



## **ZF – Innovations of Great Value**

- **cPOWER - new CVT for wheel loaders**
- **ERGOPOWER Hybrid – ZF hybrid transmissions for construction machinery**
- **2HC 85 - continuously variable hydrostatic transmission for compact machinery**

**Cost reduction, less consumption and increased productivity are the main topics of the construction industry.**

**Many new product presentations, innovations and highest technical performances are particularly putting user benefits in the limelight. So does ZF. With innovations that add up.**

At the Munich Bauma, in hall A4, booth 213/310 from April 19<sup>th</sup> to 25<sup>th</sup>, ZF will be presenting its latest product highlights; ERGOPOWER Hybrid as well as the continuously variable construction machinery transmissions cPOWER and HC 85. As a system supplier, ZF concentrates on the whole drive and is combining highly developed software with axles and transmissions (fig. 1). In this context ZF engineers are placing special emphasis on:

- Less fuel consumption
- Increased productivity
- Noise reduction
- Higher levels of automation
- Improved shift quality
- Easier operation

ZF will present „Innovations of Great Value“ on three different product islands:

## **ZF as technological leader**

### **Stepless into the future – ZF cPOWER**

For the first time, ZF will be presenting the newly developed CVT for construction machinery. The continuously variable and fully powersplit design combines the best of two worlds. The advantages of the mechanical system together with those of the hydrostatic system result in significant consumption benefits and productivity increases for the vehicle owner. cPOWER is the beginning of a new technological era in construction machinery and allows completely new drive concepts. (fig. 2)

### **Faster: With HC 85**

This new hydrostatic transmission 2HC85 is used for construction machinery up to a vehicle weight of 10 tons. It allows vehicle speeds of about 50 km/h max. and enables efficient working even with changing locations. Thanks to the new transmission technology, fuel consumption can be considerably reduced. This increases productivity, protects the environment and cuts operating costs. (fig. 3)

## **ZF in construction machinery**

### **ERGOPOWER Hybrid: Future technology already now**

During the last few years, ZF's efforts have increasingly been focused on fuel savings and rises in productivity. Result: the „Efficiency Package“, which is a combination and a precise tuning of construction machine components. Based on the sophisticated technologies, like the ERGOPOWER transmission, MULTITRAC axles and various software components, fuel savings of up to 20% as well as an increase in productivity of about 40% are possible. ZF takes the logical step towards future by integrating a hybrid module into the tried and tested transmission. For this purpose ZF profits from the group's technical know how. (fig. 4)

### **ZF MT-L 3135: The largest wheel loader axle in the portfolio**

With a flange to flange dimension of 2600 mm the newly developed wheel loader axle MT-L 3135 is suitable for empty vehicle weights up to 40.5 tons. In comparison with the previous model nominal torque capacity could be increased by 33%. In spite of the improved power to weight ratio the lifetime of axles with expected 15,000 operating hours for heavy duty application could be considerably increased. (fig. 5)

### **ZF in construction site vehicles**

#### **ZF AS/TC Tronic**

There is actually ZF technology in all vehicles used around the construction site. Construction machines equipped with automatic transmissions of the ZF-AS Tronic range are even more comfortable and more efficient: the advantages of reduced consumption and less wear combined with enhanced operating comfort are self-explanatory. For applications requiring particularly high torques - like mobile cranes - TC Tronic with torque converter provides forward motion accurate to the millimeter. (fig. 6)

### **Flexible: Solutions by ZF Sachs**

ZF is also supplying the converters, dampers and clutches: Besides damping systems, clutch disks and torsional vibration dampers, ZF Sachs, the Division Powertrain and Suspension Components offers efficient torque converters with engine torques between 1,000 and 2,700 Nm, which are individually adapted to each application type. (fig. 7)

### **Lighter: The new mixer generation ECOMIX II**

Continuous improvement ensures success. The ZF-ECOMIX transmissions have proven themselves superbly in use. Nevertheless, ZF engineers are constantly looking for further improvement potentials and challenges. Thanks

to the new ZF-ECOMIX II generation significant improvements have been achieved. ZF ECOMIX II: is even smaller, lighter, tougher and quieter during operation. (fig. 8)

### **ZF-Service: The Technical Competent Partner**

A long service life for components and systems is ZF's declared objective. However, great importance is also attached to the reduction of operating costs. These subjects are closely associated with service. ZF has got diagnostic systems which can be extended through to remote diagnosis. ZF offers product, repair and diagnosis instructions in special training centers to ensure that the workshops do professional repair work. Furthermore, a wide range of Repair Manuals and Operation Manuals are available to ZF customers. Rapidly available exchange units and spare parts reduce downtimes to a minimum. The extension of service intervals also leads to a considerable rise in productivity of vehicle operation. Upon customer's request, service intervals can be increased to 2000 hours for ZF-ERGOPOWER transmissions.

### Picture caption:

- 1.) System graphic wheel loader
- 2.) ZF cPower – CVT transmission
- 3.) Hydrostatic CVT transmission 2HC 85
- 4.) ZF Ergopower Hybrid
- 5.) ZF MT-L 3125 wheel loader axle
- 6.) ZF AS/TC Tronic
- 7.) ZF Sachs torque converter
- 8.) ZF Ecomix II mixer drive

### Pictures: ZF



Presseinformation  
Press Information

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The ZF Division Off-Road Driveline Technology and Axle Systems 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 7,000 employees the division generated a preliminary turnover of 1.1 billion euros in 2009.

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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