



Dana Corporation Creates Innovative Drivetrain Systems for Construction and Mining Industries

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New Products to be Featured at Bauma Munich 2007

MUNICH, Germany, April 23, 2007 – Dana Corporation engineers comprehensive driveline solutions to address the application-specific challenges faced by the international construction and mining industries. To illustrate these capabilities, Dana will exhibit several new products and systems at Bauma Munich 2007, April 23-29, including drivelines designed for front-end loaders, internal combustion (IC)-powered industrial fork lift trucks, wheeled excavators, telescopic boom handlers, and site dumper vehicles.

"For the construction and mining markets, Dana offers complete systems where components and sub-assemblies are engineered to work optimally together," said Rick Honeyager, product director in Dana's Off-Highway Systems group. "We are dedicated to technological advancement in alignment with the needs of these industries and pride ourselves on delivering improved vehicle longevity, serviceability, and overall performance via our systems capabilities."

Located in Hall A4, Booth No. 310, Dana will exhibit the following selection of products at Bauma Munich 2007:

Site Dumper System

Designed for 2- to 3-ton hydrostatic-driven vehicles, this drivetrain system is composed of Spicer® Model 110 (17R008) axles, a directly flanged Spicer® Model 315 transfer case, and a Spicer® 10-Series 2015 driveshaft. Introduction of the Model 110 (17R008) axle completes Dana's axle program for site dumper vehicles with 1.5- to 10-ton capacities.

"This system for low, light-end-duty off-highway applications illustrates Dana's extensive experience in developing complete systems solutions for specific industry vehicles," said Gabriele DiGennaro, product specialist. "It also allows us to respond to customer needs in new product areas and expand our product line by creating a new platform for a variety of future applications."

The site dumper features a 300/315 transfer case for hydrostatic solutions or a 401 mechanical gearbox, depending on customer preference.

Wheeled Excavator System

Engineered for 15.5- to 17.5-ton wheeled excavators, this driveline is composed of a Spicer® Model 263LD (26SW053) front axle, a Spicer® Model 163LD (26RW053) rear axle with a directly flanged Spicer® Model 369 shift-on-fly hydrostatic transmission, and a Spicer Life Series® 55 driveshaft.

The rear axle's Spicer® Model 369 shift-on-fly hydrostatic transmission is an innovation that enhances mobility and ease of use for operators. It features advanced control technologies also found on the previously released Spicer® Model 367 shift-on-fly hydrostatic transmission, which was designed for teleboom handler applications.

"Dana is working with a leading hydrostatic supplier and proprietary control system to deliver this superior product to customers," said Marco Pontanari, chief engineer of construction axle engineering. "Previously, wheeled excavator OEMs would have a choice of expensive powershift solutions or sliding collar range shift transmissions. With traditional range shift solutions, wheeled excavator operators were required to stop the vehicle before shifting between ranges, but this new gearbox allows for quick shifting from low to high range while moving. Offering the best of both worlds, the automated shifting is accomplished with essentially the economic and mechanical simplicity of a two-speed sliding collar, while its shift-on-fly feature provides optimum functionality."

Dana also recently enhanced its axle product offering to include a new brake option of wheel speed service and parking brakes. In this vehicle, the outboard brakes act directly on the wheel hub, rather than being located inboard, connected to a lengthy axle shaft. These rugged vehicles require a braking system that is positive and reliable.

Telescopic Boom Handler System

Dana's driveline system for side-mounted cab teleboom handlers is designed to provide increased productivity, higher reach, higher lift capacity, and greater versatility to accommodate a wide variety of tools. With up to a 4-ton lift capacity, the system is composed of two Spicer® Model 212 (23S027) axles, a Spicer® HSR08 powershuttle transmission, and two Spicer® 1410 Series driveshafts. The new 4-speed transmission, with Tier III engine capacity allowing up to 800 Nm of converter output torque, is optimized for teleboom handlers with up to 120 Hp engines.

