

ANTHONY
LIFTGATES, INC.®

MTU-GLR

MTU-GLR-WR-3
MTU-GLR-WR-4
MTU-GLR-EX-3
MTU-GLR-EX-4
MTU-GLR-25
MTU-GLR-3
MTU-GLR-4
MTU-GLR-5
MTU-GLR-6

INSTALLATION MANUAL



MTU-GLR-3 Shown

QUALITY, RELIABILITY, CUSTOMER SERVICE

MADE IN THE USA 

Contents

1. General Information	3	4. Installation.	9
1.1 Introduction	3	4.1 Tools Required	9
1.2 General Safety	3	4.2 Fabricated Lifting Fixture	9
1.3 State and Federal Regulations	3	4.3 Bed Height Requirements and Ground Clearance.	10
1.3.1 Brakes	3	4.4 Installation Preparation	10
1.3.2 Lighting	3	4.5 Installing the Floor Extension.	13
1.3.3 Rear Impact Guards.	3	4.6 Positioning the Liftgate	15
1.4 Basic Installation Instructions.	3	4.7 Attaching Liftgate to Truck Frame	16
1.5 If Installation Help is Required	4	4.8 Final Welding and Testing	19
1.5.1 Installation and Maintenance (Dealer) 4		4.9 Testing and Adjusting	20
1.5.2 Customer Service and Parts (End User).	4	4.10 Cut-Off Solenoid Connection	20
1.6 Registration.	4	4.11 Cut-Off Switch Connection	21
1.7 Warranty	4	4.12 Adjusting Wheel Arm	21
1.8 Replacement Parts and Hazard Decals	4	4.13 Mounting Control Switch and Routing the Power Cable	22
2. Safety	4	4.14 Adjust Latch Pin	23
2.1 Safety is Your Responsibility	4	4.15 Installing Optional DOT Tubular Bumper . .	24
2.2 Safety Signal Words	5	4.16 Final Inspection Checklist	24
2.3 Safety Rules	5	5. Decals	25
2.3.1 Personal Protection	5	5.1 Installing Decals	25
2.3.2 Equipment / Tools / Parts	5	6. Welding Stainless Steel to Galvanized . .	28
2.3.3 Battery / Fuel Tank Safety.	6	6.1 Safety.	28
2.3.4 Cutting Torch / Welding Safety	6	6.1.1 Welding or Grinding Galvanized Material	28
2.4 Welding or Grinding Galvanized or Stainless Steel Material	6	6.1.2 Welding or Grinding Stainless Steel. .	28
2.4.1 Galvanized Metal	6	6.2 General Guidelines.	28
2.4.2 Stainless Steel.	6	6.2.1 Weld Wire	28
2.5 Safety Icons Nomenclature.	7	6.2.2 Shielding Gas	28
2.5.1 Personal Protection/Important Information	7	6.2.3 Welding Guidelines	28
2.5.2 Prohibited Actions	7	7. Lifting Fixture	29
2.5.3 Hazard Avoidance.	7	8. Bolt-On Floor Extension	30
3. Nomenclature	8	9. Walk Ramp Floor Extension Installation .	32
3.1 Platform Nomenclature.	8	10. Trailer Subframe Installation	34
3.2 Power Unit Nomenclature	9		

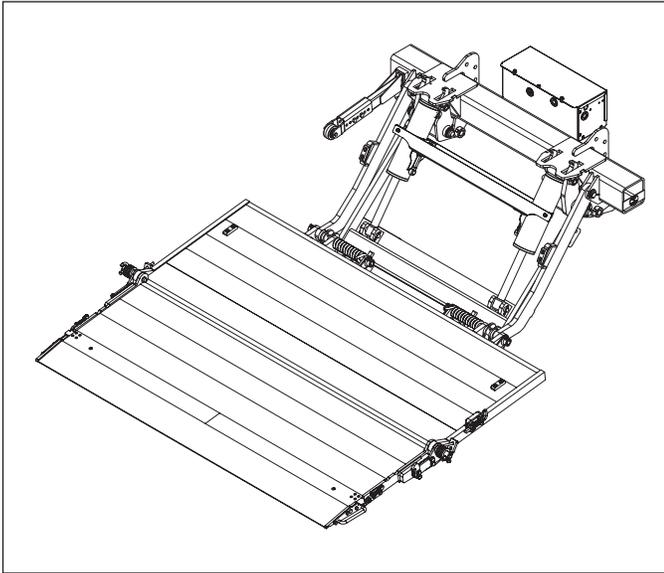
1. General Information

1.1 Introduction

Congratulations on selecting an Anthony Liftgates TuckUnder™ liftgate.

All Anthony tuck under model liftgates are factory assembled, energized, and tested to ensure the highest quality performance standards. MTU-GLR liftgates ship entirely assembled for fast, clean, and easy installation.

To ensure your liftgate performs 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 of the MTU-GLR TuckUnder™ liftgate.



Typical Anthony Liftgates' Magnum Tuckunder Liftgate.

1.2 General Safety

WARNING  Read, Understand, and Follow the Manual  **The success or failure of this liftgate to properly and efficiently operate depends on a thorough and proper installation. Failure to read, understand, and follow the installation instructions and safety recommendations in this manual, before installing the liftgate, can result in serious injury or death to the installer or bystander.**

Also, read and understand the operating instructions in the separate Operation Manual (also found in the information packet) before beginning the installation.

1.3 State and Federal Regulations

1.3.1 Brakes

WARNING  When installed, the operation or weight of this liftgate must not alter or prevent the vehicle's compliance to any existing State or Federal standard, such as FMVSS 105 – Hydraulic and Electric Brake Systems. Consult each truck frame manufacturer's recommendations 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.

1.3.2 Lighting

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

1.3.3 Rear Impact Guards

WARNING  When installed, the transport position of this liftgate must protect against rear impact and comply with State or Federal standards or local standards in your area.

The installer must make sure that guards are installed, if necessary, to fulfill these standards. Anthony Liftgates offers a bolt-on bumper, which generally meets the requirements of this standard. Consult each truck manufacturer's recommendations for compliance.

1.4 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 4 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.

- 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.**
- 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.



Crush Hazard
Unsecured loads, when moved on the liftgate,

can shift, roll, or fall. To prevent personal injury or death, make sure unstable loads are securely fastened to liftgate or restrained by cart stops, retention ramp, or fencing.

- All users of this liftgate must be 21 years of age and have read and understood all operating instructions in the Operation manual and follow the instructions on hazard and informational decals before using the liftgate.

1.5 If Installation Help is Required

1.5.1 Installation and Maintenance (Dealer)

For additional information on installation, refer to the MTU-GLR TuckUnder™ liftgate website www.anthonyliftgates.com. To find the most current version of the reference material, choose LIFTGATES, TUCKUNDER™, MTU-GLR, and then DOWNLOADS.

If you have any doubts or questions about the installation, 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

2. Safety

The success or failure of this liftgate to properly operate depends on the installation; however, the most important part of the installation is your safety.

2.1 Safety is Your Responsibility

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

Accidents can often be avoided by being alert and recognizing potentially hazardous situations. The safety information in this manual serves as an essential guide in an attempt to prevent injury or death.

1.5.2 Customer Service and Parts (End User)

For service or ordering replacement parts, contact an authorized dealer by going to www.anthonyliftgates.com and selecting the FIND A DEALER tab. Enter your zip code to find the nearest authorized service location.

1.6 Registration

Refer to the Operation manual for the serial number information.

1.7 Warranty

For a detailed copy of the Warranty Statement, refer to the Operation manual.

NOTICE

Not installing the liftgate according to these instructions will void the warranty.

- Unauthorized modifications may cause improper operation or other unforeseen problems or dangers. If any deviation is deemed necessary, obtain written permission from Anthony Liftgates.
- Attach all decals and make sure they are legible, or all warranties are void.

1.8 Replacement Parts and Hazard Decals

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

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

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.

Anthony Liftgates cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this manual and on the product itself are, therefore, not all-inclusive. If tools, procedures, work methods, or operating techniques are used that are not specifically mentioned by Anthony Liftgates, you must satisfy yourself that they are safe for you and others.

DO NOT proceed with any installation process if doubt arises about the correct or safe method of performing any procedure found in this manual. If you have any doubts or questions about installation, call us.

2.2 Safety Signal Words



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.



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

These icons are shown in “2.5.3 Hazard Avoidance” on page 7.



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



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



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



Indicates specific safety-related instructions or procedures.

Note: Contains additional information important to a procedure.

2.3 Safety Rules

2.3.1 Personal Protection



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.



When installing or operating this unit, 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 such as welders gloves and flame-resistant welders jacket.



Anthony Liftgates recommends not riding the liftgate; 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 to the side of the platform, clear of the liftgate when it is operating.



Do not attempt to install the liftgate under the influence of drugs or alcohol. Consult your doctor before using the liftgate while taking prescription medications.



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



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



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.



Do not place hands or feet into pinch point areas, between the platform and the floor extension, or under the edge of the platform.



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



To prevent possible injuries due to improper operation, make sure all decals are attached to the liftgate and truck and are clearly legible to the user.

2.3.2 Equipment / Tools / Parts



Do not install this unit if it is damaged. If you believe the unit 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 or truck will not be damaged or made unsafe by the installation or use of the liftgate.



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.



If replacement parts are necessary, 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 voided.

2.3.3 Battery / Fuel Tank Safety

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

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

2.3.4 Cutting Torch / Welding Safety

 **WARNING**  Take precautions to avoid sparks from contacting the truck's fuel tank, brake lines, or other flammable components. Sparks can ignite combustible materials, resulting in serious injury or death.

   Always weld or use a cutting torch in a well-ventilated area and, if in an enclosed area, vent the fumes to the outside. Breathing 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.

 **WARNING**  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.

 **SAFETY INSTRUCTIONS**   Do not modify safety devices. Do not weld on the liftgate assembly, except the adapter frame tube. Unauthorized modifications may impair its function and safety.

 Make sure all parts are in good working condition and properly installed. Replace any damaged parts immediately.

2.4 Welding or Grinding Galvanized or Stainless Steel Material

2.4.1 Galvanized Metal

 **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.

There are no long-term health effects. Metal fume fever typically begins about four hours after exposure, and full recovery occurs within 48 hours.

2.4.2 Stainless Steel

 **CAUTION**   

Follow all OSHA and other workplace safety standards when welding stainless steel, which creates hexavalent chromium fumes that can irritate the nose, throat, and lungs.

Repeated or prolonged exposure can damage the mucous membranes of the nasal passages and result in ulcers. In severe cases, exposure causes perforation of the septum (the wall separating the nasal passages).

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

2.5 Safety Icons Nomenclature

This manual has numerous safety icons that visually help alert you to potential personal injury hazards.

2.5.1 Personal Protection/ Important Information

-  Read the manual
-  Eye protection
-  Face shield / welding helmet
-  Breathing protection
-  Head protection
-  Protective shoes
-  Hand protection / protective clothing
-  Use two people when lifting heavy objects
-  Use proper tools
-  Set parking brake
-  Remove ignition key
-  Use only OEM parts

-  Properly install parts
-  Damaged safety signs

2.5.2 Prohibited Actions

-  Do not alter or modify
-  Do not weld
-  No smoking
-  No open flame
-  No alcohol
-  No drugs

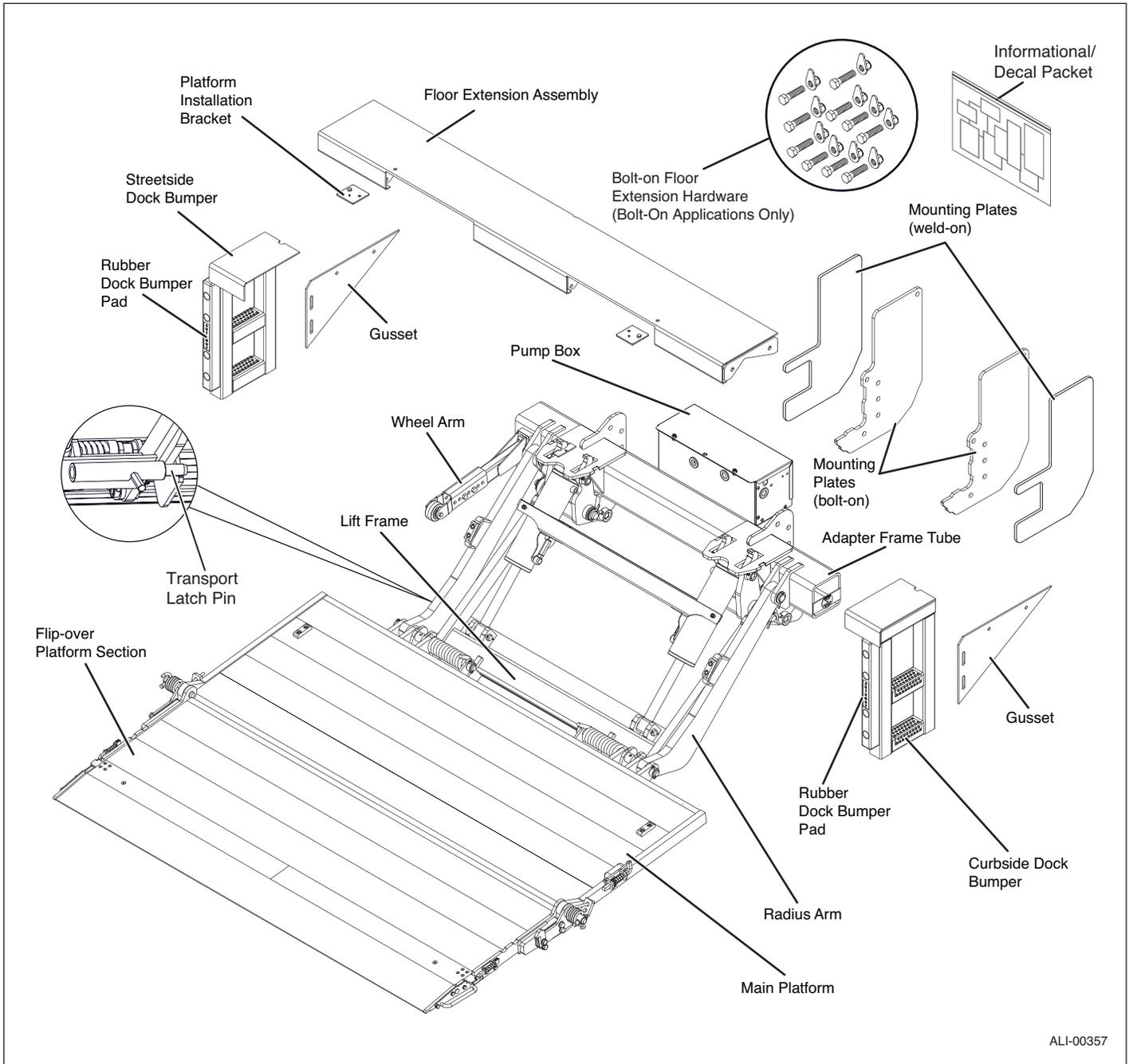
2.5.3 Hazard Avoidance

-  Safety alert symbol
-  Slipping injury
-  Tripping injury
-  Pinch point hazard (hand)
-  Pinch hazard (foot)

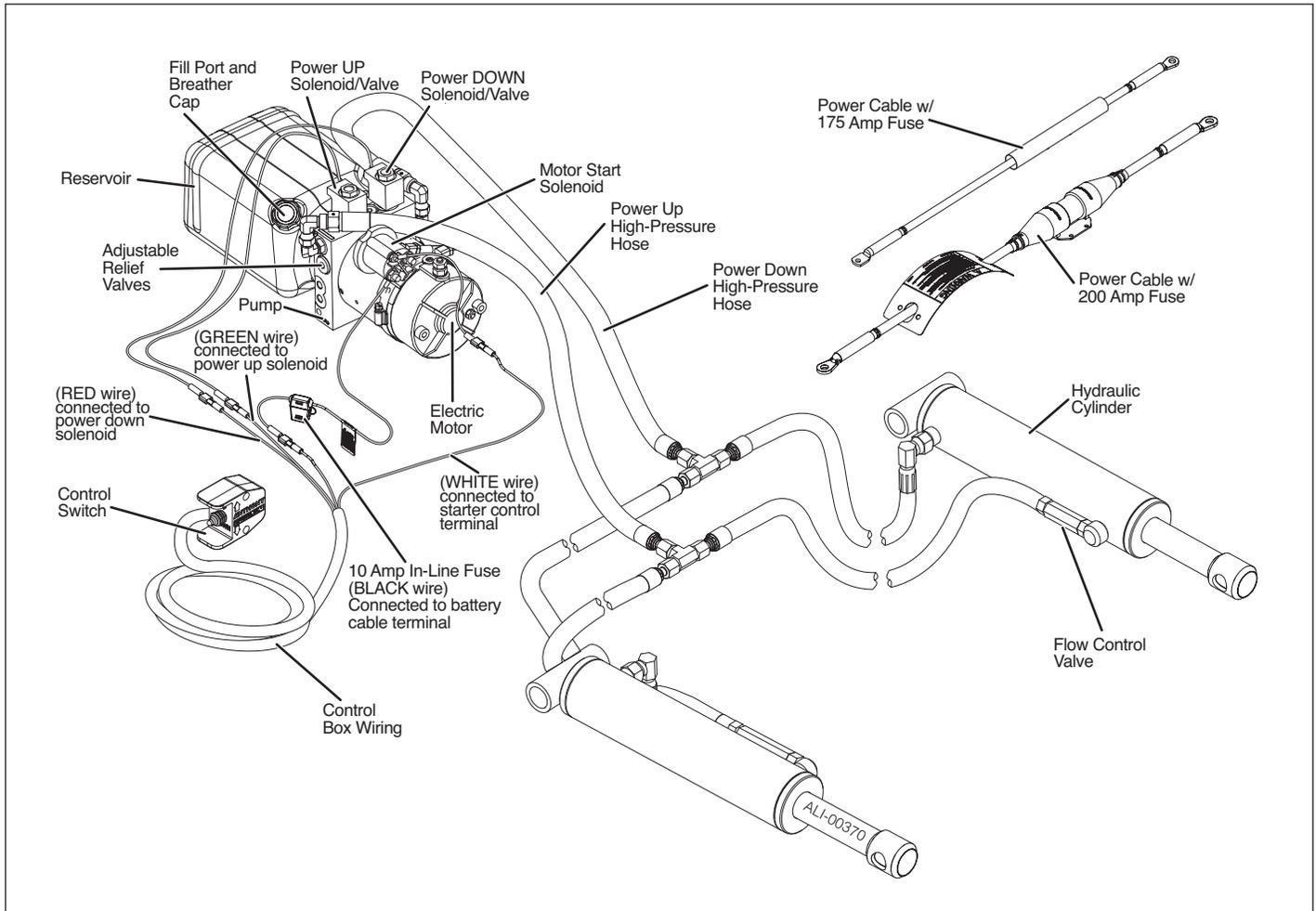
-  Dangerous fumes
-  Adequate ventilation
-  Crush hazard
-  Crush hazard
-  Crush hazard (chock wheels)
-  Set parking braking, remove key / rollover hazard
-  Fall hazard (truck)
-  Fall hazard (platform)
-  Damaged parts hazard
-  Fire hazard
-  Sparks / fire hazard
-  Battery gas hazard

3. Nomenclature

3.1 Platform Nomenclature



3.2 Power Unit Nomenclature



4. Installation



WARNING If you fail to read, understand, and follow the installation instructions and safety recommendations in this manual before installing the liftgate, it can result in severe injury or death to you or a bystander.

