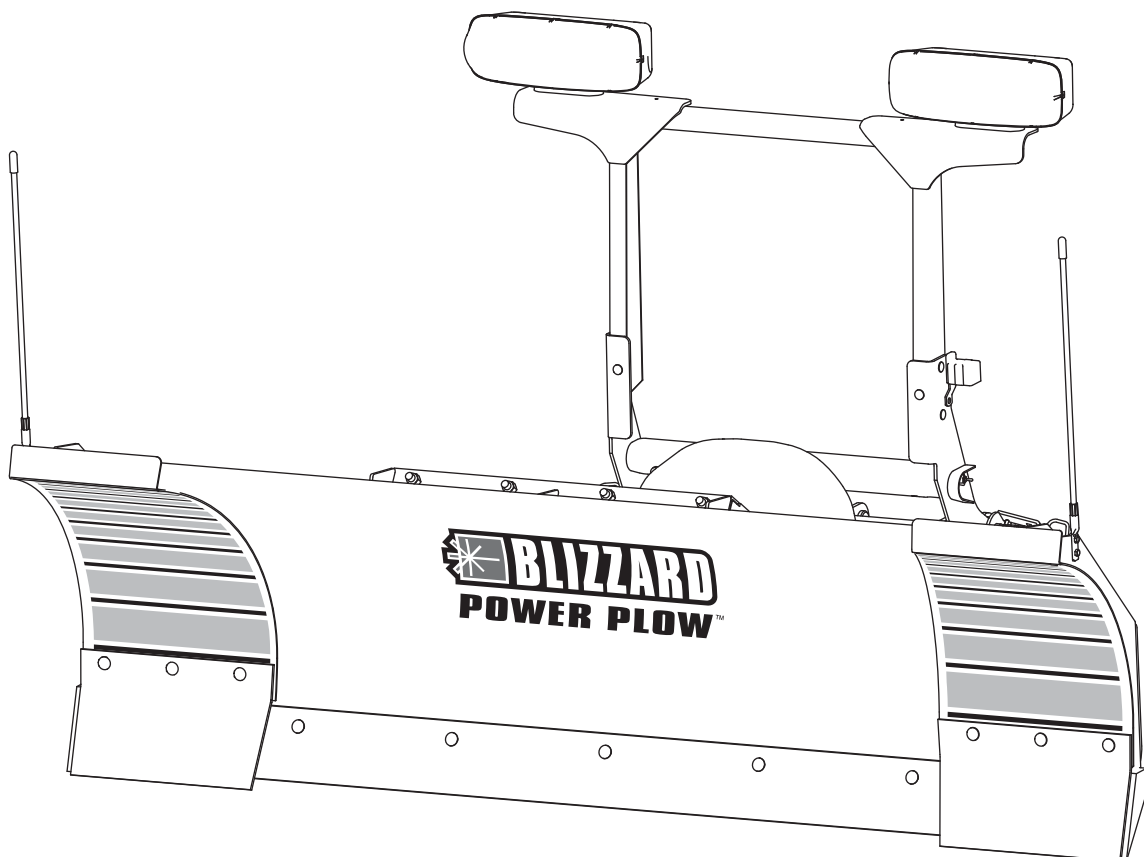


# **BLIZZARD**<sup>®</sup> **SNOWPLOWS**

## **POWER PLOW™ Snowplow**

**Models 8100PP & 86110LP**

**Owner's Manual**



**⚠ CAUTION**

Read this manual before operating or servicing snowplow.

This manual supersedes all editions with an earlier date.



# SNOWPLOW OWNER DATA SHEET

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**Register your snowplow online at [www.blizzardplows.com](http://www.blizzardplows.com)**

Owner Name: \_\_\_\_\_

Date Purchased: \_\_\_\_\_

Outlet Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Outlet Address: \_\_\_\_\_

Vehicle Model/Year: \_\_\_\_\_

Snowplow Model/Year: \_\_\_\_\_

Snowplow Type/Size: \_\_\_\_\_ Weight: \_\_\_\_\_ lb/kg

Ballast: No \_\_\_ Yes \_\_\_ Amount: \_\_\_\_\_ lb/kg

Hydraulic Unit Serial Number: \_\_\_\_\_

Blade Serial Number: \_\_\_\_\_



# TABLE OF CONTENTS

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<b>SNOWPLOW OWNER DATA SHEET</b> .....	3	<b>REMOVING SNOWPLOW FROM VEHICLE</b>	
<b>PREFACE</b> .....	7	<b>&amp; STORAGE</b> .....	28
<b>SAFETY</b> .....	8	<b>MAINTENANCE</b> .....	30
<b>VEHICLE APPLICATION INFORMATION</b> .....	11	Aiming Headlamp Beams .....	30
Ballast Requirements .....	11	Preseason Check.....	31
<b>GETTING TO KNOW YOUR SNOWPLOW</b> .....	12	Postseason Maintenance.....	31
Snowplow Headlamps .....	12	Maintenance and Adjustment .....	32
Vehicle Mount .....	12	Hydraulic System .....	33
Hydraulic System .....	13	Fluid Level .....	33
System Capacity .....	13	Annual Fluid Change.....	33
Pump Motor Specifications .....	13	Air Removal.....	34
Cab Controls .....	13	Hose or Fitting Replacement.....	35
<b>ACCESSORIES &amp; OPTIONS</b> .....	14	Procedure for Installing Hydraulic	
<b>MOUNTING SNOWPLOW TO VEHICLE</b> .....	16	Fittings and Hoses .....	35
<b>OPERATING YOUR SNOWPLOW</b> .....	17	Fuse Replacement.....	36
Joystick Control.....	17	Vehicle .....	36
<b>POWER GRIP™</b> Hand-Held Control .....	19	Recycle .....	36
Snowplow Headlamp Check.....	21	Blade Finish .....	36
Disc Shoe Adjustment.....	21	Emergency Parts/Tools .....	36
Hydraulic System .....	23	Troubleshooting .....	36
Blade Drop Speed Adjustment .....	24	<b>TECHNICAL SPECIFICATIONS</b> .....	37
Transporting Snowplow .....	25	<b>HARNES DIAGRAMS</b> .....	38
Driving and Plowing on Snow and Ice .....	25	Vehicle Side, 3-Port, 2-Plug System .....	38
Plowing Snow .....	26		
General Instructions .....	26		
Hard-Packed Snow .....	26		
Deep Snow .....	26		
Clearing Driveways.....	27		
Clearing Parking Lots .....	27		
Parking with Snowplow Attached .....	27		
Towing a Disabled or Stuck Vehicle.....	27		



# PREFACE

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## PREFACE

Congratulations on purchasing the finest POWER PLOW™ snowplow available!

BLIZZARD POWER PLOW® snowplows are clearing new trails for innovative design, rugged durability, quality craftsmanship, and superior performance. Our innovative products are tested all over the snowbelt.

This manual provides safety, operation, and maintenance information for your new BLIZZARD snowplow. To keep your snowplow in good condition, read and understand this manual and follow its recommendations. Failure to do so may affect your warranty coverage.

When service is necessary, your local BLIZZARD distributor knows your snowplow best. Contact your BLIZZARD outlet for maintenance, service, or any other assistance you may require.

If you have not already done so, please visit [www.blizzardplows.com](http://www.blizzardplows.com) to register your new BLIZZARD snowplow!

## AUTHENTIC PARTS AND ACCESSORIES

Your BLIZZARD snowplow is a valuable investment. The best way to assure original equipment reliability and efficiency is to purchase only **Authentic Parts and Accessories**. "Will-fit" parts and accessories can alter your snowplow's performance characteristics and may affect your product warranty.

Protect your investment by staying with the best—original BLIZZARD parts and accessories from your local BLIZZARD outlet.



# SAFETY

## SAFETY DEFINITIONS

### ⚠ WARNING

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious personal injury.

### ⚠ CAUTION

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

**NOTE:** Indicates a situation or action that can lead to damage to your snowplow and vehicle or other property. Other useful information can also be described.

## WARNING/CAUTION AND INSTRUCTION LABELS

Become familiar with and inform users about the warning and instruction labels on the back of the blade.

**NOTE:** If labels are missing or cannot be read, see your sales outlet.

### ATTACH

- Stowly drive vehicle forward to engage mount adapter into A-frame.
- Move power switch to center or "OFF" position.
- Plug in electrical harnesses.
- Push and hold power switch RIGHT and push UP and hold arm/blade operation switch. Arm will engage mount adapter and pull snowplow toward vehicle.
- Rotate and release hitch pin. Hitch pin is fully engaged when pin handle is against the pin guide plate.
- Repeat Step 5 on passenger's side. Rotate and release hitch pin. Hitch pin is fully engaged when pin handle is against the pin guide plate.
- While holding power switch RIGHT, push DOWN and hold arm/blade operation switch. Arm will disengage mount adapter to relieve tension on the stand.
- Pull stand handle up. Stand will lift off ground. Pull stand pin out. Rotate stand up until stand pin seats into upper hole. Pin must lock into upper A-frame hole.
- Repeat Step 8 on passenger's side. Pull stand handle up. Stand will lift off ground. Pull stand pin out. Rotate stand up until stand pin seats into upper hole. Pin must lock into upper A-frame hole.
- Move power switch to left or "Plowing" position.

### ⚠ WARNING

Keep fingers away from snowplow and truck attachment points. POWER HITCH™ 2 arm raises behind undercarriage pushbeam.

### DETACH

- Lower snowplow onto ground with blade straight. Turn snowplow control in cab OFF.
- Move power switch to center or "OFF" position.
- While holding the power switch RIGHT, push DOWN and hold the arm/blade operation switch. Arm will disengage mount adapter to relieve tension on the stand.
- Pull stand pin out. Rotate stand down until stand pin seats into lower A-frame hole. Push down on top of shoe. Shoe will be on the ground.
- Repeat Step 4 on passenger's side. Pull stand pin out. Rotate stand down until stand pin seats into lower A-frame hole. Push down on top of shoe. Shoe will be on the ground.
- Push and hold power switch RIGHT and push UP the arm/blade operation switch. Arm will engage mount adapter and pull snowplow tightly to vehicle.
- Rotate and pull hitch pin. Rotate hitch pin into retracted position.
- Repeat Step 7 on passenger's side. Rotate and pull hitch pin. Rotate hitch pin into retracted position.
- While holding power switch RIGHT, push DOWN and hold arm/blade operation switch to fully lower arm.
- Unplug electrical harnesses.

**POWER HITCH™ 2**

**BLIZZARD**

Read Owner's Manual for complete instructions.  
 US patents 6,616,519; 7,131,227; 7,400,668; 7,430,821; 7,737,578;  
 CAN patents 2,388,145; 2,358,354; 2,466,195; and other patents pending.

### ⚠ WARNING

Blade could drop unexpectedly, crushing or trapping limbs. Lower blade when vehicle is parked.

Overloading could negatively affect vehicle handling. To avoid serious injury or death, do not exceed GVWR or GAWR including blade and ballast.

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### ⚠ CAUTION

Read Owner's Manual before operating or servicing snowplow.

Transport speed should not exceed 45 mph (72 km/h). Further reduce speed under adverse travel conditions.

Plowing speed should not exceed 10 mph (16 km/h).

