

# 13.

## Sunset for SunTour

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The Maeda Iron Works Company was founded by Shikanosuke Maeda in 1912 in Kawati-Nagano. Maeda made freewheels and sprockets for bicycles and agricultural machinery. Maeda was owned by the Maeda and Kawai families. A few months later, Maeda moved to Sakai. The original sprockets and freewheels were called 8.8.8.

### Introduction

It was a good time to start a bicycle components business. World War I ended bicycle imports into Japan. Osaka was a center of Japan's small arms production. After World War I, many of the Japan's newly established small arms factories started producing bicycles. Similar swords-to-plowshares transitions took place in Saint Etienne, France and Birmingham, England.

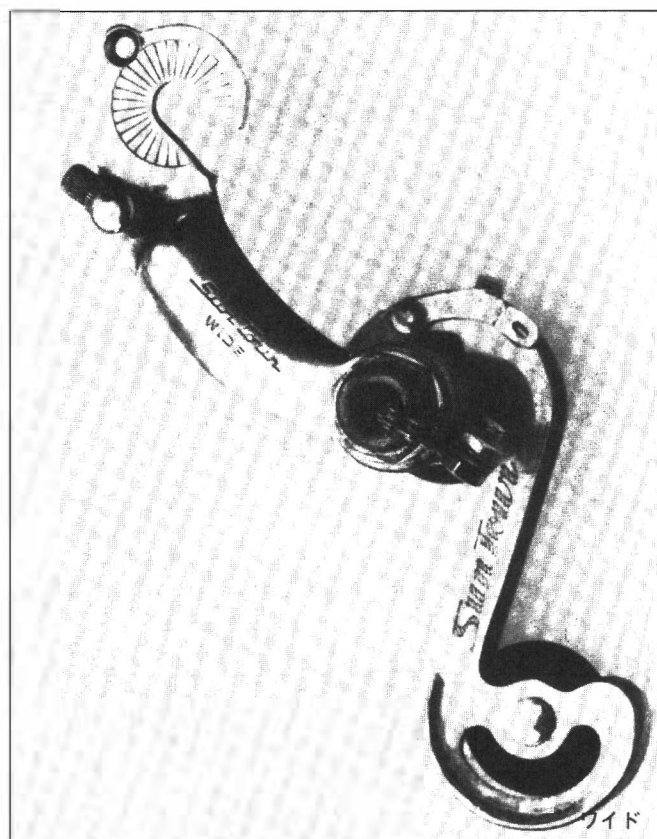
In 1931, Mr. Taizo Kumagai married Shikanosuke Maeda's daughter and changed his name to Taizo Maeda.

During World War II, the Maeda Iron Works merged with eleven other small factories. The new company was called Toa Seiki Kosakusho. Taizo Maeda was elected President. The merged company was taken over by the Japan's military government in 1943 and became a subsidiary of the Kure Military Factory and produced ammunition.

On July 10, 1945, a major B-29 raid on Osaka burned out the Maeda factory. The factory was rebuilt after VJ Day and by 1946, 58 employees were producing freewheels at prewar volumes. Twenty-five year-old Junzo Kawai joined Maeda Iron works in 1946. He moved ahead rapidly and became President when Taizo Maeda passed away in 1975.

At the end of World War II, there were about 7 million bicycles in Japan. The Japanese bicycle industry was centered in Osaka, which had been heavily

Fig. 13.1. 1956 SunTour 8.8.8 Wide rear derailleur. SunTour's first derailleur was copied from Simplex or Huret.



bombed. The industry slowly rebuilt after World War II. There was a large demand for basic one-speed bicycles to provide transportation for a Japanese population that had few motor-vehicles and little money for gasoline.

Japan's pre-war experience with multi-gear bicycles had been with British Sturmey-Archer and BSA three-speed hub gears. Very few derailleur bicycles were imported into Japan in the years immediately after World War II.

In 1949, Junzo Kawai visited Europe. He brought back samples of freewheels and derailleurs. He concluded that Maeda should make derailleurs and multi-speed freewheels. The company name changed from Toa Seiki back to Maeda Iron Works in 1949. By 1950, Maeda Iron Works had 122 employees and annual sales of about forty million yen (\$110,000).

## The First SunTour Derailleurs

In 1951, a series of Japan versus U.S. bicycle races were held in Japan. French racing bicycles with Simplex derailleurs were brought to Japan for the races. Shortly afterward, Sanko-Sha came out with a copy of the Simplex Tour de France rear derailleur.

Fig. 13.2. Prototype mystery SunTour rear derailleur.

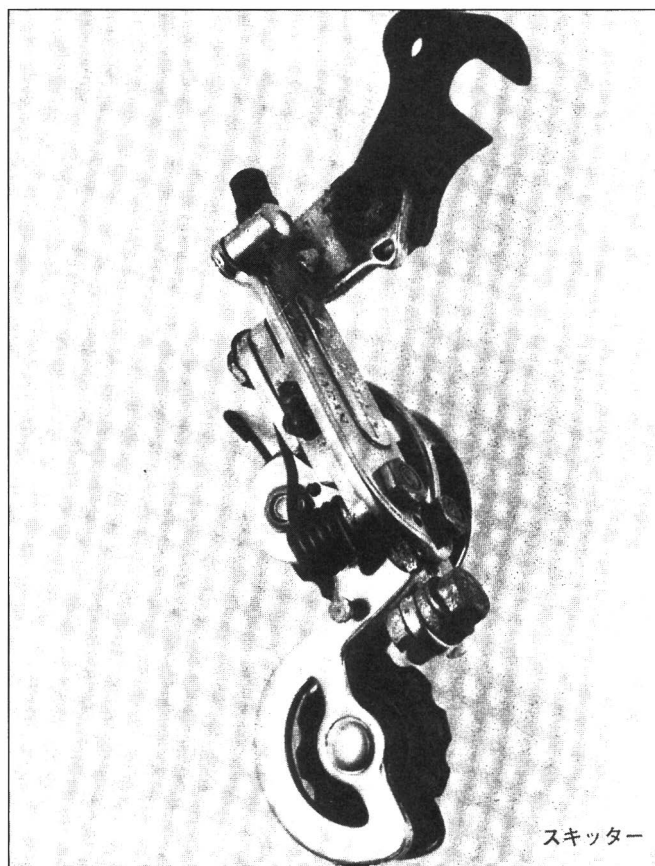


This was the beginning of the Japanese derailleur and multi-sprocket freewheel industry. Shimano, Maeda (SunTour), Cheruvino, Dia/D.N.B./Dynamic, and Sanko were early Japanese derailleur makers. In the mid-1950s, most of them copied the pull-chain Simplex Tour de France racing derailleur. By 1955, Maeda Iron Works had 177 employees and sales of about 90 million yen (\$250,000).

In late 1956, the first SunTour rear derailleur, the 8.8.8 SunTour Wide, was made for Maeda by the Iwai Seisakusho company. The SunTour Wide was a beefed-up copy of a typical French pull-chain, rod-guided, touring derailleur. It's hard to say if Maeda copied the Simplex Gran Tourisme, the Huret Randonneur, or the Cyclo Tourist, since they were nearly identical. In the 1950s, the French companies copied from each other.

When the Iwai Seisakusho company went bankrupt in 1958, the Maeda factory started making SunTour derailleurs.

Fig. 13.3. Ca. 1963 SunTour Skitter rear Derailleur. This was copied from the Huret Svelto. The first Skitter did not have the slant parallelogram.



Most of the early SunTour derailleur were stamped SunTour (one word with a capital “T”). Sometimes they were stamped Suntuor (one word with a lower case “t”) and sometimes there was a space between the Sun and the Tour (two words). From the very beginning, there was confusion over the “correct” spelling of the company’s brand name, which continues to this day. In this paper, I spell it SunTour.

The Japanese demand for lightweight sport bicycles became significant in the middle 1950s, providing a domestic market for derailleurs and freewheels. The demand for derailleur bicycles lasted only a few years and then the Japanese sport bicycle buyers switched to three-speed hubs.

In 1959, about 20 million bicycles were in service in Japan and 3 million bicycles were sold. The vast majority of these were inexpensive one-speed urban transportation bicycles. Sales of mopeds were booming and Maeda supplied moped components.

By 1960, Maeda Iron works had 156 employees and sales of 120 million yen (\$330,000). The first SunTour Skitter was an inexpensive stamped steel

parallelogram rear derailleur was made in the early 1960s. It was similar to the Huret Svelto.

## 1964: Invention of the Slant Parallelogram Rear Derailleur

Nobuo Ozaki, the head of Product Development at Maeda, invented the slant parallelogram rear derailleur in 1964 and Maeda obtained worldwide patents on the design.

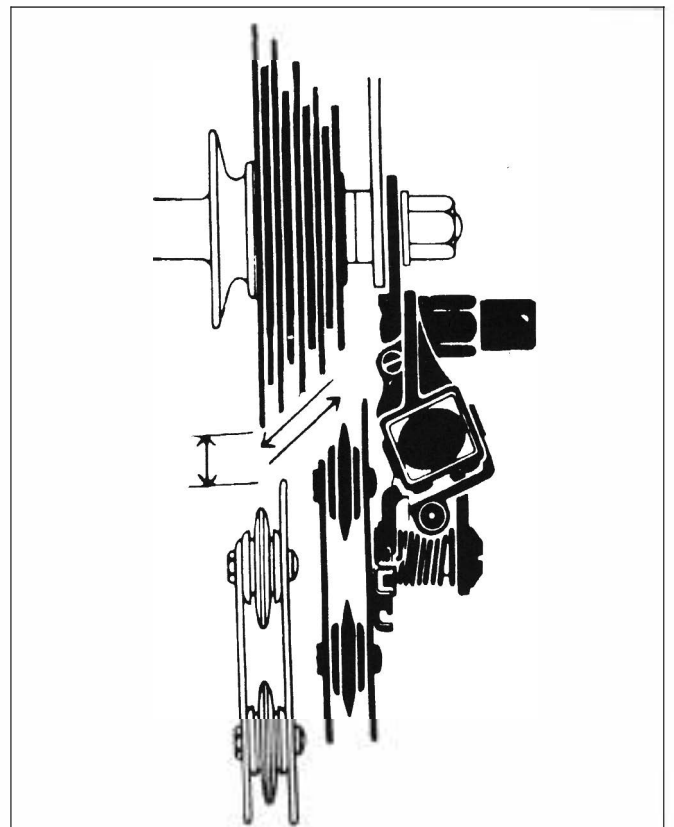
This was a significant invention. The jockey pulley tracked the angle of the freewheel sprockets and maintained a nearly constant distance (chain gap) between the jockey pulley and the sprocket. For the next twenty years, SunTour produced technically superior derailleurs. SunTour’s slant parallelogram design broke the image of Japanese components being cheap copies of European components.

SunTour had good patent attorneys and they vigorously defended the slant parallelogram design. All of the major derailleur makers incorporated slant parallelograms when the patent expired in 1984.

Fig. 13.4 Nobuo Ozaki, head of Product Development at Maeda, was the inventor of the slant parallelogram.



Fig. 13.5. SunTour’s slant parallelogram moved the jockey pulley down as it moved inward, providing a constant chain gap and precise shifting.



The first slant parallelogram rear derailleur was the 1964 Grand Prix. SunTour's timing was good because the quality bicycle market was turning from hub gears to derailleurs both in Japan and world wide. The bicycle races at the 1964 Olympics in Tokyo provided great publicity. SunTour became the largest derailleur manufacturer in Japan.

Derailleur sales went hand in hand with multi-sprocket freewheels. SunTour's Perfect free-wheel was a first class design with three splined sprockets and two or three threaded sprockets. It offered a complete range of sprockets between 14 and 28. Over the years, larger sprockets, 30-, 32-, 34-, and even 38-tooth were offered.

The JASCA (Japan Sports Cycle Association) was formed in 1963 and expanded in 1964. JASCA promoted Japanese bicycle components with joint advertising and marketing. It consisted of Araya (rims), Daido (chains), Dia Compe (brakes), Maeda-SunTour (derailleurs and freewheels), HKK (chains), Kusuki (handlebars and stems), KKT (pedals), Nankai (coaster brakes), Shimano (hubs, freewheels, and derailleurs), Sugino (cranksets), Taihei (saddles), and Takagi (cranksets).

JASCA had problems promoting competing companies. In 1969, JASCA split into two trade associations: JBM (Japan Bicycle Manufacturers) and

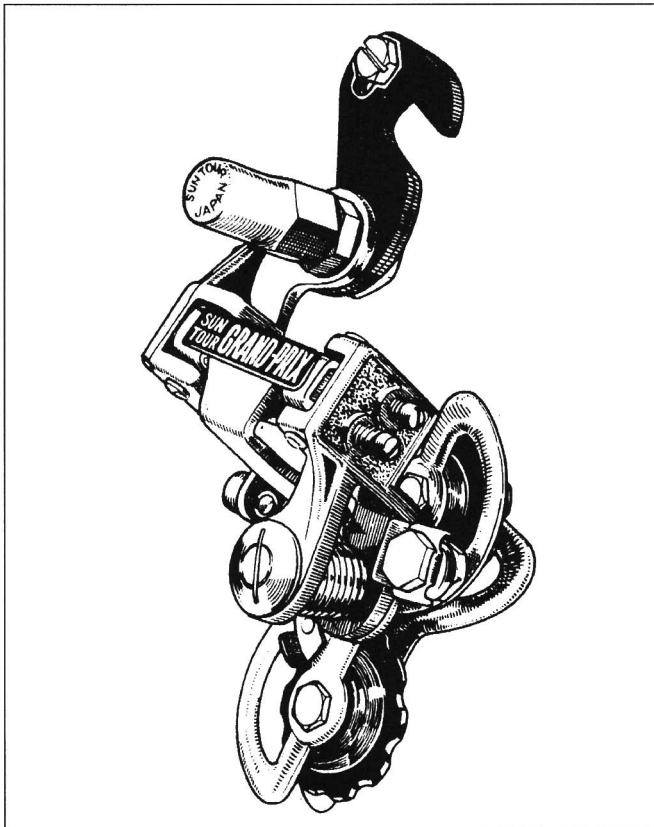
JEX (Japan Bicycle Parts Manufacturers Group for Export Promotion).