4.1 Tools Required



SAFETY INSTRUCTIONS It is essential for your safety that you never use or operate unfamiliar tools or equipment. Follow the manufacturer's operating instructions and safety recommendations whenever using power tools or equipment.

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

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

- Grinder (remove galvanized surface before welding)
- 1/2 Inch Impact Wrench (bolt-on floor extension)
- 9/16" Socket and Wrench (lid on pump box)
- 3/4" Socket (bolt-on floor extension & gussets)
- 1-1/8" Wrench and Socket (mounting plate bolts)
- 1-1/2" Wrench (adjusting latch assembly)
- Heat Gun or Propane Torch (shrink tube cable lug)
- Cable Lug Crimping Tool (cable lug)

4.2 Fabricated Lifting Fixture

The installation of the liftgate can be more efficient by using a lifting fixture and forklift to position and hold the liftgate in place until it's welded to the frame rails of the truck.

Detailed plans on how to fabricate the fixture are in section "7. Lifting Fixture" on page 29.

4.3 Bed Height Requirements and Ground Clearance

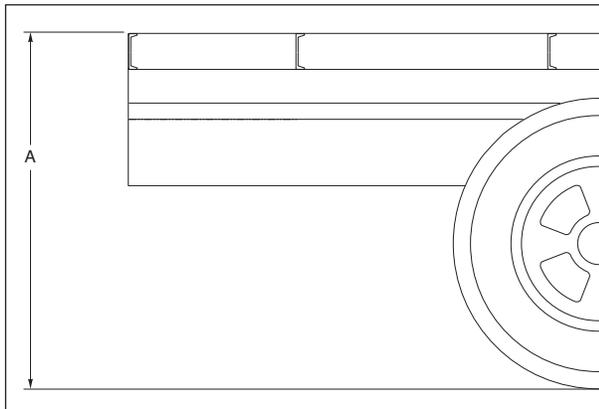
Use the following steps to verify the minimum and maximum clearances of a properly installed liftgate. Do not begin the installation process unless all the requirements in the steps in this section are met.

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

1. Measure height (A) of the truck bed.
 - a. If this dimension is less than the minimum height, do not proceed.

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.

Minimum Truck Bed Height When Fully Loaded	
Model	Bed Height (A)
All except WR	47" minimum
Walk Ramp	49" minimum

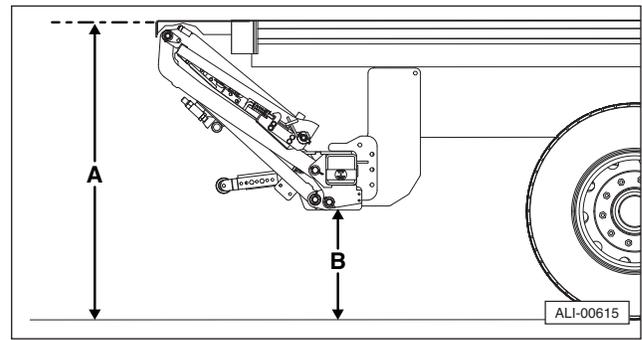


- b. If this dimension is more than the maximum height, do not proceed.

Maximum Truck Bed Height When Empty	
Model	Bed Height (A)
All	57" maximum

2. 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			
Bed Height (A)	Clearance Height (B)	Bed Height (A)	Clearance Height (B)
47"	15-3/8"	53"	21-3/8"
48"	16-3/8"	54"	22-3/8"
49"	17-3/8"	55"	23-3/8"
50"	18-3/8"	56"	24-3/8"
51"	19-3/8"	57"	25-3/8"
52"	20-3/8"		



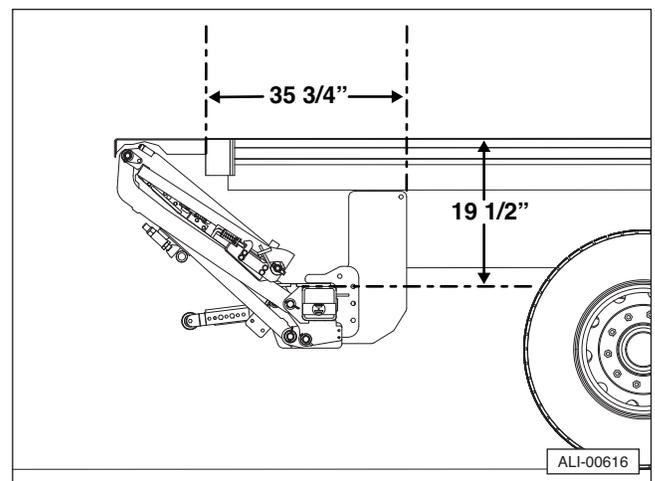
4.4 Installation Preparation

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

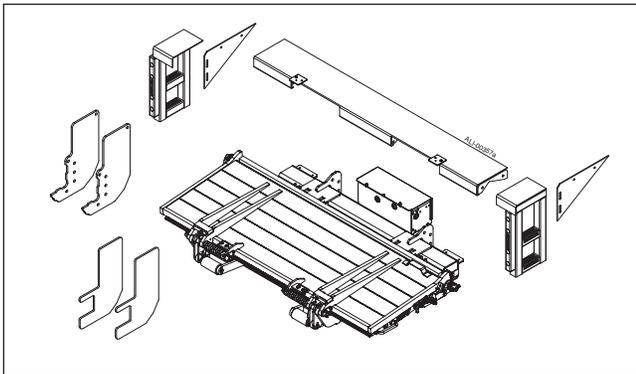
Typical installations take two experienced installers approximately two hours from start to finish.

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 19-1/2 inches below the floor of the truck bed.
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.

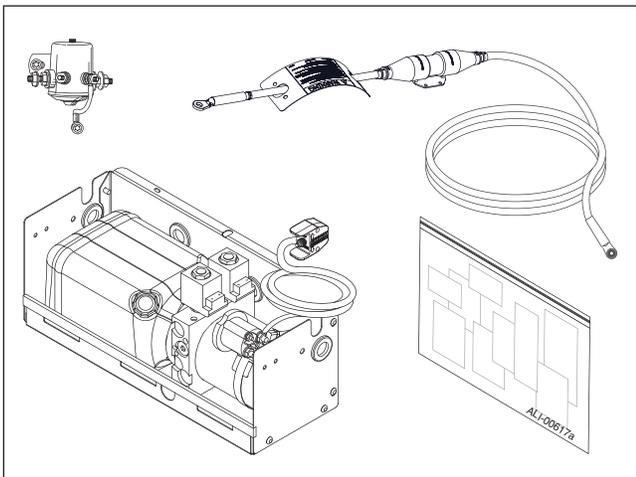


4. Remove the banding securing the liftgate and the loose parts to the pallet. In some cases, the curbside and streetside mounting plates, dock bumpers, steps, and floor extension will be shipped on a separate pallet.



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.



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
Adapter Frame Tube Mounting Plates	2
Power Cable with Fuse	1
Located Inside Pump Box	
Liftgate Control Switch	1
Cab Cut-off Switch	1

Information Packet (contains decals, manuals, shims, and other related installation information)	1
Plastic Tie Wraps	—
Optional Parts	
Tubular Bumper to help meet "Rear Impact Guards" standard	—

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.

WARNING Failure to prevent the truck from unwanted movement during the installation of the liftgate could result in serious personal injury or crushing of the installer(s).

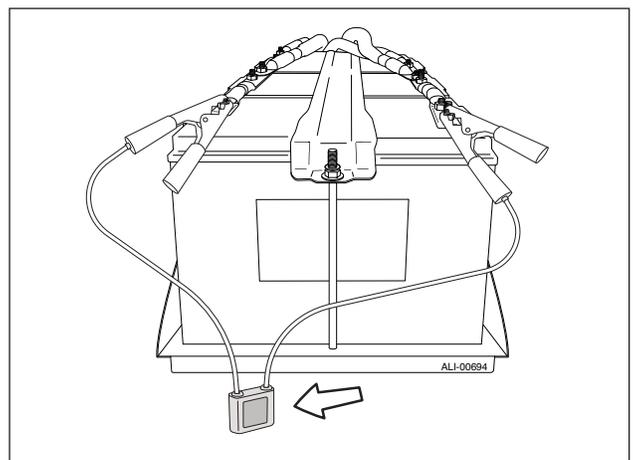
9. Apply the parking brake and remove the key from the ignition to prevent someone from unexpectedly moving of the truck.

SAFETY INSTRUCTIONS Remove the ignition key and apply the parking brake to prevent unwanted movement of the truck during installation.

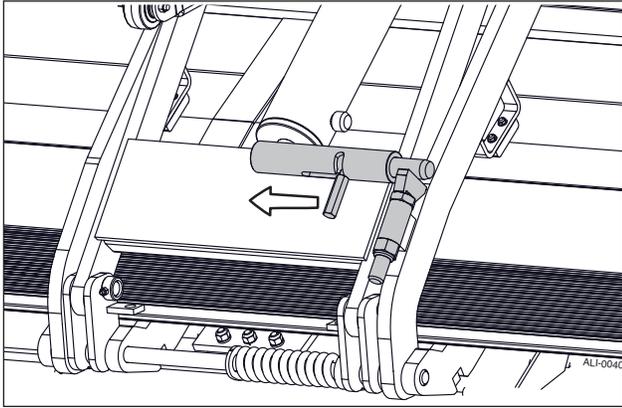
10. Block the wheels to prevent the truck from moving while installing a liftgate by placing wheel chocks on both sides of the wheel(s).

WARNING Any unexpected movement could result in serious personal injury or crushing of the installer(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.

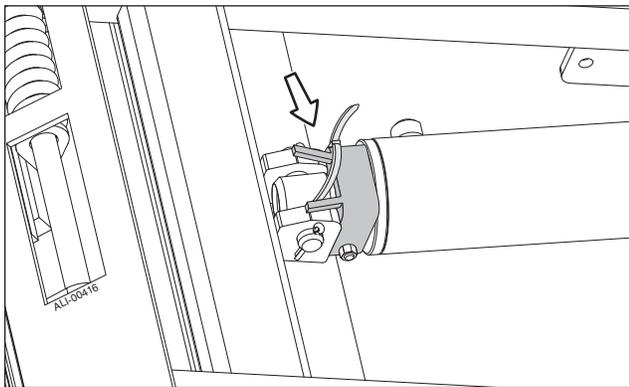


NOTICE

The latch pin is only used after the liftgate is installed for in-transit locking of the liftgate.

DO NOT slide the latch pin into the latched position when the platform is unfolded or raised. If this occurs, serious damage to the liftgate can occur when the liftgate is lowered.

13. A spacing guide is installed over the end of the cylinder rods. Do not remove these guides until the liftgate has been tack welded to the truck body.

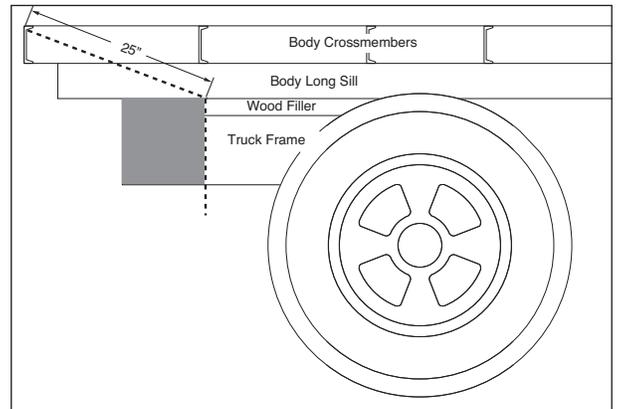


14. Determine if the truck frame rails must be either extended or cut back to properly install the liftgate. **Note:** Before extending the truck frame, make sure the extension meets the specifications of the truck manufacturer and that altering the frame will not void the truck warranty.

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 25 inches from the rear edge of the truck body frame to the long sill.



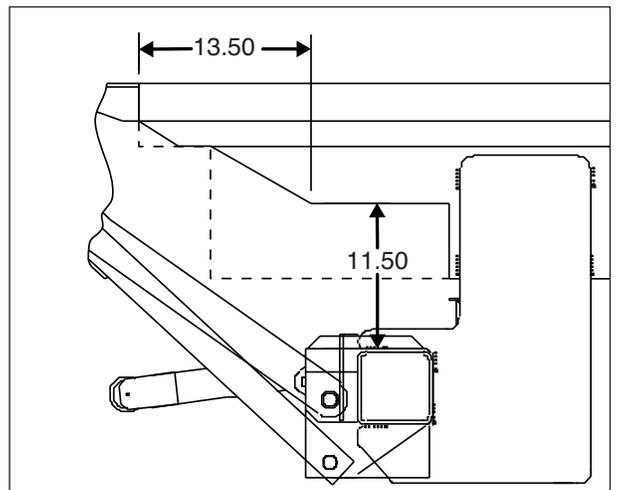
- b. Make a mark on the long sill and either add or remove material to the frame.

CAUTION



Take precautions to avoid welding sparks or the flame from a cutting torch coming into contact with the truck bed's wooden floor or other flammable components.

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



4.5 Installing the Floor Extension

1. If a walk-ramp-ready liftgate is being installed, refer to section "9. Walk Ramp Floor Extension Installation" on page 32 for installation of the floor extension.
2. Take all the necessary precautions when welding or grinding galvanized materials.

CAUTION If a galvanized floor extension and dock bumpers are being installed, the galvanized material must be removed prior to welding. Refer to section "6. Welding Stainless Steel to Galvanized" on page 28 for the additional information.

There is also a special procedure to follow when welding galvanized material to a stainless steel truck body sill.

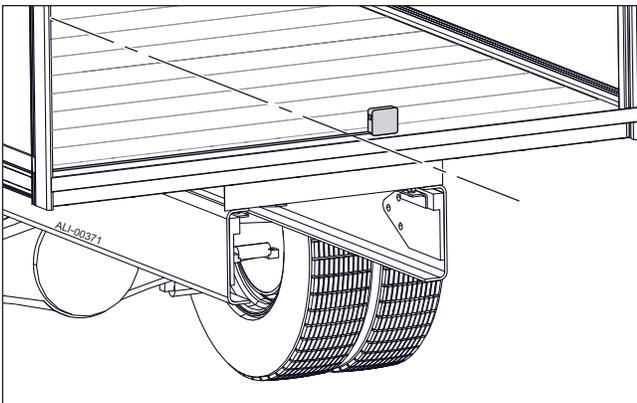
 Follow all OSHA and other workplace safety standards when grinding or welding galvanized steel, which creates zinc oxide fumes. Always grind the coating off in the area to be welded and provide adequate ventilation to avoid breathing the fumes.

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

3. 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.

