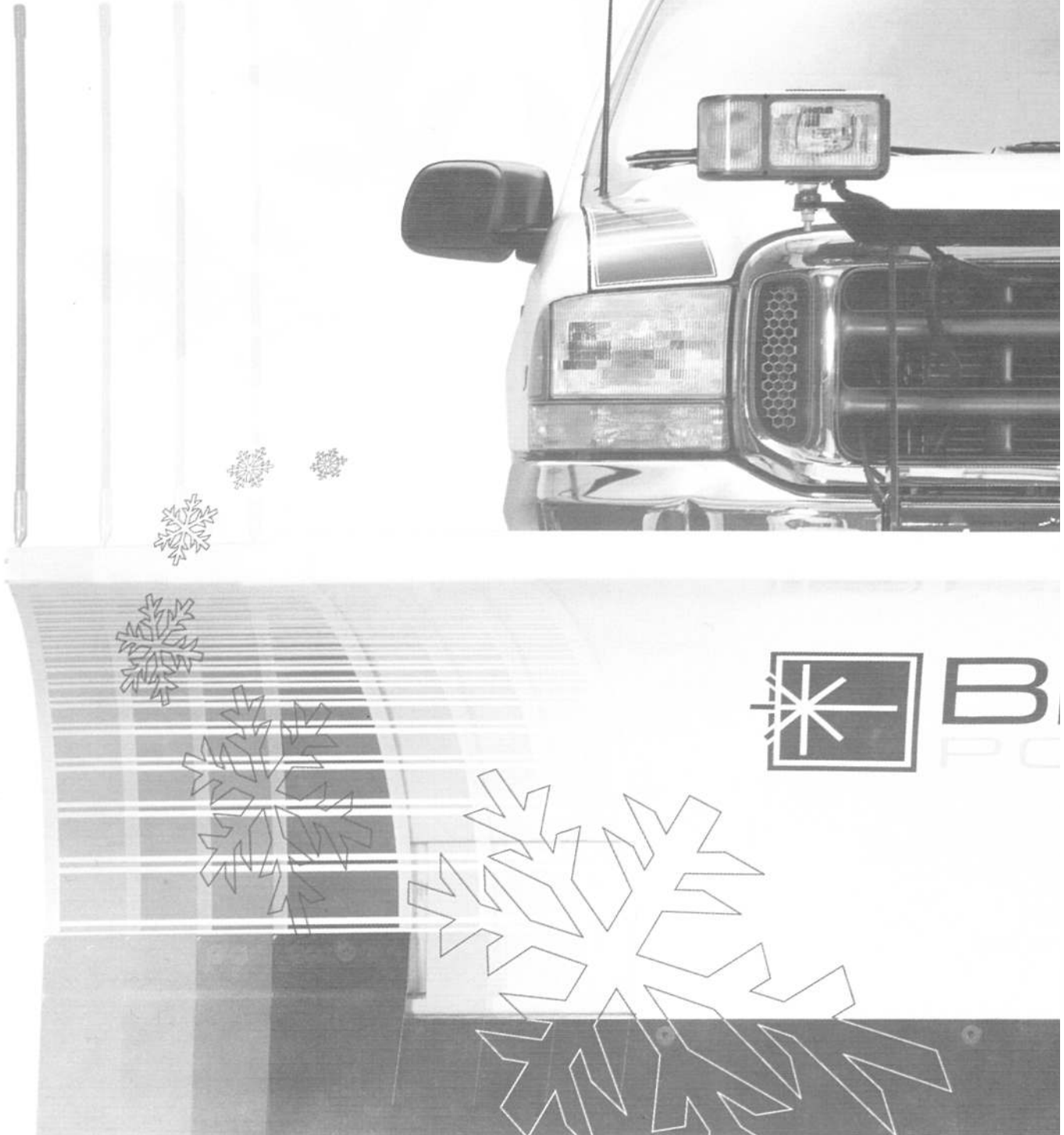


 **BLIZZARD**TM
POWER PLOW

Get Wide



ASSEMBLY & OPERATION MANUAL

Model 810 Snowplow

Introduction

Congratulations on purchasing the most advanced snowplow available! The Blizzard Power Plow 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 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. Twelve-inch expanding wings automatically transform a compact 8' blade into a massive 10' machine. Also, the independent wings can pivot forward to form our 9'-3" "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 Dealer. Their knowledgeable staff is well informed on the latest Power Plow information. They are also your source for replacement parts, technical assistance and all service repairs.

Comments, suggestions or concerns?
Address all correspondence to:

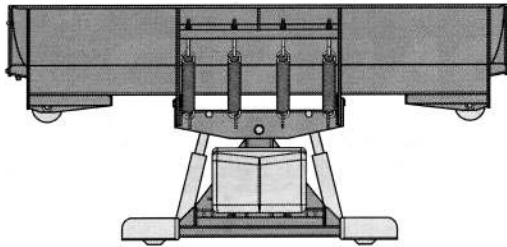
Blizzard Corporation
Customer Service Department
95 Airpark Boulevard
Calumet, MI 49913
(888) 680-8600 Toll Free
(906) 482-5555
(906) 482-5445 Fax

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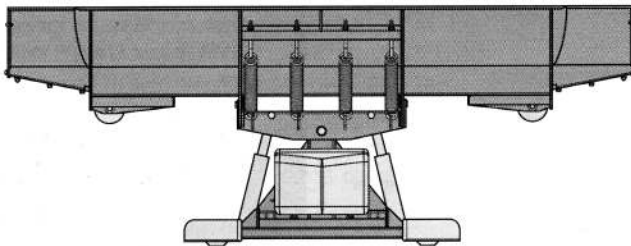
SNOWPLOW OPERATION

Your Power Plow 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.



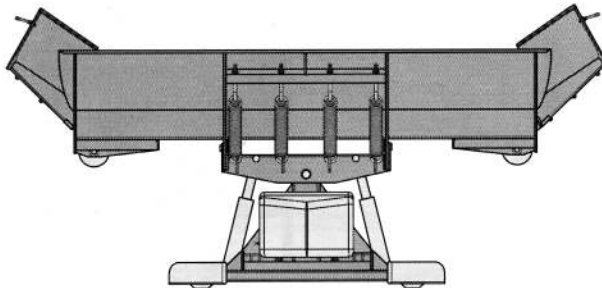
Compact Position (8' Blade Width)

- 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*



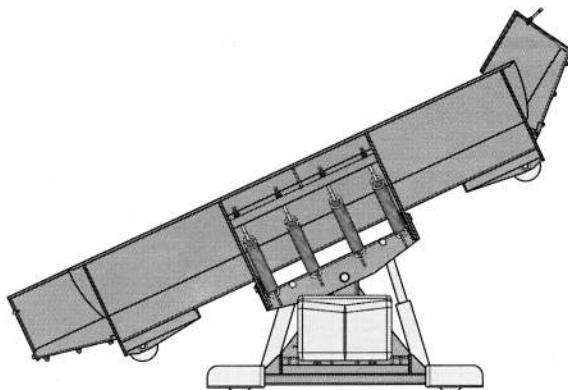
WidePass Position (10' Blade Width)

- 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*



BucketBlade Position (9'-3" 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*



WidePass Position Angled with Wing Forward

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

WARNING!



WARNING:

Prior to operating your Power Plow, 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 at the left.

WARNING

1. Make sure the main power switch on the control unit is in the "OFF" position when attaching the snowplow.
2. Properly attach the snowplow prior to moving the vehicle.
3. Stand clear of the attachment area when mounting the snowplow to the undercarriage and operating the Power Hitch Connect/Disconnect switch. Failure to do so may result in serious injury or death.
4. Securely position all mounting pins prior to operating your snowplow.
5. Do not position your body between the snowplow and the vehicle when servicing or operating.
6. Position snowplow in such a manner as to not block your vision or plow headlights while in transit.
7. 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 blade while in transit.
9. Do not exceed 40 mph when transporting plow.
10. Do not exceed 10 mph when plowing.
11. Always lower blade when 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.

Blizzard Power Plow is protected by U.S. Patent 5,899,007, U.S. Patent 5,638,618. Other patents pending.

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

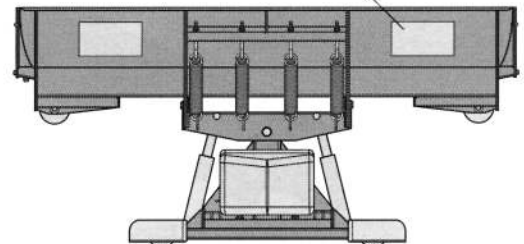
**READ
OWNER'S
MANUAL
THOROUGHLY
PRIOR TO
OPERATING
PLOW.**

 **BLIZZARD™
CORPORATION**

Calumet, MI 49913

1011-6-99

Should the WARNING! label or any of the labels that came with your snowplow become hard to read or wear off, contact your local dealer or call our Customer Service Department at 1-888-680-8600 for replacements.



ASSEMBLY INSTRUCTIONS

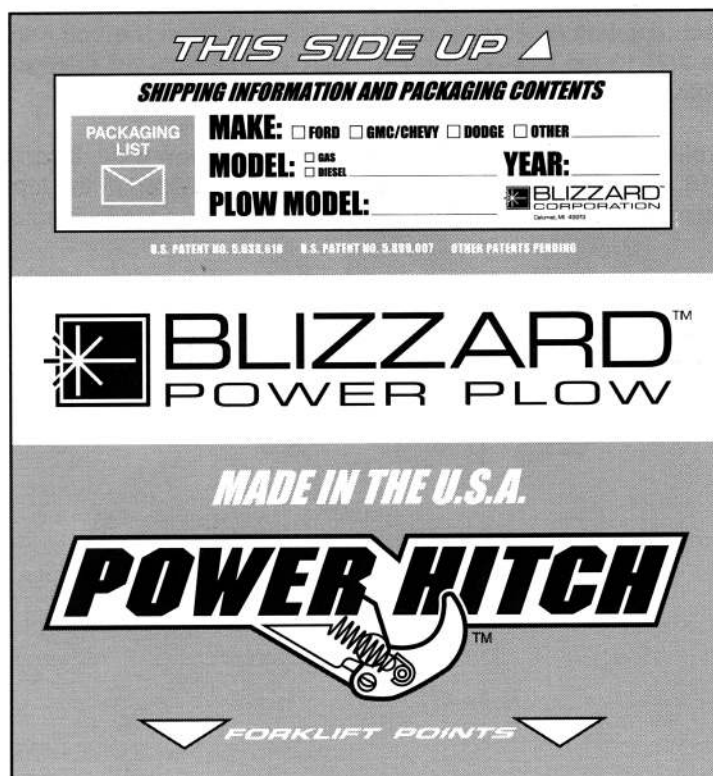
Unpacking & Inspection

Your Blizzard Power Plow 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:

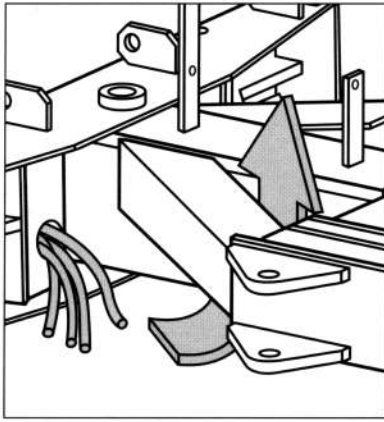
1. Remove packaging slip from the end panel of the pallet cover. Retain all documentation for your records.
2. Remove the polyethylene pallet cover from the crating.
3. All wood framing should be removed from the pallet for easy access to the snowplow.
4. Due to the odd shaped components and size of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

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



Pallet Cover End Panel

The tear resistant woven polyethylene pallet cover 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 make, model, and year of the vehicle the enclosed undercarriage is to be installed on. The plow model number and the serial number of the snowplow are given together. The first three digits of the number indicated is always the plow model – 810 and the entire seven digit number make up the serial number. The packaging list is also attached to the end panel. Be sure to retain this list for your records.



Feed each group of hoses (four 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.

Moldboard 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 openings in the front face of the pivot beam.



CAUTION: The hoses inside of the slide box are installed such that they move laterally with the action of each wing. To avoid damaging the hose connections and the wing and slide box cylinders, pull approximately one foot of each hose grouping toward the center of the moldboard. Verify that there is approximately 12" of "slack" for each hose grouping. Reposition both 12" lengths back into the slide box – the hoses are now at a safe travel distance for operation.

Close the slide box by installing the SLIDE BOX ACCESS PLATES. Rest each grouping of hoses in the opening of the plates and position the "lip" of each plate in the bottom, inside edge of both slide box openings. Fasten each plate with two hex washer self-drilling screws.

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" hex head screw through each mounting hole and secure with a 3/4"-10 top lock nut. Tighten each nut until approximately two threads appear.



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

3. Hook each TRIP SPRING to the 3/4" diameter receiving holes located on the pivot beam and connect the opposite end of the spring to their respective EYE BOLTS. Install the four 1/2"-13 x 5" eye bolts through the TRIP SPRING MOUNTING ANGLE on the top rear of the blade. Secure each eye bolt by placing one 1/2" flat washer on the bolt and thread one 1/2"-13 top lock nut. Tighten each top lock nut until daylight appears between the coils of the spring.
4. Install the plastic BLADE GUIDES at the end of each plow wing. Insert the 5/16"-18 x 1" hex head screw through the holes provided at the top of the wing reinforcement rib. Tighten all screws using the top lock nuts provided.

Congratulations! You have successfully completed the first stage of assembly for the Blizzard Power Plow Model 810. In the next section you will assemble the A-frame and the components that are attached to it.



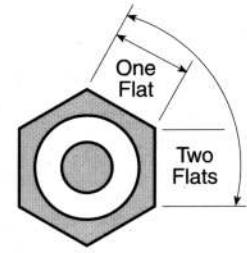
Maximum Bolt Torque (Dry Conditions Only)

Diameter-Thread Pitch	Grade 8 (foot-pounds)
1/4"-20	11 ft-lbs
5/16"-18	24 ft-lbs
3/8"-16	44 ft-lbs
7/16"-14	70 ft-lbs
M12 x 1.75	88 ft-lbs
1/2"-13	107 ft-lbs
M14 x 2.0	140 ft-lbs
9/16"-12	154 ft-lbs
5/8"-11	211 ft-lbs
3/4"-10	376 ft-lbs
1"-08	900 ft-lbs

Note: Use 25% less torque when lubricated. Check and re-tighten all fasteners after the first three hours of use. Periodically review all fasteners after the initial inspection.

A-frame Assembly

1. Begin the assembly by positioning the A-frame so the factory-installed HYDRAULIC LIFT CYLINDER is visible. *Note: To aid in the installation, stand the plow up with the curve of the blade facing the ground.* Next, remove both of the plastic dust caps from the hydraulic cylinder hose ports. Attach one 7/16" x 7/16" 45° ADJUSTABLE ELBOW ADAPTER to the driver's side port and one 7/16" x 7/16" MALE CONNECTOR ADAPTER to the passenger's side port. All of the hydraulic adapters can be found packaged with the manifold assembly. Hand tighten each adapter until snug, then torque approximately 1-1/2 to 2-1/2 flats. Reference the table to the right for proper torque specifications.
2. Once the adapters have been installed on the cylinder, begin to connect the HYDRAULIC HOSES. The 45° adapter on the driver's side of the cylinder receives a 1/4" x 15" hose identified by a label containing the number 3. Connect the 45° angle on the hose to the hydraulic adapter on the cylinder. The male connector adapter on the passenger's side of the cylinder receives a 1/4" x 14" hose identified by a label containing the number 4. Hand tighten the straight end of the hose to the hydraulic adapter on the cylinder. For ease of installation, the hose will be properly torqued to the adapter after the opposite end is connected to the manifold.
3. Next, use a screwdriver to pull the hydraulic cylinder rod out from its base. Place one 1-1/4" diameter washer over the cylinder rod, followed by the 12" COMPRESSION SPRING and another 1-1/4" washer. Compress the coils approximately 2" and clamp the spring and washers in place using a pair of vice grips. This will help facilitate the draw latch installation.



Torque Table for 37° Adapters

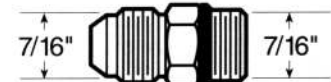
Port Thread Size	Assembly Torque (foot-pounds)	Original Assembly (F.F.F.T.)
7/16-20	15 ± 1.0	2.5 ± .25
9/16-18	18 ± 2.0	2.5 ± .25

Torque Table for O.R.B. Adapters

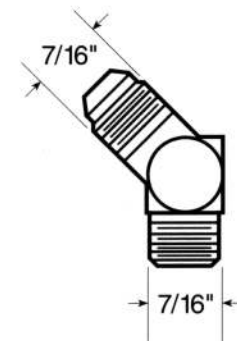
Port Thread Size	Assembly Torque (foot-pounds)	Original Assembly (F.F.F.T.)
7/16-20	15 ± 1.0	1.5 ± .25
9/16-18	25 ± 2.0	1.5 ± .25

F.F.F.T. = Flats From Finger Tight

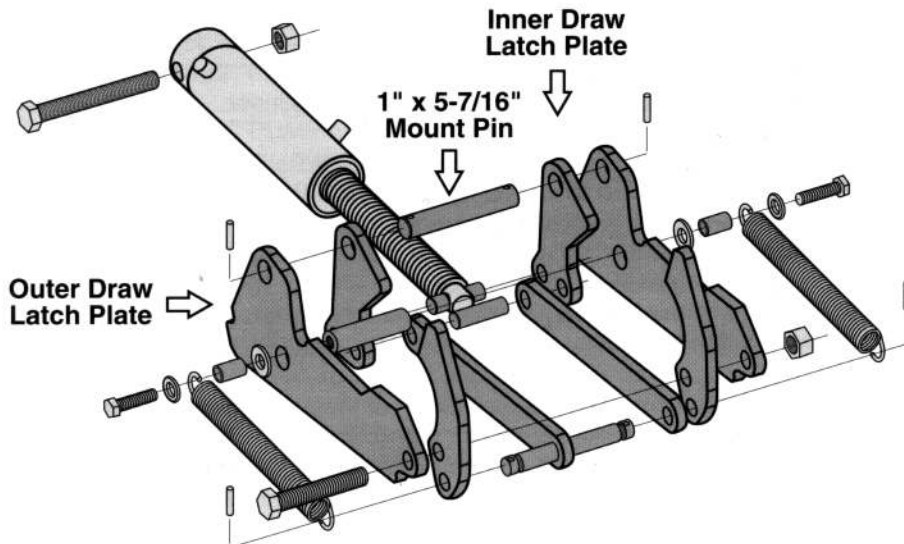
Ex.) After threading a 7/16-20 O.R.B. adapter finger tight, torque the fitting approximately 1-1/2 flats (faces) for proper installation.



Male Connector

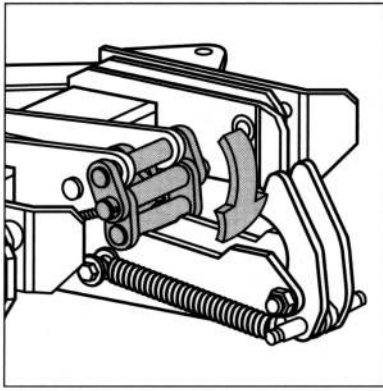


45° Adjustable Elbow

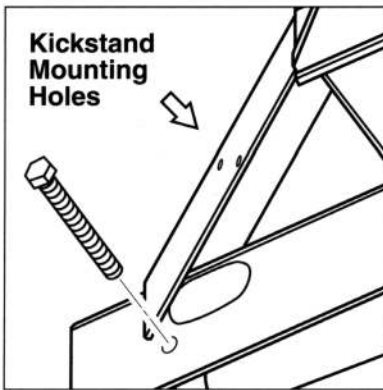


Draw Latch Assembly

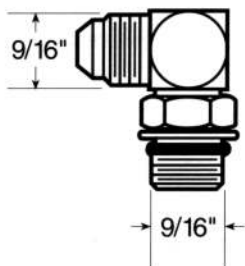
The draw latch consists of a series of interconnected plates and pins that attach to the A-frame and the hydraulic cylinder that raises and lowers the plow. The draw latch is also the most difficult component to install on the entire plow and may require the help of a second technician.



The overcentering linkage on the A-frame should be placed in the receiving pockets cut into the outer draw latch plates. **It is important that the top and center pins are lubricated with a medium grade oil. Without proper lubrication, the overcentering pins will not function properly and the plow will not lift.**



Attach the plow kickstand to the inside angle on the A-frame with two 3/8"-16 x 1" hex cap screws and nuts.

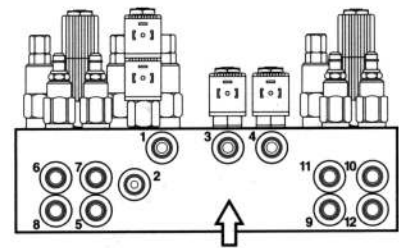


90° Adjustable Elbow

4. Begin the draw latch installation by removing the 1" x 5-7/16" DRAW LATCH MOUNT PIN from the assembly. By removing this pin, the INNER DRAW LATCH PLATES can swing free. Proceed to remove the 3/4" x 2-1/2" INNER DRAW LATCH PLATE BOTTOM PIN. Position the plates on either side of the HYDRAULIC CYLINDER ROD and insert the 3/4" x 2-1/2" pin through the plates and cylinder rod. Next, rotate the draw latch assembly toward the OVERCENTERING LINKS on the A-frame. Align the holes in the outer draw latch plates with those of the inner draw latch plates and A-frame. Secure the assembly to the A-frame by replacing the draw latch mount pin. To prevent the mount pin from vibrating loose, insert one SPRING PIN through the hole provided. Complete the draw latch installation by removing the vice grips from the hydraulic cylinder. This will allow the compression spring to expand against the draw latch.
5. Locate both of the 4" extension springs in hardware kit #2. Attach one end of the spring to the cotter pin welded on the center pin of the overcentering linkage. Connect the opposite end of the spring to the tab welded on the A-frame. Repeat the installation on the opposite side. The extension springs keep tension on the overcentering linkage and returns the links to the outer draw latch plate receiving pocket when the plow is in the lowered position.
6. Proceed to install the PLOW KICKSTAND on the inside of the angle on the driver's side of the A-frame. Align both holes on the kickstand with those on the A-frame and insert two 3/8"-16 x 1" hex cap screws. Secure each screw with one 3/8"-16 top lock nut. Lower the kickstand to the ground by pulling the KICKSTAND LOCK PIN. This will support the A-frame in the horizontal position for the rest of the installation process.
7. 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 one 3/4" x 5" hex cap screw and one 3/4" 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 one 3/4" x 5" hex cap screw through the aligned holes and secure the screw with one 3/4" top lock nut. Repeat the same installation for the opposite angle cylinder.
8. Remove each dust cap from both of the hydraulic angle cylinder ports and attach one 9/16" x 9/16" 90° ADJUSTABLE ELBOW ADAPTER to each port. Angle each adapter downward and tighten approximately 1-1/2 flats. Connect the 3/8" x 20" hydraulic hose, labeled #1, to the driver's side angle cylinder adapter. Attach the 3/8" x 24" hydraulic hose, identified by a #2, to the passenger's side angle cylinder adapter. Be careful not to over tighten the hose connections.

Once you have completed the installation of the angle cylinder hoses, we will shift our attention to assembly of the manifold. The manifold contains several attachments that you will need to install prior to securing the assembly to the pump and A-frame.

9. Each of the 12 HYDRAULIC HOSE PORTS on the MANIFOLD contain DUST CAPS. Replace each cap with the appropriate hose fittings shown to the right. Install the 9/16" 90° SWIVEL ELBOW to hydraulic hose #2 or the passenger's side angle cylinder hose. This will make the installation of the hose to port #2 much easier. *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 (shown below).*



Port #3 Contains Orifice



CAUTION: Port #3 contains an ORIFICE that restricts the returned hydraulic fluid for the float function. Verify that this item is in the port prior to attaching the hose fitting.

