

**ANTHONY**

LIFTGATES, INC.®

**MTU-GLR**



## INSTALLATION, OPERATION, AND MAINTENANCE

### MODELS

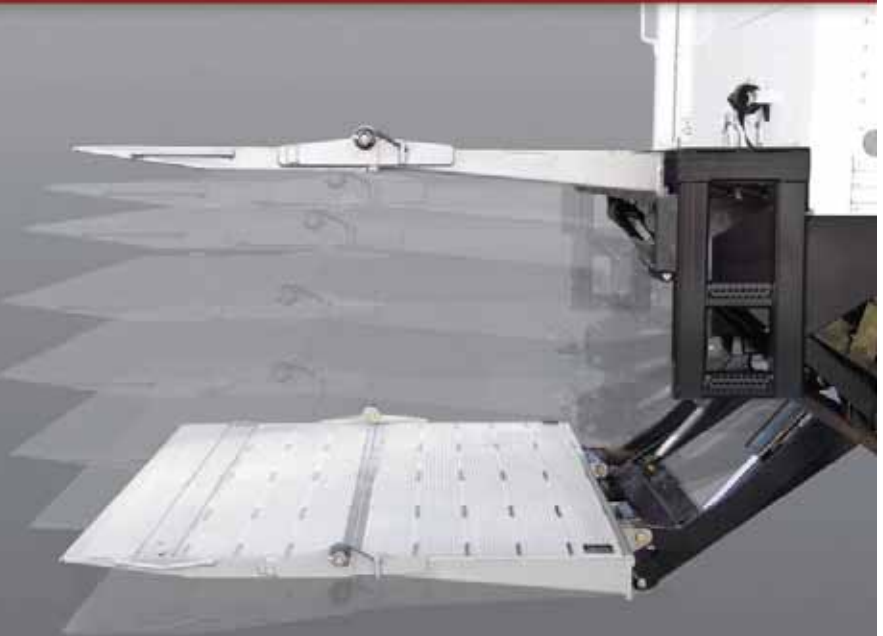
MTU-GLR-25

MTU-GLR-3

MTU-GLR-4

MTU-GLR-5

MTU-GLR-6



QUALITY, RELIABILITY, CUSTOMER SERVICE

MADE IN THE USA 



# Contents

<b>1. General Information Section</b>	<b>5</b>
1.1 Introduction	5
1.2 Important Operation Notes	5
1.3 Installation Recommendations	6
1.4 Warranty	6
1.5 Decals	7
1.6 Ordering Parts	7
<b>2. Safety Section</b>	<b>8</b>
2.1 Safety Is Your Responsibility	8
2.2 Safety Signal Words	8
2.3 Safety Rules	8
2.4 Safety Icons Nomenclature	10
2.4.1 Personal Protection/Important Information	10
2.4.2 Prohibited Actions	10
2.4.3 Hazard Avoidance	10
<b>3. Nomenclature</b>	<b>11</b>
3.1 Platform Nomenclature	11
3.2 Power Unit Nomenclature	11
<b>4. Installation Section</b>	<b>12</b>
4.1 Lifting Device	12
4.2 Prior To Installation	13
4.3 Installation Tools Required	14
4.4 Installation Procedure	14
4.5 Battery Connection	23
4.5.1 Direct Battery Connection (not recommended)	23
4.5.2 Cut-Off Solenoid Connection	24
4.5.3 Cut-Off Switch Connection	25
4.6 Cable Lug Installation	25
4.7 Trailer Sub Frame Installation	26
4.8 Rear Under Ride Bumper Installation	27
4.9 Walk Ramp Installation	27
4.10 Final Inspection Checklist	28
<b>5. Decals</b>	<b>29</b>
5.1 Decal Locations	29
5.2 Decal Illustrations	30
<b>6. Operation Section</b>	<b>32</b>
6.1 General Operating Safety	32
6.2 Operating Instructions	33
6.2.1 Opening and Closing the Liftgate	33
<b>7. Maintenance Section</b>	<b>34</b>
7.1 Preventive Maintenance	34
7.2 Monthly Inspection	34
7.2.1 Semi-Annual Inspection	35
7.3 Maintenance and Troubleshooting Procedures	35
7.3.1 Checking Battery Cable	35
7.3.2 Replacing the Fuse	35
7.3.3 Checking Motor Start Solenoid and Power Cut-off Solenoid	36
7.3.4 Checking Lowering Valve Cartridge and Solenoid	36
7.3.5 Checking Cylinder Piston Seals (drifting - caused by seal leakage)	37
7.3.6 Checking System Pressure	37
7.3.7 Flow Control Valve	37

**8. Troubleshooting** ..... **38**  
8.1 Troubleshooting Guide..... 38

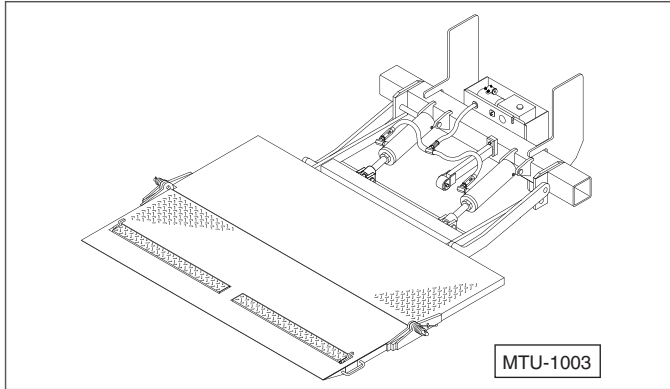
**9. Inspection Record** ..... **41**

**10. Warranty Section** ..... **42**  
10.1 Limited Warranty ..... 42  
10.2 Warranty Policy and Procedure..... 42

# 1. General Information Section

## 1.1 Introduction

Congratulations on selecting an Anthony Liftgates Magnum Tuckunder liftgate. Anthony liftgates are among the finest liftgates available on the market today. To ensure your liftgate will perform to your expectations we have provided this manual, designed to provide you with the necessary instructions and safety precautions to install and operate the Tuckunder models of Anthony liftgates.



Typical Anthony Liftgates' Magnum Tuckunder Liftgate.

This Installation, Operation, and Maintenance manual will provide you easy to follow instructions, along with photos and illustrations. We have included a series of Tips, which will facilitate the installation process. All Safety precautions have been clearly identified and detailed throughout each section.

In addition, a complete explanation of the safety words and rules are included in the Safety section of this manual. Please turn to this section and read thoroughly before proceeding to the next page.

At the bottom of each page is the Anthony Liftgates Inc. Product Support phone number. If you are unclear about any of the instructions, please phone Anthony Liftgates' Product Support.

All Anthony Magnum Tuckunder model liftgates are factory assembled, tested, and energized to assure the highest quality performance standards. MTU-GLR liftgates ship completely assembled on skids for fast, clean, and easy installation.

## 1.2 Important Operation Notes

A restraining system may be needed to retain certain types of cargo on the liftgate platform, depending upon the specific application, such as a cart stop, retention ramp, fencing, straps, etc. This should be considered by the purchaser for their particular application so as to prevent the possibility of severe personal injury or death due to cargo shifting and/or falling from the liftgate platform.

All users of this liftgate must be 21 years of age and have read and understood all operation instruction booklets and decals before use.

### **WARNING**



**CRUSH HAZARD**

**Unsecured loads, when moved on the liftgate, can shift or fall.**

**To prevent personal injury or death, make sure loads are securely fastened to liftgate or restrained by cart stops, retention ramp, or fencing.**



### 1.3 Installation Recommendations

Even though the following goes without saying, we feel compelled to state:

Anthony liftgates should only be installed by those with sufficient skills to understand the installation and operation of the liftgate, along with the equipment required to install the liftgate. The installation instructions in this manual are intended to give typical installation instructions to the installer for both the operation and what we believe to be the most desirable sequence of installation. These instructions cannot replace a qualified person, or clear thinking and the basic knowledge that must be possessed by the installer.

We urge the installer (or anyone else) to call us if they have any questions. We have qualified personnel at our Pontiac, Illinois, plant to answer any questions that you may have. A detailed discussion on the phone can be far more satisfactory than a detailed written explanation.

It has been our experience that a knowledgeable journeyman following these installation instructions and observing the operation of the liftgate will have sufficient comprehension of the liftgate to enable this person to troubleshoot and correct all normal problems that may be encountered. However, again we urge you to call us at the Pontiac, Illinois, plant if you find the liftgate is not operating properly or if you do not know how to make the necessary repair.

If you have any doubts or questions, call us at:

**Anthony Liftgates, Inc.**  
1037 West Howard Street  
Pontiac, Illinois 61764  
(815) 842-3383  
www.anthonyliftgates.com

## WARNING



The success or failure of this liftgate to properly and efficiently operate will depend on a thorough and proper installation. Failure to read, understand, and follow the installation instructions and safety recommendations in this manual before installing the liftgate can result in serious injury or death. Also read and understand the operating instructions in the Operation Section.

When installed, this liftgate must not alter nor prevent vehicle compliance to any existing state or federal standards, and especially FMVSS 105. Each chassis manufacturer's recommendations should be consulted for compliance. Also make sure the weight of the liftgate and its load will not overbalance the truck, possibly raising the front wheels off the ground.

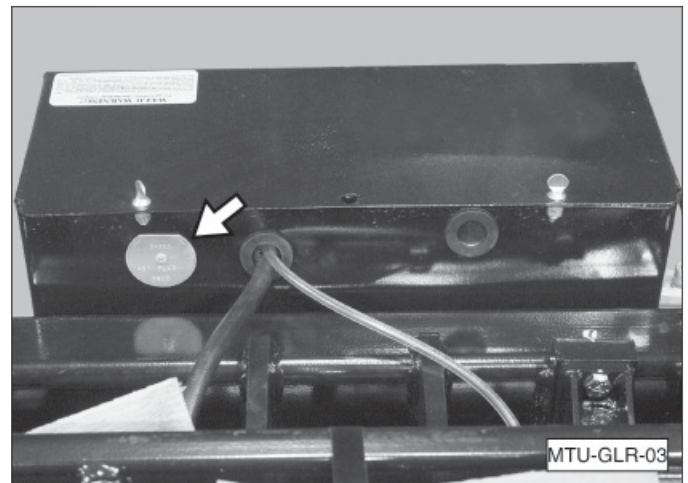
### 1.4 Warranty

## NOTICE

*The liftgate must be installed according to the installation instructions or the warranty will be void. Unauthorized modifications of the liftgate may cause it to improperly operate or cause other unforeseen problems or dangers. If any deviation is deemed necessary, written permission must first be obtained from Anthony Liftgates.*

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

Before calling for warranty or other product information, have the serial number, model number, and lift capacity of your liftgate, which is stamped into the identification plate on the back side of the power unit box, facing the rear of the truck. This information will help us verify your warranty information and access a list of all part numbers of components that were used on your specific liftgate. Record this information in the space provided for easy reference when contacting Anthony Liftgates with questions.



Identification plate.

Record the serial number, model number, date of installation, and load capacity for easy reference when contacting Anthony Liftgates with questions.

Serial Number Information	
Serial No.	
Model No.	
Lift Capacity	
Date of Installation	

## 1.5 Decals

### **SAFETY INSTRUCTIONS**



**To prevent personal injury from not being aware of safety recommendations, make sure all decals are attached to the liftgate and/or truck and are legible at all times!**

Safety decals provide a vital role in helping to reduce injuries and/or possibly even death. To ensure the greatest level of safety, all decals must be in place and legible at all times. Remember, it is the users responsibility to maintain these decals. For a complete part number list and illustration of the decals used on the Magnum Tuckunder liftgate, refer to "5. Decals" on page 29.

For replacement decals contact:  
**Anthony Liftgates, Inc.**  
1037 West Howard Street  
Pontiac, Illinois 61764  
(815) 842-3383  
[www.anthonyliftgates.com](http://www.anthonyliftgates.com)

## 1.6 Ordering Parts

We manufacturer a quality liftgate that requires very little maintenance or repair. However, should a part break, become damaged, or worn, our knowledgeable staff can make sure you receive the part(s) to put your liftgate back into operation.

**Note:** The liftgate's packet of information does not contain a "parts manual." The most current and up-to-date parts manuals can be obtained by accessing our website anytime.

Our website address is **[www.anthonyliftgates.com](http://www.anthonyliftgates.com)**  
Click on "Manual" and choose a model.

If you do not have access to the internet, or just prefer a printed copy of a manual, we can send one to you. Call or write our office listed below.

For questions or to order parts, contact:  
**Anthony Liftgates, Inc.**  
1037 West Howard Street  
Pontiac, Illinois 61764  
(815) 842-3383  
Web: [www.anthonyliftgates.com](http://www.anthonyliftgates.com)  
Email: [Sales@anthonyliftgates.com](mailto:Sales@anthonyliftgates.com)

## 2. Safety Section

### 2.1 Safety Is Your Responsibility



It is the responsibility of the installer/operator to understand and perform proper operating procedures. Be aware of the inherent dangers in the use of this product and the tools used to install it. Read and understand all Danger, Warnings, Cautions, and Important Notices in this manual and on the liftgate or truck.

### 2.2 Safety Signal Words



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

This manual contains DANGERS, SAFETY INSTRUCTIONS, CAUTIONS, IMPORTANT NOTICES, and NOTES which must be followed to prevent the possibility of improper service, damage to the equipment, personal injury, or death. The following key words call the readers' attention to potential hazards.

Hazards are identified by the "Safety Alert Symbol" and followed by a signal word such as "DANGER", "WARNING", or "CAUTION".

## **DANGER**

**Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations.**

## **WARNING**

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

## **CAUTION**

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

## **NOTICE**

*Indicates that equipment or property damage can result if instructions are not followed.*

## **SAFETY INSTRUCTIONS**

**Safety instructions (or equivalent) signs indicate specific safety-related instructions or procedures.**

**Note:** Contains additional information important to a procedure.

### 2.3 Safety Rules

Most accidents involving the operation maintenance, or repair of products made by Anthony Liftgates occur because the owner/installer/operator fails to observe basic safety rules or operating instructions. Accidents can often be avoided by being alert and recognizing potentially hazardous situations. Any individuals installing, operating, repairing, or maintaining products manufactured by Anthony Liftgates should have the necessary training, skills, and tools required to perform these functions properly and safely. The safety information in this manual serves as a basic guide in an attempt to prevent injury or death.

Anthony Liftgates cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this manual and on the product itself are, therefore, not all-inclusive. If tools, procedures, work methods, or operating techniques that are not specifically mentioned by Anthony Liftgates are used, you must satisfy yourself that they are safe for you and for others. Make sure the liftgate or truck it is mounted onto will not be damaged or made unsafe by any operation, lubrication, maintenance, or repair procedures that you choose.

DO NOT proceed, if any doubt arises about the correct or safe method of performing anything found in this or other Anthony Liftgates' manuals. Seek out expert assistance from a qualified person before continuing.



## **⚠️ WARNING**



To avoid personal injury or death, carefully read and understand all instructions pertaining to the Anthony Liftgates product. Do not attempt to install, operate, or maintain our product without fully understanding all of our instructions and safety recommendations. Do not operate or work on a truck or liftgate unless you read and understand the instructions and warnings in the Installation and Operation manual. If any doubt or question arises about the correct or safe method of performing anything found in this or other Anthony Liftgates' manuals, contact your Anthony Liftgates' dealer or call the Inside Sales and Service representatives at our main headquarters. Proper care is your responsibility.



To prevent serious bodily injury, keep sparks, lighted matches, and open flames away from the top of the battery, because battery gas can explode. Always follow all the manufacturers' safety recommendations when working around the truck's battery.



Take precautions to avoid sparks coming into contact with the truck's fuel tank, brake lines, wooden floor, or other flammable components. Sparks can cause an explosion of combustible materials, resulting in serious injury or death.



Never secure the power cable to anything which allows it to contact sharp edges, other wiring, the fuel tank, fuel lines, brake lines, air lines, exhaust system, or any other object that could cause the power cable to wear or be damaged. A cut battery cable can cause sparks resulting in loss of vehicle control, serious injury, or even death.



Always weld or use a cutting torch in a well ventilated area and, if in an enclosed area, vent the fumes to the outside. Breathing the smoke and fumes can cause serious injury.



Tack welds must be strong enough to hold the weight of the individual components being held in place. Insufficient tack welds may not hold the parts in place, resulting in possible bodily harm.



Always follow all State and Federal health and safety laws and/or local regulations when using a welder or cutting torch. Also, follow all manufacturer's safety guidelines. If other people are present during the installation of the liftgate, make sure they remain clear of the cutting area and are shielded from view of any welding. This will prevent serious eye injury from the bright light.



To avoid eye injury, always wear eye protection with the proper lens to protect your eyes.

## **⚠️ WARNING**



Failure to prevent the truck from moving during the installation of the liftgate could result in a serious crushing injury.



Do not work under the liftgate while it is suspended from the lifting equipment. Failure of the lifting equipment could cause serious crushing injuries. Do not remove the lifting equipment until the liftgate is completely welded onto the truck frame.

## **⚠️ CAUTION**



To prevent personal injury, clean up any spilled fluids immediately. To avoid tripping, do not leave tools or components laying around in the work area.

