Hydraulic Control Valve for Forklift

Forklift Hydraulic Control Valves - The function of directional control valves is to direct the fluid to the desired actuator. Usually, these control valves comprise a spool situated within a housing created either from cast iron or steel. The spool slides to various locations in the housing. Intersecting channels and grooves direct the fluid based on the spool's position.

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 a direction, the hydraulic fluid is routed to an actuator and provides a return path from the actuator to tank. If the spool is moved to the other direction, the supply and return paths are switched. As soon as the spool is enabled to return to the center or neutral location, the actuator fluid paths become blocked, locking it into position.

The directional control is usually made to be stackable. They usually have a valve for each hydraulic cylinder and one fluid input that supplies all the valves inside the stack.

Tolerances are maintained really tightly, to be able to tackle the higher pressures and in order to avoid leaking. The spools will often have a clearance inside the housing no less than 25 Ã?â??Ã?Âµm or a thousandth of an inch. To be able to prevent jamming the valve's extremely sensitive parts and distorting the valve, the valve block would be mounted to the machine' frame by a 3-point pattern.

A hydraulic pilot pressure, mechanical levers, or solenoids can actuate or push the spool right or left. A seal enables 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 flow performance and capacity. Some of these valves are designed to be proportional, like a proportional flow rate to the valve position, while some valves are designed to be on-off. The control valve is amongst the most sensitive and costly parts of a hydraulic circuit.