The JBM group consisted of Araya, KKT, Sakae Ringyo (cranksets), Shimano, Takagi, and Tange (tubing). JBM did not have a non-compete requirement. As Shimano grew, it expanded into components that competed with the other JBM members. JBM broke up in 1984.

The JEX group consisted of Dia Compe, HKK, Maeda-SunTour, Nankai, Sugino, and Taihei. The JEX members agreed not to compete with each other's products. This turned out to be a liability in the 1980s, when the market turned to gruppos. When SunTour sold gruppos, they bought the other components from their JEX partners. By this time, Shimano was a much larger company, with a much broader sales base.

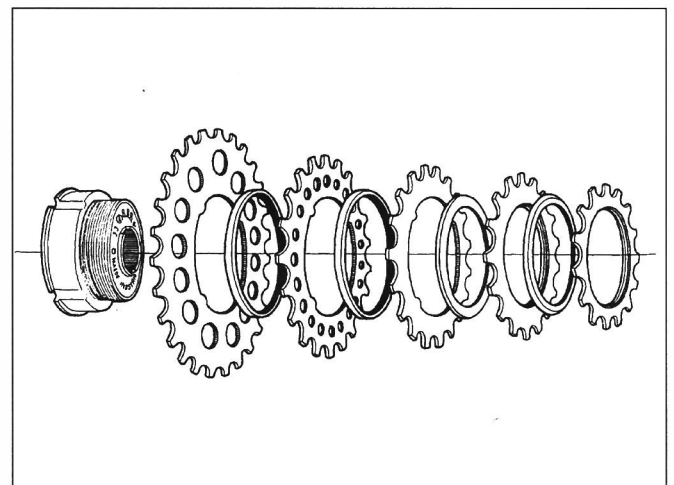
Maeda SunTour opened the Mihara factory in 1965. Total employment was 171. Sales grew to about five hundred million yen (\$1,400,000). This included 600,000 one-speed freewheels, 400,000 multiple freewheels and 300,000 rear derailleurs.

SunTour made their first front derailleur, the Spirt, in 1966. Most of SunTour's front derailleurs worked "backwards" to other makers. Pulling the cable shifted from the large to the small chainwheel. The return spring shifted from the small to the large



Left: Fig. 13.6. 1964 SunTour Grand Prix derailleur. This was the first rear derailleur with slant parallelogram geometry.

Below: Fig. 13.7. SunTour Perfect freewheel. It offered a complete range of sprockets between 14 and 28 teeth.



chainwheel. This was a better design because both levers gave a lower gear when pulled back. In addition, the down shifts are more severe as you drop to the smaller chainwheel under load. I used to write that SunTour worked correctly and that other front derailleurs worked backwards. Still, many writers criticized SunTour's unconventional design.

The SunTour Grand Prix rear derailleur was followed by the Competition, the Honor, the V, the second Skitter (RD 2200), and the Hero.

Both SunTour and Shimano wanted to export, but developing an export market for derailleurs was a slow process. The French component companies, especially Simplex, were well established. The mass-produced Simplex Prestige rear derailleur was largely plastic and cheap to manufacture. French bicycle companies were the largest exporters of derailleur bicycles and they used French components.

By 1965, SunTour and Shimano had taken over the Japanese domestic market for derailleurs and freewheels. Until about 1968, SunTour sold only to the domestic Japanese market. SunTour made better derailleurs, but Shimano was the better marketer and by 1970, Shimano had the larger share of the domestic Japanese market.

From 1965 to 1970, "High-Risers" or "Sting-Rays" were a hot item in the U.S. The more

expensive models had a five-sprocket freewheel with a "Stick-Shift" lever mounted on the top tube. American high-riser bicycles were one of the first markets for Japanese components. SunTour sold a few derailleurs and stick shift levers, but Shimano and Huret were the main suppliers.

Interestingly, SunTour made an indexed stick-shift lever, called 5-Speed Click, in 1969. SunTour also made a combined freewheel plus rear hub, called Unit-Hub, in 1969 for small wheel bicycles. This was a decade before Shimano offered indexed shifting or freehubs. SunTour did not follow through on either of these innovations.

In 1968, Junzo Kawai made extensive studies and concluded that it was time to enter the international market. SunTour attended the European and American bicycle shows, ran ads in the trade magazines, and made sales calls on the bicycle makers.

Shimano did better in the U.S. market. Shimano made a first class three-speed hub and aggressively marketed hubs, freewheels, and derailleurs. They established the Shimano American office in New York in 1965. By 1969, AMF, Columbia, Huffy, and Murray were equipping their low-priced lightweight bicycles with Shimano components.

SunTour started advertising in American magazines in 1968, but had to wait for Japanese bicycle

Fig. 18.8. Ca. 1966 SunTour Sprint front derailleur. It worked opposite to conventional derailleurs. Cable pull shifted onto the smaller chainring.

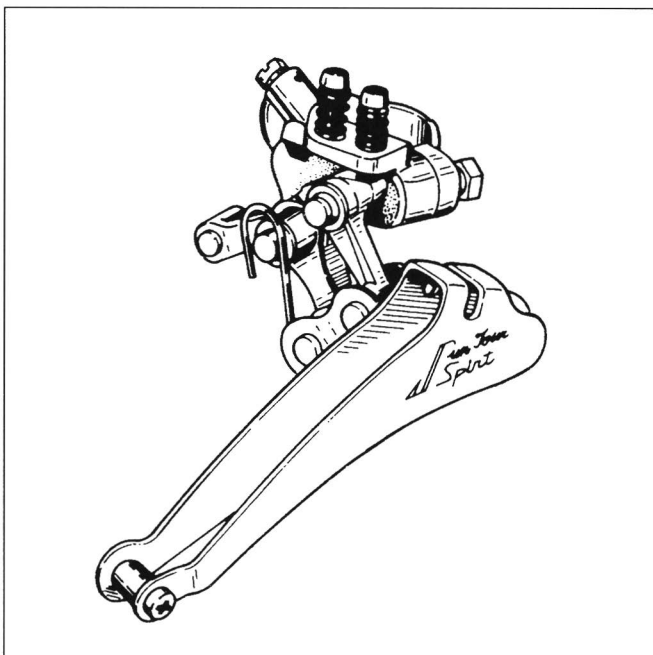


Fig. 13.9. 1969 SunTour Stick-Shift lever. It had index detents and indexed shifting fifteen years before Shimano introduced its SIS.



makers, like Panasonic, Fuji, and Bridgestone, to develop an export market for Japanese bicycles with SunTour derailleur.

The Japanese bicycle industry recognized the potential for export growth of the light weight bicycle market. The Japan Trade Center exhibited Japanese components at the 1970 Amsterdam show. The Japan Trade Center set up bicycle showrooms in Los Angeles and New York in the early 1970s.

Sturmey-Archer made 3-speed AW hubs with a SunTour logo on the shell for Maeda in the 1970s. The Sturmey-Archer manufacture is not mentioned in either company histories. SunTour made coaster brakes, or had them made, from 1979 to the present.

1970 was a turning point for SunTour. The company started construction of a new factory in Shiga and the name was changed from Maeda Iron Works to Maeda Industries. The SunTour brand name was used for all products. Maeda Industries had 244 employees and sales of 900 million yen (\$2,500,000). They made 1,700,000 one-speed free-wheels, 600,000 multiple freewheels, and 800,000 rear derailleurs. Sales of front derailleur and shift levers closely tracked rear derailleurs.

## 1971 to 1975: the U.S. Bike Boom

In 1970, 7 million bicycles were sold in the U.S., 5½ million of which were children's bikes. 1.2 million were coaster brake, balloon-tire adult bicycles. Just 200,000 were lightweight 3-speed or derailleur bicycles.

By 1972, total bicycle sales had doubled to 14 million. Sales of children's bicycles remained constant at 5½ million. Sales of adult balloon-tired bicycles fell to about ½ million. Sales of lightweight bicycles exploded to 8 million. Between 1970 and 1972, the U.S. market for lightweight adult derailleur bicycles grew forty-fold, from 200,000 to 8,000,000.

In 1972, 1973, and 1974, more bicycles than automobiles were sold in the U.S. The center of gravity of the lightweight bicycle market shifted from Europe to America and it never went back.

The bike boom happened in 1972 because the timing was right. The 1960s and early 1970s were a period of unprecedented wealth for young people in the U.S. There was a growing awareness of fitness and the need for exercise. Traffic congestion and air pollution were widely discussed. A small group of enthusiasts started adult bicycle touring. All of these factors set the stage for a dramatic surge in sales of lightweight bicycles.

The baby-boom children had grown up and got their first good jobs. The same social and economic

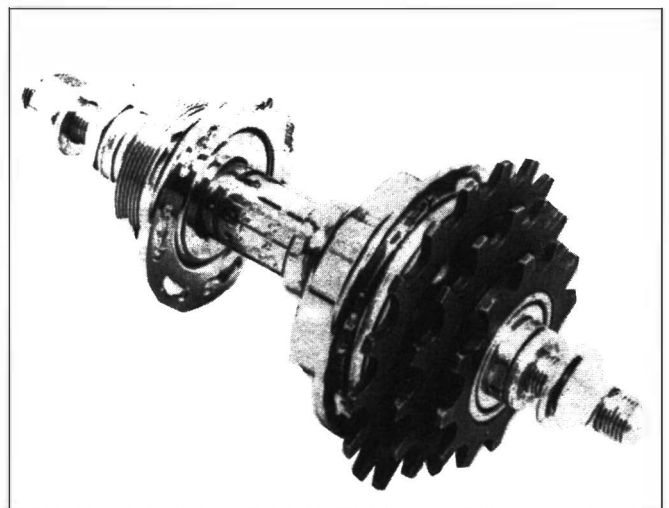


**HUFFY SPORTSTER 5**

**Derailleur:** SHIMANO 5 speed derailleur with exclusive 5 Speed TWIST CONTROL GRIP  
**Gears:** Wide ratio gearing — 33.6 to 88.0  
**Saddle:** Deluxe MIDDLEMORE touring saddle with quick height adjustment  
**Brakes:** ENWELL caliper handbrakes, front and rear  
**Accessories:** Front wheel wing nuts for quick release. Chromed luggage carrier with spring clip  
**Tires:** MILLION white sidewall 26 x 1 3/8" tires. Lightweight fenders and chain guard.  
 Mens and Ladies frames, 26"

Left: Fig. 13.10. 1968 Huffy Sportster 5. It was one of the first U.S.-made bicycles with a Japanese gear train.

Right: Fig. 13.11. 1969 SunTour Unit-Hub. It preceded Shimano's Freehub by a decade.



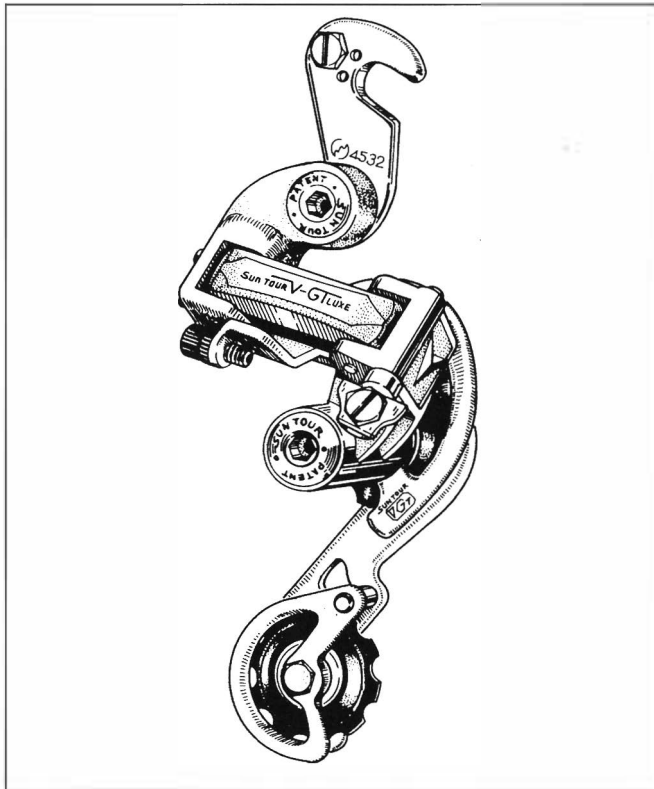
forces that allowed 15- to 30-year-olds to buy expensive high-fidelity equipment, camping equipment, cameras, and other consumer goodies unleashed the huge cohort of baby-boomers onto the bicycle market. It was an easy sell because a lightweight ten-speed

bicycle was fast and fun and exotic and a lot cheaper than a good hi-fi. Once the boom started, it fed on its own success.

The oil shortage did not cause the bike boom. The Arab-Israeli war began in October 1973, and the lines at the gas stations didn't happen until the end of the year. The bike boom was two-thirds over and sales were winding down for the winter. The best that can be said about the connection between the bike boom and the energy crunch was that public concern over the oil crisis kept the bike boom going for an extra year.

In the early 1970s, Simplex and Huret doubled their factory capacity. Peugeot and Motobécane, the giants of the French bicycle industry, had the capacity to churn out low-priced ten-speeds for export. The smaller French bicycle companies had also expanded their production capacity. Exchange rates for exports to the U.S. were favorable for France and less favorable for Japan.

When the bike boom took off in late-1971, the "big three" European component makers, Campagnolo, Huret, and Simplex, ran out of manufacturing capacity. They could not supply the bike



Above: Fig. 13.12. 1973 SunTour VGT touring rear derailleur. It could handle a 34-tooth sprocket. The open cage allowed easy chain removal.

Below: Fig. 13.13. 1972 SunTour Bar-Con bar-end shift lever. It was the best available at the time.