The Sequencing Valve & Hydraulic Hose Identification Guide (left) is located under the pump and manifold cover.

Sequencing Valve & Hydraulic Hose Identification Guide

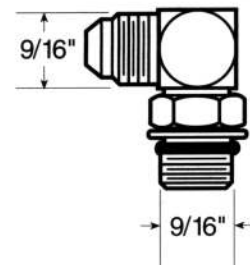
SEQUENCING VALVES	
Sequence Valve Identification	Function
L-WINGEXT	Left Wing Cylinder Extend
L-SLDRET	Left Slide Cylinder Retract
R-WINGEXT	Right Wing Cylinder Extend
R-SLDRET	Right Slide Cylinder Retract

HYDRAULIC HOSES	
Port Identification	Function
1	Right Angle
2	Left Angle
3	Float
4	Lower
5	Left Wing Retract
6	Left Wing Extend
7	Left Slide Box Retract
8	Left Slide Box Extend
9	Right Slide Box Extend
10	Right Slide Box Retract
11	Right Wing Extend
12	Right Wing Retract

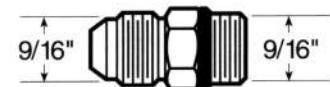
NOTE: Energize the following solenoids for the functions:

S1	Right Slide Box Retract
S2	Right Slide Box Extend
S3	Angle Left
S4	Angle Right
S5 & S7	Float
S6 & S7	Left
S5 & S6	Lower
S9	Left Slide Box Retract
S10	Left Slide Box Extend

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Columet, MI 49913 1023-6-98

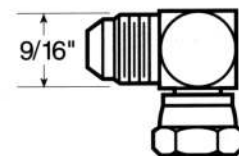


90° Adjustable Elbow
(Port #1)



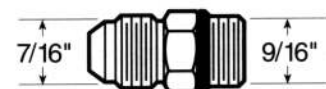
Male Connector
(Port #2, #6, #11)

10. The HYDRAULIC PUMP has been pre-packaged and needs to be adjusted to conform to the A-frame assembly. Begin by loosening the nuts on the pump and pump solenoid ground wire terminals. Remove the HOSE CLAMP that supports the solenoid and rotate it 180° on the pump. Clamp the solenoid approximately 3/4" from the end of the pump and in the five o'clock position. Re-tighten both ground wire terminal nuts. *Note: Verify the solenoid does not touch the A-frame or pivot beam when the plow is angled. Contact with either will cause the solenoid to arc. Adjust the hose clamp and pump solenoid as needed.*



90° Swivel Elbow
(Port #2)

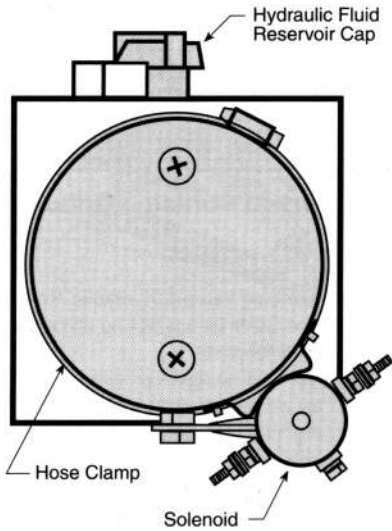
11. Remove the dust caps from both the pump and manifold and install the two RUBBER O-RINGS in the slots provided on the bottom of the manifold. Position the pump against the manifold and align the two holes that accept the mounting bolts. *Note: The 5/8" pressure relief valve hex head cap on the PUMP should be facing up and the hydraulic hose ports on the MANIFOLD should be facing down.*



Male Connector
(Port #3, #4, #5, #7, #8, #9, #10, #12)



Once the pump is positioned against the manifold do not turn either component – keep as stationary as possible. Slight movement of the pump or manifold will twist and break the o-rings, causing a hydraulic fluid leak.

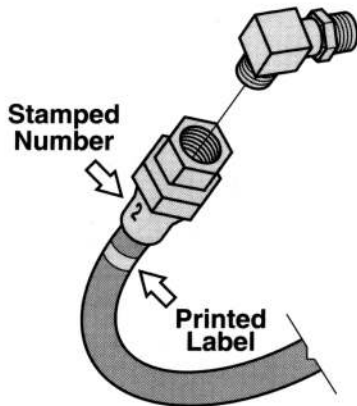


End View of the Pump with Repositioned Solenoid

12. Secure one 5/16"-18 x 3-1/2" hex cap screw and lock washer through the top receiving hole in the manifold and into the pump. Carefully position the pump and manifold between the two mounting brackets. *Note: The CARTRIDGE VALVES should be facing away from the main blade and the HYDRAULIC HOSE PORTS facing the ground.* Secure one 5/16"-18 x 3-3/4" hex cap screw and lock washer through the rear bracket and into the bottom receiving hole in the manifold block. Tighten one 3/8"-16 x 3/4" hex cap screw with one 3/8" washer through the front bracket and into the top receiving hole in the pump. Insert one 3/8"-16 x 2" threaded stud and nylock jam nut through the bottom receiving hole in the pump. Loosely attach one 3/8" washer and wing nut to the stud.
13. Once the pump and manifold are in place, connect the hydraulic hoses to their respective adapters on the manifold. Remember, the labeling on the hydraulic hoses correspond with the stamped numbers on the manifold.

Begin installing the hoses with the passenger's side angle cylinder hose. Run the hose between the cylinder and the A-frame angle to port #2. Connect the 90° swivel elbow to the 9/16" x 9/16" male connector adapter. Make the connection to port #3 with the driver's side raise and lower cylinder hose. Attach the 90° angle on the hose to the 7/16" x 9/16" male connector adapter on the manifold. Continue to connect the passenger's side raise and lower cylinder hose to port #4. Loop the hose through the opening in the A-frame and connect the 45° angle to the 7/16" x 9/16" male connector adapter. Once you have tightened the hose to the manifold, don't forget to properly torque the hose connector to the cylinder adapter. Complete the A-frame assembly by matching all of the remaining hoses to their respective manifold ports.

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



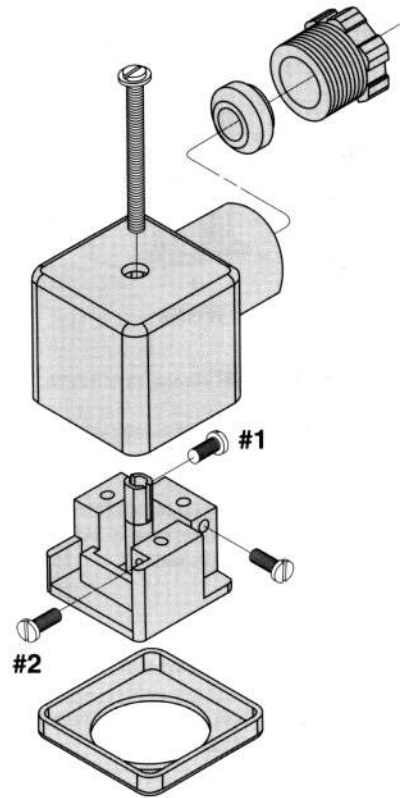
All of the hoses shipped with the snowplows contain either a stamped number on the sleeve or a printed label applied to the hose. All numbers, stamped or printed, correspond with the stamping of the ports on the manifold.

Electrical Assembly - Plow Harness

- Proceed to install the PLOW WIRING HARNESS. Begin the installation by positioning one ground wire (black) and its paired color coded wire from the harness through the threaded plastic nut, gasket and connector housing. Loosen the screws in spade slot #1 and #2 and insert each wire into either slot. *Note: The third spade slot does not receive any wire. Both wires should be directly across from one another. Review the diagram to the right. The numbers are indicated on the side that plugs into the DIN solenoid.* Pinch the wires by tightening each screw. Join both connector housing pieces together and cap with the formed gasket. Remove the protective cap on the appropriate DIN SOLENOID, (Reference the location of each solenoid and its respective color coded wire in the chart below) plug the DIN CONNECTOR into the spades and securely fasten using the center screw provided. Repeat the same installation for the remaining nine solenoids.

Manifold Stamping	Color Coded Wires	Manifold Stamping	Color Coded Wires
S1	Red/Black	S6	White
S2	Red/White	S7	Orange/White
S3	Blue	S8	Orange/Red
S4	Green	S9	Blue/Black
S5	Orange/Black	S10	Blue/White

Note: Each coil receives a black (ground) wire. The ground is interchangeable with spade slot #1 or #2. Match the remaining color coded wire above with the open spade slot (#1 or #2). Also, the numbers stamped on the manifold can be used to identify each coil. Match each color coded wire to the appropriate coil by reviewing the chart above.



- Continue the wire harness installation by installing the large, black HOT WIRE. Remove the 5/16" x 3-1/2" hex cap screw and washer from the top manifold mount. Insert the eyelet from the ground through the washer and screw and rethread it into the manifold. Next, locate the brown PUMP SOLENOID ACTIVATION WIRE. Position the eyelet on the wire over the small terminal and secure it with the washer and nut provided on the solenoid. Connect the remaining RED POWER WIRE to the large pump solenoid terminal.
- Finalize the plow wire harness installation by mounting the POWER HITCH CONNECT/DISCONNECT TOGGLE SWITCH. Insert the switch into the mounting bracket with the key cut in the threads facing upward. Fasten the hex jam nut and serrated nut in place and cap the switch with the SILICONE TOGGLE BOOT COVER. Be sure to tuck the DIODE BOARD and loose wiring behind the toggle switch and position the wire harness braid in the notch on the bracket.
- To install the PUMP & MANIFOLD COVER, position it over the rear brackets on the A-frame and align the notches in the cover with the welded screws on the bracket. Secure the cover with two 3/8" washers and wing nuts. Verify the cover is positioned over the toggle switch mount bracket and on the inside of the kickstand. Pop the front of the cover on the threaded stud and secure it with one 3/8" washer and wing nut.

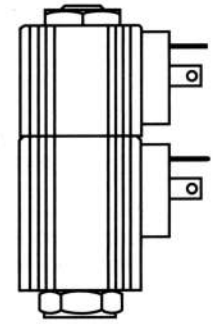
Congratulations! You have just completed building the finest snowplow available! However, the vehicle wire harness still needs to be installed. That is the focus of the second half of the electrical assembly instruction.

Position each DIN connector on the solenoids such that they do not interfere with the pump and manifold cover. Should a connector prohibit the cover from installing, simply remove the center screw from the DIN connector, loosen the plastic nut, rotate the connector housing and tighten the screw back into the DIN.

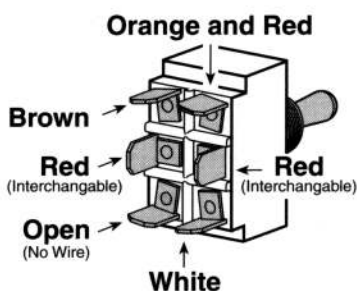
Note: If you received a harness that contained wire leads instead of DIN connections, match the number on the red, wire lead solenoids to the stamping on the manifold. Remove the hex nuts from the CARTRIDGE VALVES and place their respective solenoids over the valve. Secure the solenoid by replacing the hex nut. Reference the chart below for the proper orientation of the stacked solenoids.

Top	Bottom
S1	S2
S3	S4
S9	S10

S1 & S2, S3 & S4, and S9 & S10 are all paired solenoids. Review the label under the pump and manifold cover for the proper location.



Electrical Assembly - Vehicle Harness

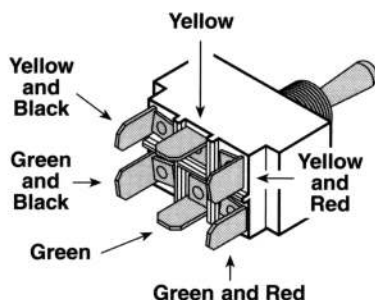


Power Hitch Connect / Disconnect Switch

Proper orientation of the color-coded wires on the back of the Power Hitch Connect/ Disconnect Switch. Verify the key cut into the threads of the toggle switch are facing up on installation. If the key is facing downward, the connect and disconnect functions will be reversed.

Available Headlight Adapter Kits

62010	1980 & Older, 1995 & 1996 Chevrolet/ GMC, Ford, 1983-93 Dodge
62011	1987-92 Ford, 1991-99 Dodge
62012	1993-99 Ford
62013	1990-99 GMC, 1991-'99 Chevrolet (Except '99 Chevrolet Silverado & '99 GMC Sierra)
62014	1999 Chevrolet Silverado and 1999 GMC Sierra



Vehicle / Plow Headlight Switch

Connect the wires from the vehicle harness to the spades on the back of the Vehicle/Plow Toggle Switch. Review the diagram above for proper orientation of the color-coded wires.



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 at the interior of the engine. 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.*
2. Loosely position the remaining portion of the harness over the driver's side fender well and in front of the radiator core support. Position both of the large, gray **VEHICLE HEADLIGHT CONNECTORS** near the truck headlights and the smaller, black **PLOW HEADLIGHT CONNECTORS** near the grill of the vehicle.
3. Proceed to 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 wire 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.
4. Connect the vehicle headlights to the vehicle wire harness using a headlight adapter kit. Due to differences in the construction of the adapter kits and the various make and model vehicles you will be servicing, the headlight adapter kits are not packaged with your snowplows. To place an order for headlight adapter kits, contact our Customer Service Department at 1-888-680-8600.

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.
5. After the headlight adapters have been installed, connect the **BLACK and RED BATTERY WIRES** from the vehicle wire harness to their respective battery terminals.
6. Once the connections to the vehicle headlights and battery are secured, proceed to fasten the **SPLIT LOOM TUBING** to the vehicle. Safely route all harness lengths around the engine components and attach them to

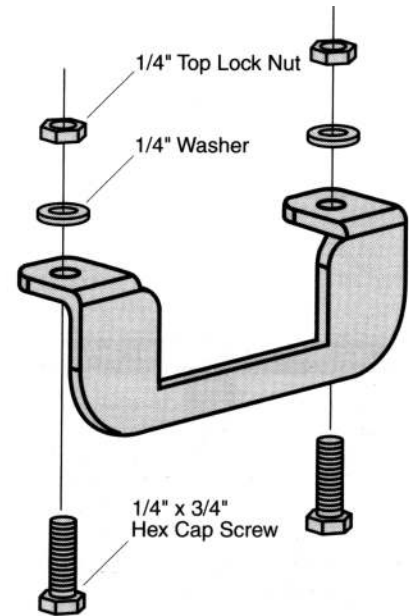
the vehicle with nylon ties. Extend the PLOW HEADLIGHT CONNECTORS through the grill of the vehicle and position the HARNESS PLUG and WEATHER CAP near the bumper.



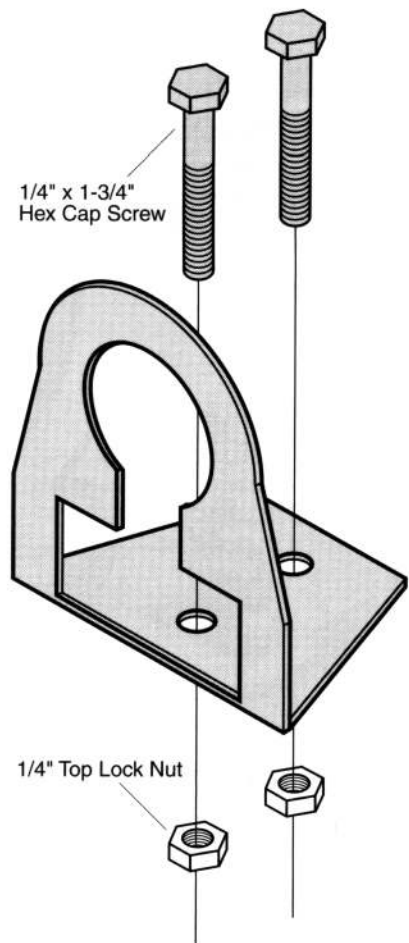
Do not fasten the wire harness to areas that come in contact with moving engine parts or possess extreme heat. The harness could become tangled and/or melt causing electrical failure and vehicle damage.

7. Locate a convenient position to mount the WIRE HARNESS PLUG BRACKET near the driver's side bumper of the vehicle. This bracket will hold the plug to the vehicle when the snowplow is removed from the undercarriage. Position the bracket into the slot provided on the plug. Mount the bracket using two 1/4" x 3/4" hex cap screws and secure with 1/4" top lock nuts and washers. *Note: If you received a dual connector harness, the mounting bracket is constructed different. Review the diagrams to the right for proper hardware requirements.*
8. Return to the driver's side cab interior to install the remainder of the vehicle wiring harness. Find an accessible location for the PLOW HEADLIGHT SWITCH & BRACKET under the dashboard. Install the headlight bracket using two self-tapping screws. Insert the headlight toggle switch through the bracket and secure with the knurled nut provided. Attach all 6 color coded wires from the harness to the backside of the switch (Refer to diagram at the right for proper installation). Connect the RED POWER WIRE (with 15 AMP FUSE) to a SWITCHED POWER SOURCE with a minimum of 15 amps. *NOTE: The red power wire MUST be fused and switched on and off with ignition. Secure all loose wires under the dashboard.*
9. Next, install the universal light tower. Position the tower arms into the receiving pockets located on the undercarriage push beam. (Review the proper undercarriage installation guidelines for your vehicle found near the back of the manual.) Align the mounting holes in the push beam with those on the light tower and insert two 1/2" x 1-1/4" hex head cap screws. Secure the screws with 1/2" washers and 1/2" top lock nuts.
10. Proceed to install the plow headlights. Align one swivel plate on the light tower bar with the mounting hole and insert the threaded stud through each. Secure the headlight with one spacer, a 7/16" lock washer and hex nut. Connect the terminals from the plow lights to the terminals on the vehicle wire harness. Repeat the installation for the opposite headlight.
11. 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 on the control station should be in the "OFF" position.

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



Wire Harness Plug Bracket (Single Connector)



Wire Harness Plug Bracket (Dual Connector)

Testing The Snowplow

1. Fill the HYDRAULIC PUMP FLUID RESERVOIR with automatic transmission fluid until it is 3/4" from the top of the tank. Replace the cap on the reservoir. Once all of the hydraulic functions have been executed, the system will have been filled with approximately 4-1/2 quarts of automatic transmission fluid. Proceed to remove the weather caps from each of the plow and vehicle wire harnesses and connect the plugs. You now have power to the snowplow from the vehicle.
2. Raise the DRAW LATCH on the snowplow by pushing and holding 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. Move the snowplow in position by activating the draw latch CONNECT switch and release.

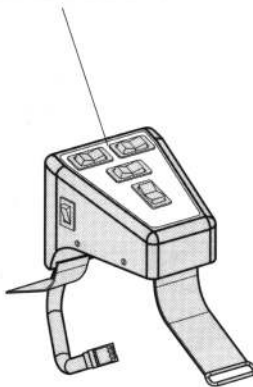


WARNING: Always use caution when operating the draw latch CONNECT/DISCONNECT switch. Keep your hands and feet away from the operation of the draw latch and the main blade. The action of the draw latch moves the snowplow in position for proper attachment to the vehicle. Failure to follow this caution 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 toward the vehicle. The mounting points on the plow and vehicle are now positively aligned. 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. Turn the rocker switch for the power supply on the control station to 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 automatic transmission 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 is ready for action. Should you need additional support during a plow assembly or undercarriage installation, contact our Customer Service Department at 1-888-680-8600.



MOUNTING & DISMOUNTING INSTRUCTIONS

Prior to operating your Power Plow, review the Mounting & Dismounting Instructions label at the driver's side rear of the moldboard (shown below).

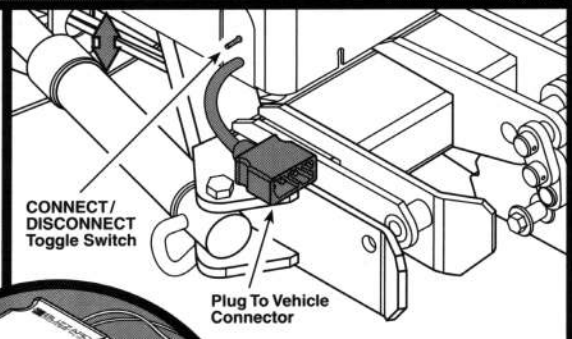
Note: If you received a dual connector electrical harness, the Mounting & Dismounting Instructions label contains different illustrations; however, the instruction is the same.



MOUNTING & DISMOUNTING INSTRUCTIONS

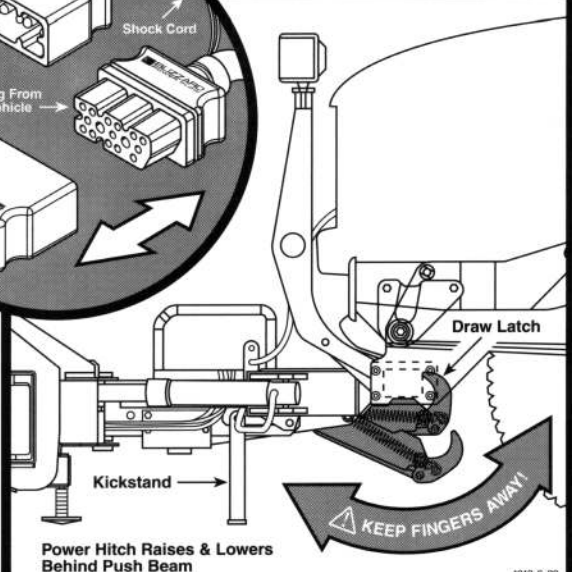
MOUNTING

- 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 dust caps and make electrical connection at the plow and vehicle.
- 4.) Activate Power Hitch 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.** Verify that the draw latch is fully engaged behind the push beam on the vehicle.
- 5.) Insert the driver's side and passenger's side hitch pins through the positively aligned holes on the plow and undercarriage. Pull the kickstand lock pin outward and slide the foot up. Release the pin to lock into place.
- 6.) Turn power supply switch on the main plow control unit in the vehicle to the "ON" position. The plow is now properly mounted and ready to operate.

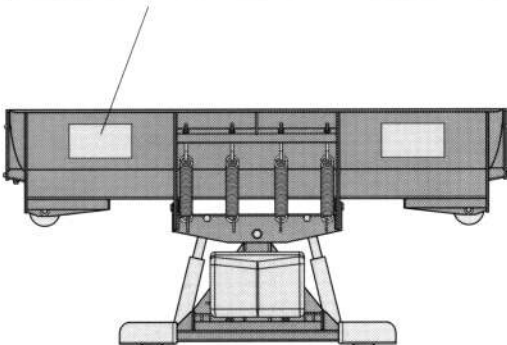


DISMOUNTING

- 1.) Lower the plow on a flat, level surface to dismount.
- 2.) Turn power supply switch on the main plow control unit in the vehicle to the "OFF" position.
- 3.) Pull the kick stand lock pin outward and slide the foot down. Release the pin to lock into place. Remove the driver's side and passenger's side hitch pins.
- 5.) Activate Power Hitch by pushing and holding the "CONNECT/DISCONNECT" switch (on the pump cover housing) 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. Once the draw latch is fully lowered, the plow is disconnected from the vehicle.
- 3.) Disconnect the electrical connection at the plow and vehicle. Replace protective dust caps.



1012-6-99



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 dealer or call our Customer Service Department at 1-888-680-8600 for replacements.

