



PT Series™ Rail Style Liftgate

Read Before Installing

INSTALLATION MANUAL

For Models: PT12 • PT16

Ultron

Ultron Lift Inc.
12 Industrial St.
Toronto, ON M4G 1Y9 Canada
(416) 421-7987

Ultron Lift Corp.
190 Lewis St. • PO Box 6126
Buffalo, NY 14240-6126 USA
(716) 853-7994
800-289-1335

www.ultronlift.com

For Your Safety

This Manual follows the Guidelines set forth in ANSI Z535.4-1998 for alerting you to possible hazards and their potential severity.



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



DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



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



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



CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

Memo To The Installer



WARNING

1. Improper installation and use of this liftgate may result in serious injury or death
2. Make sure that you are properly trained and qualified before you install this liftgate.
3. Make sure you read and understand this manual before you install this liftgate.

Please call us if you have any questions during this installation.

- USA: 800-289-1335
- Canada: 416-421-7987
- Monday through Friday, 8 A.M. to 5 P.M., Eastern Time

We are committed to:

- Helping you install this liftgate safely and correctly
- Providing your customer with a durable, trouble-free, long-lasting liftgate

Remember, we're on your team!

Thank you for choosing our liftgates.

Sincerely,

Quick Response Team

Ultron Lift Corp./Inc.





WARNING

1. **READ AND UNDERSTAND** installation instructions for installing this liftgate.
2. Failure to follow all instructions may result in severe personal injury or death.
3. Do not attempt this installation if you are not a qualified trained welding technician with appropriate training in liftgate installation.
4. Do not install truck lights if you are not properly trained in truck electrical equipment.

1. NEVER stand under or near the liftgate when the liftgate is being raised or positioned for installation.
This liftgate can crush persons, causing death or severe injuries.
2. ALWAYS disconnect the truck's positive and negative battery cables to avoid damage to the truck's electrical system.
Follow the procedures in the Vehicle Owner Manual.
3. ALWAYS turn the Master Disconnect switch to OFF when leaving the truck unattended.
4. ALWAYS lock cab doors to prevent unauthorized use of the liftgate.
5. ALWAYS affix safety decals according to these instructions.
6. ALWAYS perform final inspection after installation.
7. ALWAYS read the Operator's Manual before testing or operating this liftgate.
8. ALWAYS inspect your installation and complete the Final Inspection Checklist after finishing the installation.
9. ALWAYS follow the procedures in this Manual to install the Master Disconnect Switch and the Circuit Breaker.
10. ALWAYS install the Master Disconnect Switch and Circuit Breaker before reconnecting the truck's battery cables.
11. NEVER install the Master Disconnect Switch and Circuit Breaker if you are not properly trained in truck electrical equipment.

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About This Liftgate

DESCRIPTION

The PT Series liftgate is a 100% level-ride, rail-style liftgate. The PT series is available in capacities ranging of 1250 pounds and 1600 pounds.

Rail-style liftgates have two rails mounted to the rear of a truck by either welding or bolting. These rails, also called tracks, support a platform which raises and lowers cargo.

The PT Series liftgate comes in two basic models:

- PT12 — capacity: 1250 lbs
- PT16— capacity: 1600 lbs

Each model is available in an above-floor model, indicated by **AF** at the end of the model number.

- PT12 AF
- PT16 AF



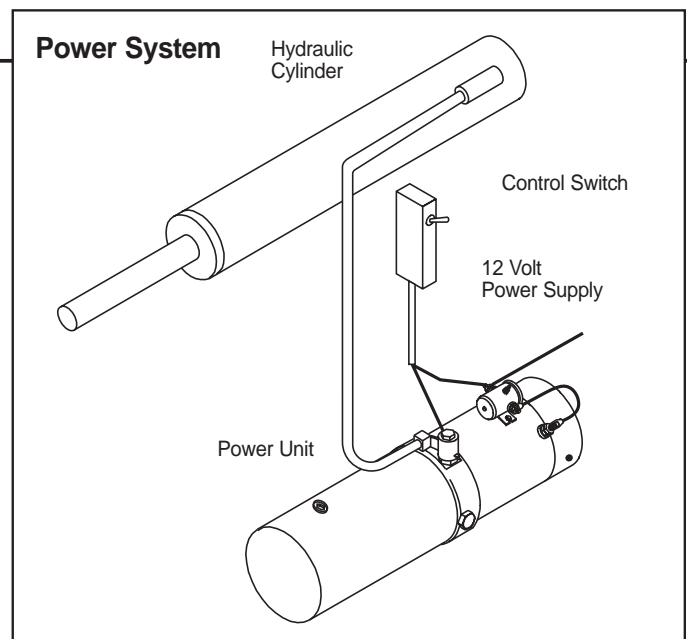
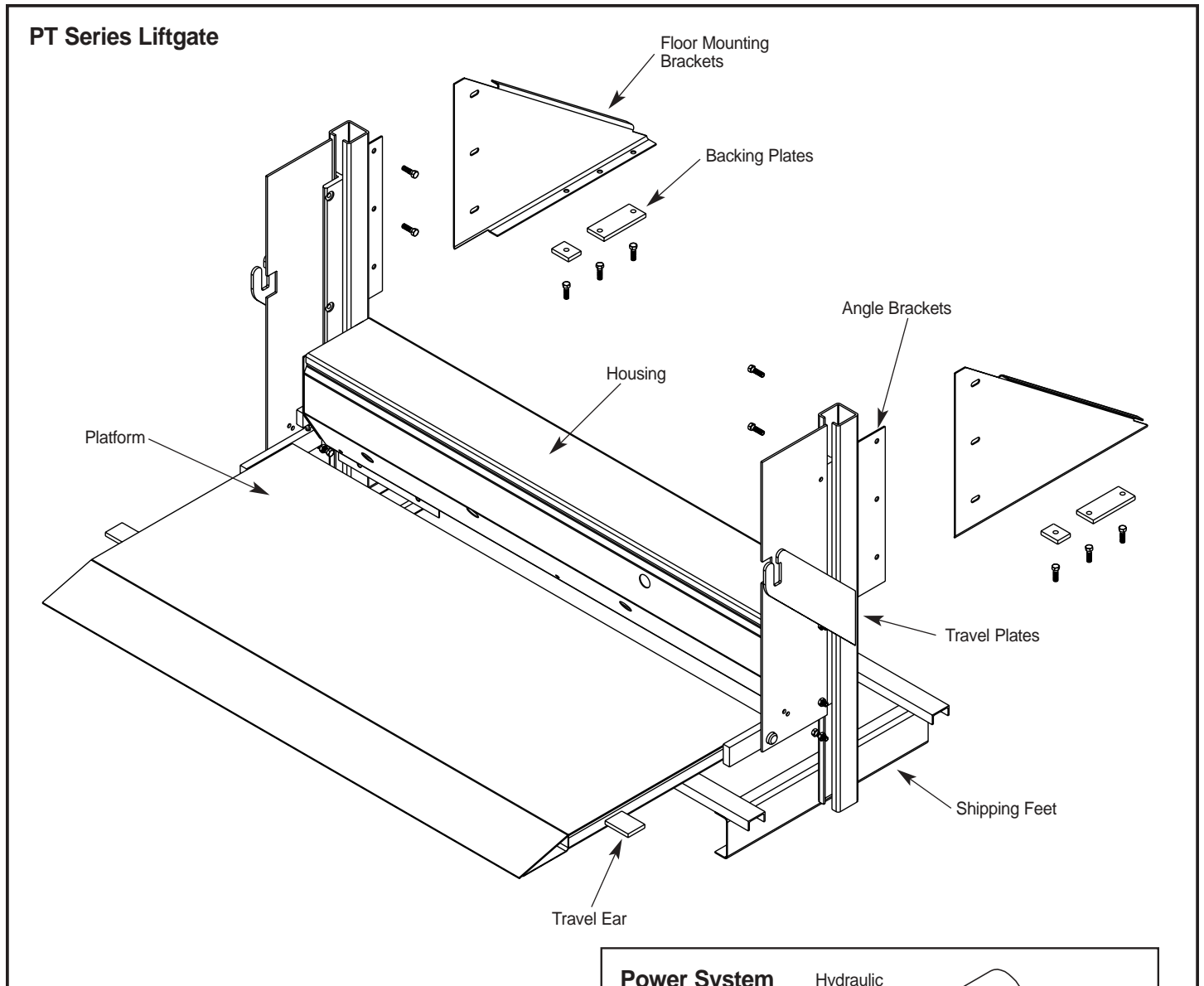
Liftgate, Installed