Anthony Liftgates recommends not riding the liftgate, however, if the delivery operation requires it, make sure your footing is stable before raising or lowering platform. Always stand away from the edge. When on the ground, always stand clear of liftgate when it is operating.



Even though the Anthony Liftgate is easy to install, the installation should be done with at least two people.



Always use/set the truck's parking brake before operating the liftgate. Failure to follow this recommendation can result in injury.



Do not place hands or feet in pinch points.



Do not place your feet under the platform.



Most accidents involving the operation, maintenance, or repair of products made by Anthony Liftgates occur because the installer/owner/operator failed to observe basic safety rules or operating instructions.

To prevent injury, the liftgate and its related components should only be installed by a qualified installer. They should have knowledge and skill in using lifting equipment and a cutting torch.



To prevent possible injuries due to improper operation, make sure all decals are attached to the liftgate and/or truck and are legible at all times.













Many liftgate models provide steps for drivers as a convenience feature. When steps are present, customer-supplied grab handles and other ingress/egress items should be installed.



## 2.4 Safety Icons Nomenclature

This manual and the equipment has numerous safety icons. These safety icons provide important operating instructions which alert you to potential personal injury hazards.
















### 2.4.1 Personal Protection/Important Information

-  Read the manual
-  Use proper tools
-  Inspect equipment
-  Use two people when lifting heavy objects
-  Damaged safety signs
-  Eye protection
-  Face shield
-  Breathing protection
-  Set parking brake
-  Use grab handles

### 2.4.2 Prohibited Actions

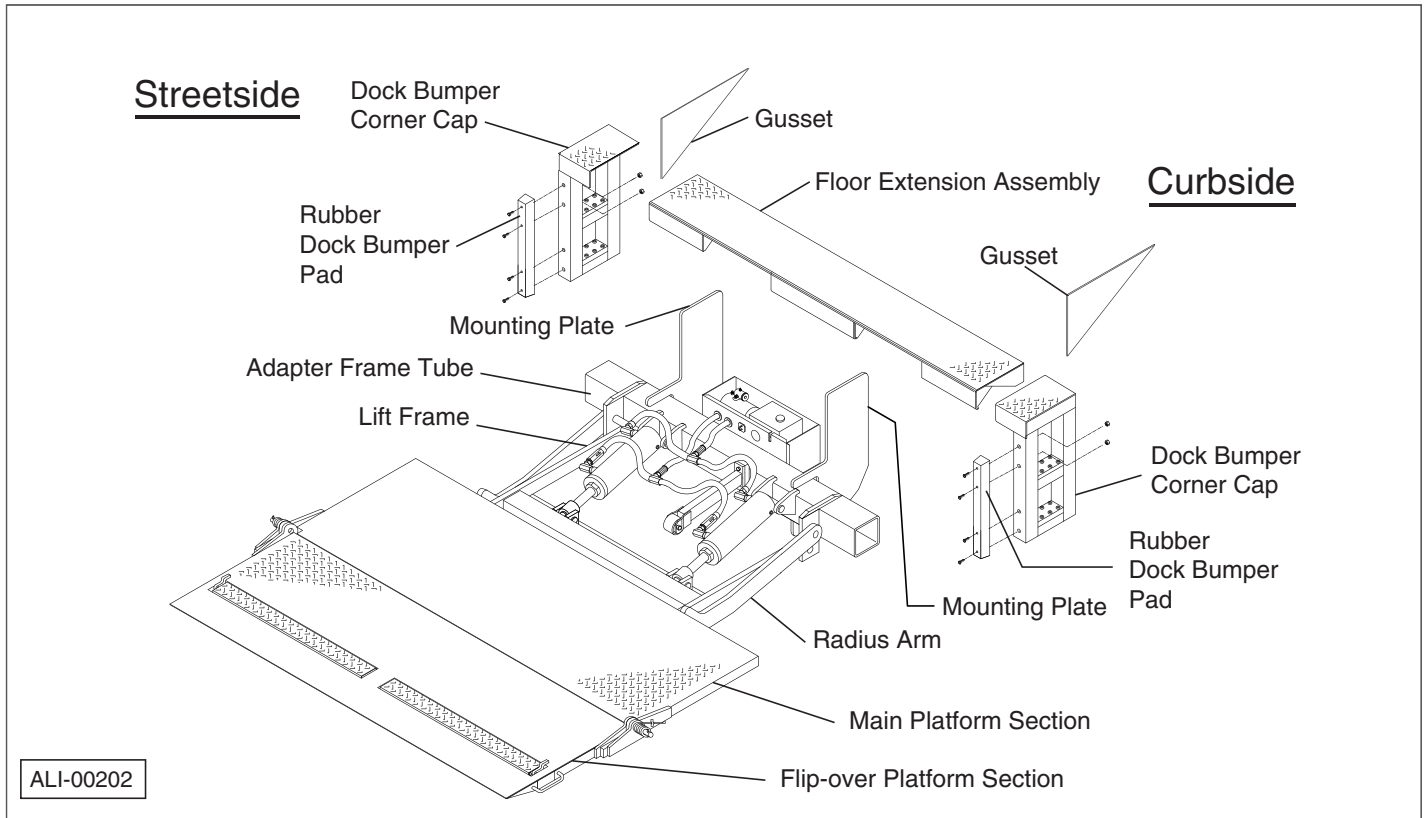
-  No smoking
-  No open flame

### 2.4.3 Hazard Avoidance

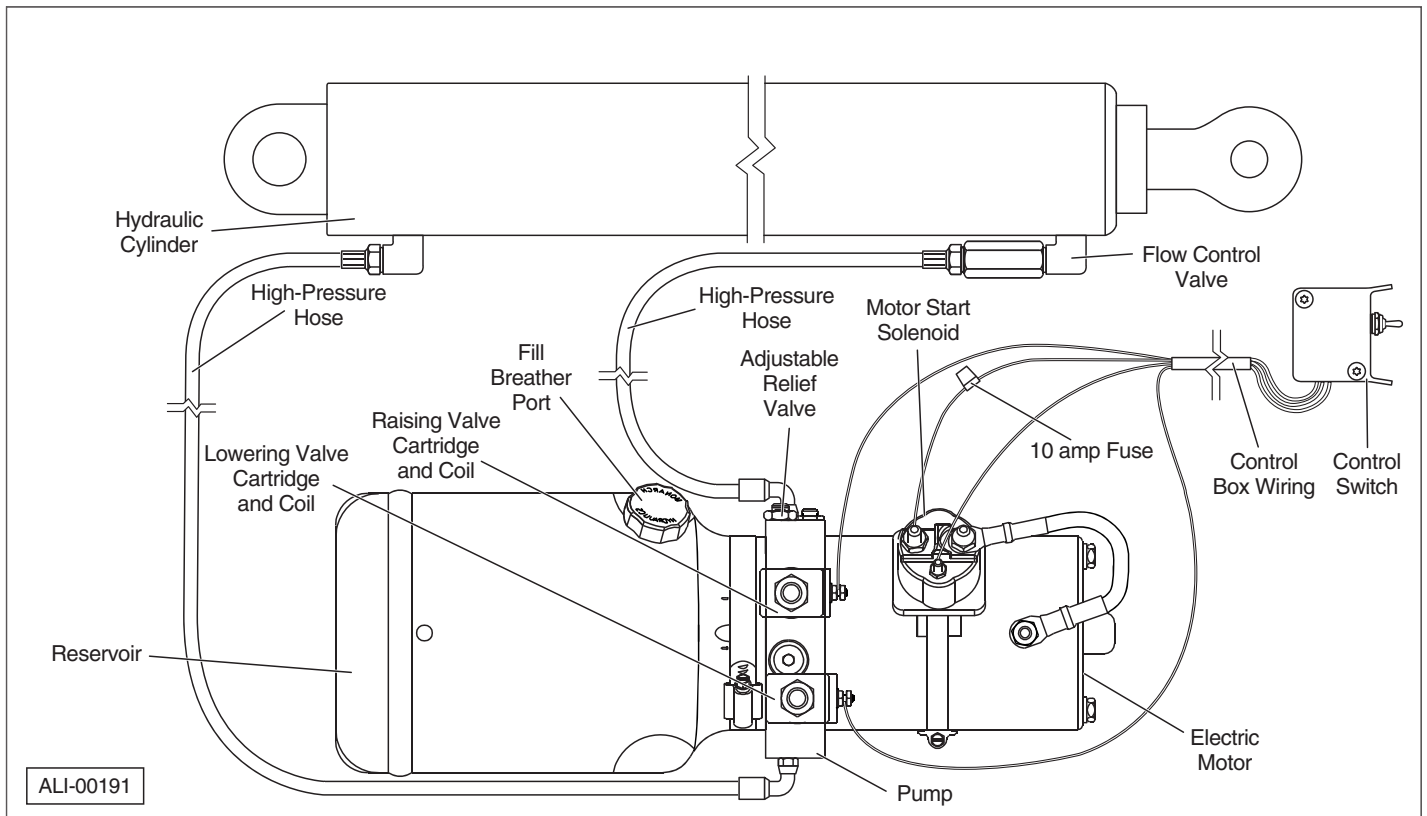
-  Slipping injury
-  Tripping injury
-  Safety alert symbol
-  Explosion hazard
-  Pinch point hazard
-  Defective or broken part
-  Dangerous fumes
-  Adequate ventilation
-  Crush hazard
-  Crush hazard (rolling)
-  Crush hazard
-  Crush hazard
-  Crush hazard (chock wheels)
-  Fall hazard
-  Crush hazard (foot)

### 3. Nomenclature

#### 3.1 Platform Nomenclature



#### 3.2 Power Unit Nomenclature



## 4. Installation Section

### 4.1 Lifting Device

When installing several liftgates a year, the following lifting device can save time and make the installation process more efficient.



Installer-built Lifting Device.

This lifting device must be made specifically for the type and design of the particular forklift used in the installation. Remember, the materials used to construct the lifting device must be capable of lifting and supporting the liftgate being installed. The lifting device must also contain a retaining method to hold it onto the forklift.



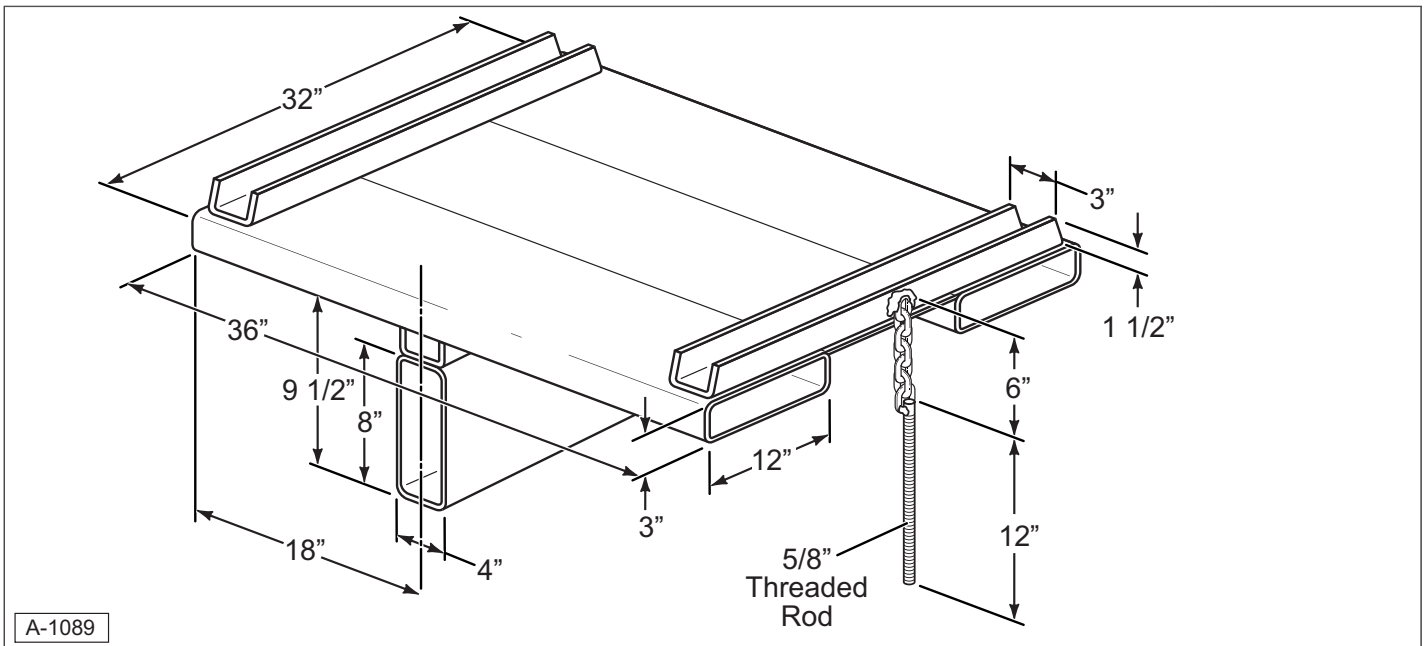
- Make the lifting device from tubular steel at least 1/4 inch thick or thicker.
- Make the lifting device wide enough to support the liftgate and to accommodate the width of the forks on the forklift.
- Make the lifting bolt from 5/8 inch threaded rod. Use a washer and nut to fasten the lifting device to the liftgate.
- The lifting bolt should be long enough to go through the lifting hole in the liftgate and allow the lifting device to remain level.

## **⚠ WARNING**



### CRUSH HAZARD

The construction of the lifting device must satisfy the user to be safe and properly constructed. Failure to use the proper materials or material thickness can result in serious injury or death.



## 4.2 Prior To Installation

1. Place the truck on a flat, level surface. Block the wheels to prevent the truck from moving while installing a liftgate.

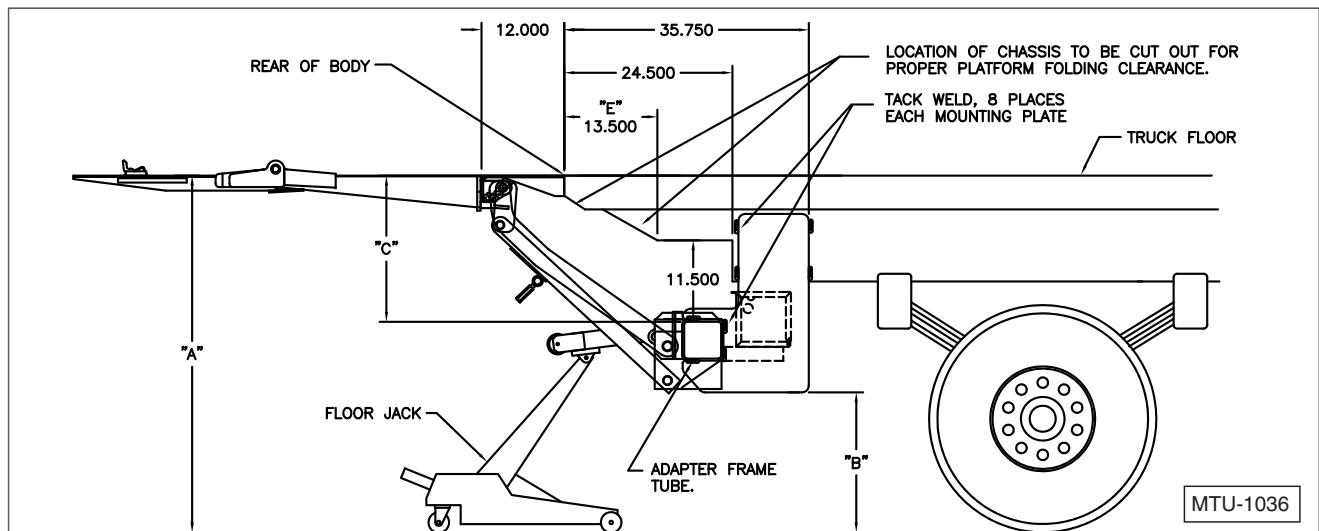
### **WARNING**



**ROLLOVER HAZARD**  
Failure to prevent the truck from moving during the installation of the liftgate could result in serious personal injury or crushing of the installer(s).

Dimensions						
<b>A</b> Bed Height	46"	48"	50"	52"	54"	57"
<b>B</b> Max. Plate Ground Clearance	14- 3/8"	16- 3/8"	18- 3/8"	20- 3/8"	22- 3/8"	25- 3/8"
<b>C</b> Truck Floor to Top of Adapter Frame Tube	19-1/2"					
<b>D</b> Truck Rear Sill Height / Thickness	4-1/2"					
<b>E</b> Chassis and Body Cutout	13-1/2"					

2. The dimensions on the following chart are to only be used as a guide for what can be expected for clearances needed. They DO NOT have to be exact, unless you are near the extreme high or low-end of the bed height mounting range. The most important dimension to aim for is the "B" dimension. The others can vary and should not alter the functionality of the liftgate.



3. Remove the banding securing the liftgate and the loose parts to the pallet. Remove the curbside and streetside mounting plates, dock bumpers, and floor extensions that are stored on the liftgate. Unfold the liftgate platform.



4. Check the OEM vehicle manual for any special requirements prior to welding on the truck. If required, disconnect the battery cable before welding on the truck.

**Note:** If the truck is equipped with a walk ramp, or if a walk ramp is being installed, refer to "4.9 Walk Ramp Installation" on page 27 before beginning liftgate installation.



### 4.3 Installation Tools Required

The following is a list of suggested tools that should be used to install the Magnum Tuckunder liftgate.