"Dana is pleased to provide customers with the first powershuttle transmission solution engineered to address side engine installations for the compact nature of these vehicles," said Alan Stoyell, product director. "Created in response to the agricultural market's need for teleboom handlers with increased versatility, the HSR08 includes an industry-leading mechanical PTO option."

The HSR08 powershuttle transmission is a value-added, cost-effective transmission solution for side-engine telescopic handlers, accommodating the short wheelbase of these vehicles and allowing for a high level of maneuverability and ground speed control. Unique in its design, the HSR08 offers an engine-dependent mechanical PTO for implement drives, as well as a second auxiliary pump drive, while retaining an overall length shorter than competitive hydrodynamic transmissions.

The HSR08 transmission features horizontal offset output and offers four forward and reverse speeds that provide an exceptional balance of tractive effort and travel speed. A 300 mm diameter torque converter matches to 120HP/90 Kw engine ratings and an 800 Nm input torque capacity. The transmission comes standard with an auxiliary pump drive, and its state-of-the-art design also includes helical gears for low noise. The electrohydraulic control system ensures smooth forward/reverse shifting. An optional second auxiliary pump drive is available for applications that require additional hydraulic demand, and a disc park brake is fitted on the transmission output.

Front-End Loader System

The Spicer® Model 114 (33R092) Hercules™ front axle and Model 113 (29R053) rear axle, a Spicer® 319 summing motor, and the compact Spicer® 2035 Series driveshaft are combined as an optimized drivetrain solution for 16-ton front-end loader vehicle applications. The Model 114 (33R092) axle is the latest addition to Dana's program of products for front-end loader vehicles, and completes Dana's axle offering to enable accommodation of vehicles with 3- through 50-ton operating weights.

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Engineered for vehicles with operating weights of up to 15 tons (in front-axle applications) and 18 tons (in rear-axle applications), the 114 (33R092) axle is specifically designed to address the needs of the mining and forestry industries. The Model 114 axle includes 6.00-to-1 outboard planetary wheel ends with 425mm wheel B.C. mounting, self-adjusting internal wet brakes, a trunion mounting option, and several torque-biasing differential and park brake options.

This system also features a Spicer® 319 summing motor transfer case, providing maximum tractive performance and high efficiency, as it delivers seamless CVT (continuous variable transmission) performance from 0 to 40 kph. The transfer case was designed to accommodate the most cost-effective hydrostatic components as each motor is connected to its own gear ratio. In addition, a disconnect clutch is fastened to the low-speed, high-gear-ratio motor, allowing only the motor to efficiently power the vehicle at higher travel speeds.

"Using this economical hydrostatic control, the vehicle operator can access full engine horsepower between 0 and 40 kph seamlessly," said Honeyager. "This solution applies particularly well to any 140-220 horsepower applications, with specific focus on 13- to 17-ton front-end loaders."

Class IV and V (IC-Powered) Industrial Lift Truck System – Material Handling

Ideal for 6- to 9-ton pneumatic and 6- to 7-ton cushion fork lift trucks, this new IC-powered driveline system features a Spicer® TE08 powershift transmission, Spicer® Model 138 (26RF053) axle, and a Spicer wing-style 6C driveshaft. The transmission, axle, and driveshaft system have been specifically engineered to accommodate the compact nature of these fork lift truck applications.

"With a strong history in transmissions above the 10-ton lift capacity, Dana is committed to extending its product offering into the smaller-capacity, higher-volume fork lift truck market," Honeyager explained. "This new system is designed for 6- to 9-ton counterbalance fork lift trucks, with a transmission and axle that have been optimized to work together. Beyond the lift truck market, this transmission's capabilities are well-suited for numerous other vehicle applications."

The efficient, compact Spicer® TE08 transmission platform design is focused on the 6- to 9-ton lift truck size range. It offers three forward and two reverse speeds, and also is available as a 4-speed forward system. The product can be configured to OEM preference with a conventional electric valve with hydraulic modulation, or fully electronically modulated clutch control. Full electronic modulation enables the OEM to select from the complete range of functionality of Dana controls: safety inhibits, diagnostics, and system monitoring; plus load and speed compensated clutch engagement, inching, and automatic throttle up.