PLOW SPECIFICATIONS

Moldboard

Length	8'
Thickness	12 Gauge
Height	29"
Reinforcement	4 Ribs @ 1/4"
Cutting Edge	3/8" x 6"
Finish	Powder Coat - White

Wings

Length	12"
Thickness	12 Gauge
Height	29"
Reinforcement	1 Rib each @ 1/4"
Cutting Edge	1/4" x 10"
Finish	Powder Coat - White

Trip Mechanism

Trip Spring Type	(4) 3/8" Hooked Extension
Trip Spring Adjustment	1/2" x 5" Turned Eye Bolt

A-frame

Material	Rec. Tube & Channel Type
Hitch Pins	3/4" x 4-3/4" Yellow Zinc
Finish	Powder Coat - Black

Pump

Construction	Steel Housing w/Clear Plastic Tank
Type	Internal Gear Pump
Motor	12 V Starter
Volume Per Minute	2.76 GPM @ 1500 PSI
Weight	33 lb.
Mount	A-frame Install w/Hex Head Screws
Reservoir Capacity	1.5 quarts
Controls	Rocker Switch

Manifold

Construction	Clear Anodized Aluminum
Ports	12
Cartridge Valves	7
Sequence Valves	4
Relief Valves	4
Weight	23 lb.
Mount	A-frame Install w/Hex Head Screws
Maximum Flow Capacity	3.5 gpm

Cylinders

Angle Cylinders	2
Operating Speed	3.5 sec.
Stroke	10"
Ram Diameter	1-3/4"
Bore Diameter	2"

Lift Cylinder	1
Operating Speed	3.0 sec.
Stroke	4-21/32"
Ram Diameter	1-1/4"
Bore Diameter	2-1/2"

Slide Box Cylinders	2
Operating Speed	2.0 sec.
Stroke	12"
Ram Diameter	1"
Bore Diameter	1-1/2"

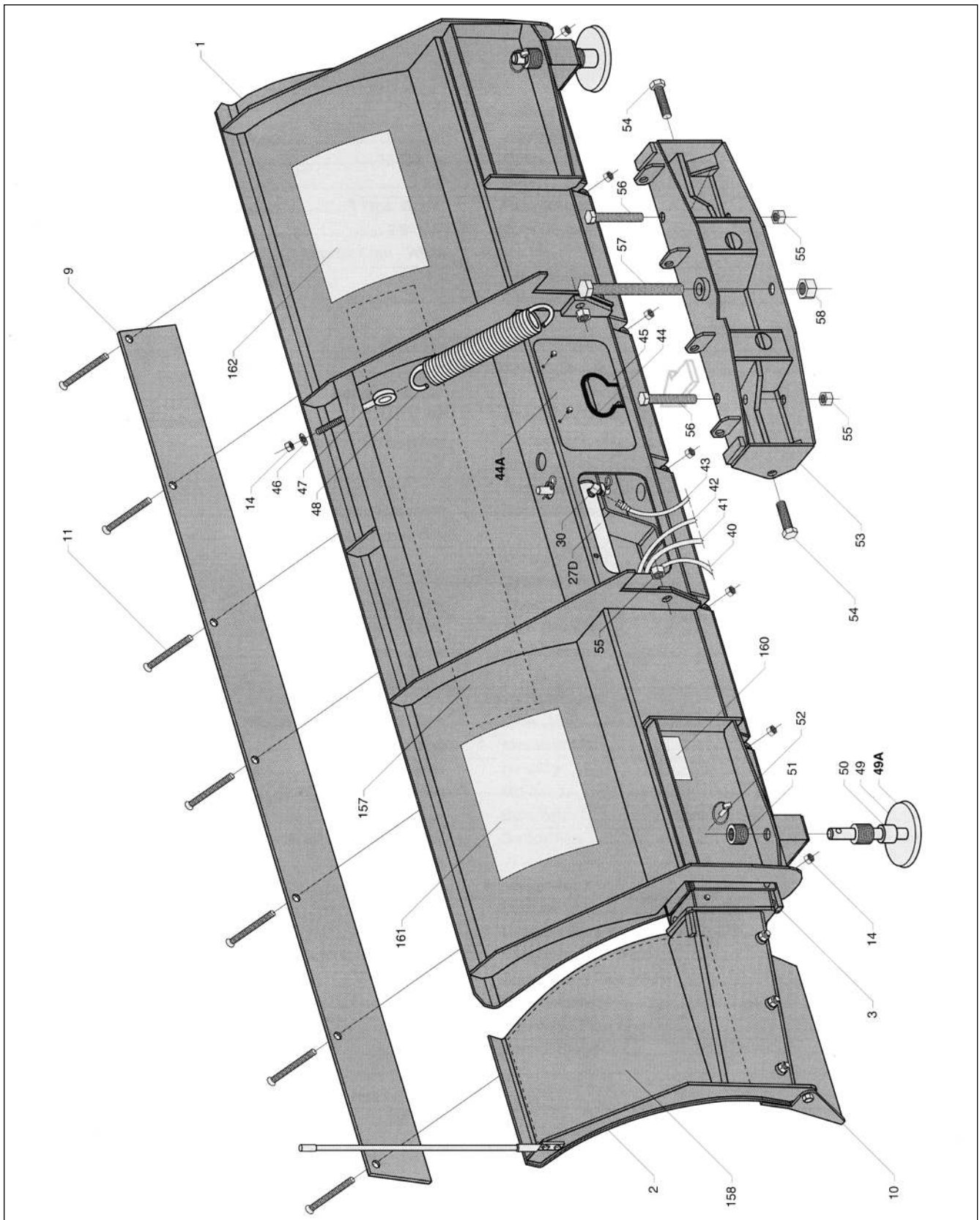
Wing Cylinders	2
Operating Speed	1.5 sec.
Stroke	2"
Ram Diameter	1-1/8"
Bore Diameter	2"

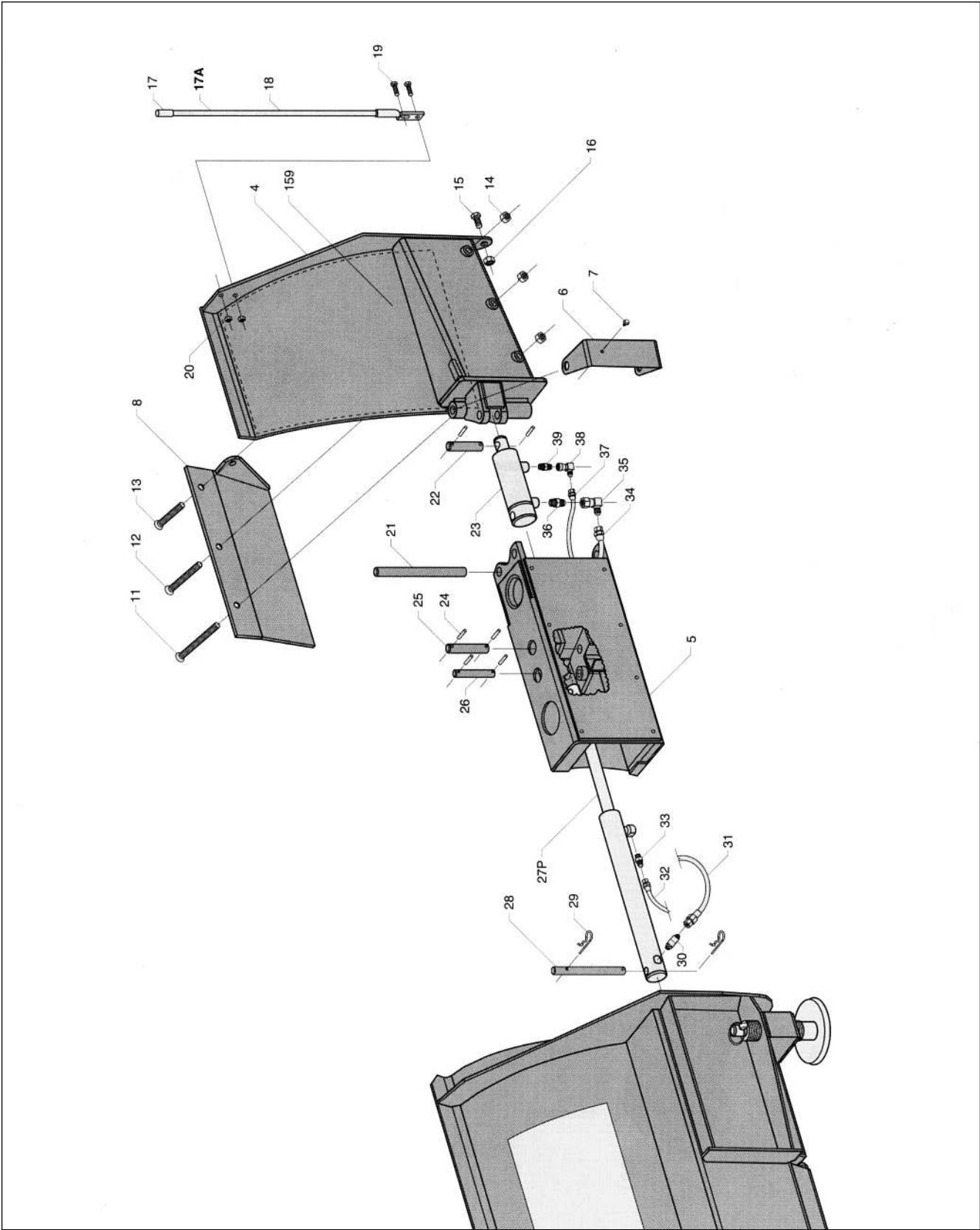
Plow Headlights

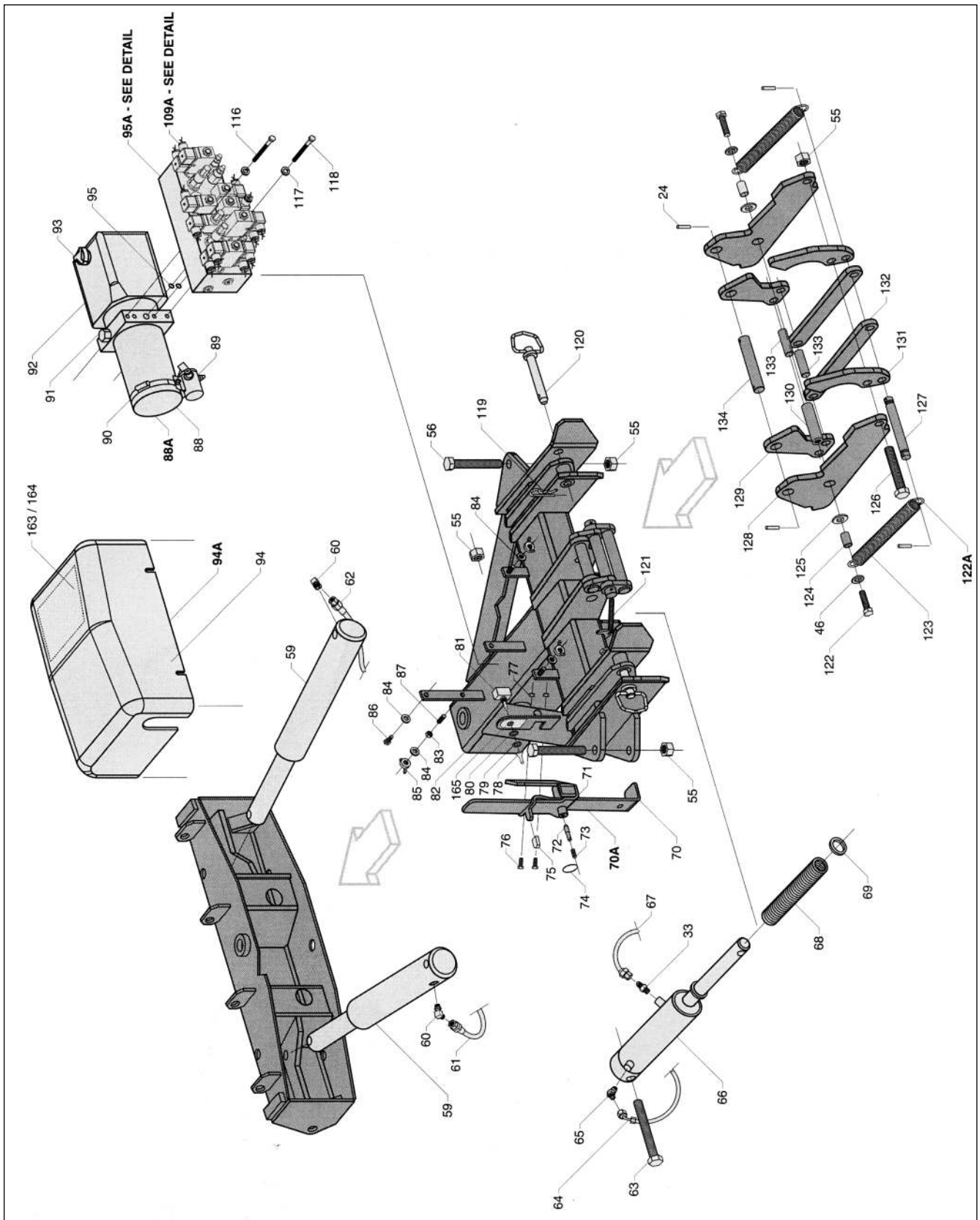
Type	Low Profile w/Turn Signals
Measurements	12" wide x 5" high x 5-1/2" deep
Housing	Plastic Composite
Mount	Adjustable Ball Type
Bulb Type	High/Low Sealed Beam Halogen, 12V Rect.
Switch Type	Dash Mount, Toggle

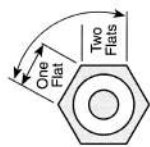
Miscellaneous

Plow Weight	Approx. 870 lb.
Compact Plow Width	8'
WidePass Plow Width	10'
BucketBlade Plow Width	9'-3"
Mount Mechanism	Hydraulic Draw Latch
Adjustable Plow Shoes	2
Control Station	Rocker Switch









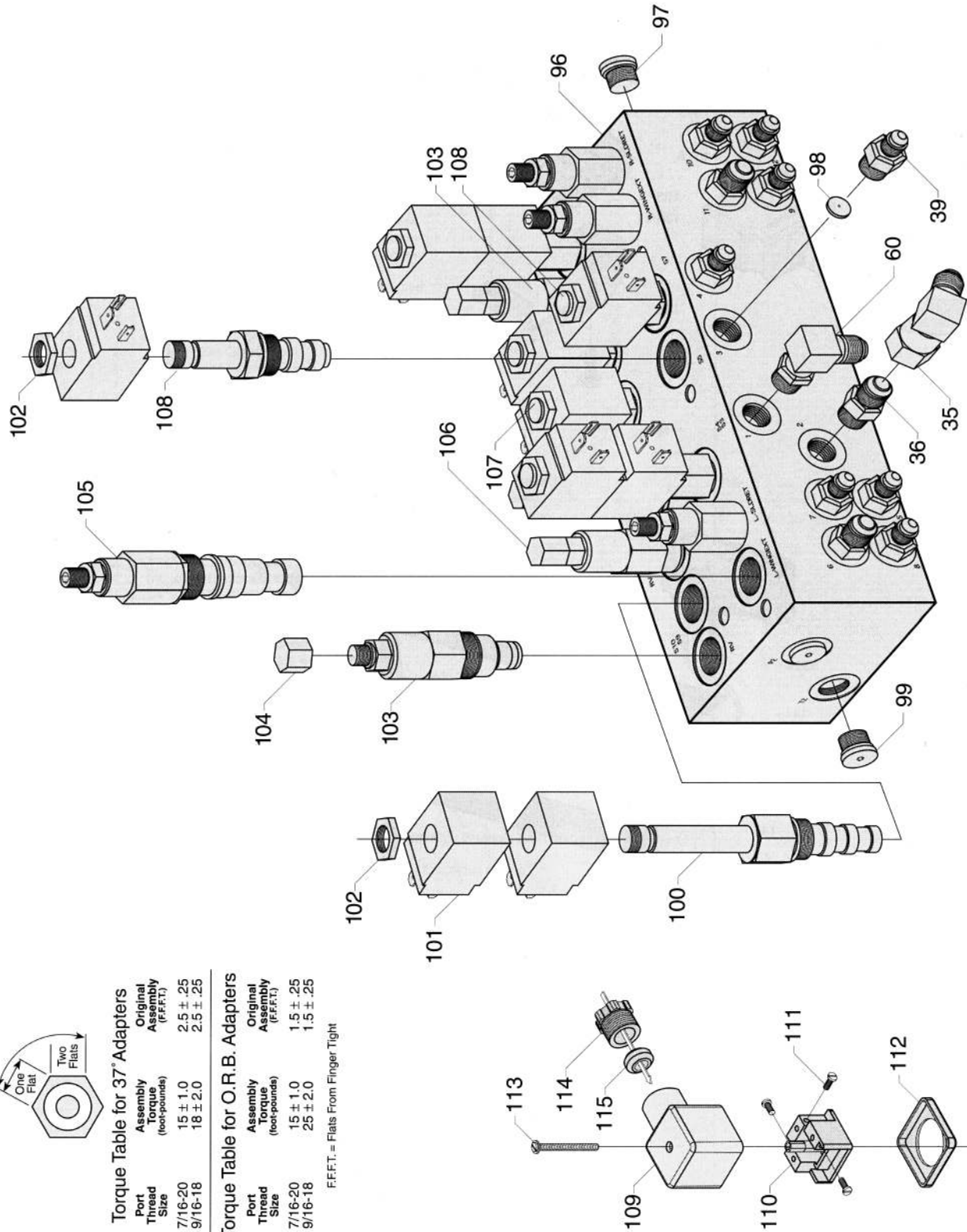
Torque Table for 37° Adapters

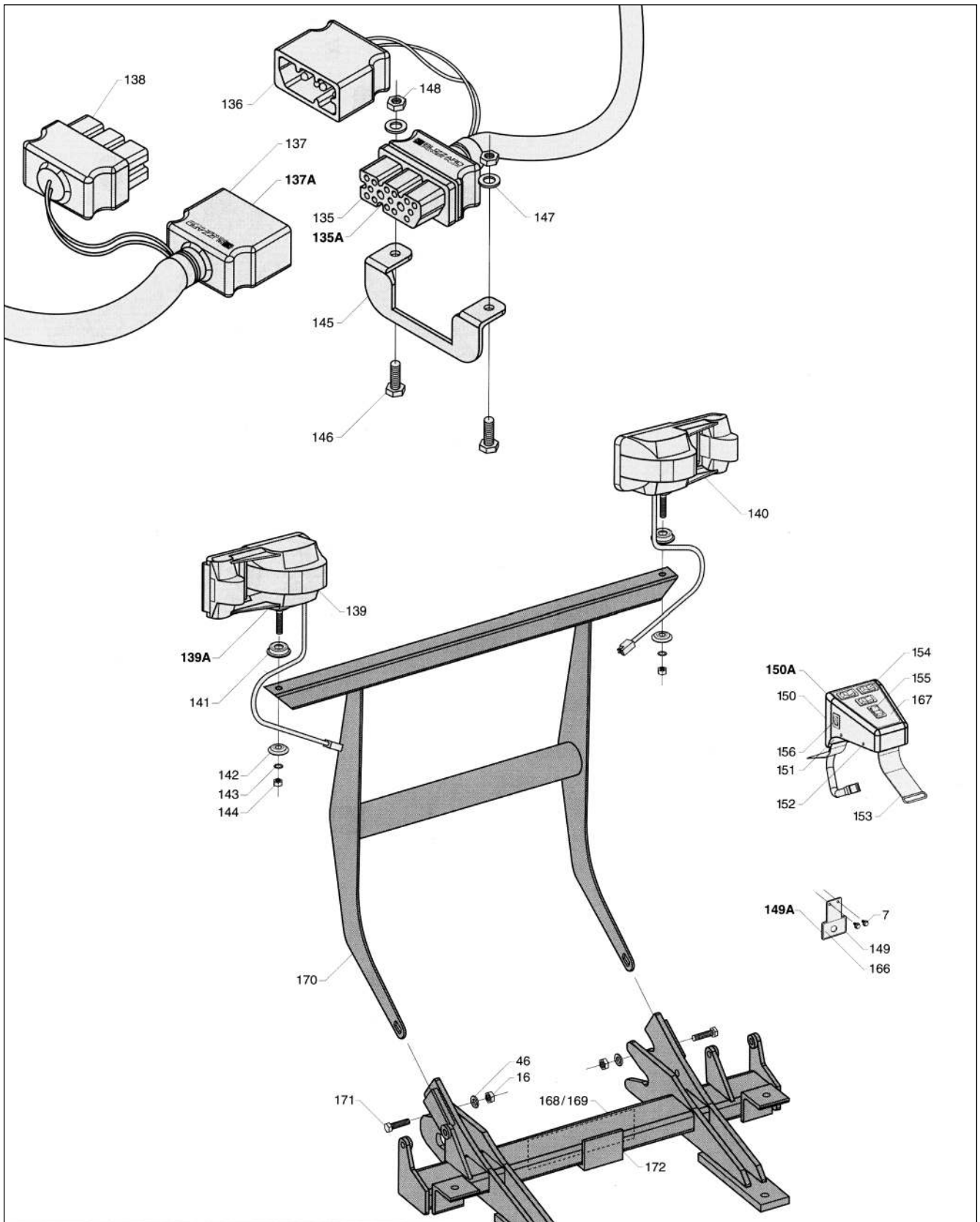
Port Thread Size	Assembly Torque (foot-pounds)	Original Assembly (F.F.F.T.)
7/16-20	15 ± 1.0	2.5 ± .25
9/16-18	18 ± 2.0	2.5 ± .25

Torque Table for O.R.B. Adapters

Port Thread Size	Assembly Torque (foot-pounds)	Original Assembly (F.F.F.T.)
7/16-20	15 ± 1.0	1.5 ± .25
9/16-18	25 ± 2.0	1.5 ± .25

