



Fisher Engineering

50 Gordon Drive, Rockland, Maine 04841-2139 • www.fisherplows.com

84935, 87515

July 1, 2021

Lit. No. 74262, Rev. 05

TRAILBLAZER™

MD UTV Straight Blade

Hydraulic Lift and Angle

Blade Assembly 87510, 87511

Hydraulic Lift Attachment 87515

Installation Instructions

⚠ CAUTION

Read this document before installing the snowplow.

⚠ CAUTION

See your FISHER® outlet/website for specific vehicle application recommendations before installation. The eMatch selection system has specific vehicle and snowplow requirements.

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/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.

Serial Number Label



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
ZZZZZZ	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.

⚠ CAUTION

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.

⚠ CAUTION

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 angle 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

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 the 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

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 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.

CAUTION

Refer to the current online selection system 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 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, including fuse rating and location, is located in the Maintenance section of the Owner's Manual.

PERSONAL SAFETY

- Remove ignition key and put the vehicle in PARK and set 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.
- 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.

SAFETY

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 95 dB(A) for the snowplow operator.









VIBRATION

Operating snowplow vibration does not exceed 2.5 m/s² to the hand-arm or 0.5 m/s² to the whole body.

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					
Inch Fasteners Grade 5 and Grade 8					
Size	Torque (ft-lb)		Size	Torque (ft-lb)	
	 Grade 5	 Grade 8		 Grade 5	 Grade 8
1/4-20	8.4	11.9	9/16-12	109	154
1/4-28	9.7	13.7	9/16-18	121	171
5/16-18	17.4	24.6	5/8-11	150	212
5/16-24	19.2	27.3	5/8-18	170	240
3/8-16	30.8	43.6	3/4-10	269	376
3/8-24	35.0	49.4	3/4-16	297	420
7/16-14	49.4	69.8	7/8-9	429	606
7/16-20	55.2	77.9	7/8-14	474	669
1/2-13	75.3	106.4	1-8	644	909
1/2-20	85.0	120.0	1-12	704	995
Metric Fasteners Class 8.8 and 10.9					
Size	Torque (ft-lb)		Size	Torque (ft-lb)	
	 Class 8.8	 Class 10.9		 Class 8.8	 Class 10.9
M6 x 1.00	7.7	11.1	M20 x 2.50	325	450
M8 x 1.25	19.5	26.9	M22 x 2.50	428	613
M10 x 1.50	38.5	53.3	M24 x 3.00	562	778
M12 x 1.75	67	93	M27 x 3.00	796	1139
M14 x 2.00	107	148	M30 x 3.50	1117	1545
M16 x 2.00	167	231	M33 x 3.50	1468	2101
M18 x 2.50	222	318	M36 x 4.00	1952	2701
These torque values apply to fasteners except those noted in the instructions.					

