

THE ORIGINAL NAME IN LIFTGATES - SINCE 1941

ANTHONY
LIFTGATES, INC.®

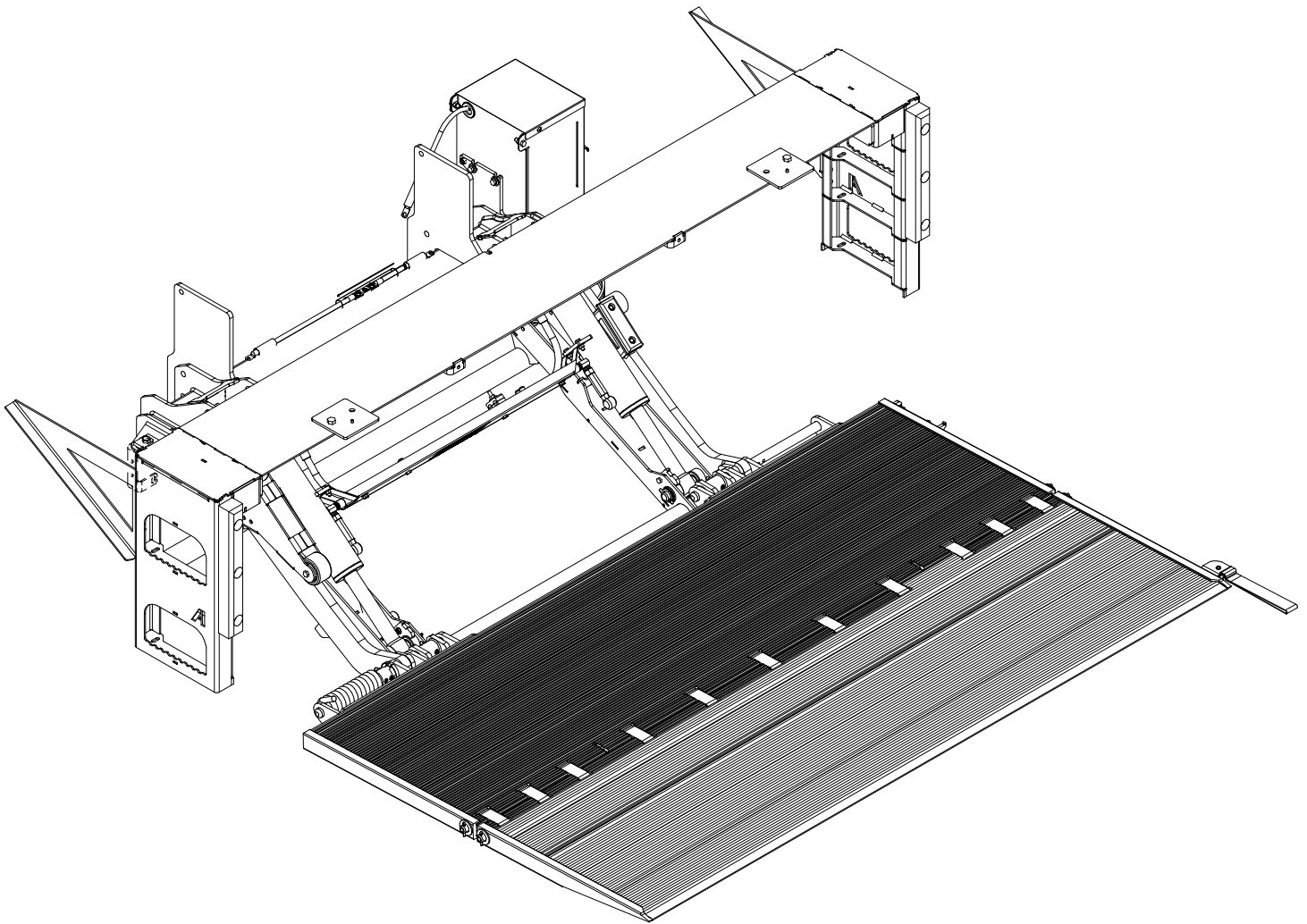
INSTALLATION MANUAL

Models

MTU-GLR-L

MTU-GLR-M

MTU-GLR-M-WR



QUALITY, RELIABILITY, CUSTOMER SERVICE

America's Toughest Liftgates™



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1. General Information

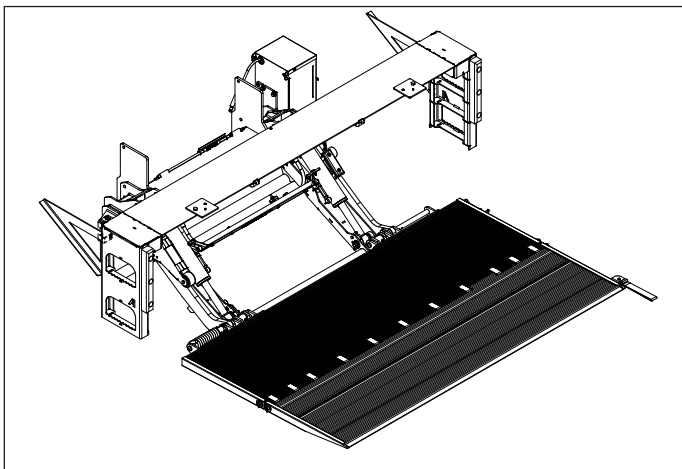
1.1 Introduction

Congratulations on selecting an Anthony MTU-GLR series liftgate. This manual covers the MTU-GLR-L (light duty), the MTU-GLR-M (medium duty), and the MTU-GLR-M-WR (medium duty with walk ramp). Anthony Liftgates are among the finest liftgates available on the market today and are factory-assembled, energized, and tested to ensure the highest quality performance standards. MTU-GLR Liftgates ship completely assembled for fast, clean, and easy installation.

To ensure your liftgate will perform to your expectations, we have provided this Installation Manual, which is designed to provide you with the necessary installation instructions and safety precautions for the installation and maintenance of the MTU-GLR liftgates.

SAFETY INSTRUCTIONS

Being unaware of safety recommendations can lead to personal injury. The installer must make sure all decals are attached to both the liftgate and truck and are clearly legible.



1.2 Assistance

Anthony Liftgates manufactures high-quality liftgates that require very little maintenance or repair. However, should a part break, become damaged, or need replacement due to normal part wear, our knowledgeable dealers can make sure you receive the part(s) to put your liftgate back into operation.

To find the most current version of all reference material or for additional information, refer to the Anthony Liftgates website at www.anthonyliftgates.com.

If you have any doubts or questions, call us. Before doing so, have the serial number, model number, and lift capacity of your liftgate available.

Anthony Liftgates, Inc.
1037 West Howard Street
Pontiac, Illinois 61764
(815) 842-3383 or 800-482-0003

Anthony Liftgates, Inc.
www.anthonyliftgates.com

1.3 Basic Installation Instructions

1. This liftgate should only be installed by someone with sufficient skills to understand the installation and operation procedures, along with the use of any equipment or tools used to install the liftgate. This manual provides typical installation instructions, which we believe to be the most desirable sequence. These instructions cannot replace a qualified installer with clear thinking and basic knowledge.
2. This manual provides easy-to-follow instructions, along with photos and illustrations, which will help guide the installation process. Safety precautions have been clearly identified throughout each section of this manual and must be followed.
3. A complete explanation of the safety terminology and recommendations is included in section "2. Safety" on page 6 of this manual and should be read thoroughly before proceeding.
4. We urge the installer to call our qualified personnel if you have installation questions.
5. Most problems occur when positioning the adapter frame tube and mounting plates. Before completely welding the mounting plates to the truck frame, call us if you find the liftgate is not operating properly.
6. A restraining system such as a cart stop or retention ramp may be part of the platform. These devices help retain certain types of cargo on the platform. Make sure these devices are working properly once the liftgate is installed to prevent the possibility of severe personal injury or death due to cargo shifting or falling from the platform.

1.4 General Safety

⚠ WARNING



Read, Understand, and Follow Instructions

To avoid personal injury or death, carefully read and understand all instructions pertaining to this liftgate. Do not attempt to operate a vehicle or this unit without fully understanding all of the instructions and safety recommendations in this and other related OEM manuals.

If any doubt or question arises about the correct or safe method of performing anything found in this manual, contact Anthony Liftgates. Proper care is your responsibility.

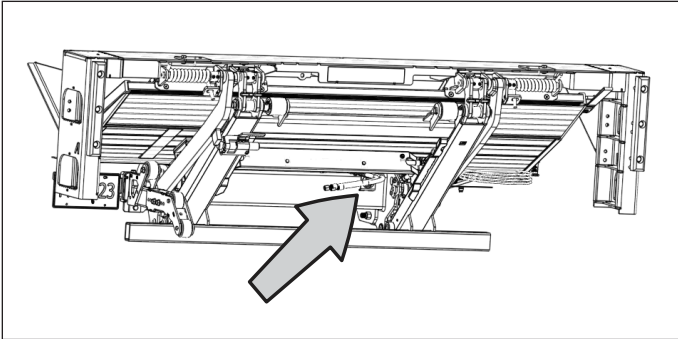
SAFETY INSTRUCTIONS

All users of this liftgate must be at least 18 years old and have read and understood all operation instructions and safety decals before use.

1.5 Serial Number

Before calling for warranty or other product information, have the serial number, model number, and lift capacity of your liftgate available. This information is stamped into the identification plate on the front of the adapter frame and will help us verify your warranty information and your specific liftgate.

Record the serial number, model number, date of installation, and load capacity in this manual for easy reference when contacting your authorized dealer with questions.



Serial Number _____

Model Number _____

Installation Date _____

Load Capacity _____

1.6 State and Federal Regulations

1.6.1 Brakes

⚠ WARNING When installed, the operation or weight of this liftgate must not alter or prevent vehicle compliance with any existing State or Federal standards, such as FMVSS 105 – Hydraulic And Electric Brake Systems. Each truck frame manufacturer's recommendations should be consulted for compliance.

Also, make sure the weight of the liftgate and its fully loaded capacity will not overbalance the truck, possibly raising the front wheels off the ground.

1.6.2 Lighting

⚠ WARNING When installed, the transport position of this liftgate must not alter or prevent vehicle compliance to any existing State or Federal standards such as FMVSS 108 – Lamps, Reflective Devices, and Associated Equipment. Each truck manufacturer's recommendations should be consulted for compliance.


1.6.3 Rear Impact Guards

⚠ WARNING When installed, the transport position of this liftgate must protect against rear impact, using State or Federal standards, such as FMVSS 223 – Rear Impact Guards and FMVSS 224 – Rear Impact Protection.

The installer must make sure that guards are installed, if necessary, to fulfill these standards. Each truck manufacturer's recommendations should also be consulted for compliance.

1.7 Intended Use

Do not use the liftgate for anything other than its intended purpose of loading and unloading material from a truck. The maximum lifting capacity of the unit ranges from 2500 to 3000 pounds, depending on the model.

⚠ WARNING  **Crush Hazard**
Unsecured loads, when raised and lowered on the liftgate, could shift or fall. To prevent personal injury or death, make sure loads are securely fastened to the liftgate or restrained by cart stops, a retention ramp, or fencing.

1.8 Customer Assistance

Anthony Liftgates manufactures high-quality liftgates that require very little maintenance or repair. However, should assistance be required for installation, warranty, or other product information, our knowledgeable dealers can make sure you receive the help you need. Before calling, have the serial number, model number, and lift capacity of your liftgate available.

To find the most current version of all reference material or for additional information, refer to the Anthony Liftgates website at www.anthonyliftgates.com.

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1.9 Safety Signs (Decals)



SAFETY INSTRUCTIONS

To prevent personal injury of the end user from not being aware of safety recommendations, the installer must make sure all decals are attached to the liftgate and truck and are legible.

The liftgate comes fully assembled with all decals attached in the proper location. Other decals must be installed on the truck body, as shown in this manual. Immediately replace any decal that is damaged or worn.

Refer to the separate Parts Manual for a list of decals and their locations on the liftgate and the truck.

1.10 Registration

Refer to the Operation manual for the serial number information.

1.11 Warranty Issues

Refer to “7. Warranty Section” on page 36 for the complete warranty statement.

The liftgate must be installed according to these instructions or the warranty will be void.

1. Unauthorized modifications may cause improper operation or other unforeseen problems or dangers. If any deviation is deemed necessary, written permission must be obtained from Anthony Liftgates.
2. All decals must be attached by the installer and legible, or all warranties are void.

1.12 Replacement Parts

Dealers: To order replacement parts or hazard/informational decals, contact us through your normal dealer channels.

2. Safety

2.1 Safety is Your Responsibility

It is the responsibility of the user to understand and properly use this liftgate. Be aware of the inherent dangers in the use of this unit. Read and understand all Warnings, Cautions, Notices, and Safety Instructions in this manual, on the liftgate, or on the vehicle.

Most work-related accidents are caused by failure to observe basic safety rules or precautions. Accidents can often be avoided by being alert and recognizing potentially hazardous situations. Anyone installing or operating the liftgate must 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 to prevent injury or even death.



Do not use the liftgate until you read and understand the information contained in this manual or other OEM related manuals.

Safety precautions and warnings are provided in this manual and may also be on the unit. If these hazard warnings are not followed, bodily injury or death could occur to you or other persons.

Anthony Liftgates cannot anticipate every possible circumstance that might involve a potential hazard. *The identification of hazardous situations in this manual and on the product itself is, therefore, not all-inclusive. If 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 bystanders.*

Improper installation, operation, or maintenance of this unit could cause a dangerous situation resulting in personal injury or death. Make sure the lift or vehicle that it is installed on will not be damaged or made unsafe by any installation or operating method you choose.

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

2.2 Safety Alert Symbol



Personal injury hazards are identified by the "Safety Alert Symbol" and followed by a signal word such as WARNING or CAUTION to indicate the severity of the hazard. Obey all safety messages that follow this symbol to avoid possible injury or death.



This blank safety alert icon surrounds an image showing a specific type of hazard that should be avoided.

This manual contains WARNINGS, 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 keywords call the reader's attention to potential hazards.

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 Icons Nomenclature



This manual and the equipment have numerous safety symbols. These safety symbols indicate important information about personal injury hazards.

2.3.1 Personal Protection/Important Information

-  Read, understand, and follow manual
-     Protection (eye, hand, foot, ear)
-  Inspect equipment
-  Warning decal alert
-  Fire extinguisher
-  First aid kit
-  Use only authorized parts
-  Use proper parts
-  Safety first
-  Visually inspect
-  Ingress / egress
-  Use two people when lifting heavy objects
-  Move freely
-  Power on/off

Prohibited Actions

-  Do not operate (drugs)
-  Do not operate (alcohol)
-  No bystanders
-  No children
-   No unauthorized welding or modifications
-  Do not leave out tools

-  Do not climb
-  No sharp edges

2.3.2 Hazard Avoidance

-   Crush hazard
-     Pinch point
-  Falling hazard
-  Slip Hazard
-  Fire hazard
-  High-pressure fluid hazard
-  Pressure (zero)
-  Pressure (high)
-  Tools (use proper tools)
-  Defective or broken part
-  Crush hazard (intended use)
-   Guards / protective covers
-  Welding arc hazard
-  Maintain safe distance
-  Contact hazard (hand)
-  Battery explosion hazard
-  Adequate ventilation
-  Dangerous fumes
-  Battery arcing hazard
-  Crush hazard (chock wheels)
-  Liftgate crush hazard (under-tire)

2.4 General Installation Safety

WARNING

Failure to comply with the following safety instructions could result in serious injury and possibly even death if they are not understood and followed.



During installation, do not work under the liftgate while it is suspended from the lifting device or after it is attached to the truck.

Failure of the lifting device could cause severe crushing injuries. Do not remove the lifting device until the liftgate is securely tack welded onto the truck frame. Unintentional lowering of the liftgate could also cause severe injury.



Do not place hands or feet in pinch points, between the platform and the platform extension, or under the edge of the liftgate.



Impaired User Hazard

Do not attempt to install the unit under the influence of drugs or alcohol.



Damaged Parts Hazard

Do not install a part if it's damaged. If you believe the part has a defect, which could cause it to work improperly, you should immediately stop the installation and remedy the problem before continuing.

CAUTION

The following safety instructions are provided to help prevent potential injury. Not following these instructions may lead to injury.



Unintentional Movement

Place chocks in front and behind the wheels to prevent the truck from moving during the installation of the liftgate which could result in a serious crushing injury.

Personal Protection Equipment

When installing or operating the liftgate, wear a suitable protective device, such as safety glasses to protect against possible sight loss when operating or repairing equipment. Also wear other appropriate personal protective equipment which may include, but is not limited to:



- Protective shoes with slip-resistant soles
- Protective eyewear
- Protective clothing and gloves
- Hearing protection

CAUTION



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



No Unauthorized Modifications

Do not modify the liftgate or its safety devices. Do not weld on the unit.

Unauthorized modifications may affect the unit's function, or create safety hazards.



Make sure the liftgate or truck will not be damaged or made unsafe by the installation of the liftgate. Installation should only be done by a qualified installer having the knowledge and skill.



Always use genuine, factory OEM replacement parts to restore the liftgate to its original specifications. Anthony Liftgates will not accept responsibility for damages as a result of using unapproved parts. If non-OEM replacement parts are used, the warranty will be void.



To avoid slipping, immediately clean up any spilled fluid on the liftgate platform. To avoid tripping, do not leave anything lying on the platform or around the work area.

