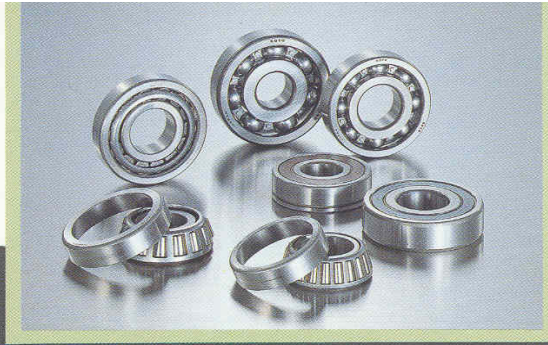
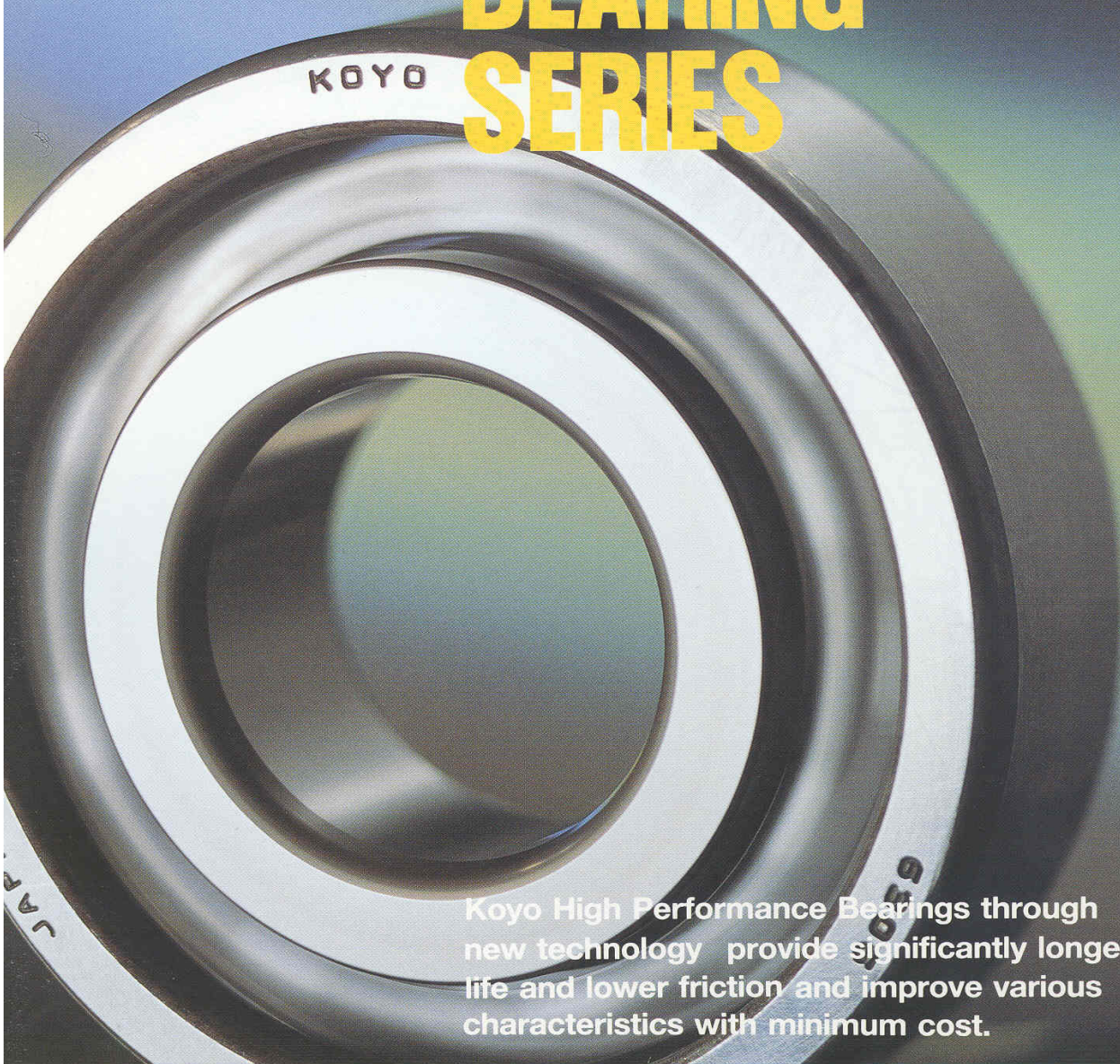


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KOYO HIGH PERFORMANCE BEARING SERIES

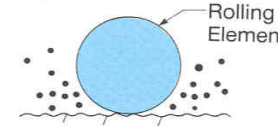
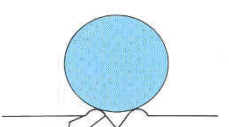
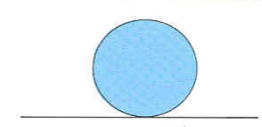


Koyo High Performance Bearings through new technology provide significantly longer bearing life and lower friction and improve various characteristics with minimum cost.

