Hydraulic Control Valve for Forklift

Forklift Hydraulic Control Valves - The control valve is actually a device which directs the fluid to the actuator. This device would comprise cast iron or steel spool that is situated in a housing. The spool slides to various positions in the housing. Intersecting grooves and channels route the fluid based on the spool's location.

The spool is centrally located, help in place with springs. In this particular position, the supply fluid could be blocked and returned to the tank. When the spool is slid to a direction, 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. Once the spool is enabled to return to the neutral or center place, the actuator fluid paths become blocked, locking it into place.

Usually, directional control valves are made to be able to be stackable. They normally have one valve per hydraulic cylinder and a fluid input which supplies all the valves inside the stack.

Tolerances are maintained extremely tightly, in order to tackle the higher pressures and to prevent leaking. The spools would usually have a clearance inside the housing no less than 25 Ã?â??Ã?Âµm or a thousandth of an inch. So as 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 may actuate or push the spool left or right. A seal enables a part 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 flow performance and capacity. Some of these valves are designed to be proportional, as a proportional flow rate to the valve position, while some valves are designed to be on-off. The control valve is among the most pricey and sensitive components of a hydraulic circuit.