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Volvo XC60 Plug-in Hybrid Concept destined for Detroit

Lead

At the 2012 Detroit Motor Show, Volvo will reveal a plug-in hybrid version of its popular XC60 SUV that mates an electric motor to a petrol engine, giving a total of over 340bhp.

The electric technology used in the XC60 Plug-in Hybrid Concept is that found in the forthcoming V60 hybrid; however, the combustion side of proceedings in the off-roader takes place in Volvo's all-new four-cylinder petrol engine, while the V60 uses a less potent five-cylinder turbodiesel.

The combined horsepower has led Volvo to give its new concept a 'T8' moniker, as it "moves the car into territory previously occupied solely by eight-cylinder engines".

Using electric power alone, the hybrid XC60 concept can travel up to 35 miles. Emissions are impressively low at 53g/km and average Combined consumption is over 100mpg, according to the current European testing system. Recharging takes between 3.5 and 7.5 hours, depending on the power source's amperage.



Three different driving modes are present in the concept XC60 (and in the production V70): Pure, Hybrid and Power. Pure uses electric power only, while voltage is used to increase economy in Hybrid mode and performance in the Power setting. To aid thriftiness, the drivetrain only operates in four-wheel-drive mode in low grip situations.



Innovative features include a two-stage braking system in which initial braking force is provided by the electric motor, with mechanical brakes providing secondary anchorage if necessary. This system also serves to regenerate power, while another interesting feature is the pre-heating or -cooling of the cabin and battery during charging, so that they can reach optimum temperature without sapping power on the move.





While the hybrid XC60 is currently billed only as a concept, CEO Stefan Jacoby maintains that the demonstrated petrol-electric technology will reach Volvo showrooms in the coming years. Before then, the company's £47,000 hybrid V60 will claim the title of being the first diesel plug-in hybrid when it goes on sale in Europe later this year.



Photos: Volvo

Gallery

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