- Overhead Crane or Forklift
- Mig or Stick Welder
- Heavy-Duty C-Clamps
- Tape Measure
- Level (small, magnetic)
- Cutting Torch (in some applications)

### 4.4 Installation Procedure

#### SAFETY INSTRUCTIONS



Even though the Anthony liftgate is easy to install, the installation should be done with at least two people.

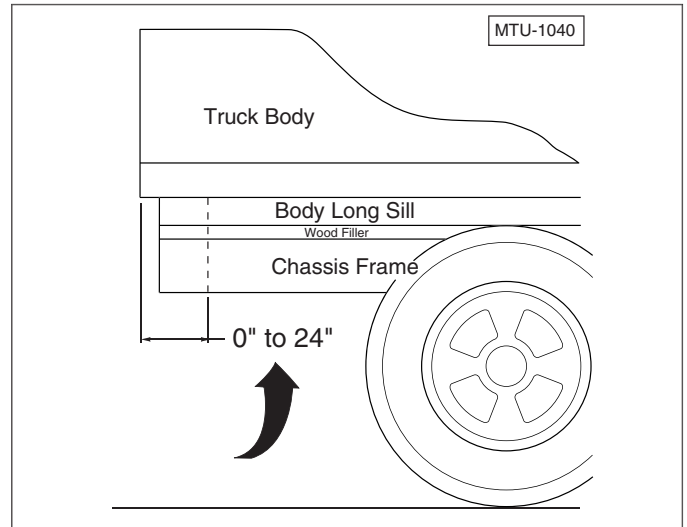
1. Remove the cover from the power unit box. Remove all the parts and installation instructions from inside the box. Some units are shipped from the factory with a shipping plug in the power unit reservoir. If necessary, replace the shipping plug with a vent plug.



**Note:** The power unit box should contain plastic tie wraps for battery cable, two stop brackets, one latch plate, one 200 Amp circuit breaker, and one package containing decals, shims, and manuals.

2. Cut off or extend the chassis frame, wood filler, and body long sill, as shown. The frame must extend between 0 and 24 inches from the rear of the truck body.

**Note:** Before modifying the truck chassis, make sure any extensions meet the specifications of the truck manufacturer and that altering the frame will not void the truck warranty.

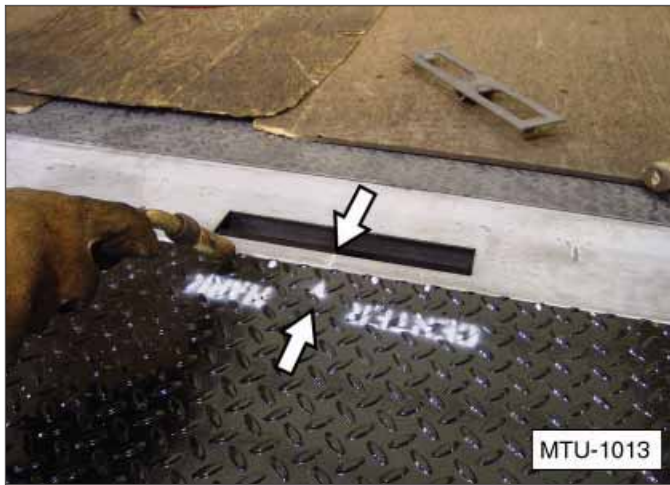


3. Make sure the "rear sill" of the trailer body is flat and straight all the way across the rear face of the body. Remove any obstructions before installation; such as, trailer hitches and brackets, dock bumpers, projections, etc.
4. Measure and determine the center of the truck's rear sill. Mark this point.





- Align the "Center Mark" of the floor extension assembly with the center mark of the truck body.



- Level the floor extension assembly with the floor of the truck body and tack weld it in three locations (left, center, and right). Make sure the tack welds will hold the weight of the floor extension, approximately 200 pounds.

**Note:** Two men can be used in the welding process to reduce the time.

## CAUTION



CRUSH HAZARD

**The tack welds must be strong enough to hold the weight of the liftgate. Insufficient welds may not hold the liftgate in place, resulting in possible bodily harm.**

- Use a long straight edge to make sure the floor extension is level and parallel to the floor of the truck body.

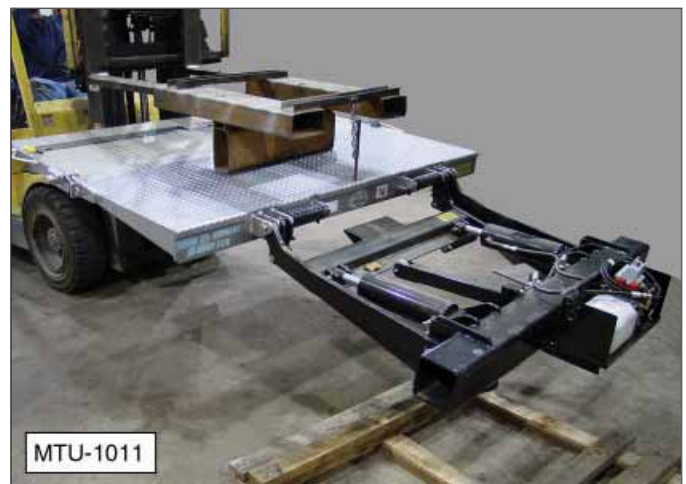


- Tack weld the gussets under the floor extension to the truck body. If the rear sill is uneven, cut or shim the gussets or the sill, to maintain a level and parallel attitude between the floor extension and the floor of the truck body.



- Finish welding the floor extension to the truck body. Weld between the white dots painted on the floor extension (2 inch long, 1/4 inch fillet welds, on 6 inch centers).
- Weld the gussets under the floor extension to the truck body using 1/4 inch fillet welds on one side of the gusset.
- Attach a lifting device to the liftgate.

**Note:** While a lifting jig (as shown) is not required for liftgate installation, it can reduce installation time when installing more than one liftgate. Otherwise, any lifting device, such as a forklift or overhead crane, capable of lifting and holding the liftgate in position and level can be used with a bolt and chain.



- Raise the platform and position the liftgate bolster (front edge of platform) tight against the floor extension.
- Center the platform from side-to-side with the truck body.

14. Clamp the liftgate to the floor extension.

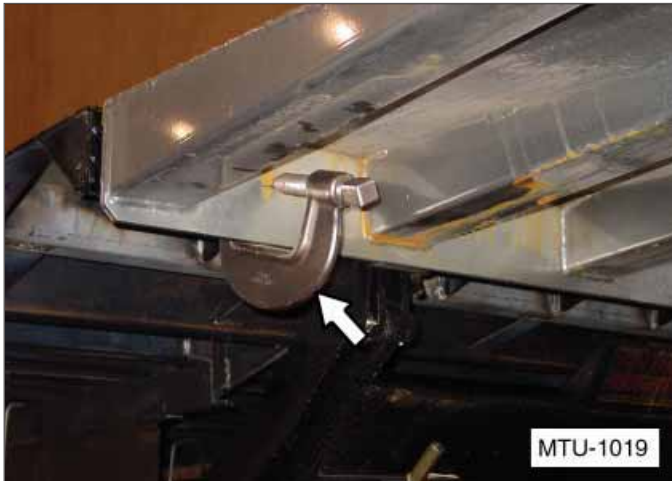
## WARNING



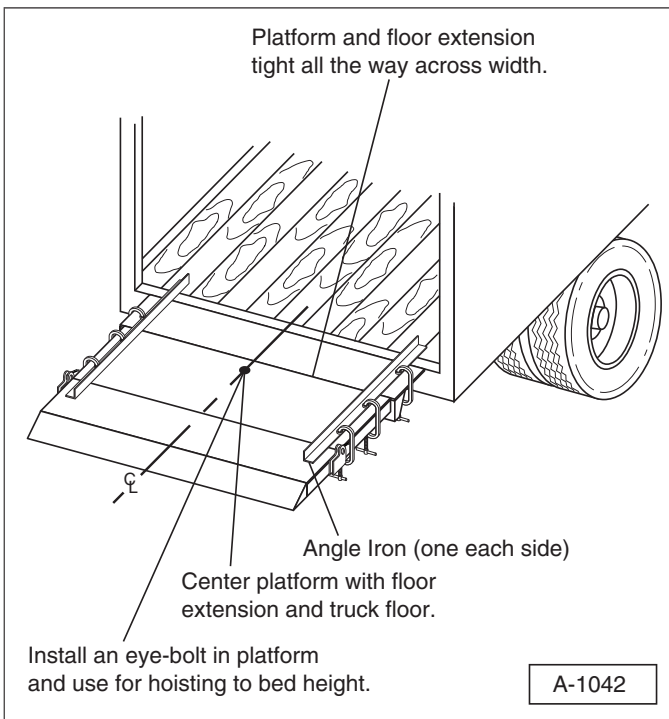
### CRUSH HAZARD

**Do not remove the hoist, fork lift, or other lifting device used to hold the liftgate in place during the installation procedure. Never work under the liftgate or floor extension while installing or painting the unit. Work so that you would not be in the way if the clamps, weld, etc. should fail.**

15. Use two large C-clamps, as shown, to hold the liftgate in place approximately 1/8 inch above the floor extension.



- a. An alternate method of holding the liftgate is using two, 3 to 4 foot long pieces of heavy-duty angle iron. The size of the angle iron should be 3 x 3 x 1/4 inch minimum.



16. Route and connect the battery cable. Position the fuse assembly near the battery so the short cable end will reach the positive terminal of the battery.



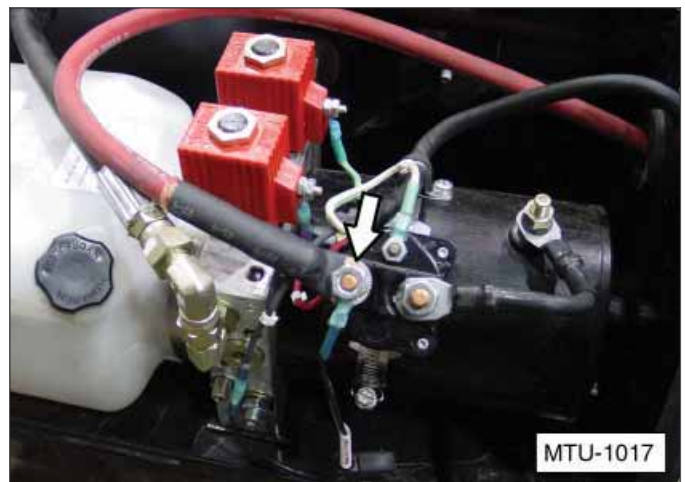
17. Complete the wiring installation using one of the following three methods:

- **Direct Battery Connection** (not recommended). Refer to "4.5.1 Direct Battery Connection (not recommended)" on page 23.
- **Cut-Off Solenoid Connection.** Refer to "4.5.2 Cut-Off Solenoid Connection" on page 24.
- **Cut-Off Switch Connection.** Refer to "4.5.3 Cut-Off Switch Connection" on page 25.

Only one method is required to complete the wiring installation.

**Note:** The liftgate is a power down model and can use the liftgate cylinder to position the adapter frame tube.

18. Make sure the power cable to the pump motor is connected.





19. Connect a ground cable from somewhere on the pump (steel) to the frame of the truck. This ensures a good ground to run the pump motor.



21. Cylinder spacers are provided so the lift cylinders are extended 1/2 inch. Position the adapter frame with the spacers in place. The use of a floor jack can help position the adapter frame, as shown.



20. Use the liftgate control switch to help position the adapter tube. The functions of the control switch will be opposite from the way they are printed on the control switch, because the platform is clamped to the truck body.



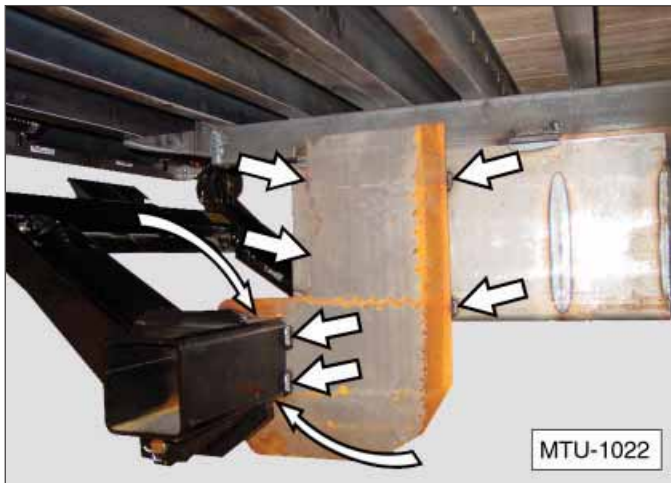
**Note:** The 1/2 inch cylinder extension may require the mounting plates to be slightly tilted, forward or backward. The “tilt” does not affect the function of the liftgate. The 1/2 inch cylinder extension allows the platform to continue to raise to the floor extension level, even after the liftgate ages.

22. Slide the mounting plate over the adapter frame tube. The mounting plate goes toward the front of the vehicle, as shown in the next step. The top of the mounting plates can be trimmed, if necessary, as long as a 9 inch minimum contact area is maintained.

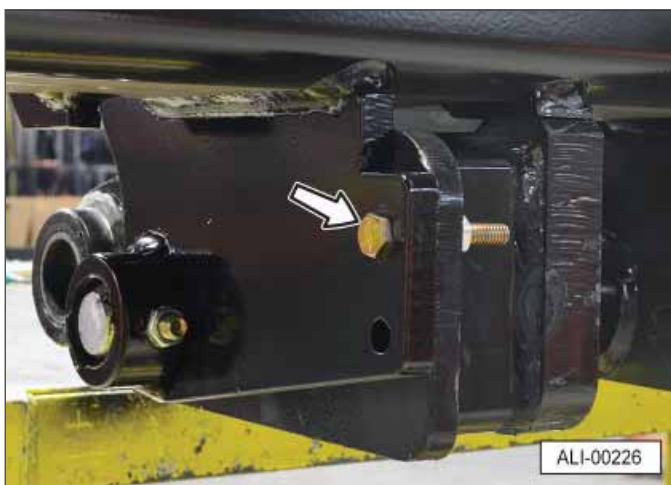
## NOTICE

*The height of the truck frame must be tall enough to achieve 9 inches (minimum) of vertical contact between the liftgate mounting plates and the truck frame.*

23. When the mounting plates are approximately straight up and down, tack weld the plates to the frame as shown. The tack welds should be a minimum of 3/8 inch fillet x 1 inch long.



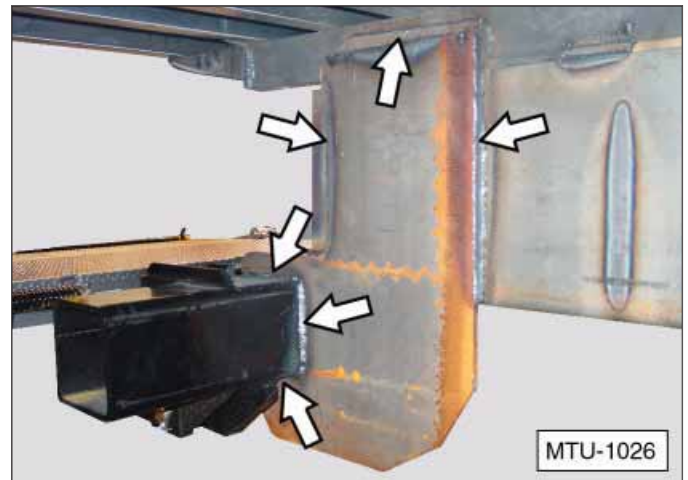
24. Remove the C-clamps, angle iron (if this method was used), lifting device, and jack. Lower the platform near ground level and remove the two installation bolts from the rocker frame weldment, one on each side. Remove the spacers from the lift cylinders.



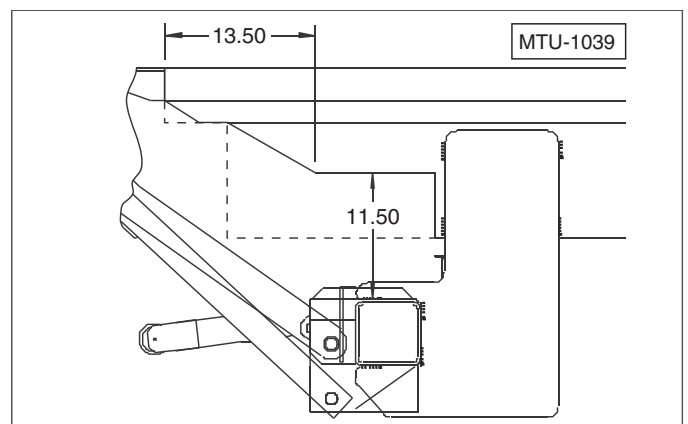
25. The liftgate platform must travel correctly through its full cycle. (A full cycle is when you perform all of these functions, Up, Down, Open, Close, Tilt Down, & Tilt Up.) If it does not travel through the full cycle, replace the clamps and hoisting device. Break the tack welds on the mounting plates, and reposition the adapter tube assembly. Recheck the operation of the liftgate and repeat this step until the liftgate operates correctly.

**Note:** This liftgate platform rides level until it meets the ground, then as you continue to power the liftgate Down, the platform tilts so the tapered edge meets the ground. The platform again levels itself before lifting during the Up cycle.

