

SKYWAY

TUFF WHEEL I
TUFF WHEEL II
TUFF FORKS
TUFF PADS
GOGGLES
MASKS



THE SKYWAY STORY

During 1963, a small high-quality machine shop opened its doors in Van Nuys, California. Its founder, Chuck Raudman, was a journeyman machinist and began to establish a reputation for precision work in the aerospace industry. Tight tolerance work, which other machine shops would "no bid" because of its difficulty, found its way into the milling machines and lathes of this new operation. Ultimately, these parts were installed in many of the space program's missiles.

By 1967 Skyway Machine had outgrown its initial facilities and moved into a larger plant in San Fernando, California. By this time, the company's reputation had spread, and at least half of its work was being done for Walt Disney Enterprises. Many of the complex control mechanisms which are incorporated in the animated figures at Disneyland were made at the San Fernando plant. Chuck Raudman had a number of outside interests which ultimately led the company in a new direction. On weekends he was involved in motocross and cross country motorcycle racing. He noted a need for silencers and spark arrestors which would not cause the motorcycle to sacrifice horsepower.

During 1971 the Recreation Products Division was born with the first shipment of the #65 silencer. Over the next few years, the product line of the company expanded rapidly into exhaust pipes, spark arrestors, etc. Among the company's customers were some of the largest original equipment manufacturers in the motorcycle industry: Yamaha, Husqvarna, Kawasaki, Maico and Hodaka.

In 1974, a new sport began to emerge in Southern California—bicycle motocross (BMX). Skyway saw the possibility of making a contribution to this rapidly growing market in the form of a new product—a 20 inch nylon "mag type" bicycle wheel. The initial objective was to make a high quality, light-weight, colorable product with a maximum level of durability.

In 1975 TUFF WHEEL® I was born. It was the lightest "mag type" wheel available in the market place; it soon proved to be the most impact resistant wheel available. It was a full year before the product was completely debugged and, during that time, a wide variety of injection moldable materials were evaluated. Ultimately, a new composition was created by Skyway (A proprietary blend of Zytel® ST and glass reinforced nylon—both from DuPont) to pass the rigid performance tests that were required to simulate "real life" usage. Also during that year, Skyway developed new injection molding techniques that were found to be essential to the production of the product.

During 1976 other products were added to the BMX line. Among these were forks, goggles and face masks.



1977 found Skyway on the move again—this time to a new 30,000 square foot facility in Redding, California. This beautiful area, located at the Northern end of the Sacramento Valley, proved to be a fitting site for continued growth and innovation.

With 1978 came the visualization of a second generation design of the very popular TUFF WHEEL®. TUFF WHEEL® II utilized technology discovered and developed during the introduction and growth of TUFF WHEEL® I. Significant changes included a thinner rim to make optimum use of material, and a new concept for the hub area. The "Kool Hub" eliminates the need for a molded-in insert and creates an insulating air gap between the nylon wheel and the metal hub. This (patent pending) approach to isolating the hub from the wheel will be the basis for other high performance wheels in the future, especially in areas where heat generation is a problem.

TUFF WHEEL® I ▼ and TUFF WHEEL® II ▼ Assembly



Impact Testing

(center); Quality Control: Wheels are checked hourly as they come from the molding area for dimensions, weight, concentricity (TIR) and impact strength.

Final Quality Control: Parts are checked on a frequent basis for concentricity and appearance.

In the Spring of 1979 came the commercial introduction of TUFF WHEEL® II. The market readily accepted the new wheel. It was lighter in weight, and had even better impact resistance than the highly successful TUFF WHEEL® I.

The "Kool Hub" design made possible the insertion of other "unit hubs" such as the long requested free hub. At Skyway's request, Suntour created a free hub unit that was compatible with the TUFF WHEEL® II hub design. This gave customers the option of using either a coaster brake or a freewheel.

In conjunction with the development of a freewheel, Skyway began working with Kool Stop Manufacturing to develop a caliper brake pad which would "bite" on the low friction nylon surface of the TUFF WHEEL®. After 9 months of development and testing, TUFF PADS were born. These pads, made of an exclusive proprietary composition, have been found to meet all Consumer Product Safety Commission requirements and are available in the standard red, yellow, blue and black TUFF WHEEL® II colors.

Injection Molding Area



1979 also saw the installation of two new injection molding machines in the Redding facility. This \$700,000 investment gives Skyway the maximum amount of flexibility in the manufacturing of its wheel products. It further indicates Skyway's continuing confidence in the strength and growth of the BMX market.

Throughout its history, Skyway has owed its growth and market acceptance to two major factors: quality and innovation. Since its struggling inception as a fledgling machine shop, it has provided products which have met or exceeded all requirements. It has recognized market needs and engineered new concepts aimed at satisfying those needs. Our Charter remains unchanged; in the future, you can continue to look to Skyway for well engineered, high performance innovations in the BMX and other related markets.