SAFETY INSTRUCTIONS

The following safety instructions are provided to help prevent injury or limit equipment damage.



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.



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



Make sure the area in which the platform will operate is clear before raising or lowering the platform.



Only operate the liftgate with the switch controls provided.



If replacement parts are necessary during installation, genuine factory OEM replacement parts must be used to restore the liftgate to the original specifications. Anthony Liftgates will not accept responsibility for damages as a result of using unapproved parts. If non-OEM replacement parts are used, the warranty will be void.



Once the liftgate is installed, make sure all the supplied decals are attached to the liftgate and truck.

2.5 Welding or Grinding Galvanized or Stainless Steel Material

CAUTION Follow all OSHA and other workplace safety standards when welding galvanized steel, which creates zinc oxide fumes. Always grind the coating off in the area to be welded and provide adequate ventilation to avoid breathing the fumes.



Always wear proper breathing protection when grinding or welding. Use ventilation or vacuum systems to remove any contaminated air from the work area.

Metal Fume Fever:

- When zinc vapor mixes with the oxygen in the air, it reacts instantly to become zinc oxide, which is non-toxic and non-carcinogenic.
- Zinc oxide that is inhaled is absorbed and eliminated by the body without complications or chronic effects.
- Exposure to zinc oxide fumes causes a flu-like illness called metal fume fever.
- Symptoms include headache, fever, chills, muscle aches, nausea, vomiting, weakness, and tiredness.
- Metal fume fever typically begins about four hours after exposure, and full recovery occurs within 48 hours.

2.6 Cutting Torch / Welding Safety



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 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 manufacturers' safety guidelines. If other people are present during the installation of the liftgate, make sure the assembly 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 avoid eye injury while using a cutting torch, always use eye protection with the proper lens to protect your eyes.

2.7 Installation Safety

SAFETY INSTRUCTIONS

Read and understand the safety instructions located in section "3.2 Installation Safety Instructions" on page 10 in connection with this general safety information.

2.8 Maintenance Safety

SAFETY INSTRUCTIONS

Read and understand the safety instructions located in section "2.8 Maintenance Safety" on page 9 in connection with this general safety information.

3. Installation

3.1 General Information

These units should only be installed by those with sufficient skills to understand the installation and operation of the unit, along with the equipment required to install the liftgate. The installation instructions in this manual are intended to give typical installation methods to the installer for what we believe to be the most desirable sequence of installation. These instructions cannot replace a qualified installer.

SAFETY INSTRUCTIONS

Read and understand the general safety instructions located in section “3.1 General Information” on page 10 before operating this liftgate.

3.2 Installation Safety Instructions

WARNING

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



Proper Installation

The success or failure of this liftgate to function efficiently will depend on a thorough and proper installation. Failure to read, understand, and follow the installation and operating instructions and safety recommendations in this manual and other related OEM manuals before installing the liftgate could result in serious injury or death.

When installed, this liftgate must not alter nor prevent vehicle compliance with any existing state or federal standards, and especially FMVSS 105. Each truck 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.



Whenever working near batteries, keep sparks or open flames away from the top of the battery. Battery gas can explode.



Always follow all the manufacturer's safety recommendations when working around the truck's battery.



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



A cut battery cable can cause arcing (sparks) resulting in loss of vehicle control. 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.

WARNING



If required for installation, always use a cutting torch in a well-ventilated area and, if in an enclosed area, vent the fumes to the outside.



Breathing smoke and fumes can cause serious injury. Always follow all State and Federal health and safety laws and/or local regulations when using a 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. 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.



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.

Always use/set the truck's parking brake and remove the ignition key before installing the liftgate to prevent unwanted movement of the truck. Failure to follow this recommendation can result in injury.

Never secure the power cable to anything which allows it to contact sharp edges, other wires, 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 and/or component damage resulting in loss of vehicle control, serious injury, or even death.



Do not remove the lifting equipment until the liftgate is completely bolted or welded onto the truck frame.

3.3 Tools Required

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

- Overhead Crane or Forklift
- Mig or Stick Welder
- Heavy-Duty C-Clamps
- Tape Measure
- Level (small, magnetic)
- Cutting Torch (may or may not be needed)

3.4 Bed Height Requirements and Ground Clearance

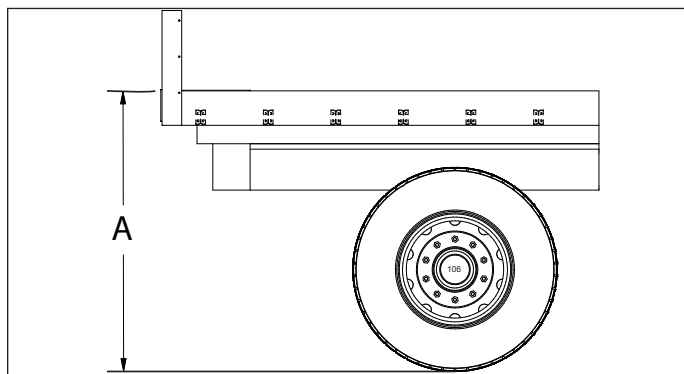
Use the following steps to verify the minimum and maximum clearances of a properly installed liftgate. Do not begin the installation process unless all the requirements in the steps in this section are met.

NOTICE To prevent damage to the truck or liftgate, make sure the model being installed is compatible with the bed height of the truck.

1. Measure the distance between the frame rails. All MTU-GLR series liftgates are preset for a distance of 34.25 inches. If the frame rail distance is different from this specification, contact Anthony Liftgates.
2. Measure height (A) of the truck bed.
The bed height is measured from the ground to the floor of the truck body. These liftgates fit on trucks with bed heights of 38 to 46 inches on MTU-GLR-L and 42 to 52 inches on MTU-GLR-M and MTU-GLR-M-WR. If the bed height is less than the minimum, contact Anthony Liftgates for specific installation instructions.
3. If dimension (A) is less than the minimum height, do not proceed.

Minimum Truck Bed Height When Fully Loaded	
Model	Bed Height (A)
MTU-GLR-L	38" minimum
MTU-GLR-M	42" minimum
MTU-GLR-M-WR	44" minimum

Note: All minimum bed height dimensions are measured with the truck loaded to full capacity. All maximum bed height dimensions are measured with the truck empty.



Note: If the measurement is close to the minimum requirement with an empty truck, it may not meet the requirement when the truck is fully loaded.

4. If dimension (A) is more than the maximum height, do not proceed.

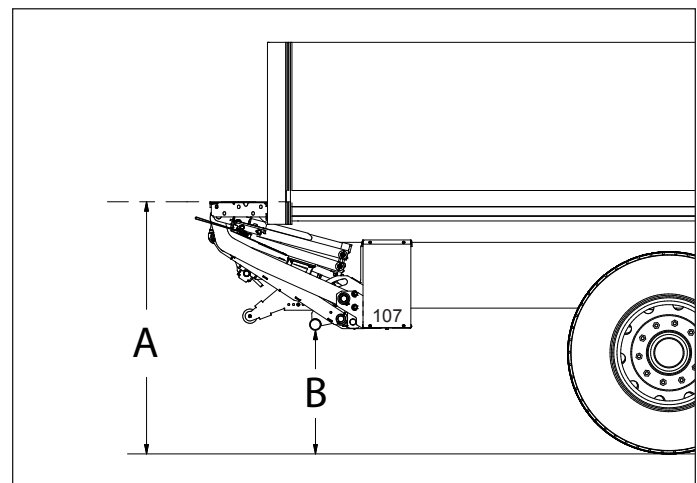
Maximum Truck Bed Height When Empty	
Model	Bed Height (A)
MTU-GLR-L	46" maximum
MTU-GLR-M	52" maximum
MTU-GLR-M-WR	52" maximum

Note: All maximum bed height dimensions are measured with the truck empty.

5. This chart provides ground clearance (B) based on the height of the truck bed (A). If this ground clearance is not satisfactory, do not begin the installation.

Ground Clearance MTU-GLR-L			
Bed Height (A)	Clearance Height (B)	Bed Height (A)	Clearance Height (B)
38	11"	43"	16"
39	12"	44"	17"
40	13"	45"	18"
41	14"	46"	19"
42"	15"		

Ground Clearance MTU-GLR-M and MTU-GLR-M-WR			
Bed Height (A)	Clearance Height (B)	Bed Height (A)	Clearance Height (B)
42"	13.25"	48"	10.25"
43"	14.25"	49"	20.25"
44"	15.25"	50"	21.25"
45"	16.25"	51"	22.25"
46"	17.25"	52"	23.25"
47"	18.25"		



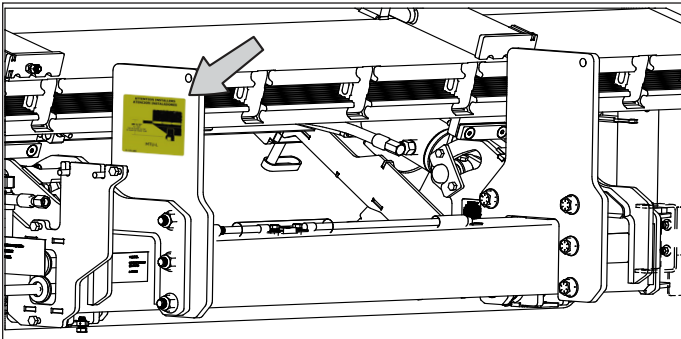
3.5 Installation Preparation

SAFETY INSTRUCTIONS

Even though this liftgate is easy to install, the installation should be done with at least two people due to the weight of some of the parts.

Typical installations take two experienced installers approximately two hours from start to finish.

1. Make sure the truck meets the height requirements in the previous section.
2. Make sure there are no truck accessories or obstructions at the rear of the truck that would prevent the top of the adapter frame tube from being installed 20.5" on MTU-GLR-L and 21.5" on the MTU-GLR-M and MTU-GLR-M-WR below the floor of the truck bed.



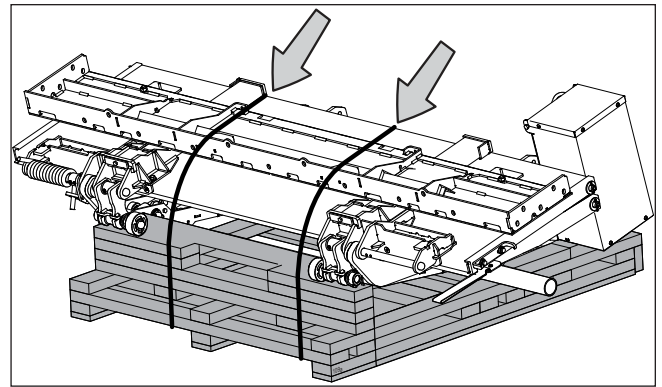
Note: Check the OEM vehicle manual for any special requirements prior to welding on the truck. If required, disconnect the battery cable before welding on the truck.

3. Make sure there are no accessories, obstructions, or other protrusions that will interfere with the operation of the liftgate or the installation of the mounting plates within the dimensions shown. The mounting plates must lay flush against the truck frame rails.

CAUTION

The frame rails must be smooth and flat. Any protrusions such as a rivet or bolt head could cause the mounting plates not to be firmly attached to the frame rails.

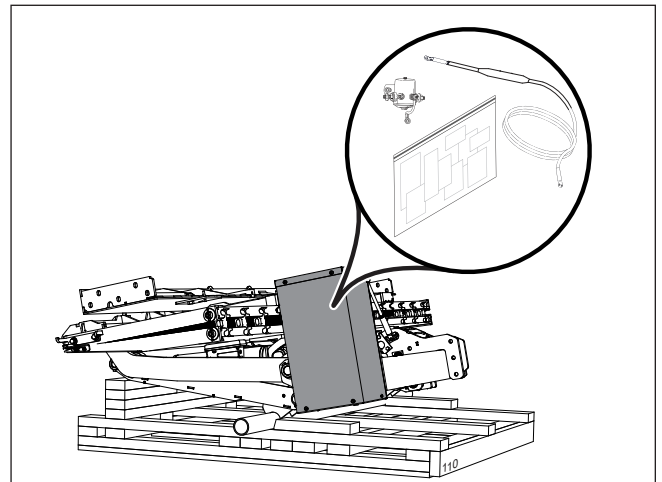
4. Remove the banding securing the liftgate, the loose parts, dock bumpers, steps, and floor extension to the pallet.



CAUTION

Due to the weight of some of the parts, OSHA regulations strongly recommend using two people to safely handle heavy parts. Your safety and the safety of others is important to us, and we don't want you injured due to a lifting hazard.

5. Remove the cover from the pump box and remove all the parts and installation instructions.



Note: The power unit box should contain plastic tie wraps for the power cable, one fuse assembly power cable, one ground cable, and one package containing decals and manuals.

6. Before proceeding, make sure the complete liftgate and its related parts have been received, as listed in the chart.

Liftgate Installation Parts	
Description	Qty.
Located on Pallet	
Floor Extension	1
Streetside Step and Dock Bumper Assembly	1
Curbside Step and Dock Bumper Assembly	1
Dock Bumper Gusset Plates	2
Power Cable with Fuse	1
Located Inside Pump Box	
Liftgate Control Switch	1
Cab Cut-off Switch	1

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

NOTICE

Some trucks require the battery cable to be disconnected prior to welding to protect sensitive electronic equipment.

8. Place the truck on a flat, level surface, and set the parking brake.

Note: *This is critical to ensure the liftgate is properly attached to the frame rails.*

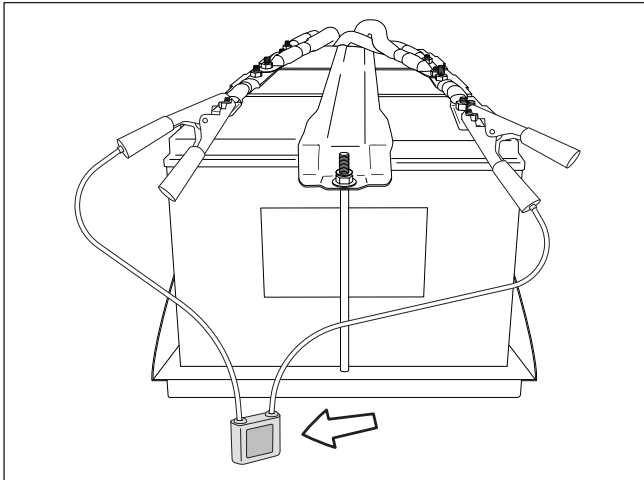
9. Apply the parking brake and remove the key from the ignition to prevent someone from unexpectedly moving of the truck.

WARNING

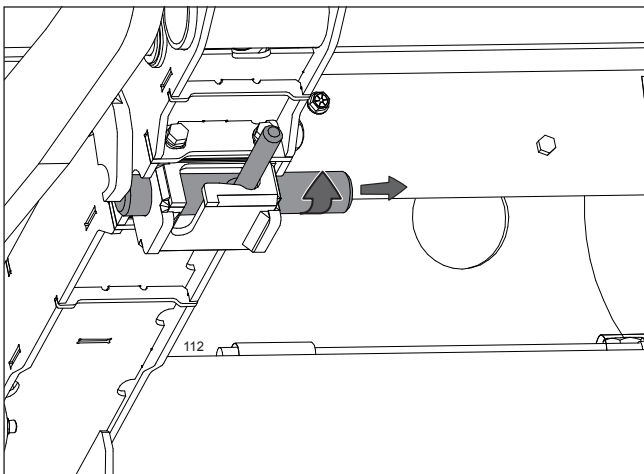
Unwanted movement of the truck can result in serious personal injury or crushing of the installer(s).

10. Block the wheels to prevent the truck from moving while installing a liftgate by placing wheel chocks on both sides of the wheel(s).

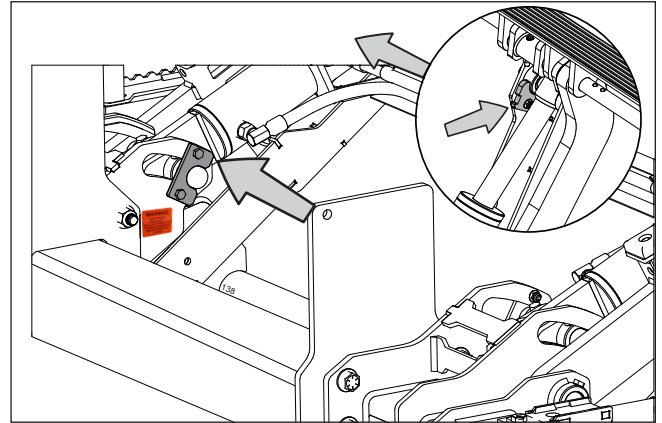
11. Connect a 12/24 Volt surge protector to the battery to protect the vehicle's electronic accessories from voltage spikes which could occur during welding.



12. Release the latch pin from its storage position.



13. A rocker retaining plate prevents the rockers from moving and cylinder stop brackets are installed to prevent the cylinder rods from extending during installation. Do not remove these items until the liftgate has been tack welded to the truck body.



