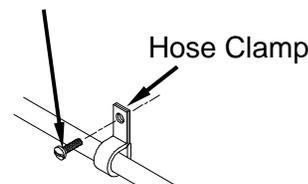


6. Connect Hose Extension to Hydraulic Hose.



7. Fasten Pump to Mount Bracket using the (4) hex screws.
8. Re-attach hoses.
9. Secure hoses to the vehicle using the hose clamps and self-tapping screws provided.

### Self-tapping Screw



**IMPORTANT:**  
Hydraulic hoses are to be protected from sharp edges, and never secured near exhaust system.

# EM / EM-TC UNDER-RIDE INSTALLATION

## INSTALLATION OF UNDER-RIDE BUMPER

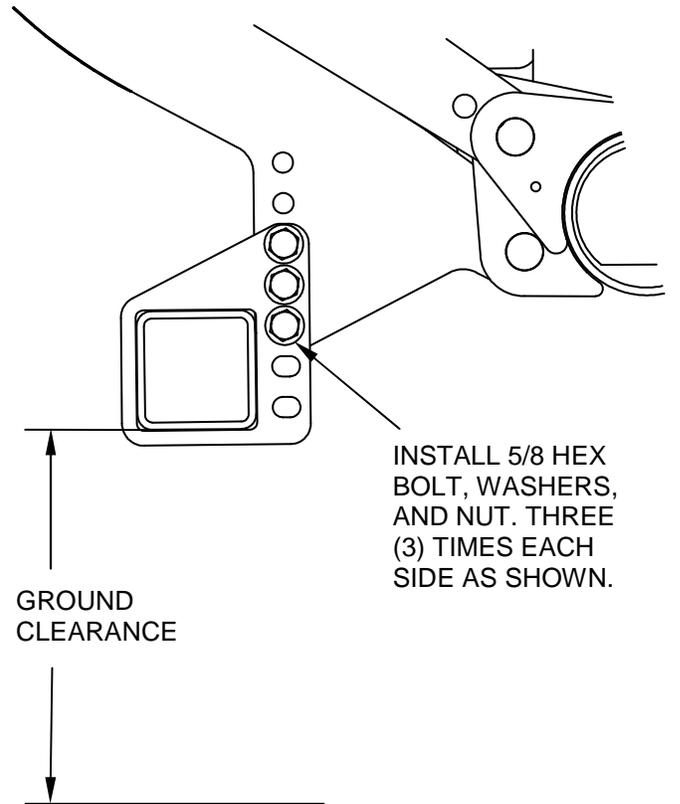
Align slots of under-ride bumper weldment with holes in lift arm at the desired height.

Install supplied 5/8" bolts, washers (2 per instance), and nuts. Three (3) must be used on each side of bumper as shown.

Torque to 100 ft-lbs minimum.

Operate liftgate to ensure proper ground clearances through complete cycle.

**NOTE:** To be compliant with Federal DOT Standard, Part 571.224, bumper must be installed per above directions and cannot exceed 22" of Ground Clearance in stored position.



GR02734

# Trailer Hitch

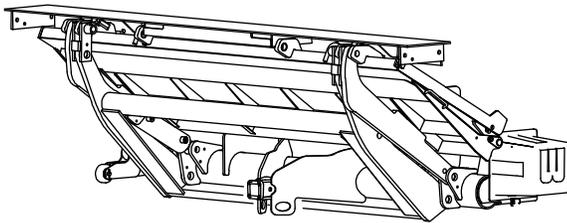
## Receiver Hitch for EM and EMTC Liftgates

Waltco offers a Receiver Hitch option for it's EM and EM Twin Cylinder liftgate models.

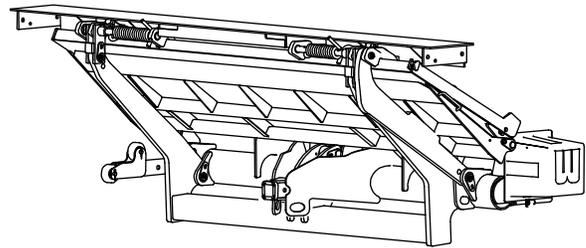
Hitch rating: 10,000 lbs maximum gross vehicle weight  
 1,000 lbs maximum vertical weight on hitch  
 Rated for weight carrying or weight distributing

Ground clearance limitations: These hitches require different lift arm assemblies to clear the hitch. This affects the ground clearance.

