Western Products, PO Box 245038, Milwaukee, WI 53224-9538 • www.westernplows.com

June 15, 2010
Lit. No. 66878, Rev. 09

PRO-PLOW® and POLY PRO-PLOW® Snowplows

Installation Instructions

⚠ CAUTION

Read this document before installing the snowplow.

⚠ CAUTION

See your WESTERN® outlet/Web site for specific vehicle application recommendations before installation. The Selection List has specific vehicle and snowplow requirements.

A DIVISION OF DOUGLAS DYNAMICS, L.L.C.

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 labels on the back of the blade and the instruction label on the headgear.

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

Warning/Caution Label

⚠ WARNING

LOWER BLADE WHEN VEHICLE IS PARKED.

DO NOT EXCEED GVWR OR GAWR INCLUDING BLADE AND BALLAST.

REMOVE BLADE ASSEMBLY BEFORE PLACING VEHICLE ON HOIST.

⚠ CAUTION

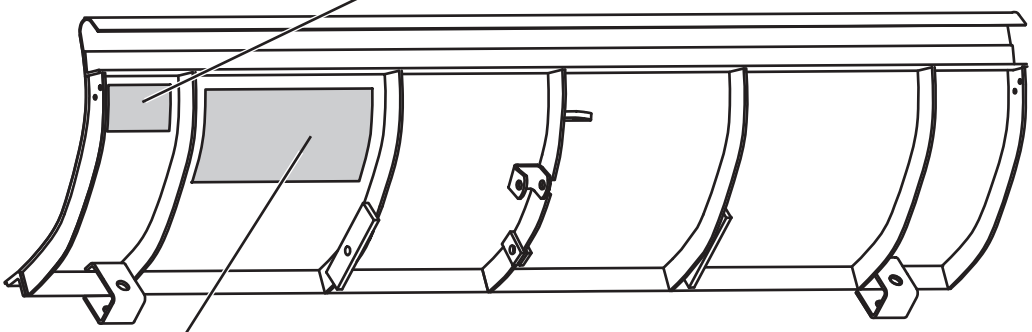
READ *OWNER'S MANUAL* BEFORE OPERATING OR SERVICING SNOWPLOW.

TRANSPORT SPEED SHOULD NOT EXCEED 45 MPH. FURTHER REDUCE SPEED UNDER ADVERSE TRAVEL CONDITIONS.

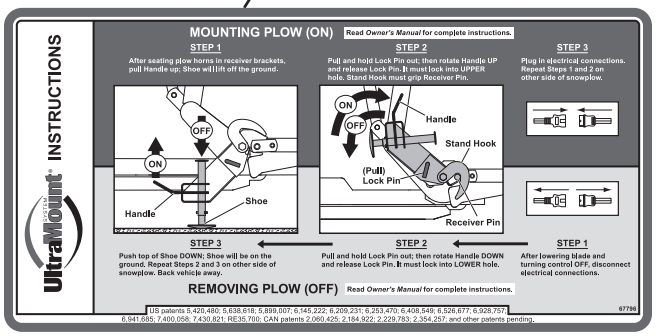
PLOWING SPEED SHOULD NOT EXCEED 10 MPH.

SEE YOUR SALES OUTLET/WEB SITE FOR SPECIFIC VEHICLE APPLICATION RECOMMENDATIONS.

59800



Instruction Label



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

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 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 or GAWR including blade and ballast. The rating label is found on 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

Refer to the current Selection List for minimum vehicle recommendations and ballast requirements.

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 WESTERN® electrical and hydraulic systems contain several blade-style automotive 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 the 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 rated BC handy, for flammable liquids and electrical fires.

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 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.

TORQUE CHART

⚠ CAUTION

Read instructions before assembling. Fasteners should be finger tight until instructed to tighten according to torque chart. Use standard methods and practices when attaching snowplow including proper personal protective safety equipment.

Recommended Fastener Torque Chart (ft-lb)

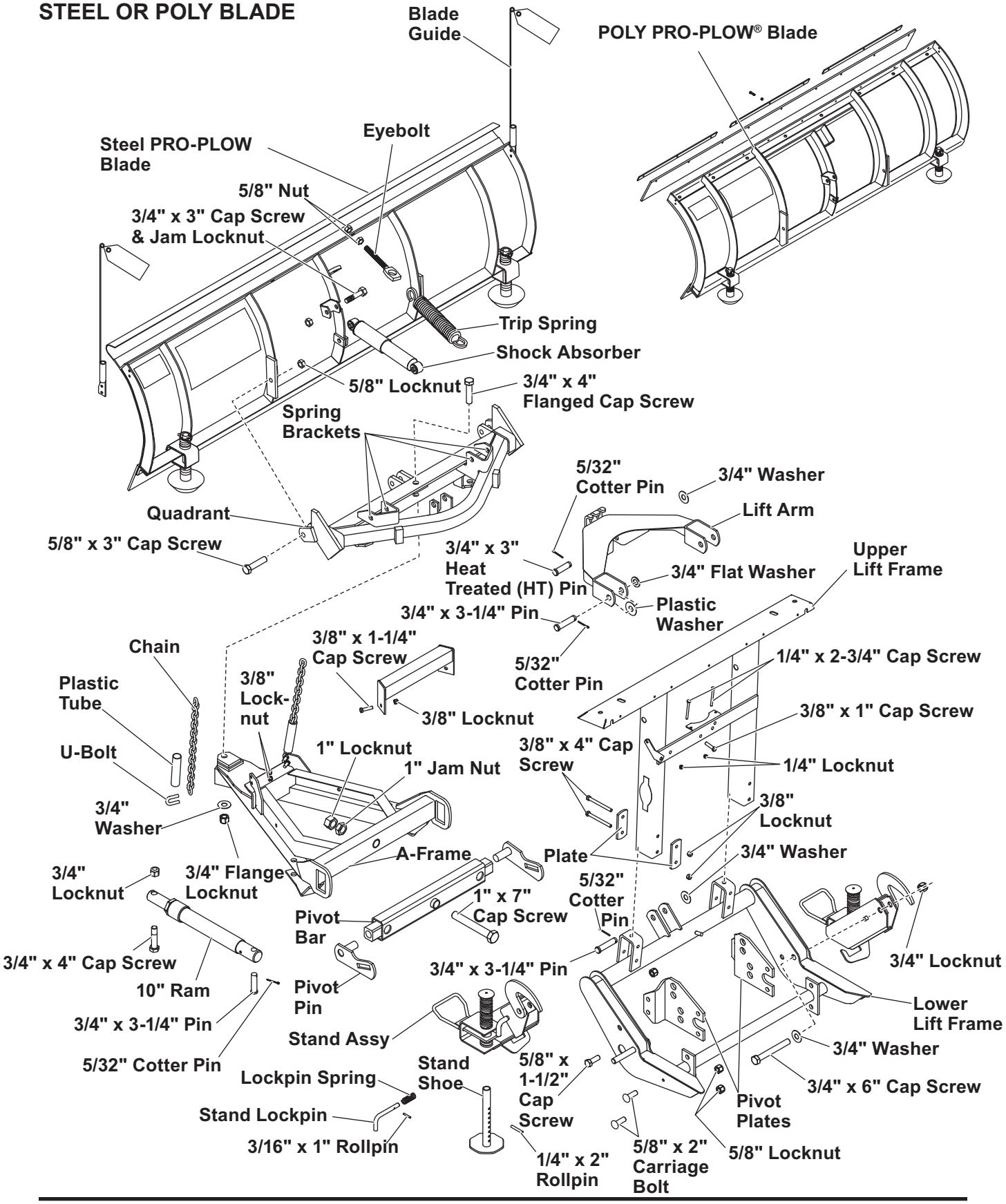
Size	SAE Grade 2	SAE Grade 5	SAE Grade 8
1/4-20	6	9	13
5/16-18	11	18	28
3/8-16	19	31	46
3/8-24	24	46	68
7/16-14	30	50	75
1/2-13	45	75	115
9/16-12	66	110	165
5/8-11	93	150	225
3/4-10	150	250	370
7/8-9	150	378	591
1-8	220	583	893

Metric Grade 8.8 (ft-lb)

Size	Torque	Size	Torque
M 6	7	M 12	60
M 8	17	M 14	95
M 10	35	M 16	155

These torque values apply to fasteners except those noted in the instruction.

