

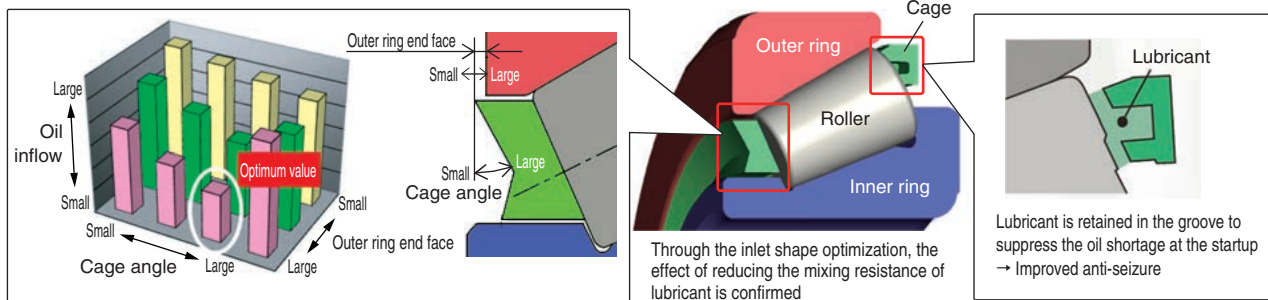
Ultra-Low Friction Torque Tapered Roller Bearing (LFT-IV)



Tapered roller bearings are used mainly in the differentials and transmissions of automobiles. JTEKT developed an ultra-low friction torque tapered roller bearing with low friction torque, improved anti-seizure, and extended bearing life in contaminated oil compared with the conventional tapered roller bearing. Volume production of this bearing for transmissions of Japanese automobile manufacturers is planned. This report introduces the features.

Features

To optimally control the oil amount that flows into the bearing, JTEKT adopted a resin with high design freedom as a cage material to reduce the mixing resistance of lubricant. Also, we made a groove on the cage to retain the lubricant in order to suppress the oil shortage at the startup, which improved the anti-seizure.

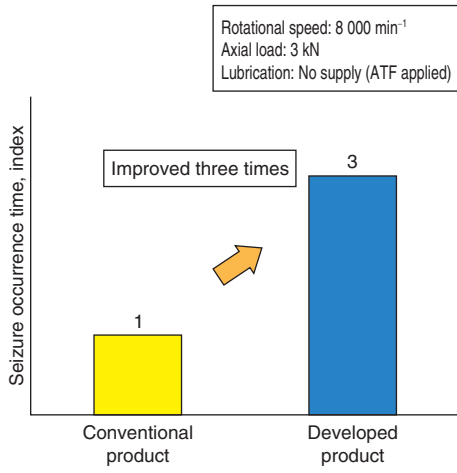


Performance

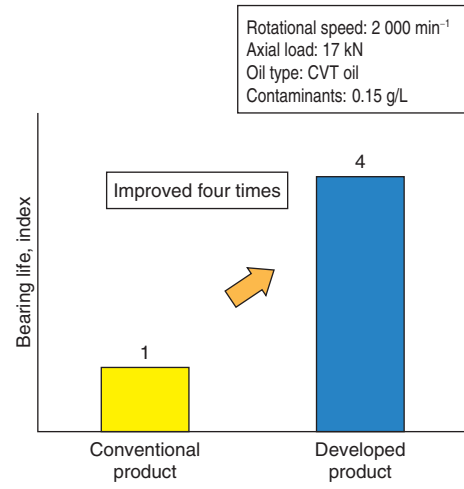
① Torque reduction

	LFT- I	LFT- II	LFT- III	LFT- IV
Evolution of tapered roller bearing LFT				
Features	Optimization of the shape and roughness of the rib – roller contact	Special crowning on the inner / outer ring raceway	Optimization of inflow oil volume control / internal dimensions	Optimized control of inflow oil amount with a resin cage
Torque reduction effect (Compared to standard product)	-10%	-20%	-50%	-65%

② Improved anti-seizure



③ Improved bearing life in contaminated oil



* “LFT” is the abbreviation for “Low Friction Torque” and is a registered trademark of JTEKT Corporation.

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