

BLIZZARD[®] **SNOWPLOWS**



*2005 Assembly & Operation Manual
Models: 680LT & 720LT*

INTRODUCTION/TABLE OF CONTENTS

Congratulations on purchasing the finest straight blade snowplow available! Blizzard straight blades are clearing new trails for innovative design, rugged durability, quality craftsmanship and superior performance. Our exclusive products are manufactured and tested in Michigan's Upper Peninsula, the snow capital of the Midwest. With an annual snowfall averaging over 250" we couldn't imagine building snow removal products anywhere else!

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**WARNING**

Prior to operating your straight blade, review the WARNING! label at the passenger's side rear of the moldboard (shown below).

**CAUTION**

NOTE: Read and understand all warnings indicated in this manual prior to operating the snowplow. Warnings and cautions in the manual are indicated by the icons shown at left.

NOTE: If at any time the safety labels become illegible, promptly replace them.

WARNING

1. Properly mount the snowplow prior to moving the vehicle.
2. To prevent accidental plow activation, turn the Power switch on the snowplow control to the "OFF" position when not in use.
3. Stand clear of the attachment area when mounting the snowplow to the undercarriage and operating the Power Hitch Connect/Disconnect switch. Failure to do so may result in serious injury or death.
4. Securely position all mounting pins prior to operating your snowplow.
5. Do not position your body between the snowplow and the vehicle when servicing or operating.
6. Position snowplow in such a manner as to not block your vision or plow headlights while in transit.
7. Do not change the position of the snowplow while in transit.
8. Do not exceed 40 mph when transporting the snowplow.
9. Do not exceed 10 mph when plowing.
10. Always lower the snowplow when the vehicle is parked.
11. Vehicles equipped with air bags are designed to be activated in a frontal collision equivalent to hitting a solid object or barrier at approximately 14 mph or more.

WARNING

Careless or high speed driving while plowing snow, which results in vehicle impact deceleration equivalent to or greater than the airbag deployment threshold described above, would deploy the airbag.



**READ
OWNER'S
MANUAL
THOROUGHLY
PRIOR TO
OPERATING
PLOW.**

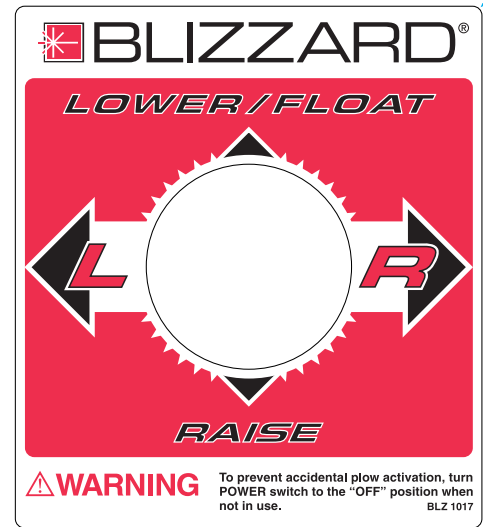
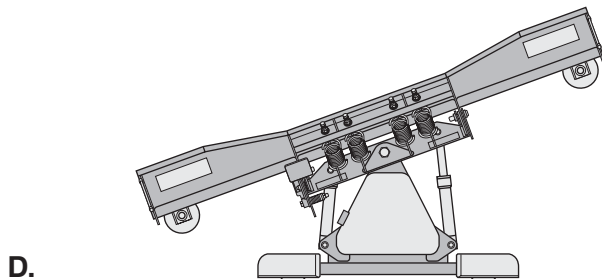
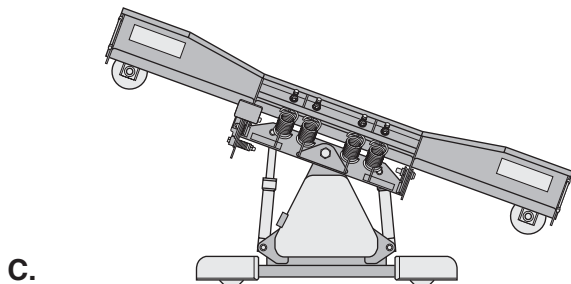
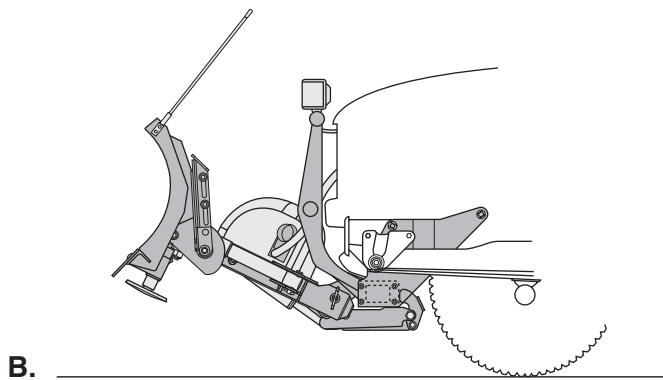
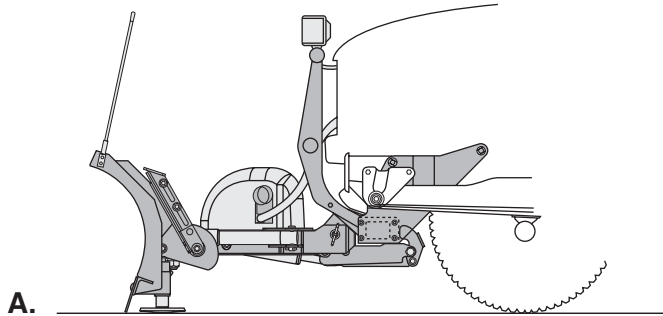
**BLIZZARD[®]
CORPORATION**

Calumet, MI 49913

BLZ 1024

OPERATION

Your snowplow is the most advanced and versatile straight blade on the market. The easy-to-use joystick control allows you to automatically adjust the plow blade into an infinite number of plowing positions. Review the illustrations below for instruction on maneuvering your snowplow.



A. Lowered or Float Position

Pushing the joystick forward, toward the "Lower/Float" designation on the label, will lower your straight blade to the ground. Pushing and momentarily holding the joystick ahead will allow the snowplow to "float", or follow the contour of the ground when moving forward or backward.

B. Raised Position

Pulling the joystick back, toward the "Raise" designation on the label, will lift your straight blade off of the ground. To stop raising the plow, simply return the joystick to its "neutral" or center position. The snowplow has reached its maximum raised position when the blade stops lifting – return the joystick to its neutral position.

C. Angled Right Position

To angle your straight blade to the right, position the joystick toward the "R" on the label. To stop angling the plow, return the joystick to its "neutral" or center position. The snowplow has reached its maximum angled position when the blade stops moving to the right side.

D. Angled Left Position

To angle your straight blade to the left, position the joystick toward the "L" on the label. To stop angling the plow, return the joystick to its "neutral" or center position. The snowplow has reached its maximum angled position when the blade stops moving to the left side.

***** IMPORTANT *****

To prevent premature failure of the power contactor (solenoid), initiate the plow function and return the joystick to its neutral or center position—except float. **DO NOT** hold the joystick in any position that allows the pump to continuously run after the plow has reached its maximum degree of movement. This will reduce the useful life of the solenoid.

Your Blizzard straight blade has been packaged to withstand transit and weather related damage. Fully inspect all components upon receipt of your plow. In the event of shipping damage or missing parts, immediately contact our Customer Service Department at 1-888-680-8600.

Begin unpacking and inspection in the following order:

1. Remove the shipping document from the end panel of the pallet wrap. Retain all documentation for your records.
2. All wood framing and polyethylene material should be removed from the pallet for easy access to the snowplow.
3. Due to the odd shaped components and size of several assembly parts, various cable ties and corrugated material are used for scratch resistance and package orientation. Please remove these items prior to assembly.
4. Place the main blade assembly on a flat, level surface.

Once you have inspected all parts and removed all packaging materials, your snowplow is ready to be fully assembled.

Retain this information for your records.

| |
|--|
| _____ DATE OF PURCHASE: |
| _____ DEALER/DISTRIBUTOR: |
| _____ DEALER PHONE NUMBER: |
| _____ SNOWPLOW SERIAL NUMBER: |
| _____ HYDRAULIC PUMP SERIAL NUMBER: |



Pallet Wrap End Panel

The tear-resistant, woven polyethylene pallet wrap contains a moisture barrier to help protect all packaged components and keep out the most inclement weather during shipping and storage. The end panel of the pallet cover contains important information regarding the snowplow model and the plow's serial number. Both of these numbers are given together. The first three (four) digits of the number indicated is always the plow model – 810 (or 8611) and the entire number is the serial number (Ex: 810-00001 or 8611-00001). The shipping document is also attached to the end panel. Be sure to retain this list for your records.

TECHNICAL SPECIFICATIONS

| PART | SPECIFICATION | 680LT | 720LT |
|-----------|--------------------|-------------------------------------|---------|
| MOLDBOARD | Length | 6'8" | 7'2" |
| | Thickness | 14 gauge | |
| | Height | 21-1/2" | 23-1/2" |
| | Reinforcement | 4 ribs @ 3/16" | |
| | Cutting Edge | 1/4" x 5" (1080) | |
| | Finish | Powder Coat White | |
| | Trip Mechanism | (4) 5/16" hooked extension | |
| A-FRAME | Material | Rectangular Tube & Channel Type | |
| | Hitch Pins | 3/4" x 6" Yellow Zinc | |
| | Finish | Powder Coat Black | |
| PUMP | Construction | Steel Housing w/ Clear Plastic Tank | |
| | Type | Internal Gear Pump | |
| | Size | .7cc | |
| | Motor | 12V Starter | |
| | Weight | 32 lb. | |
| | Mount | A-frame Install w/ hex head screws | |
| | Reservoir Capacity | 2 qts. | |
| MANIFOLD | Construction | Red Anodized Aluminum | |
| | Valves | Electro-hydraulic cartridge | |

| PART | SPECIFICATION | 680LT | 720LT |
|--------------|------------------------------|--|-----------------------------|
| CYLINDERS | <i>Angle Cylinders</i> | 2 | |
| | Stroke | 7-5/16" | |
| | Ram Diameter | 1-1/4" | |
| | Bore Diameter | 1-1/2" | |
| | <i>Raise/Lower Cylinders</i> | 1 | |
| | Stroke | 4-5/8" | |
| | Ram Diameter | 1" | |
| | Bore Diameter | 1-3/4" | |
| | PLOW HEADLIGHTS | Type | Low profile w/ turn signals |
| Measurements | | 12"W x 5"H x 5-1/4"D | |
| Housing | | Plastic Composite | |
| Bulb Type | | High/Low Sealed Beam Halogen 12V Rectangular | |
| Switch Type | | Dash Mount, Toggle | |
| PLOW SPECS. | Weight (lbs)* | 361 | 375 |
| | Amperage Draw** (A) | 65A (approx.) | |
| | Adjustable Plow Shoes (2) | Standard | |
| | Mount Mechanism | Hydraulic Power Switch | |
| | Standard Control Station | Joystick | |
| | Optional Control Station | Touchpad | |

*Plow weight does not include vehicle undercarriage.

**Amperage draw specifications are based on the snowplow lift operation, at a shop temperature of 65°F, using Blizzard Snowplow Rapid Action Hydraulic Oil. Amperage will vary with temperature, oil viscosity and meter accuracy. Deadheading a plow function will result in significantly increased amperage.

Blizzard Corporation reserves the right, under its Continuous Improvement Policy, to change construction or design details and furnish equipment when so altered without reference to illustrations or specifications.

TORQUE SPECIFICATIONS (For reference only)



Grade Identification Marking for J429-Grade 5 Bolt



Grade Identification Marking for J429-Grade 8 Bolt

| Nominal Thread Size | SAE J429 – Grade 5 | | | Nominal Thread Size | SAE J429 – Grade 8 | | |
|---------------------|--------------------|-------------------|------------|---------------------|--------------------|-------------------|------------|
| | Clamp Loads (lbs) | Tightening Torque | | | Clamp Loads (lbs) | Tightening Torque | |
| | | “Lubricated” | “Dry” | | | “Lubricated” | “Dry” |
| 1/4-20 | 2,000 | 6 ft-lbs | 8 ft-lbs | 1/4-20 | 2,850 | 9 ft-lbs | 12 ft-lbs |
| 5/16-18 | 3,350 | 13 ft-lbs | 18 ft-lbs | 5/16-18 | 4,700 | 18 ft-lbs | 25 ft-lbs |
| 3/8-16 | 4,950 | 23 ft-lbs | 31 ft-lbs | 3/8-16 | 6,950 | 32 ft-lbs | 44 ft-lbs |
| 7/16-14 | 6,800 | 37 ft-lbs | 50 ft-lbs | 7/16-14 | 9,600 | 53 ft-lbs | 70 ft-lbs |
| 1/2-13 | 9,050 | 57 ft-lbs | 75 ft-lbs | 1/2-13 | 12,800 | 80 ft-lbs | 107 ft-lbs |
| 9/16-12 | 11,600 | 82 ft-lbs | 109 ft-lbs | 9/16-12 | 16,400 | 115 ft-lbs | 154 ft-lbs |
| 5/8-11 | 14,500 | 113 ft-lbs | 151 ft-lbs | 5/8-11 | 20,300 | 159 ft-lbs | 211 ft-lbs |
| 3/4-10 | 21,300 | 200 ft-lbs | 266 ft-lbs | 3/4-10 | 30,100 | 282 ft-lbs | 376 ft-lbs |
| 7/8-9 | 29,435 | 321 ft-lbs | 430 ft-lbs | 7/8-9 | 41,550 | 454 ft-lbs | 606 ft-lbs |
| 1-8 | 38,600 | 482 ft-lbs | 640 ft-lbs | 1-8 | 54,540 | 680 ft-lbs | 900 ft-lbs |



Grade Identification Marking for Metric-Grade 8.8 Bolt



Grade Identification Marking for Metric-Grade 10.9 Bolt

| Diameter (mm) | Metric Class 8.8 | | | Diameter (mm) | Metric Class 10.9 | | |
|---------------|----------------------|-------------------|------------|---------------|----------------------|-------------------|------------|
| | Clamp Loads (Pounds) | Tightening Torque | | | Clamp Loads (Pounds) | Tightening Torque | |
| | | “Lubricated” | “Dry” | | | “Lubricated” | “Dry” |
| 5 | 1,389 | 3 ft-lbs | 5 ft-lbs | 5 | 1,987 | 5 ft-lbs | 7 ft-lbs |
| 6 | 1,965 | 6 ft-lbs | 8 ft-lbs | 6 | 2,812 | 8 ft-lbs | 11 ft-lbs |
| 7 | 2,826 | 10 ft-lbs | 13 ft-lbs | 7 | 4,044 | 14 ft-lbs | 19 ft-lbs |
| 8 | 3,579 | 14 ft-lbs | 19 ft-lbs | 8 | 5,121 | 20 ft-lbs | 27 ft-lbs |
| 10 | 5,672 | 28 ft-lbs | 37 ft-lbs | 10 | 8,116 | 40 ft-lbs | 53 ft-lbs |
| 12 | 8,243 | 49 ft-lbs | 65 ft-lbs | 12 | 11,796 | 70 ft-lbs | 92 ft-lbs |
| 14 | 11,246 | 77 ft-lbs | 103 ft-lbs | 14 | 16,092 | 111 ft-lbs | 148 ft-lbs |
| 16 | 15,882 | 125 ft-lbs | 167 ft-lbs | 16 | 21,970 | 173 ft-lbs | 231 ft-lbs |
| 18 | 19,423 | 172 ft-lbs | 229 ft-lbs | 18 | 26,868 | 238 ft-lbs | 317 ft-lbs |
| 20 | 24,784 | 244 ft-lbs | 325 ft-lbs | 20 | 34,284 | 338 ft-lbs | 450 ft-lbs |

| 37° JIC Flare Torque Values | | | |
|-----------------------------|------|----------------|--|
| Turns | Size | Ft-lbs min.max | Assembly steps |
| N/A | -02 | 6-7 | <ol style="list-style-type: none"> Make sure the tubing and threads are clean. Lubricate the threads with 10W hydraulic oil. Hand tighten the nut/sleeve to approx. 30 in-lbs. Make alignment marks on the nut and fitting. Tighten to turn or torque specification. When fully tightened, make a 2nd set of alignment marks at the fully tighten positioned. <p><i>NOTE: Torque values specified are for threads lubricated with 10W hydraulic oil.</i></p> <p>Over tightening will reduce the clamping force resulting in loss of seal and reduction of flow.</p> |
| N/A | -03 | 8-9 | |
| 2 | -04 | 11-12 | |
| 2 | -05 | 14-15 | |
| 1-1/2 | -06 | 18-20 | |
| 1-1/2 | -08 | 36-39 | |
| 1-1/2 | -10 | 57-63 | |
| 1-1/4 | -12 | 79-88 | |
| 1 | -14 | 94-103 | |
| 1 | -16 | 108-113 | |
| 1 | -20 | 127-133 | |
| 1 | -24 | 158-167 | |
| 1 | -32 | 245-258 | |

| O-Ring Boss Torque Values | | |
|---------------------------|----------------|---|
| Size | Ft-lbs min.max | Assembly steps |
| -02 | 6-7 | <ol style="list-style-type: none"> Verify the port, o-ring, sealing surfaces and threads are clean and free of damage. Lubricate the threads and the o-ring with 10W hydraulic oil. For an adjustable O.R.B., completely back off the lock nut and washer. Hand tighten the fitting until it contacts the port spotface. Point the elbow or tee in the desired direction and hold. Torque to specification. <p><i>NOTE: Torque values specified are for threads lubricated with 10W hydraulic oil.</i></p> |
| -03 | 8-10 | |
| -04 | 13-15 | |
| -05 | 17-21 | |
| -06 | 22-25 | |
| -08 | 40-43 | |
| -10 | 43-57 | |
| -12 | 68-75 | |
| -14 | 90-99 | |
| -16 | 112-123 | |
| -20 | 146-200 | |
| -24 | 154-215 | |
| -32 | 218-290 | |

