



Press Information

THE NEW VOLVO FMX IS SO EASY TO STEER THAT A HAMSTER CAN TAKE OVER THE WHEEL !

The film 'The Hamster Stunt' has been a major success on YouTube and has now been viewed over 3.4 million times in just one week. It shows how the new Volvo FMX, equipped with Volvo Dynamic Steering, is steered by a hamster on rough, twisting tracks in a quarry.

Volvo Dynamic Steering is a new system from Volvo Trucks that allows the driver to steer a fully-laden truck without effort. At low speeds, an electric motor replaces the driver's muscle power. The system's developers aimed to deliver perfect steering feel in all operating conditions.

"At low speeds, a heavily-laden vehicle is so easy to manoeuvre that it can be steered with just one finger. When driving on the road, this dynamic steering system offers unbeatable directional stability," explains Jan-Inge Svensson, the engineer behind the development of the system's software at Volvo Trucks.

Electric motor takes the load off the driver

Volvo Dynamic Steering is based on a conventional mechanical steering system where a steering shaft links up to a steering gear. A hydraulic servo unit generates force that helps the driver turn the truck's road wheels.

In Volvo's system an electronically-controlled electric motor is added, which is attached to the steering shaft. This electric motor works together with the hydraulic power steering and is adjusted thousands of times per second by the electronic control unit. At low speeds, the electric motor adds extra force and at higher speeds, the electric motor automatically regulates the steering and compensates for irregularities that feed through to the steering wheel, caused for instance by side winds or bumps in the road surface.

The electronic control unit is the brain of the system and is continuously fed information by sensors in the truck.



"There are sensors in a number of different locations and together they provide a comprehensive picture of what is happening to the truck. For instance, sensors on the wheels and the transmission's output shaft measure the vehicle's road speed, while another sensor identifies which gear is currently engaged," relates Sten Ragnhult, who was responsible for developing the system's hardware at Volvo Trucks.

In the film *'The Hamster Stunt'* the system's properties are put to the test by allowing a 175 gram (6 oz) hamster steer the truck out in a quarry in the Spanish city of Ourense. A specially designed hamster treadmill was attached to the steering wheel and an experienced stunt driver handled the accelerator and brakes whilst getting the hamster to steer in the right direction by tempting him with a carrot. The film shows how the big truck gently and safely makes its way up a twisting, narrow hilly track in the quarry.

"I can assure you that this is for real - the hamster really can steer the truck," says Sten Ragnhult, who together with his colleague, Jan-Inge Svensson, was on site in Spain during the test.

"It was a big challenge. The driver had to hold the carrot in just the right way so he could lead the hamster. If he held it too high or too low Charlie would lose interest," explains trainer Grace Dickinson, adding, *"but yes, of course Charlie got the carrot in the end !"*

See the film *'The Hamster Stunt'*

See how Volvo's engineers prepared the test in Spain :

Here's how Volvo Dynamic Steering works :

- ENDS -

Further images are available in the Volvo Trucks imagebank :
<http://imagegallery.vtc.volvo.se/>

Notes for Editors : Volvo Dynamic Steering

1. At low speeds, the electric motor replaces the driver's muscles. The driver is now free to sit back, relax and steer without straining their shoulders and arms.
 2. Disruptions from unevenness in the road (i.e. cracks and potholes) are damped. As a result the steering feels more stable since the driver does not have to keep compensating
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with the steering wheel.

3. On the road, the precise control gives a feeling of increased directional stability, which in turn offers the driver a relaxed driving experience with full control at all speeds. The dynamic steering system eliminates virtually all minor steering wheel adjustments that are otherwise so much a part of driving.

4. The system can compensate for road camber or a side wind, allowing the driver to steer straight ahead without having to 'counter-steer' with the steering wheel. This is a major benefit that will contribute to both safer and more comfortable driving.

5. Volvo Dynamic Steering is available as an option and can also be specified with the new Volvo FM and Volvo FH

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Images are available in the Volvo Trucks image bank <http://images.volvotrucks.com>.

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