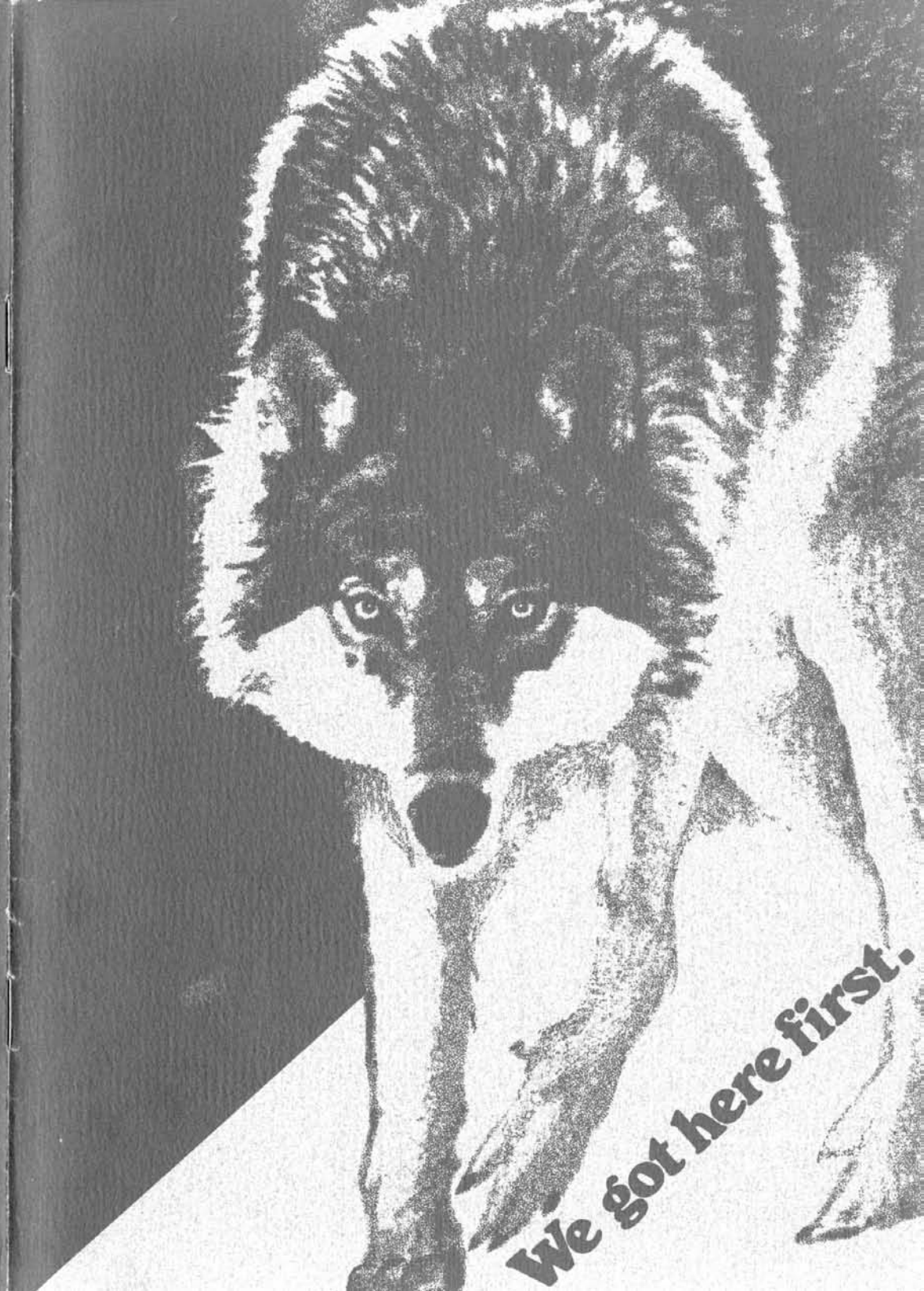
