

April 15, 2023  
Lit. No. 74238, Rev. 05



# **MD UTV Straight Blade Snowplow**

**Hydraulic Lift and Angle**

**Blade Assembly 87520, 87521  
Hydraulic Lift Attachment 87515**

**Owner's Manual**  
*Original Instructions*

**⚠ CAUTION**

Read this document before installing the  
snowplow.



## OWNER INFORMATION

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

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

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

Dealer Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Dealer 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: \_\_\_\_\_

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## PREFACE

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This manual has been prepared to acquaint you with the safety information, operation, and maintenance of your new snowplow. Please read this manual carefully and follow all recommendations.

Before installing a snowplow, make sure that your vehicle is equipped with our recommended options for plowing snow. This will help ensure trouble-free operation of your snowplow. Keep this manual accessible. It is a handy reference in case minor service is required.

When service is necessary, bring your snowplow to your local outlet. They know your snowplow best and are interested in your complete satisfaction.

The illustrations found in this manual represent typical components. They may not match your exact installation.

# 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 & INSTRUCTION LABELS

Become familiar with and inform users about the warning/caution, serial number, and instruction labels on the back of the blade.

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

ZZZZZ

YYMMDDLXXXZZZZ

Serial No. Code	Definition
YY	2-Digit Year
MM	2-Digit Month
DD	2-Digit Day
LL	2-Digit Location Code
XXXX	4-Digit Sequential Number
ZZZZZ	5- to 7-Digit Blade Assembly PN

Warning/Caution Label

**⚠ 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 maximum vehicle load capacity, including blade and ballast.

**⚠ CAUTION**

Read Owner's Manual before operating or servicing snowplow.

Transport speed should not exceed 20 mph (32 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.

Warning Label

**⚠ WARNING**

**HIGH-PRESSURE FLUID HAZARD**

To prevent serious injury or death:

Relieve pressure on hydraulic system before servicing or disconnecting.

Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.

Keep all components in good repair.

Instruction Label

**ATTACH**

- Verify that plow control in vehicle is disconnected. Slowly drive vehicle forward to engage rear headgear arms into receiver slots, bottoming out headgear arms in slots.
- Plug in electrical harness.
- Plug in plow control in vehicle. Press plow control switch down to activate FLOAT.
- On driver's side, pull up on headgear to relieve pressure on connecting pins while pulling driver's side connecting pin out. Rotate pin toward mount; insert it into connecting pin hole.
- Verify that connecting pin is engaged in mount (through outside & inside plates) and extends approximately 1/8" through the plate.
- Repeat on passenger's side.
- Remove wire-lock clevis pin. Fully raise jack stand up. Insert pin in hole & engage wire lock.

**DETACH**

- With blade straight, lower snowplow to the ground. Press plow control switch down to activate FLOAT.
- Remove wire-lock clevis pin. Fully lower jack stand. Insert pin in jack stand hole that aligns with hole in engine frame. Engage the wire lock.
- On driver's side, pull up slightly on headgear to relieve pressure on connecting pin while removing the pin. Rotate pin & insert into hole in headgear.
- Repeat on passenger's side.
- Unplug electrical harness. Unplug plow control in vehicle.
- Back vehicle away to disconnect headgear from receivers.

**⚠ WARNING**

Keep fingers away from snowplow and UTV attachment points.

**ATTACH - Steps 4, 5, & 6**

**DETACH - Step 3**

**ATTACH - Step 7**

**DETACH - Step 2 & 4**

Labels in diagram: Connecting Pin, Hole in Headgear, Wire-Lock Clevis Pin, Jack Stand, Blade, Headgear Handle, Connecting Pin Hole, Headgear Arm, Receiver.

## PREFACE

### SAFETY PRECAUTIONS

Follow all safety and operating instructions in your UTV owner's manual.

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

#### WARNING

Lower the blade when the 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

Lower the blade before turning ignition off. Changing the position of the up & down/float toggle switch while the ignition is off may cause the blade to go into float when the ignition is turned on. Failure to do this could result in serious personal injury.

#### WARNING

The driver shall keep bystanders clear of the blade when it is being raised, lowered, or angled. Do not stand between the vehicle and the blade or within 8 feet (2.4 m) of a moving blade. A moving or falling blade could cause personal injury.

#### WARNING

Keep hands and feet clear of the blade and A-frame when mounting or removing the snowplow. Moving or falling assemblies could cause personal injury.

#### WARNING



Do not exceed GVWR, GAWR, or maximum vehicle load capacity, including the blade and ballast.

#### WARNING

To prevent accidental movement of the blade, always unplug the control whenever the snowplow is not in use.

#### WARNING

Remove blade assembly before placing vehicle on hoist.

#### WARNING

Vehicle mount reduces ground clearance. Use additional caution when driving vehicle with mount installed. Remove vehicle mount to restore original vehicle ground clearance at the end of the plowing season.

### 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 electrical and hydraulic systems contain an automotive-style fuse. 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 information, including fuse rating and location, is located in the Maintenance section of this Owner's Manual.



# PREFACE

## PERSONAL SAFETY

- Remove the ignition key and put the vehicle in PARK and set the brake 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.
- Wear hearing protection such as earmuffs or earplugs as appropriate or required.
- Avoid touching hot surfaces such as the engine, radiator, hoses, and exhaust pipes.
- Always have a fire extinguisher rated BC handy for flammable liquids and electrical fires.

## FIRE AND EXPLOSION

Be careful when using gasoline. Do not use gasoline to clean parts. Store only in approved containers away

### 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.**

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 surroundings. 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 95 dB(A) for the snowplow operator.

