

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,
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 Operation 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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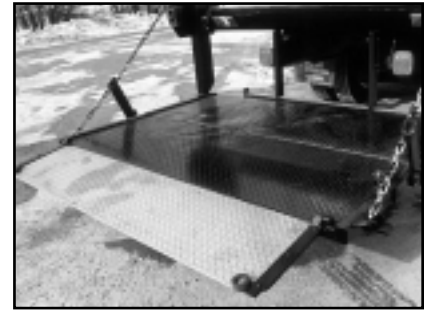
DV Series Liftgate Description

The DV Series liftgate is a 100% level-ride, rail-style direct vertical lift liftgate. The DV Series is available in capacities of 4,500 and 6,000 pounds.

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

The DV Series liftgate come in 2 basic models

- DV45 - capacity: 4500 lbs.
- DV60 - capacity: 6000 lbs.



Liftgate, Installed

Depending on what type of DV Series liftgate you have, it may or may not lift above the floor of your truck. Models that will lift above the truck floor will have a suffix at the end of the model number: AF. Here is an example:

DV 45 72

IMPORTANT SAFETY FEATURES

- Pressure compensated flow control valve
- Treadplate platform
- Toe Guard in housing cover
- Platform safety lock
- Close Relief Valve
- Warning decals and manuals
- Three way folding aluminum ramp

THEORY OF OPERATION

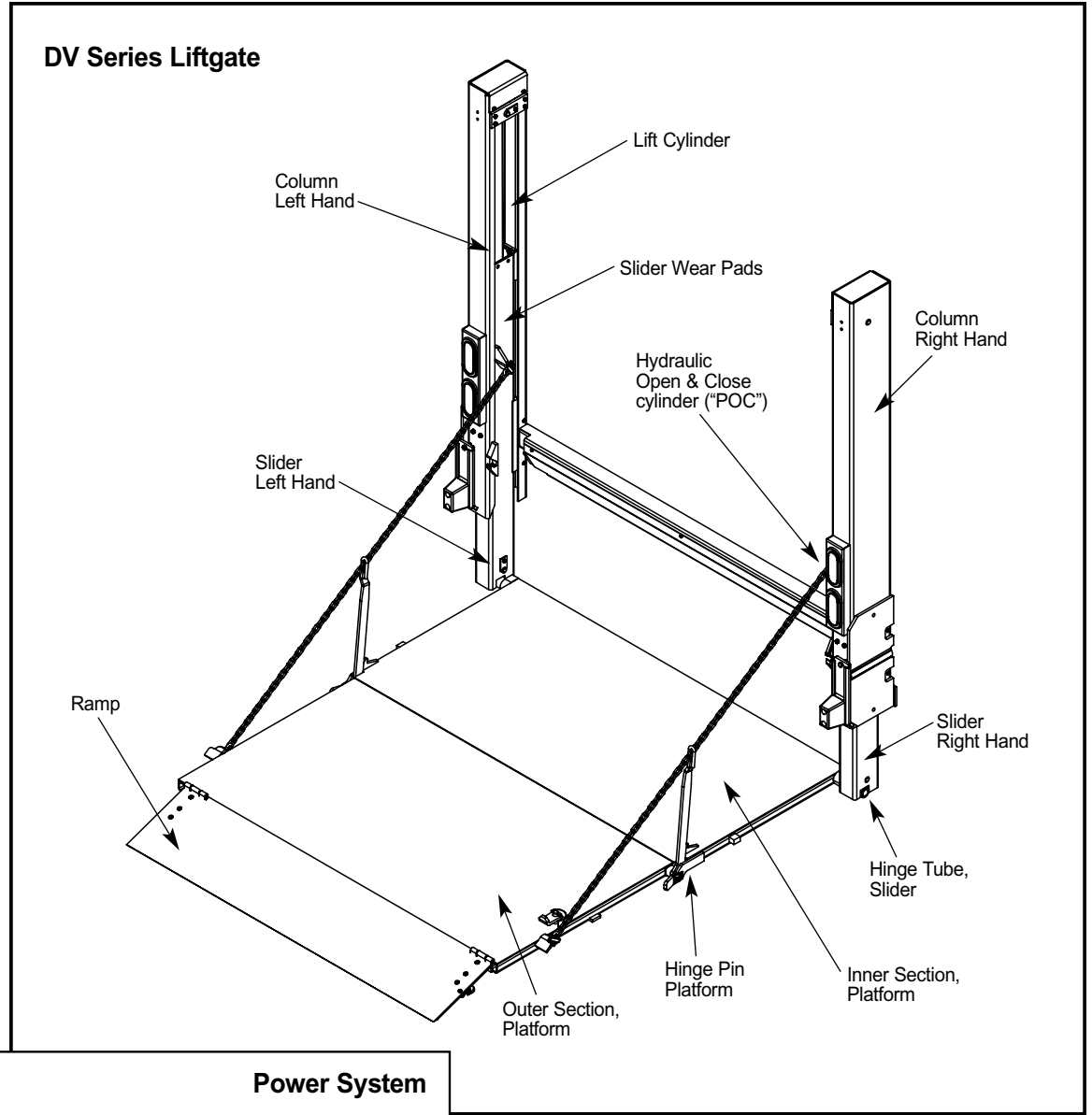
The rail-type direct lift vertical liftgate is designed to lift cargo vertically from the truck bed to the ground and vice versa. A hydraulic power unit provides power to two vertical cylinders that raise and lower the platform. Activation of a control switch supplies current from a 12-volt battery to the hydraulic power unit. The hydraulic power unit in turn supplies hydraulic fluid to the hydraulic cylinders, causing them to retract. The resultant upward pull on the platform raises it.

