Volvo Trucks' new concept truck cuts fuel consumption by more than 30%

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Volvo Concept Truck. Credit: Volvo

With support from the Swedish Energy Agency, Volvo Trucks has developed a new concept vehicle, the Volvo Concept Truck. It is the result of a five year long research project aimed at creating more energy-efficient vehicles. The new concept truck cuts fuel consumption by more

than 30 percent.

"We continuously work on developing more energy-efficient vehicles. This is a high-priority area both out of environmental concern and in order to reduce our customers' costs. We're proud to be able to drive this development. Our concept truck showcases the immense power of on-going technical advances," says Claes Nilsson, President and CEO Volvo Trucks.

One of the key factors behind the low fuel consumption is the massive 40 percent improvement in aerodynamic efficiency that has benefited both the tractor and trailer. "We've modified the entire rig and optimised it for improved aerodynamics as much as possible. For instance, we use cameras instead of rear-view mirrors. This cuts air resistance, so less energy is needed to propel the truck," explains Åke Othzen, Chief Project Manager at Volvo Trucks.

In addition to the aerodynamic improvements, the concept vehicle is fitted with newly developed tyres with lower rolling resistance. The trailer weighs two tonnes less than the reference trailer, which translates into either lower fuel consumption or the possibility of higher payload. The project also includes an improved driveline. The rig was test driven on Swedish roads in autumn 2015.

Work on the Volvo Concept Truck has been in progress since 2011. The aim is to improve the efficiency for long-haul truck transportation by 50 percent.

Volvo Concept Truck. Credit: Volvo

Since the concept vehicle is part of a research project it will not be available on the market. However, some of its aerodynamic features have already been implemented on Volvo Trucks' series-produced vehicles, and more of its solutions may be fitted in the future.

Facts: Volvo Concept Truck

The research project is a bilateral joint venture between Sweden and the USA involving support from the Swedish Energy Agency and the U.S. Department of Energy. The American SuperTruck project aims to increase transport efficiency for long-haul operations on the North

American market.

Specifications:

- Volvo Concept Truck
- Truck model: Volvo FH 420
- Engine: Volvo D13 Euro 6

Facts: The aerodynamic improvements

- Optimised aerodynamic trailer and tractor.
- In order to reduce air resistance, the conventional rear-view mirrors have been replaced by cameras, which have the added advantage of offering better visibility and increased safety.
- Aerodynamically optimised chassis side-skirts cover the rear wheels on the tractor and all the trailer wheels.
- Aerodynamic spoilers extend the trailer and cut air resistance.
- Optimised air flow for the engine's cooling system
- Minimised air resistance at the front of the tractor, the wheel housings and entry steps.

Provided by Volvo