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HEADLAMP INSTALLATION INSTRUCTIONS FOR V-PLOWS WITH ISOLATION MODULE ELECTRICAL SYSTEM

Read this document before installing the snowplow.

See your WESTERN[®] outlet for application recommendations. The Selection List has specific vehicle and snowplow requirements.

SAFETY DEFINITIONS

A WARNING

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

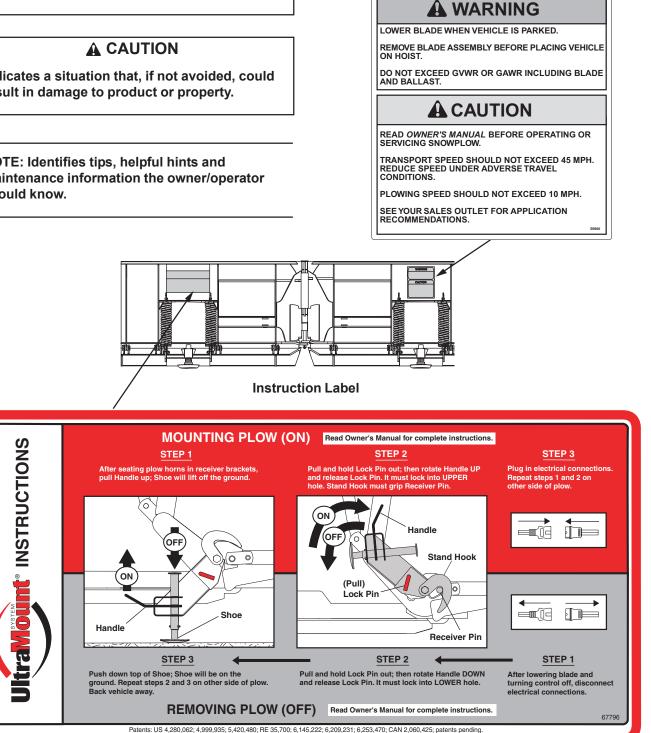
Indicates a situation that, if not avoided, could result in damage to product or property.

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

WARNING/CAUTION & INSTRUCTION LABELS

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

Warning and Caution 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.

A 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.

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.

A WARNING

Do not exceed GVWR or GAWR including blade and ballast. The rating label is found on driverside vehicle door cornerpost.

Refer to the current selection list for minimum vehicle recommendations and ballast requirements.

A 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

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.

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

A 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.

A 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 wood.

TORQUE CHART

A 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 (FtLb.)			
Size	SAE Grade 2	Grade 5	Grade 8
1/4-20 5/16-18 3/8-16 3/8-24 7/16-14 1/2-13 9/16-12 5/8-11 3/4-10 7/8-9 1-8	6 11 19 24 30 45 66 93 150 150 220	9 18 31 46 50 75 110 150 250 378 583	13 28 46 68 75 115 165 225 370 591 893
Metric Grade 8.8 (FtLb.)			
Size	Torque	Size	Torque
M 6 M 8 M 10	7 17 35	M 12 M 14 M 16	60 95 155
These torque values apply to fasteners except those noted in the instruction.			

2. Insert six cable tie anchors into 1/4" holes on rear

3. Install a split rubber grommet on each headlamp

4. Route wires underneath channel, behind vertical supports, and down along inside of driver side

wire 3" from headlamp and insert grommet and

locking tabs horizontal.

wire into slot on rear of channel.

of headlamp channel from inside channel, with

HEADLAMP INSTALLATION

Headlamps and hardware are found in the headlamp box. Additional hardware is found in the hydraulics box.

Refer to figure below for the following instructions.

- 1. With wire harness behind the lift frame, attach headlamps to headlamp channel with swivel base on top and 9/16" x 1-7/8" OD flat washer, 1/2" lock washer, and 1/2" nut underneath.
 - vertical support, securing wires to anchors with Swivel cable ties. Base 5. Attach harness to front of hydraulic unit cross member at driver side vertical upright with Grommet remaining cable tie through hole in cross member. Ø Cable Tie NOTE: Use dielectric grease to prevent 1-7/8" Flat Washer Anchor corrosion on all connections. Fill receptacles (Hydraulics Box) and lightly coat ring terminals and blades before assembly. 1/2" Lock Washer 1/2" Nut Black/Orange **Headlamp Harness** Wire to Negative Cable Boot **Motor Terminal Black/Red Cable** Battery Cable to Positive Motor Terminal Black Cable to Negative Snowplow **Motor Terminal** Control Harness

PLOW BATTERY CABLE INSTALLATION

All parts installed in this section are found in the hydraulics box.

Refer to photo on previous page for the following instructions.

NOTE: Apply a light coating of dielectric grease to connectors before assembly.

1. Attach the red cable to the POSITIVE (+) motor terminal on the hydraulic unit. Tighten nut to 50-60 in-lbs.

Twisting motor stud while tightening cable nut may damage the motor.

- 2. Attach the black cable and the black/orange wire from the headlamp harness to the NEGATIVE (-) motor terminal on the hydraulic unit. Tighten nut to 50-60 in-lbs.
- 3. Insert battery cable into cable boot for storage.

NOTE: Retain dielectric grease tube for use during vehicle mount installation. Give the tube to the end user.

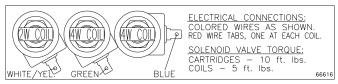
SNOWPLOW CONTROL HARNESS AND CABLE INSTALLATION

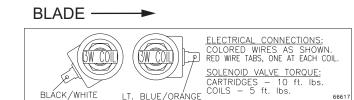
- 1. Confirm that all covers have been removed from valve manifolds on the hydraulic unit.
- 2. Route the branches of the harness with loose wires to the manifolds. Refer to the diagrams below in order to route the correct branch to the correct manifold.

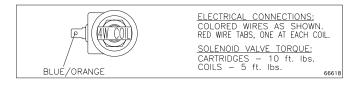
NOTE: Dielectric grease has been applied to coil terminals. DO NOT wipe off terminals.

3. Apply dielectric grease (P.N. 56099) (furnished in the hydraulics box) into the opening of each wire terminal before connecting to the coil terminals as shown on the label on the inside of each cover and in figures below.

BLADE







4. Route wires under valve coils and reinstall valve covers with harness strain relief inside cover harness slot. Avoid pinching wires between cover and coils or valve block. Attach each cover with two 8-32 x 2-1/2" hex standoff screws. Apply antiseize to screw threads.

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



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

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