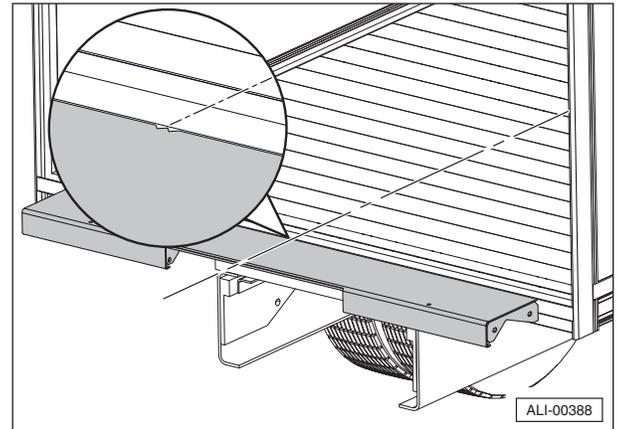


4. Find and mark the center of the truck's rear sill and the center of the floor extension with a white marker.



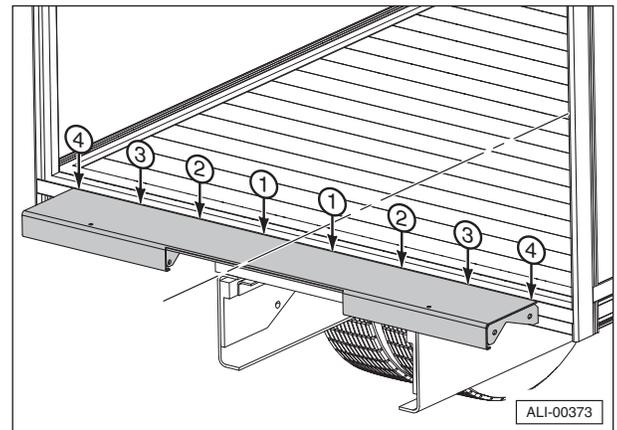
5. Install the floor extension.
For the weld procedure, continue with this step.
For a bolt-on procedure, go to section "8. Bolt-On Floor Extension" on page 30.

- a. Use a white marker to also 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 center the white mark on the floor extension with the white mark on the truck body.

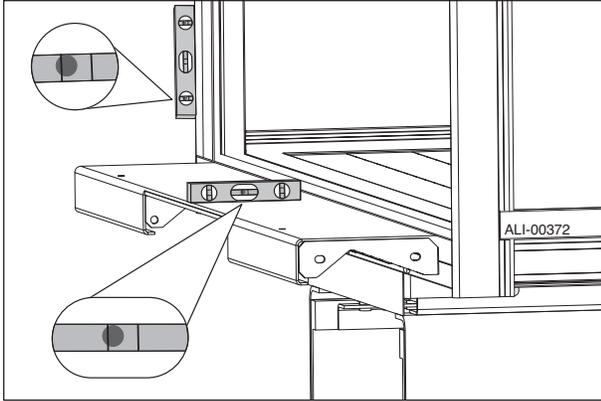


- c. Align the center of the floor extension level with the floor of the truck.
Note: Most floor extensions have a natural bow and need to be straightened as you install them.
- d. Begin tack welding in the center and work outward. Make sure the extension remains level and flush with the floor of the truck bed.

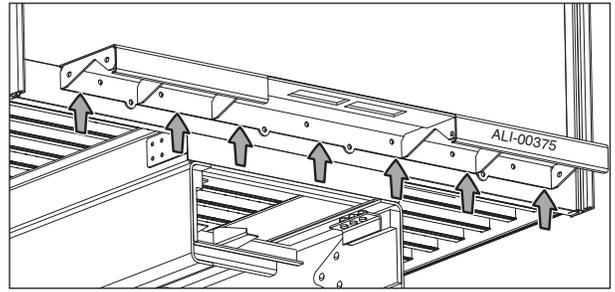
CAUTION  The tack welds must be strong enough to hold the weight of the floor extension, which can be up to 250 pounds. If the tack welds are too small, they may break, resulting in injury.



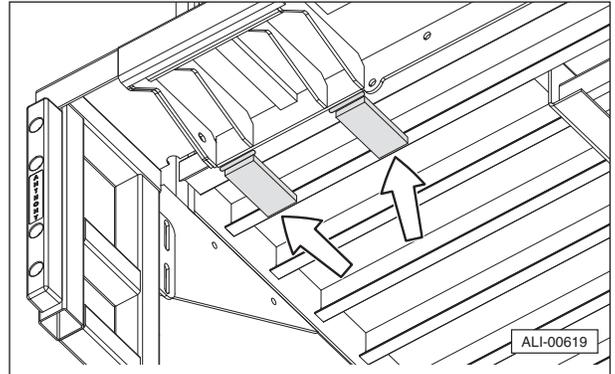
- e. Also, make sure the floor extension is level and parallel to the truck's rear sill. First, place the level on the upright post of the body. Then copy that same amount of "level" to the floor extension.



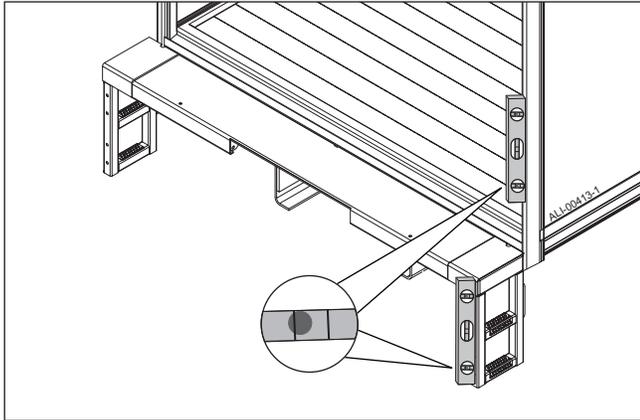
- c. Weld across the bottom of the floor extension in seven to eight locations.



- d. If not already installed, weld several installer-supplied strengthening plates between the cross-members and the truck body sill.

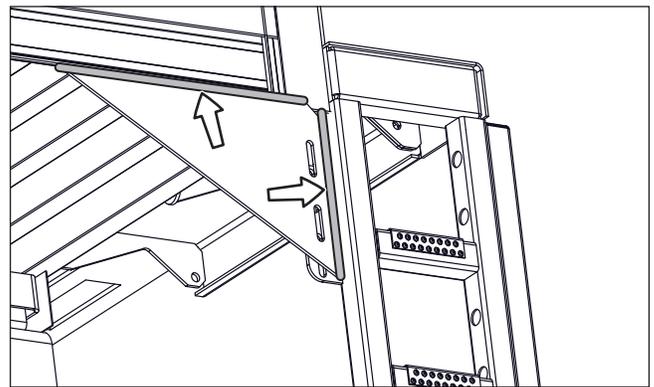


- 6. Tack weld both the streetside and curbside dock bumpers onto the floor extension, making sure they are level with the truck bed.

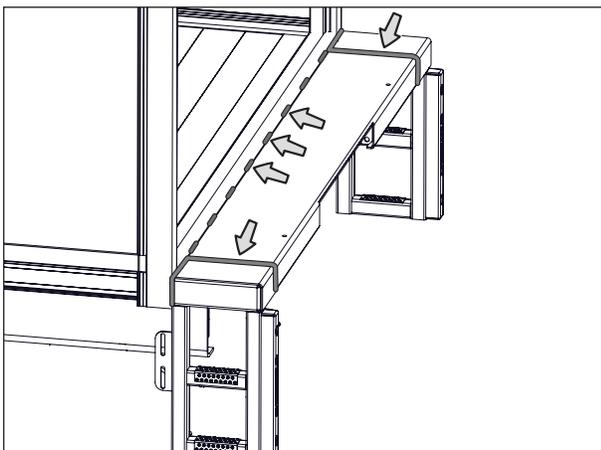


- 7. Weld or bolt the side gussets to the dock bumper and the truck body. If welding to the truck body cross-members, make sure it spans at least three of them.

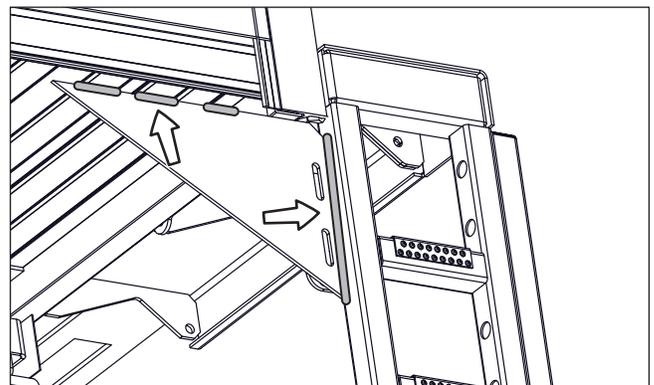
- a. Once the floor extension is straight and level, finish welding it to the sill of the truck body with 2 inch long welds, every 4 inches.
- b. Weld the dock bumpers to the floor extension and the truck body sill using a continuous weld.
Note: If this is the walk-ramp-ready version, the dock bumpers extend an additional four inches from the floor extension. Again, refer to section "9. Walk Ramp Floor Extension Installation" on page 32 for detailed installation instructions.



Side gusset welded to the side of the truck body.



Standard liftgate extension and dock bumper.

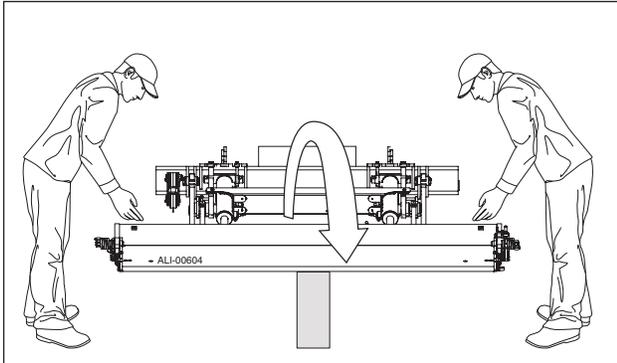


Side gusset welded to cross-members of the truck body.

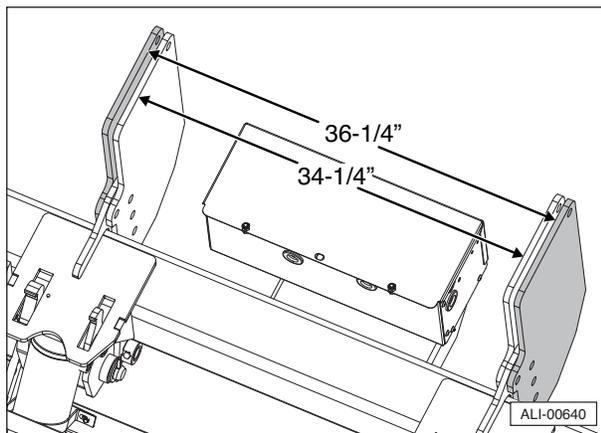
4.6 Positioning the Liftgate

1. Position the folded liftgate behind the truck and carefully unfold the platform using two people.

Note: To keep the liftgate somewhat level once it's unfolded, a wooden block, approximately 15 inches tall, can be placed under the main section of the platform.



2. If the liftgate uses bolt-on mounting plates, attach them now.
 - a. Measure the outside width of the truck frame.
 - b. Attach the bolt-on mounting plates to the adapter frame tube to achieve a width that will slide over the truck frame.



- c. If the mounting plates are attached to the inside of the adapter frame tube brackets, the inside width is 34-1/4".

If the mounting plates are attached to the outside of the adapter frame tube brackets, the inside width is 36-1/4".

Additionally, shim plates of 1/8" and 1/4" can be added to increase or decrease the inside width of the mounting plates.

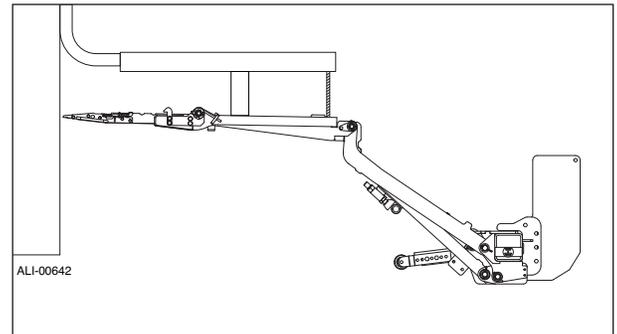
3. Attach a forklift or overhead lifting device to lift the liftgate. If using a forklift, the use of a lifting fixture makes the installation process easier and safer.

Note: Refer to "6. Lifting Fixture" on page 31 for a dimensional drawing to fabricate the lifting fixture.



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.

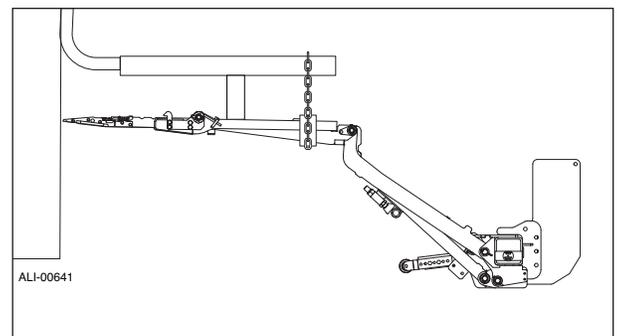
4. For steel platform liftgates:
 - a. Place the lifting fixture over the liftgate.
 - b. Place the threaded rod through the lifting hole in the platform.



- c. Install a washer and nut on the threaded rod.
- d. Raise the liftgate, making sure the platform is almost parallel with the ground. Use the threaded rod and nut to make the required leveling adjustments.

Note: It may be necessary to connect the pump to a power supply and press the UP button on the control switch in order to lower the adapter frame tube into the correct position, as shown.

5. For aluminum platform liftgates:
 - a. Place the lifting fixture over the liftgate.
 - b. Place a chain around the lifting fixture and the platform.



NOTICE

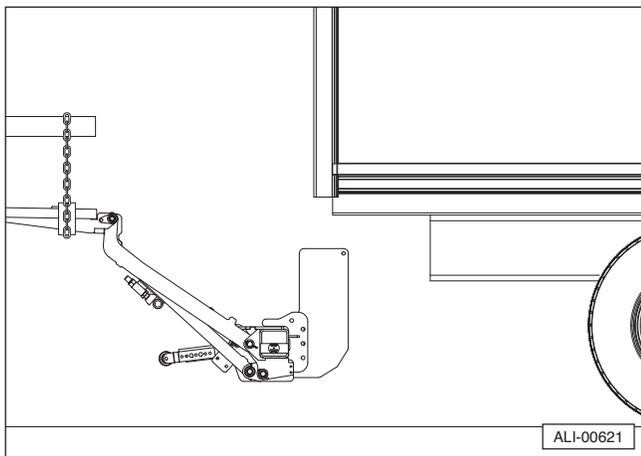
To prevent damage to the aluminum platform, use wood or other protective material between the lifting chain and the platform to prevent surface damage.

- c. Adjust the chain until the liftgate is almost parallel with the ground as it is lifted.

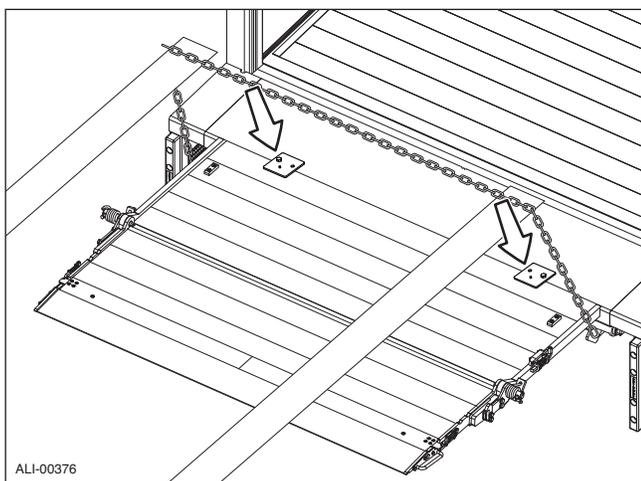
- d. Raise the liftgate, making sure the platform is almost parallel with the ground.
Note: It may be necessary to connect the pump to a power supply and press the UP button on the control switch in order to lower the adapter frame tube into the correct position, as shown.

4.7 Attaching Liftgate to Truck Frame

1. Make a mark at the center of the floor extension and a mark at the center of the platform.
2. Position the liftgate behind the truck with the center marks aligned.
Note: The illustration shows the bolt-on mounting plates which are attached to the adapter frame tube as the liftgate is installed. The weld-on mounting plates will be installed later in the procedure.



3. Raise and place the liftgate against the platform installation brackets (arrows), which are attached to the floor extension. Also, push the liftgate against the spacer portion of the installation brackets.



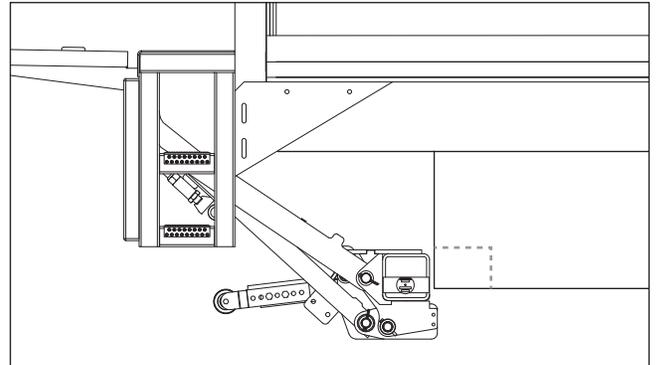
Note: The platform installation brackets help to hold the liftgate level with the floor extension and also provide the proper spacing between the liftgate and the floor extension.