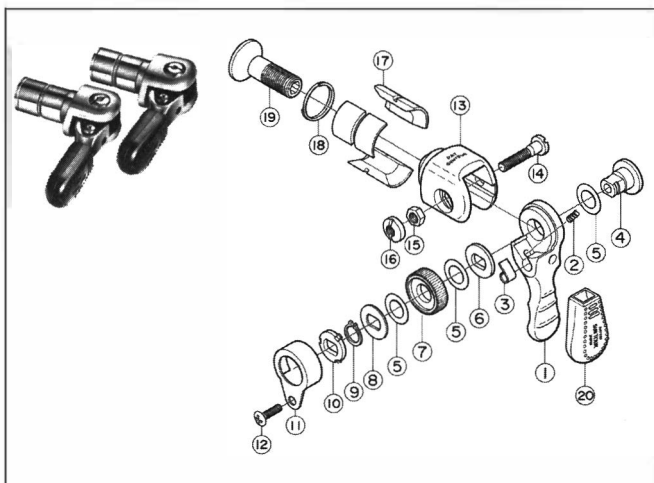
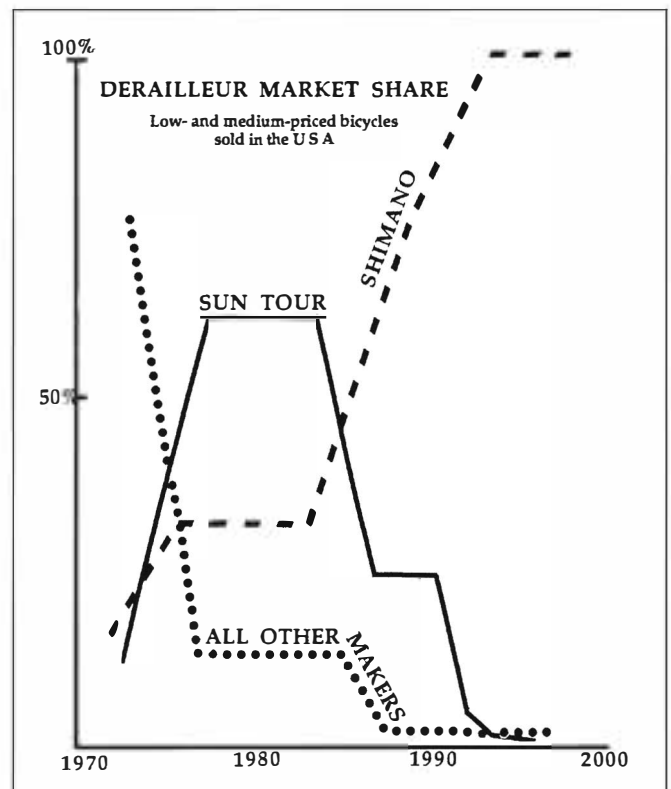


Fig. 13.14. U.S. Derailleur market share. The graph shows bicycle models, not total number of bicycles. Excludes custom-made bicycles.





boom demand, which allowed the Japanese component makers to become major suppliers.

Shimano and SunTour had also expanded their factories and they were quick to fill the void. Shimano already had a sales relationship with the low-priced U.S. makers. AMF, Columbia, Huffy, Murray, Rollfast, and Ross used Shimano Eagle or Lark derailleurs on many of their ten-speeds.

In 1972, Japan produced about 5 million bicycles per year and exported more than a million to the U.S. Japanese ten-speed bicycles used either SunTour or Shimano geartrain components. Japanese bicycles, with brand names like American Eagle (later Nishiki), Campania, Centurion, C. Itoh (later Bridgestone), Fuji, Panasonic, and Sekai, took a significant share of the U.S. market. Some of the Japanese imports were inexpensive children's bicycles, but Japanese adult ten-speed bicycles got a reputation for quality and value.

When the bike boom exploded, Shimano and SunTour had two advantages over Huret, Simplex, and Campagnolo. First, they had concentrated on the low-priced market. Their low-priced derailleurs offered better performance and value than the low-priced Huret Allvit or Svelto, Simplex Prestige, and Campagnolo Velox or Valentino derailleurs.

Second, the Japanese derailleurs were designed for the "Alpine" gearing that was popular on low-priced ten-speed bicycles in the U.S. market. Alpine gearing used a 52-40 chainwheel and a 14-17-20-24-28 freewheel. The European derailleurs were designed for European gearing, which used smaller freewheel sprockets.

In 1972, Milremo, a joint venture of Ron Kitching and Andre Bertin, became the European agents for SunTour derailleurs and freewheels. In 1975, Milremo added Shimano Dura-Ace components. This was the beginning of the Japanese invasion of Europe. Milremo selected good

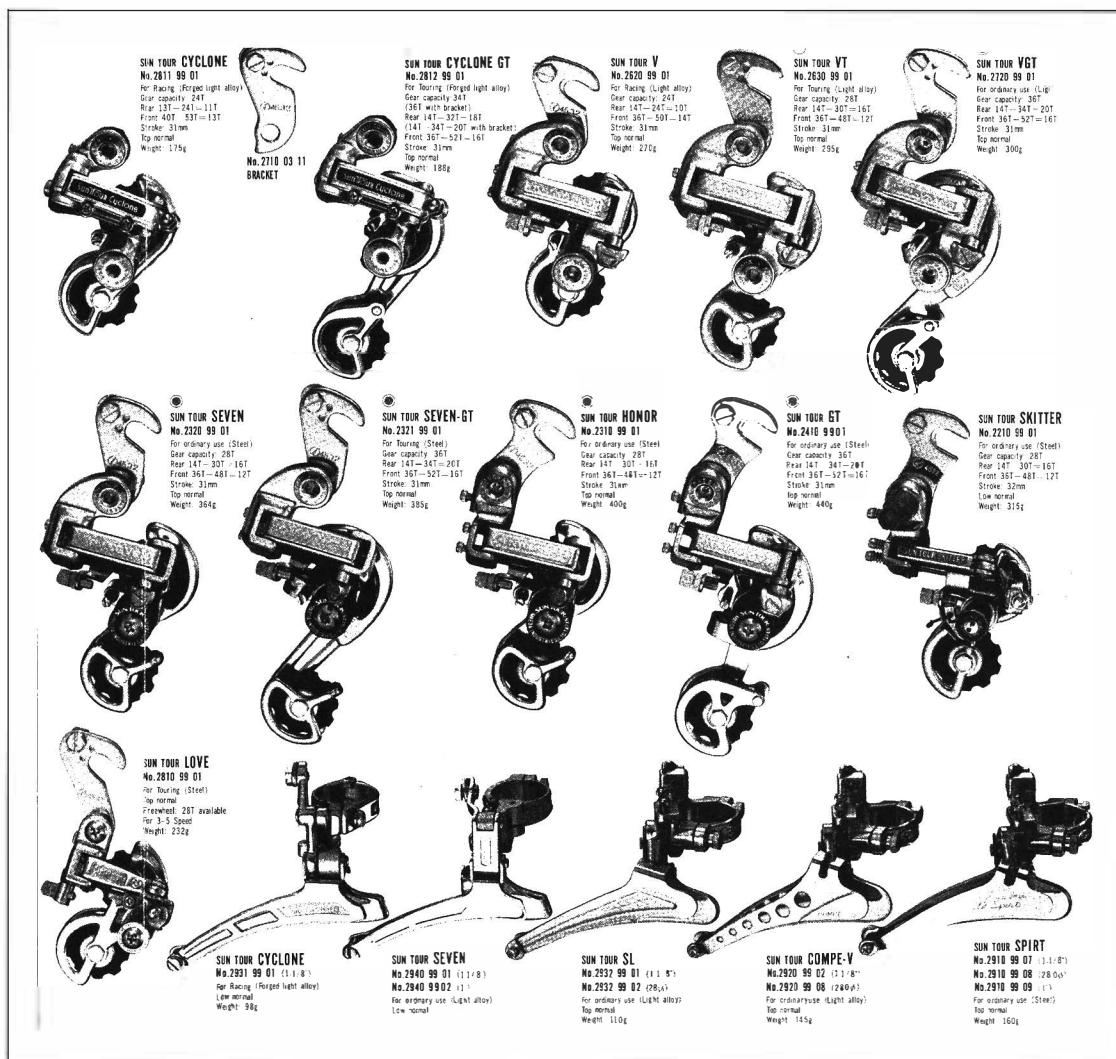


Fig. 13.15. 1976 SunTour range of rear derailleurs.



performing components that were good value and sold them widely.

When Milremo advertised and distributed Japanese derailleur, the handwriting was on the wall for Huret and Simplex. Interestingly, a few years later, Ron Kitching opted for SunTour in Britain, while André Bertin opted for Shimano in France.

By 1973, SunTour dominated the mid-priced market with narrow-range racing models, mid-range sports models, and wide-range touring models. Unlike Huret and Simplex, SunTour fine-tuned the cage-pivot location to match the expected gear range. There were SunTour steel models for the low priced market and alloy models for the low-to-medium priced market. All SunTour rear derailleurs had slant parallelograms, and most had an “open” cage, so that the chain could be easily removed. The Maeda-USA office and warehouse opened in New Jersey in 1973.

## High Noon: 1974 to 1984

By 1974, magazine writers, shop mechanics, and bicycle buyers were comparing derailleur performance. It was no contest. A 1974 *Consumer Reports* bicycle test reported, “SunTour was far and away the easiest to shift and the most certain of arriving at the right

sprocket.” I said much the same thing in my derailleur articles in *Bicycling* magazine.

SunTour was the preferred derailleur maker in the export market. SunTour’s modern new factory in Shiga now made all of the steel and aluminum forgings. The freewheels, derailleurs, and shift levers were assembled in the Mihara and Sakai factories.

From 1970 to about 1984, buyers could select from hundreds of derailleurs. SunTour’s rear derailleurs were the best shifting and the best value on the market. Huret’s Duopar shifted better on wide range gearing but it was much more expensive. Only SunTour’s GT derailleurs and Huret’s Duopar could comfortably handle 34-tooth rear sprockets.

SunTour derailleurs were inexpensive, especially on the replacement market. It was hard for snobbish bicycle writers to accept that a \$10 SunTour shifted better than a \$40 Campagnolo. Campagnolo’s main advantage was the better bearings, which lasted longer. A Nuovo Record would shift poorly forever.

SunTour’s Power shift-levers included a small ratchet-wheel that disconnected the friction from the lever when pulling on the cable. SunTour had a patent on this feature. Bar-Con bar-end shifters had a lovely “light” feel and they remained in production until indexed shifting took over. SunTour sold more Bar-Cons than all other bar end shift-levers combined. Mixing SunTour bar-cons with somebody else’s derailleurs was a neat touch that said this bicycle builder knows his business.

In 1974, SunTour was making Perfect, Pro-Compe, and Winner freewheels. The quality was uniformly high. Gear freaks could get a complete range of sprockets from 13 to 34.

By 1975, Maeda Industries had 291 employees and sales of about 3000 million yen (\$10,000,000). The company made 2,300,000 one-speed freewheels, 2,100,000 multiple-sprocket freewheels, and 1,600,000 rear derailleurs. Shift-lever sales exceeded rear derailleur sales because of the popularity of the bar-cons.

By the end of the bike boom, Huret and Simplex had a reputation for poor quality. SunTour and Shimano had taken over the U.S. derailleur market for low- and medium-priced bicycles. Their combined market-share went from about 25% in 1973 to 90% in 1978. By 1983, more than half of the derailleur bicycles sold in the U.S. used SunTour. Shimano supplied almost all of the rest. A few Huret Duopars were used on top quality touring bicycles, and a few Campagnolo Nuovo Records were used on expensive racing bicycles.

Fig. 13.16. 1977 SunTour Superbe rear derailleur.



Figure 13.14 shows U.S. market for gear train components. I prepared this graph by laboriously counting mass-market bicycles in the magazine buyer's guides for each year. I picked an upper price range to excluded small-production models. The chart shows bicycle models, not bicycle sales. Shimano may have sold more derailleurs because they were the main supplier to the low-priced U.S. makers.

The U.S. bicycle market changed continuously. It was necessary to follow the trends (or fads) to survive. The mid-70s was the period of galloping inflation, and bicycle prices more than doubled. In 1976, SunTour had eleven different rear derailleurs in the low and medium price range.

In 1977, Japan produced more than six million bicycles, and exported more than a million. However, by the late 1970s, Japan's labor costs were as high as Europe's, which meant that Japan had to compete on quality, performance, and innovation rather than just price. At that time, a dollar bought about 250 yen compared to about half that today.

### SunTour's Pricing Policy

In 1975, SunTour introduced the Cyclone derailleur, which was a lighter, polished version of the SunTour

V. SunTour's policy was to add a markup to production cost to set a "fair" price. They did not charge what the traffic would bear. In 1975, a Cyclone cost \$16.00, a Campagnolo Nuovo Record or a Huret Jubilee cost \$40.00 and a Shimano Crane cost \$20.00. The Nuovo Record and Crane both weighed about 200 grams and the Jubilee weighed 140 grams. The Cyclone weighed 175 grams and it shifted best.

The result of SunTour's pricing policy was that their top derailleurs were specified for medium-priced bicycles, while their competitor's top derailleurs were found on top-of-the-line bicycles. With 20-20 hindsight, SunTour should have charged more for their top lines and invested more on research and development. SunTour never had more than twenty people working on research and development and this was simply not enough to design, develop, and test new products for the 1980s marketplace.

In 1977, SunTour introduced the Superbe gruppo to match Shimano's Dura-Ace and 600 gruppings. Campagnolo had been selling gruppings (complete sets of components with matching cosmetics) for twenty years. SunTour used their partners in the JEX combine to produce the Superbe gruppo of derailleurs, shift levers, cranksets, brakes, hubset, pedals, headsets and seat posts. The price was a bargain. Superbe was designed to match Campagnolo's

Fig. 13.17. 1983 Superbe Tech rear derailleur. It had problems with the parallelogram.

