



TL SERIES

INSTALLATION MANUAL



TL Series

4000 Lb./5000 Lb. Liftgates



COMPANY HISTORY

The Holland Group of Companies

The parent company originated in 1910 in Corsica, South Dakota by producing hitches for horse drawn agricultural equipment.

The company moved to Holland Michigan in 1920 and became the Holland Hitch Company.

As the transport and agricultural industries developed and grew, the company developed products to support these two industries.

The Holland Group, Inc. is a worldwide organization with nine manufacturing facilities in North America and is a recognized leader in the manufacture of fifth wheels, landing gear, truck, trailer, recreational suspensions, trailer kingpins, liftgates, pintle hooks and drawbars for the transportation industry. In addition, Holland markets the AerWay agriculture product line.

Holland liftgates are manufactured and sold by the Holland Group of companies.

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FOREWORD

Read and understand the contents of this manual carefully to ensure safe and proper equipment installation. Failure to do so could result in personal injury or equipment damage. If any instruction is not fully understood, contact your local Holland dealer or representative for clarification prior to equipment usage.

Where applicable, “Safety Alert” symbols have been used to indicate important safety measures. Read carefully, understand, and follow these instructions to prevent hazardous situations that could lead to risk of personal injury.

Accurately record the model and serial numbers in the *Model and Serial Numbers* section in this manual. Your dealer will also require these numbers when ordering replacement parts. The serial number can be found stamped on a tag attached (to the outside curbside column) to the front roadside of the main tube.

The information contained in this manual is current at the time of publication; however, continuing product improvement may result in changes. All updated information is available on the Holland web-site at www.hollandliftgates.com or you can contact your local Holland dealer or representative.

Changes of any kind to this Holland Equipment LTD product could affect the integrity of the product, its stability, or its ability to perform as designed or intended.

Holland Equipment LTD disclaims responsibility of any unauthorized change to its product.

If any person and or organization modifies or contributes in any way to unauthorized modification, the person or organization will assume the risk involved with such modification and may be negligent in creating a dangerous situation resulting from such action.

Failure to adhere to this policy VOIDS the product warranty.

WARRANTY is provided as part of Holland Equipment LTD policy for customers who operate and maintain their equipment as described in this manual. Refer to the Warranty certificate or the warranty section in this manual.

WARRANTY APPLICATION AND PROCESSING

Holland’s Commitment: TL Level Ride

The Truck Master “TL Level Ride” Liftgate is warranted, when properly installed on your vehicle, to be free from defects in material and workmanship under normal use and service for a period of three (3) years from the date of manufacture.

Materials and Workmanship:

If any Truck Master Liftgate component is determined to have a defect in material or workmanship, Holland will cover the cost to repair or replace the product or part. Holland will provide a reasonable labour allowance for removal, and repair or replacement, and will provide you with parts or reimburse you for parts at your acquisition cost, provided that this does not exceed the suggested list price.

Your Responsibilities:

You are responsible for proper installation, operation and maintenance as specified in our applicable publications on Truck Master Liftgates and for using the product in recommended applications and capacities.

You are required to obtain prior authorization from Holland or an authorized customer service representative before replacing or returning any part. You may be required to make the product or part claimed to be covered by this warranty available to us and/or returned to us for review and evaluation.

In the event of a potential warranty claim, be sure to identify and record the Truck Master Model number (e.g. TL5061A-312-02C) and serial number (e.g. B0100123N). The end user or dealer should complete the Customer Service Request Form located on page 19 of this manual. Fax or mail a copy to the nearest Holland location listed below.

Exclusions and Limitations:

This warranty does not cover any Truck Master Liftgate or component that fails, malfunctions or is damaged as a result of accident, abuse, or improper use.

If you have any questions, or should you require further assistance or clarification, please feel free to contact one of the following Holland locations:

Holland Equipment Limited
Norwich, ON. N0J 1P0
Telephone: (800) 503-9847
Fax: (519) 863-2398

MODEL AND SERIAL NUMBER

In order to properly identify your Truck Master liftgate and its components when communicating with Holland or your dealer, please record the model and serial numbers below and refer to them when ordering replacement parts.

Equipment Model No: _____

Serial No: _____

Pump Model No: _____

Serial No: _____

Purchase Date: _____

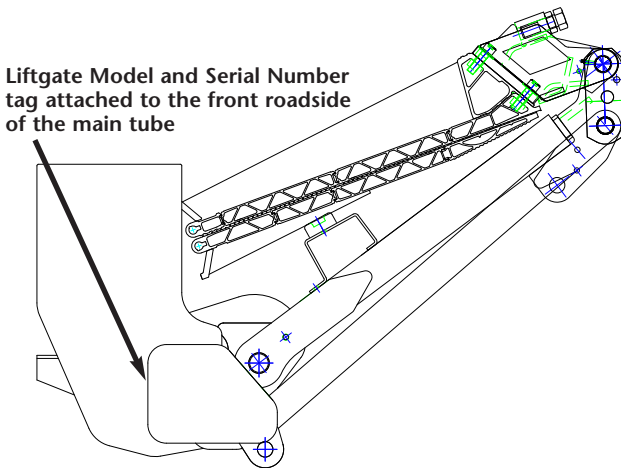
Dealer: _____

MODEL AND SERIAL NUMBER LOCATION

Each Holland Truck Master TL liftgate has a stamped metal tag that identifies the model number and serial number. This tag is clearly visible as it is attached to the front roadside of the main tube (see *FIGURE 1*).

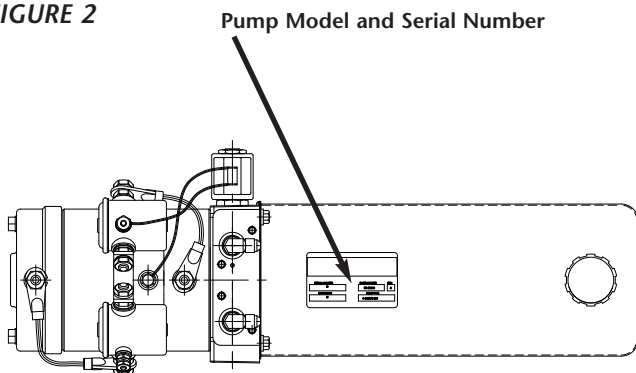
FIGURE 1

ROADSIDE VIEW



The pump model number and serial number are located on the oil reservoir (see *FIGURE 2*).

FIGURE 2



SAFETY SYMBOL



This safety alert symbol is used throughout the manual to call your attention to areas in which carelessness or failure to follow specific procedures may result in personal injury.

UNDERSTANDING SAFETY SYMBOLS



Identifies the most serious hazards where failure to follow listed procedures would result in a high probability of death or serious injury.



Identifies a hazard exists which can result in serious injury or death if proper precautions are not taken.



Identifies areas where failure to follow listed procedures may cause personal injury, component damage or subsequent malfunction.

GENERAL SAFETY PRECAUTIONS

To reduce the risks and ensure safety at all times, this section of the manual details a number of safety rules which should always be adhered to.

Study all the safety messages in this manual and on the equipment carefully.

You must be fully trained to operate this equipment. Know the capabilities and the limitations of the equipment.

Always use the proper tool for the job. Repair or replace worn or damaged tools, before starting any repairs.

OPERATING SAFETY PRECAUTIONS

Never operate the liftgate unless the area is clear of obstacles and other personnel.

When operating the liftgate from ground level, always stand to one side of the platform. Ensure fingers, arms, hands, legs and feet are clear of moving liftgate.

Do not exceed the maximum rated capacity of the liftgate.

In an emergency situation, release the control switch to stop the liftgate.

Ensure liftgate is in a stowed position, when not in use.

Never dismount from moving equipment.

Check for slippery surfaces and cautiously dismount from the liftgate platform.

Never jump off the liftgate

SERVICING SAFETY PRECAUTIONS

Do not work underneath the liftgate without properly supporting the raised platform.

Never strike any part of the liftgate with a steel hammer.

Always use the proper tool for the job. Repair or replace worn or damaged tools, before starting any repairs

Safety protection should always be worn as protection from pressurized fluid spray, flying debris, and other airborne matter when working with tools, power tools, welding equipment, and dangerous chemicals.

CAUTION Never operate the liftgate with the motor(s) running unless instructed to by this manual for specific service items.

Failure to follow this recommendation may cause serious injury, component damage or subsequent malfunction.

