

ANTHONY
LIFTGATES, INC.®

ETU



INSTALLATION MANUAL

MODELS

ETU-20-44

ETU-25-50



For Serial Number 123751 and Greater

QUALITY, RELIABILITY, CUSTOMER SERVICE

MADE IN THE USA 

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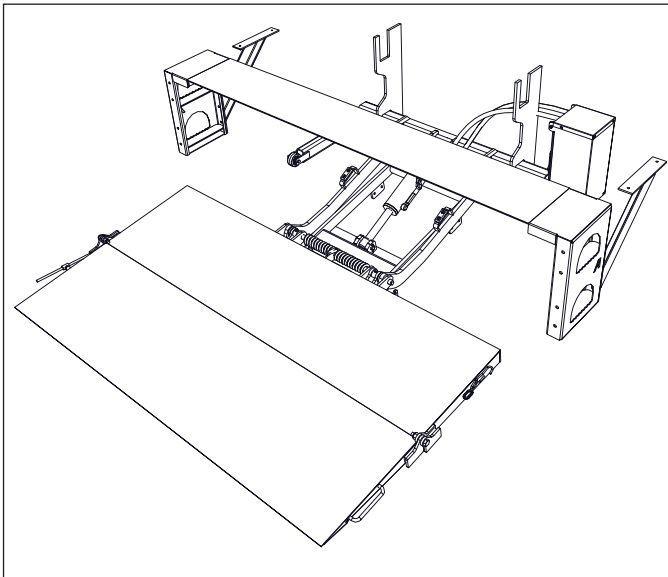
1. General Information

1.1 Introduction

Congratulations on selecting an Anthony Liftgates TuckUnder™ liftgate.

All Anthony tuckunder model liftgates are factory assembled, energized, and tested to ensure the highest quality performance standards. ETU 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 of the ETU TuckUnder™ liftgates.



Typical Anthony Liftgates ETU Tuckunder Model.

1.2 General Safety



Read, Understand, and Follow the Manual

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



When installed, the operation or weight of this liftgate must not alter or prevent vehicle compliance to any existing State or Federal standards, such as FMVSS 105 – Hydraulic And Electric Brake Systems. Consult the 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



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. Consult the truck manufacturer's recommendations for compliance.

1.3.3 Rear Impact Guards



When installed, the transport position of this liftgate must provide protection against rear impact and comply with State or Federal 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 will meet 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 standard 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 are included in section "2. Safety" on page 5 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 correctly.

1.5 If Installation Help is Required

1.5.1 Installation and Maintenance (Dealer)

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

If you have any doubts or questions about 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

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.

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 product. Read, understand, and follow all Warnings, Cautions, Notices, and Safety Instructions in this manual, on the liftgate, or the truck.

Accidents can often be avoided by being alert and recognizing potentially hazardous situations. Anyone operating the liftgate must have the necessary training required to use the liftgate safely. The safety information in this manual serves as an essential guide in an attempt to prevent injury or even death.

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 you use procedures, work methods, or operating techniques not specifically mentioned by Anthony Liftgates, you must satisfy yourself that they are safe for you and bystanders. Make sure the liftgate or truck is not damaged or made unsafe by any operating method you choose.

DO NOT proceed if any doubt arises about the correct or safe method of following any instructions found in this or other related equipment manuals. If in doubt, seek out expert assistance from your authorized dealer before continuing.

1.7 Warranty

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

NOTICE

Install the liftgate according to these instructions to prevent voiding the warranty.

1. Unauthorized modifications may cause improper operation or other unforeseen problems or dangers. If any deviation is deemed necessary, obtain written permission from Anthony Liftgates.
2. 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.

SAFETY INSTRUCTIONS



Being unaware of safety recommendations can lead to personal injury.

The installer must make sure all decals are attached to the liftgate and truck and are legible.

Safety Signal Words



The “Safety Alert Symbol” identifies personal injury hazards and is followed by a signal word such as WARNING or CAUTION to indicate the severity of the danger.



This safety alert icon surrounds an image showing a specific type of injury to avoid. These icons are shown in “2.2.3 Hazard Avoidance” on page 6.



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.*

2.2 Safety Icons Nomenclature

This manual and the equipment have numerous safety icons. These safety icons alert you to potential personal injury hazards and draw attention to essential user instructions.

2.2.1 Personal Protection/ Important Information

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



Damaged safety sign

2.2.2 Prohibited Actions

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

2.2.3 Hazard Avoidance

-  Safety alert symbol
-  Slipping injury
-  Tripping injury
-  Pinch point hazard
-  Pinch hazard (foot)
-  Dangerous fumes
-  Adequate ventilation



Crush hazard



Crush hazard



Crush hazard (chock wheels)



Chock wheels /rollover hazard



Fall hazard (truck)



Fall hazard (platform)



Damaged parts hazard



Fire hazard



Sparks / fire hazard



Battery gas hazard

2.3 Safety Rules

2.3.1 Personal Protection



Do not work under the liftgate while it is suspended from the lifting device. 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.



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.



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 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 components laying around in the work area.



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



Always apply the truck's parking brake and remove the ignition key before operating the liftgate. Failure to follow this recommendation can result in injury.



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



To prevent injury to the user, the liftgate and its related components must 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/or truck and are legible at all times.

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 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 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. Using non-OEM replacement parts voids the warranty.

2.3.3 Battery / Fuel Tank Safety



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



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 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, shield the assembly area 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.



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 Stainless Steel



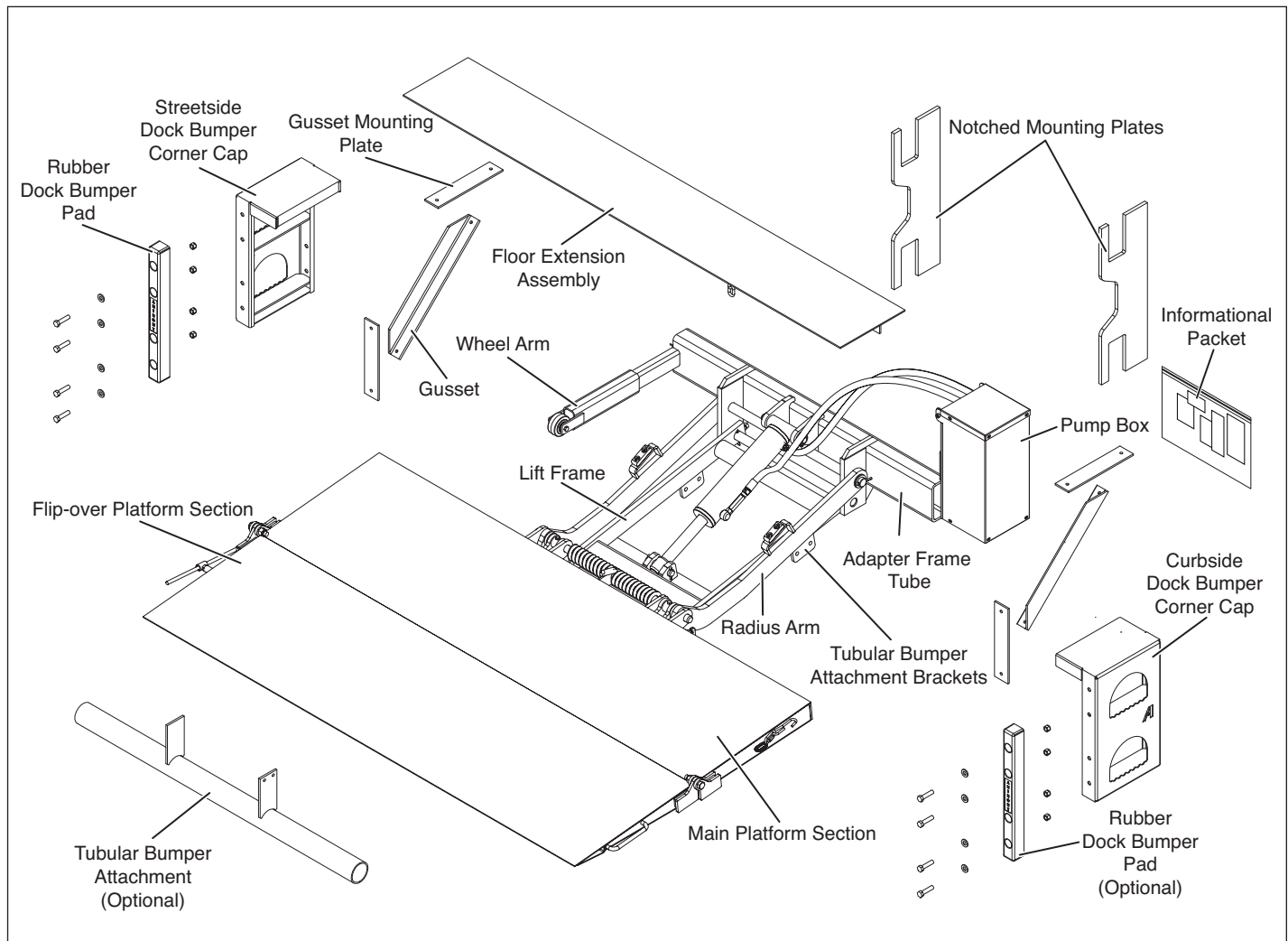
Follow all OSHA and other workplace safety standards when welding a steel liftgate to a stainless steel truck body sill, which creates hexavalent chromium fumes that can irritate the nose, throat, and lungs.

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).