The platform is lowered by hydraulic power. Activation of the control switch directs hydraulic fluid to extend the cylinder. The resultant downward force on the platform lowers it.

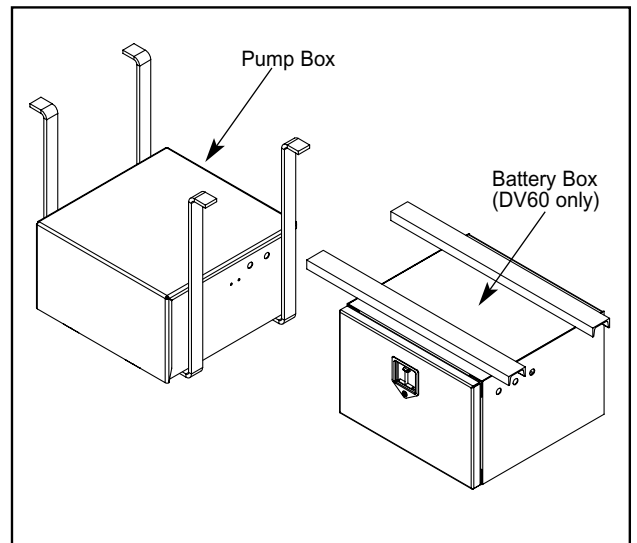
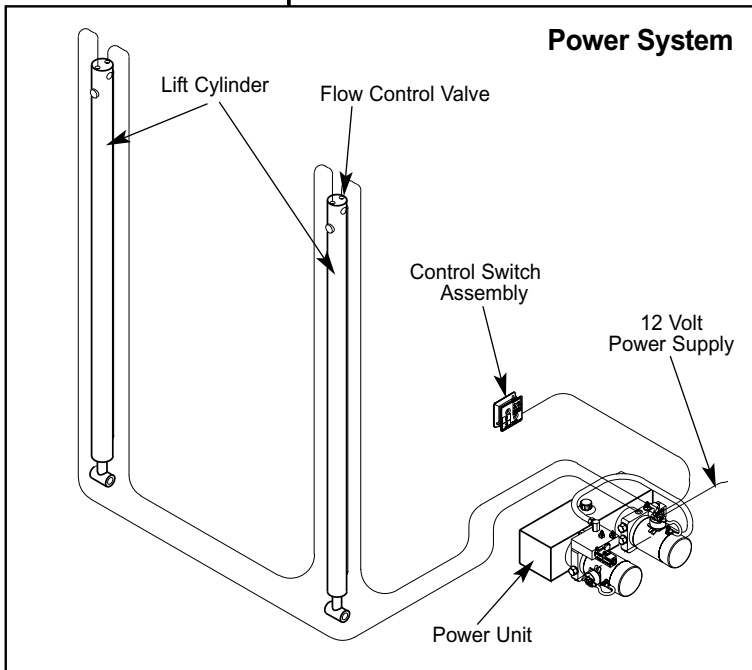
The platform opens and closes hydraulically. The platform is closed by directing hydraulic fluid from the hydraulic power unit to the lower part (shaft end) of the Hydraulic Power Open and Close Cylinder. The platform opens hydraulically by directing hydraulic fluid to the upper part of the Hydraulic Power Open and Close Cylinder.

