

**ANTHONY**  
LIFTGATES, INC.®

**AC**

AC-1600  
AC-2000  
AC-2500

# MAINTENANCE MANUAL



**QUALITY, RELIABILITY, CUSTOMER SERVICE**

**MADE IN THE USA** 



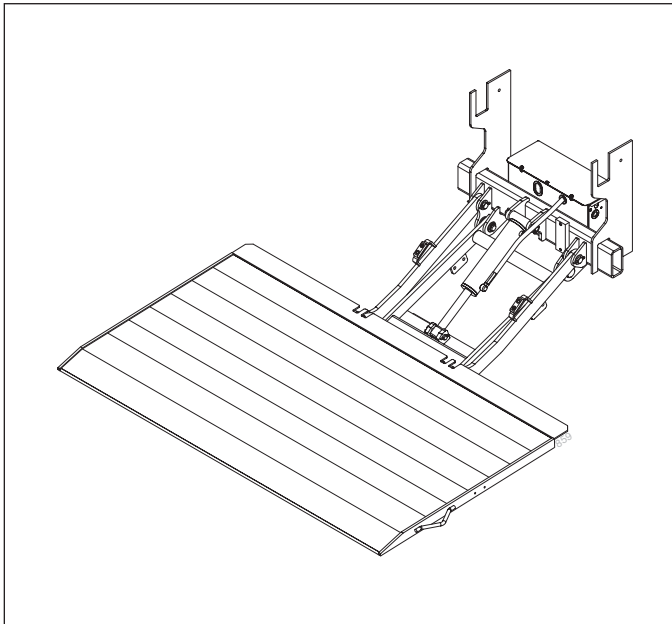
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# 1. General Information

## 1.1 Introduction

Congratulations on selecting an Anthony Liftgates AC Conventional liftgate.



## 1.2 General Safety

**WARNING**  **Read, Understand, and Follow the Manual**  
The success or failure of this liftgate to properly and efficiently operate depends on an ongoing preventative maintenance program. Failure to read, understand, and follow the maintenance instructions and safety recommendations in this manual can result in serious injury or death.

Also, read and understand the operating instructions in the separate Operation Manual before performing any maintenance.

## 1.3 State and Federal Regulations

### 1.3.1 Lighting

**WARNING** If any lighting is installed or changed, it must not alter or prevent vehicle compliance with any existing State or Federal standards such as FMVSS 108 – Lamps, Reflective Devices, and Associated Equipment.

### 1.3.2 Rear Impact Guards

**WARNING** When stored in the transport position, this liftgate must provide protection against rear impact and comply with State and Federal standards in your area. Anthony Liftgates offers a bolt-on bumper, which meets the requirements of this standard.

## 1.4 If Maintenance Help is Required

### 1.4.1 Maintenance (Dealer)

For additional information on installation, refer to the website [www.anthonyliftgates.com](http://www.anthonyliftgates.com). To find the most current version of the reference material, choose LIFTGATES, CONVENTIONAL, AC.

If you have any doubts or questions about the safe installation of this liftgate, 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

### 1.4.2 Customer Service and Parts (End User)

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



Being unaware of safety recommendations can lead to personal injury. The user must make sure all decals are attached to the liftgate and truck and are legible.

## 1.5 Registration

Refer to the Operation Manual for the serial number information.

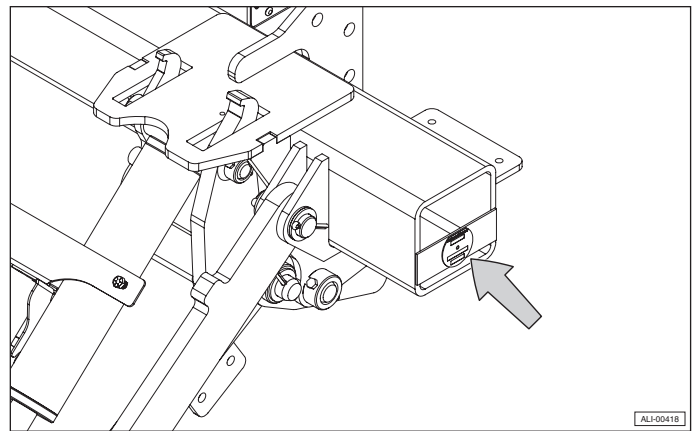
## 1.6 Warranty

For a detailed copy of the Warranty Statement, refer to the Operation Manual. To make an online warranty claim, go to [www.anthonyliftgates.com](http://www.anthonyliftgates.com) and select CUSTOMER SERVICE and then select WARRANTY CLAIM.

Before calling with questions or other product information requests, have the serial number, model number, and lift capacity of the liftgate available. This information is stamped into the identification plate on the side of the adapter frame tube.

### NOTICE

*The liftgate must be maintained according to these instructions or the warranty will be void.*



Common location for product information on an Anthony Liftgates liftgate.

1. Unauthorized modifications may cause improper operation or other unforeseen problems or dangers. If any deviation is deemed necessary, written permission must be obtained from Anthony Liftgates.
2. All decals must be attached and legible, or all warranties are void.

## 2. Safety

### 2.1 Safety is Your Responsibility

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

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

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

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

### Safety Signal Words



Personal injury hazards are identified by the “Safety Alert Symbol” and followed by a signal word such as WARNING or CAUTION to indicate the severity of the hazard.



This safety alert icon surrounds an image showing a specific type of injury which should be avoided. These icons are shown on page 3.



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 provide important operating instructions, which alert you to potential personal injury hazards.

### 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
-  Weight rating
-  Set parking brake
-  Remove key
-  Lockout / prevent use
-  Properly installed parts












-  OEM 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

 **WARNING**  Do not work under the liftgate while it is in a raised position. Unintentional lowering of the liftgate can cause serious crushing injuries.

 **CAUTION**



When servicing 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.

## CAUTION



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 maintain 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 maintenance of the liftgate could result in a serious crushing injury.



Always use/set the truck's parking brake and remove the ignition key before servicing the liftgate. Failure to follow this recommendation can result in injury.



Do not place hands or feet in pinch points.



Do not place your feet under the liftgate or between the platform and floor extension.



To prevent injury, the liftgate and its related components should only be maintained 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

## CAUTION



Do not operate 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 and remedy the problem before continuing.



Make sure the liftgate or truck will not be damaged or made unsafe by the maintenance or use of the liftgate.



Never secure the power cable to anything which allows it to contact sharp edges, other wiring, 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.

## CAUTION



If replacement parts are necessary, genuine factory OEM replacement parts must be used to restore the liftgate to the original specifications. Anthony Liftgates will not accept responsibility for damages as a result of using unapproved parts. If non-OEM replacement parts are used, the warranty will be voided.

### 2.3.3 Battery / Fuel Tank Safety

## WARNING



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



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

### 2.3.4 Cutting Torch / Welding Safety

## WARNING



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



Always weld or use a cutting torch in a well-ventilated area and, if in an enclosed area, vent the fumes to the outside. Breathing welding smoke and paint fumes can cause serious injury.



Always follow all State and Federal health and safety laws and/or local regulations when using an arc welder, mig welder, or cutting torch. Also, follow all manufacturers' safety guidelines. If other people are present during the installation of the liftgate, make sure the assembly area is shielded from their view.



To avoid eye injury during welding, always wear a welding helmet with the proper lens to protect your eyes.



To avoid eye injury while using a cutting torch, always use eye protection with the proper lens to protect your eyes.

## SAFETY INSTRUCTIONS



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



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



## 2.4 Welding or Grinding Galvanized or Stainless Steel Material

### 2.4.1 Galvanized Metal



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

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

#### Metal Fume Fever:

When zinc vapor mixes with the oxygen in the air, it reacts instantly to become zinc oxide, which is non-toxic and non-carcinogenic.

Zinc oxide that is inhaled is absorbed and eliminated by the body without complications or chronic effects.

Exposure to zinc oxide fumes causes a flu-like illness called metal fume fever.

Symptoms include headache, fever, chills, muscle aches, nausea, vomiting, weakness, and tiredness.

