POWER TEAM
HYDRAULIC TECHNOLOGIES

Hydraulic Technologies
5885 11th Street
Rockford, IL 61109-3699 USA

Tech. Services: (800) 477-8326
Fax: (800) 765-8326
Order Entry: (800) 541-1418
Fax: (800) 288-7031

Internet Address:
http://www.powerteam.com

Form No. 102476

Parts List for:

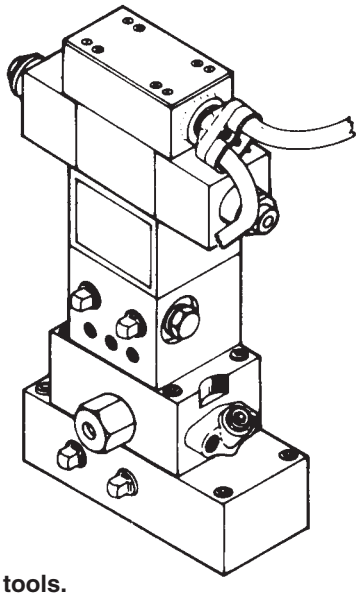
9602
V34SR

3 POSITION, 4-WAY, SOLENOID CONTROLLED,PILOT OPERATED, TANDEM CENTER, REMOTE MOUNTED

DIRECTIONAL VALVE

Max. Capacity: 10,000 PSI

SPECIFICATIONS	
MAX. WORKING PRESSURE	10,000 PSI
MAX. FLOW RATING	5 GPM
MAX. VALVE CASE (RETURN LINE) PRESSURE	500 PSI
PORT SIZES	3/8 NPTF



This hydraulic control valve is manufactured and assembled to exacting tolerances. Read and carefully follow the operating instructions before installation and use of this valve.

NOTE:

- **Inspect the valve upon arrival. The carrier, not the manufacturer, is responsible for any damage resulting from shipment.**
- **Read and carefully follow these instructions. Most problems with new equipment are caused by improper operation or installation.**

SAFETY PRECAUTIONS

WARNING: To help prevent personal injury, Hydraulic Hose

- **Before operating the pump, all hose connections must be tightened 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.**
- **Hydraulic Line Disconnect:**
  - **If a 3-way solenoid controlled valve is used, fully retract the cylinder and shut off the pump motor before breaking the hydraulic connection.**
  - **If a 4-way solenoid controlled valve is used, fully retract the cylinder and remove any load. Then slightly advance the cylinder and shut the pump motor off (Because of the "Posi-Check" feature, a low hydraulic line pressure will still be present after the pump has been shut off). Cover the connection with protective material and disconnect the connection slowly to release line pressure.**
- **Should a hydraulic hose ever burst or rupture, 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 and permanent injury.**
- **Avoid any conditions which could damage the hose and impair the pump or valve's performance. Never allow the hose to kink, twist, curl or bend so tightly that the oil flow within the hose is blocked or reduced. This could damage the hose and possibly result in serious injury to persons working in the immediate vicinity.**
- **Do not subject the hose to any potential hazard (ex: fire, extreme heat or cold, heavy impact or sharp surfaces) which might rupture or weaken the hose.**
- **Do not use the hose to lift or move the equipment connected to it.**
- **Periodically inspect the hose for signs of wear. Never use a defective hose with any pressurized equipment.**
- **Always consult the manufacturer before painting the hose(s). Never paint the couplers!**
- **Hose material and coupler seals must be compatible with the hydraulic fluid used.**
- **Avoid contact with creosote-impregnated timber or fabrics.**

Control Valve

- **Do not install quick couplers or allow restrictions in the hydraulic return line located between the hydraulic pump and a remote valve set-up**
- **Do not allow the valve case pressure (as measured on the return line from valve to pump at the valve) to exceed 500 PSI. Refer to case pressure check as detailed in the valve set-up procedure in these instructions.**
- **Do not exceed either the pump, the control valve, or the cylinder's hydraulic pressure rating.**

