Purge Circuit for Pilot-Operated Control Valves

VPL Control Valve

Challenge:

Historically, hydraulic-remote control systems have the potential for safety related problems. This is due to the fact that the pilot circuit between the remote controller and the control valve is a closed-center circuit. This means that there is no positive flow of the oil between these components. Also, during the cold weather, viscosity levels reach intolerable levels. This condition adversely affects the responsiveness of the pilot circuit and can result in the operator not being able to stop the movement of the function.

Solution:

Parker developed a ”purge system” to achieve a backflow for the pilot circuit. This ensures warm oil start-up and purges any air in the pilot circuit. Consequently, satisfactory responsiveness between the controller and the control valve is achieved. This was accomplished by taking advantage of the fact that pilot circuits are actually open-center circuits, when the flow is circulating from the valve to the controller.

This solution consists of two purge checks installed in the pilot cavity of each work-section

Safety

Increased Productivity

Success Factors:

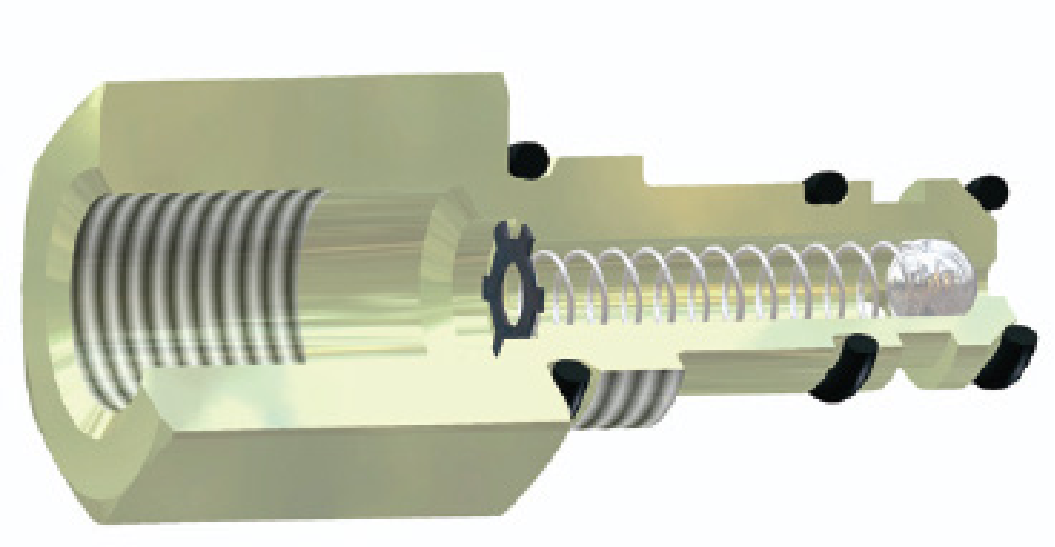
- Parker’s application knowledge of Aerial Lift circuits resulted in a clear definition of the problem
- Parker’s design and manufacturing experience of the components in this sub-system facilitated the design of an optimum solution.

Customer Values:

- Improves safety by ensuring that the response time of the circuit is predictable. Potential savings from litigation could be worth hundreds of thousands of dollars
- Since the solution is integrated into the VPL vs an in-line arrangement, the plumbing savings are $175 per machine

ENGINEERING YOUR SUCCESS.

Model:



Contact Information:

Parker Hannifin Corporation
Hydraulic Valve Division

www.parker.com/hydraulicvalve