THEORY OF OPERATION

The rail-type liftgate is designed to lift cargo vertically from the truck bed to the ground or dock, and vice-versa. Power is provided by a hydraulic power unit and cylinder that activates a chain and sprocket system. Activation of a control switch supplies current from a 12-volt battery to the hydraulic power unit. The hydraulic power unit in turn supplies pressurized hydraulic fluid to the hydraulic cylinder. The cylinder extends, tensioning the chains which are attached to the platform. The resultant upward pull on the platform raises it.

The platform is lowered by gravity. Activation of the control switch releases the hydraulic fluid back to the power unit from the cylinder. The cylinder retracts, releasing the tension on the chain, and the platform lowers by its own weight.

DESIGN DETAIL



1. PREPARE FOR INSTALLATION

1.1 Before You Start



WARNING

1. Liftgate can crush.
2. DO NOT INSTALL this liftgate if you do not understand all procedures.
3. Improper installation of the liftgate may result in severe personal injury or death.

Call Customer Service for assistance:

USA: 800-289-1335

Canada: 416-421-7987

STEP 1 Check the PT Model type (PT12 or PT16).

STEP 2 Read this Installation Manual.

STEP 3 Become familiar with:

- The liftgate
- The components in the Electrical Component Kit
- The Safety Decal Kit

1.2 Check Mounting Requirements

STEP 1 PT lifts are manufactured to fit specific model trucks. Check that the lift you are about to install is the correct model for your truck.

1.3 Check For Parts

STEP 1 Make sure you have all the parts listed below as well as all **Liftgate parts** including mounting brackets and hardware. (See Design Detail, pg. 6).

Check these parts and the liftgate assembly for shipping damage.

Call Customer Service if any parts are missing or defective.

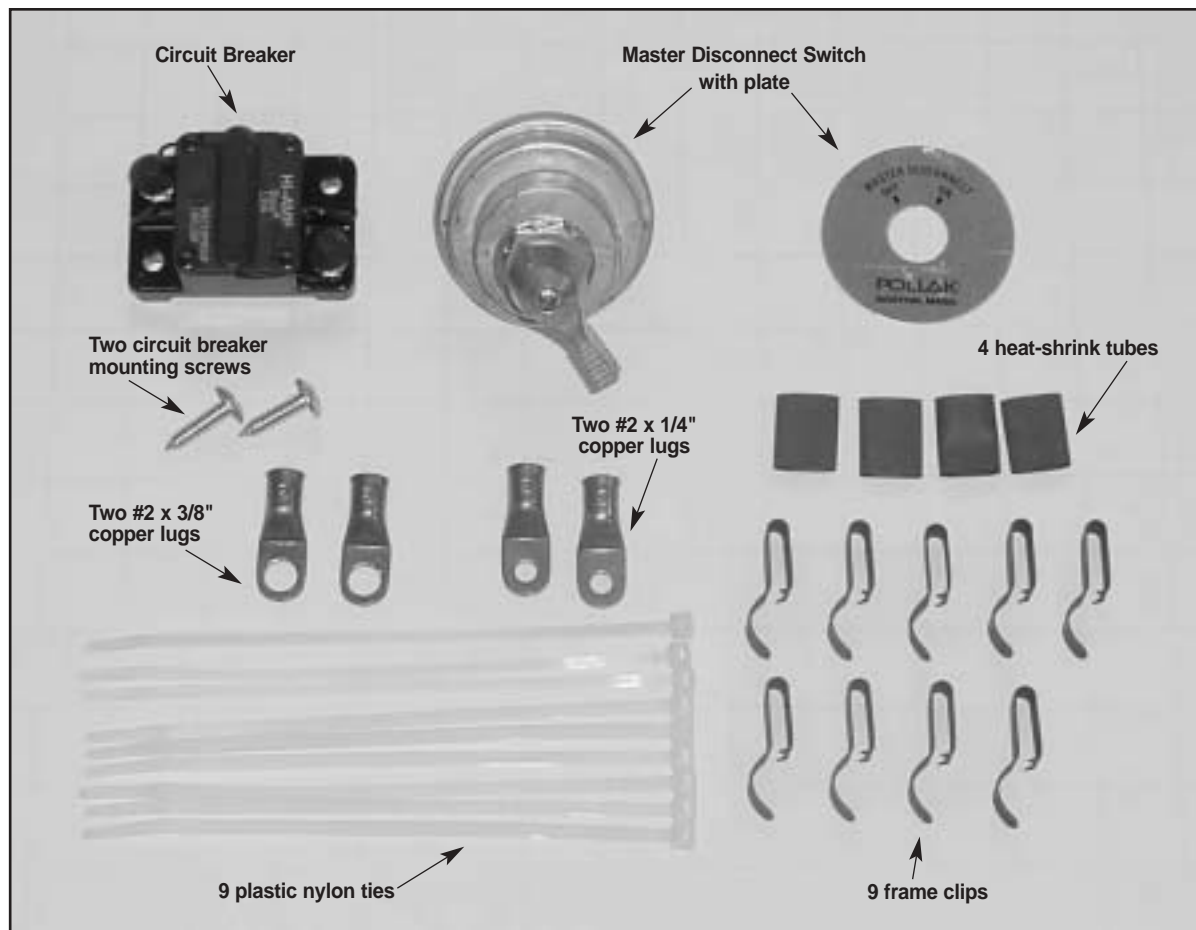
USA: 800-289-1335 • Canada: 416-421-7987

ELECTRICAL COMPONENT KIT

- Master Disconnect Switch with plate
- Circuit breaker
- 2 circuit breaker mounting screws
- 9 plastic nylon ties
- Two #2 x 3/8" copper lugs
- Two #2 x 1/4" copper lugs
- 4 heat-shrink tubes
- 9 frame clips

AF MODELS ONLY

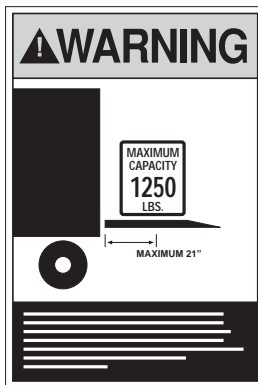
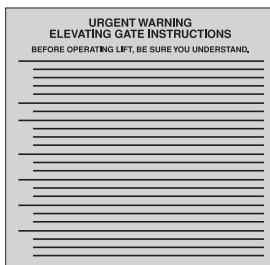
- 2 extra connecting links



- STEP 2** Make sure you have all the parts listed below.
Check these parts for shipping damage.
Call Customer Service if any parts are missing or defective.
USA: 800-289-1335 • Canada: 416-421-7987

SAFETY DECAL KIT

- Urgent Warning: Elevating Gate Instructions
- 2 decals, Danger Message: Liftgate can crush.
- 1 decal, Warning Message: Keep people clear of liftgate while operating.
- 1 decal, Warning Message: Avoid riding liftgate.
- 2 decals, Maximum Capacity



INSTALLATION MANUAL

OPERATOR'S MANUAL KIT

- Operator's Manual
- Warranty Registration Card

STEP 3 Check for shipping damage.

