# Koyo Seiko Vice President A. Matsuda Receives Purple Ribbon Medal

Akinobu Matsuda, Koyo Seiko vice president and R&D general manager, was awarded the Purple Ribbon Medal on May 14, 1999 at a ceremony held at the Imperial Palace. This national award is conferred by Japan's Science and Technology Agency on persons having made a significant contribution in either the field of arts or the field of sciences. Mr. Matsuda received this award because of his contributions to the advance of steering systems technology.

Mr. Matsuda began working at the development of steering systems soon after joining Koyo Seiko some 40 years ago. Since that time he has led the company in R&D related to steering systems and the practical application of such technology.

By improving the gear section of conventional ball screw type steering, he improved the system's mechanical function, minimizing the gear section meshing ratio at center position and making the gear ratio gradually increase as the gear turned to the left or right from center position. This success at developing a steering mechanism to enable easier steering performance caught the attention of many in Japan's Patent Office at the time. This new technology was widely adopted by automakers as a basic steering technology and was a subject of general public interest because it enabled much easier handling during parking and low-speed turning.

Foreseeing an increase in the number of women and elderly drivers, Mr. Matsuda continued after that time to pursue easy-to-handle steering systems and was a pioneer in the development first of hydraulic power steering systems and then of electric power steering systems. Certainly the extent of his contributions in the field of steering systems development can be measured by his receipt of the Purple Ribbon Medal this time.

Koyo Seiko has developed numerous new steering mechanisms and systems over the years, including manual steering (ball screw and R&P types), hydraulic power steering, electronically controlled hydraulic power steering, electric power steering, motor-driven pump type hydraulic power steering and DD-type (rack bar direct drive by the motor) electric power steering. Steering systems first progressed from mere mechanical devices to hydraulic systems and have now progressed to advanced systems with electronic control and electric power sources. The recent shift from hydraulic systems has resulted in particular from advances in the field of electronics.

In 1983 Koyo Seiko developed the world's first electronically controlled power steering system and in 1988 became the first company to commercialize an electric power steering system, which consumes only 1/6$^{th}$ the energy of conventional hydraulic systems. These developments were in response to demands from automakers and the public for greater levels of vehicle safety, driving pleasure, and—particularly in recent years—environmental friendliness.

Koyo Seiko currently is Japan's leading steering maker and a world leader in the field of steering systems development and manufacturing, whose products are widely used by customers the world over. Koyo Seiko considers this receipt by Mr. Matsuda of the Purple Ribbon Medal to be a milestone in its growth and will continue developing steering systems and supplying these to customers around the world through its global network of bases. Through such activities, Koyo Seiko hopes to contribute to the advance of society and the automotive industry.