MOLDBOARD & A-FRAME ASSEMBLY

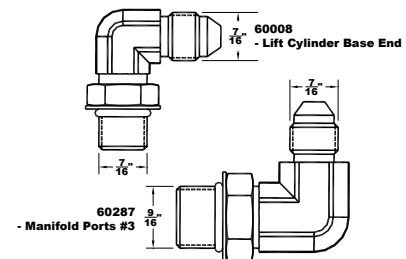
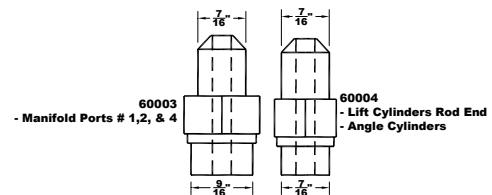
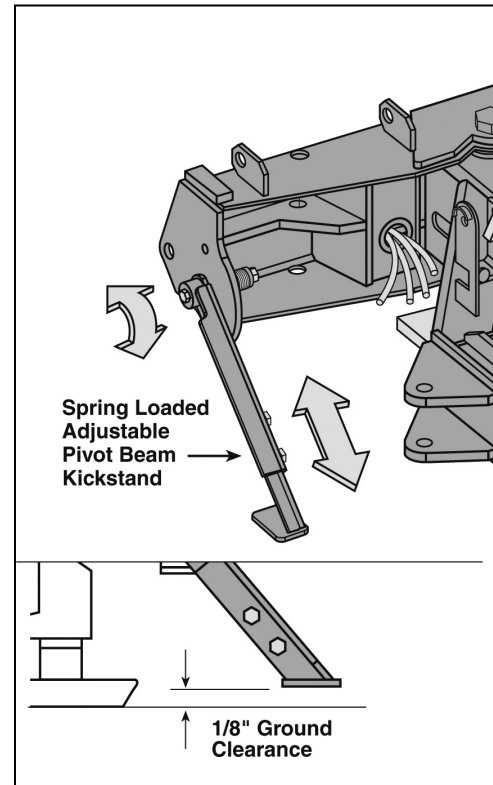
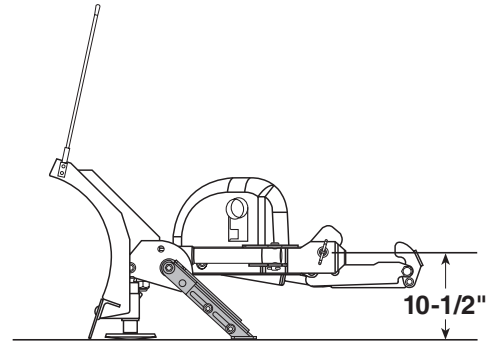
1. Position the pivot beam and A-frame near the connecting points at the rear of the blade between the two center support ribs. Insert one 3/4" Dia. x 3-7/16" clevis pin through each mounting hole and secure with 1/4" Dia. x 1-1/2" cotter pin.

NOTE: Mount the kickstand to the end of the pivot beam (driver's side) using the 1/2"-13 x 4-1/2" bolt provided. The spring, bushing and lock nut are located on the inside of the pivot beam. Review the diagram to the right. To pivot the kickstand, pull the spring loaded leg out & rotate it until the pin locks into place. Adjust the foot on the stand arm so the height of the A-frame, at its mount points, is 10-1/2" to level ground. Tighten both of the top lock nuts on the kickstand.

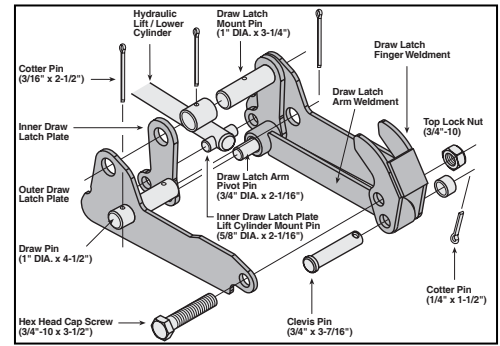
NOTE: To prevent the kickstand from hitting the ground before the snowplow cutting edges, causing stress on the kickstand, adjust the kickstand foot approximately 1/8" short of level ground. This procedure will provide clearance for the kickstand when the snowplow is lowered with the kickstand in the down position.

2. Remove dust cap from both of the hydraulic angle cylinder ports and attach one 7/16-20 x 7/16-20 male O.R.B. adapter to each port. **NOTE:** All of the hydraulic adapters can be found packaged with the manifold assembly, reference torque specifications. Connect the 1/4" x 25" hydraulic hose (60426) to the driver's side angle cylinder adapter. **NOTE:** the 90° end on the hose connects to the manifold. Connect the 1/4" x 25" hydraulic hose (60426) to the passenger side angle cylinder adapter. Be careful not to over tighten the hose connections. Route both hoses through the A-frame access holes, near the angle cylinder mount brackets.
3. Position each angle cylinder with the rod end of the cylinder in the pivot beam and the base end in the A-frame angle cylinder mount bracket. Secure with 3/4" Dia. x 3-7/16" clevis pins and 1/4" x 1-1/2" cotter pins.

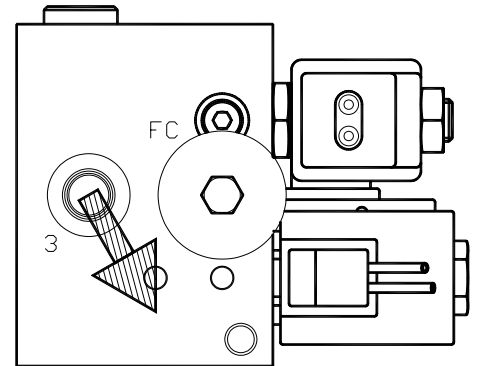
4. Remove the plastic dust caps from the lift cylinder ports. Attach one 7/16-20 x 7/16-20 male O.R.B. adapter to the retract port (rod end) and one 7/16-20 x 7/16-20 90° O.R.B. adjustable elbow adapter to the extend port (base end). Connect the 1/4" x 18" hose (60432) to the rod end adapter.
5. Position the lift cylinder in the channel opening under the A-frame. Route the 18" rod end hose through the front (closest to the pivot beam) 2" diameter hole in the A-frame. The lift cylinder base end hole should be aligned with the holes on either side of the channel. Secure the lift cylinder to the A-frame using a 5/8" Dia. x 5-3/4" clevis pin and one 1/4" x 1-1/2" cotter pin. Use the access hole in the A-frame, located at the driver's side, to install the clevis pin. Connect the 1/4" x 10" hose (60293) to the 90° adjustable elbow adapter.



- Remove the draw latch mount pin, spacer & cotter pin from the draw latch assembly. By removing this pin, the inner draw latch plates can swing free. Remove the inner draw latch plate lift cyl. mount pin. Position the plates on either side of the lift/lower cylinder rod and insert the pin through the plates and cylinder rod. With the cylinder connected to the inner draw latch plates, rotate the draw latch assembly toward the draw latch mount holes on the A-frame. Align the holes in the outer draw latch plate with those of the inner draw latch plates and the A-frame. *NOTE: The A-frame latch, located at the rear/center of the A-frame, should be raised up to insert the draw latch mount pin. Pull the A-frame latch pull pin out and rotate the latch counterclockwise if it is locked into position.* Secure the assembly to the A-frame by replacing the draw latch mount pin, spacer and cotter pin. Reset the A-frame latch so the A-frame latch pull pin locks into place.



- Install the plow side harness and draw latch switch.
- Assemble the manifold. The manifold, pump and coil harness have been connected at the factory; however, the manifold contains several components that you will need to install prior to securing the assembly to the A-frame. Each of the hose ports on the manifold are covered with stretch wrap. Remove the wrap and install the appropriate fitting in its respective port.



NOTE: The arrows shown on the manifold illustration indicate the direction the 90° adapter should be positioned to receive the hydraulic hose.

NOTE: DO NOT let any foreign objects enter into the open ports. The valves can become contaminated and greatly hinder the plow's performance. Torque to specifications.

NOTE: Open the flow control valve all the way to help install fitting 60287 to port #3.

NOTE: All ports are identified by a stamped number on the manifold. The numbers also identify the hydraulic functions, which can be referenced on the label under the hydraulic pump and manifold cover.

- Align the mount holes in the manifold with the holes in the bracket, located on the A-frame.



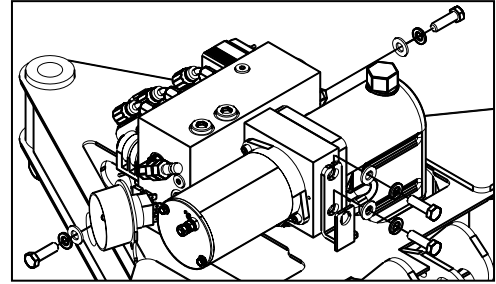
CAUTION: When installing the manifold between the mount brackets on the A-frame, hold the manifold at the sides of the block. Never handle the manifold by coils. Doing so can cause a solenoid cartridge to bend, causing the cartridge to stick when activated.

Secure with 3/8"-16 x 1-1/4" hex head cap screw, a 3/8" lock washer and 3/8" flat washer through the top mount hole in the bracket and into the pump. Insert a 3/8"-16 x 1-1/4" hex head cap screw, a 3/8" internal/external washer along with 3/8"-16 locknut through the bottom mount hole in the bracket and into the pump. This is also your ground location for your plow harness. *NOTE: A medium strength thread locker, such as Loctite®242®should be used on both of the pump mount fasteners.* Mount the manifold to the side brackets on the A-frame using the hardware provided on the manifold. The passenger side mount bracket is your ground location for the manifold coil harness. Installation instructions for the plow side harness and manifold coil harness listed under Electrical-Plow Side.

MOLDBOARD & A-FRAME ASSEMBLY

10. All of the hoses shipped with the snowplow contain a printed label (with a part number) applied to the hose. Install the hoses to their respective ports on the manifold.

Begin installing the hoses with the lift cylinder hoses. Connect the base end hose (**60293**) to port #3. Connect the rod end hose (**60432**) to port #4. Attach the 90° fitting, on the passenger's side angle cylinder hose (**60426**), to the male connector adapter on port #2. Connect the driver's side angle cylinder hose (**60426**) to port #1.

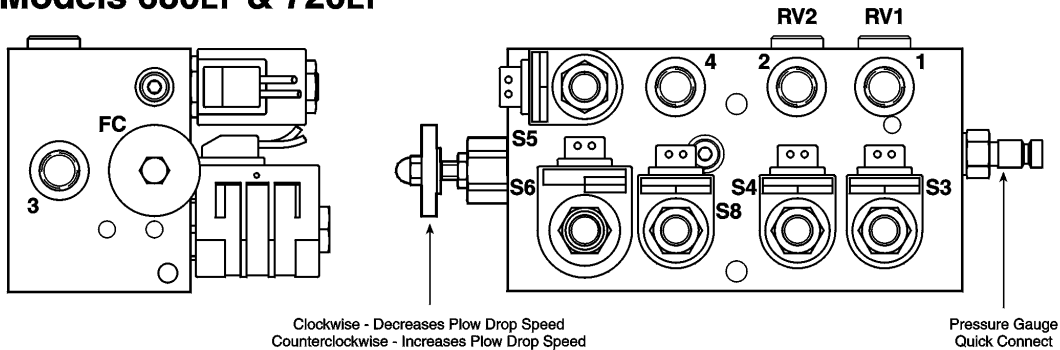


***** IMPORTANT *****

Use Loctite®242 on bolt connections illustrated above.

11. Hook each extension spring to the receiving holes on the pivot beam and attach the opposite end of the spring to its respective spade bolts. Install the spade bolts through the extension spring mounting angle on the top rear of the blade. Secure each spade bolt with one 5/8" flat washer and one 5/8"-11 nylock nut. Tighten each nut until a piece of paper can pass between the 3rd & 4th coils on the spring.
12. Install the blade guides at each end of the moldboard. Insert the capscrew through the holes at the top of the wing reinforcement rib. Tighten all screws with lock nuts.
13. Install the vehicle side harness.