PRO-PLOW® ASSEMBLY WITH STEEL OR POLY BLADE



QUADRANT TO BLADE

1. Lay the blade face down on some cardboard on the floor.

2. Assemble the quadrant to the blade with each pair of quadrant lugs straddling the two inner blade ribs. Secure with two 5/8" x 3" cap screws and locknuts. **DO NOT overtighten the nuts as it may bend the lugs.**

3. Thread one 5/8" nut halfway down on each of four eyebolts. Hook a spring to each of the quadrant brackets indicated in the preceding diagram. Hook an eyebolt to the other end of each trip spring.

4. Push the threaded ends of the eyebolts through the four holes in the top angle of the blade. Install a second nut on each eyebolt.

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

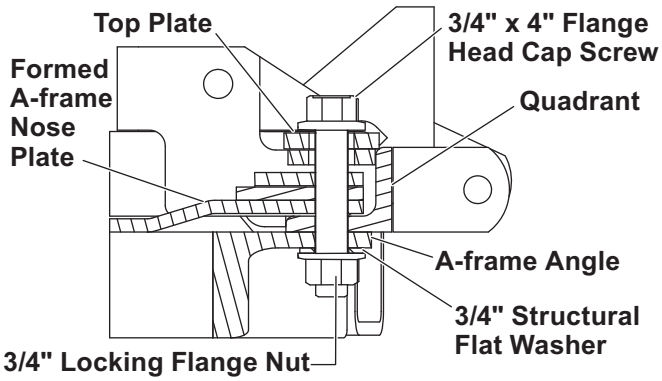
5. Tighten the top nuts until the coils of the trip springs begin to separate (a piece of paper such as this instruction sheet should pass between the second and third coils). Tighten the bottom nut against the blade angle to lock in place.

A-FRAME TO QUADRANT

1. Insert the A-frame nose plate on to the lower angle of the quadrant and at the same time, hook the A-frame retainer over the quadrant.

2. Install a 3/4" x 4" flange head cap screw (pivot bolt) from the top through the holes in the quadrant top plate, A-frame nose plate, quadrant angle, and A-frame angle. Coat pivot surfaces, flanges of cap screw, nut and washers with anti-seize compound.

   Important: Cap screw must be installed from top down.



3. Install a flat washer and 3/4" flange locknut onto the pivot bolt and tighten as follows:

   a. Tighten pivot bolt until the A-frame will NOT move.

   b. Loosen pivot bolt 1/4 turn at a time until A-frame moves (A-frame should move but not be loose).

4. Position the rod ends of the two 10" rams (found in hydraulics box) in the brackets on the bottom of the straight angle of the quadrant. Secure the rod end of each ram to the quadrant with a 3/4" x 4" cap screw (installed from the bottom upward) and a locknut.

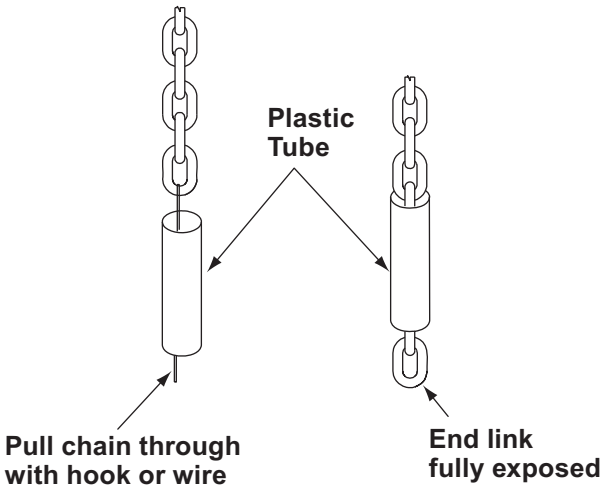
5. Swing the A-frame to one side. Making sure the threaded port is facing away from the A-frame, position the base end of a ram into the bracket on the side of the A-frame. Insert a 3/4" x 3-1/4" pin from the bottom up and secure with a cotter pin.

6. Swing the A-frame to the other side and repeat Step 5 to connect the other ram to the A-frame.

7. Position large shield end of the shock absorber into the U-bracket on the blade center rib. Install a 3/4" x 3" cap screw from the rib side of the U-bracket and secure with jam locknut. Place other end of shock absorber into lugs on formed tube of quadrant and secure with a 3/4" x 3" cap screw and jam locknut. Tighten both cap screws.

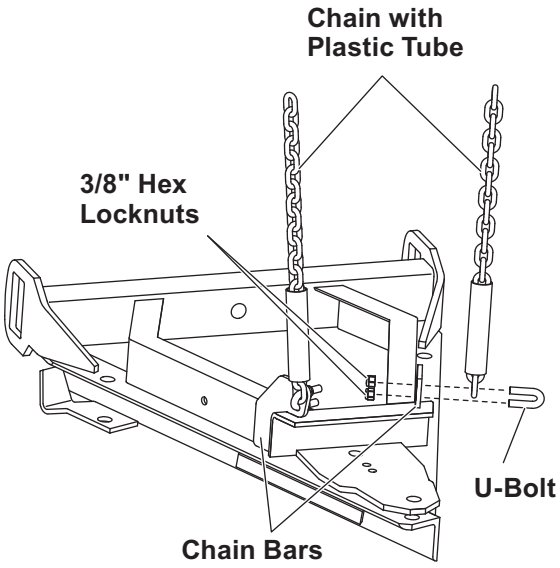
CHAIN TO A-FRAME

1. Use a hook or piece of wire to pull the end of the chain through the plastic tube. The end link of the chain must be fully exposed.



2. Insert ends of the 3/8" x 1-1/2" U-bolt through the chain and then down through the holes in the chain bracket on the A-frame and secure with locknuts.

3. Repeat Steps 1 and 2 for the other side.



PIVOT BAR TO A-FRAME

1. Insert one end of pivot bar into rectangular slot on one side of rear of A-frame as far as possible. Pivot bushing must face away from A-frame.

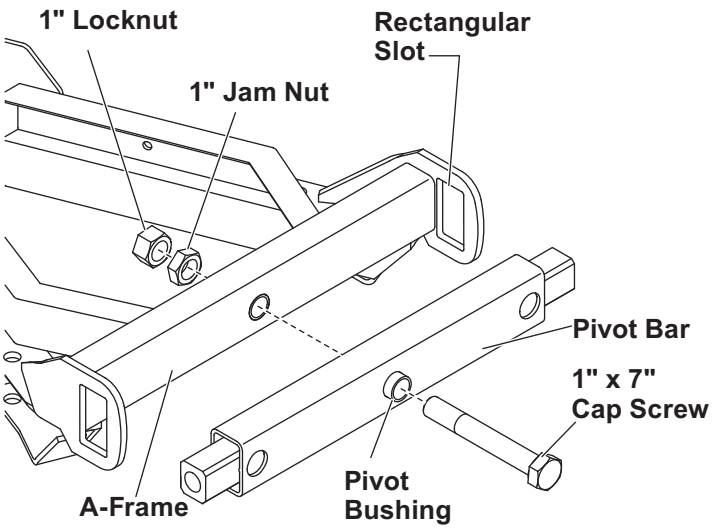
2. Rotate pivot bar until level with A-frame and slide other end into corresponding rectangular slot.

3. Align center holes and insert 1" x 7" cap screw as shown in illustration.

4. Install 1" jam nut and tighten to 25 ft-lb then loosen 1/16 turn.

5. Hold 1" cap screw and jam nut to prevent rotation and install 1" locknut. Tighten locknut securely against jam nut.

NOTE: When properly adjusted, pivot bar should pivot freely without any looseness.

