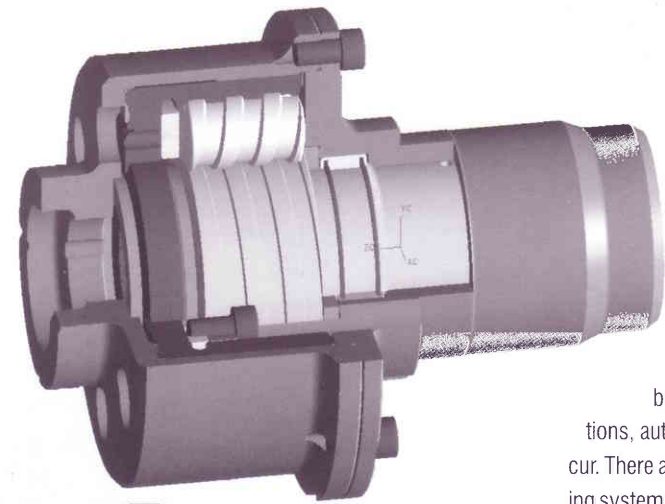


TORSEN
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T-3 Torque Sensing DIFFERENTIAL



Type 3 Traction Differential

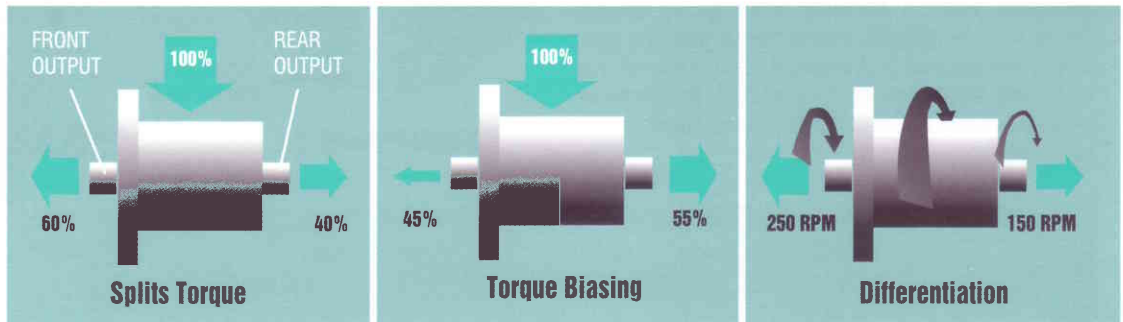
ZEXEL TORSEN's new-generation T-3 Traction Differential is ideally suited for center applications, dividing torque front to rear in all-wheel drive vehicles. Similar to the T-2 parallel axis differential, the T-3 uses helical planetary gears which pilot on their outside diameter. The T-3, however, uses an extremely compact planetary configuration capable of nominal torque splits other than 50:50. Because of the planetary nature of the design, a forward or rearward-biased torque split is possible.

Unlike conventional speed-sensing, limited slip differentials, TORSEN's T-3 is a full time torque-sensing, torque biasing system. Torque and differentiation are continuously managed between the front and rear axles and biased instantaneously according to variable road conditions, automatically shifting the power to the wheel with the most traction before any wheel slip can occur. There are no clutches or preload to worry about, in fact, TORSEN T-3's patented helical planetary gearing system is designed to perform for the life of the vehicle.

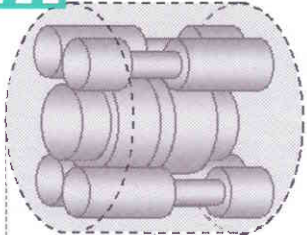
TORSEN T-3 Traction Differentials are available with a locking capability range of 20 to 30% and a nominal split from 65:35 to 35:65 front to rear. The T-3 can be designed to fit most transmissions or transaxles with no modifications required. In addition, it is fully compatible with ABS, Traction Control Systems, and Stability Control Systems, providing the ultimate traction management systems.

