Integrated Anti-Tip Control

VPL Load-Sense Disabling

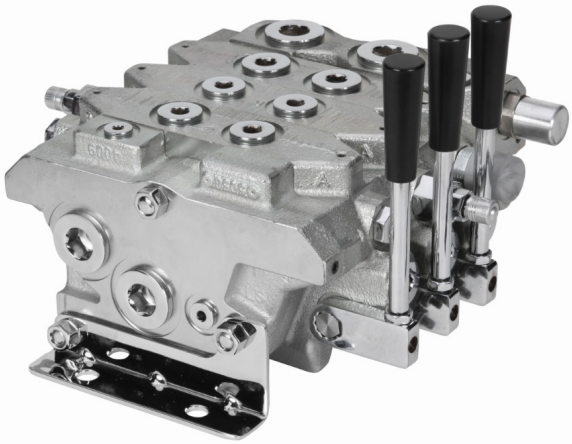
Challenge:

An aerial-work platform manufacturer needed a way to limit the extension of the upper and lower boom cylinders, in order to prevent the machine from getting outside its safety zone (anti-tip).

Solution:

Parker's solution integrated logic into the VPL directional control valve that enables a work port to become selectively disabled and thereby, prevents the operator from putting the machine in a possible "tip-over" condition.

This was accomplished by adding a small pilot-operated check in the work-section. This check is in parallel with the spring chamber of the compensator. When the backside of the check is vented to tank through an in-line valve, the work-section compensator is closed.



Safety

Reduced Lifetime Ownership Cost

Success Factors:

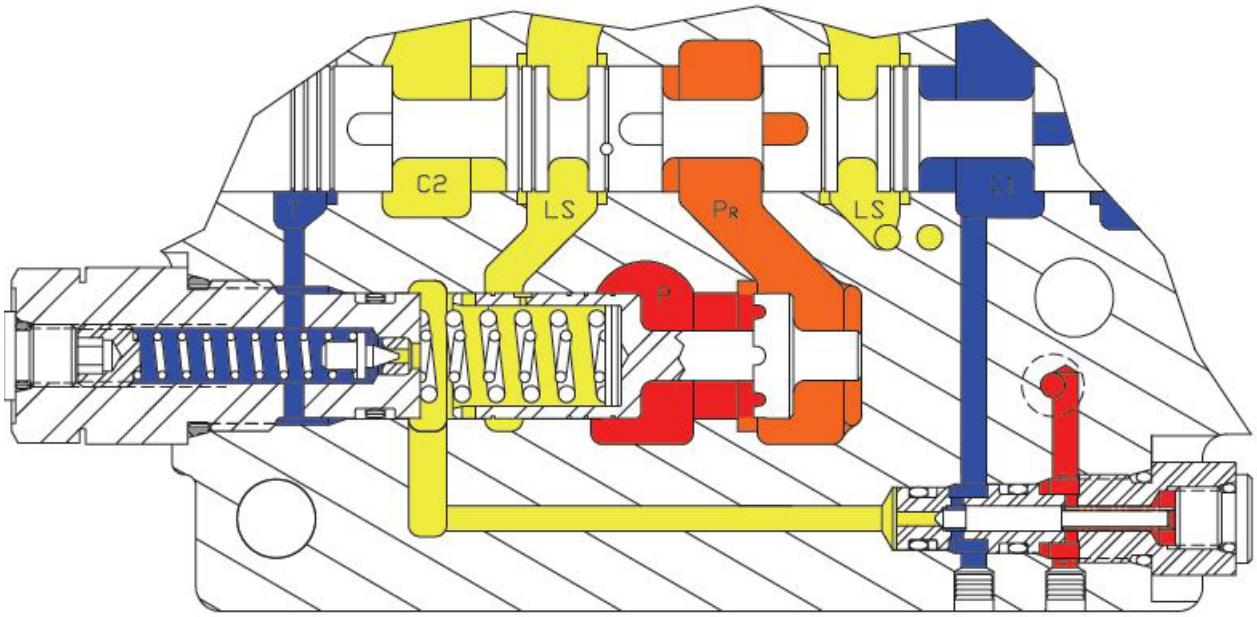
- The disabling of the load-sense signal can be configured for work-section port A, B or A & B
- Integration of pilot-operated check into the VPL Directional Control Valve
- Integration of the 2-position 3-way solenoid valve into the directional control valve. An in-line solution is optional
- One in-line solenoid used to vent the load-sense signal of several work sections

Customer Values:

- Saved the customer ~$80/ machine vs an in-line solution. This pertains to load-sense disabling for two work sections.
- Vendor consolidation and fewer purchase orders can save $300-500/year
- Improved safety through an optimized match between the unloading valve, the solenoid valve and the main directional control valve.

ENGINEERING YOUR SUCCESS.

Schematic:



Contact Information:

Parker Hannifin Corporation
Hydraulic Valve Division

www.parker.com/hydraulicvalve