Hydraulic Control Valve for Forklift

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

The spool has a neutral or central position that is maintained with springs. In this particular location, the supply fluid is returned to the tank or blocked. If the spool is slid to one 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 return and supply 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.

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

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

Solenoids, a hydraulic pilot pressure or mechanical levers can actuate or push the spool left or right. A seal allows a part of the spool to protrude outside 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. Several of these valves are designed to be proportional, as a valve position to the proportional flow rate, whereas some valves are designed to be on-off. The Clark parts control valve is among the most pricey and sensitive parts of a hydraulic circuit.