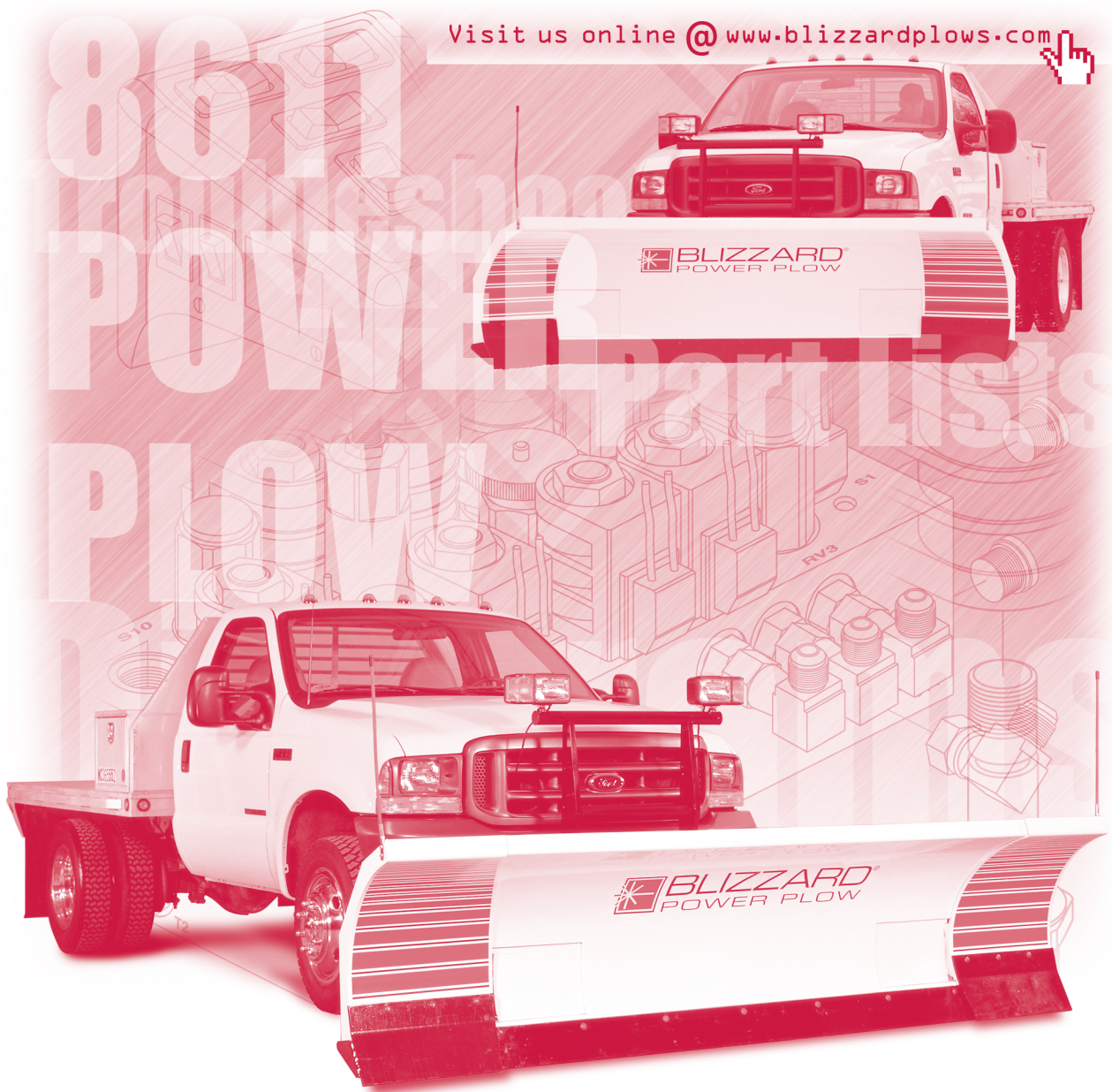




2002

Visit us online @ www.blizzardplows.com 



ASSEMBLY & OPERATION MANUAL

Blizzard Power Flow Snowplow
Model 8611

Introduction

Congratulations on purchasing the most advanced snowplow available! The Blizzard Power Plow™ snowplow is 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!

Your Blizzard Power Plow™ snowplow is equipped with versatile features designed for years of dependable service. The hydraulic draw latch mounting system positively aligns the plow for fast installation or removal. 23" expanding wings automatically transform a compact 8'-6" blade into a massive 11'-3" machine. Also, the independent wings can pivot forward to form our 9'-10" BucketBlade™ position. Now you can carry more snow even further. Safety features include full moldboard trip action, enclosed hydraulics and automatic cylinder pressure relief.

To ensure years of optimum snowplow performance, review the contents of this manual. It contains assembly information, detailed diagrams, complete parts listings, maintenance guidelines and troubleshooting tips.

Should you need additional information, contact your local Blizzard Power Plow™ Snowplow Dealer. Their knowledgeable staff is well informed on the latest Power Plow™ snowplow information. They are also your source for replacement parts, technical assistance and all service repairs.

Comments, suggestions or concerns?
Address all correspondence to:

Blizzard Corporation
Customer Service Department
95 Airpark Boulevard
Calumet, MI 49913

E-mail: info@blizzardplows.com

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SNOWPLOW ACCESSORIES

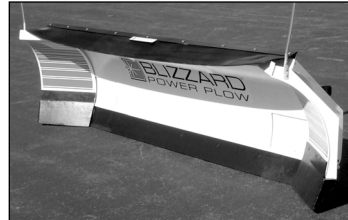
All of the accessories pictured below are currently offered for your snowplow. See your local Authorized Blizzard Dealer for pricing and availability. Visit our web site at www.blizzardplows.com to view new snowplow accessories and our latest Blizzard snowplow wearables.

See page 24 for additional Power Plow snowplow accessories.



**Model 810 Rocker Switch/
Joystick Control Station**
P/N 62109

Like the touch of our standard rocker switch control but want to control your Blizzard Power Plow snowplow with a joystick? Our optional control gives you the best of both with a 2-1/4" tall joystick and wing operation rocker switches. Easily install the control using our Seat Cinch™ system—a Velcro® strap that wraps around the bench or vehicle console.



Rubber Snow Deflector
P/N 52087

Plow safer and easier with our custom rubber snow deflector. This easy-to-install accessory keeps snow off of your windshield and in its place—on the ground! Rugged and durable, the 3/8" thick, 2-ply construction is made to last. The one piece rubber design allows for wing clearance and provides optimum snow deflection. The snow deflector is shipped with a "Blizzard Power Plow" vinyl graphic and complete mounting hardware.



Adjustable Pedestal Mount
(Model 810 Rocker Switch
or Joystick Controls)
P/N 63078 (12" Shaft)

Easy-to-install and flexible, our adjustable pedestal mount will position your Power Plow snowplow control station how you want it! Available in a 12" extension, this quality built accessory will install on either Blizzard Power Plow snowplow control station in minutes! Ideal for bucket seat vehicles with low center consoles. This pedestal mount accessory is shipped with complete mounting hardware.



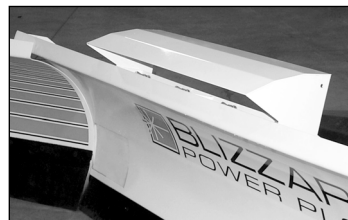
Blizzard Snowplows
Emergency Parts Kit
P/N 63075

Be prepared for unexpected plow emergencies! This kit includes the most common replacement parts conveniently packaged in a small, durable plastic case. Custom foam insert holds the following plow parts: Angle cylinder hose, lift cylinder hose, hitch pin w/hair pin cotter, angle cylinder bolt w/top lock nut, 90° angle cylinder fitting, solenoid, Power Hitch™ toggle switch, corrosion preventive compound (2 oz.) and 10A fuse. The compact case (13.5" x 9" x 3.3") allows for easy storage behind or under your truck seat.



Blizzard Snowplow Rapid
Action Hydraulic Oil
P/N 63070 (Quart)
P/N 63071 (12 Quarts/Case)
P/N 63072 (Gallon)
P/N 63069 (4 Gallons/Case)

Blizzard hydraulic oil is specially formulated for use in Blizzard snowplows. This zinc-free product can significantly enhance the operation and performance of the hydraulic system in the most inclement weather conditions. Blizzard Snowplow Rapid Action Hydraulic Oil maintains its viscosity to temperatures as low as -60°F. Blizzard hydraulic oil is available by the quart, gallon or case.



Blizzard Snowplow Airfoil
P/N 52092

Help channel air flow to your truck radiator during the long haul over the road. Mounted front and center, our custom airfoil redirects air over the top of the blade and into the grill of your vehicle. Don't get stuck on the side of the road! Keep trucking with this easy-to-install accessory. The airfoil is shipped with complete mounting hardware.

WARNING!



WARNING:

Prior to operating your Power Plow snowplow, 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 to the left.

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 the snowplow in such a manner as to not block your vision or plow lights while in transit.
7. Always travel with the wings fully retracted. Depending on local and state regulations, you may be exceeding the legal vehicle width when the wings are fully or partially extended.
8. Do not change the position of the snowplow while in transit.
9. Do not exceed 40 mph when transporting the snowplow.
10. Do not exceed 10 mph when plowing.
11. Always lower the snowplow when the vehicle is parked.
12. 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.

The Blizzard Power Plow snowplow is protected by U.S. Patents 5,899,007; 5,638,618 and 6,276,076 B1. Other patents pending.

Do not exceed the (GVWR) Gross Vehicle Weight Rating or (GAWR) Gross Axle Weight Rating including the snowplow and ballast. Refer to your vehicle Owner's Manual for the proper weight ratings.

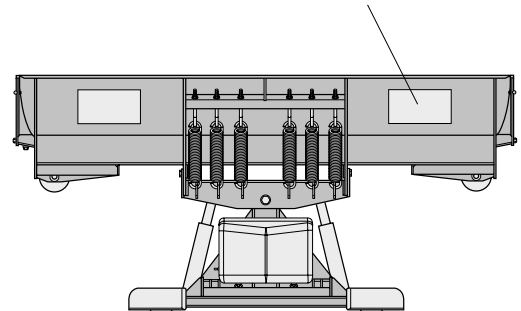
READ
OWNER'S
MANUAL
THOROUGHLY
PRIOR TO
OPERATING
PLOW.

 **BLIZZARD**[®]
CORPORATION

Calumet, MI 49913

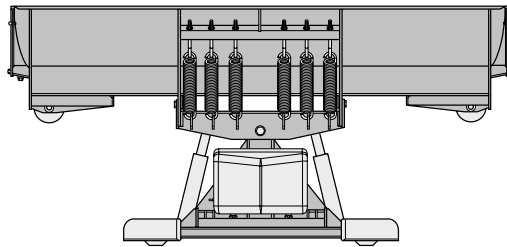
BLZ 1005

Should the WARNING! label or any of the labels that came with your snowplow become hard to read or wear off, contact your local Authorized Blizzard Dealer for replacements.

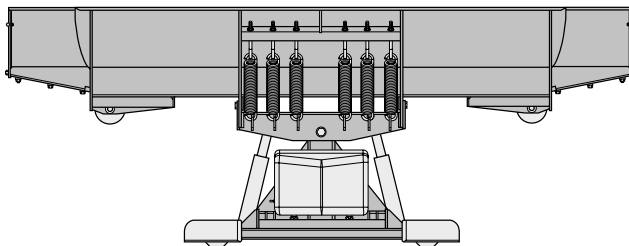


SNOWPLOW OPERATION

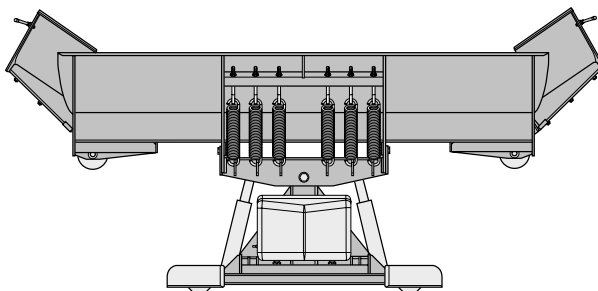
Your Blizzard Power Plow snowplow is the most advanced and versatile snowplow on the market. The easy to use controls allow you to automatically adjust the plow blade and wings into an infinite number of plowing positions. Review the illustrations below to determine the best position for your plowing needs.



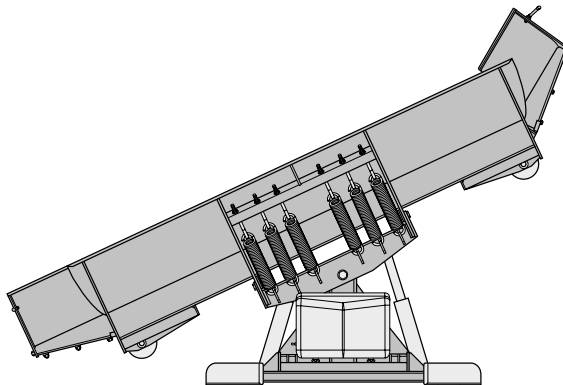
A.



B.



C.



D.

A. Compact Position (8'-6" Blade Width)

- Primary position when transporting the snowplow
- For use in heavy snow conditions with poor visibility, initial clearing and tight quarters
- *Ideal application: Residential driveways, small roads*

B. WidePass™ Position (11'-3" Blade Width)

- Primary position for clearing large surfaces
- For use in light snow conditions with good visibility, final clearing and clean-up
- *Ideal application: Large parking lots, widening roadways*

C. BucketBlade™ Position (9'-10" Blade Width)

- Primary position for transporting snow
- For use in initial clearing with decent visibility, transporting large volumes of snow, final clean-up
- *Ideal application: Roadway intersections*

D. WidePass™ Position Angled with Wing Forward

- Primary position for accelerated angled plowing
- For use in directional plowing, cornering, diverting snow away from objects or buildings
- *Ideal application: Plowing adjacent to buildings, driveway/road intersections*

**** IMPORTANT ****

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

ASSEMBLY INSTRUCTIONS

Unpacking & Inspection

Date of Purchase

Dealer/Distributor

Telephone Number

Snowplow Serial Number

Hydraulic Pump Serial Number

Your Blizzard Power Plow snowplow 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.

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 four digits of the number indicated is always the plow model – 8611 and the entire number sequence make up the serial number. The shipping document is also attached to the end panel. Be sure to retain this list for your records.

THIS SIDE UP ▲

SHIPPING INFORMATION AND PACKAGING CONTENTS

<div style="border: 1px solid black; padding: 2px; width: 40px; height: 40px; margin: 0 auto;">PACKAGING LIST ✉</div>	MAKE: <input type="checkbox"/> FORD <input type="checkbox"/> GMC/CHEVY <input type="checkbox"/> DODGE <input type="checkbox"/> OTHER _____
MODEL: <input type="checkbox"/> GAS <input type="checkbox"/> DIESEL _____	YEAR: _____
FLOW MODEL: _____	BLIZZARD CORPORATION <small>© 1999-2000</small>

U.S. PATENT NO. 5,638,610 U.S. PATENT NO. 5,899,007 OTHER PATENTS PENDING

BLIZZARDTM
POWER PLOW

MADE IN THE U.S.A.

POWER HITCHTM

▼ *FORKLIFT POINTS* ▼

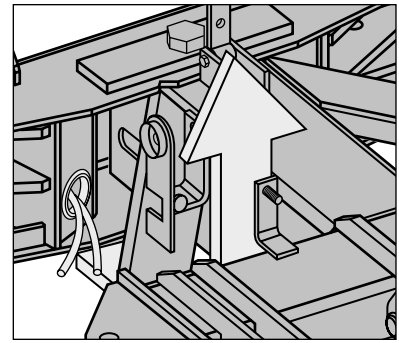
Moldboard & A-Frame Assembly

1. Begin the moldboard assembly by positioning the PIVOT BEAM and A-FRAME near the connecting points at the rear of the blade between the two center support ribs. Feed the right and left group of HYDRAULIC HOSES protruding from the SLIDE BOX through the 1-1/2" diameter rubber grommet openings in the front face of the pivot beam.
2. Position the pivot beam between the two support ribs until the connecting points on the beam align with those on the plow. Insert one 3/4"-10 x 3" (2" shank) hex head cap screw through each mounting hole and secure with a 3/4"-10 top lock nut. Tighten each nut until it is snug with the pivot beam.

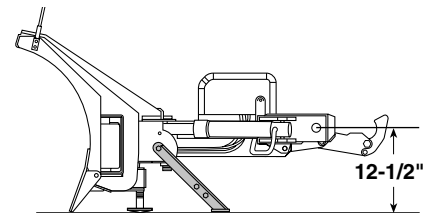


CAUTION: Do not over tighten hex head nuts! Binding may prohibit the pivot beam from moving properly on the plow.

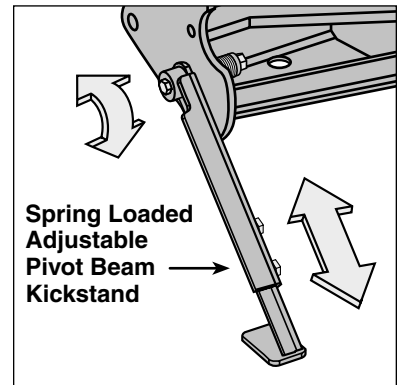
Note: To aid in the remaining installation, rotate the spring loaded kickstand clockwise until it locks into place. Adjust the foot on the stand arm so the height of the A-frame, at its mount points, is 12-1/2" to level ground (See the diagram to the right). Tighten both of the 1/2"-13 top lock nuts on the kickstand.



Feed each group of hoses (two per side) through the 1-1/2" diameter holes in the pivot beam and up through the A-frame openings. Positioning the hoses through the pivot beam supports the hoses while the snowplow is in use and prevents them from dragging on the ground.

