

### Hydraulic components for pilot valve controlled System

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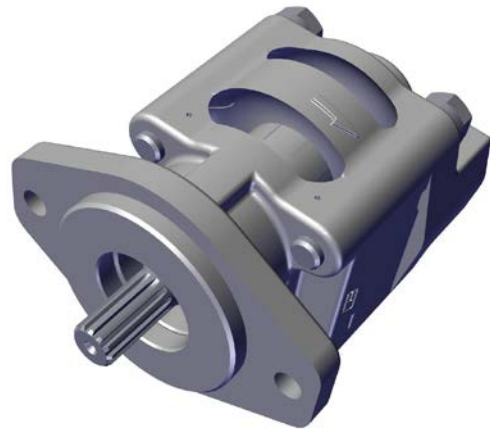
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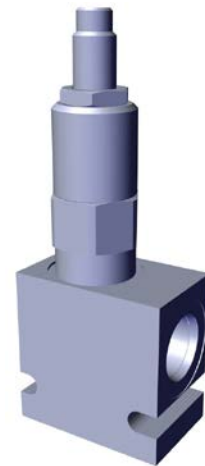
The Hydraulic Tank Is the Hyd. Fluid Reservoir. The Tank houses a Return Filter, Suction Screen, Breather, Fluid Level Gauge, and Check Valves. The Tanks and Capacity Varies between trucks all though the components stay the same.

1. **Oil Filter Housing:** The oil filter housing is located on the Hydraulic oil tank. This houses the pressure gauge and the filter element. RICO Part # 33003872
2. **Oil Filter Pressure Gauge:** This pressure gauge tells the back pressure from the oil filter and lets the operator know when to change the filter. RICO Part # 33004436
3. **Filter Element:** The filter element filters the Hydraulic Fluid returning to the tank. RICO Part # 33003822P1
4. **Breather's:** The breathers let the hydraulic tank breathe so pressure does not build in the tank. RICO Part # 33002002
5. **Suction Screen:** Keeps debris in the hydraulic tank from getting into the system. RICO Part # 33003823

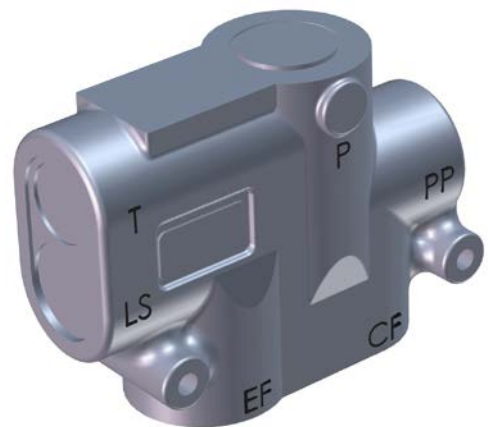
**1. Hydraulic Pump:** The hydraulic pump is mechanically linked to the transmission. When the pump is rotated it provides flow to the priority valve. Rico part # 33003821



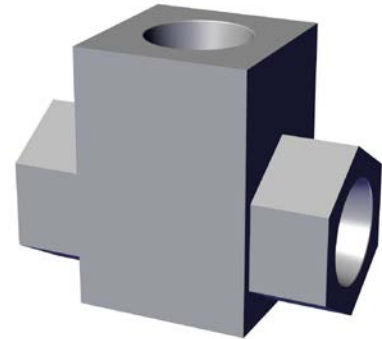
**2. Relief Valve:** This is the main relief valve for the brake and steering pump. Rico part # 33002318



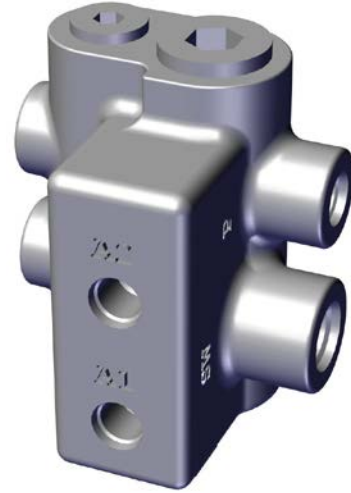
**3. Priority Valve:** The priority valve controls which systems receive fluid. The brake and power steering always have priority over the lift functions. When either the brake or steering functions are active they will receive the full requirement of fluid and any excess is diverted to the main directional valve or back to the tank. When neither of the braking or steering functions are active, all the flow is diverted to the main directional valve. Rico part #33002133



