

Research and Development Directly Benefiting Environmental Conservation

Bearings and CVJs are “Eco products” that decrease energy loss due to friction. We are working on technological developments to contribute to further energy conservation by improving the performance of our products used in various equipment worldwide.

Products responding to the environment

Research and Development focusing on reducing environmental impact

We are working for R&D with main products of bearings, CVJs and others, focusing on long life, light weight, low friction and high efficiency that directly contribute to conserving the environment.

We are also aggressively working on the recycling of industrial waste, such as grinding swarf briquetting equipment and steel dust briquetting equipment.

Most of our R&D expense in fiscal 2006 was spent on long life, light weight, low torque and high efficiency themes that contribute directly to energy conservation.

[Main R&D results]

Long life: Long life tapered roller bearing—steel fatigue life is extended by a special heat treatment refining the crystalline structure.

Weight reduction of main products: Ultra-lightweight hub bearing for small cars.

Low friction: Ultra-low torque tapered roller bearing—rotational torque was remarkably reduced by low friction that resulted from improvements in the bearing cage pocket (hole) enhancing oil lubrication.

High efficiency: EBJ and EUJ series CVJ—torque transmission efficiency was improved by means of increasing the number of balls from six pieces to eight.

Railroad Journal Bearing Unit with longer maintenance intervals

Bearing demand in railroad applications is increasing substantially in China where the railroad network is expanding in response to economic growth; and in the EC market where higher-speed railroad networks are being promoted along with European integration. These bearings are key control components that directly affect safe running and require high reliability. Also, for cost reduction, extending maintenance intervals has been an important issue.

NTN has developed a new “high speed bearing unit” that allows a doubling of the maintenance period to 1.2 million km run (from the conventional 450,000–600,000 km) by using new technologies, including a plastic specialized cage, a spacer with rubber lip and a new configuration seal. Recently, this bearing was adopted in the Chinese market.

Railroads have been viewed in a favorable light

as mass transportation vehicles that consume low energy and are environmentally friendly. We contribute bearings as a key component to railroads that have less environmental impact by balancing safety and economy.



New high-speed railroad journal bearing unit