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

### 2.4.2 Stainless Steel

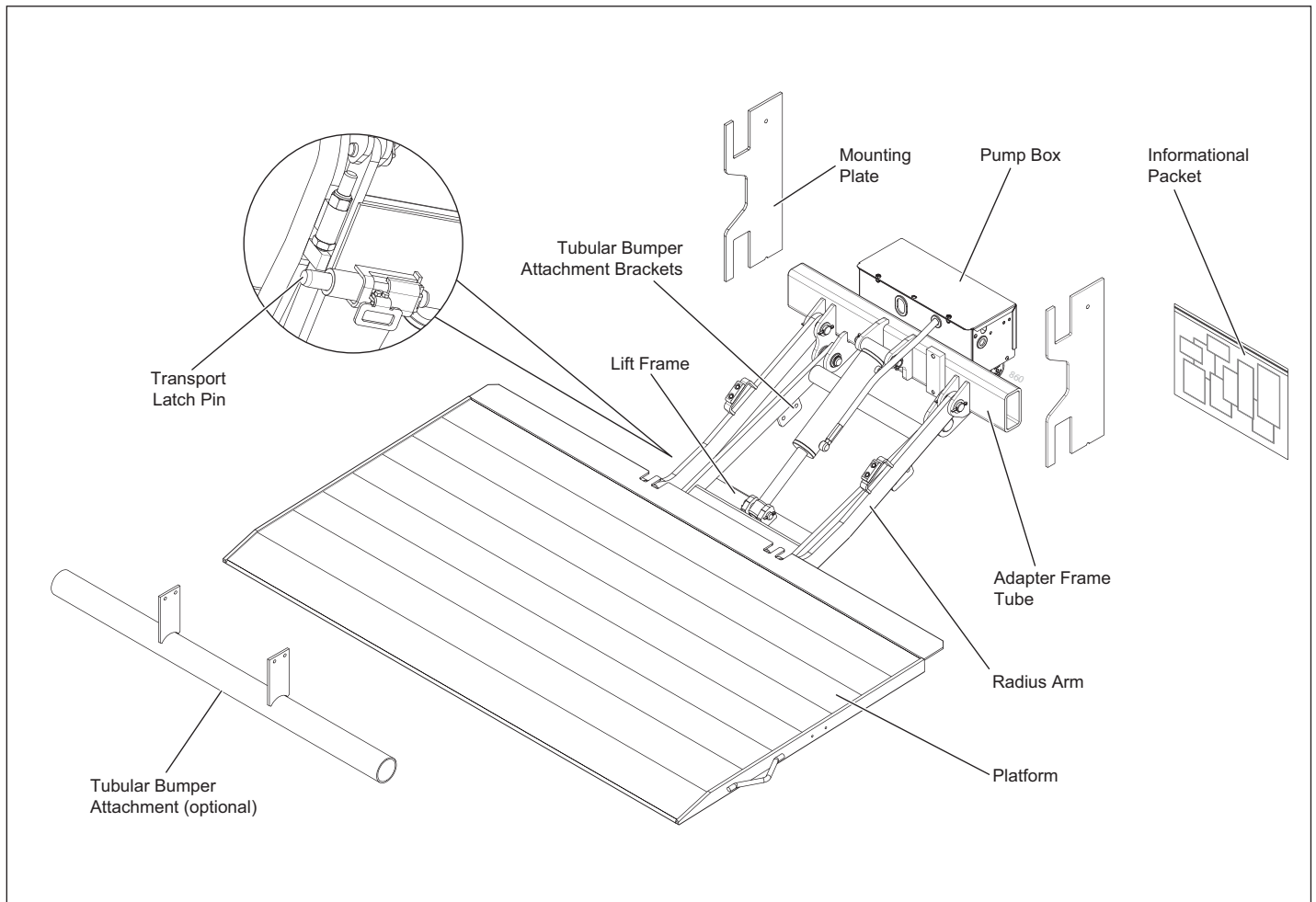
Follow all OSHA and other workplace safety standards when welding stainless steel, which creates hexavalent chromium fumes that can irritate the nose, throat, and lungs.

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.