STEP 4 Put the Operator's Manual in the glove box.

STEP 5 Put decals in secure place for later installation.

1.4 Tools Required

STEP 1 Make sure you have the following tools, equipment, and materials available:

- Chalk or other marking device
- Wrenches
- Two 10" C-clamps
- Lifting device: floor jack, forklift, or crane
- Drill & drill bits (5/16", 3/8 " and 3/4 ")
- Grinder
- Reciprocating saber saw ("Sawzall" or equivalent)
- Square 24"
- Tape measure
- Heat shrink gun

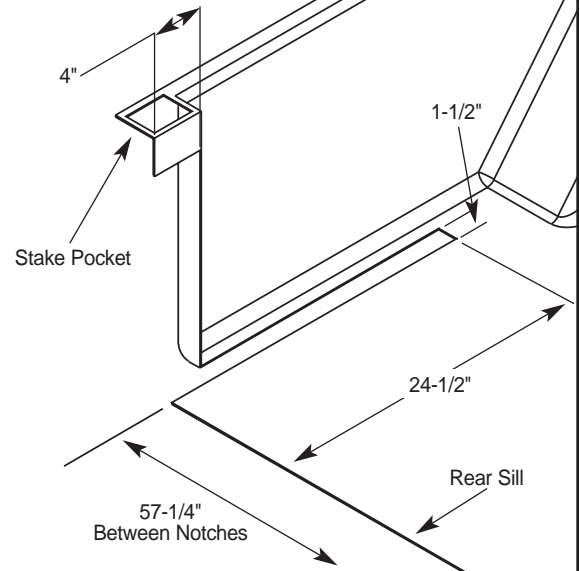
1.5 Prepare the Truck Body

STEP 1 Remove the pickup truck bumper and tailgate.

STEP 2 Remove taillight screws and complete taillight assembly, then set aside to reinstall at end of installation.

STEP 3 If truck is equipped with bed liner, cut out bed liner as shown

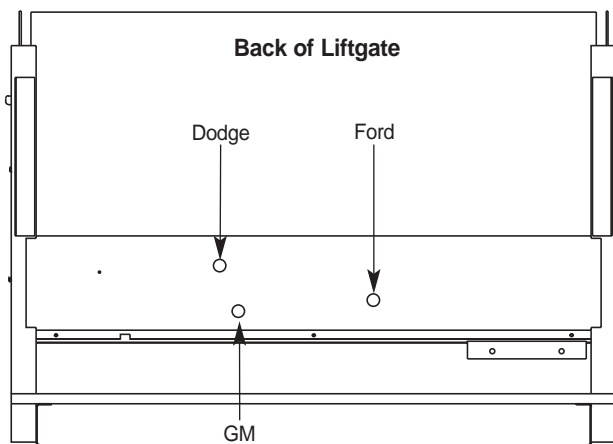
Driver's Side Shown
Cut out Passenger side also



2. ATTACH THE LIFTGATE

2.1 Position the Liftgate

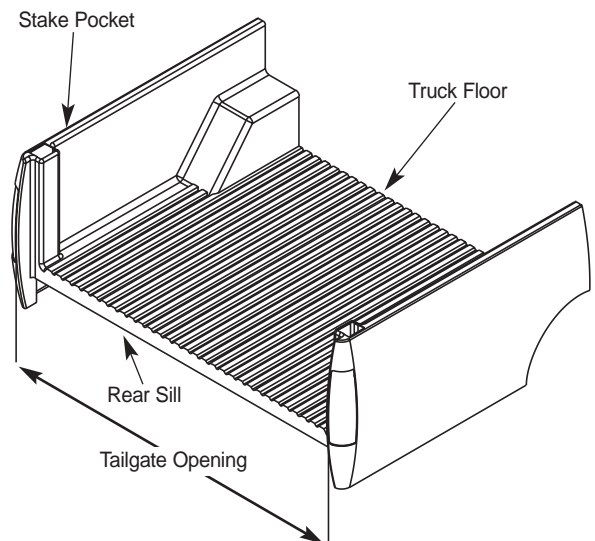
STEP 1 Remove the correct knock out on the back of liftgate housing for the make of truck the liftgate is being installed on. (The knockout provides access to the spare tire for the operator.)



WARNING

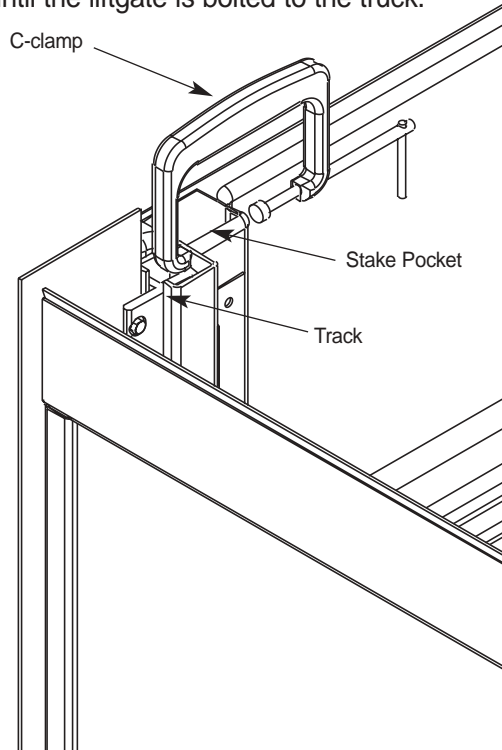
Liftgate can crush. Keep people clear when lifting and do not leave unattended.

STEP 2 Use lifting means to position liftgate at rear of truck for mounting. Fit tracks into tailgate opening. Angle Bracket should rest on the floor of the truck. Make certain the liftgate is flush with truck floor and centered in the opening.

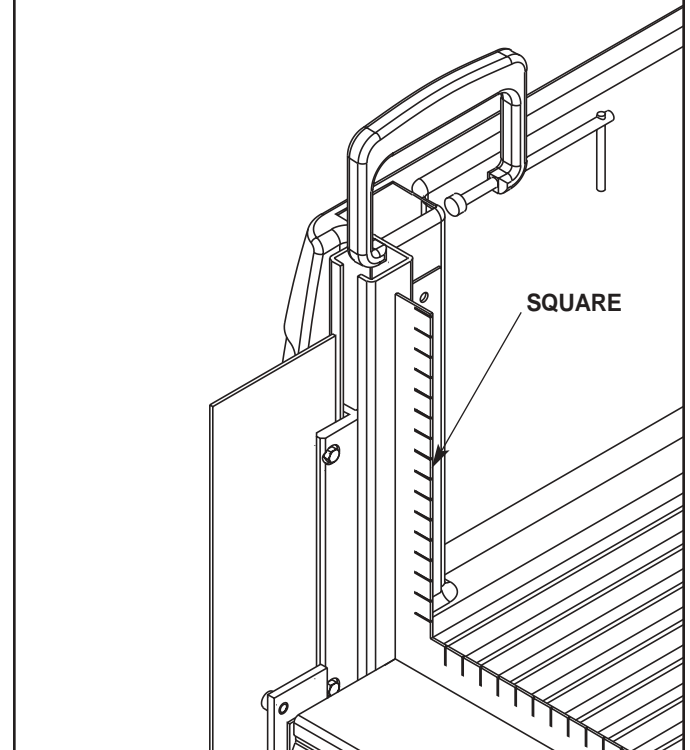


STEP 3 Put the electrical component kit aside for later installation.