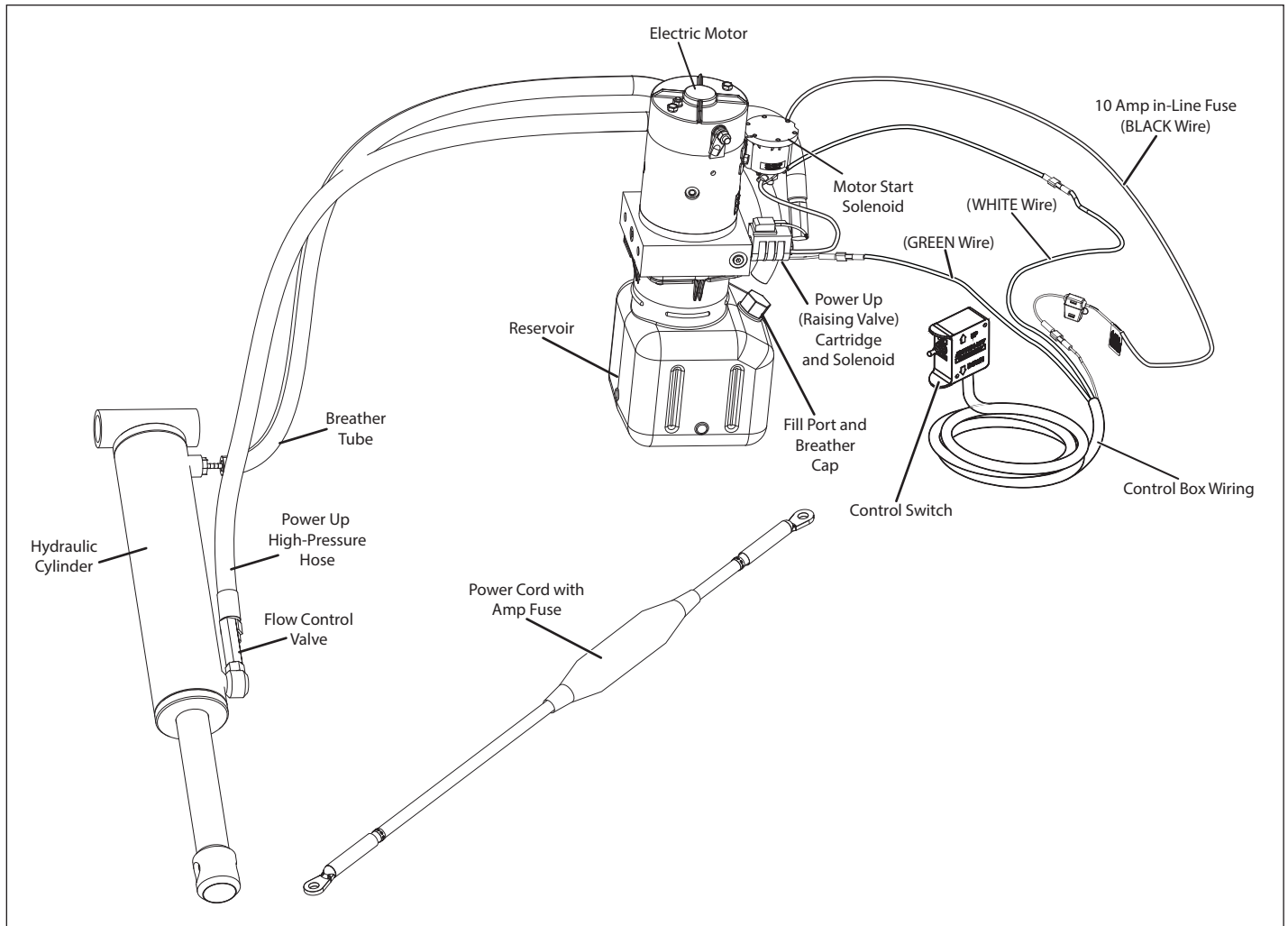
Always wear proper breathing protection when grinding or welding. Use ventilation or vacuum systems to remove any contaminated air from the work area.

3. Nomenclature

3.1 Platform Nomenclature



3.2 Gravity-Down Power Unit Nomenclature



4. Installation

4.1 Tools Required

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
- Heavy-Duty C-Clamps
- Tape Measure
- Level (small, magnetic)
- Cutting Torch (in some applications)
- Heat Gun or Propane Torch for Shrink Tube (cable lug)
- Crimping Tool (cable lug)

4.2 Quick Reference Installation Guide

WARNING Failure to read, understand, and follow the detailed instructions and safety recommendations in this manual, before installing the liftgate, can result in serious injury or death to the installer or bystanders.

4.3 Bed Height and Clearance Requirements

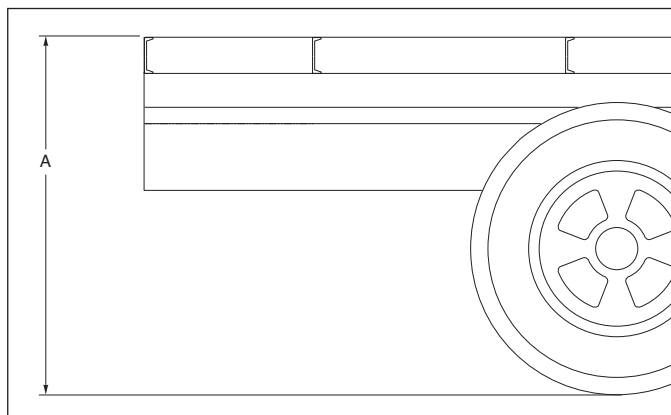
NOTICE To prevent damage to the truck and/or the liftgate, make sure the model being installed is compatible with the bed height of the truck.

1. Place the truck on a flat, level surface with the parking brake set.

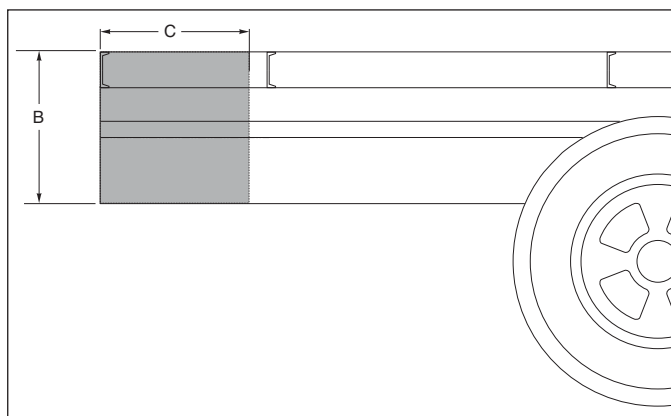
SAFETY INSTRUCTIONS Remove the keys to prevent unwanted movement.

2. Be aware that as part of the installation preparation, the liftgate will not operate properly if the truck bed height is less than dimension (A). This minimum height can be the result of a fully loaded truck. Do not proceed if the truck will not meet the minimum height requirement.

Truck Bed Height		
Model	Bed Height (A)	
	Loaded	Unloaded
ETU-20-44	36" min.	44" max.
ETU-25-50	38" min.	56" max.



3. Measure the actual height of the unloaded truck, which must be equal to or less than dimension A (maximum height). Do not proceed if this dimension does not fall within the maximum height requirements.
4. Use the following illustration and chart to ensure there is no interference between the liftgate and truck frame, in the area of dimensions B and C, which would prevent proper installation.



Note: The dimensions in the following chart are only a guide for required clearances.

Mounting Clearance Requirements		
Bed Height (floor surface)	B Floor Surface to Bottom of Truck Frame (minimum)	C Distance with No Obstructions
36" - 41"	15-3/4"	29"
42" - 49"	19"	24-1/4"
50" - 51"	20"	23-3/4"
52" - 53"	21"	23-1/4"
54" - 55"	22"	22-5/8"
56" - 57"	23"	22-1/2"

4.4 Installation

4.4.1 Preparation



Failure to prevent the truck from

moving during the installation of the liftgate could result in serious personal injury or death.



Use two people to install the liftgate safely.



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

1. Remove the banding securing the liftgate and loose parts to the pallet. Remove the two step assemblies, the center floor extension, the two side gusset angle-iron parts, and the four side gusset flat plates.

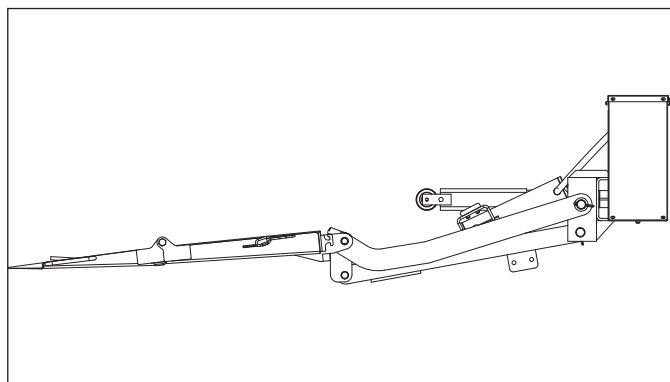


Typical Single Liftgate Shipping Pallet.

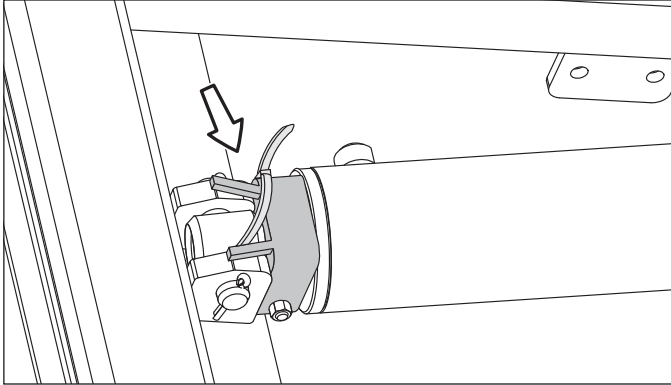
2. Before proceeding, make sure the complete liftgate and its related parts have been received, as listed in the chart. In some cases, related installation parts are located on the shipping pallet, or are shipped separately. Some parts are located inside the pump box.

Liftgate Installation Package	
Description	Qty.
Located on Pallet	
Floor Extension	1
Reversible Step Assembly	2
Angle-iron Side Gussets	2
Side Gusset Mounting Plates	4
Power Cable with 175 Amp Fuse	1
Located Inside Pump Box	
Information Packet (contains decals, manuals, shims, and other related installation information)	1
Plastic Tie Wraps	—
Optional Parts	
Cab Cut-off Switch	—
Rubber Bumper Pads and Mounting Hardware	—
Tubular Bumper to help meet Rear Impact Guards standard	—

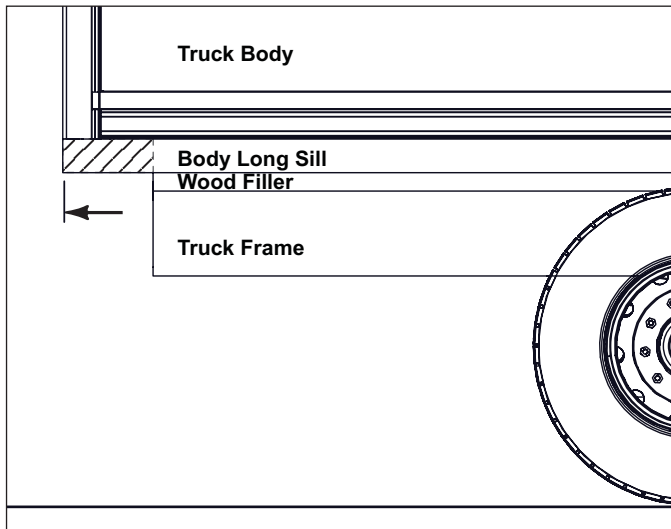
3. Carefully unfold the liftgate using two people. To keep the liftgate somewhat level once it's unfolded, a wooden block, approximately 12 inches tall, can be placed under the platform.



