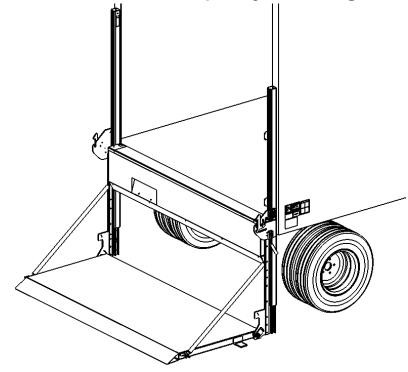


www.waltco.com parts@waltco.com Phone: 800.411.5685 Fax: 800.411.5684

# **Installation Manual**

# MDL, MDLBG

1250 lb. - 2000 lb. lb. Capacity Rail Liftgates



#### Last Change(s)

Date	Page(s)	Description			
1-2023		Released For Production			

#### Waltco Lift Corp.

#### **Corporate Office United States**

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EO:10700 Rev 01 01-2021

#### Waltco Lift Corp.

#### Canada

90 North Queen St. Etobicoke, ON M8Z 2C5 P: 888.343.4550

80144501

## **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.

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### 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 quilaified to do so.

The contents of the Owner's Manual include, but are not limited to general operation instructions, routine lubrication, parts list, and an outline of things that should be checked but may not be obvious to those not technically qualified. The 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 interchangable 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 fo 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 04 EO10758

### **Chapter 1 Safety Information**



Read, understand, and follow all of the warnings listed below.

#### Failure to follow these warnings could result in severe personal injury of death.

- \* Read and understand the Owner's Manual, all decals and warnings 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 failing.
- \* This liftgate is designed for loading and unloading cargo. If personnel are required to ride the 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 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 and 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 up or down 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 or Bed Extension unless the liftgate is equipped with a special reinforced Platform and Platform Support Bars for use when the Platform is used as a 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 (5) five 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 Upstop Pins when in transit.
- \* Inspect cables every (3) three 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 (5) five years or 10,000 cycles, whichever comes first.

#### **MDL Series Liftgates**

- \* Make certain Platform Brake mechanisms are operating properly.
- \* The Platform Retaining Bar should be lowered into H-Frame Storage Plate when in transit.
- \* Inspect Roller Chains every (3) three months or 750 cycles, whichever comes first. Roller Chains must be measured and checked for signs of stretching. If the chain is stretched by more than 3% they should be replaced.
- \* Replace Roller Chains every (5) five years or 15,000 cycles whichever comes first. Replace only with WALTCO APPROVED Roller Chain.
- \* Check that all connecting links at each end of Roller Chain are properly secured with proper cotter pins monthly.



This is the Safety Alert Symbol. This manual uses this symbol to alert you to potential personal injury hazard 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

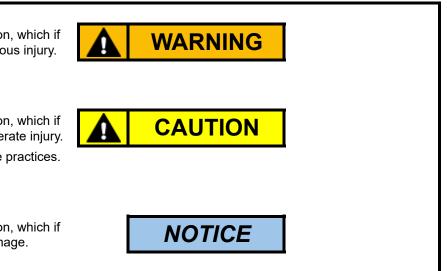
Indicates a potentially hazardous situation, which if not avoided, may result in minor or moderate injury.

May also be used to alert against unsafe practices.

Black letters on an yellow background.

#### NOTICE

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



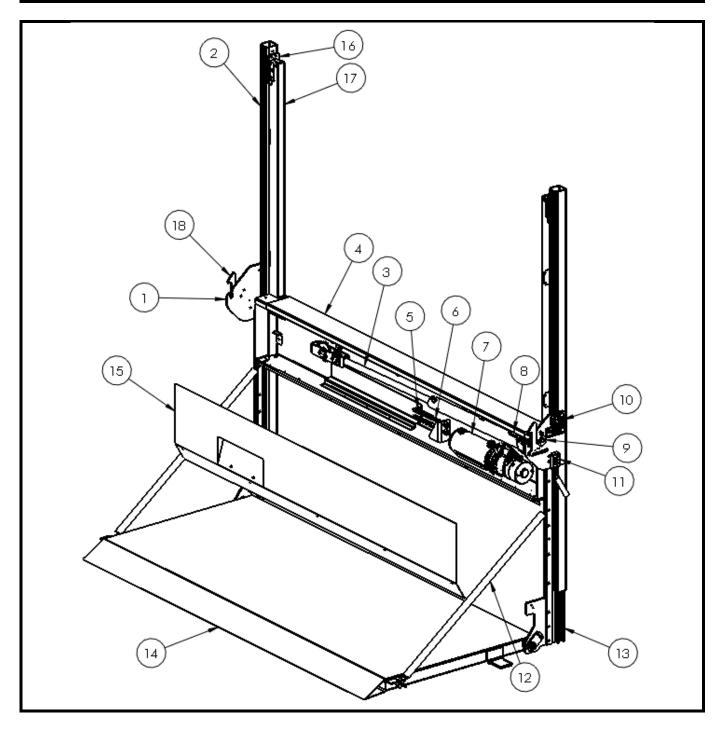
Rev 05 EO10758

### **Chapter 2 Liftgate Terminology**

- 1. Storage plate
- 2. Rail (Track)
- 3. Lift Cylinder
- 4. Crossbeam Box (Housing)
- 5. Lifting Chain
- 6. Chain Anchor Bolt

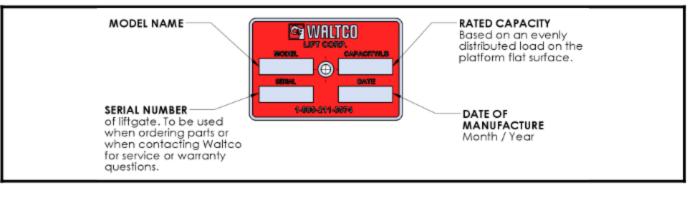
- 7. Pump Unit
- 8. Flow Control Valve
- 9. Latch Lock
- 10. Serial Number Tag
- Switch Assembly
  Support Chain

