Global and Automated: ZF-EcoTronic mid for Medium-Duty Trucks

- Modular automation concept based on the 9-speed ZF-Ecomid manual transmission
- ZF's localization strategy now focuses on emerging markets
- Software platform supports functional enhancements
- Minimal maintenance and low service costs

ZF aims to meet the increasing global demand for automated transmission technology with its new EcoTronic mid product. The technology in the new transmission is based on the ZF-Ecomid – the company’s proven 9-speed manual transmission technology for medium-duty trucks. ZF utilizes standard modules from the Ecomid that are available in respective target markets allowing for the company to “transform” the unit into the EcoTronic mid automated transmission system. This systematic design-to-market approach provides a convenient, viable and attractive solution for automatic transmissions in medium-duty trucks. The ZF-EcoTronic mid transmission will be unveiled at the IAA 2016, with the start of volume production scheduled for early 2017.

Europe is seeing a clear trend toward automatic transmission systems for heavy, medium and light trucks. According to the latest market studies, automated transmissions will also soon account for significant market share in the BRIC countries, with forecasts of 70 percent in Brazil and 50 percent in China by 2025. In Russia and India, forecasts are around 25 percent market share for automatic transmissions in trucks. This is a cost-sensitive, fiercely competitive market segment, however, the company believes that only manufacturers and suppliers that are able to manufacture automated transmissions locally will benefit from this growth.

ZF has responded to this growing trend by launching the new EcoTronic mid, which is based on the 9-speed ZF-Ecomid manual transmission technology. It was launched 10 years ago as a manual
transmission for medium-duty trucks with input torques of between 900 and 1,500 Nm. After minor design modifications to the basic transmission and the add-on automation, ZF’s portfolio now includes a viable automation solution for medium-duty truck drivelines. These modifications range from synchronizers, clutch and shift actuators through to electronic control software.

With the EcoTronic mid transmission, engineers have focused in particular on the systematic design-to-market approach. Both development and production have been designed to meet the requirements of the price-sensitive target markets. Customers all over the world have equipped vehicles with ZF-Ecomid which is manufactured in four production locations on three continents and is the technical basis of the EcoTronic mid. This high level of local production applies to the EcoTronic mid, another transmission which is produced at these four production locations. The automation components are mainly supplied from India.

“We have developed the ZF-EcoTronic mid with a focus on emerging markets,” says ZF Board Member Peter Lake, responsible for Corporate Market and Sales. “Volume production of the new automated commercial vehicle transmission will start for the BRIC countries in spring 2017,” says Lake.

**Software makes the difference**

The electronic control unit enables particular ease of use within the EcoTronic mid transmission system. It is based on the same software platform that controls the TraXon, ZF’s state-of-the-art automatic transmission for heavy commercial vehicles. The software architecture allows different drive modes – ranging from Eco to Power. Depending on the application, the control unit also supports optional add-on functions which considerably enhance value to the end customer. These include highly comfortable maneuvering, a rocking function to free the vehicle and start-stop functionality.
During the development phase, ZF placed a great deal of emphasis on easy maintenance in order to optimize EcoTronic mid's overall lifecycle costs. Six repair kits are tailored to the modular design of the transmission. Repair and maintenance work can – depending on the installation position in the vehicle – be carried out without having to remove the transmission, resulting in reduced repair time and shorter vehicle downtimes.

Caption:
With ZF-EcoTronic mid, the automated transmission system for medium-duty trucks, ZF has developed a compelling, cost-effective solution for emerging markets based on its proven Ecomid.

Photo: ZF

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ZF is a global leader in driveline and chassis technology as well as active and passive safety technology. The company acquired TRW Automotive on May 15, 2015 which was integrated into the organizational structure as the Active & Passive Safety Technology Division. The combined company has a global workforce of around 138,300 at about 230 locations in some 40 countries and reported sales of €29.2 billion in 2015. ZF annually invests approximately five percent of its sales in Research & Development (€1.4 billion in 2015) ensuring continued success through the design and engineering of innovative technologies. ZF is one of the largest automotive suppliers worldwide.

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