Multifunction Capabilities

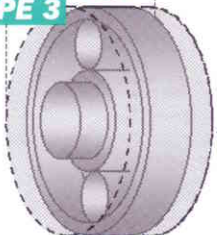
The TORSEN T-3 is an advanced multi-function traction system providing continuous, uninterrupted torque output, splitting, biasing and differentiation in one integral unit. It is always active, responding instantly to torque feedback from variable driving conditions.



TYPE 2

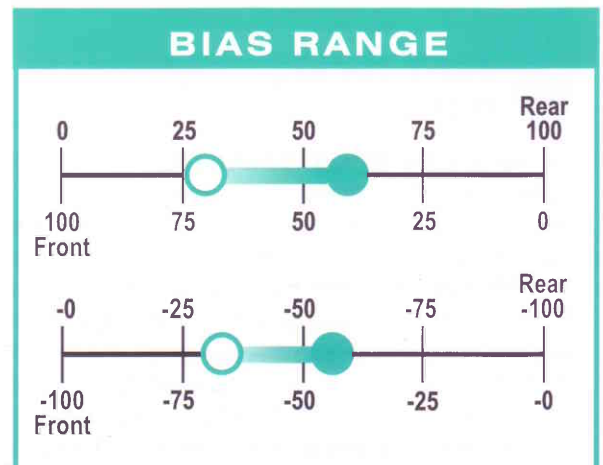


TYPE 3

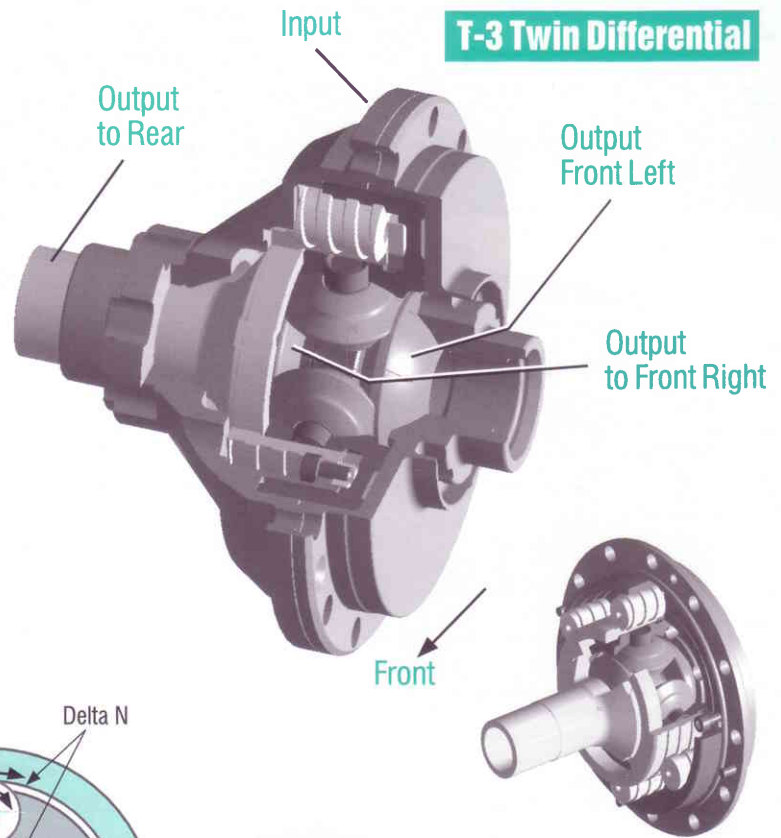


Enhanced Performance

The TORSEN T-3's capability to immediately respond to variable driving conditions not only provides better traction, it also enhances the general performance of a vehicle. There is a marked improvement in total tractive effort as compared to open or speed-sensing center differential equipped vehicles. In addition, the exceptional efficiency of the T-3 allows the engine's torque to be used more effectively, delivering more horsepower to the road. The combined improvement in traction and the augmented power results in a nimble yet sure-footed vehicle that provides better handling, increased acceleration and an improved margin of safety.



