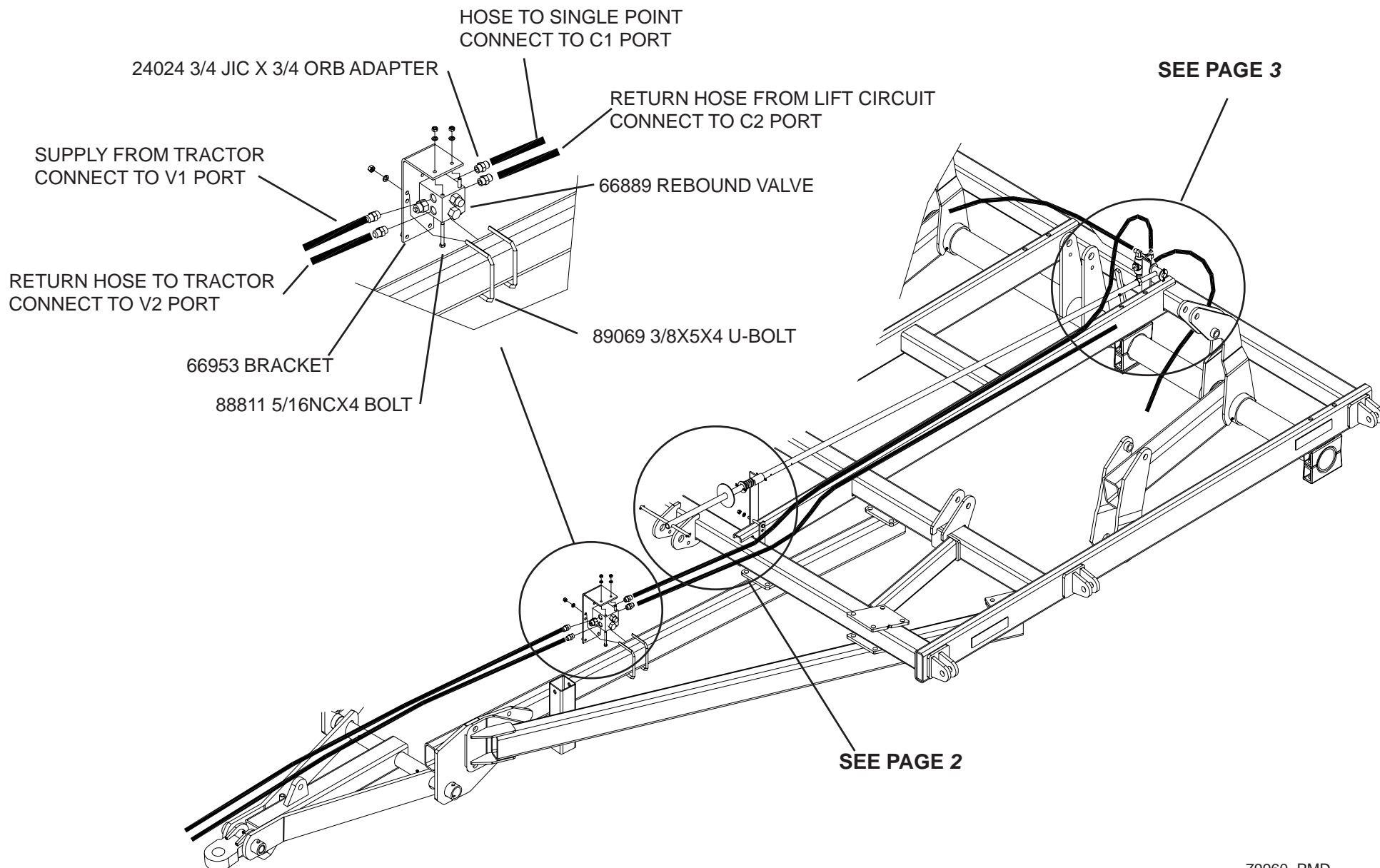
