## Hydraulic Control Valve for Forklift

Forklift Hydraulic Control Valve - The control valve is actually a tool which routes the fluid to the actuator. This device will include steel or cast iron spool which is positioned in a housing. The spool slides to different places within the housing. Intersecting grooves and channels direct the fluid based on the spool's location.

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

The directional control is typically designed to be stackable. They generally have a valve for each hydraulic cylinder and a fluid input which supplies all the valves within the stack.

Tolerances are maintained very tightly, so as to tackle the higher pressures and so as to prevent leaking. The spools will usually have a clearance in the housing no less than 25 Âµm or a thousandth of an inch. In order to avoid jamming the valve's extremely sensitive parts and distorting the valve, the valve block would be mounted to the machine' frame with a 3-point pattern.

The location of the spool can be actuated by mechanical levers, hydraulic pilot pressure, or solenoids which push the spool right or left. A seal enables a portion of the spool to protrude outside the housing where it is accessible to the actuator.

The main valve block is normally a stack of off the shelf directional control valves chosen by flow performance and capacity. Some valves are designed to be on-off, while others are designed to be proportional, like in flow rate proportional to valve position. The control valve is amongst the most sensitive and expensive components of a hydraulic circuit.