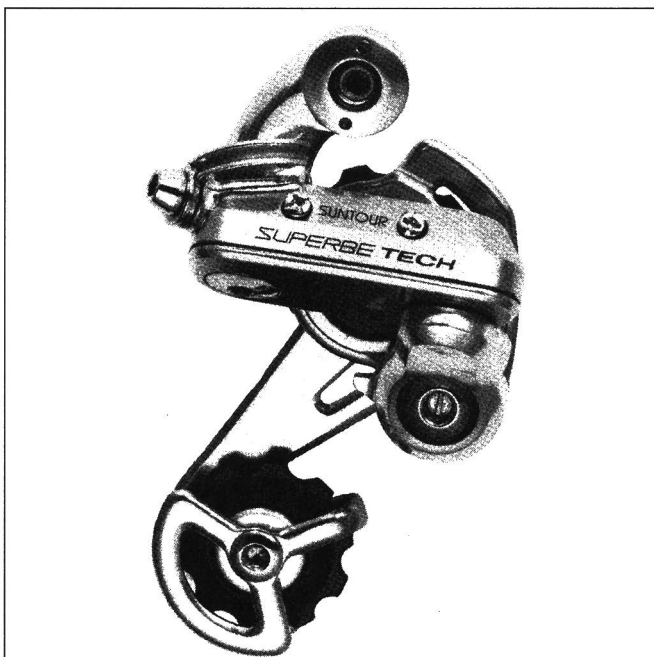
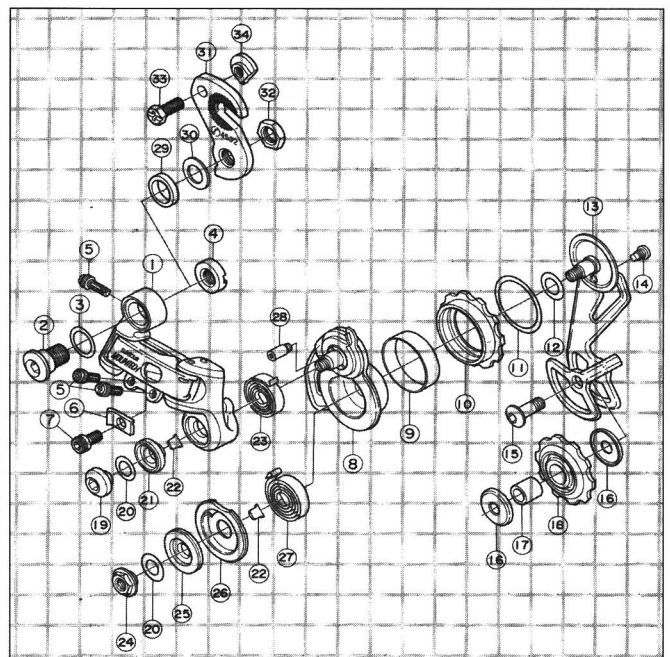


Fig. 13.18. Exploded view of SunTour Mountech rear derailleur. The fatal flaw was the unsealed jockey pulley.



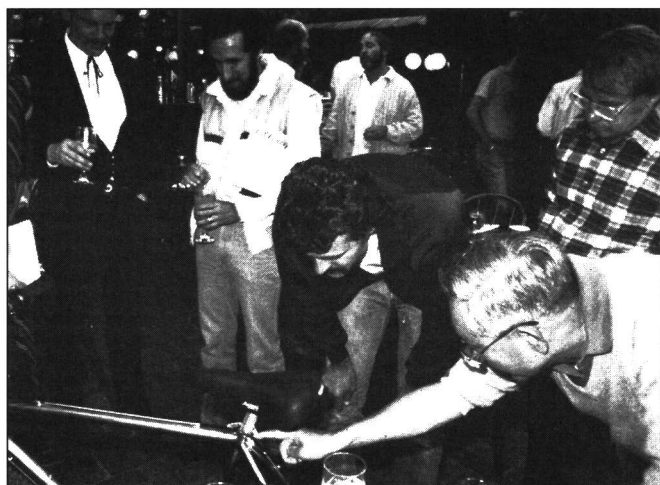


Fig. 13.19. SunTour president Junzo Kawai discusses the seat post quick-release with mountain bike builder Tom Ritchey at the 1982 Crested Butte race.

longevity, so the front and rear derailleurs were a bit heavier than Cyclone.

In 1977, SunTour introduced the VX derailleurs, a cosmetic upgrade of the V models, and the Ultra-6 freewheel and chain. By narrowing the sprockets, spacers, and chain width, they made a 6-speed freewheel that was the same width as a 5-speed and fitted on a 120-mm hub. Two years later, this became Ultra-7 for 126-mm hub widths. SunTour's 1980 New Winner freewheel offered complete flexibility. One body could be set up with 5, 6, or 7 sprockets, wide or narrow spacing, and almost any combination of sprockets between 12 and 34 teeth.

SunTour's narrow-spaced Ultra sprockets and chains sold well, but they did not shift as well as the conventional wide-spacing models. SunTour bought chains from HKK, their JEX partner, but HKK did not make a good shifting narrow chain. The Sedisport was the best chain to use with Ultra sprockets.

Shimano introduced Positron indexed shifting for low-priced bicycles in 1977. Positron was redesigned three times over the next three years. It sold poorly in spite of heavy promotion. In 1980, SunTour introduced the Mighty Click rear derailleur with matching indexed shift levers. They also sold poorly. The makers of low-priced bicycles were not ready for indexed shifting in 1980.

By 1980, Maeda Industries had 330 employees and sales of 8000 million yen (\$38,000,000). They made 1,500,000 one-speed freewheels, 4,500,000 multiple freewheels, and 3,800,000 rear derailleurs.

By 1981, the bike industry was using the annual model changes in derailleurs and gruppос to provide excitement for each year's "new" bicycles. SunTour responded with cosmetic changes. Superbe became Superbe Pro. Cyclone became Cyclone II. ARx, AR, and BL (Blue Line) were new lines. SunTour also made a 38-tooth AG (Alpine Gear) freewheel sprocket and an AG rear derailleur to handle it.

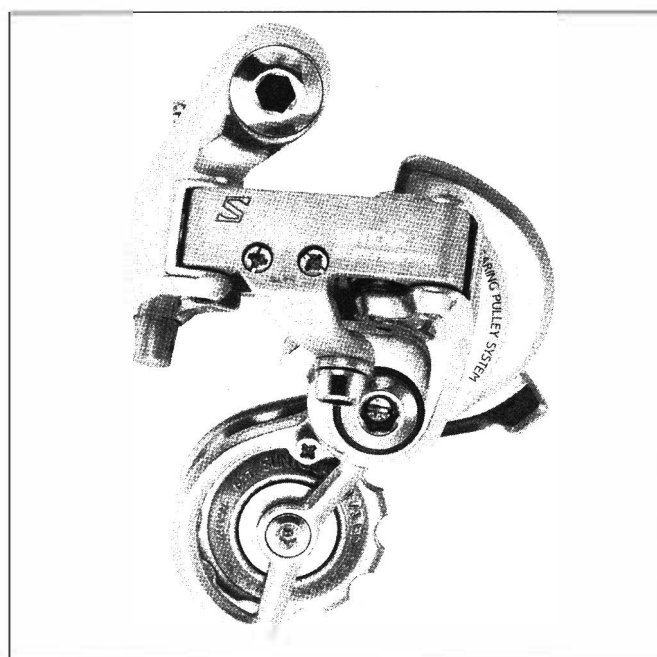
SunTour had a long-term special relationship with certain bicycle makers. Fuji got a one-year exclusive on the first Ultra-6 freewheel. Nishiki got a Le Pree with two jockey pulleys.

Shimano introduced aerodynamic AX components in 1981 to deafening silence. Coming after Positron, it really seemed that Shimano had lost their way.

In 1982, the year before mountain bikes became significant, SunTour equipped about 60% of the medium-priced bicycles, compared to Shimano's 30%. SunTour had 13 different lines of derailleurs. From the top they went; Superbe Pro, Superbe, Cyclone Mk II, Cyclone, BL, ARx, Vx, AR, Seven, Volante, Honor, GT, and Mighty Click. Most lines had a racing and a touring model. VX rear derailleurs came in four different capacities.

SunTour derailleurs, shift levers, and freewheels were the favorites of the replacement market. If a

Fig. 13.20. 1985 SunTour Superbe Pro rear derailleur.



customer came into a bike store with a poorly shifting Simplex or Huret derailleur or a sick Regina or Cyclo freewheel, the standard repair was to replace it with SunTour.

## 1983: Mountain Bikes Take Over

The mountain bike was born in Marin County in the late 1970s. The early Breeze, Fisher, and Ritchey mountain bikes used an eclectic mixture of components: Huret Duopar or SunTour VGT rear derailleurs, Simplex front derailleurs, SunTour Power thumb shifters, Magura motorcycle brake levers, and Mafac cantilever brakes.

The 1982 Specialized Stumpjumper and Univega Alpina Sport were the first mass produced mountain bikes. They established that mountain bikes were no fad. SunTour and Shimano kept on top of mountain bike developments. SunTour sponsored a Fat Tire Conference at Crested Butte, Colorado, in September, 1982, and President Junzo Kawai attended.

SunTour moved quickly. In 1983, the company introduced the SunTour Dirt Component Ensemble. Sugino and Dia-Compe supplied the triple crankset

and cantilever brake set. Almost all 1983 mountain bikes used SunTour's Dirt gruppo.

Everything was on target except the Mountech rear derailleurs. They shifted beautifully. I recommended Mountech after using one to replace the Huret Duopar on my loaded touring bicycle. The fatal flaw was not obvious. The large-diameter jockey pulley housed a spring to move the second parallelogram. The 1-inch diameter seal was inadequate. After about a year of road service or a few months of off-road service, the pulley wore out and it was not easily rebuildable.

SunTour also introduced the Superbe Tech series in 1983 with an elegant enclosed parallelogram. The design was flawed. The internal pivots wore or the return spring failed. It took special tools to repair and reassemble a Tech derailleur and no one tried.

The 1983 New Winner and the later Winner Pro were the most versatile freewheels ever made. A single body could be used for wide spaced 5- or 6-speeds, or narrow spaced 6- or 7-speed combinations, with almost complete availability of sprockets from 12 to 34 teeth. It was not a simple system, with three different spline sizes, three different thread

## Significant Bicycle Developments, 1978 to 1998.

Feature	Shimano	SunTour	Sachs-Huret	Campagnolo	Other
Indexed Shifting—Road	1985	1987	1987	1992 (1987)	
Indexed Shifting—Mtn.	1987	1987	1989	1990	
Modern Rear Derailleur	1985	1987	1988	1991	
Freehub	1978	1989 (1969)	1994	1991	
Bushingless Chain	1986	1990	1978	1990	Sedis 1978
Brake-Shift Levers	1990	never	1994	1992	
Hyperglide Sprockets	1989	1990	1994	1994	
Superglide Chainwheels	1990	1990	1994	1994	
Compact Chainwheels	1994	1992	1994	1992	
7 Sprockets	1981	1980	1988	1987	
8 Sprockets	1989	1992	1991	1991	
9 Sprockets	1997			1997	
Clipless Pedals	1987	1990	never	1988	Look, 1985

sizes, and eight different spacers. There were five different 16-tooth sprockets.

1984 was another good year for SunTour. Most of the 1984 bicycles had been specified before the problems with Mountech and Superbe Tech were known. However, these problems hurt SunTour's reputation.

The common feature of the problems was SunTour's small size. The company's small development staff could not completely check on the outpouring of new models. Mountech and Superbe Tech were rushed to market with inadequate testing. In the early 1980s, when SunTour had 20 people working on research and development, Shimano had more than 200. By this time, Shimano had about 2,000 employees compared to SunTour's 350.

Shimano introduced the 105 road bike gruppo and the Deore XT mountain bike gruppo in 1983. Deore XT was introduced too late for the 1983 model year, but it was used on about 40% of the 1984 mountain bikes. 105 was a brilliant marketing innovation. It looked expensive and it brought gruppo prestige down to the \$300 bicycles. Shimano gave Aero AX and Positron a quiet burial and carried on as if nothing had happened.

## Sunset for SunTour: 1985 to 1995

### 1985: Indexed Shifting and the Yen Shock

Mountain bikes and indexed shifting were major changes that took over the bicycling market in about two years. Shimano adapted to these changes and thrived. Indeed, Shimano introduced SIS indexed shifting in 1985. SunTour waited a year on indexed shifting and they lost market share. Huret and Campagnolo moved slowly and they ceased to be a factor in the U.S. market.

SunTour's struggle to keep up with the market changes was exacerbated by the revalued yen. In 1985, the U.S., Canada, Germany, and Great Britain were suffering massive trade deficits with Japan. The five governments met in mid-1985 and signed the G-5 agreement. Over the next six months, the value of the yen went from 240 to 125 per dollar.

The "Yen Shock" had a profound effect on the bicycle market. In 1985, the major Japanese bicycle makers exported full lines of bicycles to their U.S. dealers. After the yen shock, Japanese bicycle makers could not compete profitably in the low or medium-priced market and that market quickly shifted to Taiwan and later to China. As Japanese wages rose and

Fig. 13.21. 1985 SunTour XC Power brakes. They were part of the upgraded XC gruppo. The design was licensed from Wilderness Trail Bicycles.

