

The Asian tire industry

With assistance from U.S. and European manufacturers, the Asian tire industry sputtered along until the 1930s when auto tire production finally exceeded that of bicycle tires in Japan.

On May 7, 1904, Torao Yamahane took his place in 20th century industrial history when he got behind the wheel of Japan's first automobile.

Yamahane, who had built the vehicle in his home garage, was the owner of a small electric shop in Okayama in southern Japan.

According to newspaper accounts, his four-wheel creation – looking more like a steam bus than a modern-day automobile – was mechanically sound as it embarked on its historic test run. The vehicle nevertheless failed to reach its final destination, breaking down after only several kilometers. Neither the tires nor wheels were up to the task.

In fact, the vehicle's tires came almost as an afterthought to Yamahane. Consisting of little more than strips of rubber draped around each of the four wheels, they slipped off early in the run. Shortly thereafter, the vehicle's wooden hubs crushed under the weight of driver and car, both winding up in a cloud of dust in the middle of the road.

Nevertheless, the test was dubbed a success, and the Japanese auto industry officially was born.

It would be another nine years before Japan would produce its first auto tire. And when this was accomplished in the summer of 1913, it would be at the hands of a foreign maker, Dunlop U.K.

As in Europe and the U.S., development of pneumatic tires for automotive use lagged behind the actual development of the automobile itself. But even more importantly, this demonstrated how dependent the tire industry is on a strong auto production capability, which Japan clearly lacked.

Dunlop, credited with inventing the pneumatic tire, established a wholly owned subsidiary in the industrial port city of Kobe. Dunlop Rubber Co. (Far East) Ltd., formed in 1909, was the site of Japan's first modern rubber factory, producing both bicycle and solid rubber rickshaw tires. Four years later, it made the country's first auto tire.

That was 75 years ago. And since that time, the industry has produced more than 2 billion tires, although there is no precise count as many of the early records were destroyed during World War II.

Dunlop (Far East), the present-day Sumitomo Rubber Industries Ltd., would change its name to Dunlop Rubber Co. (Japan), Ltd. in 1937. Sumitomo Rubber did not come into existence until 1963. That was several years after the Sumitomo Group, led by Osaka-based Sumitomo Electric Industries Ltd., began its capital participation in the operation.

Shortly after the formation of Dunlop (Far East), Yokohama Rubber Co. arrived on the scene. It too would rely heavily on foreign technology and capital. Established in 1917, Yokohama Rubber was a joint venture between U.S.-based B.F. Goodrich Co. and Furukawa Electric Co., today one of Japan's leading makers of electric wire and cable. Both companies contributed equal capital to the operation.

Yokohama produced its first tire in 1920. The following year it manufactured Japan's first cord tire. Its early business activities were mainly in the manufacture of bicycle and automobile tires.

Dunlop (Far East) and Yokohama Rubber, primarily a Tokyo area operation, would dominate the industry throughout much of the pre-war period. But to suggest they were anything more than small-scale operations might give a false impression of what actually was taking place within the infant industry.

For much of its first quarter century, or until the middle of the 1930s, the Japanese tire industry literally just sputtered along. According to very rough estimates, natural rubber consumption in tire production totaled only 7,000 metric tons in 1931, the year Nippon Tabi Co., the forerunner of Bridgestone Corp., began trial production in Kurume, southern Japan.

It was not until 1932 that automobile tire production passed bicycle tire production. And while statistical information is sketchy, it's believed domestic production finally surpassed imports that year.

Historians attribute this sudden market change to the onset of hostilities on the Chinese mainland. Japan, which had expansionist designs on the Asian continent, was at war with China more than a decade before its attack on Pearl Harbor, and that situation continued until its defeat in August 1945.

As Japan prepared for war and its military needs expanded, the Japanese auto and tire industries entered a new phase.

Asian tire industry developed during war

"With the increased demand for military trucks beginning in 1931," said Rubber Times Editor Matsuo Tamura, "it became obvious Japan would need its own tire production capability."

Prior to that time, growth in the tire sector was slowed by the virtual non-existence of a domestic automobile manufacturing capability. In 1926, the year after the arrival of Ford Motor Co. from the U.S., cumulative vehicle registrations totaled only 56,000 units and almost all of those imported.

Ironically, it would be the unprecedented growth of the Japanese auto industry following World War II that would serve as the major impetus for the explosion in tire demand.

Bridgestone, the industry's top maker today, did not begin production of automobile tires until 1930 when it commenced trial tire production inside a Nippon Tabi warehouse.

Shojiro Ishibashi, Bridgestone's founder and first president, was part owner of Nippon Tabi, a leading maker of traditional Japanese footwear. Ishibashi formed Bridgestone Tire Co. a year later.

The company, which today is headquartered in Tokyo, is considered Japan's first indigenous tire manufacturer. At least it's the first of those that remained in the field. Several small companies fell by the wayside in the early years.

