

New TERRAPOWER range for power levels up to 320 hp

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- The TPT range covers power levels from 65 hp to 320 hp
- Up to 32 gears are available as standard

On account of their high efficiency, high operating comfort and the favourable costs/benefits relationship, powershift transmissions are still the most important in the standard tractor sector. In this segment ZF has already set the market benchmarks with the T-7000 series. The power spectrum and the functionality are again being expanded with the next generation of TERRAPOWER.

With a total of eight models the new TPT range (TERRAPOWER Transaxle) covers power levels from 65 hp to 320 hp.

On the models TPT 16 to TPT 32 the number of powershift stages is increased compared to the T-7000 series from four to six and therefore they offer a 33% greater gear spread in the respective range. Due to the increased spread, the individual driving ranges are utilised better with regard to field applications; a change of synchronous group with the accompanying power interruption in the driveline is now not needed so often. The still finer gear gradation of 18% throughout sets a new benchmark, thereby giving the best values in this class. In conjunction with the optimally overlapping five synchronous ranges there are a total of 30 forward and 12 reverse gears available. The optional creep gears provide an additional 24 forward and 12 reverse speeds. The ranges are matched to the typical working applications for a tractor so that the optimum range and the right powershift stage are found for any job.

Due to the high final transmission ratio, transport jobs can be carried out at a low, previously unattainable level of engine speed. For example, 40 km/h at approx. 1200 rpm or 50 km/h at 1500 rpm. This means that additional fuel can be saved and the noise level reduced. Through the Intelligent Range Shift (IRS) which is optionally available five synchronous gears can be fast and comfortably shifted. If required, the software can also provide a fully automatic shifting scheme (Full Auto Mode), which for example relieves the driver completely from gear shifting during transport trips.

With the smaller models TPT 09 to TPT 14 a 4-way powershift is combined with a field/road range and also a 4-way synchronous section which can be automated. This gives 32 forward and 32 reverse speeds. The

modular structure allows the new transaxle to be optimally configured to the relevant customer demands and comfort requirements. Recently, the optional IRS has also been made available for this range. In addition, ZF offers the complete electronic control of the transmission system. The tractor driveline can be optimally matched to the needs of our customers with the additional software functions.

A further highlight is the system rear axle TRA (TERRAREAR Axle) which is also used in the TERRAMATIC range. As standard the axle offers a smoothly starting PTO and integrated brakes for which an electro-hydraulic control is optionally offered. The wet multi-disc brake is designed for control by an electrical parking brake. A lubricating oil shut-off optionally ensures the minimum of drag losses, giving optimum driving performance and reduced fuel consumption during transport jobs.

The exhibited TPT 20 transaxle covers the central power range between 180 and 210 engine-hp and facilitates the design of vehicles with a max. permissible total weight of 12.5 t and a max. driving speed of 50 km/h. Special variants of the TPT 20 are available for the driving speed range of up to 40 km/h so this can be covered without compromising the towing power or gear gradation. There is a choice of other variants, for example with mechanical shift or on request IRS, so that an ideal driveline solution can be found for any vehicle design through a suitable combination of the variants available. The possibility of significantly reducing the engine speed for a speed of 50 km/h as well as the greater coverage of the driving ranges in the main working range (5-20 km/h) in which a gear step of max. 10% is reached form the ideal combination for implementing a transport and agricultural tractor in one vehicle.

Source: ZF Friedrichshafen AG