26. Weld the liftgate while platform is lowered to the ground, not in raised position. Shield the lift cylinder's chrome piston rods, and hoses, to prevent damage by weld spatter. Use 3/8 inch fillet welds around the entire mounting plate.

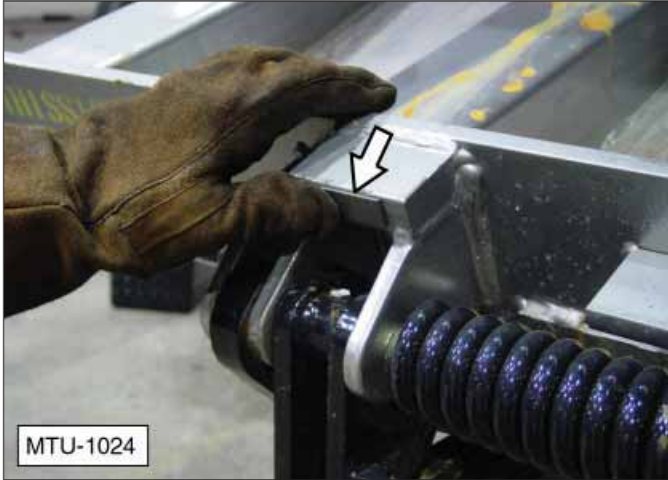


27. Cut the chassis frame and body long sill as shown. After making the cut out, make sure the liftgate operates properly without hitting the chassis frame or body long sill.





28. If necessary, adjustment can be made to reposition the height of the platform in relation to the truck floor. When fully raised, the rear edge of the platform should stop "level" to 3/4 inch higher than the front edge of the platform. This extra height allows for deflection when the platform is fully loaded. Shims (approx. size 1/16" thick x 3/4" x 2-1/4" long) can be installed between the cam plates and the platform as shown (weld shims to cam plates).



MTU-1024



MTU-1025

29. Raise the liftgate to the stored position and slide the latch pin across the radius arm.

30. Position and tack weld the locking plate on the streetside radius arm as shown. There should be a 1/16 inch gap between the radius on the locking plate and the latch pin.

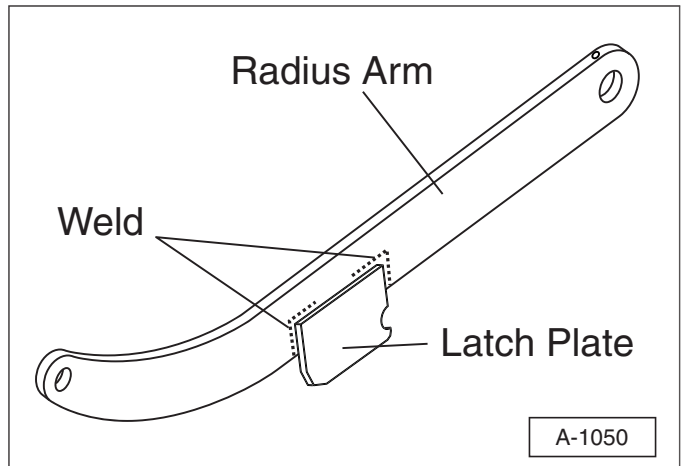


MTU-1030

## NOTICE

*The latch pin is only for in-transit locking of the liftgate. DO NOT slide the latch pin into the latched position when the platform is unfolded and/or raised. If this occurs, serious damage to the liftgate can occur when the liftgate is lowered.*

31. Lower the liftgate to the ground, and weld the locking plate in two places with 3/8 inch fillet welds, as shown in the following illustrations.



A-1050

32. Mount the control switch to truck's rear curbside post so it can be reached while standing at the curbside of the truck away and from the liftgate platform.

**Note:** Mount the switch box before attaching the dock bumpers. This allows routing of the switch box wire through the slot in the dock bumper.



**Note:** To install a control switch on “flat bed” applications where there is no corner post, here are a few alternative locations:

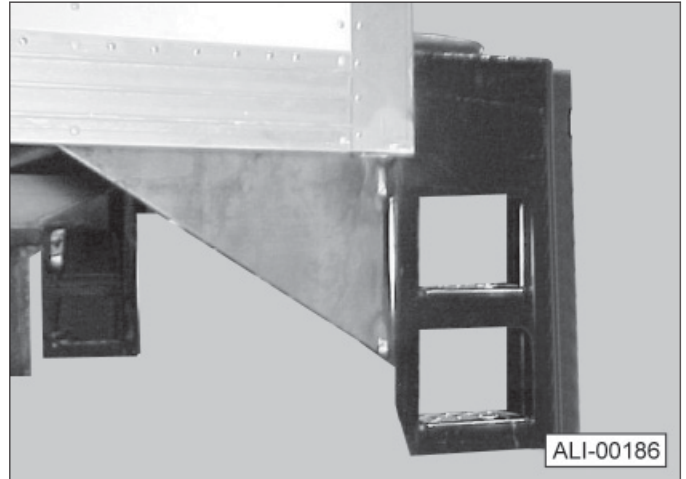
- a. Under the bed on the “dock bumper gusset” (this requires the gusset to be mounted further in from the side of the body, for protection).
  - b. Install a removable, hand-held control switch (this is a hand-held control that will allow the operator to move around while controlling the liftgate, this can also be removed and stored away from the liftgate).
  - c. Use a flush-mount control switch and recess it into the side of the body frame.
33. If necessary, route the control cable through the curbside dock bumper.
34. Position the top of each dock bumper flush with the floor extension and straight up and down, parallel with the sides of the truck body. Tack weld into position.



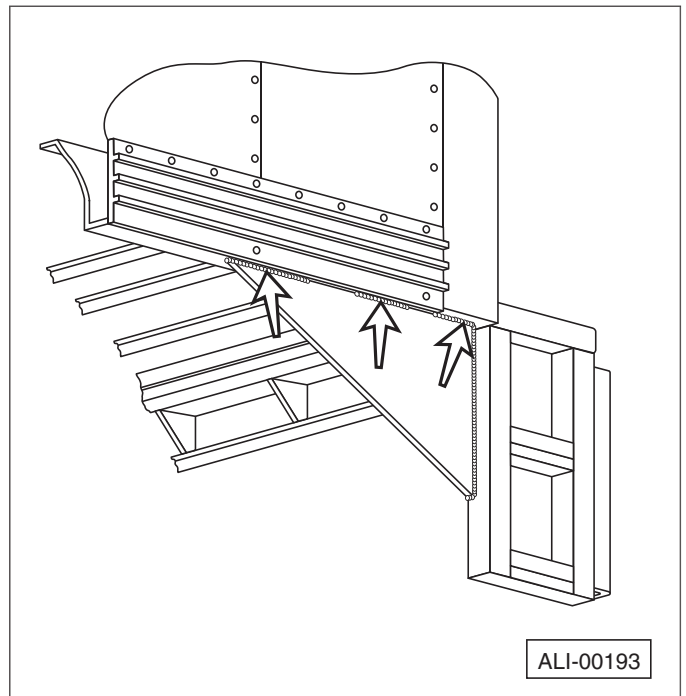
35. Weld dock bumper corners continuously to floor extension and truck body.

**Note:** Place a wet shop towel or rag around the switch box control cable when welding the curbside dock bumper to prevent burning or melting the control cable.

36. Weld the side gussets to the dock bumper corners and the steel side member of the truck body or the cross-members of the truck body. The step shown is a typical step and may look different from the actual step sent for installation.

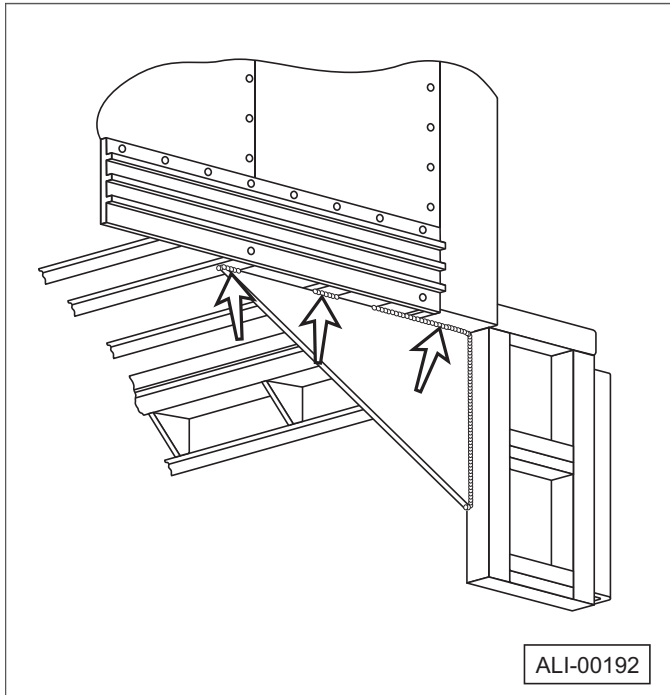


- a. The recommended method of attaching side gussets, is welding the gusset to the steel side member of the truck body.





- b. The alternate method of attaching the side gussets is to weld the gusset to the steel cross-members of truck body. Make sure the gussets straddle at least three cross members. Weld both sides of each gusset.



42. Make sure liftgate operates properly, then finish weld all four brackets in place on three sides of each bracket.

## WARNING



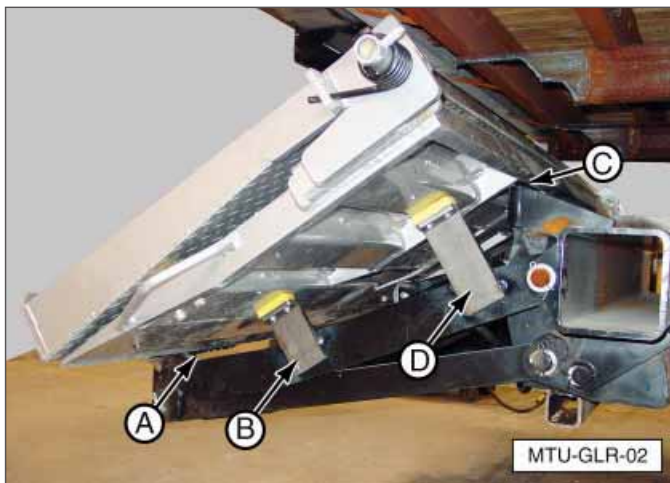
### CRUSH HAZARD

For safety purposes, weld the liftgate while the platform is on the floor, not in a raised position. Keep the lifting device attached to the platform for safety. Lower the lifting device just ahead of the platform as it lowers.

## NOTICE

Cover the cylinder rods when welding to prevent weld spatter from damaging them.

37. Fold the platform in the position shown in the photo.



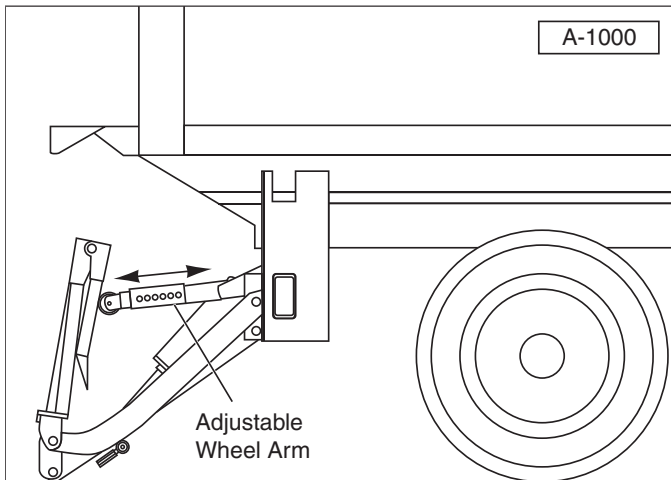
38. Raise the ramp edge of the platform (A) about 1/2 inch from touching the radius arm.
39. Tack weld a platform support bracket (B) to the outside of each radius arm. You may need to cut the bracket so the welded end does not extend beyond the radius arm.
40. Now adjust the platform UP or DOWN until the back edge of the platform (C) is about 1/2 inch from touching the frame structure.
41. Tack weld a rear support bracket (D) to the outside of each radius arm.

43. This liftgate may be supplied with a “wheel arm” that is adjustable. The wheel arm helps unfold the platform as it is lowered from the stored position. In some installations, it may be preferable to adjust the wheel arm to another position so the platform unfolds with the least effort.

The position of the wheel on the arm should be adjusted so that the platform, when lowered, is in the most upright and vertical position, **without falling open**. The platform will be easier to unfold in this position.

**Note:** When determining a different position, consider that sometimes the vehicle may be parked on an uneven surface. In this event, the platform may unfold farther than usual. This could cause the platform to unfold unexpectedly all the way to the ground. When adjusting the wheel, choose a position that will not allow this to happen.

- a. Remove two bolts and nuts on the wheel arm channel.
- b. Lengthen or shorten the wheel and channel assembly on the tube, as needed.
- c. Align the two holes in the wheel and channel assembly with the holes in the tube nearest the position desired.
- d. Re-install the two bolts and nuts. Tighten the nuts to secure the wheel and channel assembly.



44. Install lights or other electrical components, if needed.
45. Install grab bars or hand rails, as may be necessary. Also, install license plate holder, as necessary.

## NOTICE

*Some models of Anthony liftgates may be provided with step devices to assist in the ingress or egress of the rear of the truck or trailer. These devices are NOT to be considered all inclusive of any requirements or guidelines regarding proper ingress or egress of trucks and trailers. These items are provided only as an added feature for installers to help simplify the meeting of possible ingress or egress requirements. As there are many variables in truck sizes and shapes, it is the installers responsibility to determine proper ingress and egress requirements, such as steps, hand grips, grab bars, etc. for each vehicle receiving an Anthony liftgate.*

46. Make a final operation check. Remember that this liftgate is a power down model, therefore the pump will run while the platform is lowering.
  - a. Make sure the platform will travel through a complete cycle, up and down, smoothly and freely, with the platform completely open.
  - b. Make sure the platform will fold and tuck under the truck in a stored position, and latch. The liftgate must fold smoothly and freely.
  - c. Make sure hydraulic hose fittings are tight and hydraulic hose does not rub against the liftgate or other parts while cycling up, down, open, and closed. Adjust as necessary by loosening fittings and adjusting the position of the hose(s). Retighten fittings.
47. Attach all decals, as shown in “5.1 Decal Locations” on page 29.
48. Complete “1. Before liftgate installation, prepare the walk ramp by removing any components that protrude below the bottom surface of the walk ramp cage.” on page 27.

## 4.5 Battery Connection

There are three methods connect the battery. Only one of the following methods is required to complete the wiring installation.

- Direct Battery Connection (not recommended)
- Cut-Off Solenoid Connection
- Cut-Off Switch Connection

### **WARNING**



#### PERSONAL INJURY HAZARD

**Never secure the power cable to anything which allows it to contact sharp edges, other wiring, the fuel tank, fuel lines, brake lines, air lines, exhaust system, or any other object that could cause the power cable to wear or be damaged. A cut battery cable can cause sparks resulting in loss of vehicle control, serious injury, or even death.**

**Anthony Liftgates strongly recommends the installation of a power cut-off solenoid or cab cut-off switch. Not cutting off power to the liftgate when unattended can result in serious injury or death to unauthorized users or others near the liftgate.**

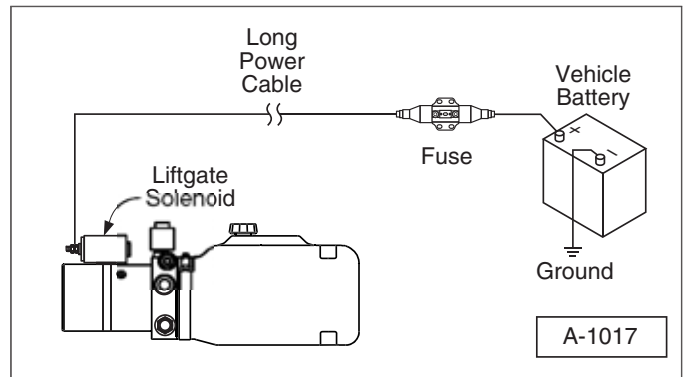
**The liftgate must be properly grounded. A ground wire, the same gauge or larger as the liftgate power cable, must be connected from the negative post of the battery or batteries to the truck's frame. Some trucks may have a properly sized ground wire from the battery to the frame and would require no change. If, however, there is no ground wire or it is undersize, add the correctly sized ground wire.**

**If this warning is not followed, damage to the truck chassis may occur. Improper grounding can cause the electrical current to travel through brake lines, steel braided power steering hoses, or other chassis wiring causing failure to these components! Failure of these components could result in loss of vehicle control.**

### 4.5.1 Direct Battery Connection (not recommended)

### **NOTICE**

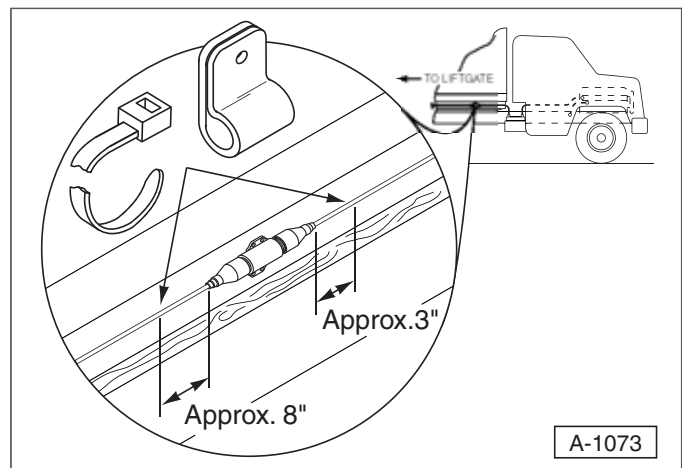
*Using the standard wiring hookup is not recommended because it does not cut off power to the liftgate when the truck is left unattended. A cut-off switch or cut-off solenoid will disable the use of the liftgate when the truck is not in use.*



Direct battery connection (not recommended).