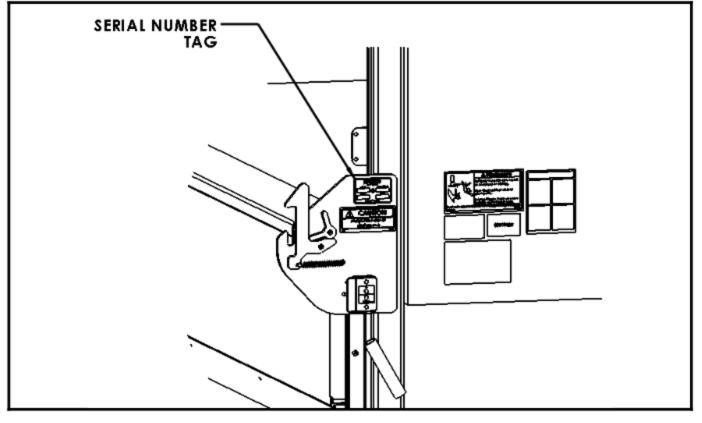
- 13. Runner (Slider)
- 14. Platform
- 15. Access Door
- 16. Above Floor Sprocket Bracket
- 17. Above Floor Chain Guard
- 18. Transit Latch



### Chapter 2 Liftgate Terminology

EXPLANATION OF SERIAL NUMBER TAG					
MODEL NAME DESCRIPTION CAPACITY					
MDL-12	Medium Duty Lift	1250 lbs.			
MDL-16	Medium Duty Lift	1600 lbs.			
MDL-20	Medium Duty Lift	2000 lbs.			
MDL-30	Medium Duty Lift	3000 lbs.			
SB-12	Service Body	1200 lbs.			
SB-16	Service Body	1600 lbs.			





### **Chapter 3 Mounting Requirements**

### DETERMINE BED HEIGHT AND ABOVE FLOOR TRAVEL RANGES

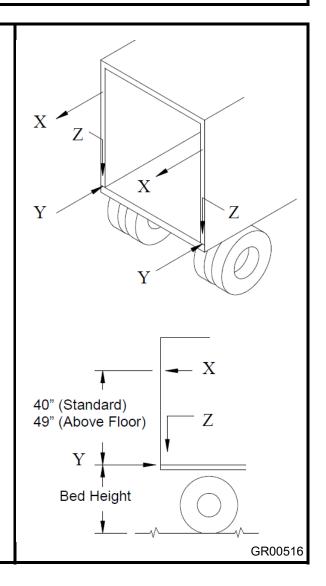
\* Maximum bed height (measured with vehicle empty) must be within the range shown in the chart below.

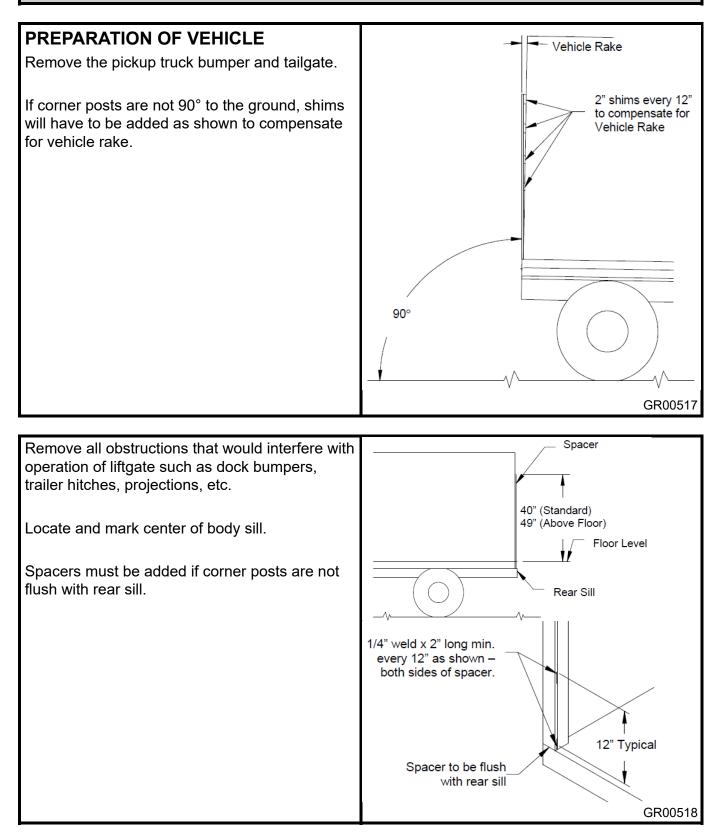
Madal		Above Floor		
Model	Bed Height Range	Bed Height Range	Above Floor Travel Limitations	
MDL12	30" - 46"	30" - 46"		
MDL16, MDL20, MDL30	30" - 56"	38" - 46"	Travels to 11" Above Floor	
SB	25" - 46"	25" - 41"	Travels to 7" Above Floor	

NOTE: Some liftgates can be adjusted for additional travel above floor, contact Waltco Technical Services for additional information.

- Vehicle must be capable of supporting the following forces
  - \* X Side Wall, Tension 1800 lbs.
  - \* Y Side Wall, Compression 1800 lbs.
  - **Z** Side Wall, Shear 1800 lbs.

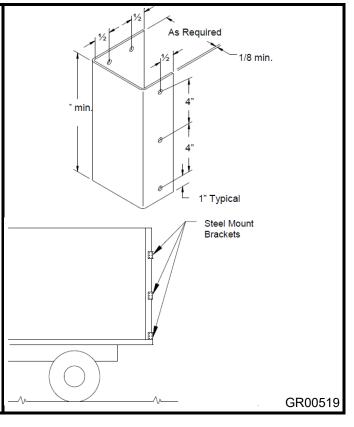
Vehicle body must be capable of supporting forces of liftgate