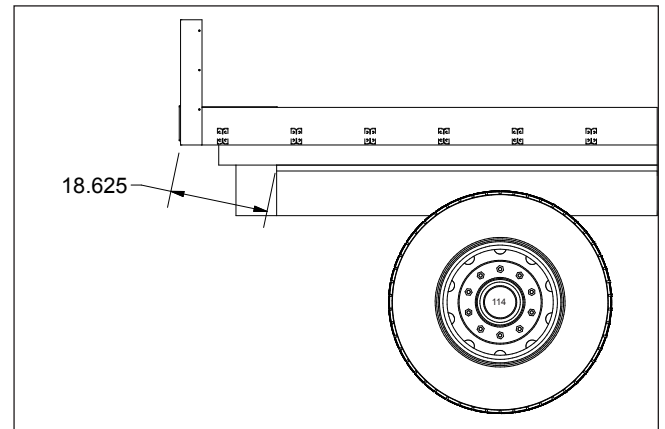
14. Determine if the truck frame rails must be either extended or cut back to properly install the liftgate.

Note: *Before extending the truck frame, make sure the extension meets the specifications of the truck manufacturer and that altering the frame will not void the truck warranty.*

CAUTION

Any extensions of the frame rails must be smooth and flat. Any protrusions or uneven surfaces could cause the mounting plates not to be firmly attached to the frame rails.

- a. Measure 18-5/8 inches from the rear edge of the truck body frame to the long sill.



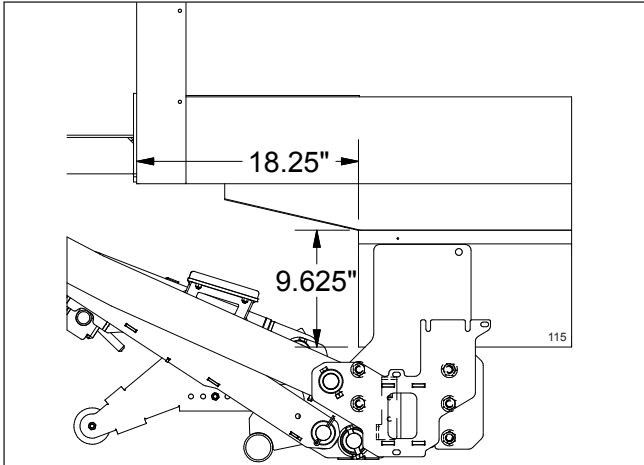
- b. Make a mark on the long sill and either add or remove material to the frame.

CAUTION

Do not allow welding sparks or the flame from a cutting torch coming into contact with the truck bed's wooden floor, fuel tank, brake lines, or other flammable components.

Note: *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.*

- c. If additional frame strength is required to support the back of the truck body, use the following dimensions for the required platform clearance.



3.6 Attaching the Liftgate to the Truck Body

SAFETY INSTRUCTIONS

Install the liftgate with at least two people.

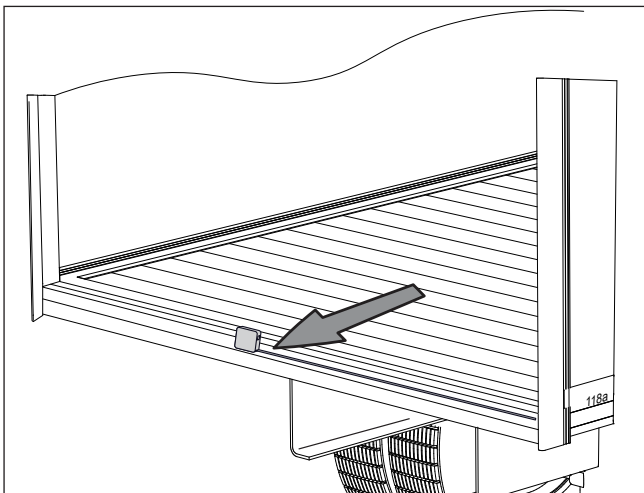
1. Place the truck on a flat, level surface. Block the wheels to prevent possible truck movement during liftgate installation.

CAUTION

Block the wheels and set the truck's parking brake.

Remove the ignition key.

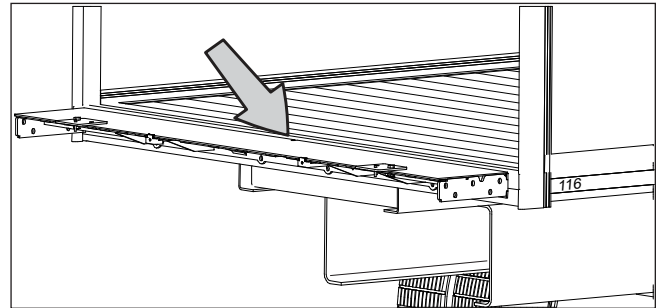
2. If necessary, remove all obstructions from the rear of the truck that would interfere with the installation of the liftgate. Obstructions may include dock bumpers, ICC bumpers, taillights, or any other protrusion.
3. Measure and mark the centerline of the truck's rear sill.



Note: If desired, spray the parts of the truck body near the areas to be welded with anti-splatter spray. This spray saves time during cleanup and gives the final installation a professional appearance.

4. Install the floor extension.

- a. Use a white marker to mark the finish weld locations for a repeating 2 inch continuous weld with a 4 inch gap. Make your marks from both ends inward toward the middle.
- b. Using a lifting device, place the floor extension against the rear sill and align the notch on the floor extension with the mark on the truck body.



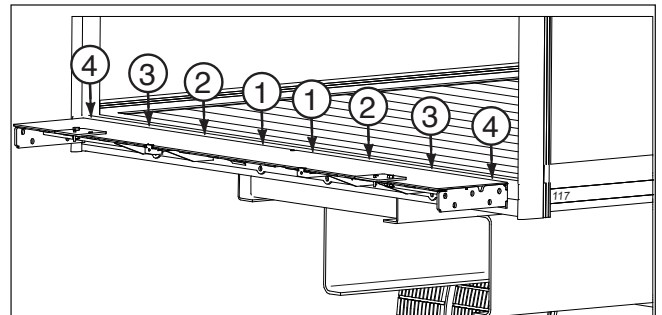
- c. Place the center of the floor extension flush with the floor of the truck.

Note: Most floor extensions have a natural bow and need to be straightened as you install them.

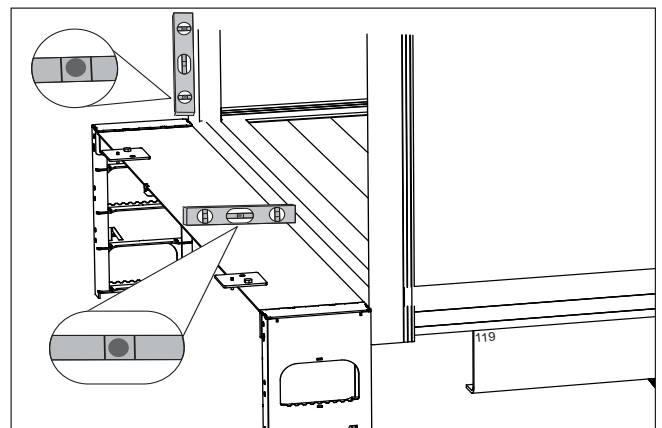
- d. Begin bolting or tack welding at the center (1) and work outward (4). Make sure the extension remains level and flush with the floor of the truck bed.

CAUTION

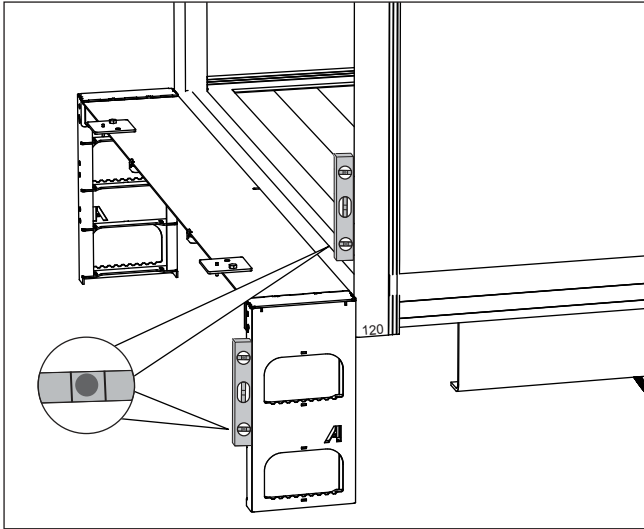
The tack welds must be strong enough to hold the weight of the floor extension, which can be up to 250 pounds. If the tack welds are too small, they may break, resulting in injury.



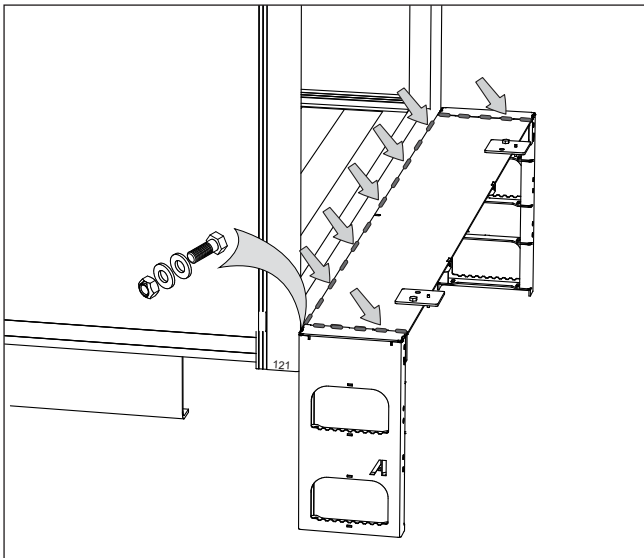
- e. Also, make sure the floor extension is level and parallel to the truck's rear sill. First, place the level on the upright post of the body. Then copy that same amount of "level" to the floor extension.



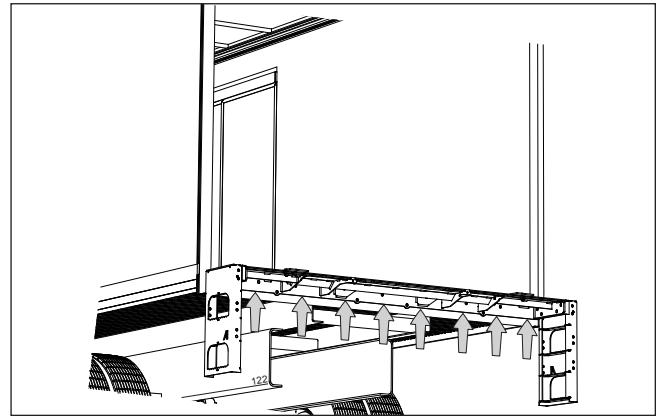
5. Bolt or tack weld both the streetside and curbside dock bumper/steps onto the floor extension, making sure they are level with the truck bed.



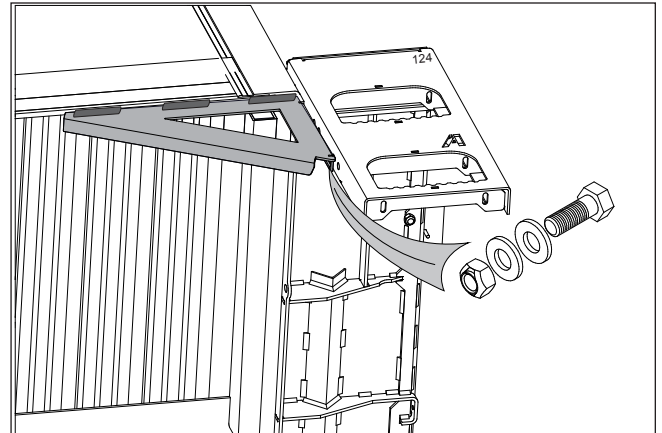
- a. Once the floor extension is straight and level, if welding, finish welding it to the sill of the truck body with 2 inch long welds, every 4 inches.
- b. Bolt or weld the dock bumper/steps to the floor extension and the truck body sill using a continuous weld.



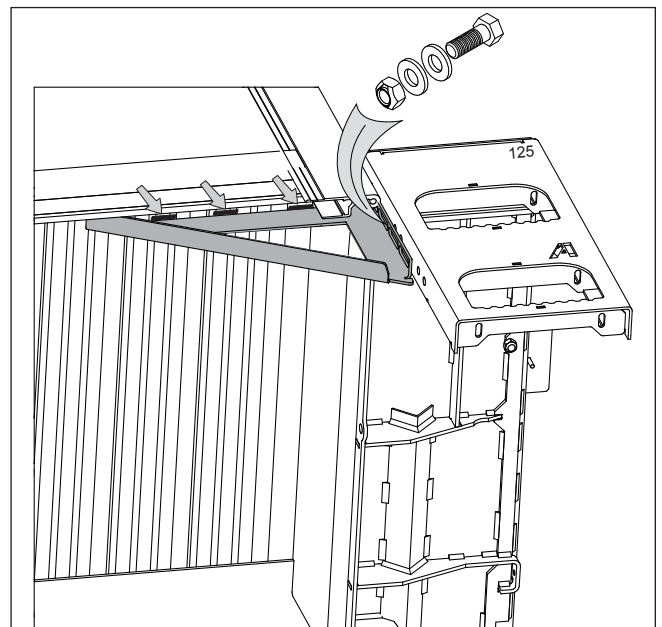
- c. If welding, weld across the bottom of the floor extension in seven to eight locations.



6. Weld or bolt the side gussets to the dock bumper/step and the truck body. If welding to the truck body cross-members, make sure it spans at least three of them.



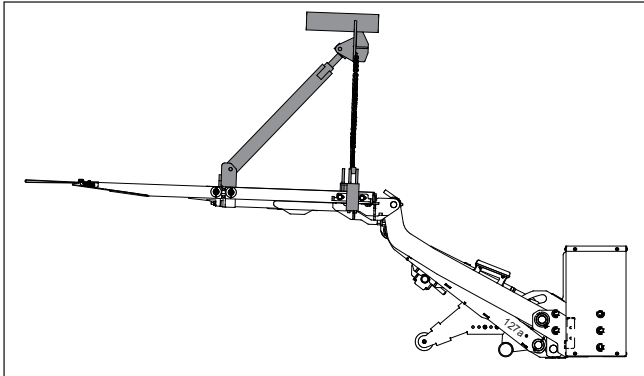
Side gusset welded to the truck body.



Side gusset welded to cross-members of the truck body.

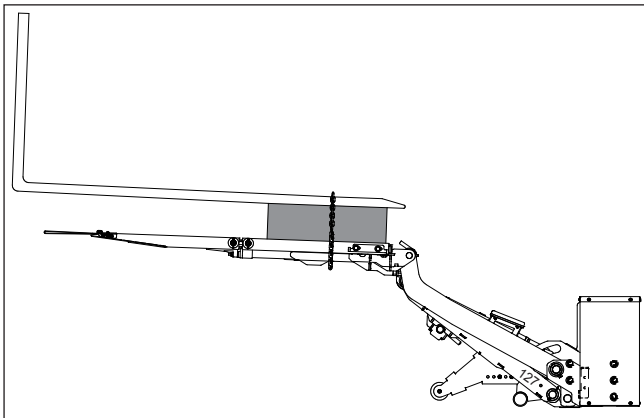
3.7 Attaching Liftgate to Truck Frame

1. Position the folded liftgate behind the truck and carefully unfold the platform using two people.
2. Attach a forklift or overhead lifting device to lift the liftgate. If using a forklift, the use of a lifting fixture makes the installation process easier and safer.

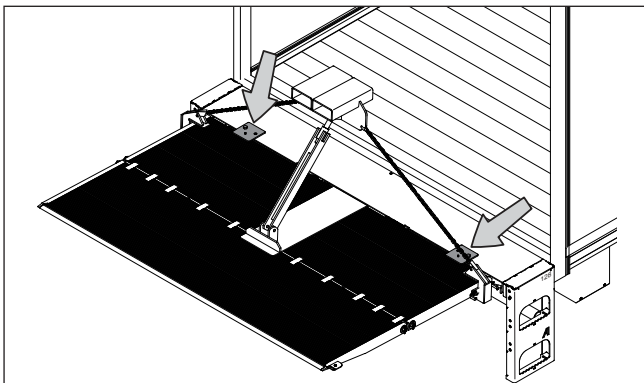


⚠ WARNING Do not work under the liftgate while it is suspended from the lifting device. The capacity of the chains or lifting straps must be strong enough to support the weight of the liftgate, which can exceed 1,100 pounds. If the straps or chains fail, it could result in injury.

3. Position the liftgate behind the truck with the center marks aligned.



4. Raise and place the liftgate, installation brackets (arrows), against the floor extension. Also, push the liftgate against the spacer pins of the installation brackets.

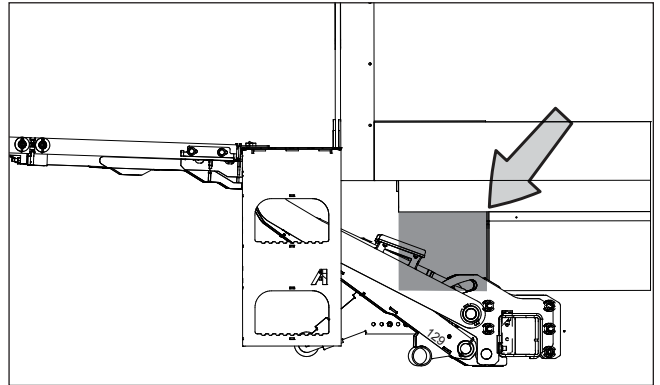


Note: The platform installation brackets help to hold the liftgate level with the floor extension and also provide the proper spacing between the liftgate and the floor extension.

5. Center the platform from side-to-side with the truck body.

⚠ WARNING Do not work under the liftgate while it is suspended.