See below for recommended minimum ground clearances based on bed height and A-dimension used for mounting liftgate. There are different clearances between the two models.



Twin Cylinder Liftgate



Single Cylinder Liftgate

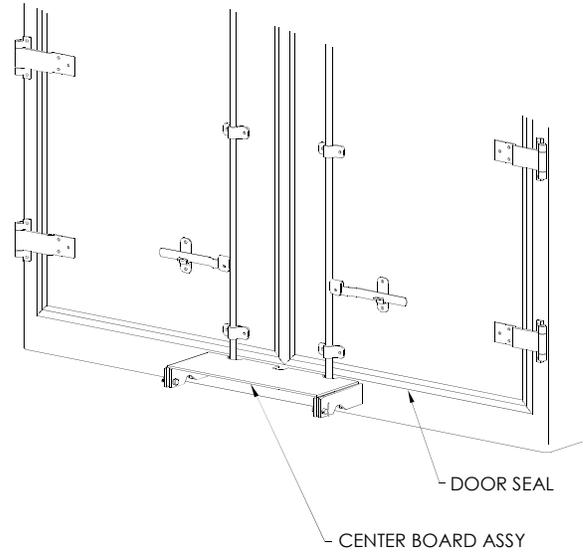
A-Dimension	Bed Height	Ground Clearance Twin Cylinder	Ground Clearance Single Cylinder
19" A-Dim.	39"	12-1/4"	Not recommended
	40"	13-1/4"	Not recommended
	41"	14-1/4"	Not recommended
	42"	15-1/4"	Not recommended
	43"	16-1/4"	Not recommended
24" A-Dim.	44"	12"	Not recommended
	45"	13"	Not recommended
	46"	14"	Not recommended
	47"	15"	11-5/8"
	48"	16"	12-5/8"
	49"	17"	13-5/8"
	50"	18"	14-5/8"
	51"	19"	15-5/8"
	52"	20"	16-5/8"
	53"	21"	17-5/8"
26" A-Dim.	55"	21"	18-1/8"
	56"	22"	19-1/8"

GR10056

# INSTALLATION OF BED EXTENSION FOR SWING DOORS EM LIFTGATES (WELD-ON)

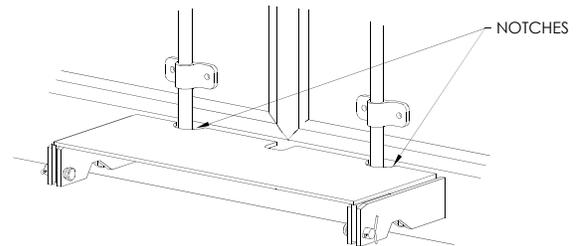
## LOCATE CENTER BOARD

Locate Center Board just below the door seals.  
Center Board to be centered on vehicle body.



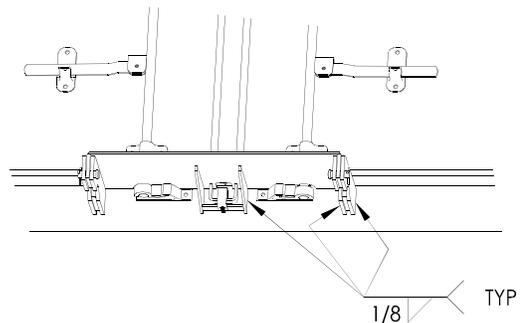
GR02995

Notch Center Board to clear door locking rods and hardware.



GR02996

Weld Center Board to rear sill of body as shown.

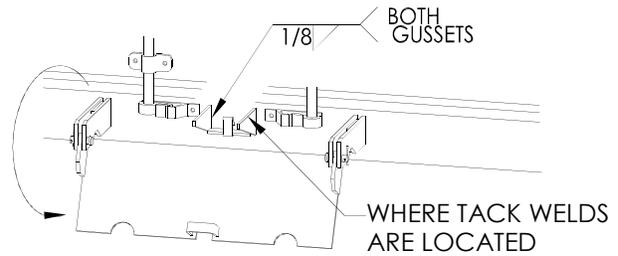


GR02997

# INSTALLATION OF BED EXTENSION FOR SWING DOORS EM LIFTGATES (WELD-ON)

Grind off tack welds from gussets and verify Center Board rotates as shown.