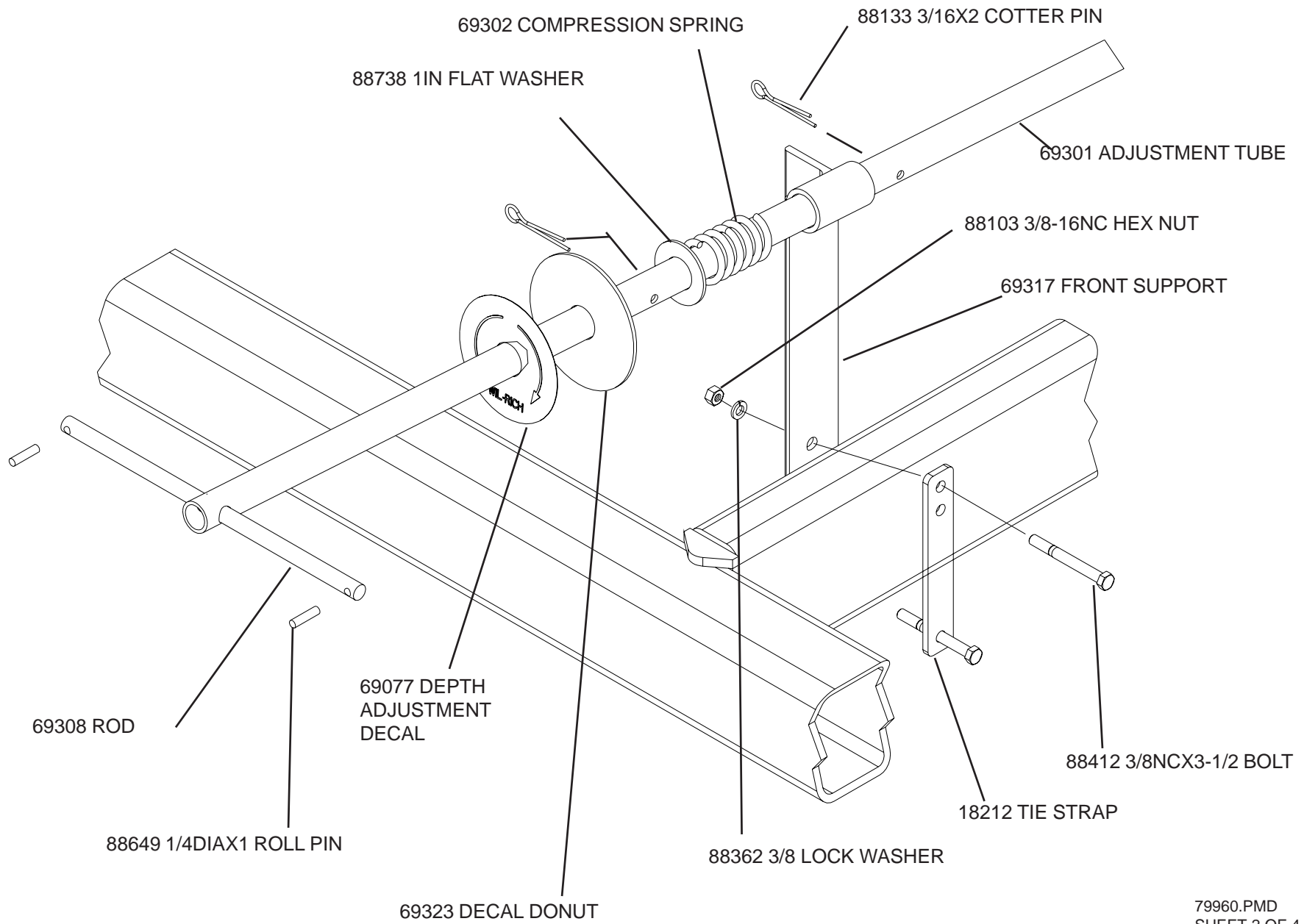