**4. Shuttle Valve:** Sends a load sensed signal to the priority valve. The load sensed signal is generated by either the acc. Charge valve or steer selector.  
Rico part # 33002671

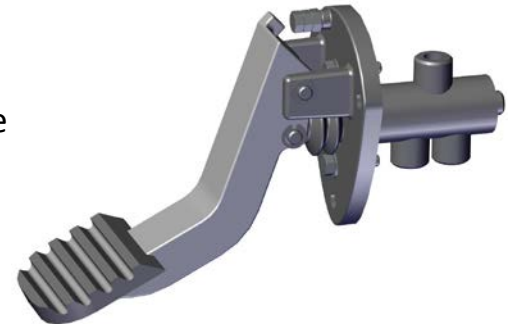


**1. Accumulator Charge Valve:** The charging valve controls the pressure to the accumulator. When the accumulator pressure decreases below a set value the charging valve recharges the system. Rico part # 33004159



**2. Brake Valve Inching:** This inching pedal valve is for moving the truck in a slower more controlled speed. While you have the pedal pressed completely, the clutch plates in the transmission are disengaged so the truck will not move under power. As you lift the pedal the plates slowly engage giving controlled amounts of power to inch forward. Rico part # 33004205.

**NOTE:** While the pedal is compressed completely the truck is subject to rolling freely.



**3. Accumulator:** The accumulator uses nitrogen to compress on a hydraulic fill bladder to keep fluid at pressure. This is necessary, so brake pressure remains for a few pedal pumps in the occurrence of a loss in hyd. pump power. Rico part # 33003571

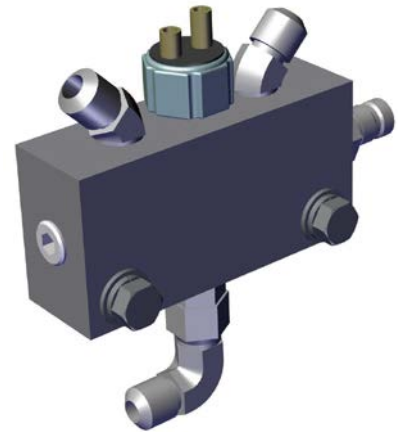




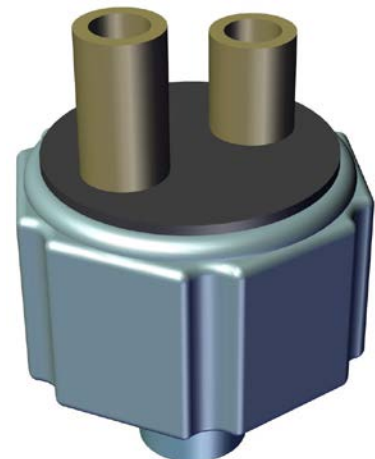
**4. Brake Valve:** This brake pedal valve is for the main braking, by pressing on the brake pedal, hyd. flow is sent to the Junction Block where the flow is sent to each brake system. Rico part # 33004416



**5. Junction Block Assembly:** This junction block houses the brake switch and a test pressure port. The pressure port can be used during trouble shooting of the service brakes. Rico part # 5060990050-11



**6. Brake Switch:** The brake switch is a pressure switch activated by hyd. Pressure from the main service brake circuit. The switch activates the tail lights. Rico part # 33004078



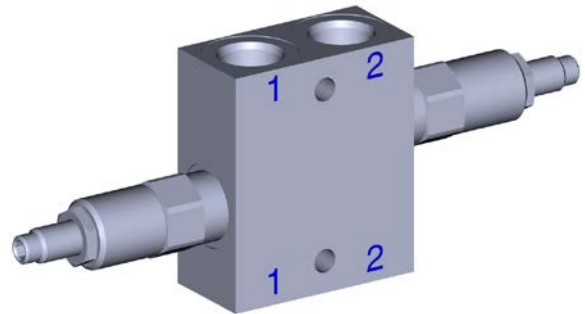
**7. Wet Disk Brakes:** This is an internal part of the drive axle and is a clutch plate style braking system. The brake plates are pressed together to stop the vehicle.