- Position the fuse assembly near the battery so the short cable end will reach the positive terminal.
- Attach the fuse holder to the truck body long sill using either method shown in this step.

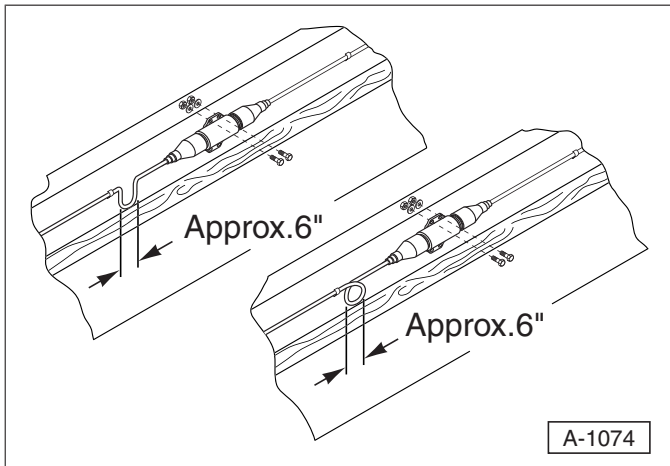
#### Method A



Fasten the power cable to the truck body. Locate one fastener (battery side) within 3 inches of the end of the fuse assembly. Locate the other fastener (power unit side) within 8 inches of the fuse assembly.

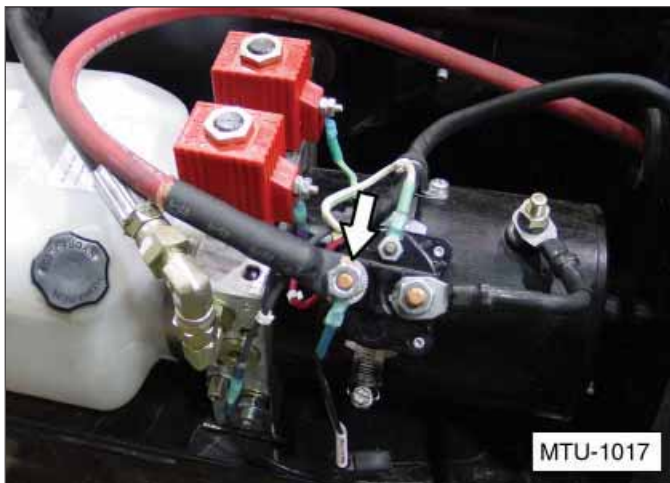
Using this method does not require the fuse assembly to be attached to the long sill.

## Method B



Attach the fuse holder to the truck body long sill using #10 or #12 self-tapping screws or bolts, washers, and self-locking nuts. Fasten the power cable, as needed, to properly hold it in place. Using this method requires an extra length of cable on one side of the fuse assembly to permit removal of the fuse.

- c. Run the long end of the power cable from the fuse to the motor solenoid. If the power cable is longer than required, cut it to the desired length and attach a cable lug according to instructions listed below.



Connect power cable to motor solenoid.

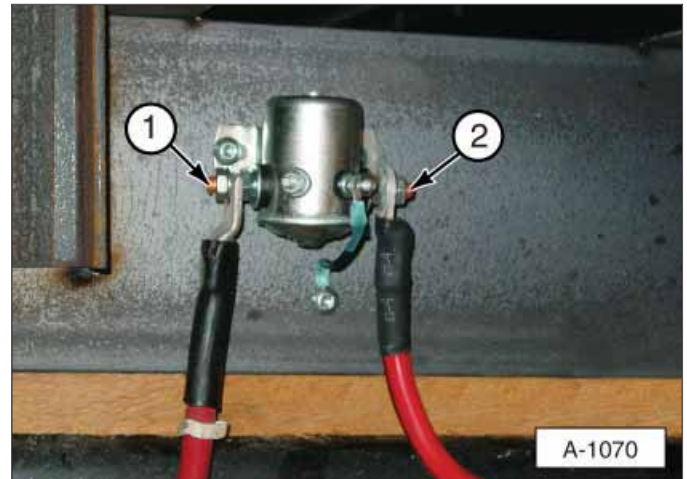
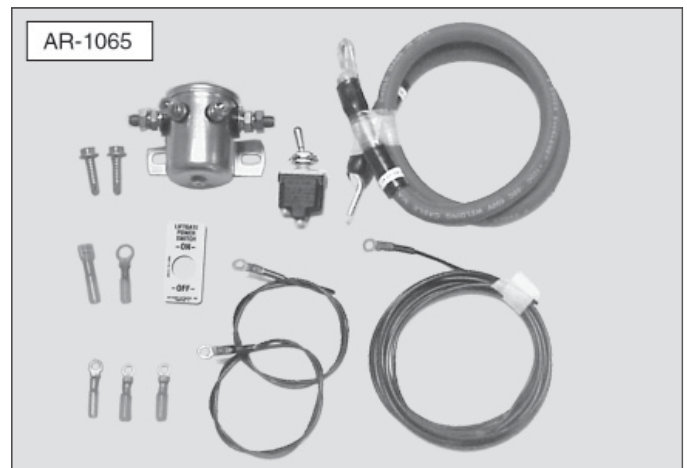
- d. Connect the power cable to the motor solenoid. Make sure the power cable is connected to the correct motor solenoid post (one not connected to the motor housing with a metal strap or wire cable).
- e. Connect the short end of the power cable to the positive post of the battery.
- f. The power unit should now be operational.
- g. Coat all terminal ends, studs, and nuts with a Teflon lubricant, grease, or other electrical connection sealant to prevent corrosion.

**Note:** Do not apply undercoating to power cable or fuse holder! The power cable should be clean near the fuse holder to ensure easy removal of the rubber boot seals if fuse needs to be replaced. For fuse replacement, see the instructions in the Maintenance section of this manual.

## 4.5.2 Cut-Off Solenoid Connection

The installation of a cut-off solenoid is a recommended option, by Anthony Liftgates, for all 12 Volt electric liftgates. Installing a cut-off solenoid will help to prevent accidental or unauthorized use of the liftgate.

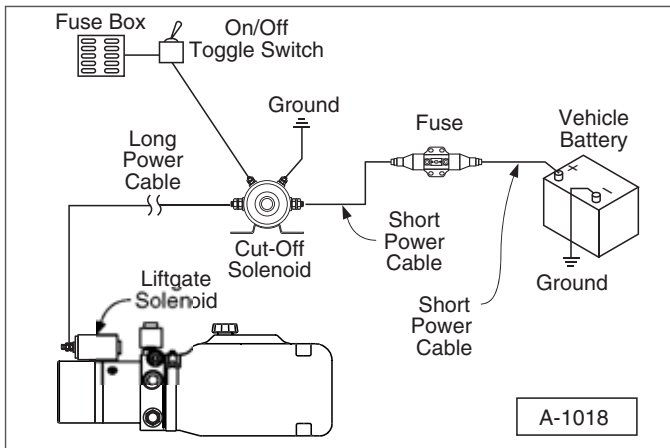
The optional A-133036 Cut-Off Solenoid Kit can be used in any truck, but is essential for tilt cab applications because it requires only a light weight wire running to the cab—not a large cable as required by the cut-off switch.



Cut-off solenoid installed between battery and fuse assembly. (1) Short cable, part of solenoid kit. (2) Short end of power cable leading to fuse.

Follow the installation directions on the Installation Instruction sheet that comes with the kit.





Wiring diagram with cut-off solenoid.

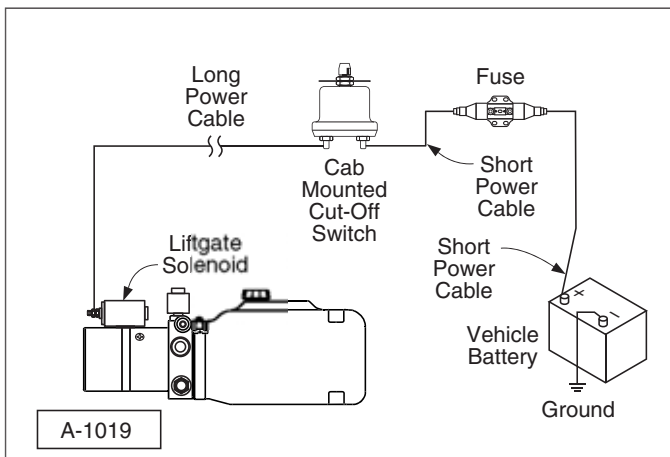
### 4.5.3 Cut-Off Switch Connection

The installation of a cut-off switch is also a recommended option, by Anthony Liftgates, for all 12 Volt electric liftgates. Installing a cut-off switch will help to prevent accidental or unauthorized use of the liftgate.

Follow the installation directions on the Installation Instruction sheet that comes with the kit.



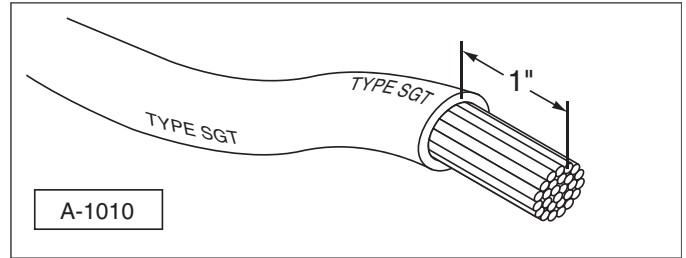
Cut-off switch mounted in cab of truck.



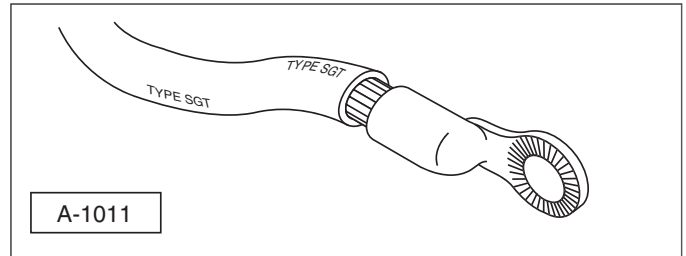
Wiring diagram with cab cut-off switch.

## 4.6 Cable Lug Installation

1. Strip insulation one inch back from the end of the cable to expose the copper wire.



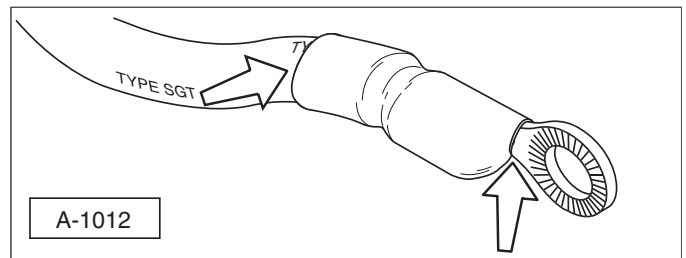
2. Position the cable lug on the exposed wire, as shown. Crimp the cable lug using a cable crimping tool (hydraulic or manual).



## NOTICE

*Proper wire connections are crucial to the life of the liftgate's power unit. DO NOT smash the cable lug with a hammer to secure it to the cable. Poor connections can result in low voltage, and any attempt to operate below the minimum required voltage could cause system failure.*

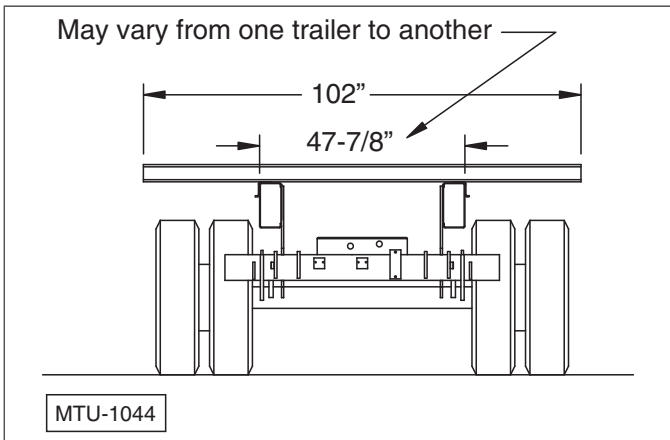
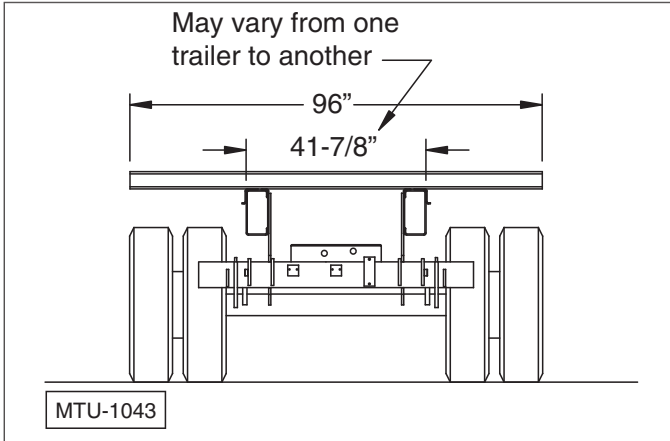
3. Use the supplied heat shrink tube to insulate the new connection. Heat the shrink tubing using a heat gun or propane torch until it shrinks around the cable insulation and cable lug, leaving only the mounting hole exposed. Do not overheat the heat shrink tubing.



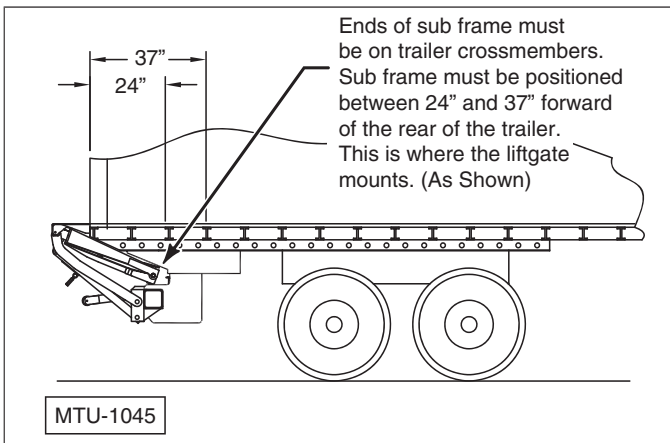
## 4.7 Trailer Sub Frame Installation

When mounting the liftgate to a trailer, it may be necessary to add a sub frame to provide attachment points. A sub frame kit is available from Anthony Liftgates for this purpose.

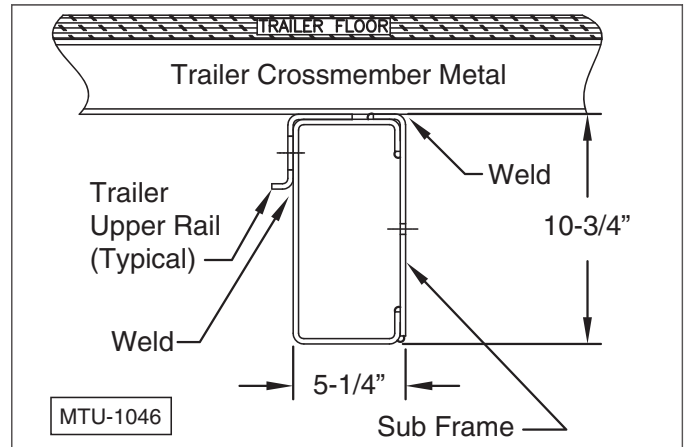
1. Locate the attachment points. Typical mounting widths for 96" and 102" wide trailers are shown below. In addition, the rear end of the sub frame must be 24 to 37 inches forward of the rear of the trailer body, and both ends of the sub frame must be on cross members.



2. The end of the sub frame must be 24 to 37 inches forward of the rear of the trailer body, and must be on a cross member.



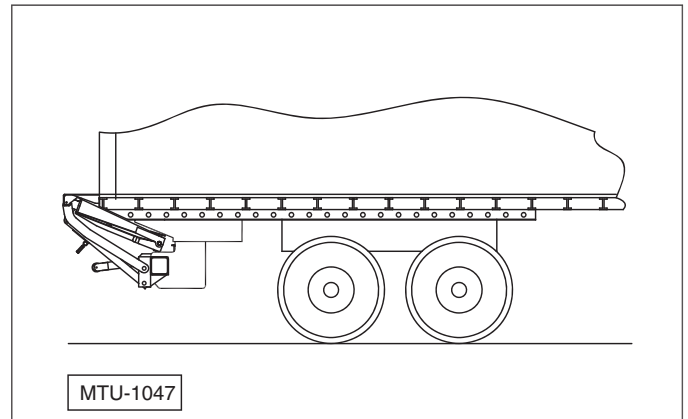
3. Weld the sub frame to the trailer cross members as shown. Welds must be 1/4" fillets minimum. Both ends of the sub frame must be on cross members.