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



Do not work under the liftgate while it is suspended.

5. Make sure there is no interference 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.

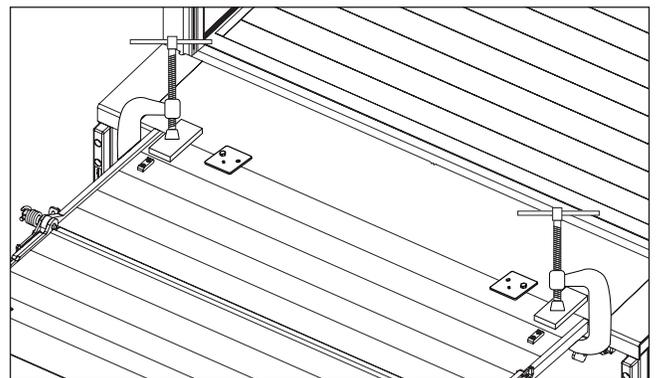


Note: In some cases, the top of the adapter frame tube may be against the truck frame rails or could be above the frame. It may be necessary to notch the frame rails in order to achieve the required height of the adapter frame tube.

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



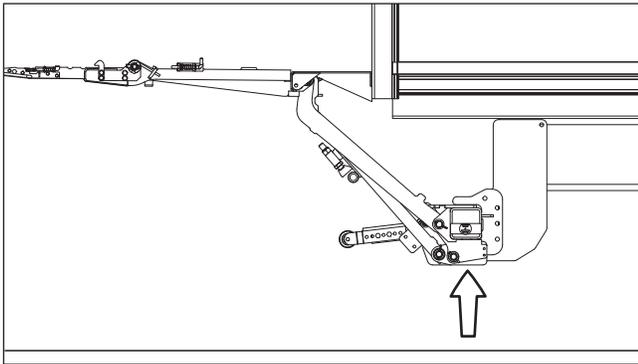
If the liftgate has an aluminum platform, use wood or other protective material to prevent surface damage.



- Place a lifting device (floor jack or similar device) under the adapter frame tube, as shown by the arrow.



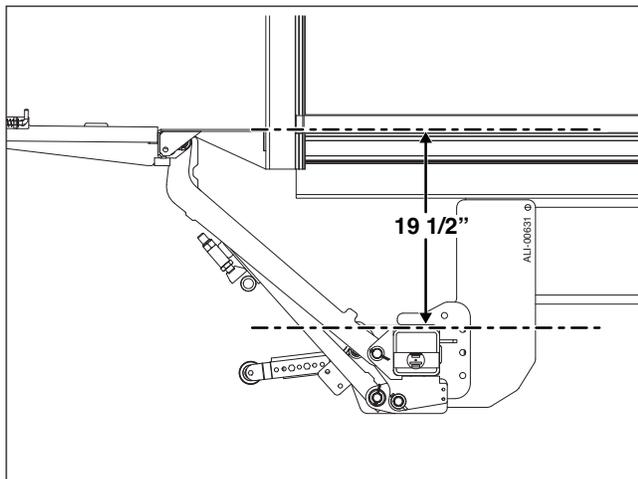
Do not work under the liftgate while it is suspended.



- Raise the adapter frame tube to 19-1/2" from 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 19-1/2" height.

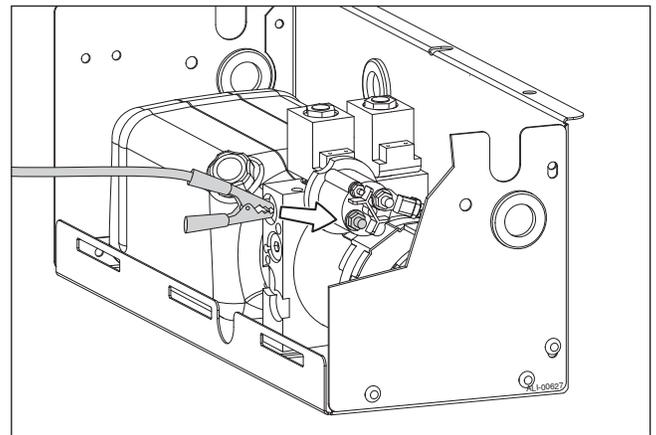
NOTICE

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.



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

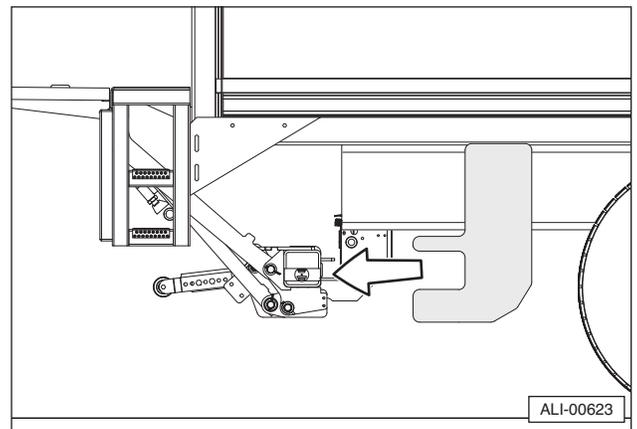
Connect the red jumper cable from a 12 Volt slave battery to the positive (+) terminal of the motor start solenoid. Connect the black (-) cable to a ground on the pump box.



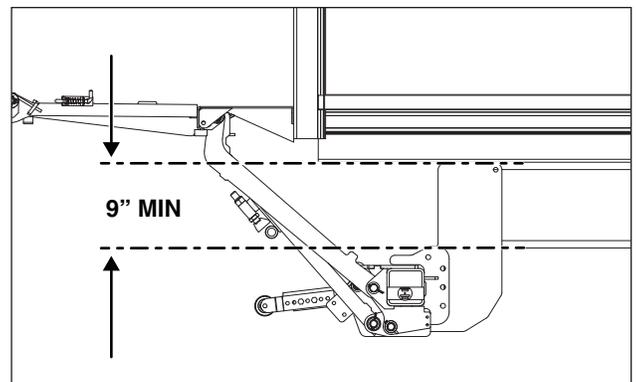
- Briefly press and release the control switch in the UP position. Remember that pressing the UP control will hydraulically raise the adapter frame tube.

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.

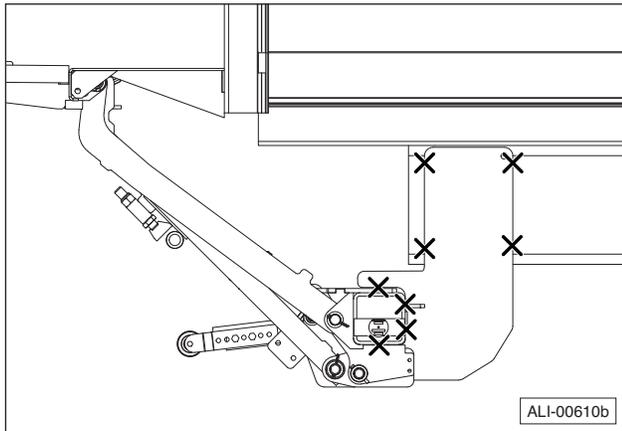
- If weld-on mounting plates are being installed, slide the mounting plates onto the adapter frame tube on each side, as shown.



Note: The mounting plate must extend at least 9 inches above the bottom of the truck frame. Extend or shorten the mounting plates, as needed.

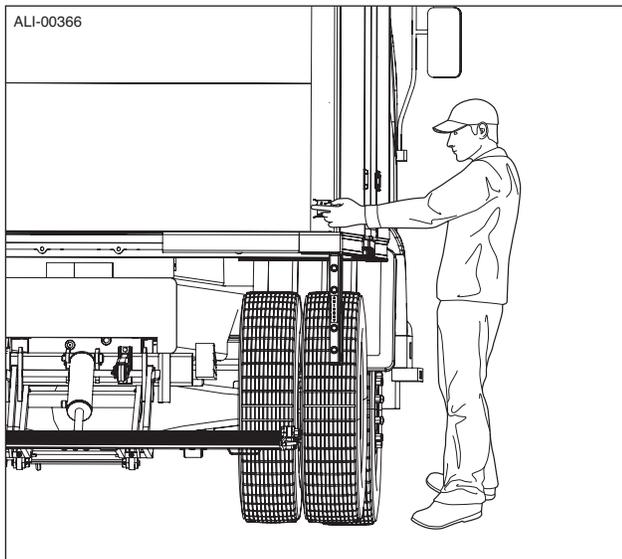


12. Tack weld the mounting plates to the frame and to the adapter frame tube in the locations marked "X" (each tack weld should be a 3/8 inch fillet, 1 inch long). **DO NOT weld the mounting plates with a continuous weld at this time.**
Note: Bolt-on mounting plates only need to be tack welded to the frame.

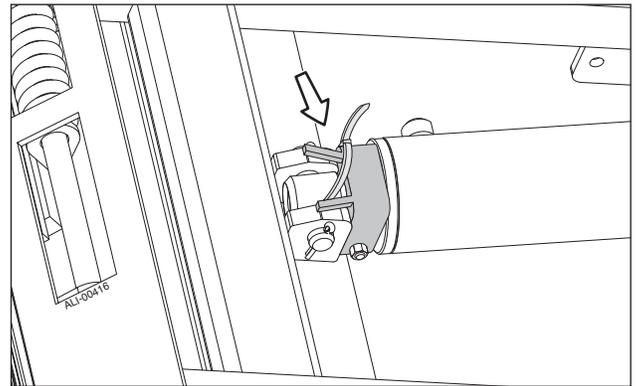


Never work under the suspended liftgate.

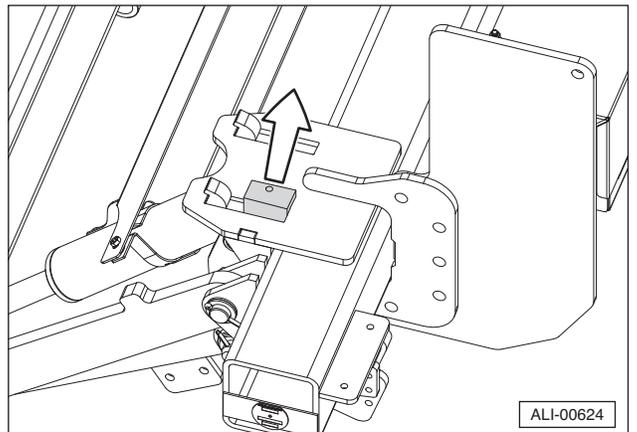
13. Remove the lifting device under the adapter frame tube.
 14. Remove the two C-clamps.
 15. Make sure the latch pin is in the open position.
 16. Standing on the curbside of the truck, away from the platform, actuate the DOWN switch to lower the platform to the ground.



17. Remove the spacing guides from the lift cylinders.



18. Lower the platform nearly to ground level and remove the two rocker stop brackets from the adapter frame tube weldment, one on each side.

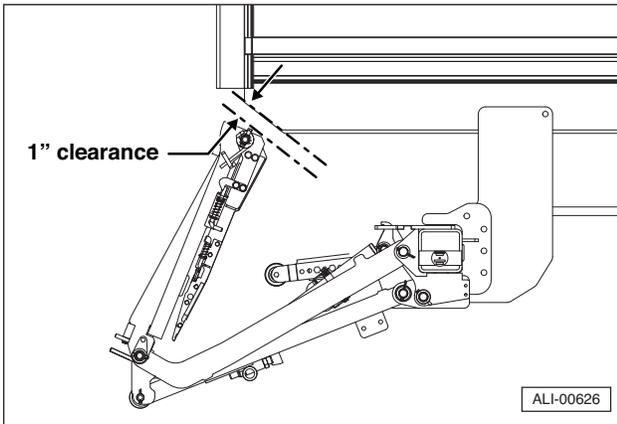
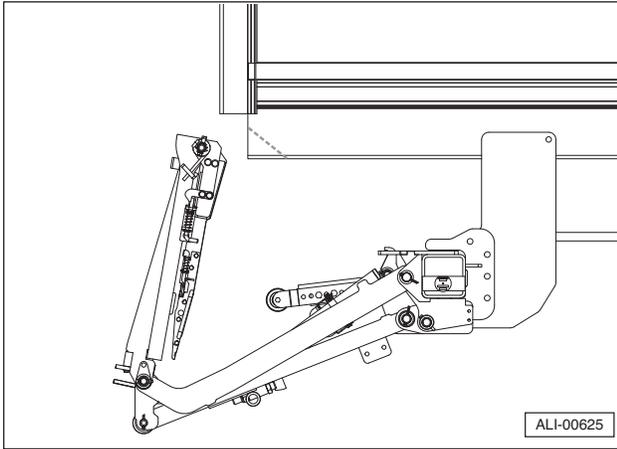


NOTICE

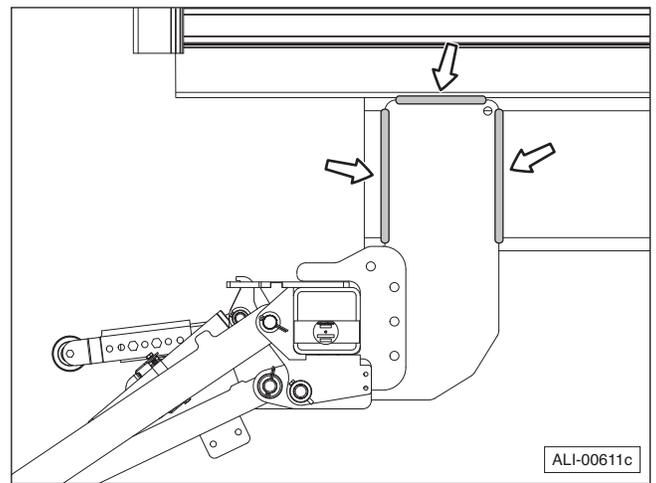
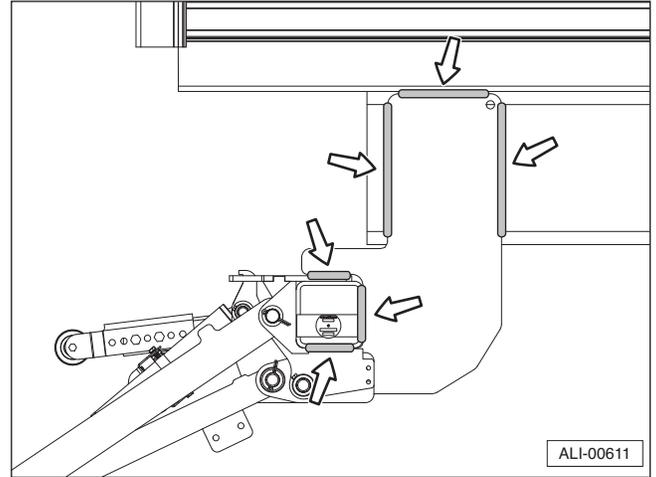
The two rocker stop brackets must be removed before the leading edge of the platform will completely touch the ground.

19. The platform must travel correctly through its full cycle.
- A full cycle is when you perform all of these functions, Up, Down, Open, Close, Tilt-Down, & Tilt-Up.
Note: The platform has a "level ride" feature which keeps it parallel to 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.
 - 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 bed floor (19-1/2").
 - Remove the tack welds on the mounting plates, and reposition the adapter frame tube.
 - 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.



2. With the platform on the ground, finish welding the mounting plates to the truck frame and adapter frame tube. Use a continuous 3/8 inch fillet weld around all sides of the adapter frame tube and on both sides of the mounting plates. Bolt-on mounting plates only need to be finish welded to the frame.



4.8 Final Welding and Testing

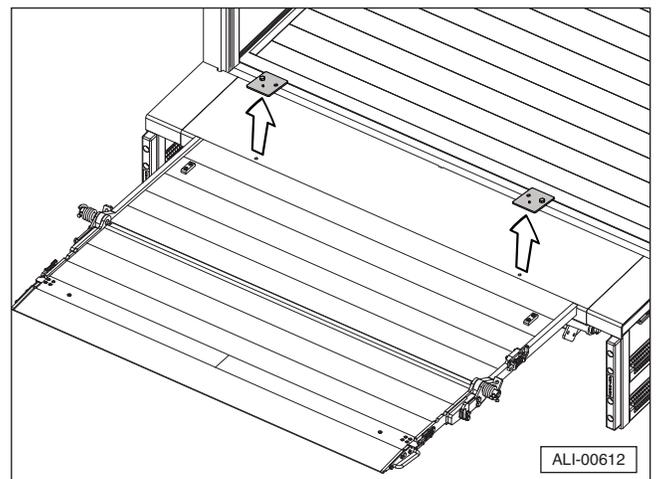
1. If the platform is operating correctly, finish welding the mounting plates. If the platform does not make a complete cycle, adjust the mounting plates as necessary.