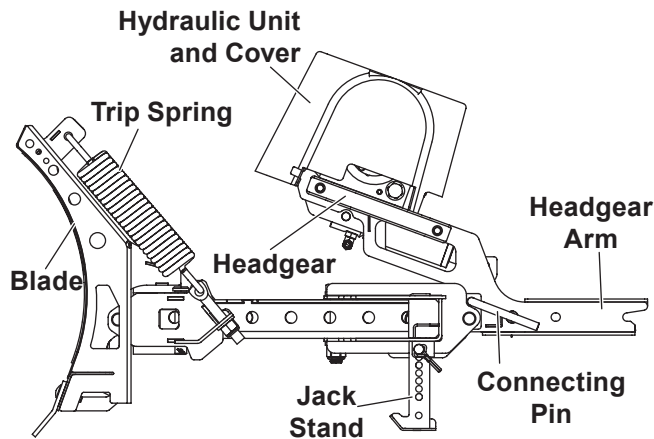
## VIBRATION

Operating snowplow vibration does not exceed 2.5 m/s<sup>2</sup> to the hand-arm or 0.5 m/s<sup>2</sup> to the whole body.

# GETTING TO KNOW YOUR SNOWPLOW

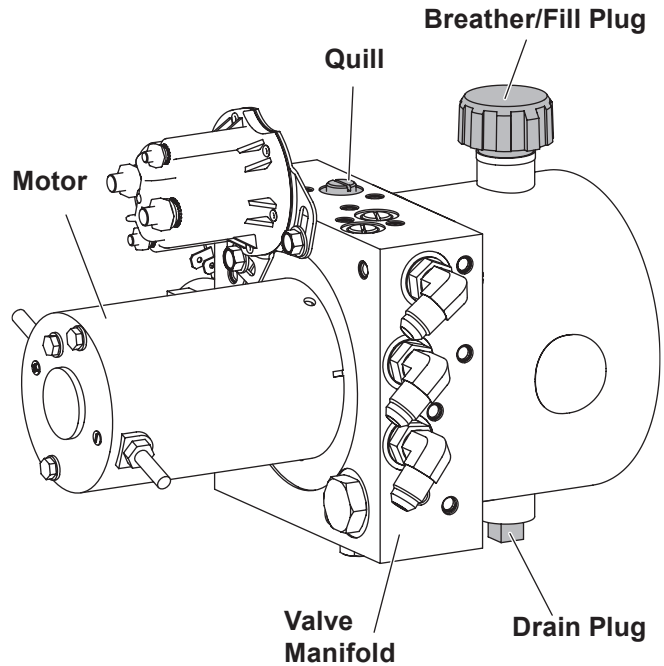
## SNOWPLOW COMPONENTS

A snowplow consists of all the components that are readily removable from the vehicle as a unit. This includes the blade, A-frame, headgear, and hydraulic unit. The snowplow is ready and easy to mount when you need to plow snow. When plowing is completed, remove the snowplow.



## HYDRAULIC UNIT

The hydraulic system gives you full control of the snowplow from the driver's seat.



## VEHICLE MOUNT KIT

### ⚠ WARNING

**Vehicle mount reduces ground clearance. Use additional caution when driving vehicle with mount installed. Remove vehicle mount to restore original vehicle ground clearance at the end of the plowing season.**

Mount kits have been designed for many UTVs. Due to the differences among vehicle models, the kits are not interchangeable.

The vehicle mount assembly is bolted to the underside of the vehicle frame. It is engineered to provide the primary connecting points between the snowplow assembly and the vehicle. The weight of the snowplow system is distributed to the frame of your vehicle by the mount assembly.

# GETTING TO KNOW YOUR SNOWPLOW

## HAND-HELD CONTROL

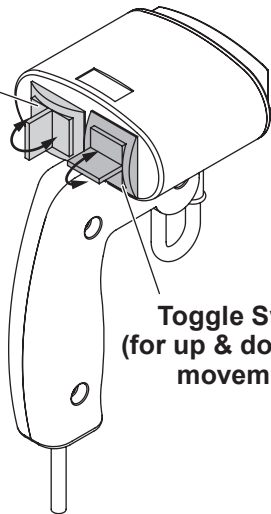
### ⚠ WARNING

To prevent accidental movement of the blade, always unplug the control whenever the snowplow is not in use.

The hand-held control is electrically powered through the ignition (key) switch of your vehicle and are protected by a replaceable in-line fuse.

### Hand-Held Control

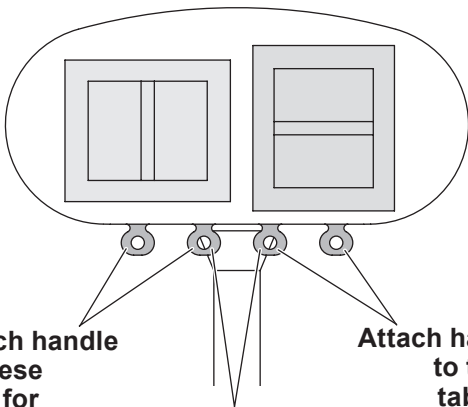
Toggle Switch  
(for left & right  
movement)



Toggle Switch  
(for up & down/float  
movement)

**Handle Grip Options:** The handle grip on the control can be positioned three ways – left-aligned, right-aligned, or in the center position.