Hydraulic Valve & Hose Port Guide Models 680LT & 720LT



NOTE: Energize the following solenoids for the functions:

| Solenoid | Function |
|----------|-------------------------------------|
| S3 | Left Angle - Right Cylinder |
| S4 | Right Angle - Left Cylinder |
| S5 | Float |
| S6 | Raise - Lift Cylinder (Base) |
| S5 & S8 | Lower - Lift Cylinder (Rod) |
| RV1 | Drive. Side Angle Cyl. Relief Valve |
| RV2 | Pass. Side Angle Cyl. Relief Valve |
| FC | Variable Flow Control Valve |

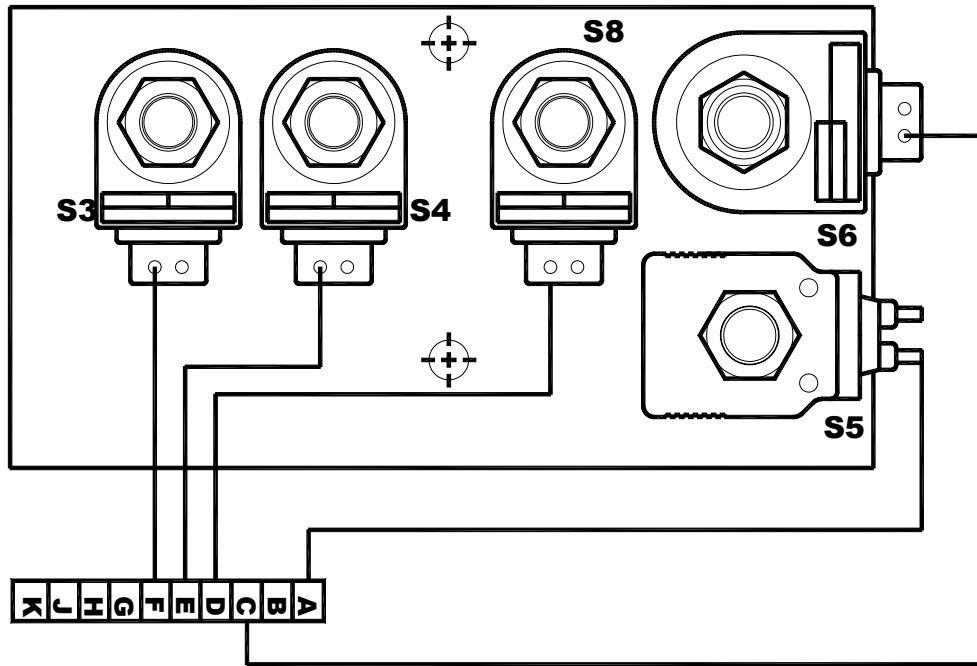
HYDRAULIC HOSES

| Port | Function |
|------|------------------------------|
| 1 | Right Angle - Left Cylinder |
| 2 | Left Angle - Right Cylinder |
| 3 | Raise - Lift Cylinder (Base) |
| 4 | Lower - Lift Cylinder (Rod) |

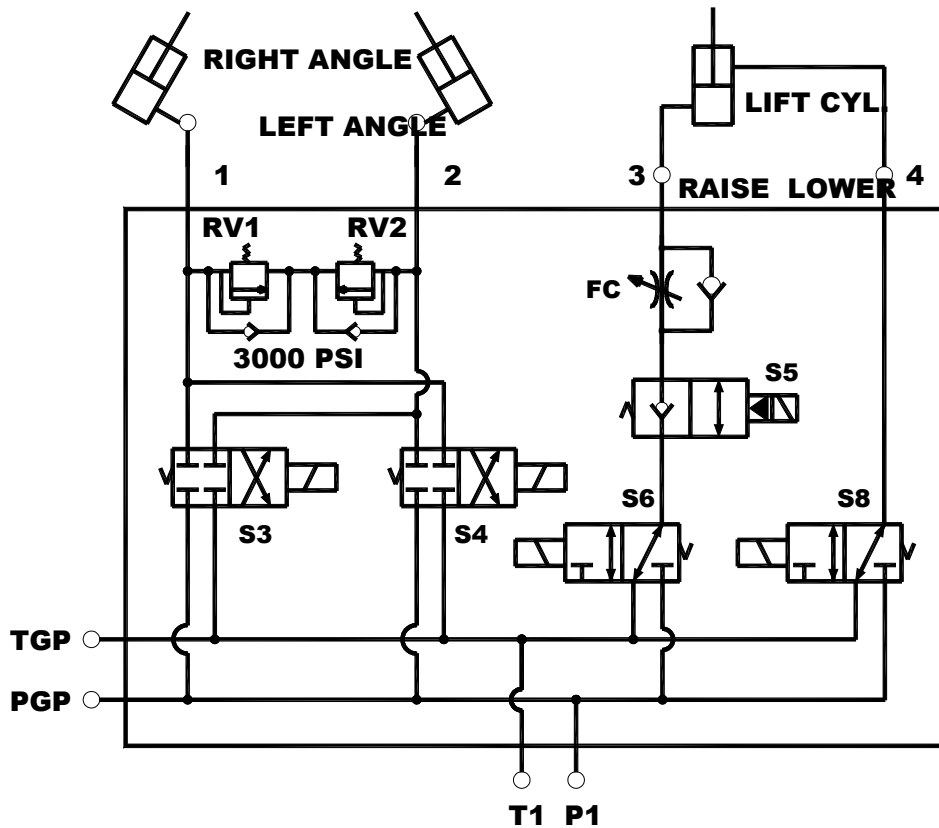
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CORPORATION

Calumet, Michigan 49913

BLZ 1087



60344-ELECTRICAL SCHEMATIC

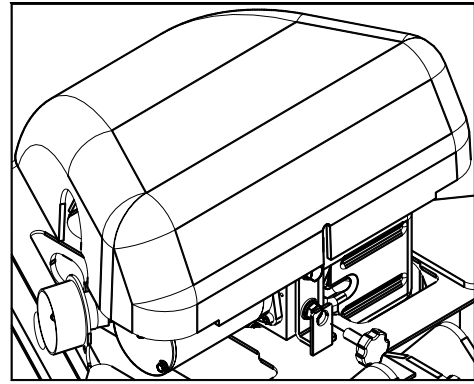


60344-HYDRAULIC SCHEMATIC

ELECTRICAL-PLOW SIDE

INSTALLATION INSTRUCTIONS

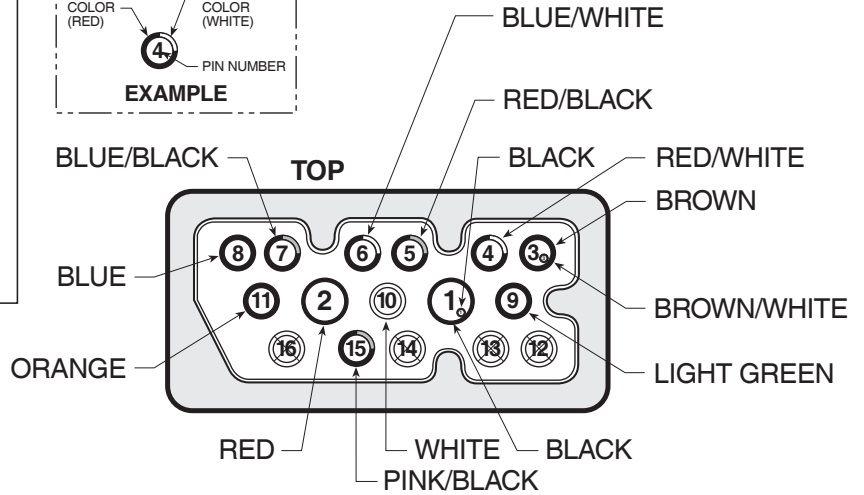
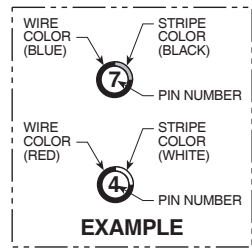
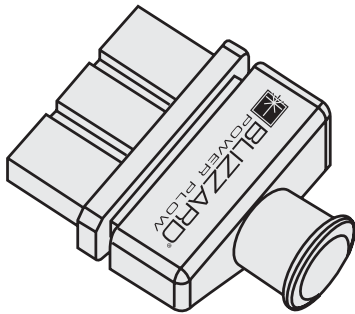
1. Connect the red power wire from the plow harness to the pump motor terminal stud. Hardware provided on pump.
NOTE: The red power wire contains an end ring terminal that is too large for the pump motor stud. Remove this terminal and replace it with the 1/4" Dia. End ring terminal on the pump motor terminal stud.
2. Remove the bottom bolt, lock washer and internal/external toothlock washer from the rear pump mount bracket. Route the black ground wire (from the harness) under the pump on the driver's side of the A-frame. Align the tooth lock washer and end ring terminal over the hole on the bracket and secure them with the lock washer and bolt.
3. The manifold contains a red coil wire harness that must be grounded to the A-frame. Secure the 3/8 end ring terminal from this harness to the passenger's side manifold mount bracket with existing manifold mount hardware. *The internal/external tooth lock washer provided should install against the mount bracket to provide a solid ground.*
4. Remove the nut and washer from the Power Hitch™ connect/disconnect toggle switch and insert it through the back of the mounting bracket on the A-frame. Align the notches on the switch and bracket. Replace the washer and nut and tighten until the switch is firmly in place. Attach the connector on the plow harness to the switch. *NOTE: Use caution when connecting, switches can break if done forcefully.*
5. Attach the connector on the harness to the connector on the coil harness.
6. Position the harness braid in the notch on the switch bracket and secure it with a cable tie. *NOTE: The diode loop harness should be inside of the pump cover.*
7. Place the power connector, from the harness, through the hole in the pump & manifold cover. Position the cover over the protective toggle switch hood. Align the front and rear holes in the cover with the U-nuts located on the mount tabs. Secure the pump cover with two 3/8"-16 x 1-1/8" knobs.



The pump cover installs over the top of the draw latch switch bracket.

**BLIZZARD HARNESS PLUG (VEHICLE)
UNIVERSAL 14 + 2 MOLD**

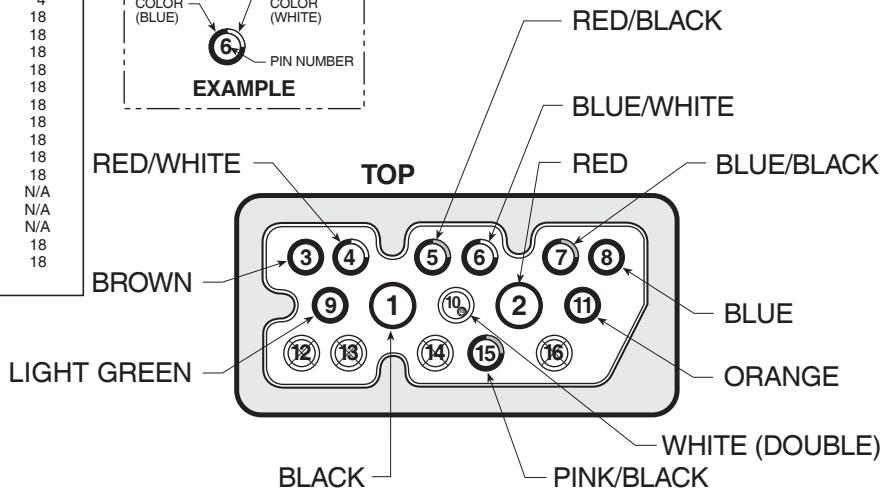
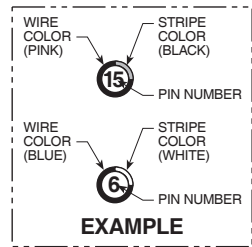
| PIN NO. | COLOR | FUNCTION | AWG |
|---------|-------------|-------------------------|-----|
| 1 | BLACK | GROUND | 4 |
| | BLACK | GROUND | 18 |
| 2 | RED | 12 VOLT DC (+) | 4 |
| 3 | BROWN/WHITE | PUMP SOLENOID TO RING | 18 |
| | BROWN | PUMP SOLENOID TO MOLEX | 18 |
| 4 | RED/WHITE | RIGHT SLIDE BOX EXTEND | 18 |
| 5 | RED/BLACK | RIGHT SLIDE BOX RETRACT | 18 |
| 6 | BLUE/WHITE | LEFT SLIDE BOX EXTEND | 18 |
| 7 | BLUE/BLACK | LEFT SLIDE BOX RETRACT | 18 |
| 8 | BLUE | LEFT ANGLE | 18 |
| 9 | LT. GREEN | RIGHT ANGLE | 18 |
| 10 | WHITE | LIFT | 18 |
| 11 | ORANGE | FLOAT | 18 |
| 12 | N/A | N/A | N/A |
| 13 | N/A | N/A | N/A |
| 14 | N/A | N/A | N/A |
| 15 | PINK/BLACK | 12 (+) VDC FUSED | 18 |
| 16 | N/A | N/A | 18 |



VEHICLE HARNESS PLUG (2005)
FACE VIEW LOOKING AT FEMALE CONNECTOR
FEMALE TERMINALS

BLIZZARD HARNESS PLUG (PLOW)

| PIN NO. | COLOR | FUNCTION | AWG |
|---------|------------|-------------------------|-----|
| 1 | BLACK | GROUND | 4 |
| | N/A | N/A | N/A |
| 2 | RED | 12 VOLT DC (+) | 4 |
| 3 | BROWN | PUMP SOLENOID | 18 |
| 4 | RED/WHITE | RIGHT SLIDE BOX EXTEND | 18 |
| 5 | RED/BLACK | RIGHT SLIDE BOX RETRACT | 18 |
| 6 | BLUE/WHITE | LEFT SLIDE BOX EXTEND | 18 |
| 7 | BLUE/BLACK | LEFT SLIDE BOX RETRACT | 18 |
| 8 | BLUE | LEFT ANGLE | 18 |
| 9 | LT. GREEN | RIGHT ANGLE | 18 |
| 10 | WHITE | LIFT | 18 |
| | WHITE | LIFT | 18 |
| 11 | ORANGE | FLOAT | 18 |
| 12 | N/A | N/A | N/A |
| 13 | N/A | N/A | N/A |
| 14 | N/A | N/A | N/A |
| 15 | PINK/BLACK | 12 (+) VDC FUSED | 18 |
| 16 | N/A | N/A | 18 |

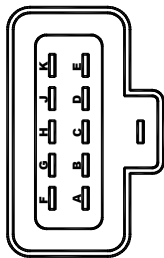


PLOW HARNESS PLUG (2005)
FACE VIEW LOOKING AT MALE CONNECTOR
MALE TERMINALS



ELECTRICAL-PLOW SIDE

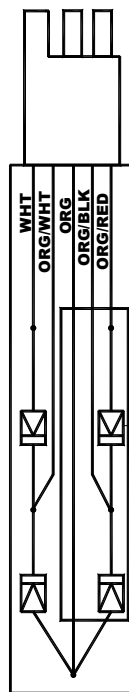
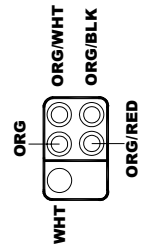
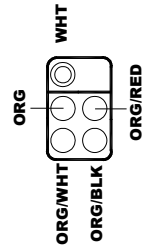
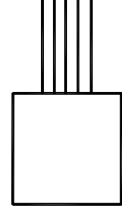
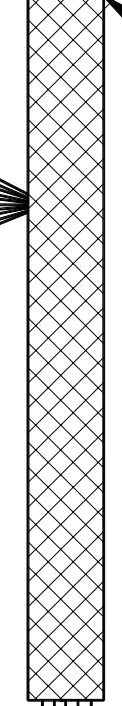
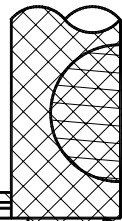
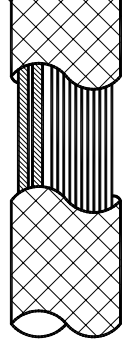
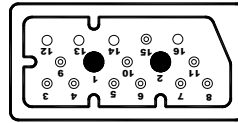
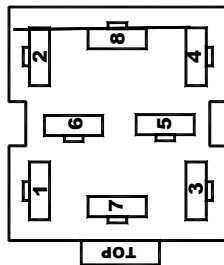
FLOW HARNESS (62039)



| | | | |
|---|---------|---|---------|
| A | ORG/BLK | F | BLU |
| B | ORG/WHT | G | BLU/BLK |
| C | WHT | H | BLU/WHT |
| D | ORG/RED | J | RED/BLK |
| E | LT GRN | K | RED/WHT |