"Among the most cutting-edge elements of the transmission control system is clutch pack braking. As the operator applies brakes to decelerate the vehicle, the clutches in the transmission are partially applied. Thus, a portion of the braking energy goes into the transmission and oil cooler, rather than having all of the energy absorbed in the axles," said Stoyell.

The Spicer® Model 138 (26RF053) axle is patterned after the industry-proven Model 137 (19RF020) axle, designed for a major OEM's 4- to 5.5-ton lift truck applications. It offers integral frame and mast mounting provisions for fixed-mast lift truck applications, as well as a spiral bevel center section and a 6-to-1 planetary ratio, resulting in 13-to-1 through 17-to-1 overall axle ratios. Its planetary design allows for a small ring gear, which enables the mast to be located as close to the axle's center line as possible for optimum geometry in load carrying and lifting. It features outboard brakes bolted directly to the frame – an ideal configuration for service and maintenance. With an overall length of 1,438 mm and a 335 mm bolt circle wheel hub, the Model 138 (26RF053) axle offers single- and dual-tire capability.

Compared with traditional drum brakes, the Model 138 (26RF053) axle's integrated wet-disc brakes offer longer service life and do not require mast removal for maintenance. The axle features a self-adjusting service brake system and has been designed to minimize hydraulic actuation oil displacement requirements (only 13.5 cc), delivering a robust wheel torque of 29,000 Nm at 80-bar actuation pressure. In addition, a lever-actuated parking brake system produces 12,000 Nm of wheel torque with a 200 Kg lever force.

As part of the complete line of Spicer® Italcadano wing bearing driveshafts, the 6C driveshaft is uniquely designed with keys on the bearing blocks that promote torque transfer through mechanical allowance. These keys are mated to corresponding machined slots on the connecting fitting yokes.

About Dana's Off-Highway Systems Group

Dana's Off-Highway Systems group includes research and development and manufacturing operations in Belgium, Brazil, China, Hungary, India, Italy, Mexico, the United Kingdom, and the United States. It designs, manufactures, assembles, and markets Spicer® axles and transaxles, driveshafts and end-fittings, transmissions, torque converters, electronic controls, and brakes. The group also provides replacement parts and service.

The Off-Highway Systems group serves more than 1,000 vehicle assembly and manufacturing facilities in 30 countries. It also has two global distribution centers and more than 50 authorized service center locations serving more than 100 countries. Construction, agriculture, forestry, underground mining, material handling, outdoor power, leisure/utility vehicles, and industrial equipment are just some of the markets that demand the quality found in Spicer® products and genuine service parts.

About Dana Corporation

Dana is a world leader in the supply of axles; driveshafts; and structural, sealing, and thermal-management products; as well as genuine service parts. The company's customer base includes virtually every major vehicle and engine manufacturer in the global automotive, commercial vehicle, and off-highway markets, which collectively produce more than 65 million vehicles annually. Based in Toledo, Ohio, the company's continuing operations

employed approximately 35,000 people and reported 2006 sales of \$8.5 billion, with more than half of this revenue derived from outside the United States. For more information, please visit www.dana.com.

Dana and certain of its U.S. subsidiaries are operating under Chapter 11 of the U.S. Bankruptcy Code as debtors in possession. Information about the bankruptcy proceedings can be found at: <http://www.dana.com/reorganization>. While Dana continues its reorganization under Chapter 11, investments in its securities are highly speculative. Although shares of Dana common stock continue to trade on the OTC Bulletin Board (OTCBB) under the symbol "DCNAQ," the trading prices of the shares may have little or no relationship to the actual recovery, if any, by the holders under any eventual court-approved reorganization plan. The opportunity for any recovery by holders of Dana common stock under such reorganization plan is uncertain and shares of Dana common stock may be canceled without any compensation pursuant to such plan.