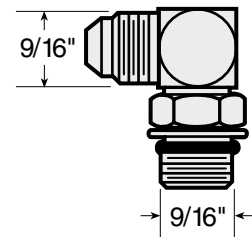


3. Position each ANGLE CYLINDER with the rod end of the cylinder in the pivot beam and the hydraulic hose port facing away from the A-frame. Secure the cylinder to the pivot beam with a 3/4"-10 x 5-1/2" hex head cap screw and one 3/4"-10 top lock nut. Extend each cylinder rod until the cylinder base mounting hole aligns with the hole on the A-frame angle cylinder bracket. At this point, insert a 3/4"-10 x 5" hex cap screw and secure it with one 3/4"-10 top lock nut. Repeat the same installation for the opposite angle cylinder.
4. Remove each dust cap from both of the hydraulic angle cylinder ports and attach one 9/16"-18 x 9/16"-18 90° ADJUSTABLE ELBOW O.R.B. ADAPTER to each port. *Note: All of the hydraulic adapters can be found packaged with the manifold assembly. Reference the table on page 20 for proper torque specifications.* Each adapter should be angled toward the top of the moldboard. Connect one 3/8" x 26" hydraulic hose, labeled with a part number (P/N 60223), to both the driver's side and passenger's side angle cylinder adapters. Be careful not to overtighten the hose connections. Route both hoses over the top of each angle cylinder.

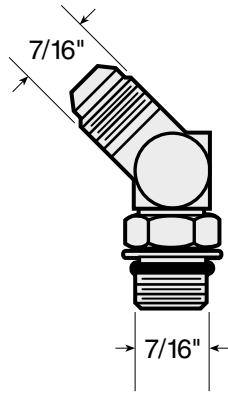


The kickstand is mounted to the side of the pivot beam with one 1/2"-13 x 4-1/2" hex cap screw and top lock nut. To pivot the kickstand, simply pull the spring loaded leg out and rotate it until the pin locks into place. The kickstand also has an adjustable foot that can be moved to accommodate varying vehicle heights. The proper height of your snowplow mounting points to level ground should be set at 12-1/2".

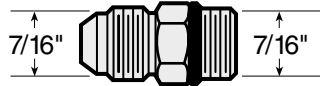
5. Next, remove both of the plastic dust caps from the HYDRAULIC LIFT CYLINDER ports. Attach one 7/16"-20 x 7/16"-20 45° ADJUSTABLE ELBOW O.R.B. ADAPTER to the driver's side port and one 7/16"-20 x 7/16"-20 MALE O.R.B. CONNECTOR ADAPTER to the passenger's side port. Once the adapters have been installed on the cylinder, connect the HYDRAULIC HOSES. *Note: Position the fittings in the cylinder port such that the hoses install directly in the center of the A-frame access holes. A hose installed too close to the edge of the opening may work itself free with the operation of the lift cylinder and/or movement of the plow.* The 45° adapter on the driver's side of the cylinder receives a 1/4" x 17" hose identified by part number (P/N 60092). Connect the 45° angle on the hose to the hydraulic adapter on the cylinder. The male connector adapter on the passenger's side



90° Adjustable Elbow O.R.B. Adapter



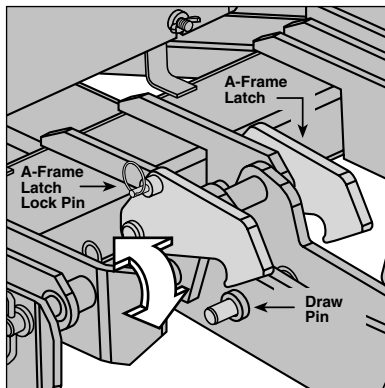
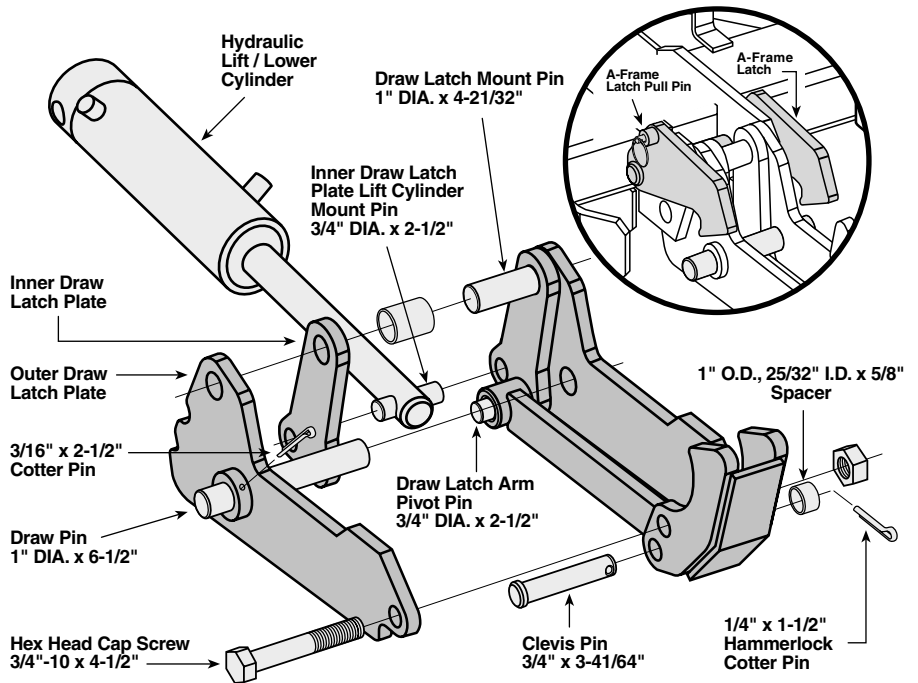
45° Adjustable Elbow O.R.B. Adapter



Male O.R.B. Connector Adapter

Draw Latch Assembly

The draw latch consists of a series of interconnected plates and pins that attach to the A-frame and the hydraulic lift cylinder.



To mount the Power Plow snowplow, the A-frame latch should be lowered over the draw pin—this allows the draw latch to pull the plow into the undercarriage. Once the plow is safely attached to the undercarriage, rotate the A-frame latch counterclockwise until the lock pin snaps into place. The A-frame latch is only used to mount the plow. **Do not allow the lock pin to set behind the pin catch hole in the raised position. The A-frame latch should always be locked in place when not in use.**

of the cylinder receives a 1/4" x 15" hose identified by part number (P/N 60093). Tighten the 45° end of the hose to the hydraulic adapter on the cylinder. Both hoses should be routed through the triangular openings in the A-frame.

- Begin the draw latch installation by first removing the DRAW LATCH MOUNT PIN & SPACER from the assembly. By removing this pin, the INNER DRAW LATCH PLATES can swing free. Proceed to remove the INNER DRAW LATCH PLATE LIFT CYLINDER 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 and spacer. Reset the A-frame latch so the A-frame latch pull pin locks into place.

Once you have completed the draw latch installation, we will shift our attention to assembly of the manifold. The manifold, pump and coil harness have been joined together 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 8 HOSE PORTS on the HYDRAULIC MANIFOLD are covered with stretch wrap. Remove the wrap and install the appropriate fitting (illustrated below) in its respective port.

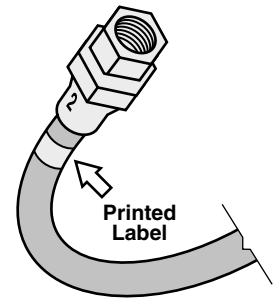
Note: All ports are identified by a stamped number on the manifold. The numbers also identify the hydraulic functions, which can be referenced on the label under the hydraulic pump and manifold cover (see illustration on page 8).

Note: The gray arrows shown on the manifold illustration below indicate the direction the 90° adapters should face to receive the hydraulic hoses.

- Next, align the mount holes in the pump with the holes in the hinged bracket, located on the A-frame. *Note: To help facilitate the pump mount, first angle the hinged bracket as needed and tighten the bracket hardware, locking it in place.*

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 the wire lead coils. Doing so can cause a solenoid cartridge to bend, causing the cartridge to stick when activated.

Secure one 3/8"-16 x 3/4" hex head cap screw and 3/8" flat washer through the top mount hole in the bracket and into the pump. Insert one 3/8"-16 x 1-3/4" threaded stud and 3/8"-16 jam nylon insert lock nut through the bottom mount hole in the bracket and into the pump.



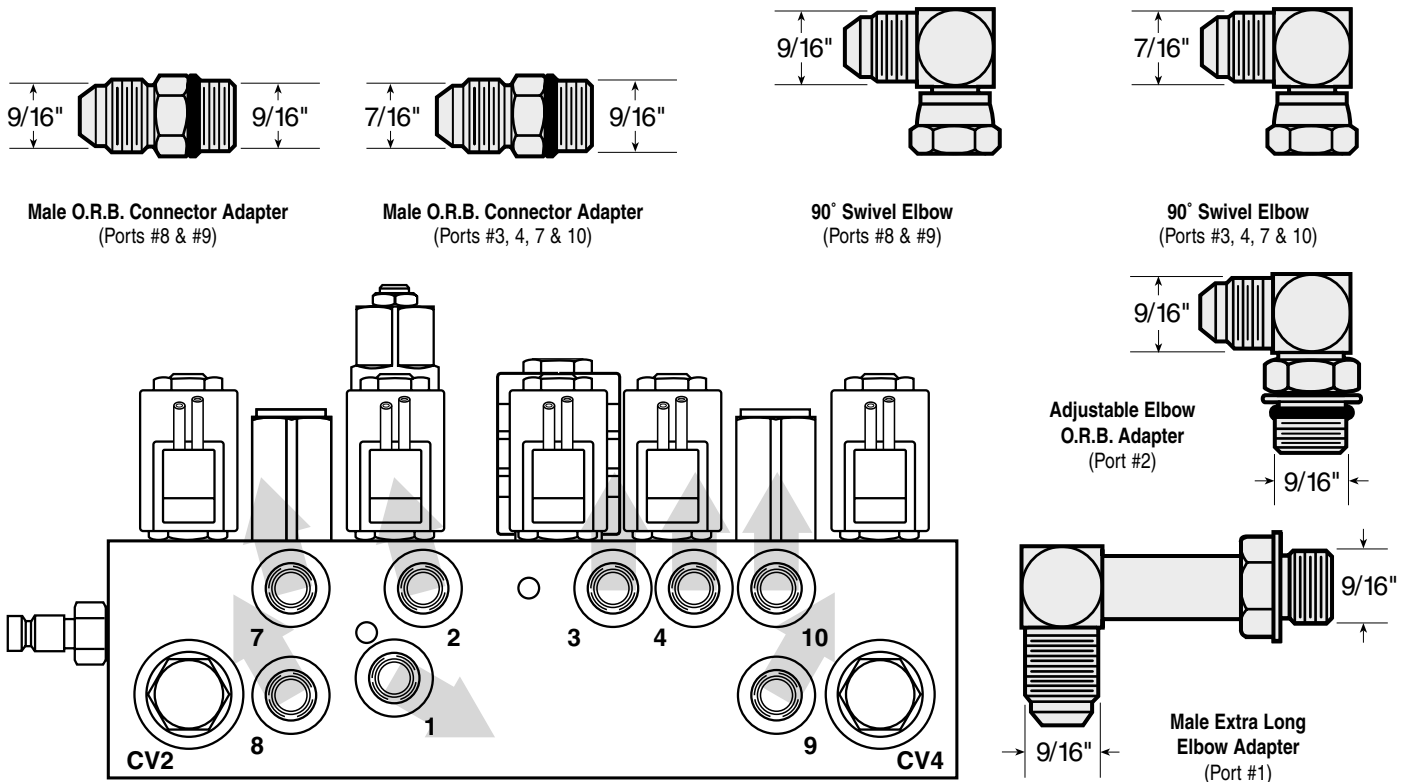
All of the hoses shipped with the 8611 snowplows contain a printed label (with a part number) applied to the hose. Install the following hoses to their respective ports on the manifold:

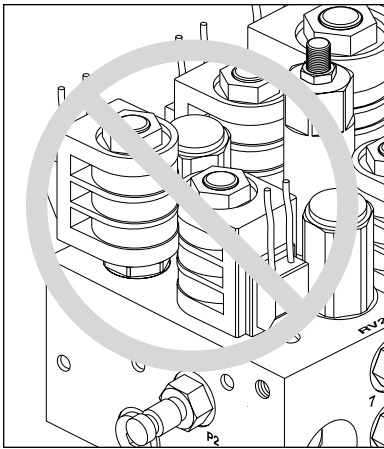
Hose P/N 60019	Ports #7 & #10*
Hose P/N 60092	Port #3
Hose P/N 60093	Port #4
Hose P/N 60223	Ports #1 & #2
Hose P/N 60224	Ports #8 & #9*

*See diagram on page 8.

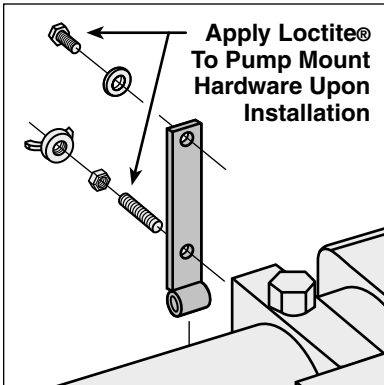
Installing The Manifold Adapters

There are a total of 18 hydraulic adapters to install. All of the adapters can be found packaged with the manifold assembly. Remove the protective stretch wrap from the manifold in a clean area. **DO NOT** let any foreign objects enter into the open ports. The valves can become contaminated and greatly hinder the plow's performance. Review the table on page 20 for proper torque specifications.

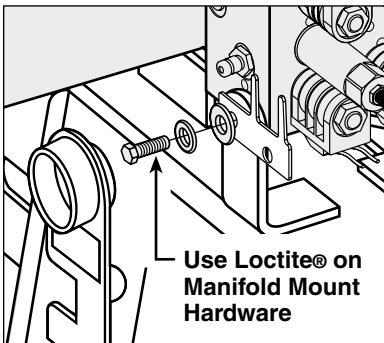




When installing the manifold between the mount brackets on the A-frame, **DO NOT** handle the manifold by the wire lead coils. The solenoid cartridges can bend, causing them to stick when activated. Always carry the manifold by the sides of the aluminum block.



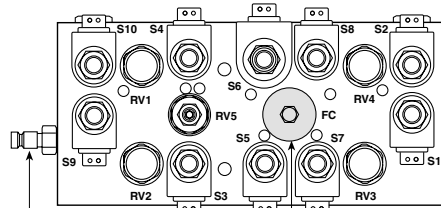
Apply Loctite® To Pump Mount Hardware Upon Installation



Use Loctite® on Manifold Mount Hardware

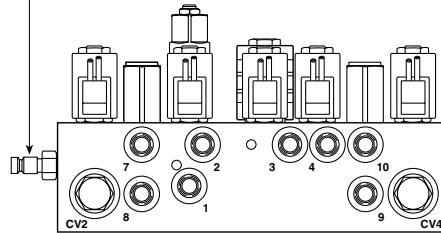
A medium strength threadlocker, such as Loctite® 242®, should be used to properly secure the mount hardware for the pump and manifold. This will help prevent the hardware from working free from vibration and plow use. Apply a liberal amount of threadlocker to both threaded fasteners and the threads in the pump (top diagram). The manifold receives two 3/8"-16 x 1" hex cap screws—one on each side of the A-frame. Likewise, use threadlocker on these fasteners and the tapped holes in the manifold (bottom diagram).

Sequence Valve & Hydraulic Hose Identification Guide



Pressure Gauge Quick Connect Clockwise - Decreases Plow Drop Speed
Counterclockwise - Increases Plow Drop Speed

NOTE: Check valves CV1 & CV3 are not illustrated. Both valves are located on the opposite side of the manifold in the diagram shown below.



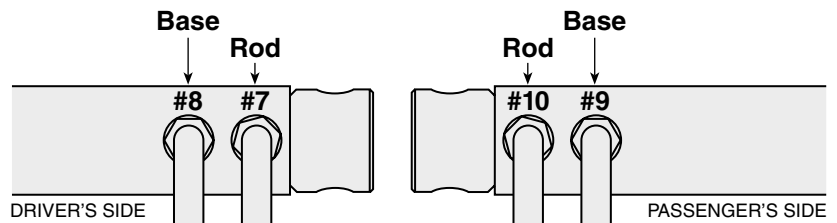
HYDRAULIC HOSES	
Port	Function
1	Right Angle - Left Cylinder
2	Left Angle - Right Cylinder
3	Raise - Lift Cylinder (Base)
4	Lower - Lift Cylinder (Rod)
7	Left Slide Box Retract
8	Left Slide Box Extend
9	Right Slide Box Extend
10	Right Slide Box Retract
RELIEF & CHECK VALVES	
Valve	Function
RV1	Left Wing Pressure Relief
RV2	Left Wing Anti-Cavitation
RV3	Right Wing Anti-Cavitation
RV4	Right Wing Pressure Relief
RV5	Angle Relief
CV1	Left Wing Check Valve
CV2	Left Slide Box Check Valve
CV3	Right Wing Check Valve
CV4	Right Slide Box Check Valve
VARIABLE FLOW CONTROL VALVE	
FC	Adjustable Plow Drop Speed
NOTE: Energize the following solenoids for the functions:	
S1	Right Slide Box Retract
S2	Right Slide Box Extend
S3	Angle Left - Right Cylinder
S4	Angle Right - Left Cylinder
S5 & S7	Float
S6 & S7	Raise
S5 & S8	Lower
S9	Left Slide Box Retract
S10	Left Slide Box Extend

BLIZZARD® CORPORATION

Calumet, Michigan 49913 BLZ 1044

The threaded stud should bottom out in the pump. *Note: A medium strength threadlocker, such as Loctite® 242® should be used on both of the pump mount fasteners. This will help prevent the fasteners from working free.*

- Once the pump and manifold assembly is in place, connect the hydraulic hoses to their respective adapters on the manifold. Review the label under the pump cover to identify which hoses connect to each port. *Note: All hoses, except #1 & #2 (angle cylinders) should be routed through the triangular openings in the A-frame. Position these hoses over the A-frame angle and to their respective manifold ports.*

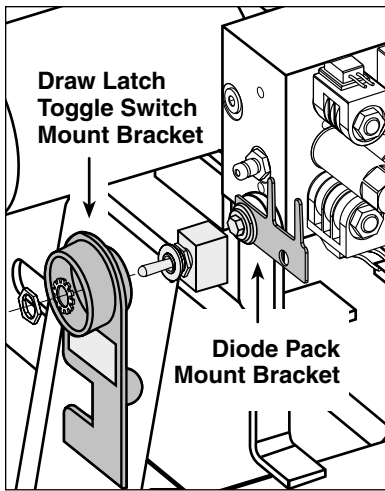


Note the positions for the rod- and base-end hoses. The hoses that operate the retract functions (rod) of the cylinders are closest to the base of each cylinder. Likewise, the hoses that operate the extend functions (base) of the cylinders are closest to the rod of each cylinder. Review the hose installation list on page 7.