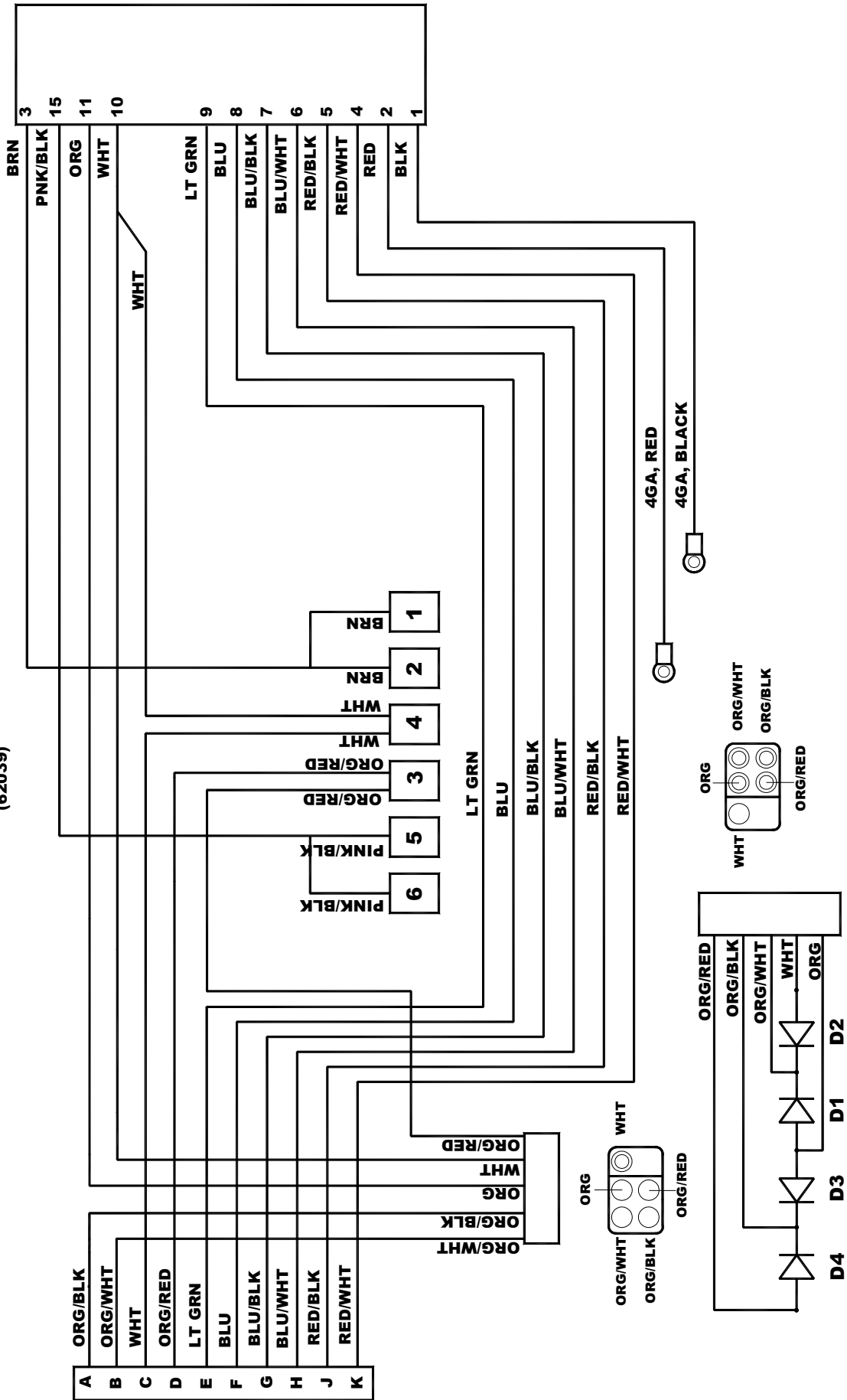
| | |
|-----|---------|
| (1) | BRN |
| (2) | BRN |
| (3) | ORG/RED |
| (4) | WHITE |
| (5) | PNK/BLK |
| (6) | PNK/BLK |

| | |
|----|-----------|
| 1 | BLK |
| 2 | RED |
| 3 | BRN |
| 4 | RED / WHT |
| 5 | RED / BLK |
| 6 | BLU/ WHT |
| 7 | BLU/BLK |
| 8 | BLU |
| 9 | LT GRN |
| 10 | WHT |
| 11 | ORG |
| 15 | PNK / BLK |



(4) 6 AMP 600 VOLT/DCES

PLOW WIRE HARNESS SCHEMATIC
(62039)



ELECTRICAL-VEHICLE SIDE



CAUTION: Always attach the vehicle harness assembly with the vehicle off and the keys out of the ignition. Use caution when testing the electrical wires for the vehicle's headlight functions.

INSTALLATION INSTRUCTIONS

1. Insert the connector end of the harness through the driver's side firewall access panel into the vehicle cab. Loosely position the remaining portion of the harness over the driver's side fender well and place the plug end of the harness near the bumper. *NOTE: Keep the plow plug and vehicle connector pins lubricated with a liberal amount of dielectric grease. Always replace the protective weather caps when the plow is disconnected from the vehicle.*
2. Attach the power contactor (solenoid) to the driver's side wheel well or engine fan guard using 12-14 x 3/4" self-drilling screws. *NOTE: Some model vehicles provide mounting locations for accessory components. Always mount the solenoid with the terminals facing up, for extended solenoid life.* Connect the 24" black ground wire to either small terminal on the solenoid and attach the opposite end to the vehicle with a self-drilling screw. Cut the brown/white pump activation wire on the harness to length and crimp the eyelet terminal onto it. Attach the eyelet to the remaining small terminal on the contactor. Secure it with the hardware provided on the solenoid.
3. Connect the vehicle harness ground wire to the negative terminal on the vehicle's battery. Cut the wire to length and crimp a 3/8" ring terminal on the wire. It is also recommended that the ring terminal be soldered. *NOTE: The harness should be secured to the vehicle prior to taking the necessary measurement. Measure the distance needed for the power wire to reach the solenoid and properly secure an end ring terminal to it. Connect the power wire to either large terminal on the solenoid.*



CAUTION: Do not fasten the harness to areas that come in contact with moving engine parts or possess extreme heat. The harness could become tangled and/or melt causing electrical failure and vehicle damage.

4. Attach and solder an end ring terminal to both ends of the remaining length of the red wire. Connect one end of the wire to the open terminal on the solenoid and the remaining end to the positive terminal on the battery.
5. Position the main lighting harness with both of the truck light connectors near each truck headlight and the plow light connectors near the grill of the vehicle.
6. Plug the headlight ground/relay connector from the vehicle harness into the connector on the main lighting harness. Plug each headlight relay into the receptacles. Securely mount the receptacles to the vehicle with the terminal wires facing down and the relays facing up. Installing the relays in this position will allow moisture to drain from the relay.
7. Remove the front signal light assembly from both sides of the vehicle. Feed the violet, turn light wire, and gray, run light wire, from the main lighting harness through the opening in the signal light housing. Use a test light or ohm meter to determine the proper wires in the vehicle's electrical system to splice into. Position one end of the turn or run light wire into the splice lock connector, and attach the vehicle wire into the opposite side. Complete the splice by pinching both wires together and locking the connector. Repeat the splice procedure for the remaining wire.
8. Connect the vehicle headlights to the main lighting harness using a light conversion harness kit. Due to differences in the construction of the kits, and the various make and model vehicles Blizzard snowplows are installed on, a light conversion kit is not packaged with your snowplow. Contact your local Blizzard dealer to obtain the appropriate conversion harness kit for your vehicle.
9. Secure the braided harness to the vehicle. Safely route all harness lengths around the engine components and attach them to the vehicle with cable ties. Extend the plow headlight connectors, from the main lighting harness, through the grill of the vehicle and position the harness power plug and weather cap near the bumper. Cable tie the plug to the vehicle bumper or tow hook to keep the harness from hanging too low.

10. Install the remainder of the vehicle wire harness to the interior of the cab. Find an accessible location for the plow headlight toggle switch & bracket under the dashboard. Install the headlight bracket using two self-drilling screws. Insert the toggle switch through the bracket and secure it with the hardware provided.

Plug both of the switch leads into the toggle switch. *NOTE: Both terminals should be inserted into the spades on the same side of the switch. One terminal should be positioned in the middle spade.* Plug both 2-pin connectors together and this will connect the toggle switch to the vehicle wire harness. See diagram below.

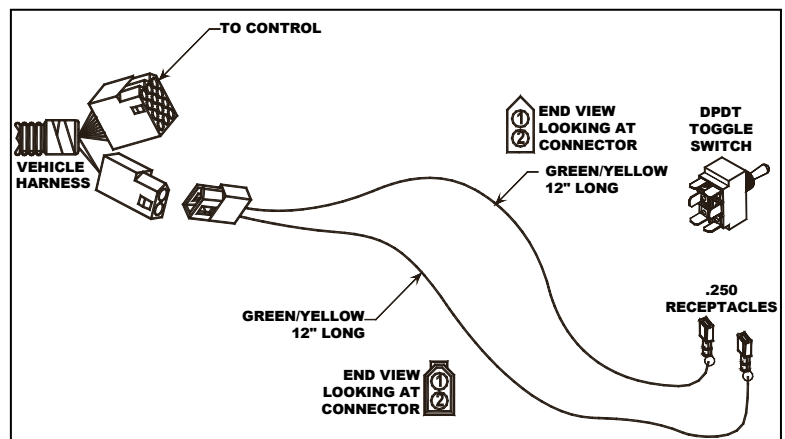
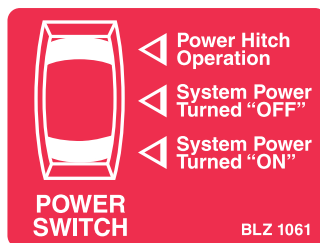
11. Connect the power wire (with 15AMP FUSE) to a switched power source with a minimum of 15 amps. *NOTE: The red power wire MUST be fused and switched on and off with ignition.* Secure all loose wires under the dash.

12. Install the light tower. Position the arms into the receiving pockets located on the undercarriage. Each pocket has a lock pin that secures both light tower arms. Pull out and twist each handle to temporarily unlock the pins. Place the light tower into the pockets and relock the pins. See your local Blizzard dealer for complete installation instructions for your vehicle undercarriage.

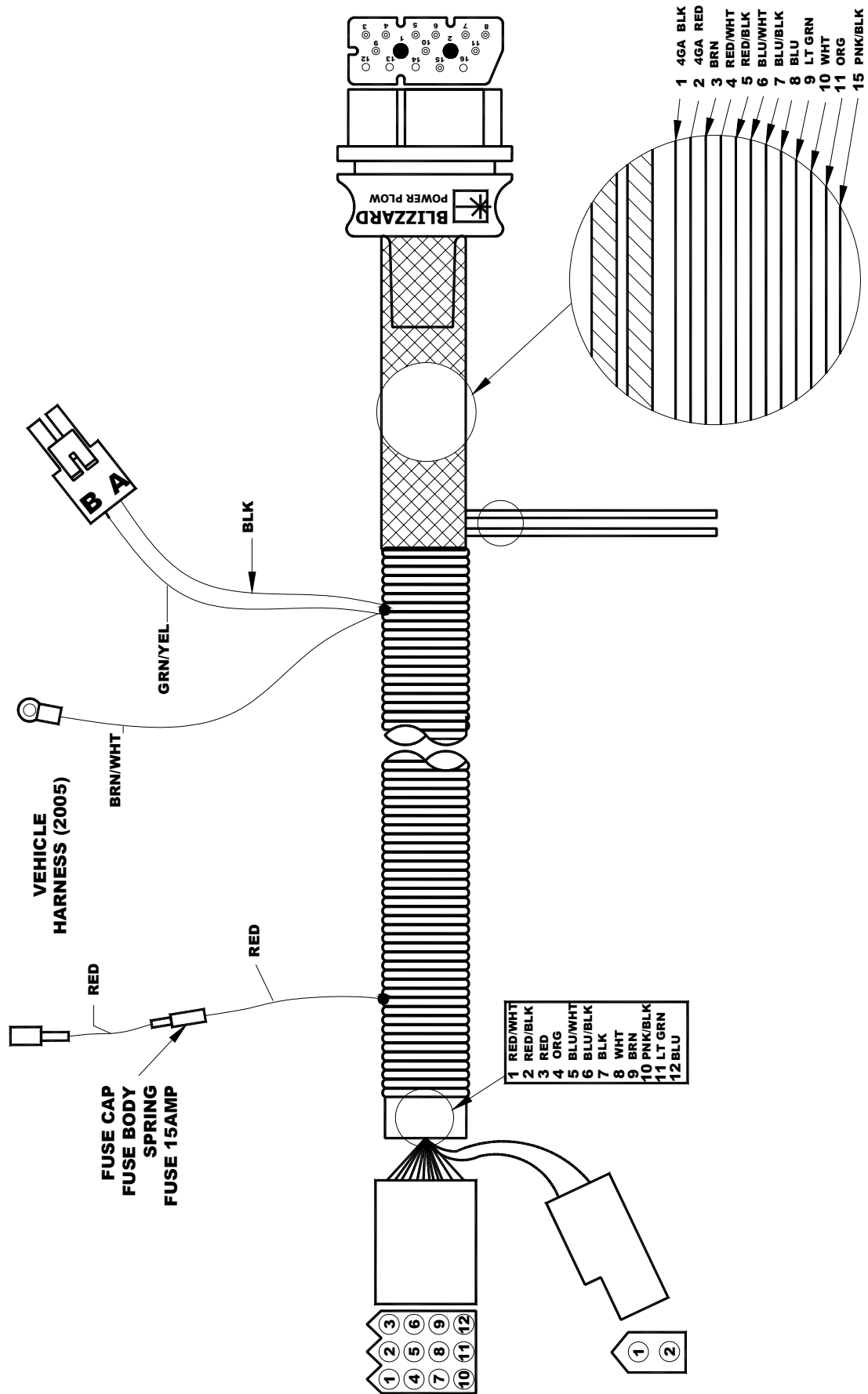
13. Install the plow headlights. Align one headlight stud on the light tower tube with the mounting hole and insert the threaded stud through each. Secure the headlight with one 1/2" galvanized washer (neoprene facing up), one 7/16" external tooth lock washer and hex nut. *NOTE: All snowplows are shipped with two caps that install on the ends of the light tower.* Connect the terminals from the plow lights to the terminals on the main lighting harness.

14. Align the mount holes on the joystick control with the holes located on the mount pedestal. *NOTE: The radius on the pedestal should face the dashboard.* Secure the joystick to the pedestal with the 8-32 x 3/4" machine screws provided. Slide the Velcro® strap through the slots cut in the pedestal. The metal D-ring should be located on the side opposite of the radius. Wrap the strap around the bench and fasten. Connect the white power connector from the vehicle wire harness to the connector on the control station. The power switch should be in the "OFF" position.