**1. Steering Selector:** The hyd. steering selector controls which direction and how quickly the steering cylinder moves. Rico part #33003727



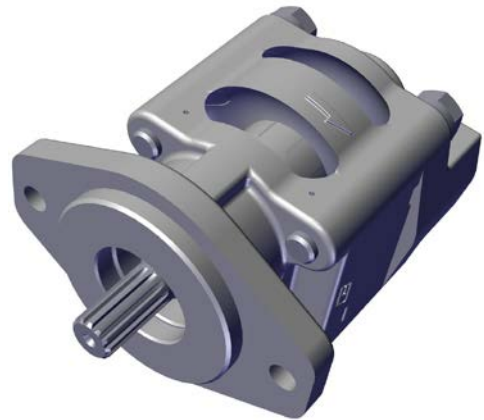
**2. Relief Valve:** The dual relief valve in the steering system is to relieve excess pressure in both directions. This protects the steering cylinder from damage. Rico part # 33003859



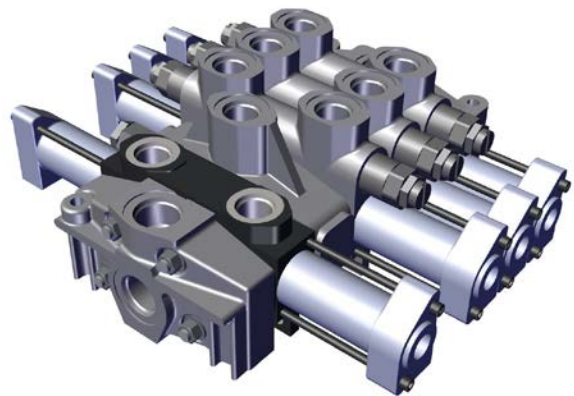
**3. Steering Cylinder:** The steering cylinder is a double acting cylinder. This has hyd. ports at either end and the piston is in between the ports. When hyd. fluid enters either port the piston is pushed to move the cylinder rod. Rico part # 15006015



**1. Hydraulic Pump:** The hydraulic pump is mechanically linked to the transmission. When the pump is rotated it provides flow to the main directional valve. Rico part # 33003821



**2. Main Directional Valve:** The main directional Valve controls the Mast Functions which include Lift, Tilt, Side Shift, and Fork positioning. This is accomplished by either the remote Hydraulic pilot operated or electronic fingertip controls. Rico part # 33003857



**3. Flow Control Valve:** This restricts the hydraulic oil flow, while using the lowering function, to a specific feet per minute speed. Rico Part # 33003477

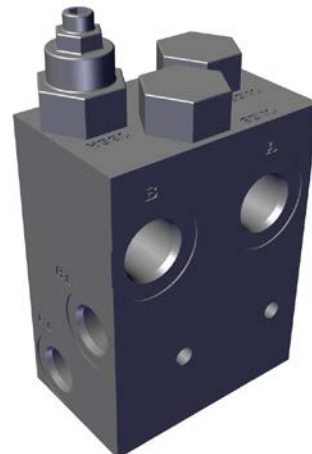


**4. Accumulator:** The accumulator uses nitrogen to compress on a hydraulic fill bladder to suppress pressure spikes in the lift cyl. of the mast. Rico Part # 33003775



**5. Main Lift Cylinder's:** The lift cylinders are single acting and raise and lower the carriage. The lift cylinders are part of the mast assembly. Part #'s vary between masts.