10. Next, secure the manifold to the A-frame. Remove both 3/8" flat washers, 3/8" split lock washers and 3/8"-16 x 1" hex head cap screws from the manifold and align the mount holes with the A-frame brackets. Position the DIODE PACK MOUNT BRACKET against the outside of the A-frame bracket on the driver's side. *Note: Both of the prongs should be facing up.* Align the outside hole on the diode bracket with the holes on the A-frame and manifold. Properly replace and tighten all hardware. *Note: A medium strength threadlocker, such as Loctite® 242® should be used to secure the manifold mount fasteners.*
11. Hook each EXTENSION SPRING to the receiving holes located on the pivot beam and connect the opposite end of the spring to their respective SPADE BOLTS. Install the 5/8"-11 x 6-11/16" spade bolts through the EXTENSION SPRING MOUNTING ANGLE on the top rear of the blade. Secure each spade bolt by placing one 5/8" flat washer on the bolt and thread one 5/8"-11 nylon insert lock nut. Tighten each lock nut until a piece of paper can pass between the 3th and 4th coils on the spring.
12. Install the flexible BLADE GUIDES at each end of the moldboard. Insert the 5/16"-18 x 1" hex head cap screw through the holes at the top of the wing reinforcement rib. Tighten all screws using the nylon insert lock nuts provided.

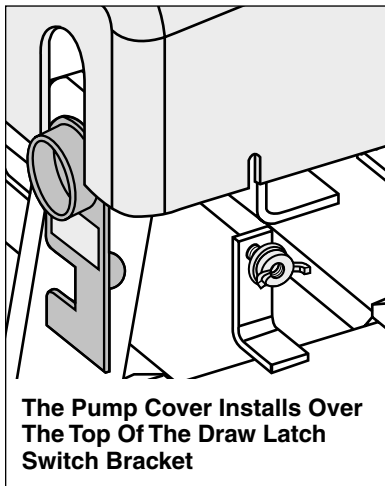
Congratulations! You have successfully completed half of the installation. Don't quit now, you're nearly out of the garage!

Electrical Assembly - Plow Harness



The diode pack (on the plow harness) clips onto the diode pack mount bracket. Place a cable tie through the hole at the end of the bracket and over the pack to secure it in place.

The draw latch toggle switch installs through the rear of the bracket with the protective hood. Align the key washer with the slot cut in the bracket to prevent the switch from turning. Secure the switch with the hardware provided. Note: Use the square notch in the bracket (below the protective hood) to position the braided harness. Use another cable tie to hold the harness against the bracket.



To properly secure the pump and manifold cover on the A-frame, position the cover over the top of the protective hood on the draw latch switch mount bracket. Align the slots in the cover with the welded bolts on the A-frame brackets—secure the cover using three flanged wing nuts.

1. Begin the electrical assembly by connecting the RED POWER WIRE from the PLOW ELECTRICAL HARNESS to the PUMP motor terminal stud using the hardware provided on the pump.
2. Place one 3/8" INTERNAL/EXTERNAL TOOTH LOCK WASHER, the BLACK GROUND WIRE (from the harness) and the RED GROUND WIRE on the COIL WIRE HARNESS (from the manifold) over the tapped hole on the pump and secure the ground using one 3/8"-16 x 3/4" hex head cap screw.
3. Remove the hex jam nut and external tooth lock 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 notch in the key washer on the switch to the notch on the bracket. Replace the lock washer and jam nut and tighten until the switch is firmly in place. Next, attach the connector on the plow harness to the switch. *Note: Use caution when making the connection. Switches can break if done forcefully.*
4. Continue the harness installation by connecting the PLASTIC FEMALE ELECTRICAL CONNECTOR on the harness to the PLASTIC MALE ELECTRICAL CONNECTOR found on the coil wire harness.
5. Finalize the harness installation by sliding the DIODE PACK over the diode pack mount bracket located behind the connect/disconnect toggle switch. Position the wire harness braid in the notch on the switch bracket and secure it with a cable tie. The diode pack mount bracket contains an extra hole for a cable tie. Use it to secure the diode pack.
6. To install the PUMP & MANIFOLD COVER, align the notches in the cover with the welded bolts on the A-frame brackets. Secure the cover with two 3/8" FLANGED WING NUTS. Verify the cover is positioned over the protective toggle switch hood. Pop the front of the cover on the threaded stud and secure it with the remaining wing nut.

Congratulations! You have just completed building the finest snowplow available! However, the vehicle wire harness still needs to be installed. That is the focus of the second half of the electrical assembly instruction.

Electrical Assembly - Vehicle Harness



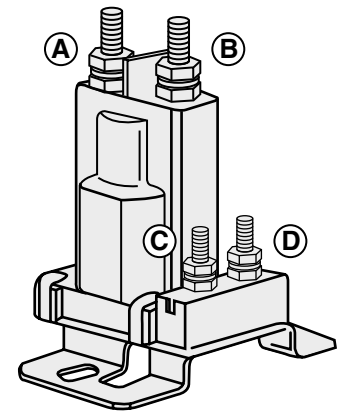
CAUTION: Always perform the vehicle wire harness assembly with the vehicle off and the keys out of the ignition. Use caution when testing the electrical wires for the vehicle's headlight functions.

1. Begin the installation of the electrical harness under the hood. Insert the WHITE POWER CONNECTOR & RED POWER WIRE (with FUSE) end of the harness through the driver's side fire wall access panel into the vehicle cab. *Note: You may need to widen an opening or cut access to the cab interior to facilitate the assembly.* Loosely position the remaining portion of the harness over the driver's side fender well and place the MOLDED RUBBER POWER CONNECTOR near the bumper.
2. Next, attach the POWER CONTACTOR (SOLENOID) to the driver's side wheel well or engine fan guard using two 12-14 x 3/4" hex washer self-drilling screws. *Note: Some model vehicles provide mounting locations for accessory components.* Connect the 24" BLACK GROUND WIRE to either small terminal on the solenoid and attach the opposite end to the vehicle with one hex washer self-drilling screw. Locate the BROWN/WHITE PUMP SOLENOID ACTIVATION WIRE on the wire harness and position the eyelet over the remaining small terminal on the contactor. Secure it with the hardware provided on the solenoid.
3. Proceed to connect the BLACK VEHICLE WIRE HARNESS GROUND WIRE to the negative terminal on the vehicle's battery. Cut the wire to length and crimp a 3/8" DIA. END 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 RED 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 wire 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.

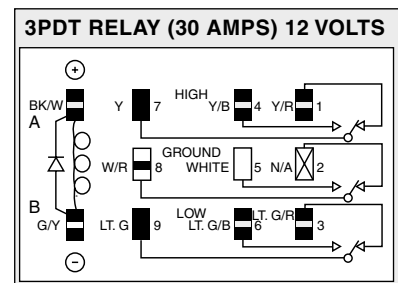
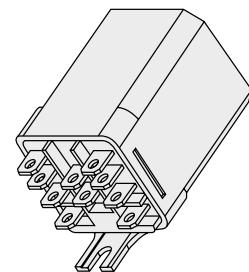
4. Attach and solder an end ring terminal to both ends of the remaining length of the red 4 gauge wire. Connect one end of the wire to the open terminal on the solenoid and the remaining end to the positive terminal on the battery.
5. With the vehicle harness secured to the truck, position the MAIN LIGHTING HARNESS such that both of the large, gray VEHICLE HEADLIGHT CONNECTORS are near the truck headlights and the smaller, black PLOW HEADLIGHT CONNECTORS are near the grill of the vehicle.
6. Plug the 9 TERMINALS, from the main lighting harness, into the HEADLIGHT RELAY. See the illustration to the right. Connect the GREEN & YELLOW wire, from the vehicle harness with the molded power plug, to the remaining spade on the relay. Securely mount the relay to the vehicle with the terminals facing down. Installing the relay in this position will allow moisture to drain from the relay.



Heavy-Duty Power Contactor (Solenoid)

There are four wires that need to be attached to the power contactor:

- (A) Red Power Battery Wire
- (B) Vehicle Wire Harness Red Power Wire
- (C) 24" Black Ground Wire
- (D) Brown/White Pump Solenoid Activation Wire



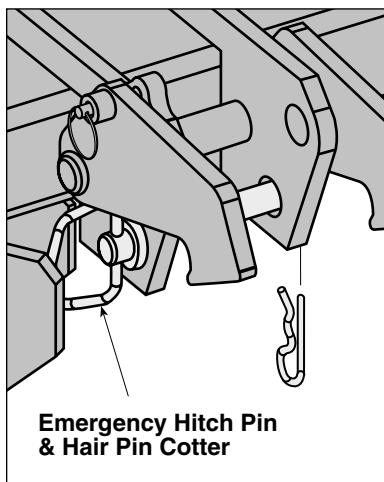
Connect the color coded wires from the vehicle harness to the headlight relay shown above. The wires correspond to the numbers/letters on the relay or the color abbreviations on the illustration.

- (A) BK/W = Black/White Wire
- (B) G/Y = Green/Yellow Wire
- (1) Y/R = Yellow/Red Wire
- (2) N/A = Not Applicable
- (3) LT.G/R = Light Green/Red Wire
- (4) Y/B = Yellow/Black
- (5) W = White
- (6) LT.G/B = Light Green/Black
- (7) Y = Yellow
- (8) W/R = White/Red Wire
- (9) LT.G = Light Green

Vehicle Headlight Adapter Kits

P/N	Vehicle Application
62010	1980 & Older, 1983-1993 Dodge 1995-1996 Chevrolet/GMC & Ford 2000-Current Toyota Tundra
62011	1987-1992 Ford, 1987-1996 Dodge Dakota*, 1991-Cur. Dodge (3/4 & 1 Ton) *Some models may require adapter 62012
62012	1993-Current Ford, 1997-Current Dodge Dakota, 1998-Current Dodge Durango, 2002-Current Dodge (1/2 Ton)
62013	1990-1999 GMC, 1991-1999 Chevrolet (Except '99 Chevrolet Silverado & '99 GMC Sierra)
62014	1999-Current Chevrolet Silverado & GMC Sierra (with Daytime Running Lights) 2002-Current Chevrolet Avalanche
62015	1989 Chevrolet
62050	2000-2001 Dodge (1/2 Ton)
62051	1980 & Older Chevrolet/GMC & Dodge

Note: Additional vehicles are continually being added to accommodate Blizzard snowplow models. Contact your local Blizzard Dealer for specific vehicle application information.



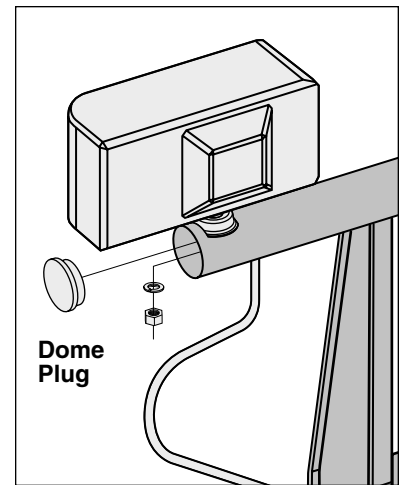
In the event you should lose hydraulic power while snowplowing, raise the snowplow into a pile of snow and insert the emergency hitch pin. The pin will lock the plow in a temporary raised position until proper service can be performed to restore hydraulic power. Note: For clarity, the draw latch is not shown in this illustration.

- Next, remove the front directional light assembly on the driver's side of the vehicle. Feed the VIOLET, turn light wire and GRAY, run light wire from the main lighting harness through the opening in the directional light housing. At this point, use a test light or ohm meter to determine the proper wires in the vehicle's electrical system to splice into. Once you have identified the proper wires, position one end of the turn or run light wire into a SPLICE LOCK CONNECTOR provided. Attach the vehicle wire to the opposite side of the splice lock connector. Complete the splice by pinching both wires together and locking the connector. Repeat the splice procedure for the remaining wire. The passenger's side directional light assembly requires the same installation; however, only one wire, the PINK, turn light, needs to be spliced.
- Connect the vehicle headlights to the main lighting harness using a HEADLIGHT ADAPTER KIT. Due to differences in the construction of the adapter kits, and the various make and model vehicles Blizzard snowplows are installed on (see list to the left), a headlight adapter kit is not packaged with your snowplow. Contact your local Blizzard Dealer to obtain the appropriate adapter for your vehicle.
- Begin the adapter kit installation by removing the existing vehicle headlight connector from the headlight. Attach the HEADLIGHT ADAPTER CONNECTOR to the existing vehicle headlight connector. Next, plug the BLACK, FIVE-PIN CONNECTOR on the headlight adapter into the gray, five-pin connector on the vehicle wire harness. Lastly, plug the HEADLIGHT ADAPTER CONNECTOR into the vehicle headlight receptacle. *Note: If more than one plug is present, match the colors of each connector (ie gray to gray, black to black, Chevrolet daylight running is clear to gray).* Repeat the installation for the opposite headlight.
- Once the headlight adapter connections are completed, proceed to 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 power plug to the vehicle bumper or tow hook to keep the harness from hanging too low.
- Return to the driver's side cab interior to install the remainder of the vehicle wire harness. Connect the RED POWER WIRE (with 10 AMP FUSE) to a switched power source with a minimum of 10 amps. *Note: The red power wire MUST be fused and switched on and off with ignition.* Secure all loose wires under the dash.
- Next, install the LIGHT TOWER. Position the tower arms into the receiving pockets located on the undercarriage push beam. Align the mounting holes in the light tower with those on the push beam and insert two 1/2"-13 x 1-1/4" hex head cap screws. Secure the screws with 1/2" washers and top lock nuts. See your local Blizzard Dealer for complete installation instructions for your vehicle undercarriage.

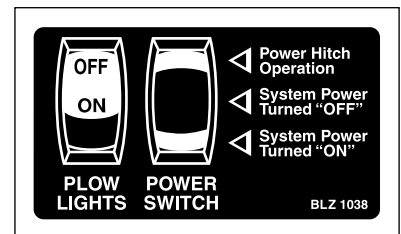
13. Proceed to install the PLOW HEADLIGHTS. Align one HEADLIGHT BALL STUD MOUNT ADAPTER on the light tower tube with the mounting hole and insert the threaded stud through each. Secure the headlight with one 1/2" split lock washer and hex nut. *Note: All snowplows are shipped with two BLACK DOME PLUGS that install at either end of the light tower. For secure placement, apply a bead of silicone around the perimeter of the plug prior to installation on the light tower.* Connect the terminals from the plow lights to the terminals on the main lighting harness. Repeat the installation for the opposite headlight.

14. Next, position the ROCKER SWITCH CONTROL STATION on the front radius of the seat. Wrap the VELCRO® STRAP around the bench, through the 2" metal D-ring and fasten. Finally, connect the white power connector from the vehicle wire harness to the connector on the control station. The power switch should be in the "MIDDLE" or "OFF" position. *Note: The operation of the draw latch can only be controlled when the power switch is located in the "UP" position. See the diagram to the right.*

This completes the electrical assembly installation for the vehicle wire harness and main lighting harness. You are now ready to perform all of the test functions on the snowplow.



Apply a thin bead of silicone around the inside perimeter of the polyethylene dome plugs prior to capping the light tower ends. The silicone will help retain the dome plug inside of the headlight mount tube.





Your Blizzard Power Plow snowplow will use approximately 4 to 4-1/2 quarts of Blizzard Rapid Action Hydraulic Oil. Note: The part number issued on the quart bottle label has been changed to P/N 63070. Blizzard hydraulic oil is also available by the quart case (P/N 63071), gallon (P/N 63072) or gallon case (P/N 63069). See your local Blizzard Dealer for price and availability.

Testing The Snowplow

1. Fill the HYDRAULIC PUMP FLUID RESERVOIR with BLIZZARD SNOWPLOW RAPID ACTION HYDRAULIC OIL (P/N 63070) until it is approximately 3/4" from the top of the tank. Replace the cap on the reservoir. Proceed to remove the weather caps from each of the plow and vehicle wire harnesses and connect the plugs. Start the vehicle and turn the POWER SWITCH on the control station in the cab to the "ON" position. You now have power to the snowplow. Once all of the hydraulic functions have been executed, the system will have been filled with approximately 4 to 4-1/2 quarts of hydraulic oil.
2. To raise the DRAW LATCH on the snowplow, turn the power switch on the control station to the "UP" or "ON" position. 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 draw latch will lower. Refill the reservoir until the fluid is 3/4" from the top of the tank.
3. Position the vehicle such that the draw latch is below the push beam and the mounting points on the A-frame are in line with the mounting points 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 (See diagram on page 16). Move the snowplow in position by activating the draw latch connect switch and release.



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

The draw latch will raise until it hits the push beam and the DRAW LATCH FINGERS will pull the plow into the vehicle. The mounting points 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. The snowplow is now securely mounted to the vehicle.

4. Return to the interior of the vehicle. With the plow securely in place, you can now execute the remaining functions of the snowplow. The system power on the control station should be in the "ON" position. Next, raise the plow to its maximum height by pushing and holding the "RAISE" rocker switch on the control station. Initiate the driver's side wing by pushing and holding the "LEFT WING EXTEND" rocker switch until the wing pivots forward. Notice the staggered pace the wing extends. The hydraulic fluid is filling the hose and replacing the air in the system.

Push and hold the “LEFT WING RETRACT” rocker switch to return the wing. Continue testing the remaining rocker switch functions. 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.

5. Lastly, 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.

Congratulations on a successful assembly and installation! Once all of the blade and electrical functions have been tested your Blizzard Power Plow snowplow is ready for action. Should you need additional support during a plow assembly or undercarriage installation, contact your local authorized Blizzard Dealer.