15. Test your plow before using.

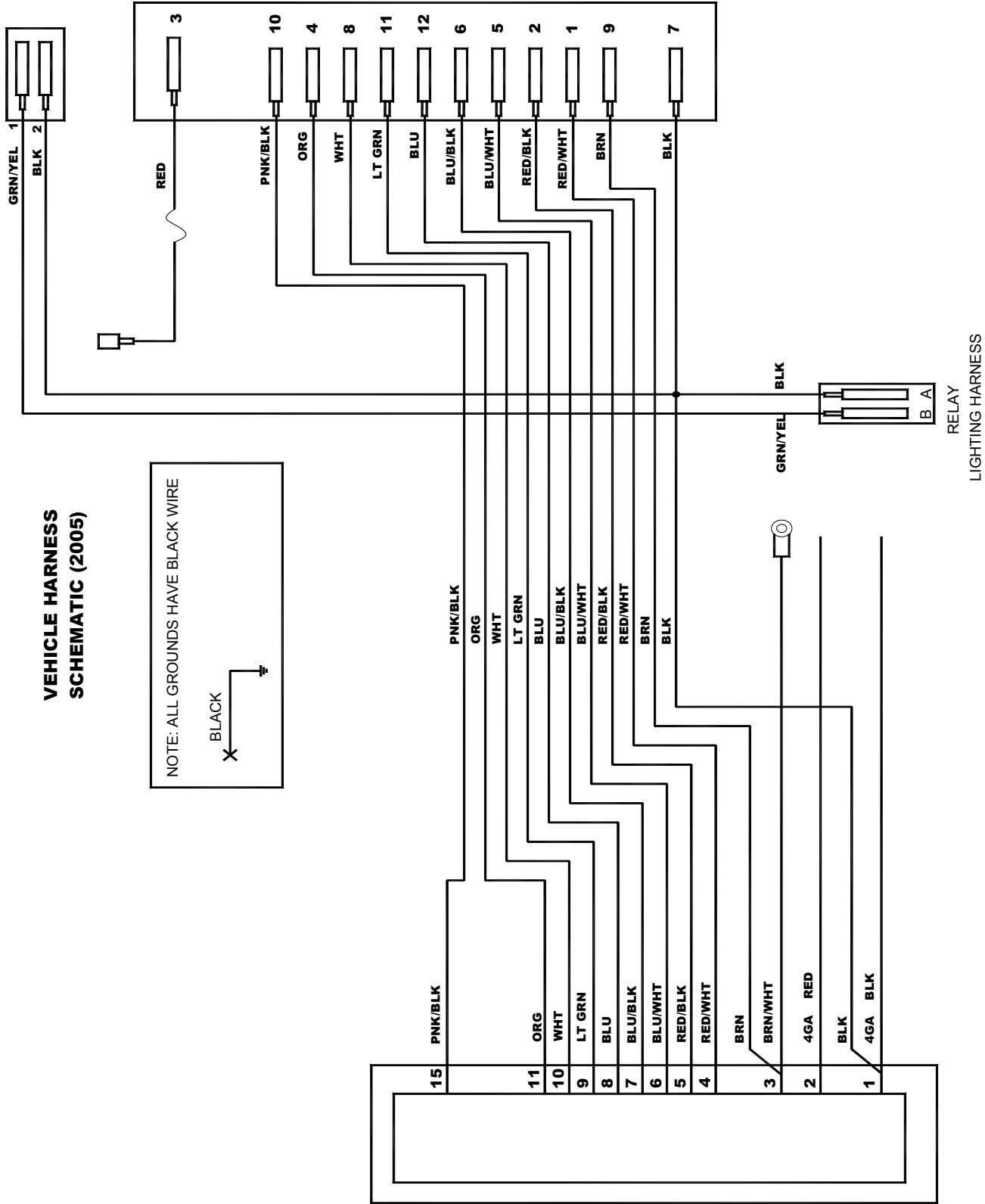


ELECTRICAL-VEHICLE SIDE

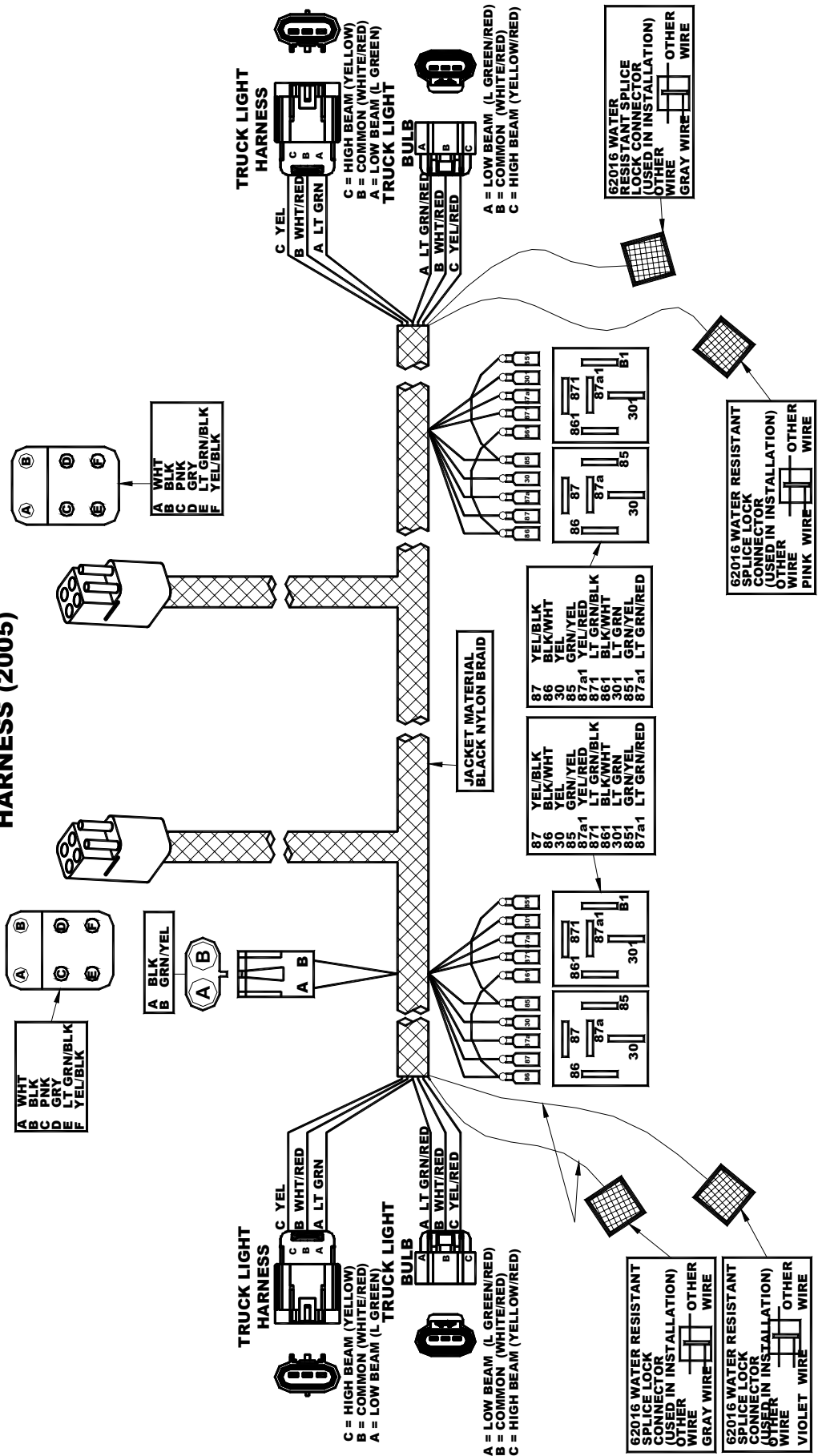


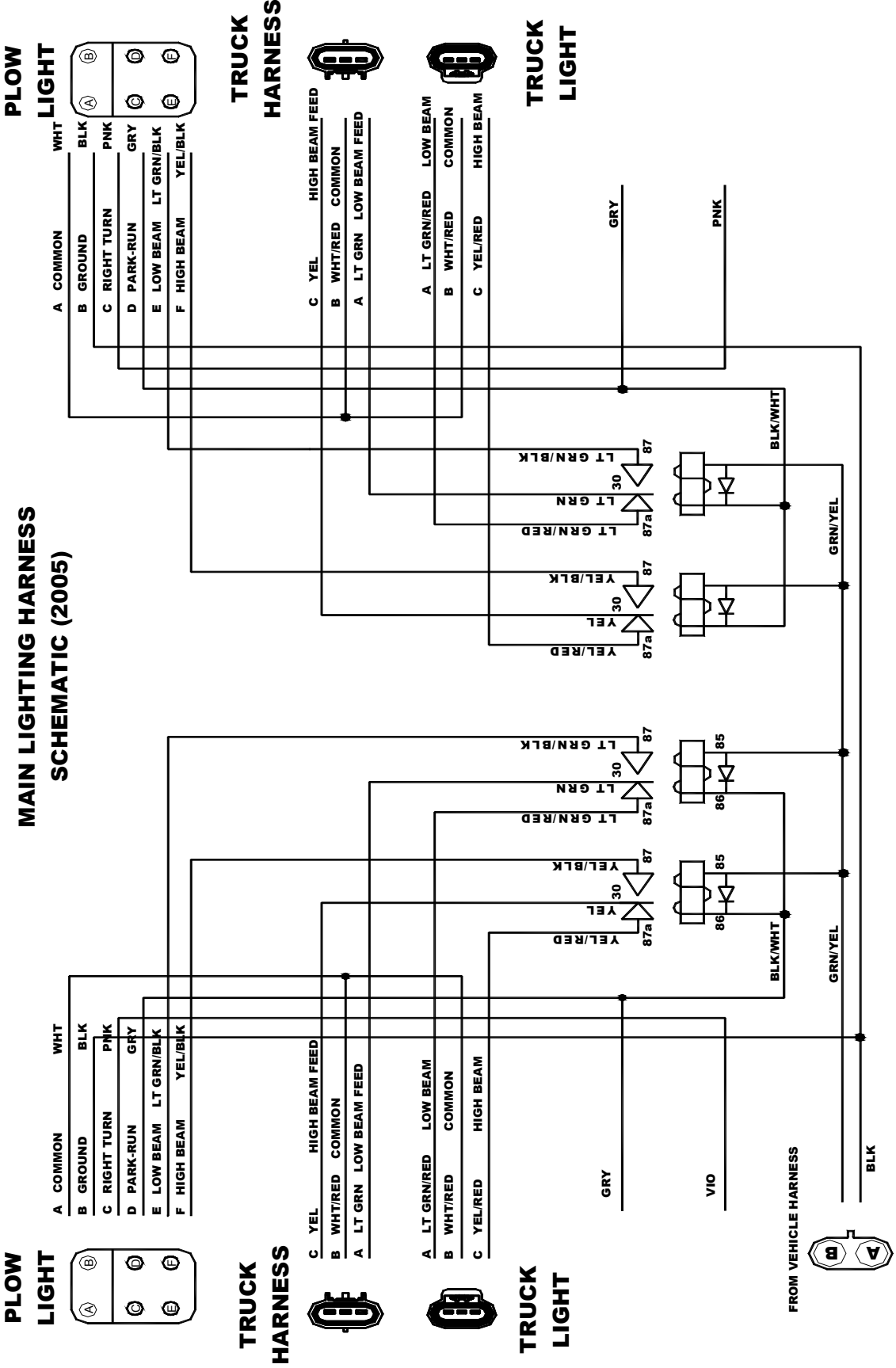
VEHICLE HARNESS
SCHEMATIC (2005)

NOTE: ALL GROUNDS HAVE BLACK WIRE
X BLACK



MAIN LIGHTING HARNESS (2005)






POWER HITCH™ INSTRUCTIONS

Prior to operating your straight blade snowplow, review the Mounting and Dismounting Instructions label on the back of the driver's side moldboard.

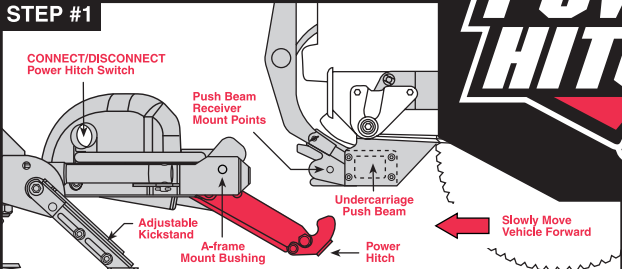
NOTE: If at any time the Mounting and Dismounting Instructions label, or any other label attached to your snowplow become illegible, promptly replace them.

MOUNT INSTRUCTIONS



DISMOUNT INSTRUCTIONS

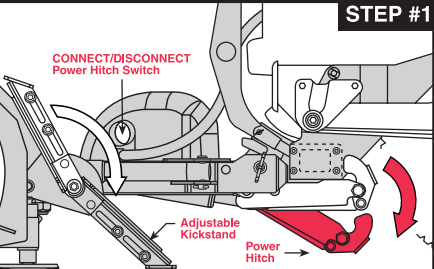
STEP #1



CAUTION: KEEP FINGERS AWAY! POWER HITCH RAISES BEHIND UNDERCARRIAGE PUSH BEAM.

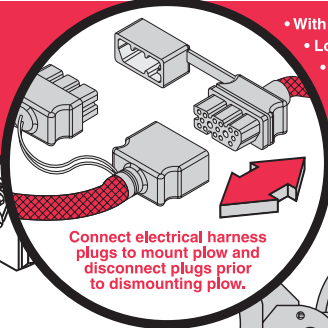
- Kickstand should be in the lowered position.
- Slowly drive vehicle forward until the push beam receiver mount points contact the A-frame mount bushings.
- Turn POWER HITCH OPERATION switch (on plow control) to the "ON" position.
- Connect plow and vehicle electrical harnesses.

STEP #1



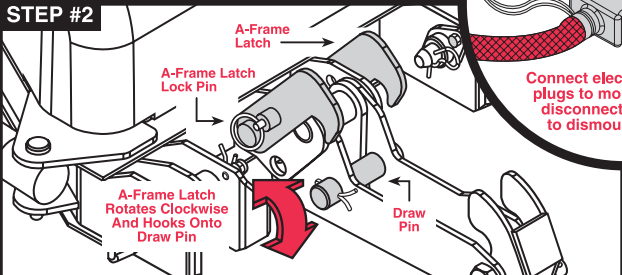
CAUTION: KEEP FINGERS AWAY! POWER HITCH LOWERS FROM UNDERCARRIAGE PUSH BEAM.

- With the plow fully raised, lower the kickstand.
- Lower plow on a flat, level surface. Turn vehicle ignition off.
- Remove hitch pins from the A-frame and undercarriage.
- Turn vehicle ignition on.
- Verify POWER HITCH OPERATION switch (on plow control) is in the "ON" position.



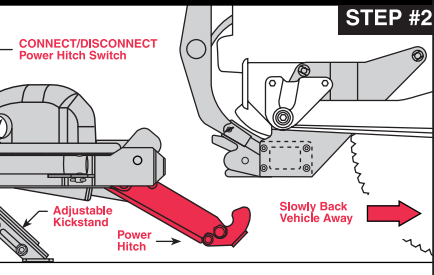
Connect electrical harness plugs to mount plow and disconnect plugs prior to dismounting plow.

STEP #2



- Pull A-frame latch lock pin out and lower the latch over the draw pin.
- Push and hold the CONNECT/DISCONNECT switch upward. The Power Hitch will engage the back of the push beam and pull the plow into the push beam receiver mount points on the vehicle.
- Insert both hitch pins and secure each with a hair pin cotter.
- Lower Power Hitch to relieve tension on the A-frame latch. Raise the A-frame latch into its locked position. Raise plow to the full up position.
- Raise kickstand until it locks into place. The plow is now properly mounted.

STEP #2



CAUTION: KEEP FINGERS AWAY FROM PLOW & TRUCK MOUNTING POINTS!

- Push and hold the CONNECT/DISCONNECT switch downward. The Power Hitch will disengage from behind the undercarriage push beam and lower.
- Disconnect plow and vehicle electrical harnesses. Install weather caps.
- Turn SYSTEM POWER (on plow control) to the "OFF" position.
- Slowly back vehicle away from plow.

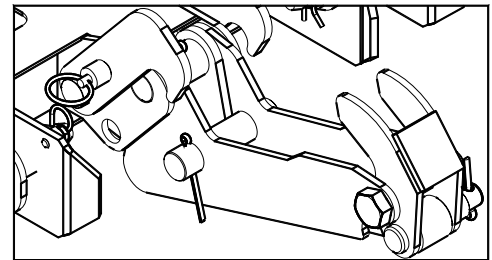
BLZ 1080

1. Fill the hydraulic pump reservoir with Blizzard Snowplow Rapid Action Hydraulic Oil until it is approximately 3/4" from the top of the tank. Replace the cap on the reservoir. Remove the weather caps from each of the plow and vehicle harnesses and connect the plugs.
2. Turn the power switch on the control station and the vehicle ignition switch to the "UP" or "ON" position.
3. To raise the Power Hitch™, push and hold the toggle switch on the A-frame upward into the "CONNECT" position. Notice the action of the fluid in the reservoir. By activating the initial hydraulic function, the fluid begins to fill the system. Push and hold the toggle switch in the "DISCONNECT" position, the Power Hitch will lower. Refill the reservoir until the fluid is approximately 3/4" from the top of the tank.
4. Align the Power Hitch on the A-frame below the push beam, with the receiver plates in line with the receiver plates on the undercarriage. Pull out the A-frame latch pin and rotate the A-frame latch clockwise until the latch is resting on the draw pin. Move the snowplow in position by activating the Power Hitch connect switch and release.



WARNING: Always use caution when operating the Power Hitch connect/disconnect switch. Keep your hands and feet away from the operation of the Power Hitch and the main blade. The action of the Power Hitch moves the snowplow in position for proper attachment to the vehicle. Failure to follow this caution may result in serious injury or death.

The Power Hitch will rise until it hits the push beam and the draw latch fingers will pull the plow into the vehicle. The receiver plates on the plow and vehicle are now positively aligned. Rotate the A-frame latch counterclockwise until the latch is in the raised position. *NOTE: The A-frame latch pin should always lock in place. Do not set the pin past the lock point on the A-frame.* Insert the two hitch pins through the mounting holes on the A-frame and secure each with one hair pin cotter.

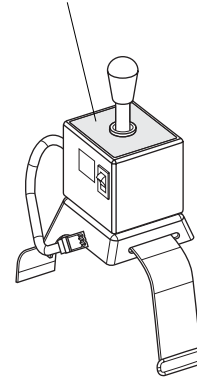
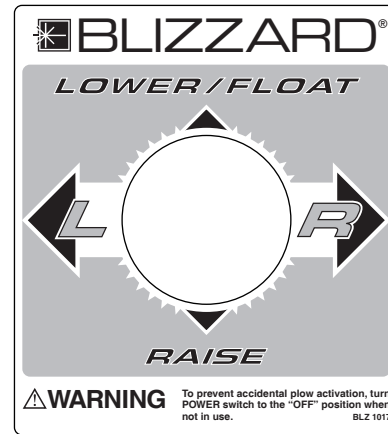


Draw Latch in Transport Position

TESTING YOUR PLOW

- Return to the interior of the vehicle. The system power on the control station should be in the "ON" position. Raise the plow to its maximum height by pulling the joystick back (or down). Angle the snowplow to the left by moving the joystick toward the "L" (left angle) on the label. If the plow function is slow or delayed, the hydraulic fluid is filling the cylinder and replacing the air in the system. Test the remaining functions of the snowplow. Monitor the fluid level in the reservoir and fill to 3/4" from the top of the tank if needed. Also, look for any hydraulic fluid leaks around the manifold, pump, hydraulic hoses and all cylinders.
- Check that the vehicle and plow headlights are in proper working condition including the turn signals. If necessary, adjust the plow headlight beams with the plow in the raised position.