### Three Handle Grip Positions

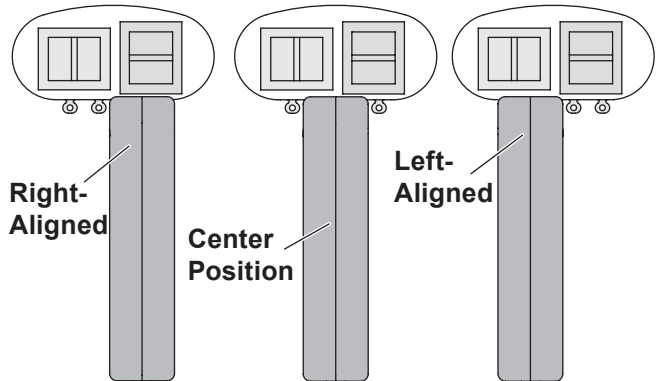


Attach handle  
to these  
tabs for  
left-aligned  
grip.

Attach handle  
to these tabs for  
center-positioned  
grip.

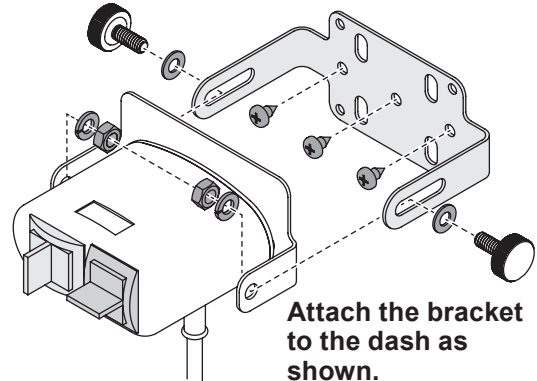
Attach handle  
to these  
tabs for  
right-aligned  
grip.

### Handle Grip Options



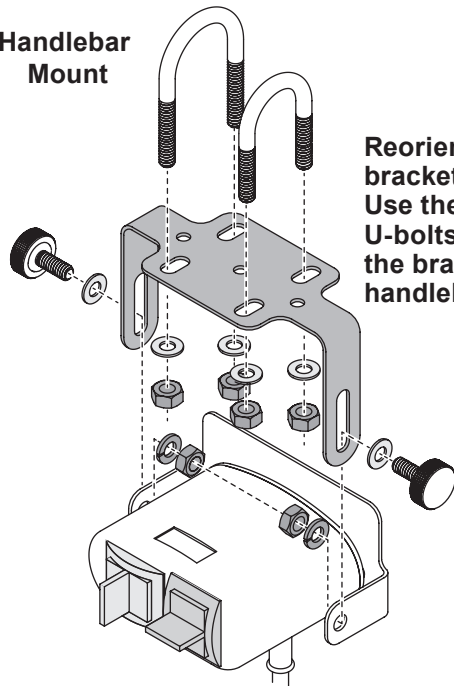
**Mounting the Control:** Using the mounting bracket and hardware, the control can also be dash mounted or mounted on a handlebar, if preferred.

### Dash Mount



Attach the bracket  
to the dash as  
shown.

### Handlebar Mount



Reorient the  
bracket as shown.  
Use the two  
U-bolts to mount  
the bracket to a  
handlebar.

# MOUNTING SNOWPLOW TO VEHICLE

## ATTACHING THE SNOWPLOW

### ⚠ WARNING

Keep 8' (2.4 m) clear of the blade when it is being raised, lowered, or angled. Do not stand between vehicle and blade or directly in front of the 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 attaching or detaching the snowplow. Worn or damaged components could allow the snowplow to drop unexpectedly.

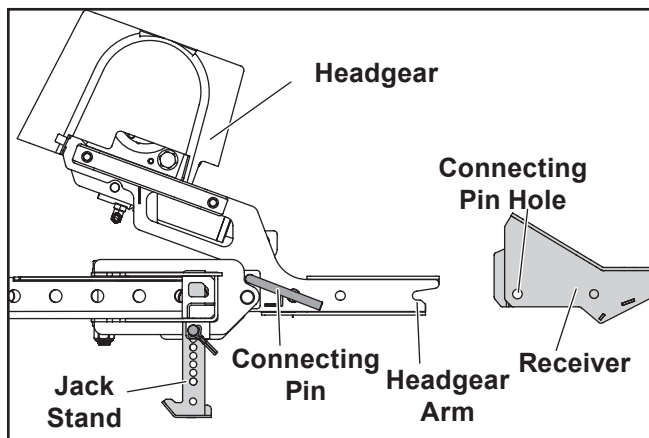
### ⚠ WARNING

Keep fingers away from snowplow and UTV attachment points.

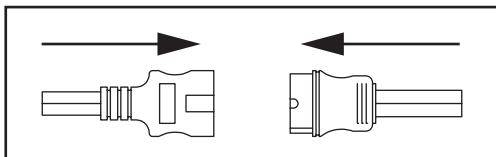
**NOTE:** Use dielectric grease to prevent corrosion on all connections.

**NOTE:** Use lubricant on connecting pins to ensure ease of attach/detach.

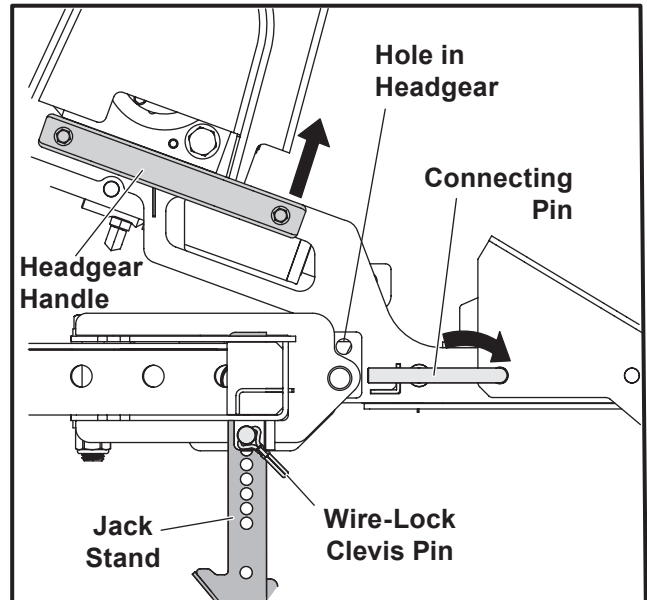
1. Verify that plow control in vehicle is disconnected. Slowly drive vehicle forward to engage rear headgear arms into receiver slots, bottoming out headgear arms in slots.