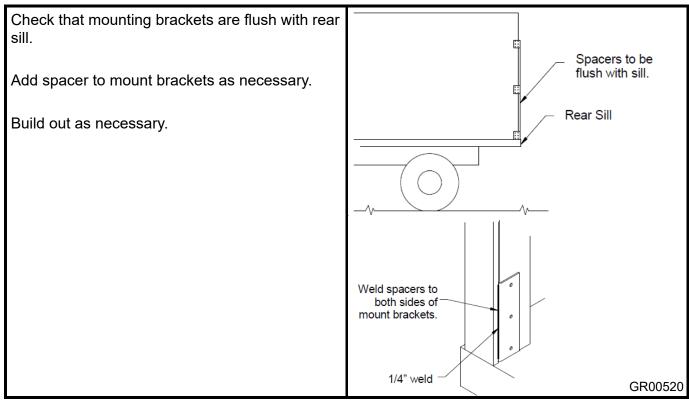


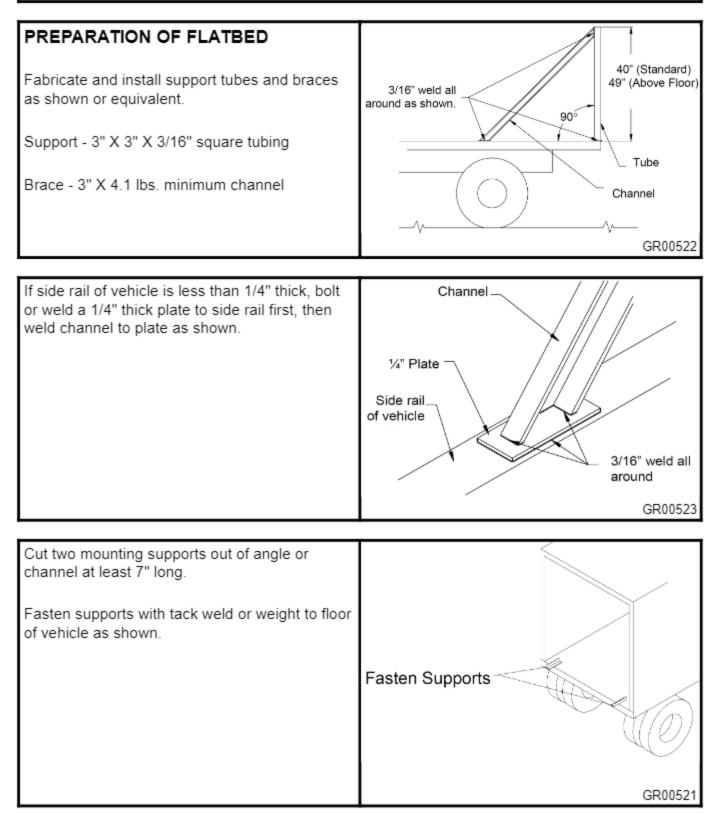


If vehicle has aluminum corner posts, siz steel mounting brackets will have to be fabricated and installed on corner posts.

Attach mounting brackets to corner posts using 1/4" or larger fasteners.







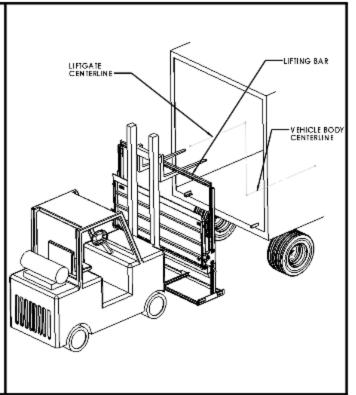
### LIFTGATE INSTALLATION

Use forklift or other means to raise liftgate by lifting bar as shown.

Position liftgate at rear of vehicle so the temporary supports rest on crossbeam box and centerline of liftgate is aligned with centerline of vehicle body.

Stand clear of installation area while positioning liftgate.

# Stand clear of installation area while positioning liftgate.



Clamp liftgate to vehicle as shown. Do not over tighten.

Tack-weld rails to vehicle corner-posts or mount brackets

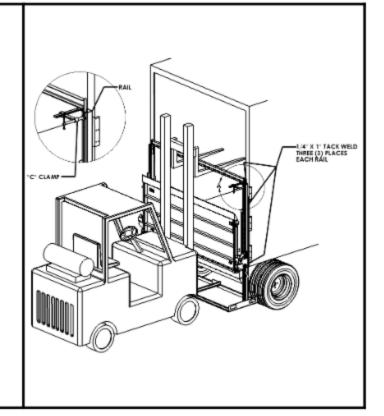
as shown.

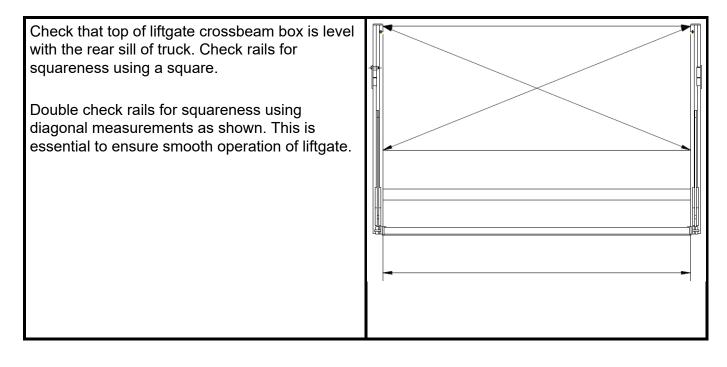
### NOTE:

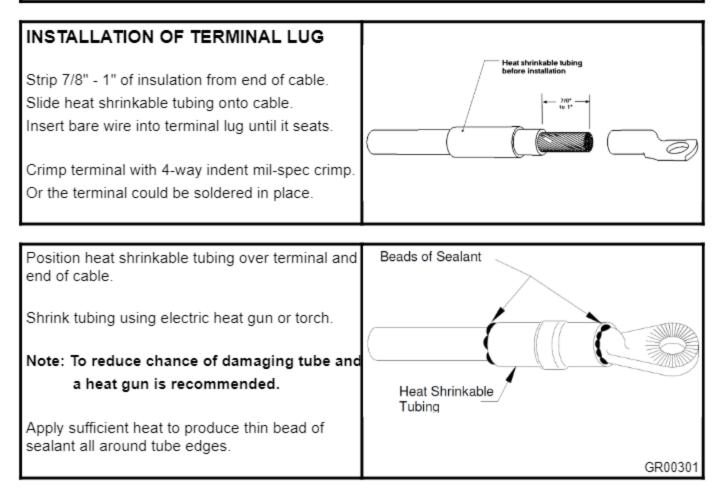
Liftgate is only tack welded, additional welding will be required as instructed before installation is completed.

