



Automakers are developing lighter automobiles as the need to reduce the impact of vehicles on the environment increases each year. Nissin Kogyo is satisfying that need with aluminum-based solutions for replacing iron and steel products, while working in its production activities to reduce energy consumption and promote efficient operations.

Environmental

Nissin Kogyo utilizes its years of experience in aluminum casting and processing technologies to efficiently manufacture high-quality aluminum products. Welding product development built on strength analysis techniques and solidification analysis technology, and a manufacturing technique known as "programmed cold chamber die casting," Nissin Kogyo has succeeded in shifting to aluminum in the production of knuckles and calipers, which were previously produced mainly from cast iron. Volume production of aluminum knuckles and calipers commenced from September 2002. The use of these products alone can reduce vehicle weight by an average of 5.6kg.



Knuckle

Disk brake
(rear)

Technology

Nissin Kogyo is also reducing the environmental impact of its production activities. With "minimal energy, minimal time" as the key phrase, the company has developed a production system for the manufacture of aluminum products that integrates the casting, processing and assembly stages. This system minimizes production lead times and reduces logistics and inventory losses. Nissin Kogyo is also diligently promoting activities for attaining lower energy consumption. Accomplishments in this area include the development of "reduction casting" processes in 2002 that sharply reduce casting time and eliminate preheating processes; the elimination of heat treating processes for casting products, made possible by adopting Nissin Kogyo's independently developed aluminum materials; and the scrapping of melting processes enabled through the transport of aluminum in its molten state. Regarding power supply, plans are under way to adopt natural gas cogeneration, which should help reduce Nissin Kogyo's overall environmental footprint.



Engine mount bracket