4. Mount the liftgate to the sub frame following the procedure in the Installation Section.

**Note:** Standard A-140022 MTU mounting plates are used. The mounting plates may be positioned either inside or outside of the sub frame kit.

5. If necessary, notch the sub frame as shown for proper folding clearance.



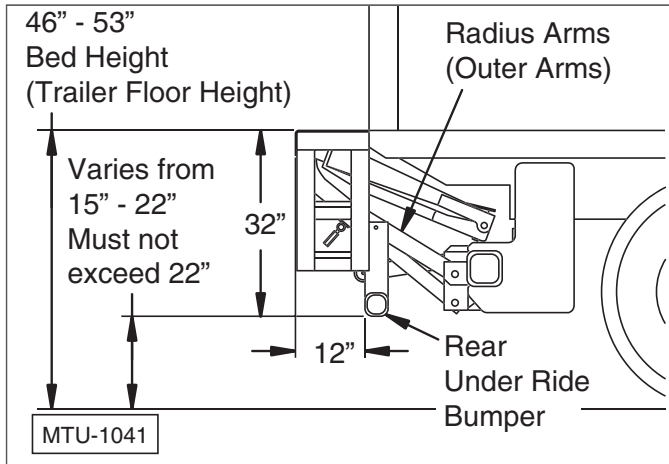


## 4.8 Rear Under Ride Bumper Installation

**Note:** This installation is for trailer floor heights of 46" to 53".

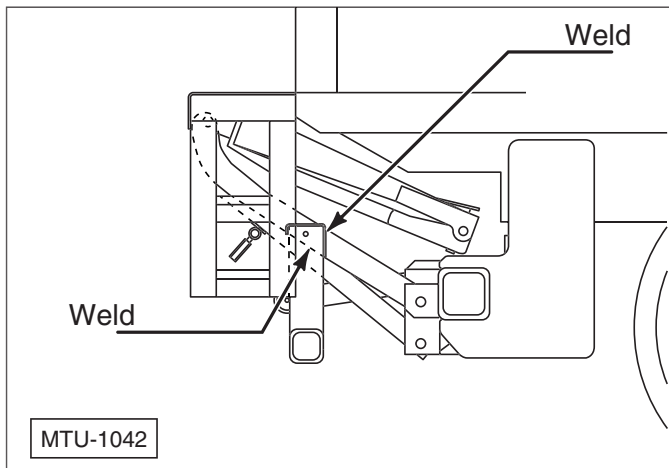
1. Position the tubing bumper weldment according to the dimensions shown in the diagram below.

The bumper must not be located higher than 22" above the ground, nor more than 12" forward of the rearmost part of the trailer or equipment, in this case a liftgate.



**Note:** When positioning this bumper the certification decal that is on the bumper must be located on the right hand side of the trailer, on the forward side.

2. The bumper attaches to the radius arms of the liftgate. Weld the connection all around. All welds must be 3/8" fillet welds.



## 4.9 Walk Ramp Installation

1. Before liftgate installation, prepare the walk ramp by removing any components that protrude below the bottom surface of the walk ramp cage.



**Note:** Walk ramp stops may need to be removed. If the walk ramp is equipped with cage wheels, and they are removed, fill the open cut-outs as shown below to ensure smooth walk ramp function.



2. Insert the walk ramp cage between the long sills of the truck body. Do not secure the cage at this point.
3. Install the liftgate floor extension on the rear sill of the truck body. Refer to "4.4 Installation Procedure" on page 14.
4. Attach the provided walk ramp support box to the underside of the liftgate floor extension.
5. Position the walk ramp cage against the back of the walk ramp support box. Secure the walk ramp cage to the truck body chassis. The walk ramp cage should line up with the front edge of the walk ramp support box, as shown.



**Important:** Make sure the walk ramp cage does not hang below the walk ramp support box.

6. Proceed with liftgate installation. Refer to "4.4 Installation Procedure" on page 14.
7. Slide the walk ramp into the walk ramp cage. The provided ramp stops will need to be removed to install the ramp, as shown below. Be sure to replace the stops after ramp installation.



**Note:** The walk ramp stops may be left out if other methods of ramp retention are used.

## ⚠ WARNING



### FALL HAZARD

**If the ramp becomes detached from the truck, serious injury or death can result from a fall. Make sure that a secure method of ramp retention is provided.**

8. Position the plastic walk ramp slide pads on the ramp support box according to walk ramp width.
9. Depending on the particular walk ramp design, additional ramp stop methods may be required to prevent the ramp from moving in transit. Stops may be required at the cab and/or rear end of the walk ramp.

### 4.10 Final Inspection Checklist

## ⚠ WARNING



### PERSONAL INJURY HAZARD

**Do not use the liftgate if any of the items in the Final Checklist are not checked and verified. If you have any questions, contact your nearest Anthony distributor, or the Anthony Liftgates main office.**

- Check all welds to make sure they are done properly.
- Make sure all pins are in place and held with proper retainers.
- Make sure the power unit reservoir is filled.



The fluid level should be 2 inches from the top of the reservoir when the liftgate platform is in the fully raised position.

Use Dexron VI, Dexron III, or Hyken Glacial Blue hydraulic fluid. For cold weather operation, we recommend Hyken Glacial Blue.

If an emergency situation occurs, any anti-wear hydraulic fluid can be used, but the system should be flushed and the fluid changed as soon as reasonably possible. Hydraulic fluids should not be mixed due to possible compatibility problems.

The recommended fluids are compatible and may be mixed, however, the cold weather operating characteristics of Hyken Glacial Blue will be adversely affected.

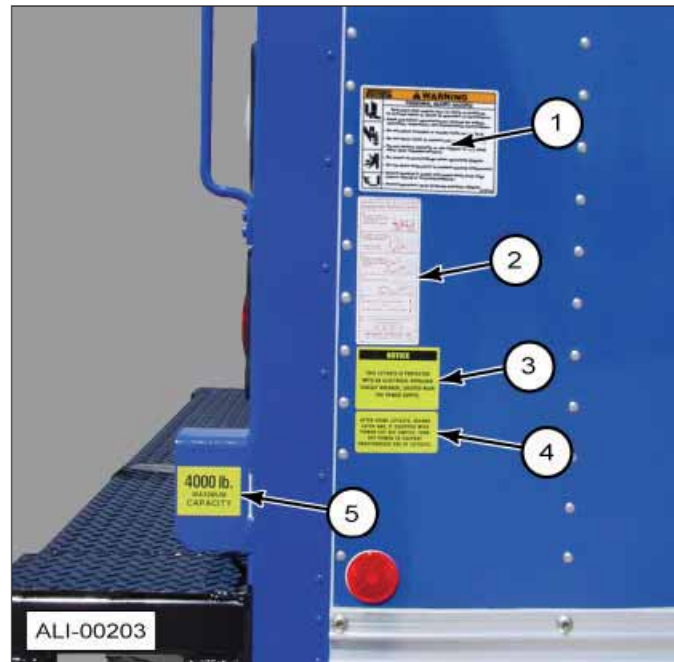
- Install cover on power unit box. Make sure it is secured with a padlock, lock pin, or wire (customer supplied).
- Operate the liftgate through its entire operational cycle (Up, Down, Open, Close) several times. Make sure the liftgate operates evenly, freely, and smoothly throughout the entire operating range and that there is no unusual noise or vibration while operating the liftgate.
- Make sure the platform is adjusted properly (0 to 3/4 inch rise) with the necessary shims.
- Make sure all decals are in place and legible.
- Make sure license plate bracket is properly installed, as required by law.
- Make sure lights are installed and operating properly, per FMVSS 108.
- Make sure reflectors are re-installed, if any.
- Make sure grab handles and other ingress/egress items are properly installed as may be necessary.
- Make sure the optional cab cut-off switch or power cut-off solenoid is installed.
- Put Installation, Operation, and Maintenance manual and Parts manual in the vehicle.

## 5. Decals

### 5.1 Decal Locations

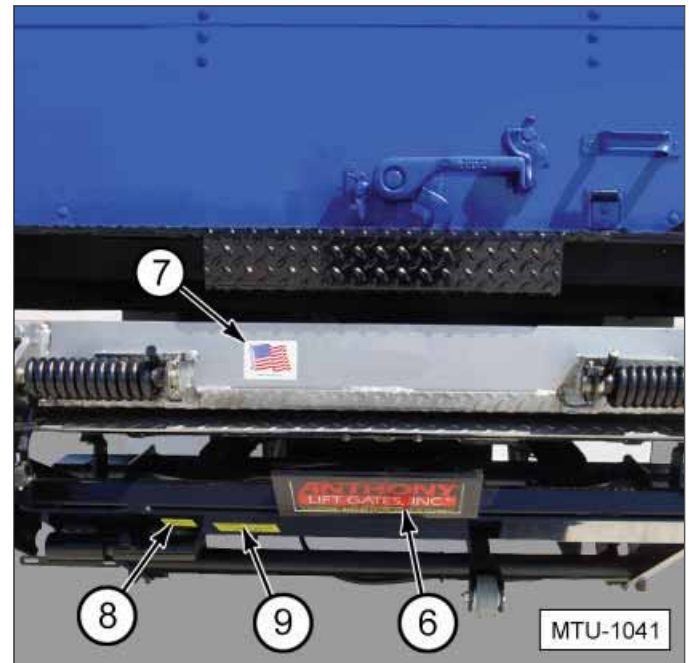
Safety decals provide a vital role in helping to reduce injuries and/or possibly even death. To ensure the greatest level of safety, all decals must be in place and legible at all times. Remember, it is the users responsibility to maintain these decals.

For replacement decals contact:  
**Anthony Liftgates, Inc.**  
**1037 West Howard Street**  
**Pontiac, Illinois 61764**  
**(815) 842-3383**  
**www.anthonyliftgates.com**



SAFETY INSTRUCTIONS

**To prevent personal injury from not being aware of safety recommendations, make sure all decals are attached to the liftgate and/or truck and are legible at all times!**








MTU Tuckunder Decals

Item	Part No.	Description	Qty.	Remarks
1	A-131115	Personal Injury Hazard	1	On side of truck body
2	A-131055	Operating Instructions	1	On side of truck body
3	A-150238	Notice - This liftgate is protected...	1	On side of truck body
4	A-131053	After Using Liftgate, Secure Latch...	1	On side of truck body
5	A-131061	2500 lb. Maximum Capacity	1	On side of truck body (on 2500 models only)
	A-131062	3000 lb. Maximum Capacity	1	On side of truck body (on 3000 models only)
	A-171433	4000 lb. Maximum Capacity	1	On side of truck body (on 4000 models only)
	A-131120	5000 lb. Maximum Capacity	1	On side of truck body (on 5000 models only)
	A-131119	6000 lb. Maximum Capacity	1	On side of truck body (on 6000 models only)
6	A-131034	Anthony Hydraulic Liftgate Label	1	On back of liftgate
7	A-150601	Flag — Made in the USA	1	Inside edge of platform
8	A-131017	Note: Disengage "latch"...	1	On bottom of main platform
9	ATU-143	Secure Latch While in Transit	1	Place by latch assembly
10	ATU-424	Reset Circuit Breaker (not shown)	1	On circuit breaker bracket
11	A-131128	Fitting Connection (not shown)	1	On liftgate cylinder
12	A-131129	Fitting Disconnection (not shown)	1	On liftgate cylinder



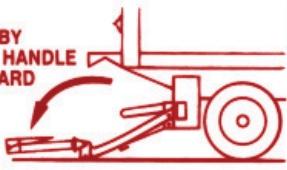
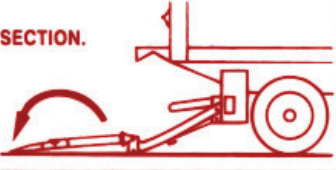




## 5.2 Decal Illustrations

1.

<b>ANTHONY LIFTGATES, INC.</b>	
 <b>WARNING</b>	
<b>PERSONAL INJURY HAZARD</b>	
	<p>Operation may require user to stand on platform. To prevent injury or death of operators or bystanders:</p> <ul style="list-style-type: none"> <li>• Read and follow operator/owner manual for safety, operation, inspection, and maintenance instructions.</li> </ul>
	<ul style="list-style-type: none"> <li>• Do not place unstable or unsafe loads on platform.</li> <li>• Do not allow loads to extend over edge of platform.</li> </ul>
	<ul style="list-style-type: none"> <li>• Do not exceed capacity or use liftgate for anything other than intended purpose.</li> <li>• Be aware of surroundings when operating liftgate.</li> <li>• Do not allow body parts to contact moving components.</li> </ul>
	<ul style="list-style-type: none"> <li>• Ensure footing is stable and stand away from edge before raising or lowering platform.</li> <li>• Owner/operators must properly maintain liftgate.</li> </ul>
<small>A-131115</small>	

2.

<b>ANTHONY ATU, AST, ASTL, MTU, &amp; LB LIFTGATE OPERATING INSTRUCTIONS</b>	
<b>1</b> UNLATCH LIFTGATE BY TWISTING, THEN SLIDING "LATCH PIN" IN DIRECTION OF ARROW.	
<b>2</b> LOWER PLATFORM BY PUSHING CONTROL SWITCH TO "DOWN" POSITION.  Platform will begin to open as it lowers.	
<b>3</b> UNFOLD PLATFORM BY PULLING PLATFORM HANDLE OUTWARD AND TOWARD GROUND.	
<b>4</b> UNFOLD "FLIP" SECTION.	
<b>5</b> FLIP SWITCH "UP" TO RAISE PLATFORM -OR- FLIP SWITCH "DOWN" TO LOWER PLATFORM	
<b>6</b> TO TUCK UNIT UNDER AFTER USE, LOWER PLATFORM TO GROUND AND REVERSE STEPS	
	
<b>ANTHONY LIFTGATES, INC.</b> 1037 WEST HOWARD ST. PONTIAC, IL 61764 ATU-423	

3.

<b>NOTICE</b>
<b>THIS LIFTGATE IS PROTECTED WITH AN ELECTRICAL OVERLOAD CIRCUIT BREAKER, LOCATED NEAR THE POWER SUPPLY.</b>

4.

<b>AFTER USING LIFTGATE, SECURE LATCH AND, IF EQUIPPED WITH POWER CUT OFF SWITCH, TURN OFF POWER TO PREVENT UNAUTHORIZED USE OF LIFTGATE.</b>
---

5.

<b>2500 lb. MAXIMUM CAPACITY</b>
--

<b>CAUTION</b>
----------------

Make sure the proper "maximum capacity" decal goes on the appropriate liftgate. For example, A-131062 "3000 lb. Maximum Capacity" decal goes on MTU-GLR 3000 models only. Do not put a higher rated decal (4000 pound) on a smaller liftgate; this could result in liftgate damage or possibly personal injury.

6.



7.



8.

**Note:**  
Disengage "latch" before attempting to use liftgate.  
Engage "latch" after using liftgate.  
A-131017

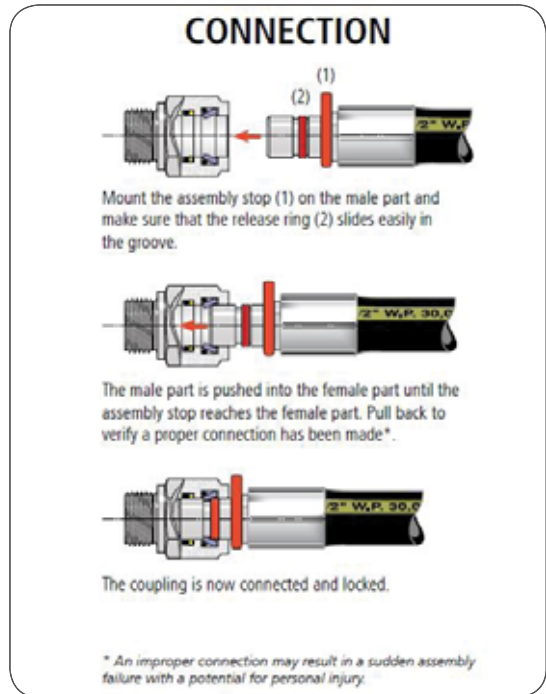
9.



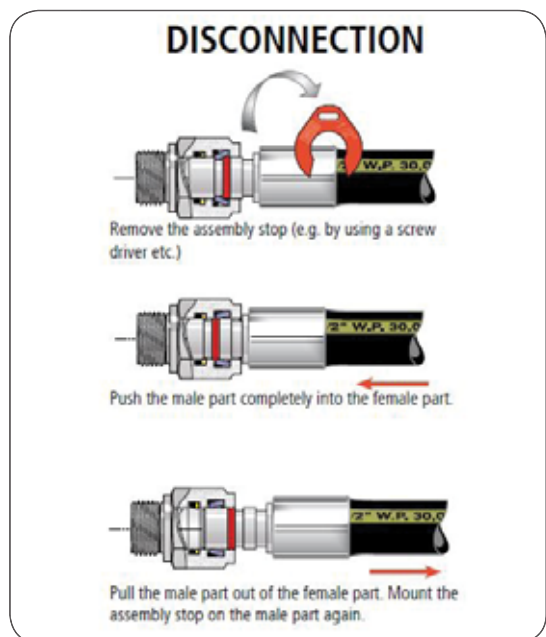
10.