F.F.F.T. = Flats From Finger Tight





MODEL 810 PARTS LIST

Ref. No.	Part No.	Qty.	Part Description
1	52022	1	Moldboard
2	51019	1	Driver's Side Wing
3	50023	1	Driver's Side Slide Box
4	51018	1	Passenger's Side Wing
5	50022	1	Passenger's Side Slide Box
6	51011	2	Wing Snow Shield
7	61031	8	12-14 x 3/4" Hex Washer Self-Drilling Screw
8	51015	1	Passenger's Side Wing Cutting Edge
9	61097	1	Moldboard Cutting Edge
10	51016	1	Driver's Side Wing Cutting Edge
11	61023	9	1/2"-13 x 5-1/2" Flat Head Socket Cap Screw
12	61022	2	1/2"-13 x 4-1/2" Flat Head Socket Cap Screw
13	61021	2	1/2"-13 x 3-1/2" Flat Head Socket Cap Screw
14	61025	17	1/2"-13 Grade 8 YZ Hex Nut
15	61019	2	1/2"-13 x 1" Grade 8 YZ Hex Head Cap Screw
16	61020	4	1/2"-13 Grade C Z Top Lock Nut
17A	61049	2	Plow Guide Assembly (No. 17 - 20)
17	61113	2	Plow Guide Tip, Black
18	61050	2	27-1/4" Plow Guide, Red
19	61051	4	5/16"-18 x 1" Grade 5 Z Hex Head Cap Screw
20	61052	4	5/16"-18 Z Nylon Insert Lock Nut
21	51009	2	3/4" x 9" Wing/Slide Box Pivot Pin
22	50013	2	3/4" x 3-3/8" Hydraulic Cylinder Rod End Pin - Wing Angle
23	60033	2	Hydraulic Cylinder - Wing Angle
24	61028	16	1/4" x 1-1/4" Spring Pin
25	50012	2	3/4" x 4" Hydraulic Cylinder Base End Pin - Wing Angle
26	50011	2	5/8" x 4" Hydraulic Cylinder Rod End Pin - Slide Box Extend/Retract
27P	60031	1	Hydraulic Cylinder - Slide Box Extend/Retract, Passenger's Side
27D	60060	1	Hydraulic Cylinder - Slide Box Extend/Retract, Driver's Side
28	52012	2	5/8" x 7-5/16" Hydraulic Cylinder Base End Pin - Slide Box Extend/Retract
29	61030	4	1/8 Gauge x 2-5/8" Z Hair Pin Cotter
30	60008	2	7/16"-20 x 7/16"-20 90° Adjustable Elbow O.R.B. Adapter
31	60018	1	1/4" x 32" Hydraulic Hose (#9) - Passenger's Side Slide Box Extend
32	60019	1	1/4" x 36" Hydraulic Hose (#10) - Passenger's Side Slide Box Retract
33	60004	3	7/16"-20 x 7/16"-20 Male O.R.B. Connector Adapter
34	60020	1	3/8" x 74" Hydraulic Hose (#11) - Passenger's Side Wing Extend
35	60006	3	9/16"-18 90° Swivel Elbow Adapter
36	60007	5	9/16"-18 x 9/16"-18 Male Connector
37	60021	1	1/4" x 86" Hydraulic Hose (#12) - Passenger's Side Wing Retract
38	60009	2	7/16"-20 90° Swivel Elbow Adapter
39	60003	10	7/16"-20 x 9/16"-18 Male O.R.B. Connector Adapter
40	60014	1	1/4" x 81" Hydraulic Hose (#5) - Driver's Side Wing Retract
41	60015	1	3/8" x 72" Hydraulic Hose (#6) - Driver's Side Wing Extend
42	60016	1	1/4" x 40" Hydraulic Hose (#7) - Driver's Side Slide Box Retract
43	60017	1	1/4" x 30" Hydraulic Hose (#8) - Driver's Side Slide Box Extend
44A	61130	2	Slide Box Access Plate Assembly (No. 44 & 45)
44	61100	2	9-3/4" Trim-Lok
45	52014	2	Slide Box Access Plate
46	61026	8	1/2", 1-1/16" O.D., 17/32" I.D. YZ SAE Mil-Carb High Strength Washer
47	61024	4	1/2"-13 x 5" Z Turned Eye Bolt
48	61099	4	3/8" x 2-5/16" O.D. x 14-1/2" Acrylic Metokote Extension Spring
49A	61098	2	Plow Shoe Assembly (No. 49 - 52)
49	61104	2	Cast Iron Plow Shoe (7-3/4" Shaft)
50	61102	2	1-5/8" O.D., 1-1/8" I.D. x 1-1/2" YZ Spacer
51	61101	32	1", 1-3/4" O.D., 1-1/16" I.D. YZ Flat Washer
52	61103	2	1/2" x 1-3/4" Linch Pin
53	41023	1	Pivot Beam
54	61003	2	3/4"-10 x 3" Grade 8 YZ Hex Cap Screw
55	61006	8	3/4"-10 Grade C Z Top Lock Nut
56	61002	4	3/4"-10 x 5" Grade 8 YZ Hex Cap Screw
57	61131	1	1"-8 x 9" Grade 8 YZ Hex Head Cap Screw
58	61008	1	1"-8 Grade C Z Top Lock Nut
59	60029	2	Hydraulic Cylinder - Plow Angle
60	60005	3	9/16"-18 x 9/16"-18 90° Adjustable Elbow O.R.B. Adapter
61	60010	1	3/8" x 20" Hydraulic Hose (#1) - Driver's Side Plow Angle
62	60011	1	3/8" x 24" Hydraulic Hose (#2) - Passenger's Side Plow Angle
63	61005	1	3/4"-10 x 6" Grade 8 YZ Hex Cap Screw
64	60012	1	1/4" x 15" Hydraulic Hose - 45°/90° (#3) - Plow Raise / Lower Extend
65	60002	1	7/16"-20 x 7/16"-20 45° Adjustable Elbow O.R.B. Adapter
66	60027	1	Hydraulic Cylinder - Plow Raise / Lower
67	60013	1	1/4" x 14" Hydraulic Hose - Str./45° (#4) - Plow Raise / Lower Retract
68	61053	1	3/16" x 1-11/16 O.D. x 12" Z Compression Spring
69	61032	2	1-1/4", 2-1/2 O.D., 1-3/8" I.D. YZ SAE Mil-Carb High Strength Washer

NOTE: The reference numbers listed identify parts shown in the illustrations on pages 18 - 22 & 26. 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 810 PARTS LIST

Ref. No.	Part No.	Qty.	Part Description
70A	40059	1	Kickstand Assembly (No. 70 - 75)
70	40045	1	Kickstand
71	40061	1	Kickstand Mount
72	40057	1	3/8" x 1-1/2" Stainless Steel Kickstand Pin
73	61000	1	1/32" x 3/8" O.D. x 15/16" Stainless Steel Compression Spring
74	61046	1	1-1/4" O.D., 1-1/6" I.D. Standard Split Ring
75	61096	1	3/16" x 1/2" x 1" Round Grip, Red
76	61033	2	3/8"-16 x 1" Grade 8 YZ Hex Cap Screw
77	61034	2	3/8"-16 Grade C Z Top Lock Nut
78	62005	1	Silicone Toggle Boot Cover with 7/16" Hex Nut Insert
79	62019	2	7/16"-14 Stainless Steel Hex Jam Nut
80	62018	2	7/16"-14 Stainless Steel Serrated Nut
81	62004	1	DPDT, (On)-Off-(On) Toggle Switch, 20 Amps, 125V AC - Draw Latch Connect/Disconnect
82	40060	1	A-frame
83	61014	1	3/8"-16 Z Jam Nylon Insert Lock Nut - Type NTE
84	61016	4	3/8", 13/16" O.D., 13/32" I.D., YZ SAE Mil-Carb High Strength Washer
85	61017	3	3/8"-16 Z Wing Nut
86	61012	1	3/8"-16 x 3/4" Grade 8 YZ Hex Cap Screw
87	61013	1	3/8"-16 x 2" Threaded Stud
88A	60040	1	Hydraulic Pump Assembly (Fenner Fluid Power) - (No. 88 - 93)
88	60047	1	Hydraulic Pump Power Unit (Fenner Fluid Power)
89	60042	1	Hydraulic Pump Solenoid (Fenner Fluid Power)
90	61040	1	4-1/2" Dia. Ideal Hose Clamp (Fenner Fluid Power)
91	60044	1	Hydraulic Pump Pressure Release Valve Hex Cap (Fenner Fluid Power)
92	60045	1	Hydraulic Pump Fluid Reservoir (Fenner Fluid Power)
93	60046	1	Hydraulic Pump Fluid Reservoir Cap (Fenner Fluid Power)
94A	61129	1	Hydraulic Pump & Manifold Cover Assembly (No. 94, 163/164)
94	61114	1	3/16" Polyethylene Hydraulic Pump & Manifold Cover
95A	60035	1	Manifold Assembly (No. 95 - 108)
95	60038	2	3/32" C.S.W., 9/16" I.D., 3/4" O.D. Neoprene O-ring
96	60048	1	Clear Anodized Aluminum Manifold Block
97	60049	1	-4 SAE Hollow Hex Plug
98	60059	1	38/1000" Dia. Orifice (Port #3)
99	60050	2	-6 SAE Hollow Hex Plug
100	60051	3	Three Position, Four-Way N.C. Solenoid Cartridge
101	60036	10	12V DC, 25W DIN Solenoid
102	60052	7	1/2"-20 YZ Hex Jam Nut
103	60053	2	Pressure Relief Valve, 2000 psi
104	60054	4	3/8"-24 YZ Crown Nut
105	60055	4	Sequence Valve, 1000 psi
106	60056	2	Pressure Relief Valve, 3000 psi
107	60057	2	Two Position, Two-Way N.C. Solenoid Cartridge (DSO83L)
108	60058	2	Two Position, Two-Way N.C. Solenoid Cartridge (DSO81CR)
109A	61117	10	DIN Connector Assembly (No. 109 - 115)
109	61118	10	DIN Connector Housing
110	61119	10	DIN Connector Screw Style Wire Attachment
111	61120	30	DIN Connector M3 x 6 Wire Attachment Screw
112	61121	10	DIN Connector Rubber Profile Gasket
113	61122	10	DIN Connector M3 x 30 Center Screw
114	61123	10	DIN Connector Plastic Nut
115	61124	10	DIN Connector Rubber Compression Gland
116	61009	1	5/16"-18 x 3-1/2" Grade 8 YZ Hex Cap Screw
117	61011	2	5/16" YZ High Alloy Split Lock Washer
118	61010	1	5/16"-18 x 3-3/4" Grade 8 YZ Hex Cap Screw
119	61105	2	9 Gauge x 2-11/16" Z Hair Pin Cotter
120	61115	2	3/4" x 4-3/4" YZ Hitch Pin
121	61044	2	1/16" x 1/2" O.D. x 4" Music Wire Extension Spring
122A	40063	1	Draw Latch Assembly (No. 24, 46, 55, 122 - 134)
122	61018	2	1/2"-13 x 2" Grade 8 YZ Hex Head Cap Screw
123	61045	2	1/8" x 1-1/4" O.D. x 6" Stainless Steel Extension Spring
124	40039	2	3/4" O.D., 17/32" I.D. x 1-3/16" Spacer
125	61027	2	1/2", 1-3/8" O.D., 9/16" I.D. YZ USS Mil-Carb High Strength Washer
126	61004	1	3/4"-10 x 4-1/2" Grade 8 YZ Hex Cap Screw
127	40041	1	3/4" x 7" Draw Latch Spring Mount Pin
128	40030	2	Outer Draw Latch Plate
129	40032	2	Inner Draw Latch Plate
130	40040	1	1" x 3-1/2" Draw Latch Bolt Mount Pin (1/2"-13 Tap In Both Ends)
131	40033	2	Draw Latch Finger
132	40031	2	Draw Latch Arm
133	40042	2	3/4" x 2-1/2" Inner Draw Latch Plate / Hydraulic Cylinder Rod End Pin - Plow Raise/Lower
134	40043	1	1" x 5-7/16" Draw Latch Mount Pin (To A-frame)

NOTE: The reference numbers listed identify parts shown in the illustrations on pages 18 - 22 & 26. 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.

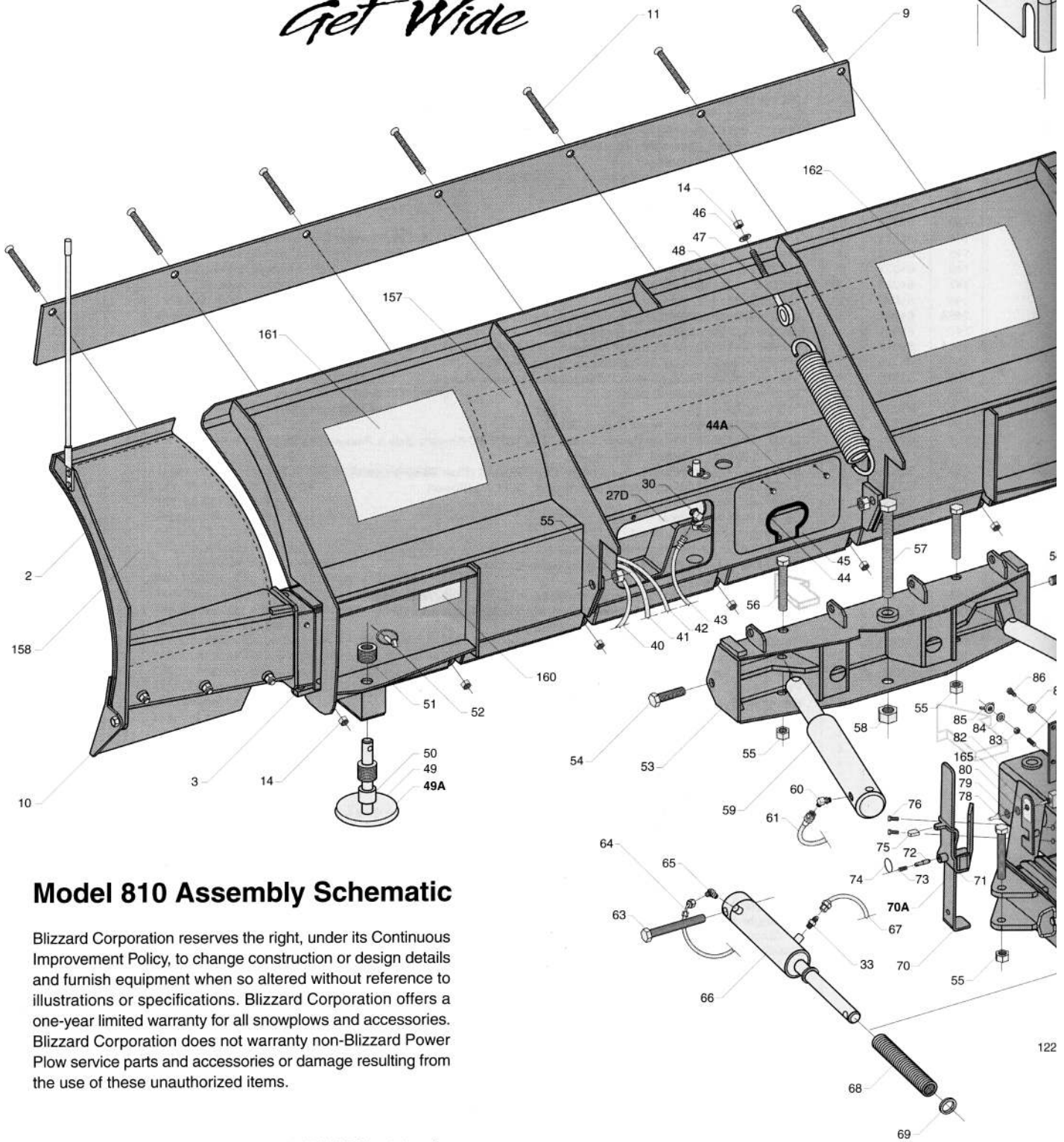
MODEL 810 PARTS LIST

Ref. No.	Part No.	Qty.	Part Description
135A	62002	1	Vehicle Wire Harness Assembly (No. 135, 136, P/N 62024, 62020, 62008, 62009, 62016)
135	62025	1	Vehicle Wire Harness
136	62000	1	Rubber Weather Cap - Truck Wire Harness
N/A	62024	1	DPDT, On-Off-On Toggle Switch, 15 Amps, 125V AC (Vehicle/Plow Headlights)
N/A	62020	1	15 AMP Fuse
N/A	62008	1	Mini Fuse Clip
N/A	62009	1	Auto Blade Fuse Clip
N/A	62016	3	Splice Lock Connector (18-14 AWG)
137A	62003	1	Plow Wire Harness Assembly (No. 78, 79, 80, 81, 137, 138, P/N 62006, 62007)
137	62026	1	Plow Wire Harness
138	62001	1	Rubber Weather Cap - Plow Wire Harness
N/A	62006	1	Diode Board - Plow Wire Harness
N/A	62007	1	Diode Board Cover - Plow Wire Harness
139A	61106	1	Plow Headlight Assembly (No. 139/140, 141, 142, 143, 144)
139	61107	1	Driver's Side Plow Headlight
140	61108	1	Passenger's Side Plow Headlight
141	61109	2	2" O.D., 3/4" I.D. YZ Swivel Plate
142	61110	2	1-3/4" O.D., 1/2" I.D. YZ Spacer
143	61112	2	7/16" YZ External Tooth Lock Washer
144	61111	2	7/16"-14 Grade 8 YZ Hex Nut
145	39023	1	Stainless Steel Vehicle Wire Harness Plug Mount
146	61037	2	1/4"-20 x 3/4" Grade 8 YZ Hex Cap Screw
147	61039	2	1/4", 5/8" O.D., 9/32" I.D. YZ SAE Mil-Carb High-Strength Washer
148	61038	2	1/4"-20 Grade C Z Top Lock Nut
149A	61043	1	Vehicle/Plow Headlight Toggle Switch Bracket Assembly (No. 149 & 166)
149	61041	1	Vehicle/Plow Headlight Toggle Switch Bracket
150A	62017	1	Rocker Switch Control Station Assembly (No. 150 - 156, 167, P/N 61036)
150	61125	1	1/8" ABS Plastic Rocker Switch Control Station Housing
151	61126	1	1/8" ABS Plastic Rocker Switch Control Station Housing Plate
152	61035	4	10-24 x 1/2" Z Machine Screws
N/A	61036	4	10-24 U-Clip
153	61127	1	61" Velcro Strap with 2" Metal D-Ring, Black
154	62021	3	SPDT, (On)-Off-(On) White Rocker Switch, 15A, 125V AC (Driver's Side & Passenger's Side Wing Extend & Retract, Plow Angle)
155	62022	1	SPDT, (On)-Off-On White Rocker Switch, 15A, 125V AC (Plow Raise & Lower)
156	62023	1	SPST, On-None-Off Black Rocker Switch, 15A, 125V AC (Power)
157	61082	1	Moldboard Decal
158	61083	1	Driver's Side Wing Decal
159	61084	1	Passenger's Side Wing Decal
160	61092	1	Serial Number Label (Sequentially Numbered)
161	61087	1	Power Hitch Mounting & Dismounting Instructions Label
162	61086	1	WARNING! Label
163	61042	1	Sequencing Valve & Hydraulic Hose Identification Guide Label (Wire Leads)
164	61091	1	Sequencing Valve & Hydraulic Hose Identification Guide Label (DIN Connectors)
165	61089	1	Power Hitch Connect/Disconnect Switch Label
166	61088	1	Plow/Vehicle Headlight Toggle Switch Bracket Label
167	61090	1	Rocker Switch Control Station Label
168	61085	1	Push Beam Decal (All Undercarriages Except 1999 Chevrolet/GMC 2500 Series 3/4 Ton)
169	61128	1	Push Beam Decal (1999 Chevrolet/GMC 2500 Series 3/4 Ton Undercarriage)
170	39026	1	Universal Light Tower
171	61057	2	1/2"-13 x 1-1/4" Grade 8 YZ Hex Head Cap Screw
172	30037	1	1999 Chevrolet/GMC 2500 Series 3/4 Ton Undercarriage (37" Push Beam)
N/A	61047	1	Hardware Kit #1 - Kit Includes: 4 - #14,46,47,56, 2 - #54, 69, 76, 77, 117, 6 - #55, 1 - #116, 118
N/A	61048	1	Hardware Kit #2 - Kit Includes: 1 - #24, 83, 86, 87, 149A, 4 - #84, 3 - #85, 6 - #7, 2 - #121,146,147,148
N/A	61133	1	Moldboard Cutting Edge Hardware Kit - Kit Includes: 7 - #11, 14
N/A	61134	2	Wing Cutting Edge Hardware Kit - Kit Includes: 1 - #11, 12, 13, 15, 16, 3 - #14
N/A	61135	1	DIN Connector Hardware Kit - Kit Includes: 10 - #109A
N/A	60024	1	37" Flare Tube Hydraulic Adapter Kit - Kit Includes: 1 - #33, 35, 65, 8 - #39, 3 - #36,60
N/A	61132	1	Plow Headlight Kit - Kit Includes: 2 - #139A
N/A	62010	1	Headlight Adapter Kit - '80 & Older, '95 & '96' Chevrolet/GMC, Ford, '83-'93' Dodge
N/A	62011	1	Headlight Adapter Kit - '87-'92 Ford, '91-'99 Dodge
N/A	62012	1	Headlight Adapter Kit - '93-'99 Ford
N/A	62013	1	Headlight Adapter Kit - '90-'99 GMC, '91-'99 Chevrolet (Except '99 Chevrolet Silverado & '99 GMC Sierra)
N/A	62014	1	Headlight Adapter Kit - '99 Chevrolet Silverado & '99 GMC Sierra

NOTE: The reference numbers listed identify parts shown in the illustrations on pages 18 - 22 & 26. 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.