Rev. 1 Date: 15 July 1982

SPECIFICATIONS

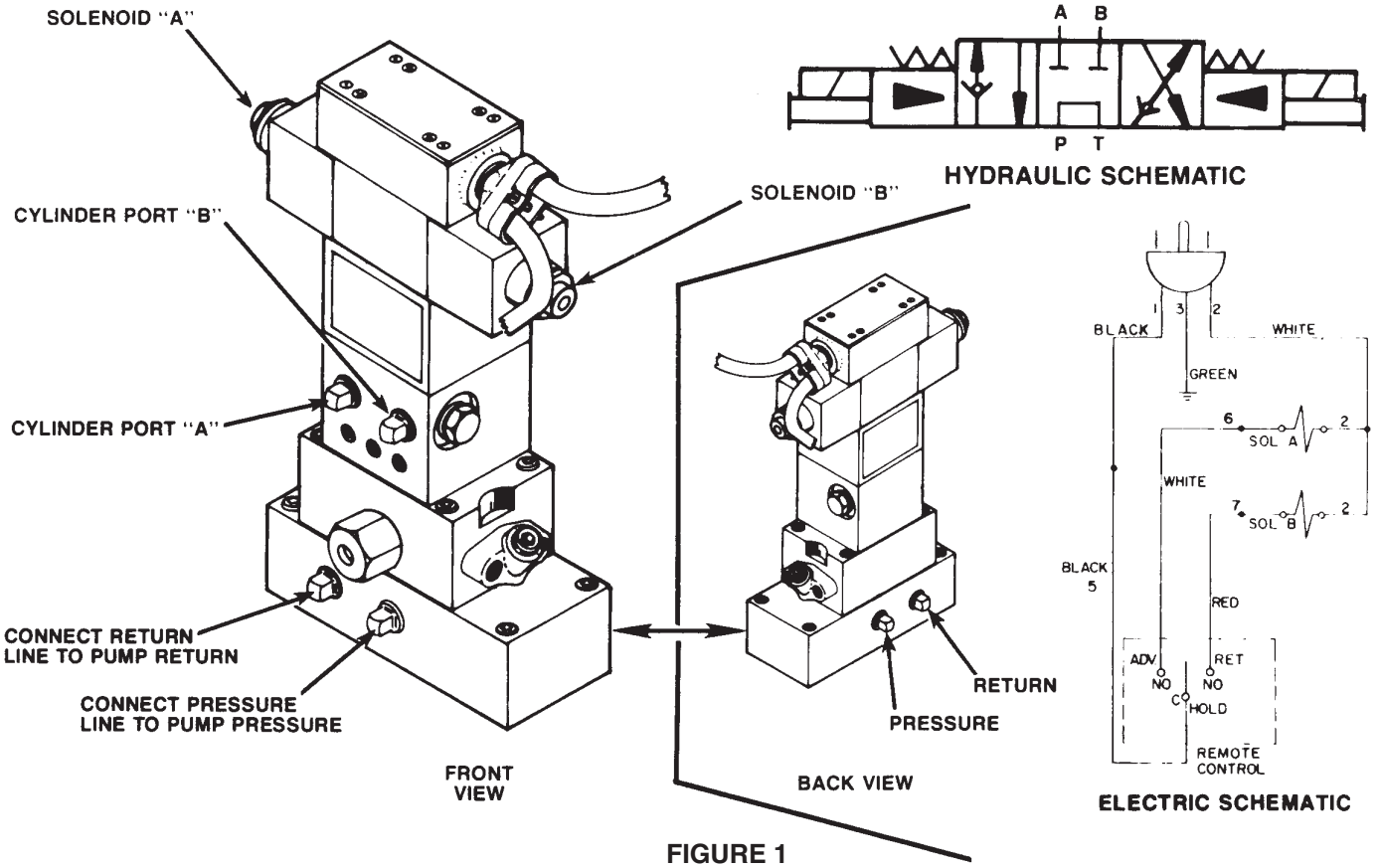


FIGURE 1

NOTE:

- **This tandem center valve is designed to allow oil to circulate from the pump, through the valve, and back to the pump when the valve is in the neutral position. The pump motor will be allowed to run continuously.**
- **This valve can be wired into a N.C. Machine set-up or a remote control hand switch for the operation of the solenoid valve.**
- **Hydraulic hose from the hydraulic pump connect to the pressure and return ports located on the front or the back of the valve subplate (see Figure 1).**
- **Hydraulic cylinder(s) connect to valve cylinder ports "A" and "B".**

OPERATION:

Solenoid "A" ENERGIZED: Pressure to Port "A" (reverse flow checked) - Port "B" to tank.