# SINGLE POINT DEPTH CONTROL ASSEMBLY 5810 & 5830 CHISEL PLOW

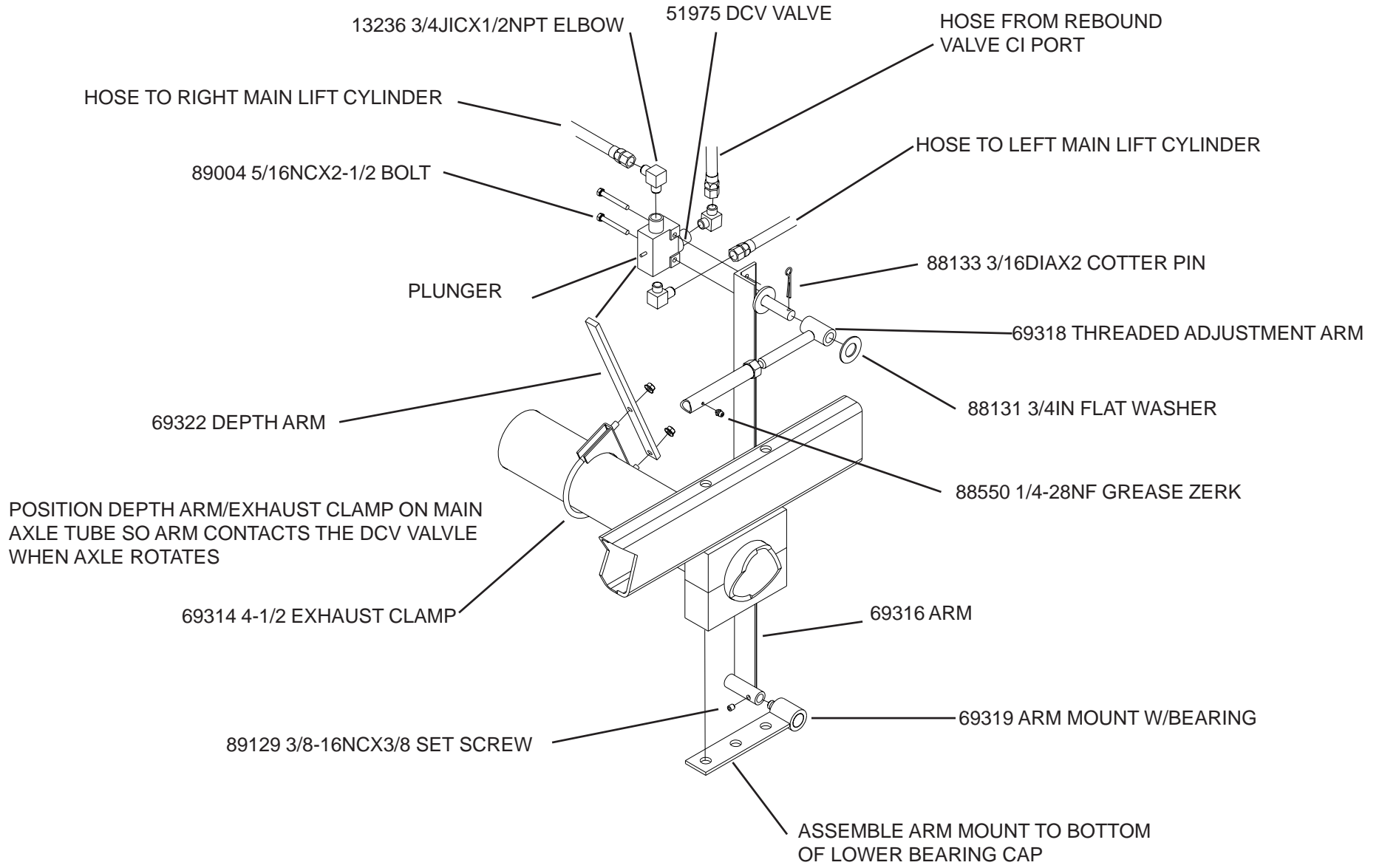
REFER TO THE HYDRAULIC ASSEMBLY INFORMATION CONTAINED IN THE CHISEL PLOW ASSEMBLY MANUAL FOR HOSE LENGTHS, ROUTING AND PLACEMENT FOR THE LIFT CIRCUIT.



# FRONT PIVOT ADJUST ASSEMBLY



# REAR VALVE ARM ASSEMBLY



## Chisel Plow Single Point Depth Control Functional Information and Assembly/Operating Instructions

The Chisel Plow single point depth control is designed to allow the adjustment of the operating depth of the unit. The normal procedure involves use of adjustable screw stops on the hydraulic lift cylinders. The depth control valve is placed in the base circuit and functions as a shut off valve to contain the oil flow and hold the depth of the machine.

