

Simple Volvo hybrid set to improve fuel efficiency by up to 20%

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The forthcoming EC300E Hybrid excavator's boom-down motion charges energy-storing accumulators that are used to power the engine system.

Often the best ideas are the simplest. Volvo CE has taken this idea to heart with its ingenious new EC300E Hybrid. Unlike other systems that capture the swing energy of an excavator's superstructure to electrically assist the engine, Volvo's novel hydraulic hybrid harvests 'free' energy generated by the down motion of the excavator's boom and uses it to supercharge the Engine system.

The powerful and regular boom-down motions charge 20 litre hydraulic accumulators, which then deliver energy to drive hydraulic assist motors that help power the Engine system. There are the same levels of controllability and performance as the standard EC300E, including the ability to work in ECO mode and Hybrid mode simultaneously.

Rapid payback in dig and dump applications

All this simple and uncomplicated cleverness takes load off the engine, and in the process delivers up to 20% higher fuel efficiency, up to 17% less CO2 emissions – and all with no loss of performance. When used in production 'dig and dump' applications (especially those within a 90o swing) the payback of this simple approach can be a little less than two years.

Not only is the idea simple – the componentry is too – consisting of just a few add-on components that are simple to maintain.

Technologies such as this are another example of Volvo CE delivering on its commitment to innovate and develop more sustainable and cost effective solutions for customers.

First of a new range of excavators, EC300E Hybrid launch in 2020 unveils a new chapter on the way to build the world we want to live in.

Source: Volvo Construction Equipment (Volvo CE)