TUFF WHEEL® I

TUFF WHEEL® I is a performance proven product that has been on the market since 1976. It is made of a special glass reinforced nylon (based on Zytel® Super Tough from DuPont) that was designed for maximum impact resistance with optimum stiffness.

TUFF WHEEL® I has been a winner on the tracks, and has moved quickly on the dealer's racks. Large original equipment manufacturers (such as Schwinn, Huffy and Ross) have found that bicycles equipped with TUFF WHEELS® sell well in the BMX market throughout the country.

TUFF WHEEL® I is available either assembled (with a Bendix coaster brake/ $\frac{1}{8}$ " heavy duty Skyway front axle) or unassembled. Colors: red, yellow, blue and black.



TUFF WHEEL® II

TUFF WHEEL® II is truly an evolutionary product. It utilizes the same time-tested glass reinforced nylon material and processing technology developed for TUFF WHEEL® I.

This second generation product is lighter in weight because the material is now used more efficiently (material has been removed from the rim, thus making the bicycle easier to pedal). This weight reduction has not come at a sacrifice in durability; TUFF WHEEL® II will absorb a 30% higher impact load than the very successful TUFF WHEEL® I.

The new design incorporates a (patent pending) concept known as the "Kool Hub". This provides a heat insulating air gap between the metal hub insert and the nylon wheel. The hub is secured to the wheel with five stainless steel rivets.

TUFF WHEEL® II is available in red, yellow, blue and black. Each color is available as a front wheel (heavy duty $\frac{3}{8}$ " axle), a rear wheel with a coaster brake (Suntour) or a rear freewheel.

Since traditional caliper brake pads do not stop very effectively on the "slippery" nylon surface of TUFF WHEEL® II, it was necessary to develop a braking system that was compatible with the TUFF WHEEL® II freewheel. Tuff Pads are specially designed and compounded for Skyway to meet the rigid CPSC braking specifications. They are available in red, yellow, blue and black. Note: both front and rear brakes are required.



TUFF PADS

Specially compounded for efficient braking on the nylon surface of TUFF WHEEL® II



Patent Pending
'Kool Hub' Design



TUFF FORKS

The Skyway Tuff Fork is a durable lightweight (1.7 lbs.) racing fork. The entire unit is made of 4130 Chrome Moly Steel.

The stem has a 1" O.D., uses a .083" wall and is flared (rather than welded) to reduce weight. It has a 1 X 24 thread and is designed to accept Schwinn #56752 and #56754 cone set and standard 4" head tube.

The legs are mandril-bent uniformly for low tube stress and wall thinning. With the use of $\frac{3}{8}$ " O.D. tubing and a .065 wall these forks have strong lightweight legs with a thin racy look.

The .100" thick die stamped tabs extend below the fork leg to minimize weight without sacrificing strength.

The Tuff Fork is available either unpainted or with a white enamel finish.



GOGGLES

Lightweight (only 1.2 ounces) Foam Fit Goggles are constructed with a tough nylon frame and a flexible reticulated foam core. This durable product fits comfortably (even over eyeglasses) and snugly when mounted directly to a helmet with pressure sensitive Velcro material. The foam liner traps dust or dirt, and absorbs perspiration while allowing filtered air to pass through and eliminate fogging. The goggles are available in red, white, blue, yellow and black; each pair comes with two clear lenses (smoke and polarized lenses are available separately) which meet the requirements of VESC-8.



MASKS

The Foam Fit Face Mask includes many of the features of the Foam Fit Goggles but goes one step further to provide full face protection. It's frame is made of the same "high impact" nylon and is lined with lightweight reticulated foam. The lower portion of foam is easily removable for cleaning. The mask (at less than 2 ounces) fits comfortably over eyeglasses, and is attached to a helmet by a Velcro strap. It is available in red, white, blue, yellow and black and comes with two VESC-8 approved clear lenses (smoke and polarized lenses available separately).



REPLACEMENT PARTS & ACCESSORIES



Skyway caps

Skyway front axle repair kit
(Heavy Duty - 3/4")



Reflectors for
TUFF WHEEL® I
and TUFF WHEEL® II



Stickers



Bearing cups
and dust covers



14 tooth to 19 tooth sprockets for
Suntour coaster brake and free hub



Suntour Coaster brake repair kit
Bendix coaster brake repair kit (Not Pictured)

**TUFF WHEEL I
TUFF WHEEL II
TUFF FORKS
TUFF PADS
GOGGLES
MASKS**



Skyway is an innovative quality-oriented company. We are proud of our products and back them with a strong warranty policy which requires minimum dealer or distributor involvement. Our products are promoted in industry magazines as well as large distribution publications aimed at the general public. With a combination like that, we feel like a Winner. Handling our products will make you a Winner too.

SKYWAY

RECREATION PRODUCTS

4451 Caterpillar Rd.
Redding, CA 96001
(916) 243-5151