



The DynamicPerform Wet Starting Clutch Perfectly Complements ZF's Successful TraXon Transmission

- **Wet multidisks ensure durable starts and wear-free maneuvering**
- **Cooling oil circuit prevents overheating and downtime**
- **Volume production for Liebherr will start in 2020**

Friedrichshafen/Munich. At the 2019 Bauma trade show, ZF will unveil its new DynamicPerform wet starting clutch module to go with its successful TraXon modular transmission. Mobile cranes, special vehicles and special applications with up to 3,000 Nm input torque can be fitted with this new clutch for durable starting and wear-free maneuvering without overheating. Together with its outstanding efficiency and long service life, ZF is offering manufacturers and service providers in the off-highway and construction industries the ideal product for challenging applications. So impressed with the technology, Liebherr, a long-standing ZF customer, will start installing DynamicPerform in its multi-axle mobile cranes. Volume production is set to start in 2020.

DynamicPerform, the new clutch module that pairs with the successful TraXon transmission, will bring new and popular ZF features to the mobile crane segment. It is perfectly suited for cranes with three to five axles and weighing up to 60 tons. Designed as a wet starting clutch for heavy vehicles, DynamicPerform transfers the engine output through the multidisk clutch integrated into the module. The clutch disks are cooled by circulating oil, which protects the clutch system from overheating and enables nearly wear-free and long-term maneuvering even with high friction energy. This prevents downtime and helps to considerably extend the service life of the driveline. Customers therefore benefit from greater efficiency and lower maintenance costs; while drivers experience a clutch which is now easier to engage.



PRESSE-INFORMATION
PRESS RELEASE

Seite 2/4, April 8, 2019

Designed to meet the highest requirements

DynamicPerform has an integrated control unit for the cooling oil circuit. For this component, ZF has developed its own temperature model software for the unique needs of heavy-duty special vehicles. Using pressure and temperature sensors, critical driving situations can be monitored and optimally controlled so that the clutch is always engaged in a safe range.

The module is delivered along with the DynaDamp damping system that is configured for the vibration behavior in newer engines in the Class V emissions class (Offroad), Euro 6 (Onroad) and higher. In addition, the TraXon DynamicPerform transmission system can be combined with the integrated ZF-Intarder. This hydrodynamic hydraulic brake enables wear-free braking without fading, relieves demand on the service brakes by up to 90 percent, and as a result, extends service brake life reducing maintenance costs and brake dust emissions.

Individuality through diversity

ZF designed TraXon as a modular concept. Customers can flexibly and economically “build” the basic transmission together with various starting modules for their individual application. This reduces service and maintenance costs since it enables ZF to manufacture components in larger volumes. TraXon is a highly efficient platform, with its ability to handle engine torques of up to 3,000 Nm, its high transmission-ratio spread, its energy conversion efficiency of up to 99.7 percent and its outstanding, best-in-class power-to-weight ratio. Even fitted with DynamicPerform, the TraXon weighs barely 397 kg (449 kg including the Intarder), which is far less than other comparable transmissions.

The first order was received from long-standing customer Liebherr

During the 2019 Bauma trade show, DynamicPerform will be presented at the Liebherr booth (outdoor booth 809 - 813) where it will be installed in a newly developed five-axle mobile crane. “Liebherr has placed its trust in us as a customer since 1978,” says Ralf Boss, head of the Special Vehicle Systems Product Line at ZF, in describing the partnership. “We are looking forward to deepening our relationship in



PRESSE-INFORMATION
PRESS RELEASE

Seite 3/4, April 8, 2019

the future thanks to products like DynamicPerform." Liebherr has already tested the product at its Ehingen Plant and was so impressed by it, that it has decided to install DynamicPerform in mobile cranes of up to five axles.

As Martin Dony of Driveline Development and Construction at Liebherr in Ehingen explains: "We supported ZF during the development process of the DynamicPerform and helped guide its integration into the mobile crane driveline. Prototypes of several crane models have been undergoing testing for months in order to ensure volume production at the beginning of 2020." Mikica Rafailovic, department head of Development and Construction of Crane Undercarriages, adds: "ZF technology has been helping us to expand our market position for years. The innovative character of this new starting module confirms the benefits that this partnership generates for both companies."

Captions:

- 16) First customer order: Liebherr will install the TraXon DynamicPerform in its three to five-axle mobile cranes starting in 2020.
- 17) The new DynamicPerform wet starting clutch for the modular ZF TraXon transmission allows mobile cranes and special vehicles to maneuver with almost no wear even under high friction loads.

Photos: ZF

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PRESSE-INFORMATION
PRESS RELEASE

Seite 4/4, April 8, 2019

ZF Friedrichshafen AG

ZF is a global technology company and supplies systems for passenger cars, commercial vehicles and industrial technology, enabling the next generation of mobility. With its comprehensive technology portfolio, the company offers integrated solutions for established vehicle manufacturers, mobility providers and start-up companies in the fields of transportation and mobility. ZF continually enhances its systems in the areas of digital connectivity and automation in order to allow vehicles to see, think and act.

In 2018, ZF achieved sales of €36.9 billion. The company has a global workforce of 149,000 with approximately 230 locations in 40 countries. ZF invests over six percent of its sales in research and development annually.

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