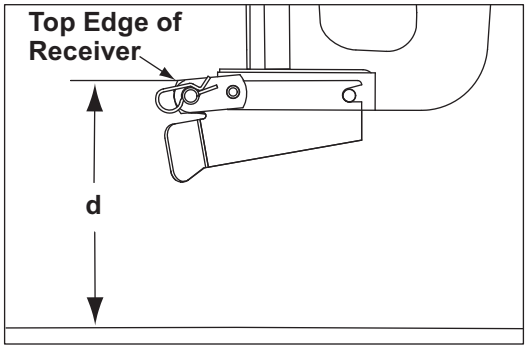


PIVOT PLATES TO PIVOT BAR

IMPORTANT! Before assembling pivot plates to ends of pivot bar, pivot plate orientation and pivot hole position must be determined using the following procedure.

Before measuring the vehicle mount height, vehicle mount and receiver brackets must be installed, ballast must be installed if required, and the vehicle must be parked on a level surface.

1. Measure the distance "d" from the ground to the top edge of the receiver bracket. Measure both sides and determine average value "d".



2. Use dimension "d" from Step 1, and the following chart to determine the proper pivot plate mounting position and pivot hole selection.

Pivot Plate Configuration Chart		
Dimension "d"	**Configuration**	**Stacking Stop**
13.0" – 14.5"	1	No
14.5" – 16.0"	2	No
16.0" – 17.5"	3	Yes
17.5" – 19.0"	4	Yes

3. Position the snowplow with the A-frame level (support bottom of the pivot bar 9" above floor).

4. Before assembly, apply grease to the pivot pin holes in each end of the pivot bar and to each pivot pin.

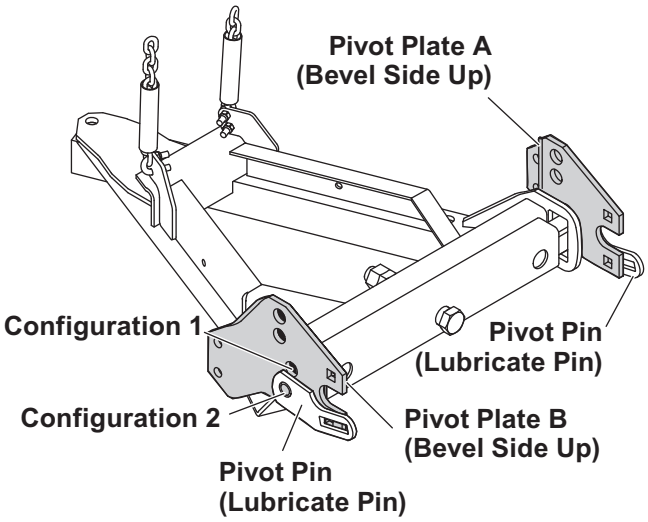
5. Assemble the pivot plates to the ends of the pivot bar, using the appropriate plate orientation and hole position for the configuration determined in Step 2.

   There are two pivot plates (A and B) which are mirror images of each other. They can be turned upside down and switched from one side of the pivot bar to the other to provide two different mounting positions.

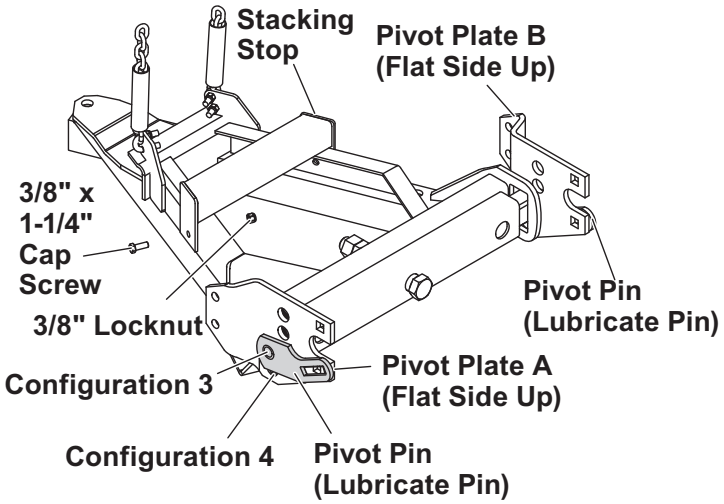
   In each pivot plate mounting position, the pivot pins may be installed through one of the two lower holes in the pivot plates. This provides four different height adjustment positions. For all configurations, pivot pins must be positioned with the notches in the pivot pins facing up and the slots in the pivot pins aligned with the bottom holes at the rear of the pivot plates. Note that the pivot pins are never installed in either of the two upper holes in the pivot plates. A stacking stop is mounted to the top of the A-frame for configurations 3 and 4 only.

   For Configurations 3 and 4, install the stacking stop to the top of the A-frame. Align the hole in each end of the stacking stop with holes in the A-frame. Insert a 3/8" x 1-1/4" cap screw from outside. Secure with a 3/8" locknut.

Pivot Plate Mounting and Hole Positions for Configurations 1 & 2

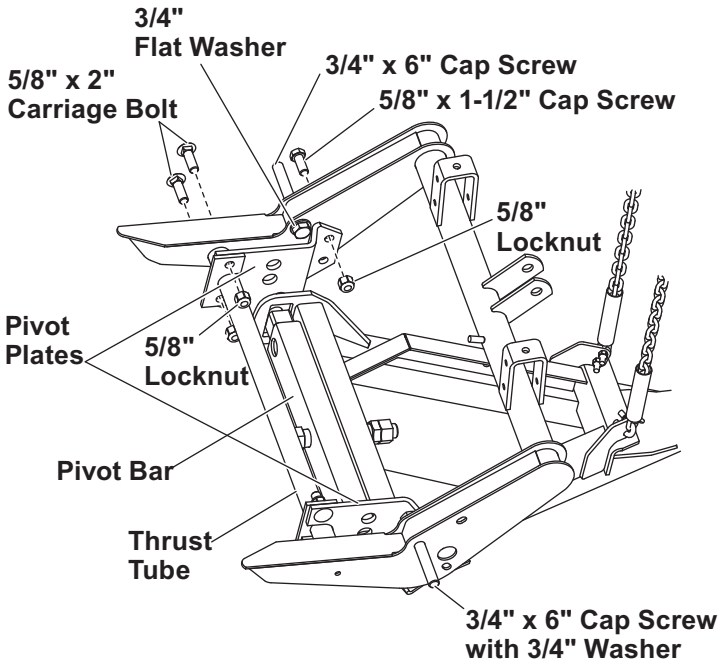


Pivot Plate Mounting and Hole Positions for Configurations 3 & 4



PIVOT PLATES TO LOWER LIFT FRAME

1. Install a 3/4" flat washer onto a 3/4" x 6" cap screw and insert through the 3/4" hole in the lower lift frame from the inside**.** Repeat on other side.



2. Position the lower lift frame outside the pivot plates with the notch in the pivot plates around the thrust tube on the lower lift frame and align 5/8" mounting holes (3 per side).

3. Insert two 5/8" x 2" carriage bolts from the outside into the rear holes of the pivot plate. The top bolt passes through the pivot plate and attaching lug. The bottom bolt passes first through the slot in the pivot pin, then through the pivot plate and attaching lug. Retain using locknuts (hand tighten only). Repeat on the other side.

4. Insert one 5/8" x 1-1/2" cap screw through the clearance hole in the lower lift frame and top hole in the front of the pivot plate. Retain with a locknut. Repeat on the other side.

5. Tighten all fasteners according to torque chart.

STAND SHOE

⚠ WARNING

The stand plunger spring is shipped compressed and tied. Do not cut the spring tie until final stand shoe adjustment is complete and the roll pin is installed.

