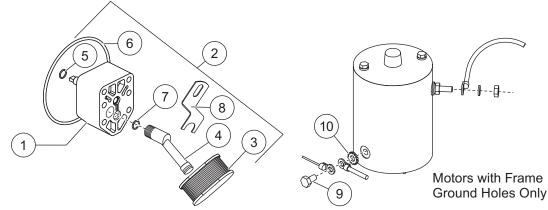
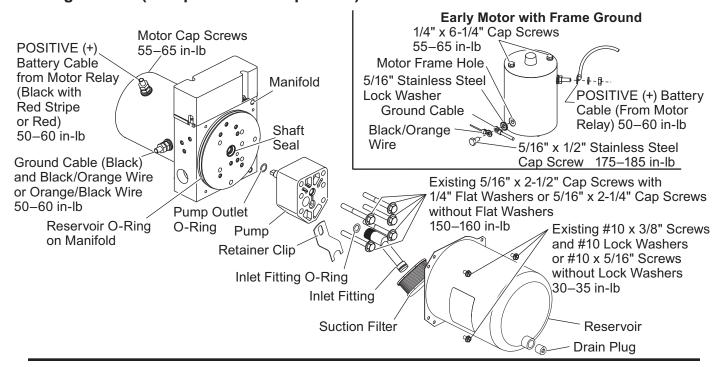
# PARTS LISTS AND DIAGRAMS – STRAIGHT BLADE (EXCEPT MUX w/SCRAPE LOCK) AND 6-VALVE V-PLOWS ONLY



21501-1 or 21501K-1 Hydraulic Pump Kit –						
Straight Blade (Except MUX w/Scrape Lock) and 6-Valve V-Plow						
Item	Qty	Description	Item	Qty	Description	
1	1	Hydraulic Pump	2	1	Inlet Fitting/Filter Kit (66763)	
27746 Hydraulic Pump Kit – Personal Plow						
Item	Qty	Description	Item	Qty	Description	
1	1	Hydraulic Pump	2	1	Inlet Fitting/Filter Kit (66763)	
66763 Inlet Fitting/Filter Kit						
3	1	Suction Filter – Oval	6	1	O-Ring 2-250	
4	1	Inlet Fitting	7	1	O-Ring -014	
5	1	O-Ring -013	8	1	Retainer Clip	
Parts Not Included In Kit – Sold Separately						
Item	Part	Qty Description	Item	Part	Qty	Description
9	90088	1 5/16-18 x 1/2 Hex Cap Screw	v 10	91263	1	5/16 External Lock Washer

## Straight Blade (Except MUX w/Scrape Lock) and 6-Valve V-Plow



#### **Personal Plow** Ground Cable (Black) & Black/Orange Wire 50-60 in-lb Motor Cap Screws 30-40 in-lb. Reservoir O-Ring on Manifold Positive Battery Cable, Return Screen Assembly (Black w/Red Stripe) 0 50-60 in-lb Pump Existing 5/16" x 2-1/2" Cap Screws with 1/4" Flat Washers Manifold or 5/16" x 2-1/4" Cap Screws without Flat Washers 150-160 in-lb Shaft Seal Retainer Clip Pump Outlet O-Ring Existing #10 x 5/16" Screws (4 Places) Inlet Fitting O-Ring 30-35 in-lb Reservoir Filler Inlet Fitting Breather Plug Suction Filter Reservoir MUX Straight Blade w/Scrape Lock (Oval) Positive Cable (8" Red) 25-35 in-lb Manifold Motor Cap Screws 35-45 in-lb Pump Outlet O-Ring Pump **Ground Cable** (Black from Inlet Fitting Plow Cable) Existing #10 x 5/16" 25-35 in-lb Retainer Clip Cap Screws (4) Reservoir Shaft Seal Inlet Fitting 30-35 in-lb O-Ring on O-Ring Manifold Reservoir Filler Suction Filter **Breather Plug** Baffle Plate Reservoir Existing 5/16" x 2-1/4' Cap Screws 150-160 in-lb **INSTALLATION INSTRUCTIONS** Drain Plug

NOTE: Poor motor grounds may result in pump failures. When replacing pump, insure that all ground connections are clean and free of paint and corrosion. Use dielectric grease on all electrical connections to prevent corrosion. Fill receptacles and lightly coat ring terminals before assembly.

Instructions cover complete replacement of pump, inlet fitting and suction filter. Use appropriate steps for components being serviced.

- 1. Lower blade to floor.
- For Straight Blades and V-Plows: Fully retract lift ram (single-acting ram only). Loosen reservoir fill plug slowly to vent residual pressure. Drain fluid from reservoir through drain plug. Position hydraulic unit so reservoir can be removed.

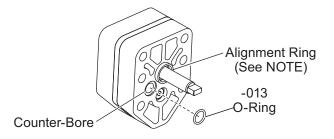
**For Personal Plows:** Disconnect 8" hydraulic hoses from reservoir fitting and drain fluid from reservoir.

