PICKUP TRUCK SNOWPLOW

V-PLOW

Models 9585, 9595, 9863, 9963, 9710

ASSEMBLY INSTRUCTIONS

DO NOT USE OR OPERATE THIS EQUIPMENT UNTIL THIS MANUAL
HAS BEEN READ AND THOROUGHLY UNDERSTOOD

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PART NUMBER 25014798

TABLE OF CONTENTS

GENERAL PLOW ASSEMBLY

WARNING: To prevent personal injury or death, be certain to keep clear of any parts that may drop when removing bundling straps, wires or brackets. Support heavy sections with hoist or blocks before removing wires or straps.

In the following instructions, left and right machine references are defined as being viewed from the cab of the truck.

Be certain that hydraulic hoses and electrical wires are safely routed and allow full motion of moving parts. Secure loose wires with plastic tie straps.

Some components are fastened at incorrect locations for shipping purposes.

All hardware should be tightened only enough to ensure safety during assembly. Torque hardware to specified values, as shown in the following chart, only after assembly has been completed.

GRADE 5 TYPE B & F LOCK NUT TORQUE VALUES

Size	Ft-lbs.	N-m
5/16”	13-18	17-25
3/8”	23-33	31-44
1/2”	58-82	79-112
5/8”	117-165	158-223

GRADE 5 BOLT TORQUE VALUES*

Size	Ft-lbs.	N-m
1/4”	8-12	11-16
3/8”	29-41	39-56
1/2”	73-103	99-140
5/8”	146-206	198-279

* applications without lock nuts

Replace worn bolts and lock nuts with grade 5 bolts and equivalent type B and type F lock nuts. Type B lock nuts are plain hex; type F lock nuts are flanged hex.

WARNING: Snow plow has O-ring hydraulic fittings on the pump, hoses and hydraulic cylinders. DO NOT use pipe sealant or over tighten during assembly.

After assembly validate all hydraulic connections are tight. Factory installed connections may loosen during shipping.

NOTE: New hydraulic cylinders will leak a small amount of oil until packings become saturated and produce a good seal. If leakage is exessive, or if leaking continues after initial cycling, tighten the packing nut in 1/8 turn increments until leaking stops.

NOTE: Discard any lock nuts removed while transitioning the plow from shipping configuration to final configuration. Utilize new lock nuts provided in Op manual bag.

FRAME TO MOLDBOARD ASSEMBLY

1. Lift the snowplow moldboard assembly to a clear level working area by hooking hoist chains through the two holes in the top plate of the center mast. The hoist should be capable of lifting at least 1,000 lb. loads.

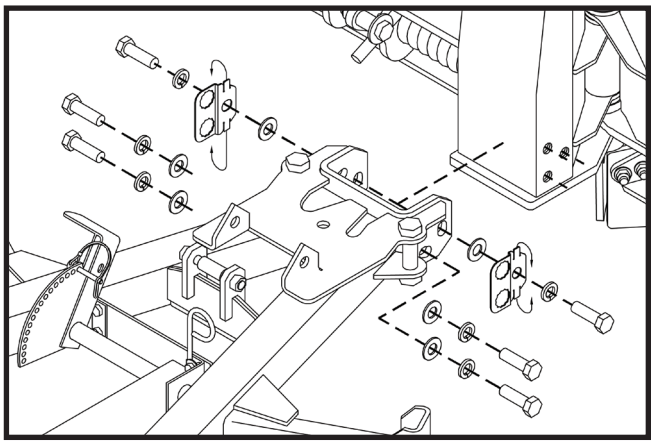
   Remove two side markers and 5/16” hardware from the top of the moldboard, and set aside for assembly later. Save two sets of 5/16” hex bolts and flat washers from the shipping brackets for assembling the side markers.

2. Open the frame box and set aside the power unit box, headlamp boxes and electrical box for later assembly. Remove the frame assembly from the shipping box to a piece of cardboard or other padding that will prevent scratches in the paint.

3. Unbolt shipping straps from between the moldboard wings and center mast. Discard straps and lock nuts, save hardware for reinstallation.

   Unbolt the 5/8” x 7 1/2” hex bolt from the adjustable braces on the frame assembly and save the bolt for reinstallation. Discard lock nut. Loosen lower brace bolts so braces can rotate.

   Remove the two bolt head retainer plates from the Op manual bag.

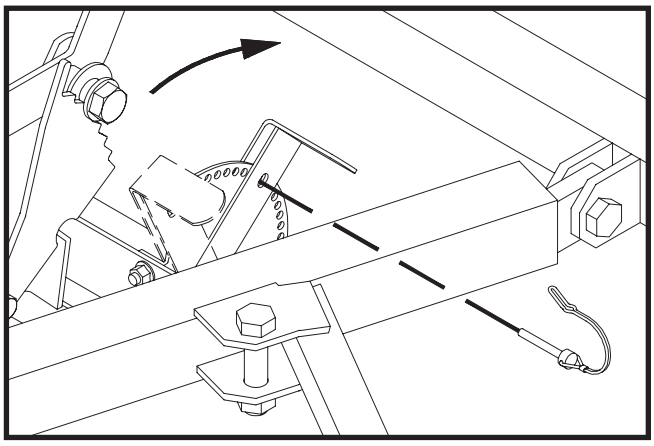


DWG. NO. 7199C

Move the frame assembly to the back of the moldboard assembly and align three sets of holes at the front of the frame assembly with holes through the moldboard center mast.

Fasten the frame to the moldboard using four 5/8” x 2” hex bolts with a flat washer and lock washer under the head, insert through the two rear sets of holes per side. Front bolts and retainer plates will be installed later after the plow is leveled.

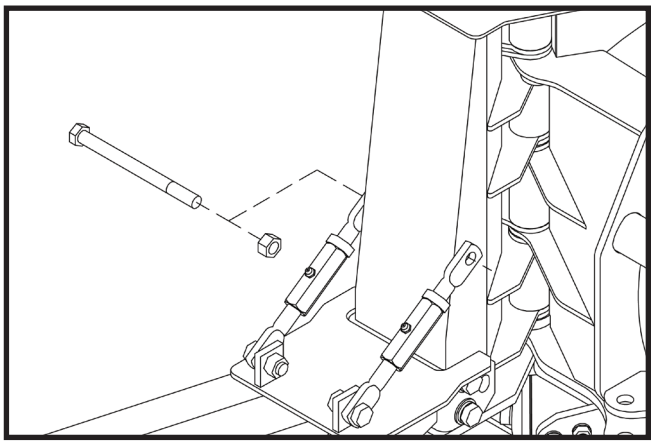
Pin the parking stand to hold the square tubes of the push frame parallel to the ground.



DWG. NO. 7198

NOTE: The bottom surface inside the two prong receiver channels should measure about 10” above the ground in the working position.