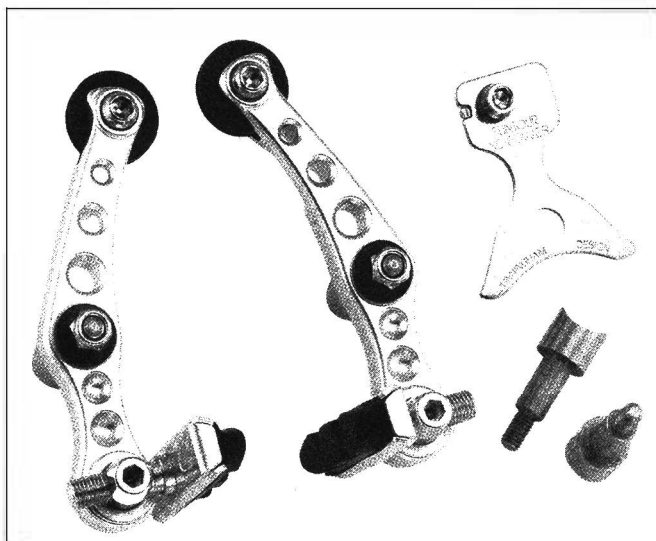
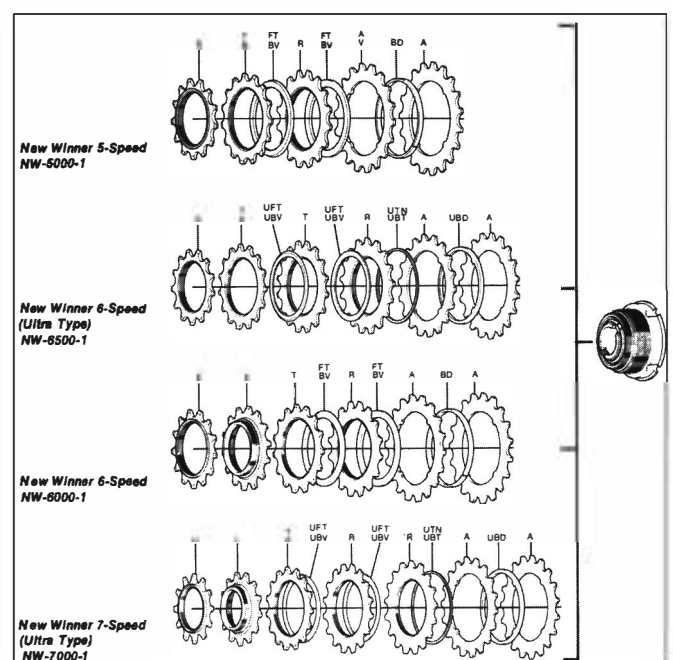


Fig. 13.22. 1983 SunTour New Winner freewheel. It was offered with 12-to 34-tooth sprockets in 5-, 6-, and 7-speed versions.



the yen kept appreciating against the dollar, only high-priced bicycles were exported from Japan.

Many Japanese component companies, including SunTour, rushed to build branch factories in Taiwan, but the Taiwan construction industry could not build the new factories fast enough. Shimano had built its Singapore factory in 1973 and quickly shifted production of the lower-priced lines to Singapore.

I remember the 1985 bicycle trade show, when Shimano introduced the Dura-Ace EX with SIS (Shimano Index System). It did not seem very significant at the time. Biopace non-round chain rings generated more of the hoopla at the Shimano booth. Shimano engineers were very confident. The marketers were concerned about the problems with AX, so the shift levers included a friction shifting backup.

Shimano's development of SIS is an interesting story. A year after the Aero AX fiasco, Shimano commissioned a major survey of the U.S. adult bicycle market. The survey concluded that the market had changed from hardcore racing and touring enthusiasts to yuppies. The yuppies wanted components that looked and performed like professional racing equipment but were easier to use. This was the same market-shift led to products like fully automatic 35-mm cameras.

SIS was a major engineering-research project. It was much more than indexed shift-levers. The key innovation was the SIS Dura-Ace 7400 rear derailleur. SunTour's slant parallelogram patent had expired. Shimano's SIS rear derailleurs combined the two spring-loaded pivots, developed by Simplex in the 1940s, with SunTour's 1964 horizontal slant parallelogram. It was the first computer-designed rear derailleur. By optimizing cage dimensions and spring tensions, the design provided a nearly constant chain gap, which was the key to reliable indexed shifting. Shimano developed a factor, Rideable Range of Adjustability, to measure how far a system could be out of adjustment and still be rideable.

After a brief trial, the professional racers refused to use Dura-Ace AX and this was a major cause of the failure of the aerodynamic concept. Shimano was determined that SIS Dura-Ace would be accepted by the professional racers. Shimano's two professional race teams used SIS Dura-Ace in 1984 and 1985. Shimano mechanics and engineers accompanied the teams. Problems were quickly identified, corrected, and reported back to Japan. Shimano learned from their Positron experience about the quality-control problems with low-priced bikes. SIS was introduced from the top (Dura-Ace) down to the lower-priced levels.

The first SIS Dura-Ace geartrains were properly installed on first-class bicycles by trained mechanics.

SunTour sales peaked in 1985, but no one knew it. The 1985 catalog showed 26 different rear derailleurs. At that time, SunTour offered the best combination of performance and value in conventional friction-shifting gear trains. There were three complete road bike gruppings, Superbe Pro, Superbe, and Cyclone. The new XC mountain bike gruppo had a new rear derailleur that eliminated the problem of the Mountech's jockey pulley.

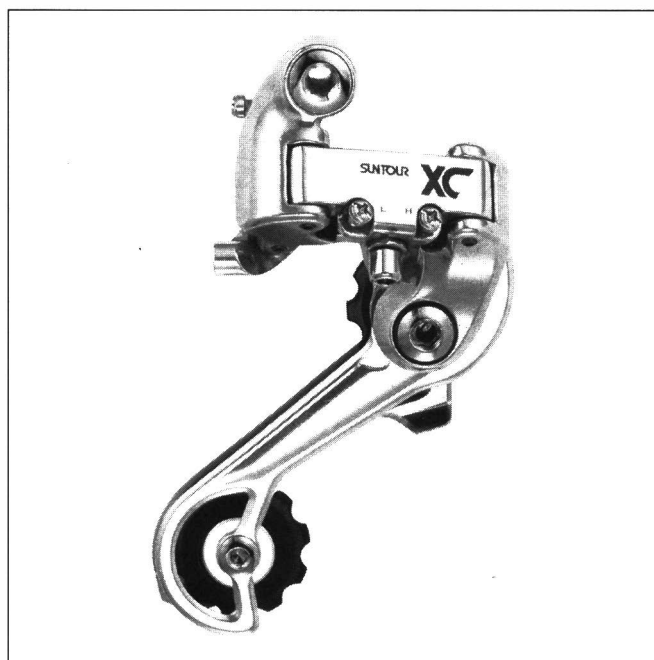
Roller-cam brakes were licensed from Wilderness Trail Bikes. There were early problems when SunTour substituted plastic for brass rollers. Performance quickly degraded in mountain bike service and SunTour had to retrofit brass rollers.

BMX (Bicycle Moto Cross) was a major market and SunTour had full BMX gruppings in three anodized colors. Nevertheless, SunTour's share of the U.S. market fell from 60% to 50%.

The biggest single problem was the revaluation of the yen. Orders had been written in foreign currencies, rather than yen, so SunTour suffered a major loss and had to borrow to finance the move to Taiwan and the development of new mountain bike components.

SunTour hosted three focus group meetings at the 1985 U.S. bike show. Each group had about twenty

Fig. 13.23. 1985 SunTour XC mountain bike rear derailleur.



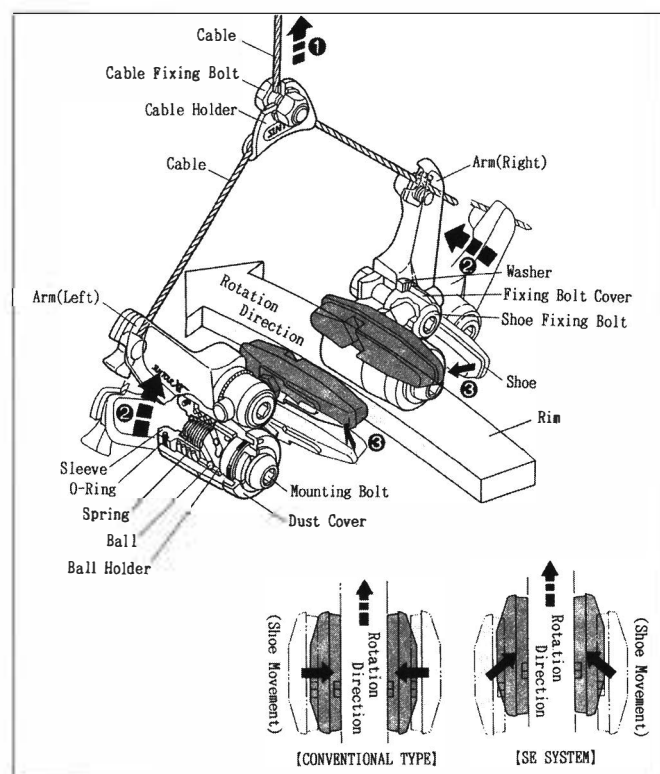
bicycle dealers. SunTour asked the dealers what they thought of Shimano's indexed shifting. The consensus response was that it was too complicated and too expensive and it would just be another Shimano fad. Based on this advice, SunTour decided that responding to Shimano SIS could be postponed for a year. This turned out to be dead wrong. The wolf was at the door and SunTour did not have a year of grace.

1986 was a retrenchment year. SunTour introduced the Sprint grupp, priced between Cyclone and Superbe. Sprint was splendid value and everything looked expensive, but it was not indexed. Superbe Pro was dropped.

Shimano proved out the SIS concept with 1985 Dura-Ace. All of the bicycling magazines raved about the performance of Dura-Ace SIS. Shimano also used Bio-Pace non-round chainrings as an effective marketing tool.

In 1986, SIS trickled down from Dura-Ace to the medium-priced 600 and L Series grupp. SIS was in short supply, and Shimano could insist that the bicycle makers buy complete sets of the critical geartrain components. They could also insist that the key dimensions of the bicycle frame meet Shimano's

Fig. 13.24. 1990 SunTour SE self-energizing cantilever brakes. They had very powerful stopping action, but SunTour underestimated the cost of manufacturing them.



specifications. Indexed shifting bicycles flew out of the bicycle stores. The maxim was, "If it doesn't click it won't sell."

Shimano took over most of SunTour's customers in the low priced Original Equipment Manufacturer (OEM) market. Shimano's costs were lower because their low-priced components were made in the Singapore factory. SunTour's Japanese factories were still suffering from "yen-shock" and could not match Taiwan or Singapore prices. SunTour's U.S. market share fell to about 40% and Shimano passed SunTour in 1986. SunTour lost more money and SunTour-USA borrowed against their inventories to help cover the losses.

### 1987: the Failure of AccuShift

SunTour realized that the market had shifted to indexed shifting. 1986 saw a crash program to develop indexed shifting for all of SunTour's grupp. There was no time for the luxury of trickle-down from Superbe to the less expensive lines. 1987 would be the catch-up year. All of the engineering and development was handled by about twenty people.

In 1987, SunTour introduced indexed shifting across the board with five road bike and four mountain bike grupp. Eleven indexed rear derailleurs were combined with ten indexed shift levers, and nine freewheels with five, six, or seven sprockets and wide-or narrow-spacing.

The new 1987 rear derailleurs for road bikes were redesigned to include a spring-loaded top pivot. This was similar to Shimano's SIS design. SunTour called it Twin Tension. The mountain bike rear derailleurs did not pivot on the top. They had longer chain gaps and needed a chain that was "stiffer" laterally. Daido (DID) made all of SunTour's chains. Four different chains were needed for the different derailleurs and freewheels. You could not mix and match chains. Using Shimano's criteria, AccuShift had a narrow Rideable Range of Adjustability.

The technical problems were fairly minor and could have been overcome with more time and testing. The critical failure was SunTour's inability to "police" the low-price market. SunTour desperately needed orders so they could not require complete SunTour grupp of AccuShift-compatible components. They made strong recommendations, but major bicycle makers, including Schwinn and Raleigh, decided to use up their inventories of old French freewheels, hubs, cables, and casings. Worst of all,



they used up the miles of cheap chain in their warehouses. These old components did not provide the critical tolerances needed for reliable indexed shifting.

As the prototypes were assembled and the first bicycles were shipped, problems erupted. SunTour rushed engineers and service people from Japan to the factories and the bicycle shops to identify and correct the problems. Once in a “fire fighting” mode, the cost of doing business increased dramatically and this used up the profits needed to develop new products.

When the SunTour AccuShift-equipped bicycles reached the customers, they would not index-shift well, or they would work for a few weeks and then go out of adjustment. This led to unhappy bicycle buyers and unhappy mechanics. The “shop rats” in the bicycle stores quickly learned to prefer Shimano SIS, and their complaints worked back up the line to the distributors and eventually to the people who were selecting the Original Equipment Manufacturer (OEM) components for the 1988 bicycles.

In 1987, Shimano had SIS across the line, Dura-Ace, Santé, 600, 105, Deore XT, Deore, and MS. It was SIS with three years of testing and development. In 1987, Shimano started making narrow bushingless chains and this improved indexed shifting on the narrow-spaced 6- and 7-speed freehubs.

In 1987, SunTour's U.S. market share dropped below 30%. SunTour posted a large loss and they had to borrow more money from the banks. To raise cash, they sold the old Sakai factory that sat on valuable land. The head office relocated to the Mihara factory, which was out in the country and required a long commute by bus.

By 1988, SunTour's Taiwan factory was making the low-end (non-indexed) components. The new mountain bike rear derailleurs got spring-loaded top pivots, which improved their indexed shifting. SunTour's 2000 derailleurs brought indexed shifting down to the \$200 price range.

