Technology that moves. AS Tronic and TC Tronic HD, automated transmission systems for mobile cranes and special vehicles.

- Automated commercial vehicle transmissions for many applications of special vehicle driveline technology: from terminal tractor to heavy mobile crane
- Economic efficiency, easy handling, and safety

With the AS Tronic automatic transmission family, ZF covers a broad application range for special vehicles. Both AS Tronic for heavy mobile cranes as well as AS Tronic mid for terminal tractors for example are easy to handle, safe, and particularly economical. The same applies to ZF’s TC Tronic, which makes maneuvering with heavy mobile cranes of up to 250 tons significantly easier.

The AS Tronic transmission series is the first choice for all internationally leading manufacturers of AT mobile cranes when it comes to automated shifting. Its advantages: easy handling, safety, and fuel savings. While the bigger members of the transmission family, like AS Tronic and TC Tronic, are suited for heavy special vehicles, AS Tronic mid relieves drivers of doing the shifting for medium-weight special vehicles.

**AS Tronic**

The 12 or 16-speed ZF AS Tronic is available for mobile cranes in direct speed or overdrive transmissions. The main components, including dry clutch, are fully integrated into a light metal alloy housing. There is no need for an additional transmission cooler in the standard vehicle configuration under normal usage when the outside temperature is at max. 40°C. And there is still room for additional safety features. The transmission system is available with the ZF Intarder. Directly connected to the drive wheels, this hydraulic, wear-free and high-performance intarder 3 provides consistent braking power during auxiliary braking. The service
brakes thus stay cool and provide full power in case of emergency for the protection of the driver, the vehicle, pedestrians, and surrounding vehicles. CAN communication allows for full integration of the Intarder into the vehicle’s brake management system. And this kind of safety pays for itself: the service life of the service brakes is increased. Oil changes become less frequent. Both transmission and Intarder share a common oil supply. If the Intarder is deactivated, its heat exchanger acts as an additional transmission cooler. When the Intarder is switched on, the driver can regulate the braking effect via five steps or, to operate more quickly and economically, can choose among three kinds of automatic operation (Bremsomat; Bremsomatic; Bremsomatic and Tempomat [cruise control]). But the ZF AS Tronic is able to do more than driving and braking. The transmission can be combined with up to two clutch-dependent or drive-dependent PTOs that can be engaged independently of one another.

**AS Tronic mid**

The technology of AS Tronic mid is based on the large AS Tronic, the 12 gear steps are shifted pneumatically. In order to cover a wide range of applications, ZF offers AS Tronic mid with low power-to-weight ratio for torque ranges from 800 to 1,600 Nm. In harbors, the medium AS Tronic version is used for example in terminal tractors of well-known manufacturers of these special vehicles.

Even in lightweight classes, it is possible to enjoy the usual comfort of ZF-AS Tronic shifting while achieving high performance in mobile cranes that operate in the middle rpm range on two or three axles.

At 840 or 900 mm in length and 50 or 65 kg in weight, the two ZF-AS Tronic mid variants are both shorter and lighter than the “original” model. The 12-speed transmission works with a direct speed or overdrive ratio. Clutch-dependent or drive-dependent
PTOs can be engaged independently of one another via two PTO locations.

**Powerful Intarder**
The latest transmission brake generation achieves a 25 percent higher braking performance than its predecessor. Moreover, it weighs less and is more environmentally friendly. The success of the transmission brake can also be explained by the manifold application possibilities: It has proven successful both in hazardous-material transport and in coaches, but also in heavyload and crane traffic or rail vehicles. Both manual and automatic commercial vehicle transmissions can be completed by the ZF Intarder.

**Caption:**
24.) Easy handling, safety, and fuel savings for all commercial vehicle classes: the ZF-AS Tronic family with the AS Tronic and AS Tronic mid series.

(Photo: ZF)
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ZF is a global leader in driveline and chassis technology with 122 production companies in 26 countries. In 2013, the Group achieved a sales figure of about €16.8 billion with approximately 72,600 employees. In order to continue to be successful with innovative products, ZF annually invests about 5 % of its sales (2013: €836 million) in research and development. ZF is one of the ten largest automotive suppliers worldwide.

Industrial Technology is the division where the ZF Group bundles its activities for “Off-Road” applications. It comprises the development and production of transmissions and axles for agricultural- and construction machinery as well as driveline technology for material handling systems, rail- and special driveline vehicles. The division is also responsible for the worldwide business of marine propulsion systems, aviation technology as well as the development and production of wind power transmissions. Electronic components, shift- and test systems for all kinds of applications are also included in the division’s portfolio.

For photo material and further press information go to: [www.zf.com](http://www.zf.com)