

News

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BAE Systems to Integrate Caterpillar CX Series Transmissions into its HybriDrive® Parallel System for Heavy-duty Trucks

JOHNSON CITY, New York — BAE Systems and Caterpillar Inc. have signed a joint development agreement to collaborate on a parallel hybrid propulsion system for heavy-duty trucks. Under the agreement, BAE Systems will integrate Caterpillar CX Series Transmissions into its HybriDrive® parallel propulsion system, recently launched at the National Truck Equipment Association Work Truck Show.

“Through this alliance, our transmission will become an integral part of BAE Systems’ new HybriDrive parallel system,” said Jeff Pohl, Hauling & OEM Drivetrains Product Manager for Caterpillar. “Our driveline expertise, including planetary automatic transmission expertise, combined with BAE Systems’ proven hybrid technology, will result in a seamlessly integrated product that meets performance and efficiency demands of vehicles that operate in diverse duty cycles.”

BAE Systems is a leading developer and producer of hybrid electric propulsion and power management systems for heavy-duty vehicles. The company’s HybriDrive series propulsion system—currently in service on more than 3,000 transit buses in cities around the world—meets the demands of urban transit duty cycles, which require low average speeds and frequent stop-and-go operation. The HybriDrive parallel system is designed to address the needs of vehicles with duty cycles that require higher operating speeds and less frequent stops.

With more than 200 million miles of revenue service, more than 10 million gallons of diesel fuel saved, and more than 100,000 tons of carbon dioxide emissions prevented, the market-leading HybriDrive series system has proven itself to be one of the most efficient hybrid electric systems for the transit bus sector and has provided significant environmental benefits.

“We have been diligently pursuing strategic alliances to further emphasize our HybriDrive parallel system’s advantages and discriminators beyond its superior fuel efficiency, driveability and emissions reductions,” said Steve Trichka, general manager of power and energy management for BAE Systems. “This agreement brings two industry leaders together to develop a product that will surpass marketplace expectations for cost, performance and support.”

The Cat CX family of transmissions delivers reliable performance, rugged durability, fuel economy and Cat product support necessary for on- and off-highway applications. Caterpillar designs and manufactures integrated powertrain systems that maximize vehicles’ versatility and transmission performance.

HybriDrive series and parallel systems both use simplified and proven components and controls to deliver their capabilities. While the series system does not use a transmission, the HybriDrive parallel system is based on a single electric machine, integrated between the engine and the

transmission. The system can be installed with minimal impact to the vehicle, and enhances propulsion through an optimized blending of internal combustion engine power and electric power. The system's energy management and control capabilities ensure all energy flow—such as propulsion and recuperation—occurs in the most efficient fashion, resulting in lower fuel consumption and reduced emissions.

The HybriDrive parallel system's supplemental power and torque ratings range from 95 horsepower (hp) to 145 hp and torque of 300 lbs-ft to 400 lbs-ft respectively. The system is designed to support large-bore, heavy-duty power plants, ranging from 350 hp to 600 hp, with associated torque ratings of 750 lbs-ft to 2,150 lbs-ft.

The HybriDrive parallel system, in final stages of development, will see its first road trials this spring and is expected to be deployed in markets around the world in 2012.

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