

Sustainability that pays off.

Reducing impact stress caused by driving over boards and ramps by up to 80 percent

Crown invented an ingenious suspension system combined with a weight-adjustable, shock-absorbing driver's platform which alleviates stress on truck and driver. A foot-sensitive safety switch on the entry bar provides truck operators with even more protection.

The Challenge:

Crucial factors to consider when choosing a fork lift truck include not just the truck's performance, but also the comfort and safety of drivers while they are operating the vehicle. When they drive over docks and loading ramps, lift trucks and their operators are subjected to severe shocks and impacts. This results in significant wear and tear on the trucks and places considerable stress on operators.

In the course of everyday logistics operations, these impact events may occur up to 800 times per shift. This situation can adversely affect operators' wellbeing, restrict productivity and have a negative impact on total cost of ownership.

In this vehicle category, there is also a risk of injury associated with the fact that truck operators do not

always position their feet inside the safe area of the truck, where they are protected from external hazards.

The Objective:

A highly efficient suspension system and a number of specific measures for protecting lift truck drivers should preserve drivers' health, enhance driver safety and lower total cost of ownership (TCO) by reducing wear and tear and increasing the product's useful life.

The Solution:

After carrying out in-depth research on the premises of a large number of customers, Crown developed an entirely new suspension concept in the form of the FlexRide™ system. The new system achieves a hitherto unheard-of standard of driving comfort by reducing impact stress to negligible levels, meaning that operators can

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The FlexRide™ system comprises a number of components:

- a sealed, spring-loaded drive unit
- castor wheels with independent suspension
- a spring-loaded driver's platform
- a damped floor mat with built-in contact sensor

drive over ramps without reducing speed. This increases productivity and significantly reduces the stress on the operator's spine and joints.



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Rear-entry models with fixed platforms are also fitted with an additional innovation: weight-adjustable platform suspension, which can be adjusted to each operator's individual weight by manipulating a single control. A safety switch on the entry bar is the final touch in this operator-optimised total concept: the entry bar is attached to the outside edge of the fixed driver's platform. As soon as the operator's foot touches the entry bar, the truck will come to a halt; it only continues once the operator is standing safely with both legs firmly planted on the platform.

The Sustainable Strengths:

The FlexRide™ system successfully reduces impact stresses on lift truck operators by up to 80 percent. In addition, the safety switch on the entry bar significantly reduces the risk of injury to operators' feet.

In a recent study INRS, the French safety institute, measured the vibration emissions of six electric forklift trucks. A Crown WT 3000 pallet truck fitted with both the FlexRide™ suspension system (<0.6 m/s) and the optional weight-adjustable driver platform (0.5 m/s) achieved results ranging from "very good" to "outstanding".

This results in significantly reduced stress on both man and machine. At the IMHX 2013 trade fair in Birmingham, the WT 3000 Series received the "Design for Safety" Award in recognition of these safety features. Numerous other design awards (including e.g. the iF Product Design Award, the Universal Design Award, the IDEA Gold Award) bear further testimony to the high standards of innovation characterising this range of products.

FLEXRIDE™

About Crown:

Crown Equipment is one of the world's largest materials handling companies. Crown's award-winning line of forklifts maintains a reputation for advanced product design, engineering and integrated manufacturing processes. Offering a broad range of forklifts, as well as automation and fleet management technologies, Crown provides customers with forward-thinking and innovative products designed to improve performance and lower operating costs.

Facts:

Customer Benefits:

- Up to 80% reduction in vibrations when driving over ramps
- Significantly decreased risk of accidents
- Because fewer repairs are needed, the total cost of ownership is also reduced



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