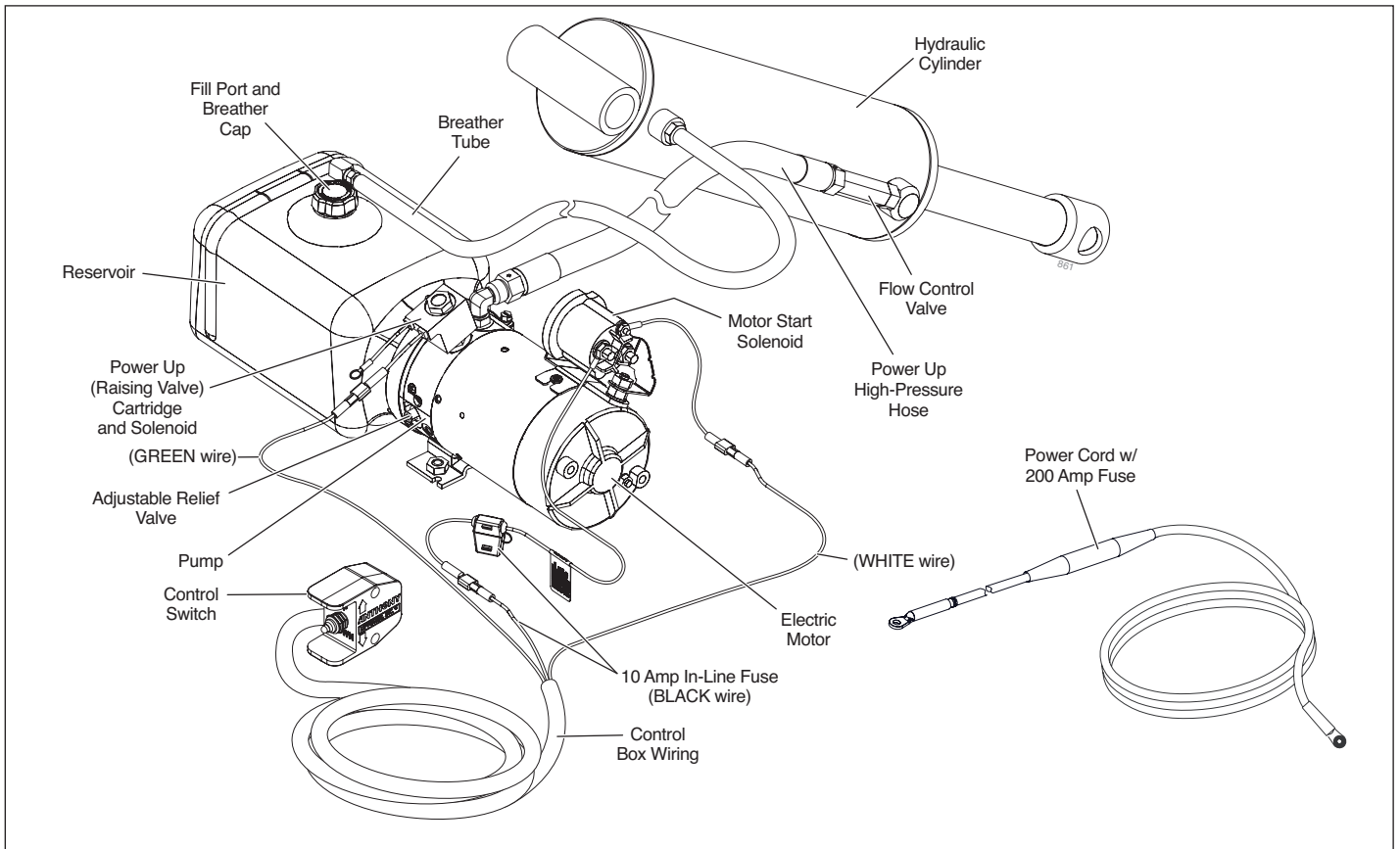
## 3. Nomenclature

### 3.1 Liftgate Nomenclature

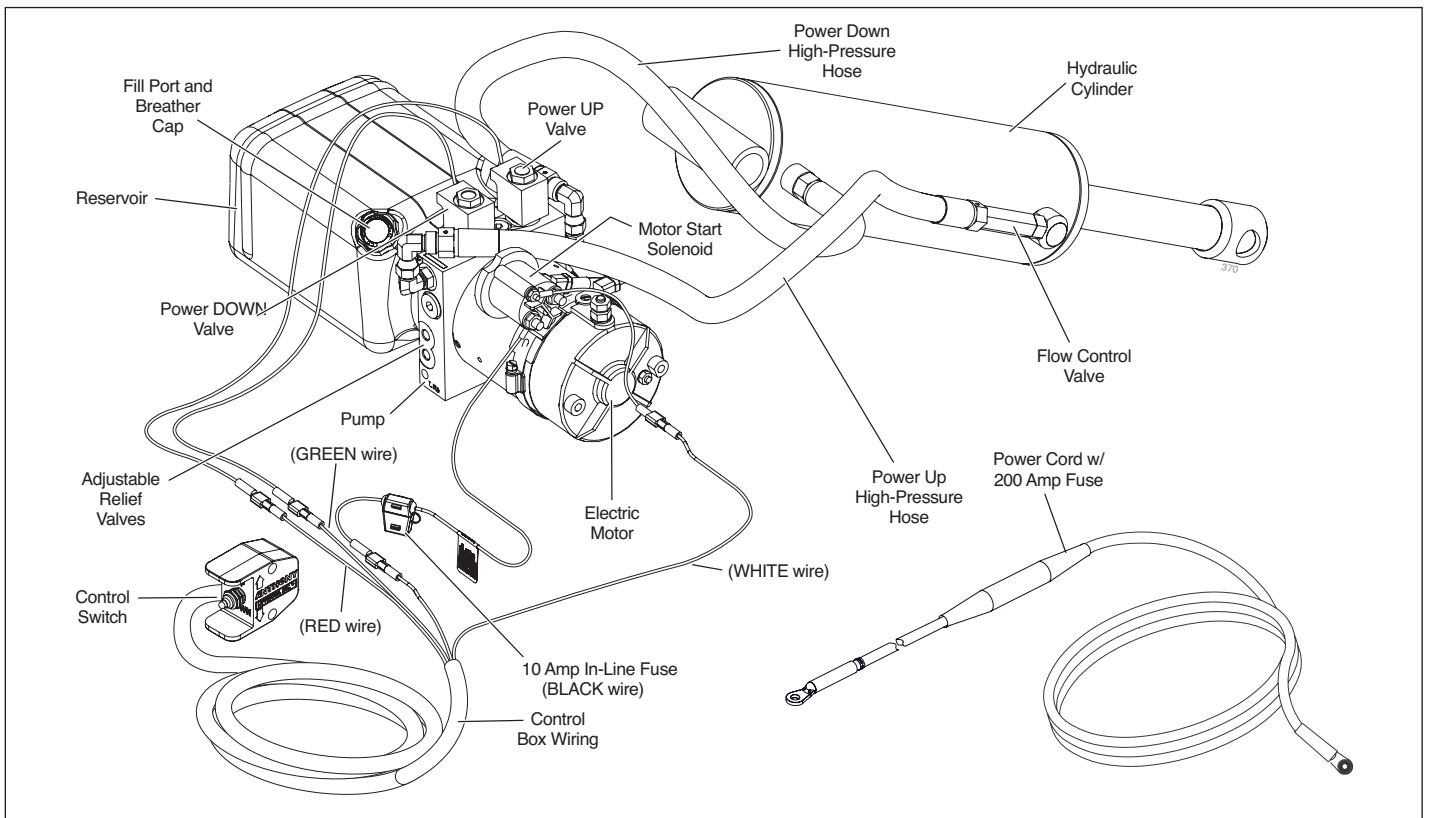




### 3.2 Gravity-Down Power Unit Nomenclature



### 3.3 Power-Down Power Unit Nomenclature



## 4. Maintenance

### 4.1 Monthly Inspection

All Anthony Tuckunder Liftgates are "Service-Free" which means they have lubrication-free bushings at the major pivot points.

#### Mechanical Components

1. Make sure the liftgate operates freely and smoothly throughout its entire range of movement.
2. Check for damage to the liftgate, such as bent or distorted parts. Check for excessively worn parts.
3. Check for cracked welds which may have resulted from overload or abuse.
4. Check all pins and pivot points. Secure all pins with proper retainers. Replace worn bushings and pins.
5. Oil the roller of the wheel arm and make sure it spins freely.
6. Make sure the platform is angled upward from truck bed 1/2 to 3/4 inch when raised to bed height.

#### Power Unit

1. Check for oil leaks in the following areas:
  - a. Hydraulic lift cylinder.
  - b. Hydraulic hoses. Replace any hose that shows signs of leakage or excessive abrasion of the covering.
  - c. Check all hydraulic fittings for damage or leakage. Tighten fittings to stop leaks or replace if damaged.
2. Check reservoir oil level. Refer to section "4.3 Check Power Module Fluid Level" on page 10. Fill as required with Hyken Glacial Blu.

### NOTICE

*To prevent damage to the pump, use only the recommended Hyken Glacial Blu anti-wear, low-viscosity, hydraulic fluid in the power unit reservoir.*

*In an emergency, use any anti-wear hydraulic fluid, but flush the system and replace it with our recommended fluid soon as reasonably possible. Do not mix hydraulic oil and automatic transmission fluid due to possible compatibility problems.*

*Use the appropriate viscosity of fluid based on the surrounding climate conditions. Viscosity is important because the pump will not cause a temperature increase to the oil in the reservoir, like a typical closed-loop hydraulic system.*

**DO NOT** use brake fluid in place of our recommended fluids.

#### Electrical Components

1. Make sure all electrical wires, switches, and connections are in good working condition and operate properly.
2. Proper wire connection is crucial to the life and dependability of the liftgate's electrical components. A poor connection can result in low Voltage, causing the liftgate to work incorrectly.

3. Check the fluid level of the vehicle battery.

#### Safety Signs and Informational Decals

1. Examine all warning, capacity, and operational decals. If they are not readable, replace them. Decals may be obtained free of charge your authorized dealer.

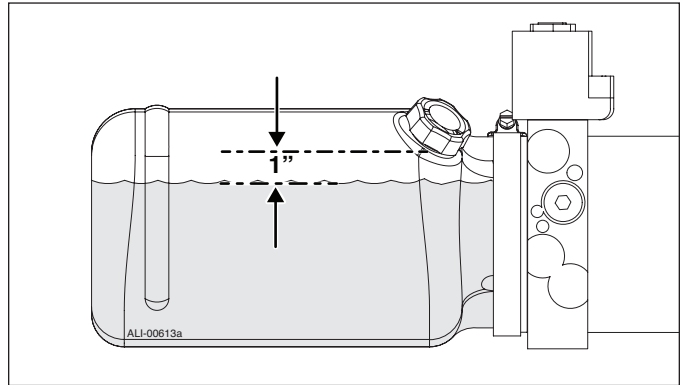
### 4.2 Semi-Annual Inspection

In addition to the items requiring monthly inspection, also inspect the condition of the hydraulic fluid.

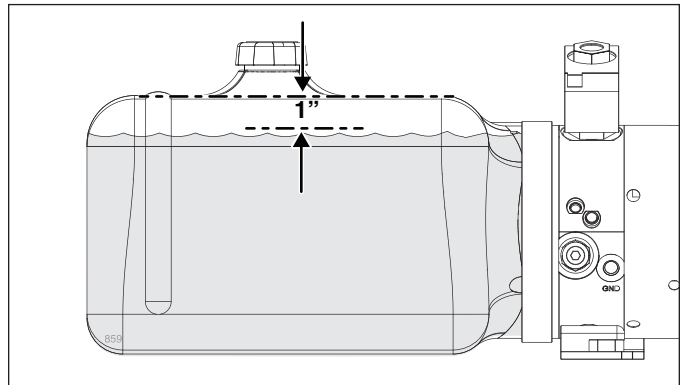
If the oil in the hydraulic tank is dirty, drain the oil and flush the entire system. Refill the system with the recommended oil outlined in Step 8 of the "Monthly Inspection" section.

