



ZF in Dump Trucks

- **Up to 20 % less fuel**
- **15 000 operating hours – ZF takes it up a notch**
- **8 4 50 – 8 speed forward for 50 tons payload**

ZF Driveline Systems develops products for dumpers for optimum operational duties. It has been possible to reduce the fuel consumption by up to 20% through a reduction in the engine speeds. To be able to satisfy these requirements in routine use, maximum ground contact, uniform distribution of the drive power to all wheels and uniform load distribution are important for high level of safety. Apart from these viewpoints for reduced cycle times and more operator comfort, economic efficiency and service life should not be forgotten.

The stresses in operational use demand the highest level of ruggedness and reliability from all components. Short loading cycles and safe transport at maximum power in difficult terrain are characteristics displayed by high performance dumpers. ZF offers optimum solutions to requirements which the current generation of dumpers must fulfill. The system range is provided for dumpers from 12 to 50 tons payload and with engine powers from 90 to 400 kW. Also the continuous optimization of efficiency makes ZF drivelines increasingly attractive to the manufacturer. With the additional software options of the ZF EFFICIENCY PACKAGE the dumper is developing into a supreme master for tackling any challenge.

Ergopower L II

The ZF Ergopower L II is the automatic powershift transmission for dumpers up to 50 tones payload and a gross weight of up to **82,000 kg**. The transmission is characterized by its high loading capacity, it is powershiftable and offers up to eight forward and four reverse gears. The gears are shifted completely smoothly under electronic control. Due to the integrated primary retarder the Ergopower L II offers very good braking performance and significantly reduces wear on the service brake. The braking torque varies depending on the model between **1000 and**



1800 Nm. It has been possible to reduce the fuel consumption of the dumpers through a reduction in the engine speeds of up to 20%. The Ergopower L II is characterized by an optimum shift pattern, even under the highest loads. This is facilitated by a high gear spread. The ZF transmission has been developed according to the zero defect principle and thus offers the highest efficiency in all areas.

ZF Dump Truck Axles MT-D 3000

The new generation of ZF dumper axles offers a high level of loading capability and performance. Developed specially for an engine power from **90 kW to 400 kW**, ZF has optimized the service life of the driveline for up to **15,000 active operating hours**. In addition, following extensive material testing, ZF has been able to increase the service life of the axle structure to 20,000 hours. The multi-part axle housing also presents the advantage of high installation versatility, enabling the manufacturer of the dumper relative freedom in planning the vehicle architecture. Also, there is the possibility of mounting the damper components directly. This saves having to fit additional mounting plates, thereby saving weight and costs. The new HASR multi-disk locking differential combines all the advantages of an open and a closed differential. The open differential produces lower frictional losses, saving fuel and reducing tire wear. The differential can be locked as required and then the greatest traction is obtained. This enhances the driver's flexibility on any ground conditions and also enhances safety.

Fig. 18, 19, 20, 21



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 63,000 employees, the company operates 125 plants in 26 countries. To sustain its success with innovative products, ZF invests 5 percent of its annual revenues (over € 625 million from an annual total of € 12.5 billion in 2008) in research and development.

The ZF division Off-Road Driveline Technology and Axle Systems with headquarters in Passau specializes in the development and production of transmissions and axles for agricultural and construction machines as well as axle systems for buses and trucks. With approximately 7,500 employees, the division recorded a turnover of € 1.9 billion in 2008.

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