While servicing or repairing equipment, always disconnect the electrical power to the pump motor(s) and ensure that the platform is supported, on the ground, secured in the travel lugs or secured in the dock level storage lugs.

Always use the proper tool for the job. Repair or replace worn or damaged tools, before starting any installation or repairs.

When welding is required, ensure that the battery ground cable is disconnected and that all electronic equipment is completely electrically isolated before welding is initiated.

Before starting any welding, ensure that the area to be repaired is cleaned of debris and combustible material. Have a charged fire extinguisher available and know how to use it.

WARNING Hydraulic fluid under pressure can penetrate the skin and cause serious personal injury, blindness or death. If any fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with treating this type of injury.

Failure to follow this procedure may result in serious injury or death.

FIGURE 3



FIGURE 4

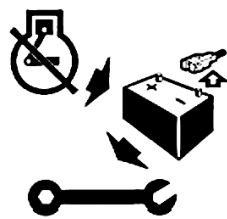


FIGURE 5

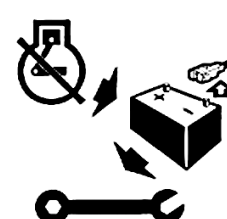


FIGURE 6

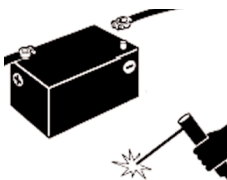


FIGURE 7



NEVER USE YOUR BARE HAND TO CHECK FOR FLUID LEAKS!

Fluid leaks under pressure may not be visible. When searching for an oil-leak, wear work gloves and use a piece of cardboard or wood as a detector. Wear a safety face shield or goggles for eye protection.

Pressure can remain in a hydraulic system after the power source and pump have been shut down. Ensure that there is no pressure in any of the hydraulic cylinders or hoses before performing work on components, or disconnecting any hoses.

WARNING Lead-acid batteries contain sulfuric acid which can severely damage your eyes or skin on contact. When servicing a battery, always wear a safety face shield, rubber gloves, and protective clothing to prevent accidents.

Lead-acid batteries produce flammable and explosive gasses. Keep arcs, sparks, open flames, and lighted tobacco a safe distance away from the batteries.

Failure to follow this procedure may result in serious injury or death.

Dispose of waste fluids properly. Do not pour contaminated fluids onto the ground, or into a stream, pond or lake.

Before draining any fluids, know the proper way to dispose of them.

Observe local environmental protection regulations when disposing of old batteries, hydraulic oil, and other environmentally harmful items.



FIGURE 8



FIGURE 9

FIRE PREVENTION

Inspect the equipment daily for potential fire hazards and make any necessary repairs immediately.

Inspect electrical wiring and connections, and hydraulic hose runs to ensure they are secure and not rubbing against other components.

Clean up any excess grease, oil accumulation, and spillage immediately. Use only nonflammable products for cleaning the liftgate or components. Store rags and other combustible materials in a safe, fireproof location.

Before starting repair work, such as welding, the surrounding area should be cleaned and a fire extinguisher should be close by and know how to use it.

FIGURE 10



PRODUCT SAFETY WARNINGS

Holland Product Safety Warnings

When working on a Holland TL Level Ride liftgate, follow the instructions given in each of the warnings listed below.

Failure to comply with these warnings when performing not only servicing tasks but also when the liftgate is undergoing normal operation, could result in serious injury or death. Observe safety guidelines when involved with either servicing or operating a liftgate.

Failure to read, understand and follow the important information contained herein may result in a hazardous condition or cause a hazardous condition to develop, which could cause possible injury or death.

DO NOT operate the liftgate unless the area is clear of obstacles and other personnel.

DO NOT exceed maximum rated capacity of the liftgate.

Prior to welding or performing repairs, precautions should be taken to insure that the truck's electrical system will not be damaged.

A qualified person using proper tools and safe procedures must perform maintenance.

Regularly inspect hydraulic hoses and fittings and replace if worn or leaking.

Never strike any part of the liftgate with a steel hammer.

DO NOT use any liftgate, which does not operate properly.

DO NOT work underneath the liftgate without properly supporting the raised platform.

Disconnect the power to the Liftgate prior to performing any repairs.

INSTALLATION INSTRUCTIONS

Truck Body Preparation

1. Remove bumper, step, or any protrusions that would prevent your deck extension from being mounted flush against the rear doorsill.

NOTE: Holland recommends that the rear doorsill be a minimum of 3/16" thick.

NOTE: Installation of the liftgate will require the disconnection of the truck's electrical system before welding to prevent damage to the alternator and battery. Check the vehicle owner's manual.

Cylinder Lock Strap

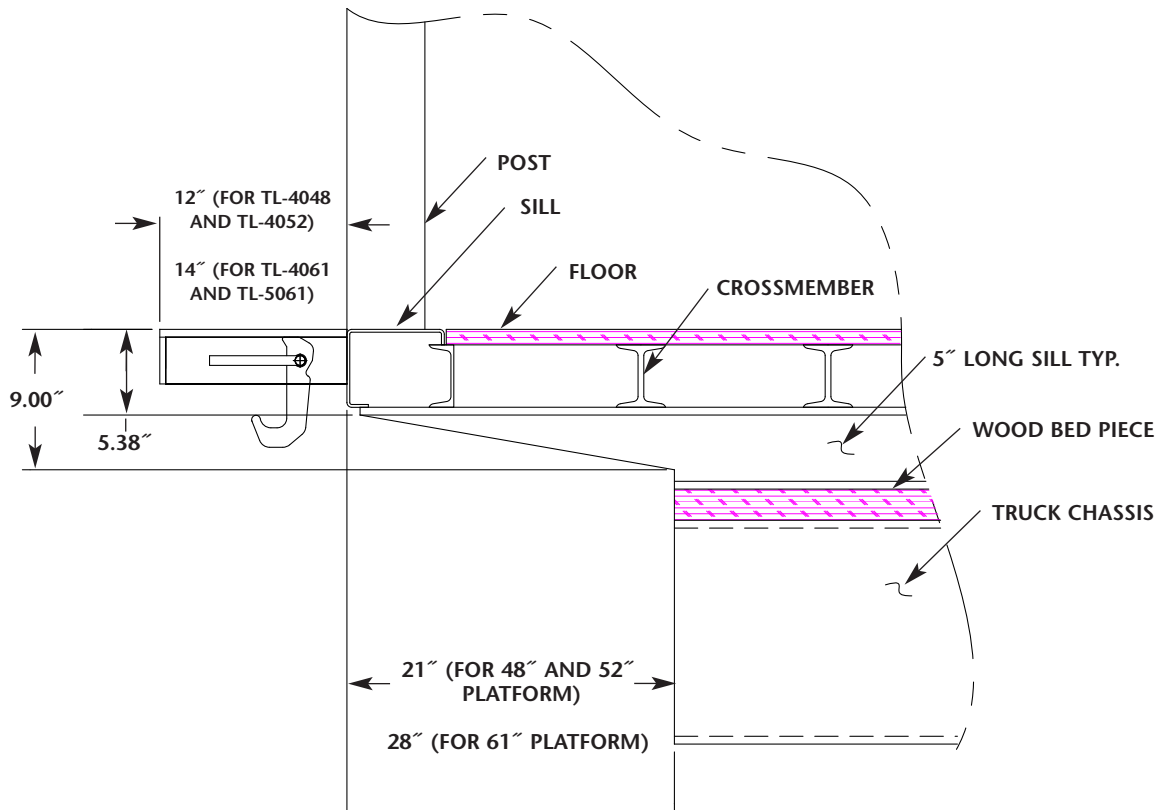
WARNING DO NOT work underneath the liftgate without properly supporting the raised platform.

A cylinder lock strap has been factory installed between the cylinder mounting pins. This strap keeps the liftgate in the proper position for installation. This cylinder lock strap must remain in position until the liftgate has been welded to the vehicle, the motor wiring has been connected to the battery, and the hydraulic system has been activated to fill the hoses and cylinder under pressure. Care must be taken during installation to ensure that this strap is not bent, as this would affect the proper function of the liftgate when installed.

Truck Frame Cut-out Dimensions (Standard Mount)

NOTE: Standard Model: Additional frame modifications may be necessary, depending on the application (FIGURE 11).