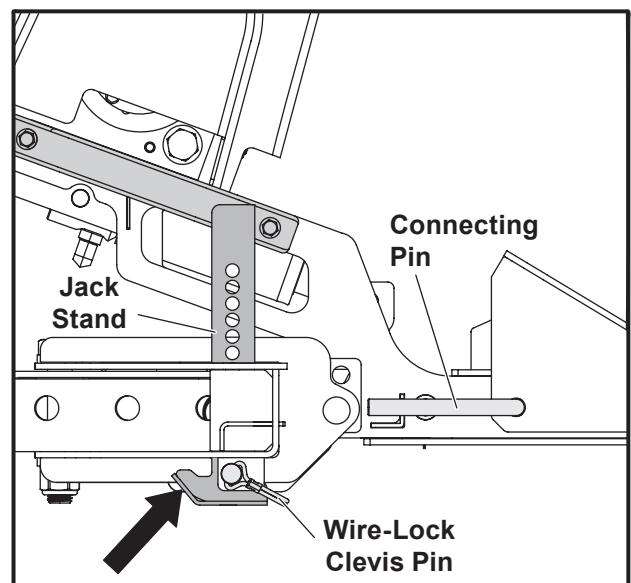
2. Plug in electrical harness.



3. Plug in plow control in vehicle. Press plow control switch down to activate FLOAT.
4. Pull up on headgear to relieve pressure on connecting pins, pulling blade in if needed.
5. On driver's side, pull up on headgear to relieve pressure on connecting pins while pulling driver-side connecting pin out. Rotate pin toward mount, and insert into connecting pin hole.



6. Verify that connecting pin is engaged in mount (through outside & inside plates) and extends approximately 1/8" (3 mm) through the plate.
7. Repeat on passenger's side.
8. Remove wire-lock clevis pin. Raise jack stand up. Insert pin in bottom hole and engage wire lock.



# OPERATING YOUR SNOWPLOW

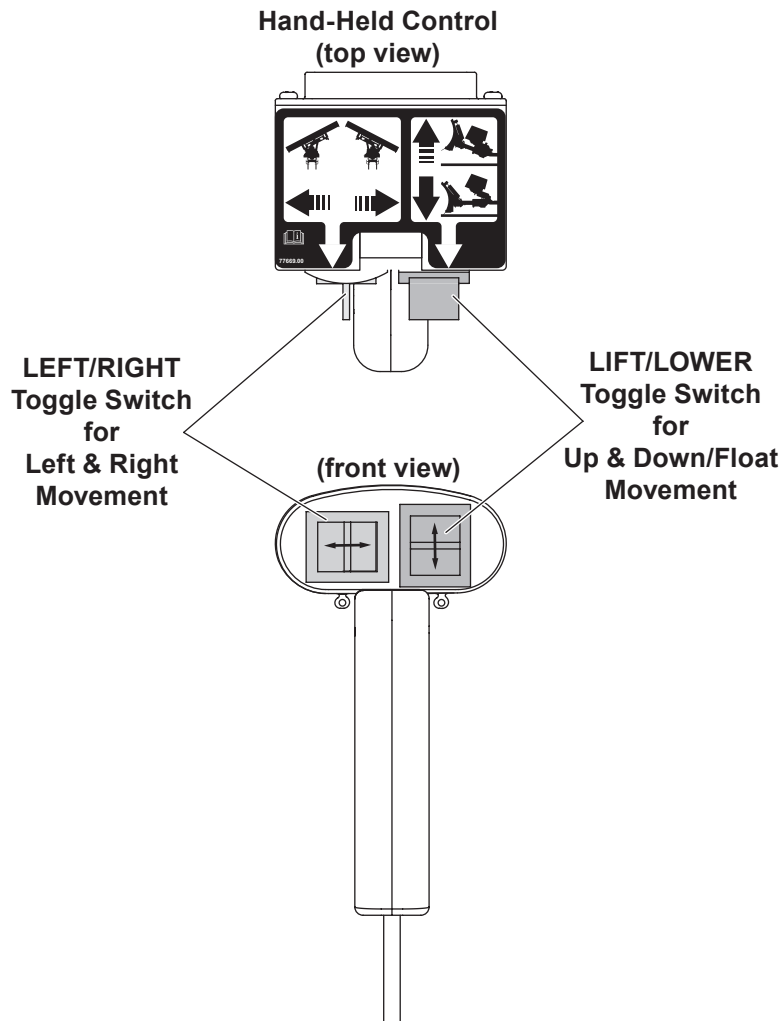
## HAND-HELD CONTROL

### ⚠ WARNING

To prevent accidental movement of the blade, always unplug the control whenever the snowplow is not in use.

Function	Description of Operation
<b>RAISE</b>	Press the LIFT/LOWER toggle switch UP to raise the blade and cancel the FLOAT mode. Release switch once blade is raised. There is no time out.
<b>LOWER</b>	Press the LIFT/LOWER toggle switch DOWN to lower the blade. Place LIFT/LOWER toggle switch in middle position to stop blade at desired height.