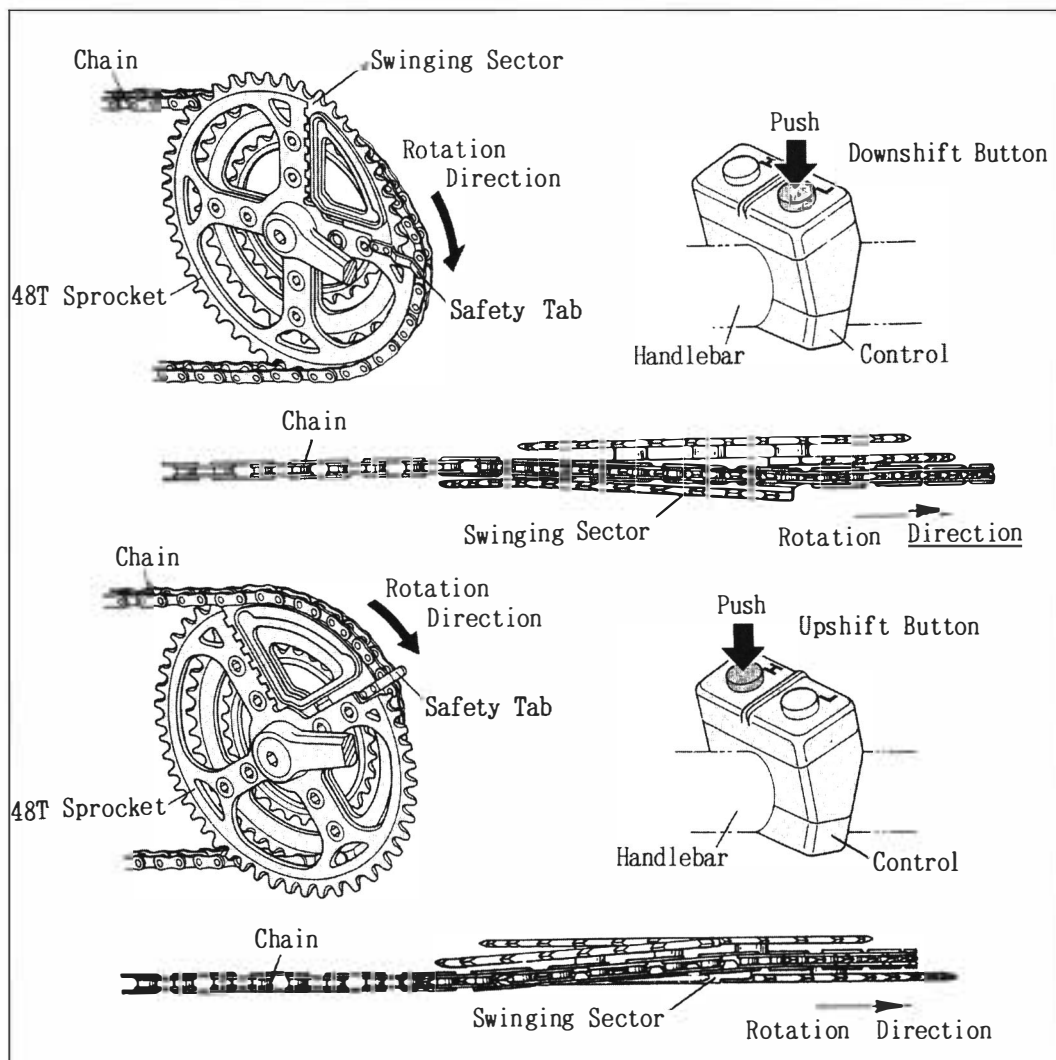


Fig. 13.25. 1990 SunTour BEAST swinging gate chainwheels, licensed from Browning. They worked well but deliveries were a year late.

In 1988, Shimano Deore dominated the profitable high-end mountain bike market. SunTour's U.S. market share dropped below 25%. SunTour's Japanese management did not want to hear bad news from SunTour-USA. Management truly believed that SunTour was still on a par with Shimano and that the wheel would turn and SunTour would again be on top.

Although it was no help to SunTour, they certainly were not the only ones to misread the market. Sachs (Huret) and Campagnolo totally missed the switch to mountain bikes and indexed shifting. Their share of the 1988 U.S. market for bicycles selling for less than \$600 was less than 1%.

For 1989, SunTour had four new AccuShift road gruppings: GPX, Olé, Edge, and Blaze. There were two new mid-priced mountain bike gruppings, XCE 4050 and XCM 3040, and four new low-priced mountain bike rear derailleurs. All of the important SunTour rear derailleurs now had two spring-loaded pivots to go with the horizontal slant parallelograms. In 1989, SunTour was almost as good as Shimano but the OEM buyers made their decisions based on 1987. SunTour did not get a second chance.

Olé was a sad story. The gruppo was produced in response to a request from a major U.S. OEM for a gruppo to compete with Shimano's Santé. When the time came to place the order, the purchasing manager changed his mind and Olé was an orphan gruppo. SunTour could ill afford such broken promises.

SunTour-USA came up with a great advertising promotion for 1989. They offered a pair of top-of-the-line gruppings to all of the U.S. custom bike builders, one to try out and one to install on a 1989 show bike. It worked beautifully and it helped to slow down the decline of SunTour's market share.

In the 1980s, SunTour's production policy was to satisfy the OEM market first and then ship components for the replacement, or after-market. This was fine with VGT derailleurs and Perfect freewheels, with a 10-year shelf life. When the component market shifted to annual model changes, the policy meant that SunTour missed the profitable summer season for after-market sales and their U.S. warehouse filled up with unsaleable obsolete inventory.

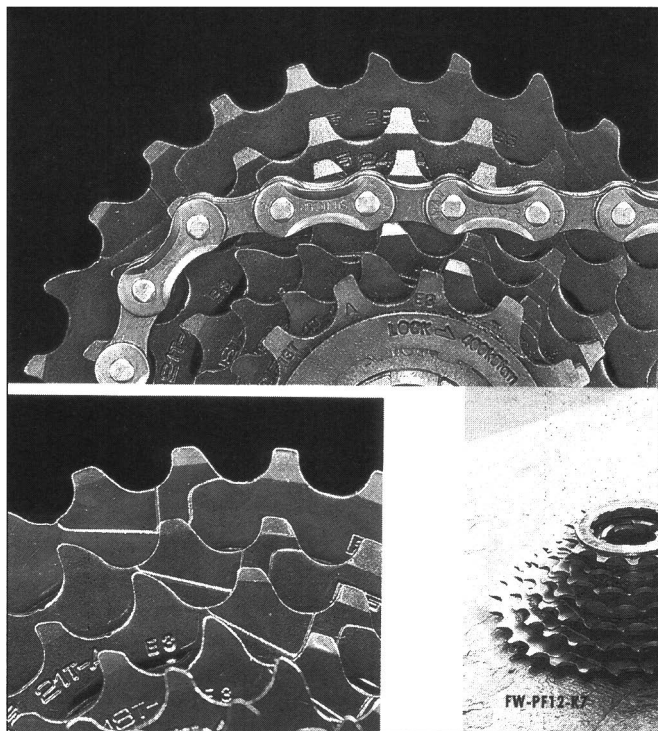
In 1989, SunTour-USA finally convinced Japan to ship replacement components early in the spring. SunTour had a good year in the replacement market and they did well in the low- and medium-priced OEM markets. Their market share rose to about 30% and SunTour-USA showed the first profit in four years.

Shimano got two important patents in mid-1988. One covered the design of indexed shifting rear derailleurs and the other covered indexed shift levers with a friction option. In 1989, Shimano charged SunTour with patent infringement. SunTour counter-charged Shimano with infringing a 1987 SunTour patent on front derailleurs with bulges on the cages. The patent suits dragged on for two years until both sides shook hands and agreed to stop enriching the U.S. legal profession. The worst result for SunTour was that the lawsuits demanded management and engineering attention at a critical time.

SunTour-USA had been headquartered in New Jersey from the early 1970s. In 1989, they moved to Marin County in Northern California to be closer to the mountain bike arena. Only four people made the move to California, but SunTour was able to hire competent replacements in the northern California bicycling hotbed.

The New Jersey warehouse was closed as part of the move to California. The obsolete inventory was sold off for a quarter of book value and eventually wound up in South America. SunTour-USA

Fig. 13.26. 1995 SunTour PFR (PowerFlo Rear) sprocket. Their design provided gates and ramps for easier shifting.



maintained tight inventory control in their new California warehouse.

However, the working relationship between Maeda SunTour in Japan and SunTour-USA turned sour. Both sides blamed the other for SunTour's misfortunes.

### 1990: the Last Hurrah

By 1990, SunTour was technically on a par with Shimano. AccuShift Plus shaped sprockets competed with Shimano Hyperglide sprockets, and PowerRing chainwheels competed with Shimano Superglide chainwheels. There was a new flexible bushingless chain and X-Press push-button shifters for mountain bikes. All of the mountain rear derailleurs were redesigned to work with the revised sprockets and chains.

Finally, there was a SunTour freehub, which was essential for wide 7-speed mountain bike hubs. The shift to freehubs destroyed the profitable market for separate screwed-on freewheels.

SunTour did not want a "just as good" image, but their small research and development group was not producing any more slant parallelograms. By this time, SunTour had only half a dozen engineers working on research and development. SunTour licensed three developments to provide excitement and uniqueness.

First, SunTour licensed the Browning Electronic AccuShift Transmission (BEAST), the swinging gate crankset invented by Bruce Browning of machine gun

fame. This eliminated the front derailleur and provided almost instantaneous shifts.

The Beast name was prophetic. The Taiwan factory could not meet the promised deliveries. The first Beasts were 18 months late. By that time, the expensive 1990 bicycles designed for BEASTs had been retrofitted with triple chainrings and front derailleurs. The word got out and there were no 1991 buyers. Very few BEASTs were made or sold, but SunTour paid a great deal for the Browning license and they had to cut back on research on new products.

Second, SunTour licensed Grease Guard fittings from Wilderness Trail Bikes. A small grease fitting allowed grease to be injected into the hubs, bottom bracket and headset, to flush out water. This is a good concept, and Wilderness Trail Bikes still sells Grease Guard components at premium prices, but the general public preferred less effective "sealed" bearings.

Third, SunTour licensed the Pedersen self-energizing cantilever brake. These performed well, but SunTour underestimated the manufacturing cost and lost money on every set. They were popular on tandems.

Finally, SunTour installed cartridge ball bearings in Superbe-Pro and XC-Pro hubs and rear derailleurs.

By 1990, SunTour and Shimano were close in performance and SunTour had some unique features. However, a "self-fulfilling prophecy" had set in. SunTour offered 12 road and 15 mountain

Fig. 13.27. 1995 SunTour PFF (PowerFlo Front) chainrings. The design provided ramps and pins for easier front shifting.

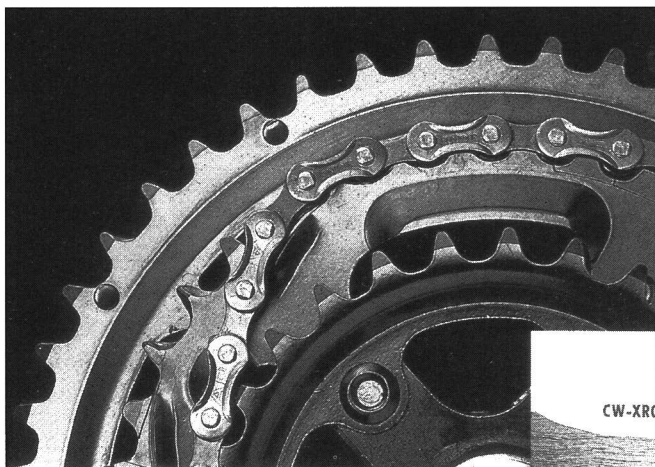
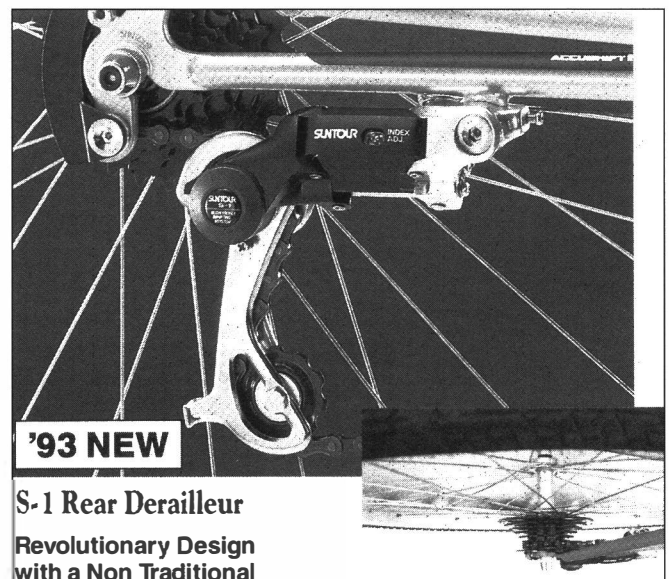


Fig. 13.28. 1993 SunTour S1 rear derailleur. This design had many advantages, but no OEM would specify it.



derailleurs, but the people writing OEM specifications chose Shimano because they assumed that Shimano would sell better. There were fewer and fewer SunTour-equipped bicycles. Sometimes the buyer would issue a “mercy” specification for one SunTour bicycle in the entire lineup. The bike shops and the buying public assumed that there was still something wrong with SunTour. Their market share slipped back to 25%. SunTour suffered another major loss and the Japanese banks would not make new loans.

In late 1989, Mori Industries Inc., a Japanese steel tubing company, bought Sakae Ringyo Ltd. Sakae made handlebars, chainwheels, pedals, and seatposts. In mid-1990, Mori bought Maeda SunTour. Essentially, Mori assumed SunTour’s debts. Shortly afterwards, Mori combined the two acquisitions. The new company was named SR SunTour.

Junzo Kawai was still President of SunTour. He decided to end the deteriorating relationship with SunTour USA. In early 1990, he closed SunTour’s Novato, California office and moved U.S. sales to Sakae’s office in Kent, Washington. There was a severance package. Just one employee was transferred to Kent. A small California office remained open for a year to close down the legal and banking issues.

From 1991 on, my history is based on SunTour catalogs. I have been unable to document the details and the timing of the transfer of SunTour from a Japanese company based in Osaka to a Taiwanese company. It is probable that some of the 1992–93 innovations like Micro Drive and the S1 rear derailleur were developed by the old Maeda SunTour design group, but I don’t know for sure.

There were no major introductions in 1991. The SL road gruppo replaced Sprint. There were cosmetic changes (and new model designations) on many of the derailleurs. Four low-priced gruppos were dropped. The market share remained about the same but SR SunTour only competed in the low-price, low-profit market.

Taiwan Sakae Ringyo started making the lower-priced SunTour front and rear derailleurs. Micro-Drive was the significant 1992 innovation. Smaller bolt circles allowed chainrings like 42–32–20, which offered less weight and better ground clearance. New short-cage rear derailleurs were provided to go with the Micro-Drive cassettes. It was a good idea and Shimano copied it two years later.

PowerFlo was SunTour’s name for revised free-wheel sprockets with “gates” for easier shifting. SR SunTour’s U.S. market share fell to 10%.