**NOTE: use of the single point depth control will still require that the lift circuit be regularly purged to maintain the lift sequence. The reliability of the depth control is dependent on the containment of oil in the cylinders and circuit; this valve will not ensure proper function without the purging of the system.**

The single point depth control consists of two parts – the rebound valve and the single point control valve. Each part performs a distinct function and work together to control the depth.

### Rebound Valve

The rebound valve is mounted at the front of the Chisel Plow hitch as shown on Page 1. Mount the bracket and valve, secure and assemble the hydraulic fittings and hoses. **Make certain that the valve is tied to the main lift cylinders and that the hoses are routed to the specified ports of the rebound valve. The valve will not function properly if it is incorrectly placed in the circuit.**

The Rebound Valve addresses problems of air ingestion, uneven cylinder rod extension, and stability when using series cylinders. The manifold assembly cancels or dampens these problems through the use of three cartridges: (1) *counterbalance*, (2) *pressure reducing and relieving*, and (3) *check*.

- The *counterbalance* cartridge addresses air ingestion by preventing the implement's series cylinders from running ahead of the oil supply. This prevents a vacuum and air sucking past the rod seals into the cylinder. Since air is highly compressible and expandable its presence causes spongy and unsynchronized cylinder movements. This cartridge is also a holding and relief cartridge and provides "On-The-Go" depth selection. The operator can manually select variable working depths on the go, with the new work depth holding to 3000 psi before relieving.
- The *pressure reducing and relieving* addresses the effects of compression (3000 psi) which expands the hydraulic circuitry, and decompression (zero psi) which returns the circuitry to a relaxed state. Decompression accumulatively transfers excess oil from the series into the last cylinder. An example of compression to decompression occurs when the center section rises to work shallow and the wing section then rides above the surface. The reducing valve cancels these effects by maintaining a minimum of 1000 psi on the rod side of the last series cylinder, and bleeding off higher pressures at a restrictive rate of flow.
- The *check* adds stability by trapping the pressure of 1000 psi established by the pressure-reducing cartridge. Implement draft maintains this minimum pressure. The stiffened circuitry stabilizes the implement frame and tools and can enable faster operating speeds.

### Single Point Valve

**Assembly** – the single point control valve is mounted at the rear of the unit as shown on page 3. Mount the arm mount w/bearing to the bottom of the cast bearing cap. Attach the arm to the bearing and secure with the setscrew provided. Mount the DCV valve to the arm with the plunger to the front. Align the depth arm to contact the single point plunger and secured to the axle tube with the muffler clamp provided. Thread the threaded adjustment arm into the adjustment tube approximately 1". Secure the assembly to the arm with the flat washer and cotter pin. Screw the grease zerk into the adjustment tube and pump liberal amount of grease into the tube to prevent thread seizing and repel water.

Connect the hoses to the depth valve and into the base side of the main lift circuit. Route the hoses around frame components and secure with tie straps as shown on Page 1. Insert the adjustment tube into the front support and mount the front support to the inner wheel tube as shown on page 2. There are a number of holes in the adjustment tube, place a cotter pint into the adjustment tube behind the front support; position the spring over the tube as shown and secure with flat washer and cotter pin. The plastic disc with attached adjustment decal is slid on the tube and should rotate freely. Place the rod into the long adjustment tube and secure with roll pins.

**Adjustments** – the single point control valve is used to control the operating depth of the unit. As the unit is lowered the axle will rotate back and by positioning the DCV valve to contact the depth arm the valve will stop oil flow and axle rotation. Adjustments will be made in the field. Level the complete unit as noted in the Operating instructions, turn all depth stop collars on the depth control cylinders to the clevis end of the rod. Cycle the hydraulic system to purge and lowered the unit into the ground. As the decal notes each turn of the adjustment tube will change the depth of the unit approximately 1/4", either up or down. Turn the adjustment tube clockwise to raise the unit and counterclockwise to lower the unit.