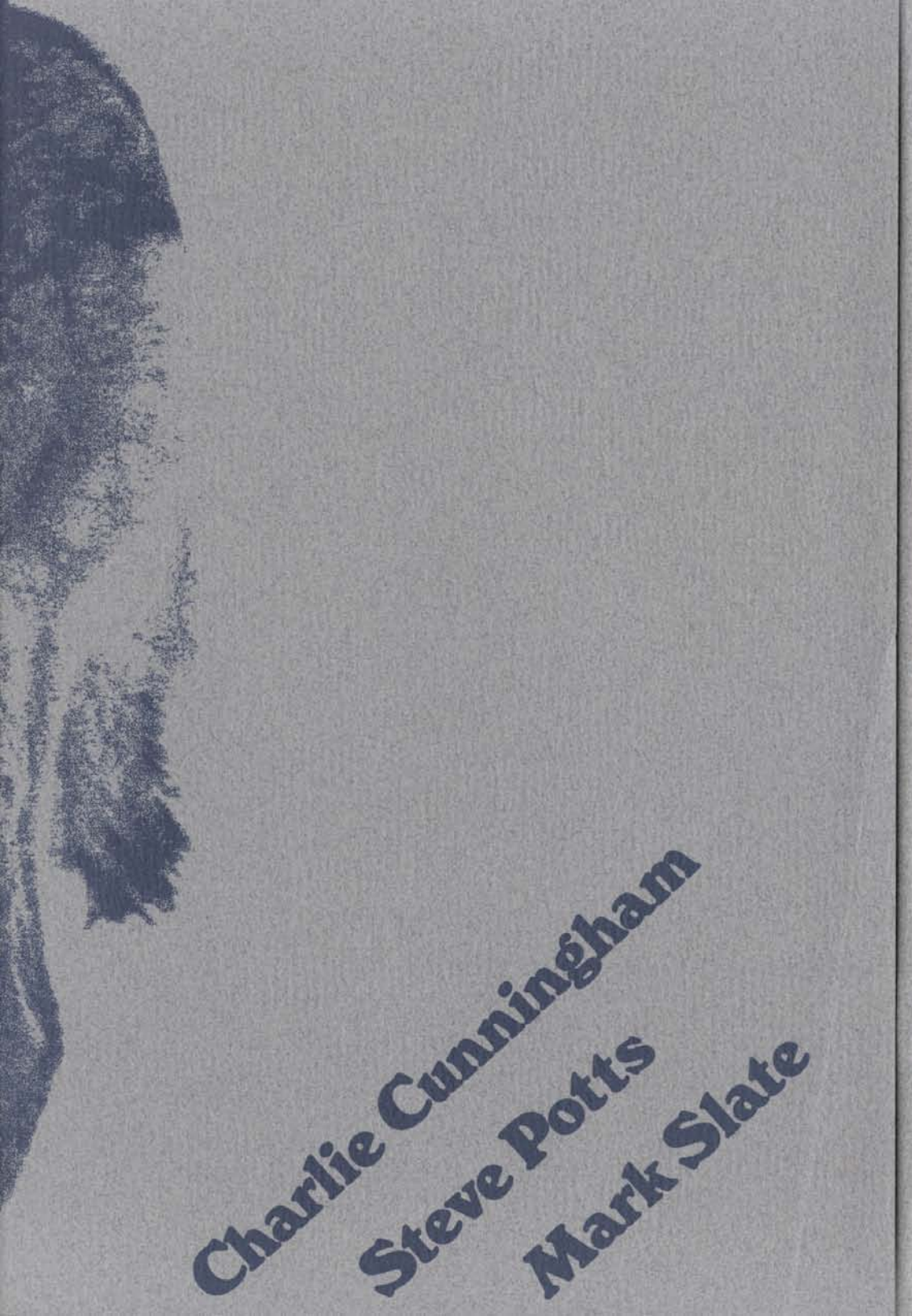
WILDERNESS TRAIL BIKES