DESIGN DETAIL

DV Series Liftgate



Power System



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 DV Model type (DV45 and DV60).

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

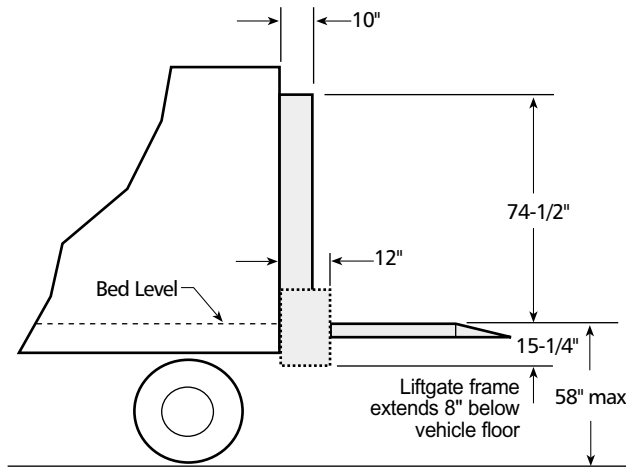
STEP 1 Ensure truck body door does not interfere with installation or operation of liftgate DV model liftgates cannot be installed with "barn" or "swing" type doors without extensive modification.

Consult Customer Service for assistance or if you are not sure your vehicle meets the requirements.

STEP 2 Determine clearance requirements.

Measure Dimensions for Bed Height

Check chart below to ensure that your gate is compatible with bed height of the vehicle.



Bed Height Chart

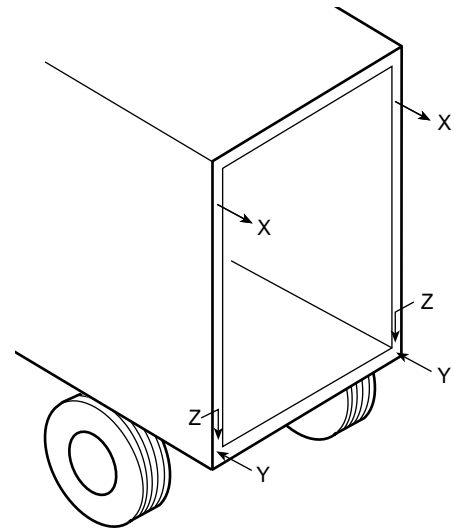
Platform Size	Dock Loading Bed Height Range		No Dock Loading Bed Height Range	
	Min.	Max.	Min.	Max.
60" x 80" + 16"	34"	58"	34"	58"
72" x 80" + 16"	40"	58"	34"	58"
84" x 80" + 16"	46"	58"	34"	58"

Dimensions are same for 86" platforms (for 102" wide bodies)

STEP 3 Determine wall requirements.
 Truck body must be capable of supporting minimum forces shown in **Side Wall Requirements**.
 See Section 1.6 (page 14) for reinforcing example.

