

## **For the Heavy Guys: The TC Tronic by ZF**

- **Transmission variant of the successful AS Tronic for heavy trucks and crane trucks.**
- **Easy maneuvering and good economy.**

**The success story of the ZF-AS Tronic automatic transmission family continues. In the meantime, it has proven its economy and flexibility in the entire commercial vehicle segment. The TC Tronic is applied particularly in crane trucks and heavy trucks with trailers: It combines the 12-speed AS Tronic with a torque converter clutch (WSK).**

### **TC Tronic**

The TC Tronic shows its strengths best whenever very heavy loads have to be moved: Crane trucks and heavy transporters can be maneuvered easily and precisely thanks to the combination of the automatic AS Tronic transmission and the TC2 hydrodynamic converter clutch. Hence, also the dry-separating clutch which is prone to wear is protected, particularly during starting and maneuvering processes. The torque converter clutch permits an input torque of up to 2,700 newton meters. During travel, the driver can either engage gears manually with just a finger tip – clutch operation is automatic – or rely on the drive program. In the manual mode, an electronic check prevents incorrect gearshifts. The integrated primary retarder ensures wear-free braking until the vehicle stands almost completely still. Just like the other members of the AS Tronic family, the TC Tronic is very convincing thanks to its good economy and low fuel consumption.

### **TC Tronic HD**

The TC Tronic HD (Heavy Duty) was developed by ZF to meet the requirements of engines with continuously increasing horsepower. It also aims at applications in crane trucks and heavy trucks with a weight of 72 tons and more and has been designed for torques of up to 3500 newton meters. Like the TC Tronic, also the HD version enables the driver to engage gears in the manual mode, similar to the Tiptronic, or automatically.

For the TC Tronic HD, ZF engineers have combined the AS Tronic with a further developed torque converter clutch: the TC HD (Heavy Duty). Unlike the TC Tronic, this transmission is not equipped with a primary retarder but with a speed-dependent secondary retarder, the ZF-Intarder. The latter is particularly suited for brake operations at speeds higher than 25 km/h. Another distinct feature of the TC Tronic HD is the possibility of maneuvering in open converter operation. A powerful pump for the supply of the hydraulic control unit and the oil circuit as well as a suitably designed cooling unit make sure that the temperature almost never reaches the critical threshold of 130 degrees Celsius. Moreover, the HD variant does not require an additional external oil tank. As the primary retarder has become obsolete, it was possible to integrate the oil supply required for the hydrodynamic torque converter into the housing. Upon request, this tank can be filled with 26.5 liters of the Ecofluid M oil which has also been developed by ZF. On the one hand, this makes the final oil fill easier, and on the other hand, the Ecofluid M features higher mileages and longer oil change intervals which, in turn, leads to improved economy in service. (fig. 6)

Picture caption:

6.) ZF AS-TC Tronic

Picture: ZF



Presseinformation  
Press Information

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ZF is one of the world's leading automotive industry suppliers specializing in driveline and chassis technologies. With a workforce of 59,900 employees, the company operates 125 plants in 26 countries. ZF Group revenues in 2009 a preliminary turnover of €9.3 billion. ZF ranks as one of the top-10 automotive industry suppliers worldwide.

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