Function	Description of Operation
<b>FLOAT</b>	Press the LIFT/LOWER toggle switch DOWN to latching position. The blade will lower to the ground surface and follow the contour of the surface as it dips or rises. This function does not time out.  Press the LIFT/LOWER toggle switch UP momentarily to cancel FLOAT. Angling left or right will not interrupt (pause) the FLOAT function. Place LIFT/LOWER toggle switch in middle position to stop blade at desired height.
<b>LEFT</b> (Angle Left)	Press the LEFT/RIGHT toggle switch to the LEFT to move the blade into the angle left position. Release toggle switch when blade is in desired position. There is no time out.
<b>RIGHT</b> (Angle Right)	Press the LEFT/RIGHT toggle switch to the RIGHT to move the blade into the angle right position. Release toggle switch when blade is in desired position. There is no time out.



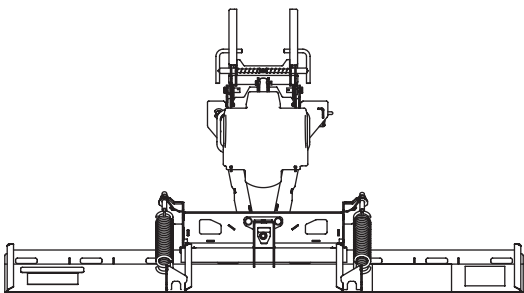
# OPERATING YOUR SNOWPLOW

## BLADE POSITIONS: STRAIGHT BLADE SNOWPLOW

The UTV straight blade snowplow can be used in these plowing positions.

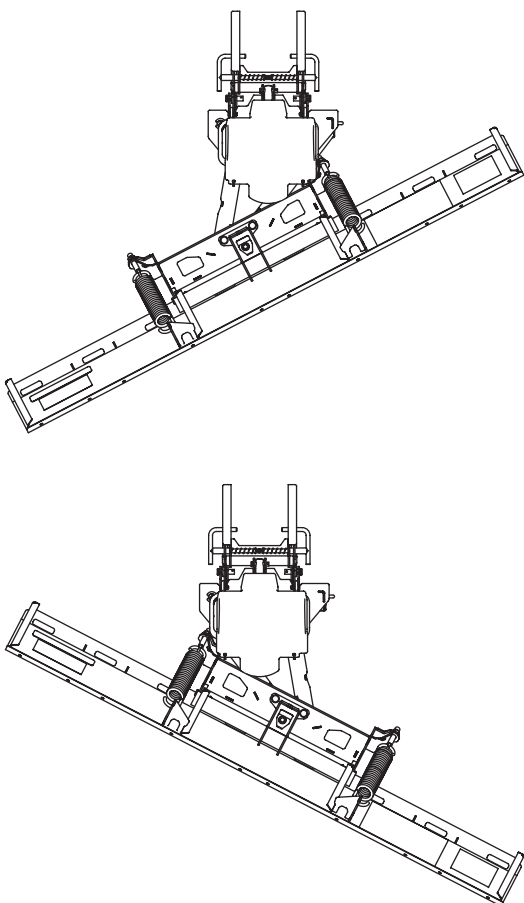
### Straight Blade

Use straight blade for wide-path plowing or stacking snow.



### Angled Blade

Move the blade in either direction for general plowing and widening.



## BLADE DROP SPEED ADJUSTMENT

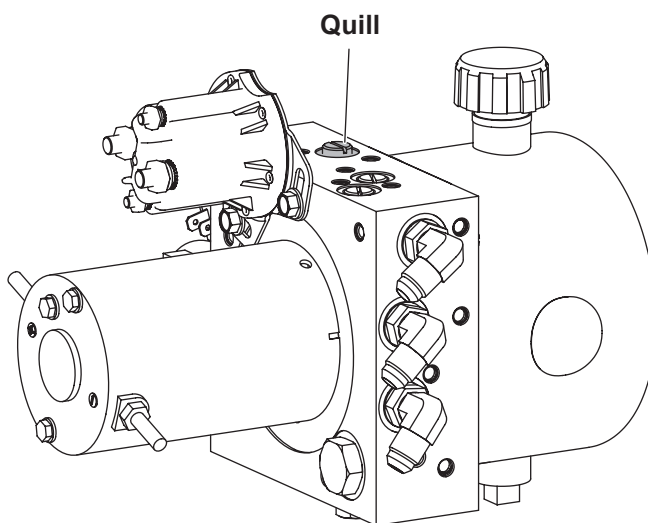
### ⚠ WARNING

Keep 8' (2.4 m) clear of the blade when it is being raised, lowered, or angled. Do not stand between vehicle and blade or directly in front of the blade. If the blade hits or drops on you, you could be seriously injured.

The quill in the front of the valve manifold adjusts the blade drop speed.

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

1. Lower the blade to the ground before making adjustment.
2. Turn the quill IN (clockwise) to decrease drop speed. Turn the quill OUT (counterclockwise) to increase drop speed.



# OPERATING YOUR SNOWPLOW

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## TRANSPORTING THE SNOWPLOW

### WARNING

Position the blade so that it does not block the vehicle headlamp beams.

Do not change blade position while traveling. You could suddenly lower the blade accidentally.

1. Completely raise the blade.
2. Adjust the blade height for maximum vehicle headlamp illumination.
3. Adjust the blade to the straight position.

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**NOTE:** Overheating is unlikely under normal driving conditions, but occasionally the snowplow may be positioned so that 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 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 the 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, and 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.
- If you are tired, move indoors 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

## PLOWING SNOW

### WARNING

Never plow snow with head outside of the vehicle window or rollover protection system. 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).

