## Forklift Hydraulic Control Valve

Forklift Hydraulic Control Valve - The job of directional control valves is to be able to direct the fluid to the desired actuator. Normally, these control valves comprise a spool positioned within a housing created either from steel or cast iron. The spool slides to various locations inside the housing. Intersecting channels and grooves direct the fluid based on the spool's location.

The spool is centrally positioned, help in place with springs. In this particular location, the supply fluid could be blocked and returned to the tank. If the spool is slid to one side, the hydraulic fluid is routed to an actuator and provides a return path from the actuator to tank. When the spool is moved to the opposite side, the supply and return paths are switched. When the spool is enabled to return to the center or neutral position, the actuator fluid paths become blocked, locking it into position.

The directional control is usually intended to be stackable. They normally have one valve per hydraulic cylinder and one fluid input that supplies all the valves within the stack.

In order to prevent leaking and tackle the high pressure, tolerances are maintained really tight. Typically, the spools have a clearance with the housing of less than a thousandth of an inch or 25 Âµm. So as to avoid jamming the valve's extremely sensitive components and distorting the valve, the valve block will be mounted to the machine' frame by a 3-point pattern.

A hydraulic pilot pressure, mechanical levers, or solenoids may actuate or push the spool left or right. A seal allows a portion of the spool to stick out the housing where it is accessible to the actuator.

The main valve block controls the stack of directional control valves by capacity and flow performance. Some of these valves are designed to be proportional, as a valve position to the proportional flow rate, while some valves are designed to be on-off. The control valve is among the most costly and sensitive components of a hydraulic circuit.