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.

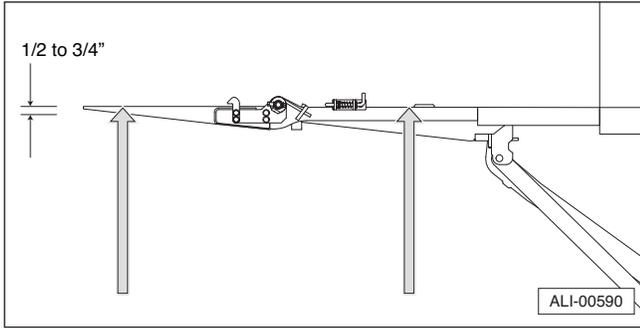
NOTICE Cover the cylinder rods with a welding blanket to prevent weld spatter from damaging them.

3. Remove the installation brackets from the floor extension.

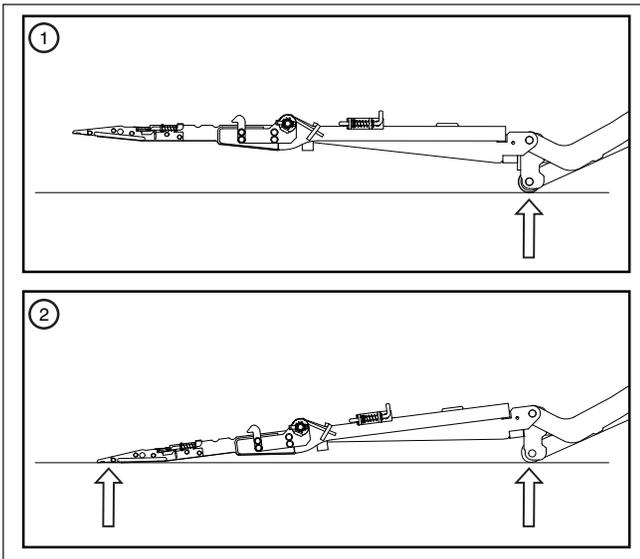


4. Completely raise the platform.

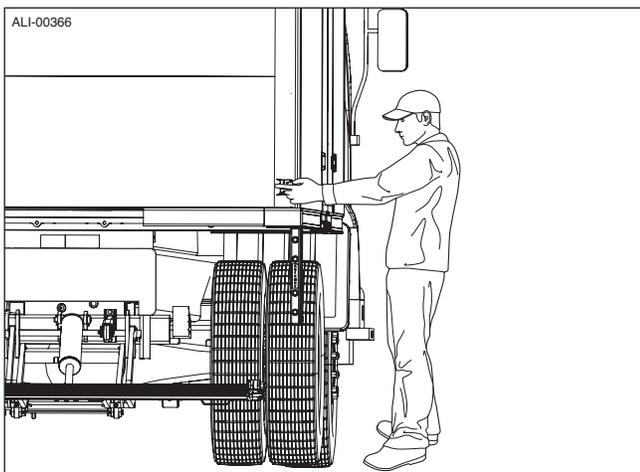
The end of the flipover section should be 1/2 to 3/4 inches higher than the truck floor when in the raised position. If the outboard end of the platform is sagging, add shims as described in "4.9 Testing and Adjusting" on page 20.



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).

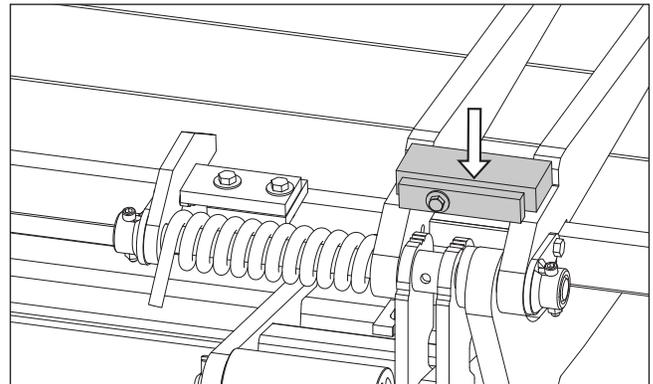


6. Completely raise and lower the platform several times.



4.9 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.

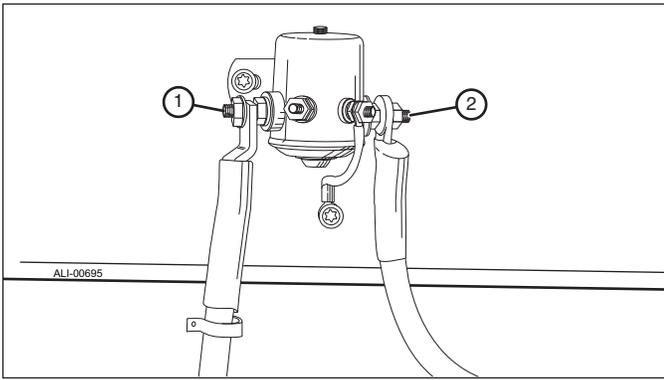
4.10 Cut-Off Solenoid Connection

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.

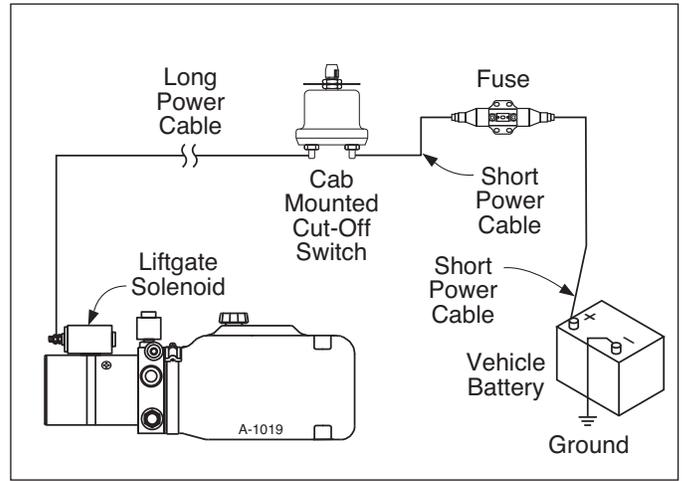
The optional A-133036 Cut-Off Solenoid Kit can be used in any truck, but is essential for tilt cab applications, as it requires only a lightweight wire running to the cab, not a large cable, as required by the cut-off switch.

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

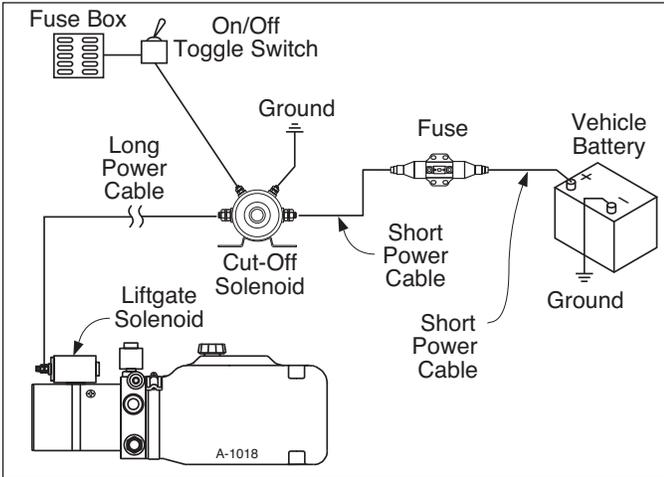




Cut-Off Solenoid Installed Between Battery and Fuse Assembly. (2) Short cable, part of solenoid kit. (1) Long length of power cable leading to power unit.



Wiring Diagram With Cab Cut-Off Switch.



Wiring Diagram with Cut-Off Solenoid.

4.11 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.



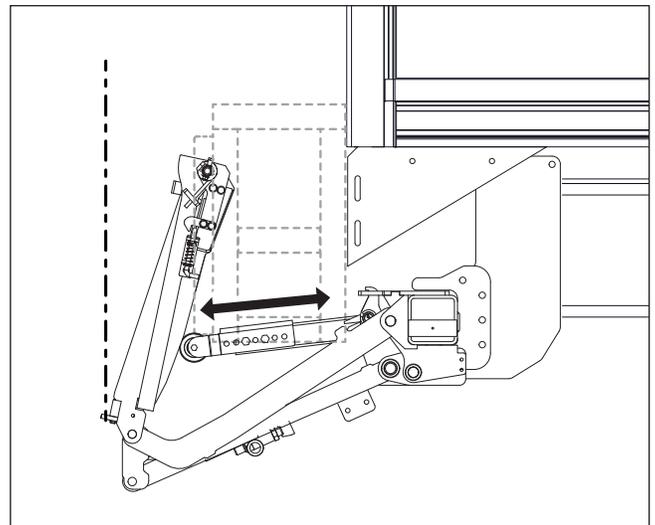
Cut-Off Switch Mounted in Cab of Truck.

4.12 Adjusting Wheel Arm

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.

1. If adjustment is needed, remove the two bolts and nuts on the wheel arm.
2. Lengthen or shorten the wheel and channel assembly on the tube, as desired.

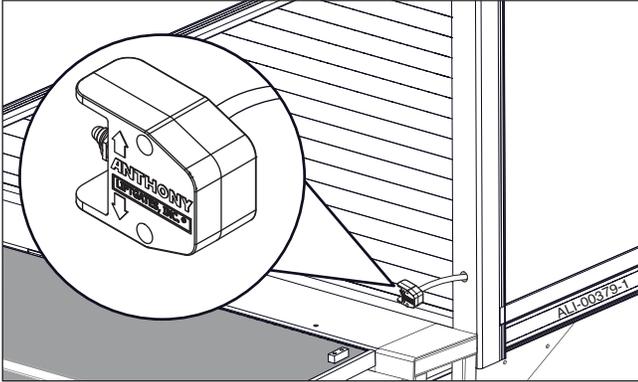


3. Align the two holes in the wheel and channel assembly with the holes in the tube nearest the desired position.
4. Re-install the two bolts and nuts. Tighten the nuts to secure the wheel and channel assembly.

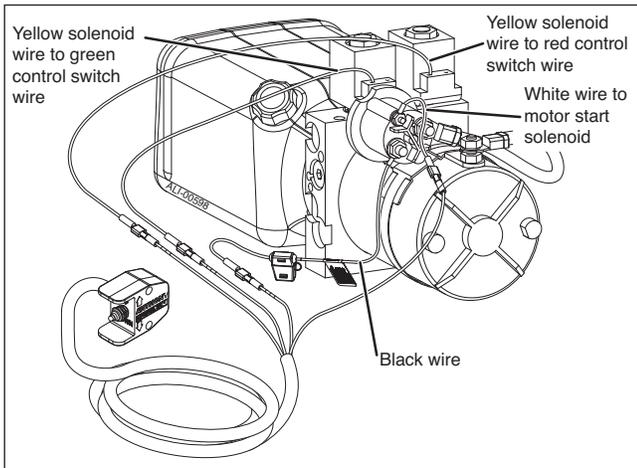
4.13 Mounting Control Switch and Routing the Power Cable

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.

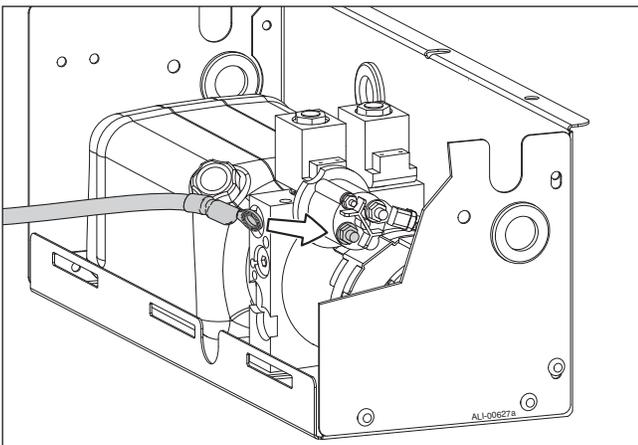
Note: Mount the control switch to the truck's rear curbside post, so it can be reached while standing at the curbside of the truck, away from the liftgate platform.



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



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



5. If needed, attach a ground strap, the same gauge or larger as the liftgate power cable, between the pump box and the truck frame.

WARNING Improper grounding can cause an electrical current to travel through brake lines, steel braided power steering hoses, or other truck frame components, causing failure to these components, which could result in the loss of vehicle control.

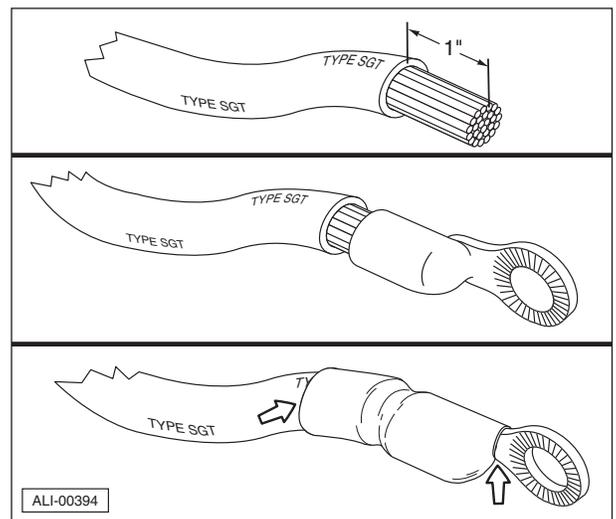
6. Route the power cable along the truck frame to the power cut-off solenoid, attaching it with plastic tie wraps or wire clips.

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.

7. Install the power cut-off solenoid ("4.10 Cut-Off Solenoid Connection" on page 20) that was provided or install an optional cab cut-off switch.

WARNING Anthony Liftgates strongly recommends the installation of an optional power cut-off solenoid ("4.10 Cut-Off Solenoid Connection" on page 20) or cab cut-off switch ("4.11 Cut-Off Switch Connection" on page 21). Allowing power to the liftgate when the truck is unattended can result in serious injury or death.

8. Install cable lugs on the end of the power cable, and connect the ends to the power cut-off solenoid.
 - a. Strip the insulation one inch back from the end of the cable to expose the copper wire.



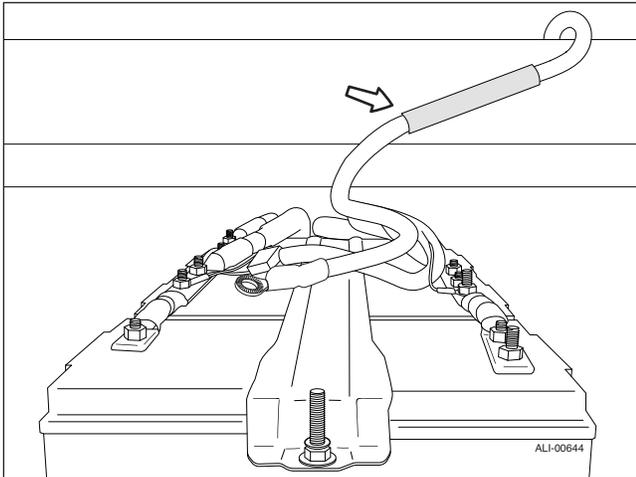
- b. Position the cable lug on the exposed wire, as shown. Crimp the cable lug using a cable crimping tool (hydraulic or manual).

- c. Use the supplied heat shrink tube to insulate the new connection, leaving only the mounting hole exposed.

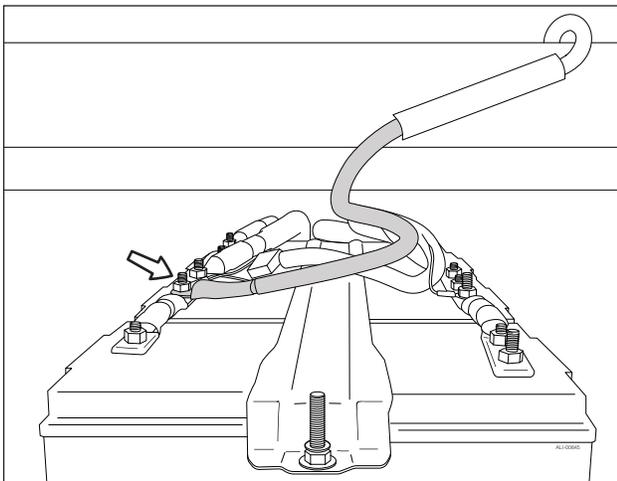
NOTICE

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.

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

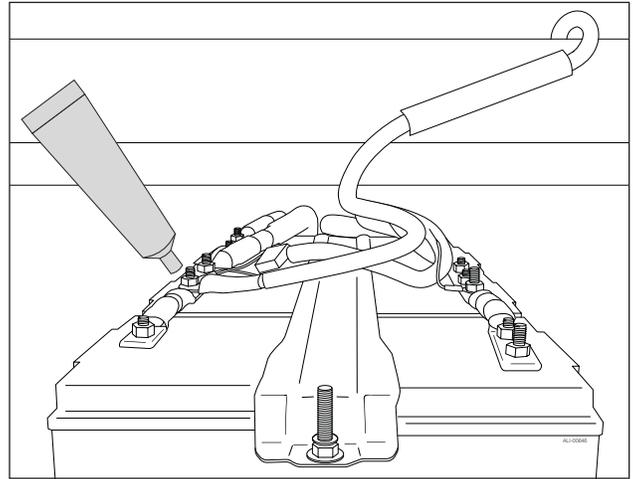


10. Route the short, 3-foot section of cable into the battery box and connect the end to the positive (+) post of the truck battery.