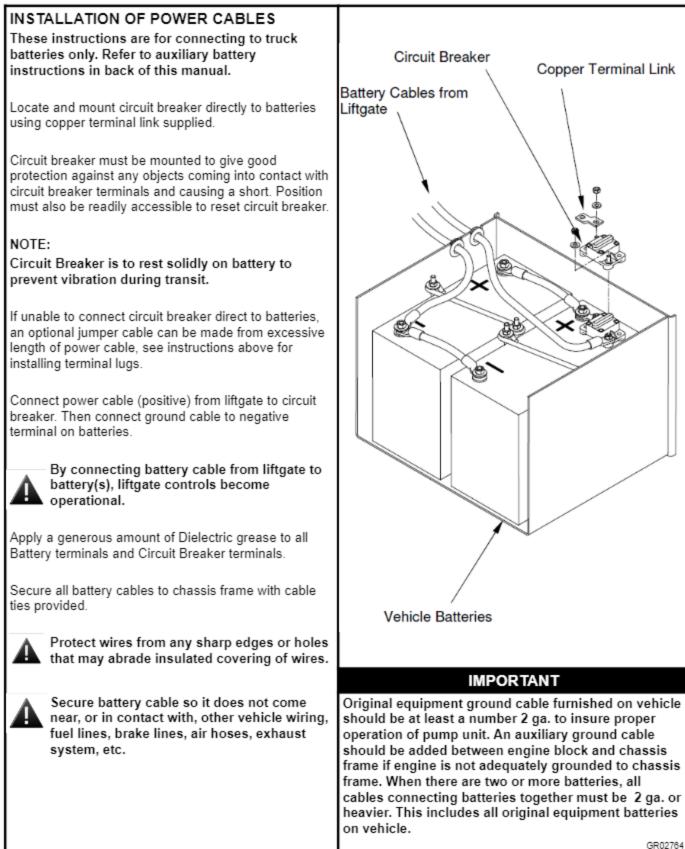


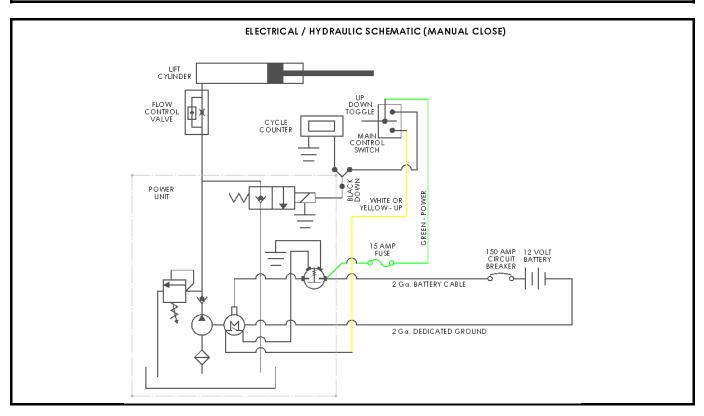
Do not load platform before installation is completed.

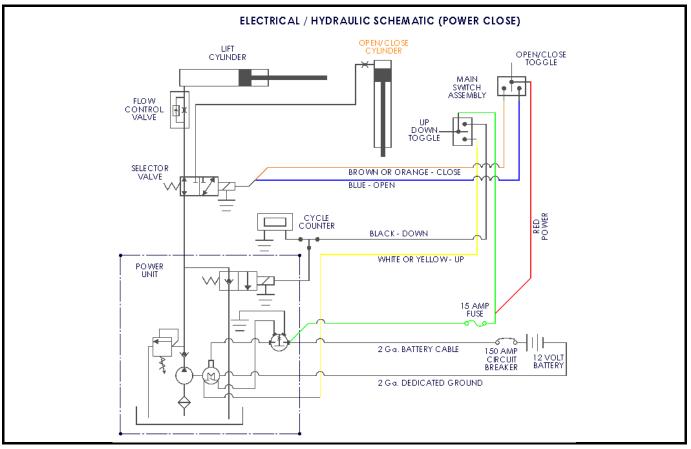


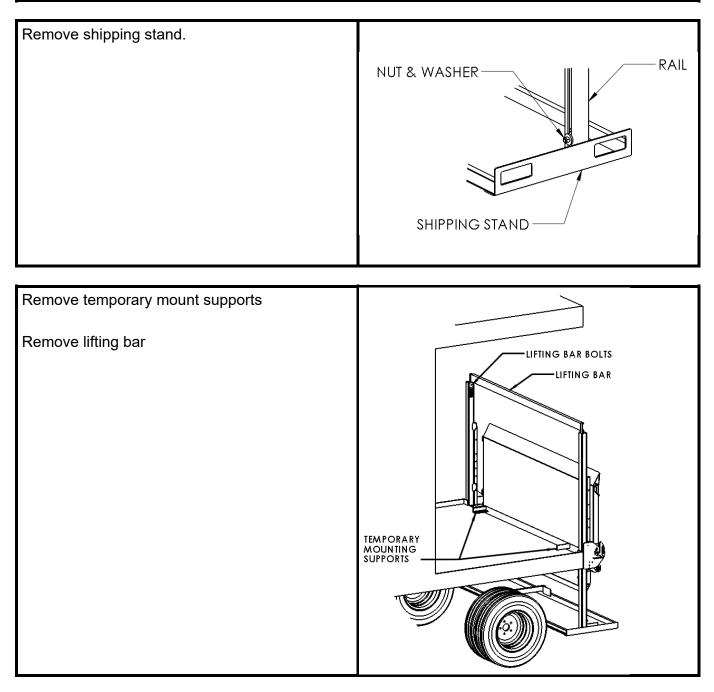












Open and lower platform to the ground. (See Owner's Manual for operating instructions

After verifying liftgate position, and that tracks are parallel and square, weld rails to corner posts, or steel brackets if used.

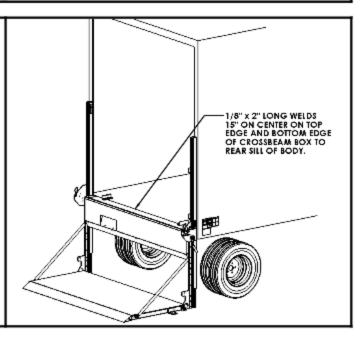
#### NOTE:

Be aware of plastic slide bearings inside rails. Too much heat can damage bearings.