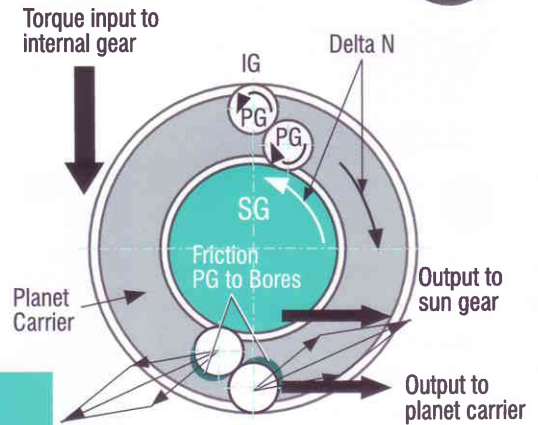
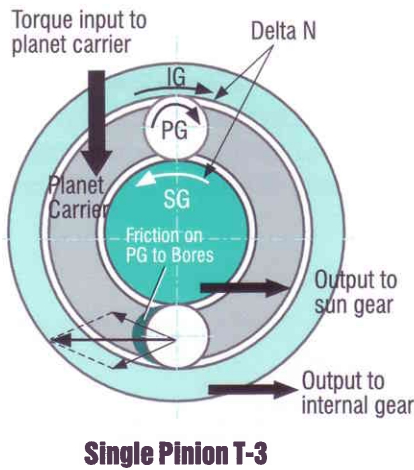
T-3 Twin Differential



Locking Affect (Friction Interface Surfaces)

- Side gear thrust to housing
- Planet gear separation to planet carrier
- Planet gear thrust to planet carrier
- Helical tooth mesh

Designed for today's modern all-wheel drive vehicles, the TORSEN T-3 Traction Differential is also suited for any application where a planetary differential is desired. TORSEN T-3 advantages include helical planetary gear design allowing front or rear-biased asymmetrical torque splits under normal conditions. In addition, the number of planet gears can be increased or decreased, based on system strength requirements.



TORSEN T-2 Features

ANTILOCK BRAKE SYSTEM COMPATIBLE	TRACTION CONTROL SYSTEMS COMPATIBLE	CONSTANT TORQUE BIAS STABILITY	LIFETIME BIAS RETENTION	C-CLIP REAR AXLE COMPATIBLE WORKS AT ALL VEHICLE SPEEDS	AUTOMATIC TRANSMISSION FLUID COMPATIBLE	NO MAINTENANCE MINI TIRE COMPATIBLE
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Designed for Hard-to-Package All-Wheel Drive Systems

The new-generation TORSEN T-3 Traction Differential provides efficient torque splitting, biasing and differentiation for improved vehicle performance. It is specifically engineered for hard to package all-wheel drive trains and is compatible with all automatic transmission fluids. The unique (patent pending) Twin Differential configuration, makes the TORSEN T-3 especially well suited for front wheel drive based applications that relied on external-mounted torque-on-demand couplings to drive the rear axle. The Twin Differential offers the most compact all-wheel drive package with the greatest strength, while providing all the traction benefits of a TORSEN differential. With the TORSEN T-3, the vehicle has true all-wheel drive, driving all the wheels all the time. This can provide optimal traction management and deliver more power to the wheels, resulting in improved vehicle stability, handling and performance.

TORSEN T-3 is Available for All Split and Locking Affect Requirements

ZEXEL TORSEN will custom design, engineer, test, and manufacture the TORSEN T-3 Traction Differential to meet your specific torque split and locking affect requirements. Advanced TORSEN T-3 technology is a perfect match for applications with ABS, traction control, and stability control/vehicle dynamics systems, providing the ultimate traction control platforms for your vehicle.



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