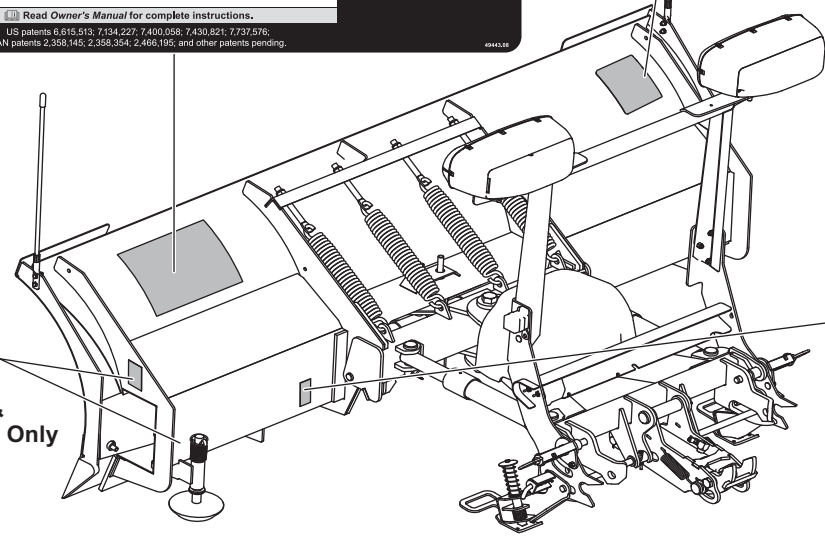
See your sales outlet/website for specific vehicle application recommendations.

[www.blizzard.com](http://www.blizzard.com)

### ⚠ WARNING

Multiple Pinch Points

**POWER PLOW® & SPEEDWING™ Blades Only (both sides)**



### ⚠ WARNING

**Crush hazard**

**Keep feet clear**

292563\_04



# SAFETY

## SAFETY PRECAUTIONS

Improper installation and operation could cause personal injury, and/or equipment and property damage. Read and understand labels and the Owner's Manual before installing, operating, or making adjustments.

### **⚠ WARNING**

**Lower blade when vehicle is parked. Temperature changes could change hydraulic pressure, causing the blade to drop unexpectedly or damaging hydraulic components. Failure to do this could result in serious personal injury.**

### **⚠ WARNING**

**Do not exceed GVWR or GAWR including the blade and ballast. The rating label is found on the driver-side vehicle door cornerpost.**

### **⚠ WARNING**

**To prevent accidental movement of the blade, always turn the control OFF whenever the snowplow is not in use. The power indicator light will turn OFF.**

### **⚠ WARNING**

**Remove blade assembly before placing vehicle on hoist.**

### **⚠ CAUTION**

**Read Owner's Manual before operating or servicing snowplow.**

### **⚠ CAUTION**

**Transport speed should not exceed 45 mph (72 km/h). Further reduce speed under adverse travel conditions.**

### **⚠ CAUTION**

**Plowing speed should not exceed 10 mph (16 km/h).**

### **⚠ CAUTION**

**See your BLIZZARD® outlet for application recommendations.**

## HYDRAULIC SAFETY

### **⚠ WARNING**

**Hydraulic fluid under pressure can cause skin injection injury. If you are injured by hydraulic fluid, get medical attention immediately.**

- Always inspect hydraulic components and hoses before using. Replace any damaged or worn parts immediately.
- If you suspect a hose leak, DO NOT use your hand to locate it. Use a piece of cardboard or wood.

## FUSES

The BLIZZARD electrical and hydraulic systems contain several automotive-style fuses. If a problem should occur and fuse replacement is necessary, the replacement fuse must be of the same type and amperage rating as the original. Installing a fuse with a higher rating can damage the system and could start a fire. Fuse Replacement, including fuse ratings and locations, is located in the Maintenance section of this Owner's Manual.

## PERSONAL SAFETY

- Remove ignition key and put the vehicle in PARK or in gear to prevent others from starting the vehicle during installation or service.
- Wear only snug-fitting clothing while working on your vehicle or snowplow.
- Do not wear jewelry or a necktie, and secure long hair.
- Wear safety goggles to protect your eyes from battery acid, gasoline, dirt, and dust.
- Avoid touching hot surfaces such as the engine, radiator, hoses, and exhaust pipes.
- Always have a fire extinguisher handy, rated BC for flammable liquids and electrical fires.

# SAFETY

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## FIRE AND EXPLOSION

### **⚠ WARNING**

**Gasoline is highly flammable and gasoline vapor is explosive. Never smoke while working on vehicle. Keep all open flames away from gasoline tank and lines. Wipe up any spilled gasoline immediately.**

Be careful when using gasoline. Do not use gasoline to clean parts. Store only in approved containers away from sources of heat or flame.

## CELL PHONES

A driver's first responsibility is the safe operation of the vehicle. The most important thing you can do to prevent a crash is to avoid distractions and pay attention to the road. Wait until it is safe to operate mobile communication equipment such as cell phones, text messaging devices, pagers, or two-way radios.

## VENTILATION

### **⚠ WARNING**

**Vehicle exhaust contains lethal fumes. Breathing these fumes, even in low concentrations, can cause death. Never operate a vehicle in an enclosed area without venting exhaust to the outside.**

## BATTERY SAFETY

### **⚠ CAUTION**

**Batteries normally produce explosive gases, which can cause personal injury. Therefore, do not allow flames, sparks, or lit tobacco to come near the battery. When charging or working near a battery, always cover your face and protect your eyes, and also provide ventilation.**

- **Batteries contain sulfuric acid, which burns skin, eyes, and clothing.**
- **Disconnect the battery before removing or replacing any electrical components.**

## NOISE

Airborne noise emission during use is below 70 dB(A) for the snowplow operator.

# VEHICLE APPLICATION INFORMATION

## **⚠ CAUTION**

**See your BLIZZARD® outlet for specific vehicle application recommendations before installation. The Power Match selection system has specific vehicle and snowplow requirements.**

Vehicle application recommendations are based on the following:

- The vehicle with the snowplow installed must comply with applicable Federal Motor Vehicle Safety Standards (FMVSS).
- The vehicle with the snowplow installed must comply with the vehicle manufacturer's stated gross vehicle and axle weight ratings (found on the driver-side door cornerpost of the vehicle) and the front and rear weight distribution ratio. In some cases, rear ballast may be required to comply with these requirements. See Ballast Requirements Section.
- BLIZZARD Power Match selection system is based on available vehicle capacity for snowplow equipment on a representative vehicle equipped with options commonly used for plowing and with 300 lb of front seat occupant weight.
- Weights of front seat occupants can be adjusted above 300 lb, but vehicle with snowplow must not exceed vehicle GVWR or GAWR.
- In some cases there may be additional limitations and requirements.
- Installation, modification, and addition of accessories must comply with published BLIZZARD recommendations and instructions. Available capacity decreases as the vehicle is loaded with cargo or other truck equipment, or snowplow accessories are installed.
- If there is uncertainty as to whether available capacity exists, the actual vehicle as configured must be weighed.

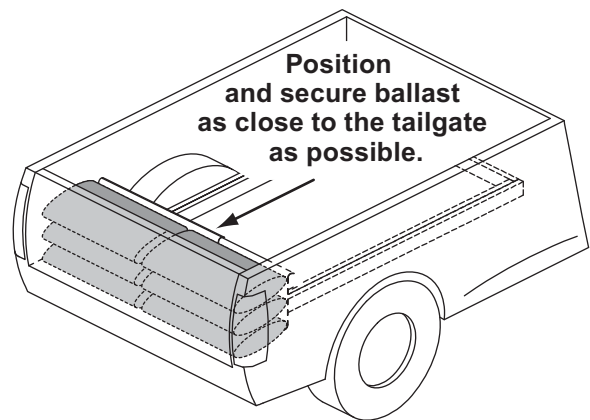
## **BALLAST REQUIREMENTS**

Ballast (additional weight) is an important part of qualifying vehicles for snowplow eligibility. Rear ballast must be used when necessary to remain in compliance with axle ratings and ratios as specified by the vehicle manufacturer.

If ballast is required, it is important that it be secured properly behind the rear axle. A ballast retainer kit is available from your BLIZZARD outlet, PN 62849.

**NOTE: The ballast retainer kit is for snowplow vehicles requiring ballast. See your BLIZZARD outlet for the correct amount of ballast required. Include the weight of the retainer as part of the ballast requirement. Sand bags are recommended for use as ballast.**

**NOTE: Ballast recommended and its weight calculations assume the entire width of the bed is filled as close to tailgate as possible.**



# GETTING TO KNOW YOUR SNOWPLOW

## SNOWPLOW HEADLAMPS

### **⚠ WARNING**

**Your vehicle must be equipped with snowplow headlamps and directional lights.**

The snowplow headlamps feature state-of-the-art optics with long-life (H13) halogen bulbs, combination park/turn signals and dual mounting studs. A prewired harness with a plug-in module requires no headlamp wire splicing. The headlamps conform to Federal Motor Vehicle Safety Standards (FMVSS).

When the electrical plugs are connected, the vehicle headlamps will automatically switch to the snowplow headlamps when they are turned ON. When the electrical plugs are disconnected, the headlamps will automatically switch to vehicle headlamps when they are turned ON.

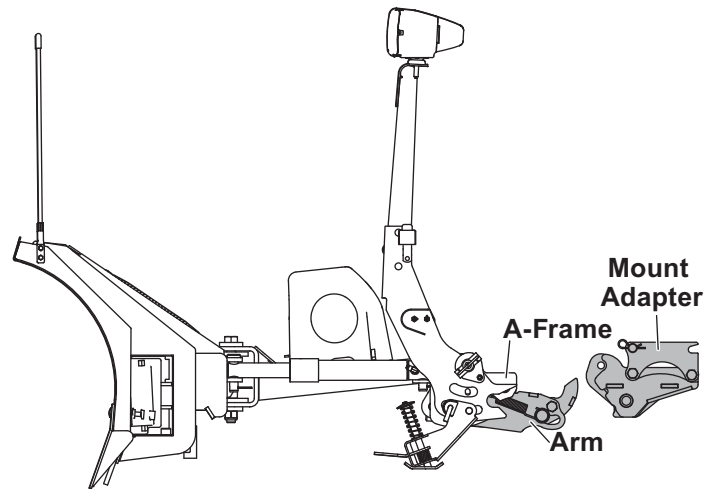
Replacement parts are available through your local BLIZZARD® outlet.

## VEHICLE MOUNT

Blizzard has designed custom mounts for most vehicles. Due to differences among vehicle models, mounts are generally not interchangeable.

The mount is fastened to the underside of the vehicle frame and provides the primary connecting point between the snowplow and the vehicle.

Attached to the mount is a removable mount adapter. The mount adapter is attached to the mount with clevis pins and hairpin cotters. The mount adapter is easily removed to provide even more road clearance during the nonplowing months of the year.

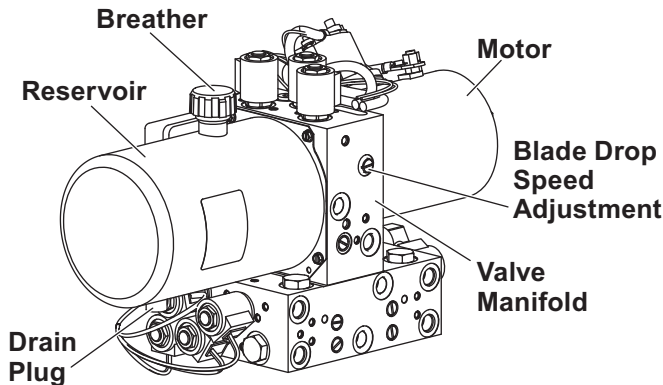


# GETTING TO KNOW YOUR SNOWPLOW

## HYDRAULIC SYSTEM

The hydraulic unit delivers fast and uniform speed for lifting and angling. POWER PLOW™ blades are raised in approximately 3 seconds and angled side to side in approximately 3 seconds.

For hydraulic fluid type and filling instructions, see Hydraulic System, Annual Fluid Change, in the Maintenance section of this Owner's Manual.