STEP 4 Hold liftgate tight against rear sill. Using C-clamps, pull tracks back until they are parallel with the stake pocket of the pick up truck. Having the tracks parallel to the stake pocket is **CRITICAL** to ensure liftgate platform clears receiver hitch (if fitted) This will also prevent movement until the liftgate is bolted to the truck.

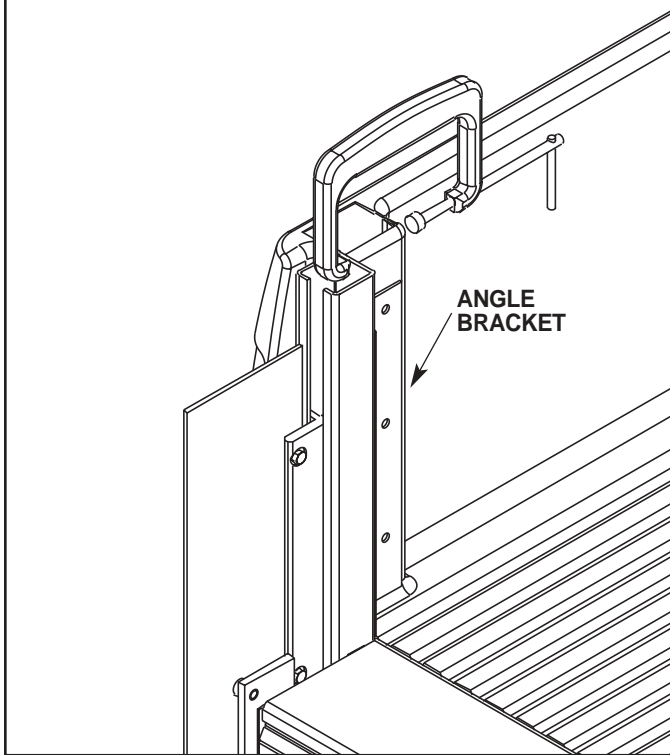


STEP 5 Check that the top of the liftgate housing is flush with the floor of the truck. Check the tracks for squareness using a square as shown.



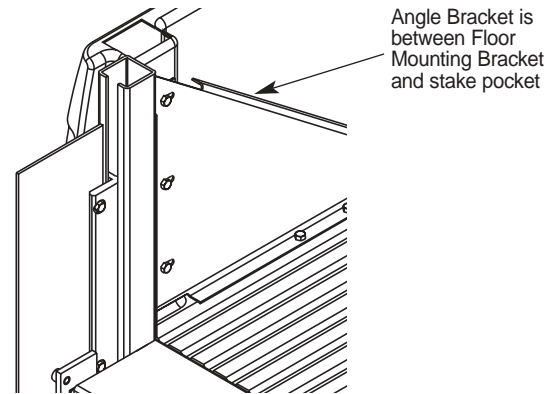
2.2 Bolt the Liftgate to the Truck

STEP 1 Drill 6 – 3/8" holes through truck stake pockets using the holes provided on the Angle Brackets as guides.

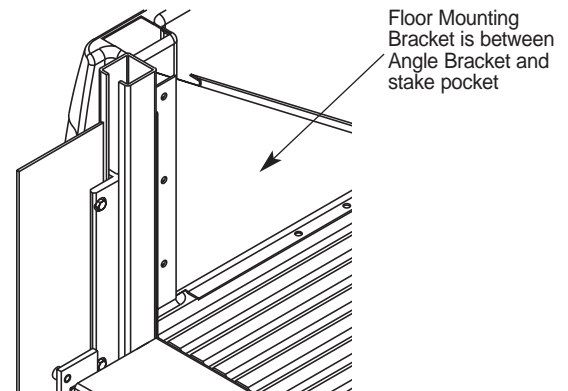


STEP 2 Position Floor Mounting Brackets as shown for GM, Ford and Dodge trucks

For GM and Dodge Trucks



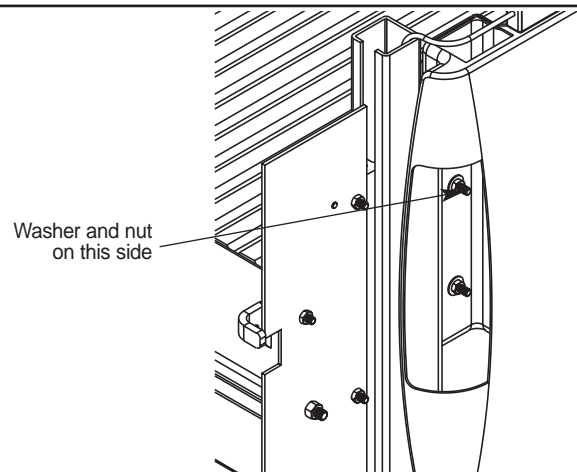
For Ford Trucks



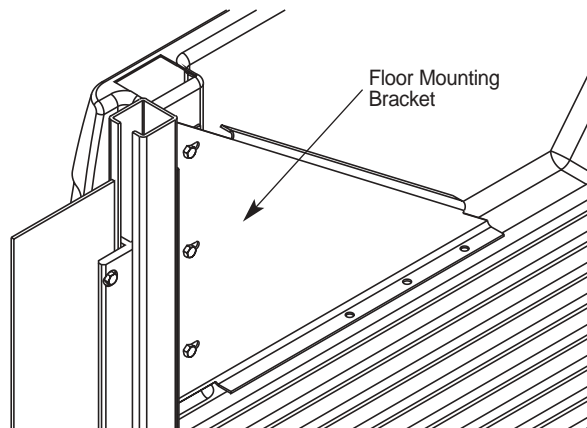
STEP 3 Bolt the Floor Mounting Bracket and the Angle Bracket to the stake pocket using the 3/8" x 1 1/4" bolt provided.

Use the opening of the taillight lenses to access the bolts to fasten the nuts to the bolts.