Your plow is now fully assembled and tested.



| MAINTENANCE | PERIODICALLY | YEARLY |
|---|---------------------|---------------|
| Check fasteners for tightness. Torque to specifications. | X | |
| Check hoses for wear and leaks. | X | |
| Check cylinders for leaks; inspect rod ends for corrosion & pitting | X | |
| Lubricate all exposed cylinder rod ends with liquid white lithium grease to prevent corrosion. | | X |
| Check cutting edges and plow shoes for wear. <i>NOTE: Do not discard plow shoe washers, these should be retained for different shoe adjustments.</i> | X | |
| Clean and lubricate all electrical plugs and connections with dielectric grease. Clean and install all dust caps prior to storing. | X | X |
| Lubricate all pins and bushings and A-frame latch with NLGI Grade 2 multi-purpose lithium complex grease with molybdenum (MPGM)) to maintain consistent operation | X | X |
| Clean and paint all scratches or exposed metal with Blizzard touch-up paint | X | X |
| Check the hydraulic oil level. Fill with fluid to 3/4" from the top of the reservoir. Do not exceed this level. Never mix different types of fluid. | X | |
| Remove and properly discard the fluid from the pump reservoir. Clean the pump filter and replace the hydraulic oil to within 3/4" from the top of the reservoir. Changing the fluid annually will prolong the life of your pump and manifold. Never mix different types of hydraulic oil. | | X |
| Check the trip spring adjustment. Properly adjusted tension will allow a sheet of paper to pass between the 3rd and 4th coils of the spring. | X | |
| Clean snow & ice build-up from the pump and manifold cover. | X | |
| Pressure wash and dry the entire snowplow prior to storing | | X |
| Cover the snowplow with a tarp if stored outside. This will protect your plow from sun fading and inclement weather which can lead to accelerated corrosion. | | X |

REMOVING FROM STORAGE

1. Perform all regular maintenance.
2. Replace the hydraulic oil in the pump reservoir. Prolonged storage could result in condensation build-up.
3. Follow the mounting procedure on the Power Hitch™ label.
4. Initiate all of the functions. Monitor the fluid level in the reservoir and fill to 3/4" from the top of the tank as necessary.
5. Adjust the snowplow headlights as needed.

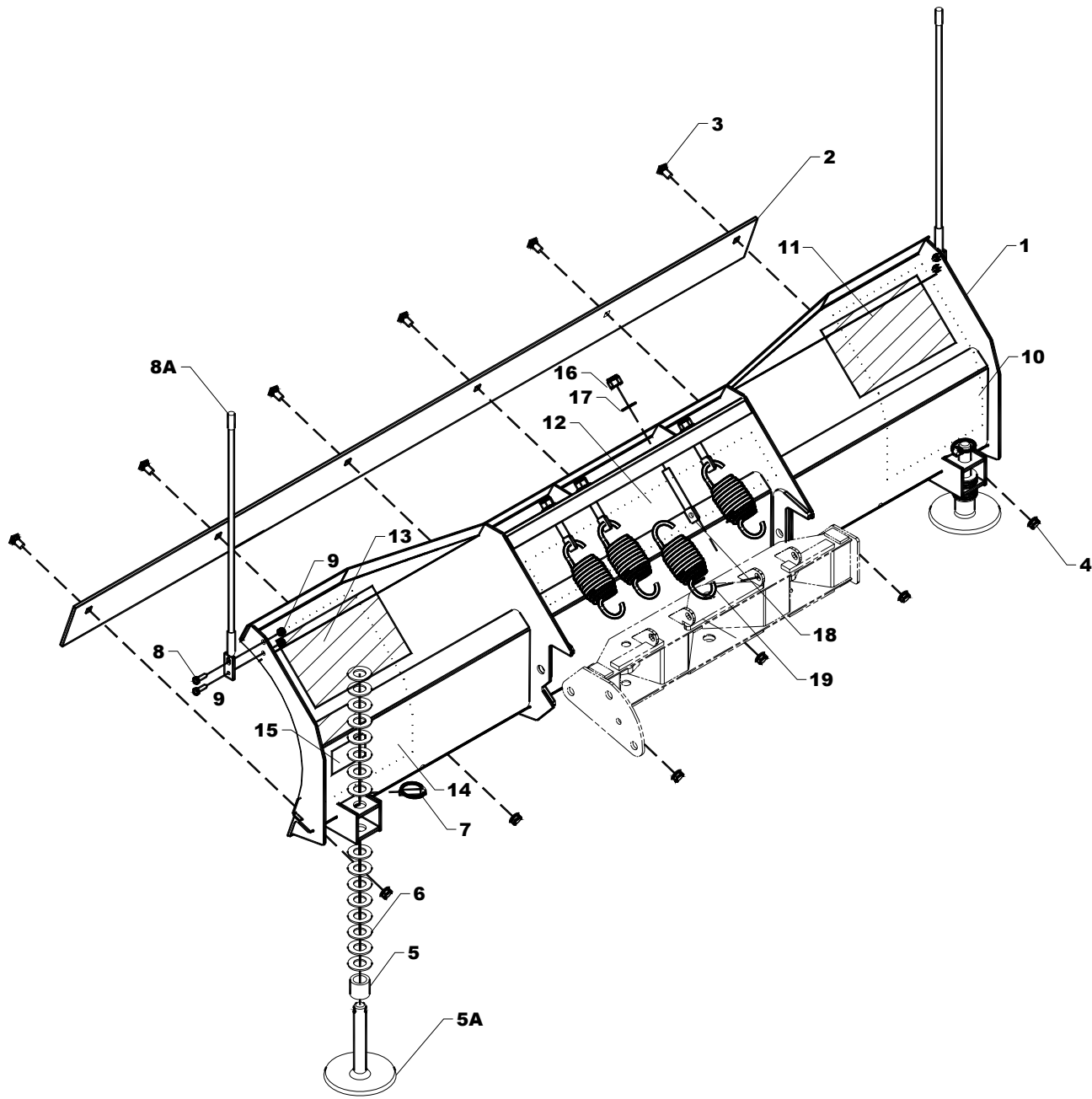
TROUBLESHOOTING

| PROBLEM | CAUSE | SOLUTION |
|---|---|--|
| Pump will not run. | Plow harness may not be properly connected to the vehicle harness. | Verify the harnesses are properly connected. |
| | Power or ground cables to the battery, pump or solenoid may not be properly connected. | Properly connect all cables. Clean and lubricate with dielectric grease. If power does not resume, check the continuity of all cables to find the break. |
| Pump will not run, power to the solenoid. | The black ground wire and brown/white activation wire on the solenoid are not properly connected. | Properly connect both cables. Test for power by initiating any joystick function except the float. <i>NOTE: The POWER rocker switch must be in the "ON" position to properly test any plow function.</i> If the solenoid is grounded and no power exists, diagnose the plow & truck harnesses. |
| Pump will not run with power to the solenoid. Brown/white activation wire and ground are properly connected. | The red, hot wire to the pump motor is not properly connected. | Connect red wire and check the black ground wire. If problem is not resolved, the solenoid could be inoperable or the pump motor may be worn. Replace the solenoid if there is no power to the pump. Replace the pump motor if it is receiving power. |
| Pump will not turn off. Do not allow the pump motor to run continuously. Unplug the harness until the solenoid can be tested or a Blizzard Dealer can diagnose the problem. | Solenoid may be damaged. | Disconnect the brown/white activation wire from the solenoid. If the problem is not resolved, replace the solenoid. |
| | Short in the joystick control or wire harness. | Disconnect the joystick in the cab. If the pump turns off, there is a short in the electrical system. |
| Pump runs but plow functions are slow. | Fluid level in the pump reservoir is low. Fluid is leaking. | Add fluid to within 3/4" from the top of the tank. Check for leaks around the pump, manifold and cylinders. |
| | Amperage from the vehicle's alternator is too low. | Repair or replace vehicle alternator. System amperage draw is 155A (175A for 8611) at 1500PSI. |
| | Pump filter may be clogged. | Remove the pump tank and thoroughly clean the filter. |
| A-frame latch will not move. | Draw latch is binding the A-frame latch. | Lower the draw latch to relieve binding on the A-frame latch and reposition as needed. |
| Plow will not lift. Pump works properly. | Control station in the cab may not be properly connected | Connect the power connector from the control to the vehicle harness. |
| | A-frame latch is in the (down) locked position. | Lift the A-frame latch into the raised position. |
| | Diode loop harness may be corroded or could have failed. | Clean diode loop harness thoroughly and/or replace. |
| | Coils on the manifold may be damaged. | Remove the S6 coil from the cartridge valve. Position a screwdriver inside of the coil and push the draw latch connect/disconnect toggle switch upward. The screwdriver should be magnetically drawn to the coil. Replace the coil if there is no action. |
| Plow will not lift with magnification to the S6 coil. | Hydraulic lock in the manifold. This occurs if the voltage is too low on the coils –should be 11.8 volts. | Loosen cartridge valve S6 to relieve pressure and retighten. DO NOT OVER TIGHTEN! Valves should be torqued to a maximum of 24 ft-lbs. |
| | Solenoid cartridge valve may be contaminated. | Remove any foreign objects that may be obstructing proper valve operation. Replace if not operating properly after cleaning. |

TROUBLESHOOTING

| PROBLEM | CAUSE | SOLUTION |
|--|---|---|
| Plow will not stay angled when plowing. | The angle pressure relief valve is set too low. <i>NOTE: Increasing the pressure relief valve will cause damage to your plow. Do not set the pressure relief greater than 3000 PSI.</i> | Check the pressure relief by testing the valve inline with the cylinder. Attach a tee fitting to the angle cylinder hydraulic adapter and connect the hose and pressure gauge to the tee. <i>NOTE: The setting should not exceed 3000PSI.</i> |
| Plow will not angle, pump works. | Review all probable causes above. | <i>NOTE: Verify coils S3 & S4 for angle functions.</i> |
| Plow lowers too slow. | Variable flow control valve is not adjusted properly. | Turn flow control valve counterclockwise in small increments and test. <i>NOTE: Never make adjustments when the plow is in the raised position!</i> Fluid pressure will make the valve difficult to adjust and serious injury or death can occur from a falling plow. |
| | Review all probable causes for plow will not lift | Verify S5 coil (float) or S5 & S8 coils (disconnect) for magnetism. |
| Plow drops sporadically. | Variable flow control valve is opened too far. | Turn clockwise 1/16 of a turn and test. <i>NOTE: Never make adjustments when the plow is in the raised position!</i> Fluid pressure will make the valve difficult to adjust and serious injury or death can occur from a falling plow. |
| Headlights will not switch from the vehicle to the snowplow. | No power or ground to the headlight relay. | Verify the headlight/ground relay connector is connected. If the connector is properly attached replace the headlight relay(s). |

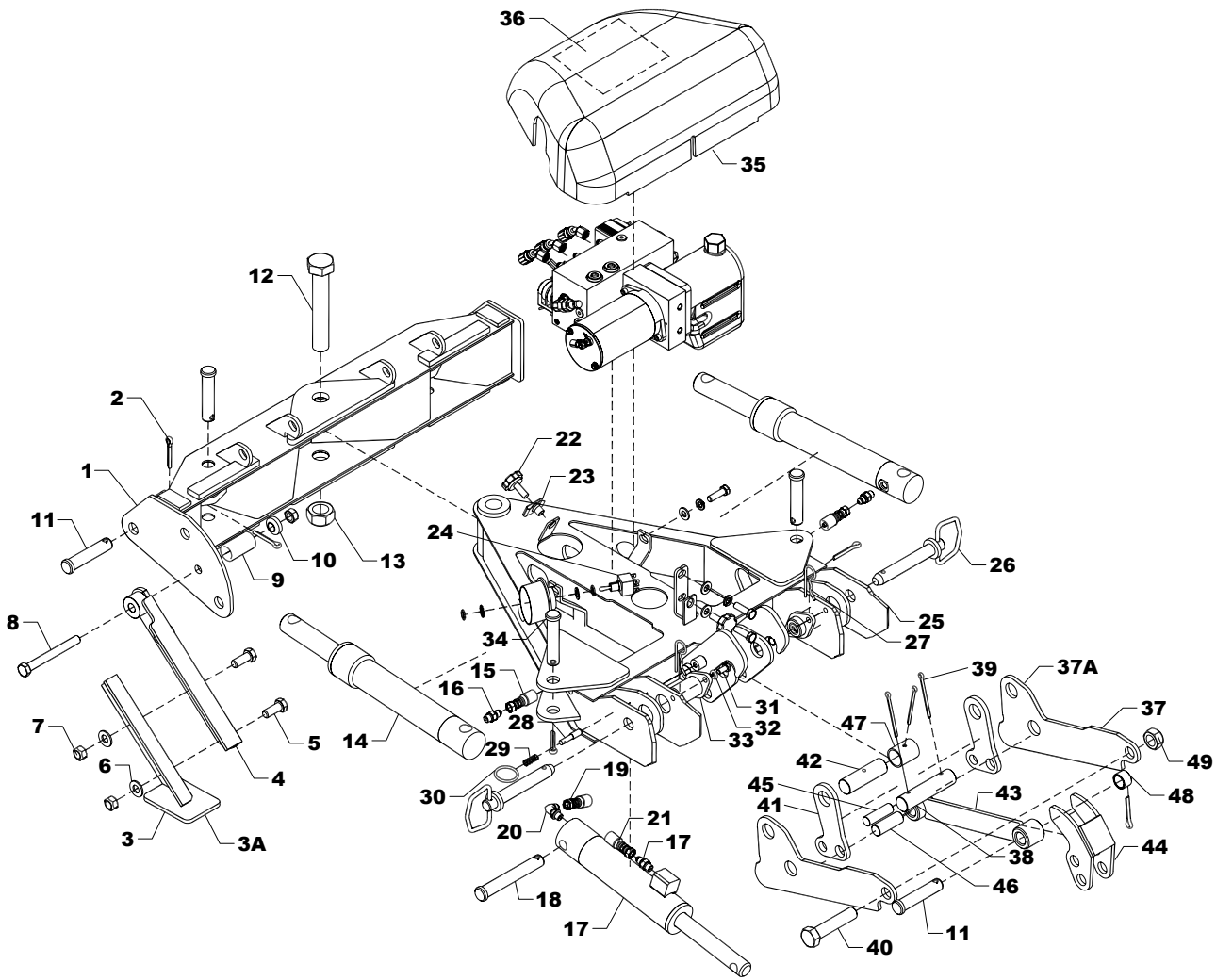
MOLDBOARD PARTS



MOLDBOARD PARTS

| REF | PART NUMBER | QUANTITY | | DESCRIPTION |
|-----|-------------|----------|-------|---|
| | | 680LT | 720LT | |
| 1 | 81061 | 1 | - | Moldboard Weldment |
| | 81067 | - | 1 | |
| 2 | 81062 | 1 | - | Cutting Edge |
| | 81073 | - | 1 | |
| 3 | 61196 | 6 | 6 | Bolt, Carriage, 1/2"-13 x 1-1/2" Gr8 P |
| 4 | 61365 | 6 | 6 | Nut, 1/2"-13 Flanged Lock Z |
| 5A | 61098 | 2 | 2 | Plow Shoe Assembly Standard (7-3/4" Shaft) Includes Ref 5-7 |
| 5 | 61102 | 2 | 2 | Spacer, 1-1/8" I.D., 1-5/8" O.D. x 1-1/2" YZ |
| 6 | 61101 | 36 | 36 | Washer, 1" Flat YZ |
| 7 | 61103 | 2 | 2 | Pin, Linch, 7/16" x 1-3/4" YZ |
| 8A | 61049 | 2 | 2 | Plow Guide Assembly Includes Ref 8 & 9 |
| 8 | 61051 | 4 | 4 | Screw, 5/16"-18 x 1" HHCS Gr5 Z |
| 9 | 61052 | 4 | 4 | Nut, 5/16"-18 Nylock Z |
| 10 | 63102 | 1 | - | Decal, Passenger's Side Moldboard |
| | 63110 | - | 1 | |
| 11 | 63105 | 1 | 1 | Label, WARNING! (Blz1060) |
| 12 | 63164 | 1 | 1 | Decal, Center Moldboard (Blz1074) |
| 13 | 63170 | 1 | 1 | Label, Power Hitch™ Mounting & Dismounting (Blz1080) |
| 14 | 63103 | 1 | - | Decal, Driver's Side Moldboard |
| | 63111 | - | 1 | |
| 15 | 63063 | 1 | 1 | Label, Serial Number, Sequentially Numbered (Blz1049) |
| 16 | 61188 | 4 | 4 | Nut, Nylock, 5/8"-11 Type NE |
| 17 | 61064 | 4 | 4 | Washer, 5/8" SAE Hardened YZ |
| 18 | 61201 | 4 | 4 | Bolt, Spade, 5/8"-11 x 4-3/8" Grade 8 Z |
| 19 | 61435 | 4 | 4 | Spring, Extension, 6-7/8" O.A.L. x 2-3/4" O.D. x 5/16" |