### 4.3 Check Power Module Fluid Level

**Power Down Models:** Check the fluid level with the platform fully raised. The oil level should be approximately 1 inch below the filler cap.



**Gravity Down Models:** Check the fluid level with the platform resting on the ground. The oil level should be a maximum of 1 inch from the top of the reservoir.



### NOTICE

*To prevent damage to the pump, use only the recommended Hyken Glacial Blu anti-wear, low-viscosity, hydraulic fluid in the power unit reservoir.*

*In an emergency, use any anti-wear hydraulic fluid, but flush the system and replace it with our recommended fluid soon as reasonably possible. Do not mix hydraulic oil and automatic transmission fluid due to possible compatibility problems.*

*Use the appropriate viscosity of fluid based on the surrounding climate conditions. Viscosity is important because the pump will not cause a temperature increase to the oil in the reservoir, like a typical closed-loop hydraulic system.*

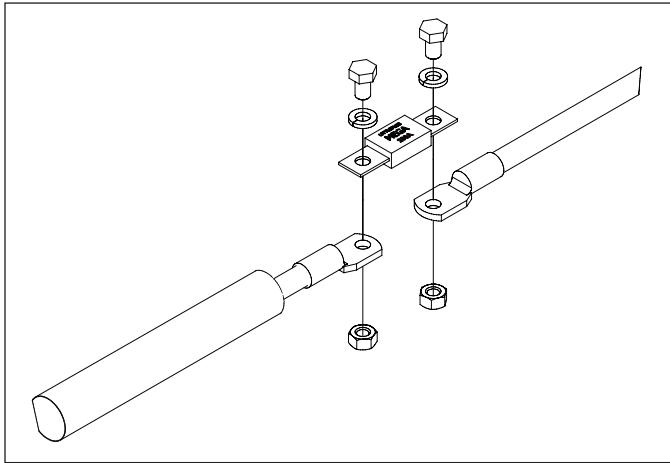
*DO NOT use brake fluid in place of our recommended fluids.*

#### 4.4 Power Cable Fuse - 200 Amp



To avoid injury or property damage, disconnect the liftgate's power cable from the battery before starting to

replace the fuse. An "arc" can occur, resulting in personal injury or property damage if the power cable is connected to the battery.



1. Cut the heat shrink tube to expose the fuse, mounting hardware, and lugs.
2. Remove the bolt, washer, and lock washer from each end of the fuse.
3. Use the A-133610, 200 Hi-Amp Fuse Replacement Kit for the replacement parts.
4. Slide the new heat shrink tube over one side of the wiring.
5. Bolt the new fuse to the cable lugs using the bolts, washers, and lock washer, as shown.
6. Slide the heat shrink tube over the fuse, hardware, and lugs. Using a heat gun apply heat evenly to shrink the tubing.
7. Reconnect the power cable to the battery after you are certain the platform area is clear.

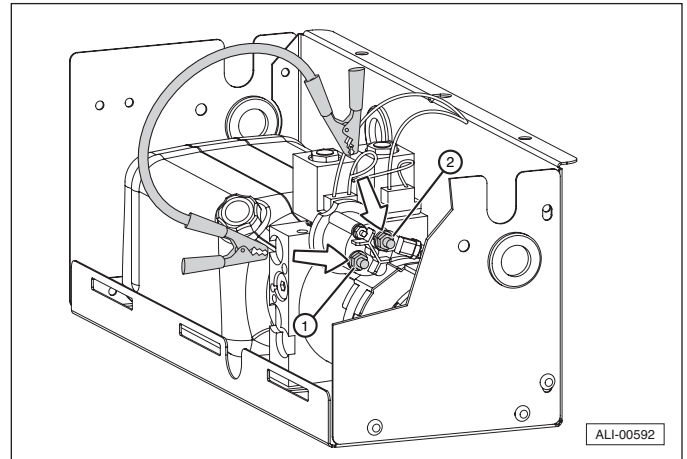
**Note:** If the fuse continues to blow, contact your authorized dealer.

#### 4.5 Checking the Power Cable

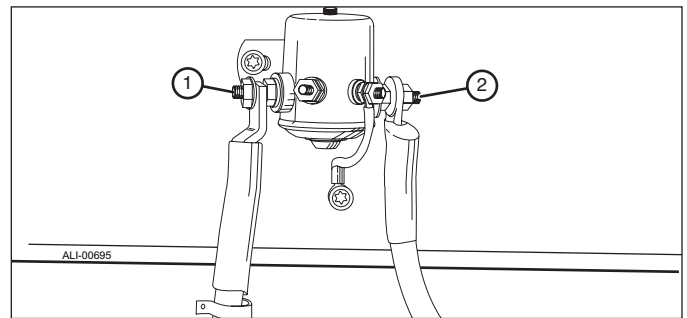
To check for a defective power cable, run the motor directly from a spare battery using jumper cables.

1. Remove the battery connection to the motor.
2. Connect the negative jumper cable (ground) directly to the liftgate. Connect the positive cable to the terminal on the motor start solenoid.
3. If the motor operates, the battery cable is defective and should be replaced.

#### 4.6 Checking Motor Start Solenoid and Power Cut-off Solenoid



Motor start solenoid.



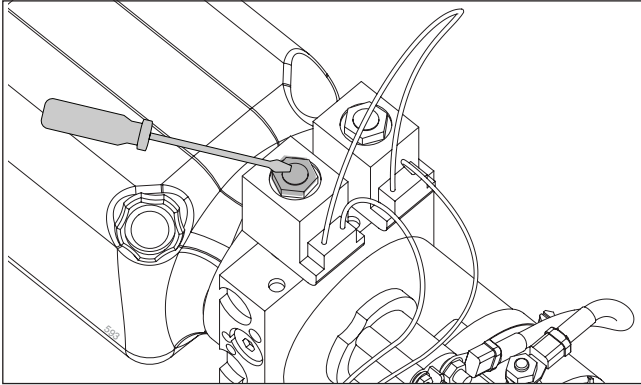
Power cut-off solenoid.

Both the motor start solenoid and power cut-off solenoid can be checked by bypassing the solenoid itself.

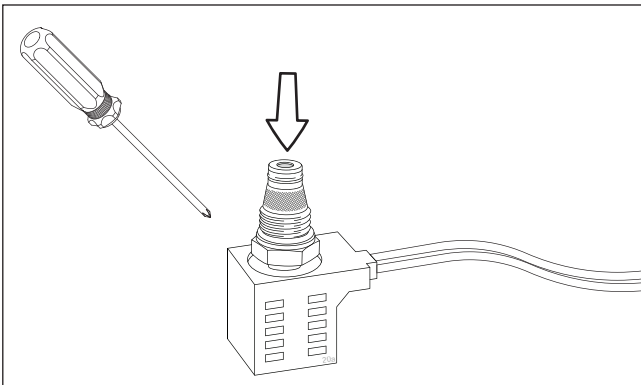
1. Use 12 Volt jumper cables for this test.
2. Connect one jumper cable to the battery side of the solenoid. Connect the other cable to the motor side of the solenoid.
3. If the liftgate is activated, the solenoid is defective and should be replaced. Replacement part — ATU-120 (motor start solenoid) or A-150263 (power cut-off solenoid).

