



**72" HYDRAULIC V-PLOW  
MOUNTING INSTRUCTIONS  
BLADE P/N: 4501-0190  
PUSH TUBE ASSM P/N: 4501-0191**

**CUSTOMER MUST RECEIVE A COPY  
OF THIS INSTRUCTION SHEET AT  
THE TIME OF SALE**

**NOTE: Skids, springs, center section, and  
hardware are located in the push tube box.**



**Shaded Hardware Part Numbers  
are Located in the Skid Box**

Item	Part #	Qty.	Description
1	2573-100L	1	Left Blade Half
2	2573-100R	1	Right Blade Half
3	2573-113	2	Rubber Top Flap
4	2573-112	2	Wear Bar
5	2573-200	1	Center Support
6	HDW2064	10	5/16" x 1" Carriage Bolt
7	HDW7056	10	5/16" Flanged Nut
8	2573-302	1	Center Support Shaft
9	2573-301	1	Center Skid
10	HDW9017	5	3/4" SAE Washer
11	HDW2315	3	3/16" x 1 1/4" Lynch Pin
12	FG2592	2	Skid
13	HDW2356	4	1.3" x 5/8" x 3/4" Spacer
14	HDW9005	18	5/8" Flat Washer
15	HDW2106	4	3/8" x 3/4" Hex Bolt
16	FG2590	2	Skid Bracket
17	2713-204	1	Mounting Shaft
18	HDW9047	1	1/4" Roll Pin
19	HDW7078	1	1/2"-13 Jam Nut
20	HDW9049	1	1/2" x 1 3/4" Hex Bolt
21	2713-100	1	Push Tube Weldment
22	2713-300	1	Hydraulic Pump
23	2713-301	1	Hydraulic Manifold
24	2713-600	2	Hydraulic Cylinder
25	HDW9048	2	3/8" Lock Washer
26	HDW9042	4	1/4"-28 x 1/2" Hex Bolt
27	HDW9014	4	1/4" Lock Washer
28	2713-303	4	Hydraulic Hoses
29	HDW9050	2	1/2" x 1 1/2" Shoulder Bolt
30	HDW9025	8	1/2" SAE Washer
31	HDW7061	4	3/8" Nylock Nut
32	HDW2172	2	3/8" x 1 1/2" Shoulder Bolt
33	HDW9001	8	3/8" SAE Flat Washer
34	HDW9003	12	5/16" USS Flat Washer
35	HDW7058	12	5/16" Nylock Nut
36	HDW2369	2	Springs
37	2713-400	1	Wire Harness
38	2713-500	1	Hand Controller
39	HDW9052	2	Relays
40	2713-401	1	Wire Harness Plug Mount
41	HDW2232	8	Self Tapping Screws
42	PC496	2	Coils
43	HDW2545	10	8" Zip Tie
44	PC497	1	Relief Valve
45	HDW9057	2	#10 Ring Terminal
46	HDW9058	2	5/16" Ring Terminal
47	HDW9053	1	Circuit Breaker
48	HDW2069	10	5/16" x 3/4" Carriage Bolts
49	HDW2117	2	Eyebolt
50	HDW2106	2	3/8" x 3/4" Hex Bolt
51	PC498	2	Swivel Fitting
52	PC499	2	Straight Fitting
53	PC495	2	Cartridge Valve

**FOR QUESTIONS OR COMMENTS PLEASE CALL: 763-689-4800**

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Inst2573/2713

08/21/08

## V-Plow Blade Assembly Instructions

1. Install left and right wear bar to each blade half using five 5/16" x 1" hex bolts (#6) and 5/16" flanged nuts (#7) per part. **NOTE: Wear bars cannot be flipped when worn.** Install left and right top flap using five 5/16 x 3/4" bolts (#48), 5/16" washers (#34), and 5/16" nylock nuts (#35) per part.
2. The tall shaft with skid (#8,9) is used to attach the two blade halves to the center weldment (#5). Place the blades flat on the ground and set the center weldment in place making sure all the round tubes align. Grease the shaft with some low temp grease. Now slide the shaft in from the bottom through both blades and the center weldment. Slide the five 5/8" washers (#10) on the top of the shaft and secure with the 3/16" x 1 1/4" lynch pin (#11) through the hole in the shaft.

**NOTE: Adjusting the amount of washers from the top and bottom of the shaft will allow you to adjust the desired height of the blade. Some machines will need to be adjusted for proper height/clearance. See page #4 for details on adjusting the height.**

**NOTE: The center skid is placed with the wide side down to be used as a cutting edge and to fill the gap between the two blade halves. It can be unthreaded and flipped over if you would rather use it as a skid. Make sure to use red Loctite when reinstalling onto the shaft.**

3. Locate the skid box that is inside the push tube box. Bolt in place on each side of the v-plow per the instructions located in the skid box.