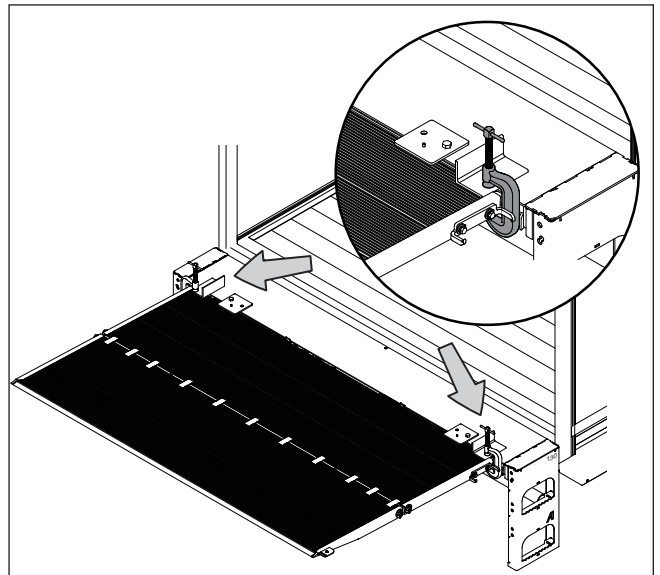
6. Make sure there is no interference, indicated by the gray area, between the adapter frame tube and the truck frame. If the frame is interfering with the adapter frame tube or the mounting plates, cut away any interference.



Note: In some cases, the top of the adapter frame tube may be against the truck frame rails or could be above the frame. It may be necessary to notch the frame rails in order to achieve the required height of the adapter frame tube.

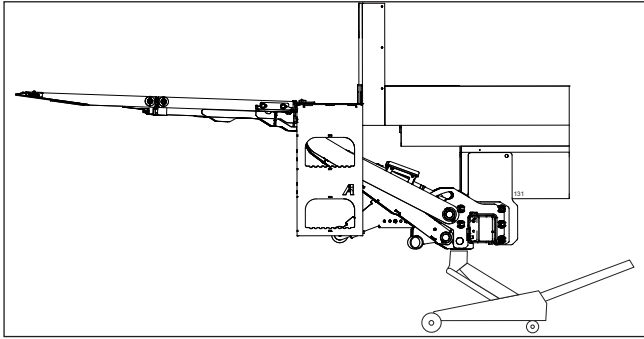
7. Clamp the liftgate against the floor extension using two large C-clamps, as shown.

NOTICE If the liftgate has an aluminum platform, use wood or other protective material to prevent surface damage.

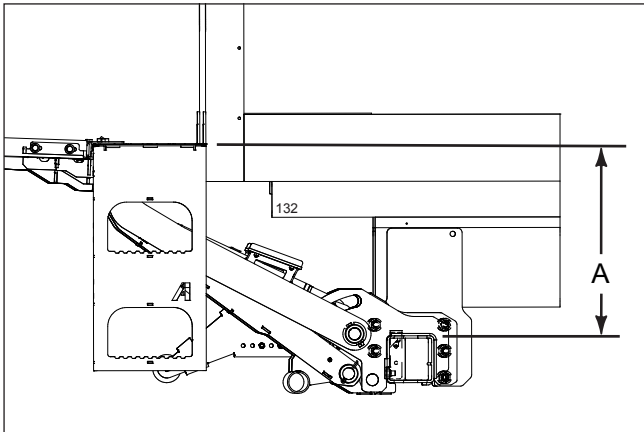


8. Place a lifting device (floor jack or similar device) under the adapter frame tube.

⚠ WARNING Do not work under the liftgate while it is suspended.



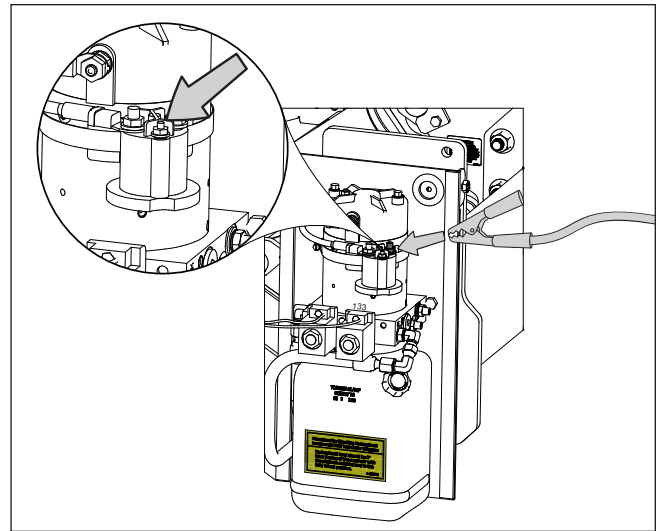
9. Raise the adapter frame tube to dimensions (A) of 20.5" on MTU-GLR-L or 21.5" on the MTU-GLR-M and MTU-GLR-M-WR below the top surface of the truck bed. Remember that if you measure to the bottom of the truck bed to add in the thickness of the floor to achieve the desired height.



NOTICE If the adapter frame tube does not easily raise into position, don't force it. Too much pressure can bend parts of the frame or damage the cylinder, which results in improper operation of the liftgate. It may be necessary to press the UP button on the control switch to release hydraulic pressure in the cylinder.

10. To actuate the control valve, it's necessary to connect a 12 Volt slave battery to the motor start solenoid.

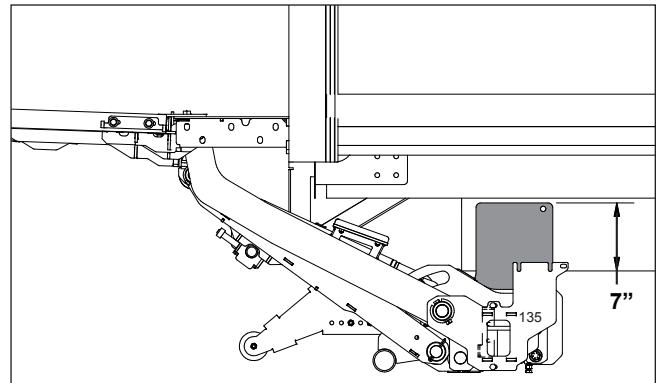
Connect the red jumper cable from a 12 Volt slave battery to the positive (+) terminal of the motor start solenoid. Connect the black (-) cable to a ground on the pump box.



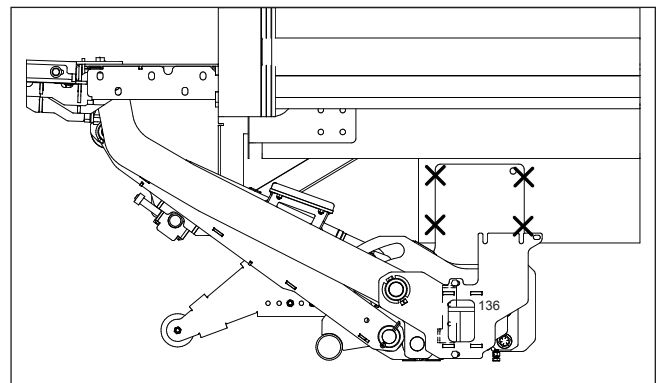
11. Briefly press and release the control switch in the UP position. Remember that pressing the UP control will hydraulically raise the adapter frame tube.

Once the adapter frame tube is at the proper height, the top of the tube should be slightly angled toward the back of the truck.

12. The mounting plate must extend 7 inches above the bottom of the truck frame. Extend or shorten the mounting plates, as needed, as shown.

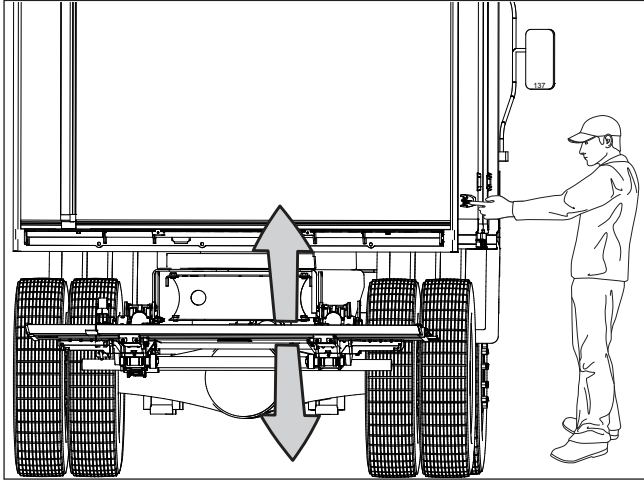


13. Tack weld the mounting plates to the frame in the locations marked "X" (each tack weld should be a 3/8 inch fillet, 1 inch long). DO NOT weld the mounting plates with a continuous weld at this time.

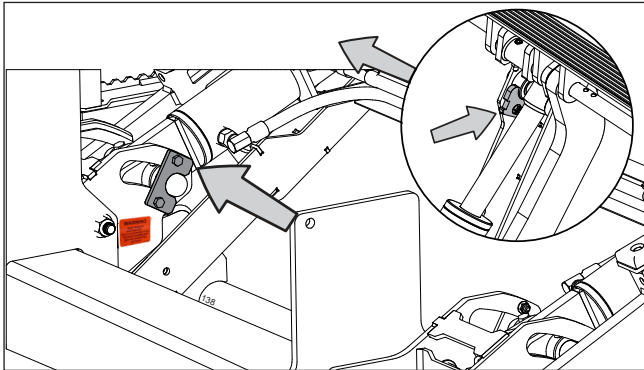


⚠ CAUTION Never work under the suspended liftgate.

14. Remove the lifting device under the adapter frame tube.
15. Remove the two C-clamps.
16. Make sure the latch pin is in the open position.
17. Standing on the curbside of the truck, away from the platform, actuate the DOWN switch to lower the platform to the ground.



18. Remove the rocker locking plate and the cylinder lock blocks from the lift cylinders. One on each cylinder.



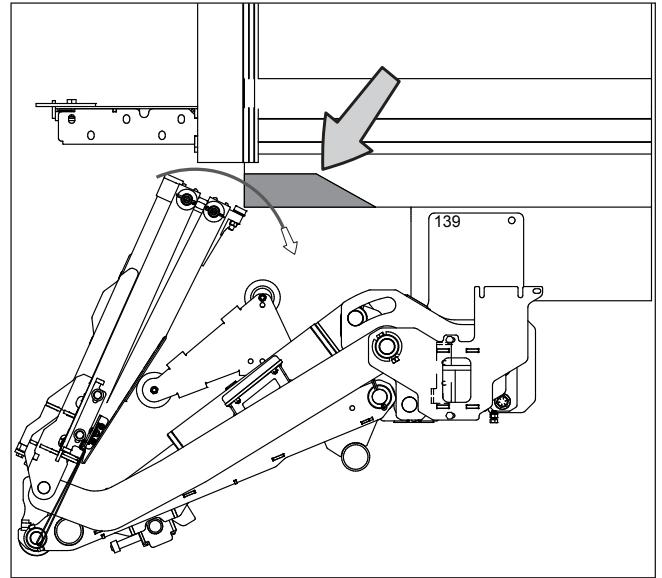
19. The platform must travel correctly through its full cycle.
 - a. A full cycle is when you perform all of these functions, Up, Down, Open, Close, Tilt-Down, & Tilt-Up.

Note: The platform has a “level ride” feature which keeps it parallel to the ground until it first touches the ground. The front edge of the flipover section then tilts down until it touches the ground. The platform again levels itself before raising during the Up cycle.

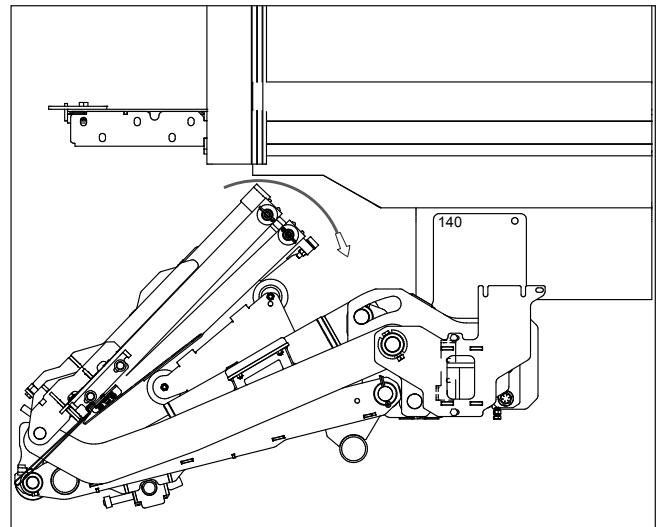
- b. If it does not travel through the full cycle, the mounting plates may be incorrectly positioned.

Note: The main issue in the platform not raising and lowering correctly is having an incorrect distance between the top of the adapter frame tube and the bottom of the truck’s bed floor.

- c. Clamp the liftgate against the floor extension using two large C-clamps as shown in Step 7.
 - d. Remove the tack welds on the mounting plates, and reposition the adapter frame tube.
 - e. Recheck the operation of the liftgate and repeat this step until the liftgate operates correctly.
20. Fold the platform and remove any part of the truck body sill that interferes with completely closing the liftgate.



Interference area shown in gray.



Interference area removed for adequate clearance.

3.8 Final Welding and Testing

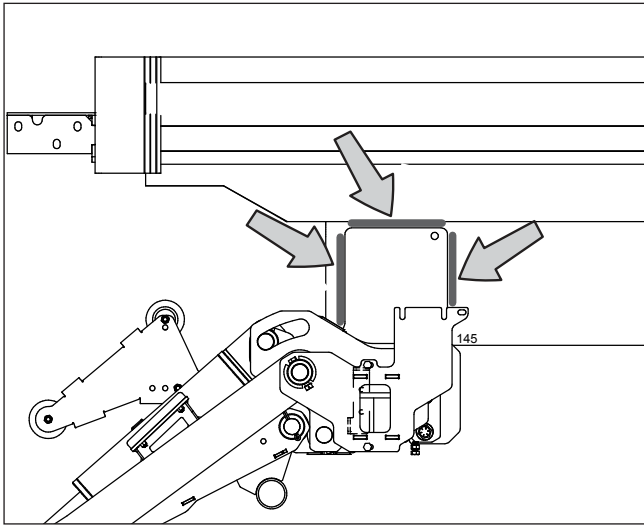
1. If the platform is operating correctly, finish welding the mounting plates. If the platform does not make a complete cycle, make any necessary adjustments.

CAUTION Take precautions to avoid welding sparks coming into contact with the truck bed's wooden floor or other flammable components.

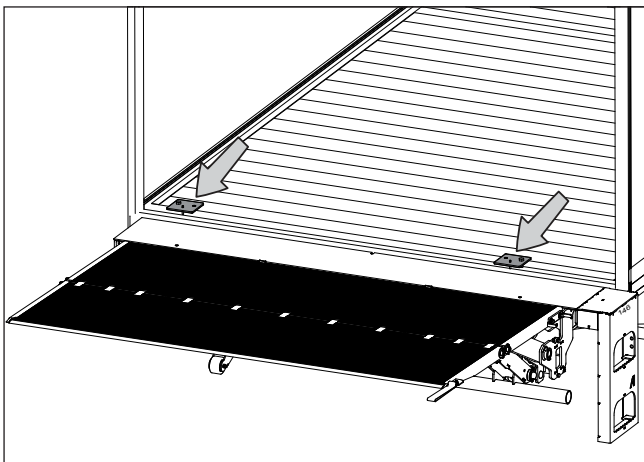
SAFETY INSTRUCTIONS For safety purposes, finish welding the liftgate while the platform is on the ground, not in a raised position.

NOTICE Cover the cylinder rods with a welding blanket to prevent weld spatter from damaging them.

2. With the platform on the ground, finish welding the mounting plates to the truck frame. Use a continuous 3/8 inch fillet weld on all three sides of the mounting plates.