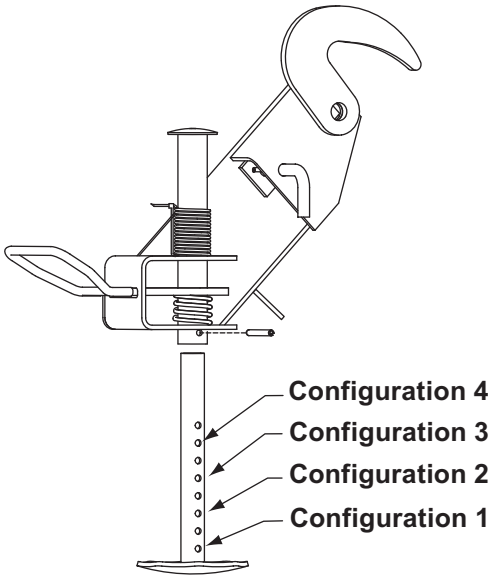
Initial stand shoe height adjustment is based on height configuration chart. A final adjustment of stand shoe will be made after attaching snowplow to vehicle.

1. Slide the stand shoe into the stand tube and align 1/4" hole in stand tube with 1/4" hole in stand shoe determined from height configuration chart and illustration below.

2. Insert 1/4" roll pin.

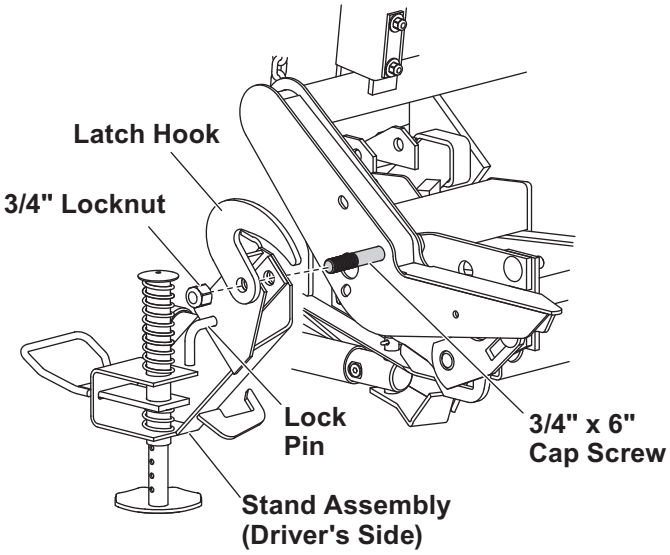
3. Do not cut the spring tie until after the final stand shoe adjustment.

Pivot Plate Configuration Chart		
Dimension "d"	**Configuration**	**Stacking Stop**
13.0" – 14.5"	1	No
14.5" – 16.0"	2	No
16.0" – 17.5"	3	Yes
17.5" – 19.0"	4	Yes



STAND

1. Position stand with latch hook facing rear and align 3/4" hole in stand to 3/4" x 6" cap screw installed previously. Slide stand over cap screw and engage lock pin on stand into the bottom slot in the lower lift frame.



2. Install a 3/4" locknut and tighten to 25 ft-lb. Then loosen the nut 1/4 turn. When adjusted correctly, after pulling lock pin out, the stand should rotate with moderate effort and no looseness felt.

3. Repeat Steps 1 and 2 on the other side.

POSITION LOWER LIFT FRAME

1. Rotate lower lift frame until the top surface of the horns are level.

2. Push down on stand tube until stand shoe contacts ground.

   The lower lift frame is now positioned correctly for further assembly.

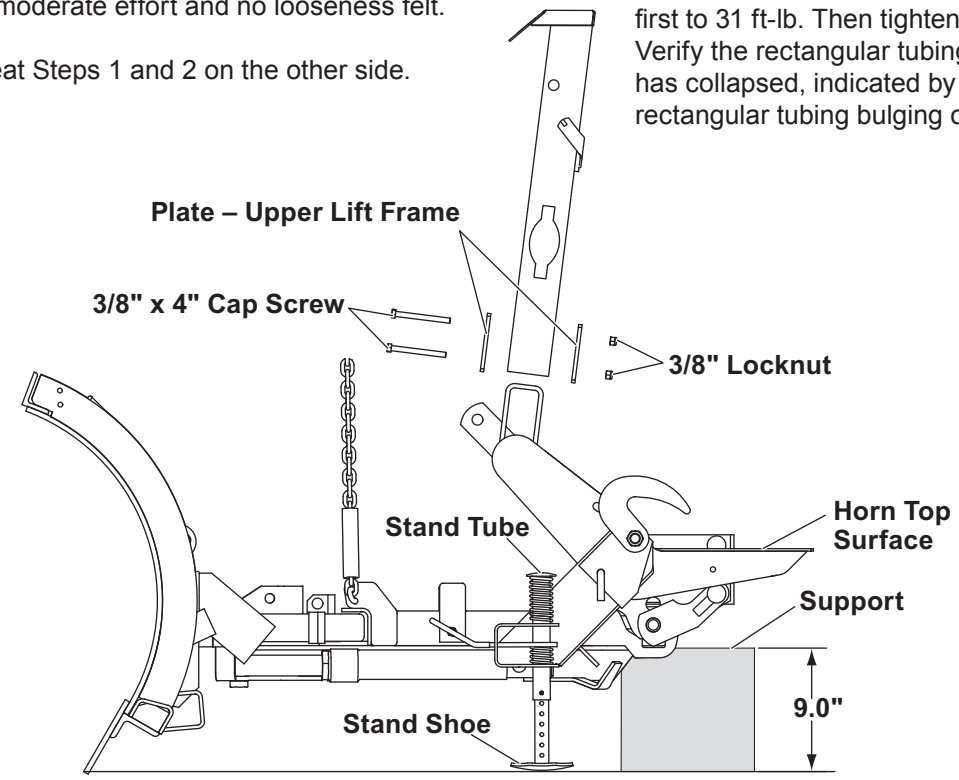
UPPER LIFT FRAME TO LOWER LIFT FRAME

1. Position the upper lift frame above mounting brackets on the lower lift frame with the WESTERN® logo facing the front.

2. Slide the upper lift frame down onto mounting brackets and align holes.

3. Position one upper lift frame plate on front and back of the upper lift frame. Insert 3/8" x 4" cap screws through the holes at the bottom of the upper lift frame from the front towards the back. Install another plate over the ends of the cap screws.

4. Secure with 3/8" locknuts. Tighten the bottom nut first to 31 ft-lb. Then tighten the top nut to 31 ft-lb. Verify the rectangular tubing on the upper frame has collapsed, indicated by the 3" sides of the rectangular tubing bulging outward.



FloStat® HYDRAULIC UNIT

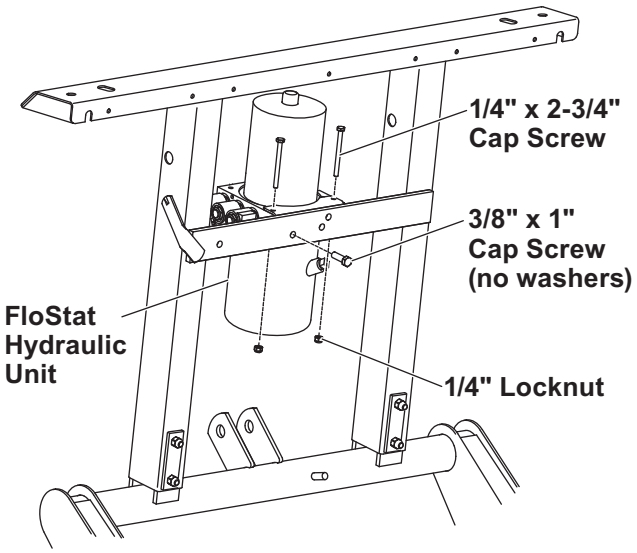
The FloStat hydraulic unit and mounting hardware are found in the hydraulics box.

1. Remove the valve cover from the hydraulic unit valve block and set aside. Discard the two #8 x 1/2" TORX® hex head cover screws.

2. Position hydraulic unit in bracket on upper lift frame cross member with valves toward the driver's side. Install two 1/4" x 2-3/4" cap screws down through bracket and valve block and retain with locknuts. Do not tighten nuts at this time.