Weld with platform lowered to ground to prevent damage.

On Above Floor models, remove chain covers before welding.

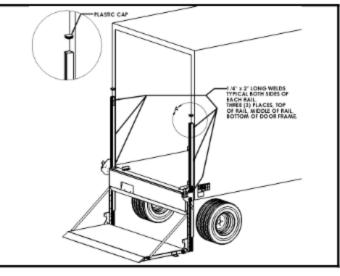
After welds cool, install plastic caps in top of rails.



Go to next step if sill is not steel.

Weld liftgate crossbeam box to vehicle with 1/8" welds as sho

Weld bottom of crossbeam box to rear sill.

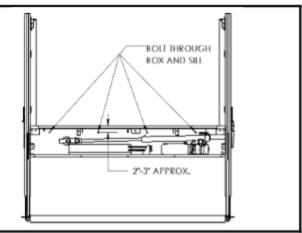


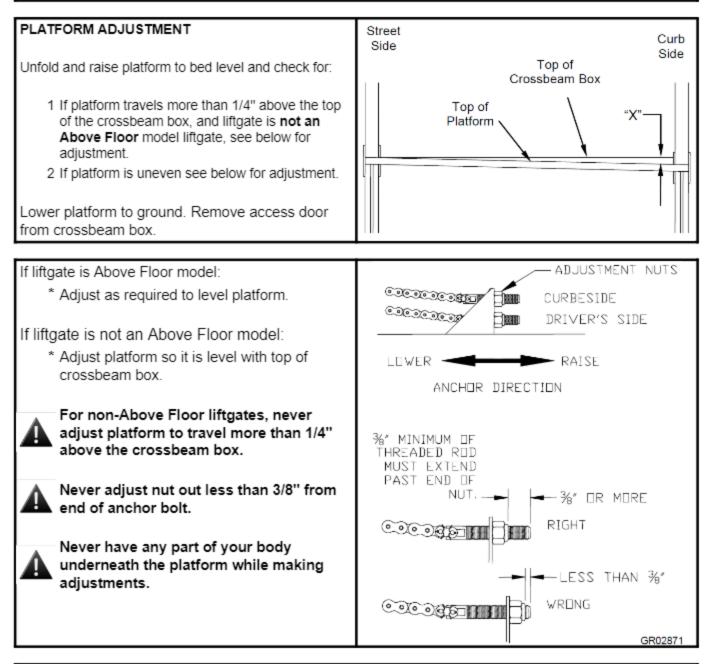
Skip this step if sill is steel.

Remove access door before performing this step.

Drill four 3/8" diameter holes through crossbeam box assembly and rear sill approximately as shown. Assure bolt heads will not interfere with function of liftgate. Install four 3/8" bolts.

Remove any metal shavings after drilling, and reinstall access door.



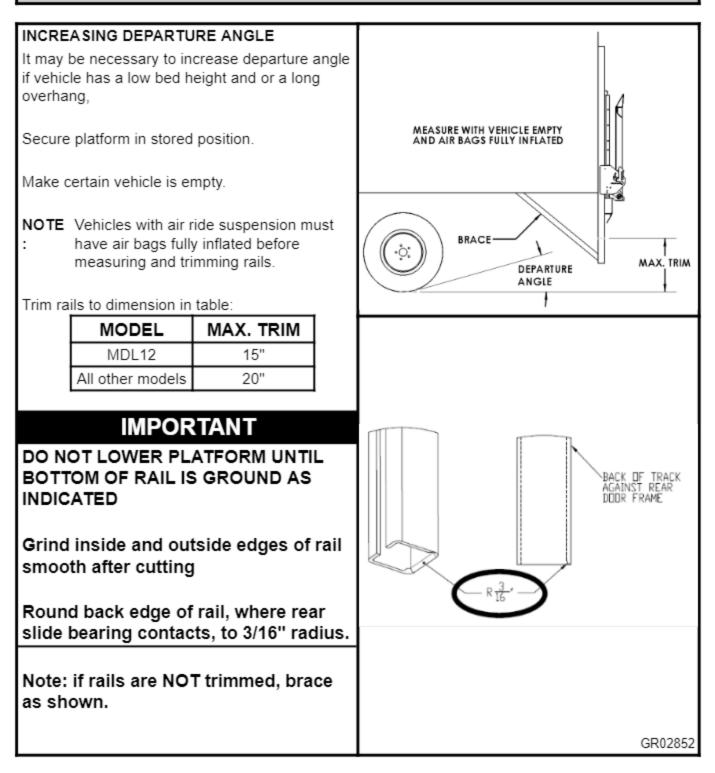


### ABOVE FLOOR TRAVEL

If above floor travel is to be reduced, additional chain links will need to be added to lifting chains.

If additional above floor travel is desired, contact Waltco Technical Services for assistance. Ability to increase travel varies with each specific model of liftgate and bed height of vehicle.

FILLING HYDRAULIC RESERVOIR Lower platform to ground and remove access door. Remove breather and fill reservoir with hydraulic fluid until 1/2" from top. Cycle liftgate several times to release trapped air from system.				
HYDRAULIC FLUIDS		70430690		
HTDRAULIC FLUIDS	Recommended Fluids			
	Temperature Range	Acceptable Fluids		
Fluids are available from the Waltco Parts Dept. 1-800-411-5685 www.waltco.com	0° to 120° F	Waltco Biodegradable Liftlube <sup>™</sup> part #85803860		
		Shell Tellus S2 VX 32		
NOTE:		Chevron Rando HDZ 32		
	-20° to 90° F	Waltco Biodegradable		
Do not use the following fluids: Brake Fluid		LiftLube Arctic part #85803866		
Power steering fluid		Waltco All Season Hyd Oil Part 85803867		
Automatic Transmission Fluid (ATF)		Shell Tellus S2 VX 15		
		Mobil DTE 10 Excell 15		
		Chevron Rando HDZ 15		
	A good quality SAE 10W mo	otor oil may also be used in		
	temperatures above 32° F.			
	80101494	Rev 07 EO7794		



#### TORSON BAR ADJUSTMENT



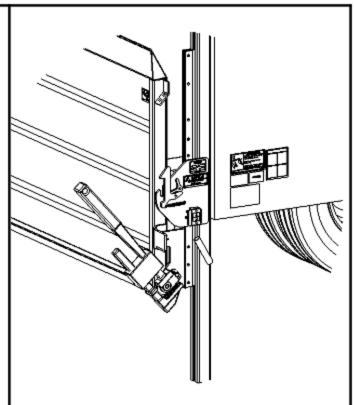
### CAUTION! HINGE PINS ARE PRE-LOADED WITH TORSION FROM TORSION BAR

Curbside hinge pin is pre-loaded with torque and it wants to spring back counter clockwise. Rotating it CLOCKWISE increases the amount of spring assisit provided by torsion bar.

