

TIRE GROUP

REVIEW OF OPERATIONS

Fiscal 2002 in Review

Tire Group sales rose 5.0%, to ¥284.3 billion, on increased sales of tires, primarily in Japan, North America, and Europe, supported by a weak yen.

RESULTS IN JAPAN

Favorable Sales of Replacement Tires

In Japan, Yokohama increased sales in unit and value terms.

Although automobile production in Japan slipped for the first time in two years, we increased our share of the OE market. However, unrelenting discounting pressure from manufacturers and an increased ratio of small cars in total automobile production led to a drop in OE tire sales in both unit and value terms.

In the replacement tire market, we introduced products based on innovative technologies. We also reinforced our DNA series of environmentally friendly, low-fuel-consumption tires with the DNA map-RV and DNA map-i for minivans and one-box cars. In studless

tire marketing, we promoted new products, expanded the range of tire sizes in our lineup, and continued a campaign under which we insure purchasers of our studless tires to cover a significant portion of vehicle damage from accidents caused by slipping on snowy or icy roads. These and other activities increased sales of studless tires. Our insurance-support program has been very popular, as no rivals offer similar promotions.

Yokohama's DNA series radial tires help lower fuel consumption and provide excellent wet grip.



Successful new products and marketing activities boosted overall unit- and value-based sales of replacement tires.

Rationalization of Truck and Bus Tire Production

During fiscal 2002, Yokohama centralized production of radial tires for trucks and buses at the Mie Plant after suspending related operations at the Hiratsuka Tire Plant. We aim to improve efficiency through such concentration. We decided to gradually halt all production and sales of bias tires for trucks and buses for the Japanese market, where demand has steadily declined in recent years.



The PARADA radial tire for passenger cars sparked a boom for classy replacement tires in America.



The Salem Plant of YTC, located in Virginia, works to raise production efficiency and enhance product quality.

RESULTS IN NORTH AMERICA

Progress in Improving Operations at YTC

Yokohama's North American operations center on production by YTC, especially of tires for passenger cars, trucks, and buses.

YTC expanded sales of high-performance tires and steadily reduced production costs. This subsidiary thus pared its loss from US\$79.8 million in 2000, to US\$19.1 million in 2001. In continuing comprehensive reforms, YTC plans to break even in 2003. After reevaluating its product structure, in March 2002 YTC changed its sales mix to increase production levels for high-value-added and high-performance tires and reduce production of unprofitable models. This move raised the average per-unit price of its tires, contributing to enhanced profitability. YTC intends to launch high-performance tires for passenger cars and light trucks, further increasing its sales of high-value-added products. It also aims to add to its bottom line by lowering interest-bearing debt and logistics and fixed costs. In this environment, the company plans to decrease its loss to US\$9.0 million in 2002.

RESULTS IN ASIA AND OCEANIA

Numerous High-Performance Tires Marketed

Yokohama's activities in Asia center on sales of tires for passenger cars, trucks and buses, with production in Japan and the Philippines covering much of demand. In fiscal 2002, sales advanced in Taiwan, Singapore, and the Philippines, helping increase our tire sales in the region.

Demand for the A539 high-performance tire, which we released regionally in fiscal 2001, propelled overall sales. We plan to raise the ratio of high-performance products in our offerings for Asian markets, and in the spring of 2002 introduced the AVS ES100 sports tire, which contributes to reduced fuel consumption and excellent handling. In spring 2003, we plan to launch tires that provide a highly comfortable, low-noise ride.

In January 2002, we opened Hangzhou Yokohama Tire, a joint venture for radial tire production and sales in Zhejiang Province. That company is building a plant that should have an annual production capacity of 750,000 tires by May 2003. To boost awareness of the Yokohama name, we have mounted a publicity campaign, centered on large billboards in such major metropolises as Shanghai and Beijing.



At the 2001 24 Hours of Le Mans, Siekel Motorsport's Porsche 911GT3-RS captured the Grand Touring "LM" GT class title, marking the second year that cars with Yokohama tires won that class at Le Mans.

To take advantage of business potential in the Asian region, in March 2002 we set up a new office in Bangkok, Thailand, to function as an information center for our regional activities in this region.