### System Capacity

- Unit Reservoir ..... 2-1/2 quarts
- System Total ..... 4-1/4 to 4-1/2 quarts

### Pump Motor Specifications

12V DC with +/- connection
1600–1700 psi pump relief valve
3000 psi angling relief valve
4.5" dia 1.5 kW motor
0.000652 gal/rev pump
Hydraulic hose 1/4 SAE 100R1 and 3/8 SAE 100R17

## CAB CONTROLS

**⚠ WARNING**

**To prevent accidental movement of the blade, always turn the control OFF whenever the snowplow is not in use. The power indicator light will turn OFF.**

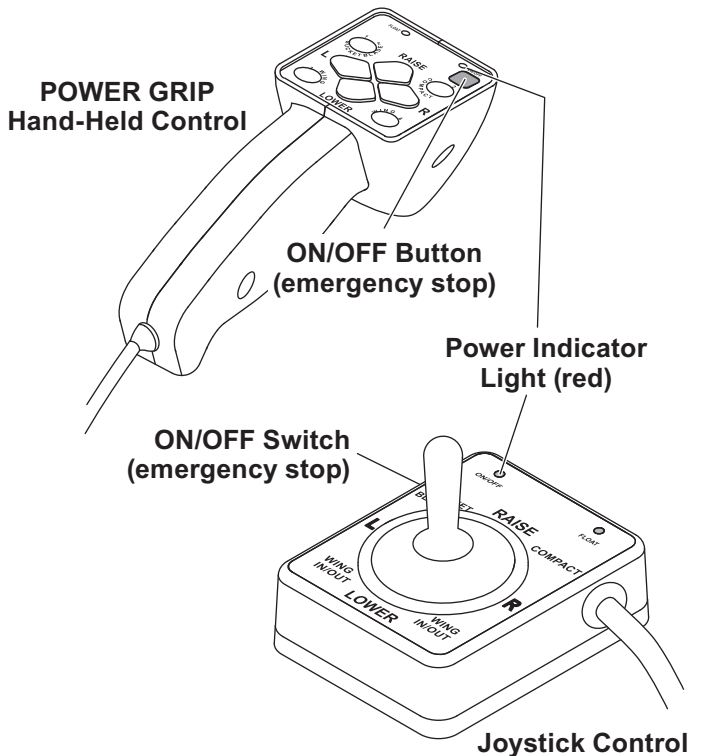
BLIZZARD® snowplows come equipped with one of two special controls: the POWER GRIP™ hand-held control or a joystick-style control.

Each control has its own ON/OFF switch with an indicator light to show when the control is powered up. Your vehicle ignition (key) switch controls a fused circuit that powers your cab control directly from the battery.

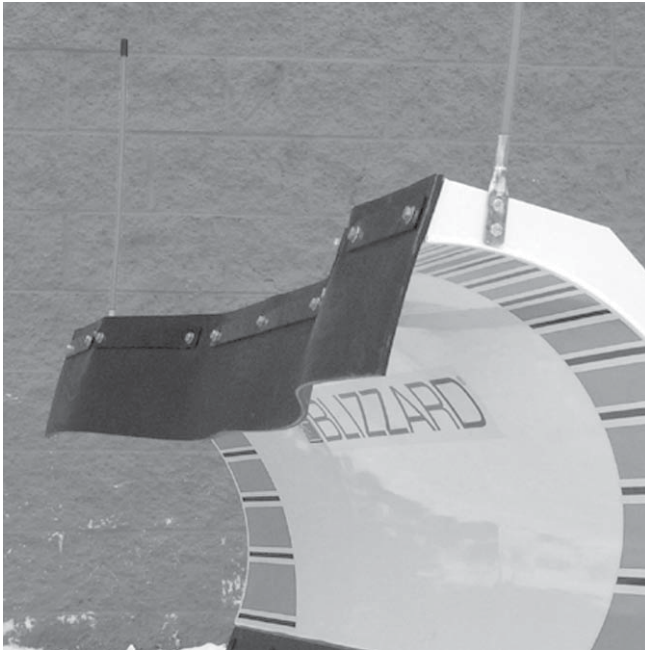
The ON/OFF switch on the cab control allows you to turn OFF the control and prevent blade movement even when the ignition switch is ON.

**The control ON/OFF switch serves as an emergency stop if required.**

All controls are protected by a replaceable fuse located in the under hood snowplow electrical system. See Fuse Replacement in the Maintenance section of this Owner's Manual.



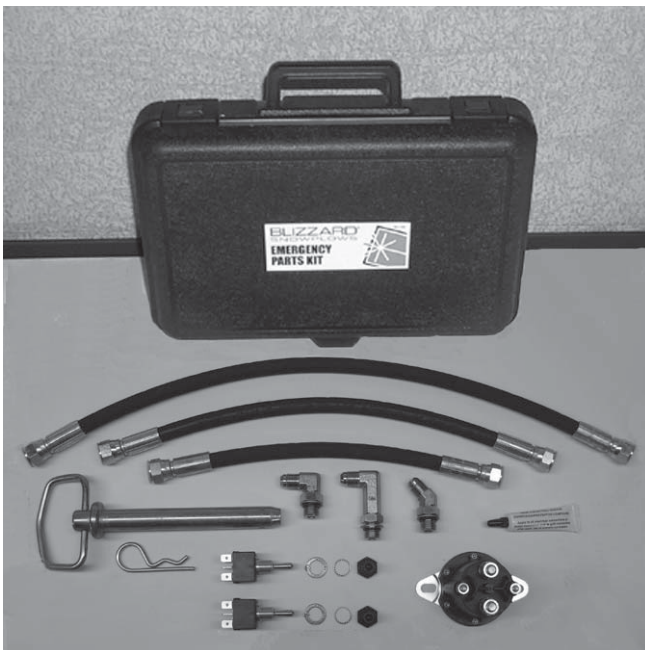
## ACCESSORIES & OPTIONS



Rugged and durable, the 3/8" thick, 2-ply rubber snow deflector keeps snow off your windshield and in its place—on the ground! One-piece design provides optimum snow deflection. The deflector is shipped complete with mounting hardware.



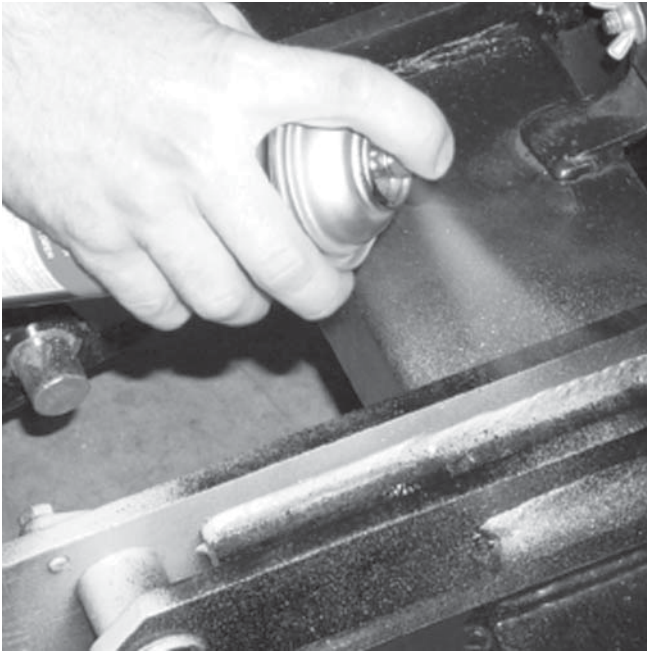
BLIZZARD® hydraulic fluid is specially formulated for use in BLIZZARD snowplows and can significantly enhance the operation and performance of the hydraulic system. BLIZZARD zinc-free hydraulic fluid maintains its viscosity to temperatures as low as  $-40^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$ ). BLIZZARD hydraulic fluid is available by the quart, gallon, case, or 55-gallon drum.



The emergency parts kit (PN 41143) includes the most common replacement parts: angle ram hose, wing ram hose, lift ram hoses, hitch pin w/hairpin cotter, one of each type of hose fitting, POWER HITCH™ 2 toggle switches, 0.25 oz dielectric grease, and 1 quart of BLIZZARD hydraulic fluid. The compact and durable plastic case (13.5" x 9" x 3.3") allows for easy storage behind or under your seat.

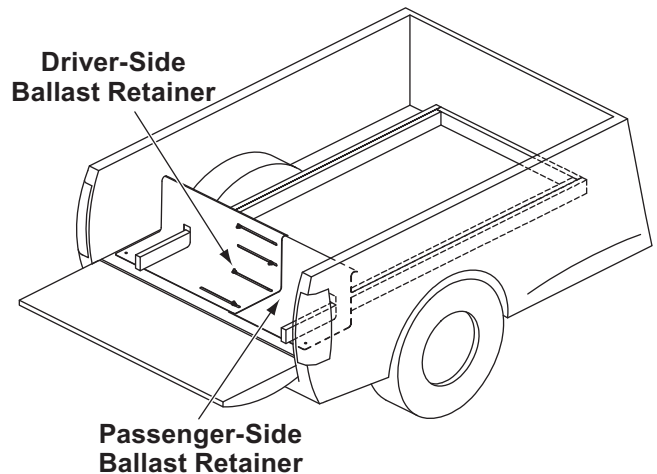
## ACCESSORIES & OPTIONS

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Putting your snowplow away for the winter? Have a deep scratch to cover? Clean up your blade and snowplow parts with our gloss spray paints. BLIZZARD® touch-up paint provides an excellent finish to help keep your snowplow looking its best. Paint provided in 12-oz spray cans.

Ballast (additional weight) is an important part of qualifying vehicles for snowplow eligibility. Rear ballast must be used when necessary to remain in compliance with axle ratings and ratios as specified by the vehicle manufacturer. If ballast is required, it is important that it be secured properly behind the rear axle. A ballast retainer kit is available from your BLIZZARD outlet, PN 62849.



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**NOTE: The ballast retainer kit is for snowplow vehicles requiring ballast. See your BLIZZARD outlet for the correct amount of ballast required. Include the weight of the retainer as part of the ballasting requirement. Sand bags are recommended for use as ballast.**

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# MOUNTING SNOWPLOW TO VEHICLE

## MOUNTING SNOWPLOW (ON)

### ⚠ WARNING

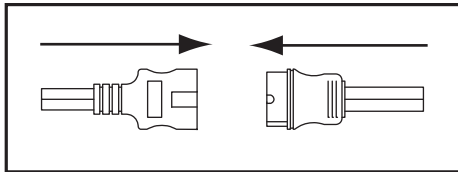
Keep 8' clear of the blade when blade is being raised, lowered, or angled. Do not stand between the vehicle and blade or directly in front of blade. If the blade hits or drops on you, you could be seriously injured.

### ⚠ WARNING

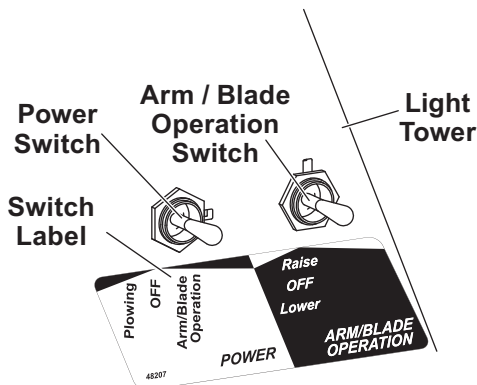
Inspect snowplow components and fasteners for wear or damage whenever mounting or removing the snowplow. Worn or damaged components could allow the snowplow to drop unexpectedly.

**NOTE:** Use dielectric grease to prevent corrosion on all connections.

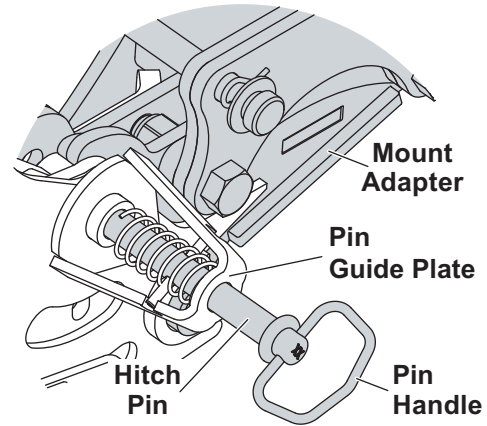
1. Slowly drive vehicle forward to engage mount adapter into A-frame.
2. Move power switch to center, or "OFF," position.
3. Plug in electrical harnesses.



