

Drivetrain Related Products

In the fiscal year under review, net sales for the drivetrain related products segment increased 17.3% to ¥901,644 million (US\$7,676 million). The driving force behind this growth was robust sales of ATs and CVTs at Aisin AW and MTs at Aisin AI. AISIN held onto its position as the leading global AT manufacturer with total annual sales of 5,060,000 units.



Developing and Supplying Multi-application Transmissions

During fiscal 2006, the drivetrain related products segment experienced drastic changes in the markets in which it operates, as reflected in such trends as the shift toward greater fuel efficiency. Against this backdrop, the proliferation in the variety of drivetrains available in the market continued unabated, including multi-step transmissions, CVTs, automated manual transmissions and hybrid systems. To rapidly meet this diversification in market needs, AISIN is undertaking technological development ahead of the times and aggressively expanding sales to the world's automobile manufacturers. AISIN is preserving its No. 1 global share in the AT market, while striving to become the world's No. 1 manufacturer in all fields related to drivetrains.

Development of the World's First RWD Hybrid System Featuring Pioneering Technologies

Specialist AT manufacturer Aisin AW developed and released the world's first RWD hybrid system. The product succeeds in combining greater compactness while incorporating such key units as a power split device, motor and two-stage motor speed reduction device, offering the higher level of handling demanded in luxury automobiles as well as greater horsepower and fuel efficiency. This product has achieved a compact design applicable for the RWD platform and is installed in the Lexus GS450h.



Expansion of 6-speed AT and MT Sales for Use by Global Automobile Manufacturers

AISIN has conducted aggressive sales activities for 6-speed ATs for passenger vehicles in fiscal 2006. AISIN offers products for compact to large FWD and RWD vehicles, as well as a wide range of torques and capacities, to cover many types of vehicles. In fiscal 2006, our transmissions were adopted in such FWD vehicles as the Volkswagen Passat and Jetta and the Volvo XC90, and in such RWD vehicles as the Lexus GS, SC and IS, the Mazda Roadster and the Audi Q7. The crucial challenge for ATs is not only to perform flawlessly but also to perfectly fit the engine and body of manufacturers' automobile models. For this reason, AISIN has established technical



centers in Japan as well as the United States and Europe to provide a global structure that can rapidly adapt to the demands of customers worldwide. AISIN aims to use this structure as a platform for further business expansion in global markets.

Specialist MT manufacturer Aisin AI developed a high torque capacity FWD 6-speed MT offering both a 30% reduction in weight and greater compactness compared with 2-shaft configuration through the use of a newly developed 3-shaft gear train structure. The product is now incorporated in the Toyota *Avensis*, *Corolla* and *RAV4*, Mazda *mazda5* and *mazda6* as well as the Mitsubishi *Grandis* and *Eclipse*.

While over 90% of the transmissions used in Japan and North America are ATs, 80% in Europe are MTs, plus the market for MTs in BRICs* countries is expected to expand.

Aggressively Developing Fuel-efficient and Eco-friendly Drivetrain Systems

In its role as a drivetrain specialty manufacturer, AISIN is also aggressively developing environmental next-generation drivetrain systems, including CVTs and automated manual transmissions. AISIN's CVTs are compact products that employ control technologies developed through the Group's AT business to ensure both higher fuel efficiency and accelerating performance at the optimum transmission gear ratio. AISIN started supplying this product to Toyota for the *Ractis* and *Belta*. There is also an ongoing rise in the number of cars in Europe installed with an automated manual transmission, which combines an automatic shift mechanism with an MT.

As demonstrated above, AISIN is working to develop a full lineup of products in the drivetrain related field, including 6-speed ATs, MTs, CVTs and hybrid systems, which are undergoing greater diversification and technological advancement in order to meet market needs. Concurrently, AISIN is building an unparalleled foundation of technologies and expertise, reinforcing technological development and augmenting its supply structure.

*BRICs: Brazil, Russia, India and China



Brake & Chassis Related Products



In the fiscal year under review, net sales for the brake and chassis related products segment increased 14.3% to ¥425,182 million (US\$3,620 million). This increase was mainly the result of strong sales of ADVICS' brake systems and brake components both in Japan and abroad.