Strong Performance by Yokohama Tire Philippines

Yokohama Tire Philippines, a production base for passenger car tires, mainly exports to Europe, the Middle East, and other Asian countries. It sells some of its offerings locally. In fiscal 2002, this company expanded its sales channels to Europe, thereby boosting exports. Domestic demand was also strong. We established a sales company in the Philippines in February 2001, thereby significantly raising sales of replacement tires and OE tires to the local plants of Japanese automakers. Anticipating further increases in demand, we expanded capacity at Yokohama Tire Philippines to 5,900 tires daily.

Record Sales in Australia

Yokohama's sales in Australia rose significantly, owing to favorable demand for A539 passenger car tires, as well as for new tires for trucks and buses. We timed new product launches with promotional campaigns and other targeted marketing activities.



RESULTS IN EUROPE AND OTHER REGIONS

High-Performance Tires Lead the Way to Increased Sales

In Europe, we meet demand through exports from Japan and the Philippines, as well as through sales subsidiaries and dealerships in Germany, Italy, the United Kingdom, Austria, Switzerland, Sweden, and Denmark. Regional sales center on tires for passenger cars, trucks, and buses.

In fiscal 2002, we reinforced our product lineup, emphasizing high-performance tires, and actively promoted our products. Sales in Europe thus skyrocketed. Demand was particularly strong for recently introduced products, such as our high-performance AVS Sport and A539 tires. To strengthen regional promotions, we aired television commercials on the Euro Sports channel, which is broadcast around Europe. We also supplied one-make tires to the F3 German Championship and implemented other plans to raise awareness of the Yokohama brand.

Major automakers selected Yokohama tires for their new models. Aston Martin Lagonda Limited adopted our AVS Sport as the standard tire for its V12 Vanquish and the 19-inch optional tire for the 2002 DB7 Vantage.

Introducing a More Comfortable Tire Based on New Concept

In the spring of 2002, we launched the AVS dB tire for passenger cars. This model offers a highly comfortable and quiet ride. In Europe, where the emphasis is on comprehensive performance, no other tires have emphasized comfort. Our new concept is pioneering new customer niches, and we plan to sell 200,000 units per year. In fiscal 2003, we plan to further expand sales in Europe. We will inaugurate full-scale marketing of our AVS WINTER tire, launched in fiscal 2002, thus expanding the range of tire sizes in our lineup. We will also commercialize new tires for vans, trucks, and buses.

Sales Up in the Middle East

Japanese automobiles remain popular in the Middle East. Yokohama is fast becoming synonymous with excellent quality, as many new Japanese cars come equipped with our tires. In fiscal 2002, sales were strong for a new tire offering superb comfort, introduced in May 2001. This product helped us increase regional sales.



Aston Martin Lagonda adopted the high-performance AVS Sport for installation on its V12 Vanquish model, with a 450-horsepower engine delivering a maximum speed of more than 300 kph.

MB REVIEW OF OPERATIONS GROUP

Fiscal 2002 in Review

During the year, Yokohama advanced its sales of antiseismic rubber bearings for bridges, sealants for buildings, conveyor belts, and aircraft components. However, sluggish private-sector capital investment and consumer spending in Japan lowered sales of hoses and golf products. In this situation, sales of the MB Group declined 1.4%, to ¥115.6 billion.



SEALANTS AND ADHESIVES

Yokohama markets sealants for buildings and homes, as well as industrial and automotive adhesives, under its HAMATITE® brand name. We are the top in the

Japanese market for building sealants. In addition, we are the No. 1 supplier of windshield sealants, which we market to automakers. In fiscal 2002, sales of sealants for buildings increased, but demand was down for our windshield sealants.

We released several environmentally friendly products during the term. ECU-193, our elastic adhesive for flooring materials, combats sick house syndrome by slashing concentrations of volatile organic compounds in new homes. HOTMELT M-155, our sealant for multiple-layer glass, is a hotmelt formed from a single material. It eliminates the need to create compound hotmelt mixes and therefore reduces industrial waste. We also developed “e-can,” a recyclable polypropylene container for liquids that reduces waste volumes. We plan to steadily replace tinplate cans with this container for our products.