PIVOT BEAM, A-FRAME & DRAW LATCH PARTS

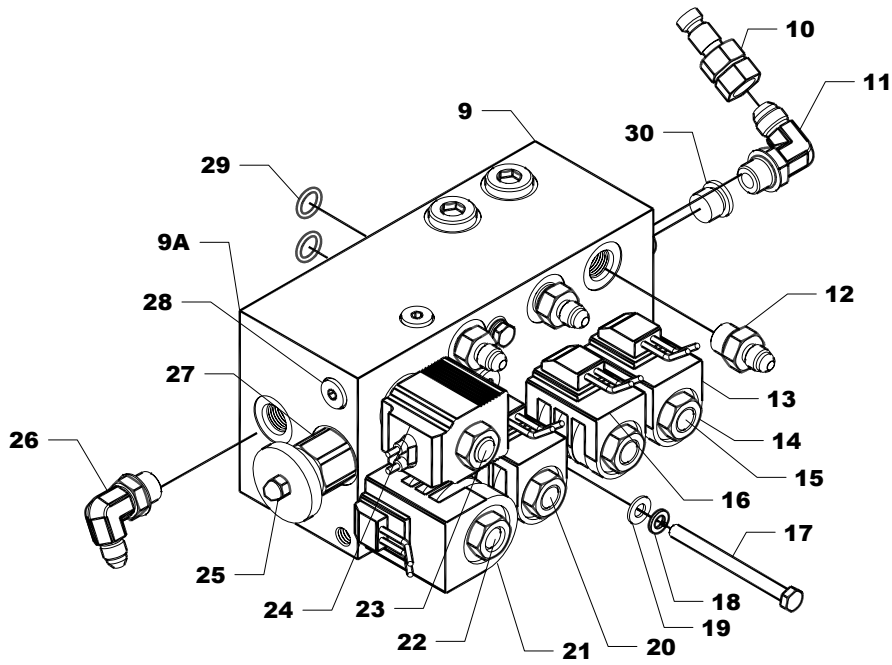
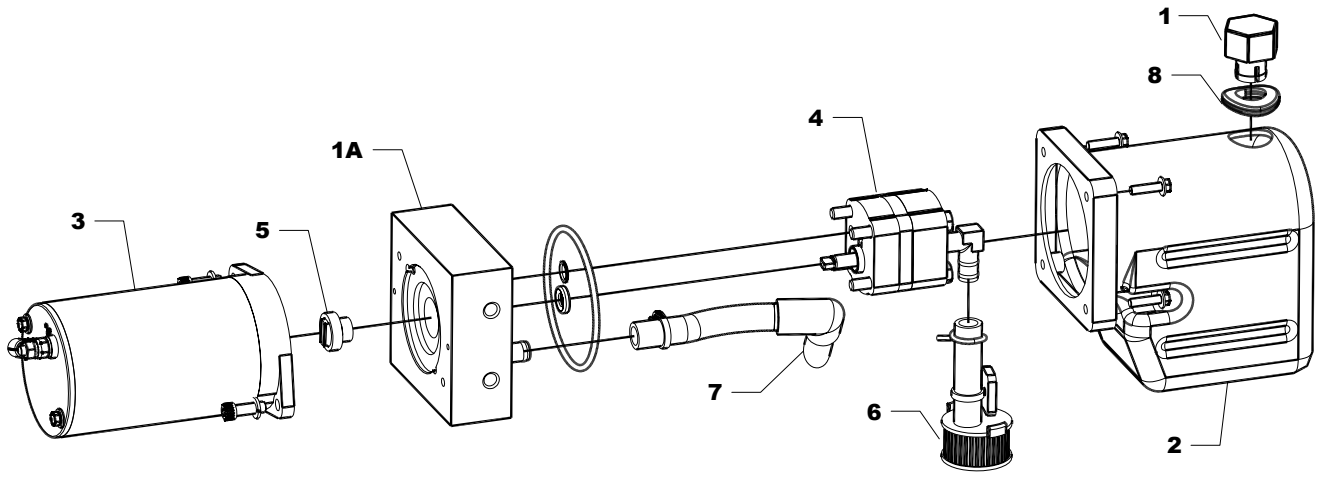


PIVOT BEAM, A-FRAME & DRAW LATCH PARTS

| REF | PART NUMBER | QTY | DESCRIPTION |
|-----|-------------|-----|--|
| 1 | 83017 | 1 | Pivot Beam Weldment |
| 2 | 61357 | 8 | Pin, Cotter, 1/4" x 1-1/2" Z |
| 3A | 41039 | 1 | Kickstand Assembly Includes Ref 3-10 |
| 3 | 41047 | 1 | Kickstand Foot Weldment |
| 4 | 41038 | 1 | Kickstand Leg Weldment |
| 5 | 61057 | 2 | Screw, 1/2-13 x 1-1/4" HHCS Gr8 YZ |
| 6 | 61026 | 2 | Washer, 1/2" Flat SAE Hardened |
| 7 | 61020 | 3 | Nut, 1/2-13 Top Lock Z |
| 8 | 61152 | 1 | Screw, 1/2-13 x 4-1/2" HHCS Gr8 YZ |
| 9 | 61293 | 1 | Spring, Compression, 2" O.A.L. x 1.101" O.D. x 0.207" Dia. |
| 10 | 41037 | 1 | Bushing, 1.13" O.D. x 0.53" I.D. x 3/8" Stepped |
| 11 | 82055 | 7 | Pin, 3/4" Dia. x 3-7/16" Clevis YZ |
| 12 | 61434 | 1 | Screw, 1-8 x 6" HHCS (4-3/4" Shank) Gr8 P |
| 13 | 61008 | 1 | Nut, 1-8 Top Lock Z |
| 14 | 60277 | 2 | Hydraulic Cylinder, Plow Angle |
| 15 | 60426 | 2 | Hydraulic Hose, 1/4" x 25" 45° Plow Angle (Port #1 & 2) Left & Right Cylinder |
| 16 | 60004 | 3 | Hydraulic Adapter, 7/16-20 x 7/16-20 Male O.R.B. |
| 17 | 60254 | 1 | Hydraulic Cylinder, Plow Raise/Lower |
| 18 | 82061 | 1 | Pin, 5/8" Dia. x 5-3/4" Clevis YZ |
| 19 | 60293 | 1 | Hyd. Hose 1/4" x 10" - (Port #3), Raise/Lower, Extend (Base End) |
| 20 | 60008 | 1 | Hydraulic Adapter, 7/16-20 x 7/16-20 90° Adjustable Elbow O.R.B. |
| 21 | 60432 | 1 | Hyd. Hose, 1/4" x 13.5" 45° (Port #4) Raise/Lower, Retract |
| 22 | 61438 | 2 | Knob, 3/8-16 x 1-1/8" Clamping |
| 23 | 61275 | 2 | U-Nut, 3/8-16 |
| 24 | 62038 | 1 | Switch, DPDT (On)-Off-(On) 16 Amps 115V AC Toggle |
| 25 | 82109 | 1 | A-Frame Weldment |
| 26 | 61426 | 3 | Pin, 3/4" x 6" Hitch YZ |
| 27 | 61105 | 3 | Pin, 9/64" DIA. x 2-11/16" Hair Cotter Z |
| 28 | 40079 | 3 | Pin, 3/8" DIA. x 1-3/4" SS |
| 29 | 61000 | 3 | Spring, 0.94" O.A.F.L. x 0.36" O.D., 0.029" Wire Dia. Compression SS |
| 30 | 61309 | 3 | Ring, Standard Split SS |
| 31 | 61433 | 4 | Screw, 5/16-18 x 5/8" HHCS Gr8 YZ |
| 32 | 61011 | 4 | Washer, 5/16" Split Lock YZ High-Alloy |
| 33 | 40126 | 2 | Bushing, A-frame Pivot, Replaceable |
| 34 | 61295 | 1 | Label, Power Hitch Connect/Disconnect Switch (Blz1037) |
| 35 | 82108 | 1 | Cover, Hyd. Pump & Manifold |
| 36 | 63099 | 1 | Label, Hyd. Hose Identification Guide (Blz1054) |
| 37A | 82087 | 1 | Draw Latch Assembly Includes Ref 37-52, 2 (1) |
| 37 | 82084 | 2 | Outer Draw Latch Plate Weldment, Driver's & Passenger's Sides |
| 38 | 82101 | 1 | Pin, 1" Dia. x 4-1/4" Draw YZ |
| 39 | 61363 | 3 | Pin, 3/16" x 2-1/2" Cotter Z |
| 40 | 61308 | 1 | Screw, 3/4-10 x 3-1/2" HHCS Gr8 YZ |
| 41 | 82088 | 2 | Inner Draw Latch Plate |
| 42 | 82095 | 1 | Pin, 1" x 3-1/4" Draw Latch Mount (To A-frame) BZ |
| 43 | 82092 | 1 | Draw Latch Arm Weldment |
| 44 | 82091 | 1 | Draw Latch Finger Weldment |
| 45 | 82096 | 1 | Pin, 5/8" x 2-1/16" Inner Draw Latch Plate/Hydraulic Cylinder Rod End, Plow Raise/Lower BZ |
| 46 | 82097 | 1 | Pin, 3/4" x 2-1/16" Draw Latch Arm Pivot BZ |
| 47 | 40093 | 1 | Bushing, 1-1/4" O.D., 1-1/16" I.D. x 1-1/2" YZ |
| 48 | 40116 | 1 | Spacer, 1" O.D., 25/32" I.D. x 5/8" YZ |
| 49 | 61006 | 1 | Nut, 3/4-10 Top Lock Z |

NOTE: Unless otherwise specified, quantities the same for the 680LT & 720LT.

POWER UNIT & MANIFOLD PARTS

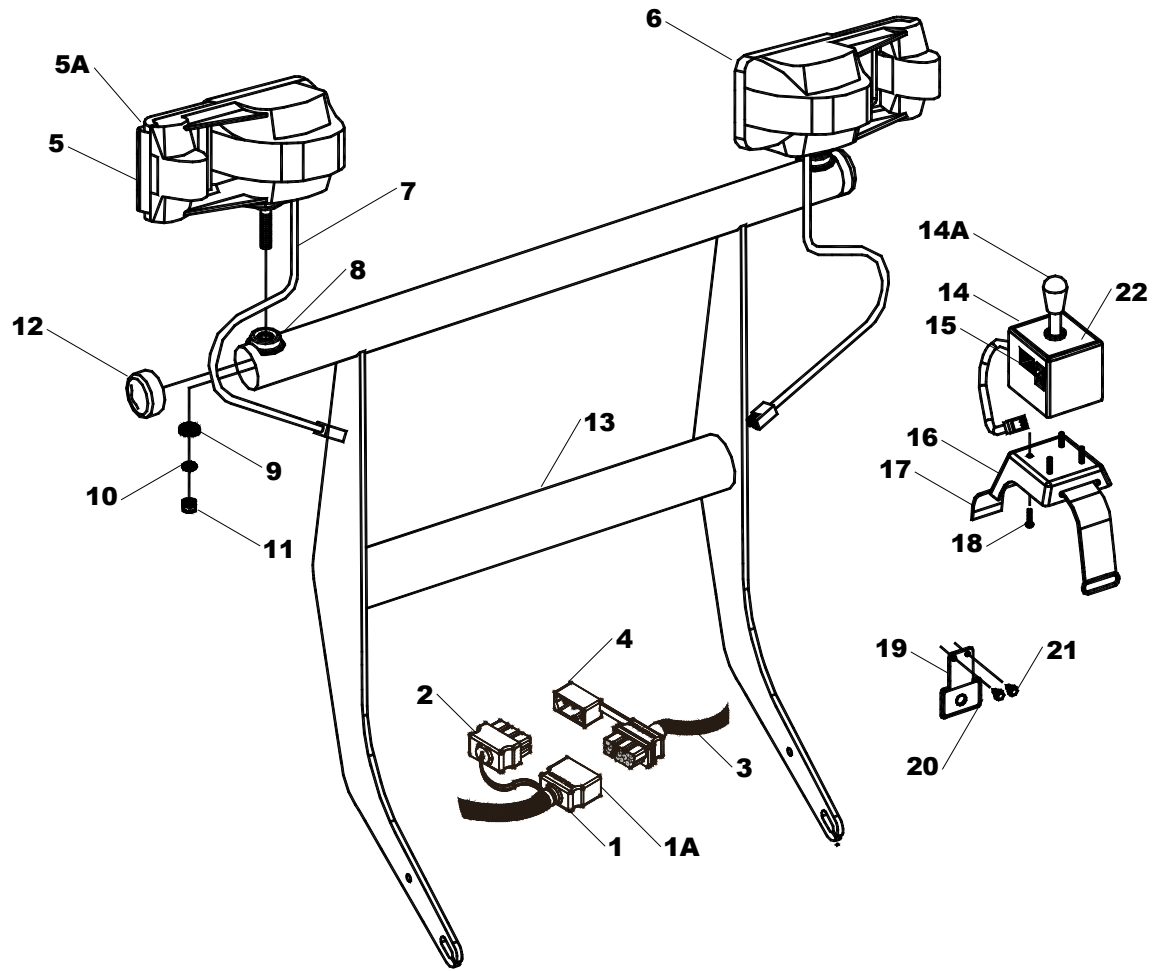


POWER UNIT & MANIFOLD PARTS

| REF | PART NUMBER | QTY | DESCRIPTION |
|-----|-------------|-----|---|
| 1A | 60386 | 1 | Power Unit-Pump Motor Tank Assembly Includes Ref 1-8, 61631 & 61558, 60450, 61632 & 60306 |
| 1 | 60346 | 1 | Breather |
| 2 | 60388 | 1 | Reservoir |
| 3 | 60283 | 1 | Motor, 12VDC |
| 4 | 60305 | 1 | Pump Assembly |
| 5 | 60308 | 1 | Coupling |
| 6 | 60437 | 1 | Filter |
| 7 | 60442 | 1 | Elbow |
| 8 | 60345 | 1 | Grommet |
| - | 61631 | 2 | Screw, 1/4-20 x 3/4 SHCS |
| - | 61558 | 2 | Washer, 1/4" Split Lock |
| - | 60450 | 1 | Tube, Cut-to-length Replacement for 60386, 60402 & 60417 Power Units |
| - | 61632 | 4 | Screw, 10-24 HHCS w/ nylon patch |
| - | 60343 | 1 | Kit, Brush for 60283 motor |
| - | 60306 | 1 | Kit, Seal |
| 9A | 60344 | 1 | Manifold Assembly |
| 9 | 60414 | 1 | Manifold Block |
| 10 | 60288 | 1 | Pressure Nipple 1/8PD-4FJIC |
| 11 | 60005 | 1 | Hydraulic Adapter, 9/16"-18 x 9/16"-18 90° Adjustable Elbow O.R.B. |
| 12 | 60003 | 3 | Hydraulic Adapter, 7/16-20 x 9/16-18 Straight O.R.B. |
| 13 | 62114 | 3 | Coil, PDL 10V DC |
| 14 | 60052 | 5 | Nut, 1/2"-20 Hex Jam YZ |
| 15 | 60167 | 2 | Valve, Spool, Four-Way, Two Position C.C. |
| 16 | 62148 | 1 | Coil Harness Assembly Includes Ref 13, 21 & 24 |
| - | 62045 | 1 | Connector, Electric, Male, Plastic |
| - | 62096 | 15 | Seal, Cable, Silicone, Orange (18 AWG) |
| - | 62097 | 5 | Terminal, Male (18-16 AWG) |
| - | 62116 | 5 | Silicone Cavity Plug, White (18-16 AWG) |
| - | 62117 | 1 | Terminal, End Ring, 3/8" I.D. Copper, 8 Gauge |
| 17 | 61010 | 2 | Screw, 5/16"-18 x 3-3/4" HHCS Gr8 YZ |
| 18 | 61011 | 2 | Washer, 5/16" Split Lock YZ |
| 19 | 61412 | 2 | Washer, 5/16" Flat YZ |
| 20 | 60166 | 1 | Valve, Spool, Three-Way, Two Position |
| 21 | 62115 | 1 | Coil, DDL 10V DC |
| 22 | 60170 | 1 | Valve, Spool, Three-Way, Two Position |
| 23 | 60165 | 1 | Valve, N.C., Two-Way |
| 24 | 62176 | 1 | Coil, PDL 12V DC, (waterproof, w/ O-rings) |
| 25 | 61440 | 1 | Nut, 10-32 Acorn Hex UNF |
| 26 | 60287 | 1 | Hydraulic Adapter, 9/16-18 x 7/16-20 90° Adjustable |
| 27 | 60169 | 1 | Valve, Flow Control |
| 28 | 60049 | 8 | Plug, -4 SAE Hollow Hex |
| 29 | 60038 | 2 | O-ring, 3/32" C.S.W. 9/16" I.D., 3/4" O.D. Neoprene, 70 Durometer |
| 30 | 60050 | 1 | Plug, -6 SAE Hollow Hex |

NOTE: Unless otherwise specified, quantities the same for the 680LT & 720LT.