11. Use the control switch to raise and lower the platform.

12. Coat any terminal ends, studs, and nuts in the liftgate electrical system with suitable corrosion inhibiting lubricant.



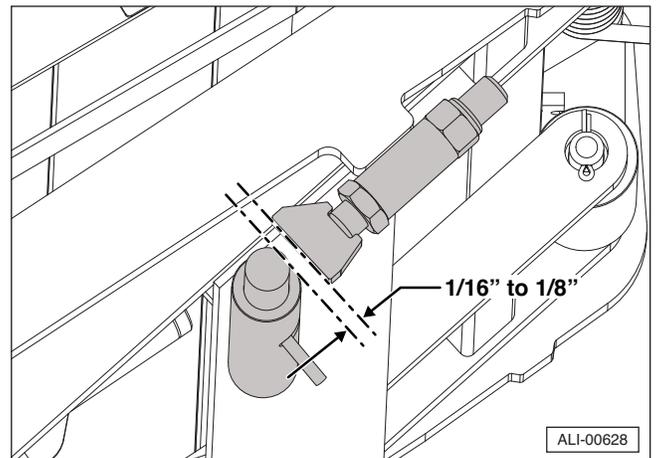
13. Replace the battery box cover and lock it in place.

NOTICE

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

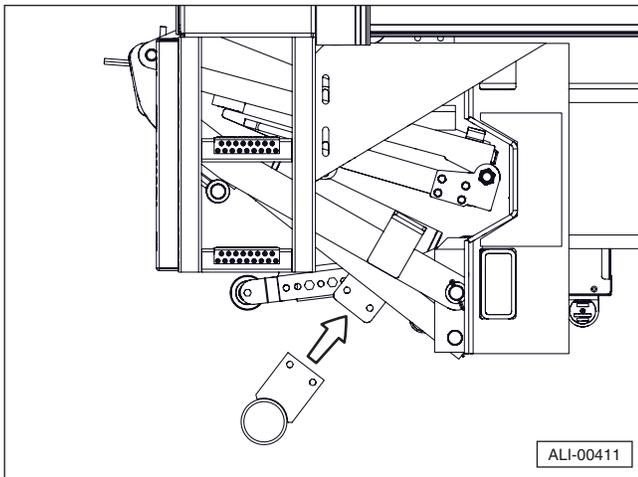
4.14 Adjust Latch Pin

1. Adjust the latch pin plate allowing 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.

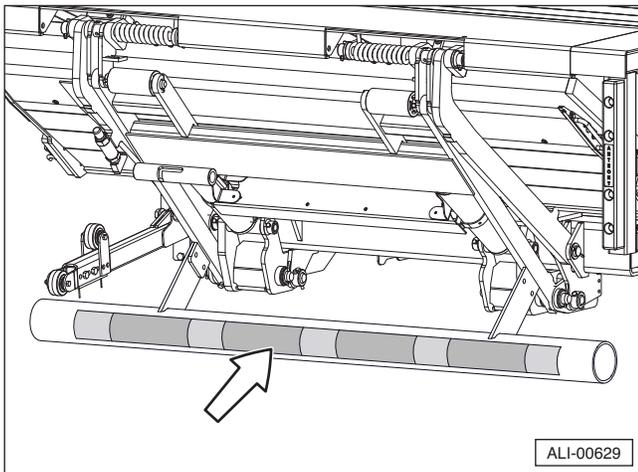


4.15 Installing Optional DOT Tubular Bumper

1. If desired, install the optional tubular bumper using the supplied hardware. Make sure the installation is in compliance with all State and Federal regulations.



2. With the liftgate in the stored position, attach the red and white reflective tape.



4.16 Final Inspection Checklist

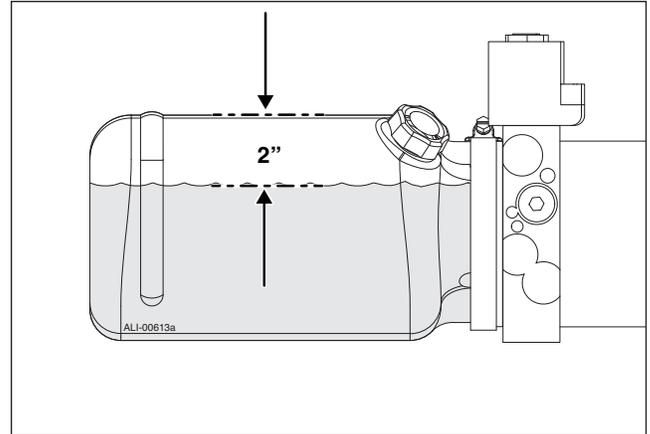


Personal Injury
Hazard

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

- Make sure all welds are properly sized.
- Make sure retainer bolts and clips are properly installed on all pivot pins.
- Make sure all hydraulic fittings are tight and not leaking.
- Hydraulic hoses must be routed to prevent rubbing against any surface while cycling the platform up/down or being opened/closed.

- Make sure the power unit reservoir is filled with the recommended Hyken Glacial Blu 2 inches from the top of the reservoir when the liftgate platform is in the fully raised position.



- Make sure the cover on the pump box is properly installed.
- Make sure the platform will fold smoothly and freely, tuck under the truck in a stored position, and latch.
- Make sure reflectors, license plate bracket, and DOT lights are installed and operating properly, per FMVSS 108 – Lamps, Reflective Devices, and Associated Equipment.
- If required, make sure a rear impact protection device is installed and complies with State and Federal standards.
- Make sure truck brakes work properly, according to FMVSS 105 – Hydraulic And Electric Brake Systems.
- If required, make sure grab handles and other ingress/egress items are properly installed.
- If installed, make sure the optional cab cut-off switch works properly.
- Make sure all decals are properly attached and legible.
- Put separate Installation, Operation, and Maintenance Manuals in the vehicle.

5. Decals

5.1 Installing Decals

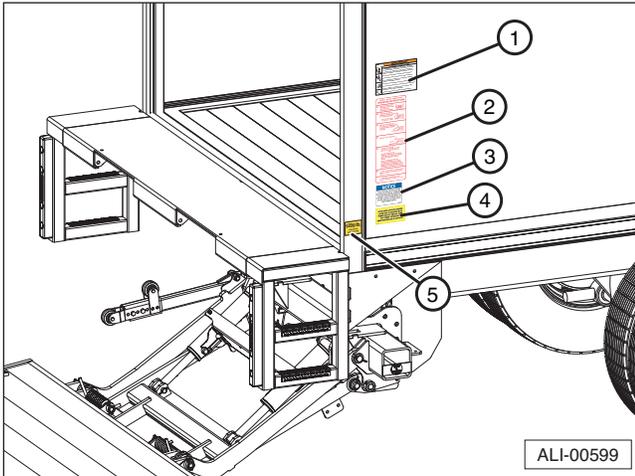
SAFETY INSTRUCTIONS



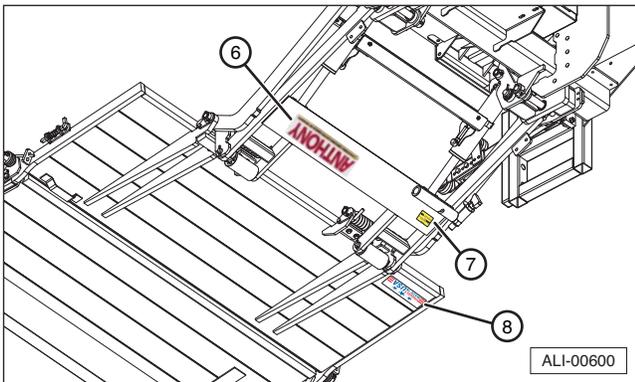
To prevent possible injuries due to improper operation, make sure all

decals are attached to the liftgate and truck and are legible.

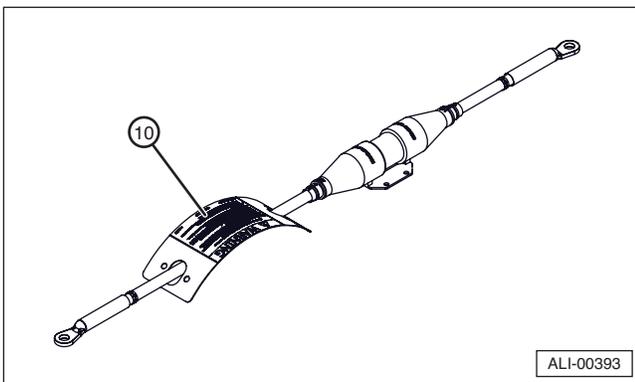
1. Attach decals 1, 2, 3, 4, and 5 to the truck body, as shown.



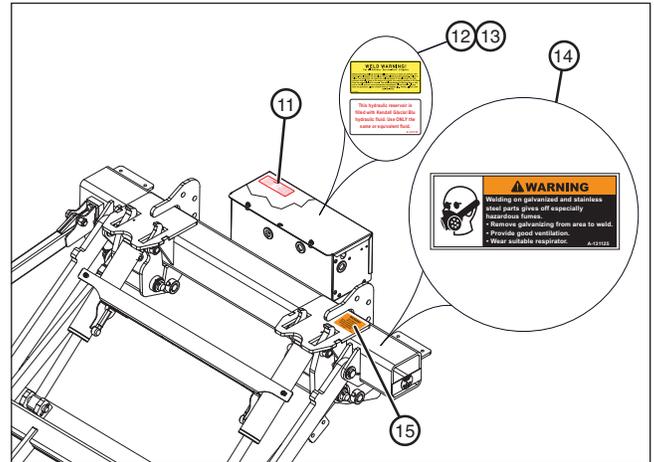
2. Make sure factory-installed decals 6, 7, and 8 are attached to the lift arms and platform.



3. Make sure the factory-installed fuse changing decal 10 is on the power cable and is visible near the location of the fuse. (attached only to A-133105 200 AMP Power Cable)



4. Make sure factory-installed decals 11, 12, 13, 14, and 15 are installed on the power unit and the adapter frame tube.



Item	Part Number	Description
1	A-131115	Warning, Personal Injury
2	ATU-423	Operating Instructions
3	A-150238	Notice - Protected With Electrical Overload Circuit Breaker
4	ATU-141	After Using Liftgate
5	A-131061 A-131062 A-171433 A-131120 A-131119	2500 Lb. Maximum Capacity 3000 Lb. Maximum Capacity 4000 lb. Maximum Capacity 5000 lb. Maximum Capacity 6000 lb. Maximum Capacity
6*	A-131034	Anthony Label
7*	A-131017	Note - Disengage Latch
8*	A-150601	Made In The USA
10*	A-131036	Warning, 200 Amp Fuse Changing Procedure (attached only to A-133105 200 AMP Power Cable)
11*	A-131001	10 Amp Fuse Changing Procedure (attached to control wiring in pump box)
12	A-131028	Weld Warning
13*	A-131133	Hydraulic Fluid
14*	A-131125	Warning, Galvanized Fumes Hazard (galvanized models only)
15	A-131106	Warning - Remove Bolts After Installation

*Factory Installed – Installer must make sure all decals are attached, as shown.

1 — A-131115

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. • Do not place unstable or unsafe loads on platform. • Do not allow loads to extend over edge of platform. • 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. • 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 — ATU-423

ANTHONY TUCKUNDER LIFTGATES
OPERATING INSTRUCTIONS

- 1. Raise (twist) latch pin handle upwards and then slide pin sideways to release.**
Do not force the latch. Liftgate may need to be slightly raised or lowered to release pressure on latch pin.
- 2. Press control switch DOWN until folded platform rests on ground.**
Always stand on curbside of truck when raising or lowering platform with control switch.
- 3. Manually unfold main platform.**
Always stand on curbside of truck when unfolding platform.
- 4. Manually unfold flipover section.**
Always stand on curbside of truck when unfolding flipover section.
- 5. Raise and lower platform using UP and DOWN functions of control switch.**
- 6. Reverse steps to fold and store platform. Make sure platform is locked in storage position with latch pin after use.**

ATU-423

3 — A-150238

NOTICE

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

A-150238

4 — ATU-141

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

ATU-141

5 — A-131061, ATU-147, A-171433, A-131120, A-131119

2500 lb.

MAXIMUM
CAPACITY

A-131061

3000 lb.

MAXIMUM
CAPACITY

ATU-147

4000 lb.

MAXIMUM
CAPACITY

A-171433

5000 lb.

MAXIMUM
CAPACITY

A-131120

6000 lb.

MAXIMUM
CAPACITY

A-131119

CAUTION

Make sure the proper “MAXIMUM CAPACITY” decal is 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 — A-131034

⚠ CAUTION SECURE LATCH WHILE IN TRANSIT.

A-131034

7 — A-131017

Note:

Disengage "latch" before attempting to use liftgate.

Engage "latch" after using liftgate.

A-131017

8 — A-150601

A-150601

10 — A-131036 (attached to power cable)

⚠ WARNING

View fuse through clear fuse holder, if blown, replace as follows:
Liftgate fuse changing procedure.

Warning! To avoid injury, disconnect the liftgate's power from the battery(ies) before replacing the fuse, or before disassembling the fuse holder. Do not ignore this warning or an "arc" can occur and personal injury or property damage could result.

1. Pull back rubber boots from fuse holder.
2. Unscrew the fuse holder ends from the fuse holder body and pull apart.
3. Slide the fuse holder body one direction (left or right) to expose the blown fuse.
4. Loosen screws from each end of fuse, remove and replace fuse. Tighten screws.
5. Re-assemble in reverse order. Be sure the rubber boots seal around the fuse holder and cable.
6. Re-connect power after you are certain liftgate area is clear.

Contact Anthony Liftgates for fuse specifications.
Note: Check for spare fuse in liftgate manual packet. If fuses continue to blow contact a qualified mechanic to remedy the problem.

Anthony Liftgates, Inc. Ph: 800-482-0003 A-131036

11 — A-131001 (attached to control cable)

10 AMP FUSE & HOLDER
Protects against dead shorts in this "control circuit".
If blown, pull "fuse holder cap", replace fuse, replace "cap". If fuse continues to blow, contact a qualified mechanic, "control circuit" may be damaged.

A-131001

10 AMP FUSE & HOLDER
Protects against dead shorts in this "control circuit".
If blown, pull "fuse holder cap", replace fuse, replace "cap". If fuse continues to blow, contact a qualified mechanic, "control circuit" may be damaged.

12 — A-131028

WELD WARNING!
For all Anthony "Service-Free" Liftgates

When performing welding during installation, service, or repair on Anthony "SF" Service-Free liftgates, the actual part being welded must be grounded. Failure to follow this instruction can cause the welding ground to travel through the high pressure hydraulic hose as the source of ground, thus causing damage to the hose from the powerful electric current. The resulting damage to the hose may or may not be visible and can cause unexpected catastrophic failure of the lift. If you have any questions, please contact Anthony Liftgates, Inc., Pontiac, Illinois, USA (800-482-0003).

A-131028

13 — A-131133

This hydraulic reservoir is filled with Kendall Glacial Blu hydraulic fluid. Use ONLY the same or equivalent fluid.

A-131133

14 — A-131125 (attached only to galvanized liftgates)

⚠ WARNING

Welding on galvanized and stainless steel parts gives off especially hazardous fumes.

- Remove galvanizing from area to weld.
- Provide good ventilation.
- Wear suitable respirator.

A-131125

15 — A-131106

WARNING

MUST REMOVE AND DISCARD INSTALLATION BOLTS ON "ROCKER ASSEMBLIES" BEFORE OPERATING LIFTGATE

A-131106

6. Welding Stainless Steel to Galvanized

If the installation requires welding galvanized steel parts to stainless steel, special procedures must be followed to ensure the safety of the welder and the integrity of the welds.

6.1 Safety

6.1.1 Welding or Grinding Galvanized Material



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.

There are no long-term health effects. Metal fume fever typically begins about four hours after exposure, and full recovery occurs within 48 hours.

6.1.2 Welding or Grinding Stainless Steel

Follow all OSHA and other workplace safety standards when welding stainless steel, which creates hexavalent chromium fumes that can irritate the nose, throat, and lungs.

Repeated or prolonged exposure can damage the mucous membranes of the nasal passages and result in ulcers. In severe cases, exposure causes perforation of the septum (the wall separating the nasal passages).

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

6.2 General Guidelines

1. Welders should position themselves upwind of the airflow that removes the fumes so that fumes and dust do not collect inside the welding shield (helmet).
2. In addition to proper positioning, an effective method to prevent inhaling zinc oxide fumes or hexavalent chromium fumes is to wear a good fume-rated respirator.

6.2.1 Weld Wire

We recommend AWS E312T1 flux core wire, such as Midalloy Mastercor™ E312T1-1/4 or equivalent. **Do not use stainless steel weld wire.**

6.2.2 Shielding Gas

100% CO² or 75/25 Argon/CO² mix can be used.