## 4.7 Checking Valve Cartridge and Solenoid

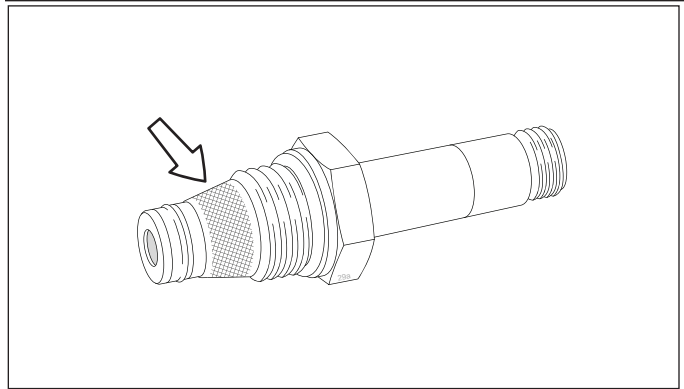
1. Place the liftgate on the ground in the open position.
2. Place a steel screwdriver over the top of the power down valve solenoid.



3. Momentarily activate the control switch in the DOWN position. The screwdriver should be attracted to the magnetic field created by the solenoid.
4. Repeat the process to check the power up solenoid. Momentarily activate the control switch in the UP position.
5. If no magnetic pull is produced, the solenoid is defective and should be replaced. If the solenoid is activated, check the cartridge valve.
6. Remove the solenoid from the valve assembly. Replacement part — A-176315.
7. Remove the valve cartridge from the pump body. Replacement part — A-130216 (lowering valve) or A-130215 (raising valve).
8. Clean the cartridge and blow it dry with compressed air (not greater than 30 psi). Also, blow out the pump body.
9. Use a small screwdriver and carefully press on the spool inside the cartridge. If the spool moves freely, the cartridge is good. If it does not move, replace the cartridge, as the spool could be bent, pitted, or damaged in some other way.

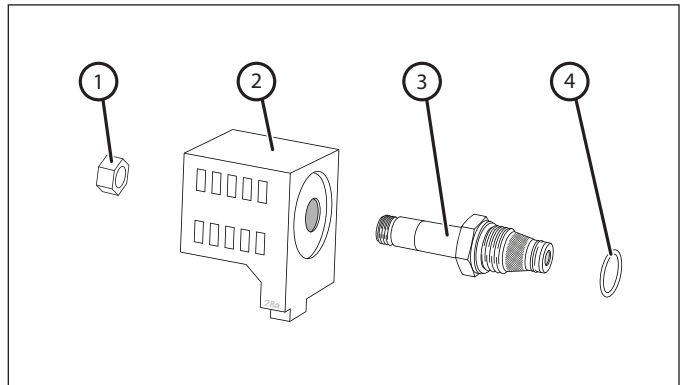
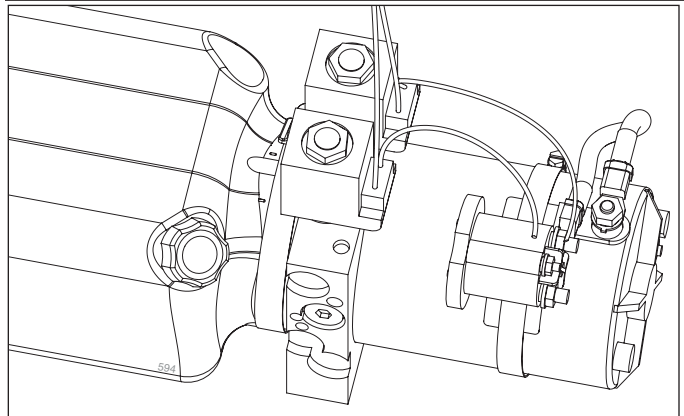


## 4.8 Solenoid Valve Screen



If the solenoid is working electrically, check the debris screen and clean if dirty.

## 4.9 Replacing the Solenoid Valve

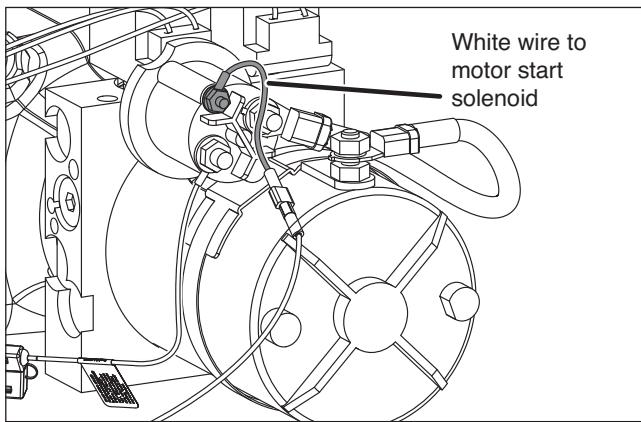


1. While installed in the pump, remove nut (1).
2. Remove coil (2) from cartridge (3).
3. Remove cartridge (3) from pump body.
4. O-ring (4) is not required on current models and can be discarded.

## 4.10 Checking Cylinder Piston Seals

### 4.10.1 Power Down Models

1. First, check the lowering valve. Make sure it is operating correctly, and the valve is not sticking or dirty. Replace the valve if necessary. Refer to “4.7 Checking Valve Cartridge and Solenoid” on page 12.
2. Raise the platform approximately 12 inches off of the floor.
3. Place a floor jack securely under the platform to support its full weight. An overhead lifting device could also be used.
4. Raise the floor jack until the platform begins to raise slightly.
5. Disconnect the white wire from the motor start solenoid. Place electricians tape around the end of the wire to prevent it from making a ground connection.



6. With the platform securely supported by the lifting device, activate the control switch in the DOWN position and hold the switch for 15 seconds. This will release any pressure in the power down hose.
7. Now activate the control switch in the UP position and hold it for 15 seconds. This will release any pressure in the power up hose.
8. Repeat holding the control switch in the DOWN position for 15 seconds and again in the UP position for 15 seconds. This should release any trapped pressure.
9. Carefully remove the flow control valve from the rod end of the cylinder. Plug or cap the fitting.
10. Remove the hose from the cap end of the cylinder and attach a temporary hose to catch any potential leakage from the cylinder. Place the end of the hose in a minimum one gallon container.
11. Lower the floor jack or lifting device.
12. Major seal damage will be apparent right away as the platform would begin to slowly lower and fluid will come out of the hose. Less extensive damage may take longer to be seen. Allow the platform to sit for several hours or overnight.



**Make sure nothing or no one could accidentally go under the platform while the**

**hoses are disconnected.**

13. If the platform does not lower, the seals are not the problem, most likely it is a faulty lowering valve.
14. Reconnect the white wire to the motor start terminal. Raise and lower the platform several times to remove any trapped air.

### 4.10.2 Gravity Down Models

1. Completely raise the platform.



**Do not stand under the platform.**

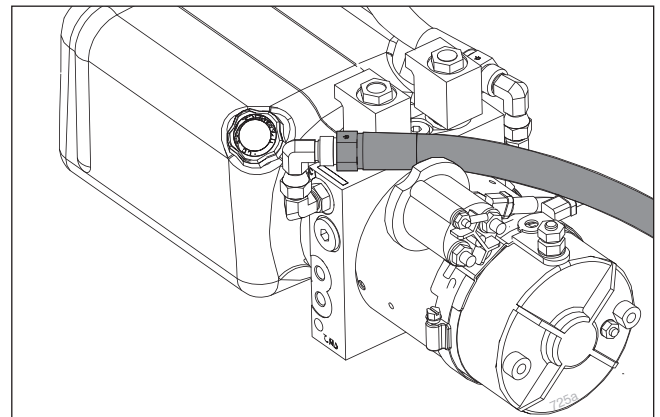
2. Remove breather tube from the cap end of the cylinder and attach a short piece of hose routed into a hand-held container.
3. Activate the control switch in the UP position.
4. If oil is continuously pumped out of the hose, replace the cylinder.

## 4.11 Checking System Pressure

For gravity down systems, there is only one relief valve (power up). Power down models have two relief valve settings; one for raising the platform (power up, upper adjusting screw) and one for lowering the platform (power down, lower adjusting screw).

To check the “power up” pressure setting:

1. Place the liftgate on the ground and remove the pressure hose from the power up port of the pump.



Power UP Model Pressure Hose Shown

2. Install a T-fitting (customer supplied) into the power up port.
3. Connect a pressure gauge and reconnect the hydraulic hose.