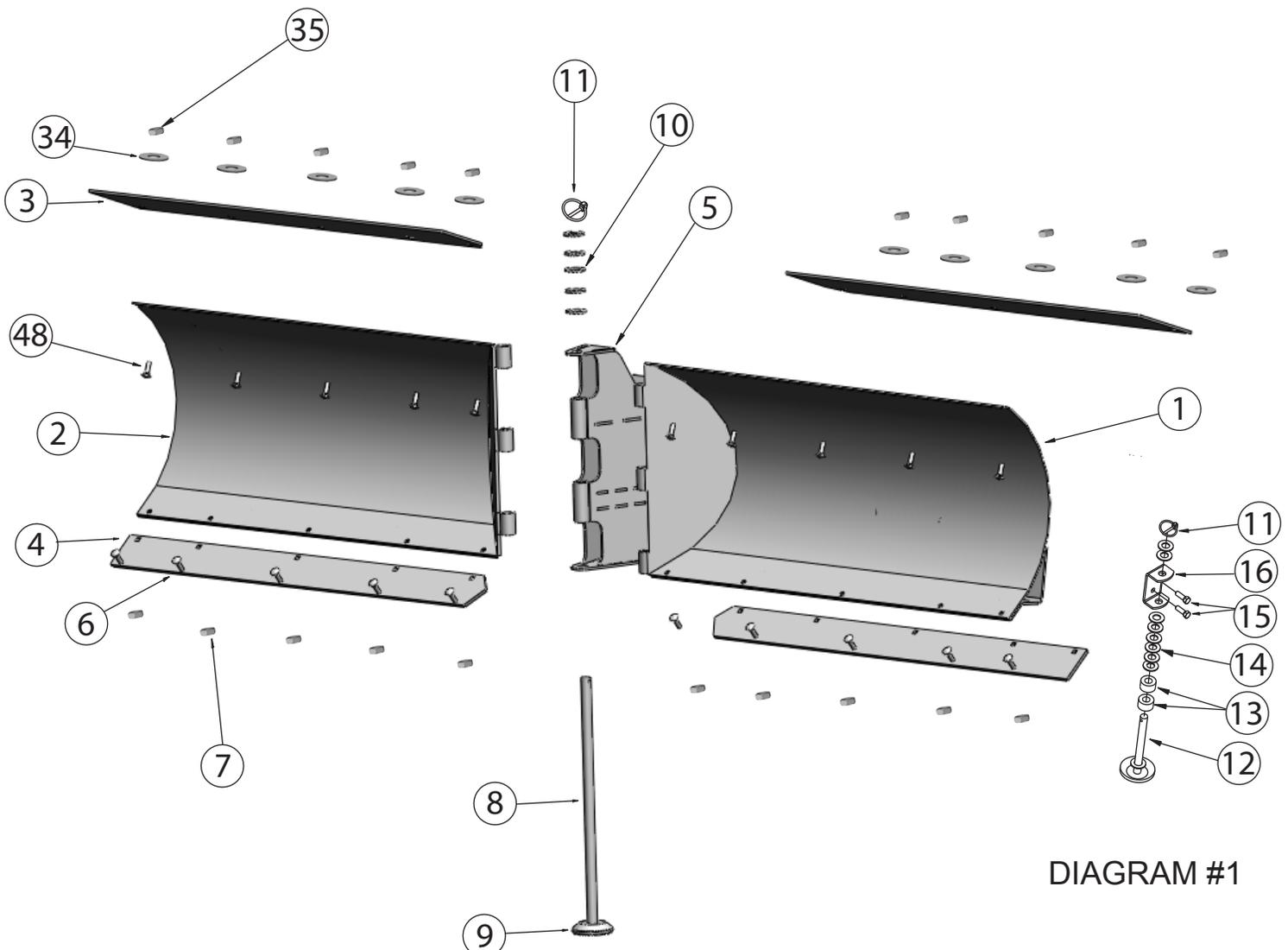


DIAGRAM #1

## Push Tube Assembly Instructions

1. Place assembled blades and center section blade down on the floor with the center section facing upward. The push tube slides over the tube in the center section and is held in place by the reinforcing shaft (#17). Grease the shaft and then slide the shaft through the large tube in the push tube and center section. Align the hole in the shaft with the hole in the left side of the push tube and pound in the 1/4" roll pin (#18). Set the blade and push tube back on the ground in the normal position.
2. Install the center section angle adjusting 1/2" jam nut (#19) and 1/2" x 1 3/4" bolt (#20) into the threaded adjuster. Thread it in about half way for now, you will be adjusting it once everything is installed. See page #4 for adjusting instructions.
3. Install the springs (#36) in the holes of the two upper tabs of the center section. Install the eyebolts (#49) through the tabs in the sides of the push tube and secure with the nylock nuts (#31) about 1" up the bolt. Attach the springs to the eyebolts and adjust the tension by tightening or loosening the nylock nuts.
3. Place the pump (#22), manifold (#23), hoses (#28), and cylinders (#24) assembly on the push tube per the illustration. Use two 3/8" x 3/4" hex bolts (#15) and 3/8" lockwashers (#25) to bolt the pump to the push tube from the front of the bracket. From the underside of the push tube, bolt the manifold to the bracket using four 1/4" x 1/2" hex bolts (#26) and 1/4" lockwashers (#27).
4. Install the rear of each cylinder body to the center section with the hose fittings facing the machine. Make sure to route the hydraulic lines to clear any moving components. Use some zip ties (#43) to keep them together. Bolt the rear of the cylinder body in place with a 1/2" shoulder bolt (#29) from the top. Place two 1/2" washers (#30, 8 Total) on each side of each cylinder in between the center section mounting tabs to act as bushings/spacers. Secure with 3/8" washers (#25) and 3/8" nuts (#31) on the bottom.
5. Bolt the end of the cylinder shafts into the slots in each blade using a 3/8" shoulder bolt (#32). Place one 3/8" washer (#33, 4 Total) on each side of each shaft in between the blade mounting tabs to act as bushings/spacers. Secure with 5/16" washers (#34) and 5/16" nylock nuts (#35) underneath.