MOUNTING & DISMOUNTING INSTRUCTIONS

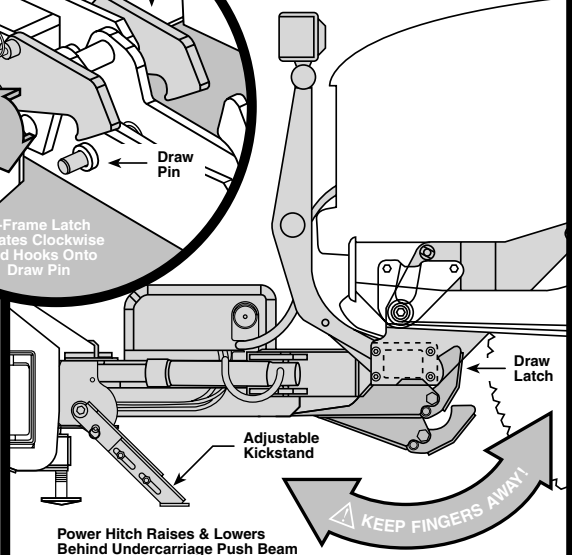
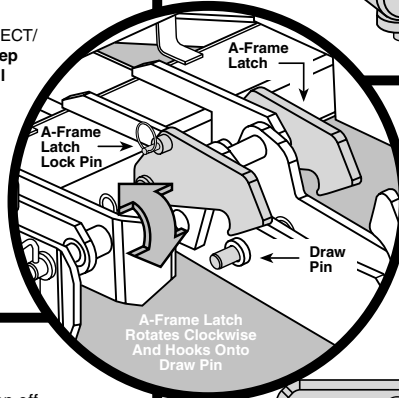
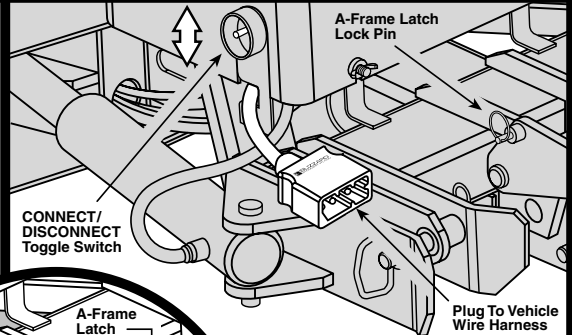
Prior to operating your Power Plow snowplow review the Mounting & Dismounting Instructions label at the driver's side rear of the moldboard.



MOUNTING & DISMOUNTING INSTRUCTIONS

MOUNTING

1. Position vehicle close to the plow and align mounting points on the undercarriage and A-frame. Verify that the plow kickstand is in the lowered position. Turn vehicle ignition off.
2. Turn power supply switch on the main plow control unit in the vehicle to the "OFF" position.
3. Remove protective weather caps and make electrical connection at the plow and vehicle.
4. Turn the vehicle ignition, and the power supply switch on the control unit, to the "ON" position. Pull the A-frame latch lock pin outward and verify that the A-frame latch lowers over the draw pin.
5. Activate the Power Hitch on the A-frame by pushing and holding the "CONNECT/ DISCONNECT" switch (on the pump cover housing) upward. **CAUTION: Keep fingers away from plow and truck mounting points. Power Hitch will automatically pull the plow into the receiving points on the truck when activated.** Insert both hitch pins through the positively aligned holes on the plow and undercarriage and secure each with a hair pin cotter.
6. With the plow securely mounted, slightly lower the Power Hitch to relieve tension on the A-frame latch, pull the latch lock pin and raise the A-frame latch until it locks into position. Raise the Power Hitch and verify that the draw latch is fully engaged behind the push beam on the vehicle. Rotate the kickstand counterclockwise until it locks into place. The plow is now properly mounted and ready to operate.

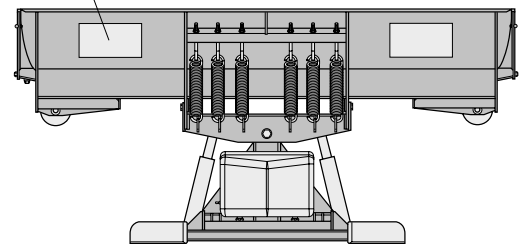


BLZ 1023

DISMOUNTING


1. Lower the plow on a flat, level surface to dismount. Turn vehicle ignition off.
2. Pull the kickstand lock pin outward and rotate the kickstand clockwise. Release the pin to lock kickstand in place. Remove both hitch pins from the A-frame and undercarriage.
3. Turn the vehicle ignition and the power supply switch on the control unit to the "ON" position. Activate the Power Hitch by pushing and holding the "CONNECT/DISCONNECT" switch downward. **CAUTION: Keep fingers away from plow and truck mounting points.** Verify that the draw latch is fully disengaged from behind the push beam on the vehicle.
4. Turn power supply switch on the main plow control unit in the vehicle to the "OFF" position.
5. Disconnect electrical cords at the plow and vehicle. Replace protective weather caps.

Should the Mounting & Dismounting Instructions label or any of the labels that came with your snowplow become hard to read or wear off, contact your local Authorized Blizzard Dealer for replacements.



REGULAR MAINTENANCE

Your Blizzard Power Plow snowplow has been designed for years of rugged, dependable service with low maintenance. To ensure proper working condition, follow the maintenance guidelines below and on the next page.

 **CAUTION: Always follow the maintenance guidelines in a timely fashion. Failure to observe maintenance guidelines may result in poor snowplow operation, increased component wear or possibly lead to part failure.**

Routinely inspect the following items – perform maintenance as needed:

1. All fasteners, pins, nuts and bolts for tightness. See the recommended maximum bolt torque chart on page 20.
2. All hydraulic hoses and hydraulic hose adapters for wear and leaks. See the recommended hydraulic adapter torque values on page 20.
3. All cylinders for leaks; inspect rod ends for corrosion and pitting.
4. Cutting edges and plow shoes for wear. Do not discard plow shoe washers. These should be retained for different shoe adjustments.
5. Clean and lubricate all electrical plugs, headlight connections, ground and battery cables, solenoid connections and switch connections to prevent corrosion. Apply dielectric grease for every 25 hours of snowplow use. You may need to grease more frequently depending on your plowing environment.
6. Lubricate all pins and bushings to prevent corrosion and to maintain consistent operation, including the A-frame latch. The inner slide boxes should also be lubricated to provide free travel. A NLGI Grade 2 multi-purpose lithium complex grease with molybdenum (MPGM) is recommended for lubrication.
7. Clean and cover deep scratches or exposed metal with Blizzard Snowplow white (P/N 61219) or black (P/N 63073) touch-up paint. Contact your local Blizzard Dealer for availability.
8. Check the hydraulic oil level in the hydraulic pump fluid reservoir. Fill the fluid to within 3/4" from the top of the reservoir. Do not exceed this level. Never mix different types of fluids. Contact your local dealer for replacement Blizzard Snowplow Rapid Action Hydraulic Oil (P/N 63070).
9. 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.
10. Each wing uses one extension spring to help return it from the forward or scoop position. Adjust the tension on the installed spring as needed or install an optional second extension spring for increased return speed.
11. To adjust the snowplow drop speed, use the variable flow control valve (FC) on the manifold (see label under pump & manifold cover). Turn the dial on the valve clockwise to decrease the drop speed. Turn the dial counterclockwise to increase the drop speed. See the Troubleshooting Guide on page 38 & 39 for additional instructions.
12. Do not allow snow and ice to build-up on the pump and manifold cover. Excessive build-up may cause bumper damage when the plow is raised.

Maintenance Schedule	
Maintenance Performed	Date

Annual Fluid Replacement	
Type & Quantity of Fluid Replaced	Date

STORING YOUR SNOWPLOW

Placing Your Plow In Storage

1. Position your plow on a flat, level surface for storage. Follow the dismounting procedure illustrated on page 16.
2. Pressure wash and dry the entire snowplow prior to placing in storage.
3. Apply a liberal amount of dielectric grease to all electrical plugs and connections. Clean and install all dust caps.
4. Lubricate all exposed hydraulic cylinder rod ends with liquid white lithium grease to prevent corrosion.
5. Lubricate all pins and bushings to prevent corrosion and to maintain consistent operation, including the A-frame latch and inner slide boxes. A NLGI Grade 2 multipurpose lithium complex grease with molybdenum (MPGM) is recommended for lubrication.
6. Clean and cover deep scratches or exposed metal with Blizzard Snowplow white (P/N 61219) or black (P/N 63073) touch-up paint. Contact your local Blizzard Dealer for availability.
7. 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. Contact your local dealer for replacement Blizzard Snowplow Rapid Action Hydraulic Oil (P/N 63070).
8. 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.

Removing Your Plow From Storage

1. Perform all regular maintenance indicated on the previous page.
2. If you have not replaced the hydraulic oil in the pump reservoir, it is strongly encouraged that you do so prior to operating your plow. Prolonged storage could result in condensation build-up.
3. Follow the mounting procedure illustrated on page 16.
4. Once the plow has been properly mounted to the vehicle and all electrical connections have been made, initiate all of the functions of the snowplow. Monitor the fluid level in the reservoir and fill to 3/4" from the top of the tank if needed.
5. Adjust the snowplow headlights as needed.

PLOW SPECIFICATIONS

Moldboard

Length102" (8'-6")
 Thickness11 Gauge
 Height34"
 Reinforcement4 Ribs @ 1/4"
 Cutting Edge1/2" x 6" (1080)
 Finish.....Powder Coat - White

Wings

Length23"
 Thickness7 Gauge
 Height34"
 Reinforcement1 Rib each @ 1/4"
 Cutting Edge3/8" x 12-1/2" (T1)
 Finish.....Powder Coat - White

Trip Mechanism

Trip Spring Type(6) 3/8" Hooked Extension
 Trip Spring Adjustment5/8"-11 x 6-11/16" Spade Bolts

A-frame

MaterialRec. Tube & Channel Type
 Hitch Pins.....3/4" x 4-3/4" Yellow Zinc
 Emergency Hitch Pin1" x 5-3/4" Yellow Zinc
 Finish.....Powder Coat - Black

Pump

ConstructionSteel Housing w/Clear Plastic Tank
 TypeInternal Gear Pump
 Motor.....12 V Starter
 Volume Per Minute1.25 GPM @ 1500 PSI
 Weight32 lb.
 Mount.....A-frame Install w/Hex Head Screws
 Reservoir Capacity2 quarts
 ControlsToggle & Rocker Switch

Manifold

ConstructionRed Anodized Aluminum
 Ports8
 Cartridge Valves10
 Relief Valve.....5
 Flow Control Valve1
 Weight23.5 lb.
 Mount.....A-frame Install w/Hex Head Screws
 Maximum Flow Capacity3.0 gpm

Cylinders

Angle Cylinders2
 Stroke12"
 Ram Diameter2"
 Bore Diameter.....2-1/4"

Lower/Raise Cylinder1
 Stroke4-5/8"
 Ram Diameter1-1/4"
 Bore Diameter3"

Slide Box/Wing Cylinders2
 Stroke18-7/16"
 Ram Diameter1-1/8"
 Bore Diameter1-3/4"

Plow Headlights

TypeLow Profile w/Turn Signals
 Measurements10-3/4" W x 5"H x 5-3/2"D
 HousingPlastic Composite
 MountAdjustable Ball Type
 Bulb TypeHigh/Low Sealed Beam Halogen, 12V Rect.
 Switch TypeIntegrated On/Off Control Station Switch

Miscellaneous

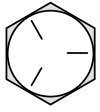
Plow Weight*Approx. 1470 lb.
 Compact Plow Width102" (8'-6")
 WidePass™ Plow Width132" (11'-3")
 BucketBlade™ Plow Width118" (9'-10")
 Adjustable Plow Shoes.....(2) Heavy-Duty Cast Steel
 Mount MechanismHydraulic Draw Latch
 Standard Control StationRocker Switch
 Optional Control Station.....Joystick/Rocker Switch

*Plow weight does not include vehicle undercarriage.

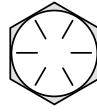
All specifications are for the Model 8611 Blizzard Power Plow snowplow.

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



- Grade Identification Marking for J429 - Grade 5 Bolt**
- Material: Medium carbon steel: quenched and tempered
 - Minimum Proof Strength: 85,000 psi
 - Minimum Tensile Strength: 120,000 psi
 - Core Hardness Rockwell (min.): C25, (max.): C34
 - Minimum Yield Strength: 92,000 psi

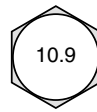


- Grade Identification Marking for J429 - Grade 8 Bolt**
- Material: Medium carbon alloy steel: quenched and tempered
 - Minimum Proof Strength: 120,000 psi
 - Minimum Tensile Strength: 150,000 psi
 - Core Hardness Rockwell (min.): C33, (max.): C39
 - Minimum Yield Strength: 130,000 psi

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	75 in-lbs	100 in-lbs	1/4-20	2,850	107 in-lbs	143 in-lbs
5/16-18	3,350	157 in-lbs	210 in-lbs	5/16-18	4,700	220 in-lbs	305 in-lbs
3/8-16	4,950	23 ft-lbs	31 ft-lbs	3/8-16	6,950	32.5 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	21 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	482.5 ft-lbs	640 ft-lbs	1-8	54,540	680 ft-lbs	900 ft-lbs



- Grade Identification Marking for Metric - Grade 8.8 Bolt**
- Material: Medium carbon steel: quenched and tempered
 - Minimum Proof Strength: 580 MPa
 - Minimum Tensile Strength: 800 MPa
 - Core Hardness Rockwell (min.): C22, (max.): C32
 - Minimum Yield Strength: 640 MPa



- Grade Identification Marking for Metric - Grade 10.9 Bolt**
- Material: Low carbon alloy steel: quenched and tempered
 - Minimum Proof Strength: 830 MPa
 - Minimum Tensile Strength: 1040 MPa
 - Core Hardness Rockwell (min.): C32, (max.): C39
 - Minimum Yield Strength: 940 MPa

Diameter (millimeters)	Metric Class 8.8			Diameter (millimeters)	Metric Class 10.9		
	Clamp Loads (Newton)	Tightening Torque			Clamp Loads (Newton)	Tightening Torque	
		"Lubricated"	"Dry"			"Lubricated"	"Dry"
5	6177	4.63 N-m	6.18 N-m	5	8840	6.63 N-m	8.84 N-m
6	8743	7.87 N-m	10.5 N-m	6	12512	11.3 N-m	15.0 N-m
7	12570	13.2 N-m	17.6 N-m	7	17990	18.9 N-m	25.2 N-m
8	15921	19.1 N-m	25.5 N-m	8	22784	27.3 N-m	36.5 N-m
10	25230	37.8 N-m	50.5 N-m	10	36105	54.1 N-m	72.2 N-m
12	36670	66.0 N-m	88.0 N-m	12	52475	94.5 N-m	125 N-m
14	50025	105 N-m	140 N-m	14	71587	150 N-m	200 N-m
16	70650	170 N-m	226 N-m	16	97732	235 N-m	313 N-m
18	86400	233 N-m	311 N-m	18	119520	323 N-m	430 N-m
20	110250	330 N-m	441 N-m	20	152513	458 N-m	610 N-m

37° JIC Flare Torque Values			
Turns	Size	ft-lbs min./max.	Assembly Steps w/Visual Check
N/A	-02	6 - 7	1. Make sure the tubing and threads are clean.
N/A	-03	8 - 9	2. Lubricate the threads with 10W hydraulic oil.
2	-04	11 - 12	3. Hand tighten the nut/sleeve to approx. 30 in-lbs.
2	-05	14 - 15	4. Make alignment marks on the nut and fitting.
1-1/2	-06	18 - 20	5. Proceed to tighten to turns or ft-lb values.
1-1/2	-08	36 - 39	6. When fully tightened make a 2nd set of alignment marks at the fully tightened position.
1-1/2	-10	57 - 63	
1-1/4	-12	79 - 88	
1	-14	94 - 103	
1	-16	108 - 113	Note: Torque values specified are for threads lubricated with 10W hydraulic oil.
1	-20	127 - 133	
1	-24	158 - 167	Sizes -02 through -08 are less tolerant to over-torque abuse. This will reduce the clamping force resulting in loss of seal and reduction in flow.
1	-32	245 - 258	

O-Ring Boss Torque Values		
Size	ft-lbs min./max.	O-Ring Boss Assembly
-02	6 - 7	1. Verify the port, O-ring, sealing surfaces, and threads are clean and free of damage.
-03	8 - 10	
-04	13 - 15	2. Lubricate the threads and the O-ring with 10W hydraulic oil.
-05	17 - 21	3. For an adjustable O.R.B., completely back-off the lock nut and the washer.
-06	22 - 25	4. Hand tighten the fitting until it contacts the port spotface. Point the elbow or tee in the desired direction and hold.
-08	40 - 43	5. Proceed to tighten to the proper specified torque value.
-10	43 - 57	
-12	68 - 75	
-14	90 - 99	
-16	112 - 123	Note: Torque values specified are for threads lubricated with 10W hydraulic oil.
-20	146 - 200	
-24	154 - 215	
-32	218 - 290	

Disclaimer: All torque values included in the charts above are advisory only, and their use by anyone is entirely voluntary. Reliance on the contents for any purpose by anyone is the sole risk of that person and Blizzard Corporation is not responsible for any loss, claim or damages arising therefrom. Blizzard Corporation has made an effort to present the above contents accurately, but we do not guarantee its completeness or validity. This information is subject to change at any time, without notice. Blizzard Corporation makes no representations or warranties, express or implied, in connection with the information.