The pressure gauge must be rated above the maximum pressure of the liftgate. For example, use a 4000 psi pressure gauge on a 3000 psi maximum capacity liftgate.

4. Raise the liftgate and check the pressure on the gauge.



Low Pressure Threshold Chart		
Model	Power Up	Power Down
1600	2800 psi	350 psi
2000	2800 psi	
2500	1850 psi	

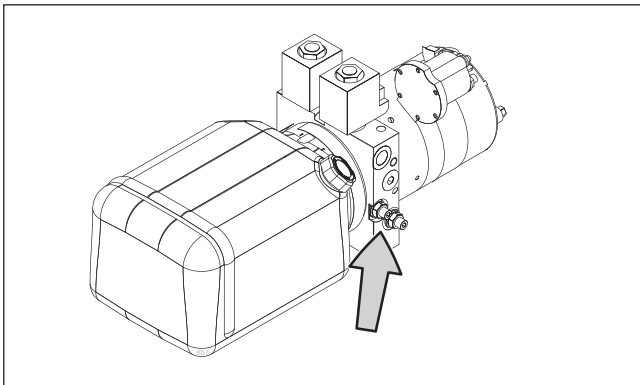
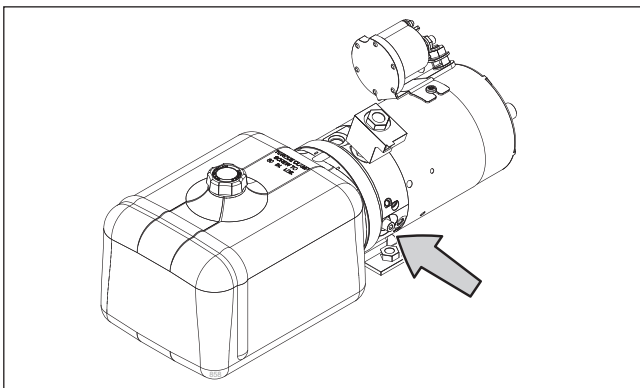


**Do not stand or work in the platform's work area while operating the liftgate. Place**

**the pressure gauge so it can be read while operating the liftgate from a safe location. Serious injury or death could result if this action is not followed.**

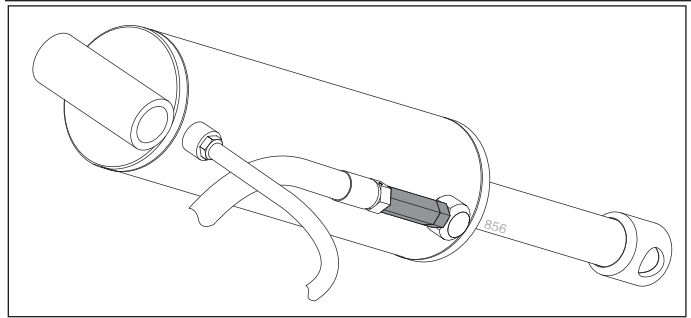
- To adjust the pressure, loosen the lock nut and turn Allen screw clockwise to increase pressure or counterclockwise to decrease the pressure. *Retighten locknut, and retest the pressure setting.*

**Note:** To rest the pressure from zero, turn the adjusting screw in all the way, then back out one full turn. Retighten lock nut, test liftgate with load. If liftgate performs well, set pump pressure according to factory settings.



- Check the "power down" relief valve pressure in the same way as the "power up" by installing a T-fitting and pressure gauge in the power down port.

## 4.12 Checking Flow Control Valve



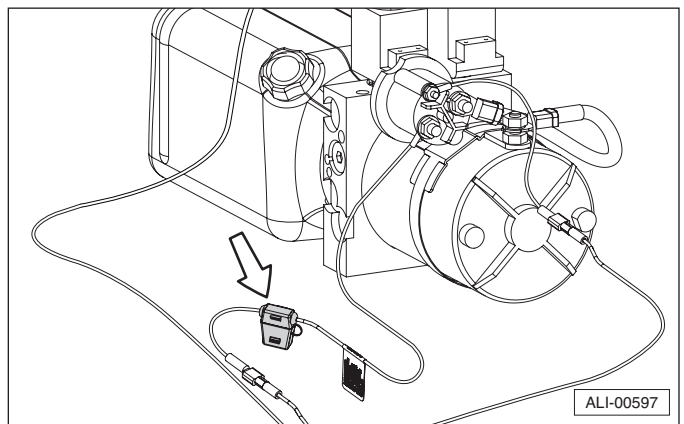
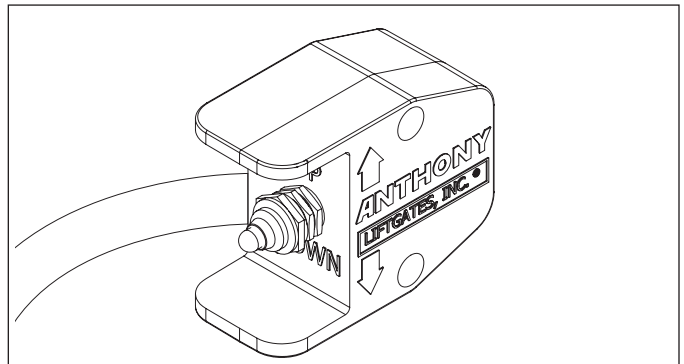
If the cylinder does not operate or operates slower than normal, remove the flow control valve and hook the hydraulic hose directly to the cylinder. If the cylinder operates properly, replace the flow control valve. Replacement part — A-130102.



**Do not operate the liftgate without the flow control valve. Serious injury or death could result if this action is not followed.**

## 4.13 Control Switch Fuse - 10 Amp

If the control switch is not operating the liftgate, check the in-line fuse located on the control cable inside the power unit box. Replace with A-150438 10A Fuse.



ALI-00597



## 5. Troubleshooting Chart

Troubleshooting Chart		
Problem	Possible Causes	Possible Solution
Motor does not run when control switch is activated.	Cab cut-off switch.	Turn switch to ON position. Replacement part — A-150031
	Optional power cut-off solenoid.	Check solenoid. "4.8 Checking Motor Start Solenoid and Power Cut-off Solenoid" on page <?>. Replacement part — A-150263
	Dead battery.	Make sure battery is fully charged. Check for loose or corroded battery connections. Replace or recharge battery.
	Circuit protection (200 Amp fuse).	Replace fuse. Refer to "4.6 Power Cable Fuse - 200 Amp" on page <?>. Replacement part — A-133610.
	Control switch (10 Amp) fuse is blown.	Replace the fuse inside power unit box. If problem continues, check for shorts in the electrical system. "4.15 Control Switch Fuse - 10 Amp" on page <?> Replacement part — A-150438.
	Battery cable.	Inspect main power cable from batteries, to circuit breakers, to cut-off switch to power unit. To verify a faulty cable, connect motor directly to a spare battery using the procedure in the Maintenance section. Replacement part — A-133604
	Corroded or loose wire connections.	Check all wire connections on power unit for corrosion or looseness. Replace defective terminals with 'heat shrink' factory type terminals.
	Motor start solenoid.	Check solenoid. "4.8 Checking Motor Start Solenoid and Power Cut-off Solenoid" on page <?>. Replacement part — ATU-120.
	Power unit motor.	If the motor is determined to be defective, it should be replaced. Defective motors are typically caused by weak batteries (low Voltage), loose connections, corrosion, or a poor ground. Replacement part — A-150018 If the motor does not operate in freezing conditions, make sure the motor housing does not contain water.
Sagging platform.	Normal wear.	Add shims to platform. "4.5 Platform Adjustment" on page <?>. Replacement part — ATU-071 SHIM, 14GA
	Bushing wear where lift arms connect to platform.	Replace bushings. Refer to separate Parts Manual.
	Structural damage.	Replace worn parts. Refer to separate Parts Manual.