FIGURE 11

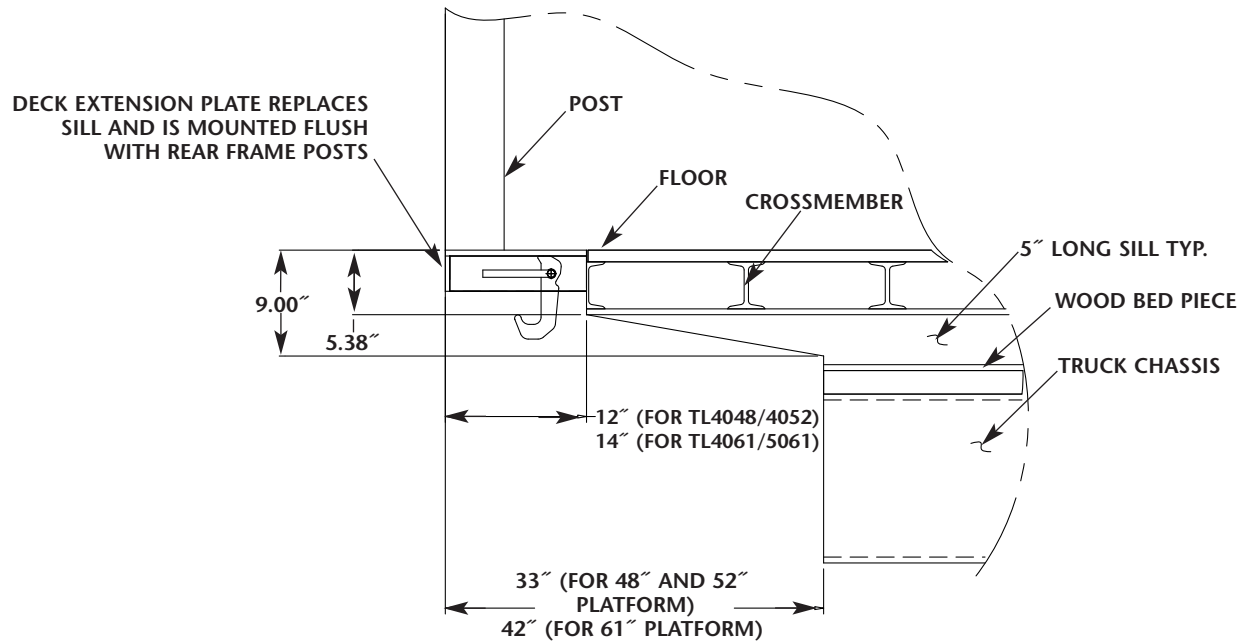


INSTALLATION INSTRUCTIONS

Truck Frame Cut-out Dimensions (Flush Mount)

NOTE: Flush Mount Model: Additional frame modifications may be necessary, depending on the application (FIGURE 12).

FIGURE 12



Position of Deck Extension

Position and support the deck extension flush with the rear doorsill of the vehicle. Ensure the extension plate is flat and flush with the deck of the truck.

NOTE: Trucks are higher at the back than the front due to heavy duty suspension; therefore, the deck of the truck will be sloped from the rear down to the front. Ensure that the deck extension is sloped at the same angle as the slope of the truck deck.

1. The deck extension must be centered with respect to the truck chassis. This ensures that when the liftgate is mounted to the truck frame, it will be centered with the extension plate (FIGURE 13).
2. Tack into position and weld the top, bottom and sides of the extension plate with a minimum of a 1/4" weld by 2" long on 6" centers.
3. It is also important to weld the vertical members (ribs) of the deck extension to the rear sill.
4. Weld per FIGURE 13.
5. **For trailer installations:**

IMPORTANT: Park the trailer, and using a level, assure that the trailer floor is level.

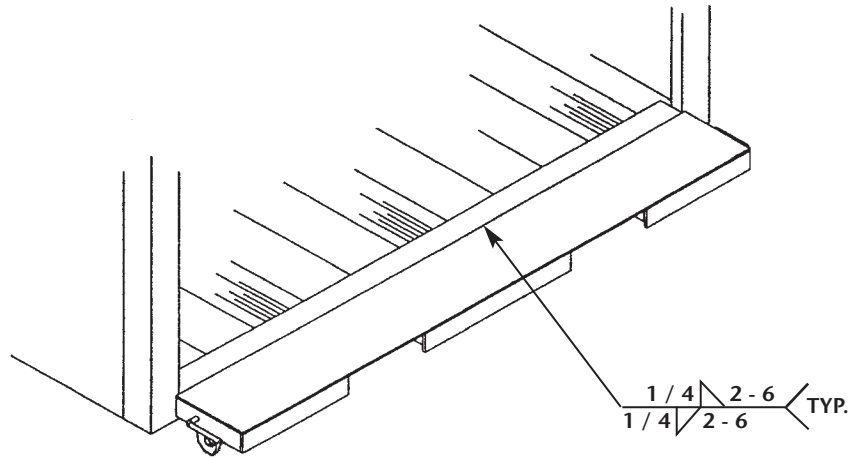
1. Position and tack weld the deck extension, verifying that it is level with the trailer floor.

Platform Positioning

1. The platform must be flush and level with the extension plate. Leave a 1/4" gap between the extension plate and the platform (FIGURE 14).
2. Weld two temporary 38" angle brackets to the extension plate 8" from each edge with 18" of overhang. These brackets will assist to ensure a flush and level installation (FIGURE 14).
3. Position the platform and clamp or tack weld it to the support brackets maintaining a 1/4" gap.

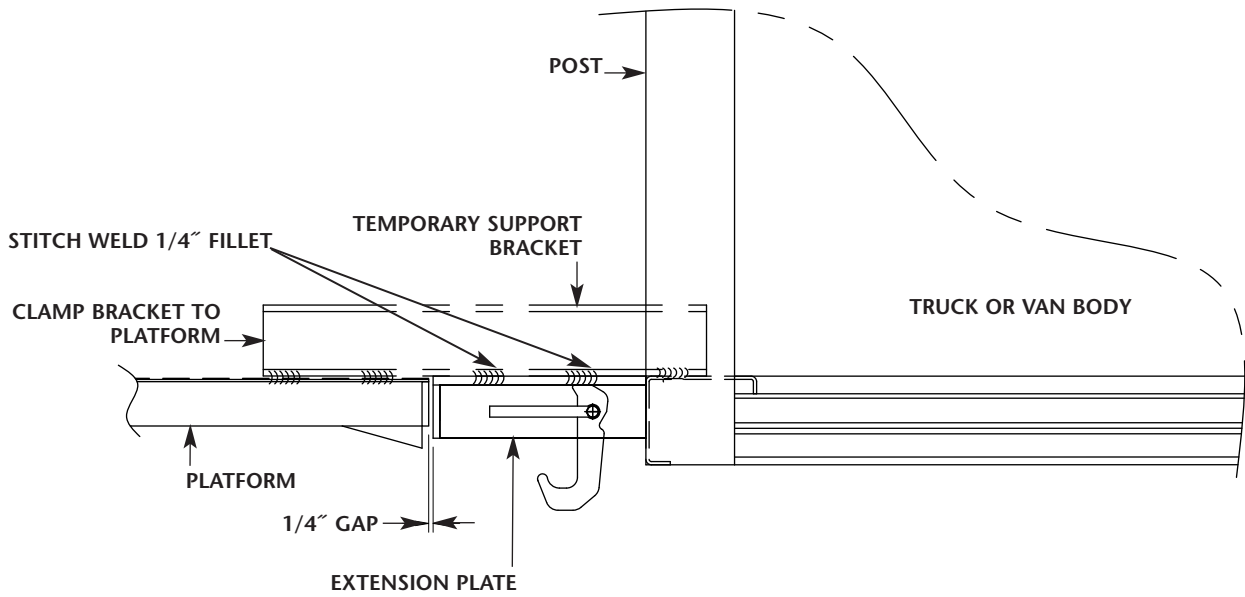
INSTALLATION INSTRUCTIONS

FIGURE 13



**NOTE: ALSO WELD VERTICAL SUPPORTS (RIBS)
UNDERSIDE OF DECK EXTENSION**

FIGURE 14



INSTALLATION INSTRUCTIONS

Platform Adjusting Bolts

There are two adjusting bolts on the platform under the pivot lugs. These bolts are preset at the factory to ensure a square and level installation. Once the platform is clamped to the temporary braces, the main tube should automatically be in the correct position for installation (**FIGURE 15**).

1. If the mainframe tube is not parallel with the truck from the front frame to the back and / or side to side, thread the adjusting bolts in or out until the mainframe tube is leveled, or you can use a floor jack to position the main tube setting to adjusting bolt after mounting.