Note: A spacing guide is installed over the end of the cylinder rod. Do not remove this guide until the liftgate has been tack welded to the truck body.



4. Some truck body variations may require the body long sill to be extended in order to help support the floor extension. Always extend the body long sill as close to the back of the truck as possible, without interfering with the operation of the liftgate.

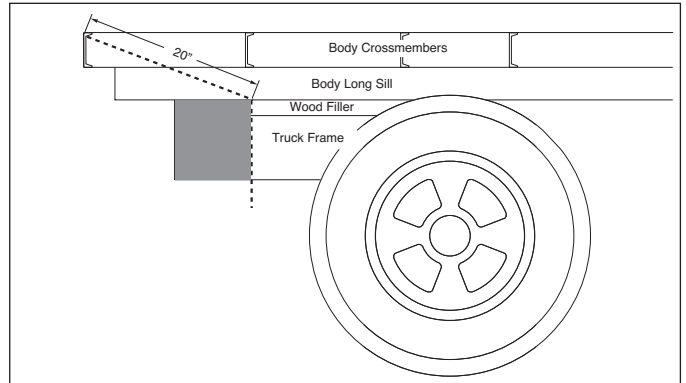
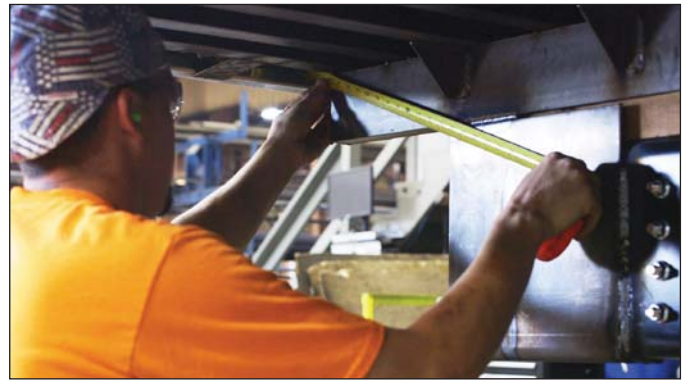


Take precautions to avoid welding sparks or the flame from a cutting torch coming into contact with the truck bed's wooden floor or other flammable components.

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.

5. Most truck bodies require the truck frame to be either extended or cut back to properly install the liftgate.

Simply measure 20 inches from the rear edge of the truck body frame to the long sill. Make a mark on the long sill and either add or remove material from the frame.



Note: Once the liftgate is installed, make sure it will operate properly, without interfering with the truck frame or the body long sill.

4.4.2 Installing the Floor Extension

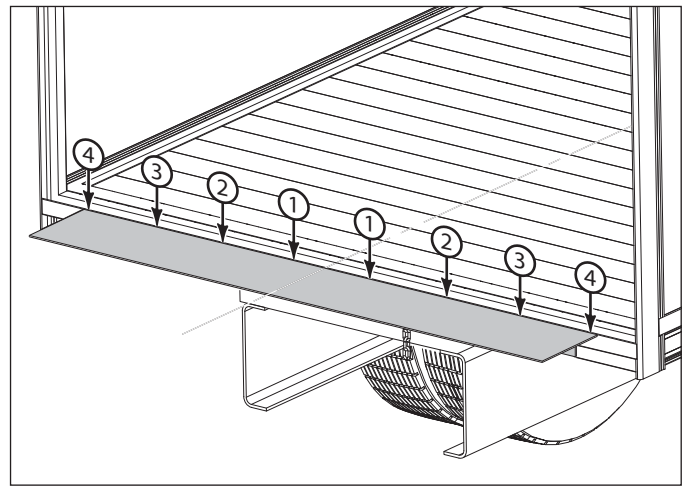
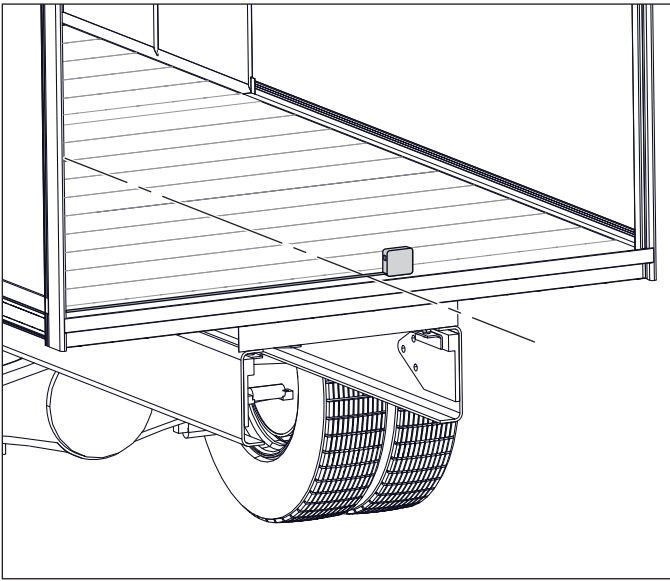


There is a particular procedure to follow when welding a steel liftgate floor extension to a stainless steel truck body sill.

1. If desired, spray the parts of the truck body near the areas to be welded with anti-splatter spray.



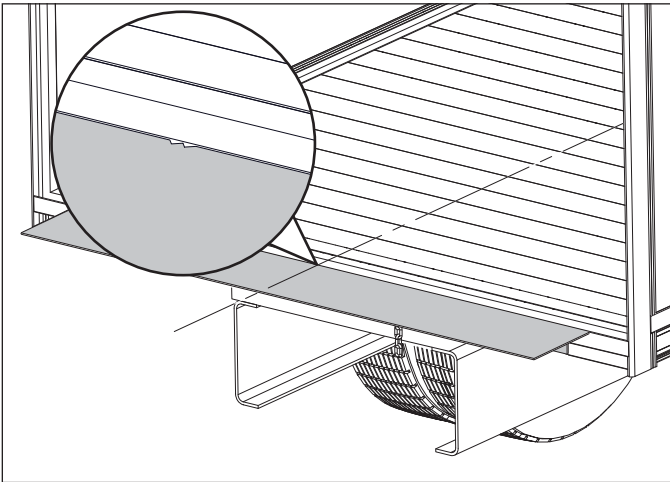
2. Find and mark the center of the truck's rear sill and the center of the floor extension with a white marker.



- d. Also, make sure the floor extension is level and parallel to the truck's rear sill.

3. Install the floor extension.

- Use a white marker to also mark the finish weld locations with a repeating 2 inch continuous weld with a 4 inch gap. Make your marks from both ends inward toward the middle.
- Using a lifting device, center the white mark on the floor extension with the white mark on the truck body.

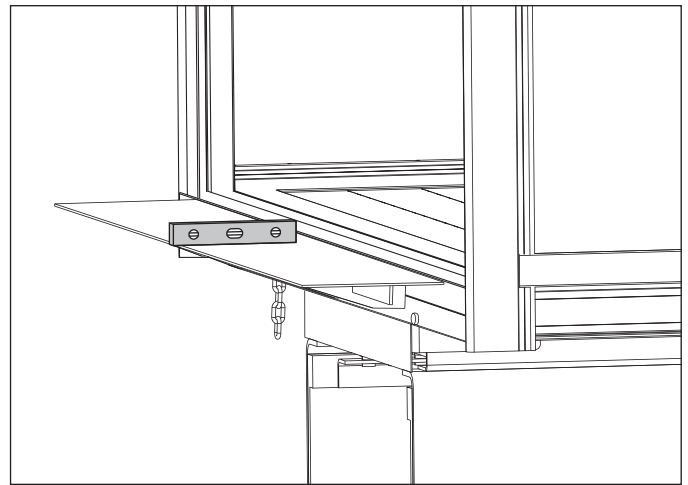


- With the center of the floor extension level with the floor of the truck, begin tack welding at the center and work outward. Make sure the extension remains level and flush with the floor of the truck bed.

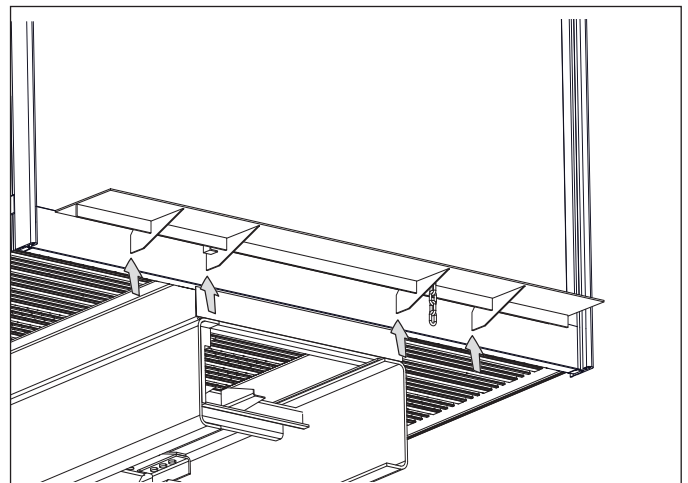
Note: The floor extension has a natural bow in it and must be straightened as it is installed.



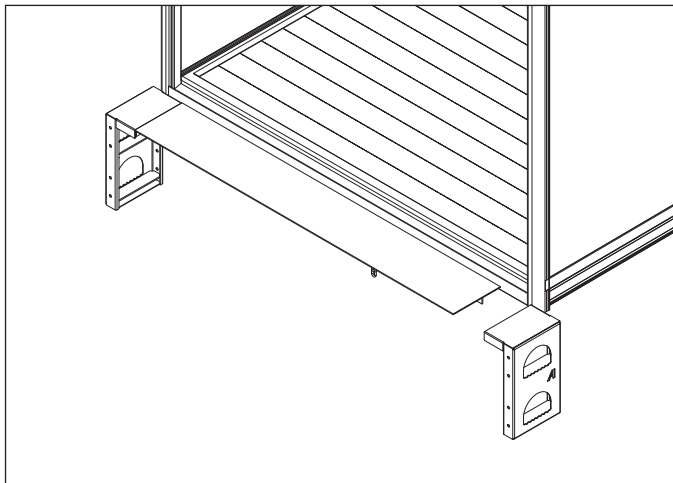
Tack welds must be strong enough to hold the weight of the floor extension (up to 300 lbs.) until the final welds are completed. Insufficient welds may not hold the floor extension, resulting in possible bodily harm.



