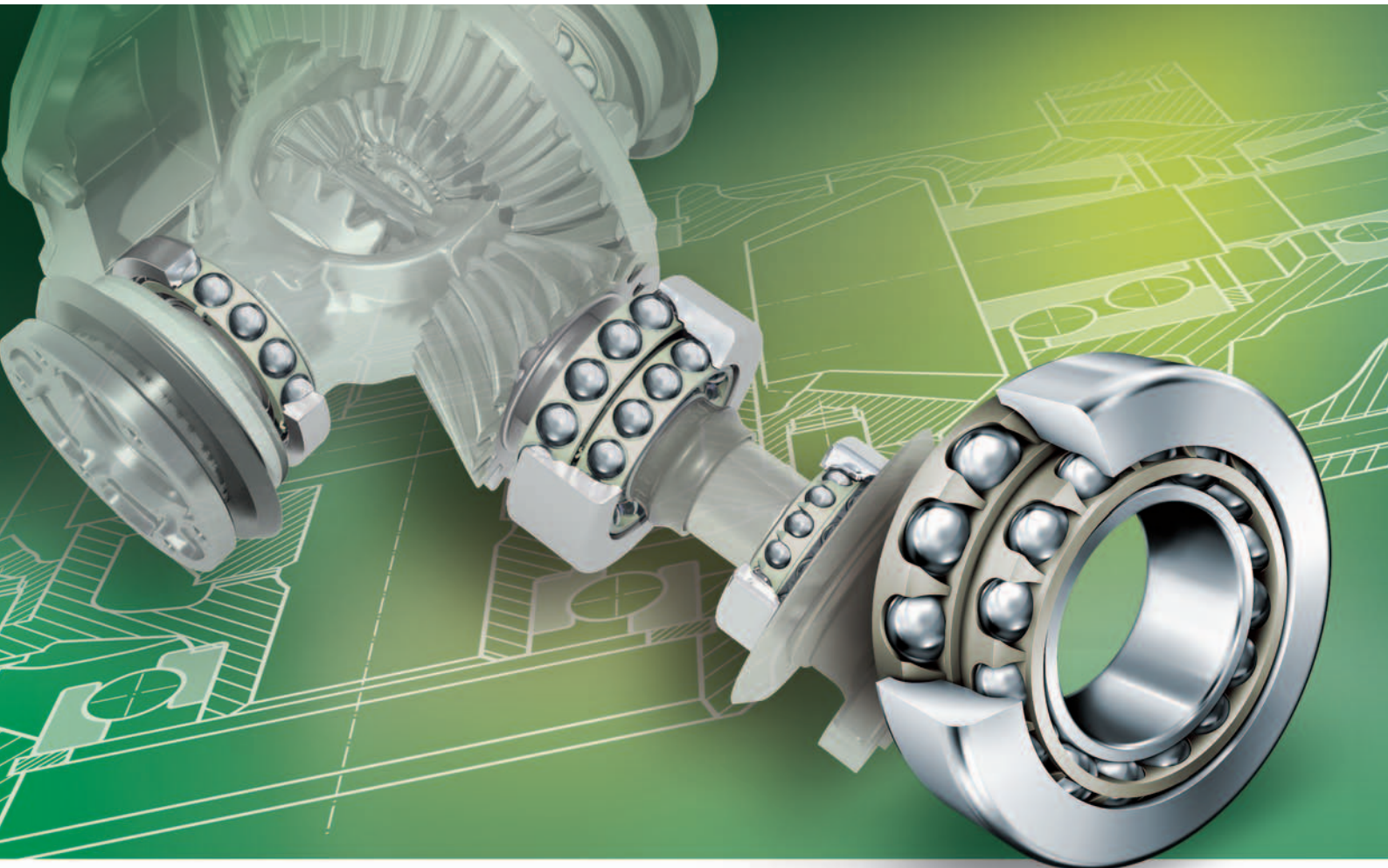
Increase Fuel Mileage up to 2.5 %

with FAG Tandem Angular Contact Ball Bearings in Your Final Drive



Tandem angular contact ball bearings offer a new generation of front- and rear wheel drive differentials a marked improvement in efficiency. Ball bearings inherently have less rolling resistance than tapered roller bearings, and FAG tandem ball bearings can measurably reduce friction losses in your final drive.