Troubleshooting Chart		
Problem	Possible Causes	Possible Solution
Foaming oil.	Air in the hydraulic hose(s) or cylinder.	Fill reservoir with proper fluid. Refer to "4.1 Monthly Inspection" on page <?> for oil specifications and "4.3 Check Power Module Fluid Level" on page <?> for oil level. Raise and lower platform several times to remove any trapped air.
	Filter screen.	Filter screen in pump reservoir is damaged or plugged with dirt. Replace filter screen. Replacement part — A-150016.
	Broken or loose fluid return tube.	Remove oil reservoir and make sure return tube is below oil level. If tube has turned or fallen out, reinstall it into the pump housing. Use a center punch to "stake" tube into position. Replacement part — A-150015
Motor runs, but liftgate will not open or platform will not lower to the ground.	Structural damage. Check clearance between platform and floor extension.	Fix damage. Replace worn parts. Refer to the separate Parts Manual.
	Latch pin.	Slide the latch pin to the open position.
	Lowering valve solenoid (power down models only).	Check the solenoid. "4.9 Checking Valve Cartridge and Solenoid" on page <?>. Replacement part — A-176315.
	Lowering valve cartridge (power down models only).	With platform on ground, check, remove, and clean valve cartridge using the procedure in section "4.9 Checking Valve Cartridge and Solenoid" on page <?>. If plunger will not move freely, replace. Replacement part — A-130216.
	Cylinder seals.	Cylinder piston seal are damaged allowing fluid to leak past piston when trying to raise platform. Replace the cylinder, repair is not practical. Refer to section "4.12 Checking Cylinder Piston Seals" on page <?>. Replacement part — A-130113 Cylinder 3" or A-130114 Cylinder 4".
	Flow control valve.	Remove flow control valve and hook hydraulic hose directly to the cylinder. If the cylinder operates properly, replace the valve. "4.14 Checking Flow Control Valve" on page <?>. Replacement part — A-130102.
Latch pin is broken or bent.	Operator has lowered platform without releasing latch pin.	The latch pin is only used to prevent the liftgate from opening due to a pressure leak or pressure bleed-off over an extended period of time. Always release latch before opening liftgate.
Platform raises truck when lowered to the ground (power down models only).	Power down system pressure is set too high.	See section "4.13 Checking System Pressure" on page <?>.
Platform will not open.	Platform operating area is not clear.	Clear platform operating area.
	Latch pin will not slide freely to release liftgate.	Activate the "UP" switch and raise the liftgate to the fully stored position. The latch pin should slide freely.

Troubleshooting Chart		
Problem	Possible Causes	Possible Solution
Motor runs, but platform will not raise, will not raise rated capacity, or raises but drifts down when control switch is released.	Load capacity has been exceeded.	Verify load capacity and reduce load weight.
	Structural damage.	Replace damaged parts. Refer to the separate Parts Manual.
	Low fluid level.	Fill reservoir with proper fluid. Refer to "4.1 Monthly Inspection" on page <?> for oil specifications and "4.3 Check Power Module Fluid Level" on page <?> for oil level.
	Low Voltage.	Inspect the battery connection terminals and check the battery's Voltage (9 Volts minimum).
	Lowering valve (power down models only).	Valve may not be fully closing. Cartridge may need cleaning or replacement. See section "4.9 Checking Valve Cartridge and Solenoid" on page <?>. Replacement part — A-130216
	Defective piston seals.	Cylinder piston seals are damaged allowing fluid to leak past piston when raising platform. Replace the cylinder, repair is not practical. Refer to section "4.12 Checking Cylinder Piston Seals" on page <?>. Replacement part — A-130113 Cylinder 3" or A-130114 Cylinder 4".
	Hydraulic pump is worn.	Replace power unit. Replacement part — A-130117 Power Down or A-130116 Gravity Down.
Platform raises partially and stops.	Load capacity has been exceeded.	Verify load capacity and adjust load weight.
	Structural damage.	Replace damaged parts. Refer to the separate Parts Manual.
	Low Voltage.	Recharge battery (if less than 9 Volts).
	Low pressure.	Fill reservoir with proper fluid. Refer to "4.1 Monthly Inspection" on page <?> for oil level and oil specifications. Also check pump and motor. "4.1 Monthly Inspection" on page <?>.
Platform will not lower.	Platform operating area is not clear.	Clear area.
	Structural damage.	Replace damaged parts. Refer to the separate Parts Manual.
	Low Voltage.	Recharge battery (if less than 9 Volts).
	Lowering valve (power down models only).	Solenoid or cartridge may need cleaning or replacement. Refer to section "4.9 Checking Valve Cartridge and Solenoid" on page <?>. Replacement part — A-130216.
	Hydraulic pump and motor.	Replace power unit. Refer to the separate Parts Manual.

Troubleshooting Chart		
Problem	Possible Causes	Possible Solution
Platform lowers extremely slow.	Low oil level on power down models.	Fill reservoir with proper fluid. Refer to "4.1 Monthly Inspection" on page <?> for oil specifications and "4.3 Check Power Module Fluid Level" on page <?> for oil level.
	Improper oil in hydraulic reservoir.	Fill reservoir with proper fluid. Refer to "4.1 Monthly Inspection" on page <?> for oil specifications and "4.3 Check Power Module Fluid Level" on page <?> for oil level.
	Bushing wear where lift arms connect to platform.	Replace bushings. Refer to the separate Parts Manual.
	Damaged or kinked hydraulic hose.	Repair or replace. Refer to the separate Parts Manual.
	Cylinder rod is scored, pitted, or bent.	Replace the cylinder, repair is not practical. Replacement part — A-130113 Cylinder 3" or A-130114 Cylinder 4".
	Flow control valve.	Remove flow control valve and hook hydraulic hose directly to the cylinder. If the cylinder operates properly, replace the valve. "4.14 Checking Flow Control Valve" on page <?>. Replacement part — A-130102.
	Lowering valve (power down models only).	Solenoid or cartridge may need cleaning or replacement. Refer to section "4.9 Checking Valve Cartridge and Solenoid" on page <?>. Replacement part — A-130216.
Motor runs, but platform will not lift stated load or drifts down after being raised.	Low fluid level has caused air in the lines.	Fill reservoir with proper fluid. Refer to "4.3 Check Power Module Fluid Level" on page <?> for oil level and specifications. Raise and lower the platform several times to expel any trapped air.
	Lowering valve stuck in the open position (power down models only).	With platform on ground, check, remove, and clean valve cartridge using the procedure in section "4.9 Checking Valve Cartridge and Solenoid" on page <?>. If plunger will not move freely, replace. Replacement part — A-130216.
	Damaged cylinder piston seals.	Refer to section "4.12 Checking Cylinder Piston Seals" on page <?> for additional information.
	Relief valve is set too low or clogged with contaminants.	Loosen locknut and turn Allen screw clockwise to increase pressure. Remove and clean if necessary.

## 6. Decals

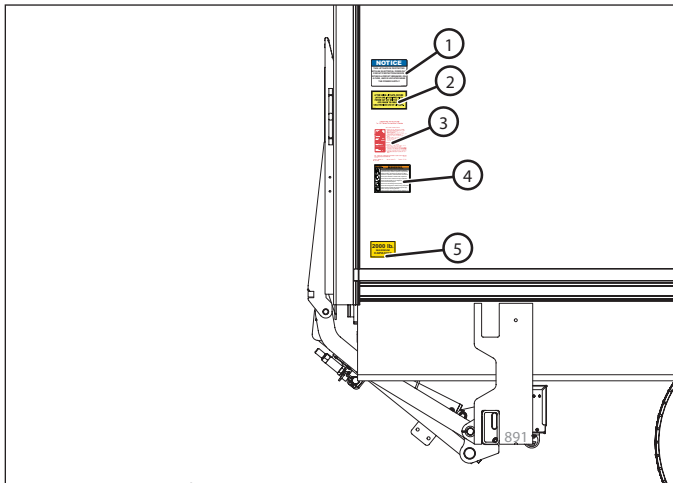
### SAFETY INSTRUCTIONS



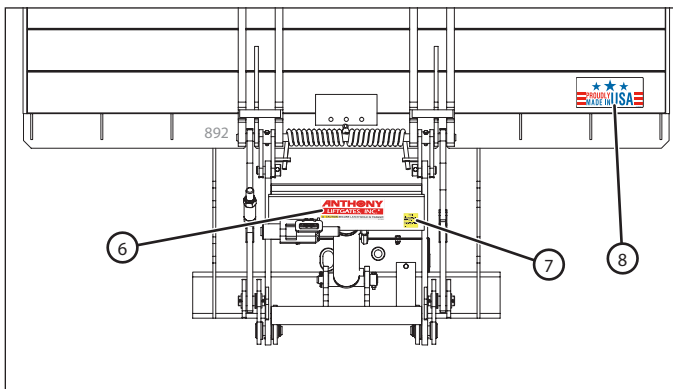
To prevent possible injuries due to improper operation, make sure all decals are

attached to the liftgate and truck and are legible.