Technological Development Targeting Safety and Reliability

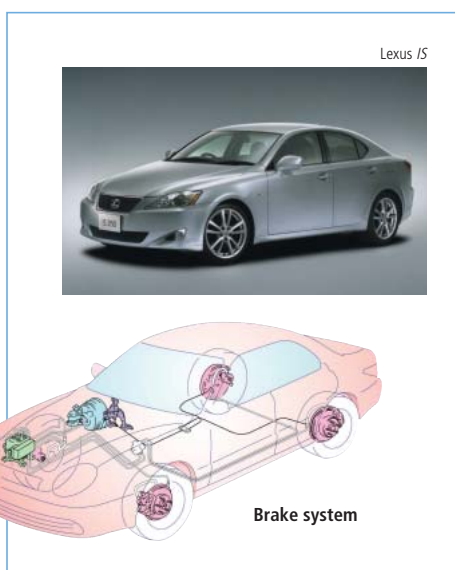
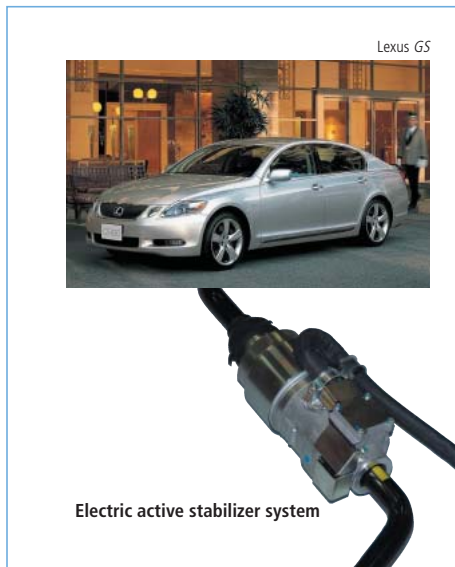
Developing more next-generation safety features in the brake and chassis related products segment, which handles some of the most crucial functions of automobiles, will increasingly require improving performance in various components and developing technologies as total systems that offer integrated control. For that reason, while raising the technological level of its brake system to an unmatched worldwide level through electronic controls, automobile testing and other technologies as the top global supplier in the brake and chassis related products field, AISIN is also working to develop safer, more reliable systems products for ABS, brake assist, traction control systems (TCSs) and electronic stability controls (ESCs).

Developing Systems Products in Pursuit of Active Safety

In fiscal 2006, AISIN developed the world's first electric active stabilizer system jointly with Toyota Motor Corporation (TMC). This system places a highly responsive electric-powered actuator between the stabilizer bars of the automobile to offer a superior level of driving comfort during normal forward motion as well as rolling control when turning, and is currently employed on the Lexus *GS* (Japanese model). The system originated from Aisin Seiki's advanced motion stabilizer technology developed when AISIN began supplying the Toyota *Celica* with hydraulic active suspension in 1989.

ADVICS offers optimal brake systems tailored to the characteristics of vehicles by combining such brake components as brake boosters, actuators and disc brakes. In fiscal 2006, ADVICS expanded its efforts in system proposals and developed brake systems for the Lexus *GS* and *IS* as well as the GM *Hummer 3*.

Together with developing new markets, amid advances in computer-aided brake systems, ADVICS will bolster development of high-performance brake systems, such as brake systems that coordinate with pre-crash safety systems and regenerative brakes for hybrid cars, aimed at achieving a greater level of safety performance.



Body Related Products



In the fiscal year under review, net sales for the body related products segment rose 19.4% to ¥379,549 million (US\$3,231 million). Robust sales of Aisin Seiki's power sliding door systems, occupant weight sensors and other products were a key contributor to this increase.

Product Development Stemming from the Diverse Needs of Users

In the body related products segment, user needs have diversified in such areas as safety, comfort, convenience, aesthetics and user-friendliness. In anticipation of future needs, AISIN aims to employ a wide array of accumulated mechatronic and electronics technologies to introduce new and valued products that reflect the varied needs of users and in turn expand business in the global market.

Creating Markets with User-friendly Products

In fiscal 2006, AISIN released its power retractable seat as a new-concept product offering user comfort and convenience. These seats for minivans and other vehicles can be easily stowed away under the floor to free up storage space in the cabin, and are currently used in the Toyota *Estima* and *Sienna* (North America model). Moreover, AISIN's power sliding door system is unique for its ease of installation on automobiles owing to a lightweight and compact design that allows for moving parts to be installed within the thin walls of the door and the floorboards. This has led to a wider application in minivans and compact cars. In fiscal 2006, the system was newly adopted in the Toyota *Estima*, Nissan *Serena* and Suzuki *Every Wagon*.