	DV45	DV60
X	2400 lbs.	3200 lbs.
Y	2400 lbs.	3200 lbs.
Z	3100 lbs.	4000 lbs.

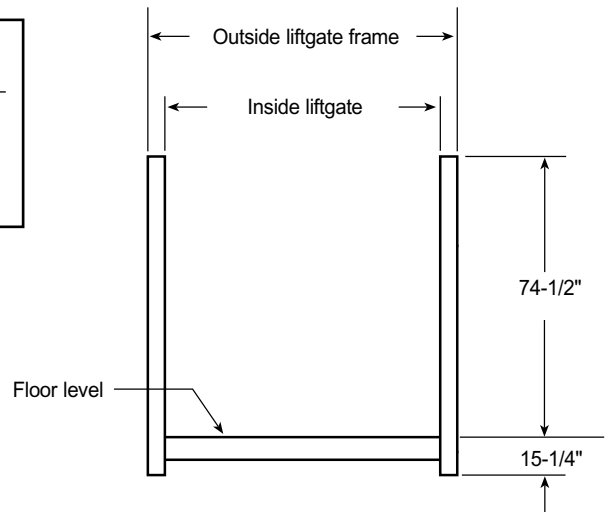
X = side wall tension
Y = side wall compression
Z = side wall shear



Side Wall Requirements

STEP 4 Determine width requirements.
 The DV is offered in two different standard widths, for 102" and 96" wide bodies.

	Outside Liftgate Frame	Liftgate ID	Platform Width
102" wide body	100"	90"	86"
96" wide body	94"	84"	80"



1.3 Check For Parts

STEP 1 Make sure you have all the liftgate parts (liftgate, pump box [and battery box-DV60 only], control switch assembly) (See Design Detail, pg. 6).

