

## TORSEN Type B for Small Trucks



TORSEN Type-B is a parallel axis gear type limited slip differential which is one of No.1 & Only One products of JTEKT. This product was developed in 1995, and has been mainly installed on sports grade cars in Japan and overseas markets with more than 2 million units of market performance.

We have improved the structure of the conventional TORSEN Type-B to achieve higher performance and higher strength. It was a first time for JTEKT to develop TORSEN Type-B for small commercial trucks and its expansion to the market.

### Background of development

Small trucks in Indonesia or in other emerging countries are in most cases driven in harsh environments such as on muddy road or carrying stacks of load, and improvements on driving performance on muddy road is highly demanded. Therefore, JTEKT proceeded with the development of a new TORSEN Type-B which utilizes the high performance and high reliability of the conventional one.

### Structure

The new TORSEN Type-B holds the following two improvements in addition to the characteristics of the conventional one.

<<Higher performance>>

One piece side gear on the conventional TORSEN Type-B is now separated in to two pieces on the new TORSEN Type-B, and a helical spline is set to its fitting section in order to obtain high torque distribution ratio, which improves the traction performance on muddy road.

<<Higher strength>>

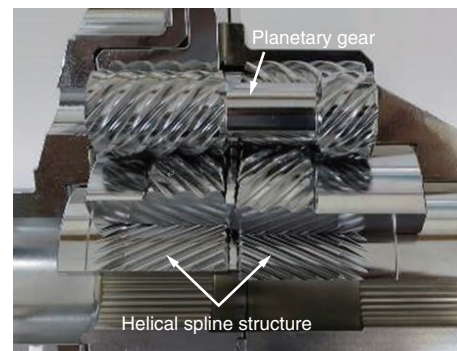
The number of planetary gear set is increased to withstand the high load.

### Results

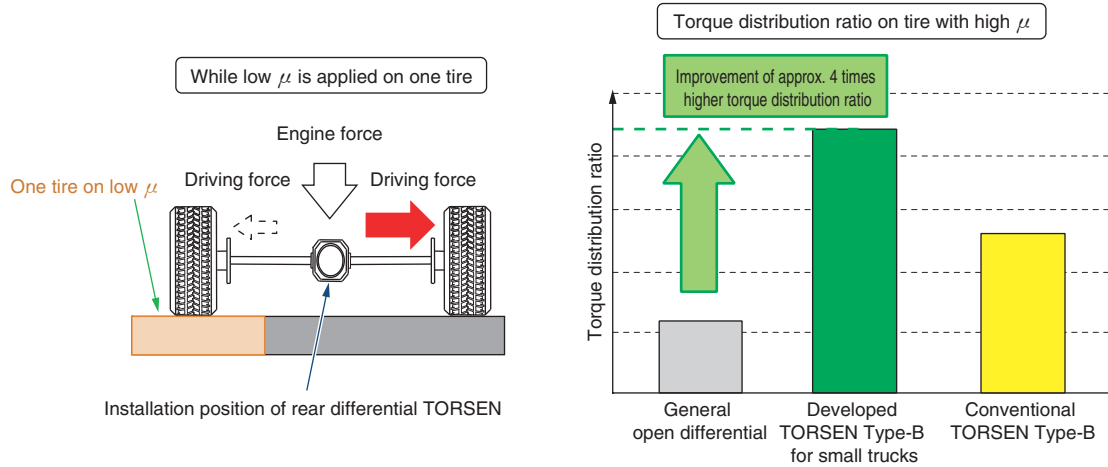
- ① Achieves approximately 4 times higher transmission of driving power (torque distribution ratio) than the open differential.
- ② Achieves equivalent strength as the open differential that has the market performance in harsh environments.
- ③ Achieves equivalent installation space as the open differential, and is possible to be installed on the vehicles in the market.



Example of muddy road



Helical spline section



\*TORSEN is a registered trademark of JTEKT Corporation.

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