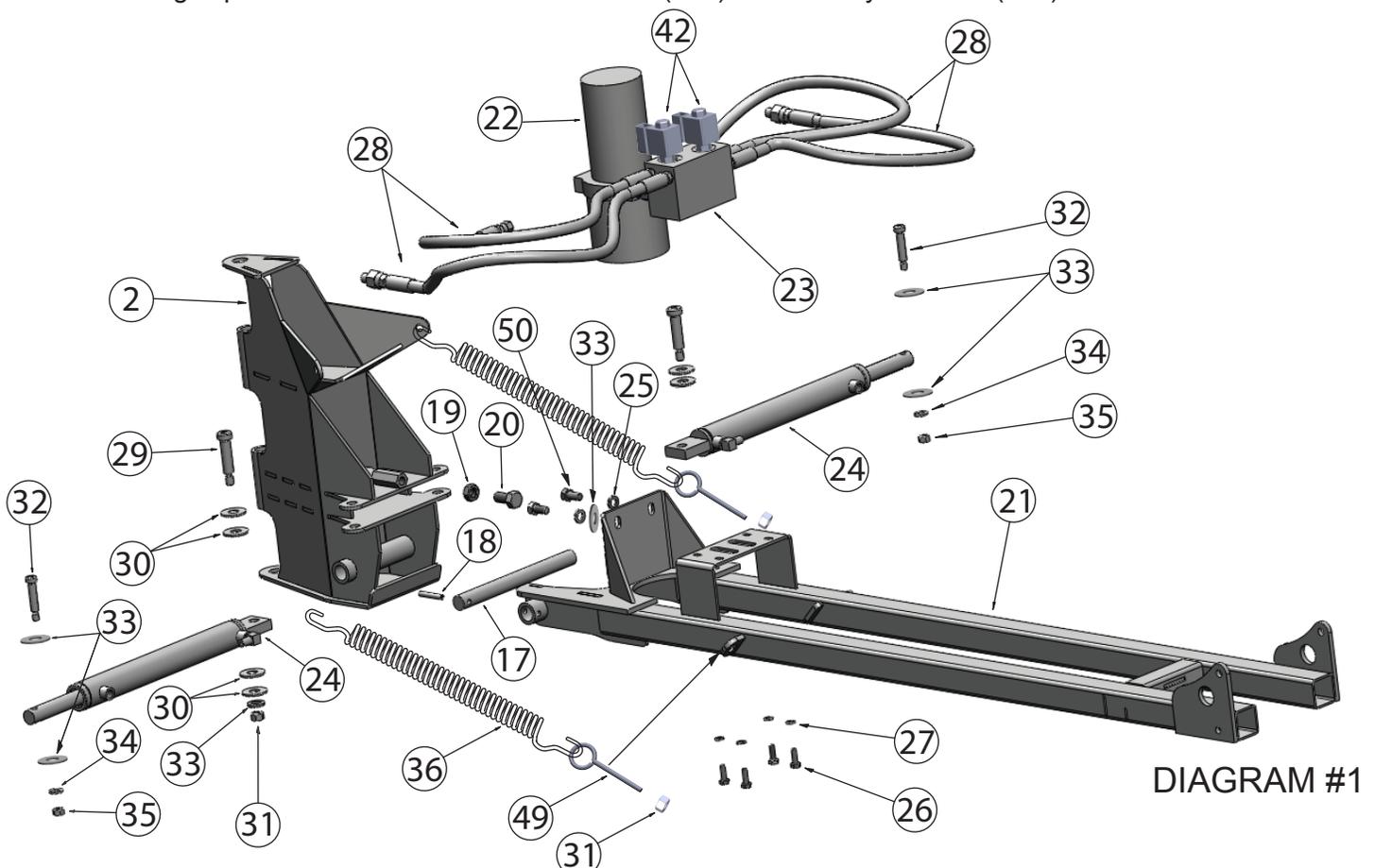


DIAGRAM #1

# Hydraulic Package Information/Instructions

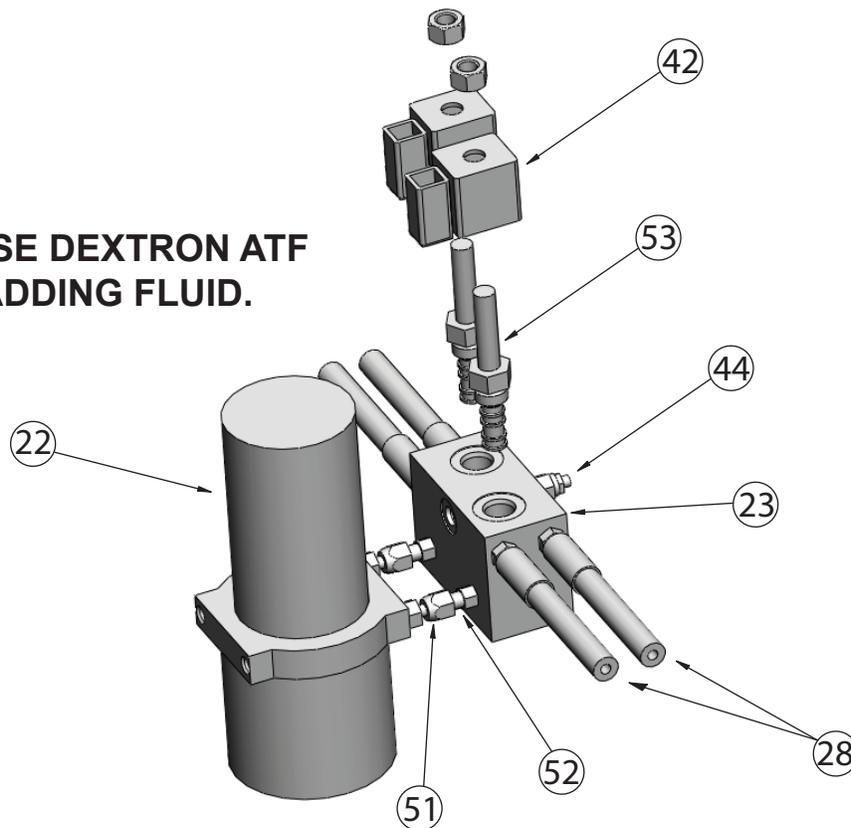
## INSTALLATION/REPLACEMENT

1. This hydraulic package comes tested and assembled for your convenience. You simply need to install the assembly onto the plow per the instructions on page 3.
2. The pump is a heavy duty unit produced by Parker Hydraulics, a serial number is on the outside of the pump. In the event that you need replacement parts for you pump, please contact Parker directly. You may purchase a complete replacement pump from the phone number listed on this page but we will not be stocking internal replacement parts.
3. The cylinders are a non-rebuildable, one-piece welded unit. In the event of a failure, you can purchase a complete replacement cylinder from the number listed below.
4. Hydraulic hoses are also considered a replacement part and you should not attempt to fix or patch a cut or slit hose. Replacement hoses will come with the fittings attached and ready to bolt on.

## TECHNICAL INFORMATION

1. The hydraulic system has a built in relief valve in case you hit a solid object with a large amount of force. This is a built in system that will allow the cylinder to quickly retract to help prevent damage to the plow, machine, or operator. This should not be considered a safety system and is not guaranteed to prevent damage or bodily injury. In the case you do trip the relief valve, simply press the in or out blade button on the hand controller and it will return to normal operation.
2. After servicing any part of the hydraulic system you will need to check the hydraulic fluid level. There is a dipstick on the pump between the fittings to the manifold. Fill to between the center lines on the dipstick with Dextron ATF fluid. This is a self bleeding system so no further bleeding is necessary however operation may feel spongy for the first few minutes after servicing. If the problem persists, please contact us for technical help.