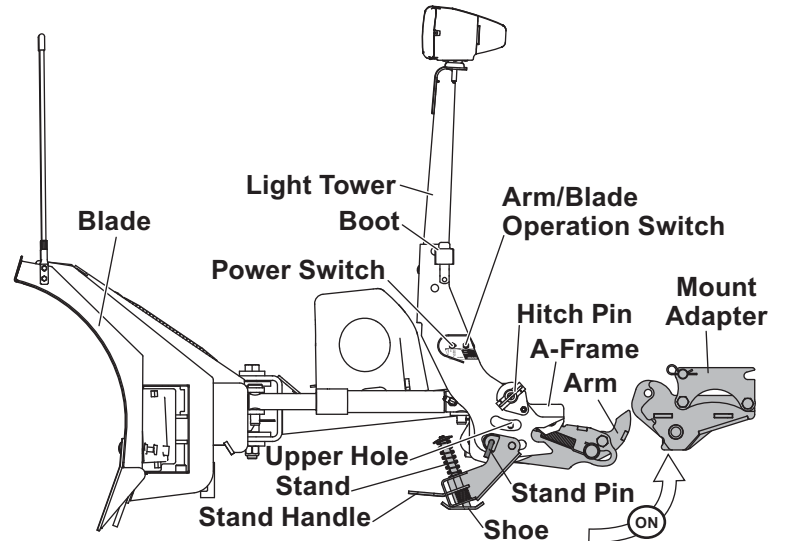
4. Push and hold power switch RIGHT and push UP and hold Arm/Blade Operation switch. Arm will engage mount adapter and pull snowplow toward vehicle.



5. Rotate and release the hitch pin. The hitch pin is fully engaged when the pin handle is against the pin guide plate.



6. Repeat Step 5 on the passenger's side.
7. While holding power switch RIGHT, push DOWN and hold Arm/Blade Operation switch. Arm will disengage mount adapter to relieve tension on the stand.



8. Pull the stand handle up. The stand will lift off the ground. Pull the stand pin out. Rotate the stand up until the stand pin seats into the upper hole on the A-frame. The pin must lock into the upper A-frame hole.
9. Repeat Step 8 on the passenger's side.
10. Move the power switch to the left or "PLOWING" position.



# OPERATING YOUR SNOWPLOW

## POWER PLOW™ BLADE JOYSTICK SOLENOID CONTROL

### **⚠ WARNING**

To prevent accidental movement of the blade, always move the ON/OFF switch to OFF whenever the snowplow is not in use. The power indicator light will turn OFF.

### **⚠ CAUTION**

DO NOT hold control lever in RAISE, ANGLE LEFT, or ANGLE RIGHT position after blade has reached desired position. To do so will use excess current and overheat components.

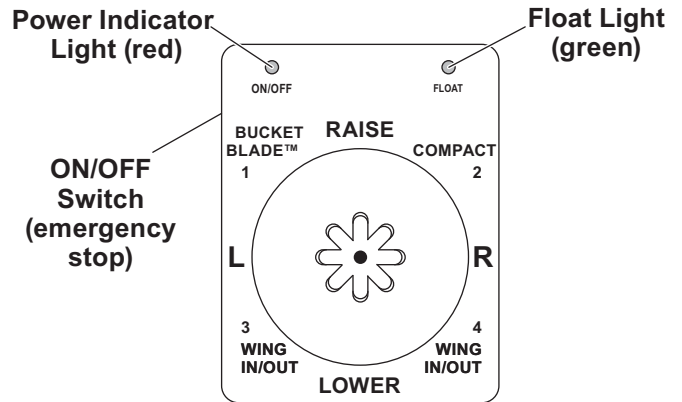
1. Turn the vehicle ignition switch to the "ON" or "ACCESSORY" position.
2. Move control ON/OFF switch to the "ON" position. The power indicator light glows red, indicating the control is ON. The power indicator light glows red whenever the control and the vehicle ignition switch are both ON, the electrical connections to the snowplow are completed and the power switch on the light tower is in the "PLOWING" position. If the power switch is in the "OFF" position, the power indicator light will flash.

The ON/OFF switch operates as an emergency stop, if required.

## Function Time-Outs

All control functions, except LOWER/FLOAT, time out (stop) automatically after a period of time. This is to limit the amount of electrical energy required from the vehicle.

**NOTE: If control function times out before desired blade movement is complete, release the lever to the center position, then move back into the desired function.**



## Automatic Shutdown

The control will automatically turn OFF after being idle for 20 minutes. To reactivate the control after a shutdown, move the ON/OFF switch to OFF, then back to ON.

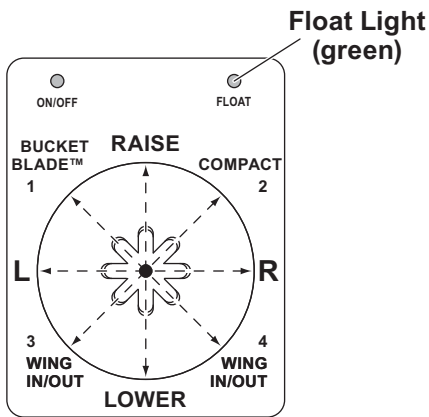
## Smooth Stop

The control automatically allows the blade to coast to a stop when the lever returns to center position. This results in smoother operation, reduces the shock to the hydraulic system and increases hose and valve life.

# OPERATING YOUR SNOWPLOW

## Control Lever Movement

From the center position, the control lever can be moved in one of eight directions to control various movements of the snowplow blade. To change from one movement of the blade to another, the control lever must be moved back to the center position before selecting the desired function. Whenever the lever is released, it should spring back into the center position to stop any blade movement.



## Control Functions

### Raise, Lower, Float, Angle

Moving the control lever in straight lines up and down or from side to side on the control body will result in the blade movements described in the following table.

**NOTE: If control function times out before desired blade movement is complete, release the lever to the center position, then move back into the desired function.**

Function	Description of Operation
<b>RAISE</b>	Move control lever toward top of control body to raise snowplow and cancel FLOAT mode. Function times out after 6.25 seconds.
<b>LOWER</b>	Move the control lever toward bottom of control body to lower the snowplow. Release the lever to stop blade at desired height.
<b>FLOAT</b>	Move the control lever to <b>LOWER</b> position and hold for .75 second to activate this mode. The FLOAT light in upper right corner of control face will illuminate. The blade will lower to the ground surface and follow the contour of surface as it dips or raises. Function does not time out; however, control will shut down after 20 minutes of nonuse. Move lever to <b>RAISE</b> position momentarily to cancel FLOAT. Angling left or right will interrupt (stop) FLOAT function, but FLOAT will resume when angling is complete.
<b>L</b> (Angle Left)	Move the control lever straight to the left to move the blade to the angle left position to cast snow to the driver's left side. Function times out after 4.5 seconds.
<b>R</b> (Angle Right)	Move the control lever straight to the right to move the blade to the angle right position to cast snow to the driver's right side. Function times out after 4.5 seconds.
<b>BUCKET BLADE™</b>	Move the control lever toward the words BUCKET BLADE on the control face to extend both wings forward into the BUCKET BLADE position. Function times out after 7.25 seconds.
<b>COMPACT</b>	Move the control lever toward the word COMPACT on the control face to draw both wings into the fully retracted position. Function times out after 5.5 seconds.
<b>L WING IN/OUT</b>	Move the control lever toward the left side of LOWER on the control face to move the left wing. The first time the lever is moved into the slot after the control is turned ON or another function is used, the wing will extend. Repeated use of lever in the same slot, without using another function, results in movement in the opposite direction from the previous movement. Function times out after 4.5 seconds.
<b>R WING IN/OUT</b>	Move the control lever toward the right side of LOWER on the control face to move the right wing. The first time the lever is moved into the slot after the control is turned ON or another function is used, the wing will extend. Repeated use of lever in the same slot, without using another function, results in movement in the opposite direction from the previous movement. Function times out after 4.5 seconds.

# OPERATING YOUR SNOWPLOW

## POWER PLOW™ BLADE POWER GRIP™ HAND-HELD CONTROL

### ⚠ WARNING

To prevent accidental movement of the blade, always push the ON/OFF button to switch the control OFF whenever the snowplow is not in use. The power indicator light will turn OFF.

1. Turn the vehicle ignition switch to the "ON" or "ACCESSORY" position.
2. Press the ON/OFF button on the control. The power indicator light glows red, indicating the control is ON. The power indicator light glows red whenever the control ON/OFF switch and the vehicle ignition switch are both ON, the electrical connections to the snowplow are completed and the power switch on the light tower is in the "PLOWING" position. If the power switch is in the "OFF" position, the power indicator light will flash.

The ON/OFF button operates as an emergency stop, if required.

### Function Time-Outs

All control functions, except LOWER/FLOAT, automatically time out (stop) after a period of time. This helps prevent unnecessary battery drain.

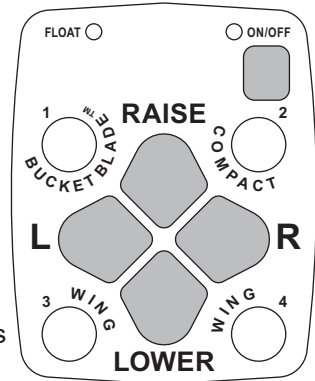
**NOTE:** If control function times out before desired blade movement is complete, release button and press again.

### Automatic Shutdown

The control automatically turns OFF after being idle for 20 minutes.

### Smooth Stop

The control automatically allows the blade to coast to a stop. This results in smoother operation, reduces the shock to the hydraulic system, and increases hose and valve life.



### Control Functions

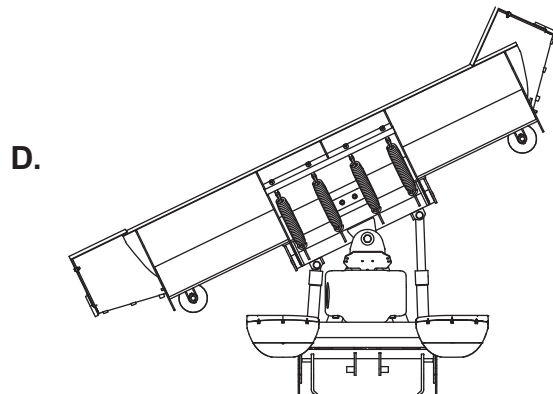
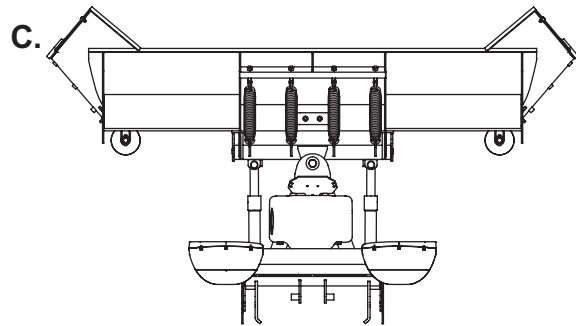
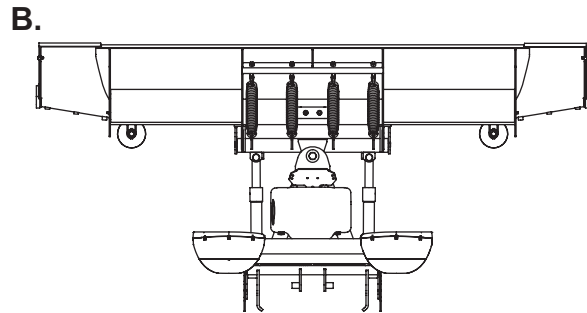
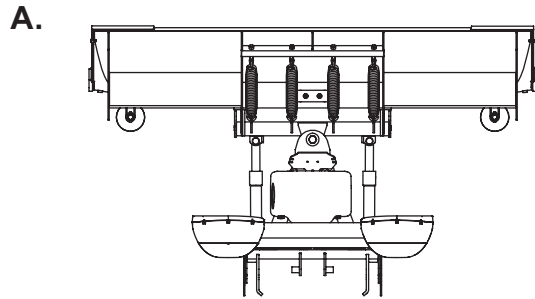
#### Raise, Lower, Float, Angle

The four diamond-shaped buttons in the center of the control face, when pressed, will result in the blade movements described in the table.