MODEL 8611 PARTS LIST

Ref. No.	Part Number	Qty.	Part Description
Moldboard & Wing Assembly Parts			
1	52085	1	Moldboard Weldment
2	61086	1	Label, WARNING! (BLZ 1005)
3	61082	1	Decal, Center Moldboard (BLZ 1000)
4	61180	1	Label, Power Hitch™ Mounting & Dismounting Instructions (BLZ 1023)
5	11962	1	Cutting Edge (1080), Moldboard
6	61364	7	Bolt, Dome Head Plow, 1/2"-13 x 2" Grade 8 P
7	61365	13	Nut, Flanged Lock, 1/2"-13
8	61026	4	Washer, SAE Mil-Carb High-Strength, 1/2", 1-1/16" O.D., 17/32" I.D. YZ
9	61020	5	Nut, Top Lock, 1/2"-13 Grade C Z
10	51100	1	Wing Weldment, Driver's Side
11	63065	1	Decal, Wing, Driver's Side (BLZ 1033)
12	51069	1	Cutting Edge Weldment (T1), Wing, Driver's Side
13	50075	1	Slide Box Weldment, Driver's Side
14	63063	1	Label, Serial Number, Sequentially Numbered (BLZ 1049)
15	51088	1	Snow Shield, Wing, Driver's Side
16	51089	1	Snow Shield, Wing, Passenger's Side
17	51101	1	Wing Weldment, Passenger's Side
18	63064	1	Decal, Wing, Passenger's Side (BLZ 1032)
19	51070	1	Cutting Edge Weldment (T1), Wing, Passenger's Side
20	61360	2	Bolt, Carriage, 1/2"-13 x 5" Grade 8 P
21	61361	2	Bolt, Carriage, 1/2"-13 x 5-1/2" Grade 8 P
22	61362	2	Bolt, Carriage, 1/2"-13 x 6-1/2" Grade 8 P
23A	61049	2	Plow Guide Assembly: (2) - 23 & 24
23	61051	4	Screw, Hex Head Cap, 5/16"-18 x 1" Grade 5 Z
24	61052	4	Nut, Nylon Insert Lock, 5/16"-18 Z
25	50074	1	Slide Box Weldment, Passenger's Side
26	50076	2	Bolt Weldment, Spade, 5/8"-11 x 9"
27	61382	2	Pin, Cotter, 1/8" DIA. x 1-1/4" Z
28	61385	2	Pin, Clevis, 5/8" DIA. x 3" P
29	13307	2	Pin, Wing/Slide Box Pivot, 1" DIA. x 11-1/8"
30	61099	8	Spring, Extension, 15-1/4" O.A.L. x 2-3/8" O.D. x 3/8"
31	61381	4	Pin, Spring, 3/8" DIA. x 3/4"
32	61198	2	Cap, 5/8" DIA. x 1-1/8", Black Rubber
33	11989	2	Pin, Hydraulic Cylinder Base End (with 1/4" DIA. hole), 5/8" DIA. x 11-1/2" - Slide Box/Wing Extend/Retract
34	61030	2	Pin, Hair Cotter, 1/8" DIA. x 2-5/8" Z
35	61063	2	Nut, Top Lock, 5/8"-11 Grade C Z
36	60003	6	Hydraulic Adapter, 7/16"-20 x 9/16"-18 Male O.R.B. Connector
37	60019	2	Hydraulic Hose, 1/4" x 36" - Wing/Slide Box Retract, Driver's & Passenger's Side
38	60007	4	Hydraulic Adapter, 9/16"-18 x 9/16"-18 Male O.R.B. Connector
39	60224	2	Hydraulic Hose, 3/8" x 36" - Wing/Slide Box Extend, Driver's & Passenger's Side
40	60207	2	Hydraulic Cylinder, Wing/Slide Box Extend/Retract, Driver's & Passenger's Side
41A	61220	2	Plow Shoe Assembly, Heavy-Duty Cast Iron (8-3/8" Shaft): (1) - 41, 43, (18) - 42
41	61102	2	Spacer, 1-5/8" O.D., 1-1/8" I.D. x 1-1/2" YZ
42	61101	36	Washer, Flat, 1", 1-3/4" O.D., 1-1/16" I.D. Z
43	61103	2	Pin, Linch, 1/2" x 1-3/4"
44	61383	4	Screw, Hex Head Cap, 5/16"-18 x 2-1/4", Grade 8 YZ
45	11871	4	Pin, Slide Box Stop, 1" DIA. x 5-1/4" (with 3/8" DIA. hole)
46	61384	4	Nut, Top Lock, 5/16"-18 Grade C Z
Pivot Beam & A-frame Assembly Parts			
47	61188	6	Nut, Nylon Insert Lock, 5/8"-11 Type NE
48	61064	6	Washer, SAE Mil Carb High-Strength, 5/8", 1-5/16" O.D., 21/32" I.D. YZ
49	61187	6	Bolt, Spade, 5/8"-11 x 6-11/16" Grade 8 Z
50	61006	8	Nut, Top Lock, 3/4"-10 Grade C Z
51	61314	2	Screw, Hex Head Cap, 3/4"-10 x 3" (with 2" Shank) Grade 8 YZ
52A	41039	1	Kickstand Assembly: (1) - 52-54, 56, 57, (2) - 8, 55, (3) - 9
52	61152	1	Screw, Hex Head Cap, 1/2"-13 x 4-1/2" Grade 8 YZ
53	41047	1	Kickstand Foot Weldment
54	41038	1	Kickstand Leg Weldment
55	61057	4	Screw, Hex Head Cap, 1/2"-13 x 1-1/4" Grade 8 YZ
56	61293	1	Spring, Compression, 2" O.A.L. x 1.101" O.D., 0.207 Wire Diameter
57	41037	1	Bushing, Stepped, 1.13" O.D., 0.53" I.D. x 3/8" Stainless Steel
58	41052	1	Pivot Beam Weldment
59	61378	2	Screw, Hex Head Cap, 3/4"-10 x 5-1/2" Grade 8 YZ
60	61330	1	Screw, Hex Head Cap, 1"-8 x 9" (with 7-3/4" Shank) Grade 8 P
61	61008	1	Nut, Top Lock, 1"-8 Grade C Z
62	61217	4	Grommet, 1-1/2" I.D., 2-1/8" O.D. Black Rubber, 60 Durometer
63	60221	1	Hydraulic Cylinder, Plow Angle

Note: The reference numbers listed identify parts shown in the illustration on pages 26-28. These numbers are specific to these illustrations only and do not correspond with other diagrams in the manual. Always review the part number given for proper component identification.

MODEL 8611 PARTS LIST

Ref. No.	Part Number	Qty.	Part Description
Pivot Beam & A-frame Assembly Parts (Continued)			
64	60005	3	Hydraulic Adapter, 9/16"-18 x 9/16"-18 90° Adjustable Elbow O.R.B.
65	60223	2	Hydraulic Hose, 3/8" x 26" - Plow Angle, Driver's & Passenger's Side
66	61005	1	Screw, Hex Head Cap, 3/4"-10 x 6" Grade 8 YZ
67	60092	1	Hydraulic Hose, Straight/45°, 1/4" x 17" - Plow Raise/Lower, Extend (Base End)
68	60002	1	Hydraulic Adapter, 7/16"-20 x 7/16"-20 45° Adjustable Elbow O.R.B.
69	60004	1	Hydraulic Adapter, 7/16"-20 x 7/16"-20 Male O.R.B. Connector
70	60093	1	Hydraulic Hose, Straight/45°, 1/4" x 15" - Plow Raise/Lower, Retract (Rod End)
71	61016	3	Washer, SAE Mil-Carb High-Strength, 3/8", 13/16" O.D., 13/32" I.D., YZ
72	61012	2	Screw, Hex Head Cap, 3/8"-16 x 3/4" Grade 8 YZ
73	61358	3	Nut, Flanged Wing, 3/8"-16
74	61014	1	Nut, Jam Nylon Insert Lock, 3/8"-16 Z, Type NTE
75	61359	1	Stud, Threaded, 3/8"-16 x 1-3/4"
76	40004	1	Hinge Weldment, Pump Mount
77	61218	1	Screw, Hex Head Cap, 3/8"-16 x 2" Grade 8 YZ
78	61034	1	Nut, Top Lock, 3/8"-16 Grade C Z
79A	40108	1	A-frame Assembly: (1) - 76-79, 83-85, 92, (2) - 91, (4) - 89 & 90
79	40107	1	A-frame Weldment
80	61002	2	Screw, Hex Head Cap, 3/4"-10 x 5" Grade 8 YZ
81	61115	2	Pin, Hitch, 3/4" x 4-3/4" YZ
82	61105	2	Pin, Hair Cotter, 9/64" DIA. x 2-11/16" Z
83	40079	1	Pin, A-frame Latch, 3/8" DIA. x 1-3/4", Stainless Steel
84	61000	1	Spring, Compression, 0.94" O.A.F.L. x 0.36" O.D., 0.029" Wire Diameter, Stainless Steel
85	61309	1	Ring, Standard Split, 1.48" O.D., 1.264" I.D., 0.92 Wire Diameter
86	60222	1	Hydraulic Cylinder, Plow Raise/Lower
87	61197	1	Pin, Emergency Hitch, 1" x 5-3/4" YZ
88	61226	1	Pin, Hair Cotter, 11/64" DIA. x 3-3/4" Z
89	61312	4	Screw, Hex Head Cap, 5/16"-18 x 3/4" Grade 8 YZ
90	61011	6	Washer, Split Lock, 5/16" YZ High-Alloy
91	40088	2	Bushing, A-frame Pivot, Replaceable
92	61295	1	Label, Power Hitch Connect/Disconnect Switch (BLZ 1037)
Draw Latch Assembly Parts			
93A	40109	1	Draw Latch Assembly: (1) - 50, 93-96, 98-101, 103-106, (2) - 97, 102
93	40080	1	Outer Draw Latch Plate Weldment, Driver's Side
94	40110	1	Pin, Draw, 1" DIA. x 6-1/2" (with 13/64" DIA. hole) YZ
95	61363	1	Pin, Cotter, 3/16" x 2-1/2" Z
96	61004	1	Screw, Hex Head Cap, 3/4"-10 x 4-1/2" Grade 8 YZ
97	40074	2	Inner Draw Latch Plate
98	40070	1	Pin, Draw Latch Mount (To A-frame), 1" x 4-21/32" YZ
99	40114	1	Draw Latch Arm Weldment
100	50071	1	Pin, Clevis, 3/4" DIA. x 3-41/64" YZ
101	40082	1	Draw Latch Finger Weldment
102	40042	2	Pin, 3/4" x 2-1/2", Draw Latch Arm Pivot Pin/Hydraulic Cylinder Rod End, Plow Raise/Lower
103	40093	1	Bushing, 1-1/4" O.D., 1-1/16" I.D. x 1-1/2" YZ
104	40081	1	Outer Draw Latch Plate Weldment, Passenger's Side
105	40116	1	Spacer, 1" O.D., 25/32" I.D. x 5/8" YZ
106	61357	1	Pin, Hammerlock Cotter, 1/4" x 1-1/2"
Hydraulic Pump & Manifold Assembly Parts			
107A	60101	1	Hydraulic Pump Assembly (Fenner Fluid Power): (1) - 107-110
107	60045	1	Reservoir, Hydraulic Pump
108	60046	1	Reservoir Cap, Hydraulic Pump
109	60044	1	Hex Cap, Relief Valve, Hydraulic Pump
110	60047	1	Power Unit (Motor), Hydraulic Pump
111	61307	1	Washer, Internal/External Tooth Lock, 3/8"
112	61129	1	Cover, Hydraulic Pump & Manifold, 1/4" Polyethylene
113	63059	1	Label, Sequence Valve & Hydraulic Hose Identification Guide (BLZ 1044)
114	60038	2	O-ring, 3/32" C.S.W., 9/16" I.D., 3/4" O.D. Neoprene, 70 Durometer
115	61222	2	Washer, Split Lock, 3/8" High-Alloy YZ
116	61033	2	Screw, Hex Head Cap, 3/8"-16 x 1" Grade 8 YZ
117	82047	1	Bracket, Diode Board Mount
118	61010	2	Screw, Hex Head Cap, 5/16"-18 x 3-3/4" Grade 8 YZ
119A	60191	1	Manifold Assembly: (1) - 119, 125, 127A, 131, 133, 134 (2) - 129, 135-137, (3) - 120,130, (4) - 124, (5) - 126, (10) - 128
119	60190	1	Manifold Block (with Cross Port Relief), Red Anodized Aluminum
120	60050	3	Plug, Hollow Hex, -6 SAE
121	60009	4	Hydraulic Adapter, 7/16"-20 90° Swivel Elbow
122	60006	2	Hydraulic Adapter, 9/16"-18 90° Swivel Elbow
123	60072	1	Hydraulic Adapter, 9/16"-18 x 9/16"-18 Male Extra Long Elbow

MODEL 8611 PARTS LIST

Ref. No.	Part Number	Qty.	Part Description
Hydraulic Pump & Manifold Assembly Parts (Continued)			
124	60225	4	Valve, Check, 50 PSI (86020028)
125	60173	1	Coupling, Test Port, 7/16"-20 O.R.B.
126	60166	5	Valve, Spool, Three-Way, Two Position (86020463)
127A	62120	1	Coil Harness Assembly: (1) - 132, 62045, 62118, (9) - 127, (10) - 62096, 62097
N/A	62045	1	Connector, Electric, Male, Plastic
N/A	62096	20	Seal, Cable, Silicone, Orange (18 AWG)
N/A	62097	10	Terminal, Male (18-16 AWG)
N/A	62118	1	Terminal, End Ring, 3/8" I.D. Copper, 6 Gauge
127	62114	9	Coil, PDL 10V DC
128	60052	10	Nut, Hex Jam, 1/2"-20 YZ
129	60226	2	Valve, Relief, 2800 PSI (85020362)
130	60167	2	Valve, Spool, Four-Way, Two Position C.C. (86020464)
131	60168	1	Valve, Relief, 3000 PSI (85020340)
132	62115	1	Coil, DDL 10V DC
133	60170	1	Valve, Spool, Three-Way, Two Position (85020341)
134	60169	1	Valve, Flow Control (85002054)
135	60165	2	Valve, Two-Way N.C. (86020190)
136	60227	2	Valve, Relief, 2650 PSI (85020361)
137	60228	2	Piston Assembly (34952123)
Snowplow Wire Harness Assembly Parts			
138A	62039	1	Wire Harness Assembly, Plow : (1) - 138, 139, 140, 62006, 62046, (10) - 62096
138	62057	1	Wire Harness, Plow
139	62001	1	Weather Cap, Rubber, Plow Wire Harness
140	62038	1	Switch, Toggle, DPDT, (On)-Off-(On), 16 Amps, 115V AC - Draw Latch Connect/Disconnect
N/A	62046	1	Connector, Electric, Female, Plastic
N/A	62006	1	Diode Board Assembly: (1) - 62007, 62090, 62092, 62094, 62095, (5) - 62091, 62093
N/A	62007	1	Cover, Clear, Diode Board
N/A	62090	1	Connector Body w/Gasket, Diode Board
N/A	62091	5	Seal, Cable, Silicone, Green (16 AWG)
N/A	62092	1	Plug, Cavity, Silicone, Green (16 AWG)
N/A	62093	15	Terminal, Female (18-16 AWG)
N/A	62094	1	Circuit Board
N/A	62095	1	Secondary Lock, Six-Way
Vehicle Wire Harness Assembly Parts			
141A	62112	1	Wire Harness Assembly, Vehicle - Relay Version: (1) - 141, 142, 62124, 62113, 62125, 62008, 62009, 62056 (3) - 61031, 62016, (4) - 62072
141	62111	1	Wire Harness, Vehicle - Relay Version
142	62000	1	Weather Cap, Rubber, Vehicle Wire Harness
N/A	62124	1	Fuse, 1/4" DIA. x 1-1/4" BUSS AGC 15A, 32V
N/A	62113	1	Main Lighting Harness - Relay Version
N/A	62125	1	Headlight Relay, 3PDT, 30A, 12V
N/A	61031	3	Screw, Hex Washer Self-Drilling, 12-14 x 3/4"
N/A	62042	1	Power Contactor (Solenoid), Heavy Duty, Water-Resistant DC
N/A	61228	4	Nut, Hex Jam, 5/16"-24 Z
N/A	61229	4	Nut, Hex Full, #10 -32 Z
N/A	61230	2	Washer, Split Lock, #10 Z Medium
N/A	62056	1	Ground Wire, Power Contactor, 24"
N/A	62072	4	Terminal, End Ring, 3/8" I.D. Copper, 4 Gauge
N/A	62008	1	Fuse Clip, Mini
N/A	62009	1	Fuse Clip, Auto Blade
N/A	62016	3	Connector, Splice Lock (18-14 AWG)
143A	62058	2	Headlight Assembly, Plow (Specify Driver's or Passenger's Side): (1) - 143/144, 145-148, 62061
143	62059	1	Headlight, Plow, Driver's Side
144	62060	1	Headlight, Plow, Passenger's Side
145	62032	2	Wire Harness (with 5-pin plug), Plow Headlight
N/A	62061	2	Bulb, Sealed Beam Halogen, Glass, Plow Headlight (H6545/H4666)
N/A	62062	1	Corrosion Preventive Compound (2 fl. oz.)
146	61231	2	Adapter, Ball Stud Mount, Headlight
147	61232	2	Washer, Heavy Split Lock, 1/2"
148	61025	2	Nut, Hex, 1/2"-13 Grade 8 Y
149	61166	2	Plug, Polyethylene, Black, 2-3/8" x 10-14 Gauge x 0.71"
150	39041	1	Light Tower, Model 8611
151A	62128	1	Rocker Switch Control Station Assembly - Relay Version: (1) - 151-155, 157, 158, 160, 161, (3) - 156, (4) - 159, 61036
151	61125	1	Housing, Rocker Switch Control Station, 1/8" ABS Plastic
152	62065	1	Switch, Rocker, SPST, Off-None-On, Black/Red 15A, 250V AC (Power - Plow Lights)
153	61126	1	Housing Plate, Rocker Switch Control Station, 1/8" ABS Plastic

MODEL 8611 PARTS LIST

Ref. No.	Part Number	Qty.	Part Description
Vehicle Wire Harness Assembly Parts (Continued)			
154	61127	1	Strap (61" Velcro® with 2" Metal D-Ring), Black
155	62130	1	Connector, Electrical (12-pin & 2-pin Plugs)
156	62066	3	Switch, Rocker, DPDT, (On)-Off-(On), White 10A, 250V AC (Wing Extend & Retract - Driver's Side & Passenger's Side, Plow Angle)
157	62129	1	Switch, Rocker, SPDT, On-Off-On, Black 10A, 250V AC (System Power On - System Power Off - Hitch System On)
158	62067	1	Switch, Rocker, DPDT, (On)-Off-On, White 10A, 250V AC (Plow Raise & Lower)
159	61035	4	Screw, Machine, 10-24 x 1/2" Z
N/A	61036	4	U-Clip, 10-24
160	61310	1	Label, Plow Lights/Power Switch ON/OFF (BLZ 1038)
161	61090	1	Label, Rocker Switch Control Station (BLZ 1010)
162	31032	1	Push Beam, 46" (Ford F-450 & F-550 (1999-Current))
163	61085	1	Decal, Undercarriage Push Beam, 2-1/4" x 13-7/8" (BLZ 1003)
Miscellaneous Assembly Parts			
N/A	61356	1	Kit, Hardware, Snowplow Assembly Parts: (1) - 71, 74, 75, 111, (2) - 51, 59, 72, 80, (3) - 73, (6) - 47-50
N/A	60217	1	Kit, Hydraulic Adapter: (1) - 68, 69, 123, (2) - 38 & 122, (3) - 64, (4) - 36 & 121
N/A	60229	1	Kit, Hydraulic Hose: (1) - 67, 70, (2) - 37, 39, 65
N/A	61386	1	Kit, Hardware, Moldboard Cutting Edge: (7) - 6 & 7
N/A	52095	1	Kit, Cutting Edge, Moldboard w/Hardware: (1) - 5 & 61389
N/A	61387	1	Kit, Hardware, Wing Cutting Edge: (1) - 20-22, (3) - 7
N/A	51103	1	Kit, Cutting Edges, Wing w/Hardware: (1) - 12, 19, (2) - 61387
N/A	52117	1	Kit, Moldboard & Wing Cutting Edges w/Hardware: (1) - 52095, 51103

SNOWPLOW ACCESSORIES (CONTINUED FROM PAGE 1)



**Blizzard Snowplow
Touch-Up Paint**
P/N 61219 (Gloss White)
P/N 63073 (Gloss Black)

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. Made to match your original plow equipment, Blizzard snowplow touch-up paint provides an excellent finish to help keep your snowplow looking its best. Paint provided in 12 oz. spray cans.