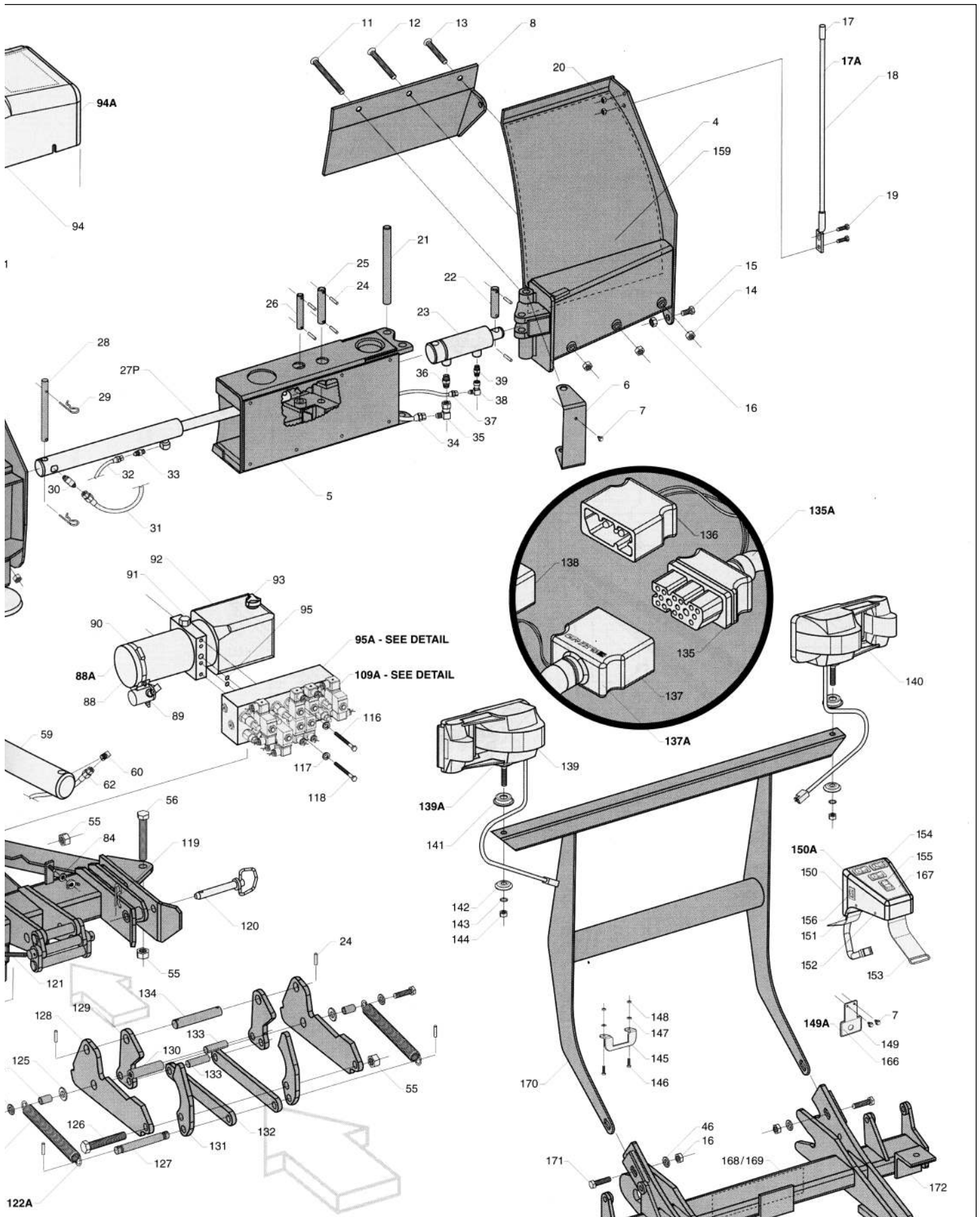
Get Wide

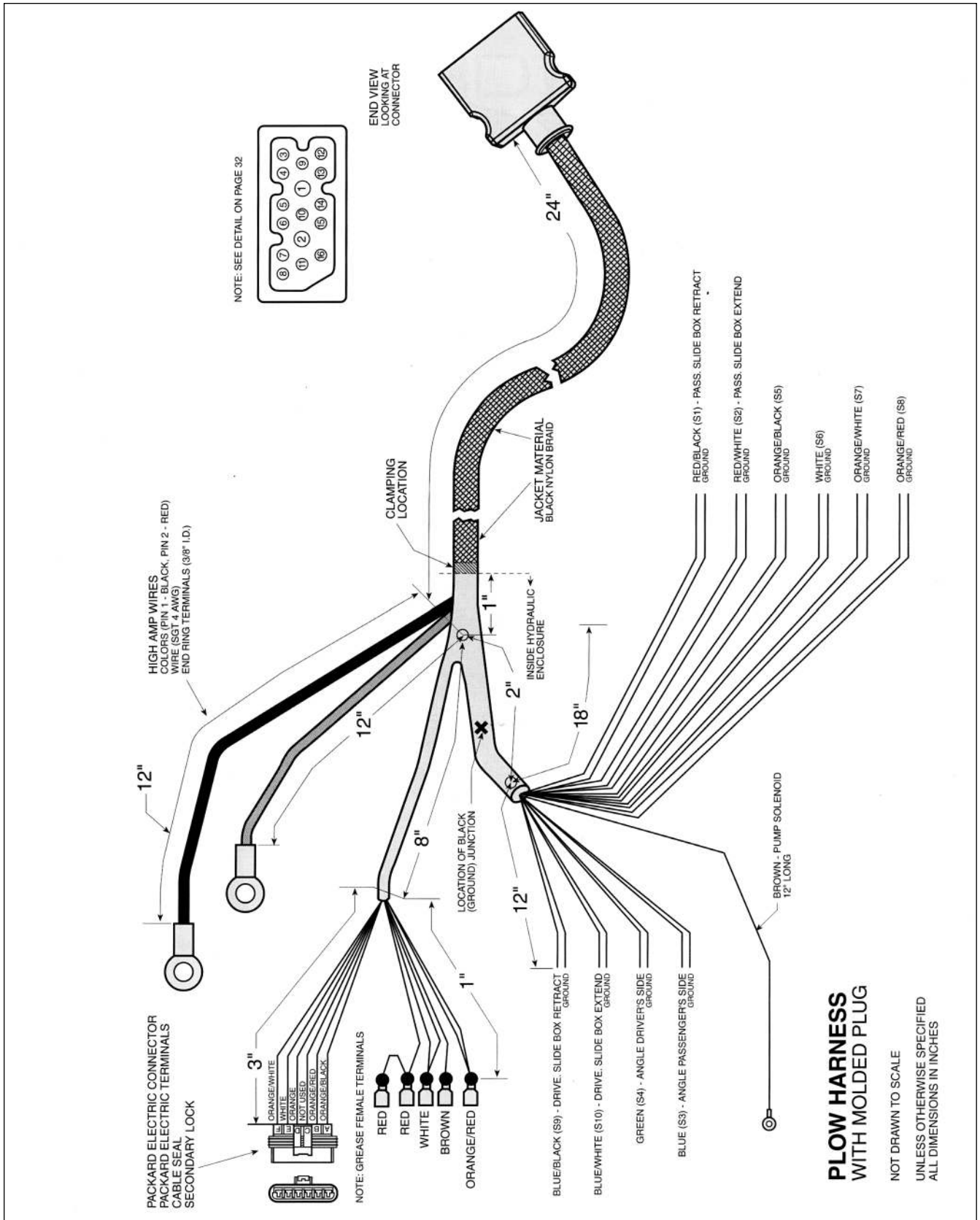


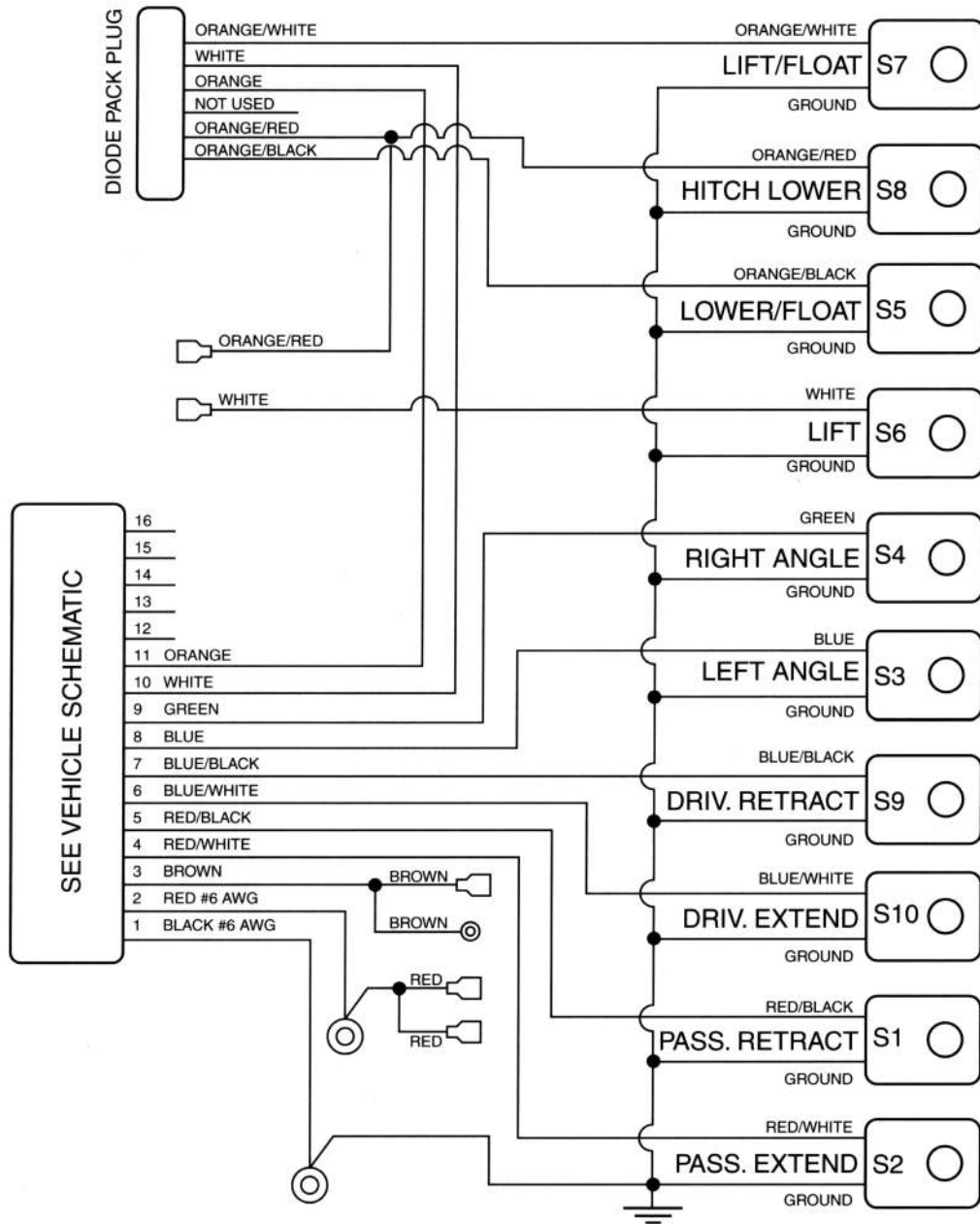
Model 810 Assembly Schematic

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 Power Plow service parts and accessories or damage resulting from the use of these unauthorized items.

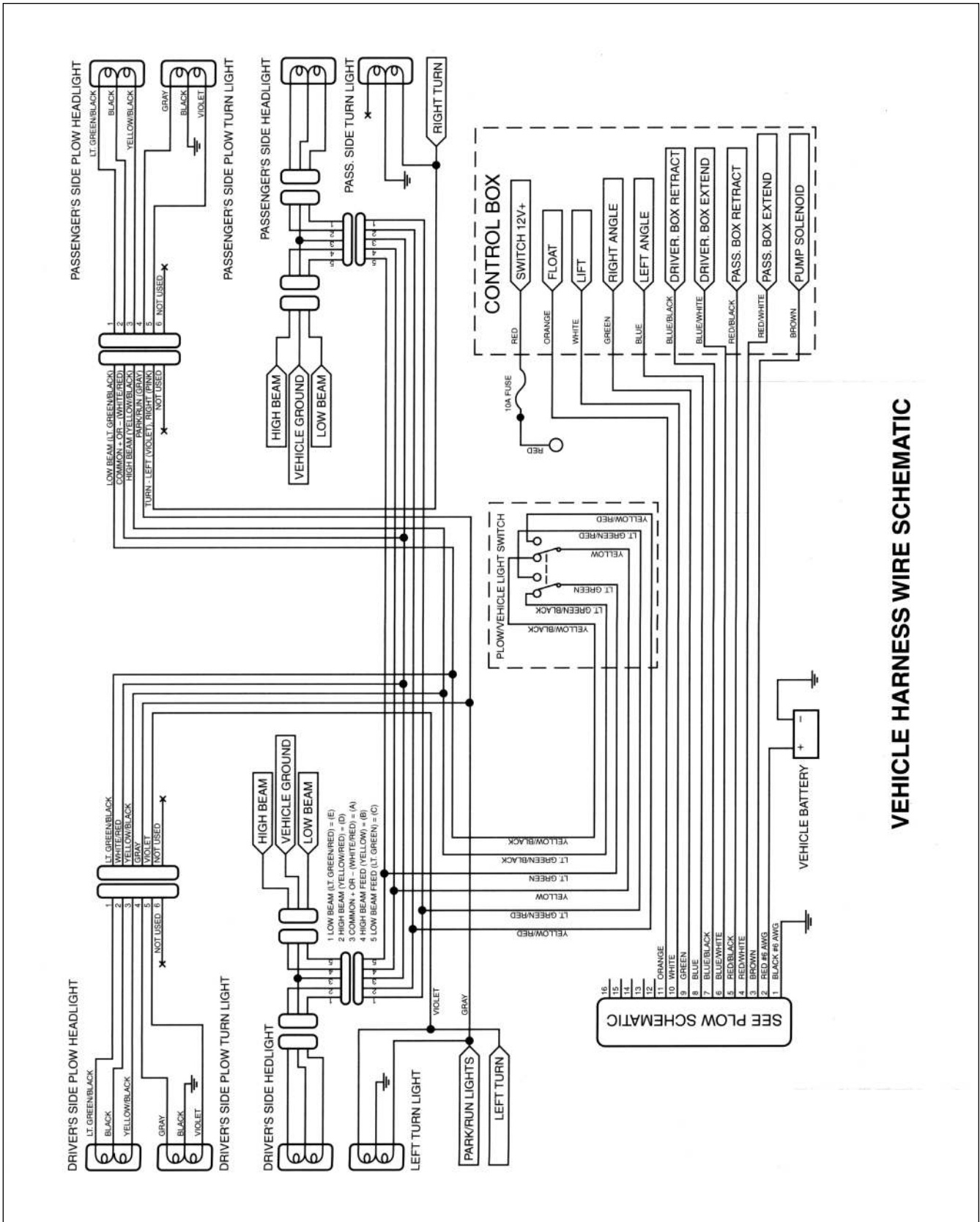
The Blizzard Power Plow is protected by U.S. patents 5,638,618 and 5,899,007. Other patents pending.







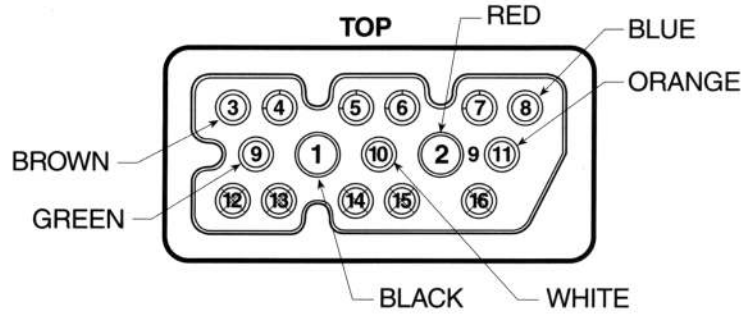
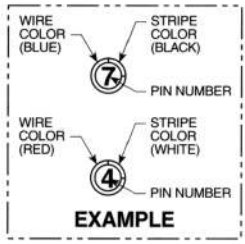
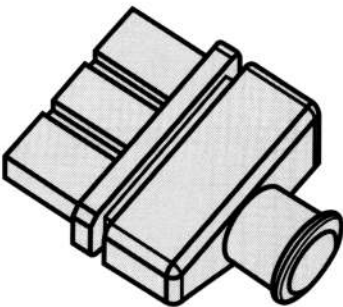
PLOW HARNESS WIRE SCHEMATIC



VEHICLE HARNESS WIRE SCHEMATIC

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

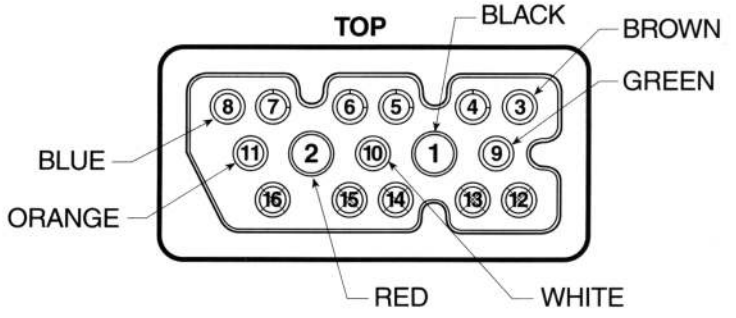
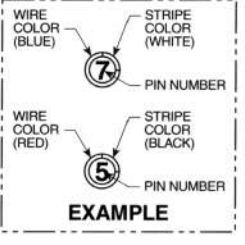
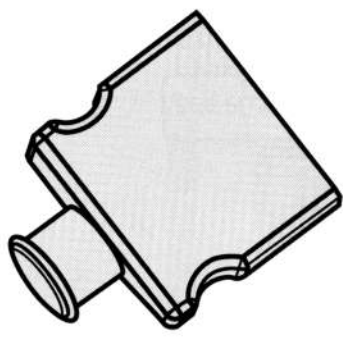
PIN NO.	COLOR	FUNCTION	AWG
1	BLACK	GROUND	4
(1)	BLACK	GROUND	18
2	RED	12 VOLT DC (+)	4
(2)	RED	12 VOLT DC (+)	18
3	BROWN	PUMP SOLENOID	18
4	RED/WHITE	PASS. SLIDE BOX EXTEND	18
5	RED/BLACK	PASS. SLIDE BOX RETRACT	18
6	BLUE/WHITE	DRIVE. SLIDE BOX EXTEND	18
7	BLUE/BLACK	DRIVE. SLIDE BOX RETRACT	16
8	BLUE	LEFT ANGLE	16
9	GREEN	RIGHT ANGLE	16
10	WHITE	LIFT	16
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	N/A	N/A	N/A
16	N/A	N/A	N/A



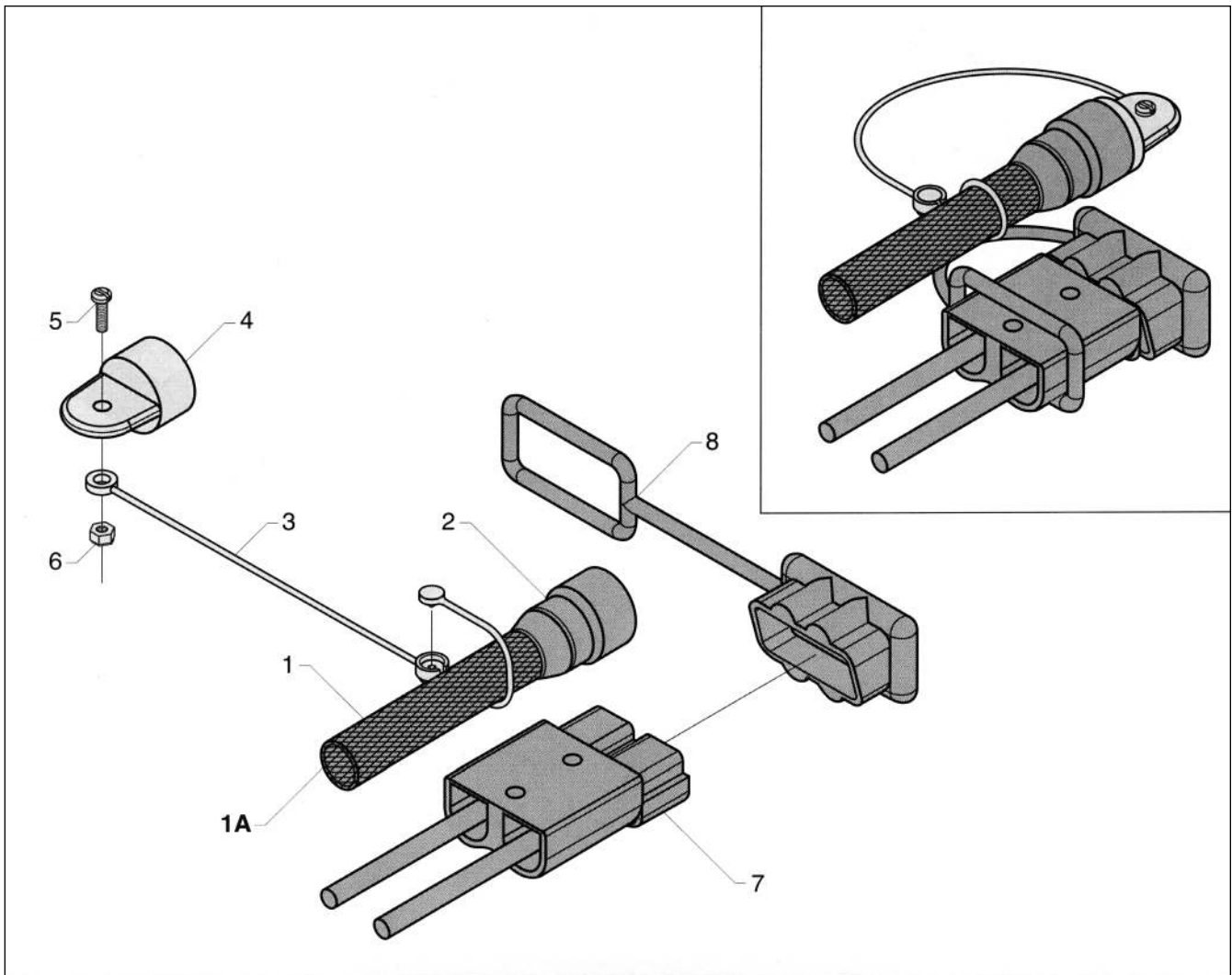
END VIEW
LOOKING AT MALE CONNECTOR

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

PIN NO.	COLOR	FUNCTION	AWG
1	BLACK	GROUND	4
2	RED	12 VOLT DC (+)	4
3	BROWN	PUMP SOLENOID	18
4	RED/WHITE	PASS. SLIDE BOX EXTEND	18
5	RED/BLACK	PASS. SLIDE BOX RETRACT	18
6	BLUE/WHITE	DRIVE. SLIDE BOX EXTEND	18
7	BLUE/BLACK	DRIVE. SLIDE BOX RETRACT	16
8	BLUE	LEFT ANGLE	16
9	GREEN	RIGHT ANGLE	16
10	WHITE	LIFT	16
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	N/A	N/A	N/A
16	N/A	N/A	N/A



END VIEW
LOOKING AT FEMALE CONNECTOR

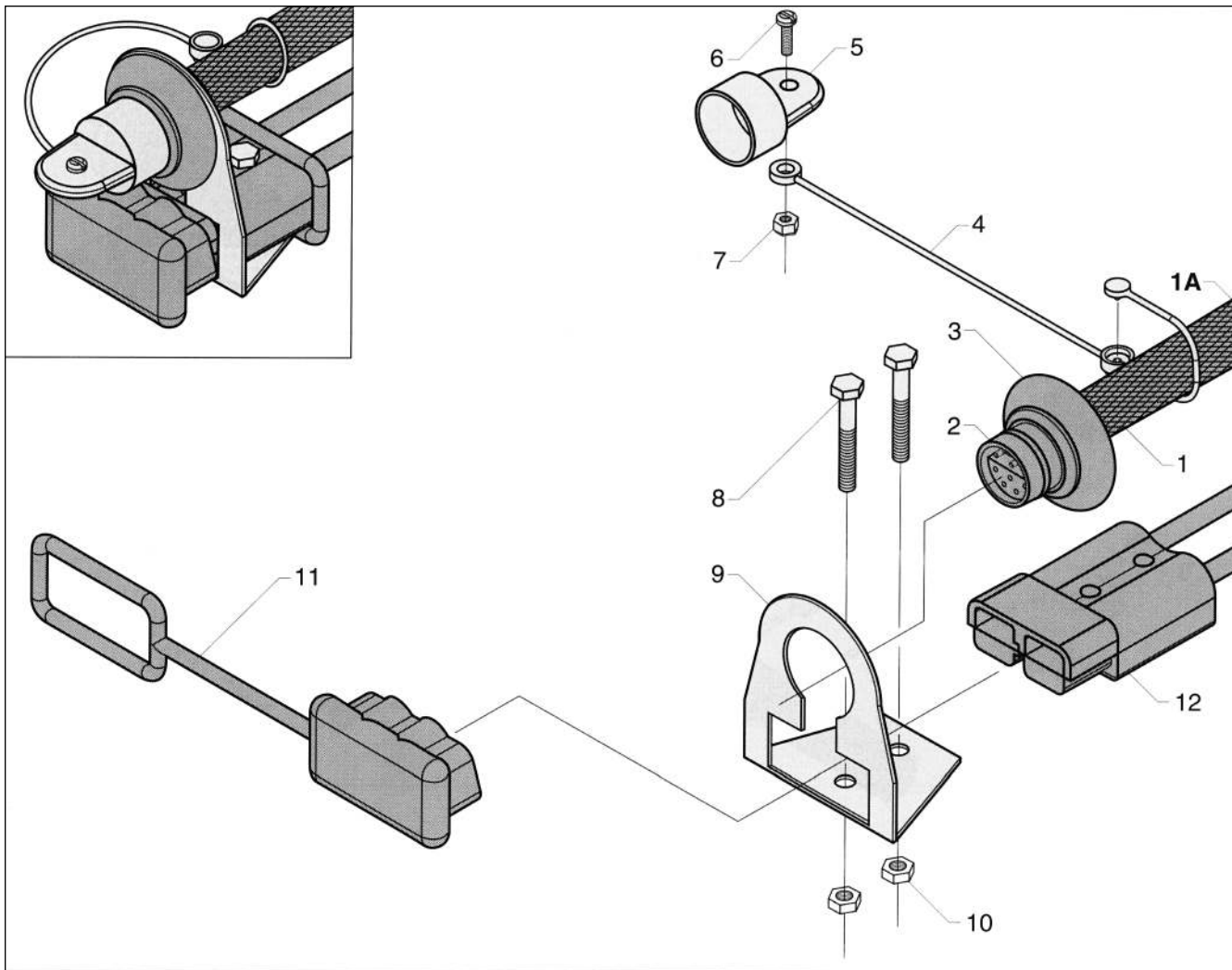


PLOW HARNESS PARTS LIST

Ref. No.	Part No.	Qty.	Part Description
1A	62028	1	Plow Wire Harness Assembly (No. 1 - 8, P/N 62005, 62019, 62018, 62004, 62006, 62007)
1	62030	1	Plow Wire Harness
2	61146	1	1-9/32" O.D., 9 Circuit Sure Seal Receptacle - Control Connector
3	61138	1	10" Nylon Lanyard
4	61147	1	1/8" Polyethylene Weather Cap (Female) - Control Connector
5	61140	1	8-32 x 1/2" Machine Screw
6	61141	1	8-32 Z Nylon Insert Lock Nut - Type NM
7	61144	1	2-Way Plastic Connector, Red - Power Connector
8	61145	1	Rubber Weather Cap, Red - Power Connector
N/A	62005	1	Silicone Toggle Switch Boot Cover with 7/16" Hex Nut Insert
N/A	62019	1	7/16"-14 Stainless Steel Hex Jam Nut
N/A	62018	1	7/16"-14 Stainless Steel Serrated Nut
N/A	62004	1	DPDT, (On)-Off-(On) Toggle Switch, 20 Amps, 125V AC (Draw Latch Connect/Disconnect)
N/A	62006	1	Diode Board - Plow Wire Harness
N/A	62007	1	Diode Board Cover - Plow Wire Harness
*N/A	61148	1	Power Hitch Mounting & Dismounting Instructions Label (Dual Connector Style)

NOTE: The reference numbers listed identify parts shown in the illustration above. These numbers are specific to this illustration only and do not correspond with other diagrams in the manual. Always review the part number given for proper component identification.