Weld inside of both gussets as shown.



GR02998

## LOCATE OUTER BOARDS

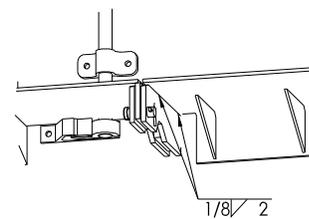
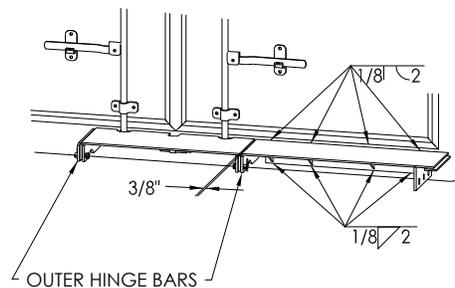
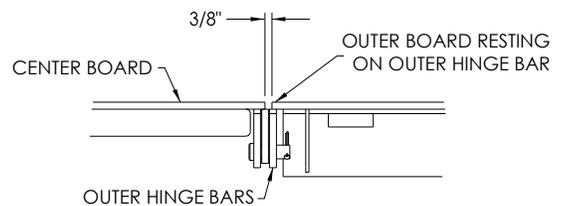
The Outer Boards are to be located at same height as Center Board.

Locate Outer Boards so they are resting on Outer Hinge Bars, with 3/8" gap between boards as shown.

Weld top and bottom of Outer Boards with 2" welds over and under each of the gussets and side bars, as shown.

Weld Outer Boards to Center Board Outer Hinge Bars as shown.

Note:  
Only curbside Outer Board shown, weld street side Outer Board the same.



GR02999

# How To Order Parts

**Repairs should be made only by authorized mechanics using WALTCO Replacement parts.**

When ordering repair or replacement parts, please include all the information asked for below. If this information is not available, a complete written description or sketch of the required part will help WALTCO identify and deliver the needed part to you.

---

## THE FOLLOWING INFORMATION MUST BE INCLUDED:

1. SERIAL NUMBER - [WALTCO liftgate serial numbers can be found on the Specification Tag attached to the mount frame. (On older units the Specification Tag is located on the side or bottom of the platform.)]
2. MODEL NUMBER - [Or capacity]
3. PLATFORM SIZE

---

## THEN INCLUDE THE FOLLOWING INFORMATION:

4. PART NUMBERS
5. DESCRIPTION
6. QUANTITY REQUIRED

---

## MAIL, E-MAIL OR PHONE YOUR REQUEST TO:

Waltco Lift Corp  
285 Northeast Avenue  
Tallmadge, OH 44278  
1-800-411-5685  
FAX: 1-800-411-5684  
E-MAIL: [parts@waltco.com](mailto:parts@waltco.com)

**ALL PARTS ARE F.O.B. FROM THE SHIPPING FACTORY**

---

## PLEASE NOTE:

**To assure you of continuing and effective quality control, our warranty policy permits replacement of hydraulic cylinders, valves and motor pump units when their factory seals are intact. Parts under warranty will be exchanged promptly after careful inspection of the returned assemblies.**

---





Every vehicle that has a WALTCO Liftgate must have legible **WARNING AND OPERATION DECALS** clearly posted on the vehicle and an **OWNER'S MANUAL** in the vehicle at all times as a guide for proper operation and maintenance.

Additional **WARNING DECALS**, **OPERATION DECALS** and **OWNER'S MANUALS** can be obtained from **WALTCO LIFT CORP.**

---

**NOTE:**

**When ordering, give model  
and serial number of the liftgate.**

---

# ***IMPORTANT***

## **WARNING**

**Improper operation and maintenance of this liftgate could result in severe personal injury or death.**

**Read and understand the contents of this manual and all warning and operation decals before operating and/or performing maintenance on this liftgate.**

**For SAFETY information on this liftgate see Chapter 1 of this manual**