

Engine

Chassis

Transmission

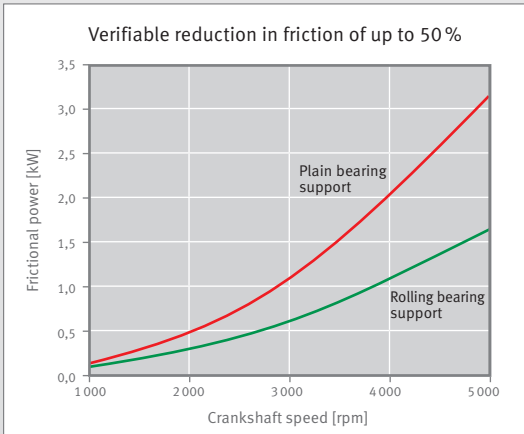
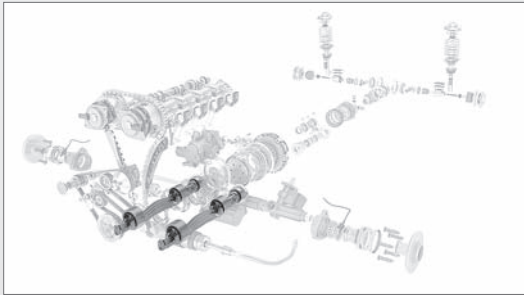
E-Mobility

**SCHAEFFLER**

# Lightweight Balancer Shaft



# Lightweight Balancer Shaft



## Lightweight Balancer Shaft

- Balancer shaft used directly as raceway for ball bearings and needle roller bearings
- The unloaded zone of the needle roller raceway is narrower
- Optimized design envelope and mass

## Functional advantages

- Up to 50% friction reduction for the entire speed range
- Reduction in engine mass of up to 1 kg due to optimized mass distribution (4-cylinder engine)
- Reduced loads in the drive and improved acoustic characteristics due to reduced mass moment of inertia
- No pressurized oil supply required, bearings are lubricated and cooled by oil mist
- Improved oil mist supply of rolling bearings due to narrow raceway in the unloaded zone
- Reduced oil pressure requirement allows reduction in the size of the oil pump
- CO<sub>2</sub> reduction potential of up to 1 %

## Customer advantages

- Optimization of engine
- Friction reduction
- Weight saving