Fasten the adjustable braces to the center mast with the 7 1/2” long hex bolt and 5/8” lock nut from the Op manual bag.



DWG. NO. 7200C

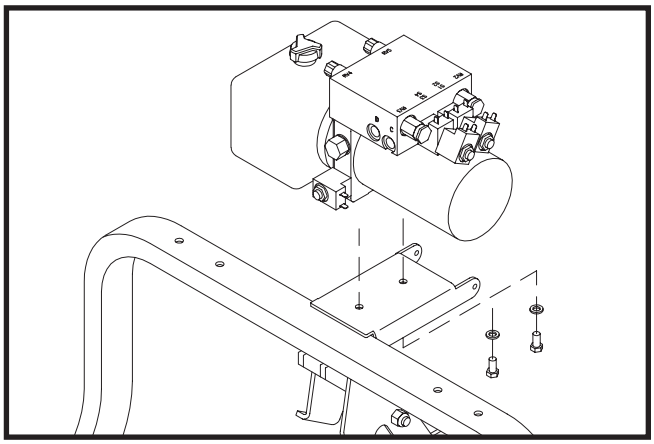
Use the adjustable braces to level the cutting edges to the ground after the plow is attached to the truck. Refer to plow leveling procedure for details.

HYDRAULIC ASSEMBLY

1. For Halogen lights Only: Before assembling the power unit on the lift frame, scrape a small amount of paint from the two mount holes in the lift frame to provide a good electrical ground for the turn signals and parking lights.

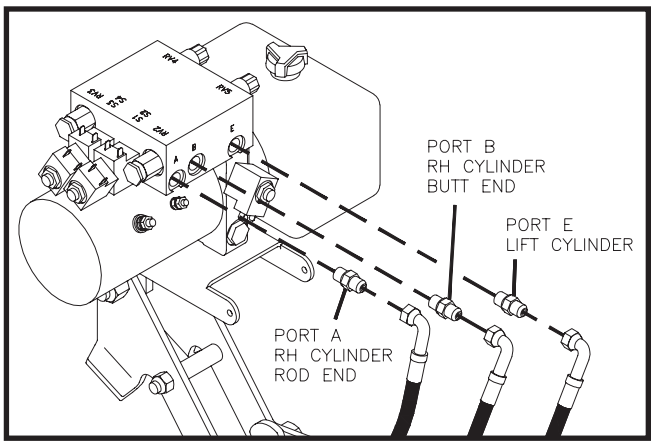
2. Pin the rod end of the cylinders between lugs on the back of the moldboard with 3/4" x 3 1/4" hex bolts, removed earlier, and 3/4" lock nuts from Op manual bag.

3. Mount the power unit on the lift frame with two 3/8" x 3/4" hex bolts and two 3/8" lock washers. The plastic reservoir of the power unit should be to the left side of the of the plow (see following illustration).

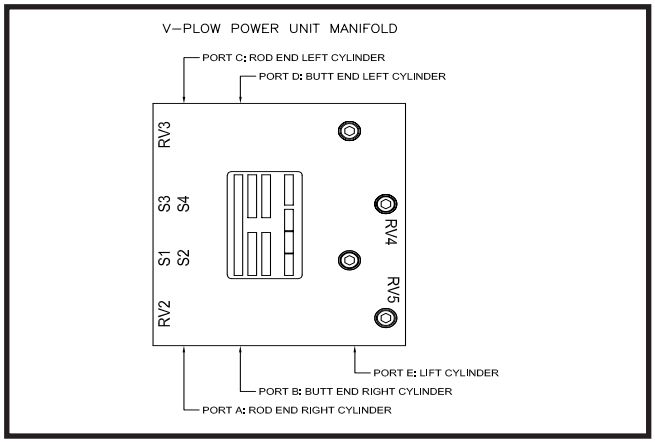


DWG. NO. 6454A

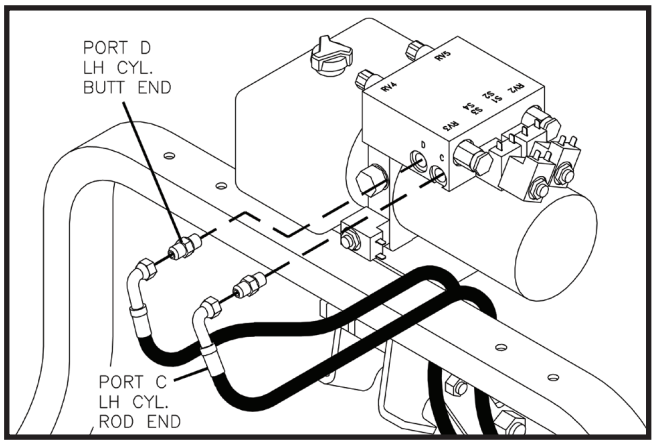
Install the adapters onto the power unit, then fasten the hoses to the adapters matching the letters on the hose ends to the letters on the manifold.



DWG. NO. 6455A

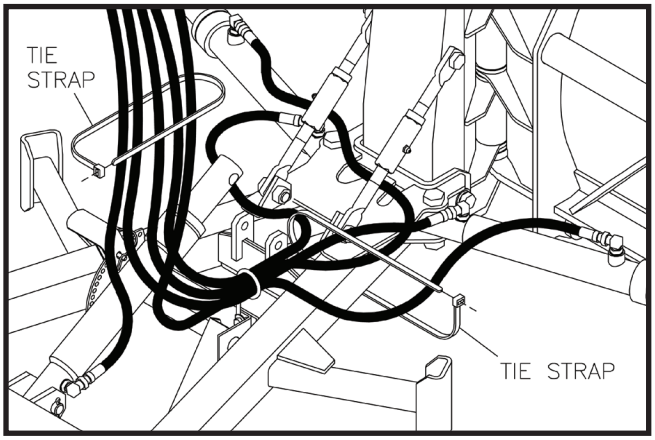


DWG. NO. 8003



DWG. NO. 7145

Ensure factory installed fittins are tight. Then secure the hoses (see following illustration).



DWG. NO. 7789

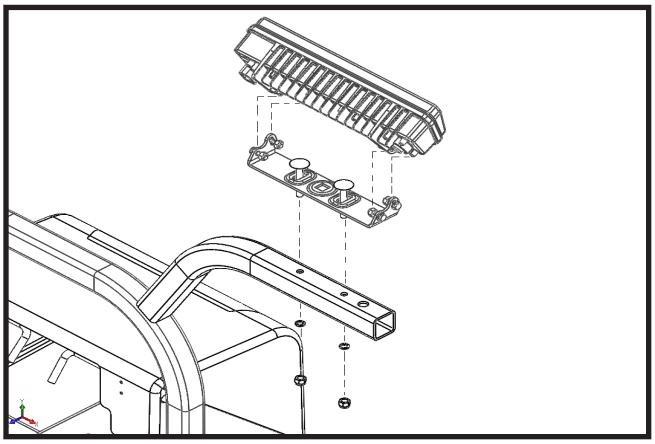
PLOW ELECTRONICS ASSEMBLY

NOTE: Check 1/4” bolts provided in LED headlight box. If they do not have a pre applied Loctite patch, apply anti-sieze to the bolts to prevent galling.
NOTE: Do not use an impact driver, tighten bolts by hand to prevent galling and damage to headlight housing.