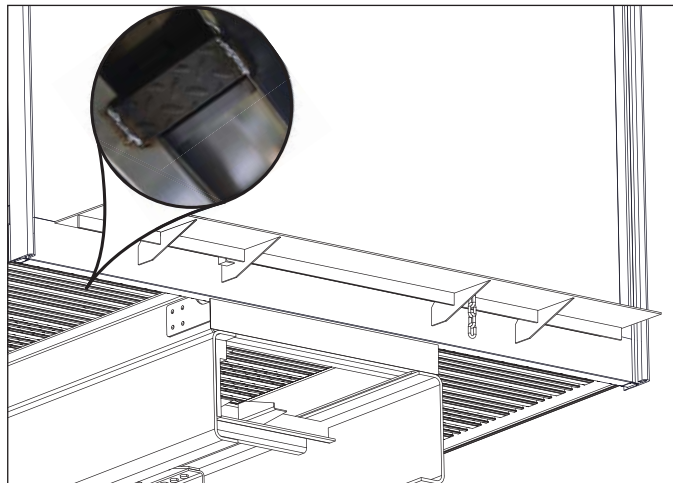
4. Tack weld both sides of the support gussets to the truck body sill.



5. Tack weld both the streetside and curbside dock bumpers onto the floor extension. These parts are symmetrical and can be placed on either side.

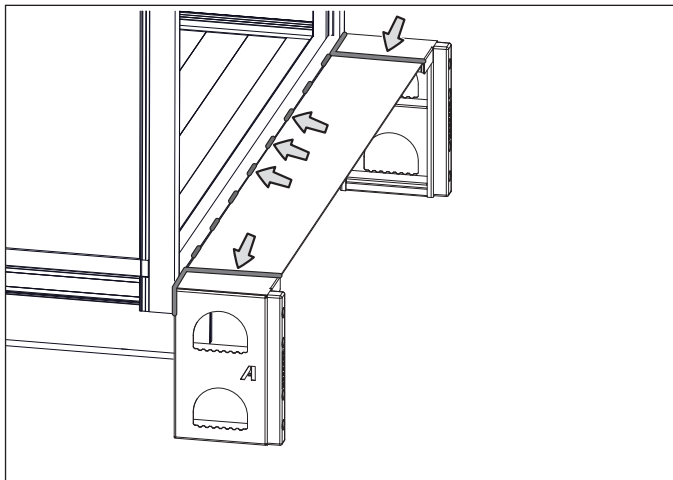


8. If not already installed, weld several installer-supplied strengthening plates between the cross members and the truck body sill.

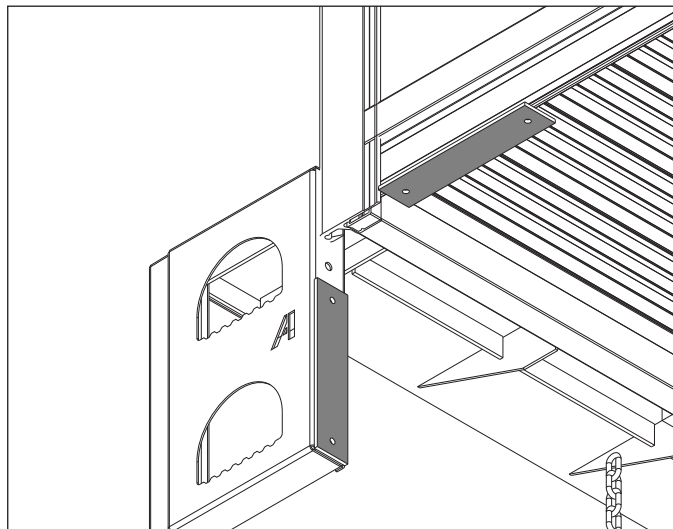


6. Once you have verified the floor extension is straight and level, finish welding it to the sill of the truck body with 2 inch long welds, every 4 inches.

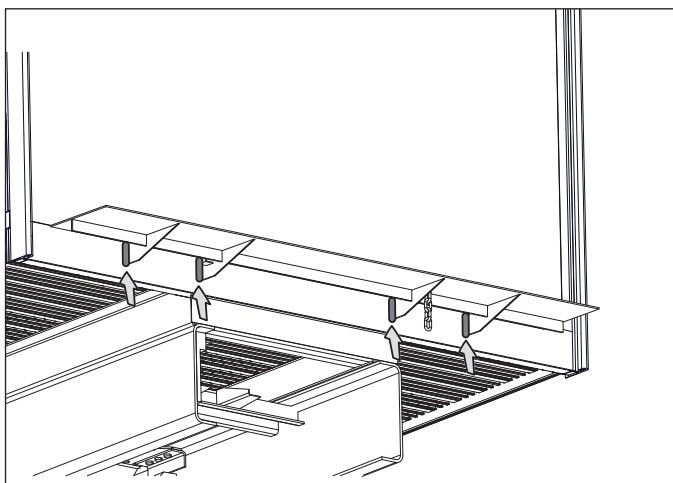
Weld the dock bumpers to the floor extension and the truck body sill using a continuous weld.



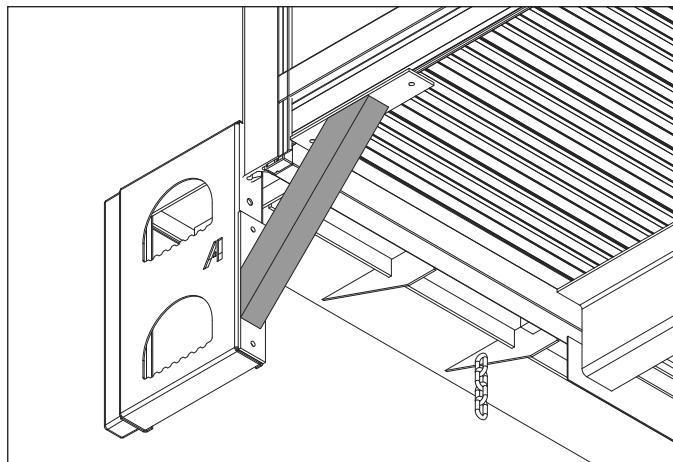
9. Position and weld both bumper gusset plates; one onto the body and one onto the dock bumper.



7. Weld both sides of the floor extension gussets.



10. Position and weld the bumper gusset between the two gusset plates. The bumper gusset can be reduced in length depending on the truck body configuration.



4.4.3 Positioning the Liftgate

Use a forklift or overhead lifting device to lift the liftgate. If using a forklift, the use of a lifting fixture simplifies installation process.

Note: Refer to “6. Lifting Fixture” on page 27 for a dimensional drawing to fabricate the lifting fixture.

WARNING Do not work under the liftgate while it is suspended from the lifting device. The liftgate can weigh up to 1,100 lbs. and failure of the lifting device could cause serious crushing injuries.

1. Place the lifting fixture over the liftgate.
2. Place chains or a lifting strap around the lifting fixture and the platform.

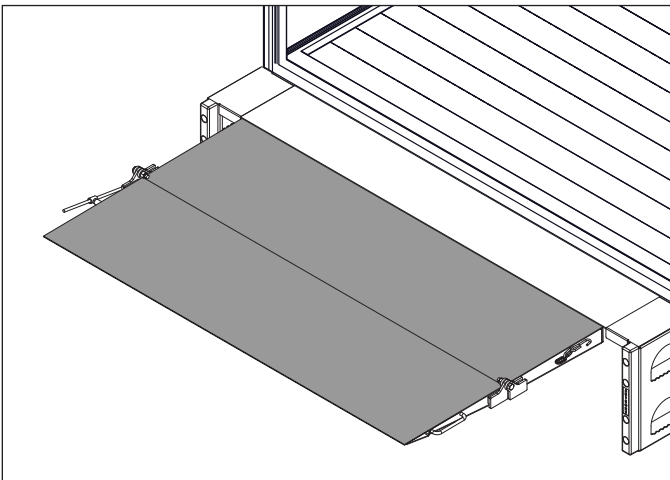
NOTICE To prevent damage to the liftgate, use wood or other protective material between the lifting chain/strap and the platform to avoid surface damage.

3. Adjust the chains/strap until the liftgate is almost parallel with the ground.



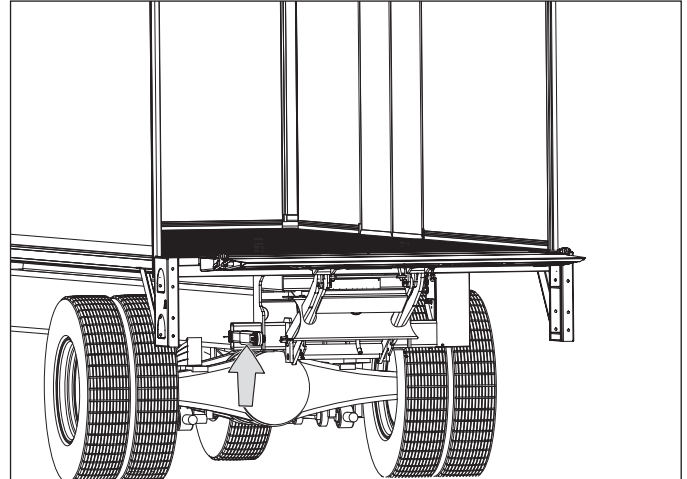
4.4.4 Attaching Liftgate to Truck Frame

1. Raise and position the liftgate against the floor extension.



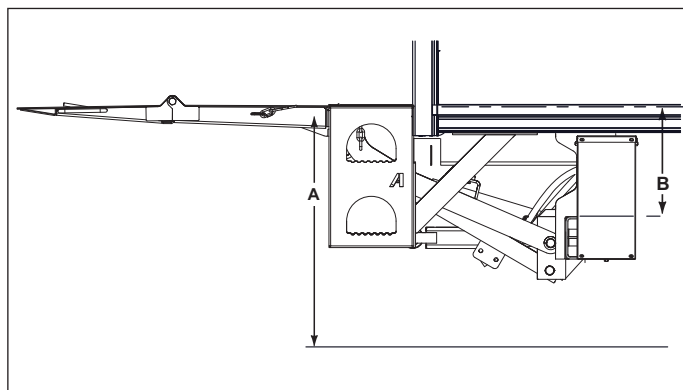
WARNING Do not work under the liftgate while it is suspended from the lifting device. The liftgate can weigh up to 1,100 lbs. and failure of the lifting device could cause serious crushing injuries. Do not remove the lifting device until the liftgate is securely tack welded onto the truck frame.

