

油潤滑用低トルク玉軸受

Low Friction Ball Bearings for Oil Lubrication

従来比 40%の回転トルクを低減

Rotating Torque Reduced by 40% Compared to the Conventional Product

特 長 Features

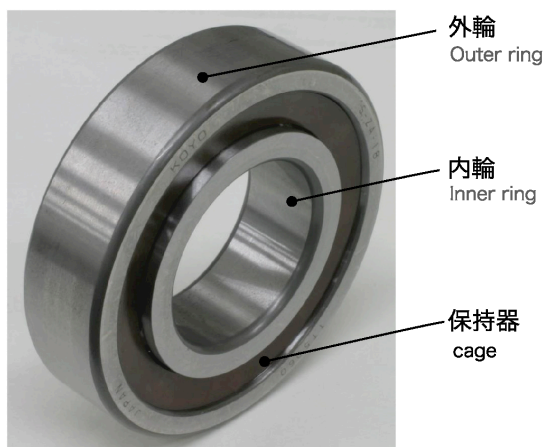
ハイブリッド(以下HV)の変速機やトランスファーなどのモータ支持部やギア支持部には多くの玉軸受が使用されています。

現在、自動車は更なる燃費効率向上が求められており、HV変速機やトランスファーに用いられる玉軸受においても、更なる回転抵抗(以下、回転トルク)の低減が求められていました。

一般的に軸受の潤滑方式は『油潤滑』と『グリース潤滑』に大別されますが、今回、JTEKTでは、上記のような使用箇所では、油潤滑の玉軸受が使用されていることに着目し、軸受の内部諸元や構成部品の最適化を図り、従来比 40%の回転トルクを低減した油潤滑用玉軸受を開発しました。

Many ball bearings are used in the motor support and gear support sections of the transmission and transfer gears for hybrid vehicle (HVs). Along with the demand to improve automobile fuel efficiency, there is also an increasing demand for further reduction of the spinning resistance of the ball bearings used in the transmissions and transfer gears of HVs.

In general, bearing lubricating methods are roughly classified into "oil lubrication" and "grease lubrication". Observing the fact that oil lubrication is utilized for the abovementioned components, aiming to optimize the interior specifications of the bearings and the structural components, JTEKT has developed an oil-lubrication ball bearing in which the rotating torque has been reduced by 40% compared to the conventional products.



《改良点》 Development Point

1: 内輪、外輪の最適設計を図り、転がり摩擦抵抗を低減

Through optimal design of the bearing interior specifications, rolling friction resistance has been reduced.

2: 保持器形状を最適化し、油の流入及び流出を制御し、油による攪拌抵抗を低減

An optimized cage shape improves the control of oil intake and discharge, reducing agitation resistance during bearing rotation.

効 果 Effect

■低トルク化
Lower friction

40%削減(現行品比)
Torque reduced by 40% (Compared to the conventional JTEKT product)