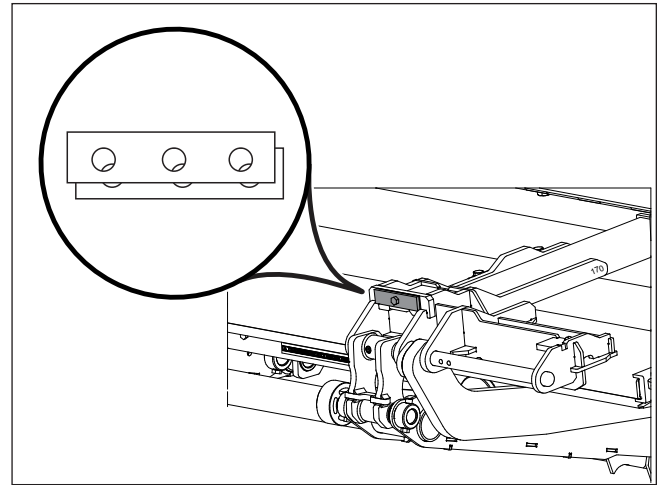
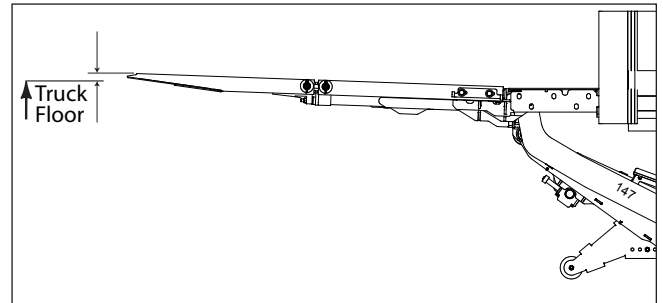


3. Remove the installation brackets from the floor extension.

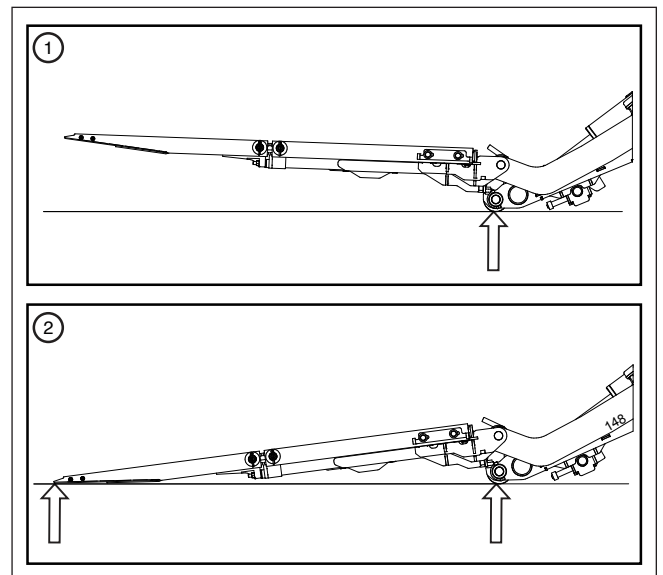


4. Completely raise the platform.

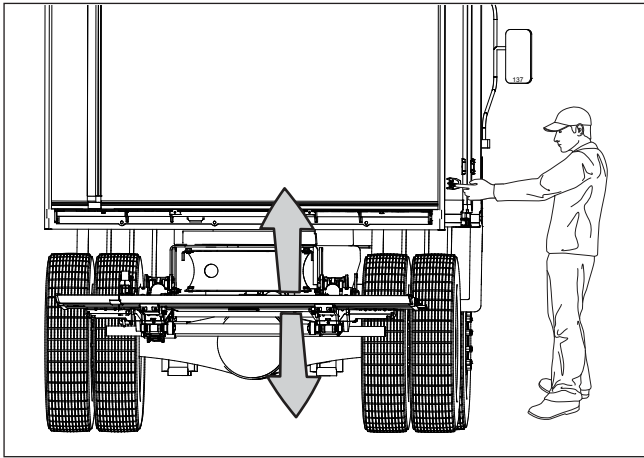
The end of the flipover section should be 1/2 to 3/4 inches higher than the truck floor when in the raised position. If the outboard end of the platform is sagging, add shims.



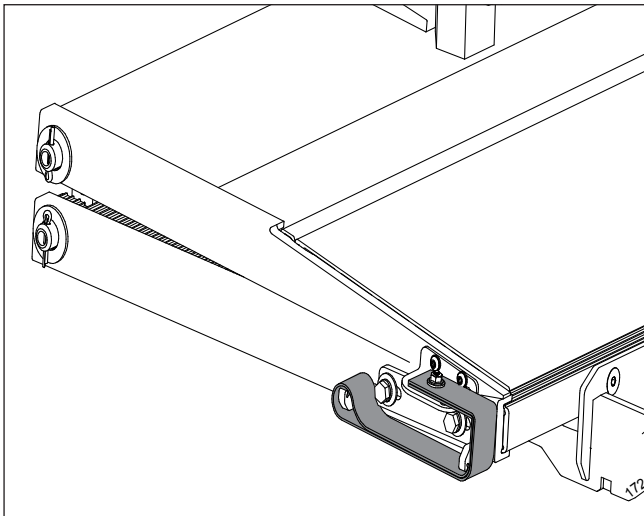
5. The platform should lower parallel to the ground until the back portion nearest the truck touches (illustration 1). It should then tilt forward until the front edge touches the ground (illustration 2).



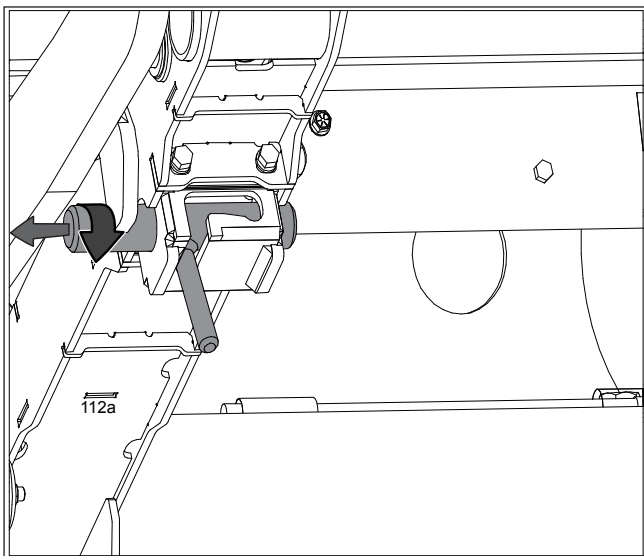
6. Completely raise and lower the platform several times.



7. Place the liftgate in stow position and wrap the opening strap in place, as shown.

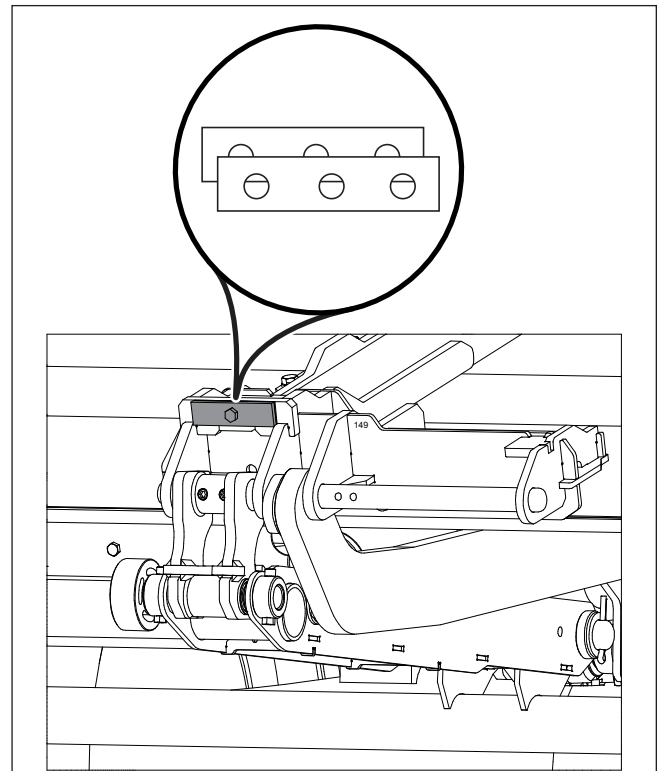


8. Place the latch pin into the locked storage position.



3.9 Testing and Adjusting

1. If the end of the platform does not contact the ground: removing material from the stop blocks will lower the outboard end of the flip-over section while adding a shim to the stop block will raise the outboard end of the flip-over section.



Note: One shim can move the ramp end of the platform as much as 1/2 inch.

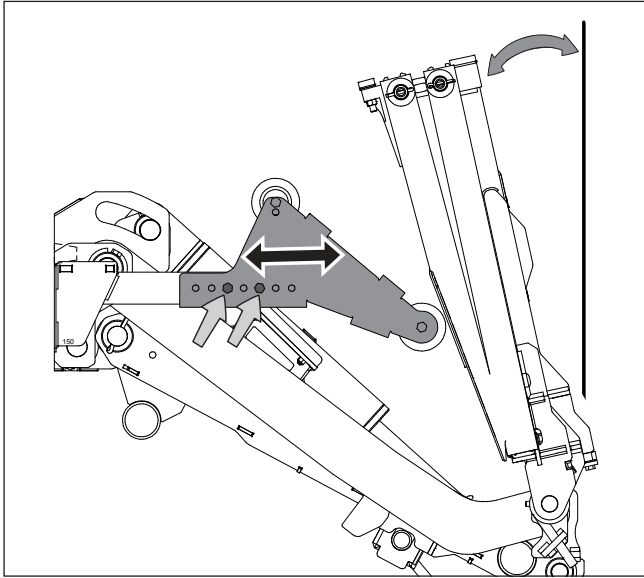
2. Raise and lower the platform to recheck its position.
3. On steel or galvanized platforms, weld the steel shim plates to the blocks on the platform. On aluminum platforms, bolt the shim between the stop block and the platform.
4. If the platform does not align with the floor extension, contact Anthony Liftgates for a possible solution to correct the problem.
5. The wheel arm helps unfold the platform as it is lowered from the stored position. The wheel arm can be adjusted, so the platform unfolds with either greater or lesser effort.

⚠ WARNING

Never stand behind the platform when it is opened. Always stand to the side and away from the edge of the platform. When adjusting the position of the wheel arm, consider that the vehicle may be parked on an upward sloped surface. Adjust the wheel arm to prevent the platform from completely unfolding in this type of situation.

6. If adjustment is needed, remove the two bolts and nuts on the wheel arm.

7. Lengthen or shorten the wheel and channel assembly on the tube, as desired.

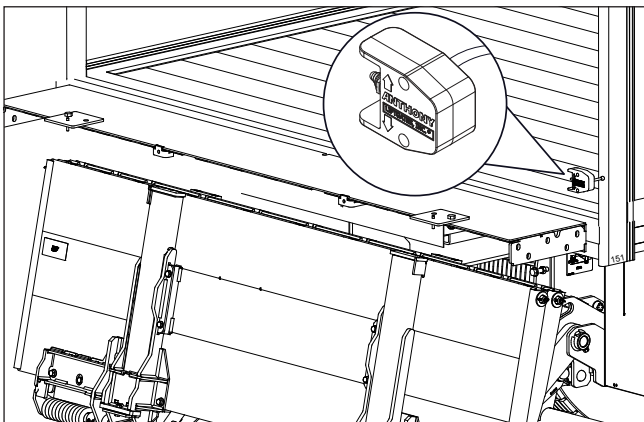


8. Align the two holes in the wheel and channel assembly with the holes in the tube nearest the desired position.
9. Re-install the two bolts and nuts. Tighten the nuts to secure the wheel and channel assembly.

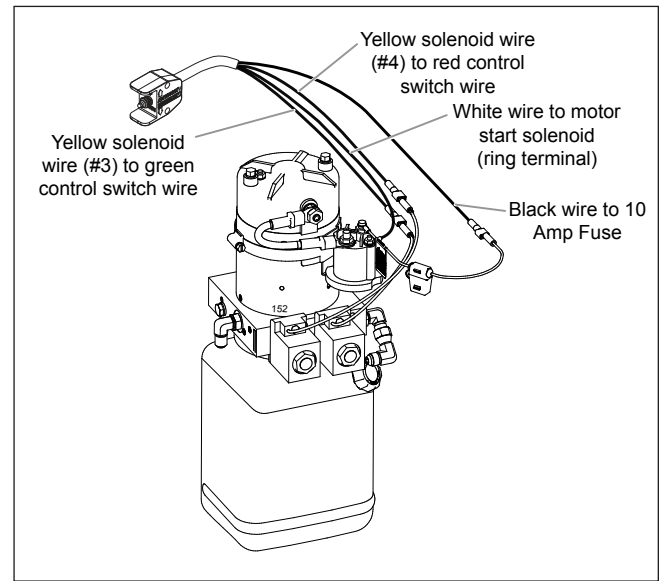
3.10 Mounting Control Switch and Routing the Power Cable

1. Remove the slave battery's jumper cables and disconnect the power unit control switch wires.
2. Drill a hole through the upright post of the truck body and route the cable through the floor and into the pump box.

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



3. Reattach the control unit wires to the appropriate terminals, as shown.



3.11 Electrical Connection to Truck's Battery

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

CAUTION Keep sparks, lit matches, and open flames away from the top of the battery because battery gas can explode. Always follow all the manufacturer's safety recommendations when working around the truck's battery.

1. Route the supplied power cable (with attached fuse assembly) from the battery to the liftgate power supply using one of the following procedures.

WARNING 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.

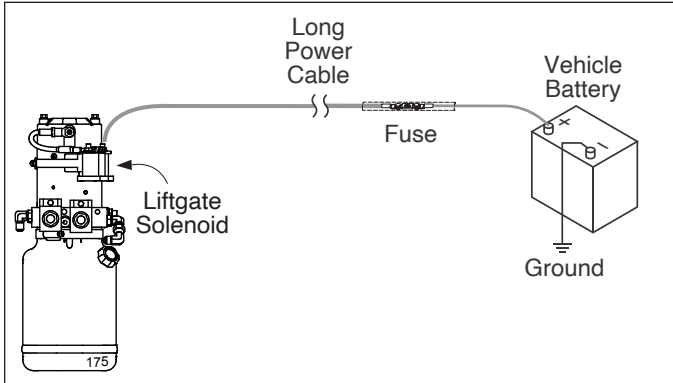
2. Only one method is required to complete the wiring installation.
 - a. Direct Battery Connection (not recommended). Refer to "3.12 Direct Battery Connection (not recommended)" on page 22.
 - b. Cut-Off Solenoid Connection. Refer to "3.13 Cut-Off Solenoid Connection" on page 22.
 - c. Cut-Off Switch Connection. Refer to "3.14 Cut-Off Switch Connection" on page 23.

3.12 Direct Battery Connection (not recommended)

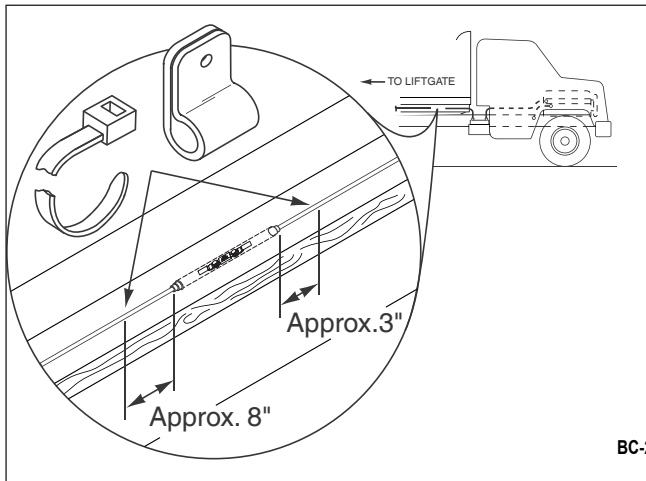
SAFETY INSTRUCTIONS

Using the direct wiring connection 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 is recommended in order to disable the use of the liftgate when the truck is not in use.

1. Position the fuse assembly end of the cable near the battery.



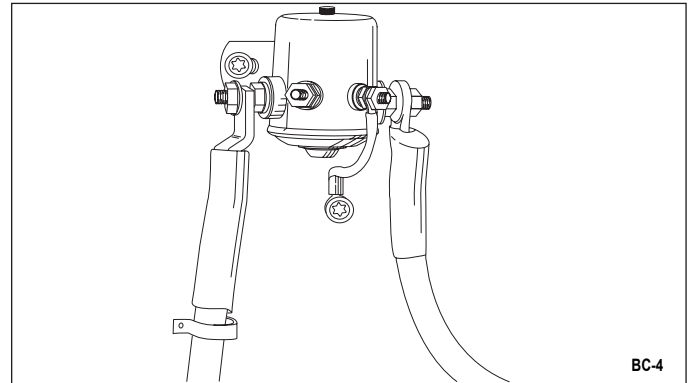
2. Route the cable toward the back of the truck and the liftgate.
3. If the area of the fuse assembly is attached to the long sill, locate one fastener or clip (battery side) within 3 inches of the end of the fuse assembly. Locate the other fastener (power unit side) within 8 inches of the fuse assembly. This will allow the fuse to be easily changed.



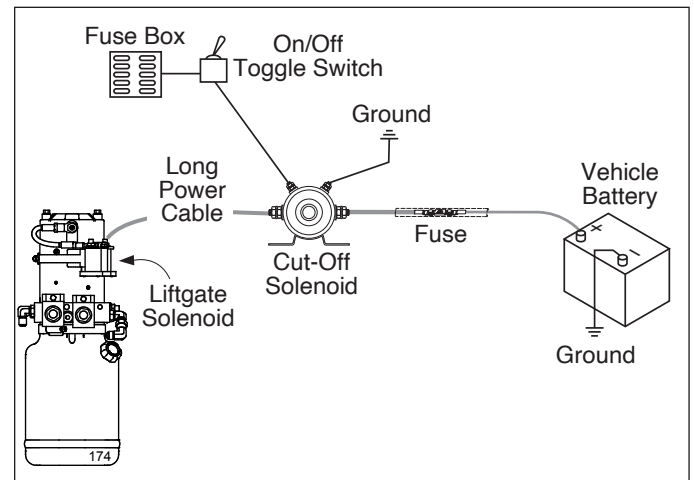
The installation of a cut-off solenoid is a recommended option for all 12 Volt electric liftgates. Installing a cut-off solenoid will help to prevent accidental or unauthorized use of the liftgate.

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

Follow the directions on the installation instruction sheet that comes with the kit.