2. Center the platform from side-to-side with the truck body.
3. Clamp the liftgate against the floor extension using two large C-clamps, as shown.
4. Place a lifting device, such as a floor jack, under the wheel arm tube, as shown.



5. Determine the installed height (B) of the adapter frame tube using the chart and the illustration.

Mounting Requirements	
A Bed Height (floor surface)	B Floor Surface to Top of Adapter Frame Tube
36" - 41"	15-3/4"
42" - 49"	19"
50" - 51"	20"
52" - 53"	21"
54" - 55"	22"
56" - 57"	23"



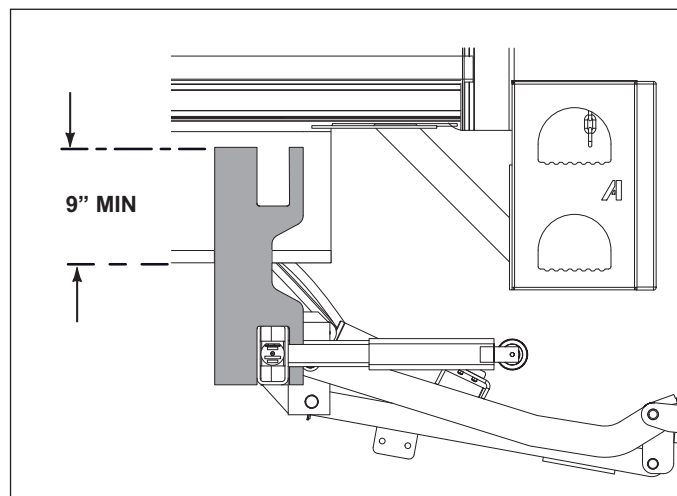
Note: In some cases, the top of the adapter frame tube may be against the truck frame or even extend into the truck frame. In these cases, it may be necessary to notch the truck frame in order to achieve the required height of the adapter tube frame.

6. Raise the adapter frame tube to the correct height of dimension (B), which is based on the height of the truck bed.

NOTICE

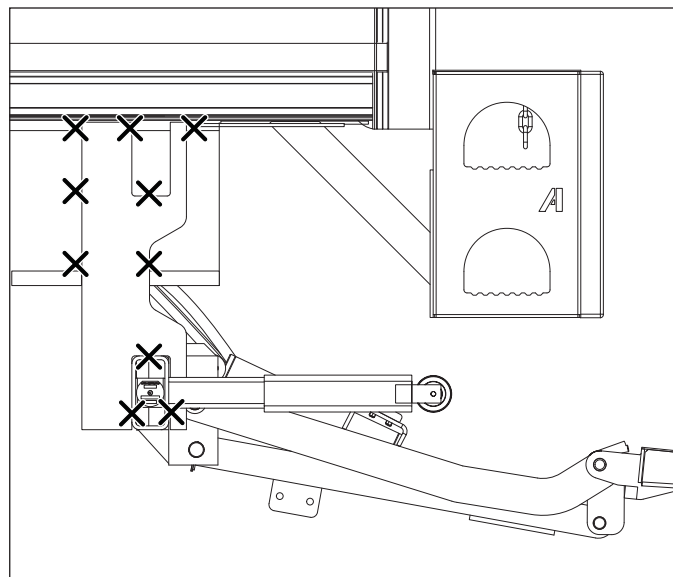
Do not bend the wheel arm tube during the leveling process.

7. Place the mounting plates onto the adapter frame tube on each side. The mounting plates are symmetrical and can be installed on either side as long as the notch is facing the back of the truck, 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, if necessary.

8. 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).

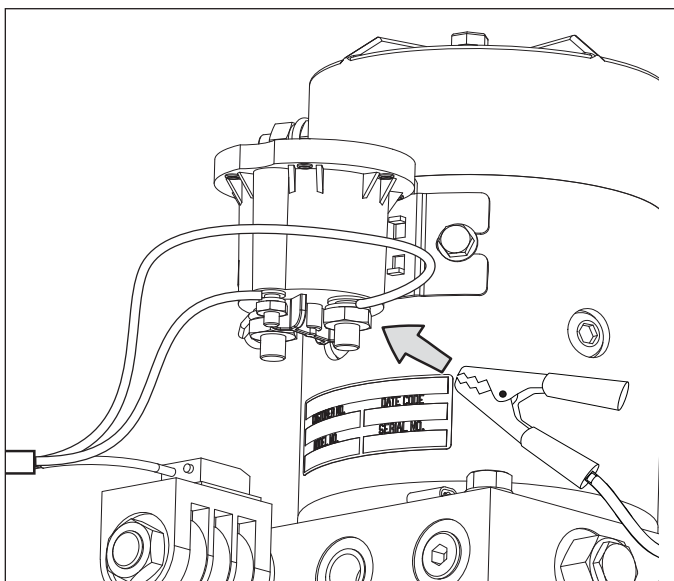


The tack welds must be strong enough to hold the weight of the liftgate, which can be up to 1,100 lbs. Insufficient welds may not hold the liftgate in place, resulting in possible bodily harm.

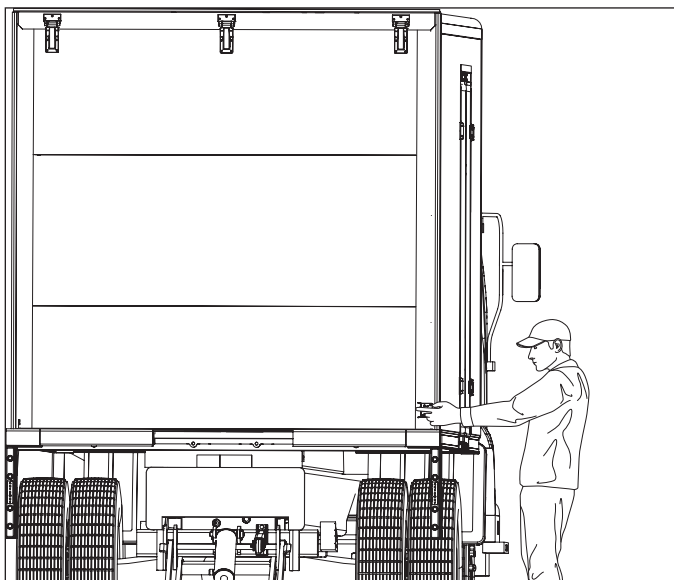
9. Lower and remove the lifting device from under the wheel arm tube.

10. Connect an external 12 Volt power source, such as a slave battery, to the power terminal on the motor start solenoid.

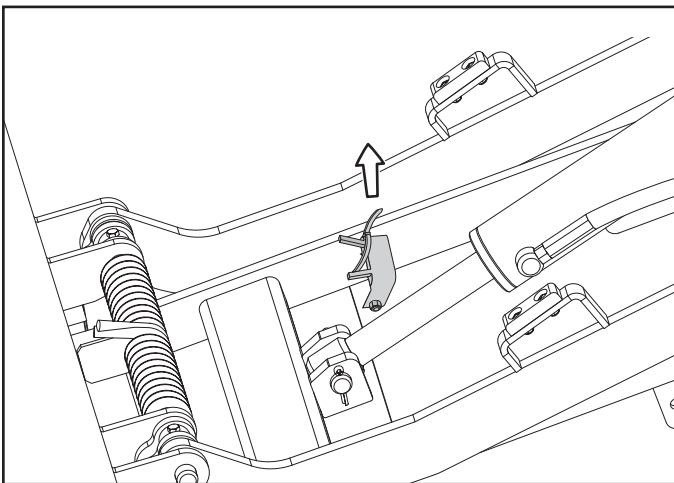
- Connect the red jumper cable from the 12 Volt slave battery to the positive (+) terminal of the motor start solenoid.
- Connect the black (-) cable to a ground on the pump box.



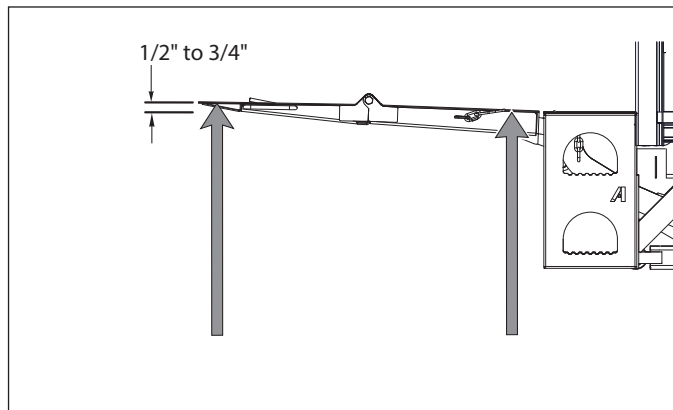
11. Standing on the curbside of the truck, away from the platform, actuate the DOWN switch to lower the platform to the ground.



12. Remove the spacing guide from the lift cylinder.

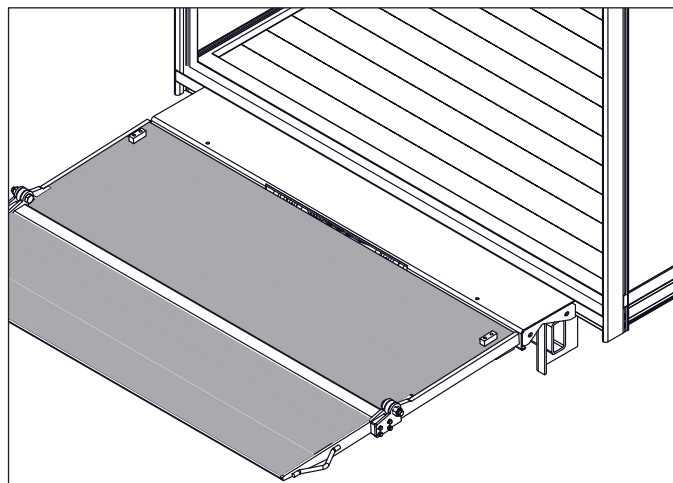


13. Completely raise the platform. The outboard edge of the flip-over section should be 1/2 to 3/4 inches higher than the platform section, as shown when correctly installed.