Driverside hinge pin is pre-loaded with torque and it wants to spring back clockwise. Rotating it COUNTER CLOCKWISE increases the amount of spring assisit provided by torsion bar.

Use a large adjustable wrench to rotate hing pin.

Try to keep one of the torsion bars with minimal pre-loaded torque while the other can be adjusted to maximum amount of assistance.



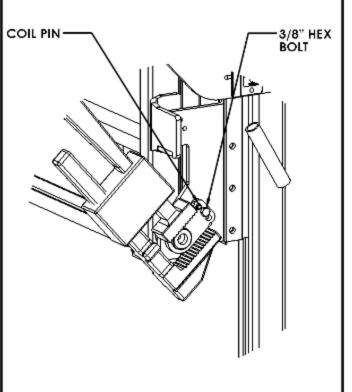
Remove the coil pin.

Keeping bolt in place, remove hex nut that is threaded on bolt.

With adjustable wrench, rotate curbside hinge CLOCKWISE to relieve pre-loaded spring torque, remove the bolt and rotate hinge pin to desired position and re-insert bolt in new hole.

Replace hex nut finger tight and test opening and closing to check if torsion assistance is acceptable.

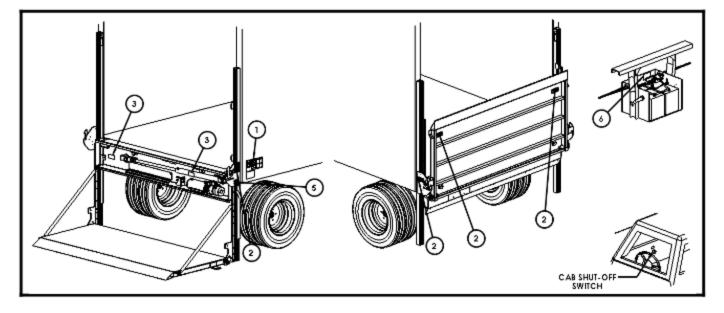
Once torsion is adjusted, replace coil pin and tighten hex nut.



Switch has extra long wiring harness so that it can be unbolted and mounted anywhere that is deemed safe. Wire colors and functions are shown to the right. Four light kit is shown, Two light kit has two lights with integrated reverse light. Six light kit has four 3 wire lights and two of the lights with integrated reverse light. WHITE - GROUND BLACK - TAIL RED - BRAKE YELLOW - REVERSE WHITE - GROUND BLACK - TAIL RED - BRAKE/INDEPENDENT TURN

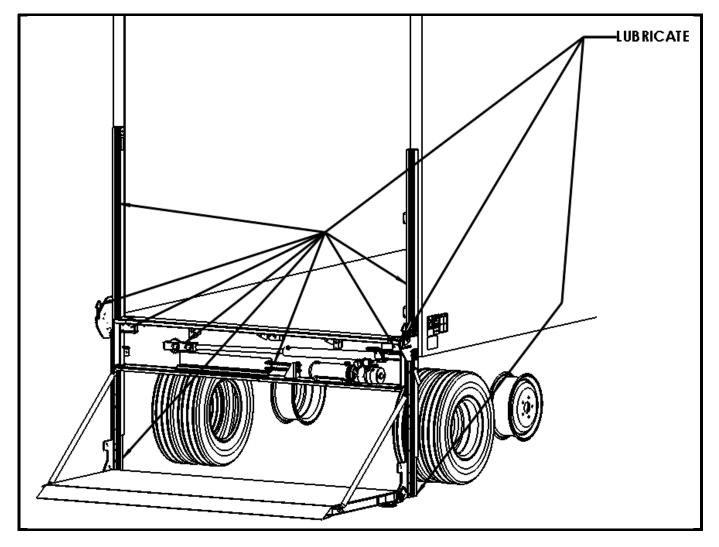
# **Chapter 5 Placement of Decals**

	All decals must be in place and legible or all warranties are void.				
ITEM	DECAL	QTY	PART NO.	LOCATION	
	Safety Instructions	1	80100850		
	Operation Decal	1	80101731		
	Hazard Decal	1	80101370	Locate in a conspicuous place near controls.	
1	Motor Thermal Switch Decal	1	80101480		
'	Important Decal	1	80100828		
	1250 lb Capacity Decal		80100266		
	1600 lb Capacity Decal	2	80100252	Locate one in a conspicuous place near controls. Locate one on curbside of platform.	
	2000 lb Capacity Decal		80100253	Locate one on curbaide of platform.	
2	Caution Stand Clear Decal	4	75089296	Locate one in a conspicuous place near controls. Locate one in a conspicuous place on driver side of vehicle.	
3	Access Door Decal	2	75089282	Locate one on hydraulic cylinder. Locate one on back of crossbeam box.	
4	Cab Shut off Decal (Optional)	1	75089267	Locate next to cab shut-off switch inside vehicle	
5	Switch Decal	1	80101532 80101533	Locate on switch housing (single toggle switch) Locate on switch housing (2 toggle switch)	
6	Warning Decal	1	80100829	Locate next to liftgate circuit breaker. In applications where more than one circuit breaker is used, decal must be placed in both locations.	
To max	imize decal adhesion to surface	es:		If your liftgate is equipped with dual	
-	- Surface must be dry and clean controls, an additional Safety In		controls, an additional Safety Instruction		
-	- Firm pressure must be applied to decal decal		decal (80100850) is to be placed in a		
-			conspicuous place near the second set		
	(Heat gun may be used to heat surface) of controls.		of controls.		