In this way, AISIN aims to develop user-friendly products ahead of the competition that stress greater comfort, convenience and safety, thereby realizing business expansion through the creation of new markets.

Toyota *Estima*

Power retractable seat

Suzuki *Every Wagon*

Power sliding door system

Engine Related Products



In the fiscal year under review, net sales for the engine related products segment rose 13.7% to ¥197,399 million (US\$1,680 million). The key factors included higher sales of Aisin Seiki's engine front modules and other aluminum components, as well as expanded sales at such locations as Aisin Takaoka's base in Thailand.

Development of Key Technologies to Improve Fuel Consumption, Output and Exhaust Emissions

In the engine related products segment, fuel consumption and exhaust emission regulations have grown more stringent in numerous countries around the globe, encouraging a variety of measures by industry leaders toward lowering automobile emissions and raising fuel efficiency. AISIN handles a wide variety of engine peripherals and cast components and employs elemental technologies in the active development of crucial technologies that raise fuel efficiency, boost output and reduce emissions. This includes variable valve timings (VVTs), which contribute to a reduction in emissions, as well as stainless steel exhaust manifolds, which help to reduce weight.

Contributing to Lower Fuel Consumption through Lighter Engines

In fiscal 2006, AISIN's weight saving and cost saving engine front modules, which have been sold since fiscal 2005, were used on the Toyota *Mark X*. This product is a module system that combines the timing chain cover in front of the engine with such functional components as water pumps and oil pumps to reduce engine weight. Higher orders from customers drove an increase in sales of cylinder head covers, which are newly installed in the Lexus *GS* and *IS* as well as the Toyota *Mark X*. Overseas, sales expanded at Aisin Takaoka's base in Thailand for functional engine components for TMC's IMV (Innovative International Multi-purpose Vehicle) series.

By approaching the engine business in this holistic way, AISIN aims to develop technologies that contribute to greater fuel efficiency and lower emissions, as well as expand its lineup of competitive products from the level of components to modules. Similarly, AISIN will redouble efforts to develop core technologies in fuel cell units and control devices in order to constantly keep pace with the technological innovations taking place in fuel cell vehicles, which are the most popular among clean-energy vehicles.

Toyota *Mark X*



Engine front module

Lexus *IS*



Cylinder head cover

Information Related Products



In the fiscal year under review, net sales for the information related products segment rose 8.5% to ¥123,231 million (US\$1,049 million). This was primarily attributable to a solid growth in sales of Aisin AW's car navigation systems and Aisin Seiki's parking assist systems. AISIN maintained its position as the leading global car navigation system manufacturer with total annual sales of 1 million units.

Advances in ITS Lead to More Business Opportunities

Business opportunities in the information related products segment are expanding rapidly as advances in intelligent transport systems (ITS) and interfaces between automobiles and peripheral IT devices make unprecedented levels of safety and convenience possible.

AISIN employs cutting-edge technologies in such fields as electronics and image processing in its aggressive efforts to develop new car navigation systems and various information related devices and systems, thereby proposing and creating unequalled added value.

Continuously Introducing the Latest in Car Navigation Systems

In fiscal 2006, AISIN developed and released several car navigation systems with a variety of new features. The user-friendly products released included a model that allows the user to replace the guidance map DVD with a video DVD while still retaining the in-route guidance path in the system memory, as well as the world's first dual navigator that can send separate imagery to the driver and the passenger seats. Given the rising overseas demand for car navigation systems, AISIN expanded sales through sales activities targeting global markets, including a DVD "turn-by-turn" navigation system for the European market that enables a simplified map display, as well as the world's first 1DIN HDD navigation system combining audio, visual and navigation functions all within the space of 1DIN*.

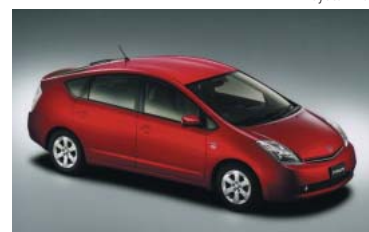
AISIN also improved the functionality of the Intelligent Parking Assist, which controls steering during back-in and parallel parking, through the addition of a device that automatically scans the location of parking lines. The system is currently installed on the Toyota *Prius*.

In this way, AISIN is augmenting peripheral systems that employ imaging processing technology through the medium of car navigation systems in an effort to expand business in information related fields.