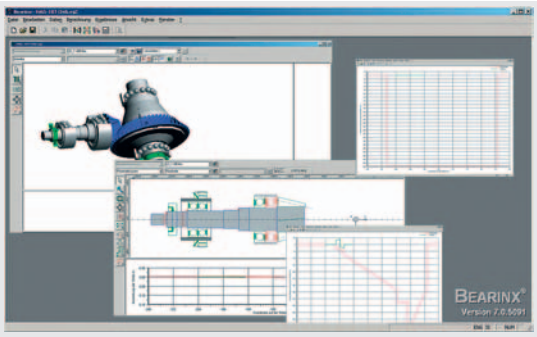
Schaeffler design advantages:

- Reduced friction
- Cooler operation
- Lower oil fill level
- Improved axle efficiency
- Better fuel consumption
- Reduced CO_2 emissions
- Lower weight

SCHAEFFLER GROUP
AUTOMOTIVE

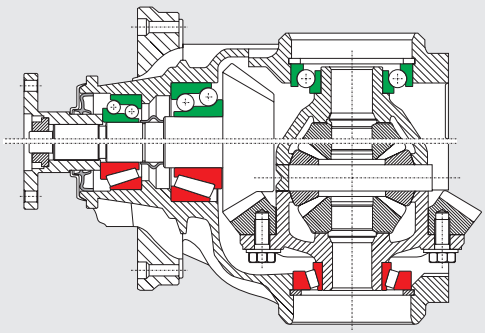
Our engineering expertise can help you reduce friction

A conscientious designer will question the use of conventional bearings in an efficient final drive. With FAG tandem ball bearings instead of tapered roller bearings, bearing drag torque is reduced by nearly half, which reduces CO_2 emissions and increases fuel economy up to 2.5%.



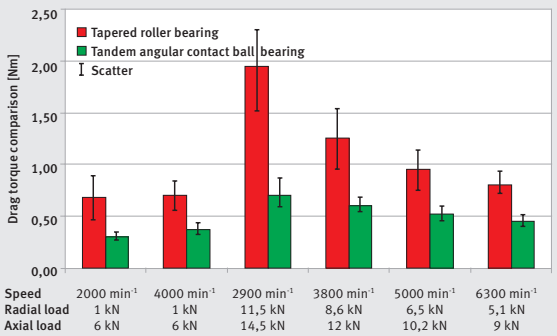
BEARINX® facilitates durable bearing designs with minimal friction

FAG tandem ball bearings were developed with computer simulations that have been verified through bench testing and vehicle testing. The entire axle system is taken into account, from the shafts and gears to individual bearing rolling contacts: the bearings are designed from the start for low friction and high load capacity. Schaeffler's BEARINX bearing simulation software is one of the finest tools available for calculating stresses, deflections and fatigue life in elastic rolling bearings.



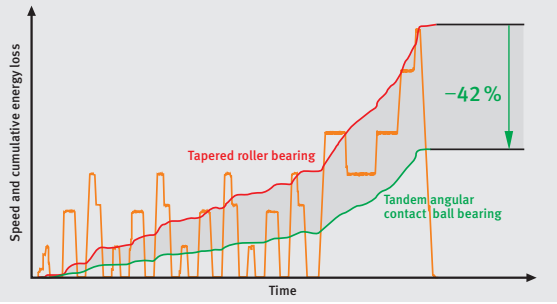
Tandem ball bearings improve driveline efficiency over tapered rollers

The cooler running of the ball bearings lowers the final drive operating temperature, so the case may not need cooling fins. The oil and seals run cooler, and the oil fill level can be reduced to minimize churning losses.



Ball bearings offer a clear friction advantage

A friction torque comparison shows the tandem ball bearing's efficiency advantage over the tapered roller bearing. The cool-running ball bearing friction is nearly half that of the tapered roller, and its friction torque is more predictable. With the pinion shaft preload adjusted by measuring friction torque, the consistent torque level of the ball bearing allows a more precise preload.



Energy loss comparison measured according to NEDC

Tandem ball bearings can reduce wasted energy in a differential up to 42 % according to measurements made testing to the New European Driving Cycle (NEDC). Depending on conditions, this simple but effective bearing solution can improve final drive efficiency in a mid-size vehicle by 5 % and measurably reduce fuel consumption and carbon dioxide emissions.

Schaeffler Technologies GmbH & Co. KG · 91072 Herzogenaurach (Germany) · getriebe@schaeffler.com · www.fag.com

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