**ALWAYS USE DEXTRON ATF  
WHEN ADDING FLUID.**



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## V-Plow Electrical Diagram

1. Disconnect the battery.
2. Plug the two wire (Blue and Black Wires) connector into the plug on the hydraulic pump.
3. Plug one (Light Blue/Black and Brown/Black) two wire connector into each coil on top of the manifold block. There is no left or right so it does not matter which plug goes to what coil.
4. Carefully route the wire harness along the push tube and find a suitable spot to go up into the engine compartment or under the hood. You may need to drill a 1.5" hole in the firewall to gain access to the cab.  
NOTE: THE WIRE HARNESS WILL STAY ON THE MACHINE WHEN THE PLOW IS REMOVED SO BE SURE YOUR ROUTING WILL NOT INTERFERE WITH THE NORMAL OPERATION OF THE UTV.
5. The large white hand controller plug on the end of the harness can be solid mounted inside the glove box, center console, or any easily accessible location using the included mount (#40). Using a 1.5" hole saw, drill a hole and center the bracket over it using four self tapping screws (#41). The white wire harness plug will simply snap into the hole in the bracket. By doing this it allows the wire harness to be mounted year round but the hand controller can be easily removed.
6. You will need to mount the two included relays (#39). The mounting location will need to be within two feet (Due to wire length) of where you mounted the hand controller plug from step 5. Under the hood on the firewall or in an electrical compartment works best. Screw each relay into place using two self tapping screws (#41). Run the wire harness to your relay mounting location and plug the terminals on the wire harness to each relay per the illustration (If not already installed).
7. The long black wire and red wire need to be wired directly to the battery. Black to the negative terminal and red to the positive terminal. BUT DO NOT CONNECT TO THE BATTERY AT THIS POINT. The black wire will need to be cut to length and then install a 5/16" yellow ring terminal (#46) so you can attach it to the battery when ready. The red wire will need to be cut to length to reach the battery as well as adding the inline circuit breaker. Find a suitable spot to mount the circuit breaker (#47) and mount it with two self tapping screws (#41). The gold colored terminal on the circuit breaker must be the side that leads to the battery. Cut the red wire and install a #10 yellow ring terminal (#45) on each end and attach to the circuit breaker. Attach a 5/16" yellow ring terminal (#46) to the remaining red battery wire so you can attach to the positive battery post when ready. In the event of a short, the circuit breaker will automatically reset itself. The inline fuse will protect the hand controller and can be replaced using a 5 amp mini style fuse.
8. The green wire and the yellow wire are for winch operation. You can use the hand controller to raise and lower your winch instead of a dash mounted switch. Each lead is 8' long to reach your winch solenoid. Read your winch manual to determine which leads are for IN and OUT on the winch. Piggyback the green wire onto the solenoid with the wire that controls the IN. Piggyback the yellow wire onto the solenoid with the wire that controls the OUT. If the winch operated backwards, simply reverse the wires.
9. Zip tie all loose wires in place and reconnect the battery