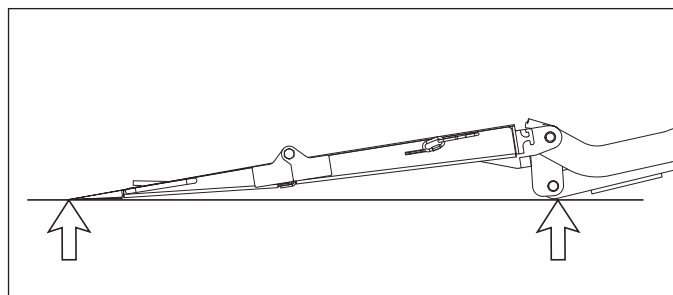


14. Again, completely raise and lower the platform several times.

15. The back of the platform should raise flush to the floor extension.

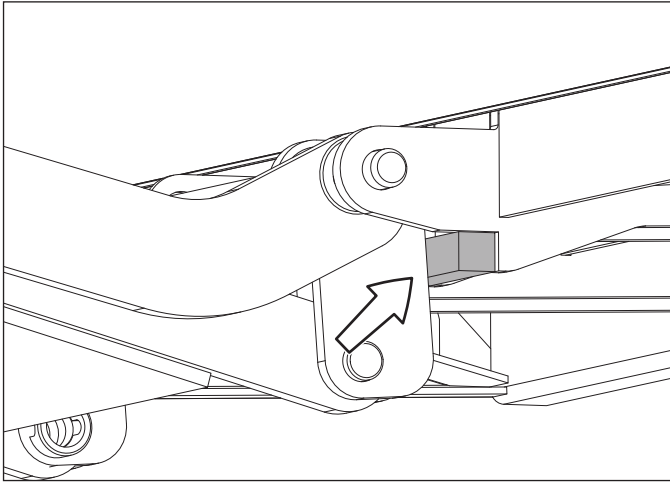


16. Make sure the front edge of the flip-over platform section contacts the ground. The rear edge should also contact the ground. If the front edge does not touch the ground, refer to the next step.



17. If the end of the platform does not contact the ground, adding a shim to the stop block will raise the outboard end of the flip-over section.

Removing material from the stop blocks will lower 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.

18. 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.



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

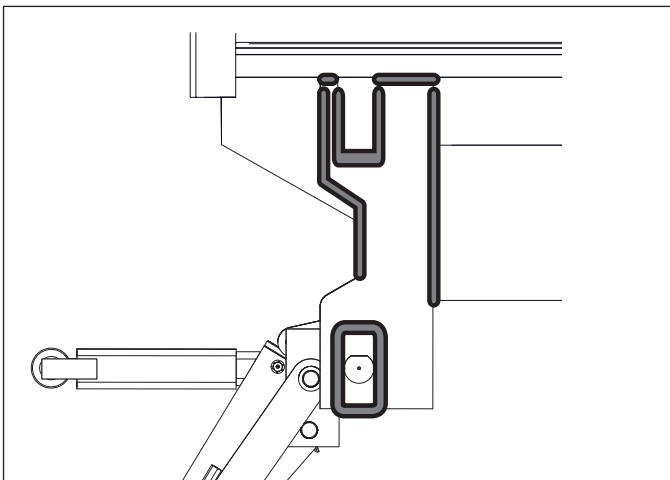


For safety purposes, finish welding the liftgate while the platform is on the ground, not in a raised position.



Cover the cylinder rod to prevent weld spatter from damaging it.

19. With the platform on the ground, finish welding the mounting plates to the truck frame and adapter frame tube. Use a continuous weld around all sides of the adapter frame tube and on both sides of the mounting plates.



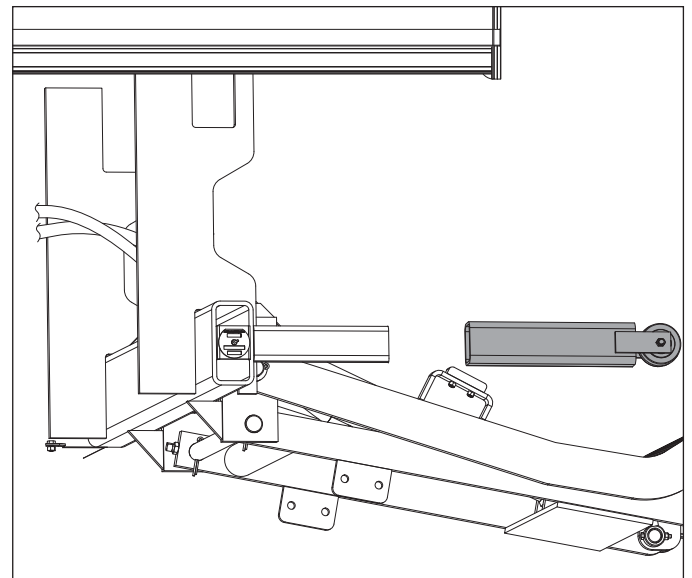
4.4.5 Adjust the Wheel Arm

The wheel arm positions the angle of the platform as it is unfolded from the stored position. The wheel arm can be adjusted, so the platform is positioned with either a greater or lesser angle.

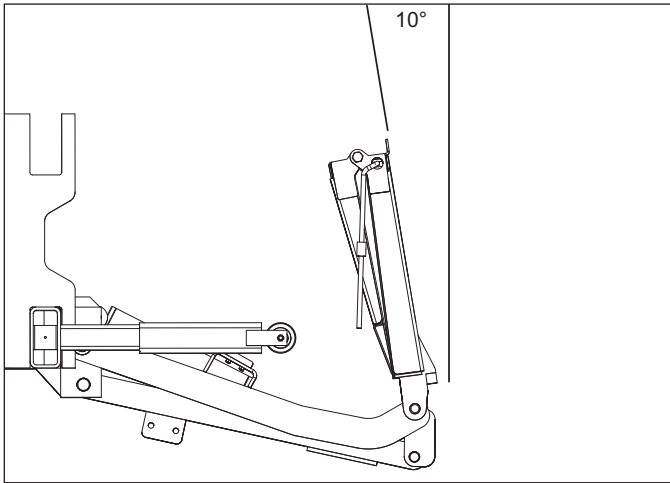


Never stand behind the liftgate when it is opened. Always stand to the side and away from the edge of the platform. When adjusting the position of the wheel arm, consider that the vehicle may be parked on a upward sloped surface. Adjust the wheel arm to prevent the platform from completely unfolding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

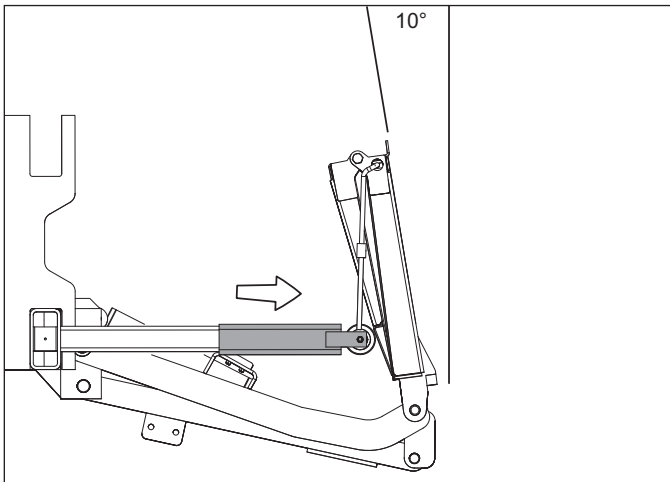
1. The wheel arm consists of two parts. The wheel arm mounting tube is welded onto the adapter frame tube. The wheel arm slides over the wheel arm mounting tube. If not already in place, slide the wheel arm onto the wheel arm mounting tube.



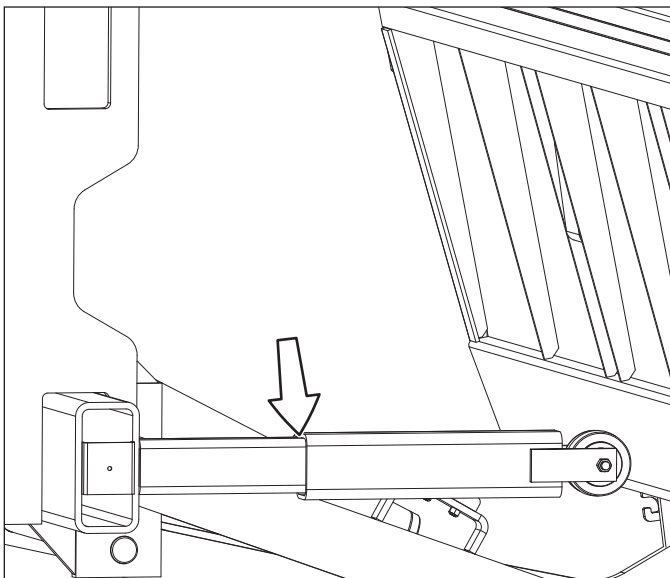
2. Hold the platform at approximately a 10-degree angle (slanting inward toward the truck).



3. Slide the wheel arm tube out until it touches the platform.



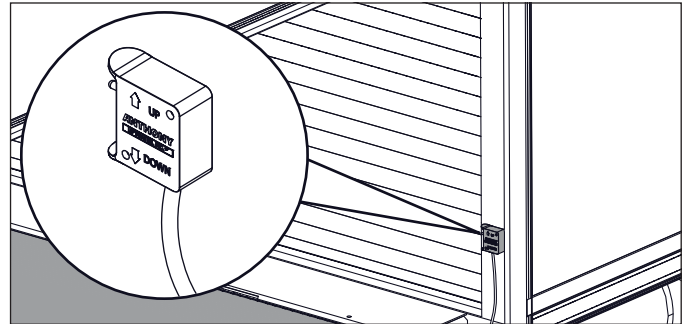
4. Tack weld the wheel arm tube to the wheel arm mounting tube.



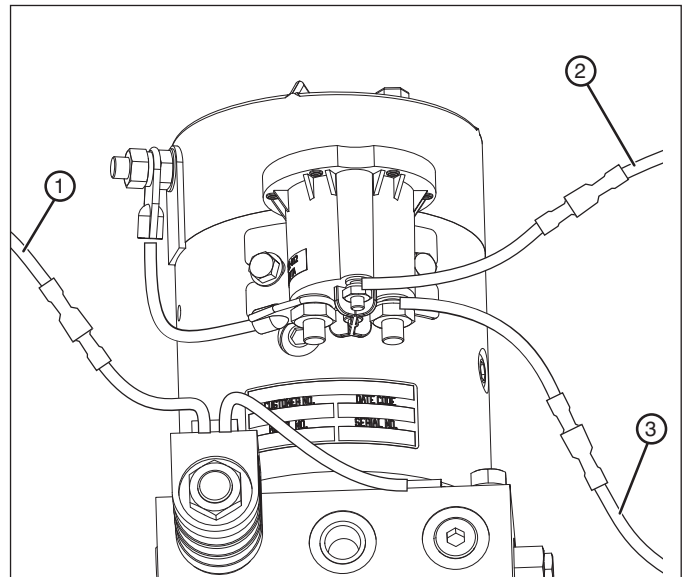
5. Open and close the platform to make sure the wheel arm is in the desired location and complete the weld.