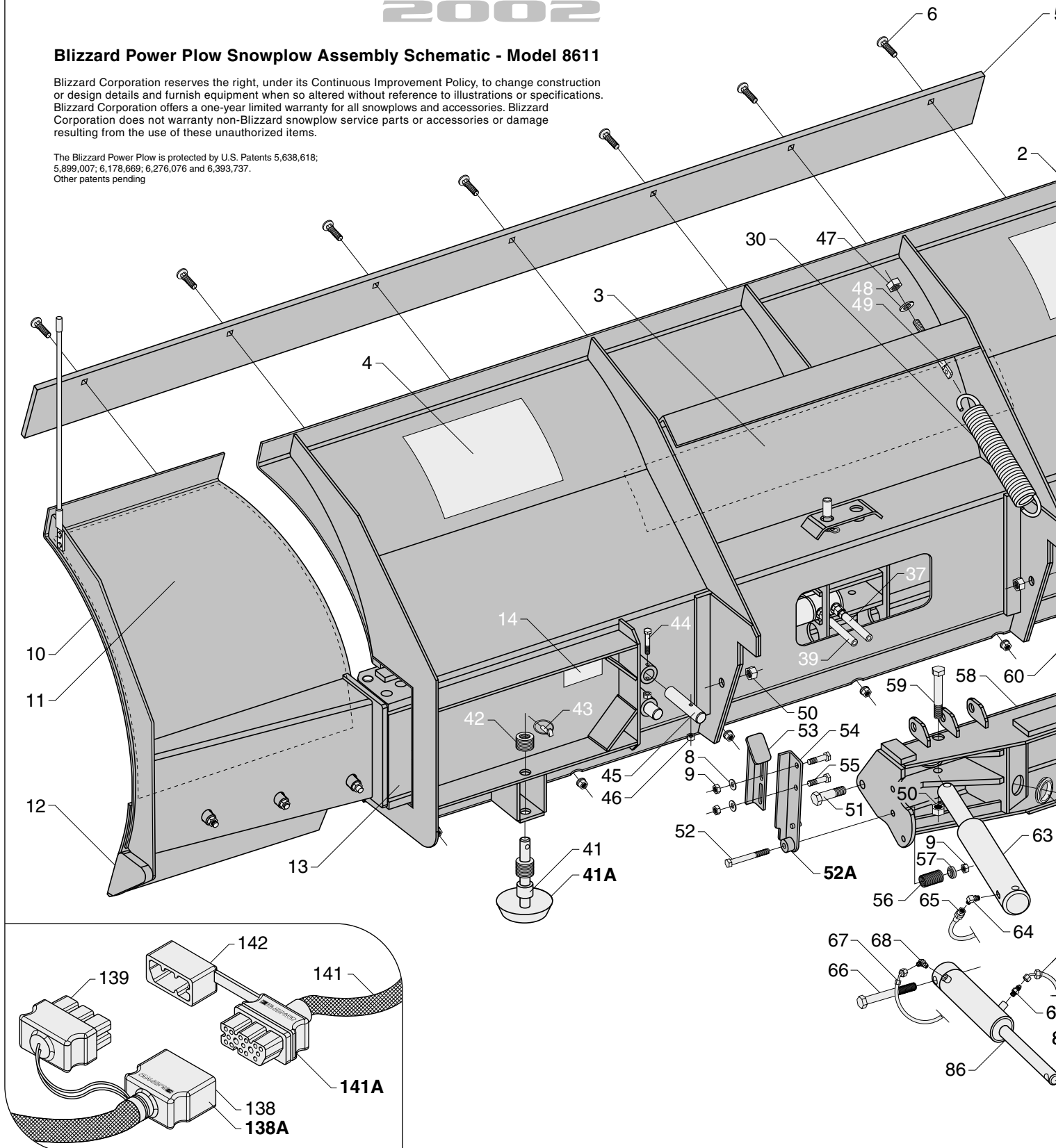


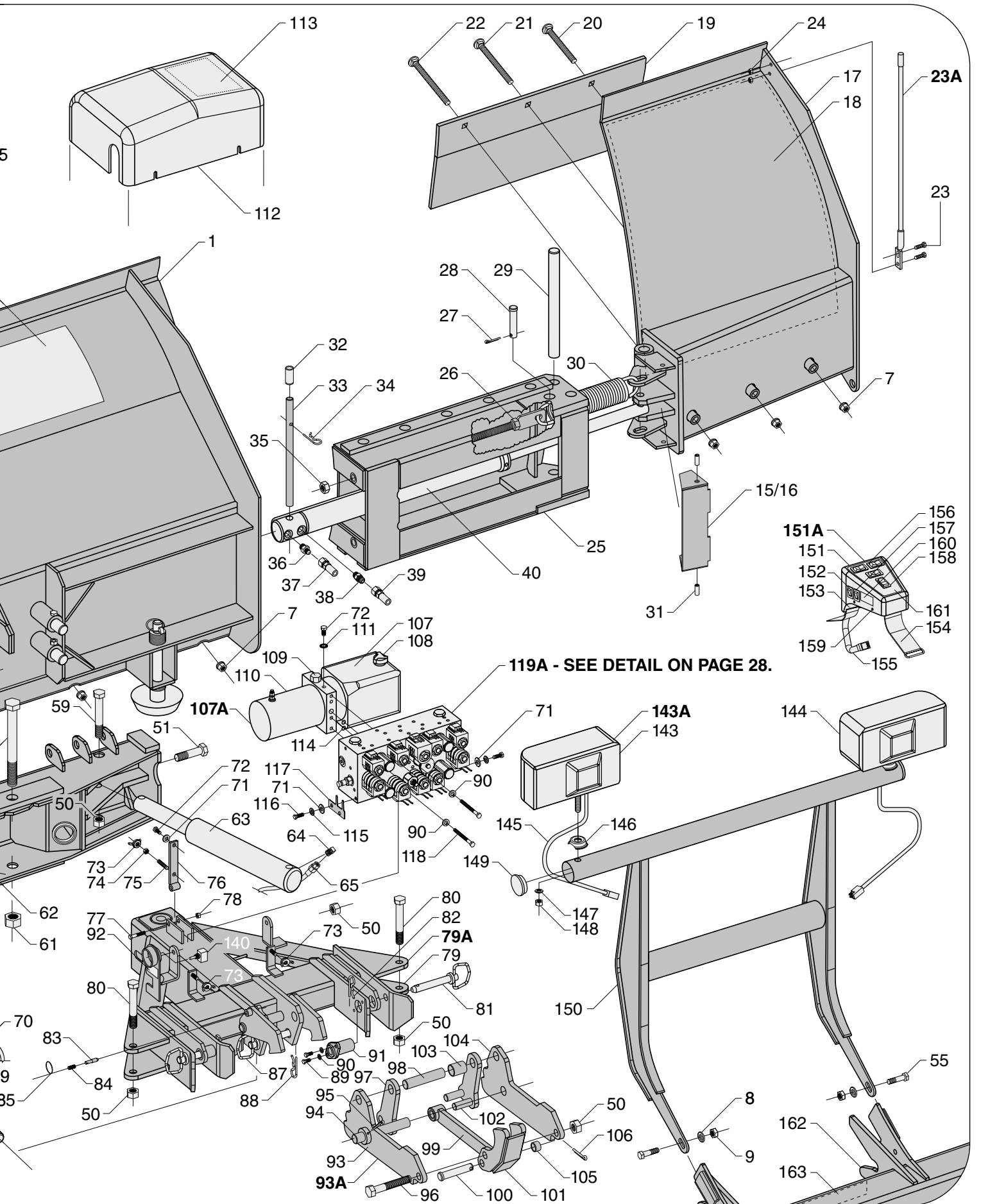
BLIZZARD[®] POWER PLOW 2002

Blizzard Power Plow Snowplow Assembly Schematic - Model 8611

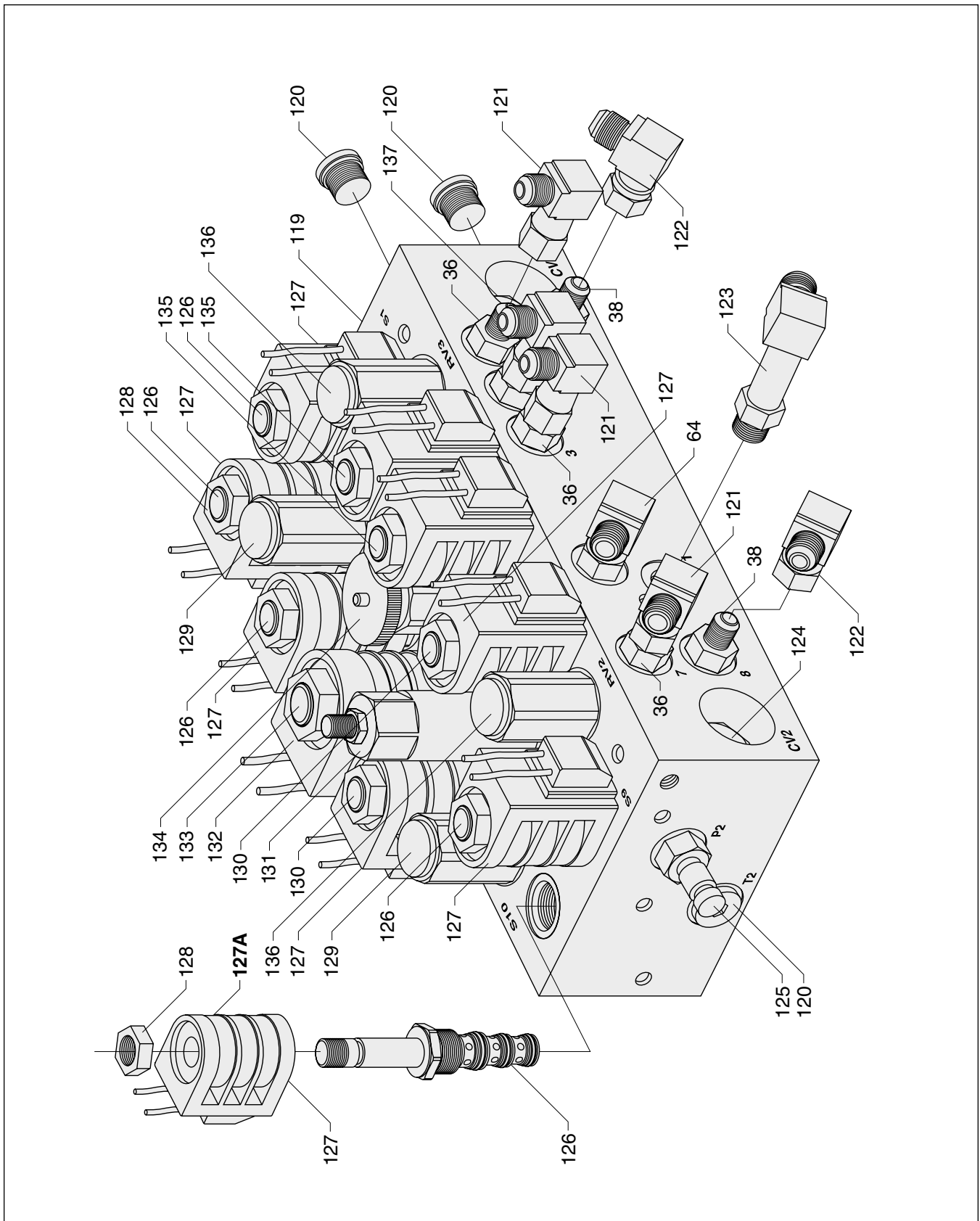
Blizzard Corporation reserves the right, under its Continuous Improvement Policy, to change construction or design details and furnish equipment when so altered without reference to illustrations or specifications. Blizzard Corporation offers a one-year limited warranty for all snowplows and accessories. Blizzard Corporation does not warranty non-Blizzard snowplow service parts or accessories or damage resulting from the use of these unauthorized items.

The Blizzard Power Plow is protected by U.S. Patents 5,638,618; 5,899,007; 6,178,669; 6,276,076 and 6,393,737.
Other patents pending

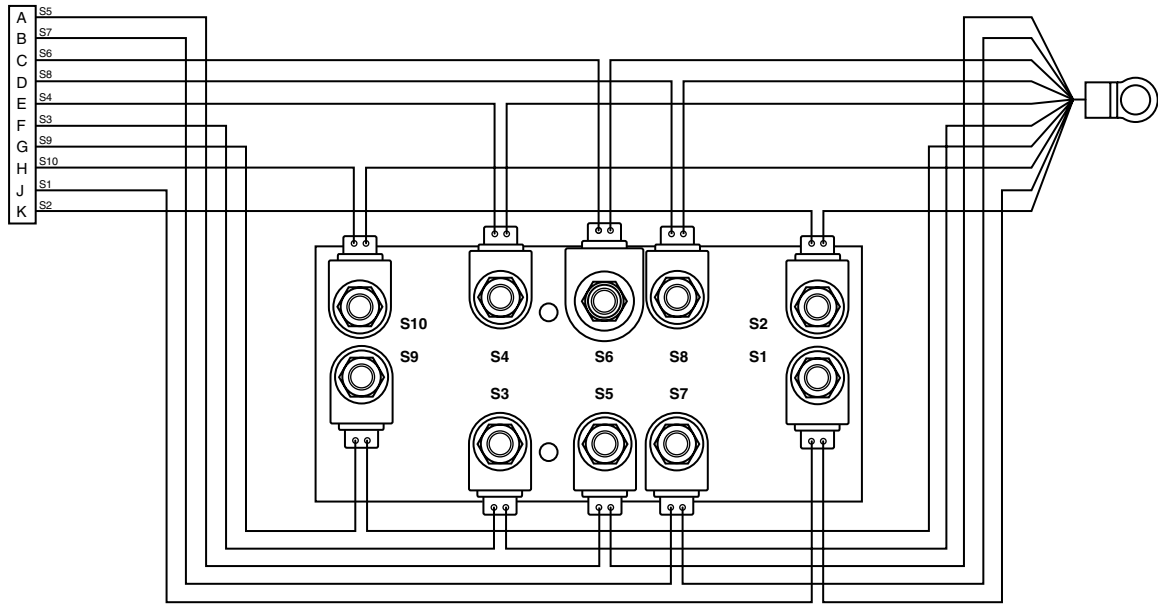




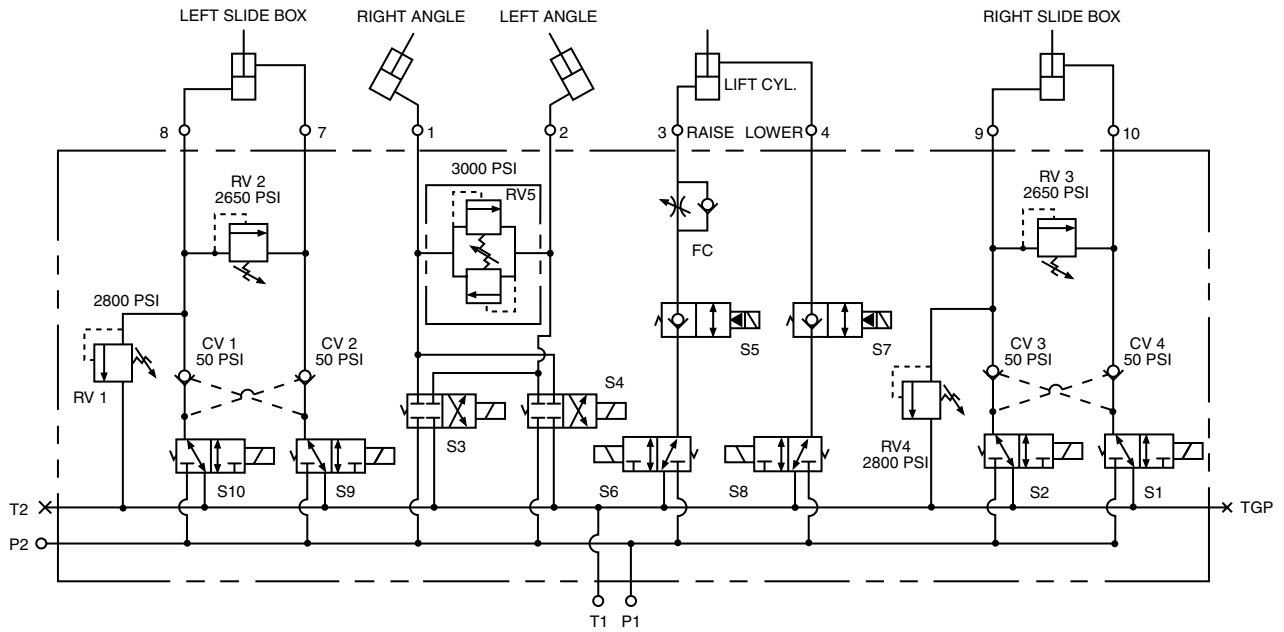
119A - SEE DETAIL ON PAGE 28.