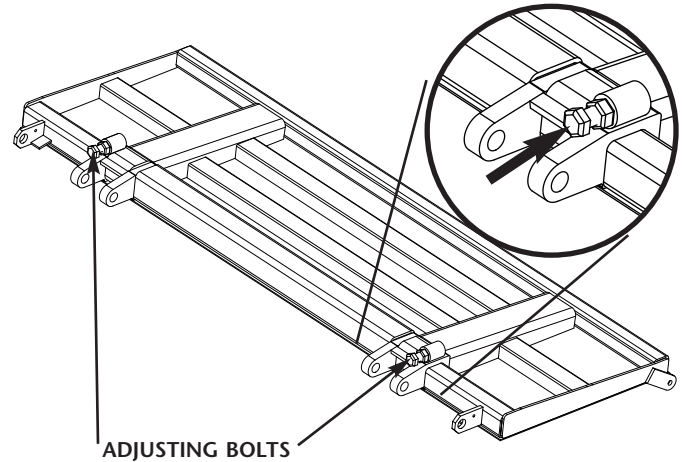
Mainframe Positioning

The mainframe should be in the correct position. Check that the top of the main tube is approximately $25\text{-}1/2'' \pm 1/2''$ down from the top of the deck extension.

1. If the main tube is not level or parallel to the deck extension then the main frame should be adjusted using the adjusting bolts or a floor jack.
2. Once satisfied with the main tube positioning, weld the liftgate attaching plates to the main tube and to the truck frame (**FIGURE 16**).

NOTE: Welds must be minimum of $1/4''$ fillet weld on front and back of each attaching plate. Be sure to weld the attaching plates to the truck body's long sill as well.

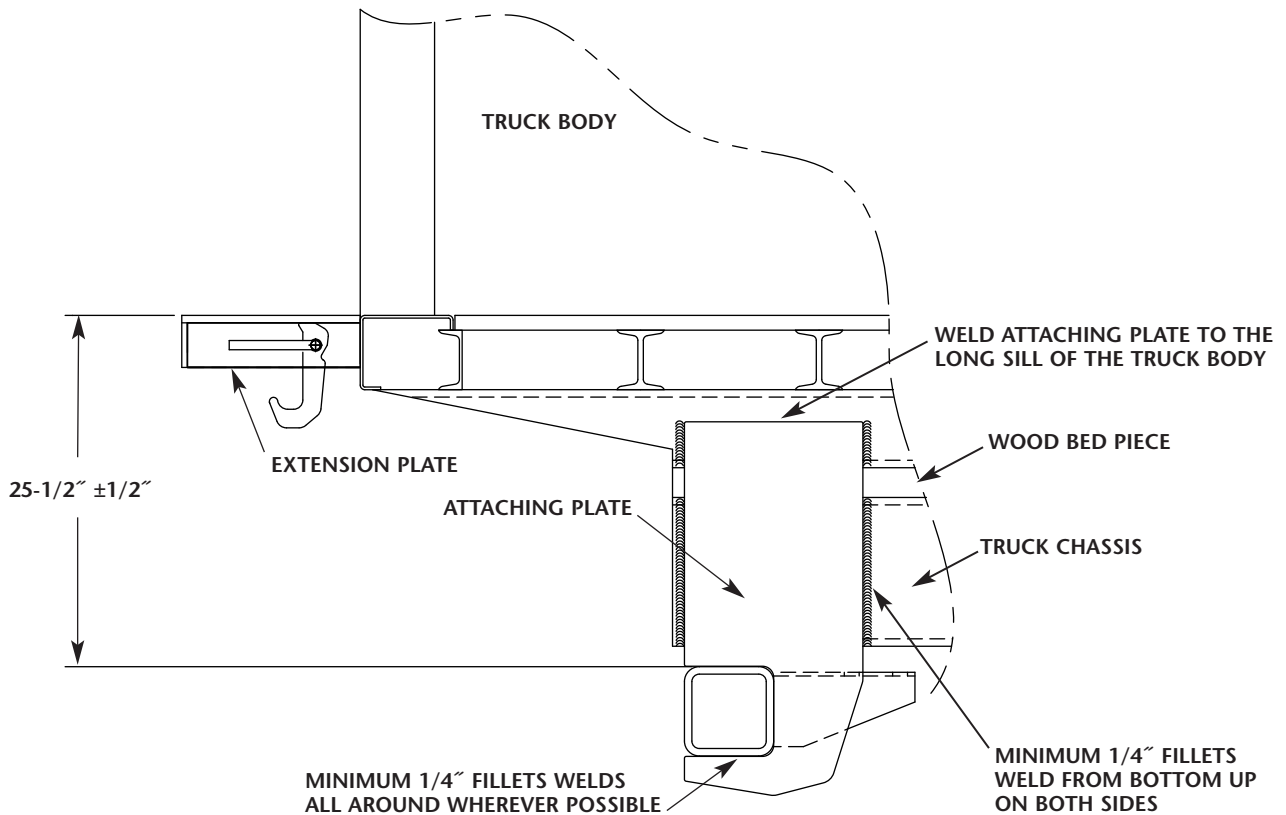
FIGURE 15



Adjusting Bolts

LIFTGATE MODEL	ADJUSTMENT BOLT PRE-SET LENGTH
TL40483	2.125"
TL40523	2.125"
TL40614	1.375"
TL50614	1.375"

FIGURE 16

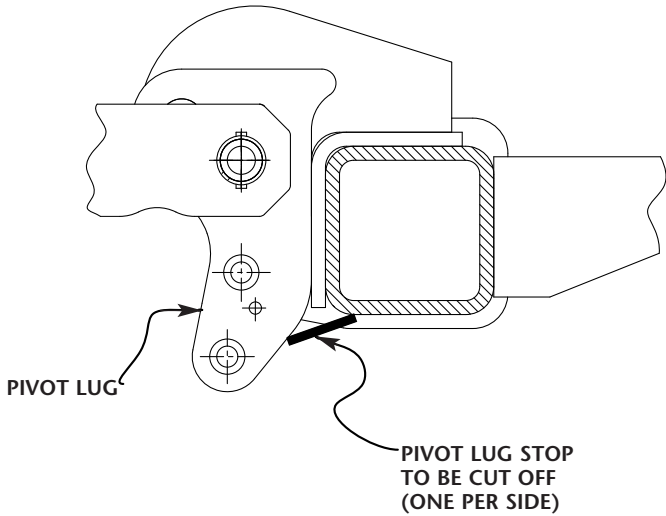


INSTALLATION INSTRUCTIONS

Pivot Lug Stops

Once the mainframe is welded into place, the pivot lug stops can be cut off (FIGURE 17).

FIGURE 17



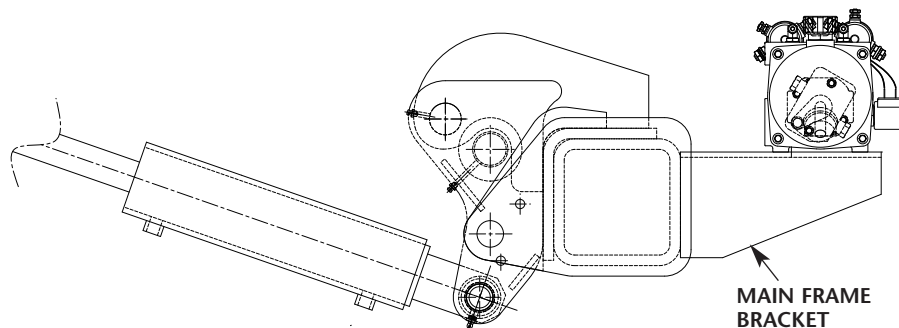
Pump Installation (with Galvanized Cover)

1. Remove the breather cap from the reservoir and insert the reservoir through the large hole in the pump box.
2. Set the pump box on the mainframe bracket (FIGURE 18).

NOTE: Ensure that the reservoir tank is to the curbside of the truck. This means that the opening of the pump box is to the front of the truck.

3. Using the fasteners supplied in the installation kit, fasten the pump box and pump to the bracket on the mainframe.
4. Fill the reservoir with DEXTRON III automatic transmission fluid or approved fluid (refer to "Recommended Fluids Chart" on page 14), and replace the breather cap.

FIGURE 18



Optional Side Mount Pump Box and Pump / Battery Box

1. Locate the pump box behind the curbside mud flap under the body approximately 4' from the back of the truck, and 6" in from the outside.