1. Mount the headlamp brackets to the lift frame tube with hardware provided in light parts box.

   Remove the LH and RH headlamps from their boxes and mount on the brackets with the provided hardware.

   Refer to section titled “Headlamp Aiming Procedure” for aiming instructions.



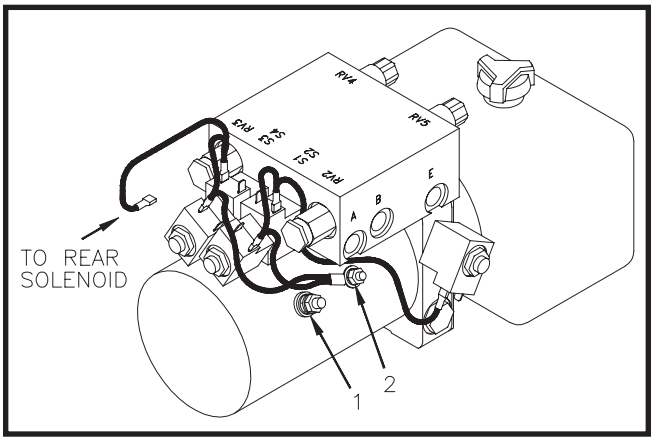
DWG. NO. 6012F

2. Take the 38” power cable (38812008) from the electronics parts box and the plow side harness (38813155 for LED) or (38813098 for Halogen) from the headlight parts box. Identify the power cable and wiring harness for the plow in the electrical components parts box.

   The power cable has two cables with ring terminals on one end and a two pin connector on the other, and measures about 38” long.

   The wiring harness has a 16 pin connector and the other end has connectors labeled “DRIVER SIDE” and “PSNGR SIDE” for the headlamps, and six loose wires with spade receptacles.

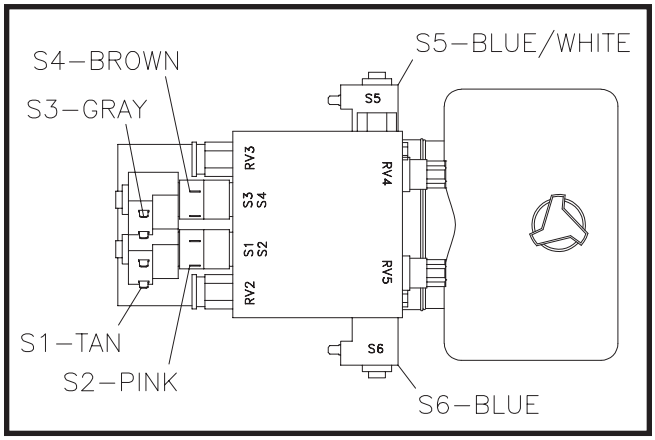
NOTE: To prevent corrosion lightly coat all electrical connections, ring and spade terminals with dielectric grease prior to assembly.



DWG. NO. 5849B

Refer to drawing 5849B. Attach the ring terminal of the solid red (or red striped) wire of the power cable assembly to the terminal on the motor at location 1.

Fasten the ring terminal of the solid black wire of the power cable assembly, and the ring terminal of the ground wire harness to the terminal on the motor at location 2.



DWG. NO. 5844B

Connect the tan wire of the wiring harness to the spade terminal on solenoid S1.

Connect the pink wire to solenoid S2.

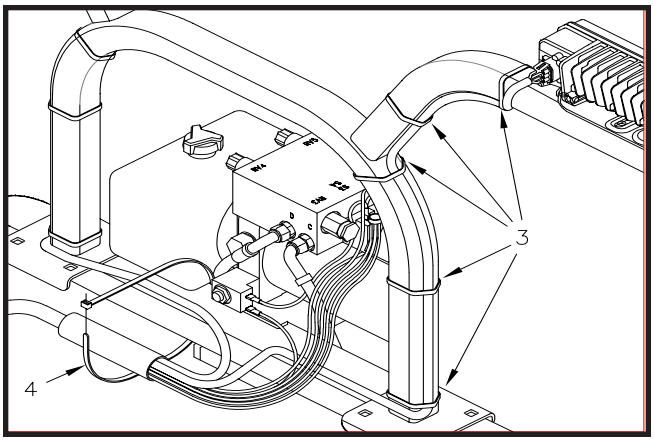
Connect the gray wire to solenoid S3. Connect the brown wire to solenoid S4.

Connect the blue with white stripe wire to solenoid S5.

Connect the blue wire to solenoid S6.

Connect the RH headlamp to the harness end labeled “PSNGR SIDE” and the LH headlamp to the end labeled “DRIVER SIDE”.

Use plastic tie straps to band headlamp cables to the brackets at location 3 to provide clearance for the power unit cover rods later.