CONNECTS TO M5
SEE SCHEMATIC ON PAGE 31.



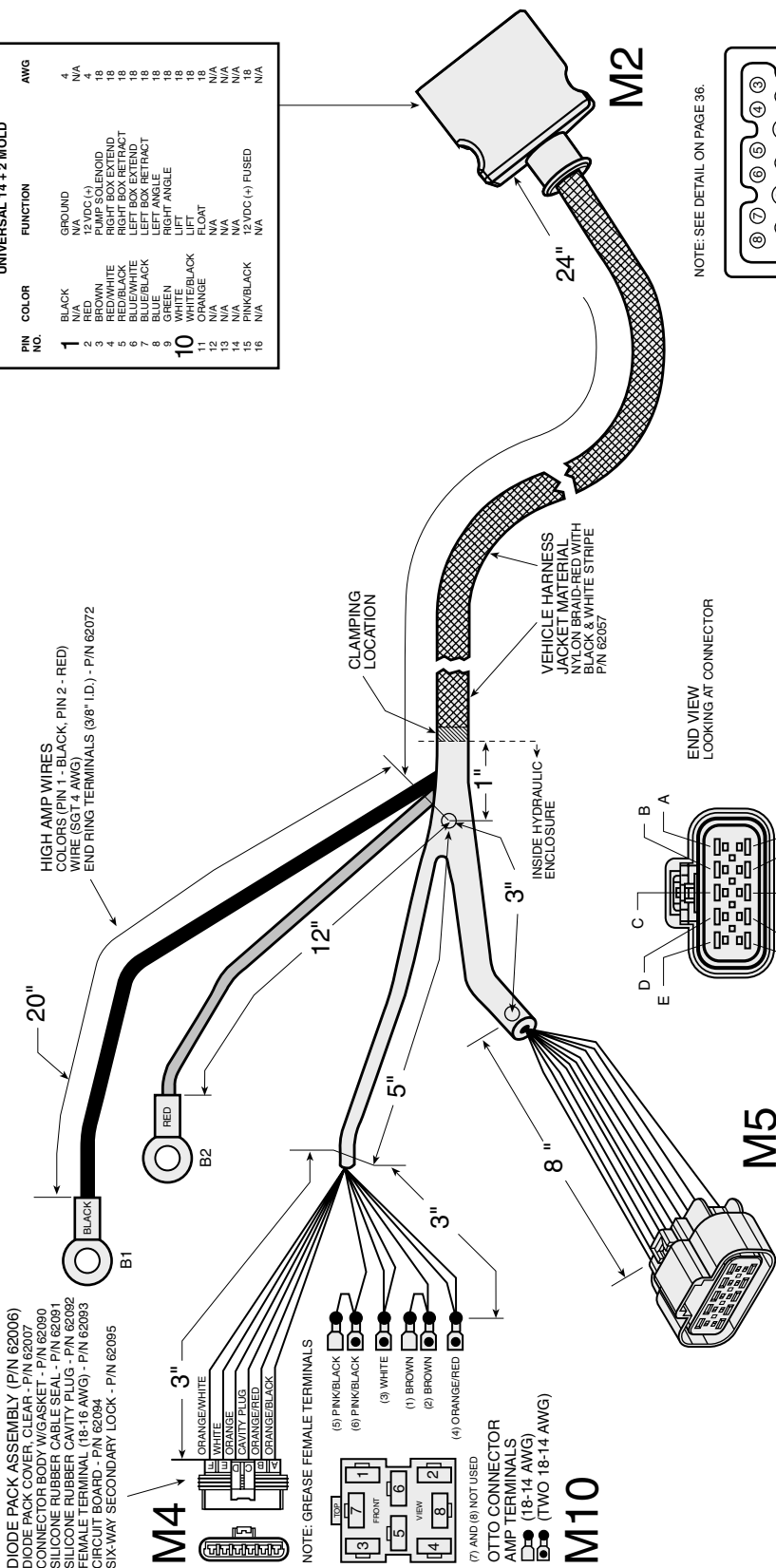
MODEL 8611 COIL HARNESS WIRE SCHEMATIC



MODEL 8611 HYDRAULIC MANIFOLD SCHEMATIC

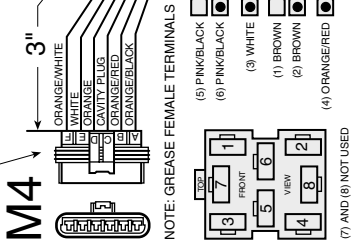
**BLIZZARD PLUG (VEHICLE)
UNIVERSAL 14 + 2 MOLD**

PIN NO.	COLOR	FUNCTION	AWG
1	BLACK	GROUND	4
2	N/A	N/A	N/A
3	RED	12VDC (+)	4
4	PINK/BLACK	FLUID	8
5	RED/WHITE	RIGHT BOX EXTEND	18
6	RED/BLACK	RIGHT BOX RETRACT	18
7	BLUE/WHITE	LEFT BOX EXTEND	18
8	BLUE/BLACK	LEFT BOX RETRACT	18
9	GREEN	RIGHT ANGLE	18
10	WHITE	LIFT	18
11	WHITE/BLACK	FLCAT	18
12	ORANGE	N/A	18
13	N/A	N/A	N/A
14	N/A	N/A	N/A
15	PINK/BLACK	12VDC (+) FUSED	18
16	N/A	N/A	N/A



HIGH AMP WIRES
COLORS (PIN 1 - BLACK, PIN 2 - RED)
WIRE (SGT 4 AWG)
END RING TERMINALS (Ø8" I.D.) - P/N 62072

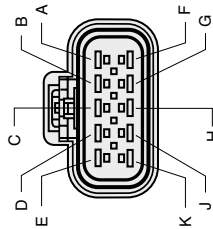
- DIODE PACK ASSEMBLY (P/N 62006)
- DIODE PACK COVER, CLEAR - P/N 62007
- CONNECTOR BODY W/GASKET - P/N 62009
- SILICONE RUBBER CABLE SEAL - P/N 62091
- SILICONE RUBBER CAVITY SEAL - P/N 62091
- SILICONE RUBBER CAVITY PLUG - P/N 62092
- CIRCUIT BOARD - P/N 62093
- SIX-WAY SECONDARY LOCK - P/N 62095



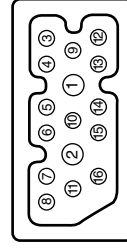
OTTO CONNECTOR
AMP TERMINALS
(18-14 AWG)
(TWO 18-14 AWG)

M10

END VIEW
LOOKING AT CONNECTOR



NOTE: SEE DETAIL ON PAGE 36.



END VIEW
LOOKING AT CONNECTOR

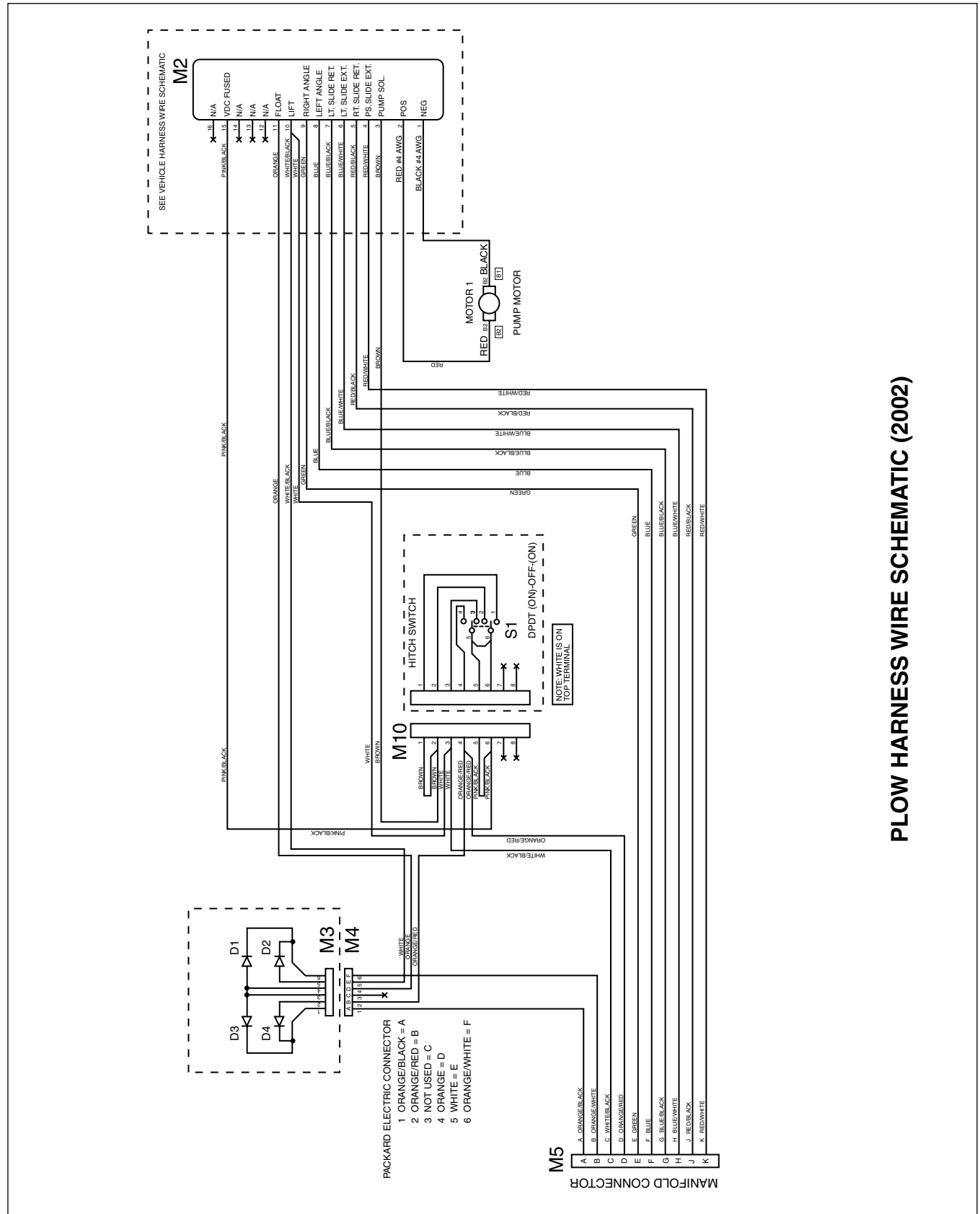
PLASTIC ELECTRIC CONNECTOR, FEMALE - P/N 62046
SILICONE RUBBER CABLE SEAL - P/N 62096
FEMALE TERMINAL (18-16 AWG) - P/N 62093

PACKARD GT 280 ELECTRIC CONNECTOR (PLOW)

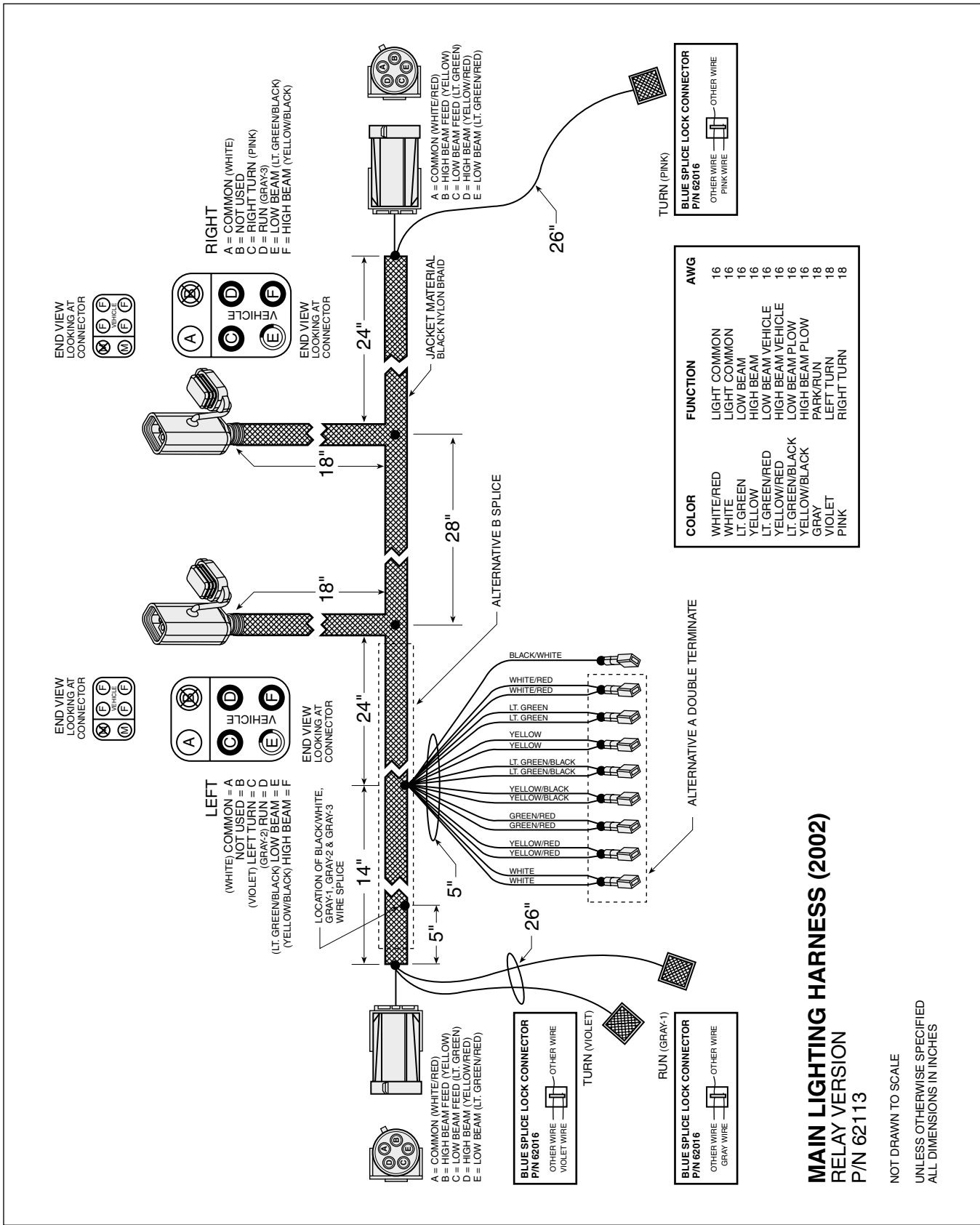
PIN NO.	COLOR	FUNCTION	AWG
A	ORANGE/BLACK	(S5) LOWER/FLOAT	18
B	ORANGE/WHITE	(S7) LEFT/FLOAT	18
C	WHITE/BLACK	(S6) LIFT	18
D	ORANGE/RED	(S8) HITCH-LOWER	18
E	GREEN	(S4) ANGLE RIGHT	18
F	BLUE	(S3) ANGLE LEFT	18
G	BLUE/BLACK	(S9) LEFT SLIDE BOX RET.	18
H	BLUE/WHITE	(S10) LEFT SLIDE BOX EXT.	18
J	RED/BLACK	(S1) RIGHT SLIDE BOX RET.	18
K	RED/WHITE	(S2) RIGHT SLIDE BOX EXT.	18

**PLOW HARNESS (2002)
WITH MOLDED PLUG
P/N 62039**

NOT DRAWN TO SCALE
UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS IN INCHES