11.



12.



## 6. Operation Section

---

### 6.1 General Operating Safety

The following is a list of Do's and Don'ts for the operation of the liftgate.

#### ✓ Do's

- ✓ Read and follow warning decals, operating decals, and owners manual.
- ✓ Keep all decals in place and legible and retain the owners manual in the vehicle or all Warranties are void.
- ✓ Make sure the vehicle is properly and securely braked before using the liftgate.
- ✓ Keep yourself clear of all moving parts.
- ✓ Make sure the area in which the platform will open and close is clear before opening, closing, raising, or lowering the platform.
- ✓ Make sure the platform area, including the area in which loads may fall from the platform, is clear before, during, and at all times while operating the liftgate.
- ✓ Always place the load as close to the center of the platform as possible. Also, position the load as close to the center of the truck's rear sill as possible.
- ✓ Only operate the liftgate with the push button/switch controls mounted on the truck body.
- ✓ Check the oil level in the hydraulic monthly. Change it if it is contaminated or dirty.
- ✓ Visually inspect your liftgate frequently and keep it properly adjusted.
- ✓ Repair any damage to the liftgate to prevent accidents.
- ✓ Lock the liftgate into the storage position with the latch pin when the liftgate is not in use.

#### ✗ Don'ts

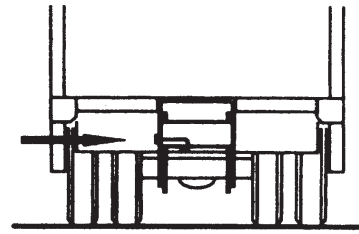
- ✗ Do not overload the platform. Never exceed the maximum rated capacity, which is based on an evenly distributed load on the platform's flat surface.
- ✗ Do not ride on the liftgate. Always stand clear of liftgate when it is operating.
- ✗ Do not allow children to play around or operate the liftgate.
- ✗ Do not allow your liftgate to be used by persons not familiar with its operation.
- ✗ Do not use your liftgate if it shows signs of abuse or fails to operate freely.
- ✗ Do not allow the motor/pump to run after the liftgate is closed, or in the up position.
- ✗ Do not use brake fluid in the hydraulic reservoir.
- ✗ Do not bounce the platform by pushing and releasing the control button/switch abruptly.
- ✗ Do not use the liftgate for anything other than its intended use of loading and unloading cargo.
- ✗ Do not operate lift trucks on or over any part of the platform.
- ✗ Do not stand or place any object in the platform's work area while operating the liftgate.



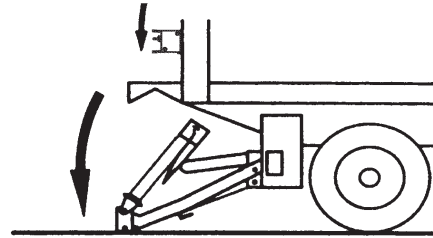
## 6.2 Operating Instructions

### 6.2.1 Opening and Closing the Liftgate

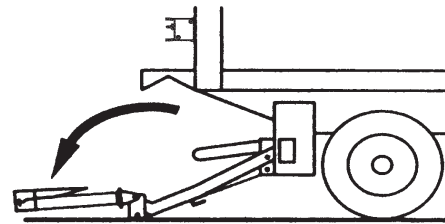
1. Twist and slide the latch pin toward curbside of the liftgate.



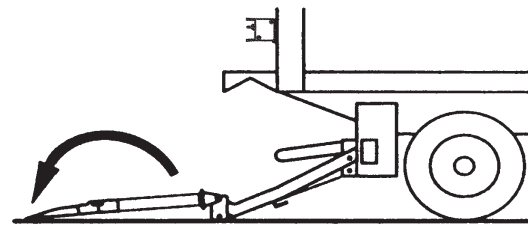
2. Stand clear of the platform and lower the liftgate by pressing "Down" on control button/switch.



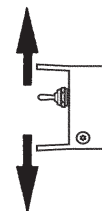
3. Open the platform.



4. Open the flipover ramp.



5. Press the "Up" switch to raise platform or the "Down" switch to lower the platform.



6. To tuck the liftgate into its storage position after use, reverse Steps 1, 2, 3, and 4 from ground level.

## 7. Maintenance Section

### **WARNING**



To prevent serious bodily injury, keep sparks, lighted matches, and open flames away from the top of the battery, because battery gas can explode. Always follow all the manufacturers' safety recommendations when working around the truck's battery.



Take precautions to avoid sparks coming into contact with the truck's fuel tank, brake lines, or other flammable components. Sparks can cause an explosion of combustible materials, resulting in serious injury or death.



Never secure the power cable to anything which allows it to contact sharp edges, other wiring, fuel tank, fuel lines, brake lines, air lines, exhaust system, or any other object that could cause the power cable to wear or be damaged. A cut battery cable can cause sparks resulting in loss of vehicle control, serious injury, or even death.



Always weld in a well ventilated area and, if in an enclosed area, vent the fumes to the outside.

Breathing welding smoke and paint fumes can cause serious injury.



Always follow all State and Federal health and safety laws and/or local regulations when using an arc welder, mig welder, or cutting torch. Also, follow all manufacturer's safety guidelines. If other people are present during the installation of the liftgate, make sure the welding area is shielded from their view.



To avoid eye injury during welding, always wear a welding helmet with the proper lens to protect your eyes.



To prevent personal injury, clean up any spilled fluids immediately. To avoid tripping, do not leave tools or components laying around in the work area.



Do not attempt to maintain the liftgate without fully understanding all of our instructions and safety precautions. Do not attempt to maintain a liftgate unless you have read and understand all of the instructions and warnings in the Installation, Operation, and Maintenance manual. If any doubt or question arises about the correct or safe method of performing anything found in this or other Anthony Liftgates' manuals, contact your Anthony Liftgates' dealer or call the Inside Sales and Service representatives at our main headquarters. Proper care is your responsibility.

To prevent serious injury or death, only qualified mechanical personnel who are aware of and/or able to understand the signs of potential problems should maintain the liftgate.

### 7.1 Preventive Maintenance

Preventive maintenance is one of the most cost effective practices that any equipment owner can implement. Taking approximately 15 minutes of your time to inspect the liftgate can result in hundreds and even thousands of dollars in savings. These savings can come from:

- Increased operating time (no unscheduled breakdowns at someone's loading dock).
- Normal wear items will last longer because they have been properly maintained and lubricated.
- Less chance of someone becoming injured due to parts that may fail because of mistreatment or abuse.

Preventive maintenance inspections should only be completed with qualified mechanical personnel. In no way are these steps intended to encourage usage or service of the liftgate by anyone who is not qualified to do so. The overall performance of the liftgate is directly related to the skill and knowledge of the mechanic performing the inspection. If the mechanic cannot see potential problems, or is unaware of the signs of potential problems, the inspection procedure may be a costly waste of time.

### 7.2 Monthly Inspection

1. Make sure the liftgate operates freely and smoothly throughout its entire range of movement.
2. Check for damage to the liftgate such as bent or distorted members, or any cracked weld which may have resulted from overload or abuse. Check for excessively worn parts. Replace bushings and pins if extremely worn.
3. Check all pins and pivot points. Make sure they are secured with proper retainers.
4. Make sure platform is angled upward from truck bed 0 to 3/4 inch when raised to bed height. See Platform Adjustment for a shimming procedure.
5. Make sure all electrical wires, switches, and connections are in good working condition and operate properly.
6. Check for oil leaks in these areas:
  - a. Hydraulic lift cylinder.
  - b. Hydraulic hoses. Replace if they show signs of leakage or excessive abrasion of the covering.
  - c. Check all hydraulic fittings for damage or leaks. Tighten fittings to stop leaks or replace if damaged.

7. Check reservoir oil level.
  - a. Place liftgate in the fully raised, the oil level should be within 2 inches of the top of the reservoir.
  - b. Fill as required with Dexron VI, Dexron III, or Hyken Glacial Blue hydraulic fluid. For cold weather operation, we recommend Hyken Glacial Blue.

## NOTICE

*Use only Dexron VI, Dexron III, or Hyken Glacial Blue hydraulic fluid in the power unit reservoir.*

*DO NOT thin hydraulic fluid with brake fluid, and DO NOT use brake fluid in place of hydraulic fluid.*

If an emergency situation occurs, any anti-wear hydraulic fluid can be used, but the system should be flushed and the fluid changed as soon as reasonably possible. Hydraulic fluids should not be mixed due to possible compatibility problems.

The recommended fluids are compatible and may be mixed, however, the cold weather operating characteristics of Hyken Glacial Blue will be adversely affected.

8. Check the fluid level of the vehicle battery. Fill as required.
9. Examine all Warning, Capacity, and Operational Decals. If they are not readable they should be replaced. Decals may be obtained from Anthony Liftgates, Inc.
10. Oil the roller wheel and make sure it spins freely.

### 7.2.1 Semi-Annual Inspection

In addition to the items requiring monthly inspection, also inspect the condition of the hydraulic fluid.

If the oil in the hydraulic tank is dirty, drain the oil and flush the entire system. Refill the system with the recommended oil outlined in Step 7 of the "Monthly Inspection" section.

## 7.3 Maintenance and Troubleshooting Procedures

### 7.3.1 Checking Battery Cable

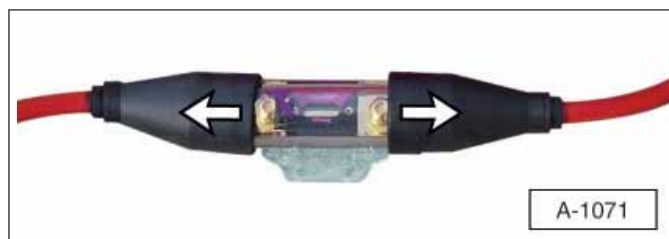
To check for a bad battery cable, run the motor directly from a spare battery using jumper cables.

1. Remove the battery connection to the motor.
2. Connect the negative jumper cable (ground) directly to the liftgate. Connect the positive cable to the terminal on the motor start solenoid.
3. Depress the switch, if the motor operates, the battery cable is bad and should be replaced.

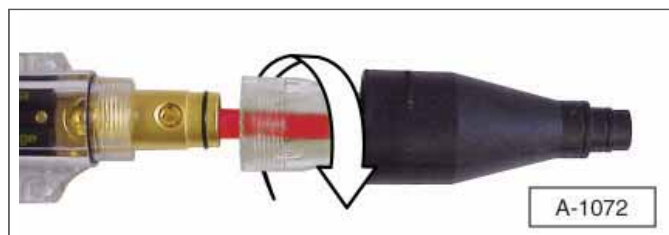
### 7.3.2 Replacing the Fuse

To replace a fuse:

1. Pull back the rubber boots from the fuse holder.

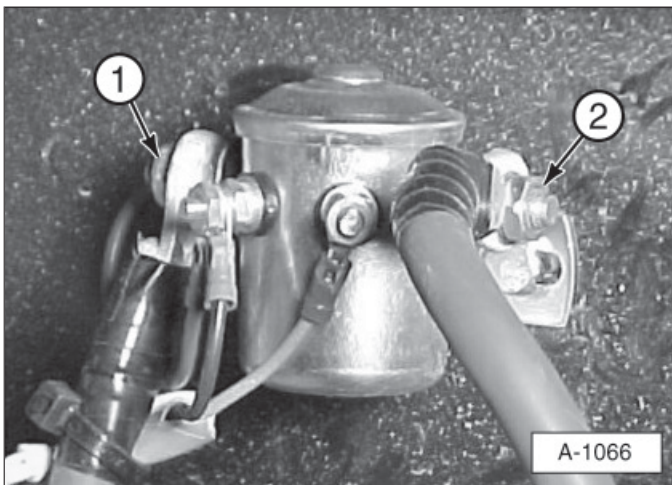
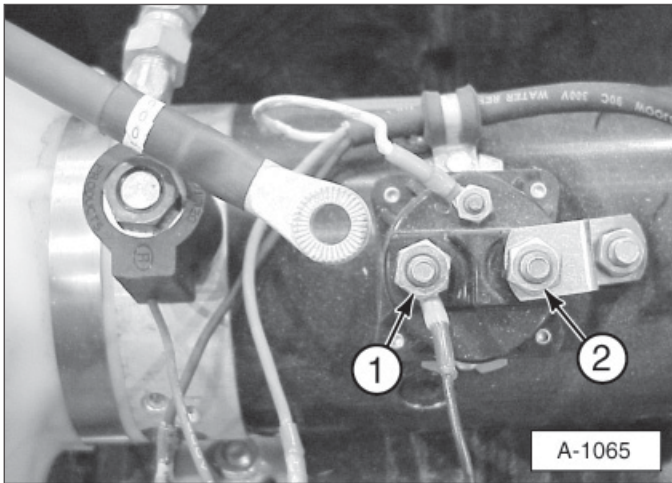


2. Unscrew the fuse holder ends from the fuse holder body and pull it apart.



3. Slide the fuse holder body one direction (left or right) to expose the blown fuse.
4. Loosen the screws from each end of the fuse and remove it. Replace the fuse with the same size (Amperage) fuse as the one removed. If you are unsure of the replacement fuse amperage, contact Anthony for your specific size fuse. Retighten the screws.
5. Re-assemble the fuse in reverse order. Be sure the rubber boots are sealed around the fuse holder and cable.
6. Re-connect power after you are certain liftgate area is clear.

### 7.3.3 Checking Motor Start Solenoid and Power Cut-off Solenoid

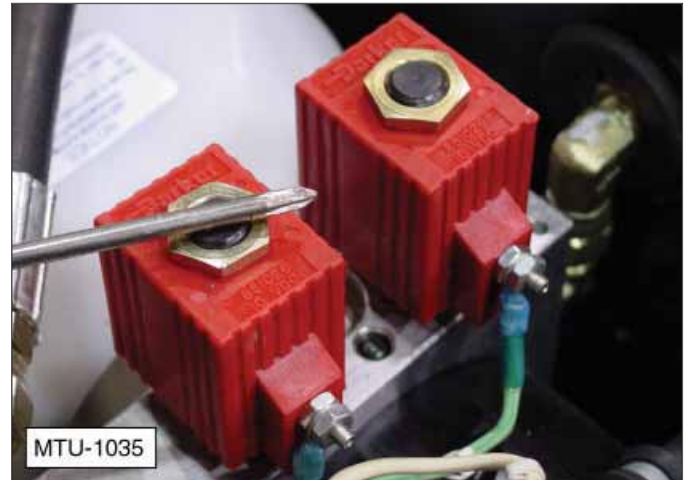


Both the motor start solenoid and power cut-off solenoid can be checked by bypassing the solenoid itself.

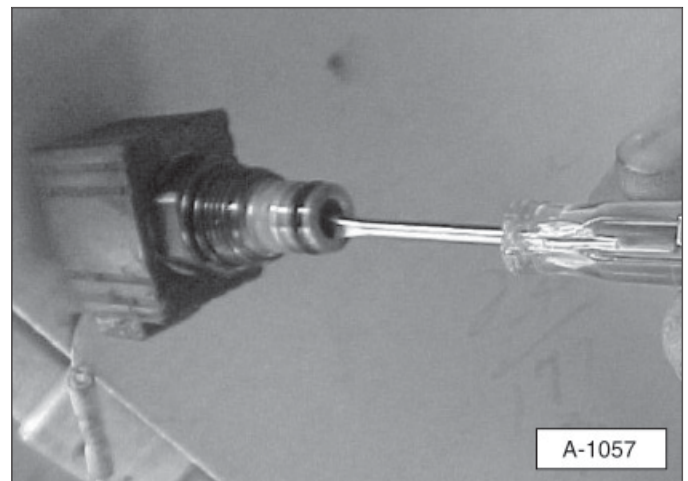
1. Use jumper cables for this test.
2. Connect one jumper cable to the battery side (2) of the solenoid. Connect the other cable to the motor side (1) of the solenoid.
3. If the liftgate is activated, the solenoid is bad and should be replaced.

### 7.3.4 Checking Lowering Valve Cartridge and Solenoid

1. Place liftgate on the ground in the open position.
2. Place a steel screwdriver over the top of the lowering valve coil.



3. Momentarily activate the control switch in the DOWN position. The screwdriver should be attracted to the magnetic field created by the coil.
4. If no magnetic pull is produced, the coil is bad and should be replaced. If the coil is good, check the cartridge valve.
5. Remove the solenoid from the valve assembly.
6. Remove the valve cartridge from the pump body.
7. Clean the cartridge and blow it dry with compressed air (not greater than 30 psi). Also blow out the pump body.
8. Use a small screwdriver and carefully press on the spool inside the cartridge. If the spool moves freely, the cartridge is good. If it does not move, replace the cartridge, because the spool could be bent, pitted, or damaged in some other way.





### 7.3.5 Checking Cylinder Piston Seals (drifting - caused by seal leakage)

1. Check the lowering valve. Make sure it is operating correctly and the valve is not sticking or dirty.
2. If the lowering valve is operating properly, then the drifting is most likely caused by worn piston seals. Replace the cylinder.

### 7.3.6 Checking System Pressure

Power down models have two relief valve settings; one for raising the platform (power up) and one for lowering the platform (power down).


