Forklift Hydraulic Control Valve

Hydraulic Control Valve for Forklift - The control valve is a device that routes the fluid to the actuator. This tool will include cast iron or steel spool that is located inside of housing. The spool slides to different locations in the housing. Intersecting grooves and channels direct the fluid based on the spool's position.

The spool is centrally positioned, help in place by springs. In this particular position, the supply fluid can 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 transferred 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 place, the actuator fluid paths become blocked, locking it into place.

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

So as to avoid leaking and handle the high pressure, tolerances are maintained extremely tight. Normally, the spools have a clearance with the housing of less than a thousandth of an inch or 25 Ã?â??Ã?Âµm. To be able to prevent jamming the valve's extremely sensitive components and distorting the valve, the valve block would be mounted to the machine' frame with a 3-point pattern.

The position of the spool may be actuated by mechanical levers, hydraulic pilot pressure, or solenoids which push the spool right or left. A seal allows a portion of the spool to stick out the housing where it is easy to get to to the actuator.

The main valve block is normally a stack of off the shelf directional control valves chosen by capacity and flow performance. Several valves are designed to be on-off, while others are designed to be proportional, as in flow rate proportional to valve position. The control valve is one of the most pricey and sensitive components of a hydraulic circuit.