** The Power Hitch Mounting & Dismounting Instructions Label (Dual Connector Style) contains specific instruction for the dual connector harnesses. Reference part number 61148 for replacement labels.*

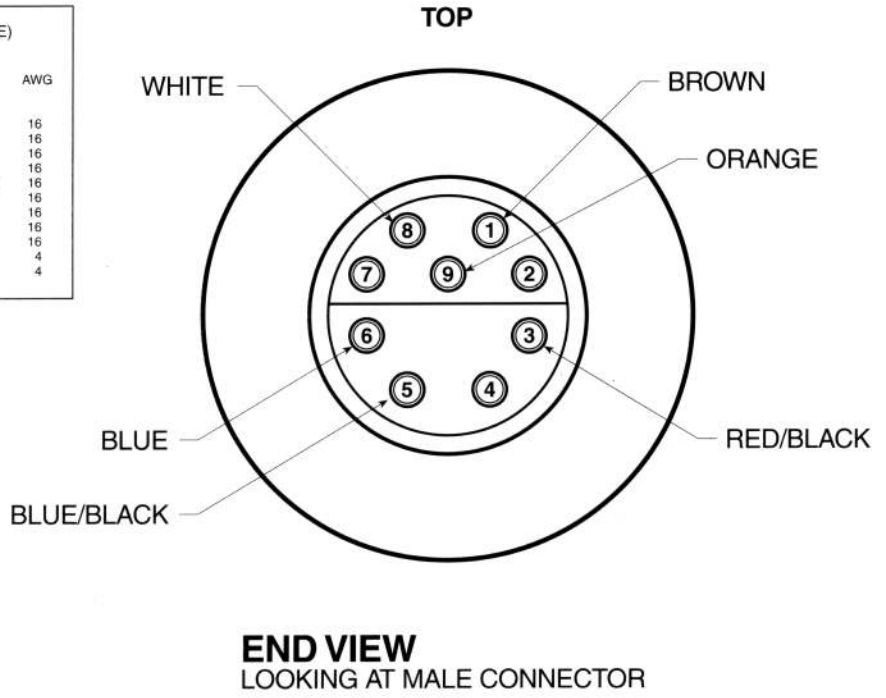
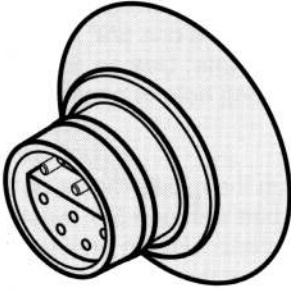


VEHICLE HARNESS PARTS LIST

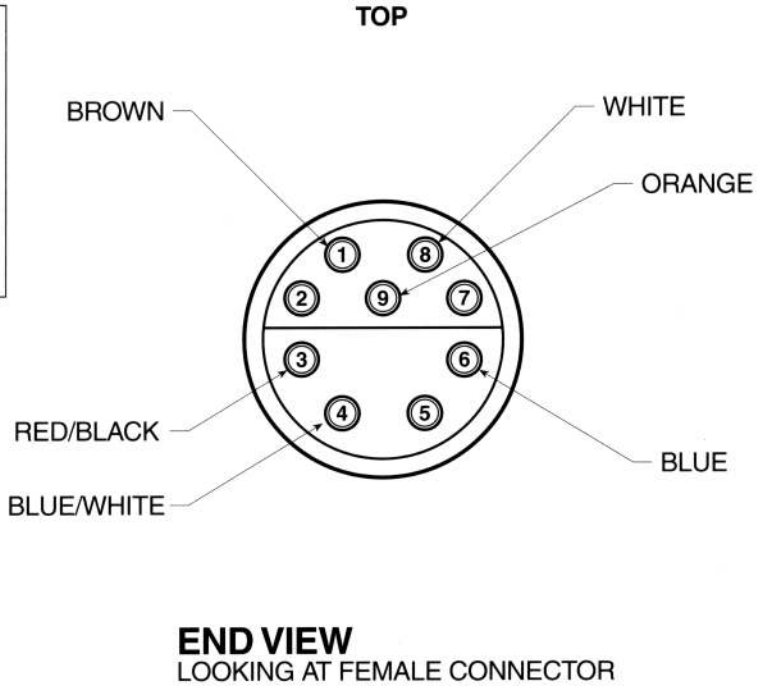
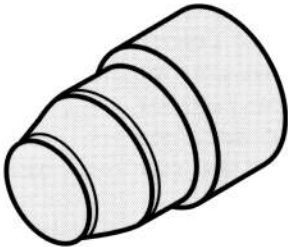
Ref. No.	Part No.	Qty.	Part Description
1A	62027	1	Vehicle Wire Harness Assembly (No. 1 - 7, 11, 12, P/N 62024, 62019, 62018, 62020, 62008, 62009, 62016)
1	62029	1	Vehicle Wire Harness
2	61136	1	1-1/8" O.D., 9 Circuit Sure Seal Plug - Control Connector
3	61137	1	2-3/16" O.D., 7/8" I.D., Sure Seal Mounting Ring
4	61138	1	10" Nylon Lanyard
5	61139	1	1/8" Polyethylene Weather Cap (Male) - Control Connector
6	61140	1	8-32 x 1/2" Machine Screw
7	61141	1	8-32 Z Nylon Insert Lock Nut - Type NM
8	61142	2	1/4"-20 x 1-3/4" Grade 8 YZ Hex Cap Screw
9	39027	1	Stainless Steel Vehicle Wire Harness Plug Mount Bracket
10	61143	2	1/4"-20 Grade 8 YZ Hex Nut
11	61145	1	Rubber Weather Cap, Red - Power Connector
12	61144	1	2-Way Plastic Connector, Red - Power Connector
N/A	62024	1	DPDT, On-Off-On Toggle Switch, 15 Amps, 125V AC (Vehicle/Plow Headlights)
N/A	62019	1	7/16"-14 Stainless Steel Hex Jam Nut
N/A	62018	1	7/16"-14 Stainless Steel Serrated Nut
N/A	62020	1	15 Amp Fuse
N/A	62008	1	Mini Fuse Clip
N/A	62009	1	Auto Blade Fuse Clip
N/A	62016	3	Splice Lock Connector (14-18 AWG)

NOTE: The reference numbers listed identify parts shown in the illustration above. These numbers are specific to this illustration only and do not correspond with other diagrams in the manual. Always review the part number given for proper component identification.

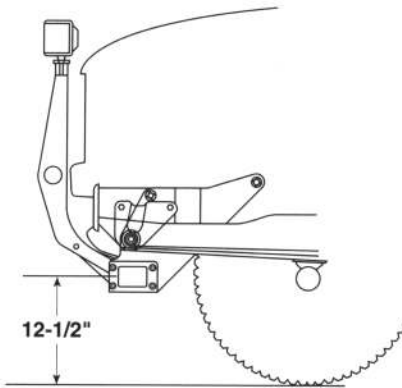
BLIZZARD HARNESS PLUG (VEHICLE) ROUND CONNECTOR			
PIN NO.	COLOR	FUNCTION	AWG
1	BROWN	PUMP SOLENOID	16
2	RED/WHITE	PASS. SLIDE BOX EXTEND	16
3	RED/BLACK	PASS. SLIDE BOX RETRACT	16
4	BLUE/WHITE	DRIVE. SLIDE BOX EXTEND	16
5	BLUE/BLACK	DRIVE. SLIDE BOX RETRACT	16
6	BLUE	LEFT ANGLE	16
7	GREEN	RIGHT ANGLE	16
8	WHITE	LIFT	16
9	ORANGE	FLOAT	16
(10)	BLACK	GROUND	4
(11)	RED	12 VOLT DC (+)	4



BLIZZARD HARNESS PLUG (PLOW) ROUND CONNECTOR			
PIN NO.	COLOR	FUNCTION	AWG
1	BROWN	PUMP SOLENOID	16
2	RED/WHITE	PASS. SLIDE BOX EXTEND	16
3	RED/BLACK	PASS. SLIDE BOX RETRACT	16
4	BLUE/WHITE	DRIVE. SLIDE BOX EXTEND	16
5	BLUE/BLACK	DRIVE. SLIDE BOX RETRACT	16
6	BLUE	LEFT ANGLE	16
7	GREEN	RIGHT ANGLE	16
8	WHITE	LIFT	16
9	ORANGE	FLOAT	16
(10)	BLACK	GROUND	4
(11)	RED	12 VOLT DC (+)	4



1992-97 FORD F-250 (3/4 TON) & F-350 (1 TON) UNDERCARRIAGE



The recommended push beam height for all undercarriage assemblies is 12-1/2" from the center of the push beam to level ground. DO NOT exceed 14" in height for any undercarriage.

WARNING: Most new trucks are equipped with driver and passenger's side air bags. DO NOT remove, disable, or reposition any sensory equipment related to the safe operation of the air bags.

ALWAYS follow the vehicle manufacturer's recommendations for installing snowplowing equipment.

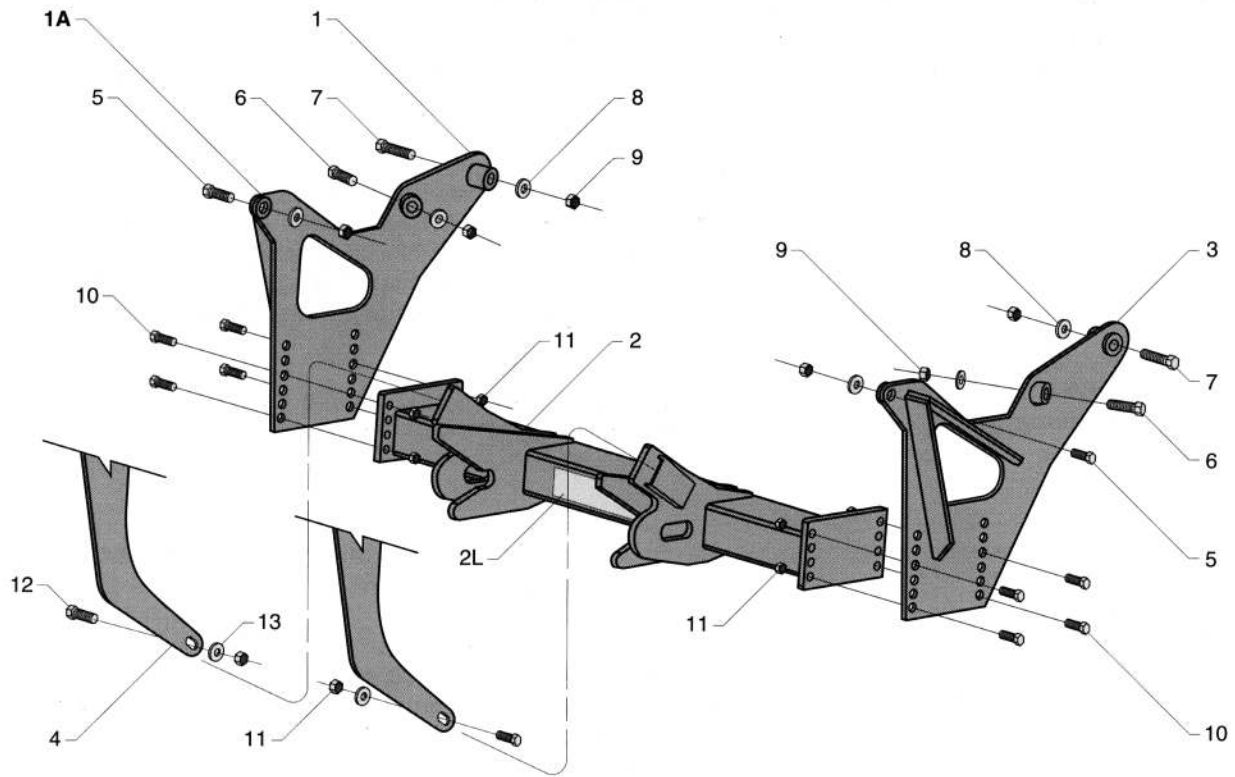
Failure to comply with the above warning may result in serious injury or death.

CAUTION: If your vehicle is equipped with oversize tires, they may come into contact with the undercarriage hanger plates when turning the vehicle.

The problem may be resolved by setting the steering stops on the vehicle. If this does not correct the problem, the original tires will need to be installed on the vehicle.

1. Begin the assembly by removing the four nuts from the FRONT BUMPER MOUNT. Remove the bumper.
2. Position the DRIVER'S SIDE HANGER PLATE on the outside of the truck frame rail. Attach one 5/8"-11 x 1-3/4" bolt through the front mount on the hanger plate and truck frame rail. Secure the bolt with one 5/8" washer and top lock nut on the inside of the frame rail. Note: Use the opening at the end of the frame rail to access the nut and washer.
3. Position one 5/8"-11 x 3-1/4" bolt through the rear mount on the hanger plate and truck frame rail. Secure the bolt with one 5/8" washer and top lock nut on the inside of the frame rail. Note: Use an original opening cut into the frame rail behind the mounting hole to position the nut and washer.
4. Position one 5/8"-11 x 2-3/4" bolt through the middle mount on the hanger plate and truck frame rail. Secure the bolt with one 5/8" washer and top lock nut on the inside of the frame rail. Note: Use an original opening on the inside of the truck frame rail opposite of the mount to position the nut and washer.
5. Repeat all three procedures above to securely mount the PASSENGER'S SIDE HANGER PLATE.
6. Mount the PUSH BEAM to each hanger plate using four 1/2"-13 x 1-1/2" bolts and top lock nuts. Note: The proper height for the push beam is approximately 12" from the ground to the center of the beam.
7. Once all of the undercarriage plates have been positioned and the proper push beam height is set, proceed to tighten all top lock nuts. Reference the chart on page 4 for maximum bolt torque.
8. Position the LIGHT TOWER into the accepting pockets on the push beam and tighten using two 1/2"-13 x 1-1/4" bolts with washers. Secure each bolt with a 1/2" top lock nut. Mount each PLOW HEADLIGHT to the light tower with the hardware kit provided.

Complete the assembly by connecting the terminals from the lights to the terminals on the vehicle wiring harness.

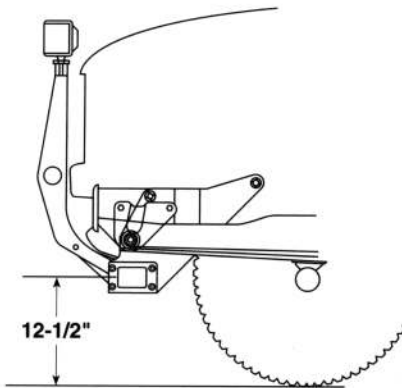


1992-97 FORD F-250 & F-350 UNDERCARRIAGE PARTS LIST

Ref. No.	Part No.	Qty.	Part Description
1A	31036	1	1992-1997 Ford F-250 (3/4 ton) & F-350 (1 ton) Undercarriage Assembly (No.1-13)
1	31013	1	Passenger's Side Hanger Plate (1992-1997 Ford Super Duty F-250 & F-350)
2	31019	1	40-5/8" Push Beam (1992-1997 Ford Super Duty F-250 & F-350)
2L	61085	1	Push Beam Decal (All Undercarriages Except 1999 Chevrolet/GMC 2500 Series 3/4 ton)
3	31011	1	Driver's Side Hanger Plate (1992-1997 Ford Super Duty F-250 & F-350)
4	39026	1	Universal Light Tower
5	61060	2	5/8"-11 x 1-3/4" Grade 8 YZ Hex Cap Screw
6	61061	2	5/8"-11 x 2-3/4" Grade 8 YZ Hex Cap Screw
7	61062	2	5/8"-11 x 3-1/4" Grade 8 YZ Hex Cap Screw
8	61064	6	5/8", 1-5/16" O.D., 21/32" I.D., YZ SAE Mil-Carb High-Strength Washer
9	61063	6	5/8"-11 Grade C Z Top Lock Nut
10	61055	8	1/2"-13 x 1-1/2" Grade 8 YZ Hex Head Cap Screw
11	61020	10	1/2"-13 Grade C Z Top Lock Nut
12	61057	2	1/2"-13 x 1-1/4" Grade 8 YZ Hex Head Cap Screw
13	61026	2	1/2", 1-1/16" O.D., 17/32" I.D. YZ SAE Mil-Carb High-Strength Washer
N/A	61080	1	1992-1997 Ford F-250 (3/4 ton) & F-350 (1 ton) Undercarriage Hardware Kit - Kit Includes: No. 5 - 13

NOTE: The reference numbers listed identify parts shown in the illustration above. These numbers are specific to this illustration only and do not correspond with other diagrams in the manual. Always review the part number given for proper component identification.

1999 FORD SUPER DUTY F-250 (3/4 TON) & F-350 (1 TON) UNDERCARRIAGE



The recommended push beam height for all undercarriage assemblies is 12-1/2" from the center of the push beam to level ground. DO NOT exceed 14" in height for any undercarriage.

WARNING: Most new trucks are equipped with driver and passenger's side air bags. DO NOT remove, disable, or reposition any sensory equipment related to the safe operation of the air bags.

ALWAYS follow the vehicle manufacturer's recommendations for installing snowplowing equipment.

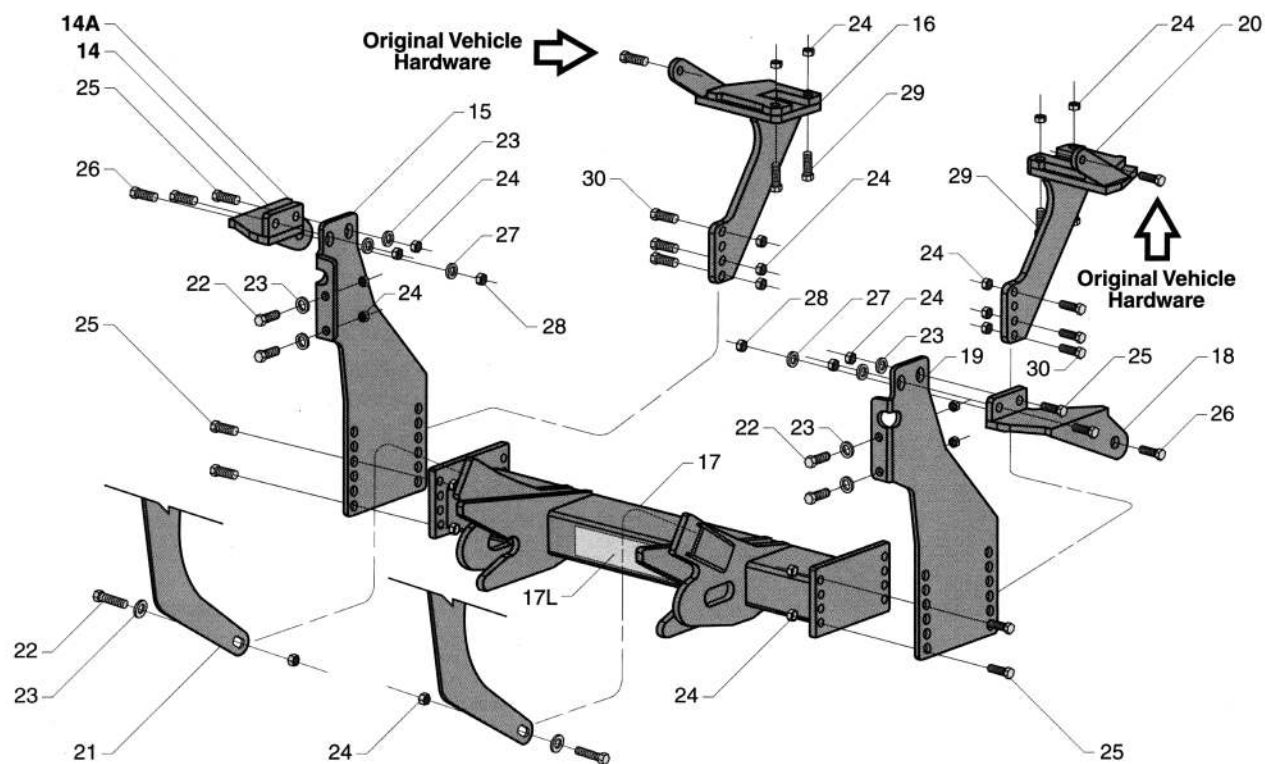
Failure to comply with the above warning may result in serious injury or death.

CAUTION: If your vehicle is equipped with oversize tires, they may come into contact with the undercarriage hanger plates when turning the vehicle.

The problem may be resolved by setting the steering stops on the vehicle. If this does not correct the problem, the original tires will need to be installed on the vehicle.

1. Begin the undercarriage assembly by removing the front bumper of the vehicle. There are four 1/2"-13 x 1-3/4" acorn head bolts with 1/2" washers, two nut plates and two bumper shim plates to remove. Note: The bumper shim plate prohibits the proper mounting bolts from being installed. Either discard the plate or increase the size of the holes located on the front.
2. Attach each HANGER PLATE (2) to the truck frame rails using two 1/2"-13 x 1-1/4" bolts and washers. Secure all bolts using a 1/2"-13 top lock nut. Note: Loosely attach all nuts until all undercarriage plates are positioned.
3. Rest both ZEE BRACKETS on the truck frame rail and fasten two 1/2"-13 x 1-1/2" bolts with washers to the hanger plate. Loosely tighten 1/2"-13 top lock nuts to all bolts.
4. Install one 9/16"-12 x 1-1/2" bolt with a 9/16" washer inside of the truck frame bumper bracket to the side zee bracket ear. Loosely thread a 9/16"-12 top lock nut to each bolt.
5. Mount the PUSH BEAM to the hanger plate using two 1/2"-13 x 1-1/2" bolts and top lock nuts. Note: The proper height for the push beam is approximately 12" from the ground to the center of the beam.
6. Remove the M12 x 1.75 x 35 (10.9 Gr.) rear spring shackle bolt with tabbed nut on the outside of the frame rail. Position each HANGER SUPPORT PLATE on the outside of the hanger plate and truck frame rail. Reattach the shackle bolt and tabbed nut. Bolt the support plate into the truck frame rail using two 1/2"-13 x 2" bolts. Secure the support plate to the hanger plate and push beam using two 1/2"-13 x 2-1/4" bolts and lock nuts.
7. Once all of the undercarriage plates have been positioned and the proper push beam height is set, proceed to tighten all top lock nuts. Reference the chart at the left for maximum bolt torque.
8. Replace the bumper using the existing hardware.
9. Position the LIGHT TOWER into the accepting pockets on the push beam and tighten using two 1/2"-13 x 1-1/4" bolts with washers. Secure each bolt with a 1/2" top locking nut. Mount each PLOW HEADLIGHT to the light tower with the hardware kit provided.

Complete the assembly by connecting the terminals from the lights to the terminals on the vehicle wiring harness.