We got here first.



Charlie Cunningham
Steve Potts
Mark Slate



WILDERNESS TRAIL BIKES

It all began when the bicycle was first invented, or rather, when the Safety Bicycle, with its balloon tires and same-sized wheels, appeared a hundred years ago. Since then, men and women have pedalled their bikes wherever their spirits led them. Long before the sport surfaced in Marin County, people had explored for gold in Alaska's rivers, fished for salmon in California streams, and trudged over Saharan dunes, using bicycles that weighed more than sixty pounds and had one or two gears. So don't be so sure any one person "invented" mountain bikes. These fat-tired, friendly things were created in fits and starts, beginning before the term "discretionary income" was devised. The paved road itself was invented in order that the new, pneumatic rubber bicycle tires not puncture on the sharp stones and uneven surfaces of the stagecoach roads of the day.



Today's state-of-the-art mountain bicycle can be traced to the haphazardly harnessed efforts of a handful of Marin County men and women who never completely grew up.

Charlie Cunningham, Steve Potts, and Mark Slate are among those innovators, and have had a powerful influence on the evolution of mountain biking. Each is a respected builder of the finest custom mountain bicycles. Individually their bicycles have long been known to set the highest performance standards with originality of design, quality of materials and uncompromising workmanship. Industry "insiders" know these names well and know the contributions they make, although the credit often goes to the major companies which use the designs to reach the larger market.

In the late 70's and early 80's these builders made many components for their own bicycles by hand, because the equipment available on the market was crude and inefficient. Poor design was rampant. Many parts did not work right or broke down at the moment they were needed most. On the other hand, the components that Charlie Cunningham, Steve Potts, and Mark Slate made worked beautifully and did not fail. Other riders wanted them. This demand led the three to pool their considerable skills and experience into a company they called Wilderness Trail Bikes. Now Wilderness Trail Bikes makes an extensive line of fine components for other builders and avid riders everywhere. Additionally the three founders collaborated with other leading manufacturers to license many of their designs under other well known industry brand names. For example:

Charlie, Steve, and Mark are the designers of the famous line of Specialized Mountain Bike Tires. The Ground Control, Ground Control/S, Hardpack, and Crossroads II incorporated completely new tire design principles that have raised performance standards dramatically. Most of these design principles have now been adopted by the off-road tire industry. Wilderness Trail Bikes has specified the geometry for the 1987 Trek Mountain Bike line and licensed the rights to SunTour to manufacture and market their version of the roller-cam brake. It can be said that the unseen contributions by these three gentlemen are

far broader than generally realized. They are collectively responsible for pioneering the following:

- *The first use of toe clips on mountain bikes (which was considered extremely inappropriate by almost everyone else)*
- *Rear hubs with 136mm rear dropout spacing with zero dish and extra-wide front hubs with easily replaceable cartridge bearings*
- *Welded aluminum mountain bike frames*
- *Straight-blade thin-wall Type II racing forks with tubular crowns*
- *The original patented Speedmaster™ Roller-Cam Brake and Mini-Cam Brake for skinny-tire bikes*
- *Toggle brakes for mountain bikes*
- *Sloping top tube and large diameter seatpost as a more efficient use of the properties of aluminum*
- *The Patented Grease Guard™ bicycle component system for extended bearing life and low maintenance*
- *The original one-piece fork blade drawings which resulted in the Unicrown™ and Unifork™*
- *LD or Gooseneck stems*
- *Flared or Drop-style bars for mountain bikes*
- *Twin inner tube used in mountain bike competition*
- *Chain guide and slap protector for mountain bikes*
- *Toe Flips for quick and easy toe clip entry*
- *Rear drop out with 45° slots and super strong derailleur hanger*
- *Alloy single-strut stems for mountain bikes*
- *Taper mounting of stems to avoid knee injury*
- *Basic design and shape of the first module mountain bike rim, the Araya RM-20*
- *In-line cable adjusters for mountain bikes*
- *Rubber chainstay protectors*
- *Safety sleeve in mountain bike fork steerers*
- *Mountain bike fixed angle seatposts*
- *Tire pumps mounted inside the seat post*
- *Progressive mountain bike frame geometry*
- *Thumb shifter mounts for drop bars*
- *One piece aluminum stem with 30° rise for mountain bikes*
- *First adjustable universal brake bridge*
- *Design of the Specialized line of off-road tires as mentioned above, including the famous Ground Control tire (named by Jacquie Phelan, wife of Charlie Cunningham)*

