



# Insta-Act® Hydraulic Power Unit Installation Instructions

## Table of Contents

Safety Information .....	2
Attach Mounting Brackets to Insta-Act Hydraulic Power Unit .....	3
Attach Hydraulic Fittings to Cylinders .....	3
Attach Lift and Angle Cylinders .....	4
Mount Insta-Act Hydraulic Power Unit .....	5
Route Hydraulic Hoses to Valve Fittings .....	6
Install Snowplow Control Harness and Cable .....	7
Final Adjustments .....	8

**⚠ CAUTION**

Read this document before installing  
the snowplow.

**SAFETY INFORMATION**

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

**⚠ CAUTION**  
 Indicates a situation that, if not avoided, could result in damage to product or property.

**NOTE:** Identifies tips, helpful hints and maintenance information the owner/operator should know.

**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 can result in serious personal injury.

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

**⚠ WARNING**  
 Keep well 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 blade. If the blade hits you or drops on you, you could be seriously injured.

**⚠ 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.

**⚠ CAUTION**  
 Refer to the Kit Selection Guide for minimum vehicle recommendations and ballast requirements.

**⚠ CAUTION**  
 To prevent accidental movement of the blade, always turn the ON/OFF switch to OFF whenever the snowplow is not in use. The control indicator light will turn off.

**PERSONAL SAFETY**

- 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 a vehicle. Keep all open flames away from gasoline tanks 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.

**VENTILATION****⚠ WARNING**

Vehicle exhaust contains deadly carbon monoxide (CO) gas. Breathing this gas, even in low concentrations, could 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.

**⚠ CAUTION**

Always disconnect the battery before removing or replacing electrical components such as a motor relay or battery cable.

**HYDRAULIC SAFETY****⚠ WARNING**




Hydraulic oil under pressure could cause skin injection injury. If you are injured by hydraulic oil, 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

**TORQUE CHART****⚠ CAUTION**

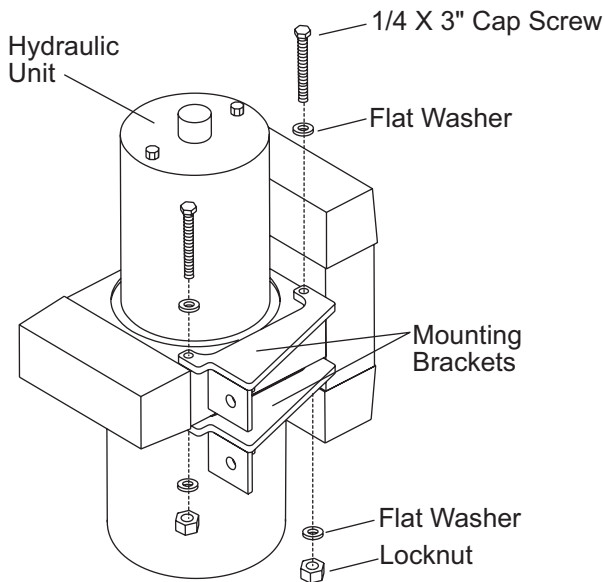
Read instructions before assembling. Bolts should be finger tight until instructed to tighten according to the torque chart. Use standard methods and practices when attaching snowplow including wearing safety glasses during cutting, drilling and welding.

**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
<b>Metric Grade 8.8 (Ft.-Lb.)</b>			
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 mount assembly fasteners except those noted in the instruction.			

**ATTACH MOUNTING BRACKETS TO INSTA-ACT® HYDRAULIC POWER UNIT**

1. Attach the mounting brackets to the valve block with two 1/4 x 3" cap screws, flat washers and locknuts.
2. Tighten cap screws.