*1DIN: The standard dimensions of consoles to which car audio and navigation systems are attached



Car navigation system



Toyota *Prius*



Intelligent Parking Assist

Casting Related Products



The casting related products segment handles the processing of component parts for AISIN's products utilizing aluminum die casting, iron casting, plastic molding and pressing. AISIN's aggressive technological and production method development in this field plays an important role in raising the competitiveness of the Group's products, in particular, and the added value available within the Group as a whole. Specifically, Aisin Takaoka is responsible for iron casting, Aisin Chemical for plastic molding and chemical products, Aisin Keikinzoku Co., Ltd. for aluminum die casting and extrusion and Aisin Seiki for both parts pressing and aluminum die casting.

(Net sales are included in the sales for automobile related segments.)

Aggressively Introducing New Technologies

The casting related products segment is faced with the difficult challenge of ensuring product functionality, performance and strength aimed at achieving greater compactness, lower weight and lower costs. AISIN is actively capitalizing on its strengths in a wide range of casting technologies to aggressively introduce new technologies through materials substitution, new processes and new materials.

Developing New Processes and Materials

In fiscal 2006, Aisin Takaoka's bumper reinforcement employing a die quench process that offers lower weight and costs was incorporated in the Mazda *Roadster*. The die quench process is a method of simultaneously pressing and quenching heated sheet steel to ensure strength comparable to high-tension sheet steel, while also realizing lower costs and reduced vehicle weight as well as more ably conforming to the car body. While improving driver safety by using reinforced steel, the process also contributes to greater fuel efficiency through a lighter vehicle and more economical use of materials. In addition, Aisin Chemical's high-performance spray damping coat can be applied to irregular surfaces previously difficult to coat on account of its spray feature. In addition to being gentle to the environment through the use of water-based paint and reducing overall vehicle weight, the damping material cuts wind and wheel noise to improve the quietness inside the cabin. It is currently used on the Toyota *Prius*. Products manufactured utilizing aluminum die casting, aluminum extrusion, magnesium die casting and iron casting are central to the casting related products segment. These products are used as the components of mainstay products such as engine peripherals, transmissions, brakes and chassis, and bodies, and are sold both in Japan and overseas in such forms as cylinder head covers, transmission cases and bearing caps.

Mazda *Roadster*



Bumper reinforcement employing die quench process

Toyota *Prius*



High-performance spray damping coat

Life Related and Other Products

In the fiscal year under review, net sales for the life related and other products rose 12.6% to ¥93,584 million (US\$796 million). The largest contributing factor was sales growth in gas engine driven heat-pump air conditioners (GHPs) and shower-toilet seats.

Bolstering Development of Valued Products

The Life Related and Other Products Business handles GHPs, gas engine cogeneration systems, beds and related products, shower-toilet seats, sewing machines, remodeling services, nursing care and welfare related products. Amid changes in the fabric of society, including concerns over environmental issues and the aging of society, the need for energy conservation and a healthy and comfortable lifestyle will play an increasingly prominent role. In relation, AISIN is developing valued products that anticipate such needs of our customers and society.

Renewal of Brands on the 40th Anniversary of the Bed Business

In fiscal 2006, AISIN released the "ALEX" bed series, as the only domestic manufacturer to use an aluminum frame that was developed by applying automotive technology. Other new products included the high-end "FIORETTO" bed series, which was awarded the Good Design Award (G-Mark). Also, to mark the 40th anniversary of the bed business, its two brand products—the "Toyota Bed" spring mattress and "ASLEEP" mattress that uses gels and other proprietary AISIN materials—were integrated into the "ASLEEP" brand. In shower-toilet seats, AISIN developed one of the most simplified shower-toilet seats in terms of functions, mechanics and design.

Since we first began selling GHPs in 1986, cumulative shipment reached roughly 93,000 units totaling 1 million horsepower in May 2005. Moreover, AISIN developed a large 25-HP model that is unmatched in the industry for the variation of outdoor units, with sales expanding in such overseas markets as South Korea. The gas engine cogeneration system, which was developed by leveraging GHP technologies, employs a gas engine and electric generator for the provision of electricity and hot water. AISIN is marketing these systems to small- and medium-size facilities and stores as a highly efficient, multi-source energy generation device.

To build products that are more environmentally friendly, AISIN is working to develop next-generation products, including residential fuel cell cogeneration systems and dye-sensitized solar cells, as an alternative to gas engine cogeneration systems.

ASLEEP
New days begin here



ALEX

GHP (25 HP)



Residential fuel cell cogeneration systems