NOTE: For trailer installation, mount pump box ahead of axles (FIGURES 19 and 20).

2. Weld the pump box in position with the door opening facing the curbside.
3. Fill the reservoir with DEXTRON III automatic transmission fluid or approved fluid (refer to "Recommended Fluids Chart" on page 14), and replace the breather cap.

FIGURE 19

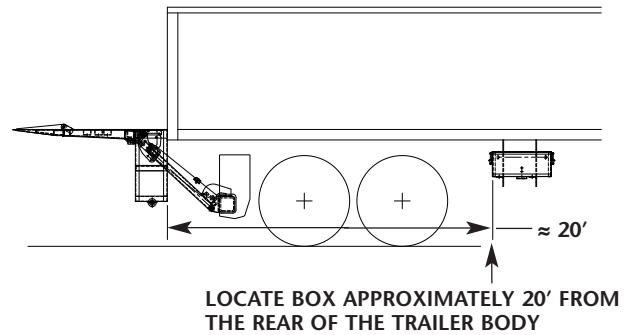
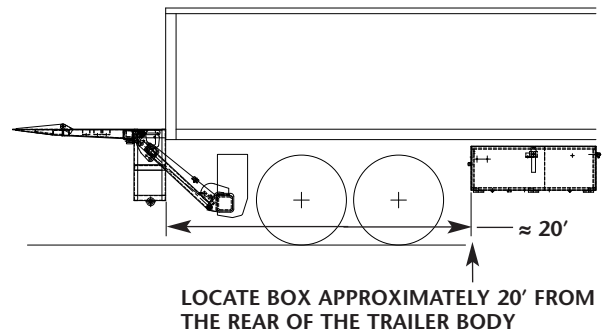


FIGURE 20



INSTALLATION INSTRUCTIONS

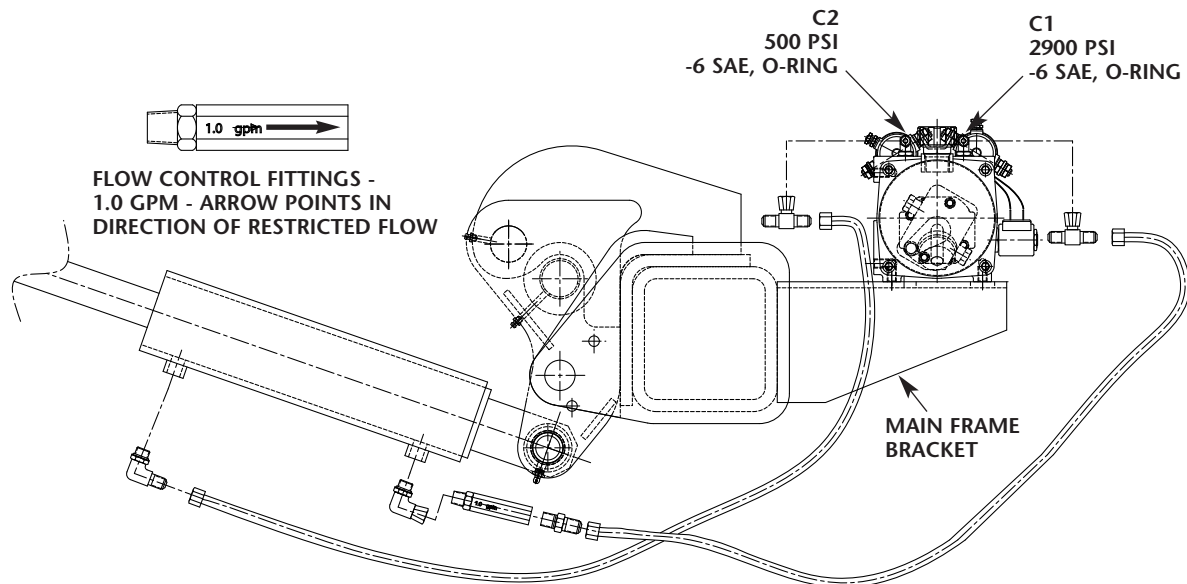
Hose Installation (Galvanized Cover)

Packaged with your liftgate you will find both long and short hose assemblies, two 90° elbows (-6 ORB, 1/4" FNPT), two 90° elbows (-6 ORB, -4 JIC), two flow control valves (1.0 gpm), two adapters and two swivel tee's (FIGURE 21).

1. Connect the two 90° elbows (-6 ORB, -4 JIC) to the cylinder ports at the rod end, and the 90° elbows (-6 ORB, _ FNPT) to the cylinder ports at the base end.
2. Attach the flow control valve and adapter to the elbow at the base end of the cylinder.

3. Check to see that there is a number 1.0 stamped on the flow control valve; this is for all twin cylinder models. This valve will restrict the flow to 1.0 GPM per cylinder.
4. Connect the female end of the swivel tees to the elbows on the pump. Attach the short hoses to the swivel tee from port C1. Route the C1 hoses to the base end of the cylinders. Attach the long hoses to the swivel tee from port C2. Route the C2 hoses to the rod end of the cylinder.
5. Ensure that the installed hoses do not interfere with moving or hot parts. Also ensure that the hoses do not stretch or kink while the liftgate is in operation.

FIGURE 21



NOTE: DO NOT OVER TORQUE FITTINGS.
- BE SURE TO ADD PIPE SEALANT TO ALL NPT FITTINGS.
- DO NOT USE TEFLON TAPE.

Hose Installation (Side Mount Pump Box and Pump/Battery Box)

The hose installation for a side mounted pump box is the same as the mainframe-mounted pumps except the pump is pre-installed in the pump box. You will also be supplied with one bulkhead plate and two bulkhead tees.

1. Weld the bulkhead plate to the mainframe tube, and attach the bulkhead tees to the plates.
2. Route the 60" or two 64" (trailer kit) hoses from the fitting located on the rear face of the pump box to the bulkhead tee's.
3. Route the 50" and 60" hoses to the cylinders: the longer hose will connect to the rod end of the cylinders.
4. Ensure that the installed hoses do not interfere with moving or hot parts. Also ensure that the hoses do not stretch or kink while the liftgate is in operation.

Solenoid Wiring Hookup

1. Strip the protective rubber coating from one end of the battery cable supplied with your liftgate, and install cable end (FIGURE 22).
2. Securely crimp the cable end to the cable, and mount to the master disconnect switch.
3. Route the cable under the truck chassis, and secure cable to the crossmembers.
4. Ensure that the cable is long enough to reach the solenoid with adequate slack. If necessary, cut excess cable away.
5. Strip the protective rubber coating from the loose end of the battery cable and install cable end.
6. Securely crimp cable end to the cable, and connect to the solenoid mounted on the hydraulic pump.

NOTE: Connection should be made on the post with the strap connecting the two solenoids.

INSTALLATION INSTRUCTIONS

Battery Hookup

NOTE: The master disconnect switch should be mounted in the cab of the truck on the floor beside the driver's seat.

1. Cut the cable to length, and attach it to the master disconnect switch using eyelet connections provided.
2. Run the cable from master disconnect switch to the positive (+) side of the battery. (Ensure the switch is in the **OFF** position.)

IMPORTANT: Battery connection should be made only when the installation is complete.