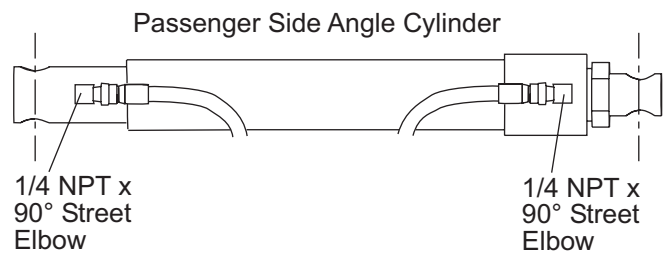


**ATTACH HYDRAULIC FITTINGS TO CYLINDERS**

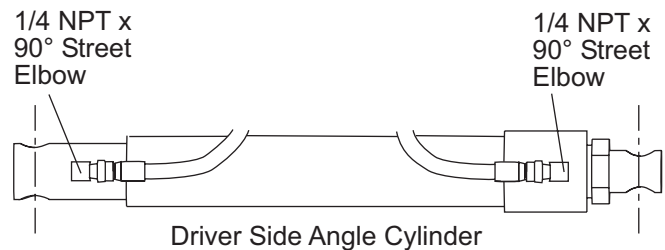
**Angle Cylinders**

1. Remove threaded plugs from cylinders using an Allen wrench.
2. Attach fittings (street elbows) to angle cylinders as shown. Fittings must be oriented to direct hoses parallel to cylinders. Do not use thread sealant/tape on hoses or fittings. This could damage product.
3. Attach 36" hoses to fittings in angle cylinders.

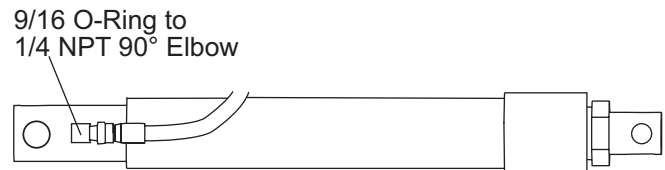
**Angle Cylinder Fittings**



Hoses parallel to cylinder.

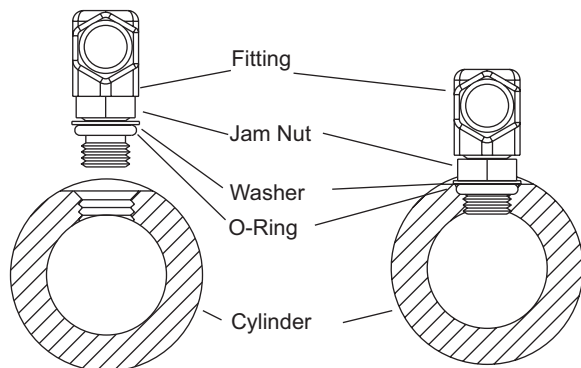


**Lift Cylinder Fittings**



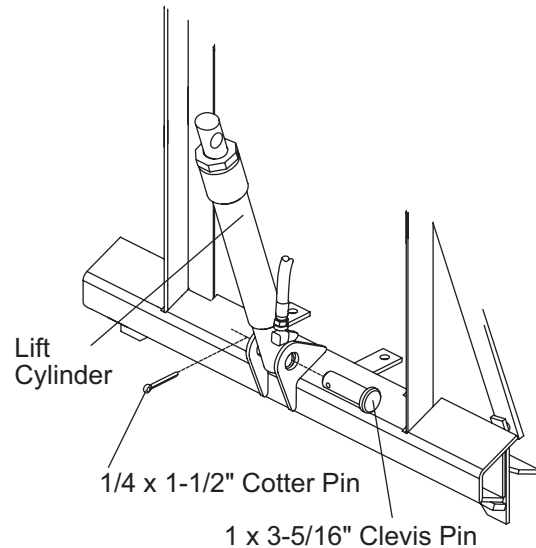
## Lift Cylinders with SAE O-Ring Port

1. Turn the jam nut on the fitting as far back as possible.
2. Lubricate the O-Ring with clean hydraulic oil. Remove the plug from the cylinder port.
3. Screw fitting into port by hand as far as it will go. The washer should contact port face and shoulder of the jam nut threads.
4. Unscrew fitting to proper position, no more than one full turn.
5. Use one wrench to hold the fitting body in position and tighten the jam nut with another wrench until the washer again contacts port face. Tighten 1/8 to 1/4 turn to lock fitting in place.
6. Attach the 18" HP hose to the lift cylinder elbow.
7. Tighten hose on to the fitting until finger tight.
8. Hold the hose from turning and tighten the hose swivel nut 1/4 turn.