To check the “power up” pressure setting:

1. Place the liftgate on the ground and remove the pressure hose from the power up port of the pump.
2. Install a tee (customer supplied) into the power up port.
3. Connect a pressure gauge and reconnect the hydraulic hose.

The pressure gauge must be rated above the maximum pressure of the liftgate. For example, use a 4000 psi pressure gauge on a 3000 psi maximum capacity liftgate.

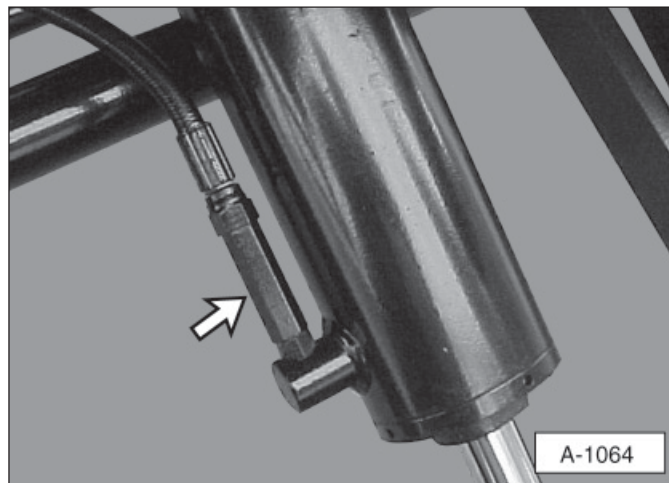
Low Pressure Threshold Chart		
Model	Power Up	Power Down
MTU-2500	2300 psi	350 psi
MTU-3000	2750 psi	350 psi
MTU-4000	1700 psi	175 psi
MTU-5000	2125 psi	175 psi
MTU-6000	2550 psi	175 psi

## ⚠ WARNING

 **CRUSH HAZARD**  
**Do not stand or work in the platform’s work area while operating the liftgate. Place the pressure gauge so it can be read while operating the liftgate from a safe location. Serious injury or death could result if this action is not followed.**

4. Raise the liftgate and check the pressure.
5. If the appropriate pressure cannot be reached, replace the pump.
6. Check the power down relief valve pressure in the same way as the gravity down system by installing a tee and gauge.

### 7.3.7 Flow Control Valve



If the cylinders do not operate or operate slower than normal, remove the flow control valves and hook the hydraulic hoses directly to the cylinders. If the cylinders operate properly, replace the flow control valves.

## ⚠ WARNING



**CRUSH HAZARD**  
**Do not operate the liftgate without the flow control valve. Serious injury or death could result if this action is not followed.**



## 8. Troubleshooting

### 8.1 Troubleshooting Guide

Troubleshooting Chart		
Problem	Possible Causes	Possible Solution
Motor does not run when control switch is activated.	Cab cut-off switch.	Turn switch to ON position.
	Dead or low battery.	Make sure battery is fully charged. Check for loose or corroded battery connections. Replace or recharge battery.
	Corroded or loose wire connections.	Check all wire connections on power unit for corrosion or looseness. Replace defective terminals with "heat shrink" factory type terminals. Check main power cable from battery, to circuit breaker, to cut-off switch, to power unit.
	Main power cable circuit breaker blown.	Reset or replace circuit breaker.
	Blown 10 Amp fuse in power unit box.	Replace, if fuse is blown. If problem continues, check for shorts in the electrical system.
	Defective Control box switch.	Check switch. Replace if defective.
	Motor start solenoid.	Check solenoid. Replace if defective.
	Optional power cut-off solenoid.	Check solenoid. Replace if defective.
	Defective motor.	If the motor is determined to be defective, it should be replaced. Defective motors are typically caused by weak batteries (low voltage), loose connections, corrosion, or a poor ground.
	If liftgate is installed on a semi trailer, make sure the battery wire is two gauge or heavier. Smaller wires can reduce the voltage, resulting in motor failures.	
	If the motor does not operate in freezing conditions, make sure the motor housing does not contain water.	
Motor runs, but liftgate will not open or lower to the ground.	Structural damage.	Fix damage. Replace worn parts. Check clearance between platform and dock bumpers.
	Latch pin.	Slide the latch pin to the open position.
	Defective lowering valve coil.	Check the coil. "7.3.4 Checking Lowering Valve Cartridge and Solenoid" on page 36.
	Defective lowering valve cartridge.	Check, remove, and clean valve cartridge using the procedure in the Maintenance section.
	Defective Flow control valve.	Remove flow control valve and hook hydraulic hose directly to the cylinder. If the cylinder operates properly, replace the flow control valve. See the Flow Control Valve section.
	Control switch box.	Check DOWN terminal using the procedure in the Maintenance section.

<b>Troubleshooting Chart</b>		
<b>Problem</b>	<b>Possible Causes</b>	<b>Possible Solution</b>
Motor runs, but platform will not raise, will not raise rated capacity, or raises, but drifts down when control switch is released.	Load capacity has been exceeded.	Verify load capacity and adjust load weight.
	Structural damage.	Replace damaged parts.
	Low fluid level.	Fill reservoir. "7.2 Monthly Inspection" on page 34.
	Low Voltage.	Inspect the battery connection terminals and check the battery's Voltage (9 Volts minimum).
	Dirty or Defective Lowering valve.	Coil or cartridge may need cleaning or replacement. See Maintenance section. "7.3.4 Checking Lowering Valve Cartridge and Solenoid" on page 36.
	Defective piston seals.	See "7.3.5 Checking Cylinder Piston Seals (drifting - caused by seal leakage)" on page 37. Replace cylinder if seals are defective.
	Hydraulic pump is worn.	Replace hydraulic pump.
Foaming oil.	Cylinder piston seals blown, allowing fluid to leak past piston when trying to raise platform.	Remove breather hose from end of cylinder. Activate power unit to raise position, if hydraulic fluid pumps out of breather port, replace cylinder.
	Air in the hydraulic hose(s).	Check oil level in reservoir. Fill to within 2" of full with platform raised. "7.2 Monthly Inspection" on page 34.
Liftgate will not open.	Broken or loose fluid return tube.	Remove the oil reservoir and make sure the return tube is below the oil level. If the tube has turned or fallen out, reinstall it into the pump housing. Use a center punch to "stake" the tube into position.
	Platform operating area is not clear.	Clear platform operating area.
	Blown circuit breaker	Check all connectors and connections for worn or loose parts, replace any worn terminals with "heat shrink" factory terminals. Reset circuit breaker.
	Blown in-line fuse.	Replace blown fuse with 10 Amp ATO or ATC fuse.
	Bad opening valve coil.	Remove coil from cartidge and test magnetism of inside of coil with metal object (screwdriver) while energizing down control side of switch only.
	Clogged or bad opening valve on power unit.	Remove valve, clean and inspect. If plunger will not move freely, replace.

<b>Troubleshooting Chart</b>		
<b>Problem</b>	<b>Possible Causes</b>	<b>Possible Solution</b>
Platform lowers extremely slow.	Flow control valve.	Remove flow control valve and hook hydraulic hose directly to the cylinder. If the cylinder operates properly, replace the valve. "7.3.7 Flow Control Valve" on page 37.
	Low oil level on power down models.	Fill reservoir with proper oil.
	Improper oil in hydraulic reservoir.	Fill with proper oil. "7.2 Monthly Inspection" on page 34.
	Bushing wear where lift arms connect to platform.	Replace bushings.
	Damaged or kinked hydraulic hose.	Repair or replace hose.
	Cylinder rod is scored, pitted, or bent.	Replace cylinder.
	Clogged or defective lowering valve.	Solenoid or cartridge may need cleaning or replacement. "7.3.4 Checking Lowering Valve Cartridge and Solenoid" on page 36.
Platform raises partially and stops.	Load capacity has been exceeded.	Verify load capacity and adjust load weight.
	Structural damage.	Replace damaged parts.
	Low Voltage.	Recharge battery (if less than 9 Volts).
	Low fluid level or pressure.	Refill reservoir. Check pump and motor. "7.2 Monthly Inspection" on page 34.
Sagging platform.	Normal wear.	Add shims to platform.
	Bushing wear where lift arms connect to platform.	Replace bushings.
	Structural damage.	Replace damaged parts.
Platform will not lower.	Platform operating area is not clear.	Clear area.
	Structural damage.	Replace damaged parts.
	Low Voltage.	Recharge battery (if less than 9 volts).
	Lowering valve.	See "7.3.4 Checking Lowering Valve Cartridge and Solenoid" on page 36.
	Hydraulic pump and motor.	Replace power unit.
Latch pin is broken or bent.	Operator has lowered platform without releasing pin.	The latch pin is used only to prevent the liftgate from opening due to a pressure leak or pressure bleed-off over an extended period of time. Always release latch before opening liftgate.
Liftgate will not open.	Platform operating area is not clear.	Clear platform operating area.
	Pin will not slide free.	Activate the "UP" switch and raise the liftgate to the fully stored position. Open the latch pin free.



## 10. Warranty Section

### 10.1 Limited Warranty

#### Magnum Tuckunder 3 yrs Mechanical + 3 yrs Electric/Hydraulic

Thank you for purchasing an Anthony liftgate. We strive to produce the most trouble free and reliable liftgates in the market. We believe you will experience years of reliable operation and minimum downtime interruptions. To further insure your confidence in Anthony, this warranty will cover your unit for 3 years or 8,000 cycles (whichever occurs first) on mechanical/structure, electrical, and hydraulic operating parts. This warranty is extended to the original purchaser (user only) and is not transferable. The warranty term begins from the date of shipment from our factory or warehouse.

Anthony Liftgates Inc. will cover all failed components during the warranty period. Labor will be provided under our Flat Rate Warranty Schedule, in effect at the time of the part failure, and includes diagnosis time. Contact Anthony for current reimbursement amounts. For repairs NOT listed on the Flat Rate Warranty Schedule, contact the Anthony Warranty Department for approved reimbursement, prior to performing repairs. Anthony Liftgates Inc. reserves the right of determination of whether a component is defective or has failed. This warranty applies to Anthony liftgates installed, operated, and maintained in accordance with Anthony Liftgates Inc. installation, operation, and maintenance manuals, videos, etc.

Certain Anthony models have published Lifetime Warranties on listed components, as published in current literature. This additional coverage will be detailed on the published operation components, providing the unit has been operated and maintained within the intended usage.

Anthony Liftgates, Inc. will process all claims and determine their eligibility for authorization upon the receipt of the failed part, the identification of the claimant, and the liftgate serial number. All parts must be returned freight prepaid and following the instructions given by the Anthony Warranty Department. Freight collect shipments will not be accepted.

**PLEASE NOTE THAT NO CLAIMS WILL BE PROCESSED WITHOUT THE PART, THE CLAIMANT'S INFORMATION, AND THE LIFTGATE SERIAL NUMBER.**

Claims not submitted within 30 days of repair date will be denied.

**NOTE: ALL CLAIMS MUST BE COMPLETED ON THE ANTHONY LIFTGATES INC. WARRANTY CLAIM FORM.**

This form provides all the necessary information.

Upon approval of the claim, Anthony will, at the direction of the claimant, return a replacement part and labor allowance, or a parts credit based on current distributor net pricing, and the appropriate flat rate labor allowance.

Anthony Liftgates, Inc. is not responsible or liable for loss of time, cost, labor, material, profits, direct or indirect damages caused by failed components, whether due to rights arising under purchase, order, contract of sale or independently thereof, and whether or not such claim is based on contract, tort, or warranty. The sale of products of Anthony Liftgates, Inc. under any other warranty or guarantee express or implied is not authorized. This warranty does not cover misuse, abuse, damage, or product finish, normal wear, maintenance adjustments, careless or negligence of use or maintenance. Modifications to our product are not covered unless prior authorized by Anthony.

Purchased Parts warranty is 1 year from date of purchase and covers replacement of part only.

If you require assistance or have questions, please contact Anthony Liftgates Inc. at 815-842-3383.

**NOTE:** Most (not all) Anthony liftgate models incorporate our Service-Free feature. Service-Free refers to the fact that these models require no routine or scheduled lubrication of the major pivot points that contain our service-free bushings. Normal repair and maintenance of your liftgate, per our instruction, is necessary for ALL Anthony liftgates.

Anthony Liftgates, Inc.  
1037 W. Howard St. P.O. Box 615  
Pontiac, IL 61764-0615

PH: 815-842-3383  
FAX: 815-844-3612  
E-Mail: warrantyclaims@anthonyliftgates.com

### 10.2 Warranty Policy and Procedure

All warranty claims must be completed on the Anthony Liftgates Warranty Claim Form utilizing the Flat Rate Warranty Schedule. See the current rates as listed for each model. Using this process will allow for quick and accurate credit payment.

Claims will not be processed without the failed part returned (pre-paid) to Anthony Liftgates, and the warranty claim form completed.

**NOTE:** When returning defective parts for warranty consideration, be sure to call ahead for a Return Authorization Number.

If you require further assistance or have questions, please contact the Anthony Liftgates Warranty Dept. at 815-842-3383 or email warrantyclaims@anthonyliftgates.com.

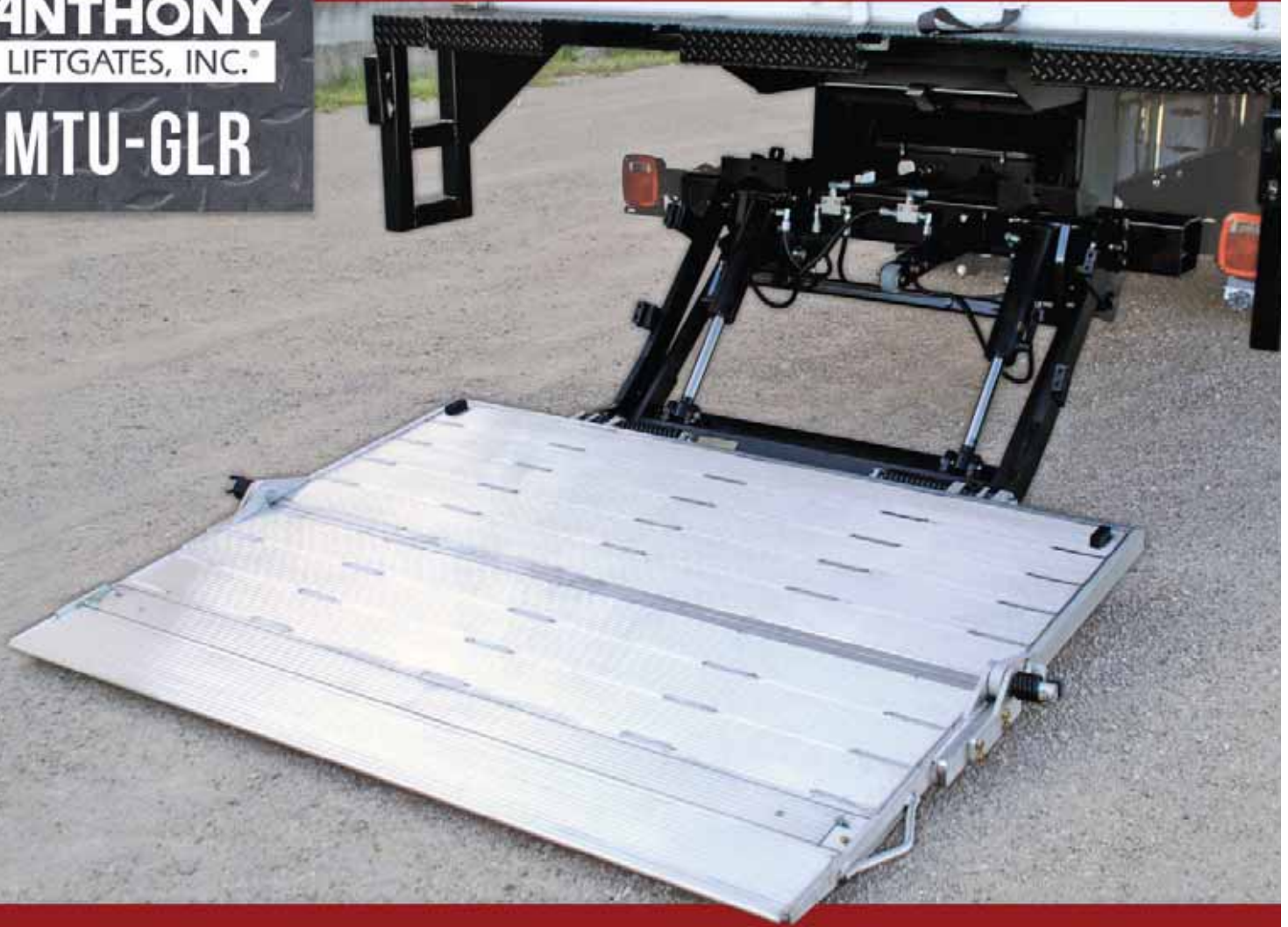




**ANTHONY**

LIFTGATES, INC.®

**MTU-GLR**



**ANTHONY LIFTGATES, INC.**

**1037 W. HOWARD ST. • P.O. BOX 615**

**PONTIAC, IL 61764-0615**

**PH: 815-842-3383**

**FAX: 815-844-3612**

**TOLL FREE: 800-482-0003**

**WWW.ANTHONYLIFTGATES.COM**