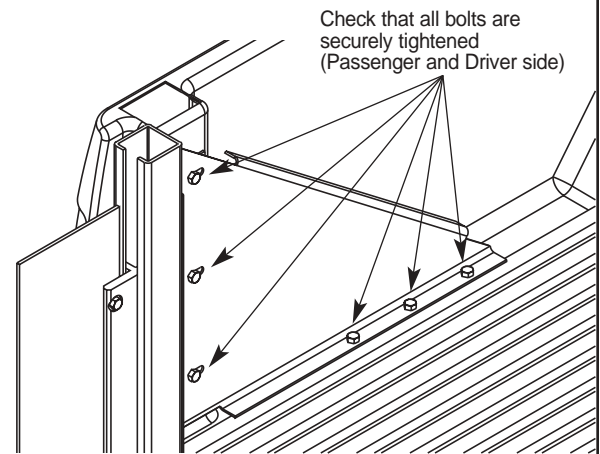
1. Insert the bolt provided
2. Place a washer between the truck pocket and the nut
3. Secure bolt



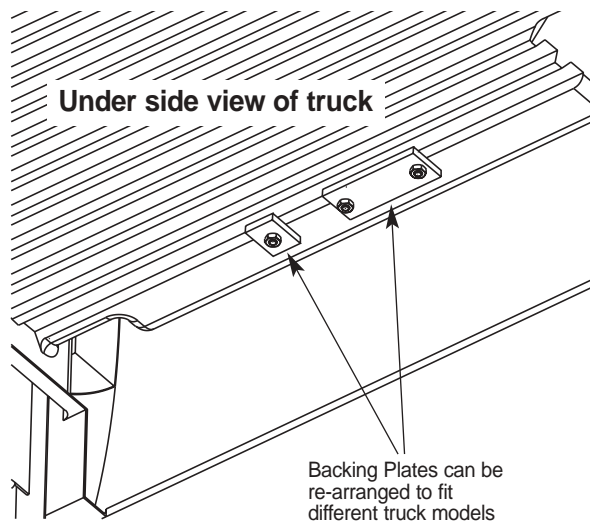
STEP 4 Hold the Floor Mounting Brackets to the floor of the truck and, using the Floor Mounting Bracket as a guide, drill six 3/8" holes through the truck floor.



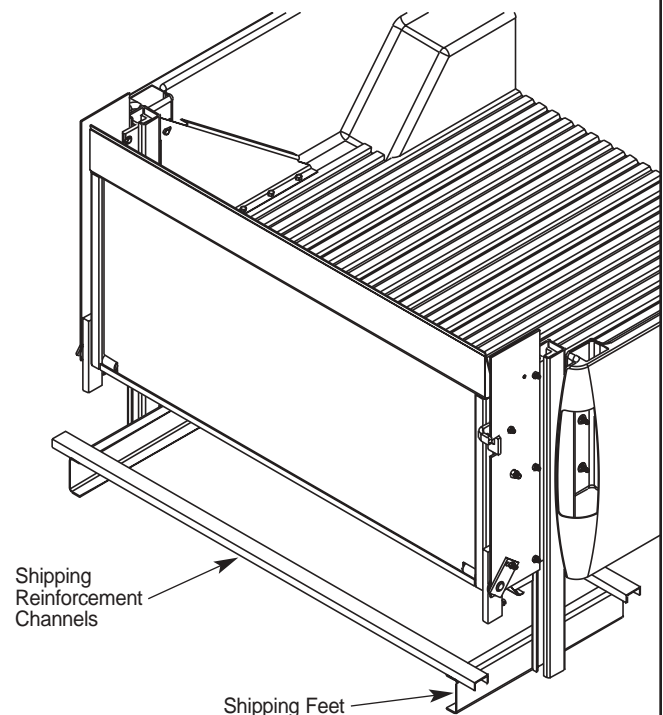
STEP 6 When finished, double-check that all bolts, in stake pockets and the truck floor, are securely tightened.



STEP 5 Using 3/8 x 1 3/4" bolts, attach the Floor Mounting Bracket to the truck floor. Use the Backing Plates provided to reinforce the truck floor as shown.

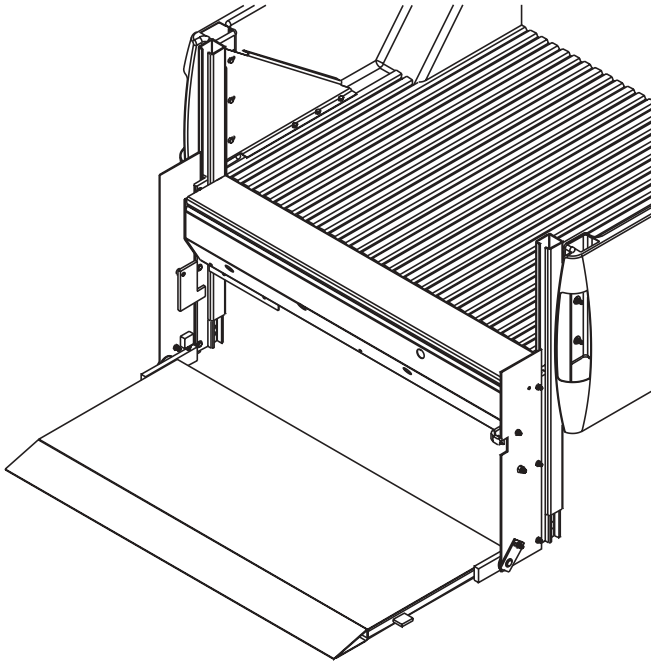


STEP 7 Remove shipping feet and shipping reinforcement channels. Cut the band that is securing the platform in its stored position.

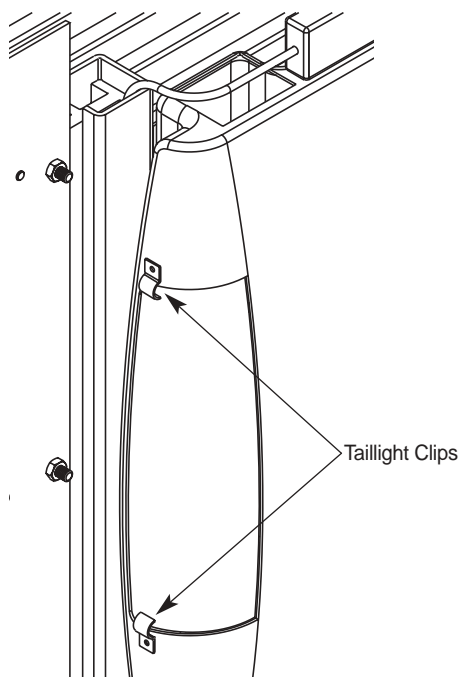


STEP 8 Temporarily reconnect the vehicle's positive and negative cables. Then, connect the battery cable running from the liftgate housing to the positive terminal of the truck battery.

STEP 9 Use the control switch to raise the platform slightly to release the travel lock, then unfold it and lower it to the ground. If liftgate does not work, check to make sure it is properly grounded to the truck.



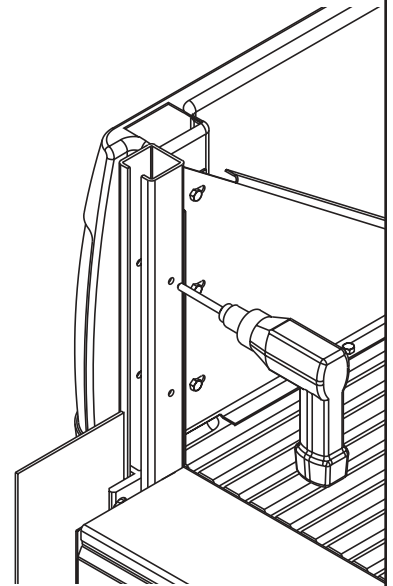
STEP 10 Re-install the taillights using the screws and clips provided as shown.