Today Charlie, Steve, and Mark are still working at the cutting edge of the latest in bicycle technology. Much of the unreleased work is still confidential, but some exciting new developments are: improvements to the Wilderness Trail Bikes Grease Guard™ Hubset, WTB/Chris King Grease Guard™ Headset, a Wilderness Trail Bikes threaded cup Grease Guard™ Bottombracket and a new revolutionary Wilderness Trail Bikes brake pad kit. In addition Wilderness Trail Bikes also has a new grease formulated specifically for use in the Wilderness Trail Bikes Grease Guard™ line of components.

CHARLIE CUNNINGHAM

In the late 60's and early 70's Charlie Cunningham honed his bicycle skills and developed an appreciation for the needs of the off-road cyclist while riding his modified skinny tire bicycles on the wilderness trails of Mount Tamalpais. He built the first aluminum mountain bike in 1978 when aluminum rims and lightweight tires became available. The 24½ pound bike was remarkably advanced for its time. It incorporated many design features which were later adopted as industry standards. This original "Cunningham" is now being restored for display in the Mountain Bike Hall of Fame Museum in Crested Butte, Colorado. Charlie won the Norba Veterans National Championship in 1984. He builds a limited number of highly advanced custom bicycles each year.

STEVE POTTS

From combing the dumps for old bicycles as a kid, to a professional motorcycle racing career, Steve has spent most of his life on two wheels. 1980 was a turning point for Steve. It was a bicycle trip to New Zealand and Australia with Joe Breeze that turned Steve's life around. Upon returning, he immediately sold his home, quit his job, and started making bicycles and components from a rented two-car garage. It was from this garage that Steve teamed up with Mark Slate and Charlie Cunningham.