3. Install a 3/8" x 1" cap screw through hole in rear of cross member into valve block. Do not use any washers on cap screw. Tighten to 15–20 ft-lb. Valve block should be tight rearward against bracket.

4. Tighten the two 1/4" locknuts from Step 2.

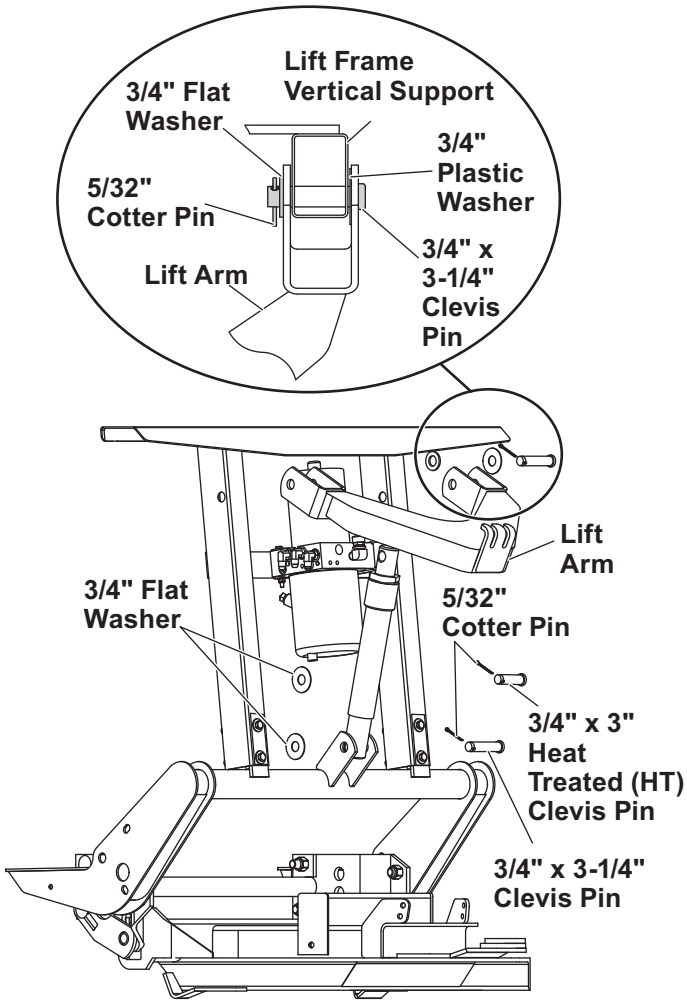


Lift Arm

The lift arm and hardware are found in the A,Q&L box.

1. With chain hooks forward and up, position lift arm ends around upper lift frame vertical supports and align holes.

2. On each side, install a 3/4" plastic washer between the outside leg of the lift arm and the lift frame vertical support. Install a 3/4" x 3-1/4" clevis pin from the outside. Secure with a 3/4" flat washer and cotter pin.



TORX® is a registered (®) trademark of Textron, Inc.

Lift Ram

The 8" lift ram is found in the hydraulics box. The mounting hardware is found in A,Q&L box.

1. Position base end of lift ram between lugs on lower lift frame with port toward the rear. Install a 3/4" x 3-1/4" clevis pin. Secure with a 3/4" flat washer and cotter pin.

2. Align hole in the lift ram rod between holes in end of lift arm. Install a 3/4" x 3" heat treated (head marked "HT") clevis pin. Secure with a 3/4" flat washer and cotter pin.

3. With lift ram fully collapsed, rotate light bar until lower lift frame horns are horizontal, pull chains tight and insert into lift arm hooks. Final lift chain adjustment will be made after snowplow is mounted to vehicle.

Procedure for Installing Hydraulic Fittings and Hoses

Do not use any type of sealant or tape on the fittings or hoses. 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 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 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 1/8–1/4 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.

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

1. Screw flare nut onto fitting flare and hand tighten.

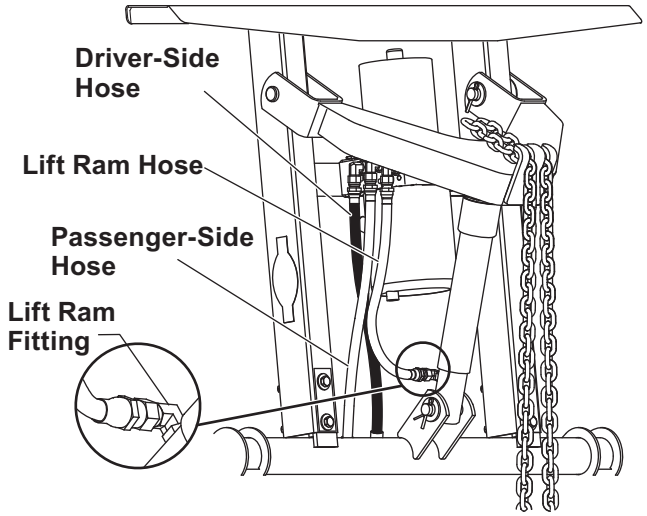
2. Align hose so there are no twists or sharp bends.

3. Using two wrenches, hold the hose in position and tighten flare nut 1/8–1/4 turn beyond hand tight. Final torque on the flare nut should be approximately 20 ft-lb.

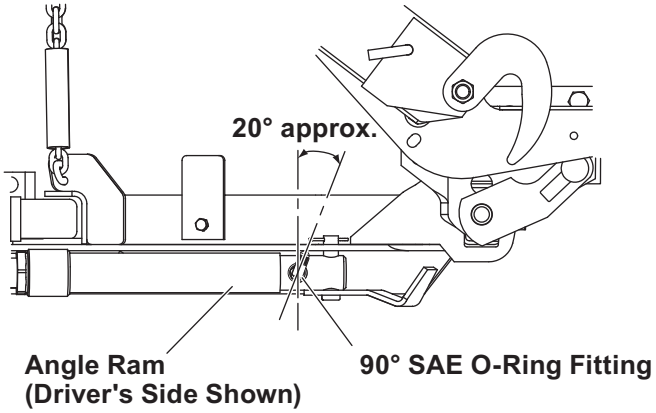
Fittings and Hoses

The hydraulic fittings and hoses are found in the hydraulics box.

1. Remove port plug from lift ram and install a 90° SAE O-ring fitting oriented toward the passenger's side.

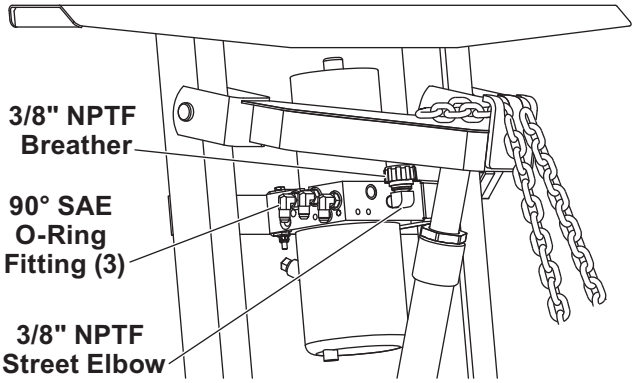


2. Install 90° SAE O-ring fittings oriented approximately 20° to the rear from straight up with rams parallel to ground.



3. Remove three large port plugs from the passenger's side of the hydraulic unit valve block and install 90° SAE O-ring fittings oriented down, parallel with short edge of valve block.

4. Remove the 3/8" NPTF square head pipe plug from the front side of valve block and install 3/8" NPTF street elbow oriented up. Install 3/8" NPTF breather in elbow.



5. Attach 16" hydraulic hose to front fitting on valve block and lift ram.

6. With a marker or piece of tape, mark the center of each 42" hydraulic hose.

7. Attach a 42" hydraulic hose to center fitting on valve block. Route hose down over lower cross tube behind lift frame and attach to passenger-side angle ram.