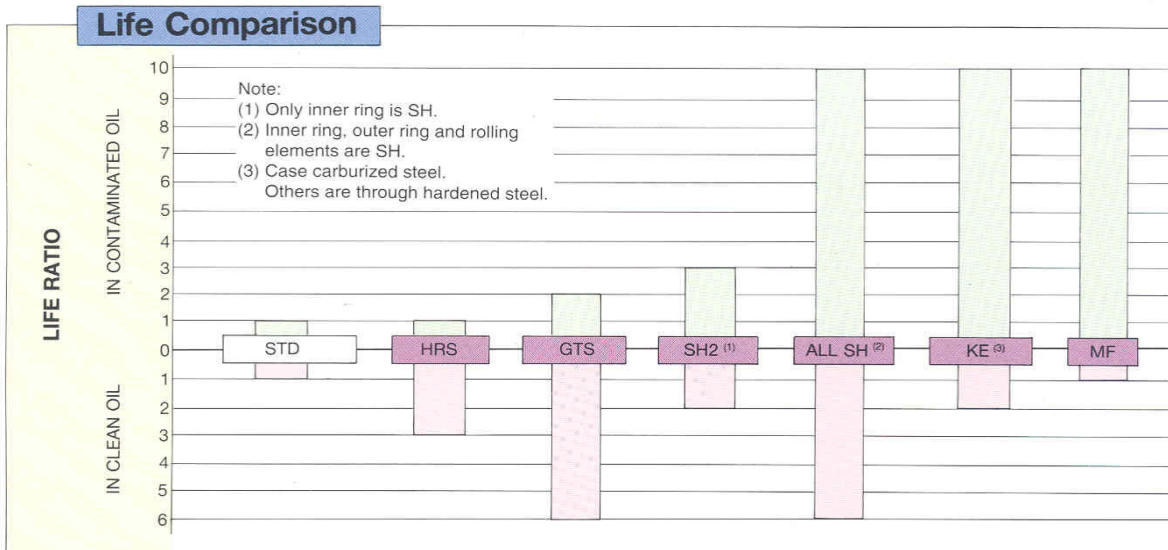
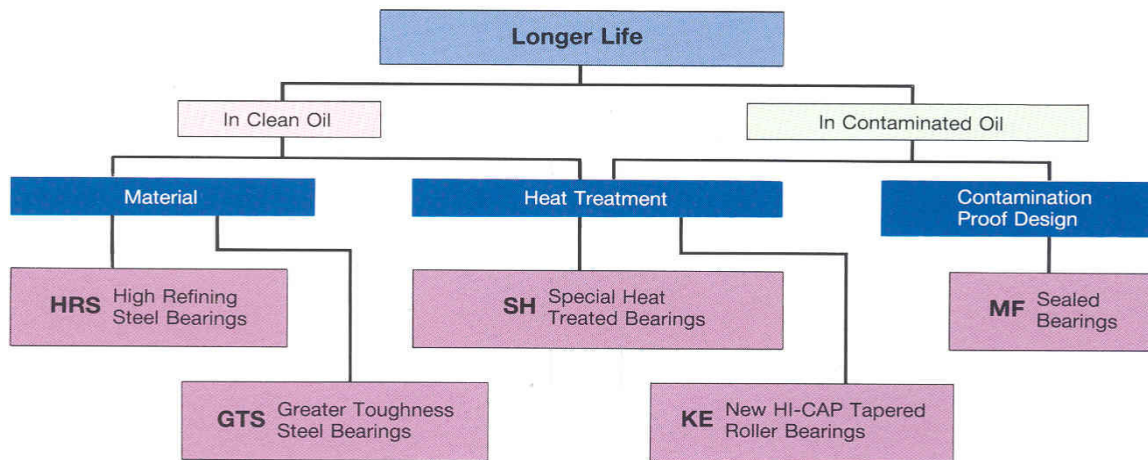
1

Improvement of Bearing Life

1-1 Mechanism of Flaking

Type	FLAKING IN CONTAMINATED OIL		FLAKING IN CLEAN OIL
	SURFACE STARTING FLAKING		INSIDE STARTING FLAKING
	SURFACE FLAKING	BRINELLING INITIATED FLAKING	
Mechanism	 <p>Abrasion caused by small hard particles.</p>	 <p>Plastic deformation caused by outside force or caused by large hard particles.</p>	 <p>Material defect of maximum shear stress.</p>