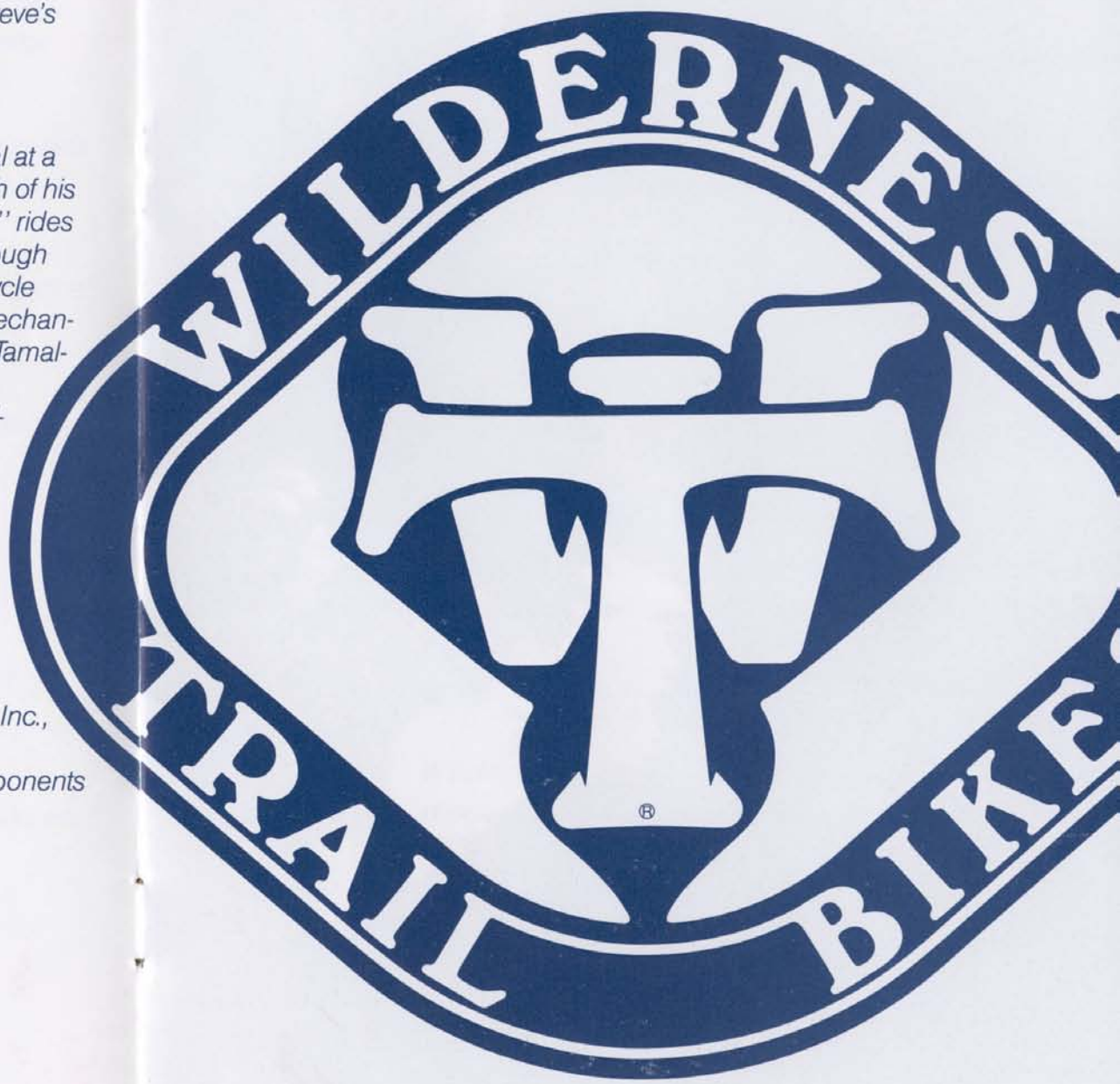
They had different skills that complemented each other, so forming the company Wilderness Trail Bikes was a natural process. Currently Steve builds approximately sixty complete bicycles a year. His goal is to build the finest bicycles in the world. It's working in his shop with his hands, building and riding these bikes that fuels Steve's inspiration for new ideas.

MARK SLATE

Mark Slate became interested in things mechanical at a young age. Although motors were a focus for much of his early years, the inspiration received from "bomber" rides soon replaced the motorhead mentality. Mark, through mutual friends, met Erik Koski, a major force in bicycle innovation, and learned much about specs and mechanics. Mark was already familiar with many of Mount Tamalpais' fire roads from riding Schwinn "Ten-Speeds" before acquiring his first "Cruiser." From his first off-roader with black-wall Carlisle tires on steel rims, through virtually every technical trend, Mark has felt compelled to update and modify, in order to analyze the experience of freer riding. His working associations with other pioneers in the industry have been his inspiration. Advancements in function have been his focus.

Charlie, Steve, and Mark, as Wilderness Trail Bikes, Inc., are working on other ideas, and plan to continue designing and producing top quality off-road components far into the future.

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Wilderness Trail Bikes Grease Guard™ System

Wilderness Trail Bikes proudly introduces the Grease Guard™ Component System, a revolutionary new technology which overcomes the classic problem of bicycle bearing contamination and wear.