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

## General Instructions

1. Before plowing, make sure you know of any obstructions hidden beneath the snow, such as curbs, sidewalk, shrubs, fences, or pipes sticking up from the ground. If you are unfamiliar with the area to be plowed, have someone familiar with the area point out obstacles.
2. If possible, and when 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. On blades equipped with a shoe kit, raise the anti-wear shoes so that the cutting edge comes into direct contact with the pavement.
2. Use lowest gear to place maximum power behind the cutting edge.
3. An angled blade is more effective for removing hard-packed snow.

## Deep Snow

1. Shear off top layers by plowing with the blade raised 3 to 4 inches (8 to 10 cm) for the initial pass.
2. Bite into the edges using only partial blade width until the job is cut down to size for full-blade plowing.

Rule of thumb:

3" (8 cm) of snow — plow with entire blade width

6" (15 cm) of snow — plow with 3/4 blade width

9" (23 cm) of snow — plow with 1/2 blade width

Experience and "feel" are the best guides.

3. When plowing deep snow, be sure to keep the vehicle moving.
4. Ballast is suggested for maximum traction. Secure ballast behind the rear wheels. Do not exceed the vehicle's GVWR and GAWR.
5. For increased traction, use tire chains where legal.

## Clearing Driveways

1. Head into the driveway with the blade angled and plow the snow away from any buildings. Widen the driveway by rolling the snow away from 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 the remaining snow to the building. Drop the blade and back drag snow away from the building at least one vehicle length. Repeat if necessary.
4. Back the vehicle to the building and plow forward, removing the remaining snow. Check municipal ordinances for proper disposal of snow.



# OPERATING YOUR SNOWPLOW

## PARKING WITH SNOWPLOW ATTACHED

### ⚠ WARNING

Lower the blade when the vehicle is parked. Keep 8' (2.4 m) clear of the blade. Temperature changes could change hydraulic pressure, causing the blade to drop unexpectedly or damaging hydraulic components. Failure to do this can result in serious personal injury.

### ⚠ WARNING

Lower the blade before turning ignition off. Changing the position of the up & down/float toggle switch while the ignition is off may cause the blade to go into float when the ignition is turned on. Failure to do this could result in serious personal injury.

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

## TOWING DISABLED OR STUCK VEHICLES

### ⚠ CAUTION

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

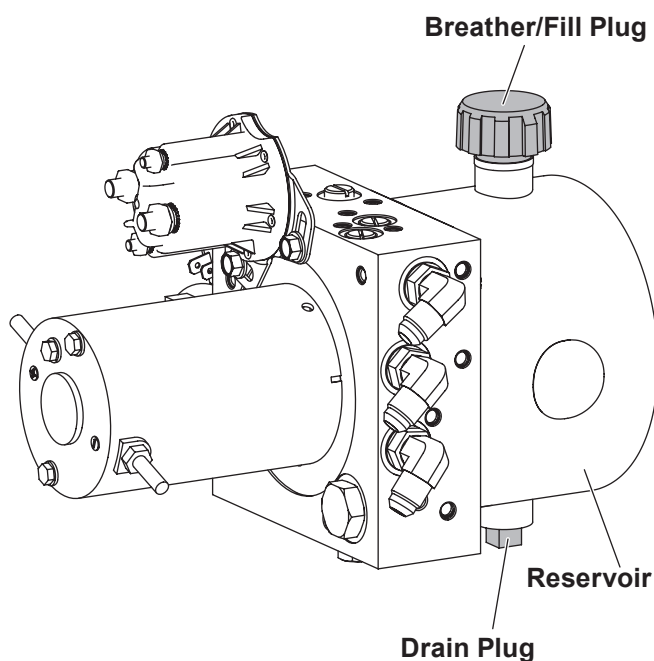
## CHECKING HYDRAULIC FLUID LEVEL

### ⚠ CAUTION

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

1. Park the vehicle on a hard, level surface. Lower the blade to the ground.
2. Remove the breather/fill plug.

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



3. Check the fluid level in the reservoir. The fluid level should be 1/2" to 1" (1.3 to 2.5 cm) below the top of the reservoir. Add the recommended hydraulic fluid, if necessary. Do not overfill.
4. Reinstall the breather/fill plug.

For hydraulic fluid type and filling instructions, see the fluid change instructions under "Hydraulic System" in the Maintenance section of this manual.

## DETACHING SNOWPLOW FROM VEHICLE

### DETACHING THE SNOWPLOW

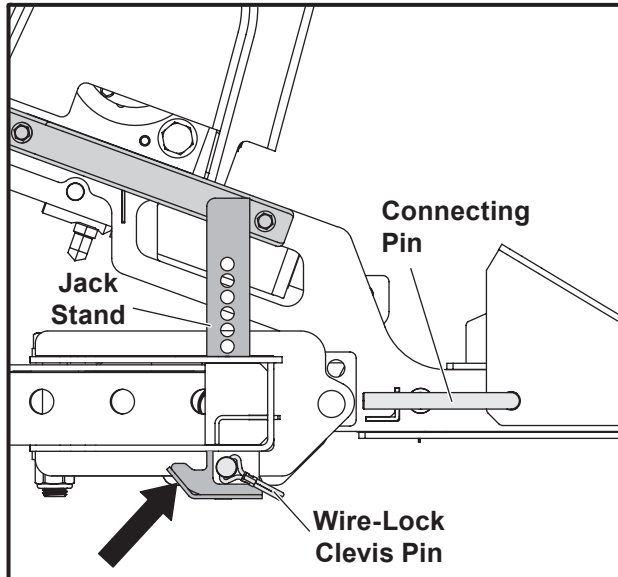
#### ⚠ WARNING

Keep 8' (2.4 m) clear of the blade when it is being raised, lowered, or angled. Do not stand between vehicle and blade or directly in front of the blade. If the blade hits or drops on you, you could be seriously injured.