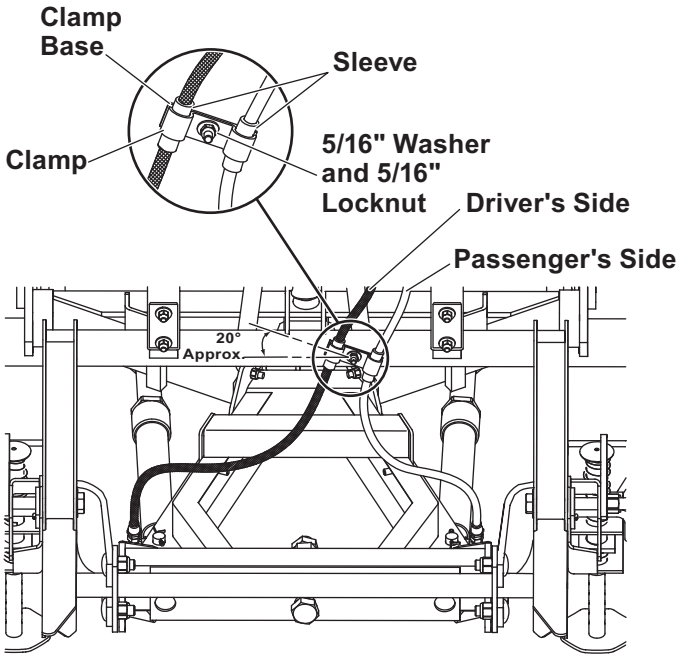
8. Attach a 42" hydraulic hose to rear fitting on valve block. Route hose down over lower cross tube behind lift frame and attach to driver-side angle ram.

9. Install the clamp base, double hose clamp, 5/16" washer and 5/16" locknut loosely on the weld stud on lower lift frame cross tube near lift ram.

10. Install a split rubber hose sleeve on each 42" hose just above the mark made in Step 6.

11. Orient clamp and base as shown and install hoses in their respective side of clamp with sleeves centered in clamp and sleeve openings to inside of clamp. Tighten clamp. Final position of clamp should be approximately 20° clockwise from horizontal. Proper positioning of the hoses in the clamp is necessary to allow complete movement of the snowplow without stressing the hoses.

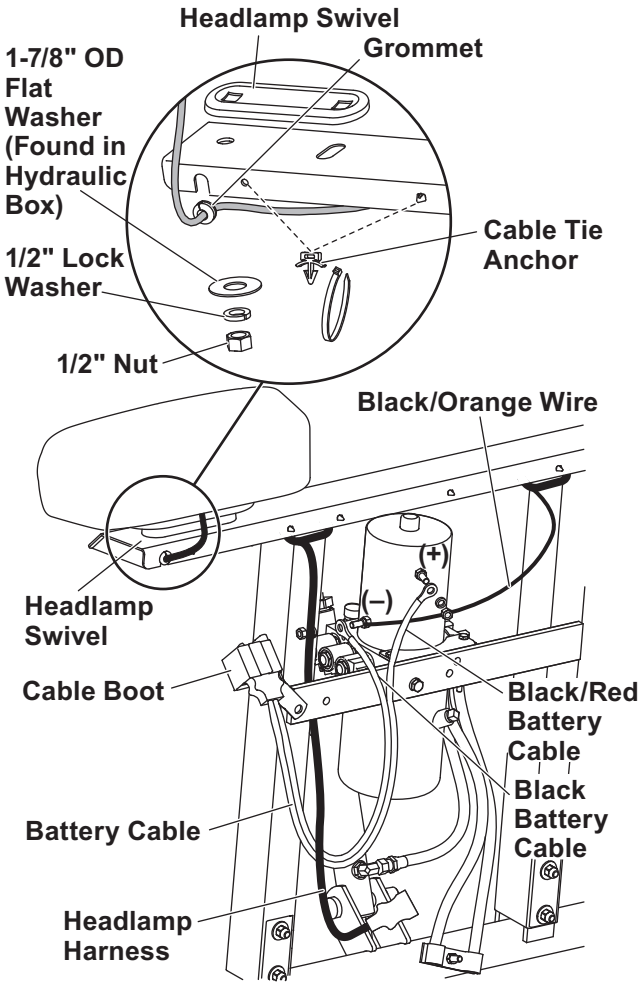
12. If necessary, realign clamp and fittings so hoses do not contact snowplow frame, mount or vehicle.

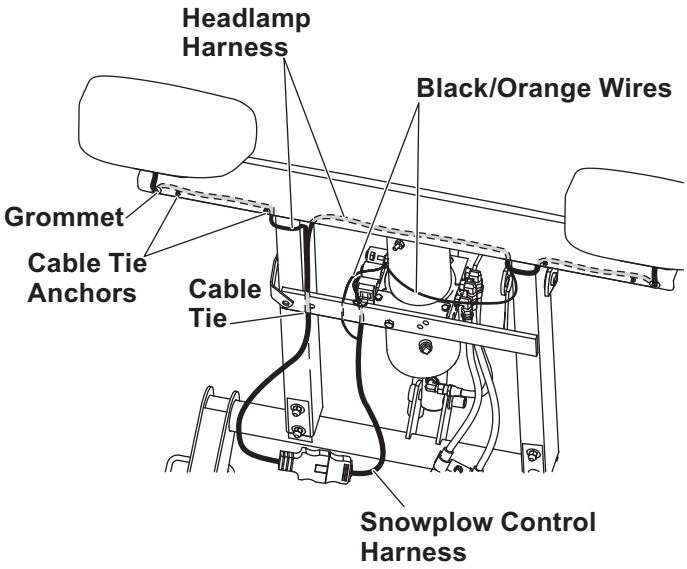


HEADLAMPS

Headlamps and hardware are found in the headlamp box. Additional hardware (1-7/8" OD flat washer) is found in the hydraulics box.

1. With wire harness behind lift frame, attach headlamps to hole in headlamp channel (not in slot) with headlamp swivel on top and 9/16" x 1-7/8" OD flat washer, 1/2" lock washer and 1/2" locknut underneath.





2. Insert seven cable tie anchors into 1/4" holes on rear of headlamp channel from inside channel, with locking tabs horizontal.

3. Install a split rubber grommet on each headlamp wire 3" from headlamp and insert grommet and wire into slot on rear of channel.

4. Route wires underneath channel, in back of vertical supports, and down along inside of driver-side vertical support, securing wires to anchors with cable ties.

5. Attach harness to front of hydraulic unit cross member at driver-side vertical support with a cable tie through hole in cross member.

6. Route the black/orange wire with the ring terminal to the motor ground stud.

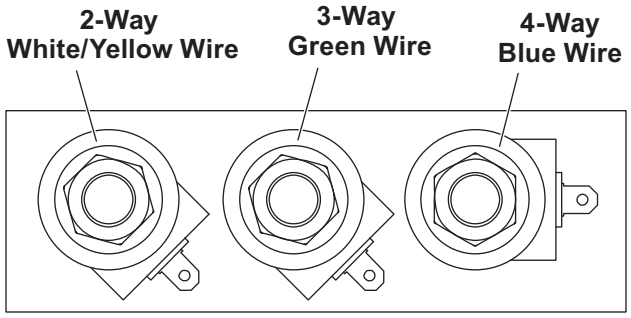
NOTE: Use dielectric grease to prevent corrosion on all connections. Fill receptacles and lightly coat ring terminals and blades before assembly.

SNOWPLOW CONTROL HARNESS

NOTE: Dielectric grease has been applied to coil terminals. DO NOT wipe off terminals.

1. With the harness strain relief located at lower rear corner of the valve block, attach a black/orange wire to each valve coil.

2. Attach white/yellow wire to front coil, green wire to center coil, and blue wire to rear coil. See diagram below.



Black/Orange Wire to Each Coil

3. Route wires under valve coils and reinstall the valve cover with the harness strain relief inside the cover harness slot. Avoid pinching wires between the cover and coils or valve block. Attach the cover with two 2-1/2" standoff screws. Apply anti-seize to screw threads.