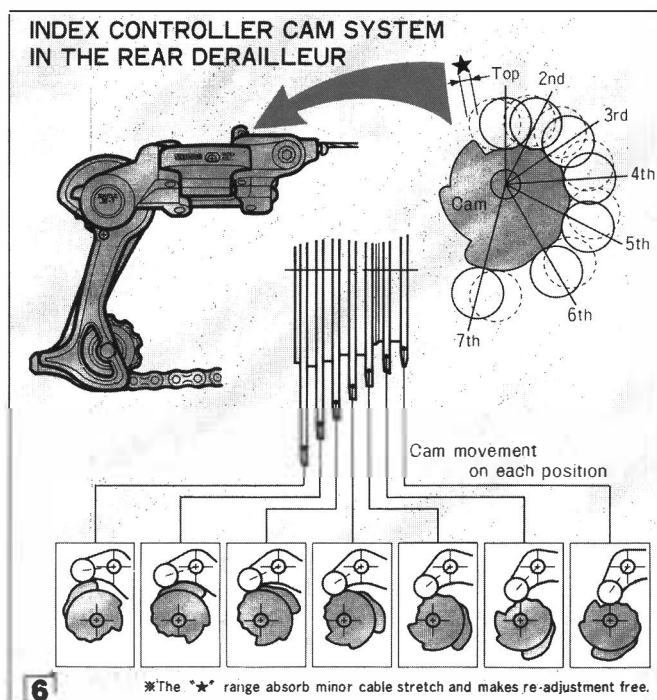
There were fewer gruppos in 1993. The catalog showed Sakae front-suspension forks with SunTour nameplates. The geartrains got a twistgrip shifter and 8-speed freehubs.

The major innovation was the S1 derailleurs for hybrids and city bikes. These mounted on a special boss on the chainstay. The horizontal slant parallelogram harkened back to the 1960s Altenberger or the 1930s Nivex. The indexing cam was in the rear derailleur rather than the shift lever. You could dump the bicycle on the right side with no damage to the derailleur. It was a good design and it would have flown ten years earlier, when SunTour was a dominant supplier. In 1993, with SR SunTour on the ropes, no one specified S-1.

At the end of 1993, SR SunTour had to recall 300,000 coaster brakes to replace a small spring. SR SunTour paid the dealers \$6.00 to replace the springs. Even though the brakes had been made by a Taiwanese subcontractor, the recall was one more nail in SR SunTour’s coffin. By now SR SunTour had only about five percent of the U.S. market.

In 1994, SR SunTour cut back to the products that they hoped would sell. The mountain gruppos offered either twistgrip shifters or thumb shifters. The three road gruppos, Superbe Pro, SL and Blaze were

Fig. 13.29. 1932 SunTour S1 rear derailleur, showing the indexing cam in the rear derailleur.



unchanged. Only the top mountain bike gruppос were still made in Japan. Everything else was made in Taiwan. SR SunTour provided six- and seven-speed screwed freewheels with Powerflo teeth and ramps. S1 rear derailleurs were promoted for city bikes. By the end of 1994, SR SunTour was offering close-out prices on the medium- and high-priced equipment. The Mihara factory closed its doors and the Shiga factory ceased making bicycle components. The last XC-Pro, XC-Expert, and Superbe Pro gruppос were supplied from warehouse stock. When the inventory was gone, it was not replaced.

At the end of 1994, Mori decided to shut down their bicycle component business in March, 1995. Daisuke Kobayashi and Hideo Hashizume, the former owners of SR Sakae Ringyo, arranged a management buyout. The new management took over in July 1995. They bought the SunTour name and the SR factory in Taiwan. Mori got out of the bicycle component business. Mori sold the rest of SunTour's Japanese facilities piecemeal.

SR SunTour closed its U.S. office in early 1995. There was a six-page close-out catalog. SR SunTour continued to sell SunTour components in Europe and worldwide, where the markets were technically less demanding than in the U.S.

All manufacturing moved from Japan to Taiwan. Since their share of the U.S. OEM market was nearly zero; SR SunTour emphasized the replacement market.

At this point, the old Maeda-SunTour had disappeared, and a new company, SR SunTour, had taken over. SR SunTour maintained two offices in Japan for R & D and for Japanese sales. Taiwan Sakae Ringyo used the SunTour brand name because it had better recognition. Taiwan Sakae Ringyo was a Taiwan component maker, like Falcon, Joy Tech, Long Yi, or SunRace.

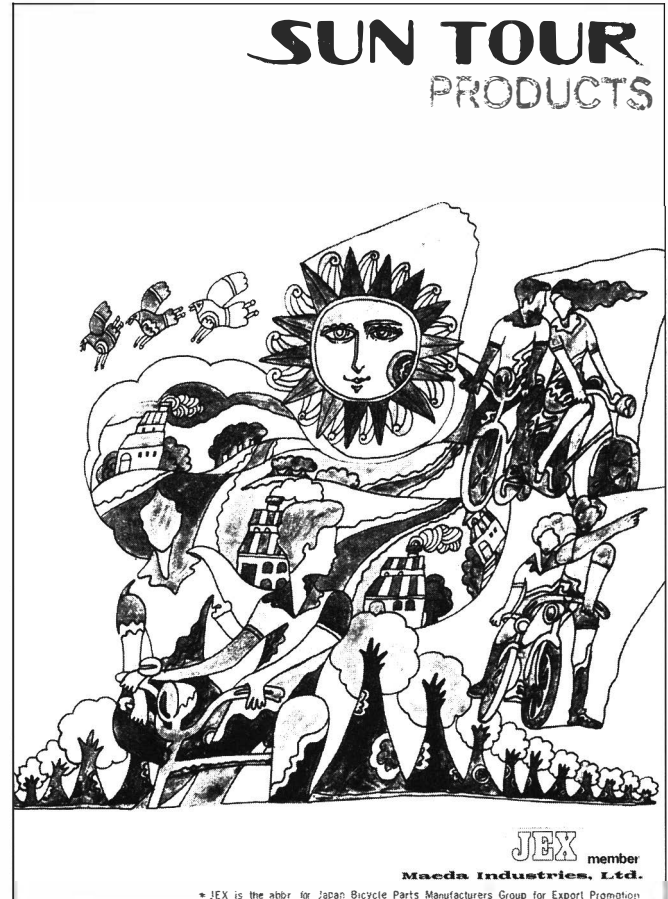
SR SunTour owned the name "SunTour," but they did not own SunTour's patents, intellectual property, or the rights to any of the pre-1995 designs. Various people tried to buy the tooling for SunTour Superbe Pro components, but Mori sold the tooling for scrap.

SR SunTour introduced the XR-150 and XR-50 gruppос for 1995. They were plug-and-play compatible with Shimano's inexpensive Alivio and Acera

Fig. 13.30. 1995 SunTour Ergo twistgrip shifter.



Fig. 13.31. 1968 SunTour product catalogue.



gruppos. SR SunTour called the easy-shifting sprockets and chainwheels “PowerFlo.” An ErgoTwist grip shifter was made for buyers who wanted better quality than SRAM.

SR SunTour reopened a U.S. sales office in early 1996. By 1997, SR SunTour had 250 employees. They made inexpensive geartrain gruppos consisting of cranksets, freewheels and cassettes, front and rear derailleurs, and twist-shifters. They also made suspension forks. Their best gruppo was called Giga. The S1 rear derailleur design carried on as the SX-50. Sales grew from 12 million dollars in 1994 to 27 million dollars in 1997.

There were no changes for 1998, except names. The S1 style derailleur was dropped. In early 1998, SR SunTour announced a Superbe crankset as their first step into the medium-priced market.

## Comparing SunTour with Shimano

The Shimano comparison is inevitable. Shimano always spent lavishly on research. Ten percent of Shimano’s employees are engineers. Ten percent of the profits are spent on research and product development. Starting in the early 1980s, Shimano not only adapted to the changing market, but instituted many of the changes. By 1990, Shimano dominated the

component market. The company has succeeded so well that today’s bicycles are defined by their Shimano component gruppo. It is a Dura-Ace bike, an Ultegra bike, or a 105 bike.

The table on page 127 shows how Shimano produced genuine improvements to bicycle components. By 1995, these items were features of almost every quality derailleur bicycle. Shimano was not always the inventor. Often, the company just fine-tuned old inventions. Items like the freehub had appeared years earlier, but Shimano refined them and made them part of the modern bicycle. The thing that is not well-known is that Shimano grew rapidly in the 1960s, expanding into a full line of components and fishing tackle. Even during the peak SunTour years, 1974 to 1984, Shimano was five or six times larger than SunTour.

## Summary

SunTour fell victim to the fast-changing bicycle market that started in 1983 with mountain bikes and indexed shifting. SunTour was too small to maintain the kind of research and development department that was needed to survive. It is easy to blame Mountech, Superbe Tech, BEAST, or AccuShift, but the real problem was the lack of timely research and development.

SunTour did not charge enough for the top-of-the-line components, so the market assumed that they were middle-of-the-line. Because of the lower margins, SunTour did not set aside enough profit to expand research and development facilities in the 1980s and did not have enough reserves to see the company through the 1985 “yen shock.” The 1985 revaluation of the yen was the overriding disaster.

As a small privately-owned company, SunTour did not have a management chain of command. All of the major decisions were made by one man, President Junzo Kawai. There was no delegation and almost no feedback up the line from the lower-level managers. As the pace of change accelerated, it became too much for one man, no matter how well intentioned.

So Maeda SunTour, a fine, honest company, came to a sad end. Those of us who watched the bicycle develop and grow in the last twenty years can only regret the sunset of SunTour.

Fig. 13.32. Junzo Kawai, President of SunTour. Picture taken in 1981. A good man and a good company, who deserved a better fate.





## Lessons for Historians

Richard Schwinn (Chicago Schwinn), Alain and Gerard Huret (pre-Sachs Huret), Henri Juy (Simplex), and Junzo Kawai (Maeda SunTour) all headed family-owned bicycle companies that fell on hard times and either ceased to do business or were absorbed by other companies and lost their identities. The five men have another characteristic in common. They are still alive and they don't talk to historians.

Judith Crown and Glen Coleman wrote the history of Schwinn. Raymond Henry wrote the histories of Huret and Simplex. I have written the history of SunTour. All of these histories reflect the dearth of background details for the final years. Winners are easy to interview. They pass out glowing company histories. Losers tend to be secretive. This certainly applies to the Michaux–Lallement history.

If anyone reading this paper has more facts on the sunset of SunTour, particularly for the period 1985–1990, I would be delighted to hear from them.

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## Acknowledgments

Thanks to Tom Franges, Ricky Comar, and Chris Allen for their suggestions and help in reviewing the drafts of this article. All three worked for SunTour-USA in the glory days. Tom was the Vice President of SunTour-USA from 1987 to 1990. Ricky was the lone employee to transfer from Novato to Kent.

Shoji Onazawa provided me with valuable background on the events from 1989 onward. He is currently president of Sidetrak Inc., the U.S. representative for SR SunTour. Allan Willoughby supplied two 1969 SunTour catalogs.

Special thanks to Shiro Yagami who dug out the old Japanese records that showed production, employment, and sales up to 1980. He was unable to obtain similar SunTour statistics for the years after 1980. My efforts to get facts on the last decade from other Japanese sources were not very successful. This paper is based on the facts that were available.



APPENDIX A. Significant SunTour Rear Derailleurs, 1956 to 1985.

Year	Low Price Medium Range	Low Price Wide Range	Medium Price Narrow Range	Medium Price Wide Range	Expensive Racing	Expensive Wide Range
1956		8.8.8 Wide				
1958	Skitter					
1964			Grand Prix 2300	Grand Prix 2301		
1966	Skitter 2200					
1968	Honor 2600	Competition				
1969	Hero 2700		V 2900			
1972		GT 4600		V-GT 4900		
1973				VX 3902? VGT 902		
1974				VT 3902		
1975	Love 2000		Cyclone 5902	Cyclone-GT 5905		
1976	Seven 2320 Honor 2310 Skitter 2210	Seven GT 2321 GT 2321	V 2620	Cyclone GT 2812 VT 2630 VGT 2720		
1977			Cyclone RD-1700 Road Vx RD-2200 Road VxT RD-2300	Cyclone GT RD-1800 Road VxS RD-2500 Road VxGT RD-2400	Superbe RD-2100	
1978	Seven RD-1900 Honor RD-1100 Skitter RD-1000 Love RD-1600	Seven GT RD-2000 GT RD-1200		VGT RD-1500		
1979				AG RD-3400		
1980	Mighty Click RD-2700 Volante RD-2600	Mighty Click GT RD-2800 Hole Shot RD-2900			Superbe Pro RD-3100	
1981	AR RD-4200 ARX RD-4300 Volante S RD-4100	AR GT RD-4400 ARX GT RD-4500 AG RD-3400	BL RD-3200	BL S RD-3600 BL GT RD-3300		
1982			Cyclone II RD-3500	Cyclone II GT RD-3700		Superbe Tech L RD-4800
1983		AG Tech RD-5000		Mountech RD-4900 Mountech GTL RD-5500	Superbe Tech RD-4700	Superbe Tech GTL RDp5400
1984	Trimec RD-4600 CAP RD-5100	AG Tech GTL RD 5600			Superbe Pro RD 5200 Superbe RD 5300 Superbe Tech S RD 4700	XC RD-6300
1985	Trimec RD-6400	Trimec S RD-6600	Cyclone-S RD-6000 Cyclone-W RD-6200 Le Pree RD-6100 AG TECH RD-5000	Cyclone-GT RD-6800 Le Pree-GT RD-6700 AG TECH GTL RD-5600		