6.2.3 Welding Guidelines

1. The welding of galvanized steel is the same as welding bare steel of the same composition. It uses the same welding processes, Volts, amps, travel speed, etc.

Wire Diameter (inches)	Voltage (V)	Amperage (Amp) [Wire Feed Speed (ipm)]	
		Flat	Vertical & Overhead
.045	24-28	130-200 [250-425]	120-160 [225-300]
.062	25-30	180-250 [150-250]	180-220 [150-200]

2. Use a soft disc grinder to remove the galvanized coating in the area to be welded. This will improve weld quality and reduce the welder's exposure to zinc oxide fumes.
3. No preheating of the dissimilar metals is needed.
4. When welding is complete, and after the area has cooled, use a cold galvanizing spray to restore corrosion resistance.

7. Lifting Fixture

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

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



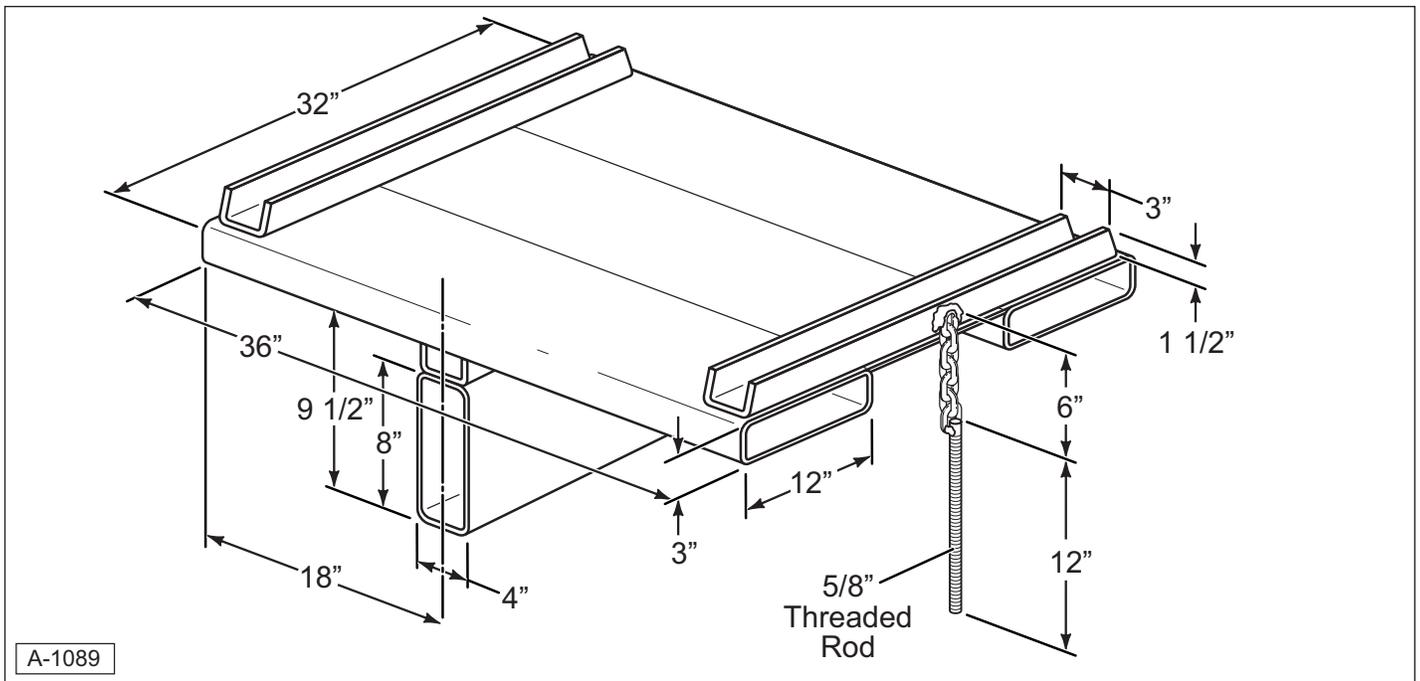
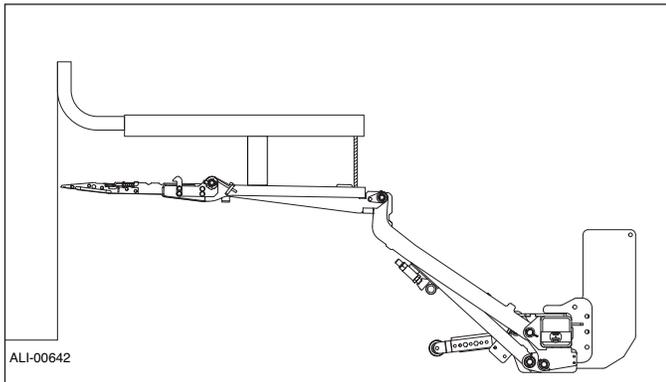
WARNING



The construction of the lifting fixture must satisfy the user to be safe and properly constructed.

Failure to use the proper materials or material thickness can result in serious injury or death.

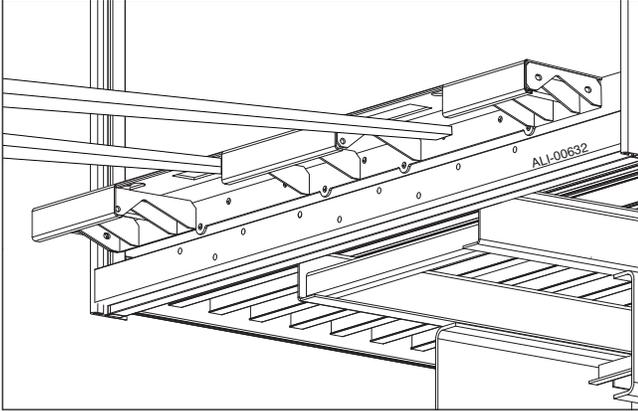
- This lifting fixture is intended for use on liftgates equipped with steel or aluminum platforms.
- Make the lifting fixture from tubular steel at least 1/4 inch thick or thicker.
- Make the lifting fixture is wide enough to support the liftgate and to accommodate the width of the forks on the forklift.
- Make the lifting bolt from 5/8 inch threaded rod. Use a washer and nut to fasten the lifting fixture to the liftgate (not used to lift aluminum platforms).
- The lifting bolt should be long enough to go through the lifting hole in a steel platform and allow the lifting fixture to remain level (not used to lift aluminum platforms).



8. Bolt-On Floor Extension

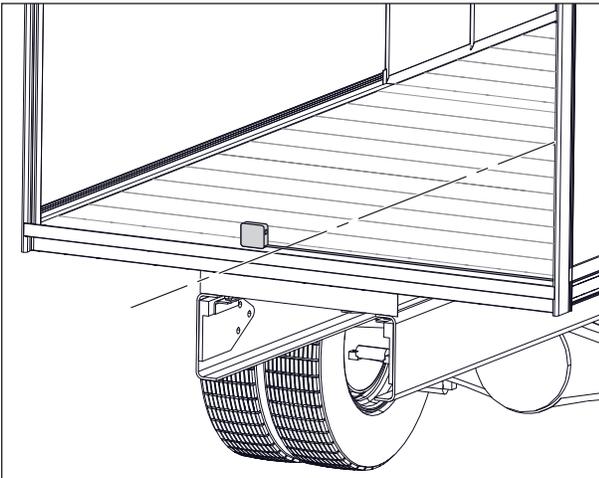
Use the following procedure to bolt the floor extension to the truck body. An ATU-1446 Bolt-on Floor Extension Kit is available and contains the necessary mounting hardware for the floor extension and side gussets.

- Using a lifting device, align the holes in the floor extension with the predrilled holes in the truck body sill. A dimensional drawing showing the hole location can be found in this section.

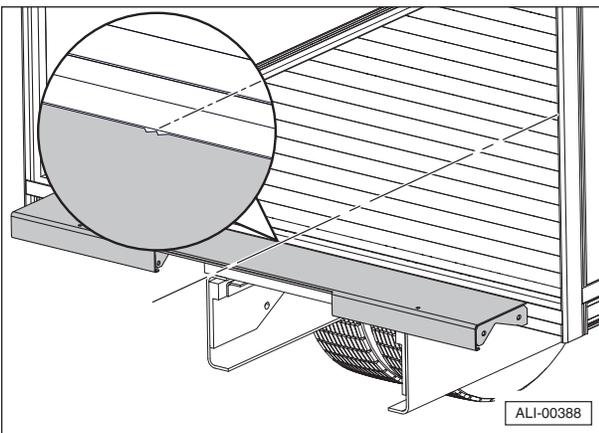


- If the predrilled holes are not in the truck body sill, follow these steps.

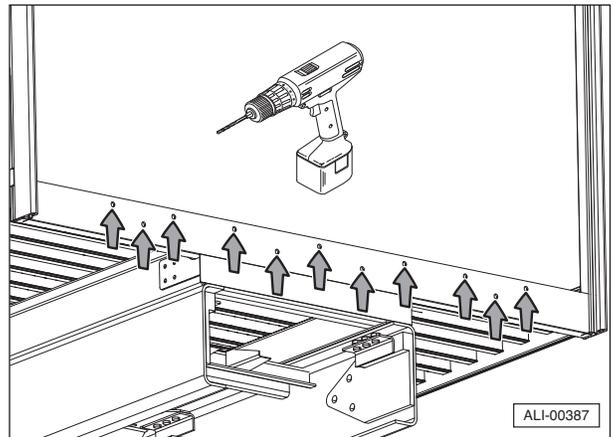
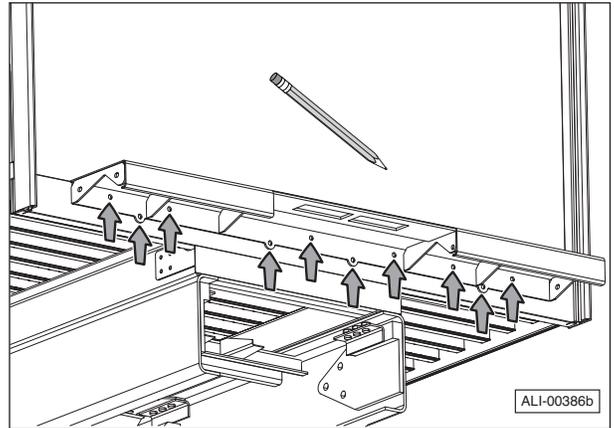
- Find and mark the center of the truck body.



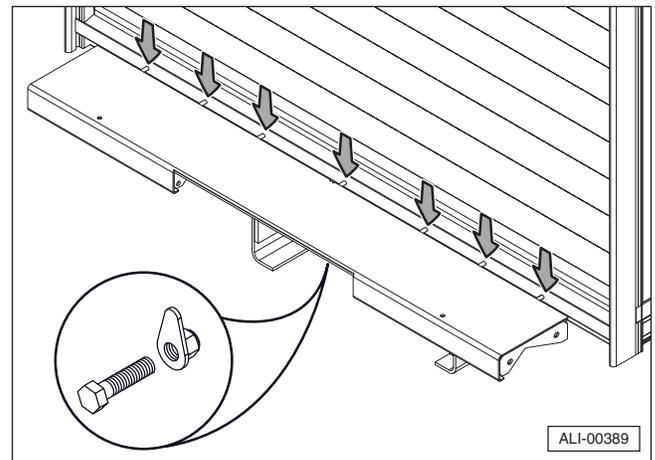
- Center the floor extension on the truck body using the notched cutout.



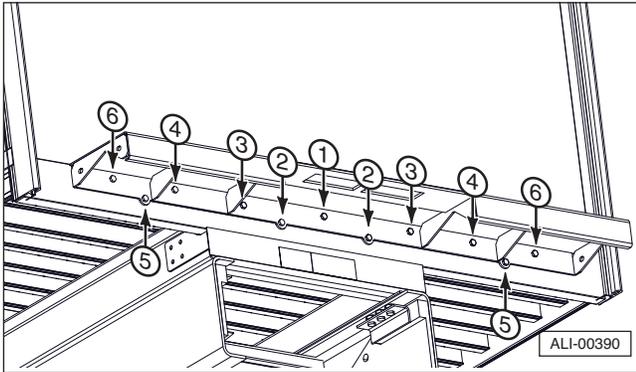
- Mark and drill mating holes.



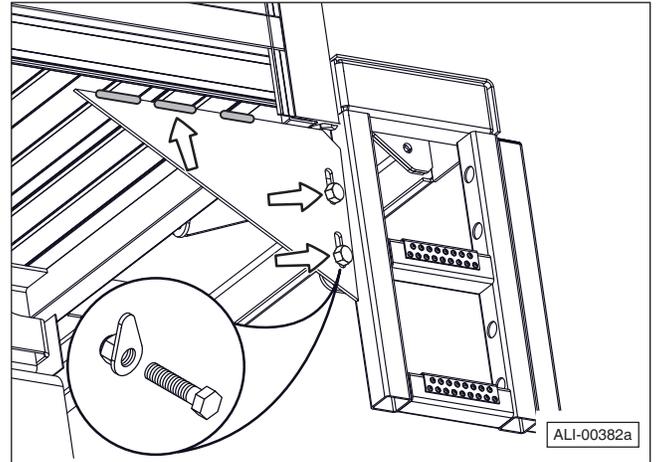
- Install the flanged bolts through the floor extension and truck frame, with the bolt heads facing the rear of the truck.



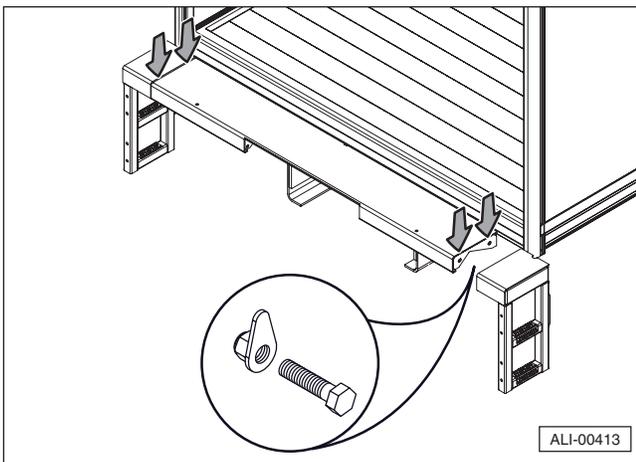
- The floor extension has a natural bow in it and must be straightened as it is installed. Tighten the nuts from the center out, keeping the extension flush with the bed of the truck.



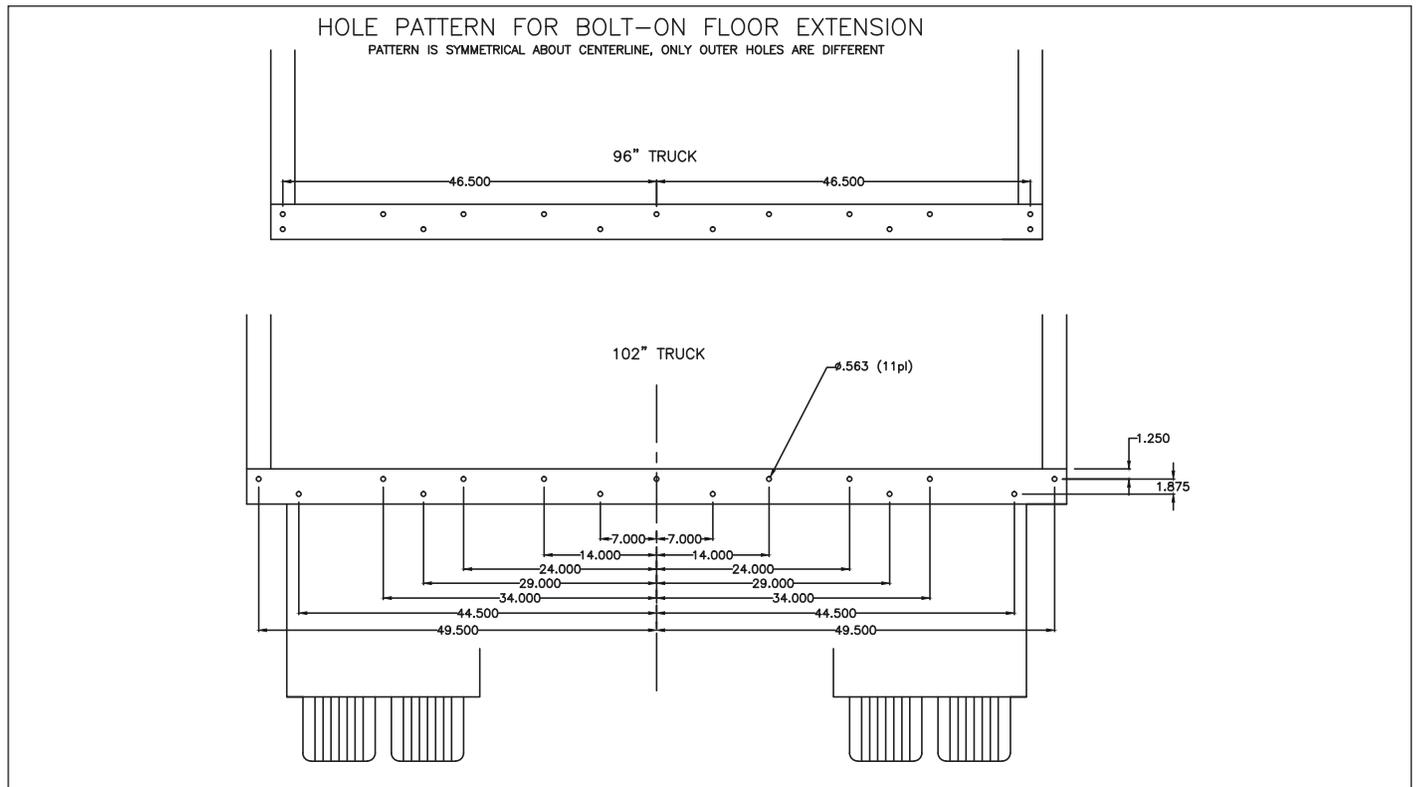
- Bolt the side gussets onto each of the dock bumpers.