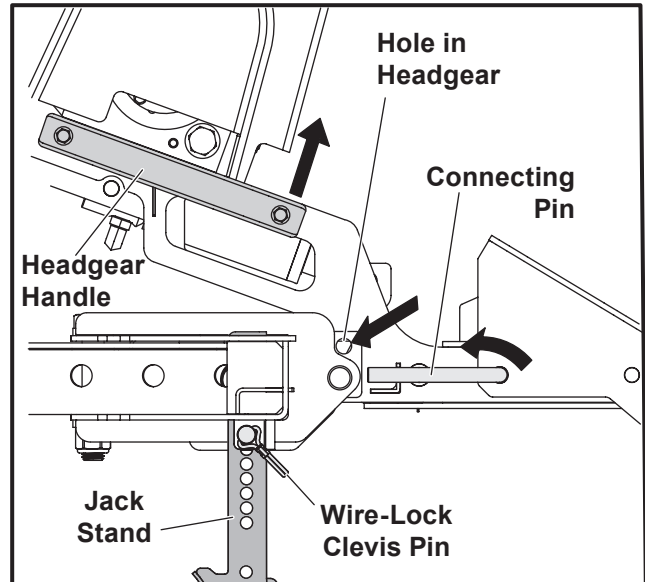
#### ⚠ WARNING

Inspect snowplow components and bolts for wear or damage whenever attaching or detaching the snowplow. Worn or damaged components could allow the snowplow to drop unexpectedly.

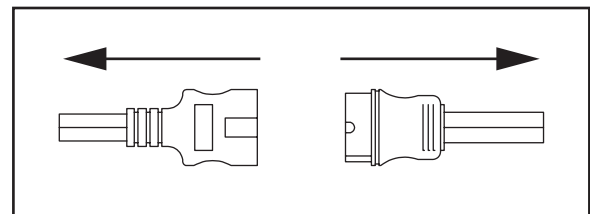
1. With blade straight, lower snowplow to the ground. Press plow control switch down to activate FLOAT.
2. Remove wire-lock clevis pin. Fully lower jack stand. Insert wire-lock clevis pin in jack stand hole that aligns with hole in angle frame. Engage the wire lock.



3. On driver's side, pull up slightly on headgear to relieve pressure on connecting pin while removing the pin. Rotate pin and insert into hole in headgear.



4. Repeat on passenger's side.
5. Unplug electrical harness. Unplug plow control in vehicle.



**NOTE:** After each disconnection of the snowplow, reapply dielectric grease to the electrical plugs to maintain the protective coating on the terminals.

6. Back vehicle away to disconnect headgear from receivers.

# MAINTENANCE

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

## WARNING

**Lower the blade when the vehicle is parked. Keep 8' (2.4 m) clear of the blade. Temperature changes could change hydraulic pressure, causing the blade to drop unexpectedly or damaging hydraulic components. Failure to do this can result in serious personal injury.**

## WARNING

**Lower the blade before turning ignition off. Changing the position of the up & down/float toggle switch while the ignition is off may cause the blade to go into float when the ignition is turned on. Failure to do this could result in serious personal injury.**

## PRESEASON CHECK

Before the snow season, check your equipment to make sure it is in working condition.

- Clean and tighten all electrical connections and coat with dielectric grease to prevent corrosion.
- Check the hydraulic system for leaks and cracked or damaged hoses.
- Drain the hydraulic system and refill it with recommended hydraulic fluid. For hydraulic fluid type and filling instructions, see "Annual Fluid Change" in the Hydraulic System section of this Owner's Manual.
- Replace worn or damaged parts.
- Check all mounting points and tighten fasteners on both the snowplow and the vehicle.
- Repaint the 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 the vehicle for proper operation.
- Inspect and test your battery. Recharge or replace it 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.

## IN-SEASON MAINTENANCE

- Store the control in a protected location when it is not in use. Do not leave it in the vehicle. The control can fail prematurely if it is exposed to the elements when not in use.
- Before each storm and frequently throughout season, check that all fasteners, mounting bolts, and hydraulic and electrical connections are tight. Also check all plugs and seals for leaks. Repair as necessary.
- Lubricate all moving parts for ease of operation.

## POSTSEASON MAINTENANCE

- Clean and paint blade and attachments as needed.
- Coat ram rods with general purpose petroleum grease.

## WARNING

**Vehicle mount reduces ground clearance. Use additional caution when driving vehicle with mount installed. Remove vehicle mount to restore original vehicle ground clearance at the end of the plowing season.**

- Lubricate all pivot points (for example, the connecting pin assembly) with general purpose petroleum grease.

**NOTE: Coat all electrical connections with dielectric grease to maintain the protective coating on the terminals.**

## STORAGE

Your snowplow is designed to be moved into a storage location using your vehicle and plow attachment system. For easier reattachment, store the snowplow on a hard, level surface.