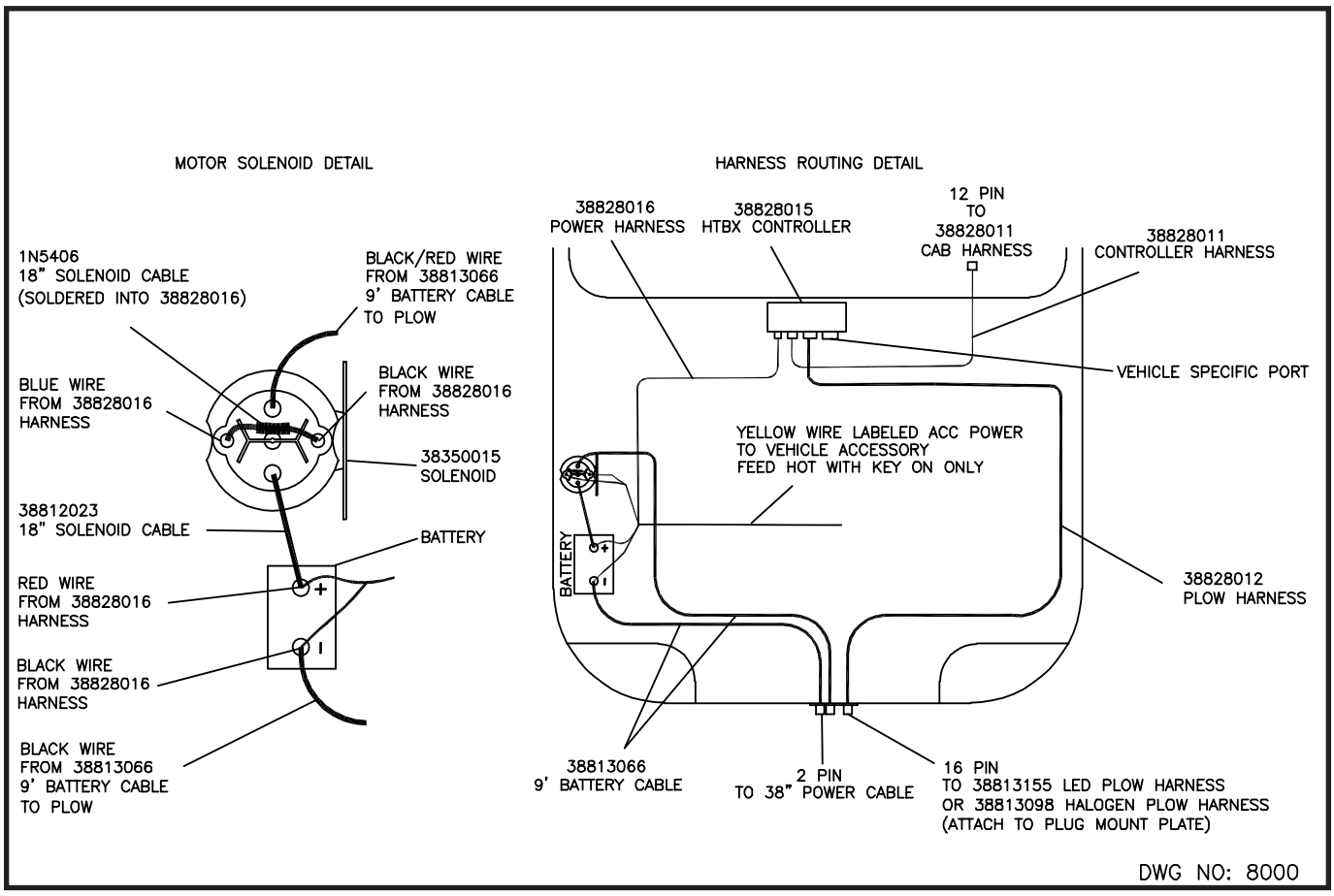


DWG. NO. 6013F

Refer to drawing 6013F. Use a plastic tie strap to band the plow wiring harness to the lift frame tube at location 4. Route wires to the power unit and headlamps, as shown.

NOTE: Install the plow harness so that water does not run down the wires and pool inside the “Y” connection. Position the harness so that any trapped water can easily drain away.

TRUCK ELECTRONICS & MOUNT KIT ASSEMBLY



Truck Battery On Passenger Side

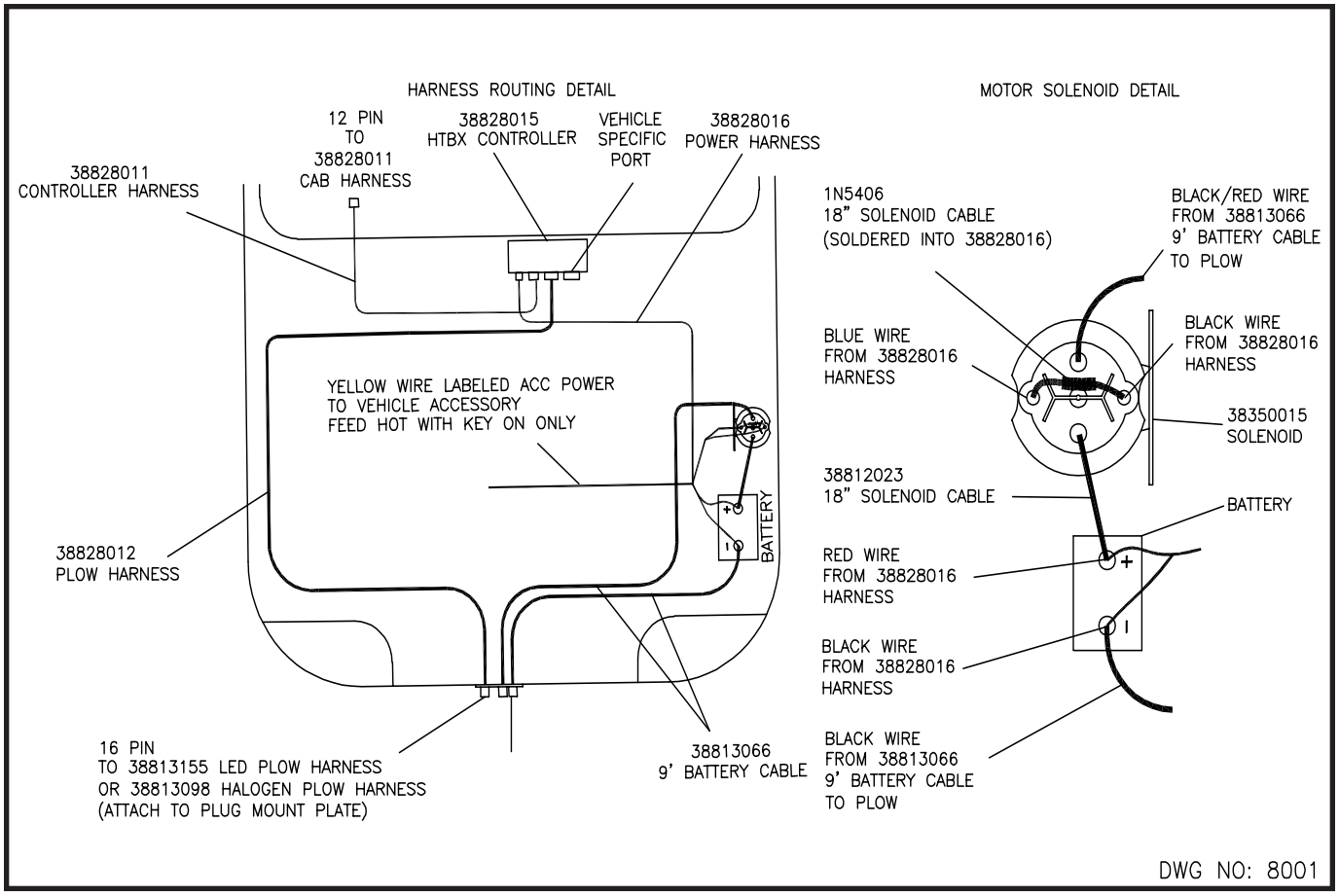
WARNING: Disconnect truck battery before beginning electrical installation to avoid shock hazard.

Open the electronics parts box and validate you have all components, harnesses, and hardware per the checklist inside the box.

NOTE: To prevent corrosion, apply a light coat of dielectric grease on all connectors and terminals before installation.