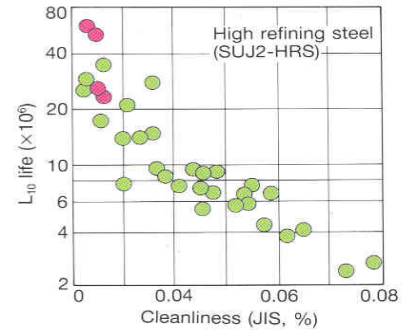
1-2 Koyo Longer Life Bearings



1-3 Characteristics

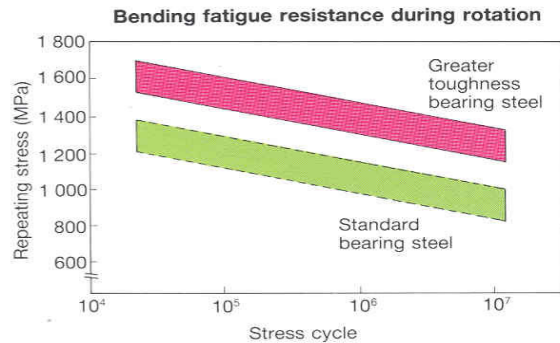
HRS High Refining Steel Bearings

1. Bearing life is increased to 3 times longer, being resulted by significant reduction of non-metallic inclusions which is accomplished by minimizing the impurity elements such as Oxygen, Titanium and Sulfur.
2. Longer life can provide size reduction in the same application, which results weight saving and compacting the equipment. The bearing weight saving will be 30~40%.



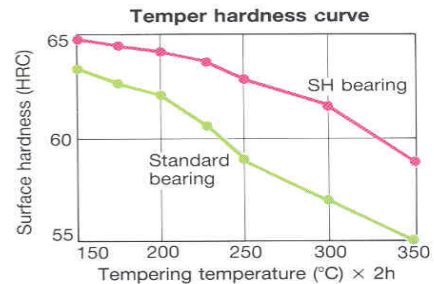
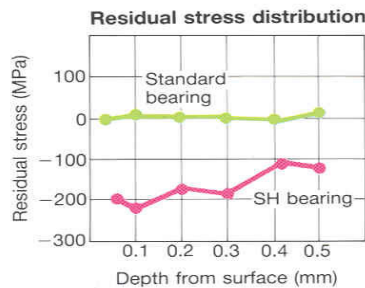
GTS Greater Toughness Steel Bearings

- Properties
- Compound addition of Ni and Si, improves parent phase and annealing resistance.
- ↓
- Occurrence and progress of cracking are restrained.
- ↓
- Rolling service life is extended.



SH* Special Heat Treated Bearings

- 1) High residual compressive stress.
- 2) High hardness
- 3) High tempering resistance



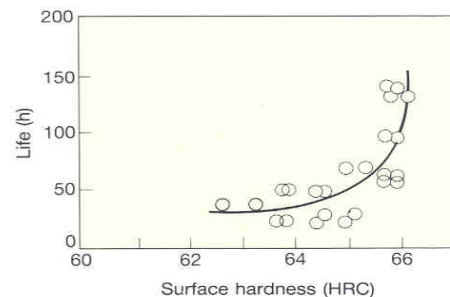
KE* New HI-CAP Tapered Roller Bearings

HIGHER SURFACE HARDNESS

- Reduce plastic deformation
- Improve wear resistance

OPTIMIZED RETAINED AUSTENITE

- Early disappearance of plastic deformation
- Slow down crack growth



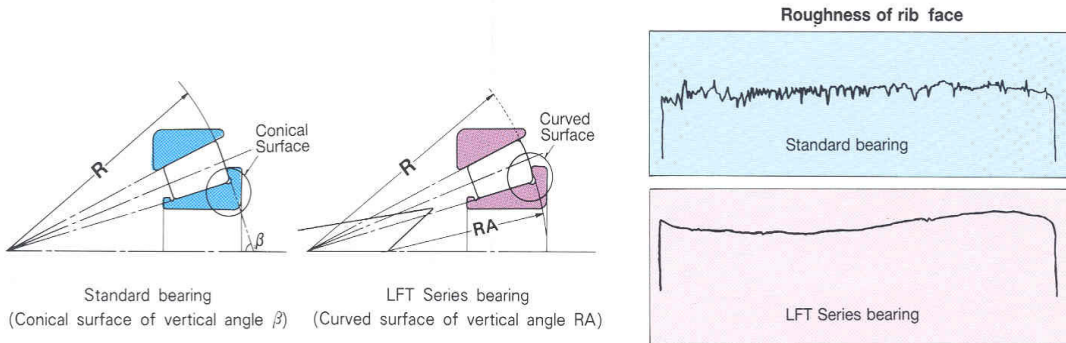
*Especially recommended to use for T/M and axles.