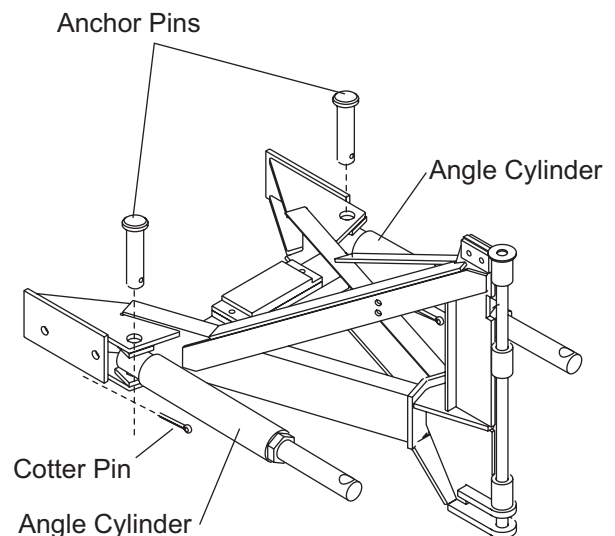
## ATTACH LIFT AND ANGLE CYLINDERS

1. Attach the lift cylinder to the headgear with a 1 x 3-5/16" clevis pin and 1/4 x 1-1/2" cotter pin. Position the hydraulic port so it faces the driver's side of the snowplow.



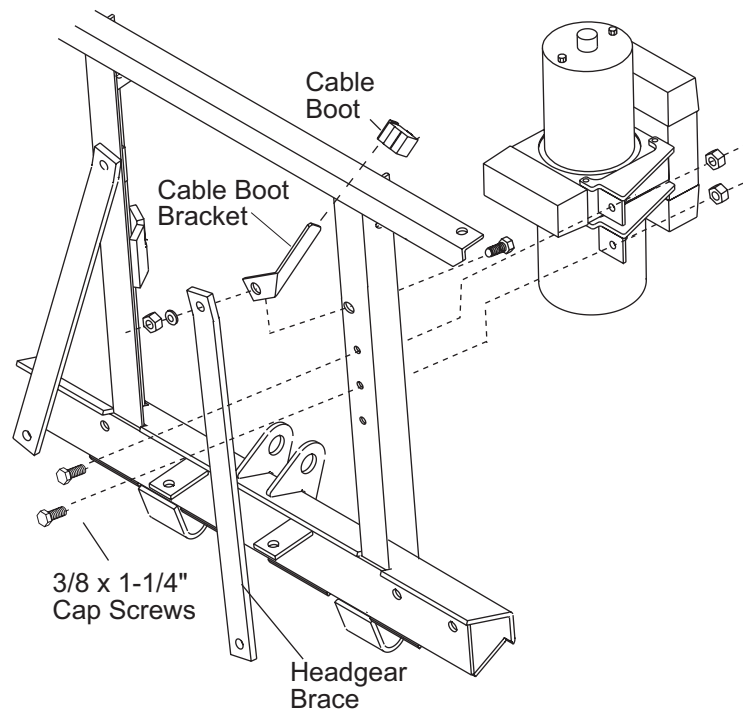
**NOTE: For 9-1/2' EZ-V® Blades, install blade stop kit 26634 before attaching angle cylinders.**

2. Attach the angle cylinders to the A-frame with the two anchor pins and cotter pins. Position the fittings so they face inward, toward the A-frame.