4. Route the black/orange wire with ring terminal to the motor ground stud.

NOTE: Snowplow lighting and control harnesses plug into one another for storage.

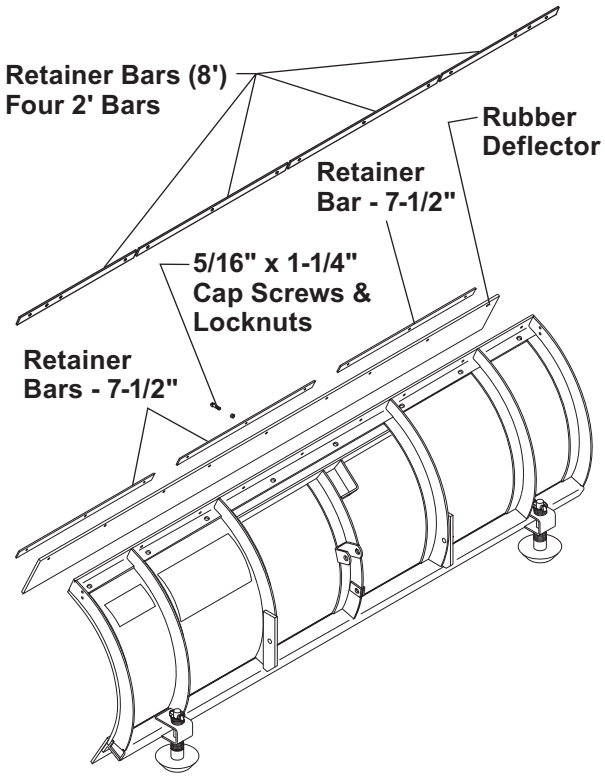
PLOW BATTERY CABLE

Parts installed in this section are found in the hydraulics box.

1. Attach black/red battery cable to the POSITIVE (+) motor stud on the hydraulic unit.
2. Attach black battery cable and the two black/orange wires from the headlamp and control harnesses to motor NEGATIVE (–) ground stud.
3. Tighten both stud nuts to 50–60 in-lb. Do not allow stud to rotate while tightening.
4. Install cable boot over bracket on driver's side of the lift frame.
5. Insert battery cable connector in cable boot for storage.

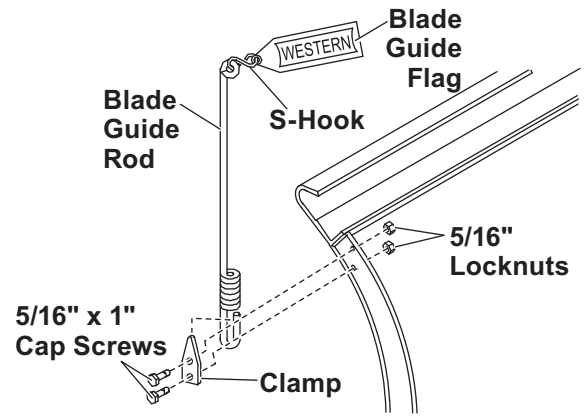
7-1/2' AND 8' POLY BLADE SNOW DEFLECTOR

Align the holes in the rubber deflector material with the holes in the poly blade frame top angle. Starting at one end, align end hole in retainer bar with end hole in deflector and blade frame top angle. Loosely install 5/16" x 1-1/4" cap screws and locknuts in retainer bar holes. Position remaining retainer bars and install fasteners. Tighten fasteners starting from the center of the blade towards each end.



BLADE GUIDE INSTALLATION

Insert pointed end of clamp into coil of the blade guide rod. Attach a blade guide rod to each outer rib using 5/16" x 1" cap screws and locknuts as shown.



FILLING HYDRAULIC UNIT

⚠ WARNING

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

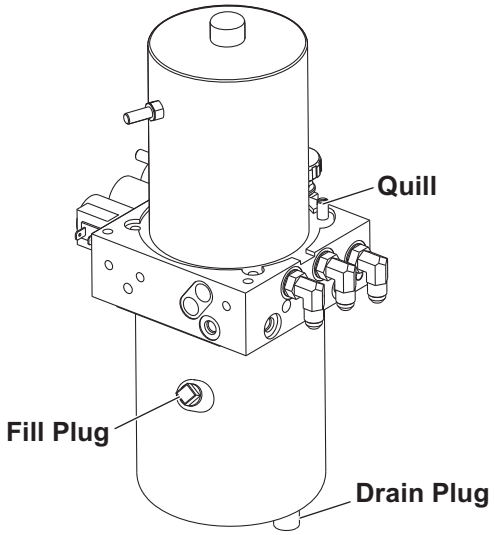
1. Attach the snowplow to the vehicle according to the instructions on the back of the blade.

2. Fill the reservoir with WESTERN® High Performance Hydraulic Fluid to –40°F (–40°C), or other fluid conforming to Military Specification MIL-H-5606A, such as Mobil Aero HFA or Shell AeroShell® Fluid 4. Replace the fill plug.

⚠ 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.

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



⚠ CAUTION

DO NOT raise blade during fill process as this may cause pump cavitation.

⚠ CAUTION

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

4. Fill the reservoir to the top of the fill hole and replace the fill plug.

NOTE: Loosen fill plug slowly to relieve any pressure in the reservoir.

5. Turn the control ON and raise and lower the snowplow several times. Activate the control FLOAT function and manually collapse the lift ram all the way after each lowering of the blade. Turn the control OFF.

6. Fill the reservoir to the top of the fill hole and replace the fill plug.

FLUID CAPACITY

• FloStat® Unit Reservoir	1-3/4 quarts
• FloStat System Total	2-3/8 to 2-3/4 quarts

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

BLADE DROP SPEED ADJUSTMENT

⚠ WARNING

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

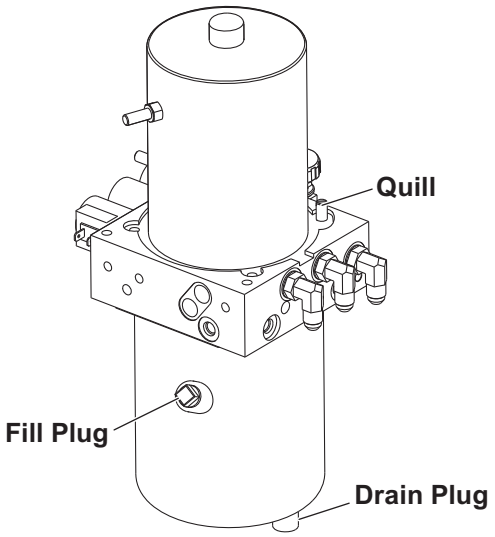
The quill in the top of the valve manifold on the passenger-side front corner adjusts the blade drop speed.

1. Lower the blade to the ground before making adjustment. Turn the control OFF.

2. Turn the quill IN (clockwise) to decrease drop speed.

   Turn the quill OUT (counterclockwise) to increase drop speed.

