



Reduce CO₂ emissions with exact stops and starts



Environmental benefits

- Reduced CO₂ emission
- Increased fuel economy
- Reduced system noise



SKF Rotor Positioning Bearing helps enable stop-start, which can reduce fuel consumption and CO₂ emissions by up to 15%.

SKF delivers a bearing solution for micro-hybrid cars

The automotive industry is continually looking for solutions to reduce CO₂ output and improve vehicle fuel efficiency. A recently developed solution for micro-hybrid vehicles is the starter-alternator, which provides stop-start function.

Stop-start turns off the engine when the vehicle stops at a red light or slows down in congested traffic situations, then restarts the engine quickly and silently when the driver releases the brake or engages a gear. An integral component of the starter-alternator is the SKF Rotor Positioning Bearing.

In dense urban traffic, stop-start can reduce fuel consumption and CO₂ emissions up to 15%, compared to a car without stop-start. Based on a European driving cycle (NEDC) and an annual mileage of 14,500 km, this solution saves 73 kg CO₂e per year. Per km driven the saving is 5g CO₂e. SKF Rotor Positioning Bearing helps to enable these savings.



SKF BeyondZero solutions can help reduce CO₂ emissions, preserve limited resources and protect the environment from the use and spread of toxic substances. For more details, including documentation of reduced environmental impact, visit www.beyondzero.com



Bearing for energy efficient vehicles

Operational benefits

- Bearing and target wheel delivered in one unit
- Compact and easy to assemble
- Very high external magnetic field resistance

Operational features

- Accurate magnetic field, standard deviation < 8 Gauss
- Period accuracy < 0,5°
- High positioning accuracy of the magnetic ring
- Innovative rubber material
- Temperature range: -40 °C to +170 °C
- High speed ability (shaft size dependent)
- Acceleration: 0 to 14 000 r/min in 1 second
- Vibration level: up to 40 g

SKF develops E-powertrain solution with magnetic technology

Electric and hybrid powertrains are a growing alternative to internal combustion engines for passenger cars. In turn, the need for efficient, compact and robust electric machines, such as traction motors or starter generators, is likewise increasing.

SKF has developed a new mechatronic solution for the E-powertrain market that enables drive and control of electric motors in an accurate and robust manner.

As part of the micro-hybrid system that it provides to automakers, Valeo developed StARS (Starter Alternator Reversible System) – a solution that combines the starter and alternator functions into a single unit. Connected to this unit is the SKF Rotor Positioning Bearing.

The SKF Rotor Positioning Bearing consists of a high performance magnetic ring clamped to a high-speed, high-temperature bearing. Together they produce a powerful, accurate, repeatable and durable magnetic field.

The strong magnetic impulses produced by the SKF Rotor Positioning Bearing provide the starter-alternator control system with the rotor's exact angular position, and enable the system to stop and start the engine quickly and quietly.



© SKF is a registered trademark of the SKF Group.

™ BeyondZero is a trademark of the SKF Group.

© SKF Group 2012

The contents of this publication are the copyright of the publisher and may not be reproduced (even extracts) unless prior written permission is granted. Every care has been taken to ensure the accuracy of the information contained in this publication but no liability can be accepted for any loss or damage whether direct, indirect or consequential arising out of the use of the information contained herein. Any statements in this publication concerning environmental impacts, as well as cost savings and revenue increases, are based on results experienced by SKF customers and/or based on internal calculations by SKF personnel and do not constitute a guarantee that any future results will be the same.

PUB 10/S7 12830 EN · December 2012

Certain image(s) used under license from Shutterstock.com.