## **Chapter 6 Lubrication Instructions**

	Suggested Minimum Lubrication Schedule (in days)				
Lubricate lifting chains including sections in crossbeam box, rails & runner assemblies with machine oil or motor oil.	Monthly Cycles	Light Duty	Medium Duty	Heavy Duty	
	< 250	45	30	21	
Lubricate latch, inside rails, crossbeam box and	250 - 350	30	21	14	
platform hinges with machine oil or motor oil.	350 - 450	21	14	7	
	> 450	(	Contact Factory	y	
Lubricate driver and passenger side rails.	*	Lubricate every 30 days if cycles are unknown.			



# **Chapter 7 Final Inspection List**

### IMPORTANT

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

- 1 Vehicle side walls are strong enough to support lifting forces.
- 2 Platform is level with vehicle bed and ground.
- 3 All welds are done properly.
- 4 Check Crossbeam Box for proper welds above and below rear sill if welded.
- 5 Check fasteners if Crossbeam Box is bolted to rear sill.
- 6 Rails properly trimmed, and back edge ground smooth.
- 7 All fasteners are tight.
- 8 Controls operate properly.
- 9 Cab Shut-Off switch (optional) properly installed and working.
- 10 Pump reservoir filled to proper level.
- 11 All phases of liftgate operation work properly.
- 12 Platform adjusted properly and chain-anchor lock nuts tight.
- 13 All sprockets and chains mesh properly and all fasteners properly installed.
- 14 All doors and covers properly in place and secure.
- 15 All decals are in place and legible.
- 16 Lights installed and properly operating. Reflectors re-installed if necessary.
- 17 Vehicle meets all state and federal standards.
- ] 18 Owner's manual in vehicle.
- 19 Liftgate has been operated through its entire cycle several times and checked for smooth and even operation throughout entire operating cycle with no unusual noise or vibration.



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.

### **How To Order Parts**

#### Repairs should be made only by authorized mechanic using WALTCO Replacement parts.

When ordering repair or replacement parts, please include all of 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. 1777 Miller Parkway Streetsboro, OH 44241 1-800-411-5685 FAX: 1-800-411-5684 E-MAIL: parts@waltco.com

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

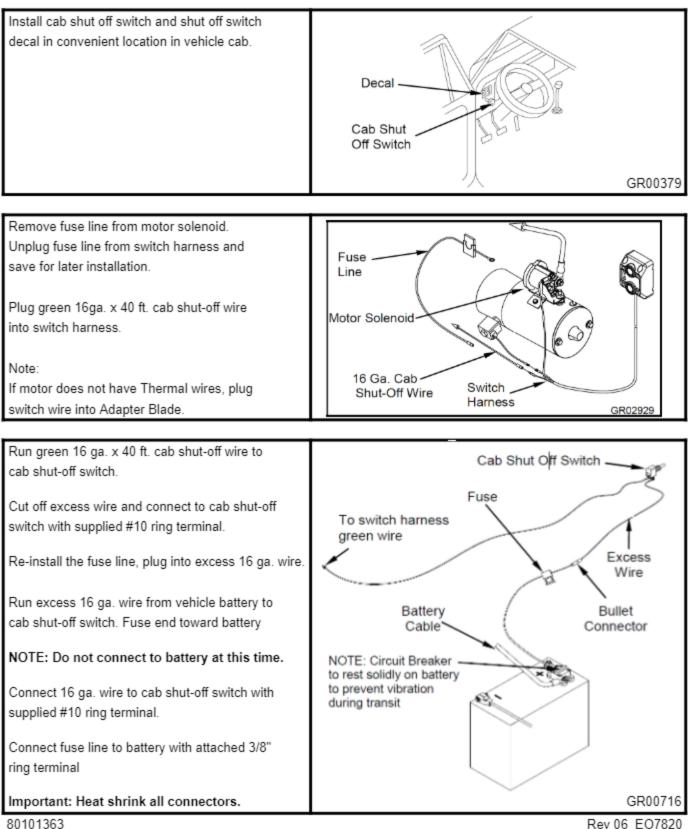
#### PLEASE NOTE:

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 after careful inspection of the returned assemblies.

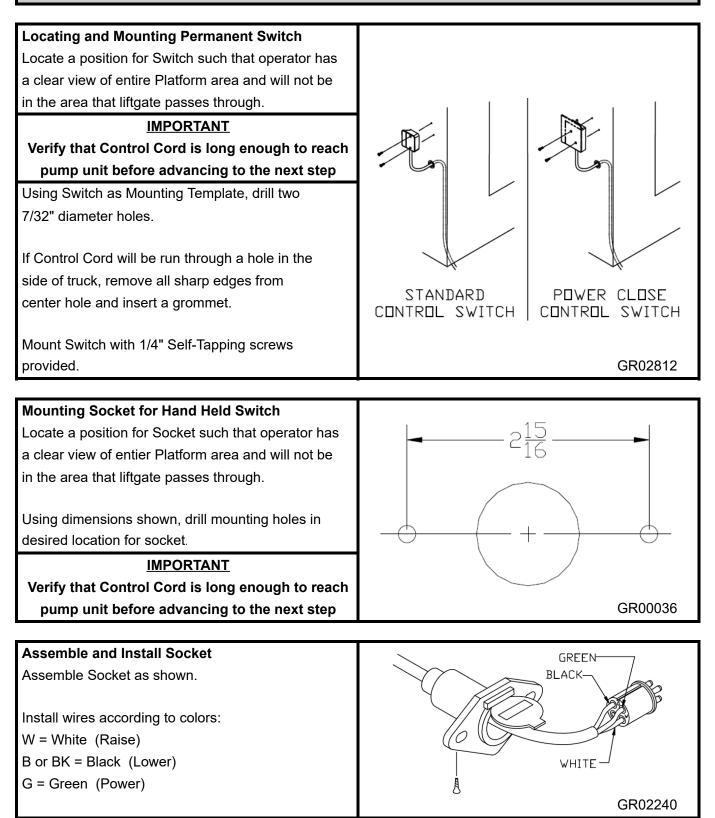
80101389

EO10758 REV 03

# Installation of Cab Shut Off Switch



### **Dual Control Switch and Remote Installation Instructions**



80101576

Rev 03 EO7223

### **Dual Control Switch and Remote Installation Instructions**

### **Connect Wiring**

Route cord from Dual Control Switch into pump enclosure.