Function	Description of Operation
<b>RAISE</b>	Press this button to raise the snowplow and cancel the FLOAT mode. Function times out after 6.25 seconds.
<b>LOWER</b>	Press this button to lower the snowplow. Release the button to stop blade at desired height.
<b>FLOAT</b>	Press the <b>LOWER</b> button and hold for .75 second to activate this mode. The <b>FLOAT</b> light in the upper left corner of the control face will illuminate. The blade will lower to the ground surface and follow the contour of the surface as it dips or raises. Function does not time out; however, control will shut down after 20 minutes of nonuse. Press <b>RAISE</b> button momentarily to cancel <b>FLOAT</b> . Angling left or right will interrupt (stop) <b>FLOAT</b> function, but <b>FLOAT</b> will resume when angling is complete.
<b>L</b> (Angle Left)	Press the <b>L</b> button to move the blade to the angle left position to cast snow to the driver's left side. Function times out after 4.5 seconds.
<b>R</b> (Angle Right)	Press the <b>R</b> button to move the blade to the angle right position to cast snow to the driver's right side. Function times out after 4.5 seconds.
<b>BUCKET BLADE™</b>	Press this button to extend both wings forward into the <b>BUCKET BLADE</b> position. Function times out after 7.25 seconds.
<b>COMPACT</b>	Press this button to draw both wings into the fully retracted position. Function times out after 5.5 seconds.
<b>L WING</b>	Press the round <b>WING</b> button on the left side of the control to move the left wing. The first time the button is pressed after the control is turned ON or another function is used, the wing will extend. Repeated use of the same button, without using another function, results in movement in the opposite direction from the previous movement. Function times out after 4.5 seconds.
<b>R WING</b>	Press the round <b>WING</b> button on the right side of the control to move the right wing. The first time the button is pressed after the control is turned ON or another function is used, the wing will extend. Repeated use of the same button, without using another function, results in movement in the opposite direction from the previous movement. Function times out after 4.5 seconds.

# OPERATING YOUR SNOWPLOW

Your snowplow is the most advanced and versatile POWER PLOW™ snowplow on the market. The easy-to-use controls allow you to automatically adjust the snowplow blade into an infinite number of plowing positions. Review the illustrations below for instruction on maneuvering your snowplow.



## A. Compact Position

(8' or 8'6" Blade Width)

- Primary position when transporting the snowplow
- For use in heavy snow conditions with poor visibility, initial clearing and tight quarters
- *Ideal application: residential driveways, small roads*

## B. WIDE PASS™ Position

(10' or 11'3" Blade Width)

- Primary position for clearing large surfaces
- For use in light snow conditions with good visibility, final clearing and clean-up
- *Ideal application: large parking lots, widening roadways*

## C. BUCKET BLADE™ Position

(9'3" or 9'10" Blade Width)

- Primary position for transporting snow
- For use in initial clearing with decent visibility, transporting large volumes of snow, final clean-up
- *Ideal application: roadway intersections*

## D. WIDE PASS Position Angled with Wing Forward

- Primary position for accelerated angled plowing
- For use in directional plowing, cornering, diverting snow away from objects or buildings
- *Ideal application: plowing adjacent to buildings, driveway/road intersections*

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**NOTE:** To prevent premature failure of the power contactor (solenoid), return the joystick to its neutral (center) position, or release the keypad button, immediately after the blade reaches the limit of any position. Continuing to hold the control after the blade has reached the limit of movement in any position will reduce the life of the solenoid.

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# OPERATING YOUR SNOWPLOW

## SNOWPLOW HEADLAMP CHECK

With all electrical plugs connected, check the operation of vehicle and snowplow headlamps.

Connecting and disconnecting the electrical plugs should switch between the vehicle and snowplow headlamps as follows:

- Electrical plugs DISCONNECTED—Vehicle headlamps function normally.
- Electrical plugs CONNECTED—Vehicle headlamp functions transfer to the snowplow headlamps. On some DRL systems, both the vehicle and snowplow headlamps will function.

## Aiming the Headlamps

- Aim the snowplow headlamps with the snowplow mounted and raised in the transport position. See Aiming Headlamp Beams in the Maintenance section for instructions.
- Aim the vehicle headlamps with the snowplow removed from the vehicle.

Lights	Results
Parking Lamps	Both vehicle and snowplow lamps should be ON.
Right Turn Signal	Both vehicle and snowplow lamps should be ON.
Left Turn Signal	Both vehicle and snowplow lamps should be ON.

## DISC SHOE ADJUSTMENT

### ⚠ WARNING

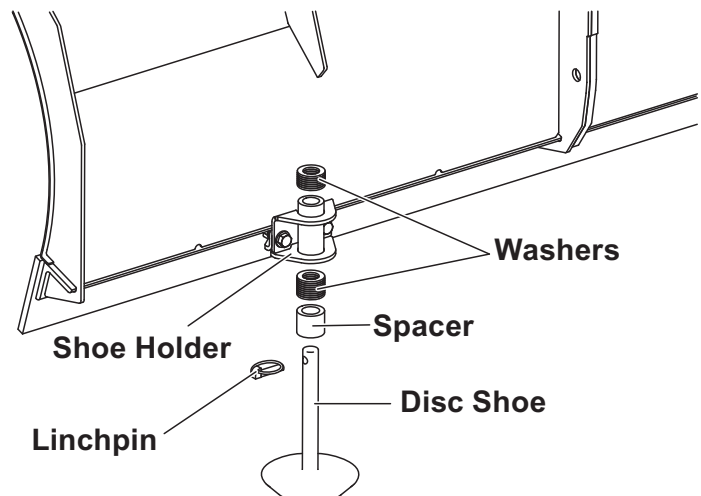
Blade can drop unexpectedly. Place blade on stand assembly. Failure to do so could result in serious personal injury.

## Recommended Shoe Adjustments

**For gravel surfaces:** The bottom surface of the shoe should be 1/4" to 1/2" below the cutting edge.

**For hard surfaces (concrete or asphalt):** The bottom surface of the shoe should be even with the cutting edge.

1. Raise the blade 1 foot off the road surface, turn the control OFF, and from in front of the blade, place stand assembly or sturdy blocking under the cutting edge.
2. Turn the control ON and lower the blade onto the stand assembly or blocking. Turn the control and vehicle ignition OFF.
3. Remove the linchpin, and slide the disc shoe down and out of the shoe holder.
4. Remove one or more washers from the shoe stem, and reinstall the shoe into the shoe holder.
5. Place the removed washers onto the shoe stem above the shoe holder.
6. Reinstall the linchpin.



## OPERATING YOUR SNOWPLOW

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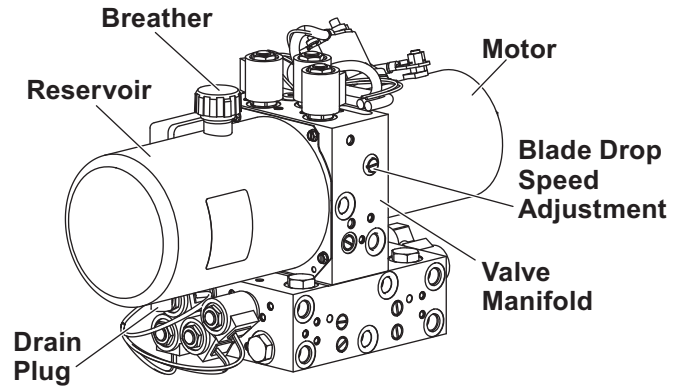
7. Turn the vehicle ignition to the "ON" position, and turn the control ON. Raise the blade slightly from the stand assembly or blocking. Turn the control OFF, and remove the stand assembly or blocking.
8. Stand 8' clear of the blade when checking the height adjustment of the cutting edge to the road surface.

# OPERATING YOUR SNOWPLOW

## HYDRAULIC SYSTEM

The hydraulic unit's valve manifold includes relief valves to prevent damage to the blade or vehicle if either end of the blade hits an obstacle. The valves are preset at the factory and do not need any adjustments unless the valve manifold is serviced. When force against the blade causes the pressure in an extended ram to exceed the set limits, the relief valve opens, allowing fluid to escape, and the ram retracts.

For hydraulic fluid type and filling instructions, see Hydraulic System, Annual Fluid Change, in the Maintenance Section of this manual.



Plow Function	Active Port
Raise or Hitch	Lift Ram, Base End
Lower/Float	Lift Ram, Base End
Unhitch	Lift Ram, Rod End
Angle Right	DS Angle Ram
Angle Left	PS Angle Ram
PS Wing Extend	PS Wing, Base End
PS Wing Retract	PS Wing, Rod End
DS Wing Extend	DS Wing, Base End
DS Wing Retract	DS Wing, Rod End
BUCKET BLADE™ Compact	PS & DS Wing, Base End PS & DS Wing, Rod End

**Torque Specifications**

All Solenoid/Check Valves: 19–21 ft-lb  
 All Solenoid Coil Nuts: 48–60 in-lb  
 Motor Relay Terminals: Small 10–15 in-lb, Large 25–35 in-lb  
 Motor Terminals: 50–60 in-lb

48470

Solenoid Valve	S1	S2	S4	S5	S6	S7	S8	S9	S10
Valve Model	SVCV08-20	SV08-22	SV08-30	SV08-45	SV08-41	SV08-30	SV08-30	SV08-30	SV08-30
Harness "C" Coil			S4	S5	S6	S7	S8	S9	S10
Harness "B" Coil	S1	S2							

Plow Function	Active Coil
Raise or Hitch	S1
Lower/Float	S2
Unhitch	S2 & S4
Angle Right	S5
Angle Left	S6
PS Wing Extend	S10
PS Wing Retract	S9
DS Wing Extend	S8
DS Wing Retract	S7
BUCKET BLADE™ Compact	S8 & S10 S7 & S9

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# OPERATING YOUR SNOWPLOW

## BLADE DROP SPEED ADJUSTMENT

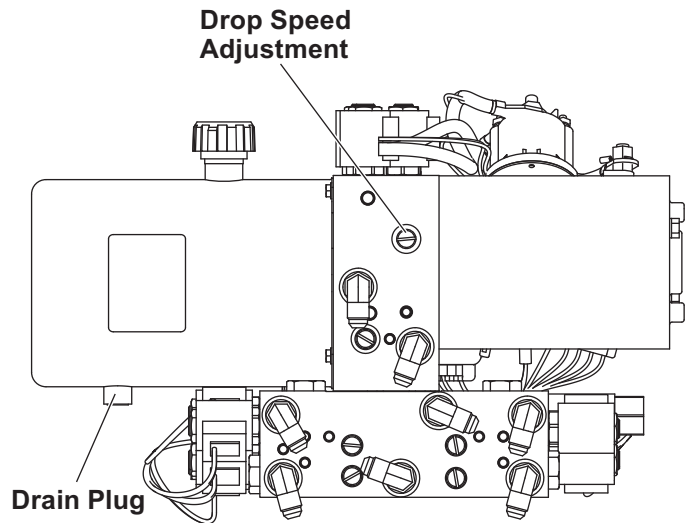
### **⚠ WARNING**

**Keep 8' clear of the blade when blade is being raised, lowered, or angled. Do not stand between the vehicle and blade or directly in front of blade. If the blade hits or drops on you, you could be seriously injured.**

1. The plow drop speed may be adjusted by turning the needle valve.

**NOTE: The blade will not drop when drop speed needle valve is fully tightened (clockwise). Turn OFF the plow control, turn the needle valve 1/8 turn outward (counterclockwise), then proceed with blade drop speed adjustment.**

2. Lower the blade to the ground before making adjustment.
3. Turn the needle valve inward (clockwise) to decrease the drop speed. Turn the needle valve outward (counterclockwise) to increase the drop speed.
4. Stand 8' clear of the blade when checking adjustment.