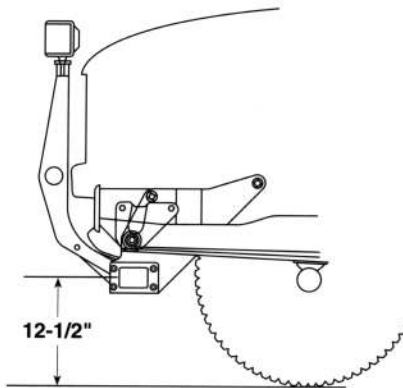


1999 FORD SUPER DUTY F-250 & F-350 UNDERCARRIAGE PARTS LIST

Ref. No.	Part No.	Qty.	Part Description
14A	31035	1	1999 Ford Super Duty F-250 (3/4 ton) & F-350 (1 ton) Undercarriage Assembly (No. 14 - 30)
14	31034P	1	Passenger's Side Zee Bracket (1999 Ford Super Duty F-250 & F-350)
15	31008P	1	Passenger's Side Hanger Plate (1999 Ford Super Duty F-250 & F-350)
16	31025	1	Passenger's Side Push Beam Support Arm (1999 Ford Super Duty F-250 & F-350)
17	31021	1	32-1/2" Push Beam (1999 Ford Super Duty F-250 & F-350)
17L	61085	1	Push Beam Decal (All Undercarriages Except 1999 Chevrolet/GMC 2500 Series 3/4 ton)
18	31034D	1	Driver's Side Zee Bracket (1999 Ford Super Duty F-250 & F-350)
19	31008D	1	Driver's Side Hanger Plate (1999 Ford Super Duty F-250 & F-350)
20	31023	1	Driver's Side Push Beam Support Arm (1999 Ford Super Duty F-250 & F-350)
21	39026	1	Universal Light Tower
22	61057	6	1/2"-13 x 1-1/4" Grade 8 YZ Hex Head Cap Screw
23	61026	10	1/2", 1-1/16" O.D., 17/32" I.D. YZ SAE Mil-Carb High-Strength Washer
24	61020	24	1/2"-13 Grade C Z Top Lock Nut
25	61055	8	1/2"-13 x 1-1/2" Grade 8 YZ Hex Head Cap Screw
26	61056	2	9/16"-12 x 1-1/2" Grade 8 YZ Hex Cap Screw
27	61059	2	9/16", 1-3/16" O.D., 19/32" I.D. YZ SAE Mil-Carb High-Strength Washer
28	61058	2	9/16"-12 Grade C Z Top Lock Nut
29	61018	4	1/2"-13 x 2" Grade 8 YZ Hex Head Cap Screw
30	61054	6	1/2"-13 x 2-1/4" Grade 8 YZ Hex Head Cap Screw
N/A	61079	1	1999 Ford Super Duty F-250 (3/4 ton) & F-350 (1 ton) Undercarriage Hardware Kit - Kit Includes: No. 22 - 30

NOTE: The reference numbers listed identify parts shown in the illustration above. These numbers are specific to this illustration only and do not correspond with other diagrams in the manual. Always review the part number given for proper component identification.

1999 FORD SUPER DUTY F-450 & F-550 UNDERCARRIAGE



The recommended push beam height for all undercarriage assemblies is 12-1/2" from the center of the push beam to level ground. DO NOT exceed 14" in height for any undercarriage.

WARNING: Most new trucks are equipped with driver and passenger's side air bags. DO NOT remove, disable, or reposition any sensory equipment related to the safe operation of the air bags.

ALWAYS follow the vehicle manufacturer's recommendations for installing snowplowing equipment.

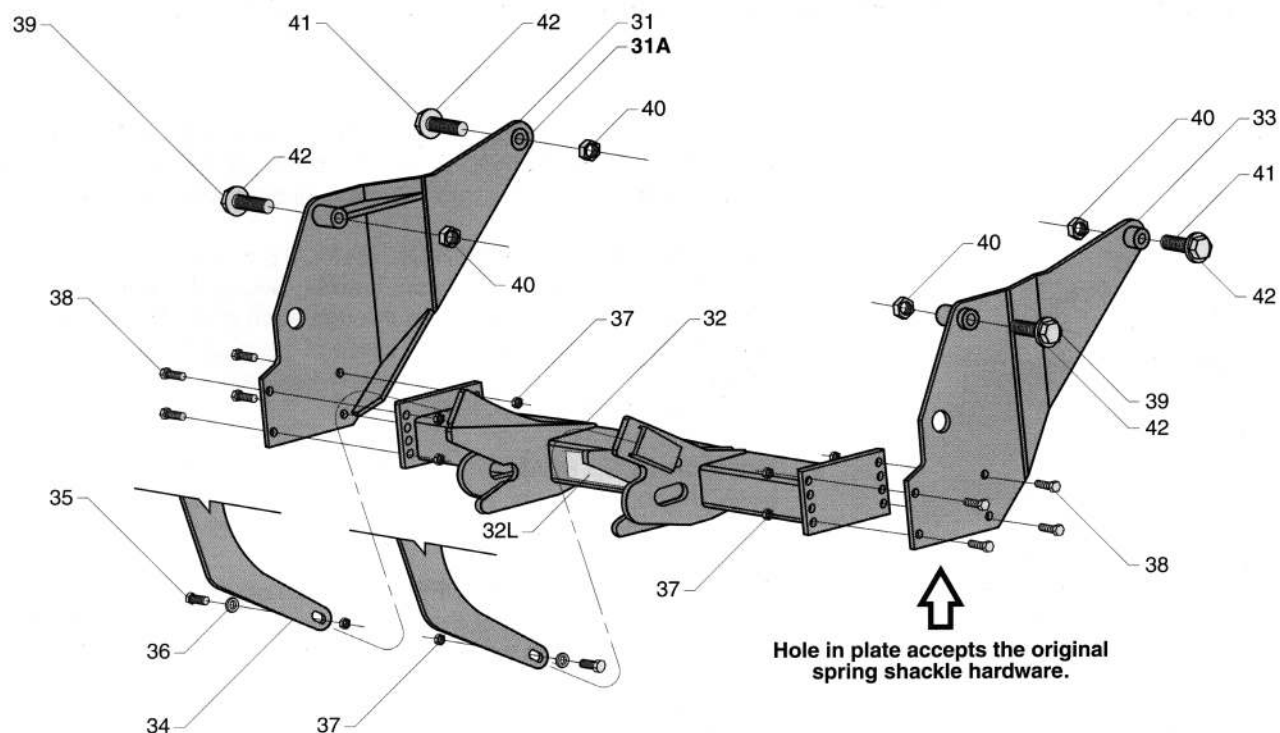
Failure to comply with the above warning may result in serious injury or death.

CAUTION: If your vehicle is equipped with oversize tires, they may come into contact with the undercarriage hanger plates when turning the vehicle.

The problem may be resolved by setting the steering stops on the vehicle. If this does not correct the problem, the original tires will need to be installed on the vehicle.

1. Begin the assembly by positioning the DRIVER'S SIDE HANGER PLATE on the outside of the truck frame rail and in front of the shock mount. In this position, the plate will locate above the front spring shackle. Attach one 5/8"-11 x 3" bolt and washer through the top rear mount. Secure the bolt with one 5/8" top lock nut. Note: There are two original openings cut into the frame rail. Use the rear opening to position a top lock nut for the 3" bolt inserted in the front opening.
2. Position one 5/8"-11 x 4-1/2" bolt and washer through the top front mount. Use a 1" box end wrench to position one 5/8" top lock nut through the truck frame rail opening at the tow hook and securely fasten.
3. Repeat both of the procedures above for the PASSENGER'S SIDE HANGER PLATE.
4. Mount the PUSH BEAM to each hanger plate using four 1/2"-13 x 2" bolts and top lock nuts. Note: The proper height for the push beam is approximately 12" from the ground to the center of the beam.
5. Once all of the undercarriage plates have been positioned and the proper push beam height is set, proceed to tighten all top locking nuts. Reference the chart at the left for maximum bolt torque.
6. Position the LIGHT TOWER into the accepting pockets on the push beam and tighten using two 1/2"-13 x 1-1/4" bolts with washers. Secure each bolt with a 1/2" top locking nut. Mount each PLOW HEADLIGHT to the light tower with the hardware kit provided.

Complete the assembly by connecting the terminals from the lights to the terminals on the vehicle wiring harness.

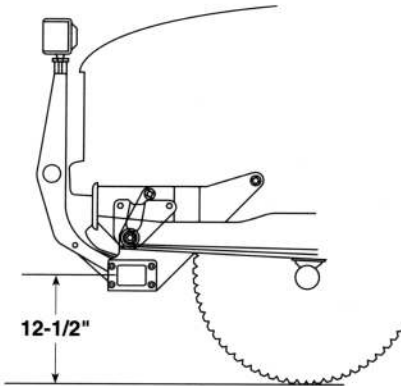


1999 FORD SUPER DUTY F-450 & F-550 UNDERCARRIAGE PARTS LIST

Ref. No.	Part No.	Qty.	Part Description
31A	31037	1	1999 Ford Super Duty F-450 & F-550 Undercarriage Assembly (No. 31 - 42)
31	31027	1	Passenger's Side Hanger Plate (1999 Ford Super Duty F-450 & F-550)
32	31032	1	46" Push Beam (1999 Ford Super Duty F-450 & F-550)
32L	61085	1	Push Beam Decal (All Undercarriages Except 1999 Chevrolet/GMC 2500 Series 3/4 ton)
33	31026	1	Driver's Side Hanger Plate (1999 Ford Super Duty F-450 & F-550)
34	39026	1	Universal Light Tower
35	61057	2	1/2"-13 x 1-1/4" Grade 8 YZ Hex Head Cap Screw
36	61026	2	1/2", 1-1/16" O.D., 17/32" I.D. YZ SAE Mil-Carb High-Strength Washer
37	61020	10	1/2"-13 Grade C Z Top Lock Nut
38	61018	8	1/2"-13 x 2" Grade 8 YZ Hex Head Cap Screw
39	61065	2	5/8"-11 x 4-1/2" Grade 8 YZ Hex Cap Screw
40	61063	4	5/8"-11 Grade C Z Top Lock Nut
41	61066	2	5/8"-11 x 3" Grade 8 YZ Hex Cap Screw
42	61064	4	5/8", 1-5/16" O.D., 21/32" I.D., YZ SAE Mil-Carb High-Strength Washer
N/A	61081	1	1999 Ford Super Duty F-450 & F-550 Undercarriage Hardware Kit - Kit Includes: No. 35 - 42

NOTE: The reference numbers listed identify parts shown in the illustration above. These numbers are specific to this illustration only and do not correspond with other diagrams in the manual. Always review the part number given for proper component identification.

1988-98 CHEVROLET/GMC 2500 SERIES (3/4 TON) & 3500 SERIES (1 TON), 1999 3500 SERIES (1 TON) UNDERCARRIAGE



The recommended push beam height for all undercarriage assemblies is 12-1/2" from the center of the push beam to level ground. DO NOT exceed 14" in height for any undercarriage.

WARNING: Most new trucks are equipped with driver and passenger's side air bags. DO NOT remove, disable, or reposition any sensory equipment related to the safe operation of the air bags.

ALWAYS follow the vehicle manufacturer's recommendations for installing snowplowing equipment.

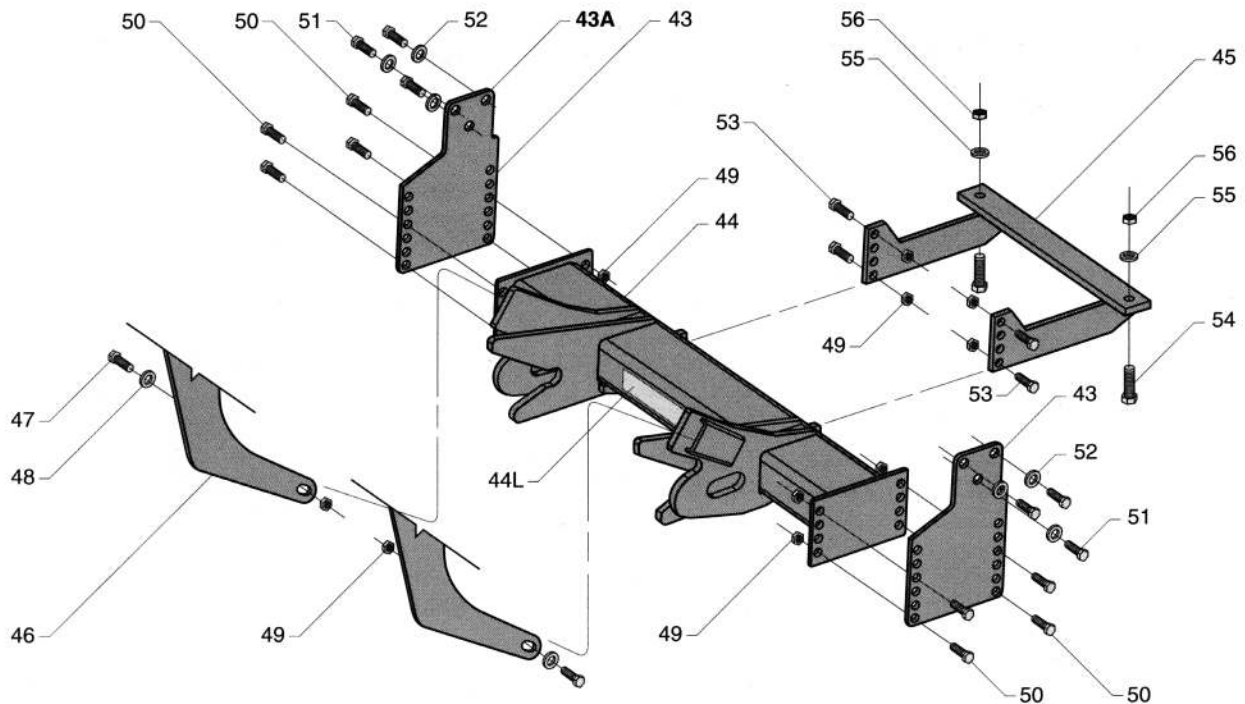
Failure to comply with the above warning may result in serious injury or death.

CAUTION: If your vehicle is equipped with oversize tires, they may come into contact with the undercarriage hanger plates when turning the vehicle.

The problem may be resolved by setting the steering stops on the vehicle. If this does not correct the problem, the original tires will need to be installed on the vehicle.

1. Begin the assembly by removing the three metric bolts and washers that attach to the CORE SUPPORT MOUNT BRACKET and TRUCK FRAME RAIL on both sides of the truck. Discard all bolts and washers.
2. Position the DRIVER'S SIDE HANGER PLATE on the outside of the truck frame rail and core support mount bracket. Secure three M14 x 2.0 x 45 (8.8 Gr.) bolts with M14 washers through each of the holes. Note: Each hole contains a welded nut on the inside of the truck frame rail eliminating the need for new hardware. Repeat the same installation for the PASSENGER'S SIDE HANGER PLATE.
3. Mount the PUSH BEAM to each hanger plate using four 1/2"-13 x 1-1/2" bolts and top lock nuts. Note: The proper height for the push beam is approximately 12" from the ground to the center of the beam.
4. Position the PUSH BEAM SUPPORT ARMS on the inside of the mounting brackets at the rear of the push beam. Secure each arm with four 1/2"- 13 x 1-3/4" bolts and 1/2" top lock nuts.
5. Secure the push beam support arms to the TRUCK FRAME CROSS-MEMBER with two 5/8"-11 x 2" bolts with washers and 5/8" nuts. Note: The washers and nuts need to be positioned inside of the truck frame crossmember. Access to the interior of the crossmember can be found either behind the crossmember (older models) or to either side of it (newer models) depending on the date of manufacture.
6. Once all of the undercarriage plates have been positioned and the proper push beam height is set, proceed to tighten all top lock nuts. Reference the chart on page 4 for maximum bolt torque.
7. Position the LIGHT TOWER into the accepting pockets on the push beam and tighten using two 1/2"-13 x 1-1/4" bolts with washers. Secure each bolt with a 1/2" top locking nut. Mount each PLOW HEADLIGHT to the light tower with the hardware kit provided.

Complete the assembly by connecting the terminals from the lights to the terminals on the vehicle wiring harness.

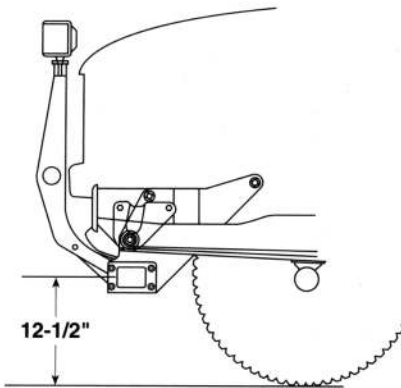


1988-98 CHEVROLET/GMC 2500 & 3500 SERIES, 1999 3500 SERIES UNDERCARRIAGE PARTS LIST

Ref. No.	Part No.	Qty.	Part Description
43A	30043	1	1988-1998 Chevrolet / GMC 2500 Series (3/4 ton) & 3500 Series (1 ton), 1999 Chev / GMC 3500 Series (1 ton) Undercarriage Assembly (No. 43 - 56)
43	30032	2	Passenger & Driver's Side Hanger Plate (1988-98 Chev/GMC 2500 & 3500, 99 Chev/GMC 3500)
44	30033	1	34-3/32" Push Beam (1988-98 Chev/GMC 2500 & 3500, 99 Chev/GMC 3500)
44L	61085	1	Push Beam Decal (All Undercarriages Except 1999 Chevrolet/GMC 2500 Series 3/4 ton)
45	30038	1	Push Beam Support Arm (1988-98 Chev/GMC 2500 & 3500, 99 Chev/GMC 3500)
46	39026	1	Universal Light Tower
47	61057	2	1/2"-13 x 1-1/4" Grade 8 YZ Hex Head Cap Screw
48	61026	2	1/2", 1-1/16" O.D., 17/32" I.D. YZ SAE Mil-Carb High-Strength Washer
49	61020	18	1/2"-13 Grade C Z Top Lock Nut
50	61055	8	1/2"-13 x 1-1/2" Grade 8 YZ Hex Head Cap Screw
51	61072	6	M14-2.0 x 45 Grade 8.8 Z Hex Head Cap Screw
52	61074	6	M14 I.D., 28 O.D. Z Flat Washer
53	61150	8	1/2"-13 x 1-3/4" Grade 8 YZ Hex Head Cap Screw
54	61071	2	5/8"-11 x 2" Grade 8 YZ Hex Cap Screw
55	61064	2	5/8", 1-5/16" O.D., 21/32" I.D., YZ SAE Mil-Carb High-Strength Washer
56	61063	2	5/8"-11 Grade C Z Top Lock Nut
N/A	61077	1	1988-1998 Chevrolet / GMC 2500 Series (3/4 ton) & 3500 Series (1 ton), 1999 Chevrolet / GMC 3500 Series Undercarriage Hardware Kit - Kit Includes: No. 47 - 56

NOTE: The reference numbers listed identify parts shown in the illustration above. These numbers are specific to this illustration only and do not correspond with other diagrams in the manual. Always review the part number given for proper component identification.

1999 CHEVROLET/GMC 2500 SERIES (3/4 TON) UNDERCARRIAGE



The recommended push beam height for all undercarriage assemblies is 12-1/2" from the center of the push beam to level ground. DO NOT exceed 14" in height for any undercarriage.

WARNING: Most new trucks are equipped with driver and passenger's side air bags. DO NOT remove, disable, or reposition any sensory equipment related to the safe operation of the air bags.

ALWAYS follow the vehicle manufacturer's recommendations for installing snowplowing equipment.

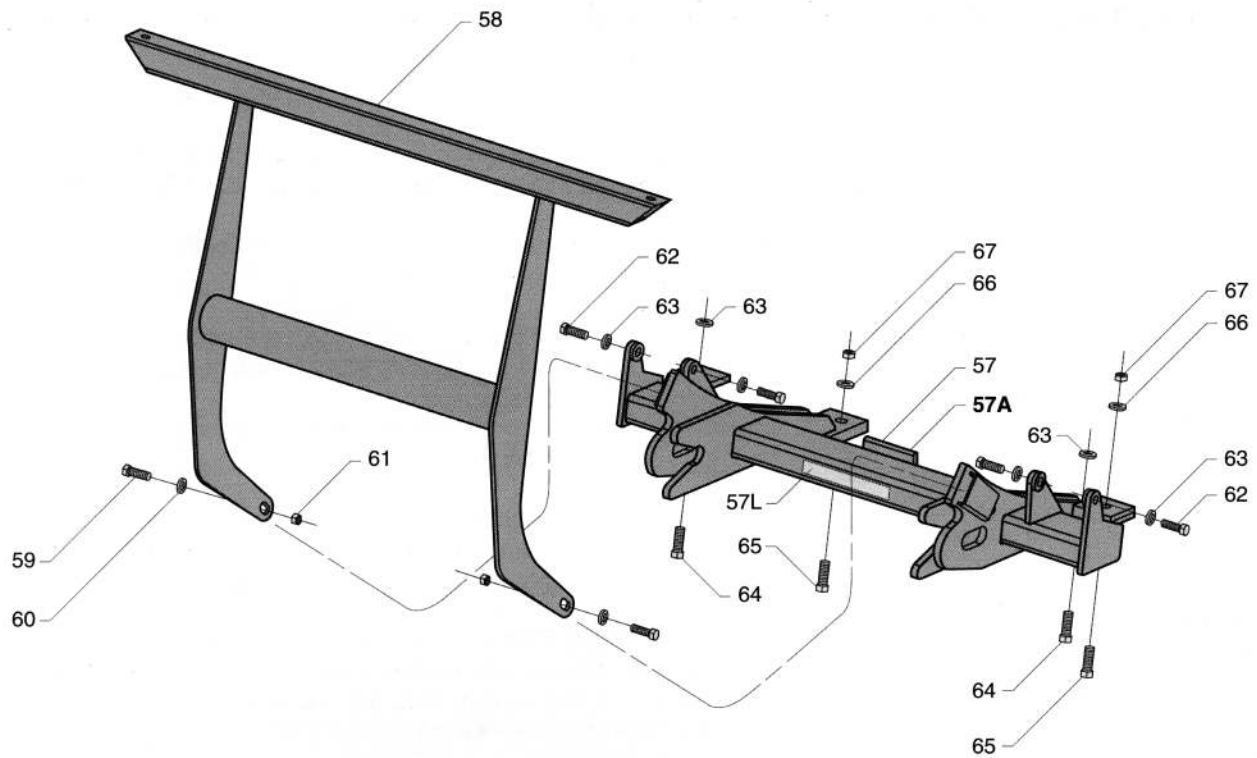
Failure to comply with the above warning may result in serious injury or death.

CAUTION: If your vehicle is equipped with oversize tires, they may come into contact with the undercarriage hanger plates when turning the vehicle.

The problem may be resolved by setting the steering stops on the vehicle. If this does not correct the problem, the original tires will need to be installed on the vehicle.

1. Begin the installation by removing the plastic airfoil mounted to the bottom of the front bumper. Note: The airfoil will need to be permanently removed or notched to accommodate the undercarriage assembly.
2. Remove and discard the three bolts that secure each tow hook to the truck frame. The tow hooks should remain in the same position.
3. Align the undercarriage mounting pockets (at each end of the push beam) with the tow hook mounting brackets on the vehicle. Note: Use a hydraulic floor jack to help facilitate the installation procedure.
4. Install two M12 x 1.75 x 45 (8.8 Gr.) bolts with M12 washers to the side tow hook mount for each end of the assembly. Note: Loosely attach all nuts until the remaining hardware is in position.
5. Proceed to install one M12 x 1.75 x 40 (8.8 Gr.) bolt with an M12 washer through the truck frame and rear tow hook mount for each side of the push beam. Both bolts will tighten into the existing tow hook.
6. Install the the two 5/8"-11 x 2-1/4" bolts and 5/8" washers through the rear support arms and truck frame crossmember. Secure each bolt with a 5/8"-11 top lock nut.
7. Once the undercarriage is positioned with the appropriate hardware, tighten all top lock nuts. Reference the chart on page 4 for maximum bolt torque.
8. Position the LIGHT TOWER into the accepting pockets on the push beam and tighten using two 1/2"-13 x 1-1/4" bolts with washers. Secure each bolt with a 1/2" top lock nut. Mount each PLOW HEADLIGHT to the light tower with the hardware kit provided.