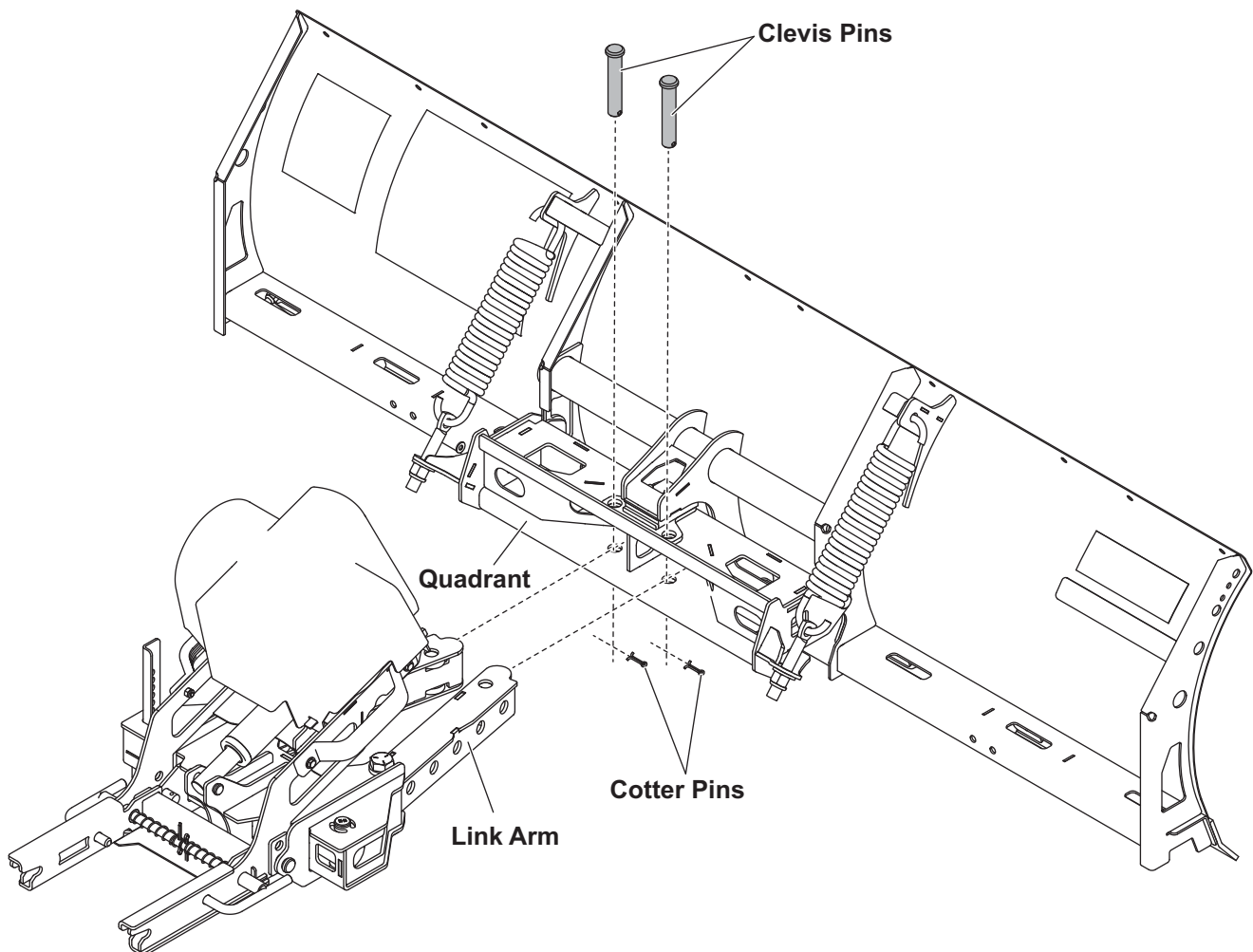
INSTALLATION INSTRUCTIONS

UNPACKING

1. Uncrate the blade by removing the top four 2'-long 2x4s. Remove the shipping brackets that attach the cutting edge to the bottom of the crate by removing the 3/8" nuts. Remove the screw that secures the shipping bracket to the lower blade crate. Reattach the 3/8" nuts to secure the cutting edge to the blade. Remove the blade from the crate.
2. Uncrate the plow gear assembly by removing the fabric cover. Remove the upper crate from the lower pallet. Remove the two screws that secure the link arms to the crate bottom. Remove the single screw that secures the headgear to the crate bottom.
3. The vehicle electrical harnesses are located in the mount box. The Owner's Manual is located in the blade box.

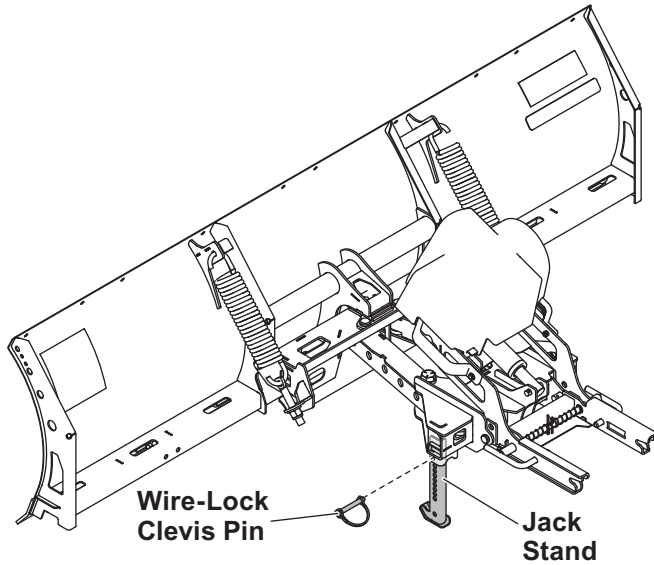
PLOW GEAR TO BLADE ASSEMBLY

1. Locate the clevis pins and cotter pins found in the parts bag that is packed with the plow gear assembly crate.
2. Align the holes in the link arms with the holes in the quadrant. Insert the clevis pins through the quadrant and link arms to secure the blade assembly to the plow gear assembly.
3. Secure the clevis pins with the cotter pins.