1. Refer to drawing 8000 & 8001 for a general guide on routing the HTBX electrical system harnesses. Not all engine compartments are compatible with the routing shown in the drawings 8000 & 8001. Installers must use their best judgement to route the harnesses ensuring everything is secured from hot or moving components.
2. If there is no access hole in the driver's side firewall then drill a 1" diameter hole. Route the 12 pin rectangular connector of the controller harness (38828011) from the HTBX controller through the firewall into the cab compartment. If required, install the 4" grommet in the hole.

CAUTION: Ensure that the electrical system will clear any hood lift/spring mechanisms before installation.

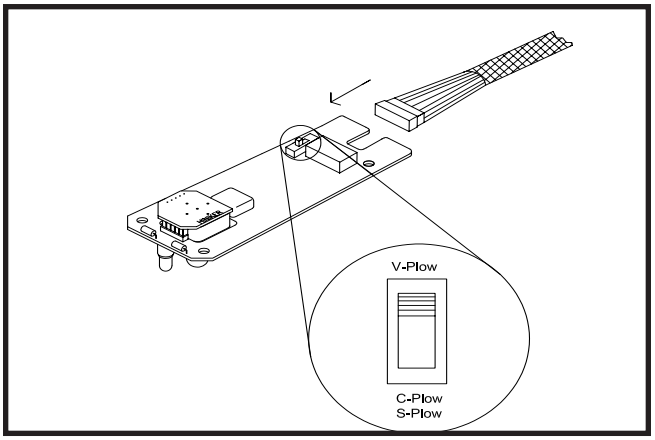


Truck Battery On Driver Side

3. Splice the yellow wire to the vehicle's 12 volt auxiliary electrical circuit. This will prevent operation of the plow without the vehicle's key being on.

4. Connect the dark blue end of the cab harness (38828030) to the controller harness (38828012) inside the truck cab. Then connect the black & white end of the cab harness to the universal controller (38828019), Refer to the controller configuration section for instruction on how to configure the controller with the correct plow setting, and the operators preferred joystick configuration. Once configured, secure the case together with the provided hardware.

CAUTION: To prevent injury or property damage caused by unintentional plow movement when the key is removed from the vehicle, the yellow wire must be connected to a switched power source on the vehicle. Connecting to a power source not controlled by the ignition switch will allow movement of the plow with the vehicle key removed.



DWG. NO. 8006

CAUTION: Ensure that the electrical system will clear any hood lift/spring mechanisms before installation.

NOTE: Do not over tighten nuts on the motor solenoid terminals. Over-tightening causes premature solenoid failure. Refer to torque specifications on the solenoid.

5. Select an area within 16” of the vehicle battery for the motor solenoid placement. Using the solenoid bracket as a template, mark and drill two 3/16” diameter holes then fasten the solenoid with two 1/4” x 1/2” long self tapping screws provided in the electrical parts box.

6. Safely route the 16 pin plow harness (38828012) from the HTBX controller through the grill of the vehicle to a location that will be easily accessible with the plow attached.

7. Refer to drawings 8000 or 8001 for connecting the power cable and harness:

   a. Connect the black terminal from the 9’ battery cable (38813066) and the black wire from the power harness (38828016) to the minus(-) post of the vehicle’s battery or the vehicle’s designated ground stud.

   b. Connect the red striped terminal from the 9’ battery cable (38813066) to the motor solenoid then route the battery cable through the grill near the 16 pin plow connector.

   c. Connect the 24” red cable to the motor solenoid.

   d. Connect the red fused wire from the power harness (3882016) and the free end of the 24” red cable to the plus(+) terminal of the battery or battery access post.

   e. Connect the black wire & the blue wire from the power harness (38828016) to the small posts of the motor solenoid, polarity is not important.

8. See instruction sheet provided with vehicle specific harness for hooking up the HTBX system to the vehicle’s headlights.

9. To complete the electrical installtion: connect all harnesses to the HTBX controller and secure all harnesses & cables away from hot or moving components with the provided cable ties.

10. See instruction sheet provided with the vehicle specific mount kit to finalize the vehicle part of the plow installation.

NOTE: Prongs from the mount kit should be at a height that will slightly lift the plow frame when attaching the plow. General rule of thumb is 9” from the ground to the underside of the prong. This can vary if the truck has a modified suspension.

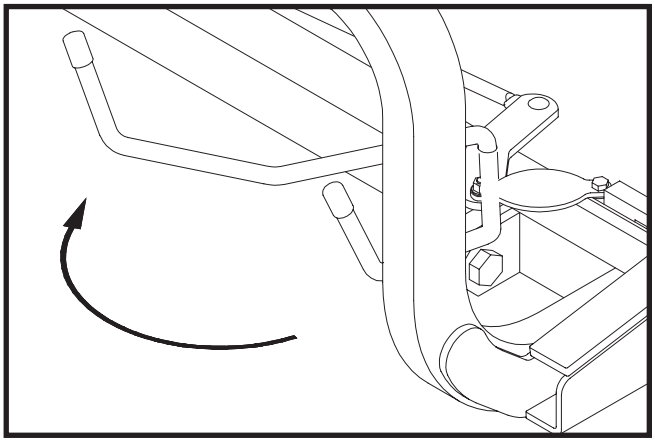
NOTE: Powdered graphite can be used on the prongs to help the plow slide on and off more easily.

NOTE: Prong receivers on the plow frame must be parallel to the ground before attaching the plow. Always follow the attaching and detaching instructions that are decaled on the rear side of the plow blade.

SYSTEM CHECKOUT

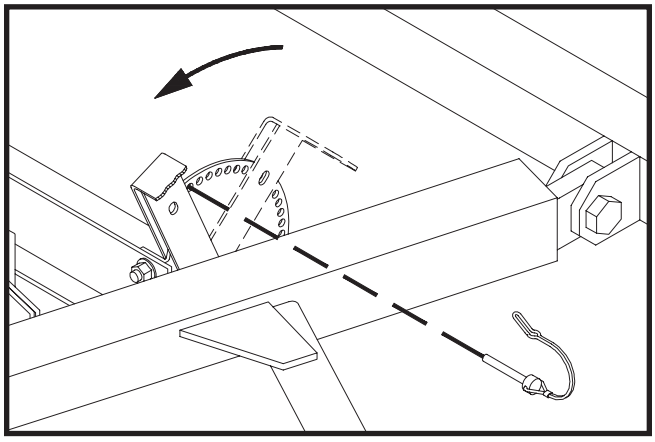
1. Attach the plow onto the truck by driving the truck prongs into the receivers on the plow frame.

   Pull the latch handle into the frame clevis to move sliders through the notches in the prongs and receivers. Pin the handle in the clevis with its klik pin.