Wilderness Trail Bikes solves this problem with their patented Grease Guard™ Component System. The Wilderness Trail Bikes Grease Guard™ System purges and relubricates each individual bearing from the protected inside edge to the exposed outside edge. This effectively allows you to accomplish a bearing overhaul in seconds. This system is based on the extensive first hand design and riding experience of Charlie Cunningham, Steve Potts, and Mark Slate. This experience has shown that three different mechanisms contribute to the degradation of bearings in bicycle components:

1. Abrasion from grit which enters the bearing (usually in the form of mud or water-borne particles.)

2. Corrosion caused by water which enters the bearing. Water doesn't harm the bearing directly, but what does are the oxides and pitting that result.

3. Wear from normal motion. Our experience has shown this to be very small in comparison to abrasion and corrosion. The low speed, high load situation found in bicycles favors the use of precision cartridge bearings when kept clean.

What leads us to these conclusions is how long the bearings last in the Grease Guard™ components if they are lubricated diligently. In proof, bearings subjected to almost daily off-road use in all types of weather have no more detectable play than the day they were installed over two years ago.

The Wilderness Trail Bikes Grease Guard™ Components effectively solve the abrasion and corrosion problems. The frequency of necessary lubrication varies with conditions: in wet weather they should be greased after each ride; in dry weather once every two weeks is enough. The standard bearing seals are effective at keeping dry dirt and dust out. Our hub literature explains how they fail in wet or muddy conditions.

OTHER GREASE SYSTEMS

The Grease Guard™ System differs in three very important ways from more primitive systems which simply fill the whole cavity between the bearings with grease. The patented seal designs used in Wilderness Trail Bikes Grease Guard™ control the replacement grease very efficiently.

1. UNIFORM CLEANING AND REPACKING

With Grease Guard™ the grease flows through the bearing very uniformly from the inner protected side to the outer exposed side. In cruder systems one of the two bearings may not get adequate grease due to pressure variations. Each bearing must be independently lubricated.

2. FRICTION FROM GREASE SHEAR

Bicyclists don't need more friction, they need less! A normal cyclist has only about one-half of a horsepower at his disposal. Unlike motor vehicles, cyclists can't afford to waste their output overcoming excess friction. The inner Grease Guard™ seal barely contacts the moving parts. It flexes during greasing which forms the seal so it can do its work. Consequently, the only friction is from the grease in the bearing. The cruder systems fill the whole cavity which causes large amounts of grease to constantly be "sheared" as the parts turn. Your precious energy goes into churning grease.

3. WEIGHT

Considering the effort and expense today's bike builders and users put into having light and efficient bikes, adding a pound or so of grease to your frame doesn't make sense. It may not be noticed by novice riders but it definitely bothers most experienced riders.

Wilderness Trail Bikes Grease Guard™ Hubs

The patented Wilderness Trail Bikes Grease Guard™ Hubs provide a breakthrough in bearing maintenance. The Grease Guard™ System allows the user to individually purge the bearings following exposure to contaminants such as rain, stream crossings, and wash water. As new grease enters the bearing, it flushes older grease from the inside edge of the bearing, moves through the bearing and then under the outer seal, pushing contaminants ahead of it while filling the bearing with fresh, clean grease. Using a low viscosity, waterproof grease, with the Grease Guard™ seal results in an exceptionally low rotational friction. The individual purging of each bearing means there is minimum grease carried near the bearings. This avoids undesirable "grease shear" (unnecessary friction) found in more primitive systems which fill the whole cavity between bearings with grease. With proper maintenance this system guarantees far longer bearing life and lower maintenance costs than a standard sealed bearing hub.

The Wilderness Trail Bikes Grease Guard™ Hubs use the finest aluminum. They are machined to precise tolerances from solid billet. The design optimizes the location of the freewheel with respect to the flanges so that the wheel has a better spoke bracing angle. The contour of the spoke holes greatly reduces stress at the spoke bend. The result is stronger, longer lasting wheels.

This hubset will outperform and outlast any other on the market.