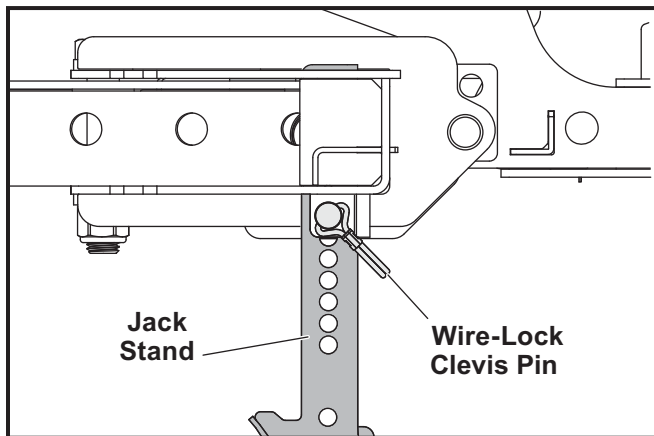


INSTALLATION INSTRUCTIONS

4. With the angle frame parallel to the ground, remove the wire-lock clevis pin. Fully lower the jack stand.

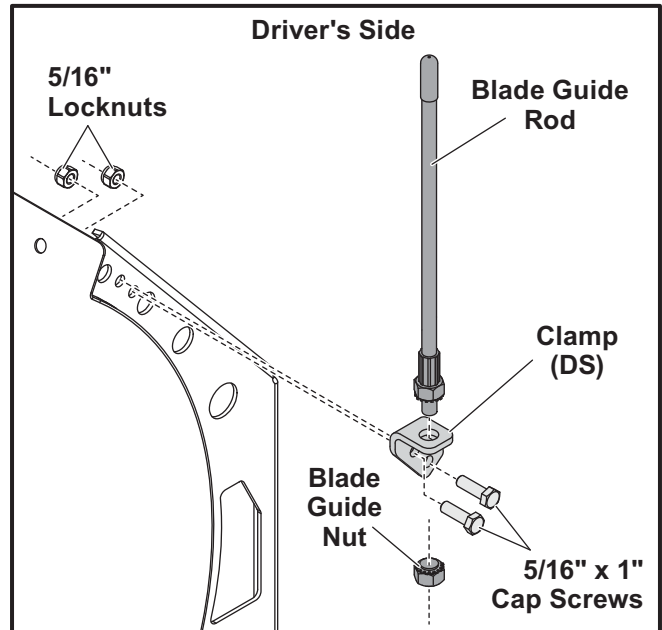


5. Insert the wire-lock clevis pin in the jack stand hole that aligns with the hole in the angle frame. Engage the wire lock.

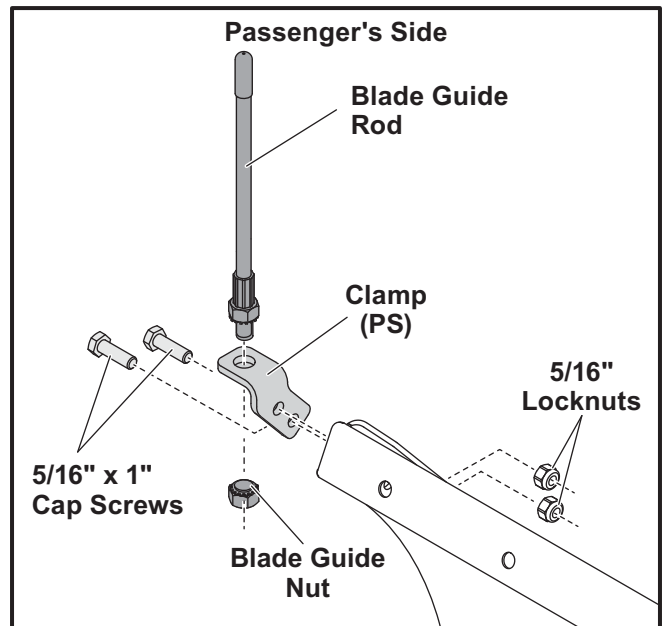


INSTALL BLADE GUIDES

1. Secure the driver-side clamp to the outermost rib on the driver's side of the blade using two 5/16" x 1" cap screws and 5/16" locknuts. Tighten the fasteners to 18 ft-lb.



2. Remove the nut from the bottom of the blade guide. Insert the blade guide rod into the hole in the top of the clamp and secure it with the blade guide nut.