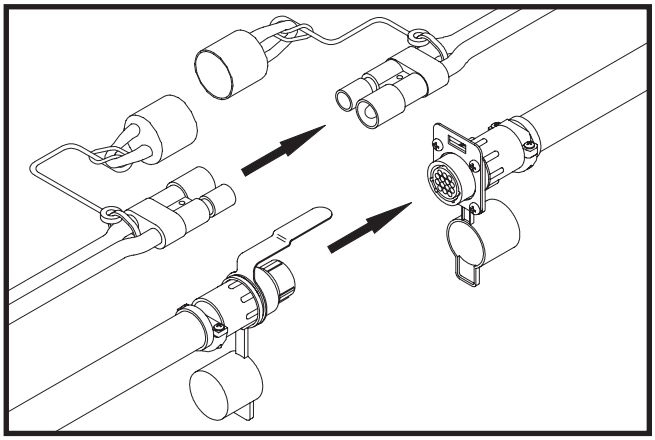
DWG. NO. 6722A

   Raise the parking stand to its highest position and repin.



DWG. NO. 7196

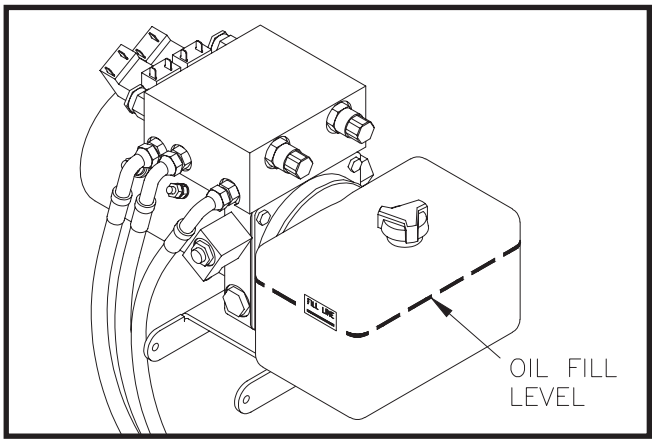
2. Connect the electrical cables from the plow to their corresponding receptacles on the truck. Validate the power connection is red stripe to red stripe and black to black.



DWG. NO. 6697

3. Select Hiniker Cold Flow Hydraulic Oil or an equivalent oil that meets military specification 5606, for plowing in extremely cold temperatures.

   Pour hydraulic oil into the power unit reservoir until the oil level reaches the fill level.



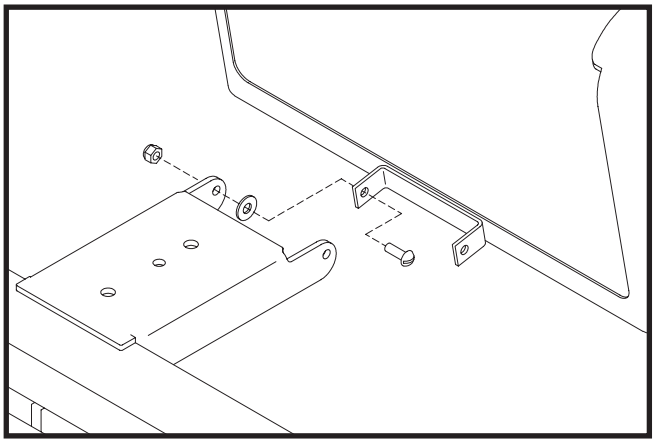
DWG. NO. 6453A

Raise and lower the plow, and cycle the wings to purge any air trapped in the system. Check the oil level with the plow on the ground and the wings retracted.

Add oil to the fill line, if necessary, but do not overfill the reservoir.

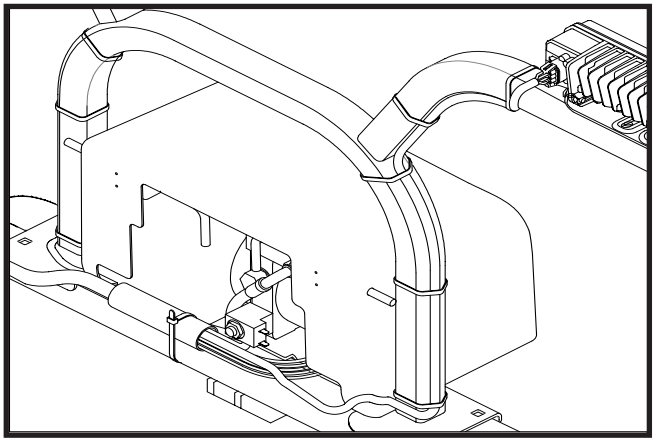
NOTE: A new hydraulic lift cylinder may leak a small amount of oil until packings become saturated and produce a good seal. If leakage is excessive, or if leaking continues after initial cycling, tighten the cylinder packing nut in 1/8-turn increments until leaking stops.

4. Fasten the power unit cover assembly to the lift frame bracket with two 1/4” x 3/4” screws, flat washers and lock nuts from the hardware bag in the power unit box. Tighten the lock nuts so that the assembly is secure, yet the cover hinges freely.



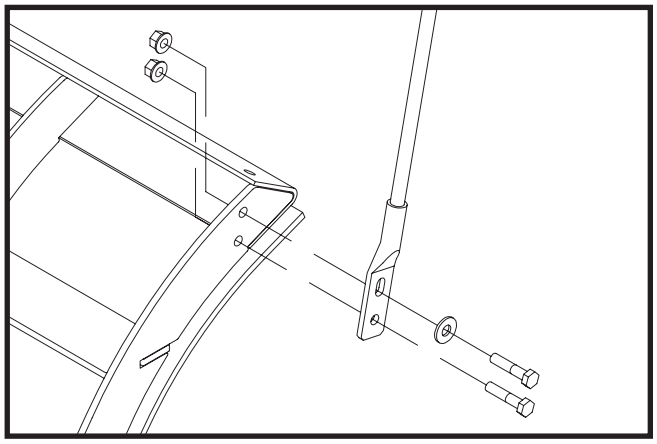
DWG. NO. 6310

When the cover is closed, rods from the latch handles should extend behind the light brackets to hold the cover in place.



DWG. NO. 6014D

5. Assemble side markers on the ends of the moldboard with 5/16” bolts, flat washers and lock nuts.



DWG. NO. 6006

NOTE: The power cable and wiring harness must be connected between the snowplow and truck to test the functions of the headlights and power unit. Vehicle ignition must be switched on.

6. Move the headlight switch on the joystick controller to the “TRUCK” position and turn on the vehicle headlights. High and low beams should operate on the truck.

7. Turn the vehicles headlight switch to its off position then move the switch to the “PLOW” position. Plow lights should operate in both high and low beams. Vehicle headlights should be off.

