

Electric Supercharger Could End Vehicle Emissions, Improve Performance and Fuel Economy

A newly launched electric supercharger from [Duryea Technologies](#) promises to eliminate diesel particulate emissions while boosting performance and efficiency in consumer cars, buses, medium and heavy-duty trucks, and construction equipment vehicles. Substantial advantages are also possible with gasoline engines.

Reading, PA ([PRWEB](#)) February 02, 2016 -- [Duryea Technologies](#) has developed a hybrid-electric supercharger to provide a low-cost, comprehensive solution for the consumer and commercial vehicle industries. As an integrated component, it will allow manufacturers to meet strict emissions regulations while improving fuel economy and performance.

Dan Sodomsky, the company founder, states, “The [Duryea Electric Supercharger](#) is a desperately needed innovation. Last year, one of the world’s largest car companies admitted to cheating on emissions tests, with heightened awareness and scrutiny for all manufacturers among the consequences. The costs and limits of available technologies have led to three options: performance, fuel economy or emissions. The electric supercharger avoids this tradeoff and enables powertrains capable of satisfying multiple market demands.”

Superchargers compress the intake charge to increase the amount of air delivered to an engine, which results in combustion that is more complete, and therefore of greater power. With a long history of use in aircraft, diesel engines, and racing, conventional superchargers are gear or belt-driven by the engine and output is limited by engine speed.

Unlike a conventional supercharger, a battery, not the engine, powers the electric version. Duryea Technologies reports this allows its supercharger to take full advantage of enhanced combustion to improve performance and fuel economy at low engine speeds, where mechanically driven superchargers and exhaust driven turbochargers are ineffective. For manufacturers, this is important for engine downsizing. The Duryea Electric Supercharger can increase low-end torque by up to 100% for [rapid acceleration](#).

Complete combustion is essential to minimizing particulate emissions created by partially burnt fuels. Independent testing has verified Duryea’s electric superchargers can be employed to eliminate particulates and achieve nearly undetectable levels of NOx.

Duryea Technologies recognizes electric supercharging as an elegant solution to a variety of powertrain shortcomings and asserts that its proprietary motors and electronics will be the enabling factor for adoption by vehicle manufacturers.

When questioned on this point, Sodomsky explains, “Before our design, there hasn’t been an electric motor available with sufficient speed and power and low-voltage electronics able to handle high current. This technology is the foundation for many applications and benefits. Our electric supercharger efficiently converts as much as 7kW of battery energy to pressurized air to achieve 40kW of engine performance. That’s a breakthrough.”



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