Disconnect existing switch wires from pump.

Connect one end of Adapter Harness 10098413 (with 3 connectors to pump unit and power wire from battery).

Connect other end of adapter harness (with 6 connectors to the two switches)

For Power Close units, also install Adapter Harness 10098429 to Selector Valve on cylinder, and to Open/Close switches.

Bundle wires inside crossbeam box with small zip tie provided to insure wires do not come into contact with roller chain or other moving mechanisms.

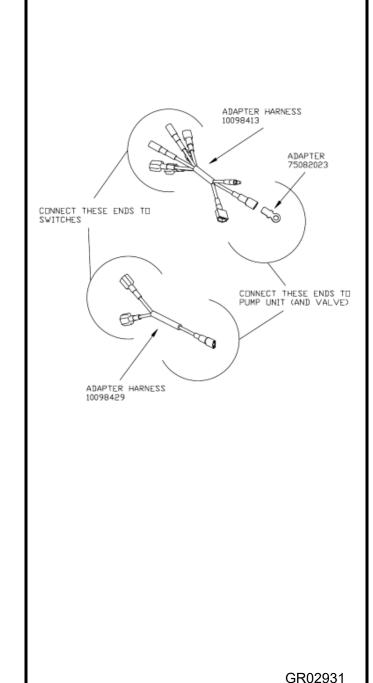
Secure switch cord with large zip ties.

### NOTE:

Match wire connections male to female. Color of wire may vary. Also refer to numbers printed on wires of adapter.

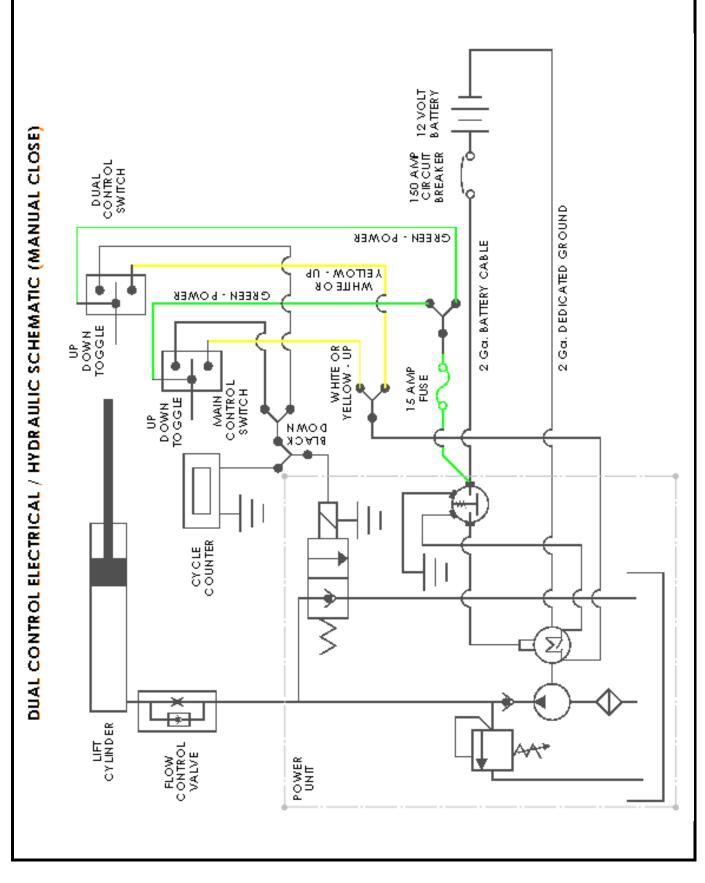


Protect wires from any sharp edges or holes that may abrade insulated covering of wires.

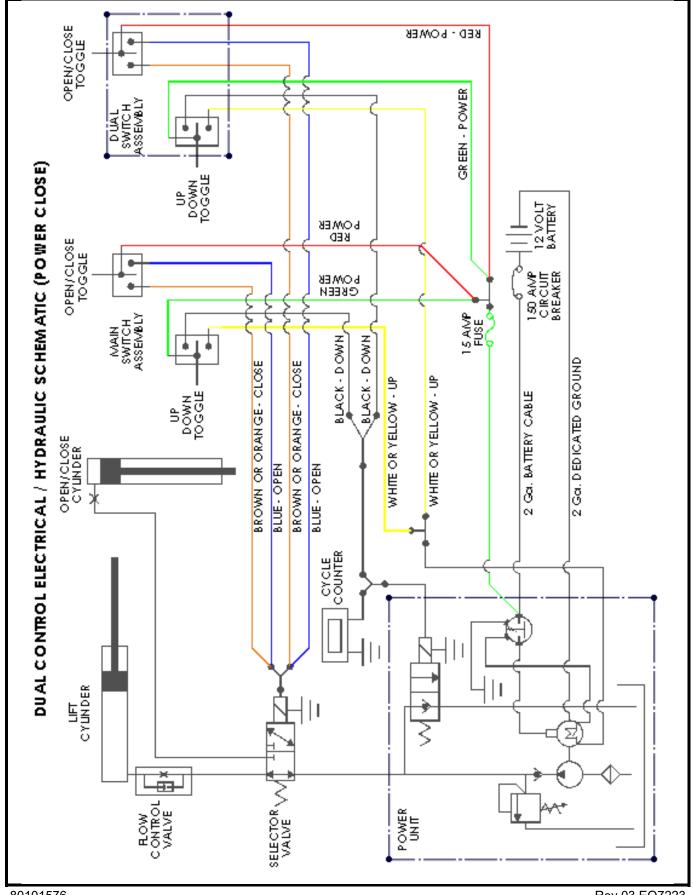


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Every vehicle that has a WALTCO liftgate must have legible WARNING AND OPERATION DECALS clearly posted on the vehicle and an OWNER'S MANUAL in the vehicle at all times as a guide for proper operation and maintenance.

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

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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	

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