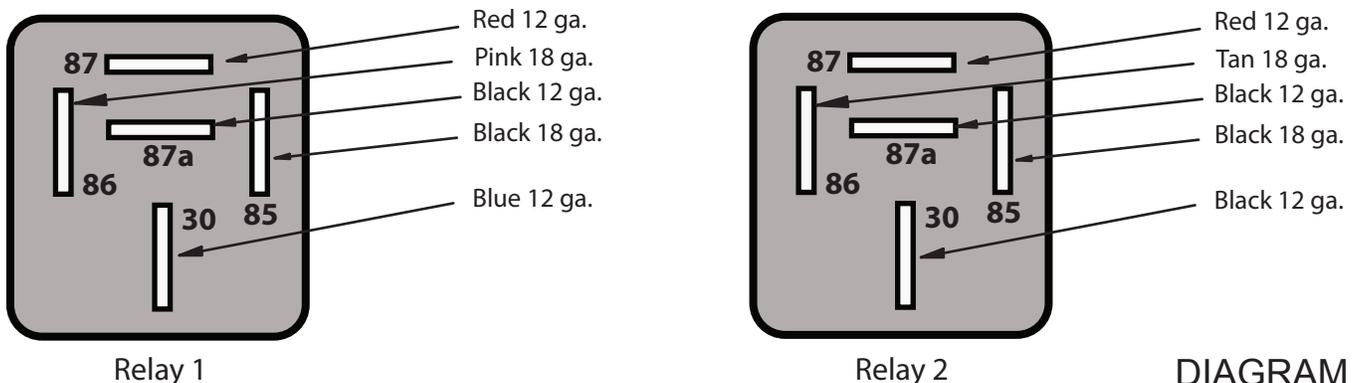
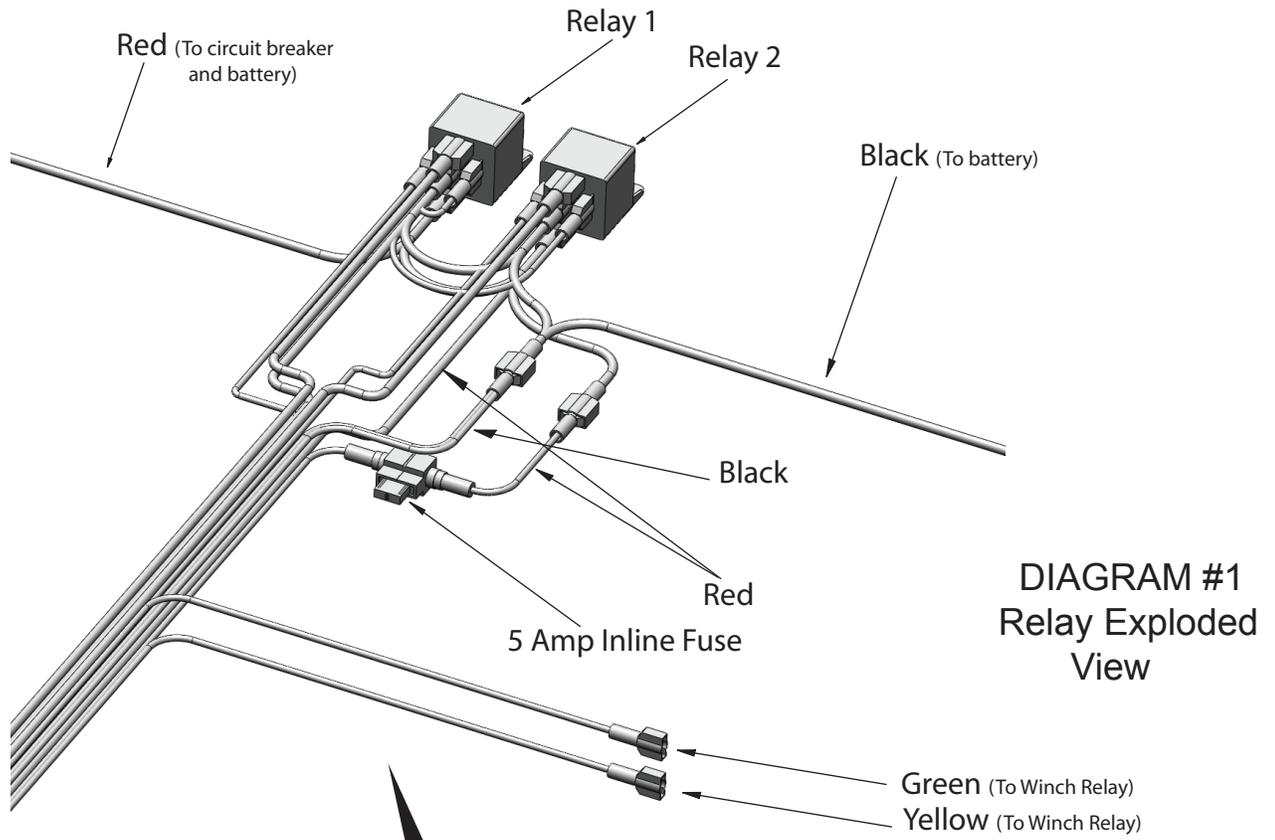
