

Developing Environmentally Friendly Products

Making eco-friendly products even more eco-friendly

→ R&D targets and results

Working on products that last longer, weigh less, and have less friction and loss

Our primary products, which include our bearings and constant velocity joints, reduce energy losses caused by friction, and as such can be considered environmentally friendly products. However, the status quo is not something that NTN has ever been satisfied with. In order to contribute even more to energy conservation, we have continued to research how to make products last longer, weigh less, and have less friction and loss. About 60% of our new product development theme in fiscal 2006 and 2007 was eco-friendly products.

[Our main R&D accomplishments with our primary products]

Longer life In the FA tapered roller bearing, we used a special heat treatment called FA (fine austenite) strengthening to reduce the grain size of bearing steel in order to increase its rolling fatigue life.

Reduced weight Ultra-light hub bearing used for improved fuel economy in light motor vehicles and compact vehicles with 1,000cc-class engines.



Lower torque and friction Our ultra-low-torque tapered roller bearing has an improved bearing cage that reduces rotation torque with reducing oil agitation resistance.



Less loss The number of balls that transfer torque was increased from six to eight, resulting in the EBJ, EUJ, and EDJ constant velocity joints with reduced torque-losses.

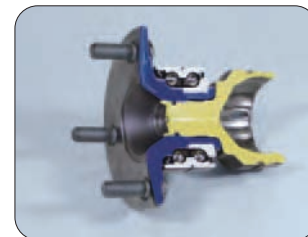


→ Fiscal 2007 R&D

The first product to use biodegradable products in the industry

In fiscal 2007, we brought constant velocity joint technology together with hub bearing technology and used press-cut joining, a new joining method, to develop the V-series all-in-one type hub joint.

The V-series hub joint is 12% lighter than conventional products, and we have two types available to our customers to suit their needs: the all-in-one type and the detachable type.



all-in-one type



detachable type

In addition, we developed the “environmentally friendly rolling bearing,” the first in the industry, which uses biodegradable materials for the cage, seal, and grease.

When this product is discarded and landfilled, it will be broken down by microorganisms in the soil. Even if it is incinerated, it will not emit NOx and SOx, which are atmospheric pollutants. It is truly an alternative that contributes to conserving the global environment.



Column Our R&D themes going forward

Our company is engaged in research and development to address the environmental problems of today as a top-priority issue.

In the automotive field, we are responding to the needs associated with low-fuel consumption and with the next generation of vehicles such as electric vehicles. In the industrial machine field, we are developing products suited to current engineering trends such as the use of natural energy such as wind power generation and the modal shift to rail transport, which has excellent freight efficiency.

We have a long-term focus towards developing the technological basis for these products, such as lubrication, surface reforming, and materials.

Hybrid power generator at NTN Mie Corporation's Plant No. 2