1. Locate the cut-off solenoid between the fuse assembly and the power unit.



2. Cut the power cable and install two new lug connections as described in section "3.15 Cable Lug Assembly" on page 23.

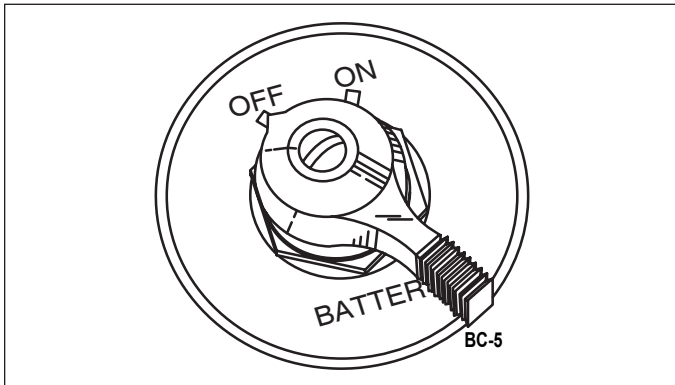
3.13 Cut-Off Solenoid Connection

WARNING

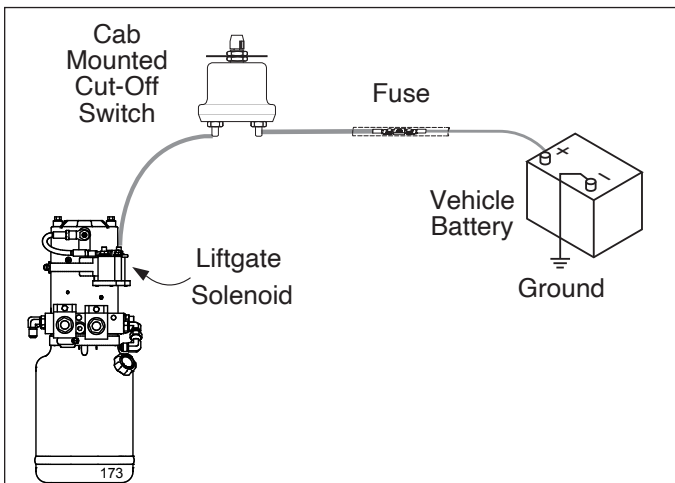
Anthony Liftgates strongly recommends the installation of a power cut-off solenoid or cab cutoff switch. Not cutting off power to the liftgate when unattended can result in serious injury or death to unauthorized users or others near the liftgate.

3.14 Cut-Off Switch Connection

The installation of a cut-off switch is also a recommended option for all 12 Volt electric liftgates.



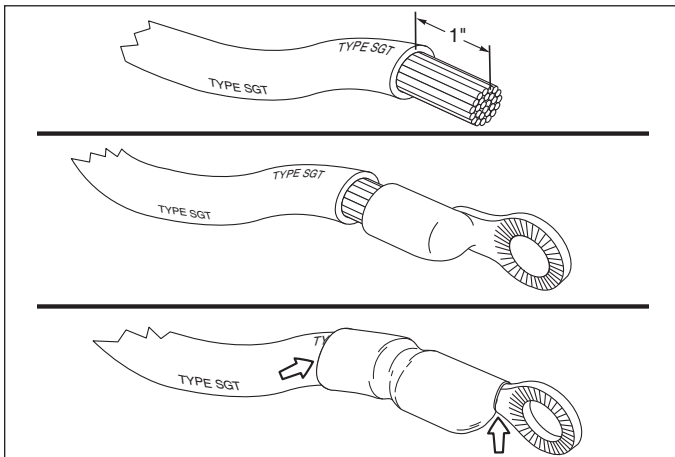
Installing a cut-off switch will help to prevent accidental or unauthorized use of the liftgate. Follow the installation directions on the installation instruction sheet that comes with the kit.



3.15 Cable Lug Assembly

To install new cable lugs on the end of the power cable, use the following directions.

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



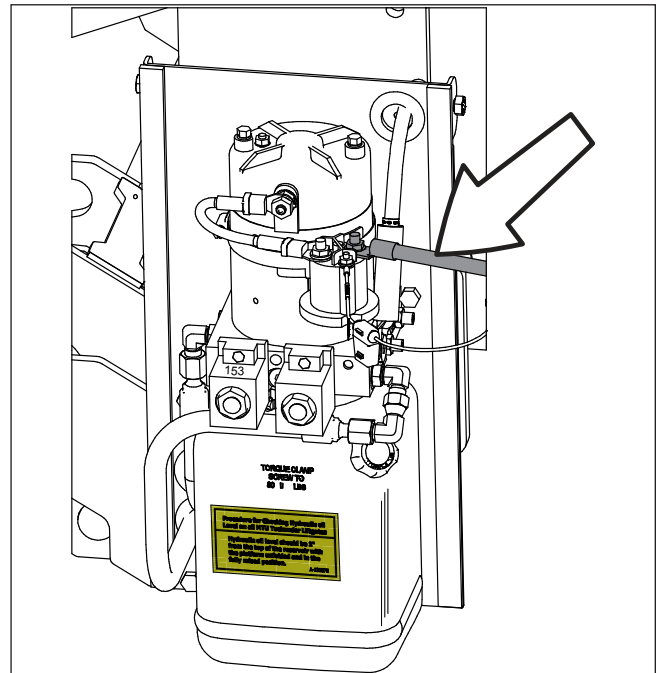
2. Position the cable lug on the exposed wire, as shown. Crimp the cable lug using a cable crimping tool (hydraulic or manual).
3. Use the supplied heat shrink tube to insulate the new connection, leaving only the mounting hole exposed.

NOTICE

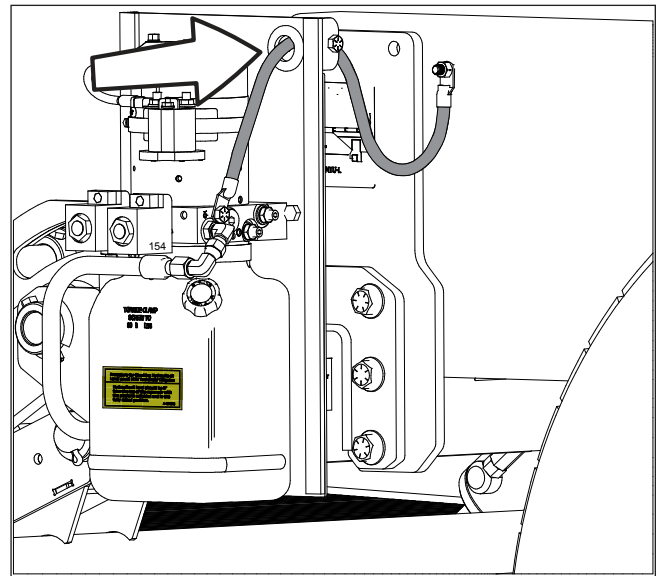
Proper wire connection is crucial to the life and dependability of the liftgate's electrical components. A poor connection can result in low Voltage causing the liftgate to work improperly. **DO NOT** crimp (smash) the cable lug with a hammer to secure it to the cable.

3.16 Power Cable Installation

1. Connect the long section of the power cable to the motor start solenoid.



2. Attach the ground strap to the truck frame.



⚠ WARNING

The liftgate must be properly grounded to the truck chassis. 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.

3. Route the power cable to the location for the power cut-off solenoid or the cab-mounted cut-off switch, attaching it with plastic tie wraps or wire clips.

⚠ WARNING

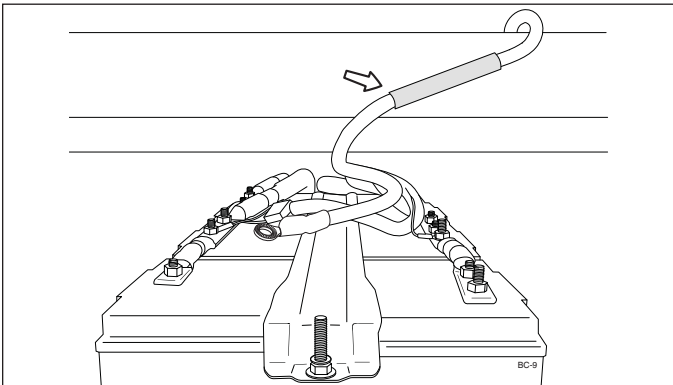
Never secure the power cable to anything which allows it to contact sharp edges, other wires, the fuel tank, fuel lines, brake lines, air lines, exhaust system, or any other object that could cause the power cable to wear or be damaged. A cut battery cable can cause sparks, resulting in the loss of vehicle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

4. Install the power cut-off solenoid “3.13 Cut-Off Solenoid Connection” on page 22 or the cab cut-off switch “3.14 Cut-Off Switch Connection” on page 23.

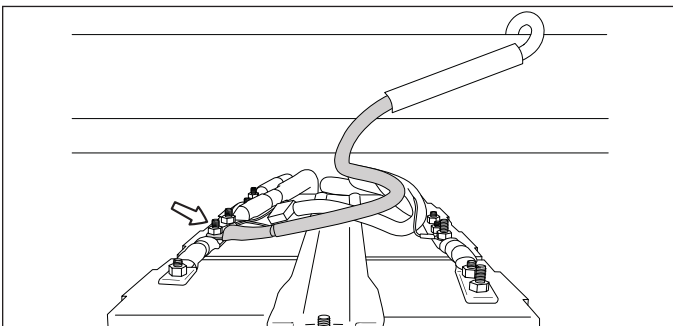
⚠ WARNING

Anthony Liftgates strongly recommends installation of a power cut-off solenoid or cab cut-off switch. Allowing power to the liftgate when truck is unattended can result in serious injury or death.

5. Route the remaining length of power cable with the fuse near the battery box.



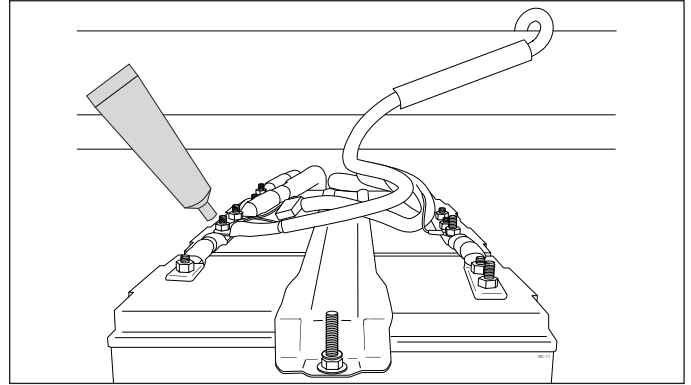
6. Route the short, 3-foot section of cable into the battery box and connect the end to the positive (+) post of the truck battery.



7. Use the control switch to raise and lower the platform.
8. Coat any terminal ends, studs, and nuts in the liftgate electrical system with a suitable corrosion-inhibiting lubricant.

NOTICE

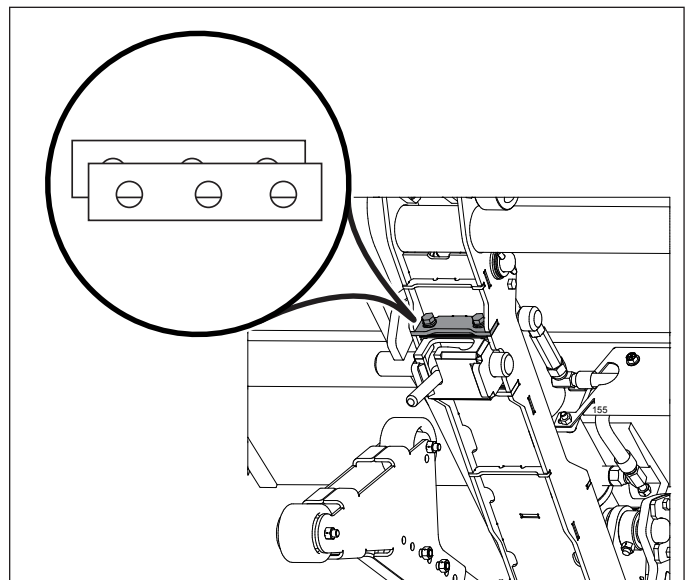
Do not apply petroleum-based lubricant to the liftgate motor start solenoid. Use only a dry film lubricant on this component.



9. Replace the battery box cover and lock it in place.

3.17 Adjust Latch Pin

1. Adjust the latch pin plate by adding or removing shims to allow a 1/16 to 1/8 inch gap between the latch plate and the latch pin.
2. Insufficient clearance can allow binding of the latch pin as the liftgate is used, while too much clearance will not properly secure the liftgate.
3. If the latch pin will not easily open, press the UP control button to release any tension on the latch pin.



4. Maintenance and Inspection

4.1 Maintenance Safety Instructions

SAFETY INSTRUCTIONS

Read and understand the general safety instructions located in section “3.1 General Information” on page 10 before operating this liftgate.

It is the responsibility of the maintenance personnel to understand the proper maintenance, parts replacement, and operation procedures. Be aware of the inherent dangers in the use of this product and the tools used to install any replacement parts. Read, understand, and follow all Warnings, Cautions, Notices, Safety Instructions, and Notes in this manual and on the liftgate.

WARNING

Indicates a potentially hazardous situation

which, if not avoided, could result in death or serious injury.



Do not work under the liftgate while it's in a raised position. Failure of the liftgate's structural components, while replacing parts, could cause serious crushing injuries.

CAUTION

The following safety instructions are provided to help prevent potential injury. Not following these instructions may lead to injury.



When maintaining the liftgate or installing replacement parts, wear

appropriate personal protective equipment. This list may include, but is not limited to:

- A hard hat.
- Protective shoes with slip resistant soles.
- Protective goggles, glasses, or face shield.
- Protective clothing.



Do not attempt to install replacement parts under the influence of drugs or alcohol.



Do not install a replacement part if it's damaged. If you believe the part has a defect, which could cause it to work improperly, you should immediately stop the installation and remedy the problem before continuing.



Make sure the liftgate will not be damaged or made unsafe by the installation of the replacement part.



Always use genuine, factory OEM replacement parts to restore the liftgate to its original specifications. Anthony Liftgates will not accept responsibility for damages as a result of using unapproved parts.

SAFETY INSTRUCTIONS

The following safety instructions are provided to help prevent injury or limit equipment damage.



To prevent injury, replacement parts should only be installed by a qualified installer having installation knowledge and skill.



Do not modify safety devices.

Unauthorized modifications may impair the liftgate's function and/or safety features.



Make sure all replacement parts are in good working condition and properly installed.

4.2 Periodic Inspection Points

All Anthony Liftgates are “Grease-Free”, which means they have lubrication-free bushings at the major pivot points.

4.2.1 Daily Inspection

- Make sure the liftgate operates freely and smoothly throughout its entire range of movement.
- Check all pins and pivot points. Make sure they are secured with proper retainers. Replace worn bushings and/or pins.
- Make sure control switches properly operate.

4.2.2 Monthly Inspection

Mechanical Components

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 parts. Check for excessively worn parts.
3. Check for cracked welds which may have resulted from overload or abuse.
4. Check all pins and pivot points. Secure all pins with proper retainers. Replace worn bushings and pins.
5. Make sure all springs and latches are in good working condition.

Power Units

6. Check for oil leaks in the following areas:
 - a. Hydraulic lift cylinders.
 - b. Hydraulic hoses. Replace any hose that shows signs of leakage or excessive abrasion of the covering.
 - c. Check all hydraulic fittings for damage or leakage. Tighten fittings to stop leaks or replace if damaged.
7. Check reservoir oil level. Refer to “4.3 Power Module Fluid” on page 26 for additional information.

Electrical Components

8. Make sure all electrical wires, switches, and connections are in good working condition and operate properly.
9. Proper wire connection is crucial to the life and dependability of the liftgate's electrical components. A poor connection can result in low Voltage, causing the liftgate to work incorrectly.
10. Check the fluid level of the vehicle battery. Fill as required.

⚠ WARNING Keep sparks, lighted matches, and open flames away from the top of the battery, because battery gas can explode. Always follow all the manufacturer's safety recommendations when working around the truck's battery.

Safety Signs and Informational Decals

11. Examine all warning, capacity, and operational decals. If they are not readable, replace them. Decals may be obtained free of charge from your authorized dealer.

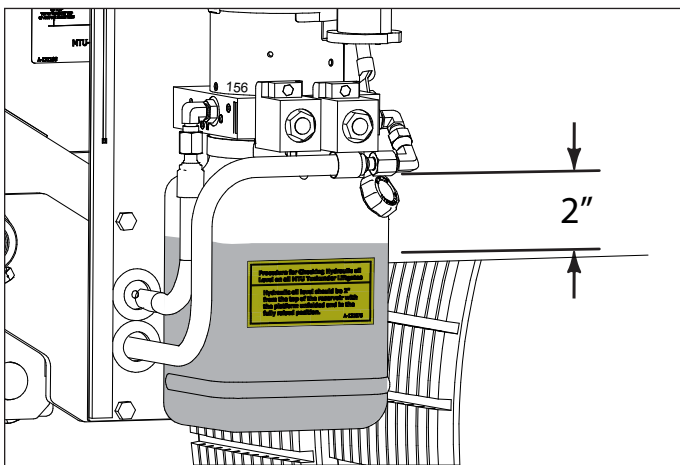
4.2.3 Semi-Annual Inspection

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. Refer to "4.3 Power Module Fluid" on page 26 for additional information.

4.3 Power Module Fluid

Liftgate power unit - With the platform fully raised, the oil level should be within 2 inches of the top of the reservoir.



NOTICE To prevent damage to the pump, use only the recommended hydraulic fluid in the power unit reservoir. Most units use Peak Performance Dexron III Mercon Automatic Transmission Fluid while some units may use Hyken Glacial Blu anti-wear, low-viscosity oil.