# OPERATING YOUR SNOWPLOW

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## TRANSPORTING SNOWPLOW

### **⚠ WARNING**

Position blade so it does not block headlamp beam. Do not change blade position while traveling. You could suddenly lower blade accidentally.

### **⚠ CAUTION**

Transport speed should not exceed 45 mph (72 km/h). Further reduce speed under adverse travel conditions.

These instructions are for driving short distances to and from plowing jobs. Remove the snowplow from the vehicle for long trips and place in pickup box, following recommended mechanical lifting cautions and procedures.

1. Completely raise the blade.
2. Adjust the blade height for maximum snowplow headlamp illumination.
3. Adjust the blade to the straight position.
4. Turn the control OFF to lock the blade in place.

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**NOTE: Overheating is unlikely under normal driving conditions, but occasionally the snowplow may be positioned where it deflects air away from the radiator. If this occurs, stop the vehicle and raise, lower or angle the snowplow slightly to correct overheating.**

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**NOTE: Only the driver should be in the vehicle cab when the snowplow is attached.**

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## DRIVING AND PLOWING ON SNOW AND ICE

### **⚠ WARNING**

Drinking then driving or plowing is very dangerous. Your reflexes, perceptions, attentiveness, and judgment can be affected by even a small amount of alcohol. You can have a serious or even fatal collision if you drive after drinking. Please do not drink and then drive or plow.

Refer to vehicle owner's manual instructions for driving in snow and ice conditions. Remember, when you drive on snow or ice, your wheels will not get good traction. You cannot accelerate as quickly, turning is more difficult and you will need longer braking distance.

Wet and hard-packed snow or ice offers the worst tire traction. It is very easy to lose control. You will have difficulty accelerating. If you do get moving, you may have poor steering and difficult braking, which can cause you to slide out of control.

Here are some tips for driving in these conditions:

- Drive defensively.
- Do not drink, then drive or plow snow.
- Plow or drive only when you have good visibility for operating a vehicle.
- If you cannot see well due to snow or icy conditions, you will need to slow down and keep more space between you and other vehicles.
- Slow down, especially on higher-speed roads. Your headlamps can light up only so much road ahead.
- If you are tired, pull off in a safe place and rest.
- Keep your windshield and all glass on your vehicle clean to see around you.
- Dress properly for the weather. Wear layers of clothing; as you get warm, you can take off layers.

# OPERATING YOUR SNOWPLOW

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## PLOWING SNOW

### **⚠ WARNING**

Never plow snow with head out the vehicle window. Sudden stops or protruding objects could cause personal injury.

### **⚠ CAUTION**

Wear a seat belt when plowing snow. Hidden obstructions could cause the vehicle to stop suddenly, resulting in personal injury.

### **⚠ CAUTION**

Flag any obstructions that are hard to locate under snow to prevent damage to product or property.

### **⚠ CAUTION**

Never stack snow with the blade angled. This could damage the snowplow or the vehicle bumper.

### **⚠ CAUTION**

Plowing speed should not exceed 10 mph (16 km/h).

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**NOTE: Only the driver should be in the vehicle cab when the snowplow is attached.**

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## General Instructions

1. Before plowing, make sure that you know of any obstructions hidden beneath the snow such as bumper stops in parking lots, curbs, sidewalk edges, shrubs, fences, or pipes sticking up from the ground. If unfamiliar with the area to be plowed, have someone familiar with the area point out obstacles.
2. If possible and you have good visibility, plow during the storm rather than letting snow accumulate.

3. Do not exceed 10 mph (16 km/h) when plowing snow.
4. When you are stacking snow, begin raising the blade as you come close to the stack. This will let the blade ride up the stack.

## Hard-Packed Snow

1. Raise the disc shoes so that the cutting edge comes into direct contact with the pavement.
2. Use lowest gear to place maximum power behind cutting edge.
3. An angled blade is more effective for removing hard-packed snow.

## Deep Snow

1. Use the Compact Blade position for the initial pass. If necessary, raise the blade 3 to 4 inches to shear off the top layer.
2. Continue plowing using blade positions best suited for the job.
3. Experience and "feel" are the best guides.
4. When plowing deep snow, be sure to keep vehicle moving.
5. Ballast is suggested for maximum traction. Secure ballast behind the rear wheels. Do not exceed vehicle's GVWR and GAWR.
6. For increased traction, use tire chains where legal.

# OPERATING YOUR SNOWPLOW

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## Clearing Driveways

1. Head into the driveway with the blade angled and plow the snow away from any buildings. Widen driveway by rolling snow away from any buildings.
2. If a building is at the end of the driveway, plow to within a vehicle length of the building. Push as much snow as possible off the driveway.
3. With a raised blade, drive through remaining snow to building. Drop blade and back drag snow away from the building at least one vehicle length. Repeat if necessary.
4. Back vehicle to the building and plow forward, removing the remaining snow from the driveway. Check municipal ordinances for proper disposal of snow.

## Clearing Parking Lots

1. Clear areas in front of buildings first. With blade raised, drive up to the building. Drop blade and back drag the snow away from building. When snow is clear of the buildings, turn the vehicle around and push snow away from the buildings toward outer edges of lot.
2. Plow a single path down the center in the lengthwise direction.
3. With the blade in the angle position, plow successive strips lengthwise until the area is cleared and snow is stacked around the outer edges.
4. If snow is too deep to clear in above manner, clear main traffic lanes as much as possible. Check municipal ordinances for proper disposal of snow.

## PARKING WITH SNOWPLOW ATTACHED

### WARNING

**Lower blade when vehicle is parked. Keep 8' clear of the blade. Temperature changes could change hydraulic pressure, causing the blade to drop unexpectedly or damaging hydraulic components. Failure to do this could result in serious personal injury.**

Whenever you park your vehicle, completely lower the blade to the ground.

## TOWING A DISABLED OR STUCK VEHICLE

Do not use any snowplow components as an attaching point when retrieving, towing, or winching a disabled or stuck vehicle.

# REMOVING SNOWPLOW FROM VEHICLE & STORAGE

## REMOVING SNOWPLOW (OFF)

### ⚠ WARNING

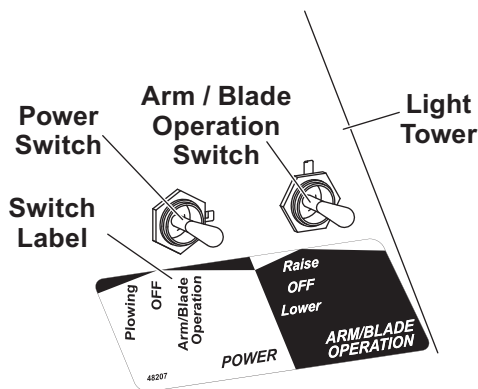
Keep 8' clear of the blade when blade is being raised, lowered, or angled. Do not stand between the vehicle and blade or directly in front of blade. If the blade hits or drops on you, you could be seriously injured.

### ⚠ WARNING

Inspect snowplow components and fasteners for wear or damage whenever mounting or removing the snowplow. Worn or damaged components could allow the snowplow to drop unexpectedly.

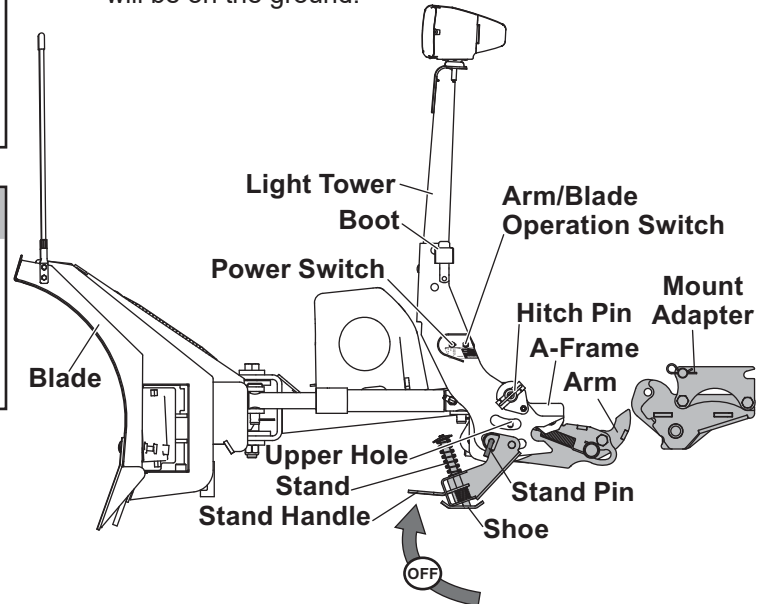
During the off-season, the control can be removed. Disconnect the connector in the cab and store the control in the glove box of the vehicle.

1. Lower snowplow onto ground with blade straight. Turn control in cab OFF.
2. Move power switch to center, or "OFF," position.

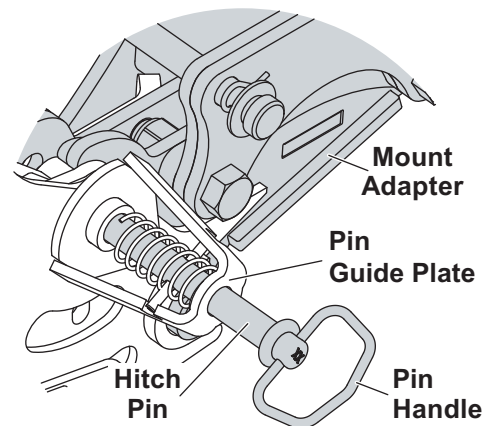


3. While holding the power switch RIGHT, push DOWN and hold the Arm/Blade Operation switch. Arm will disengage mount adapter to relieve tension on the stand.

4. Pull the stand pin out. Rotate the stand down until the stand pin seats into the lower A-frame hole. The stand pin must lock into the lower A-frame hole. Push down on the top of the shoe. The shoe will be on the ground.



5. Repeat Step 4 on the passenger's side.
6. Push and hold power switch RIGHT and push UP the Arm/Blade Operation switch. Arm will engage mount adapter and pull snowplow tightly to vehicle.



7. Rotate and pull the hitch pin. Rotate the hitch pin into the retracted position.
8. Repeat Step 7 on the passenger's side.

## REMOVING SNOWPLOW FROM VEHICLE & STORAGE

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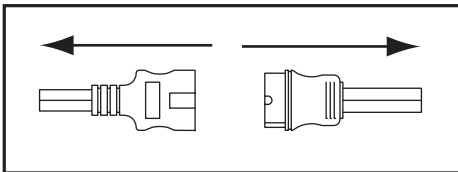
9. While holding the power switch RIGHT, push DOWN and hold Arm/Blade Operation switch to fully lower arm.
10. Unplug electrical harnesses.

**⚠ CAUTION**

On 2-plug electrical systems, plug covers shall be used whenever snowplow is disconnected. Vehicle battery cable is 12V unfused source.

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**NOTE:** After each use of the snowplow, reapply



dielectric grease to the electrical plugs to maintain the protective coating on the terminals.

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**NOTE:** Place electrical plugs in storage position. The plugs are equipped with plug covers.