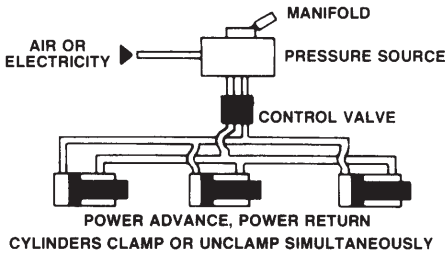
SOLENOID "B" ENERGIZED: Pressure to Port "B" (reverse flow checked) - Port "A" to tank.

NEUTRAL (HOLD): Cylinder Ports "A" and "B" are blocked. Oil circulates from the pump, through the valve, and back to pump tank.

NOTE: Pressure will hold without loss when shifted from either position "A" or "B" to the "Neutral" position.

BASIC APPLICATION

The application illustrated represents a typical set-up using the directional valve and multiple double acting cylinders (one double acting cylinder may also be used.) If a different set-up or cylinder is being considered, call Power Team Technical Services at 1-800-477-8326 to avoid any potential problem with the set-up being considered.



REMOTE CONTROL VALVE SET-UP PROCEDURE

The remote mounted valve can be connected in a number of varied set-ups. Follow the instructions completely and carefully.

1. Remove port plugs from the pump, valve(s), and cylinder(s).
2. Apply Bakerseal or teflon tape to the external threads of any hydraulic components that will be attached.

   IMPORTANT: Seal all pipe connections with Power Team HTS pipe thread sealant. Teflon Tape may also be used to seal hydraulic connections, provided only one layer of tape is used. Apply the tape carefully to prevent it from being pinched by the fitting and broken off inside the pipe end. Any loose pieces of tape could travel through the system and obstruct the flow of oil or cause jamming of precision-fit parts.
3. Install a temporary set-up of a hydraulic gauge mounted to a tee adapter, directly into the oil return port of the valve (see Figure 2).
4. Install all hydraulic hoses from the pump and the cylinders into the remote valve(s).
   NOTE: Refer to Figure 1 for valve porting information.

WARNING : Do not install quick couplers in the oil return line between the pump and valve.

5. Recheck all hydraulic installation fittings. Then fully advance and retract all cylinders through several cycles. Check the pressure gauge installed on the return line and observe the return oil pressure as the valve is cycled through the advance, neutral (hold), and return positions.

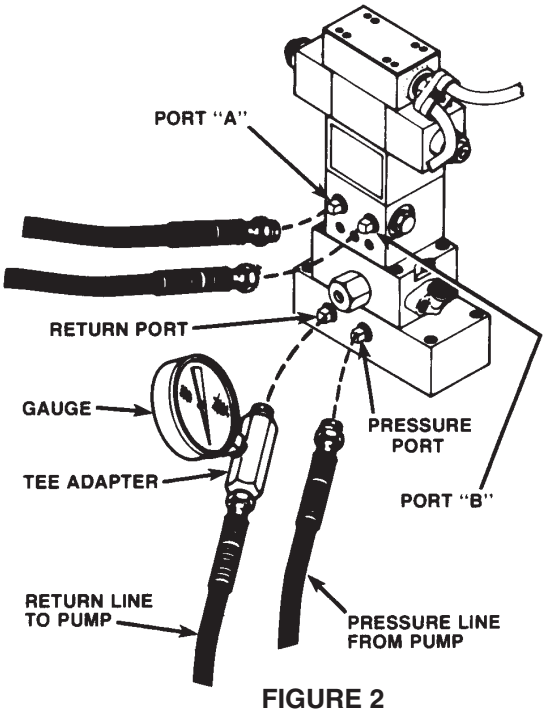


FIGURE 2

WARNING Return line oil pressure between valve and pump not to exceed 500 PSI. If return line pressure exceeds 500 PSI:

- **Switch to a larger diameter return line.**
- **Do not use quick couplers on the return line.**
- **Eliminate as many bends and restrictions in the return line as possible.**

6. If return line pressure is within the 500 PSI maximum limit, remove gauge and tee adapter. Connect return line into return port.