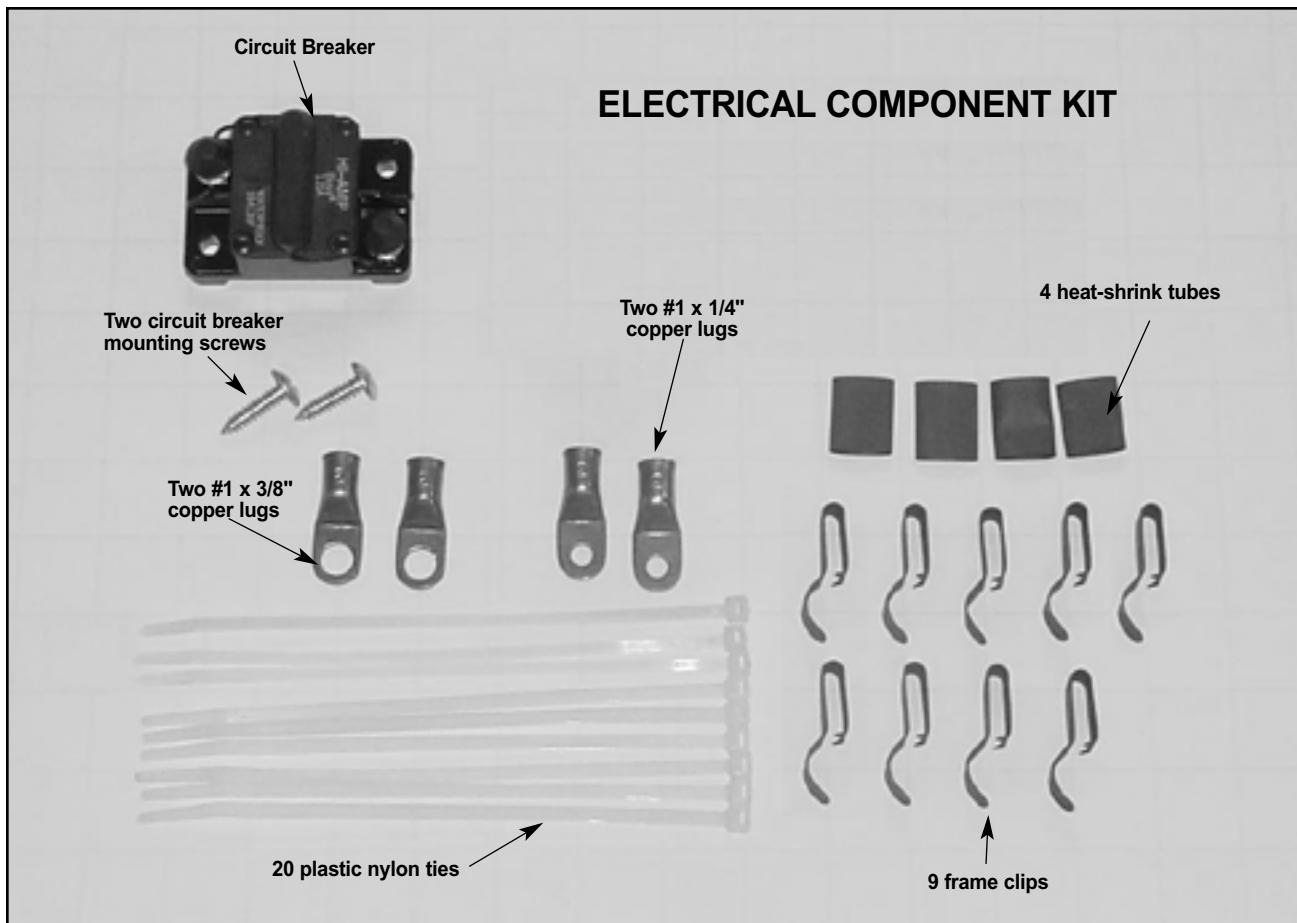
Check these parts and the liftgate assembly for shipping damage.

Call Customer Service if any parts are missing or defective.

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

STEP 2 Make sure you have all the parts in the Electrical Component Kit

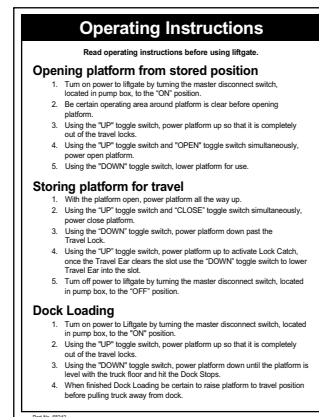
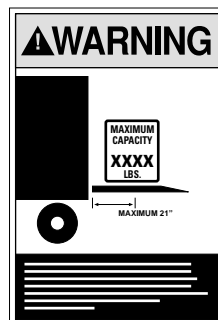
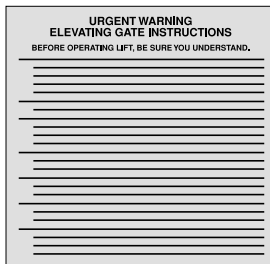
- Master Disconnect – pre-installed in pump box (all models)
- Circuit breaker
- 2 circuit breaker mounting screws
- 20 plastic nylon ties
- Two #1 x 3/8" copper lugs
- Two #1 x 1/4" copper lugs
- 4 heat-shrink tubes
- 9 frame clips



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, Operating Instructions
- 2 decals, Maximum Capacity



INSTALLATION MANUAL

OPERATION MANUAL KIT

- Operation Manual
- Warranty Registration Card

STEP 3 Check for shipping damage.

STEP 4 Put the Operation 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 12" C-clamps
- Lifting device: forklift, or overhead crane
- Grinder
- Welding machine
- Square 24"
- Tape measure
- Wire cutter or stripper
- Heat shrink gun