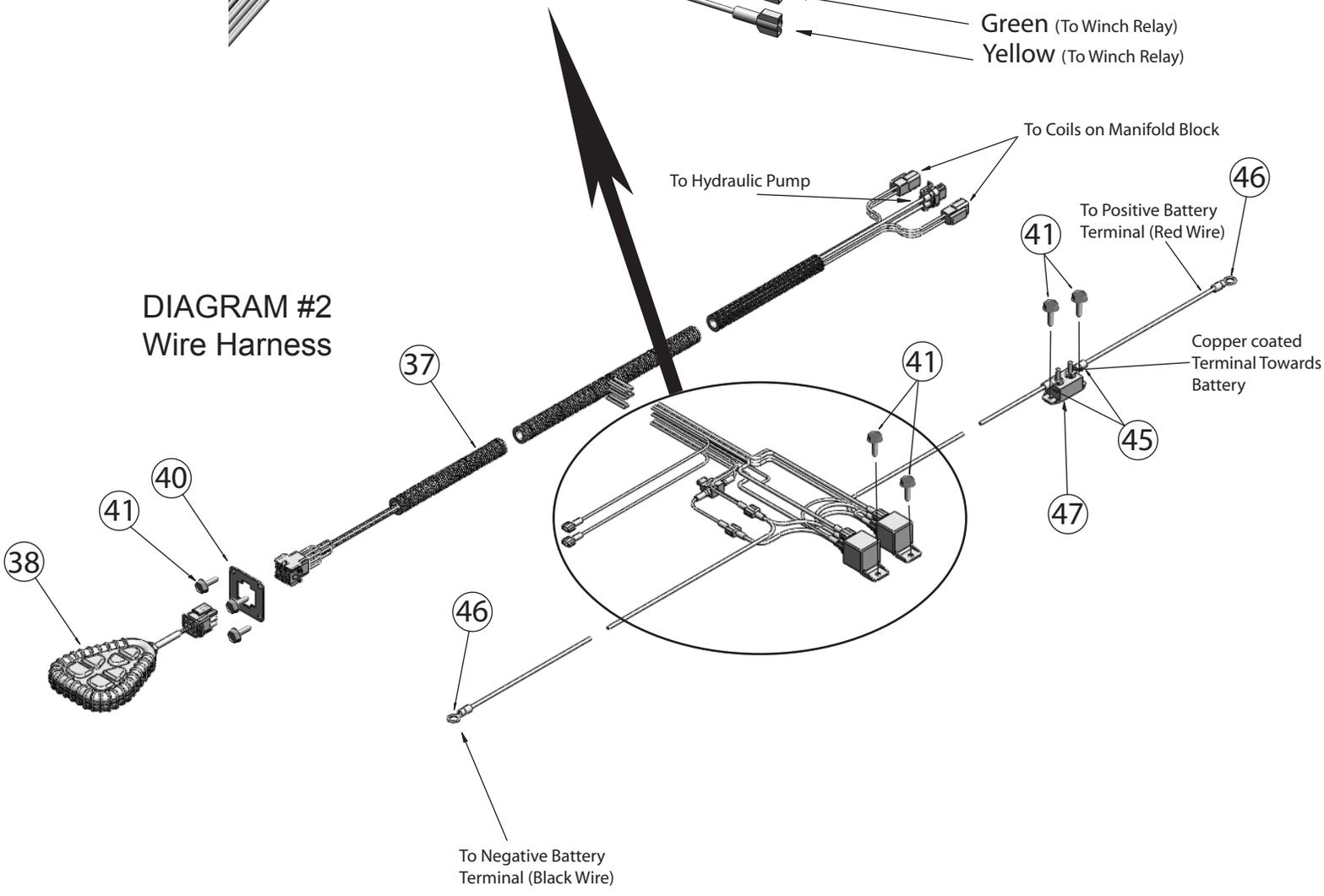