HOSES

Yokohama holds about 40% of the domestic market for hoses used in construction equipment and machine tools. We also boast major shares of the markets for power-steering and air-conditioner hoses used in automobiles. In fiscal 2002, we commercialized the AX Hose, which is coated with ultra-high molecular weight polyethylene. This product won top marks from users for its abrasion-resistance and durability. On the other hand, production in Japan was off at construction machinery and machine tools manufacturers, thus cutting our sales of hydraulic hoses. In addition, falling prices and a decrease in the production volume of new automobiles in Japan brought down our sales of automotive hoses.

Yokohama is steadily adopting materials with low environmental impact in its production of hoses. In the year under review, we made a full-scale shift to chlorine-free rubber in our hydraulic hoses, greatly

raising the ratio of chlorine-free products in our hoses lineup.

CONVEYOR BELTS, MARINE HOSES, AND FENDERS

Sales of our conveyor belts, marine hoses, and fenders increased in fiscal 2002, primarily in markets outside Japan. The weak yen contributed to this result, but we also won large orders through new products and aggressive marketing.



Sales of conveyor belts were strong overseas.

Yokohama's sealants for buildings were used in constructing the Nagoya Dome. Although the dome is sealed, the roof center lets in natural light through glass plating. With a capacity of more than 40,000, the dome hosts pro baseball games, concerts, and even imported automobile shows.



ANTISEISMIC RUBBER BEARINGS AND JOINTS

In May 2001, Yokohama began marketing its SHDR ultrahigh-attenuation rubber bearings, which offer more than 20% better attenuation performance than earlier models. These bearings significantly reduce the effects of earthquake vibrations on bridge supports, making enabling the design of more compact bridges with smaller supports, at lower cost. We shipped our first SHDR bearings to Japan's Ministry of Land, Infrastructure and Transport in October 2001. New products, combined with our winning of large contracts, such as for the Second Tomei Expressway project, significantly raised sales of antiseismic bearings for bridges.



Active marketing activities drove strong sales of antiseismic rubber bearings for bridges.

We also achieved favorable sales for highway-expansion joints, which are fitted between girders to compensate for contraction and expansion caused by temperature changes and earthquakes. Orders soared for our Big Joints, designed with up to 30cm of elasticity for spaces surpassing 60cm.

GOLF PRODUCTS

Our Speed Titanium TR and Speed Titanium TR-X drivers, which can send balls incredible distances, became hit products in fiscal 2002. However, generally weak domestic demand for golf products led to an overall decrease in category sales.

The Speed Titanium TR driver's excellent performance stems from a highly repellent, ultrathin face that provides superb initial acceleration when the golf ball is hit.

AIRCRAFT COMPONENTS

REVIEW OF OPERATIONS

Sales were robust for lavatory modules and drinking water tanks to The Boeing Company of the United States, and we also increased sales of metallic components for aircraft engines. As a result, category sales were up from the previous fiscal year. We received our first metallic engine component orders for the growing market for regional jet aircraft, with deliveries commencing in May 2002. We will eventually supply Boeing with lavatory modules not only for existing 757 models, but also for next-generation 737 jet aircraft.

Yokohama Rubber (Thailand) posted favorable sales of windshield sealants to the local production facilities of Japanese automakers.



OVERSEAS PRODUCTION

In the United States, SAS Rubber delivers automotive hoses to the Ford Motor Company and also to DaimlerChrysler via an assembly maker. In fiscal 2002, sales to the U.S. Big Three automakers and demand for exports to Japan helped increase SAS Rubber's sales of automotive hoses. Sales were down at subsidiary YH America, which manufactures metallic fittings for hoses, assembles hoses, and produces windshield sealants. The reduction reflected weak auto production in North America.

Yokohama Rubber (Thailand) Co., Ltd., produces windshield sealants and supplies hose assemblies. A recovery in unit-based automobile production in Thailand and other Southeast Asian countries boosted sales of this company's windshield sealants. In contrast, demand was flat for hydraulic hoses for construction machinery, causing a sales decline.

The aims of Yokohama's technological development are to enhance product performance, ensure low costs, conserve energy, and preserve the environment. We emphasize the development of new and composite materials. Following is a summary of significant achievements in fiscal 2002.