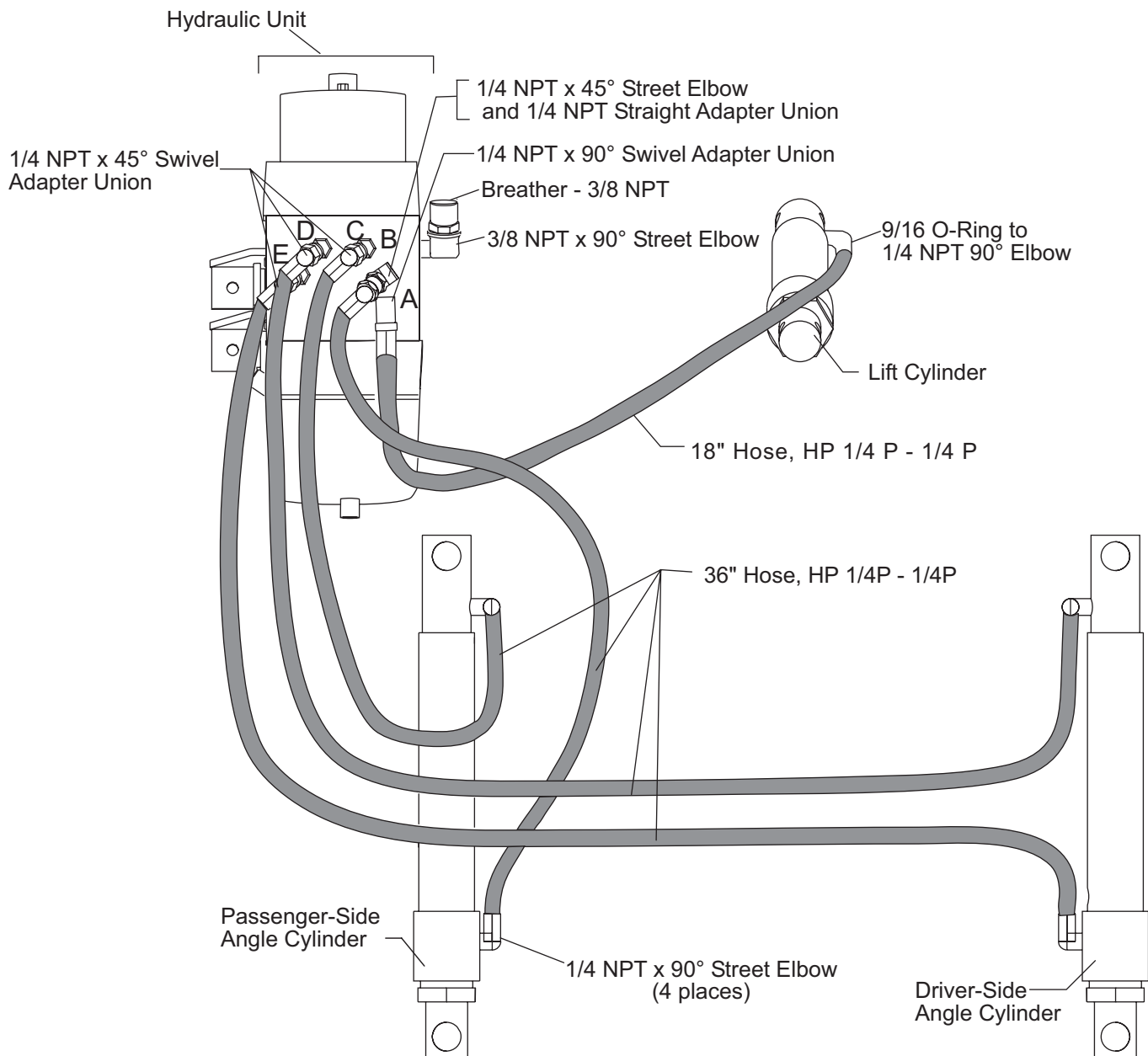
## MOUNT INSTA-ACT® HYDRAULIC POWER UNIT

1. Remove the top bolt from the passenger side headgear brace. Loosen the bottom bolt on the passenger side headgear brace. Swing the brace out of the way.
2. Bolt the hydraulic unit to the headgear using two 3/8 x 1-1/4" cap screws and locknuts. Use the top two holes if three holes are available.
3. Reattach and tighten the headgear brace.
4. Install the cable boot and cable boot bracket on the passenger side headgear brace, reusing the cap screw and flanged locknut already in place.