3. Stand clear of the blade when checking adjustment.



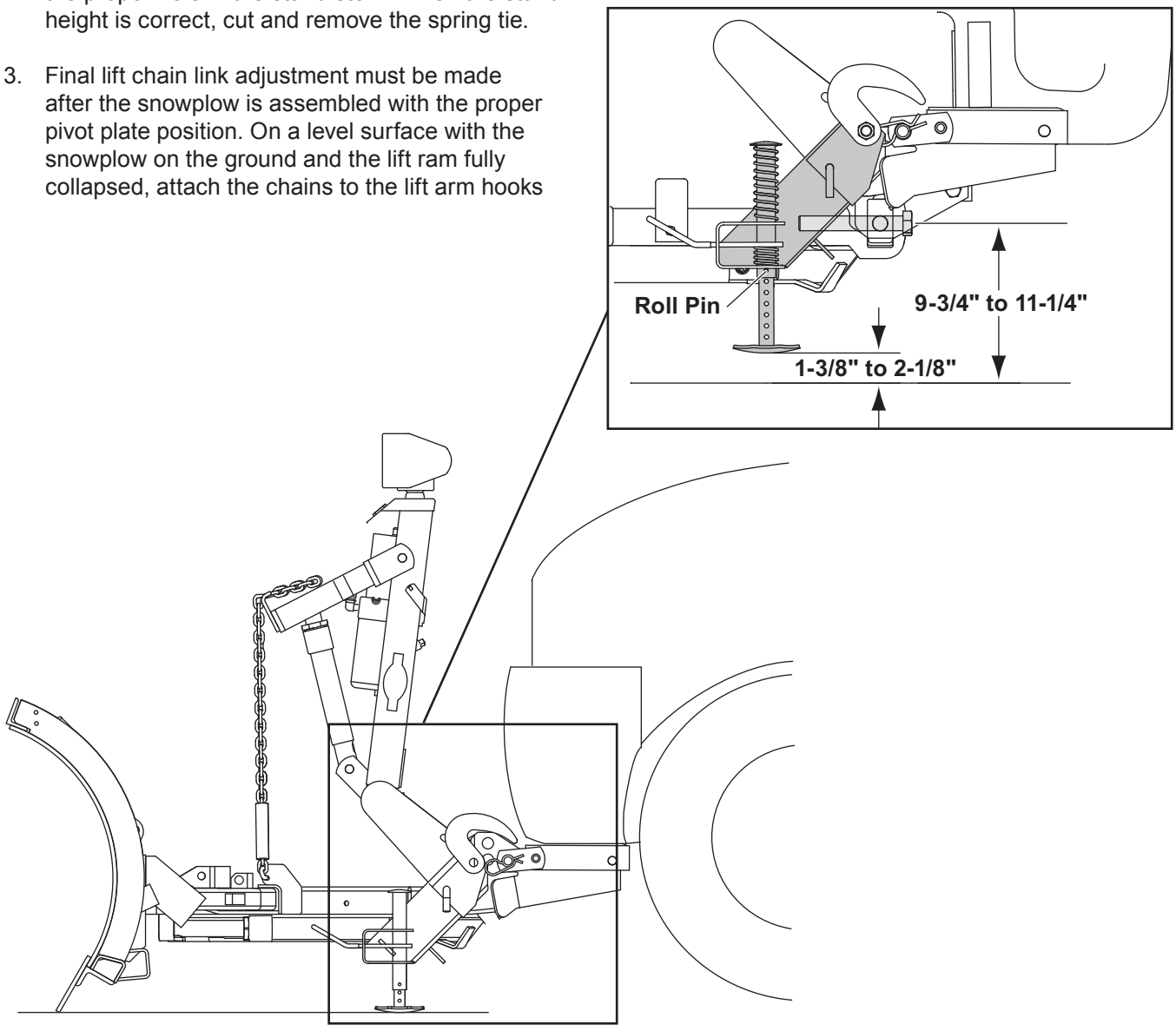
FINAL INSPECTION AND ADJUSTMENT

1. Attach the snowplow to the vehicle mount. With snowplow lowered to the ground and on level pavement, measure the dimension from the ground to the center of the pivot bar cap screw. This dimension must be 9-3/4" to 11-1/4".

2. With the snowplow attached and on the ground, place the stand arm in the lower position with the lock pin engaged and with the stand shoe fully retracted in the "up" position. Measure the distance from the ground to the bottom of the stand shoe. This distance should be 1-3/8" to 2-1/8". The stand can be adjusted to achieve this dimension by removing the roll pin and selecting the proper hole in the stand stem. When the stand height is correct, cut and remove the spring tie.

3. Final lift chain link adjustment must be made after the snowplow is assembled with the proper pivot plate position. On a level surface with the snowplow on the ground and the lift ram fully collapsed, attach the chains to the lift arm hooks in the tightest possible link. This adjustment will provide for optimum transport height, blade float, and stacking stop clearance. When chain tension is correct, the A-frame will not contact the lift frame when the blade is fully raised.

4. Fully raise the blade and verify that it does not block the headlamp beams. If the blade blocks the headlamp beams, lower the blade to the ground, collapse the lift ram and lengthen each chain by one link. Repeat this process, lengthening the chains by one link each time, until the blade does not block the headlamp beams.



VEHICLE LIGHTING CHECK

1. Verify the operation of all vehicle front lighting prior to connecting the snowplow harness.

2. Check the operation of the snowplow lights with snowplow mounted to vehicle and all harnesses connected.

   Turn signals and parking lamps

   Parking lamps ON:
   - Both vehicle and snowplow parking lamps should be ON at the same time.

   Driver-side turn signal ON:
   - Both vehicle and snowplow driver-side turn signal lamps should flash at the same time.

   Passenger-side turn signal ON:
   - Both vehicle and snowplow passenger-side turn signal lamps should flash at the same time.

   Headlamps

   Move vehicle headlamp switch to the "ON" position. Connecting and disconnecting the snowplow lighting harness plug should switch the lights between vehicle and snowplow as follows:

   Snowplow lighting harness DISCONNECTED:
   - Vehicle headlamps should be ON.
   - Snowplow headlamps should be OFF.

   Snowplow lighting harness CONNECTED:
   - Snowplow headlamps should be ON.
   - Vehicle headlamps should be OFF.

   Dimmer switch should toggle headlamps between high and low beams. The high beam indicator on the dash should light when headlamps are placed in high beam.

   Daytime Running Lamps (DRLs)

   An operational check of the vehicle and snowplow DRLs will depend on the vehicle model, vehicle DRL system and type of Isolation Module installed. Due to the variations in the OEM DRL systems and the different Isolation Module options available, checking the functionality of the snowplow DRLs will depend on the type of module installed on the vehicle.

   With headlamp switch OFF, activate the vehicle DRLs.

   Snowplow lighting harness DISCONNECTED:
   - Vehicle DRLs should be ON.
   - Snowplow headlamps should be OFF.

   Snowplow lighting harness CONNECTED and vehicle in DRL mode:
   - Check snowplow DRL function per the type of Isolation Module installed.

   Refer to the Mechanic's Guide for information on the Isolation Module DRL functions.

   Joystick Control or CabCommand Control

   The snowplow plugs **do** need to be connected to the vehicle harness connectors. The control power indicator light should light whenever the control ON/OFF switch and the ignition (key) switches are both in the "ON" position.

3. Connect all snowplow and vehicle harnesses. Raise the snowplow and aim snowplow headlamps according to the Snowplow Headlamp Beam Aiming instructions included with the headlamps and any state or local regulations.

4. Check aim of vehicle headlamps with snowplow removed.

> **⚠ CAUTION**
>
> **On 2-plug electrical systems, plug covers shall be used whenever snowplow is disconnected. Vehicle Battery Cable is 12-volt unfused source.**

5. When the snowplow is removed from the vehicle, install plug covers on the vehicle battery cable and lighting harness. Insert the snowplow battery cable and lighting harness into the cable boot on the snowplow.

OWNER'S MANUAL PACKET

If the completed snowplow will be delivered immediately, the Owner's Manual should be reviewed with and given to the purchaser according to the snowplow checklist.

If the snowplow is completed prior to delivery to the purchaser, attach the Owner's Manual Packet to the electrical cable of the cab control for safekeeping.

Western Products
PO Box 245038
Milwaukee, WI 53224-9538
www.westernplows.com

A DIVISION OF DOUGLAS DYNAMICS, L.L.C.

Western Products reserves the right under its product improvement policy to change construction or design details and furnish equipment when so altered without reference to illustrations or specifications used. Western Products or the vehicle manufacturer may require or recommend optional equipment for snow removal. Do not exceed vehicle ratings with a snowplow. Western Products offers a limited warranty for all snowplows and accessories. See separately printed page for this important information. The following are registered (®) or unregistered (™) trademarks of Douglas Dynamics, L.L.C.: FloStat®, POLY PRO-PLOW®, PRO-PLOW®, UltraMount®, WESTERN®.

Printed in U.S.A.