WTB/King Grease Guard™ Headset

Wilderness Trail Bikes has contracted with Chris King Manufacturing to incorporate Grease Guard™ in the popular King Headset. Sold exclusively by Wilderness Trail Bikes, available in either black or silver, this fine headset is not susceptible to maladjustment, as are other ball bearing headsets due to the nature of the special thrust-type sealed bearing. Incidentially, just a word on ball bearing headsets: A roller bearing headset does not allow the small amount of movement or "give" necessary to accommodate the flex in the steerer tube which occurs in normal riding. Roller or needle bearings can cause acute stress on frame and fork. A ball bearing acting between a cup and cone will allow the necessary movement which protects the parts when great forces are applied to the fork.

The lower race of any headset is exposed to large amounts of contamination thrown against it by a front wheel spinning through gritty water crossings. If the corrosive elements are not removed the bearing steel and ball bearings themselves will become pitted and worn. Any headset run while loosely adjusted will cause the fork steerer to be hammered, promoting failure. The steerer is the weakest link in a bicycle's design and the last part you would want to have fail at speed. If a Grease Guard™ headset is properly adjusted and

greased promptly after wet rides, it will give many years of trouble-free service. Please be aware that this headset requires approximately 5/16" extra stack height.

Wilderness Trail Bikes Grease Guard™ Bottombracket

The Wilderness Trail Bikes Grease Guard Bottombracket is once again available after a long hard search to find the appropriate bearing. This is not a conventional threaded cup adjustable bottombracket but a press-in cartridge bearing with a 17mm inside diameter and 35mm outside diameter. This is the same size used by Klein, Fisher, Ritchey, and of course Wilderness Trail Bikes. Frames having conventional threaded bottombracket shells may be reamed (by Wilderness Trail Bikes) to fit these bearings. In any case the bottombracket shell must be drilled on either side with a small hole for grease inlet, a relatively simple operation.

The precision and load bearing capacity of a cartridge bearing is much greater than that of a cup and cone type adjustable bearing, an advantage in the demanding high load application of bicycle bottombrackets and hubs. The ability to individually purge and relubricate each of these bearings adds greatly to the longevity of these bearings. Contamination and load are the primary sources of bearing wear. As with all Grease Guard components, it is essential that the user maintain the bearing with regular servicing (always after possible water entry) using Wilderness Trail Bikes Goose Grease.

Wilderness Trail Bikes Goose Grease™

Our smooth white lubricant provides true protection from corrosion and wear for all moving parts on today's mountain bikes.

Although Goose Grease™ was engineered specifically for use in Wilderness Trail Bikes Grease Guard™ components, it is ideal for cables, pivots, and any other area of your bicycle needing a long lasting film of lubricant. The unusual corrosion prevention properties, exceptional penetration and low friction qualities of this grease are due in part to the high Teflon content. The Teflon component of Goose Grease actually becomes atomically bonded to the surface of bearing steel to the depth of .0002" giving the utmost in rust resistance and lowest coefficient of friction of any friction modifying material known. Goose Grease also has exceptional penetrating qualities and is non-toxic which indeed makes it the most worthy lubricant available for all your low friction needs. Goose Grease is the ONLY recommended grease to use with Wilderness Trail Bikes Grease Guard™ Components.

REMEMBER: Care of Grease Guard™ components depends on your diligence. When returning from a wet ride lubricate immediately. If moisture is allowed to sit in a ball bearing it will degrade the surface resulting in a loose tolerance. Clean fittings with Q-Tips. Remove contaminants from grease ports (where no fittings are used) with a pick if necessary. Goose 'Em!

Wilderness Trail Speedmaster™ Roller-Cam Brake

This original, patented roller-cam brake for fat tire bikes has undergone continuous development for the past eight years. It is now a highly evolved and simple design with unparalleled performance. The lightweight, superior materials, replaceable main pivot bushings with lube ports, independently adjustable linear springs, sealed ball bearing pulleys, and longer-lasting, stiffer brake pads are significant differences between this and the more commonly seen roller-cam brakes available on the market. Tire clearance is far greater too. The independently adjustable brake springs return the brake arms to center accurately, as well as giving a choice of more or less tension at the lever. If greater mechanical advantage is desired (such as for mountain bike tandems) it may be achieved by a simple modification.