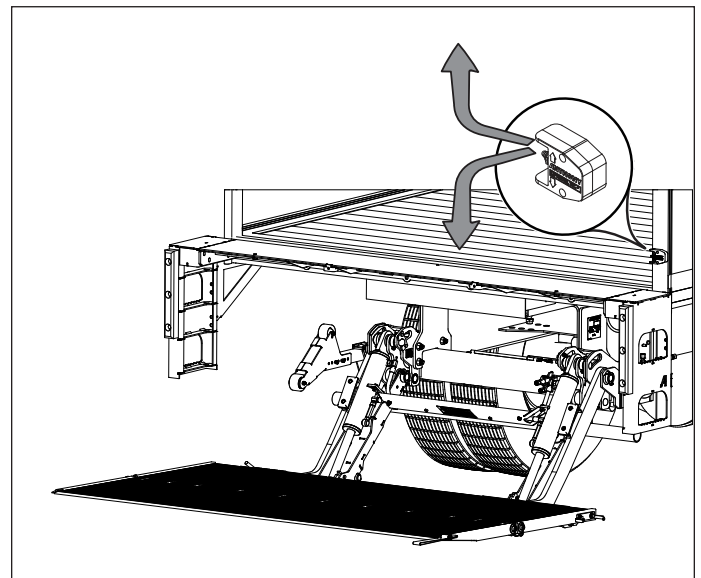
In an emergency, use any anti-wear hydraulic fluid, but flush the system and replace it with our recommended fluid as soon as reasonably possible. Do not mix hydraulic oil and automatic transmission fluid due to possible compatibility problems.

Use the appropriate viscosity of fluid based on the surrounding climate conditions. Viscosity is important because the pump will not cause a temperature increase to the oil in the reservoir, like a typical closed-loop hydraulic system.

DO NOT use brake fluid in place of our recommended fluids.

4.4 Checking the Control Switch

Control switches are permanently sealed (potted) and cannot be checked. If the control switch is not working properly, replace it after checking the 10 Amp fuse as referenced in "4.6 Control Switch Fuse (10 AMP)" on page 27.

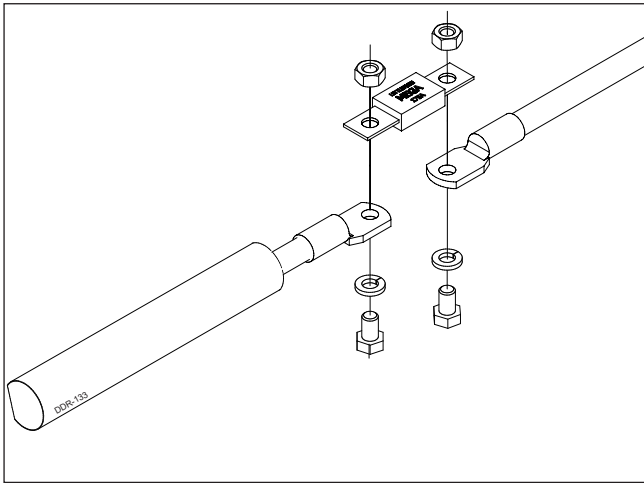


4.5 Main Power Cable Fuse (175 AMP)

⚠ CAUTION To avoid injury or property damage, disconnect the liftgate's power cable from the battery(ies) before starting to replace the fuse. Do not ignore this instruction or an "arc" can occur, resulting in personal injury or property damage.

1. Cut and remove the heat shrink tube to expose the fuse, mounting hardware, and lugs.
2. Remove the bolt, washer, and lock washer from each end of the fuse.
3. Use the A-133607, 175 Hi-Amp Fuse Replacement Kit for the replacement parts.
4. Slide new heat shrink tube over one side of wiring.

5. Bolt the new fuse to the cable lugs using the bolts, washers, and lock washers, as shown.

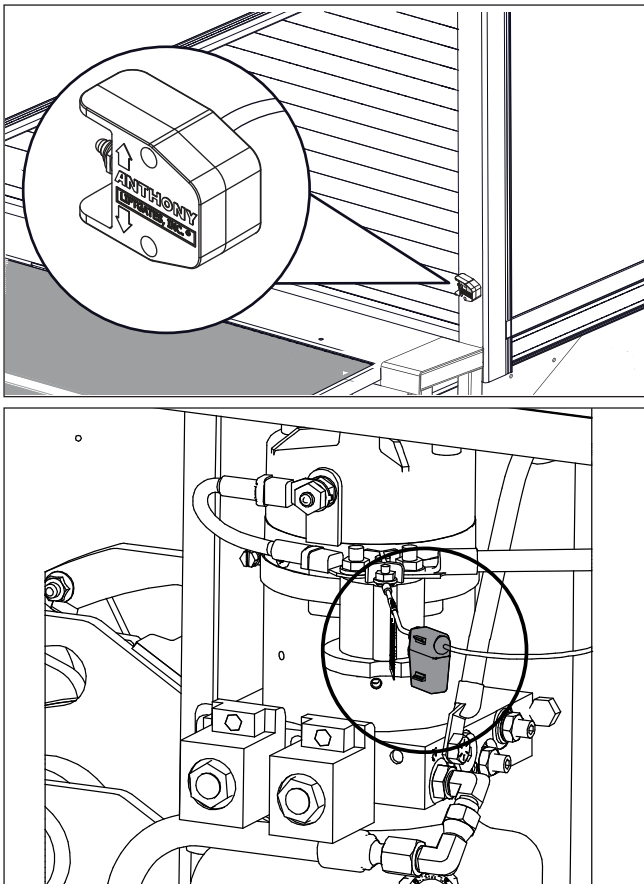


6. Slide the heat shrink tube over the fuse, hardware, and lugs. Using a heat gun apply heat evenly to shrink the tubing.
7. Reconnect the power cable to the battery after making sure the platform area is clear.

Note: If the fuse continues to blow, contact a qualified mechanic to remedy the problem.

4.6 Control Switch Fuse (10 AMP)

If the control switch is not operating the liftgate, check the in-line fuse located inside the pump box.



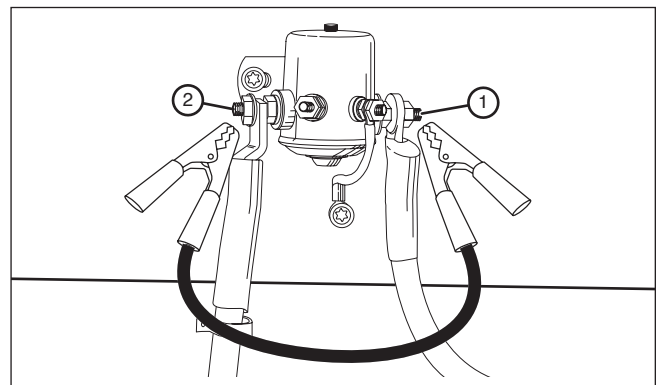
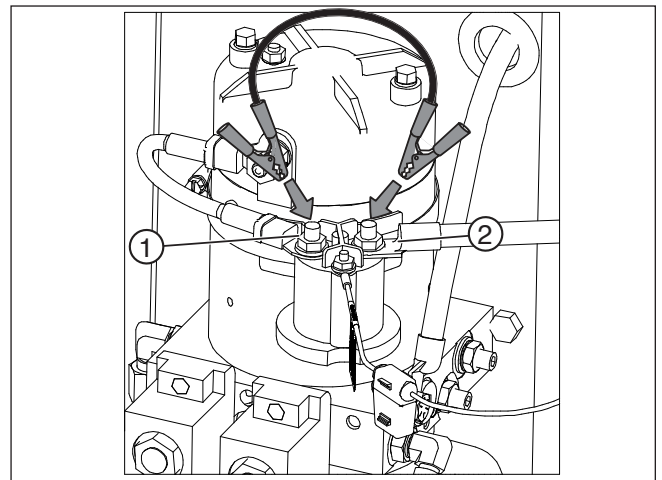
CAUTION

Stand clear of the liftgate when checking the control switch. It is possible for the liftgate to activate when testing the switch, which could lead to personal injury.

4.7 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 battery side (1) of the solenoid. Connect the other cable to motor side (2) of the solenoid.
3. If the liftgate is activated, the solenoid is defective and should be replaced.



4.8 Checking the Power Cable

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

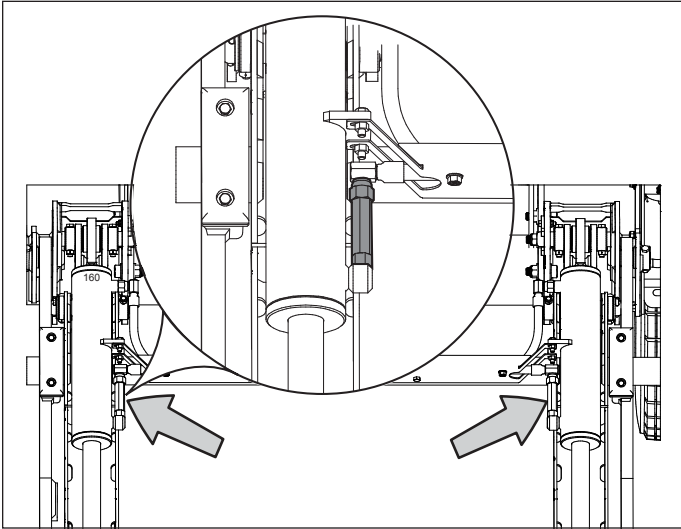
1. Remove the battery connection to the motor.
2. Connect the negative jumper cable (ground) directly to the liftgate. Connect the positive cable to the terminal on the motor start solenoid.
3. If the motor operates, the battery cable is defective and should be replaced.

4.9 Checking Flow Control Valve

If the cylinder does not operate or operates slower than normal, remove the flow control valve and hook the hydraulic hose directly to the cylinder. If the cylinder operates properly, replace the flow control valve.

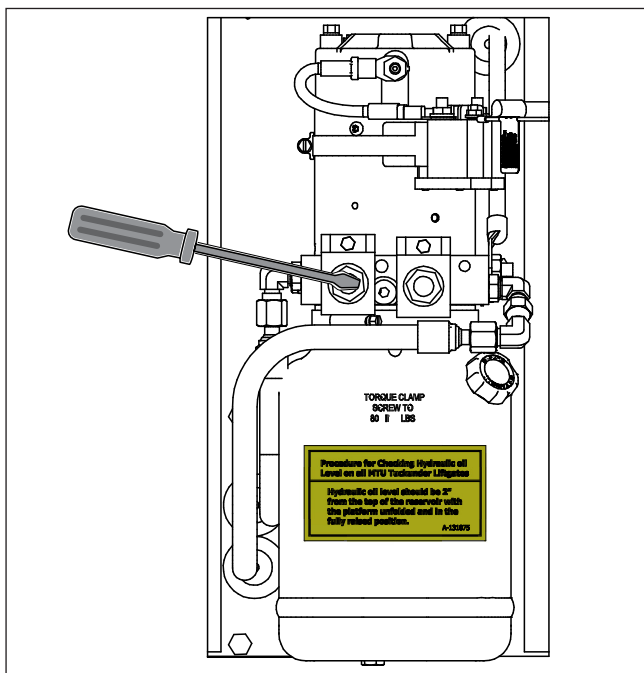


WARNING Do not operate the liftgate without the flow control valve. Serious injury or death could result if this action is not followed.

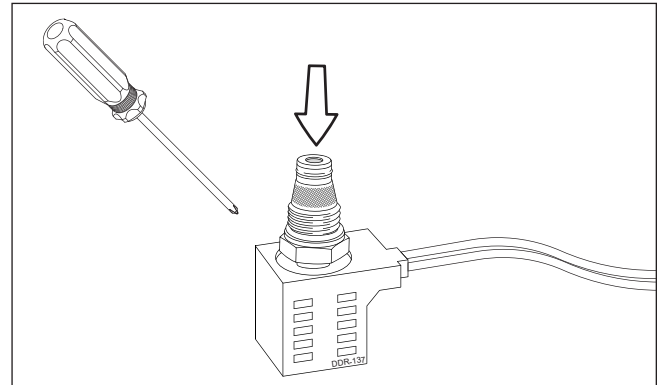


4.10 Checking Lowering Valve Cartridge and Solenoid

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

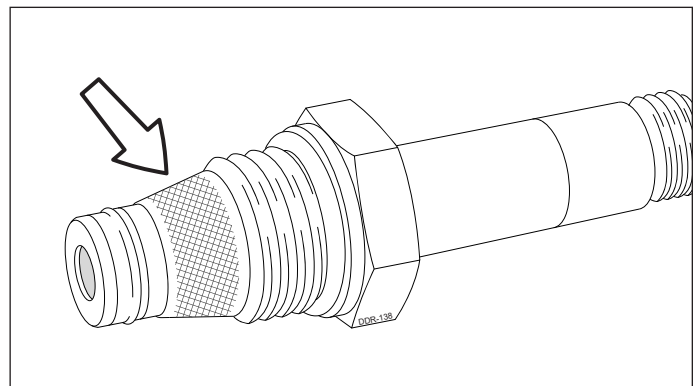


3. Momentarily activate the control switch in the DOWN position. The screwdriver should be attracted to the magnetic field created by the solenoid.
4. If no magnetic pull is produced, the solenoid is defective and should be replaced. If the solenoid is activated, check the cartridge valve.
5. Remove 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, as the spool could be bent, pitted, or damaged in some other way.



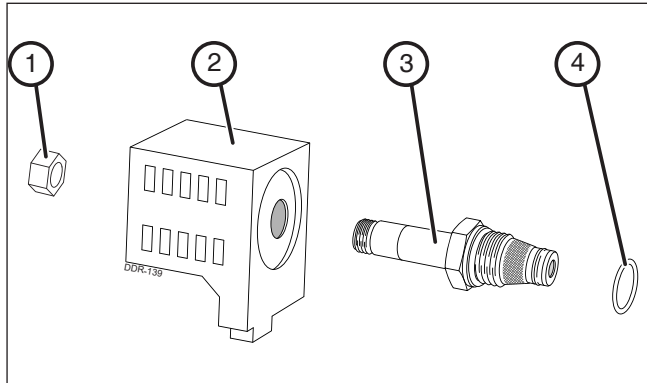
4.11 Solenoid Valve Screen

If the solenoid is working electrically, check the debris screen and clean if dirty.



4.12 Replacing Solenoid Valve

1. While installed in the pump, remove nut (1).
2. Remove coil (2) from cartridge (3).
3. Remove cartridge (3) from pump body.
4. O-ring (4) is not required on current models and can be discarded.
5. Replace the cartridge and reinstall the coil.



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

Power Down Models

1. Check the lowering valve. Make sure it is operating correctly, and the valve is not sticking or dirty. Refer to "4.10 Checking Lowering Valve Cartridge and Solenoid" on page 28.
2. If the lowering valve is operating properly, then the drifting is most likely caused by worn piston seals. Replace the cylinder.

4.14 Checking System Pressure

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 T-fitting (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.

4. Raise the liftgate and check the pressure on the gauge.

Low-Pressure Threshold Chart			
Model	Power Up	Power Down	Cylinder
2500	1750	125	3"
3000	2100	125	3"

⚠ WARNING

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.

Check the power down relief valve pressure in the same way as the gravity down system by installing a T-fitting and pressure gauge.

4.15 Power Module Oil Pickup Filter

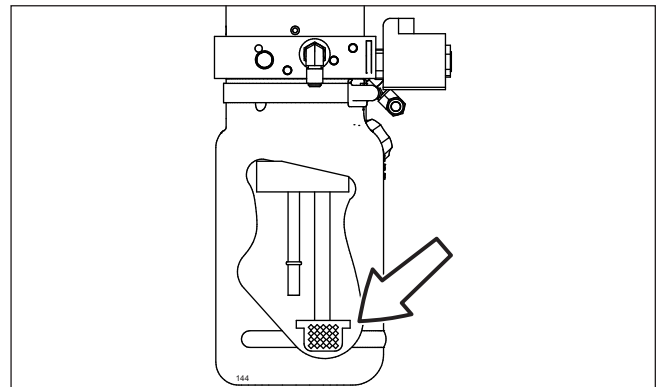
The oil reservoir tank contains a pickup tube and filter screen. If the hydraulic system is working slower than normal, the filter screen may be clogged or the pickup tube may be disconnected.

To clean the filter screen:

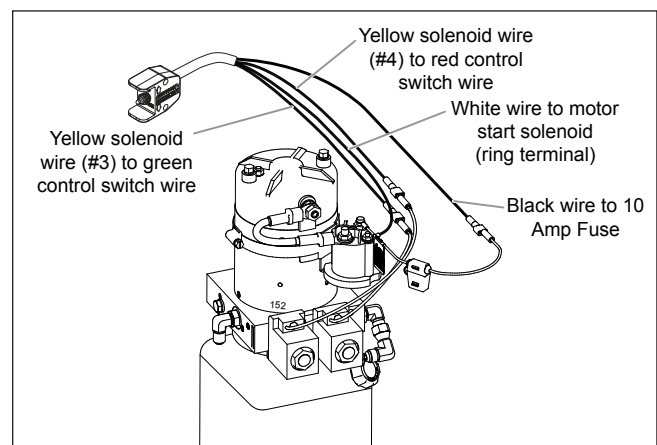
1. Remove the oil from the reservoir. Discard the contaminated oil in a safe manner.
2. Loosen the oil tank band clamp.
3. Slide the oil tank away from the pump housing.
4. Clean the filter and reassemble the unit.