# MAINTENANCE

## HYDRAULIC SYSTEM

### Annual Fluid Change

#### ⚠ CAUTION

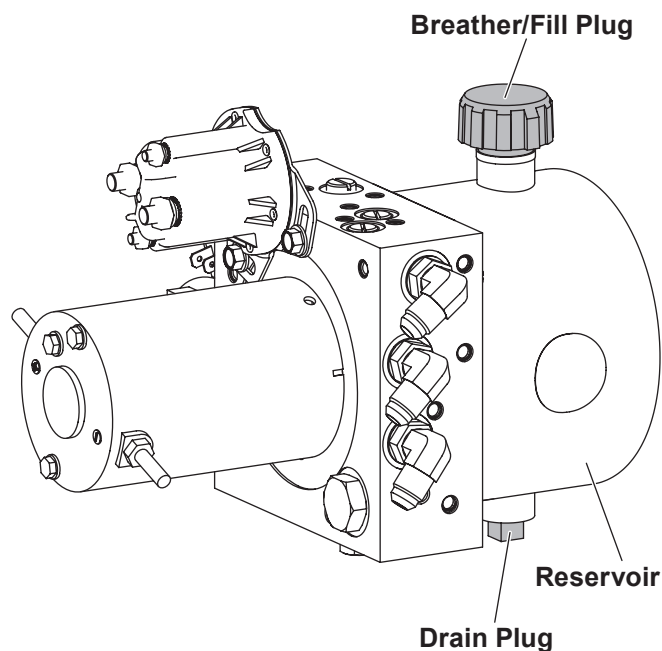
Change the fluid at the beginning of each plowing season. Failure to do this could result in condensation buildup during the non-plowing season.

#### ⚠ CAUTION

Do not mix different types 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 vehicle. Park the vehicle on a hard, level surface.
2. Remove the breather/fill plug.

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



3. Remove the drain plug.
4. Completely drain the reservoir and reinstall the drain plug.
5. Fill the reservoir to 1/2" to 1" (1.3 to 2.5 cm) from the top with high-performance hydraulic fluid rated to  $-40^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$ ), or other fluid conforming to Military Specification MIL-H-5606 A, such as Mobil Aero HFA or Shell AeroShell® Fluid 4.
6. Reinstall the breather/fill plug.

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# MAINTENANCE

## Hose or Fitting Removal

### WARNING

Lower the blade when the vehicle is parked. Keep 8' (2.4 m) clear of the blade. Temperature changes could change hydraulic pressure, causing the blade to drop unexpectedly or damaging hydraulic components. Failure to do this can result in serious personal injury.

### WARNING

Lower the blade before turning ignition off. Changing the position of the up & down/float toggle switch while the ignition is off may cause the blade to go into float when the ignition is turned on. Failure to do this could result in serious personal injury.

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

1. Lower the blade completely. Unplug the control.
2. Remove the fill plug.

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

3. Loosen the hoses or fittings slowly to bleed off any residual pressure.
4. Carefully note hose routings and the location of any protective hose wraps, for proper reassembly.
5. To remove a hose, loosen and unscrew the hose flare nut from the fitting.
6. To remove a fitting, loosen the jam nut and unscrew the fitting from the port.

## Hose or Fitting Installation

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

**DO NOT** use thread sealant/tape on hydraulic hoses or fittings. These materials could damage the product. Always use two wrenches to ensure proper tightening of fittings and hoses.

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

1. Turn the jam nut on the fitting as far back as possible.
2. Lubricate the O-ring with clean hydraulic fluid.
3. Screw the fitting into the port by hand until the washer contacts the port face and the shoulder of the jam nut threads.
4. Unscrew the fitting to its proper position; no more than one full turn.
5. Using two wrenches, hold the fitting body in position and tighten the jam nut until the washer again contacts port face, then tighten an additional 1/8 to 1/4 turn to lock the fitting in place. Final torque on the jam nut should be approximately 20 ft-lb (27.1 N·m).

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

1. Screw the flare nut onto the fitting flare and hand tighten it.
2. Align the hose so that there are no twists or sharp bends and so that it will not be pinched or pulled by moving parts.
3. Using a pair of adjustable pliers, hold the hose in position, and use a wrench to tighten the flare nut 1/8 to 1/4 turn beyond hand tight. Final torque on the flare nut should be approximately 20 ft-lb (27.1 N·m).
4. Reinstall any protective hose wraps in their original positions.

# MAINTENANCE

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## FUSE REPLACEMENT

The vehicle control harness contains one 10A automotive-style mini fuse.

The control fuse is "hot" when the vehicle ignition switch is ON.

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 of according to local regulations. The balance of parts made from plastic shall be disposed of in the customary manner.

## EMERGENCY PARTS/TOOLS

- 10" (25 cm) adjustable wrench
- Medium screwdriver
- Pliers
- 10A automotive-style fuses
- Funnel
- 12V DC test light
- Flashlight
- 11/16" and 3/4" open-end wrenches
- Electrical tape
- 1 quart (950 mL) high-performance hydraulic fluid rated to  $-40^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$ )

## SPECIFICATIONS

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### SNOWPLOW WEIGHT

Size		Blade Assembly	Wt (lb)	Wt (kg)
5'6"	1.68 m	MD UTV Straight Blade Snowplow with Hydraulic Lift	190	86.2
6'	1.83 m	MD UTV Straight Blade Snowplow with Hydraulic Lift	195	88.5

### HYDRAULIC UNITS: PUMP MOTOR SPECIFICATIONS

	Straight Blades
Unit Reservoir	1-1/4 qt (1.18 L)
System Total	1-3/4 qt (1.66 L)
Pump Motor	12V DC with +/- Connection
Pump Relief Valve	2000 psi (13,790 kPa)
Motor Diameter	3.0" (7.6 cm)
Motor	2.8 kW (1.39 hp)
Pump (gal/rev) (L/rev)	0.000208 (0.000787)
Hydraulic Hose	SAE 100R1



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