## ROUTE HYDRAULIC HOSES TO VALVE FITTINGS

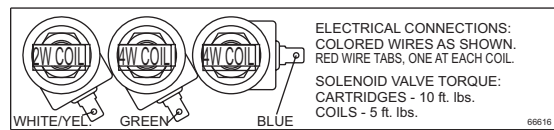
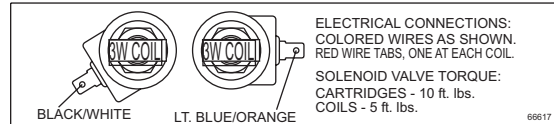
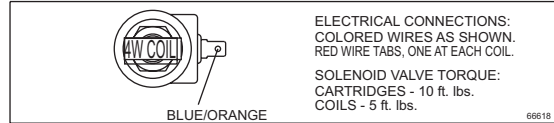
1. Attach the fittings and hoses to the hydraulic unit and cylinders as shown. Attach the fittings beginning at point A and proceed in alphabetical order to point E.
2. Remove the 3/8" plug from tapped port on driver side of primary valve block. Attach 90° elbow and breather.



## INSTALL SNOWPLOW CONTROL HARNESS AND CABLE

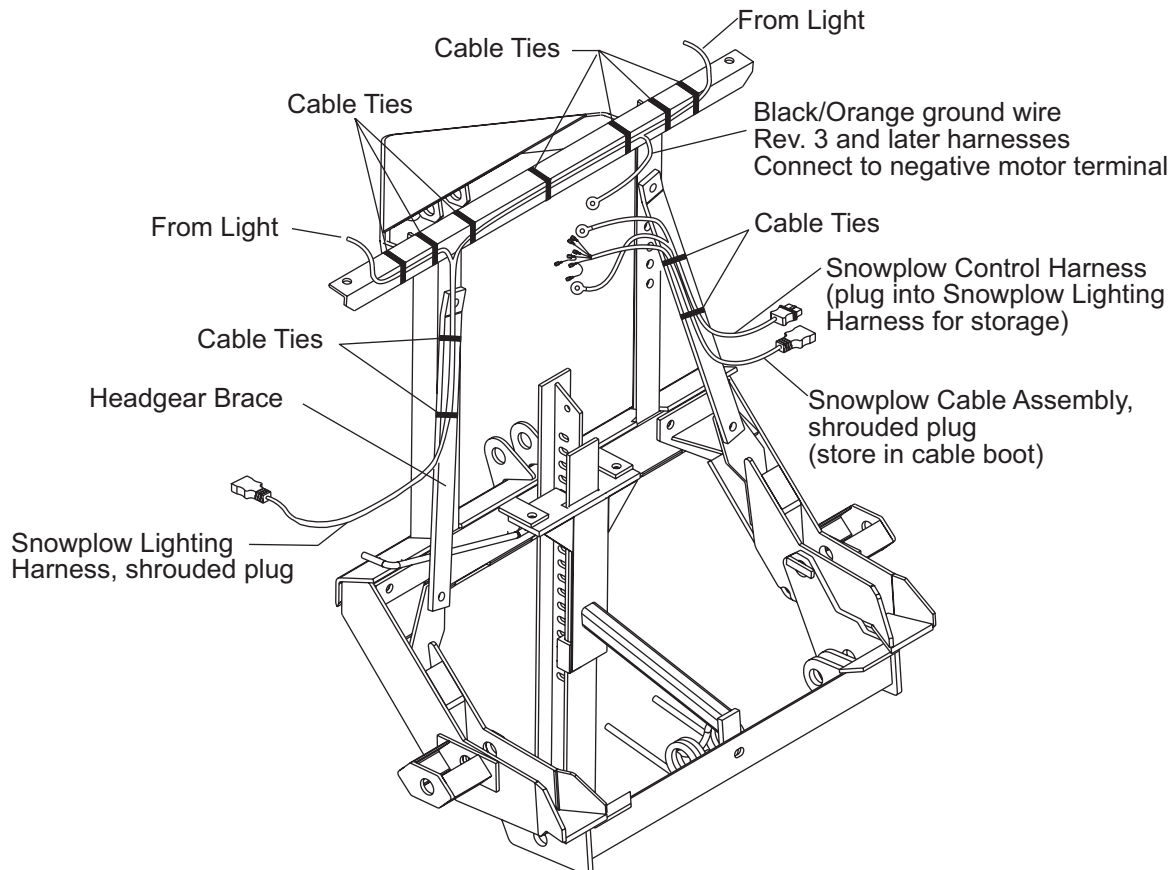
1. Remove the solenoid covers. Connect the snowplow control harness to the valve blocks according to the instructions inside the solenoid covers.

