Forklift Hydraulic Control Valve

Hydraulic Control Valve for Forklift - The control valve is a device which directs the fluid to the actuator. This tool will comprise steel or cast iron spool which is situated within a housing. The spool slides to different positions within the housing. Intersecting grooves and channels route the fluid based on the spool's location.

The spool is centrally located, help in place by springs. In this particular location, the supply fluid could be blocked and returned to the tank. When 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. When the spool is moved to the other side, the return and supply paths are switched. When the spool is enabled to return to the neutral or center position, the actuator fluid paths become blocked, locking it into place.

Typically, directional control valves are made so as to be stackable. They usually have one valve for every hydraulic cylinder and one fluid input that supplies all the valves in the stack.

Tolerances are maintained extremely tightly, in order to deal with the higher pressures and to be able to prevent leaking. The spools would normally have a clearance within the housing no less than 25 Ã‚Âµm or a thousandth of an inch. In order to prevent 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.

Solenoids, a hydraulic pilot pressure or mechanical levers could actuate or push the spool right or left. A seal allows a part of the spool to stick out 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. Various valves are designed to be on-off, while some are designed to be proportional, as in valve position to flow rate proportional. The control valve is among the most pricey and sensitive parts of a hydraulic circuit.