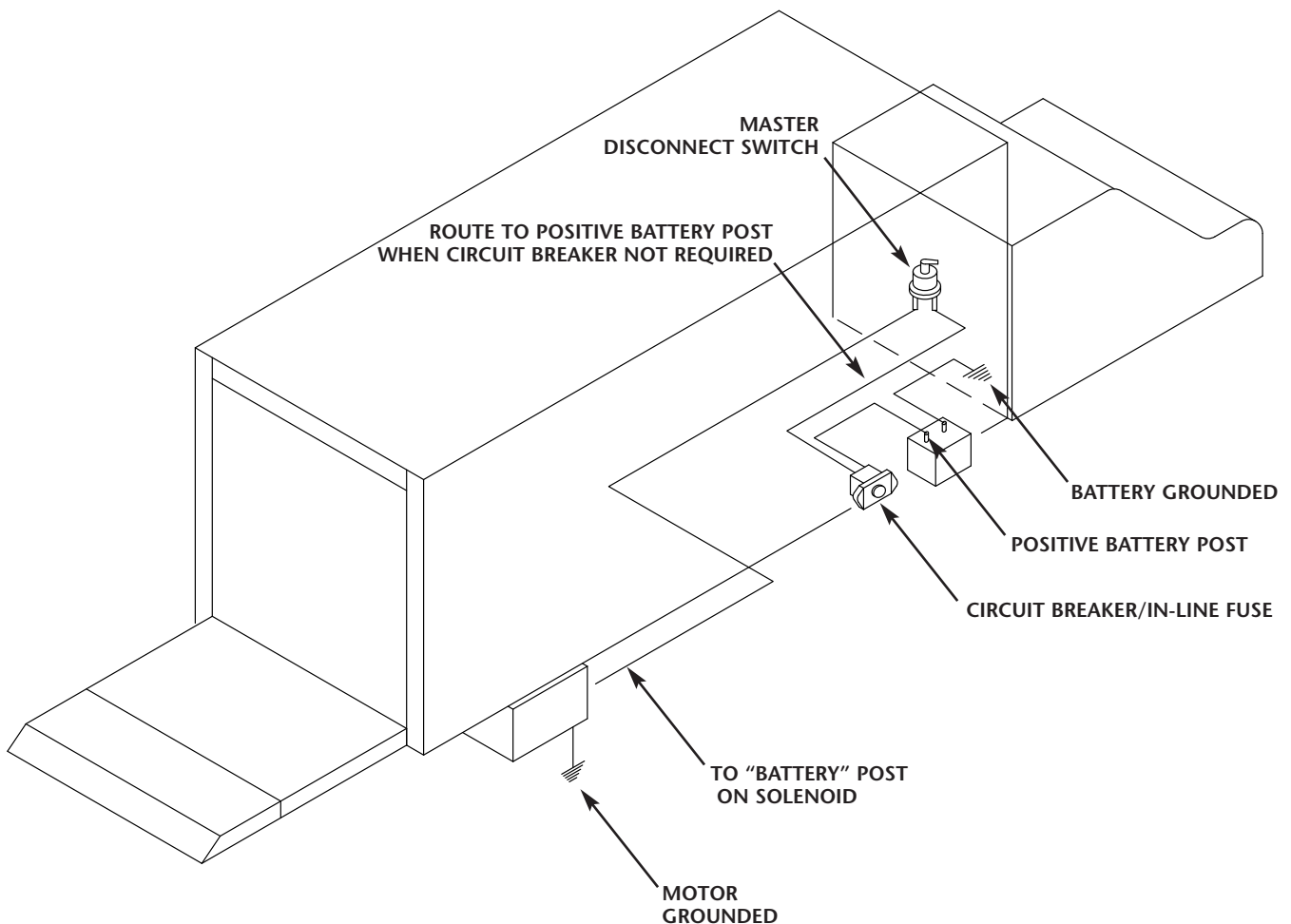
Circuit Breaker/In-line Fuse

The optional 150-amp circuit breaker or 250-amp, in-line fuse is to be installed as close to the battery as possible. The cable from the master disconnect switch goes to the circuit breaker/in-line fuse and then to the battery.

CAUTION Be sure that the truck's electrical system is disconnected before attempting to hook up the electrical components of the liftgate.

NOTE: Holland recommends applying dielectric grease to all exposed electrical terminals. Corroded terminals are not covered under the Holland standard warranty.

FIGURE 22



INSTALLATION INSTRUCTIONS

Initial Platform Lowering

IMPORTANT: Use DEXTRON III automatic transmission fluid or other recommended fluid the the chart below.

1. Push the toggle switch to the **UP** position to activate the pump. This will allow the pump to fill the hoses and cylinders with oil. You will hear the system being filled under pressure.
2. Release the switch, refill pump reservoir and push toggle switch **UP**; repeat until you no longer hear the oil circulating under pressure, release the **UP** toggle switch, and remove the lock strap from the cylinder pins.
3. **Support the platform from underneath**, and remove the temporary support brackets that have been holding the platform to the extension plate.
4. Remove supports from under platform.

CAUTION Platform may drop slightly when supports are removed. Standing clear of the platform, activate the **DOWN** toggle on the controls to activate the motor and lower the platform to the ground.

5. Raise and lower the platform several times to check the operation of the unit.
6. Check the fluid level in the reservoir with platform in fully stored position. If necessary, fill reservoir to a maximum of 1/2" from the top with the liftgate in the lowered position (cylinders retracted).

IMPORTANT: Always use correct grade of hydraulic fluid. Refer to the chart below for recommended hydraulic fluid or contact HOLLAND.

Recommended Fluids Chart

Temperature Range	Recommended Fluids	
	Manufacturer	Type
Above 0° C (32° F)	Any	AW-32, ISO-32, ATF
-25° - 65° C (-15° - 150° F)	Any ESSO, EXXON MOBIL SHELL	DEXRON III HYDRAUL 50 DTE 11 DONAX TD Low Viscosity
-35° to 50° C (-30° to 120° F)	EXXON, ESSO SHELL PETRO-CAN	UNIVIS N15 TELLUS T15 MV ARCTIC 15
-45° to 40° C (-50° to 100° F)	Any ESSO EXXON SHELL	MIL-H-5606 UNIVIS J-13 UNIVIS HIV 13 AEROSHELL FLUID #4

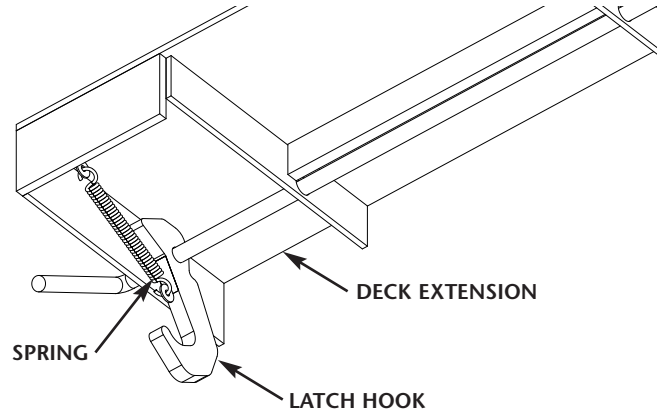
7. If necessary, adjust the "platform adjusting bolts" (FIGURE 15) so there is a 1.5° - 2.0° incline on the platform (rear being higher than front).
8. Fold the platform and check the clearances under the truck during the complete travel until the liftgate is fully stored.

Return Spring Installation

1. Install the spring (parts bag) to the washer that is welded to the latch hook and to the washer welded on the underside of the extension plate (FIGURE 23).

NOTE: One spring per side.

FIGURE 23



Latch Pin Installation

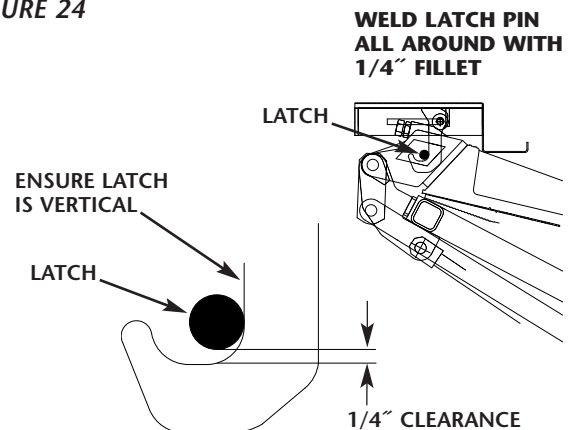
CAUTION Always disconnect the vehicle's electrical system before welding or vehicle damage or serious injury may occur.

Once the installers have satisfied themselves that the installation is proper, sound and safe, the liftgate is to be fitted with two latch pins for safety in the storage position (FIGURES 24 and 25).

IMPORTANT: The mechanism is designed so that the latches prevent uncontrolled lowering of the liftgate from the folded position in the event of a hydraulic leak or other malfunction.