HARNESSES, CONTROLS & LIGHTS PARTS



HARNESSES, CONTROLS & LIGHTS PARTS

| REF | PART NUMBER | QTY | DESCRIPTION |
|-----|-------------|-----|---|
| 1A | 62039 | 1 | Harness Assembly, Plow Includes Ref 1,2 & 62046, 62093, 61439, 62167 |
| 1 | 62057 | 1 | Harness, Plow |
| 2 | 62001 | 1 | Weather Cap, Rubber, Plow Side |
| - | 62046 | 1 | Connector, Electric, Female, Plastic |
| - | 62093 | 10 | Terminal, Female (18-16AWG) |
| - | 61439 | 2 | Cable Tie, Black, 15" Nominal Length Heavy Duty - 120psi Min Tensile - .3" Wide |
| - | 62167 | 1 | Harness, Diode Loop |
| 3 | 62150 | 1 | Harness, Vehicle |
| 4 | 62000 | 1 | Weather Cap, Rubber, Vehicle Side |
| - | 62124 | 1 | Fuse, 1/4" Dia. x 1-1/4" BUSS ARC 15A, 32V |
| - | 62212 | 1 | Harness, Main Lighting |
| - | 62035 | 2 | Weather Cap, Rubber, Lighting Harness |
| - | 62144 | 4 | Headlight Relay, CB1-D-12V, |
| - | 62042 | 1 | Power Contactor (Solenoid), 12VDC |
| - | 62056 | 1 | Ground Wire, Power Contactor, 24" |
| - | 62072 | 4 | Terminal, End Ring, 3/8" I.D. Copper, 4 Gauge |
| - | 62008 | 1 | Fuse Clip, Mini |
| - | 62009 | 1 | Fuse Clip, Auto Blade |
| - | 62016 | 4 | Connector, Splice Lock (18-14 WAG) |
| - | 61031 | 3 | Screw, 12-14 x 3/4" Hex Washer Self-Drilling |
| 5A | 61106 | 2 | Headlight Assembly, Plow Includes Ref 17-23 & 62061 |
| 5 | 61107 | 1 | Headlight, Driver's Side |
| 6 | 61108 | 1 | Headlight, Passenger's Side |
| 7 | 62032 | 2 | Harness (with 6-pin plug), Plow Headlight Side |
| - | 62108 | 2 | Lighting Harness Repair Kit, Harness Side |
| - | 62061 | 2 | Bulb, Sealed Beam Halogen (H6545/H4666) |
| - | 62062 | 1 | Corrosion Preventive Compound (2fl.oz.) |
| 8 | 61231 | 1 | Adapter, Headlight Ball Stud Mount |
| 9 | 61550 | 2 | Washer, 1/2" I.D. x 1" O.D. Neoprene Backing Galvanized |
| 10 | 61112 | 2 | Washer, 7/16" Ext. Tooth Lock YZ |
| 11 | 61111 | 2 | Nut, 7/16"-14 Hex Gr8 YZ |
| 12 | 61427 | 2 | Cap, 2-1/4" I.D., 2-3/8" O.D. x 3/4", Black Vinyl |
| 13 | 39054 | 1 | Light Tower |
| 14A | 62073 | 1 | Control Station Assembly, Joystick Includes Ref 26, 27 & 34 |
| 14 | 62074 | 1 | Control Station, Joystick |
| 15 | 63106 | 1 | Label, Plow Power Switch, On/Off (Blz1061) |
| 16 | 61185 | 1 | Base Plate, Joystick Control Station 1/8" ABS Plastic |
| 17 | 61127 | 1 | Strap, (Velcro® with 2" Metal D-Ring) 61" Black |
| 18 | 61254 | 4 | Screw, 8-32 x 3/4" Pan Head Machine Z |
| 19 | 61041 | 1 | Bracket, Plow/Vehicle Headlight Toggle Switch |
| 20 | 61088 | 1 | Label, Plow/Vehicle Headlight Toggle Switch Bracket (Blz1008) |
| 21 | 61031 | 5 | Screw, 12-14 x 3/4" Hex Washer Self-Drilling |
| 22 | 61174 | 1 | Label, Control Station, Joystick (Blz1017) |
| - | 62185 | 1 | Switch-Rocker SPDT On-Off-On - Straight Blade Joystick Control Switch |
| - | 62186 | 1 | Switch-Straight Blade Joystick Functions |
| - | 62187 | 1 | Relay-Straight Blade Joystick |
| - | 62188 | 1 | Switch Actuator |
| - | 62189 | 1 | Kit-Handle Straight Blade Joystick (Includes Shaft, Sleeve, E-Ring). |
| - | 62190 | 1 | Mounting Plate |

NOTE: Unless otherwise specified, quantities the same for the 680LT & 720LT.

ACCESSORIES & KITS



1. This adjustable bracket mounts easily to your straight blade joystick control and installs quickly onto any door panel. Ideal for left-hand joystick operation or for vehicles with center consoles. The window mount bracket is shipped complete with hardware. Some assembly required.



2. Our easy-to-install, adjustable pedestal mount will position your straight blade snowplow control station how you want it! Ideal for bucket seat vehicles with low center consoles. Pedestal accessory shipped with complete hardware and adapter plate.



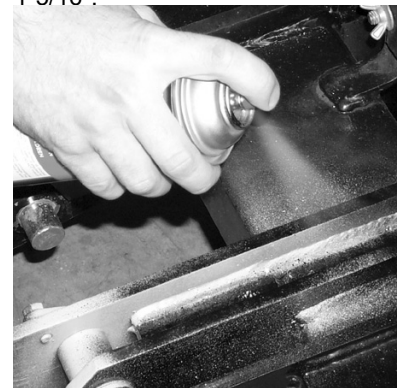
3. The straight blade snowplow touch pad control offers ergonomic comfort behind the wheel. Whether you hold it in your hand, strap it on your leg, wrap it around your seat or mount it to the dashboard, this control will provide the flexibility you need! Control is shipped with a molded plastic leg tray, adjustable Velcro® strap and extra Velcro® patches. Measures 3-1/4" x 3-1/4" x 1-5/16".



4. This kit includes the most common replacement parts: Angle cylinder hose, lift cylinder hose, hitch pin w/hair pin cotter, angle cylinder clevis pin w/cotter, 90° angle cylinder fitting, solenoid, Power Hitch™ toggle switch, corrosion preventive compound (2 oz.) and 10A fuse. The compact & durable plastic case (13.5"x9"x3.3") allows for easy storage behind or under your seat.



5. Blizzard hydraulic oil is specially formulated for use in Blizzard snowplows and can significantly enhance the operation and performance of the hydraulic system. Blizzard zinc-free hydraulic oil maintains its viscosity to temperatures as low as -60°F. Blizzard oil is available by the quart, gallon, case or drum.



6. Putting your snowplow away for the winter? Have a deep scratch to cover? Clean up your blade and plow parts with our gloss spray paints. Blizzard snowplow touch-up paint provides an excellent finish to help keep your snowplow looking its best. Paint provided in 12 oz. spray cans.

ACCESSORIES & KITS

| REF | PART NUMBER | QUANTITY | | DESCRIPTION |
|-------------|-------------|----------|-------|--|
| | | 680LT | 720LT | |
| 1 | 61261 | 1 | 1 | Straight Blade Joystick Window Mount Bracket |
| 2 | 63078 | 1 | 1 | 12" Adjustable Pedestal Mount |
| 3 | 62142 | 1 | 1 | Touch Pad Control Station |
| 4 | 63115 | 1 | 1 | Emergency Parts Kit |
| 5 | 63070 | 1 | 1 | Blizzard Rapid Action Hydraulic Oil-Quart |
| | 63071 | 1 | 1 | Case (12 quarts) |
| | 63072 | 1 | 1 | Gallon |
| | 63069 | 1 | 1 | Case (4 gallons) |
| | 63091 | 1 | 1 | Drum (55 gallons) |
| 6 | 61219 | 1 | 1 | Blizzard Power Plow High Performance 12 Oz. Spray Paint, Gloss White |
| | 63073 | 1 | 1 | Blizzard Power Plow High Performance 12 Oz. Spray Paint, Gloss Black |
| KITS | | | | |
| - | 61454 | 1 | 1 | Kit, Hardware, Snowplow Assembly Parts |
| - | 60427 | 1 | 1 | Kit, Hydraulic Adapter Includes 60003 (3), 60004 (3), 60008 (1) & 60287 (1) |
| - | 60428 | 1 | 1 | Kit, Hydraulic Hose Includes 60432 (1), 60293 (1), 60426 (2) |
| - | 61457 | 1 | 1 | Kit, Hardware, Moldboard Cutting Edge |
| - | 61458 | 1 | - | Kit, Cutting Edge, Moldboard w/Hardware |
| - | 61531 | - | 1 | |
| - | 60372 | 2 | 2 | Combo Seal Kit, Cyl 60277 |
| - | 60370 | 1 | 1 | Combo Seal Kit, Cyl 60254 |
| - | 62195 | 1 | 1 | Kit, Headlamp 61106 (1-sealed beam, 1-rim , 4-spacer bumpers, 4-screws) |
| - | 62196 | 1 | 1 | Kit, Headlamp 61106 Signal (1-bulb, 1-turn signal lens, 1- gasket, 2-screws) |

NOTE: Unless otherwise specified, quantities the same for the 680LT & 720LT.



SNOWPLOWS

LIMITED CONSUMER WARRANTY

This warranty covers defects in material and workmanship except as set forth below.

WARRANTED PARTY:

This warranty applies only to the "Original Purchaser" who purchased this plow from an Authorized Blizzard Dealer, for personal, family or household use.

TERM OF WARRANTY:

This Blizzard snowplow is warranted for the following period:
Parts and labor are warranted for one year from date of purchase.

BLIZZARD CORPORATION'S WARRANTY REMEDY:

Blizzard Corporation will, at its sole discretion, repair or replace defective parts at no charge.

CUSTOMERS RESPONSIBILITY:

To obtain warranty service, the purchaser must return the defective snowplow to any Authorized Blizzard Dealer. The purchaser must verify the original purchase date. Transportation costs to and from the dealer will be the responsibility of the purchaser.

ITEMS NOT COVERED UNDER THIS WARRANTY:

1. Expendable parts such as cutting edges, plow shoes, hoses, fasteners, blade guides, paint finish, etc.
2. Any snowplow or part thereof which has been repaired or altered by anyone other than an Authorized Blizzard Dealer.
3. Any snowplow or part thereof which has been subject to neglect, misuse, accident, improper installation, maintenance, or storage. This includes, but is not limited to, corrosion of any electrical components.
4. Snowplows mounted on vehicles other than those for whom Blizzard Corporation has provided a specific mount system.
5. Blizzard Corporation does not assume liability for damage to the purchaser's vehicle resulting from the attachment and use of a Blizzard snowplow. Vehicle risk is the sole responsibility of the purchaser.

WARRANTY LIMITATIONS:

THIS WARRANTY IS OFFERED IN LIEU OF ANY OTHER EXPRESS WARRANTY.

THE DURATION OF ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO THE DURATION OF THIS WARRANTY.

BLIZZARD CORPORATION'S LIABILITY IS EXPRESSLY LIMITED TO REPAIR OR REPLACEMENT OF DEFECTIVE PARTS. BLIZZARD CORPORATION SHALL NOT BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL OR CONTINGENT DAMAGES WHATSOEVER, EVEN IF DAMAGES ARE CAUSED BY THE NEGLIGENCE OR FAULT OF BLIZZARD CORPORATION.

State Laws: Some states do not allow exclusion of incidental or consequential damages or the limitations on how long an implied warranty lasts, so these limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

This warranty does not apply if you purchased your snowplow for other than personal, family, or household use. If purchased for other than personal, family or household use, refer to the Blizzard Snowplow Commercial Warranty.



95 AIRPARK BOULEVARD ■ CALUMET, MICHIGAN 49913 ■ [906] 482-5555



BLIZZARD[®]
SNOWPLOWS

COMMERCIAL WARRANTY

This warranty covers defects in material and workmanship except as set forth below.

WARRANTED PARTY:

This warranty applies only to the "Original Purchaser" who purchased this plow from an Authorized Blizzard Dealer, for commercial use.

TERM OF WARRANTY:

This Blizzard snowplow is warranted for the following period:
Parts and labor are warranted for one year from date of purchase.

BLIZZARD CORPORATION'S WARRANTY REMEDY:

Blizzard Corporation will, at its sole discretion, repair or replace defective parts at no charge.

CUSTOMERS RESPONSIBILITY:

To obtain warranty service, the purchaser must return the defective snowplow to any Authorized Blizzard Dealer within the warranty period. The purchaser must verify the original purchase date. Transportation costs to and from the Dealer will be the responsibility of the purchaser.

ITEMS NOT COVERED UNDER THIS WARRANTY:

1. Expendable parts such as cutting edges, plow shoes, hoses, fasteners, blade guides, paint finish, etc.
2. Any snowplow or part thereof which has been repaired or altered by anyone other than an Authorized Blizzard Dealer.
3. Any snowplow or part thereof which has been subject to neglect, misuse, accident, improper installation, maintenance, or storage. This includes, but is not limited to, corrosion of any electrical components.
4. Snowplows mounted on vehicles other than those for whom Blizzard Corporation has provided a specific mount system.
5. Blizzard Corporation does not assume liability for damage to the purchaser's vehicle resulting from the attachment and use of a Blizzard snowplow. Vehicle risk is the sole responsibility of the purchaser.

LIMITS OF BLIZZARD CORPORATION'S LIABILITIES:

BLIZZARD CORPORATION'S LIABILITY IS EXPRESSLY LIMITED TO REPAIR OR REPLACEMENT OF DEFECTIVE PARTS. BLIZZARD CORPORATION SHALL NOT BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL OR CONTINGENT DAMAGES WHATSOEVER, EVEN IF DAMAGES ARE CAUSED BY THE NEGLIGENCE OR FAULT OF BLIZZARD CORPORATION.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESSED AND IMPLIED WARRANTIES INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

This warranty does not apply if you purchased your snowplow for personal, family, or household use.
In this case, refer to the Blizzard Snowplow Limited Consumer Warranty.



95 AIRPARK BOULEVARD ■ CALUMET, MICHIGAN 49913 ■ [906] 482-5555

680LT & 720LT STRAIGHT BLADES



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[906] 482-5445 Fax
www.blizzardplows.com

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