DIAGRAM #1

# WIRING DIAGRAMS



**DIAGRAM #1**  
Relay Exploded View



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# V-Plow Operating Instructions

## Hand Controller

1. The hand controller will independently control the left and right blade movements as well as the up and down functions of your winch. Simply press and hold the corresponding button and let go when the blade reaches the position you desire. There may be a slight delay when switching buttons, this is normal.
2. The hand controller can be optionally mounted in a variety of ways. There are two threaded bosses in the back of the controller that can be used to mount a CB style clip or as an attachment point for a mounted base sold separately.
3. We recommend storing the hand controller in a glove box or other contained storage area away from the elements, or completely removed from the machine when not in use. While water resistant, the hand controller is not considered waterproof and will not be warranted for water damage.

## Plow Operation/Adjustments

1. The V-plow can be set to any of nine different blade configurations, you will want to practice moving the blades with the hand controller so you can do so easily while driving. Each blade has automatic trip springs in case you catch the blade on a crack, short curb, or other small obstacle. The blade should automatically return to its original position. You may also trip the relief valve, see hydraulic operation section below.
2. Due to differing heights and attachment angles of different machines, you may need to adjust the blades to the horizontal position. With the plow resting on the ground, the center section needs to be completely horizontal to the ground. Adjust the center section forwards or backwards using the angle adjusting bolt (#20) and jamb nut (#19) until it is horizontal. Tighten the jamb nut once positioned. Failure to adjust the center section will cause the blades to not plow level when angled forward or back and can prematurely wear out the skids.
3. Once the center section has been adjusted you can adjust the center skid if needed. This will raise or lower the whole blade assembly against the center skid. This will need to be occasionally adjusted for proper plowing due to wear on the cutting edges and skids. When properly set the blades can be approximately 0" - 1/2" above the concrete with the plow dropped.

