Forklift Hydraulic Control Valves

Forklift Hydraulic Control Valves - The control valve is a device that routes the fluid to the actuator. This tool would comprise cast iron or steel spool which is located inside of housing. The spool slides to different positions inside the housing. Intersecting grooves and channels direct the fluid based on the spool's location.

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

The directional control is usually made 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 very tightly, in order to deal with the higher pressures and to avoid leaking. The spools will normally have a clearance within the housing no less than 25 Ã?â??Ã?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 will be mounted to the machine' frame by a 3-point pattern.

Mechanical levers, solenoids or a hydraulic pilot pressure might 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 controls the stack of directional control valves by capacity and flow performance. 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 one of the most sensitive and pricey parts of a hydraulic circuit.