Pressure Balanced™ Boom Suspension
RIDE CONTROL IS NO LONGER OPTIONAL

Compact wheel loaders, skid-steer loaders, and loader-equipped tractors may not be the biggest machines on the construction site, but they are often do most of the work, from scooping, lifting, moving and dumping, to minor grading tasks such as scraping and back-dragging.

For small and mid-size loaders without wheel suspension, the rough ride comes with the territory. We rely on the operator to adjust working habits to accommodate machine performance. This means working more slowly and deliberately, limiting tight turns, extending braking distances, and avoiding difficult terrain. This is a drag on productivity.

Cushioning the movement of the boom while traveling over difficult terrain is key to load stability and vehicle safety. An effective boom suspension system can act to prevent loss and shifting of the load, and a vehicle with a controlled load is easier to maneuver and safer to operate.

So in today's machines, boom suspension is not just a matter of operator comfort, it is critical to working quickly and efficiently. Loaders equipped with boom suspension perform tasks faster and operators can focus more on moving material instead of spilling it.

Keep the Load
In the bucket with Pressure-balanced™ Boom Suspension
BALANCE IS KEY
The HydraForce pressure-balanced boom suspension system offers a more responsive control for compact loaders. At the heart of the system is the patent-pending PB08-E40 pressure-balanced accumulator charging valve. What makes this system perform better is the ability to charge the accumulator without borrowing oil from the boom cylinder. This means the boom doesn’t drop during travel, or jerk suddenly when the system is activated, and no mushy performance when digging into a pile of material. It simply performs the way the operator expects.

ADAPTS TO YOUR VEHICLE
The available proving manifold includes solenoid enable valves to allow deactivation for grading tasks. It can be plumbed directly into the boom circuit for testing. At production time, the optimized circuit can be integrated into the vehicle hydraulic system, or the components can be placed in a custom manifold and remotely mounted. Orifices in the proving manifold can be changed to tune the following performance characteristics:
• Accumulator charge/discharge rate
• Pilot circuit damping
• Cylinder rod-end metering

Features
• Pressure-balanced accumulator charging
• Load does not move when system is activated
• Leakdown protection
• Charges using pump flow / discharges to reservoir
• Two solenoid enable valves
• Quick system tuning

PERFORMANCE IS PROVEN
HydraForce engineers developed this system to fit a broad range of vehicles and boom configurations. During development, HydraForce was able to see marked performance improvement in load balancing and leakdown protection over existing systems. The ability to observe and document actual machine performance in our Innovation and Technology Center gives HydraForce a distinct advantage in developing components and systems that solve real world problems.

Advantages of using a pressure-balanced boom suspension:
• Keep the load in the bucket
• Increase operator comfort
• Increase working efficiency
• Reduce wear on vehicle components
• Increase travel speeds
• Decrease braking distances
• Adapt easily to any system
• Standardized hardware available for proving

MAKE PERFORMANCE STANDARD EQUIPMENT ON YOUR VEHICLE
The HydraForce pressure-balanced boom suspension system offers operators a better overall experience because it performs reliably under all operating conditions. It offers a more responsive load-balanced control that is able to maintain accumulator charge even when the system is disengaged. Even skid-steer and compact loaders can employ an economical suspension system that competes with larger machines. This flexible all-cartridge solution can be mounted close to the boom or integrated into a complete vehicle hydraulic system manifold. Operators are able to work more quickly and efficiently because vehicle stability is greatly improved. Safer and more efficient machines get the job done faster.

Operate with confidence
Smooth and Safe
Fast and efficient
WHY CONSIDER HYDRAFORCE?

SYSTEM EXPERTISE

- World’s largest privately owned cartridge valve manufacturer focused on EH system controls
- Brodest range of cartridge valves
- Designed EH systems for mobile equipment in every industry

SIMPLIFIED PACKAGING

- All manifolds are end-of-line function tested
- Use of Lean and Six Sigma practices
- Five year warranty on valves and manifolds

REPUTATION FOR QUALITY

SUPPORT FROM PROTOTYPE TO PRODUCTION

- Free design support
- Simulation software
- Fast prototypes
- Integrate sensors, fittings, ancillary valves, and other custom components into a single manifold
- Simplified circuit design
- Consolidated or distributed hydraulic systems

RoHS COMPLIANT

HydraForce valve and manifold products comply with the European Council and Parliament RoHS directive 2002/95/EC limiting the use of hazardous substances. For all other products, consult factory.

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