 Remove four reservoir mounting screws and reservoir. Remove five cap screws from pump and carefully remove pump from manifold. Remove and discard reservoir O-ring from manifold. Clean pump mounting surface, O-ring groove and reservoir.

NOTE: Replacement pump includes a .75 OD alignment ring that fits in a counter-bore around the shaft. Install alignment ring only if the pump shaft seal is recessed approximately .15" below the pump mounting surface of the manifold.

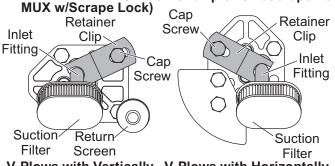
If seal is nearly flush with mounting surface, discard alignment ring. Do not attempt to drive seal deeper as it is bottomed in the bore.

4. Remove the protective plug from the counter-bored hole. Remove rubber band holding the pump sections together. Lubricate the -013 O-ring (smaller of the two small O-rings in kit) and place it into counter-bored hole. Place seal protector on pump shaft. Carefully insert pump shaft into shaft seal in the manifold block. Fit pump alignment ring into shaft seal bore if used. If shaft side of pump is not flush to manifold surface, gently rotate pump body until pump shaft tang enters motor shaft slot. Align pump body with cap screw holes in manifold block. Secure pump to manifold with existing fasteners. Alternately tighten cap screws to 150–160 in-lb torque.

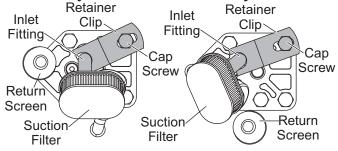


- 5. Lubricate the -014 O-ring, (larger of the two small O-rings in kit) and assemble O-ring into the groove on the barbed end of the inlet fitting. Snap the suction filter onto the other end of the inlet fitting. Remove the protective plug from the cap-screw-head side of the pump body. Position the inlet fitting assembly as shown below for the snowplow being serviced. Gently drive the barbed end of the inlet fitting squarely into the pump housing until the O-ring is not visible. Fitting and filter can be rotated into final position after installation.
- Remove indicated cap screw and install retainer clip over inlet fitting and under cap screw (and washer, if used) as shown. Tighten cap screw to 150–160 in-lb.

Straight Blade Snowplows MUX Straight Blade and Personal Plow (except Snowplows w/Scrape Lock



V-Plows with Vertically V-Plows with Horizontally Mounted Hydraulic Unit Mounted Hydraulic Unit



7. Lubricate and install the new 2–250 reservoir O-ring (largest O-ring in kit) onto the manifold. Lubricate inside edge of reservoir and carefully press reservoir evenly over O-ring onto manifold to avoid damaging O-ring. Secure with existing fasteners tightened to 30–35 in-lb.

## Flushing Fluid from Plow Rams

## For Straight Blades and V-Plows:

- Remove the hoses from the valve block. Be sure to note the port location for each hose to ensure proper reattachment.
- 2. Place open ends of the hoses in a container to hold the used fluid.
- 3. Manually move the blade so both cylinders move to a fully retracted position, and reattach the hydraulic hoses. Tighten hose fittings 1/8–1/4 turn past finger tight.
- Fill reservoir with clean fluid through fill hole on the reservoir. Refer to the Owner's Manual or Mechanic's Guide for the proper fluid. DO NOT mix different types of fluid.

Actuate unit and refill reservoir. (See next step for proper filling of V-plow rams.) Adjust pump pressure relief valve if necessary. See Mechanic's Guide for the system you are servicing for details about pump pressure adjustment.

- 5. **V-Plows Only:** Proper filling of rams with fluid is critical to minimize aeration in the system. Follow this procedure:
  - · Fill reservoir with all rams retracted.
  - Fully extend and retract the driver-side ram several times. Retract ram.

Fill reservoir.

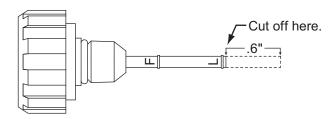
 Fully extend and retract the passenger-side ram several times. Retract ram.

Fill reservoir again.

 Raise and lower the snowplow several times. Fully retract all rams and refill reservoir.

#### For Personal Plow:

 Trim the reservoir filler breather plug as shown, if necessary, to prevent interference with the inlet fitting retainer clip.



- 2. Place the end of the 8" hose into a suitable container. Remove used fluid from the lift ram by raising the blade with a floor jack until the ram is fully retracted. With blade raised, reattach hose to reservoir. Tighten hose fitting 1/8–1/4 turn past finger tight. Fill reservoir to full mark on filler breather plug with new hydraulic fluid. Refer to Owner's Manual for fluid recommendations. Lower blade to floor. The lift ram will take in fluid as it extends.
- 3. Note the position of the angling ram hoses on the manifold. Disconnect angle ram hoses at the manifold and place hose ends in a suitable container to catch used fluid. Manually angle the blade fully to each side to remove fluid from the rams. Do not allow hose from extending ram to take in used fluid. Reattach hoses to manifold. Tighten hose fitting 1/8–1/4 turn past finger tight.
- Refill reservoir and angle the blade several times.
  Raise and lower blade several times and refill reservoir to full mark.

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