

ZF TERRASTEER: The new steering axle series in modular design

- **User benefit: less consumption thanks to weight reduction and increased efficiency**
- **Vehicle manufacturer benefit: multitude of options due to modular design**
- **ZF advantage: competitiveness due to global development and production network**

The brand-new ZF TERRASTEER axle (fig. 4) with increased modularity is now supplied to the vehicle manufacturer. A variety of additionally selectable options enables to smoothly adapt the available standard version of the steering axle TERRASTEER to the further customer requirements.

At the production start of the ZF TERRASTEER two tractor models in the power range between 180 HP and 230 HP will be available.

Reduced consumption thanks to improved efficiency

The steering axle TERRASTEER is featuring reduced fuel consumption. Lower operation costs can be achieved thanks to improved efficiency, which is a result of the following factors:

- Application of performance optimized and friction reduced roller bearings
- Application of fuel-efficient oil
- Weight savings with strength optimized housing concept
- Increased power density

The use of lube-for-life bearings and u-joint shafts as well as extended oil change intervals is ensuring low maintenance expenses.

High steering angles up to 55 degrees are improving the maneuverability of the tractor. Thanks to the high quality sealing concept of the ZF TERRASTEER these axles are predestined for extreme operating conditions like the application in rice fields.



Modular Design: High Flexibility and Low Costs

In addition to operating cost savings the modular design of ZF TERRASTEER offers the vehicle manufacturer more flexibility when selecting the requested functions. Due to the high-level modularity of the axle the selected options can be integrated smoothly and cost-efficiently. The following options are available:

1. Differentials:

- a) Limited slip differential
High traction force even with difficult terrain. Anytime available, noticeable relief for the driver
- b) Hydraulic multi-disc differential lock
Optimum traction due to activation of the powershiftable multi-disc clutch.
- c) Limited slip differential with additional multi-disc lock.
Higher locking value by activation of the multi-disc lock possible.

Also, options b) and c) can be integrated in an independent driveline management system.

2. Steering Angle Sensors:

Upon customer request it is possible to integrate a steering angle sensor, which is providing the necessary information for the application of automatic track guidance systems and driveline management systems.

3. Suspension:

The customer has the choice between standard oscillating axle suspension and the version with a hydro-pneumatic suspension. Under different load conditions the hydro-pneumatic suspension maintains constant driving safety and high driving comfort.

4. Oscillation:

For axle suspension the vehicle manufacturer has the choice between center and above center oscillation. Above-center

oscillation enables higher pendulum angles and therefore improves the stability of the tractor in uneven terrain.

5. Brake Option

The low maintenance wet multi-disk brakes in the wheel heads provide more safety with high travel speeds.

Competitiveness thanks to global development and production networks

Decades of system experience

ZF has been active in the field of axle production for more than 50 years. Ever since more than 1.5 million tractor steering axles for the global market have left the assembly line. As an independent supplier of complete systems ZF has substantial know how, thereby assuring unlimited practical capability of ZF products in tractors of all performance classes.

Together with the development locations in Passau (D) and Sorocaba (BR) application engineers are working worldwide to listen to customer specifications, to achieve optimum product allocation and to coordinate the delivery in compliance with customer requests for their production sites.

ZF Passau is the competence center for axle systems within the ZF Group. Thanks to the commitment in the most varied applications in agricultural and construction machinery ZF customers are always profiting from most modern and highly professional production technology.

Fig.:

4.) Tractor steering axle ZF-TERRASTEER with performance range 180 – 230 HP.

Picture: 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 7,500 employees the division generated a turnover of 1.9 billion euros in 2008.

ZF is a leading worldwide automotive supplier for driveline and chassis technology with approx. 60,000 employees at 119 locations in 25 countries. In 2008 the Group generated a turnover of 12.5 billion euros. ZF is among the top fifteen companies on the ranking list of the largest automotive suppliers worldwide.