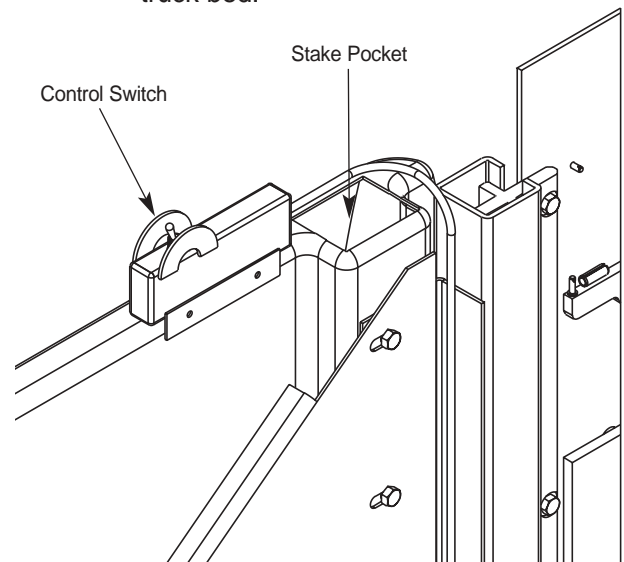
STEP 10A **Optional Method of providing access to taillight screws**

Drill a pilot hole through the track, aligning this hole with the hole for the taillight's screws. Repeat for left and right hand tracks

Using the pilot holes, drill a 3/8" hole through each track. the hole should be large enough to re-install the taillight
Re-install the taillights using the taillight screws removed in 1.5 Step2.

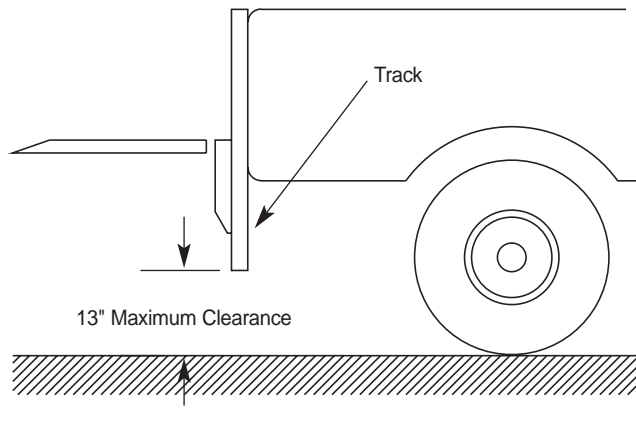


STEP 11 Locate control switch on passenger side of truck bed. Attach control switch to truck bed.

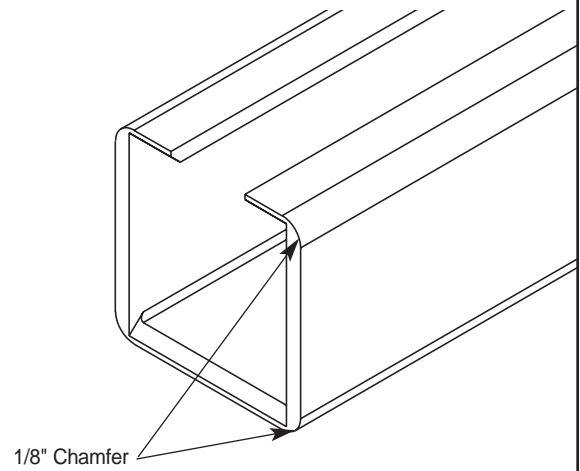


2.3 Cut Off Excess Track

- STEP 1** Trim tracks, if necessary, to provide adequate ground clearance.
Maximum Distance between bottom of truck and ground must be no more than 13", after cutting.



- STEP 2** Deburr tracks after cutting by grinding inside and outside edges smooth. Add 1/8" chamfer to front and back inside edges of each track.



2.4 Special Adjustments for Above-Floor-Bed Lifts



Use this procedure with

- PT12AF
- PT16AF

Your PT liftgate is preset to a bed height of 35".

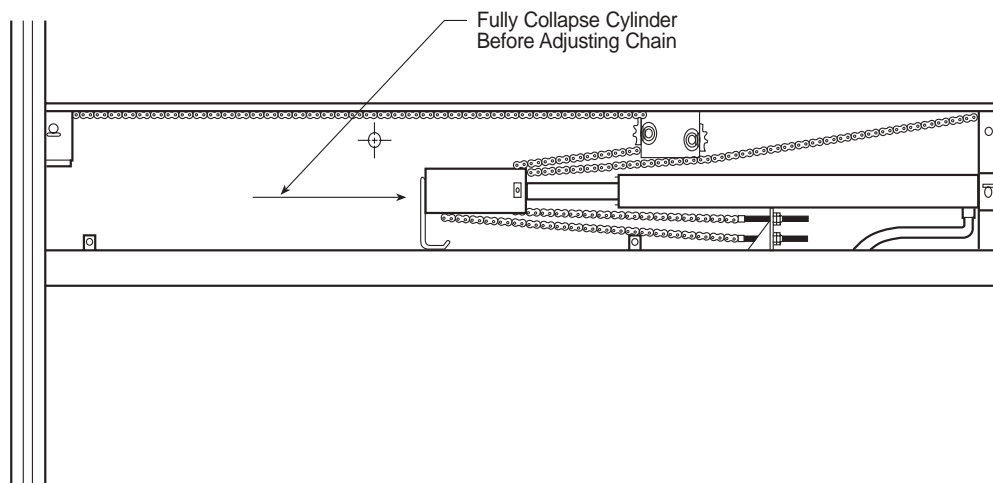
If your bed height is greater than 35", contact Customer Service for additional chain links.

STEP 1 Lower the platform to the ground.

STEP 2 Remove housing cover by unfastening 1/4" bolts.

STEP 3 While pressing the DOWN button on the 2-button control switch, force the hydraulic cylinder in until it is fully collapsed.

Collapse Cylinder



**WARNING**

Improperly secured connecting links may separate, causing the load to fall, which may result in severe personal injury or death.

STEP 4 Disconnect top roller chain at adjusting bolt

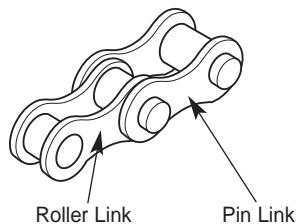
STEP 5 While disconnected, pull chain tight to remove all slack.

STEP 6 Mark closest pin link to adjusting bolt



STEP 7 Cut and remove pin link marked in Step 6, using a chain breaking tool.

Note: A roller chain is made up of two kinds of links: “roller links” and “pin links” alternately spaced throughout the length of the chain as shown below

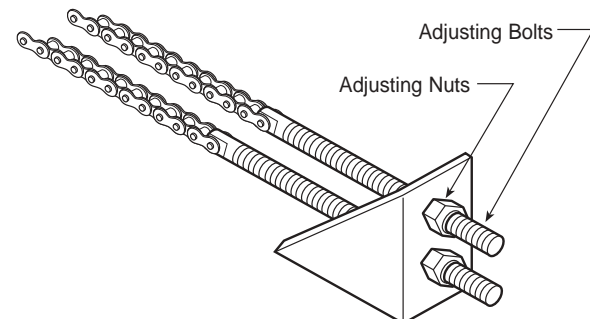


STEP 8 Attach roller link to adjusting bolt using extra connecting link provided.

STEP 9 Repeat steps 4 through 8 for bottom roller chain.

STEP 10 Adjust the platform by loosening or tightening the adjuster nut.

Note! Call Customer Service if any parts are missing or defective.
USA: 800-289-1335
Canada: 416-421-7987



3. INSTALL ELECTRICAL COMPONENTS



WARNING

Do not attempt to install electrical components unless you are properly trained in truck electrical equipment. Improper installation of electrical components may result in severe personal injury or death.