Advancements in Silica Surface-Treated Carbon Black Technologies further Improve Fuel Savings

In 1998, Yokohama established a revolutionary production technology to create Silica Surface-Treated Carbon Black. Using this chemical technique, we bond silica with carbon before compounding with rubber. In fiscal 2002, we took this production technology to new heights, developing techniques to granularize silica and carbon, and to create even stronger silica-carbon bonds during compounding. Owing to this new method, the surface area of silica-carbon expands, thereby enhancing tire grip and fuel savings. The stronger bonding between silica and carbon additionally improves abrasion resistance. In fiscal 2002, we used this technology in our DNA map-RV and DNA map-i tires for minivans and one-box cars.

First Tire Manufacturer to Apply SPH Analysis in Tire Development

The smoothed particle hydrodynamics (SPH) analysis method, which is at the cutting edge of computational mechanics, was first developed in the 1970s as an astronomical tool to measure the movements of galaxies and nebulae. Yokohama has become the world's first tire manufacturer to apply this technique in product development, specifically to create wet simulation technologies that precisely analyze the water displacement of tires. With the conventional finite element

method, it is impossible to track water flows, which change constantly with tire rotation. The SPH approach allows analysis of water flows within tire grooves and of the direction of water sprayed from the grooves during tire rotation. This enables more precise forecasts of water displacement, thus simplifying prototype testing. Yokohama will eventually be able to slash development costs and lead times with the SPH methodology.

Functional Elastic Road Paver (FERP) Effectively Counters Noise

Yokohama applied used tires to develop the Functional Elastic Road Paver, or FERP, which provides an effective countermeasure to road noise. This material, formed by applying urethane resin to rubber chips produced from used tires and borax, is distinctive for its high porosity and excellent elasticity. The numerous gaps in the material absorb the sounds created by air compression when tires are in contact with the road, and the elasticity of the rubber reduces tire impact. Both of these qualities help reduce overall road noise. For example, conventional low-noise materials lower noise by only around 3 decibels, but FERP cuts noise by more than 10 decibels. The viability of the new material has attracted great industry attention. We are testing the durability and practicality of FERP with an eye to commercialization.

ENVIRONMENTAL PROTECTION

To deal with specific environmental issues, we established the Environmental Preservation Promotion Department in 1992 and the Environmental Preservation Promotion Committee, which is chaired by the president of the Company, in 1993. These organizations supervise environmental preservation activities throughout the Yokohama Group.

“e-can” Sealant Container Helps Reduce Industrial Waste

Yokohama has developed “e-can” sealant containers. Made of polypropylene, they significantly reduce industrial waste. These containers are strong, yet easily crack from top to bottom, facilitating scrapping after usage and reducing container volume to one-eighth that of tinplate cans. Our initial goal is to use “e-can” technology to reduce industrial waste from product scrapping, but we also plan to establish a collection and recycling network for used “e-can” containers.

Sponsoring Electric Car Tour of Japan

Yokohama was a primary sponsor of 2001 Challenge & Charge, a tour of Japan held by the Japan Electric Vehicle Club. During the tour, an electric vehicle traveled throughout Japan. Drivers stopped the car at people’s homes for recharges. Yokohama’s sponsorship included supplying tires for the car. The tour was designed to raise public understanding of electric vehicles, which do not emit carbon dioxide and run more quietly than conventional cars, and promote greater environmental awareness. The tour was from April to October 2001. The vehicle traveled 12,300 km and made 619 charging stops, which the cooperation of 1,171 people made possible.

Announcement of Environmental Accounting Results

Yokohama began disclosing environmental accounting information in fiscal 2002. Our costs from and investments in environmental preservation measures in fiscal 2001 totaled ¥1.9 billion, and the economic effects of revenues from energy-saving and recycling activities amounted to ¥522 million. Environmental preservation benefits (quantity of materials) included reductions of 1.5% in carbon dioxide emissions, 3% in water used, and 13% in industrial waste generation.

Rubber Waste Recycled into Tire Materials

Toyota Central R&D Labs., Inc., Toyota Motor Corporation, and Toyoda Gosei Co., Ltd., collaborated in the development of the shear flow stage reaction control technology for rubber recycling. We applied this advance to innovate a materials-recycling technology that lets us transform used rubber materials and treads from truck and bus tires into high-quality rubber. We aim to raise the volume of recycled rubber in new tires, thereby conserving resources and reducing production costs.