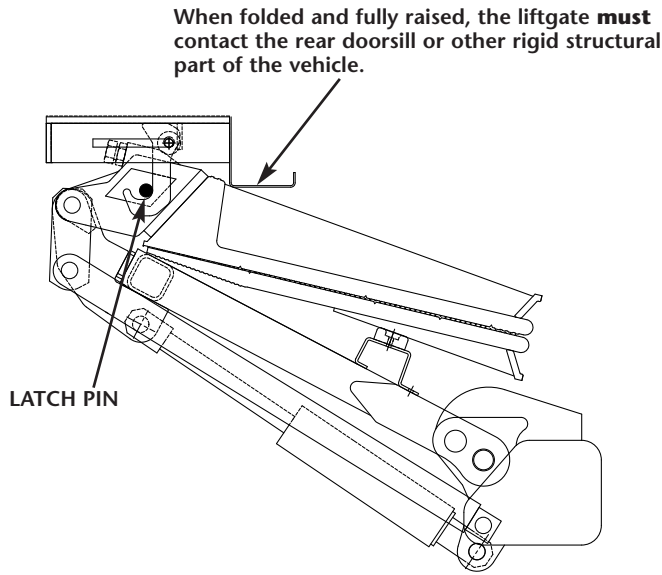
1. While folded and fully raised, the liftgate **must** contact the rear doorsill, the optional anti-bounce kit (page 17 - FIGURE 33) or another rigid structural part of the vehicle.

FIGURE 24

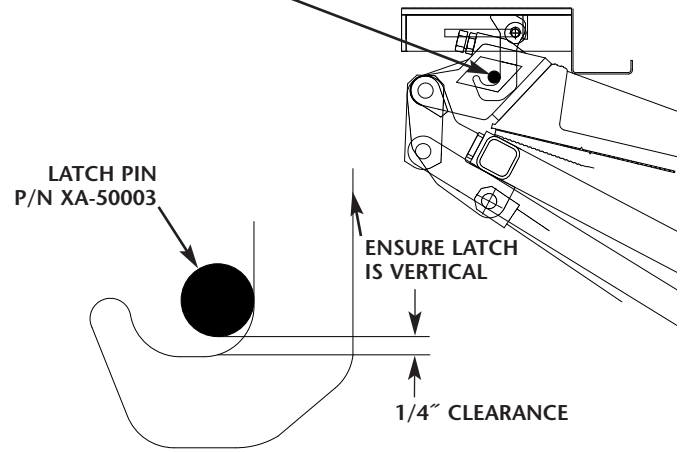


INSTALLATION INSTRUCTIONS

FIGURE 25



With the platform folded and the liftgate fully raised, locate the latch pins as shown. Tack weld the pins in place and verify function of the latches, ensuring they engage and disengage from the pins freely when rotating the handle. Then, lower the liftgate and weld the pins to the side of the platform with 1/4" fillet all around.



Step Assembly Installation

The steps are positioned so that the top of the step upright is flush with the top of the extension plate. Weld steps to both the extension plate and the rear doorsill.

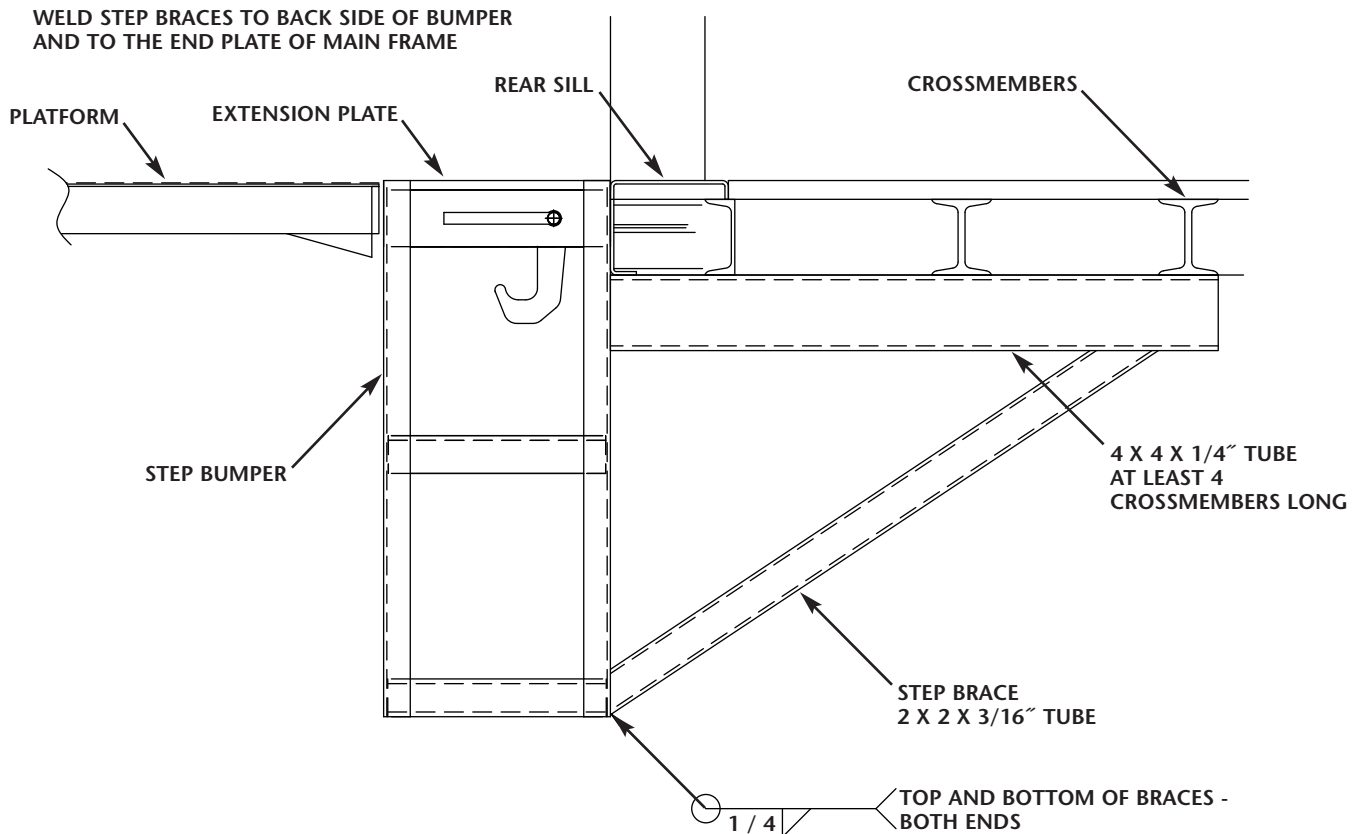
1. Ensure that the step assemblies are straight and square so they do not affect the overall width of the truck or obstruct the operation of the liftgate.

Step Braces

Holland recommends that step braces be installed (FIGURES 26).

1. The braces must be secured to the step assemblies and to the mainframe of the liftgate or to the truck/trailer crossmembers.

FIGURE 26



INSTALLATION INSTRUCTIONS

Rear Impact Guard

IMPORTANT: For the Rear Impact Guard (R.I.G.) certification to be valid, you **must** follow the installation instructions.

The Rear Impact Guard accessory is designed to absorb energy through deformation on impact. To accomplish this, the liftgate to which it is attached must be mounted securely to a rigid non-yielding structure. Therefore, ensure that the liftgate is installed according to all specifications, including those listed below:

- **Structure rigidity** - Ensure the vehicle structure to which the liftgate is attached is sufficiently rigid and strong enough to withstand transmitted loads without deformation.
- **Angle of the arms of the lift frame** - When the liftgate is folded and raised to the stored position it must securely contact the rear door sill (**FIGURE 27**) or other rigid structural component of the vehicle (not the liftgate extension plate) and the arms of the lift frame for TL4061 and TL5061 Series Liftgates must be at an angle of 28.5° from the horizontal, and for TL4048 and TL4052 Series Liftgates the angle must be 33.5° from the horizontal.

IMPORTANT: This measurement is with the vehicle unloaded, full of fuel (if applicable) and the air suspension “is aired up to ride height” (if so equipped) and having properly inflated tires (inflated to the manufacturer’s recommendations).

IMPORTANT: This measurement is critical to ensure that the rear impact guard is properly positioned, and it may be necessary to “build up” or “cut-away and reinforce” the door sill to achieve it. Ensure contact is uniform and equal on both sides, and that the contact surface is as large as possible. If necessary, reinforce the door sill to ensure it is sufficiently rigid and strong enough to withstand transmitted loads without deformation.

- **Latch pins** - The latch pins must be installed on both sides, located as shown (**FIGURE 28**).

1. Using the 8 bolts, 8 nuts, and 16 washers provided in the kit, attach the Rear Impact Guard Bumper assembly to the mounting plates—part of the lift frame (**FIGURE 29**).