**NOTE: The strain reliefs must be inside the cover to prevent unnecessary strain on the solenoid connectors.**



2. Attach the snowplow cable assembly to the motor terminals located on the side of the motor body. Connect the black and red striped wire to the positive terminal. Connect the black wire to the negative terminal.
3. Cable tie harnesses and cable assembly to the headgear braces as shown.

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





## FINAL ADJUSTMENTS

### **⚠ WARNING**

Keep well 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 blade. If the blade hits you or drops on you, you could be seriously injured.

### **⚠ CAUTION**

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

### **⚠ CAUTION**

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

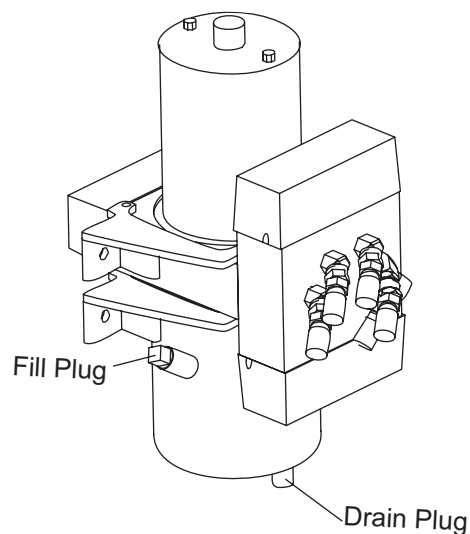
1. Fill with FISHER® High Performance Hydraulic Fluid to top of fill hole.

System Capacity:

Reservoir—1-3/4 quart

Complete System—2-1/2 quarts

2. Extend and retract the driver-side wing several times. Return to the retracted position.
3. Extend and retract the passenger-side wing several times. Return to the retracted position.
4. Add hydraulic fluid to the reservoir.
5. Raise and lower the snowplow several times. Return to the lower position, retracting the cylinder completely.



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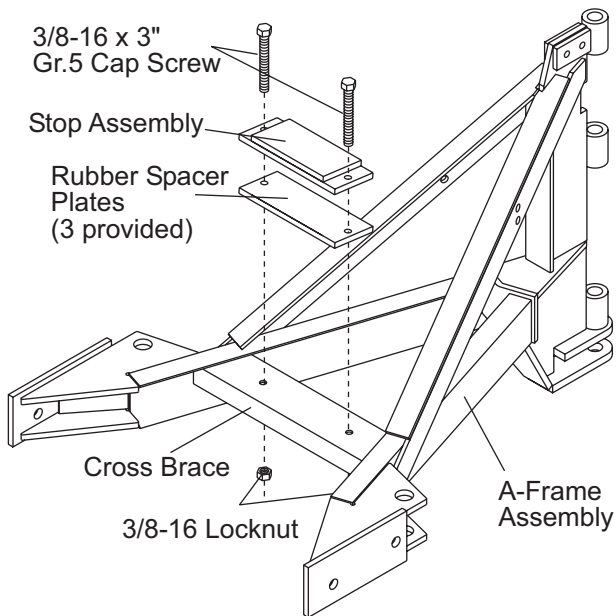
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6. With the angling cylinders and lift cylinder retracted, add enough additional hydraulic fluid so the fill plug can just be replaced without overflowing.
7. Raise the lift cylinder to full extension. The lift cylinder should have approximately 10" of lift and the A-frame stop assembly should contact the lower crossmember of the headgear. Lower the blade. Adjust the length of the lift chain and adjust the number of rubber plates on the stop kit so the A-frame hits the headgear when the lift cylinder is fully raised.

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**NOTE: In all cases, install at least one rubber spacer plate and the stop assembly.**

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8. Torque the two 3/8 x 3" full thread cap screws and 3/8" locknuts to 31 ft-lb. **Tighten both U-bolts.**

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