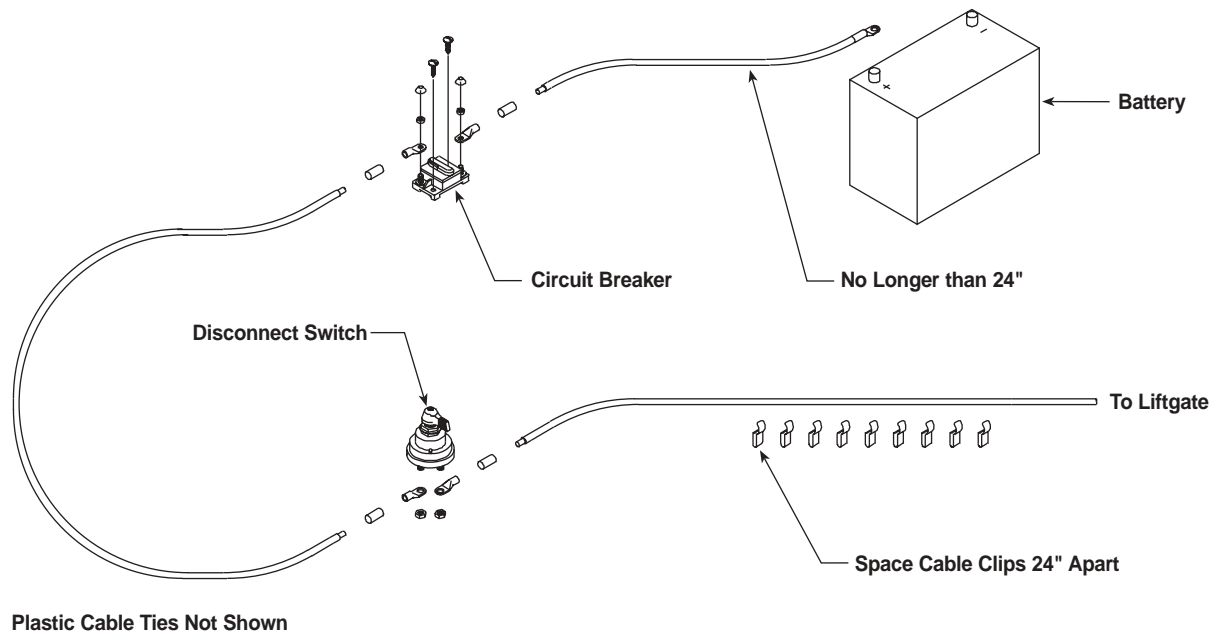
3.1 Install Master Disconnect Switch



Install the Master Disconnect Switch and the Circuit Breaker that you received with your Ultron liftgate.

If you use any other switch or circuit breaker, you will void your warranty.

STEP 1 Familiarize yourself with electrical components/layout in installation below. Refer back to this installation as needed during installation of electrical components.



STEP 2 Find a place in the cab to install the Master Disconnect Switch.

The best location is:

- Accessible to the driver/operator
- and**
- Secure from damage

STEP 3 Drill one 3/4" hole in the floor.

STEP 4 Remove the screw from the center of the handle on the Master Disconnect Switch.

STEP 5 Unscrew the large nut and remove the lock washer from the top of the switch.

STEP 6 Insert switch into hole, drilled in Step 3 from underneath the cab floor so the threaded part of the switch is visible.

STEP 7 Put the cover plate over the visible part (threaded part) of the switch.

STEP 8 Secure the nut and washer to the threaded part of the switch.

STEP 9 Reattach handle and cover plate.
Note! The handle and cover plate should be the only part of the switch visible.

STEP 10 Run the battery cable from the liftgate to the terminals on the Master Disconnect Switch.
Note! To avoid short circuits:
Route the cable away from heat sources, moving parts, and possible road contact.
Secure the cable under the truck every 24" with the plastic ties and wire clamps provided in the Electrical Component Kit.

STEP 11 Determine how long the battery cable should be to reach the terminals and cut it to that length.
Note! Measure before cutting!

STEP 12 Strip battery cable casing back 1/2".

STEP 13 Slide the shrink tube over the battery cable.

STEP 14 Crimp the battery terminal provided to the stripped end of the cable.

STEP 15 Slide the shrink tube into position centered over the terminal and battery cable seam.

STEP 16 Heat the shrink tube until the tube is sealed against terminal and battery cable casing.

STEP 17 Apply a protective coating of corrosion preventive compound to the connections.
Note! Terminal connections may corrode prematurely unless you apply the corrosion preventive compound.

3.2 Install the Circuit Breaker

STEP 1 Find a convenient location within 24" of the battery to install the Circuit Breaker. Location should be such that:

- Cable running from positive terminal of battery is no longer than 24".
- There is good protection against objects coming in contact with Circuit Breaker terminals and causing a short.
- There is easy access to the Circuit Breaker to reset it, when necessary.

STEP 2 Use the Circuit Breaker as a guide to drill pilot holes for the 1/4" sheet metal screws provided.

STEP 3 Screw the Circuit Breaker to the compartment wall.

STEP 4 Measure how long the battery cable should be to reach from the unconnected terminal on the Master Disconnect Switch to the AUX terminal on the Circuit Breaker.

STEP 5 Cut the battery cable to the correct length.
Note! Measure before cutting!

STEP 6 Run the battery cable from the unconnected terminal on the Master Disconnect Switch to the AUX terminal on the Circuit Breaker.

Note! To avoid short circuits:
Route the cable away from heat sources, moving parts, and possible road contact.
Secure the cable under the truck every 24" with the plastic ties and wire clamps provided in the Electrical Component Kit.

STEP 7 Strip battery cable casing back 1/2".

STEP 8 Slide the shrink tube over the battery cable.

STEP 9 Crimp the battery terminal provided to the stripped end of the cable.

STEP 10 Slide the shrink tube into position centered over the terminal and battery cable seam.

STEP 11 Heat the shrink tube until the tube is sealed against terminal and battery cable casing.

STEP 12 Apply a protective coating of corrosion preventive compound to the connections.
Note! Terminal connections may corrode prematurely unless you apply the corrosion preventive compound.

STEP 13 Measure how long the battery cable should be to reach from the BAT terminal on the Circuit Breaker to the positive side of the battery.

STEP 14 Cut the battery cable to the correct length.
Note! Measure before cutting!

STEP 15 Run the battery cable from the BAT terminal on the Circuit Breaker to the positive side of the battery.

Note! To avoid short circuits:

Route the cable away from heat sources, moving parts, and possible road contact.

Secure the cable under the truck every 24" with the plastic ties and wire clamps provided in the Electrical Component Kit.

STEP 16 Strip battery cable casing back 1/2".

STEP 17 Slide the shrink tube over the battery cable.

STEP 18 Crimp the battery terminal provided to the stripped end of the cable.

STEP 19 Slide the shrink tube into position centered over the terminal and battery cable seam.

STEP 20 Heat the shrink tube until the tube is sealed against terminal and battery cable casing.

STEP 21 Apply a protective coating of corrosion preventive compound to the connections.

Note! Terminal connections may corrode prematurely unless you apply the corrosion preventive compound.

STEP 22 Connect the positive and the negative leads to the battery.

3.3 Secure The Cables

STEP 1 Use the nylon ties included in your Electrical Component Kit to secure any cable running underneath the truck as detailed in Step 2 below.

Note! If the cable is not secured properly, the warranty is null and void.

STEP 2 Secure the cable every 24", keeping it away from:

- Moving parts
- Heat sources (exhaust)
- Road

4. TEST THE LIFTGATE OPERATION

STEP 1 Turn the Master Disconnect Switch to ON

STEP 2 OPEN PLATFORM

Pull top of platform away from truck while activating the UP toggle switch.
Raise platform until the platform travel ear clears the drop in plate.