4.4.6 Mounting Control Switch and Routing the Power Cable

1. Remove the slave battery's jumper cables and disconnect the wires of the control switch from the power unit.
2. 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.

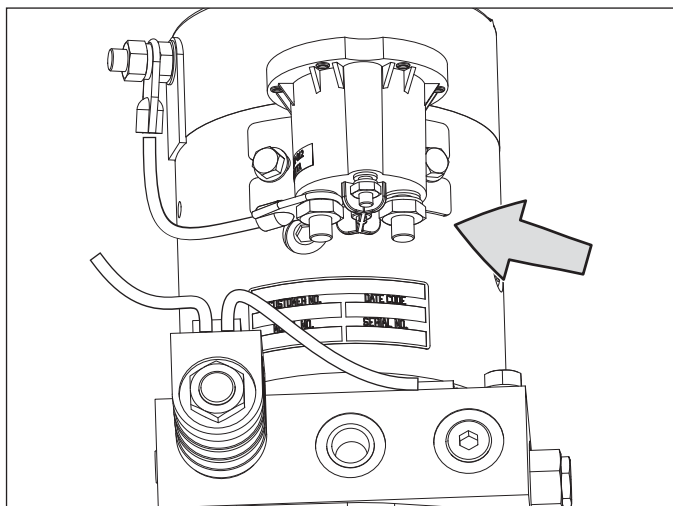


3. Disconnect the wires of the control switch from the power unit.
4. Install the protective rubber grommet in the dock bumper and route the wire through the dock bumper.
5. Reattach the control unit wires to the appropriate terminals, as shown.



1. Yellow solenoid wire to green control cable wire.
2. Black 10 Amp fuse wire to black control cable wire.
3. Red motor start solenoid wire to white control cable wire.

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



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 the loss of vehicle control, serious injury, or even death.

7. Route the long length of power cable along the truck frame to the battery box attaching it with plastic tie wraps or wire clips.

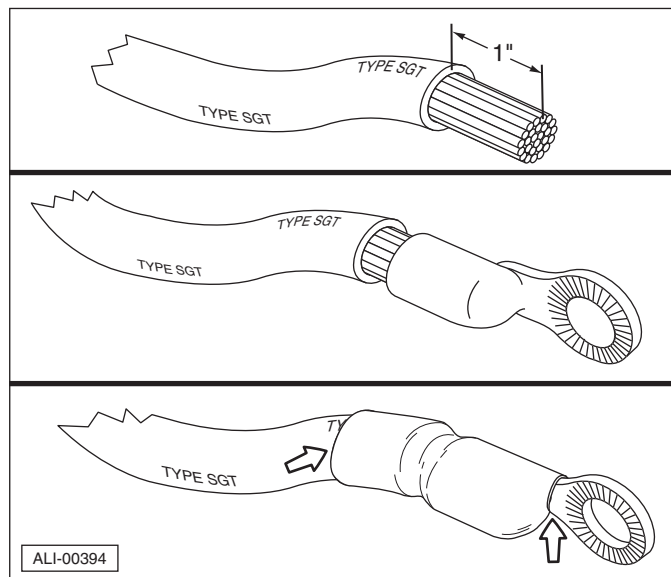
If the cable is too long, cut it to the desired length.

8. If desired, install an optional cut-off switch.



Anthony Liftgates strongly recommends the installation of an optional cab cut-off switch "4.5.3 Cut-Off Switch" on page 22. Allowing power to the liftgate when the truck is unattended can result in serious injury or death.

9. If the power cable requires a new cable lug on the end, follow these steps.
 - a. Strip the insulation one inch back from the end of the cable to expose the copper wire.



- b. Position the cable lug over the exposed wire, as shown. Crimp the cable lug using a cable crimping tool (hydraulic or manual).
- c. Use heat shrink tubing to insulate the new connection, leaving only the mounting hole exposed.

NOTICE

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

10. Mount the fuse in a location that accessible should the fuse require replacement.
11. Route the short, section of the cable into the battery box and connect the end to the positive (+) post of the truck battery.



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

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



14. 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.

15. Make a final operation check. Refer to section “4.5.4 Final Inspection Checklist” on page 23.

4.4.7 Installing DOT Lighting, Decals, and Any Components Not Part of Liftgate

1. Install DOT lighting or other electrical components.
2. Install the license plate bracket.
3. If required, install grab bars or handrails.

NOTICE

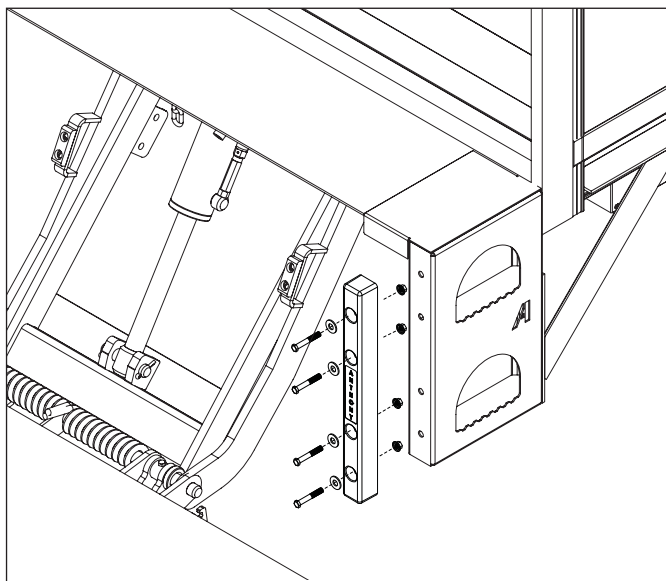
This liftgate has built-in steps to assist in ingress/egress of the platform. These steps are NOT to be considered all-inclusive of any requirements or guidelines regarding proper ingress or egress. It is the installer's responsibility to determine the proper requirements, such as hand grips, grab bars, etc.

4. Attach all decals, as shown in section “5. Decals” on page 24.

4.5 Optional Accessories

4.5.1 Installing Rubber Dock Bumpers

Use the provided hardware to install the optional rubber dock bumpers.



NOTICE

Do not overtighten the retaining bolts. Overtightening will result in damage to the rubber dock bumper and will significantly decrease their service life. Tighten the bolt/locknut until the bumper is held firmly to the step assembly.

4.5.2 Installing Optional DOT Tubular Bumper

To help meet federal standards for rear impact protection, an optional tubular bumper with mounting hardware is available. The liftgate is equipped with mounting tabs which allow the bumper to be easily bolted to the liftgate.

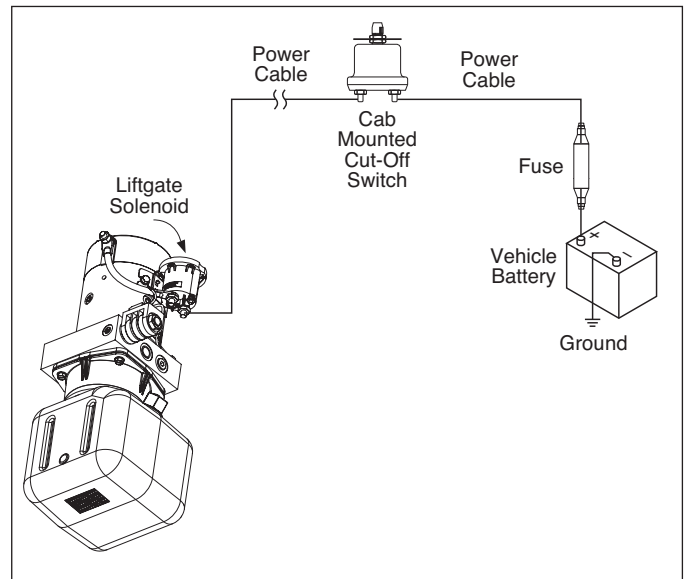
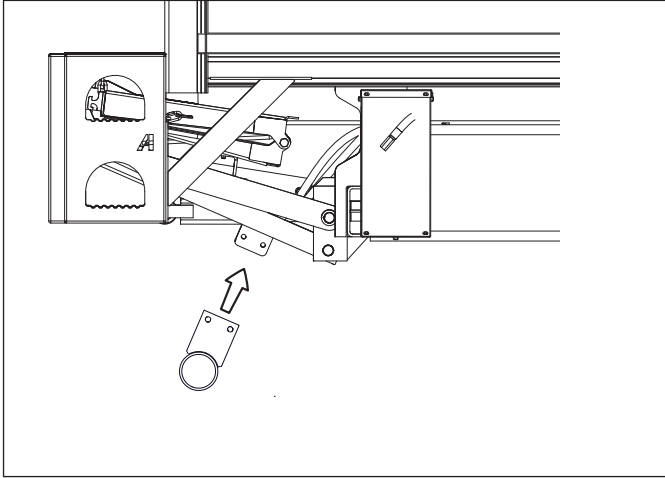


WARNING

When installed, the transport position of this liftgate must provide protection against rear impact and comply with State and Federal standards in your area.

The installer must make sure that guards are installed, if necessary, to fulfill these standards. Consult each truck manufacturer's recommendations for compliance.

1. Attach the bumper to the two mounting tabs using the four supplied bolts and locknuts. Tighten the bolts to the required 80 ft.lbs. torque.



Wiring Diagram With Cab Cut-Off Switch.

2. With the liftgate in the stored position, attach the red and white reflective tape so it would be easily viewable by upcoming traffic.



4.5.3 Cut-Off Switch

The installation of an optional cab cut-off switch is recommended. Installing this 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.

4.5.4 Final Inspection Checklist

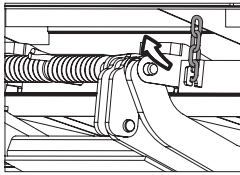
SAFETY INSTRUCTIONS

The installation procedure is not complete until all of the following items are checked and verified. If you have any questions, contact Anthony Liftgates.

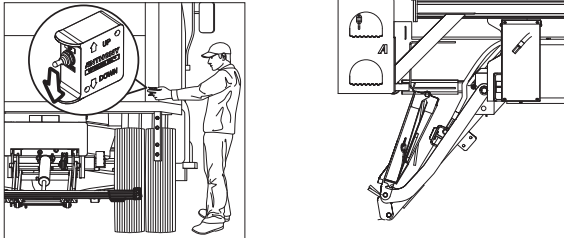
- ❑ Operate the liftgate through its entire operational cycle (Up, Down, Fold In, Fold Out) several times. Make sure the liftgate operates evenly, freely, and smoothly, without unusual noise or vibration.