At the outset, Bridgestone, which was capitalized at approximately \$1 million, concentrated on truck and bus tire production mainly for sale to the Japanese subsidiaries of Ford and General Motors Corp.

The two U.S. automakers, primarily engaged in the assembly of trucks and buses, would come to dominate the market for nearly a decade until the late 1930s.

Arriving several years after the Great Tokyo earthquake of 1923, their share of production during much of this period exceeded 95%. At their peak, which was during the height of the Great Depression, they were turning out as many as 30,000 vehicles annually.

"As the nation drew closer to war," said Japanese auto industry historian Mitsuo Nakao, formerly a senior executive with Mitsubishi Motors Corp., "the Japanese government felt that dependence on two foreign makers weakened its position."

Import limitations subsequently were placed on foreign vehicle production in 1936, and within the next two years, both Ford and GM effectively were driven from the market, never to return.

Similarly, Japanese tire makers came under strict control of the government. Almost all their production was for the military. A virtual ban on auto production for civilian use, coupled with a closed-door policy to the importation of most cars,

denied tire makers an opportunity to develop a potentially important OE market base.

So intense was the national xenophobia that both Dunlop and Bridgestone were forced to change their names. Bridgestone, which earlier had attempted to create an international name and image, became known as Nippon Tire Co. from 1942 until the final year of Allied occupation in 1951 or just prior to its entering into a technical agreement with Goodyear Tire & Rubber Co. Meanwhile, Dunlop (Japan) adopted the name Chuo Rubber Co. Ltd.

The war also fostered the establishment of at least two new tire makers: Toyo Tire & Rubber Co. in December 1943 as a subsidiary of Toyobo Co., the large Japanese textile maker, and Dai Nippon Kokuki Tire K.K. several months later in May 1944.

Dai Nippon Kokuki, which was set up to produce aircraft tires, later would change its name to Ohtsu Tire & Rubber Co. Since 1981, it has been an affiliate of Sumitomo Rubber, presently holder of 48% of its equity. Altogether the Sumitomo Group, including Sumitomo Electric, owns more than 50% of the Osaka-based tire maker.

The war years were particularly hard on Japanese tire makers. The industry, still dependent on the West for much of its technology, was denied access to valuable new processes and markets. Moreover, as almost all of production was for military use, private sector demand virtually ground to a halt and with it an important source of industry innovation.

The war impacted the industry in yet another more deadly way: Before Japan's August 1945 surrender, Allied precision bombing leveled the factories of the nation's top two makers – Dunlop and Yokohama Rubber – and in the rubble were many of the tire industry's early records.

Bridgestone's Kurume plant, away from the major population centers of Japan, remained largely untouched. As a result, the company was able to resume production just two months after the cessation of hostilities. Bridgestone, which today boasts a nearly 50% production share, would move into the top position for good in 1953. Its aggressive expansion into the radial tire field in the 1960s and 1970s, ahead of its major Japanese competitors, reinforced the company's dominant position in the market.

Post-war period

After the war's end, Japanese tire makers wasted little time in renewing their technical affiliations with foreign producers. Goodrich regained its equity stake in Yokohama Rubber. And Bridgestone tied up with Goodyear.

“After the war,” said Bridgestone archivist Toshiuki Seto, “the impetus for growth was the Japanese auto industry.”

As productivity has raised – Japanese tire makers now are making more than 150 million units a year – so has the level of technology. And this fact, more than any other, is held to be responsible for the recent spike of overseas acquisitions and joint ventures. By the early 1980s, many observers were arguing that the technological level of the industry had already reached parity with the West.

In 1983, Sumitomo rubber acquired the European production base of Dunlop Holdings P.L.C., then deeply in the red. Within three years, the Japanese company had turned around the operations. Then in December 1986, Sumitomo bought a majority interest in Dunlop Tire Corp. of the U.S.

In December 1987, Yokohama Rubber, Toyo Tire, Continental A.G. of West Germany and its U.S. subsidiary General Tire signed a far-reaching agreement to exchange production and technology that also is expected to include construction of a radial truck tire plant in the U.S.

Bridgestone, which purchased Firestone’s La Vergne, Tenn., truck tire plant in January 1983, followed in March of this year by purchasing Firestone’s worldwide operations for \$2.6 billion.

Asian Tire Companies Established

(Order of entry)

**1909/1913* Sumitomo, Japan
(Formerly Dunlop Far East)**

1917/1920* Yokohama, Japan

1931 Bridgestone, Japan

1934/1964* Okamoto, Japan

1941 Hankook, Korea

1943 Toyo, Japan

1944 Ohtsu, Japan

(Formerly Dai Nippon Kokuki)

1949/1979* Ryoto, Japan (formerly Nitto)

1960 Kumho, South Korea

(Formerly Samyang)

**for companies with two dates, the second denotes its entry into tire manufacturing*