- Install both dock bumpers.

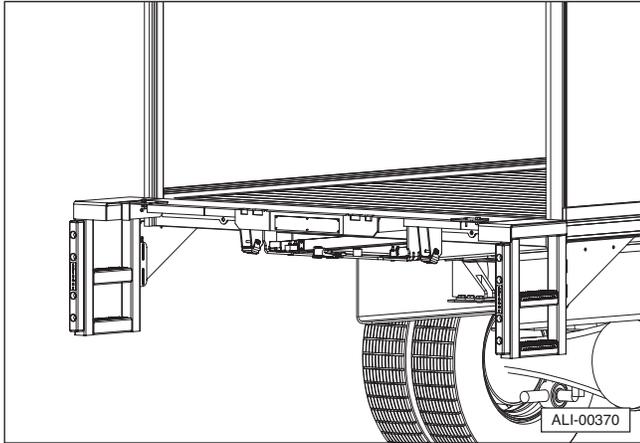


- Weld the top of the side gussets to the truck body frame.
- Make sure all bolts are tightened to standard torque.

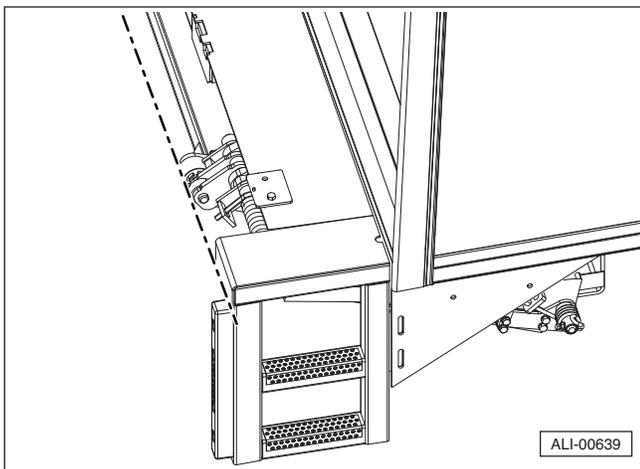
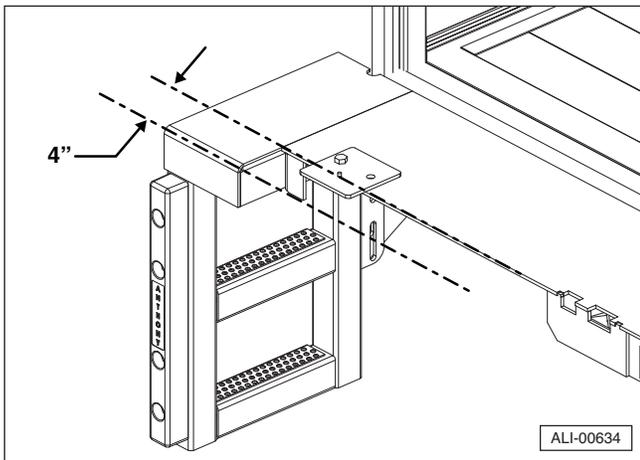


9. Walk Ramp Floor Extension Installation

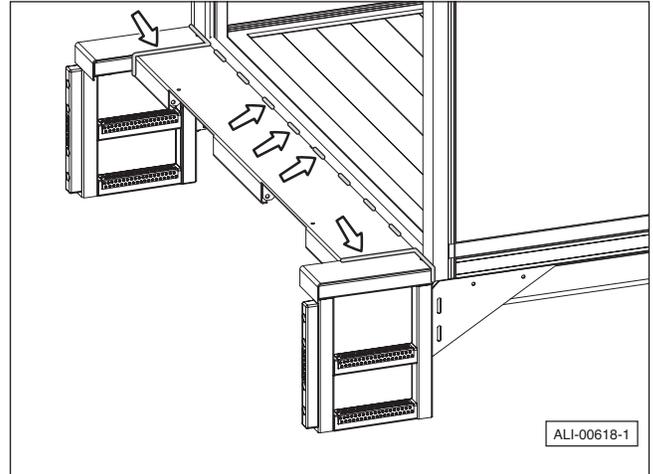
1. Follow the installation instructions of the walk ramp manufacturer and install the walk ramp.
2. Install the floor extension and dock bumpers. Follow the steps outlined in "4.5 Installing the Floor Extension" on page 13.



Note: The dock bumpers should extend four inches beyond the width of the floor extension to protect the liftgate when the truck is using a dock. A typical installation would be a 12-inch wide floor extension with 16-inch wide dock bumpers.

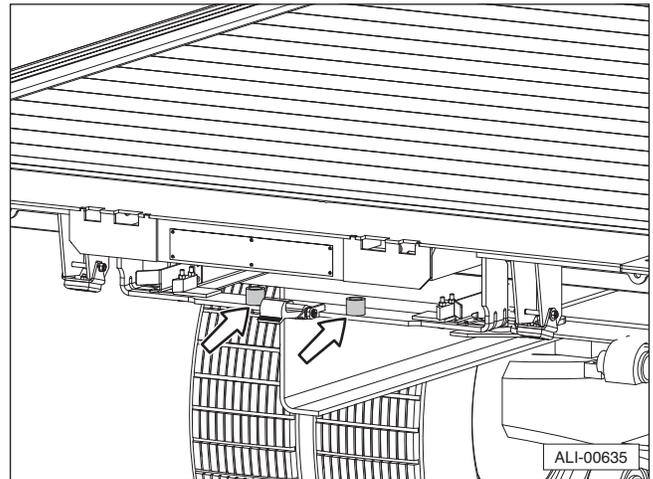


3. Completely weld the floor extension and dock bumpers.

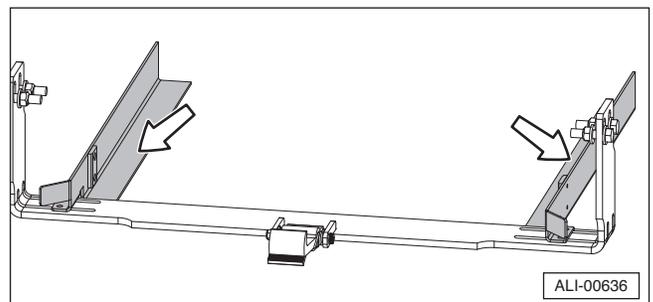


Walk ramp liftgate with 12" extension and 16" extended dock bumper.

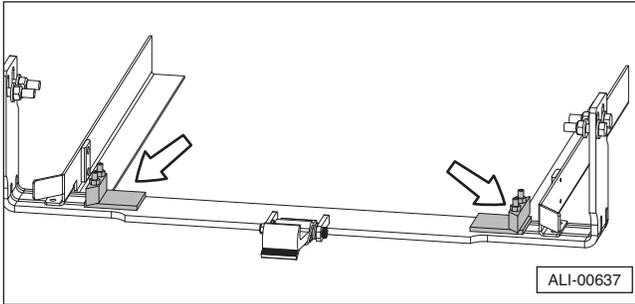
4. The walk ramp floor extension comes with two round walk ramp end stops. These stops are typically installed at the end of the walk ramp cage to prevent the walk ramp from sliding too far inward. In many cases, these stops are not required and can be discarded.



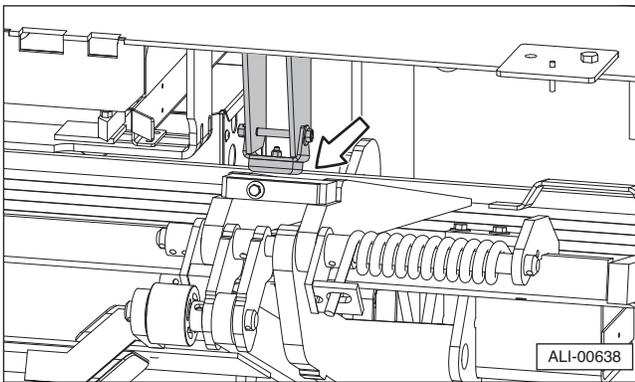
5. Walk ramp slide extensions are also provided to extend the walk ramp cage into the floor extension if required. Bolt the guides onto the floor extension using the provided hardware.



- Adjust the two plastic walk ramp guides against the side of the walk ramp to prevent side-to-side movement.



- Install the liftgate following the steps in "4.7 Attaching Liftgate to Truck Frame" on page 16.
- When properly installed, the liftgate should fold into the stored position and contact the floor extension stops, as shown.



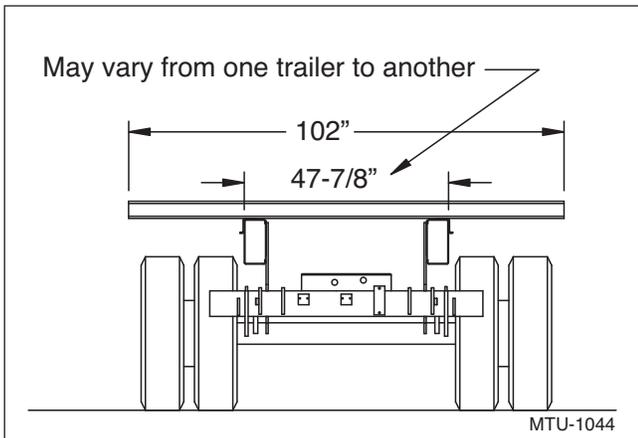
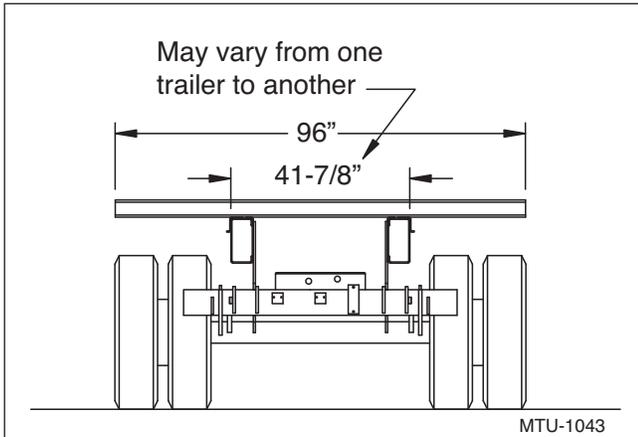
- Make sure the walk ramp will slide completely under the truck body, and the locking latch prevents it from sliding out.



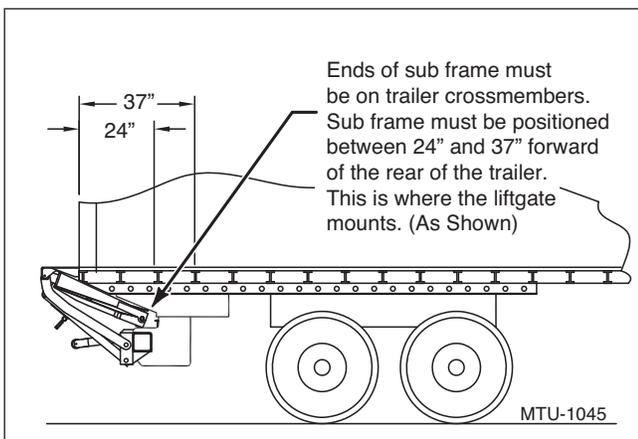
10. Trailer Subframe Installation

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

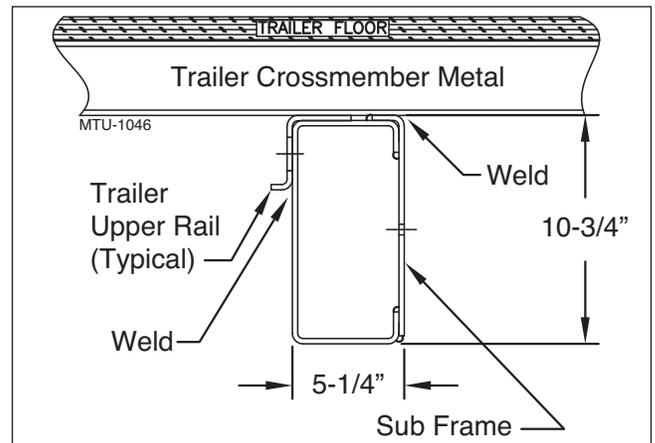
1. Locate the attachment points. Typical mounting widths for 96" and 102" wide trailers are shown below. In addition, the rear end of the subframe must be 24 to 37 inches forward of the rear of the trailer body and both ends of the subframe must be on cross members.



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



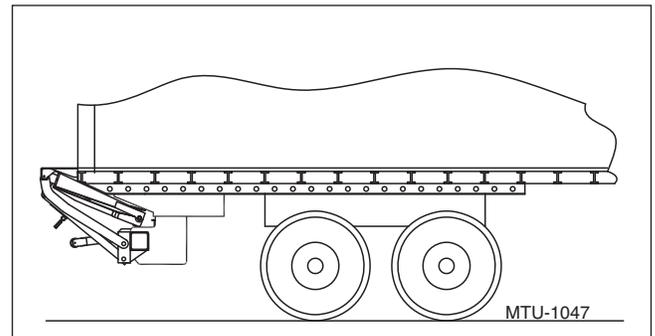
3. Weld the subframe to the trailer cross members, as shown. Welds must be 1/4" fillets minimum. Both ends of the subframe must be on cross members.



4. Mount the liftgate to the subframe following the procedure in the Installation section.

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

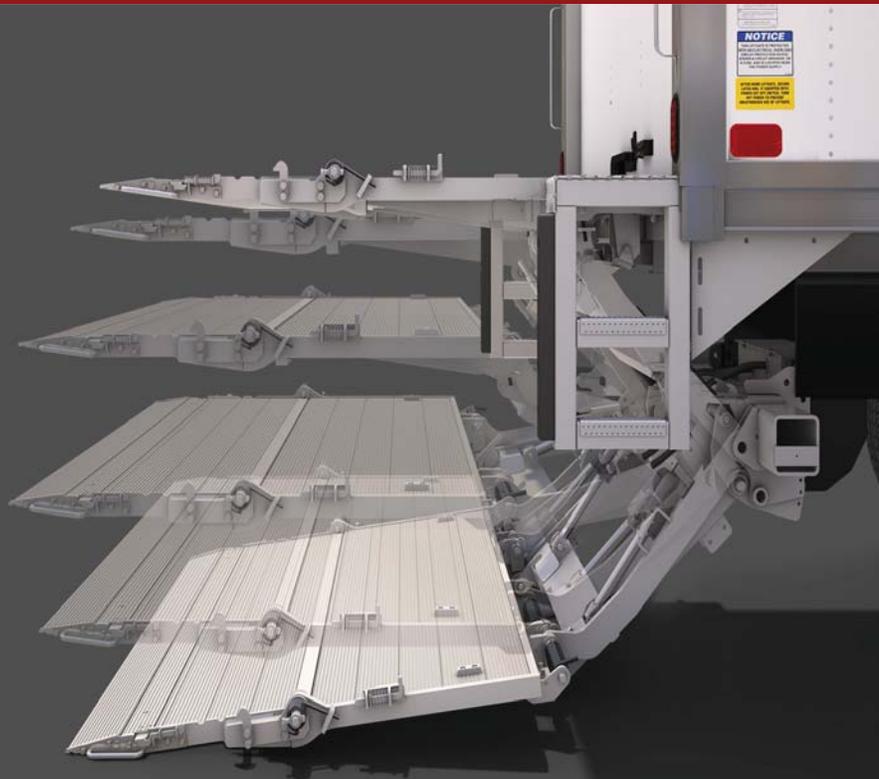
5. If necessary, notch the subframe as shown for proper folding clearance.



ANTHONY
LIFTGATES, INC.®

Gentle Level Ride (GLR)

Our platform maintains a smooth, level up and down operation until the platform reaches the ground and then tilts gently forward. The platform then re-levels itself at the start of the lifting cycle.



THE ORIGINAL NAME IN LIFTGATES - SINCE 1941

ANTHONY
LIFTGATES, INC.®

MTU-GLR

1037 WEST HOWARD ST.
P.O. BOX 615
PONTIAC, IL 61764-0615
PH: 815-842-3383
FAX: 815-844-3612
TOLL FREE: 800-482-0003
WWW.ANTHONYLIFTGATES.COM