8. Test the parking lights and turn signals. Lights on the plow and truck should operate at the same time.

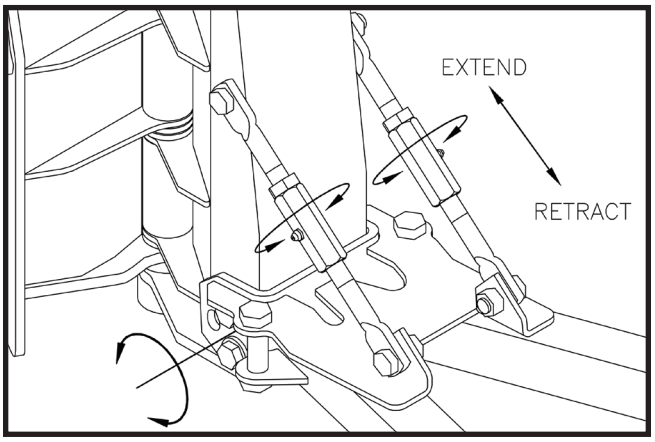
9. In an area clear of bystanders, test joystick functions by raising and lowering the plow and angling side to side.

   To reverse the angle functions, exchange the tan and gray wires on the power unit.

   Refer to the section titled “Controller Configuration” for instructions on inverting the raise and lower functions.

PLOW LEVELING PROCEDURE

1. Check that the plow blade is level on the ground with the wings in the scoop position and the plow on the ground.

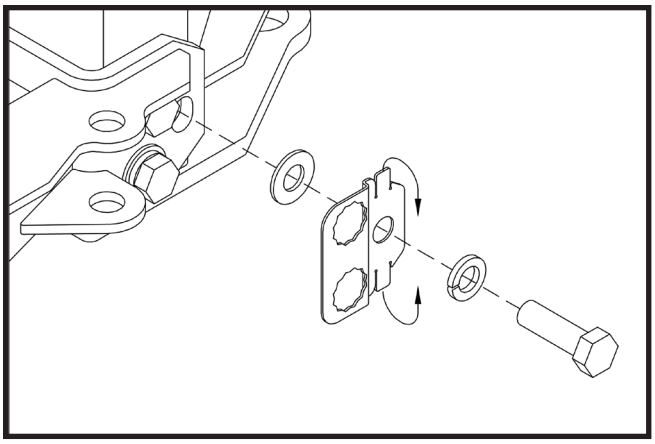


DWG. NO. 7197C

Swing both wings forward into the scoop position and lower the plow to the ground. On both sides of the plow, if front bolts have been installed between the push frame and center mast, open tabs on bolt head retainer plates and loosen the two frontmost bolts between the pushframe and center mast.

Loosen the two sets of rear bolts and brace hardware. Loosen the jam nuts on both braces, then turn the bodies of the braces to tilt the center mast forward or back until cutting edges on the plow are in full contact with the ground.

Fully tighten all brace hardware after the plow has been leveled. Torque the rear bolts at the front of the push frame to 150-200 ft-lbs, and leave bolt heads aligned to match rear holes in the retainer plates.



DWG. NO. 7719

Raise and lower the plow, and cycle the wings

Place retainer plates over rear bolts, then reinstall front hardware. Torque bolts to 150-200 ft-lbs.

Fold upper and lower tabs to contact the sides of front bolt heads and set tabs with a punch.

CONTROLLER CONFIGURATION

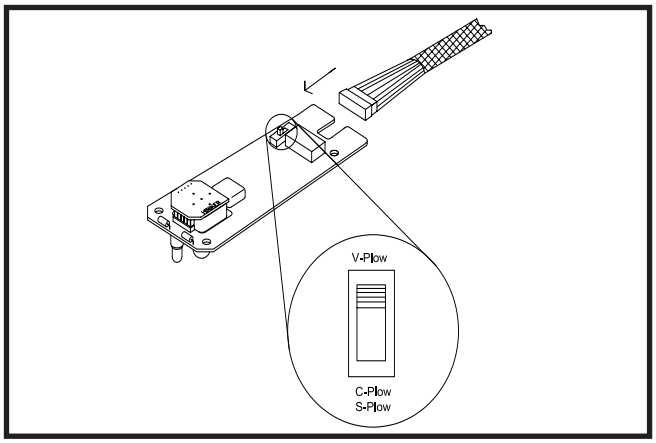
NOTE: The 2 pin power cable and 16 pin plow harness must be connected, and the vehicle's ignition switch must be switched on in order to test the functions of the headlights and power unit.

1. Ensure the black and white 12 pin connector from the cab harness is attached to the controller.

2. Use the plow selection switch to select whether you have a V-Plow or a Straight Blade.

Model	Plow Type	Postion
9585, 9595	Torsion V	Up
9863, 9963, 9710	Compression V	Up
2754, 2804, 2854	Steel Straight	Down
8804, 8904	C	Down
6814, 6914	Scoop	Down
7814, 7914	Poly Straight	Down
703, 753	Mid Size Straight	Down

NOTE: As supplied from the factory, the snowplow controller raises the plow when the joystick is pulled backward and lowers the plow when the joystick is pushed forward. If you wish to reverse this follow steps 3 through 5. If not, skip to step 6.



DWG. NO. 8006

3. Pry the face plate of the controller by inserting a small screwdriver along the side of the plate of the plate at location 1 in drawing 5855A. Flip the plate over, then reinstall by gently sliding the 4 tabs into the slots in the controller top.

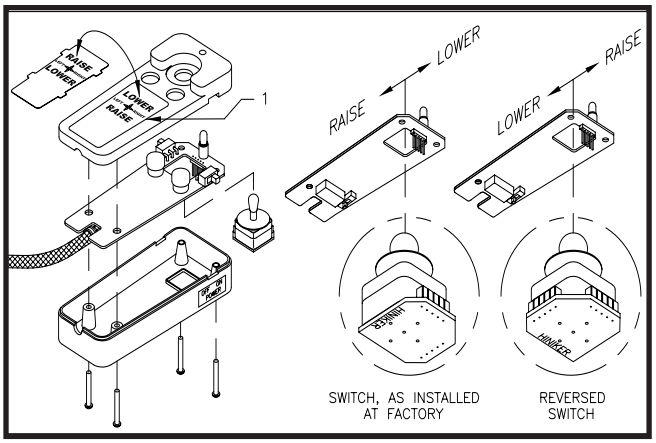
4. To reverse the joystick switch, gently pull on the edges of the small circuit board at the base of the joystick switch to remove the switch from the 5 pins on the main circuit board.

5. Rotate the switch 90 degrees then gently push the switch back onto the 5 pins.

6. Insert the main circuit board into the case top ensuring the joystick is properly seated and the harness strain relief is inside the case.

7. Assemble the case with the provided screws.

8. Test the controller on the snow plow to verify that raise and lower functions are what the operator desires.



DWG. NO. 5855A

HEADLAMP AIMING PROCEDURE

NOTE: Headlamp aiming should be done while plow is in a raised position.

NOTE: This procedure should be done with no load on the vehicle other than the driver, snowplow, and rear ballast weight, inspect the vehicle for proper tire inflation and broken or sagging suspension components. Check functioning of any automatic vehicle leveling systems and any specific manufacturer's instructions pertaining to vehicle preparation for headlamp aiming. Stabilize the suspension by rocking the vehicle sideways.