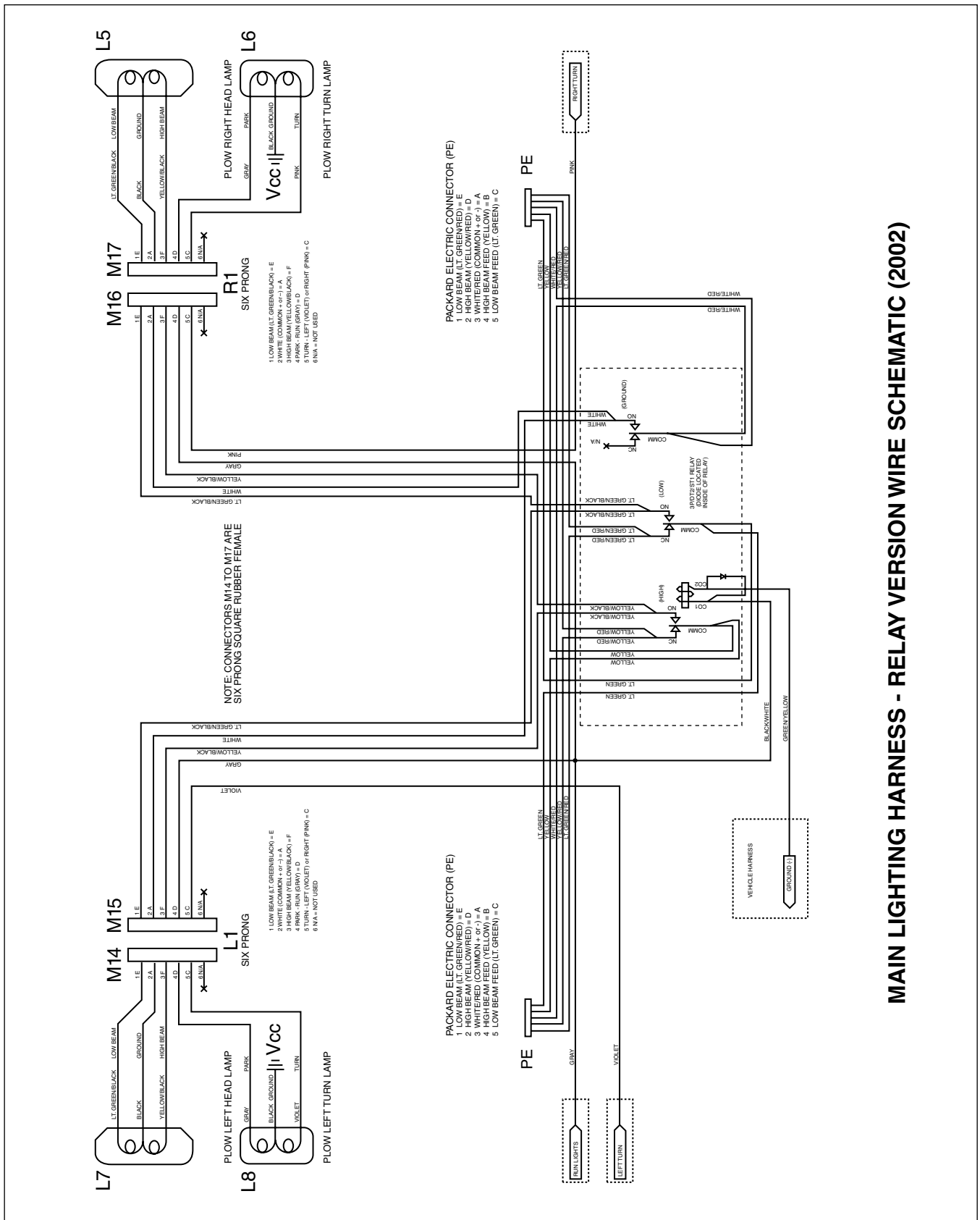


PLOW HARNESS WIRE SCHEMATIC (2002)

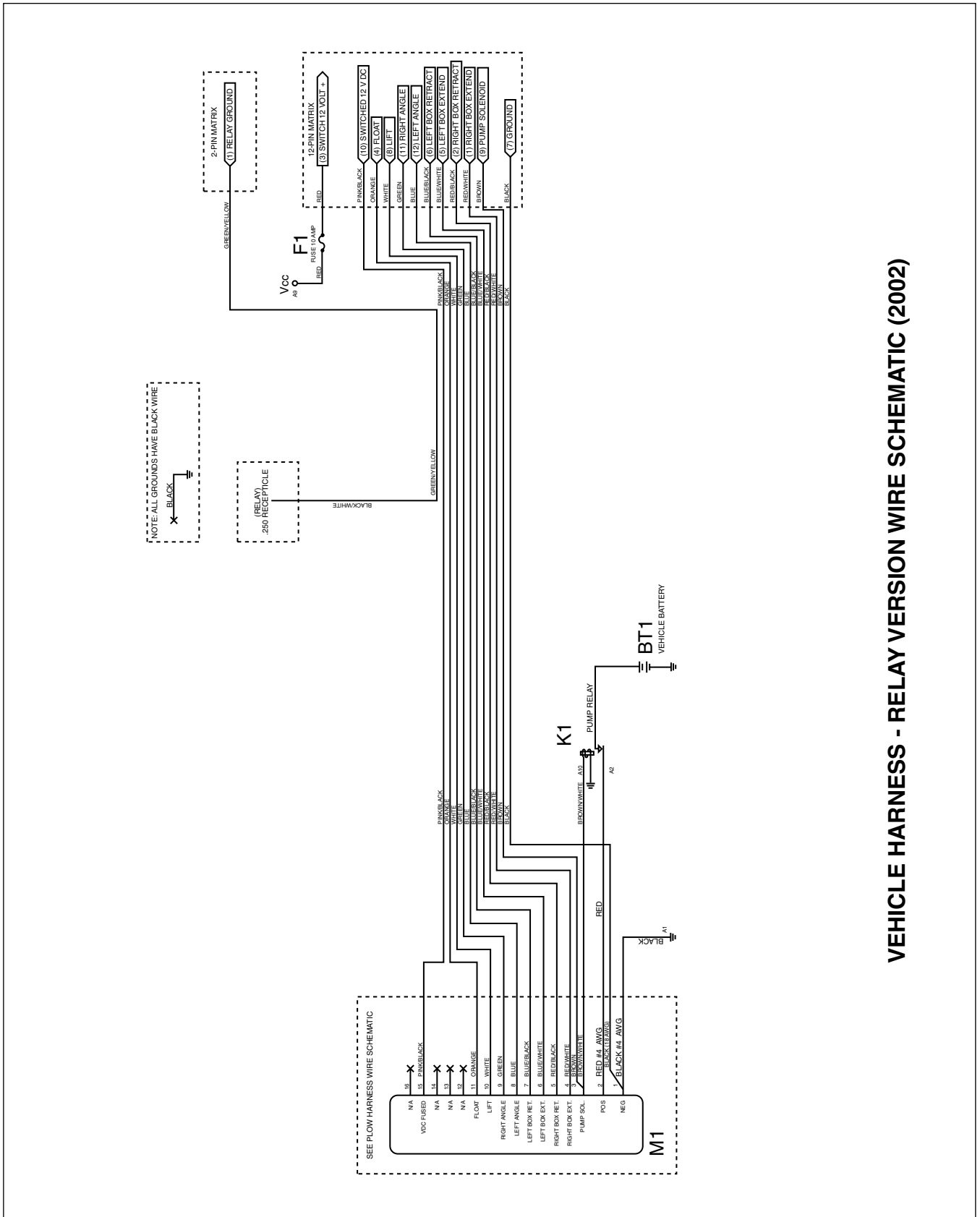


**MAIN LIGHTING HARNESS (2002)
 RELAY VERSION
 P/N 62113**

NOT DRAWN TO SCALE
 UNLESS OTHERWISE SPECIFIED
 ALL DIMENSIONS IN INCHES



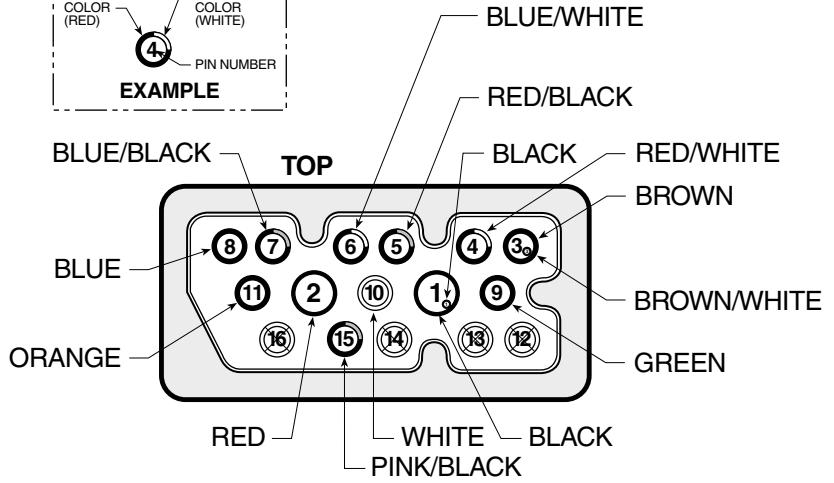
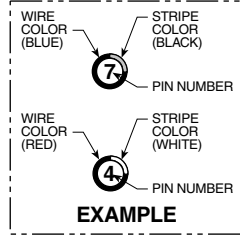
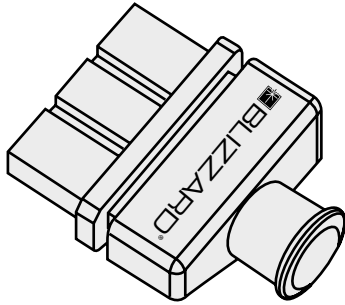
MAIN LIGHTING HARNESS - RELAY VERSION WIRE SCHEMATIC (2002)



VEHICLE HARNESS - RELAY VERSION WIRE SCHEMATIC (2002)

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

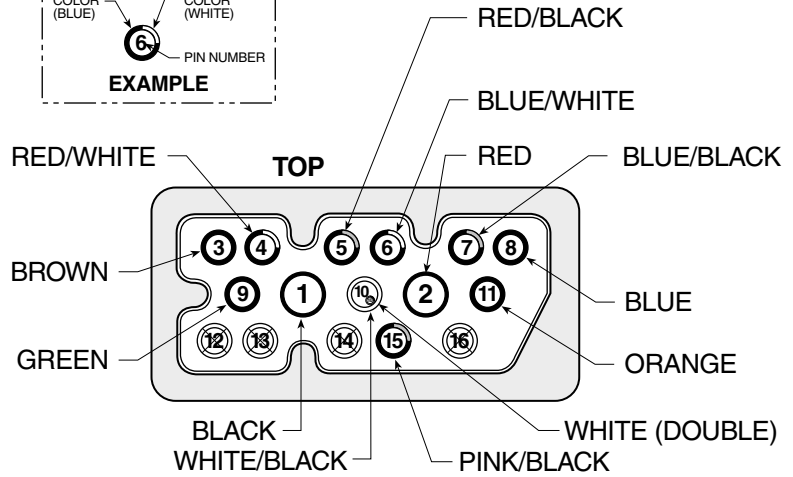
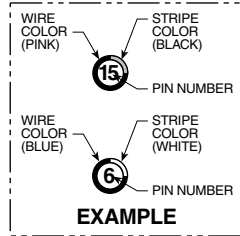
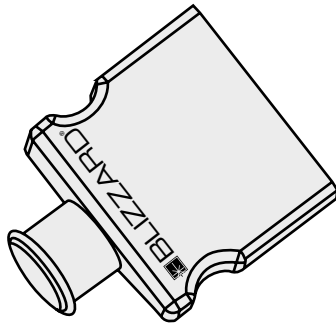
PIN NO.	COLOR	FUNCTION	AWG
1	BLACK	GROUND	4
	BLACK	GROUND	18
2	RED	12 VOLT DC (+)	4
3	BROWN/WHITE	PUMP SOLENOID TO RING	18
	BROWN	PUMP SOLENOID TO MOLEX	18
4	RED/WHITE	RIGHT SLIDE BOX EXTEND	18
5	RED/BLACK	RIGHT SLIDE BOX RETRACT	18
6	BLUE/WHITE	LEFT SLIDE BOX EXTEND	18
7	BLUE/BLACK	LEFT SLIDE BOX RETRACT	18
8	BLUE	LEFT ANGLE	18
9	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 (2002)
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	GREEN	RIGHT ANGLE	18
10	WHITE	LIFT	18
	WHITE/BLACK	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 (2002)
FACE VIEW LOOKING AT MALE CONNECTOR
MALE TERMINALS

TROUBLESHOOTING GUIDE

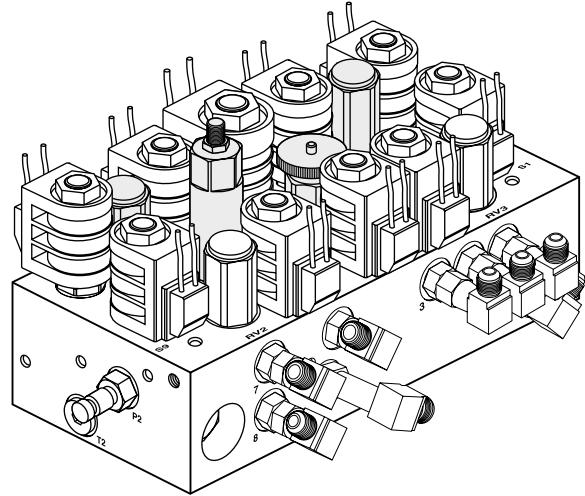
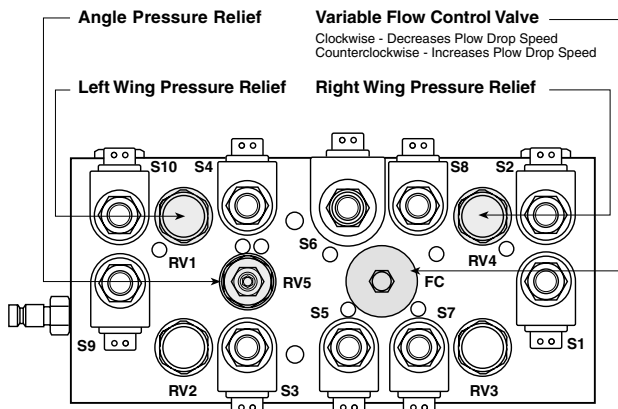
Prior to diagnosing your Power Plow snowplow, verify that all connectors (plow and vehicle wire harness plugs, headlight adapters, control box, fused hot lead, draw latch switch, solenoid ground wire connection, coil wire lead harness, plow headlight harnesses) are free of corrosion and are well lubricated with dielectric grease. Insuring that all connectors are in good working order will save time in determining your snowplow's service needs.

Problem	Probable Cause(s)	Suggested Remedy
Pump will not run.	Plow wire harness may not be properly connected to the vehicle wire harness.	Verify the wire harnesses are properly connected. Review the instruction on pages 10-13.
	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. Note: The POWER rocker switch must be in the "ON" position to properly test any plow function. If the solenoid is grounded and no power exists, diagnose the plow & truck wire 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 it. Replace the pump motor if it is receiving power.
Pump will not turn off. Do not allow the pump motor to continuously run. Unplug the wire 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 solenoid 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.
	System pressure may be set too low. Increasing the pressure excessively will increase the amperage draw. This could damage the vehicle wire harness.	Adjust the pressure. Remove the hex cap on top of the pump and turn the screw clockwise. Proper system pressure should be set at 2400 PSI. Test functions and repeat procedure as needed.
	Amperage from the vehicle's alternator is too low.	Repair or replace vehicle alternator. System amperage draw is 150 Amps at 1500 PSI.
	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 the A-frame latch 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 wire harness.
	A-frame latch is in the (down) locked position.	Lift the A-frame latch into the raised position.
	Diode pack may be corroded or could have failed.	Clean diode pack thoroughly and/or replace.

Problem	Probable Cause(s)	Suggested Remedy
Plow will not lift. Pump works properly. (Continued from page 37.)	Coils on the manifold may be damaged.	Remove both S6 & S7 coils from the cartridge valves. 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 & S7 coils.	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 or S7 to relieve pressure and retighten. DO NOT OVERTIGHTEN! 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.
Plow will not stay angled when plowing.	The angle pressure relief valve is set too low. NOTE: Increasing the pressure relief valve will cause damage to your plow. Do not set the pressure relief greater than 3000 PSI (See illustration on page 39.).	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. Push the plow against a solid object and record the pressure reading. Note: The setting should not exceed 3000 PSI.
Plow will not angle, pump works.	Review all probable causes above.	NOTE: Verify solenoids S3 & S4 for angle functions.
Wing will not stay angled when plowing.	The angle pressure relief valve is set too low. Note: Increasing the pressure relief valve will cause damage to your plow. Do not set the pressure relief greater than 2800 PSI.	Test the wing pressure relief. Attach a fluid PSI gauge to the quick connect fitting on the manifold. The pressure relief should not be greater than 2800 PSI. Review the illustration on page 39 to increase the pressure relief settings.
Wing will not move, pump works.	Control station, wire harness or cables may be loose or improperly connected.	Verify control station, wire harness and all cables are securely connected. Clean if necessary.
	Hydraulic lock in the manifold has occurred.	Loosen cartridge valves S9 & S10 or S1 & S2 to relieve pressure and retighten. DO NOT OVERTIGHTEN! Valves should be torqued to a maximum of 24 ft. lbs.
	No power to the coils.	Verify coils S1 & S2 (pass. side slide box retract and extend) and S9 & S10 (drive. side slide box retract and extend) are grounded, connected properly and receiving power. If no power is available, diagnose the wire harness. Review the plow wire harness schematic on page 31 and the vehicle wire schematic on pages 33 & 35. If power is present, review the next step.
	Coils are receiving power.	Verify that the coils are magnetizing. Position a screwdriver inside of the coil. When the respective function is activated, the screwdriver is drawn to the side of the coil. If the coil is not drawn to the screwdriver, replace the coil. If power is present, review the next step.
	Solenoid cartridge may be contaminated or damaged. A bent cartridge will not allow the valve to move freely inside of the cartridge.	Determine a damaged cartridge valve by reversing the driver's side and passenger's side cartridge valves. Replace valve if necessary.
Plow lowers too slow.	Variable flow control valve is not adjusted properly. (See illustration on page 39)	Turn flow control valve counterclockwise in small increments and test. NOTE: Never make adjustments when the plow is in the raised position! Fluid pressure will make the valve difficult to adjust and serious injury or death can occur from a falling plow.

Problem	Probable Cause(s)	Suggested Remedy
Plow drops sporadically.	Variable flow control valve is opened too far.	Turn clockwise 1/16 of a turn and test. NOTE: Never make adjustments when the plow is in the raised position! 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 green/yellow (G/Y) wire for the ground is connected. Verify black/white (BK/W) wire for the power is connected. If both are connected properly, replace the headlight relay.

Should your snowplow develop other problems not indicated in the Troubleshooting Guide, contact your local dealer for technical assistance and/or replacement parts.





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 Power Plow 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:

This limited warranty does not cover the following:

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 undercarriage system.
5. Blizzard Corporation does not assume liability for damage to the purchaser's vehicle resulting from the attachment and use of a Blizzard Power Plow 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 Power Plow Commercial Warranty.



95 AIRPARK BOULEVARD ■ CALUMET, MICHIGAN 49913 ■ (906) 482-5555

1029-7-99 REV 8/01



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 Power Plow 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:

This warranty does not cover the following:

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 undercarriage system.
5. Blizzard Corporation does not assume liability for damage to the purchaser's vehicle resulting from the attachment and use of a Blizzard Power Plow 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 Power Plow Limited Consumer Warranty.



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

1030-7-99 REV 8/01

8611



95 Airpark Boulevard
Calumet, MI 49913
[888] 680-8600
[906] 482-5555
[906] 482-5445 Fax
www.blizzardplows.com

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