**ANTHONY TUCKUNDER LIFTGATES
OPERATING INSTRUCTIONS**

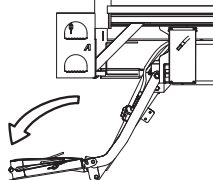
1. Release latch chain.
Liftgate may need to be slightly raised to release pressure on latch chain.



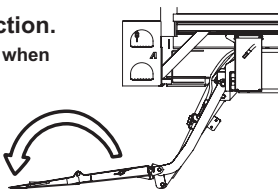
2. Press control switch DOWN until folded platform rests on ground.
Always stand on curbside of truck when raising or lowering platform with control switch.



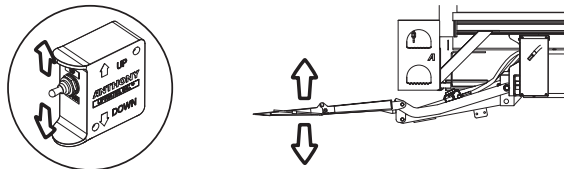
3. Manually unfold main platform.
Always stand on curbside of truck when unfolding platform.



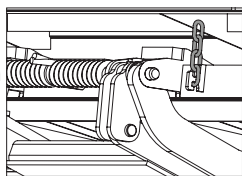
4. Manually unfold flipover section.
Always stand on curbside of truck when unfolding flipover section.



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 transport position with latch chain.



A131150

- ❑ Make sure all welds are properly sized.
- ❑ Make sure retainers are properly held in place on all factory-installed 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. Refer to separate Maintenance Manual for additional specifications.
- ❑ 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

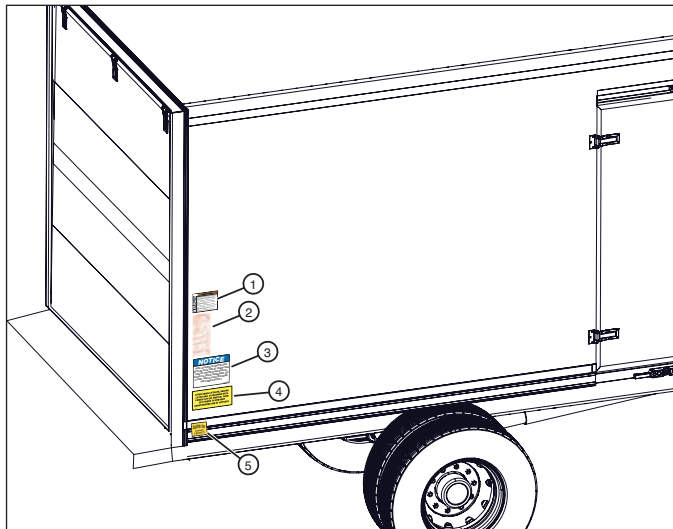
SAFETY INSTRUCTIONS



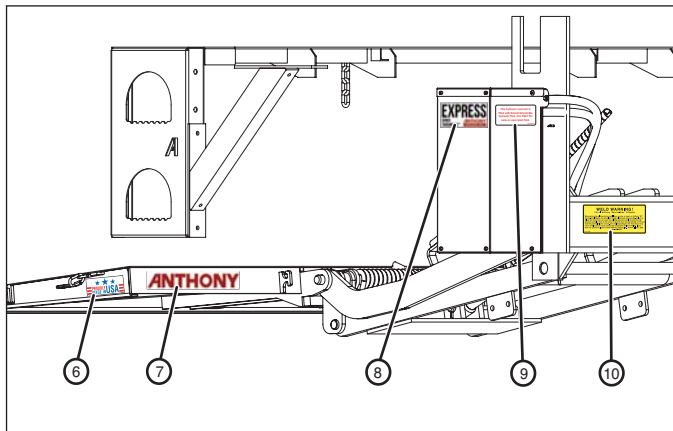
To prevent possible injuries due to improper operation, make sure all

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

1. Attach decals to the truck body, as shown.



2. Make sure factory-installed decals are attached.



Item	Part Number	Description	Qty.
1	A-131115	DECAL: WARNING, PERSONAL INJURY	1
2	A-131150	DECAL: OPERATING INSTRUCTIONS	1
3	A-150238	DECAL: NOTICE - PROTECTED WITH ELECTRICAL OVERLOAD CIRCUIT BREAKER	1
4	ATU-141	DECAL: POWER CUT-OFF SWITCH	1
5	A-131020 ATU-174	DECAL: 2000 LB. MAXIMUM CAPACITY DECAL: 2500 LB. MAXIMUM CAPACITY	1
6	A-150601	DECAL: MADE IN THE USA	1
7	A-131147	DECAL: ANTHONY LABEL	1
8	A-131148	DECAL: EXPRESS SERIES	1
9	A-131133	DECAL: HYDRAULIC TANK FLUID	1
10	A-131028	DECAL: WELD WARNING	1
--	A-131001	DECAL: 10 AMP FUSE CHANGING PROCEDURE (attached to control wiring in pump box)	1

1 — A-131115

ANTHONY
LIFTGATES, INC.®
⚠ WARNING

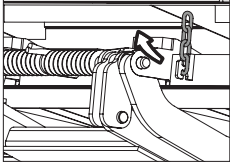
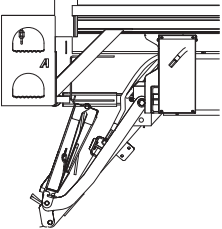
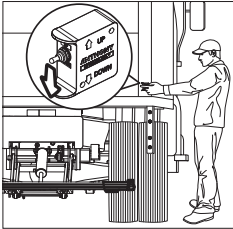
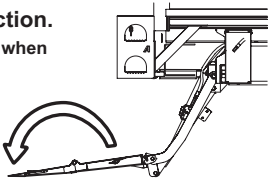
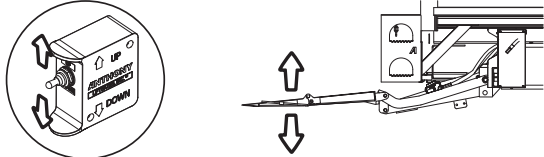
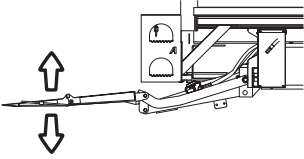
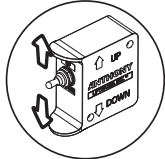
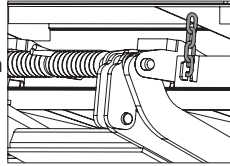
PERSONAL INJURY HAZARD

Operation may require user to stand on platform. To prevent injury or death of operators or bystanders:

- 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.

A-131115

**ANTHONY TUCKUNDER LIFTGATES
OPERATING INSTRUCTIONS**

1. **Release latch chain.**
Liftgate may need to be slightly raised to release pressure on latch chain.

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 transport position with latch chain.**


A131150

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

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

ATU-141

2000 lb.
MAXIMUM
CAPACITY

A-131020

2500 lb.
MAXIMUM
CAPACITY

ATU-174

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-150601



— 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.

7 — A-131147



8 — A-131148



9 — A-131133

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

A-131133

10 — 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

6. 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.



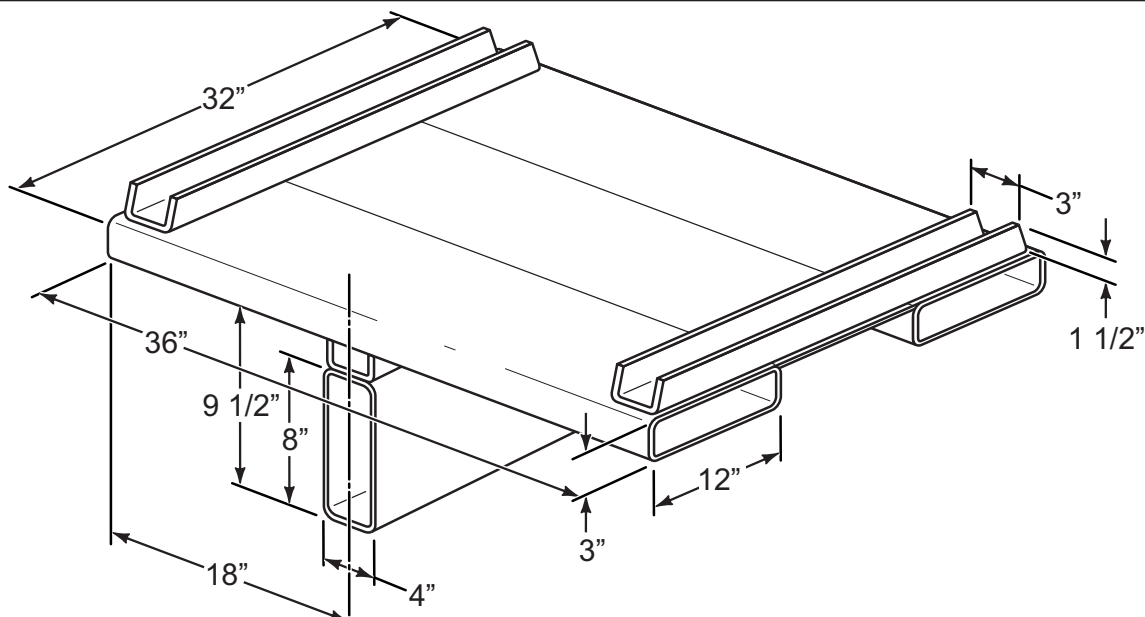
WARNING



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 severe injury or death.

- This lifting fixture is intended for use on the ETU steel platform models.
- Make the lifting fixture from tubular steel at least 1/4 inch thick or thicker.
- Make the lifting fixture wide enough to support the liftgate and to accommodate the width of the forks on the forklift.
- Lifting strap or chain should be long enough to go around the platform and allow the liftgate to remain level.



7. Welding Steel to Stainless Steel

If the installation requires welding the steel floor extension to stainless steel truck body sill, special procedures must be followed to ensure the safety of the welder and the integrity of the welds.

7.1 Safety — 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.

7.2 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 hexavalent chromium fumes is to wear a good fume-rated respirator.

7.2.1 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.

7.2.2 Shielding Gas

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

7.2.3 Welding Parameters

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]

[illegible]

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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LIFTGATES, INC.®

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