Complete the assembly by connecting the terminals from the lights to the terminals on the vehicle wiring harness.

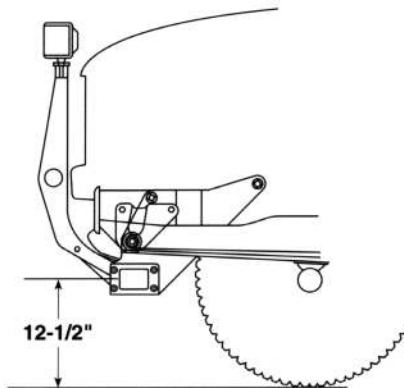


1999 CHEVROLET/GMC 2500 SERIES 3/4 TON UNDERCARRIAGE PARTS LIST

Ref. No.	Part No.	Qty.	Part Description
57A	30042	1	1999 Chevrolet / GMC 2500 Series (3/4 ton) Undercarriage Assembly (No. 57 - 67)
57	30037	1	37" Push Beam (1999 Chev/GMC 2500)
57L	61128	1	Push Beam Decal (1999 Chev/GMC 2500 Series 3/4 ton Undercarriage)
58	39026	1	Universal Light Tower
59	61057	2	1/2"-13 x 1-1/4" Grade 8 YZ Hex Head Cap Screw
60	61026	2	1/2", 1-1/16" O.D., 17/32" I.D. YZ SAE Mil-Carb High-Strength Washer
61	61020	2	1/2"-13 Grade C Z Top Lock Nut
62	61068	4	M12-1.75 x 45 Grade 8.8 Z Hex Head Cap Screw
63	61070	6	M12 I.D., 24 O.D. Z Flat Washer
64	61069	2	M12-1.75 x 40 Grade 8.8 Z Hex Head Cap Screw
65	61067	2	5/8"-11 x 2-1/4" Grade 8 YZ Hex Cap Screw
66	61064	2	5/8", 1-5/16" O.D., 21/32" I.D., YZ SAE Mil-Carb High-Strength Washer
67	61063	2	5/8"-11 Grade C Z Top Lock Nut
N/A	61076	1	1999 Chevrolet / GMC 2500 Series (3/4 ton) Undercarriage Hardware Kit - Kit Includes: No. 59 - 67

NOTE: The reference numbers listed identify parts shown in the illustration above. These numbers are specific to this illustration only and do not correspond with other diagrams in the manual. Always review the part number given for proper component identification.

1994-1999 DODGE 2500 SERIES (3/4 TON) & 3500 SERIES (1 TON) *1996 DODGE V-10 & SPORT MODELS (GAS) UNDERCARRIAGE



The recommended push beam height for all undercarriage assemblies is 12-1/2" from the center of the push beam to level ground. DO NOT exceed 14" in height for any undercarriage.



WARNING: Most new trucks are equipped with driver and passenger's side air bags. DO NOT remove, disable, or reposition any sensory equipment related to the safe operation of the air bags.

ALWAYS follow the vehicle manufacturer's recommendations for installing snowplowing equipment.

Failure to comply with the above warning may result in serious injury or death.

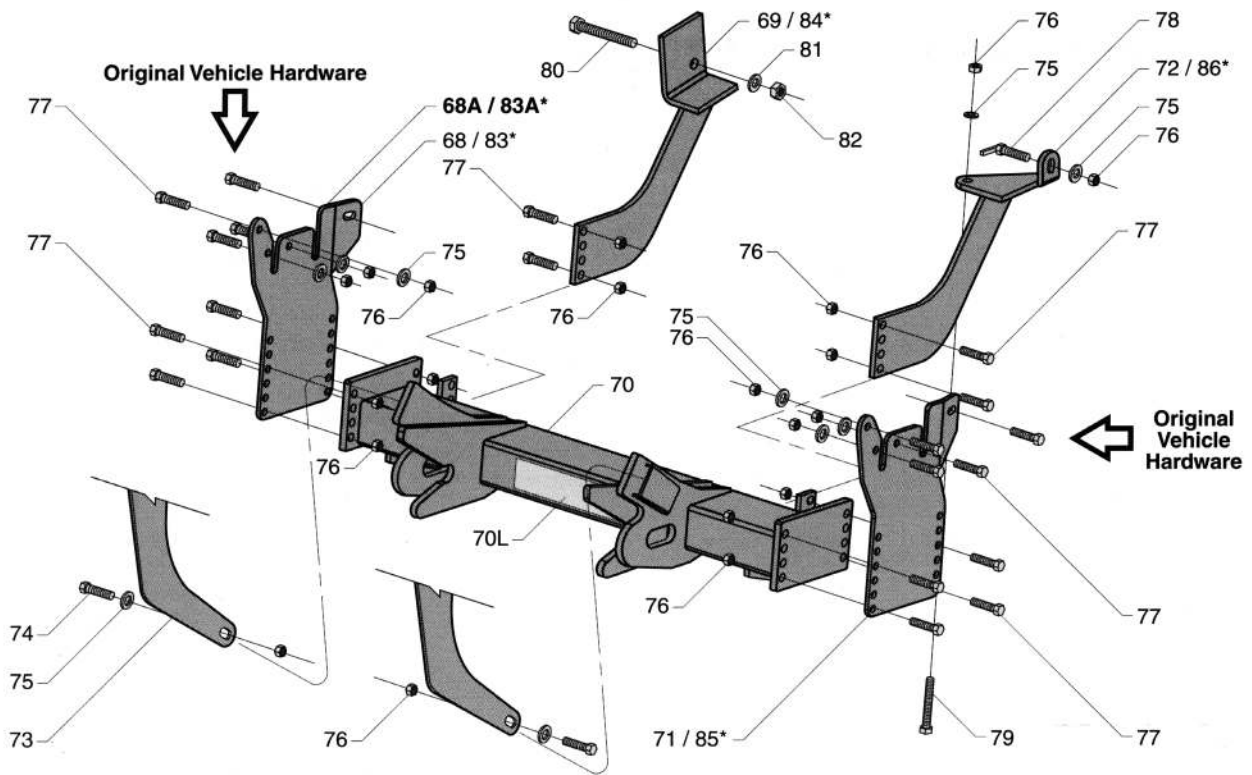


CAUTION: If your vehicle is equipped with oversize tires, they may come into contact with the undercarriage hanger plates when turning the vehicle.

The problem may be resolved by setting the steering stops on the vehicle. If this does not correct the problem, the original tires will need to be installed on the vehicle.

1. Begin the undercarriage assembly by removing the six M12 x 1.75 x 45 (8.8 Gr.) bolts that attach the bumper to the TRUCK FRAME RAIL.
2. Remove both M12 x 1.75 x 45 (8.8 Gr.) bolts from the BUMPER SUPPORT ARMS that attach to the truck frame rail.
3. Proceed to install each HANGER PLATE to the outside of the truck frame rail using three 1/2"-13 x 1-1/2" bolts with 1/2" washers and top lock nuts.
4. Attach the bumper support arms to the rear hanger plate mount using the original vehicle hardware.
5. Install the PASSENGER'S SIDE PUSH BEAM SUPPORT ARM to the truck frame rail in front of the engine crossmember (bottom hole). Secure with one 5/8"-11 x 4-1/2" bolt, washer and a top lock nut.
6. Install the DRIVER'S SIDE PUSH BEAM SUPPORT ARM to the truck frame rail and crossmember located under the steering shaft. Mount one 1/2"-13 x 5" bolt and washer from the underside of the cross-member and secure with one top lock nut.
7. Proceed to install one 1/2"-13 x 1-1/2" bolt with welded tab on the driver side support arm to the truck frame rail. "Snake" the welded bolt through the access hole behind the support arm on the truck frame rail using a stiff wire. Position the bolt through the hole with the welded tab on the interior of the rail. Note: The welded tab will prohibit the bolt from turning while tightening the 1/2" nut and washer.
8. Attach the PUSH BEAM to each hanger plate using eight 1/2"-13 x 1-1/2" bolts. Attach both push beam support arms to the brackets at the rear of the push beam using four 1/2"-13 x 1-1/2" bolts. Secure all bolts with 1/2" top lock nuts.
9. Once the undercarriage is positioned with the appropriate hardware, tighten all top lock nuts. Reference the chart on page 4 for maximum bolt torque.
10. Replace the bumper and bumper support arms with the original hardware.
11. Position the LIGHT TOWER into the accepting pockets on the push beam and tighten using two 1/2"-13 x 1-1/4" bolts with washers. Secure each bolt with a 1/2" top lock nut. Mount each PLOW HEADLIGHT to the light tower with the hardware kit provided.

Complete the assembly by connecting the terminals from the lights to the terminals on the vehicle wiring harness.



1994-99, *1996 DODGE UNDERCARRIAGE PARTS LIST

Ref. No.	Part No.	Qty.	Part Description
1994 - 1999 DODGE 2500 SERIES & 3500 SERIES			
68A	32012	1	1994-1999 Dodge 2500 Series (3/4 ton) & 3500 Series (1 ton) Undercarriage Assembly (No. 68 - 82)
68	32001P	1	Passenger's Side Hanger Plate (1994-1999 Dodge 2500 & 3500)
69	32010	1	Passenger's Side Push Beam Support Arm (1994-1999 Dodge 2500 & 3500)
70	32005	1	36-1/4" Push Beam (1994-1999 Dodge 2500 & 3500)
70L	61085	1	Push Beam Decal (All Undercarriages Except 1999 Chevrolet/GMC 2500 Series 3/4 ton)
71	32001D	1	Driver's Side Hanger Plate (1994-1999 Dodge 2500 & 3500)
72	32007	1	Driver's Side Push Beam Support Arm (1994-1999 Dodge 2500 & 3500)
73	39026	1	Universal Light Tower
74	61057	2	1/2"-13 x 1-1/4" Grade 8 YZ Hex Head Cap Screw
75	61026	10	1/2", 1-1/16" O.D., 17/32" I.D. YZ SAE Mil-Carb High-Strength Washer
76	61020	22	1/2"-13 Grade C Z Top Lock Nut
77	61055	18	1/2"-13 x 1-1/2" Grade 8 YZ Hex Head Cap Screw
78	61151	1	1/2"-13 x 1-1/2" Grade 8 YZ Hex Head Cap Screw with Welded Tab
79	61075	1	1/2"-13 x 5" Grade 8 YZ Hex Head Cap Screw
80	61065	1	5/8"-11 x 4-1/2" Grade 8 YZ Hex Cap Screw
81	61064	1	5/8", 1-5/16" O.D., 21/32" I.D., YZ SAE Mil-Carb High-Strength Washer
82	61063	1	5/8"-11 Grade C Z Top Lock Nut
N/A	61078	1	1994-1999 Dodge 2500 Series (3/4 ton) & 3500 Series (1 ton) Hardware Kit - Kit Includes: No. 74 - 82
*1996 DODGE V-10 & SPORT MODELS (GAS)			
83A*	32013	1	1996 Dodge V-10 & Sport Models (Gas) Undercarriage Assembly (No. 70, 70L, 73 - 82, 83* - 86*)
83*	32019P	1	Passenger's Side Hanger Plate [1996 Dodge V-10 & Sport Models (Gas)]
84*	32014	1	Passenger's Side Push Beam Support Arm [1996 Dodge V-10 & Sport Models (Gas)]
85*	32019D	1	Driver's Side Hanger Plate [1996 Dodge V-10 & Sport Models (Gas)]
86*	32017	1	Driver's Side Push Beam Support Arm [1996 Dodge V-10 & Sport Models (Gas)]

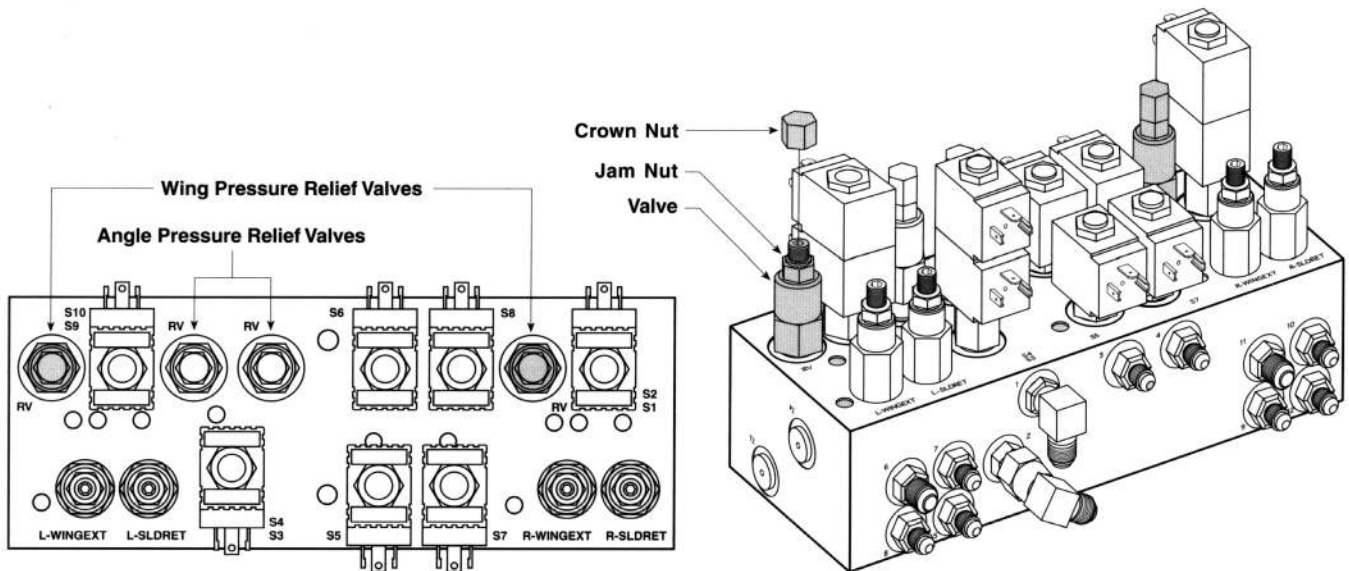
*The 1996 Dodge V-10 & Sport Models (Gas) require different hanger plates and push beam support arms for proper installation.

NOTE: The reference numbers listed identify parts shown in the illustration above. These numbers are specific to this illustration only and do not correspond with other diagrams in the manual. Always review the part number given for proper component identification.

TROUBLESHOOTING GUIDE

Problem	Probable Cause(s)	Suggested Remedy
Pump will not run.	Plow wire harness and vehicle wire harness may not be properly connected.	Verify the wire harness is properly connected. Review the instruction on pages 9-11.
	Ground cables to the battery, manifold or pump solenoid may not be properly connected.	Properly connect all cables. Clean and lubricate with white lithium grease.
Pump will not run, no power to the solenoid.	The red, power wire and brown, activation wire on the solenoid are not properly connected.	Properly connect both cables. Test for power by initiating any rocker switch function except the float. Note: The POWER rocker switch must be in the "ON" position to properly test any plow function. No power, diagnose plow & truck wire harness.
Pump will not run with power to the solenoid.	The black, hot wire from the pump motor to the solenoid is not properly connected.	Connect black wire. If problem is not resolved, the power from the solenoid could be seized or the motor may be worn. Replace pump solenoid.
Pump will not turn off.	Pump solenoid may be damaged.	Disconnect the brown activation wire from the solenoid. If the problem is not resolved, replace the solenoid.
	Diode pack may be corroded.	Clean diode pack thoroughly and/or replace.
	Short in the control box or wire harness.	Disconnect the control box 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.	Adjust the pressure. Remove the hex cap on top of the pump and turn the screw clockwise 1/8 turn. Proper system pressure should be set at 1500 PSI. Test functions and repeat procedure as needed.
	Voltage from the vehicle's alternator is too low.	Repair or replace vehicle alternator. Voltage must be no less than 11.8 volts.
	Pump filter may be clogged.	Remove the pump tank and thoroughly clean the filter.
Draw latch will pull the plow into the truck; however, the plow will not lift.	Overcentering links on the A-frame are not moving freely.	Place the power switch on the control box into the "OFF" position. Rotate the overcentering links toward the vehicle and lubricate with a medium grade oil. Replace the overcentering links into the pockets on the draw latch arms.
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.
	DIN connectors are not properly attached to the solenoids.	Retighten center screw on the DIN connectors.
	DIN connectors to solenoids S6 & S7 may not be receiving power.	Remove the DIN connector from each solenoid and verify that the wires are installed directly across from one another and are secured properly.
	DIN solenoid may be damaged.	Remove both S6 & S7 solenoids from the cartridge valves. Position a screwdriver inside of the solenoid and push the draw latch connect/disconnect toggle switch upward. The solenoid should be magnetically drawn to the screwdriver. Replace solenoid if there is no action.

Problem	Probable Cause(s)	Suggested Remedy
	Hydraulic lock in the manifold.	Loosen cartridge valve S5 or S8 to relieve pressure and retighten. DO NOT OVERTIGHTEN!
	Solenoid cartridge valve may be contaminated.	Remove any foreign objects that may be obstructing proper valve operation. Replace if not operating properly after cleaning.
Wing will not stay angled when plowing.	The wing 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 900 PSI.	Test the wing pressure relief. Attach a T-fitting with a fluid PSI gauge to the base end of the wing cylinder. Pressure relief should not be greater than 900 PSI. Review the illustration below to increase the pressure relief settings.
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.	Follow the guidelines indicated above; however, the PSI setting should not exceed 3000 PSI. NOTE: If the plow is floating back when angled to the right, adjust the left pressure relief valve and vice versa.



Wing & Angle Pressure Relief Valve Setting Adjustment Instruction

1. Locate each of the wing or angle pressure relief valves in the diagram below.
2. Using a 9/16" Standard wrench remove the crown nut from the valve and loosen the jam nut.
3. Next, insert a 3/16" Allen wrench in the valve adjustment and rotate **counterclockwise** until finger loose.
4. Turn the adjustment **clockwise** with your fingers until you achieve resistance.
5. Turn the adjustment with the Allen wrench **clockwise** 7/8 to 1 full revolution.
6. Next, holding the Allen wrench stationary in the adjustment, use the 9/16" Standard wrench to tighten the jam nut.
7. Replace the crown nut on each valve. **DO NOT OVERTIGHTEN** the crown nut!

Problem	Probable Cause(s)	Suggested Remedy
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 manifold.	Loosen cartridge valves S9 & S10 or S1 & S2 to relieve pressure and retighten. DO NOT OVERTIGHTEN!
	No power to the DIN connectors.	Verify DIN solenoids S1 & S2 (passenger's side slide box retract and extend) and S9 & S10 (driver's side slide box retract and extend) are connected properly. Diagnose the wire harness. Review the plow wire schematic on page 29 and the vehicle wire schematic on page 31. If power is present, review the next step.
	DIN solenoids are not receiving power.	Verify that the DIN solenoids are magnetizing. Position a screwdriver inside of the solenoid. When the respective function is activated, the screwdriver is drawn to the side of the solenoid. If the solenoid is not drawn to the screwdriver, replace the solenoid. 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 will not angle, pump works.	Review all probable causes above.	NOTE: Verify DIN solenoids S3 & S4 for angle functions.

Should your snowplow develop other problems not indicated in the Troubleshooting Guide, contact your local dealer for technical assistance and/or replacement parts. Technical support can also be obtained calling our Customer Service Department at 1-888-680-8600, Monday - Friday, 8AM - 5PM EST.

NOTICE

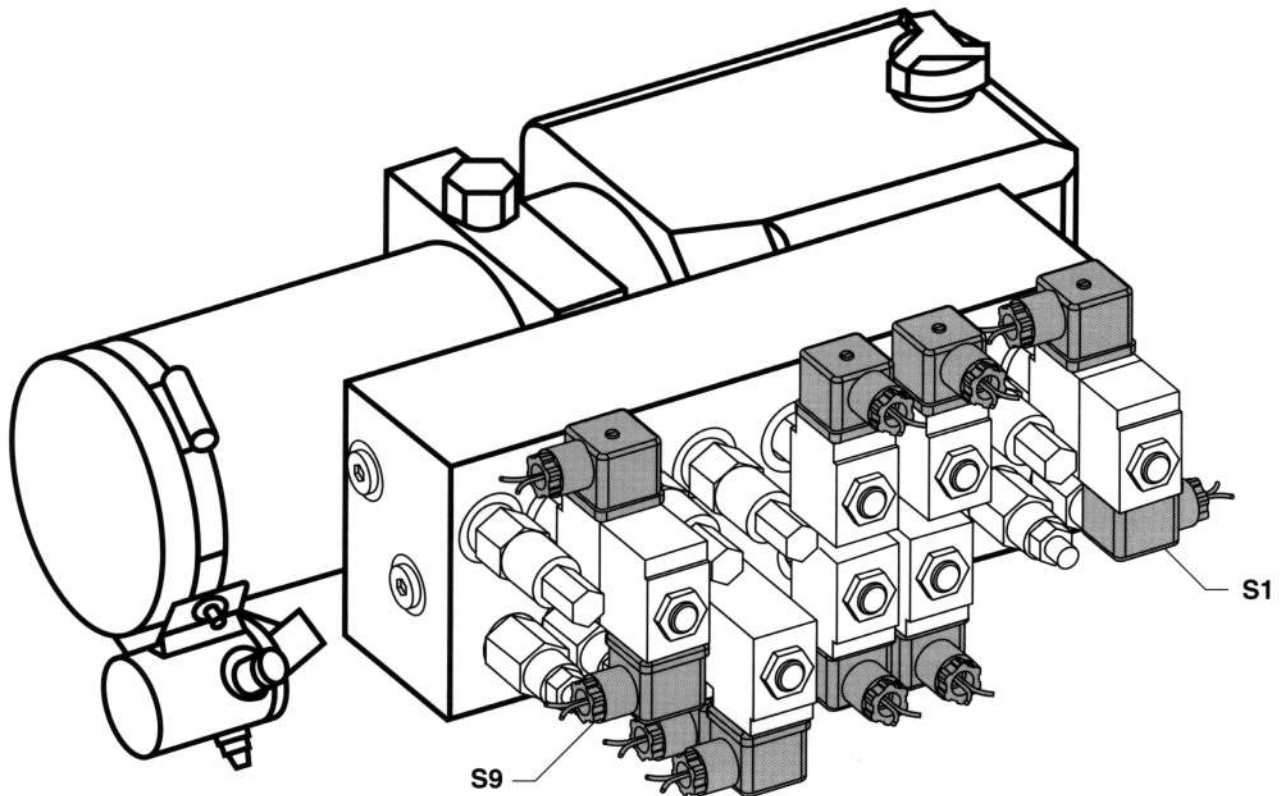
Blizzard Power Plow - Model 810

Issued December 3, 1999

The manifold assembly has ten DIN style connectors that attach to each of the red solenoids. Depending on the model vehicle you are installing your Power Plow on, the DIN style connectors can interfere with the bumper of the vehicle. When the snowplow is in the raised position, the two top solenoids ("S9" and "S1" indicated in the stamping on the block) make contact with the bumper. This action, or the forceful impact of the plow into a snow bank in the raised position can damage a solenoid. Take corrective measures by installing **ALL** DIN connectors as illustrated below or increase the tension on the torsion bar on the vehicle and lower the push beam height (recommended push beam height is 12-1/2").

Notice the two DIN connectors and respective solenoids have been rotated such that they face down and outward. Also, if the DIN connectors are positioned wrong, they can interfere with the pump and manifold cover.

Should you have questions regarding proper installation, contact your local Blizzard Power Plow Dealer or contact our Customer Service Department at 1-888-680-8600.





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 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.
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. 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.



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1029-7-99



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 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.
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. 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.



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