1. Park the vehicle with the plow attached on a level surface 25' (7.6 m) from a flat, unobstructed light-colored wall.
   1. Centerline of vehicle.
   2. Height of Lamp Centers.
   3. LH Headlight Center (see Table 1 for dimensions from Line 1).
   4. RH Headlight Center (see Table 1 for dimensions from Line 1).
   5. Vertical Aim Down Height (see Table 2 for dimension from Line 2)

2. Mark the wall with black tape according to drawing 5698B.

3. Wipe the lamp lenses clean and check for proper switching and function.

4. Activate the plow lamp HIGH beams to illuminate toward the wall.

5. Focus the center of the LH light beam on the intersections of lines 3 and 5.

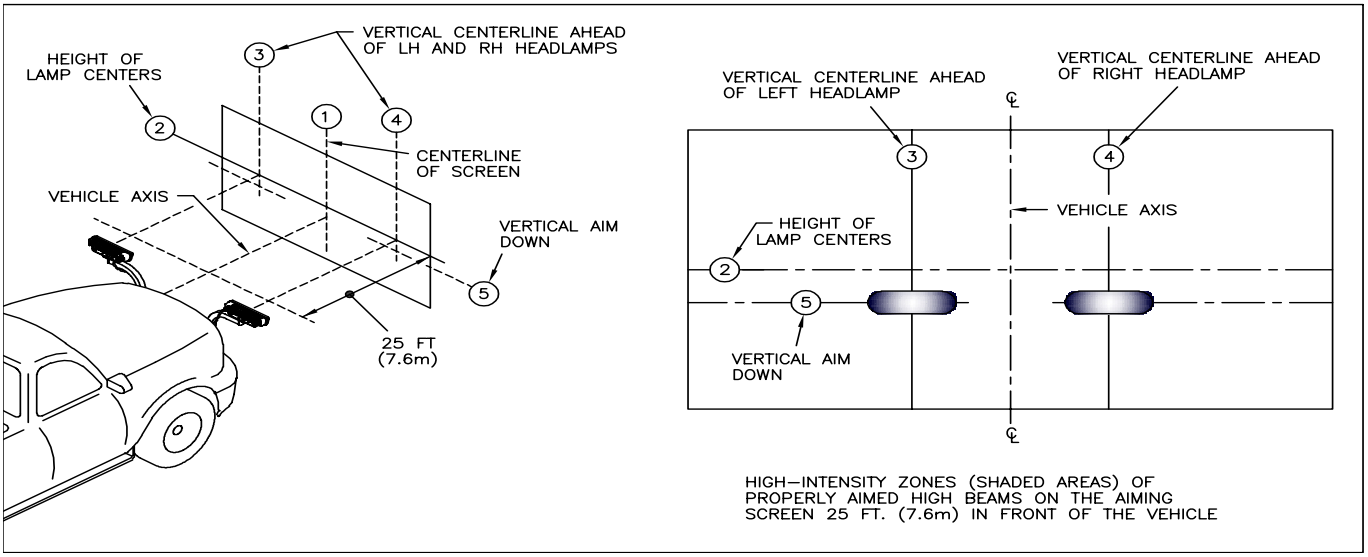
6. Focus the center of the RH light beam on the intersections of lines 4 and 5.

7. Tighten the headlamp hardware according to the table below.

Table 1: Lines 3 & 4 Dimensions	
Type	**Line 3 & 4 Dimension**
LED	19 in (48 cm)
Halogen	22 in (56 cm)

Table 2: Line Dimension	
Height from Ground	**Dimension**
22 to 36 in (56 to 90 cm)	0
36 to 48 in (90 to 120 cm)	2 in (5 cm)
48 to 54 in (120 to 140 cm)	4 in (6.4 cm)

Table 3: Hardware Torque			
Type	**Size**	**Ft-Lbs**	**N-m**
LED	1/2" (Bracket to Bar)	58-82	79-112
	1/4" (Light to Bracket)	6-7	8-10
Halogen	1/2" (Bracket to Bar)	58-82	79-112
	3/8" (Light to Bracket)	29-41	39-56



DWG NO. 5698B

HINIKER WARRANTY

HINIKER SNOWPLOW LIMITED WARRANTY

The only warranty Hiniker Company (Hiniker) gives and the only warranty that any Hiniker dealer is authorized to give on behalf of Hiniker is as follows: **(NO EMPLOYEE OR REPRESENTATIVE IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY.)**

Hiniker warrants to the original purchaser of a Hiniker snowplow that Hiniker will repair or replace any defects in material and workmanship that occur within two years from date of retail delivery except the following items: Hiniker warrants that it will repair or replace any defects in materials or workmanship with respect to the paint finish, any accessories, and service parts and components for a period of one year from date of retail delivery.

Hiniker's obligation and liability under this warranty is expressly limited to repairing or replacing, at Hiniker's option, at an authorized Hiniker dealer location, the defective parts at no charge to the original purchaser. **HINIKER MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED AND MAKES NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PARTICULAR PURPOSE.**

HINIKER'S OBLIGATION UNDER THIS WARRANTY SHALL NOT INCLUDE ANY TRANSPORTATION CHARGES TO OR FROM THE AUTHORIZED HINIKER DEALER LOCATION OR ANY LIABILITY FOR INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGE OR DAMAGES OF ANY KIND FOR LOST PROFITS OR DELAY. If requested by Hiniker, products or parts for which a warranty claim is made are to be returned freight prepaid to our factory. Any improper use, operation beyond rated capacity, substitution of parts not approved by Hiniker Company, or any alteration or repair in such manner as in our judgment affects the product materially and adversely shall void this warranty.

Hiniker reserves the right to make improvements or changes to any of it's products without notice. Such improvements or changes shall not trigger any obligation by Hiniker to update, modify or change any products previously sold by Hiniker.

HINIKER does not warrant the following:

1. Used products.
2. Any product that has been repaired, modified or altered in a way not approved by Hiniker Company.
3. Depreciation or damage caused by normal wear, lack of reasonable and proper maintenance, failure to follow Operators Manual Instructions, misuse, lack of proper protection during storage, or accident.
4. Parts replacement and service necessitated by normal wear or maintenance including, but not limited to, cutting edges, hoses, snowplow skid shoes, blade marker guides and hardware.
5. Paint finish damage caused by normal wear.

Hiniker does not assume any liability for any damage to a motor vehicle resulting from the attachment or use of a Hiniker snowplow. Compliance with applicable motor vehicle regulations is the responsibility of the installer. Attachment of a Hiniker snowplow to a motor vehicle is at the risk of the purchaser.

It is the responsibility of the original snowplow purchaser to verify the original date of purchase.

A DELIVERY REPORT FORM must be filled out and received by Hiniker with 30 days of retail delivery at the address below to initiate the warranty coverage.

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