Note: If the tube has turned or fallen out, reinstall it onto the pump housing. Use a center punch to "stake" the tube into position.

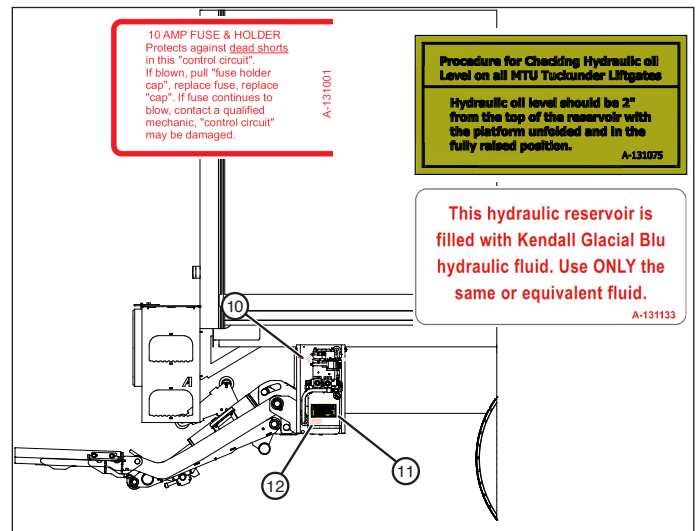
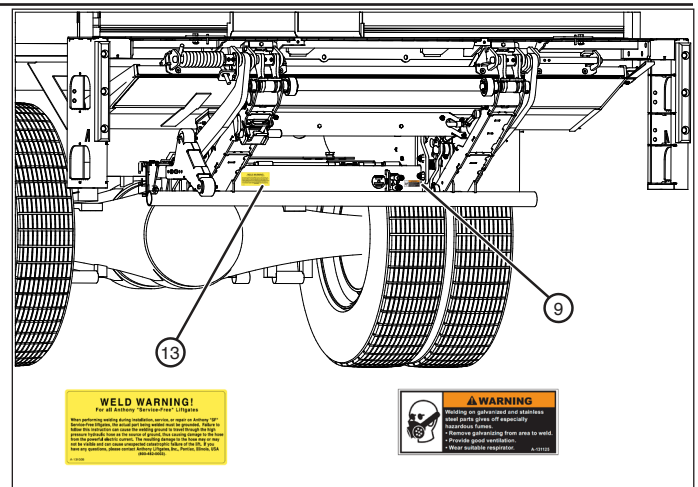
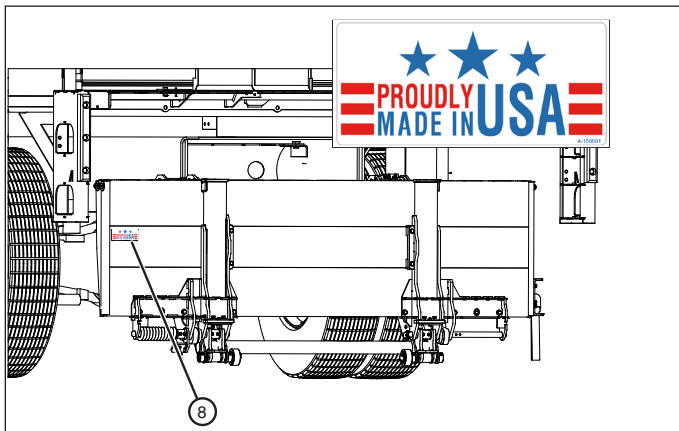
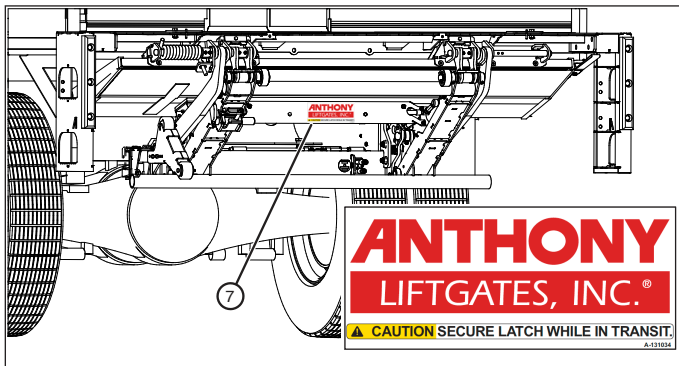
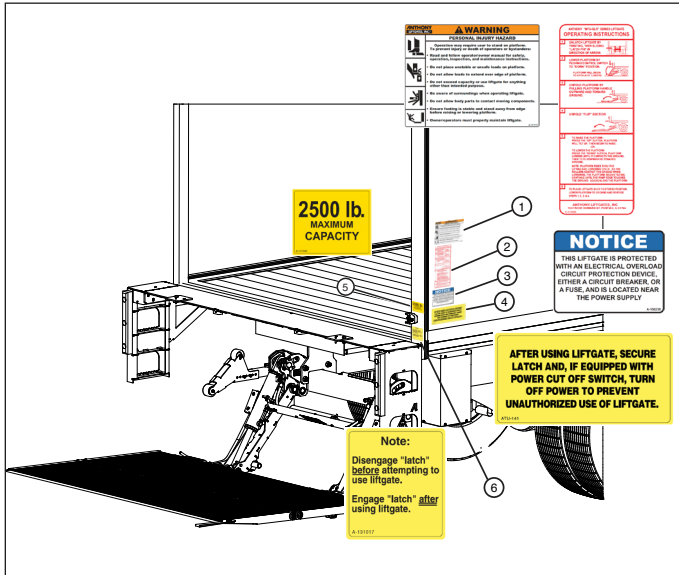
5. Replace the oil with new oil.



4.16 Reattach Control Unit Wires to Appropriate Terminals



5.1 Decals



Item	Part Number	Description
	A-140120	Decal Kit and Installation Package
1	A-131115	Warning: Personal Injury Hazard
2	A-131045	Operating Instructions
3	A-150238	Notice: This Liftgate
4	ATU-141	After Using Liftgate
5	A-131061 ATU-147	2500 Lb. Maximum Capacity 3000 Lb. Maximum Capacity
6	A-131017	Disengage Latch
7	A-131034	Anthony Logo with Instructions
8	A-150601	Made in USA
9	A-131125	Warning, Galvanized Fumes Hazard (adapter frame curbside—galvanized models only)
10	A-131001	10 Amp Fuse Changing Procedure (attached to control wiring in pump box)
11	A-131075	Hydraulic Fluid Level
12	A-131133	Hydraulic Fluid (mounted on hydraulic reservoir — if applicable)
13	A-131028	Weld Warning (adapter frame streetside)

1.

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

2.

ANTHONY "MTU-GLR" SERIES LIFTGATE OPERATING INSTRUCTIONS	
1	UNLATCH LIFTGATE BY TWISTING, THEN SLIDING "LATCH PIN" IN DIRECTION OF ARROW.
2	LOWER PLATFORM BY PUSHING CONTROL SWITCH TO "DOWN" POSITION. PLATFORM WILL BEGIN TO OPEN AS IT LOWERS
3	UNFOLD PLATFORM BY PULLING PLATFORM HANDLE OUTWARD AND TOWARD GROUND.
4	UNFOLD "FLIP" SECTION
5	<p>TO RAISE THE PLATFORM: PRESS THE "UP" BUTTON, PLATFORM WILL TILT UP, THEN BEGIN TO RAISE.</p> <p>-OR-</p> <p>TO LOWER THE PLATFORM: PRESS THE "DOWN" BUTTON, PLATFORM LOWERS UNTIL IT CONTACTS THE GROUND, THEN TILTS DOWNWARDS TOWARDS GROUND.</p> <p>NOTE: PLATFORM RIDES THRU THE LIFTING AND LOWERING CYCLE. AS THE ROLLERS CONTACT THE GROUND WHEN LOWERING, THE PLATFORM BEGINS TILTING, CONTINUE UNTIL THE RAMP EDGE TOUCHES THE GROUND. LOAD/UNLOAD THE PLATFORM.</p>
6	TO PLACE LIFTGATE BACK TO STORED POSITION, LOWER PLATFORM TO GROUND AND REVERSE STEPS 1, 2, 3, & 4.
ANTHONY LIFTGATES, INC 1037 WEST HOWARD ST. PONTIAC, IL 61764 <small>A-131045</small>	

3.

NOTICE
<p>THIS LIFTGATE IS PROTECTED WITH AN ELECTRICAL OVERLOAD CIRCUIT PROTECTION DEVICE, EITHER A CIRCUIT BREAKER, OR A FUSE, AND IS LOCATED NEAR THE POWER SUPPLY</p>
<small>A-150238</small>

4.

<p>AFTER USING LIFTGATE, SECURE LATCH AND, IF EQUIPPED WITH POWER CUT OFF SWITCH, TURN OFF POWER TO PREVENT UNAUTHORIZED USE OF LIFTGATE.</p>
<small>ATU-141</small>

5.

<p>2500 lb. MAXIMUM CAPACITY</p>
<small>A-131061</small>

<p>3000 lb. MAXIMUM CAPACITY</p>
<small>ATU-147</small>

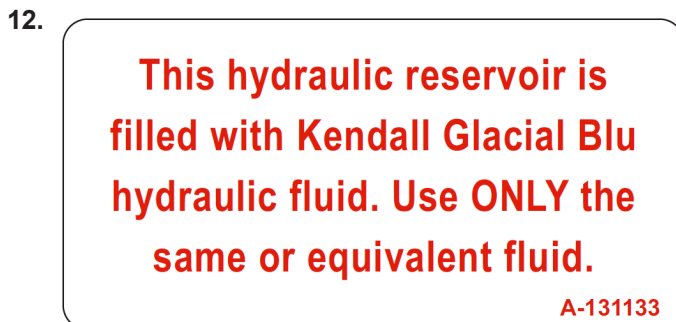
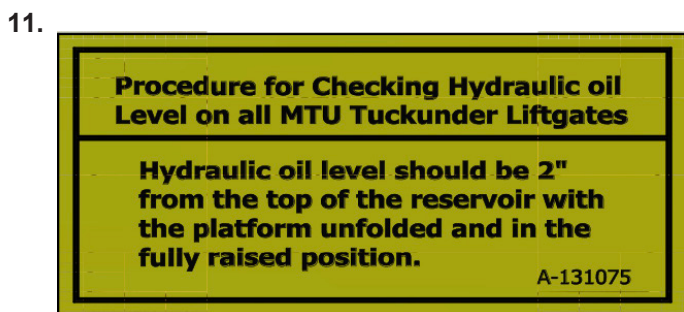
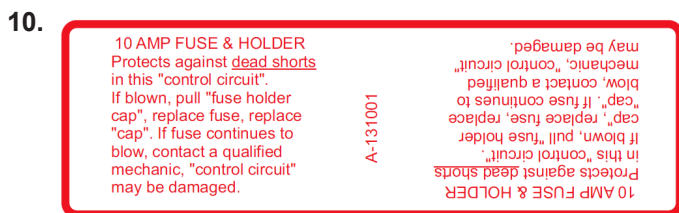
⚠ CAUTION

Make sure the proper "MAXIMUM CAPACITY"

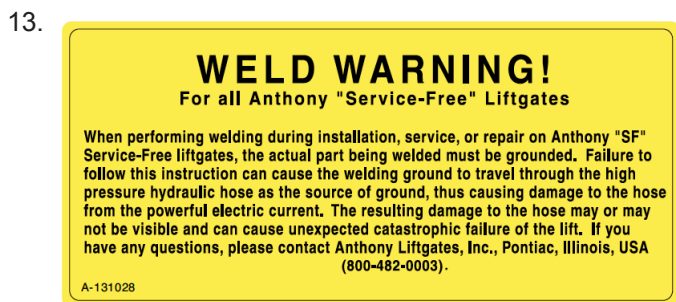
decals are placed on the truck for the appropriate lifting capacity of the liftgate being installed. Do not put a higher-rated decal on a liftgate with a lower capacity; this could result in liftgate damage or possibly personal injury.

6.

<p>Note:</p> <p>Disengage "latch" <u>before</u> attempting to use liftgate.</p> <p>Engage "latch" <u>after</u> using liftgate.</p>
<small>A-131017</small>



Note: This oil recommendation should only be used on pump units when this decal attached.



6. Troubleshooting Section

Problem	Possible Causes	Possible Solutions
Motor does not run when control switch is activated.	Cab cut-off switch.	Turn switch to ON position. Refer to "3.14 Cut-Off Switch Connection" on page 23.
	Power cut-off solenoid, if so equipped.	Check the solenoid. Refer to "4.7 Checking Motor Start Solenoid and Power Cut-off Solenoid" on page 27. Replace if defective.
	Dead or low battery.	Make sure battery is fully charged. Check for loose or corroded battery connections. Replace or recharge battery.
	Main power cable circuit protection fuse.	Replace fuse. Refer to "4.5 Main Power Cable Fuse (175 AMP)" on page 26.
	Control cord fuse (10 Amp) inside power unit enclosure is blown.	Replace, if fuse is blown. Refer to "4.6 Control Switch Fuse (10 AMP)" on page 27. If problem continues, check for shorts in the electrical system.
	Defective control switch.	Check switch, replace if defective. Refer to "4.4 Checking the Control Switch" on page 26.
	Motor start solenoid.	Check the solenoid. Refer to "4.7 Checking Motor Start Solenoid and Power Cut-off Solenoid" on page 27. Replace if defective.
	Defective power cable.	Check power cable for continuity. Refer to "4.8 Checking the Power Cable" on page 27.
	Defective motor.	If the motor is determined to be bad, it should be replaced. Bad motors are often caused by loose connections, corrosion, a poor ground, or low voltage (which is a result of weak batteries).
	If the motor does not operate in freezing conditions, make sure the motor housing does not contain water.	
Platform opens too quickly.	Platform assist spring is weak or broken.	Check for broken or weak platform assist spring and replace as necessary.
Motor runs, but liftgate will not lower to the ground.	Defective control switch.	Check the control switch. Refer to "4.4 Checking the Control Switch" on page 26.
	Defective lowering valve coil.	Check the coil using the procedure in "4.10 Checking Lowering Valve Cartridge and Solenoid" on page 28.
	Defective lowering valve cartridge.	Check, remove, and clean valve cartridge using the procedure in "4.10 Checking Lowering Valve Cartridge and Solenoid" on page 28.
	Defective flow control valve.	Replace the flow control valve. Refer to "4.9 Checking Flow Control Valve" on page 28.

Problem	Possible Causes	Possible Solutions
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. Refer to “4.3 Power Module Fluid” on page 26.
	Low Voltage.	Inspect the battery connection terminals and check the battery’s Voltage (9 Volts minimum).
	Dirty or defective valve.	Coil or cartridge may need replacement. Check, remove, and replace valve cartridge using the procedure in “4.10 Checking Lowering Valve Cartridge and Solenoid” on page 28.
		Cartridge may need cleaning or replacement. Check, remove, and clean valve cartridge using the procedure in “4.11 Solenoid Valve Screen” on page 28.
	Bad piston seals on liftgate cylinder.	Check cylinder for leakage. Refer to “4.13 Checking Cylinder Piston Seals (drifting - caused by seal leakage)” on page 29.
Hydraulic pump is worn.	Replace hydraulic pump unit.	
Foaming oil.	Air in the hydraulic hose(s).	Check oil level in reservoir. Purge any trapped air from the system.
	Broken or loose fluid return tube.	Refer to “4.15 Power Module Oil Pickup Filter” on page 29.
Liftgate will not open.	Platform operating area is not clear.	Clear platform operating area.
	Platform latch is still engaged.	Activate the “UP” switch. Release the liftgate latch.
Platform lowers extremely slow.	Low or improper oil in hydraulic reservoir.	Add oil or change oil to the proper fluid viscosity. See “4.2.2 Monthly Inspection” on page 25.
	Damaged or kinked hydraulic hose(s).	Repair or replace.
	Cylinder rod is scored, pitted, or bent.	Replace cylinder.
	Defective flow control valve.	Replace the flow control valve. Refer to “4.9 Checking Flow Control Valve” on page 28.
	Dirty or defective valve.	Coil or cartridge may need replacement. Check, remove, and replace valve cartridge using the procedure in “4.10 Checking Lowering Valve Cartridge and Solenoid” on page 28.
Cartridge may need cleaning or replacement. Check, remove, and clean valve cartridge using the procedure in “4.11 Solenoid Valve Screen” on page 28.		
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 pressure.	Refill reservoir. Check pump and motor.

Problem	Possible Causes	Possible Solutions
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).
	Dirty or defective valve.	Coil or cartridge may need replacement. Check, remove, and replace valve cartridge using the procedure in "4.10 Checking Lowering Valve Cartridge and Solenoid" on page 28.
		Cartridge may need cleaning or replacement. Check, remove, and clean valve cartridge using the procedure in "4.11 Solenoid Valve Screen" on page 28.
	Defective hydraulic pump and motor.	Replace power unit.

7. Warranty Section

7.1 Limited Warranty

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 ensure your confidence in Anthony, this warranty will cover your unit for 3 years or 10,000 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

7.2 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.

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THE ORIGINAL NAME IN LIFTGATES - SINCE 1941

ANTHONY
LIFTGATES, INC.®

Models

MTU-GLR-L

MTU-GLR-M

MTU-GLR-M-WR



1037 West HOWARD ST.

P.O. BOX 615

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