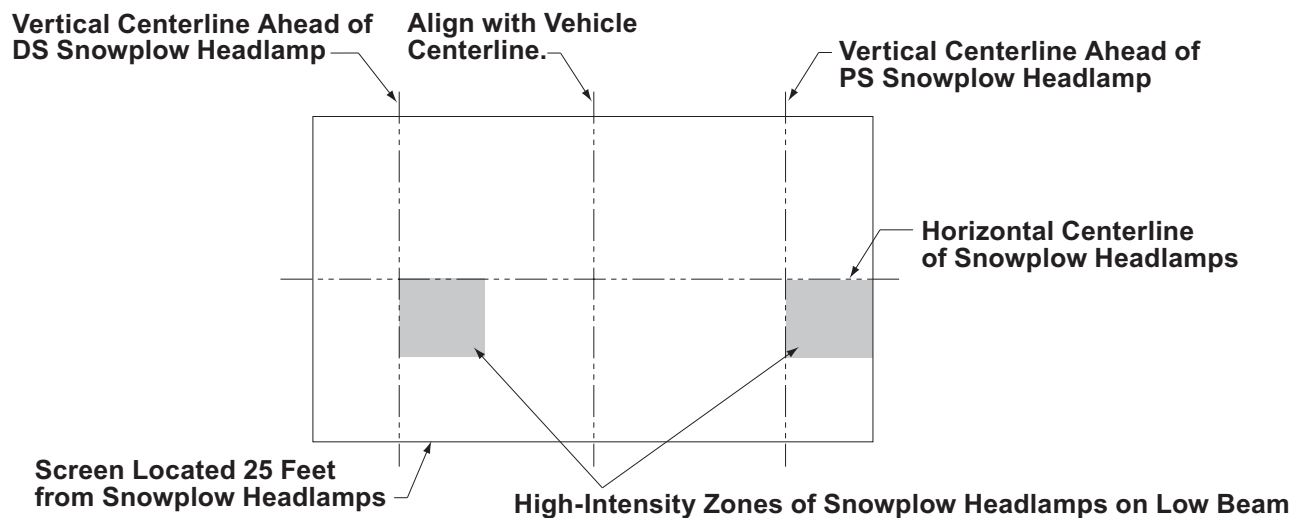
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# MAINTENANCE

## AIMING HEADLAMP BEAMS

Tighten headlamp fasteners to 45 ft-lb once correct visual aim is achieved.

1. Place vehicle on a level surface 25 feet in front of a matte-white screen, such as a garage door. The screen should be perpendicular both to the ground and to the vehicle centerline.
  2. The vehicle should be equipped for normal operation. The snowplow blade should be in place and in raised position. Below are steps listed by the Society of Automotive Engineers (SAE) pertinent to headlamp aiming in specification #SAE J599d.
  3. Prepare vehicle for headlamp aim or inspection. Before checking beam aim, the inspector will:
    - a. Remove ice or mud from under fenders.
    - b. Set tire inflation pressures to the values specified on vehicle information label.
    - c. Check springs for sag or broken leaves.
    - d. See that there is no load in the vehicle other than the driver and ballast as specified in the Power Match selection system.
  - e. Check functioning of any automatic vehicle leveling systems and specific manufacturer's instructions pertaining to vehicle preparation for headlamp aiming.
  - f. Clean lenses.
  - g. Check for bulb burnout and proper beam switching.
  - h. Stabilize suspension by rocking vehicle sideways.
4. Mark (or tape) the vertical centerline of the snowplow headlamps and the vertical centerline of the vehicle on the screen. Mark the horizontal centerline of the snowplow headlamps on the screen (distance from ground to snowplow headlamp centers).
  5. Align the top edge of the high-intensity zone of the snowplow lower beam below the horizontal centerline and the left edge of the high-intensity zone on the vertical centerline for each snowplow headlamp. (Refer to diagram below.)



# MAINTENANCE

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## PRESEASON CHECK

### WARNING

**Lower blade when vehicle is parked. Keep 8' clear of the blade. Temperature changes could change hydraulic pressure, causing the blade to drop unexpectedly or damaging hydraulic components. Failure to do this could result in serious personal injury.**

Before the snow season, check your equipment to make sure it's in working condition. Here are some tips for getting your equipment ready:

- Clean and tighten all electrical connections and coat with dielectric grease to prevent corrosion.
- Check hydraulic system for leaks and cracked or damaged hoses.
- Drain hydraulic system and refill with recommended hydraulic fluid. For hydraulic fluid type and filling instructions, see Hydraulic System, Annual Fluid Change, in this section of the manual.
- Replace worn or damaged parts.
- Check all mounting points and tighten fasteners, on both snowplow and vehicle. Verify that all cotter pins are in place.
- Repaint blade assembly and attachments, as necessary, to protect the metal.
- Install auxiliary and flashing lights for compliance and visibility in accordance with local regulations.
- Check headlamps, auxiliary lights, heater and windshield wipers for proper operation.
- Inspect and test your battery. Recharge or replace as necessary.
- Ballast may be necessary, or beneficial, on some vehicles to provide maximum traction, braking and handling.
- Any ballast material (such as sand and blocks) must be solidly secured to the vehicle, preventing it from moving under harsh plowing conditions.

## POSTSEASON MAINTENANCE

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**NOTE: Coat all electrical connections with dielectric grease.**

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- Clean and paint blade and components as needed.
- Apply general purpose petroleum grease to exposed chrome surfaces of the rams to prevent rust.
- Lubricate the hitch pins with general purpose petroleum grease.

# MAINTENANCE

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## MAINTENANCE AND ADJUSTMENT

### **⚠ WARNING**

**Lower blade when vehicle is parked. Keep 8' clear of the blade. Temperature changes could change hydraulic pressure, causing the blade to drop unexpectedly or damaging hydraulic components. Failure to do this could result in serious personal injury.**

Your BLIZZARD® snowplow is designed for rugged, dependable service. However, like the vehicle on which it is mounted, it needs regular care and maintenance.

Check the following before and frequently during the plowing season:

1. Make sure that all fasteners, mounting bolts and hydraulic connections are tight. Pay particular attention to mount adapter fasteners and the 1" pivot bolt.
2. Make sure that all electrical connections, including grounds, are clean, tight, free of rust or corrosion, and are coated with dielectric grease.
3. Check all plugs and seals for hydraulic fluid leaks. Repair as necessary.

### **⚠ CAUTION**

**Overtightening springs will not increase blade trip force and can damage the springs.**

4. **Trip Spring Adjustment:** To adjust trip spring tension, adjust the eyebolts located at the top of the blade. Tighten the adjusting nut until the coils begin to separate. When tension is properly adjusted, a sheet of paper should pass between the second and third coils. When the proper tension is reached, tighten locknut.
5. **Blade Finish:** If the powder-coated finish is nicked or scratched, repair the surface and paint with BLIZZARD white or black paint (available in aerosol or quart cans).



# MAINTENANCE

## HYDRAULIC SYSTEM

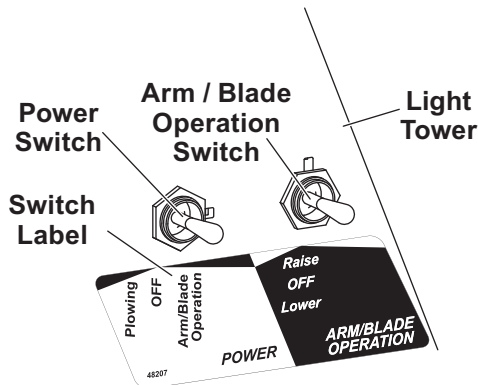
### Fluid Level

#### ⚠ CAUTION

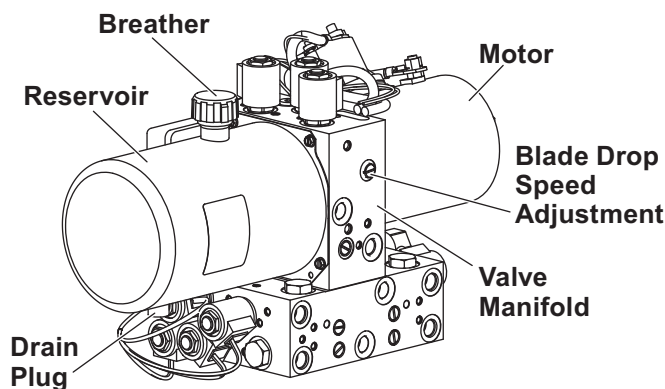
Do not mix different kinds of hydraulic fluid. Some fluids are not compatible and may cause performance problems and product damage.

**NOTE:** Remove breather slowly to relieve any pressure in reservoir.

1. With the snowplow attached to the vehicle and the blade on the ground, turn control OFF.



2. Move power switch to center, or "OFF," position.
3. While holding the power switch RIGHT, push DOWN and hold the Arm/Blade Operation switch. The arm will disengage mount adapter and fully retract the lift ram.
4. Remove the breather. Fill to 1" from the top of the reservoir and replace the breather.



5. Turn control ON. Raise and lower the blade to reposition the draw latch.

For fluid recommendations, see the following Annual Fluid Change section.

### Annual Fluid Change

#### ⚠ CAUTION

Change the fluid at the beginning of each plowing season. Failure to do this could result in condensation buildup during the non-snowplow season.

#### ⚠ CAUTION

Do not mix different kinds of hydraulic fluid. Some fluids are not compatible and may cause performance problems and product damage.

1. Perform this operation with the snowplow attached to the truck on a hard, level surface.
2. With blade in COMPACT position, lower blade to ground and turn control OFF.
3. While holding the power switch RIGHT, push DOWN and hold the Arm/Blade Operation switch. The arm will disengage mount adapter and fully retract the lift ram.

**NOTE:** Loosen breather slowly to relieve any pressure in the reservoir.

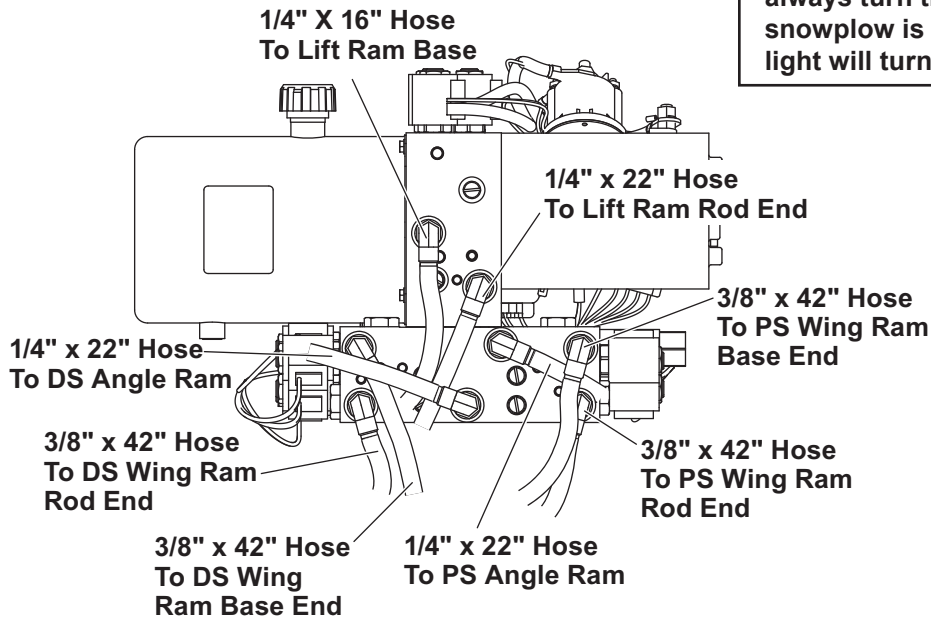
4. Remove the drain plug located in the bottom of the hydraulic reservoir.
5. Completely drain reservoir and replace drain plug.
6. Carefully note hose routing for proper reassembly.
7. Remove the angle ram hoses from the fittings on the hydraulic unit and place in a drain pan or suitable container. **(See the following illustrations and Hydraulic Hose or Fitting Replacement instructions.)**

# MAINTENANCE

8. Manually angle the blade fully in each direction to remove fluid from the angle rams. Do not allow the hose from the extending ram to take fluid back in.
9. Reconnect the angle ram hoses to the proper fittings. (See the following illustration for Hydraulic Hose or Fitting Replacement instructions.)

## ⚠ WARNING

Keep 8' clear of the blade when blade is being raised, lowered, or angled. Do not stand between the vehicle and blade or directly in front of blade. If the blade hits or drops on you, you could be seriously injured.



## ⚠ CAUTION

Do not raise blade during fill process, as this may cause pump cavitation.