3. Repeat Steps 1 and 2 for the passenger's side.

INSTALLATION INSTRUCTIONS

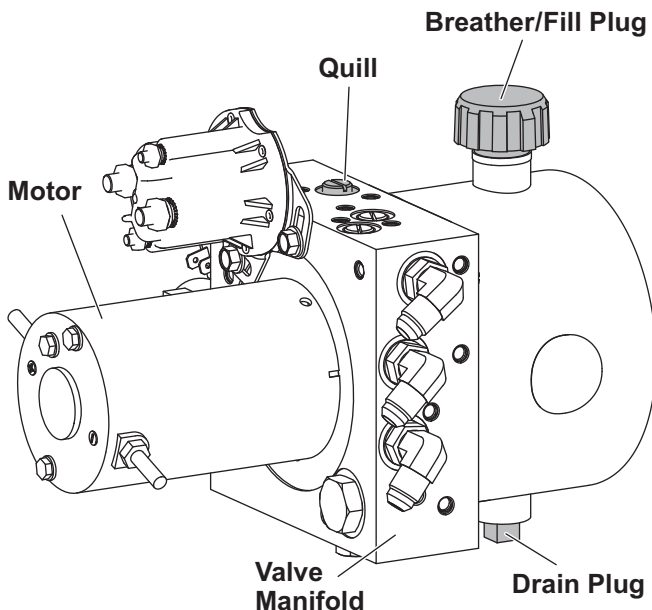
HYDRAULIC UNIT

⚠ WARNING

Keep 8' 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 hydraulic system comes from the factory preassembled, partially filled, and fully tested.

1. Attach the snowplow to the vehicle according to the instructions on the back of the blade.
2. Remove the cover from the hydraulic unit. Remove and discard the factory-installed pipe plug from the top of the reservoir and install the breather.



⚠ WARNING

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

3. Raise and lower the snowplow several times. With the snowplow in the raised position, fully angle the blade from right to left several times. Activate the control FLOAT function and make sure that the blade is lowered completely to the ground. Unplug the control.

⚠ CAUTION

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

4. Remove the breather and check the fluid level. The fluid level should be 1/2"–1" below the fill hole. If additional fluid is needed, add hydraulic fluid rated to –40°F (–40°C), or other fluid conforming to Military Specification MIL-H-5606 A, such as Mobil Aero HFA or Shell AeroShell® Fluid.

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

NOTE: Add fluid only when the blade is resting fully on the ground.

5. Replace and tighten the breather.

INSTALLATION INSTRUCTIONS

BLADE DROP SPEED ADJUSTMENT

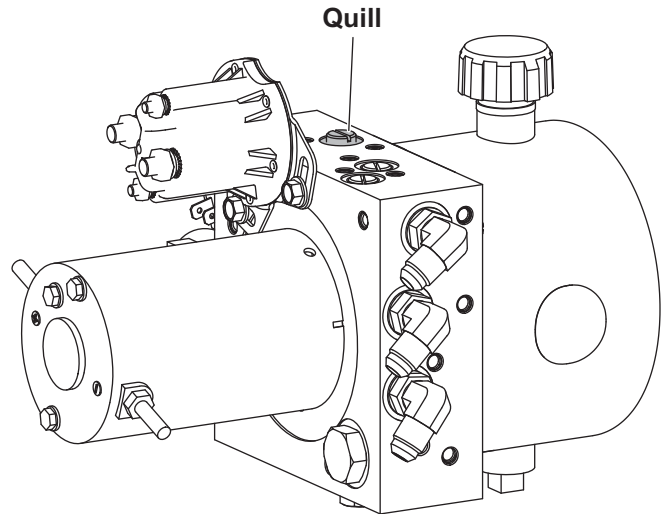
⚠ WARNING

Keep 8' 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 valve manifold adjusts the blade drop speed.

1. Lower the blade to the ground before making any adjustment.
2. Remove the hydraulic unit cover.

3. Turn the quill IN (clockwise) to decrease drop speed. Turn the quill OUT (counterclockwise) to increase drop speed.



4. Stand 8 feet clear of the blade when checking the adjustment.
5. Replace the cover.

OPERATIONAL TEST AND FINAL ADJUSTMENTS

FINAL INSPECTION AND ADJUSTMENT

WARNING

Keep 8' 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.

1. Fully angle the blade in both directions in raised and lowered positions.
2. Adjust the hose fittings and wraps so that hoses do not contact vehicle bumper, have no sharp bends, are wrapped at contact points, and do not become pinched between the headgear and angle frame.

OPERATIONAL TEST AND FINAL ADJUSTMENTS

PLUG COVERS

CAUTION

Plug covers shall be used whenever snowplow is disconnected. Vehicle battery cable is 12V unfused source.

When the snowplow is removed from the vehicle, install plug covers on the vehicle battery cable. Insert the snowplow battery cable 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.

Fisher Engineering 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. Fisher Engineering or the vehicle manufacturer may require or recommend optional equipment for snow removal. Do not exceed vehicle ratings with a snowplow. Fisher Engineering 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, LLC: FISHER®, TRAILBLAZER™.

Printed in U.S.A.