STEP 3 Carefully lower the platform to its horizontal position.

STEP 4 Activate the DOWN toggle switch to lower the platform.

STEP 5 Raise the platform.

STEP 6 Close the platform.

STEP 7 Repeat Steps 2 through 6, four times.

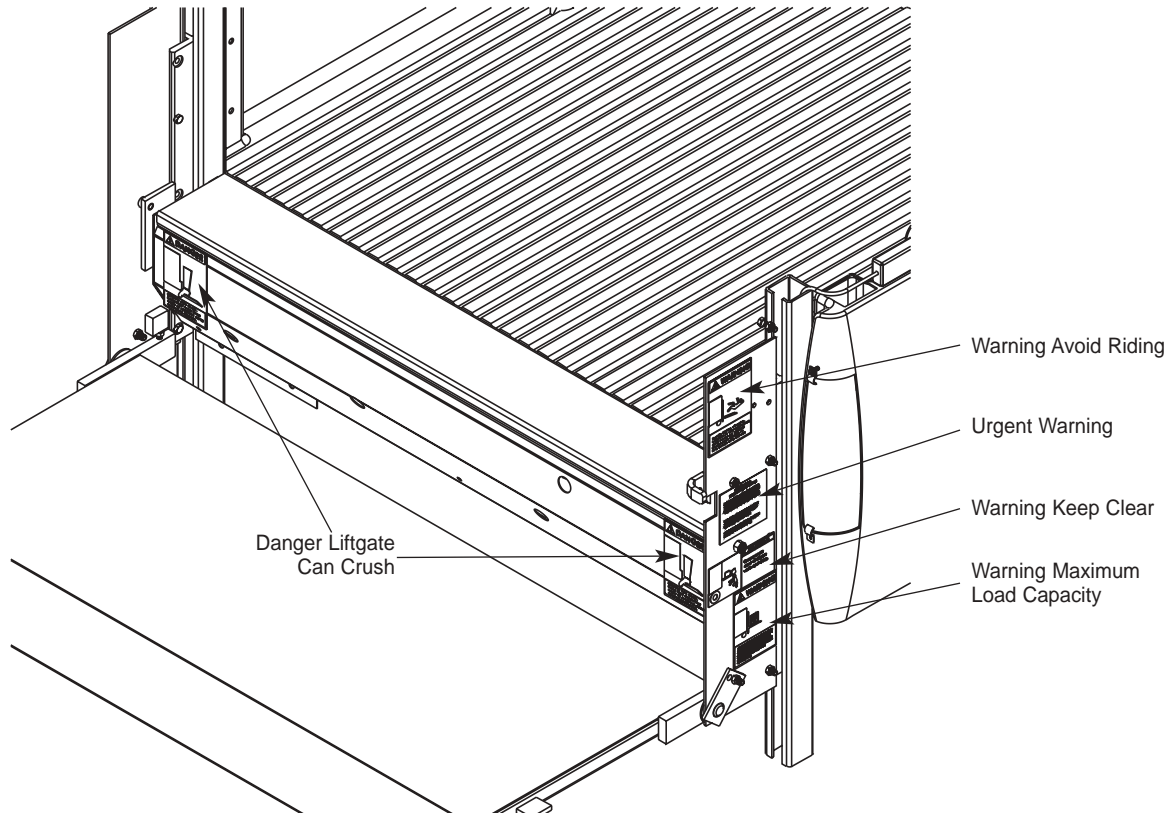
STEP 8 Lock the liftgate in place.

STEP 9 Turn Master Disconnect Switch to OFF and make sure the liftgate will not operate.

5. COMPLETE THE INSTALLATION

5.1 Affix Warning Decals

STEP 1 Run the liftgate through a few cycles to be sure it is functioning properly. Paint if required. The surface under the decal must be dry and clean before placement of any decal. Affix ALL decals in their proper position as shown below.



5.2 Operator's Manual

STEP 1 Write the model number and serial number of the liftgate in the Operator's Manual.

STEP 2 Ensure that the Operator's Manual is in the glove box of the truck.

5.3 Final Test

STEP 1 Load the liftgate as shown in the **Load Lifting Capabilities Table** below, with load centered on the platform.

Load Lifting Capabilities Table

PT Model	Test Load (full rated capacity)
PT12	1250 lbs.
PT16	1600 lbs.

STEP 2 Test the loaded liftgate following **Procedure 4.0: Test the Liftgate Operation**. Make sure you check the items shown in **Load-Testing Table** below.

Load-Testing Table

WHAT TO CHECK	POSSIBLE PROBLEMS	SOLUTIONS
Fasteners <ul style="list-style-type: none"> • Nuts • Bolts • Clevis pins • Cotter pins • Roller pins 	Loose Fasteners Parts missing Parts damaged	Tighten Fasteners Call Customer Service for OEM parts. USA: 800-289-1335 Canada: 416-421-7987
Hydraulic Leaks	Tanks overfilled Loose fitting or loose hydraulic line	Make sure the tank is not overfilled Tighten loose fitting or hydraulic line
Platform is level with the floor of the truck when raised completely	Platform is not level.	Level platform using adjusting bolts.
Any unusual noise	Various	Call Customer Service. USA: 800-289-1335 Canada: 416-421-7987

5.5 Inspect Your Installation and Document Your Inspection



WARNING

Severe personal injury could result if you fail to check each of the following items.
DO NOT USE the liftgate if any of the following points are not checked.

Call Customer Service if you have any questions.

USA: 800-289-1335

Canada: 416-421-7987

NOTE Installation is not complete if you have not checked and verified the items listed on the Inspection Sheet .

Note! Warranty is void if Inspection Sheet is not complete.

STEP 1 Complete the **Inspection Sheet** on Page 31.

STEP 2 Keep the completed **Inspection Sheet** on file at the facility where the installation is performed.

Inspection Sheet

- ___ 1. Shipping feet are removed from the liftgate (See page 16).
- ___ 2. Pump reservoir is full to proper level when platform is fully lowered.
(Automatic transmission fluid is recommended).
- ___ 4. Platform secures properly in its stowed position.
- ___ 5. Hydraulic components do not leak.
- ___ 6. Battery cable attached and clamped tight, but not pinched
- ___ 7. Lights wired properly and operational.
- ___ 8. License plate properly installed.
- ___ 9. All decals in place and legible.
- ___ 10. Battery and liftgate grounded to chassis.
- ___ 11. Platform opens properly.
- ___ 12. Platform travels up and down smoothly and freely, without any hesitation.
- ___ 13. Platform is level with the floor of the truck when raised completely (This does not apply to AF models).
- ___ 14. Platform rests on the ground when lowered completely.
- ___ 15. Platform is easy to open and close.
- ___ 16. When platform is in vertical position, it does not open by itself.
- ___ 17. Toggle switch is secured properly.
- ___ 18. Cable to toggle switch is secured properly.
- ___ 19. Circuit Breaker installed.
- ___ 20. Master Disconnect Switch installed and operational.
- ___ 21. Tracks are cut and de-burred, if necessary.
- ___ 22. AF Models only: chain is adjusted according to Procedure 2.4.
- ___ 23. The liftgate's serial number and model number are written on the inside of the front cover of the Operator's Manual, in the space provided.
- ___ 24. Operator's Manual Kit is in the truck's glove box.
- ___ 25. Supervisor has demonstrated the Operating Instructions to the customer/driver.

Inspection Information:

Completed by: _____
(signature)

Name (please print): _____

Title: _____

Date: _____