**6. Tilt Lock Valve:** This prevents the mast from tilting forward unless a pressure signal is received to unlock the valve. This pressure signal is internal to the valve and is generated when the tilt function is selected. RICO Part # 33003639

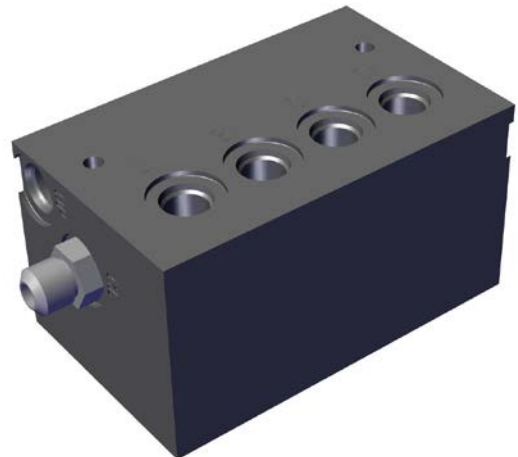


**7. Tilt Cylinder:** The tilt cylinders are double acting cylinders. This has hyd. ports at either end and the piston is in between the ports. When hyd. fluid enters either port the piston is pushed to move the cylinder rod. RICO Part # 50990125



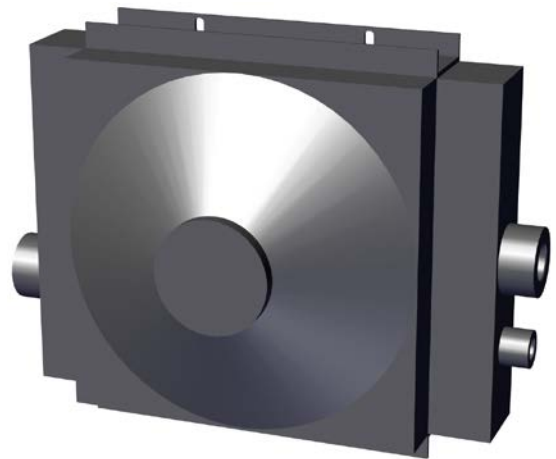
**8. Free Lift Cylinder:** "If equipped" the free lift cylinder is single acting and raises the inner mast without the inner mast raising beyond the top plain of the mast assembly. When the inner mast is raised beyond the top plain of the mast assembly the main lift cylinders take over. The free lift cylinder is part of the mast assembly. Part #'s vary between masts.

**9. SS/FP valve:** This valve controls the standard fork positioning cylinders to give a small amount of side shift. True side shift does not require this valve. RICO Part # 50990724



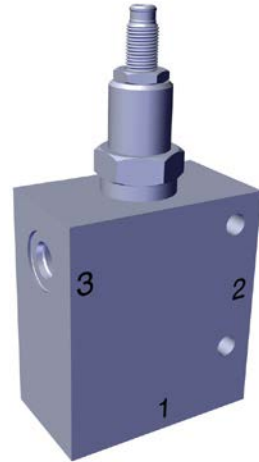
**10. SS & Fork Positioning Cylinder's:** The fork positioning cylinders are double acting cylinders. This has hyd. ports at either end and the piston is in between the ports. When hyd. fluid enters either port the piston is pushed to move the cylinder rod.

**11. Oil Cooler:** The oil cooler is made up of a fan, Radiator and temperature sensor. When the hydraulic oil reaches the set temperature of the sensor, the sensor turns on the fan and cools the oil passing thru the radiator. Rico part # 33003654

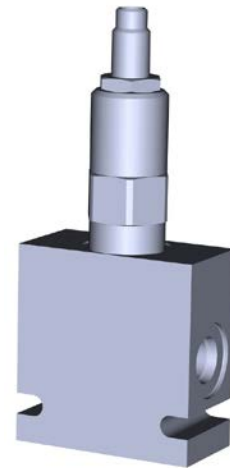




**1. Sequence Valve:** This valve is to maintain minimum hyd. pressure to the reducing valve.  
RICO Part # 33003849



**2. Reducing valve:** Maintains a set pressure to the pilot valve. RICO Part # 33003850



**3. Pilot Operated Valve:** This is the operator valve to control the main directional valve. RICO Part # 33004422

