News Release



IMMEDIATE

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Dana Unveils New Electric Motor, Drive Axle for Lift Trucks

Latest Innovations Support Traditional and Electric-Powered Vehicle Designs

MAUMEE, Ohio, July 07, 2020 – Dana Incorporated (NYSE: DAN) today introduced new drive technologies for material-handling vehicles, including a low-voltage, high-efficiency motor for electric-powered applications, as well as a new series of modular, high-efficiency drive axles for Class I, IV, and V industrial lift trucks.

The new technologies demonstrate how Dana offers modular systems that support both bolt-on and fully integrated approaches to vehicle design. Dana's flexibility helps manufacturers reduce system complexity, shorten the time to develop and introduce new products, and facilitate the introduction of innovations into the vehicle life cycle.

Dana has a deep portfolio of Spicer® axles, transmissions, and driveshafts for traditional applications driven by internal-combustion engines, as well as a full range of electric motors, inverters, and controllers for low- and high-voltage applications ranging from 24 to 800 volts.

Additionally, Dana supplies motion systems for work functions as well as advanced sensors and controls developed to optimize productivity, maximize life, and reduce maintenance.

"Performance, efficiency, and modularity are the top needs for manufacturers of material-handling equipment," said Aziz Aghili, president of Dana Off-Highway Drive and Motion Systems. "Dana's new generation of innovations provide the lowest total cost of ownership by helping equipment buyers navigate the challenges of Industry 4.0, human-to-machine communication, autonomous vehicle operation, Big Data, and the end-to-end digitization of supply chain processes."

New Low-Voltage, High-Efficiency Motor

Dana has launched a new 48- to 120/144-volt synchronous reluctance internal permanent magnet (SRIPM) motor targeted for Class I electric lift trucks, sideloaders, and mobile elevated work platforms (MEWPs). Delivering up to 95 percent efficiency, the motor prolongs battery life and extends duty cycles by delivering higher power density than the AC motors typically used in these applications.

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Currently available for field testing by equipment manufacturers, the motor offers continuous power from 20 kW to 60 kW, and peak power from 30 kW to 70 kW. It is scheduled for production in late 2020.

The new motor joins the wide breadth of technologies from Dana that allow manufacturers to address the specific performance, power, torque, and NVH requirements of any given material-handling application. Dana offers low- and high-voltage solutions including SRIPM, synchronous reluctance (SR), internal permanent magnet (IPM), and AC induction motors.

The motors can be combined with Dana's inverter, controller, software, and drive products to deliver a comprehensive system solution for original-equipment manufacturers.

Spicer® 141 Axle

Designed for Class I, IV, and V industrial lift trucks, the Spicer 141 axle is a scalable, modular platform built for heavy loads while offering durability, reliability, and ease of maintenance.

Available now for cushion- and pneumatic-tire forklift trucks, the Spicer 141 axle offers a wide range of ratios to optimize tractive performance. Available with wet brake and drum brake configurations, the new series of axles includes a variety of mast and frame mounting options. Its new lifetime wet brake offering comes standard with an internal spring-applied hydraulic-release (SAHR) parking brake to support industry safety initiatives.

About Dana Incorporated

Dana is a world leader in providing power-conveyance and energy-management solutions that are engineered to improve the efficiency, performance, and sustainability of light vehicles, commercial vehicles, and off-highway equipment. Enabling the propulsion of conventional, hybrid, and electric-powered vehicles, Dana equips its customers with critical drive and motion systems; electrodynamic technologies; and thermal, sealing, and digital solutions.

In 2019, the company reported sales of \$8.6 billion with 36,000 associates in 34 countries across six continents. Based in Maumee, Ohio, USA, and founded in 1904, Dana has established a high-performance culture that focuses on its people, and the company has earned recognition around the world as a top employer. Learn more at dana.com.