10. With the lift ram fully retracted, fill the reservoir through the fill hole until the fluid is 1" from the top of the reservoir.

Use BLIZZARD® Rapid Action Hydraulic Fluid rated to  $-40^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$ ) or other fluid conforming to Military Specification MIL-H-5606A, such as Mobil Aero HFA or Shell AeroShell® Fluid 4.

11. Replace breather.

## Air Removal

12. Turn control ON and completely angle blade to the left and right several times. Turn control OFF.

**NOTE: Remove breather slowly to relieve any pressure in the reservoir.**

13. Remove the breather. Refill reservoir to 1" from the top of the reservoir and replace breather.
14. Turn control ON and raise and lower the blade to reposition the draw latch.

## ⚠ WARNING

To prevent accidental movement of the blade, always turn the control OFF whenever the snowplow is not in use. The power indicator light will turn OFF.

AeroShell® is a registered trademark (®) of Shell Oil Company.

# MAINTENANCE

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## Hose or Fitting Replacement

### **⚠ WARNING**

**Lower blade when vehicle is parked. Keep 8' clear of the blade. Temperature changes could change hydraulic pressure, causing the blade to drop unexpectedly or damaging hydraulic components. Failure to do this could result in serious personal injury.**

**DO NOT** use thread sealant/tape on hoses or fittings. This could damage product. Follow recommended replacement procedures for fittings and hoses.

1. Lower snowplow completely, and turn control OFF.

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**NOTE: Loosen breather slowly to relieve any pressure in the reservoir.**

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2. Carefully note hose routing for proper reassembly.
3. Loosen hoses or fittings slowly to relieve any residual pressure.
4. To remove a hose, loosen and unscrew the hose flare nut from the fitting.
5. To remove a fitting, loosen the jam nut and unscrew the fitting from the port.

## Procedure for Installing Hydraulic Fittings and Hoses

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**NOTE: Overtightening JIC hose fitting ends will result in a fractured fitting.**

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**DO NOT** use any type of sealant or tape on the fittings or hoses. This could damage product. Always use two wrenches to ensure proper tightening of fittings and hoses.

**Use the following procedure to install SAE O-ring fittings in valve block and rams:**

1. Turn jam nut on fitting as far back as possible.
2. Lubricate O-ring with clean hydraulic fluid.
3. Screw fitting into port by hand until the washer contacts the port face and shoulder of the jam nut threads.
4. Unscrew fitting to proper position, no more than one full turn.
5. Using two wrenches, hold fitting body in position and tighten jam nut until the washer again contacts port face, then tighten an additional 1/8 to 1/4 turn to lock fitting in place. Final torque on the jam nut should be approximately 20 ft-lb.

**Use the following procedure to install hydraulic hoses:**

1. Screw flare nut onto fitting flare and hand tighten.
2. Align hose so there are no twists or sharp bends and so it will not be pinched or pulled by moving parts.
3. Using two wrenches, hold the hose in position and tighten flare nut 1/8 to 1/4 turn beyond hand tight. Final torque on the flare nut should be approximately 20 ft-lb.

# MAINTENANCE

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## FUSE REPLACEMENT

The vehicle control harness contains two automotive-style fuses. The snowplow control and park/turn power are both covered by a 10A fuse. The control fuse is "hot" when the vehicle ignition switch is ON and the electrical connections to the snowplow are completed.

See the Harness Diagram at the end of this manual for fuse ratings and locations.

The hydraulic unit harness system contains four automotive-style mini-fuses. The 2-solenoid coil harness (to port B on the hydraulic unit module) contains two 5A mini-fuses. The 7-solenoid coil harness (to port C on the hydraulic unit module) contains two 4A mini-fuses.

If a problem should occur and fuse replacement is necessary, the replacement fuse must be of the same type and amperage rating as the original. Installing a fuse with a higher rating can damage the system and could start a fire.

## VEHICLE

The snowplow operating vehicle shall be maintained according to manufacturer's recommendations. Tire pressure shall be maintained according to manufacturer's recommendation.

## RECYCLE

When your snowplow has performed its useful life, the majority of its components can be recycled as steel or aluminum. Hydraulic fluid shall be disposed according to local regulations. Balance of parts made of plastic shall be disposed of in a customary manner.

## BLADE FINISH

If the powder-coated finish is nicked or scratched, repair the blade surface with BLIZZARD® white or black paint (available in aerosol or quart cans from your BLIZZARD outlet). Clean and repaint parts as necessary.

## EMERGENCY PARTS/TOOLS

We suggest that you keep a BLIZZARD emergency parts kit (PN 41143) in your vehicle. These kits contain BLIZZARD hydraulic fluid, dielectric grease, common hoses, fittings, switches, pins, clips, and a motor relay.

Also keep the following items in your vehicle for emergency use:

- 10" adjustable wrench
- Pliers (locking, adjustable, etc.)
- Medium screwdriver
- 11/16" open-end wrench
- 3/4" open-end wrench
- 4A, 5A, and 10A automotive-style mini-fuses
- Miscellaneous fasteners

***Always use BLIZZARD designed and tested replacement parts.***

## TROUBLESHOOTING

If you have followed all of the guidelines in the Maintenance section of this manual and cannot resolve issues with the operation of your BLIZZARD snowplow, contact one of our authorized outlets for repair information, or visit us online at [www.blizzardplows.com](http://www.blizzardplows.com). Our website has a complete listing of authorized outlets in your area as well as a complete library of Parts Lists, Mechanic's Guides, and service information to assist the qualified mechanic with repair.

Blizzard does not recommend repairs by other than our factory-trained outlets. Failure to use an authorized outlet could affect the warranty coverage on your snowplow.



## TECHNICAL SPECIFICATIONS

Part	Specification	8100PP	86110LP
<b>Moldboard</b>	Length	96" (8')	102" (8'6")
	Thickness	12 ga	12 ga
	Height	31"	
	Reinforcement	4 Ribs @ 1/4"	
	Cutting Edge (1080)	1/2" x 6"	
	Finish	Powder Coat White	
	Trip Mechanism	(4) 3/8" Hooked Extension Springs	(6) 3/8" Hooked Extension Springs
<b>A-Frame</b>	Material	Square Tube	
	Hitch Pins	3/4" x 8" Clear Zinc	
	Finish	Powder Coat Black	
<b>Pump</b>	Construction	Steel Housing w/Steel Tank	
	Type	Internal Gear Pump	
	Size	2.47 cc	
	Motor	12V Starter	
	Weight	42 lb	
	Mount	A-Frame Install w/Hex Cap Screws	
	Reservoir Capacity	3 qt	
<b>Manifold</b>	Construction	Green/Black Anodized Aluminum	
	Valves	Electro-Hydraulic Cartridge	
<b>Cylinders</b>	Angle Cylinders	2	
	Stroke	11-3/8"	
	Rod Diameter	1-3/4"	
	Raise/Lower Cylinder	1	
	Stroke	5-1/2"	
	Rod Diameter	1-1/2"	
	Bore Diameter	3-1/2"	
<b>Snowplow Headlamps</b>	Type	Low-Profile w/Turn Signals	
	Measurements	16" W x 6" H x 9-1/2" D	
	Housing	Plastic Composite	
	Bulb Type	H13	
<b>Snowplow Specs</b>	Weight*	924 lb	990 lb
	Amperage Draw**	145A	
	Adjustable Plow Shoes	(2) Heavy-Duty Cast Steel	
	Mount Mechanism	Hydraulic Power Switch	
	Control Station	Joystick or Hand-Held	

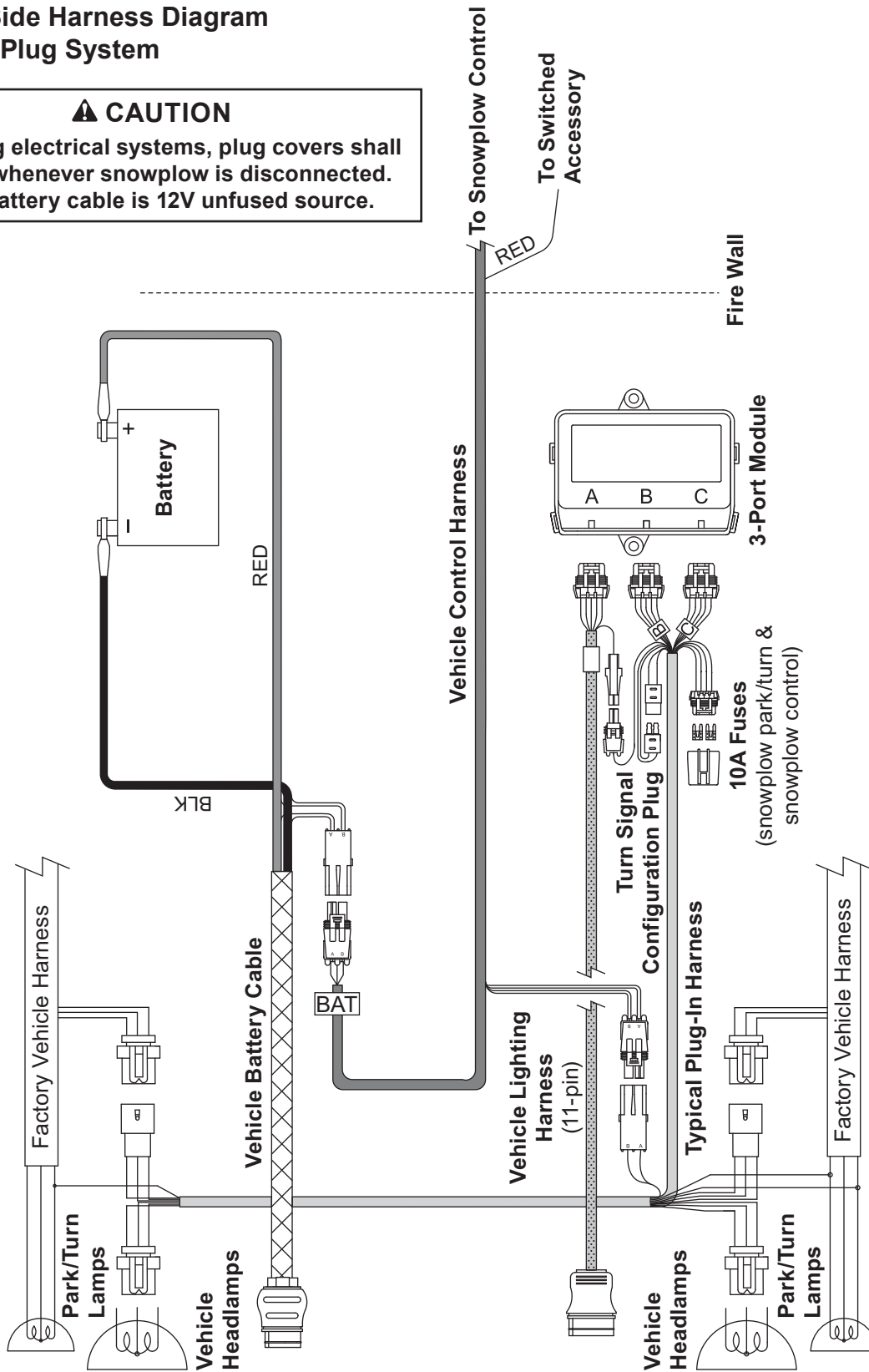
\* Weight does not include undercarriage or mount adapter.

\*\* Amperage Draw specifications are based on snowplow lift operation, at a shop temperature of 65°F, using BLIZZARD® Rapid Action Hydraulic Fluid. Amperage will vary with temperature, fluid viscosity and meter accuracy. Deadheading a snowplow function will result in significantly increased amperage.

# HARNESSES DIAGRAMS

## Vehicle-Side Harness Diagram 3-Port, 2-Plug System

**⚠ CAUTION**  
On 2-plug electrical systems, plug covers shall be used whenever snowplow is disconnected. Vehicle battery cable is 12V unfused source.







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