To adjust, remove the plow and push tube assembly from the machine and set the plow face down on the blades with the push tube standing up. Remove the lynch pin (#11) on top of the center shaft (#8) and pull the shaft/skid out from the bottom of the blades keeping track of the washers (#10). Move washers from underneath the center section to above the center section to lower the plow and vice versa to raise the plow.

The center skid is positioned with the wide side down to be used as a cutting edge so you do not get a path of unplowed snow between the blades. This can be flipped over to the beveled edge if you prefer to use it as a skid on rougher surfaces. Be sure to tighten the skid against the jamb nut on the shaft.

4. The end skids can be adjusted in the same fashion until they are at the same height as the center skid and should have ground contact when each blade is fully extended or retracted.

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# **\*\*\*Operating Instructions\*\*\***

## **Read Before Operating**

CUSTOMER MUST RECEIVE A COPY OF THESE OPERATING INSTRUCTIONS AT THE TIME OF SALE

### **\*\*\*DANGER\*\*\***

Remove bottom mount before trail riding! There is reduced ground clearance with bottom mount installed.

#### **TO AVOID SERIOUS INJURY OR DEATH:**

1. Do not exceed a speed of 5 mph (8 kph) when the blade is installed.
2. Use extreme caution when operating the plow on rough terrain, slopes, steep grades or on slippery surfaces.
3. Stay away from the blade and all moving parts during operation.
4. When plowing snow or dirt into a pile, slow down before reaching the pile. DO NOT ram the pile with the blade. Start backing up before raising the blade.
5. Be aware of objects that may be hidden beneath the snow.
6. ATV braking and stability may be affected by the addition of an accessory or attachment. Be aware of changing conditions on slopes and wet or slippery surfaces.

### **\*\*\*WARNING\*\*\***

Remove bottom mount before trail riding! There is reduced ground clearance with bottom mount installed.

#### **TO AVOID PERSONAL OR OTHER INJURY:**

1. Read the Blade Hardware Mounting Instructions, the ATV operator's manual and all safety labels before operating.
2. Wear safety glasses, protective head gear and shoes as recommended in the ATV operator's manual.
3. Do not allow riders on the blade or ATV.
4. Keep bystanders away from the blade and ATV at all times.
5. Before adjusting the blade angle, stop the ATV engine, set and lock the brakes and raise and lock the blade into the up position. Do not lift the blade by hand. Always use the lift handle or the electric lifting device.
6. Before adjusting the blade height, lower the blade to the down position.
7. When the blade is not in use, stop the ATV engine, lock the brakes and lower the blade to the down position.

### **\*\*\*OPERATION\*\*\***

#### **FOR SAFE OPERATION:**

1. The blade and hardware were designed with safety in mind. To protect you and your ATV, certain parts were designed to fail when the equipment is over stressed. For this reason, wire loop pins are not warranted.
2. To adjust the blade angle, lock the blade in the up position, push (or pull) the blade position pin handle and turn the blade to the desired position. Release the handle and make sure the pin engages a position hole in the swivel.
3. The blade is raised by pulling back on the lift handle and lowered by letting the lift handle go forward or using the up and down switch for electric lifts or winches. The blade skids are adjustable to allow the blade to be a constant distance off the ground.
4. The blade is designed to trip when it strikes an object or digs in too deeply. When the pressure is eased, the blade springs back into position. Blade trip tension is adjusted by tightening or loosening the lock nuts on the top of the eyebolts on the back of the blade. The spring tension should be the same for both springs. This can be achieved by measuring the distance from the swivel to the eye bolt. They should be the same.
5. Do not exceed a speed of 5 mph (8 kph) when the blade is installed.
6. Use extreme caution when operating the blade on rough terrain, slopes, steep grades or on slippery surfaces.
7. Stay away from the blade and all moving parts during operation.
8. Be aware of objects that may be hidden beneath the snow.
9. Wear safety glasses, protective headgear and shoes as recommended in the ATV operator's manual.
10. Do not allow riders on the blade or ATV.
11. Keep bystanders away from the blade and the ATV at all times.
12. When the blade is not in use, stop the ATV engine, lock the brakes and lower the blade to the down position.
13. When plowing snow or dirt into a pile, slow down before reaching the pile. DO NOT ram the pile with the blade. Start backing up before raising the blade.

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