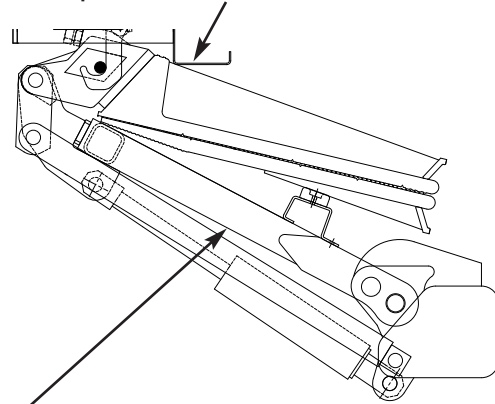
NOTE: Install one hardened washer under each bolt head and under each nut. Torque the nuts to 200 ft-lbs.

- **Horizontal tube member** - Verify that the position of the horizontal tube member meets all legislated requirements when the liftgate is folded and stored for travel (**FIGURE 27**).
- **Liftgate platform** - Verify that the liftgate platform reaches the ground without the Rear Impact Guard restricting travel.

CAUTION Failure to comply with above requirements, or modification of any component of the Rear Impact Guard and/or its mounting, or failure to properly maintain the liftgate and/or the Rear Impact Guard will void the certification.

FIGURE 27

When folded and fully raised, the liftgate **must** contact the rear doorsill or other rigid structural part of the vehicle.



The Lift Frame must be at 28.5° from horizontal for TL4061 and TL5061 Series Liftgates and at 33.5° from horizontal for TL4048 and TL4052 Series Liftgates—when the platform is folded and the liftgate is fully raised.

FIGURE 28

With the platform folded and the liftgate fully raised, locate the latch pins as shown. Tack weld the pins in place and verify function of the latches, ensuring they engage and disengage from the pins freely when rotating the handle. Then, lower the liftgate and weld the pins to the side of the platform with 1/4” fillet all around.

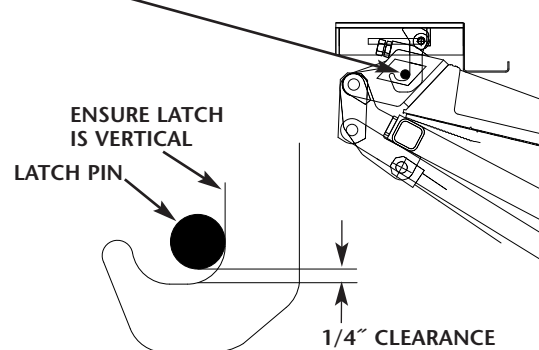
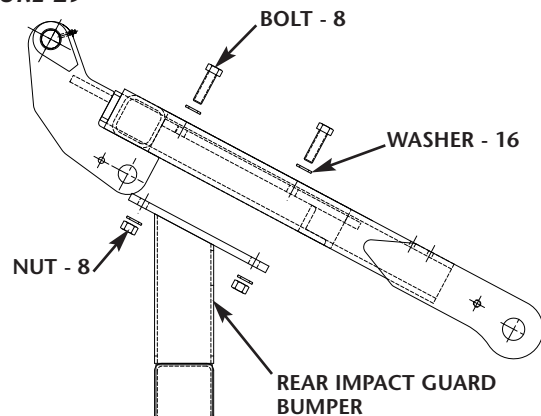


FIGURE 29

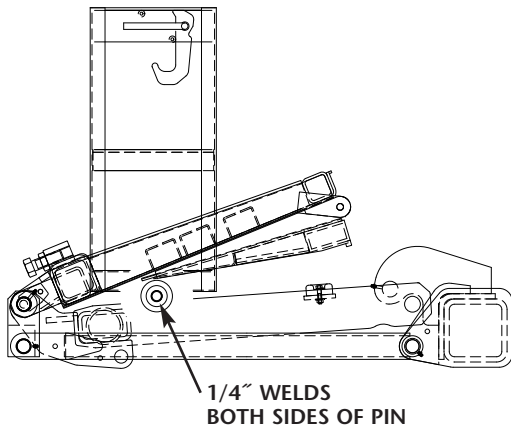


INSTALLATION INSTRUCTIONS

Donut Opener Assembly Installation (XA-50935)

1. With the liftgate in stored position, lower the platform and position the opener under the step so it contacts the tip of the folded flip-over (FIGURE 30). The position of the donut opener may vary from installation to installation and from model to model.
2. Tack the opener into position and check the operation of the liftgate.
3. If the liftgate operates properly, weld into position with minimum 1/4" welds and repeat these steps for the other side.

FIGURE 30

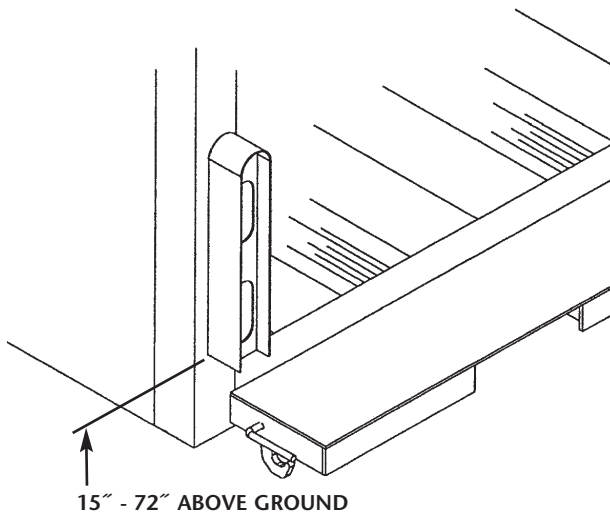


Optional Light Box Installation (XA-50947)

1. Position the light boxes on the rear post so they are in compliance with local motor vehicle safety standards (FIGURE 31).

NOTE: Stitch weld on the inside only.

FIGURE 31



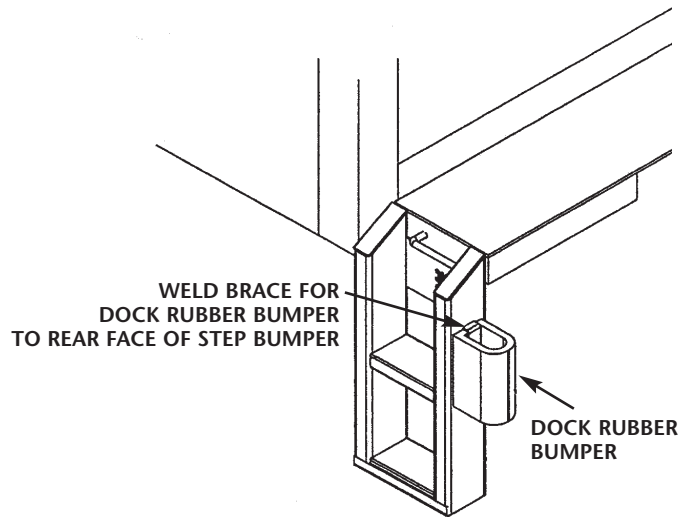
IMPORTANT: To comply with Federal Motor Vehicle Safety Standards, the taillight mounting location requires the lower edge of the taillight be a minimum height of 15" above ground.

Range: 15 - 72 inches (380 - 1830mm)

Dock Rubber Bumper Installation (AK-50499)

1. Weld brace for dock rubber bumper to rear face of step bumper (FIGURE 32).

FIGURE 32

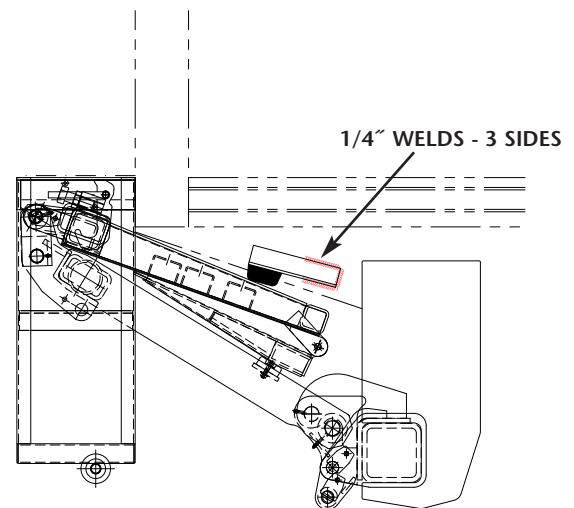


Optional Anti-Bounce Installation (AK-57033)

1. Raise the folded liftgate to within 2" inches of being stored.
2. Position anti-bounce bumper into place (FIGURE 33), and weld angle in place.

NOTE: Only one assembly per liftgate is required.

FIGURE 33





GO THE DISTANCE.

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