## Appendix B. Significant SunTour Rear Derailleurs, 1986 to 1993.

Year	Low Price Medium Range	Low Price Wide Range Mountain Bike	Medium Price Narrow Range	Medium Price Wide Range Mountain Bike	Expensive Racing	Expensive Wide Range Mountain Bike
1986	SVX RD-7300	Alpine RD-5050 SVX-GT RD-7400	Sprint RD-7000			XC Sport RD-6900
1987	-3000 RD-3000-SS Seven-SS RD-SN00-SS Honor RD-1100	-3000-GX RD-3000-GX Seven-GT RD-SN00-GT Honor-GT RD-1100-GT	Cyclone 7000-SS RD-CL10-SS -5000-SS RD-5000-SS	Cyclone 7000-GT RD-CL10-GT -5000-GT & GX RD-5000-GT & GX	Superbe Pro RD-SB00 Sprint-9000 RD-SP10	XC-9000 RD-XC00 XC-Sport-7000 RD-XS00
1988	-2000 RD-2000-SS RT-1000 RD-RT10-SS	-2000 RD-2000-GX AT-1000 RD-AT10-GX	-4050 RD-4050-SS 3040 RD-3040-SS	XCD-4050 RD-4050-GX -3040 RD-3040-GX		XC-9010 RD-XC10-GX XCD-6000 RD-XD00-GX
1989	-2000 RD-2001-SS -1500 RD-1500-SS RT-1000 RD-RT10-SS	-2000 RD-2001-GX -1500 RD-1500-GX Scrambler RD-SR10-SS/GT Allegro RD-AE-00	GPX RD-GP00-SS OI RD-OL00-SS Edge 4050 RD-ED45-SS Blaze-3040 RD-BE34-SS	XCE-4050 RD-XE45-GX XCM-3040 RD-XM34-GX		XC-9010 RD-XC10-SS
1990	FT RD-FT50-SS VX RD-VX00-SS AC-2000 RD-A200-SS AC-1000 RD-A100-SS Allegro RD-AE00 FT RD-FT50-SS	XCE RD-XE00-GX XCM RD-XCM00-GX XCT RD-XT00-GX AC 2000 RD-A200-GX AC 1000 RD-A100-GX	Radius RD-RA00-SS Edge RD-ED00-SS Blaze RD-BE00-SS	XCD RD-XD10-GX & GT X-1 RD-X100-GX X-1 Chroma RD-CR00-GX		XC Pro RD-XP00-GX & GT XC Comp RD-XC20-GX & GT
1991	VX RD-VX01-SS RT RD-RT00-SS	XCE RD-XE01-GX XCM RD-XM01-GX XCT RD-XT01-GX XCU RD-XU00-GX Scrambler RD-SR20-SS/GT FT RD-FT01-SS FTU RD-FU00-GX	SL RD-SL00-SS Edge RD-ED01-SS Blaze RD-BE01-SS	XC Ltd RD-XL00-GX X-1 RD-X101-GX X-1 Chroma RD-CR01-GX		
1992	VX RD-VX02-SS RT RD-RT01-SS	XCM RD-XM02-GX XCT RD-XT02-GX XCU RD-XU01-GX	Blaze RD-BE02-SS	FS-E RD-FE00-EX Scrambler RD-SR21-SS & GT		XC Pro RD-XP00-SS/GT/ GX XC Comp RD-XC20-SS/GT/ GX XC Ltd RD-XL00-GX
1993		Honor RD-HN00-GX	S-1K RD-S120-SS	XC Expert MD RD-XX00-GT/GX XC Sport MD RD-XS01-SS/GT/GX Scrambler RD-SR21-GT/GX S1A RD-S100-GS S1B RD-S100-GX		XC Pro MD RD-XP01-SS/GT/G X XC Comp MD RD-XC01-SS/GT/G X

## Appendix C. Significant SunTour Rear Derailleurs, 1994 to 1998.

Year	Low Price Medium Range	Low Price Wide Range	Medium Price Narrow Range	Medium Price Wide Range	Expensive Racing	Expensive Wide Range
1994	<b>SX100</b> RD-SX00-SSZ	<b>XR100</b> RD-XR00-GX				
1995		<b>XR150</b> RD-XR15-GX <b>XR100</b> RD-XR00-GX <b>XR50</b> RD-XR05-GX		<b>XC Expert</b> RD-XX00-GX	<b>Superbe Pro</b> RD-SB00	<b>XC Pro</b> RD-XP01-GX
1996						
1997	<b>SX50</b> RD-SX05-SS/GX	<b>XR250</b> RD-XR26-GX <b>XR150</b> RD-XR16-GX		<b>GIGA 450</b> RD-AP45-GX <b>GIGA 350</b> RD-AP35-GX		
1998		<b>XR300</b> RD-XR30-GX <b>XR250</b> RD-XR25-GX <b>XR150</b> RD-XR17-GX		<b>AP 450</b> RD-AP45-GX <b>AP 350</b> RD-AP35-GX		

## Notes

1. These tables are provided to help derailleur collectors and bicycle restorers determine dates. They also give a count on the very large number of very similar derailleurs that were made from 1980 onward, when the annual model change became standard.
2. An old bicycle may be equipped with a later model derailleur. It will rarely have an older rear derailleur.
3. Many companies used the same model name for a series of different rear derailleurs. The Model Name usually model appears on the derailleur. It is shown in **Bold**. The derailleur Model Number is shown in smaller type.
4. The year is Model Year that the Model Number was first sold. It would probably have been shown at the fall show the prior year.
5. It isn't possible to provide a final year. Derailleurs would be shown in the annual catalogs for a year or two after production ceased to allow the inventory to be sold.

## Addendum

Posted by Paul Brodek Hillsdale, NJ USA  
on IBOB and Classic Rendevous Newsgroups in Jan. 2019  
added here with his friendly permission from Oct. 2020

I often respond to these threads because I was a first-hand witness, and I had a lot of psychic energy invested in Suntour, and because some may see it as an interesting story. Berto got most of the story right. The overall arc, and the details of the constant onslaught of market & product problems/mistakes, that drove in the coffin nails with increasing speed and fury, are spot-on. There are a couple of things I think he missed, and a potentially important technical point he got wrong, but it's a pretty solid overview.

For those who don't know, I was one of the few Suntour USA NJ employees who made the move to Cali, but I was only there for 9mos, waiting on a visa to go to Suntour Japan. I was the only ST/USA employee in Mihara, so I was the only one "in the room" during the year when it all collapsed. I've got a long trail of stuff posted here and elsewhere, David in Cascadia can search for some of that if he wants. But rather than running through my usual list of horror stories, and sounding all whiny, I think I'll just point out where I differ from Berto, and where I think his conclusions are correct and important. Hopefully it presents a clearer picture. Remember that Maeda Kogyo (Maeda Industries), was Suntour's parent company. I'll call Suntour ST, Suntour Japan ST/J, and Suntour USA ST/U. Also, I'm working from memory, and might not get exact dates right. And some of what I'm recounting was told to me by Japanese employees who were in the position to know, but I haven't researched this. So I'm somewhat at the mercy of folks who maybe have hazy memories, or maybe lied. I'm not saying there's journalistic integrity here.

I'll also try to keep it short.

Berto's basic premise, as I read it, is that ST/J sold their higher-end parts too cheaply, and those lower margins/profits meant both less \$\$\$ for r&d, and left them with insufficient cash reserves to ultimately survive the 1985 yen shock. That's not necessarily wrong, but my big-picture view is that the seed was planted earlier.

Shimano Japan went public in 1972-1973, with the resulting capital infusion allowing their subsequent expansion. Maeda tried to follow Shimano's lead and also take the company public, but the '74 Oil Shock hurt their balance sheet and prevented a public listing. From that point on, Maeda was at a significant competitive disadvantage. Less \$\$ \$ for staff/R&D, less \$\$\$ in the bank, no \$\$\$ to invest early in overseas production and, maybe, less oversight for J. Kawai and his top-down management style. Maeda's failure to go public was, IMHO, the first, and probably, most critical factor in their ultimate demise.

The second factor, not mentioned by Berto, is Maeda's need to compete directly with Shimano, across all product lines, at all price points, with little consideration of Shimano's bigger size and deeper pockets. There are several points at which, had Maeda pulled back, recognized their true competitive/financial position, and concentrated on a smaller line of higher-end products, they may have been able to survive. They didn't

have the base to match Shimano from Exage to DuraAce, but might have been able to successfully compete with Shimano on Deore/XT and Ultegra/DuraAce. Think of Campy, up against the ropes in '83-'85 with poor ATB/indexing product, still in business today.

Giving up on high-volume, low-margin components might have freed staff/resources to compete successfully at the high end.

Maeda's lack of matching R&D/capital, combined with over-extension going toe-to-toe with Shimano, also resulted in more imitation of Shimano than innovation. Berto does often mention Maeda's problems having to constantly play catch-up with Shimano.

Berto is entirely correct when he points out what I think is the third important factor, J. Kawai's top-down management. The market had indeed reached the point where just one individual, no matter how visionary, could make all the important decisions. Kawai especially caused critical hemorrhaging near the end. I'm resisting horror stories here, but you can find my previous posts on the WTB project for a prime example of a J. Kawai cluster fluck. When Tom Franges came aboard ST/U, in '84 or '85, he called a meeting in Japan with all the department heads in the big conference room. After the meeting, several of the dept heads told Tom they had never before all met together in the same room.

The dpt heads went directly to J. Kawai, leaving him to sort out all the details. As the market grew more complex, J. Kawai couldn't keep on top of everything. Pricing was set before production costs were finalized, shipping commitments were made before production capacity was known. Again, see WTB.

So that's my take. Successful public listing would've allowed more resources to compete directly with Shimano. More money in the bank to weather the yen shock, maybe overseas production for better margin on low-cost, high-volume product, and better isolation from currency fluctuations. Perhaps more oversight to prevent low-margin sales when market share was dominant, as well as better management/oversight to rein in J. Kawai. More R&D staff to keep R&D humming when dealing with Shimano's patent lawsuit. Without the public listing, pulling back from head-to-head against Shimano could've resulted in a longer, successful life based on innovation i/o imitation.

That leaves the technical/minor stuff, each of which is, mercifully, briefer. I will likely run out of steam:

1. Suntour's indexing wasn't inferior due to less precision, as Berto states. It was inferior because, due to Shimano's patents on rider floating upper pulleys and cog tooth profiles, Suntour's system had much less flexibility. Not policing complete spec increased problems, but even with "properly spec'd" components, it still didn't shift as well, or stay in adjustment as long.
2. Berto mentions ST/J staff being sent to OE to fix indexing problems in the field. But ST/U staff went with them to WCC's NJ warehouse. We had to replace freewheels and chains on thousands of boxed, unshipped bikes.
3. More of an oversight, I don't think Berto mentions ST claiming better intra-group compatibility than Shimano. The lie was we could cover all indexed groups with the same shifters. The truth was we had 4 different shifting geometries, which required 4 different shifters for acceptable performance.
4. Berto correctly mentions ST/U giving free high-end groups to builders to help build high-end acceptance, a cool marketing idea. He doesn't mention the even-cooler ST/U XC4050 Neon Green scheme, which put mid-level XC4050 drivetrains on sponsored riders' bikes. The parts were custom-made in Japan with no labeling, painted neon green w/big ST logos to show up better in photos. We told the riders it was high-end stuff, then told them at the end of the season that it was mid-level. The stuff worked acceptably, and created some buzz. The creative marketing ideas came from Tom Franges and Sky Yaeger.
5. Suntour hadn't caught up with Shimano indexing by '90, as Berto notes. Shimano was still more forgiving, easier to setup, held adjustment longer. Suntour sucked less, but it still sucked.
6. Berto mentions the X-Press shifter as an example of Suntour catching up with Shimano. The X-Press shifter was a disaster, with an unknown "feature" of dumping the chain over multiple cogs with light thumb pressure. It was sold before levers were produced. The problem wasn't discovered till the first production levers came off the line---late and underpriced, as usual. There was an agonizing 48hrs of back-forth faxes between ST/J and ST/U trying to figure out if we could market this as a feature, or call it a fatal defect and not ship any levers. Not shipping would've been fatal, so "feature" won out.
7. Berto mentions OE product managers "assuming" Shimano-spec'd bikes would sell better. They were not assuming, they knew. They had a few years of experience, and hundreds/thousands of unsold Suntour bikes in their warehouses, to know that dealers were reluctant to buy Suntour-equipped bikes. John Burke/Trek told me in '90 that "We only spec Suntour on bikes we know won't sell." Suntour was only spec'd to prevent giving Shimano a monopoly. That unprofitable strategy didn't last long.

8. Berto says that ST/J-ST/U relations "turned sour" in '90. They had been sour for years before that, starting from being dismissive of ST/U before I started in '85. Perversely, you could argue ST/J's behavior improved, somewhat, right before the end. They still sold us out and shut it down.

9. Berto is correct in pointing out ST/U shipped replacement parts earlier to ST/U, but implies this led to ST/U's first profitable year. It wasn't the early shipment that led to profit, it was giving ST/U exclusive rights to sell XC/XCPro and SpbPro aftermarket. Just like Shimano and Deore XT/DaCe, dealers couldn't buy the highest-end product from distributors. There was also talk about giving ST/U a cut of OE order \$\$\$, to help cover all the uncompensated after-sale/warranty work we were doing. Don't remember if that actually happened or not.

10. The Ole debacle was not an OE backing out of an order. Bob Margevicius, from WCC, in response to a question at a product meeting, suggested ST make a higher-end road group that looked more fashionable/sportier, like Shimano Sante. He said, off-handedly, "You could name it something like, I don't know, Ole." WCC's rep heard that as a commitment from WCC to buy Ole, but it was just a suggestion, not an order. ST's rep never followed up about any details, and surprised Bob with Ole prototypes the next time he visited Japan. All Bob could say was "I never said I would order this." One fax from the ST rep would have prevented this.

Dinner's here, and I'm burning out. There's probably a few more nits to pick, but this feels like enough. I've told this story before, but it bears repeating. When I left ST/U-ST/J in '90, they were very near the end, and many employees had already jumped ship. Only the Faithful were left, and most believed ST could actually not only survive, but come back to previous spec levels. The first thing I did when I left ST, and went to Trek, was to get a Shimano tour. I had given the ST tour to lots of OE customers the previous year, and was looking forward to seeing what Shimano had. The short story is that Shimano used robots extensively in their production, and they built all their robots on-site. Shimano's robot-mfr building was bigger than all of ST's production space. Let that sink in as a picture of the difference in scale---Shimano's robot room was bigger than ST's entire production space. There was no coming back for ST.

I phoned a couple of my friends who were still left, and advised them to find a new job as quickly as possible. There was zero chance of Suntour surviving.

Paul Brodek  
Hillsdale, NJ USA