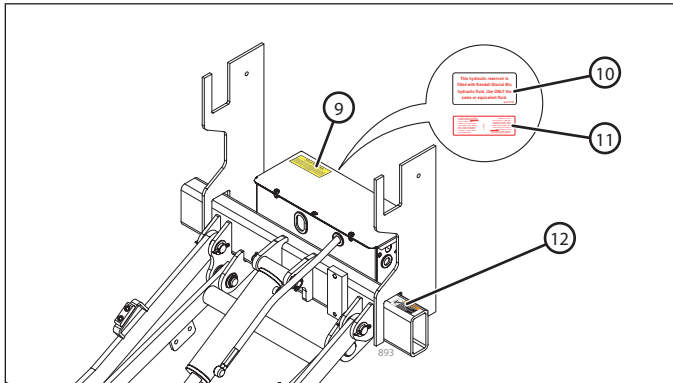
1. Attach decals 1, 2, 3, 4, and 5 to the truck body, as shown. If the truck is a flatbed, place the decals as close to the control switch as possible and still clearly visible.



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



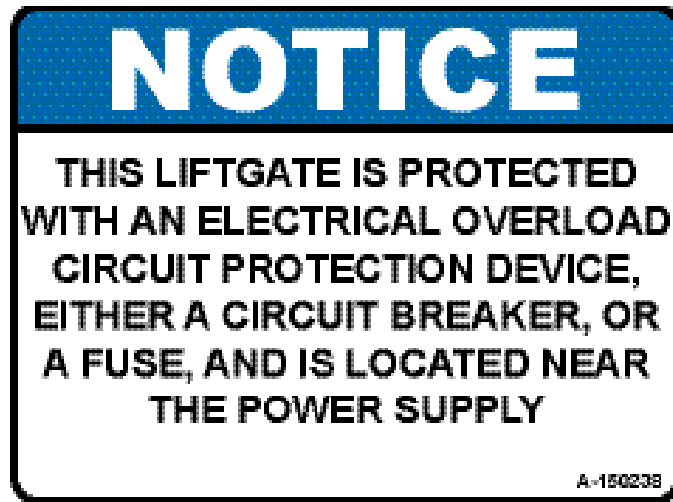
3. Make sure factory-installed decals 9, 10, 11, and 12 are installed on and inside the power unit and on the adapter frame tube.



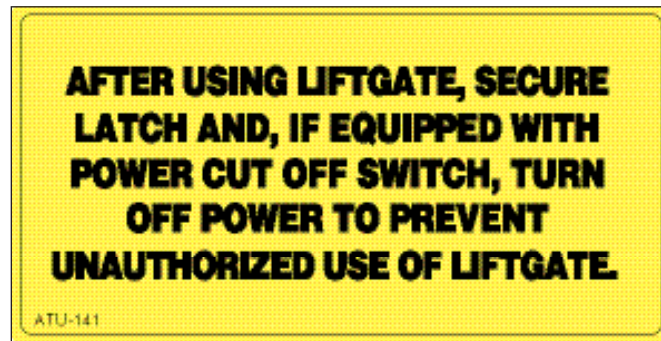
Item	Part Number	Description
1	A-150238	Notice - Protected With Electrical Overload Circuit Breaker
2	ATU-141	After Using Liftgate
3	A-131023	Operating Instructions
4	A-131115	Warning, Personal Injury
5	ATU-145 A-131020 ATU-174	1600 Lb. Maximum Capacity 2000 Lb. Maximum Capacity 2500 Lb. Maximum Capacity
6*	A-131034	Anthony Label
7*	A-131017	Note - Disengage Latch
8*	A-150601	Made In The USA
9*	A-131028	Weld Warning
10*	A-131133	Hydraulic Fluid
11*	A-131001	10 Amp Fuse Changing Procedure (attached to control wiring in pump box)
12*	A-131125	Warning, Galvanized Fumes Hazard (galvanized models only)

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

### 1 — A-150238



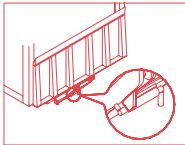
### 2 — ATU-141



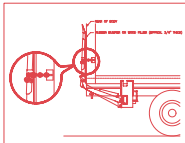
### 3 — A-131023

#### OPERATING INSTRUCTIONS For "AC" Series Conventional Liftgates

##### OPEN PLATFORM TO HORIZONTAL POSITION.

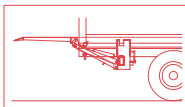


- Unlatch the "latch pin", near the center of the liftgate mechanism, by twisting, then sliding it past the "latch block" welded to the radius arm.
- Remove the "hook and chain" from each side of the platform, streetside first.
- Unfold the platform, by pulling back on the platform, until in horizontal position (this is done manually).
- Press the "Down" switch, on the control, to lower the platform.
- Press the "Up" switch, on the control, to raise the platform.
- Load and unload cargo with the platform at either the truck floor level or the ground. Repeat step D and E to raise and lower cargo.



##### STORING PLATFORM FOR TRANSIT

- Raise the platform to truck bed level.
- Fold the platform, by lifting up on the platform, until it's in the vertical position (this is done manually).
- Re-attach the "hook and chain" on each side of the platform, curbside first. Slip the large link of chain over the "staple" on the platform. Then, insert the hook through the "staple". The hook should go through the bottom of the staple first.
- Set the "latch pin" by twisting, then sliding it past the "latch block" welded to the radius arm near the center of the liftgate.



**Note:** If liftgate has a "Main Power Cut-off Switch" be certain to turn it "Off" when not in use to prevent unauthorized use!

Anthony Liftgates, Inc. 1037 W. Howard St. Pontiac, IL 61764  
Part #A-131023 894

### 5 — ATU-145, A-131020, ATU-147

**1600 lb.**  
MAXIMUM  
CAPACITY

ATU-145

**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.

### 4 — 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

### 6 — A-131034

**ANTHONY**  
LIFTGATES, INC.®

**CAUTION SECURE LATCH WHILE IN TRANSIT.**

A-131034

### 7 — A-131017

**Note:**

**Disengage "latch" before attempting to use liftgate.**

**Engage "latch" after using liftgate.**

A-131017



8 — A-150601



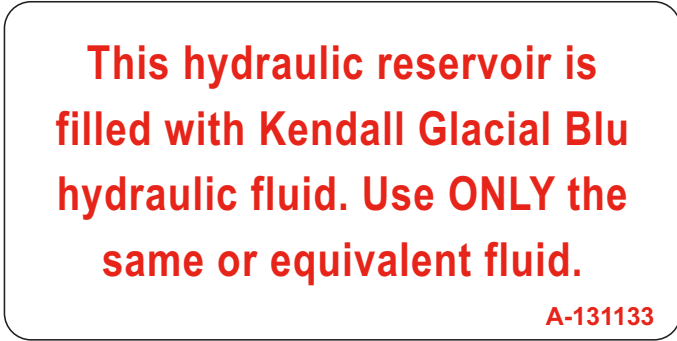
12 — A-131125 (attached only to galvanized liftgates)



9 — A-131028



10 — A-131133



11 — A-131001 (attached to control cable)





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**THE ORIGINAL NAME IN LIFTGATES - SINCE 1941**

**ANTHONY**  
LIFTGATES, INC.®

**AC**

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