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Form No. 102813

Operating Instructions for:

9629A

PILOT OPERATED
LOAD LOWERING VALVE ASSEMBLY

Read and carefully follow these instructions before installation and use of this valve. Most problems with new equipment are caused by improper operation and installation.

Note: The 9629A valve is not recommended for use with pumps having less than 15 CIPM output at 10,000 PSI.

SAFETY PRECAUTIONS

⚠ WARNING

- **All WARNING statements must be carefully observed to help prevent personal injury.**

Hydraulic Hose

- **Before operating this tool, tighten all hose connections using the proper tools. Do not overtighten the connections. Connections need only be tightened securely and leak-free. Overtightening may cause premature thread failure or high pressure fittings to split at pressures lower than their rated capacities.**
- **Should a hydraulic hose ever burst, rupture, or need to be disconnected, immediately shut off the pump. Never attempt to grasp a leaking hose under pressure with your hands. The force of the escaping hydraulic fluid could cause serious injury.**
- **Do not subject the hose to potential hazard such as fire, extreme heat or cold, sharp surfaces, or heavy impact. Do not allow the hose to kink, twist, curl or bend so tightly that the oil flow within the hose is blocked or reduced. Periodically inspect the hose for signs of wear because any of these conditions can damage the hose and may result in personal injury.**
- **Do not use the hose to move attached equipment. Stress may damage the hose and cause personal injury.**
- **Hose material and coupler seals must be compatible with the hydraulic fluid used. Hoses also must not come in contact with corrosive materials such as creosote-impregnated objects and some paints. Consult the manufacturer before painting a hose. Never paint the couplers. Hose deterioration due to corrosive materials may result in personal injury.**

Pump

- **Do not exceed the PSI hydraulic pressure rating noted on the pump nameplate or tamper with the internal high pressure relief valve. Creating pressure beyond rated capacities may result in personal injury.**
- **Before replenishing the oil level, retract the system to prevent overfilling the pump reservoir. An overfill may cause personal injury due to excess reservoir pressure created when cylinders are retracted.**

Cylinder

- **Do not exceed rated capacities of the cylinders. Excess pressure may result in personal injury.**

Rev. 1 Date: 20 Oct. 1996

OPERATION

The new 9629A valve incorporates the holding associated with a Pilot Operated Check Valve and the control of a Pressure Compensated Flow Control Valve. The added feature of a pilot control line relief valve insures that, if a high volume pump is supplying oil when lowering a load, the load will stop moving the moment the supply pump is stopped or the control valve is shifted to neutral. What all this means to you, the user, is that when using the 9629A valve in a system the following features are in place:

1. **When *lifting* a load with a double-acting cylinder and a 9629A valve in the system** - The return oil is checked at the 9629A valve by an internal pilot operated check valve. If a hose(s) from the pump to the 9629A valve is broken, the load will remain positively supported by this internal pilot operated check valve.

   For those who would like to permanently connect the 9629A valve to their double-acting cylinder, it is reasonable to hard plumb the valve to the cylinder, and to secure the valve body to the cylinder. This makes a very compact, neat installation and insures that the individual cylinder is always protected from a run-away load.

2. **When *lowering* a load with a 9629A valve in the system** - The operator will simply shift the pump-mounted, 4-way valve to the retract position. This begins the supply of oil under pressure to the top port/pilot line to the cylinder. When pressure in the 9629A pilot line reaches approximately 1500 PSI the pilot valve begins to open. Oil flows through the pressure compensated flow control past the open pilot operated check back to the pump reservoir.

3. **Pilot relief valve** - This is an additional feature which is not found in systems where a separate flow control and separate pilot operated control valve are used. The purpose of this relief is to insure that under no circumstances will the pilot pressure build higher than 1600/1700 PSI. This prevents an accumulator effect from occurring which could hold open the pilot operated check valve after oil pumping is stopped and results in a loaded cylinder continuing to drift downward. Also, pressure in the cylinder does not continue to rise due to the cumulative effect of the load and the increased pressure on the rod / retract side of the cylinder.

CONNECTING THE 9629A VALVE IN A SYSTEM

1. The 9629A valve is assembled with two hoses having male half couplers. Connect them to your cylinder as follows:
   a. The hose coming from the elbow at the port marked PILOT is to be connected to the top (or retract) port of the cylinder.
   b. The hose coming from the port marked CYL. BASE is connected to the bottom (or advance) port of the cylinder.

2. The 9629A valve is assembled with two female couplers. Connect your pump hoses to them as follows:
   a. Connect the "A" (or advance) port hose from your pump-mounted valve to the 9629A female coupler coming from the port marked PUMP.
   b. Connect the "B" (or retract) port hose from your pump-mounted valve to the 9629A female coupler marked PILOT.

3. Before operating the system under load, bleed the system of all air as follows:

   IMPORTANT: Failure to completely bleed air from the system will result in erratic control during the load lowering sequence.
   a. Elevate the pump at least one foot above the highest port on the cylinder.
   b. With the pump elevated, extend the cylinder fully and build to maximum pressure, then retract the cylinder fully and build to 1500 PSI. Repeat this extend/retract cycle several times.
   c. Observe the cylinder piston as it extends and retracts. When it appears to operate smoothly throughout the cycle, with no hesitation or jerking, the system is ready for use.

Note: Shaded areas reflect last revision(s) made to this form.