2

Low Friction Tapered Roller Bearings

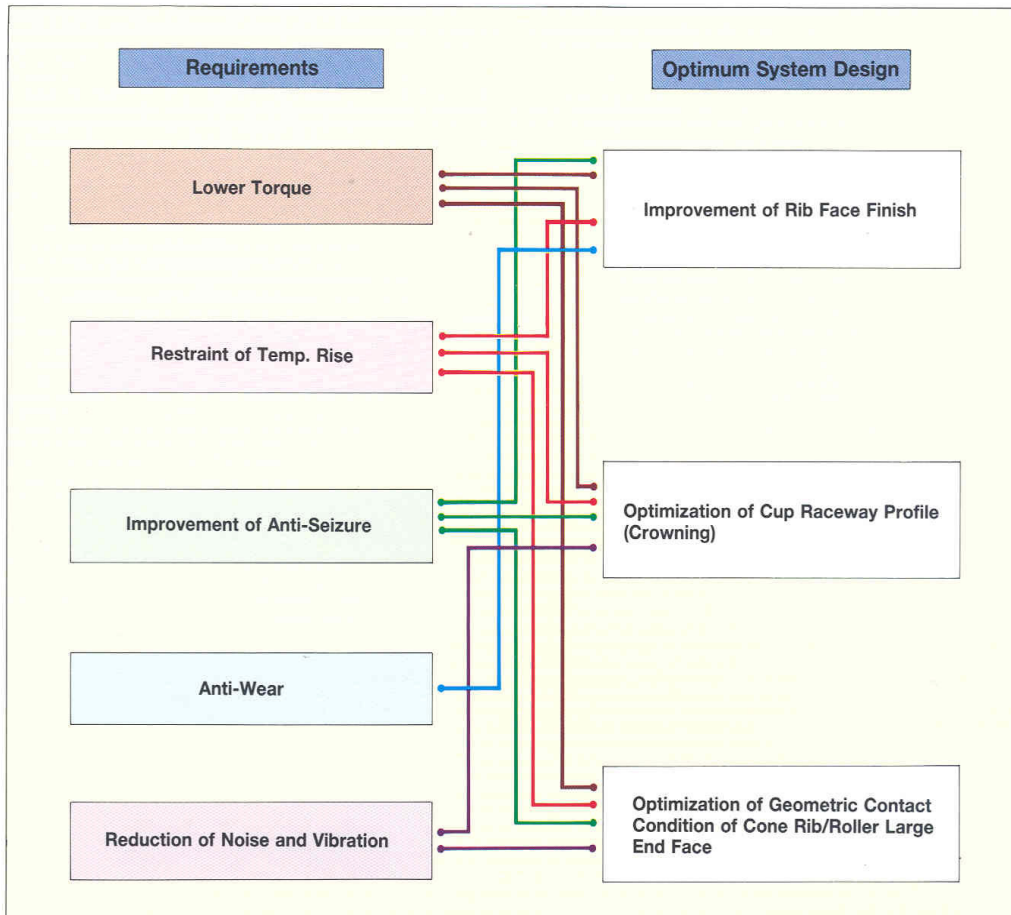
2-1 Features of LFT

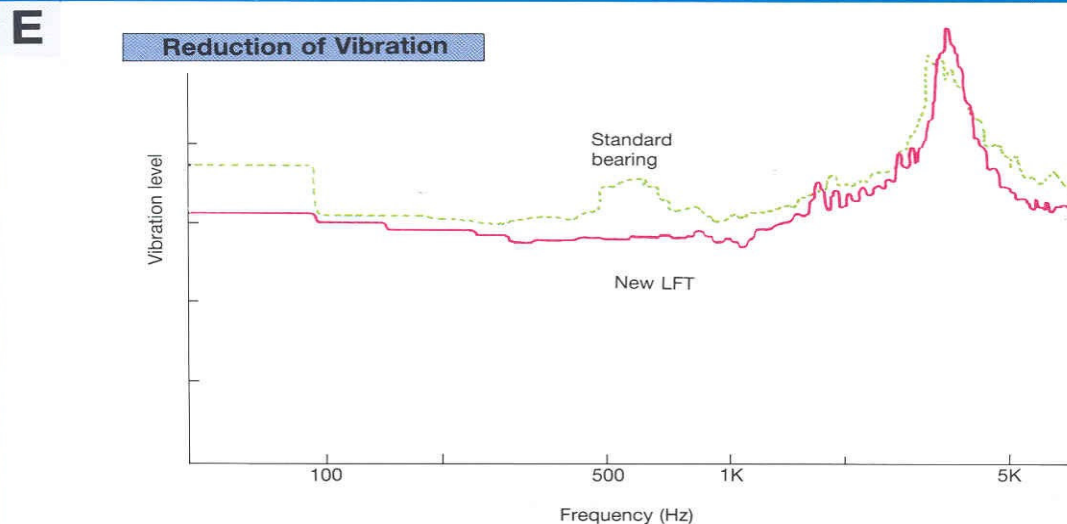
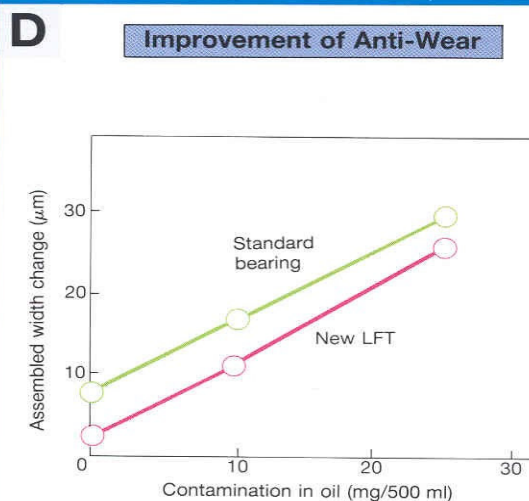
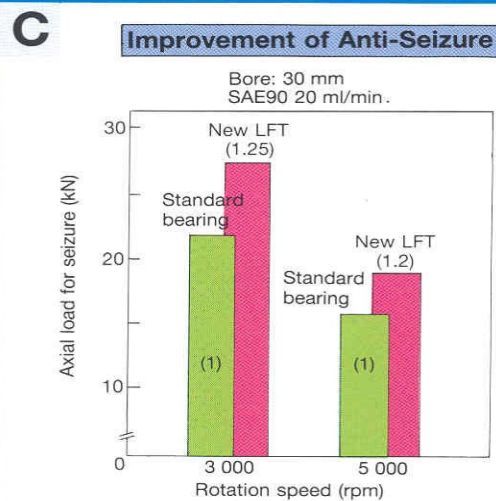
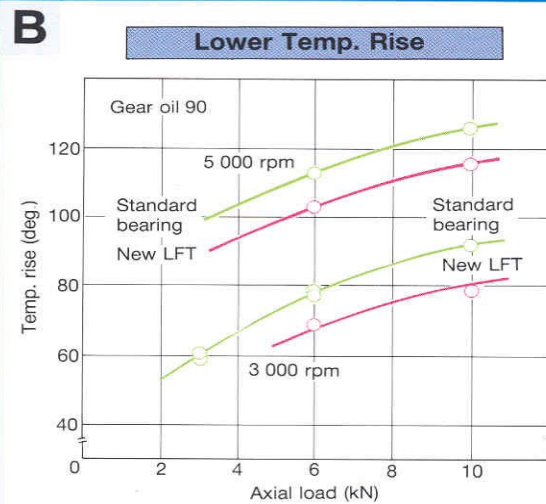
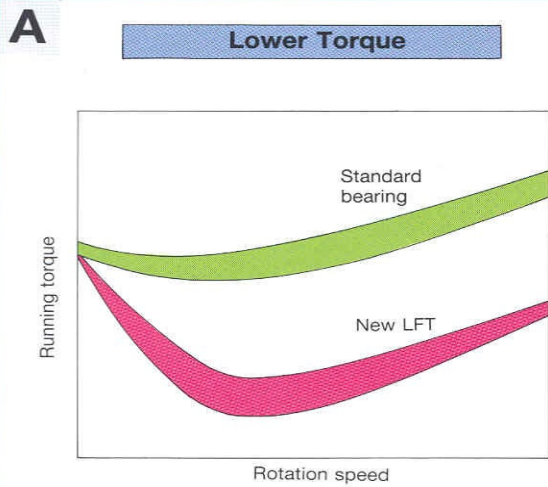
High performance tapered roller bearings attained by the improvement of the roughness and geometry of the cone back face rib through quite a new manufacturing method.



2-2 Koyo New LFT

Koyo New LFT Bearings with optimum system design are particularly advantageous in applications of powertrain such as automotive transmissions, axles and other gear drives.





VALUE & TECHNOLOGY

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