The original Speedmaster Roller-Cam Brakes can now be fitted to production bikes with their stock metric-sized brake studs. Wilderness Trail Bikes has developed an adapter cap for the stock stud to increase diameter and lengthen the pivot surface. This allows Wilderness Trail Bikes to control these tolerances while increasing bearing surface and therefore performance. For easy maintenance, the adapter caps are grooved, enabling 360° lubrication through a small hole in the brake arm. A must for those who demand the best in brakes!

The enemy of any braking system is friction in the moving parts. This brake is designed to minimize friction but it is essential that these brakes be properly aligned and positioned. Pay particular attention to the cam/roller alignment. A satisfactory installation is the responsibility of a competent mechanic. Instructions and guidelines are available with our brakeset.

Wilderness Trail Speedmaster™ Roller-Cam Brake for skinny tire bikes

This newly developed brake is also protected by U.S. Patent and is essentially the same as the fat tire version with dimensions particular to the lesser space and power required. The stiffness of this braking system gives precise response and excellent feedback and is made with skinny tire tandems and cyclo-cross bikes in mind. It requires positioning and welding of two special studs included with the brake set.

Wilderness Trail Drop Bar

Wilderness Trail Bikes has designed a drop bar specifically for rough terrain with less drop and reach than a standard road-bend drop bar. Drop is 5" and reach is 3". They offer a 40cm top and hood position with 25° of flare per side starting at the brake lever position. The overall width is just under 24". The material used is a slightly thicker wall aluminum tubing of special alloy, and heat treated for super durability. This bar combines the best attributes of both flat bars and drop bars. The advantages are multiple hand positions for extended mileage comfort and better anatomical alignment for handling in the power and braking position. Comfortable and safe at speed.

Wilderness Trail Bikes SIS Shifter Mounts

Wilderness Trail Bikes has designed a mount for using a Shimano Deore or Deore XT mountain bike thumb shifter on drop bars. Specifically designed around the Wilderness Trail Bikes RM-2 off-road drop bar, it provides easy shifter access in adverse conditions. The mount attaches to the handlebar just above the brake lever and positions the shifter inside of your grip where it may be actuated without unwrapping your hand from the bar. Downshifting is possible even while braking. The Wilderness Trail Bikes Drop Bar and Shifter combination makes drops a viable combination for technical riding.

Wilderness Trail Bikes Stubby Expanders

Our stubby expanders facilitate mounting of a clamp-on stem without a permanent bushing fixed in the steerer. The stubby expander is bolted into the steerer leaving 1.5" to 2.0" of 7/8" shank to clamp the stem to.

Wilderness Trail Bikes Flat Bars

Wilderness Trail Bikes flat bars have always been made with substantially more sweep than any other flat handlebar. Our extensive experience has led us to this configuration. Another preference of ours has been chrome-moly rather than aluminum. With a limited diameter (7/8"), aluminum bars must weigh nearly as much as steel bars to get the same strength. We feel that the advantage of steel is that the handlebar will flex as much as an aluminum bar and will never snap. To achieve this absorption and retain strength, Wilderness Trail Bikes is using a handlebar tube with a thicker butted section, developed and sold by Ross Shafer of Salsa Cycles. The butting extends through the bend, leaving the straight section of .035 chrome-moly to absorb shock and reduce weight. If you prefer a flat bar with minimal bend (11°) the Salsa Bar is the one for you. If you require more sweep, Wilderness Trail Bikes rebends the Salsa Bar to 16° and will custom bend to suit rider preference. With a flat bar having more sweep it is crucial that the bar be positioned with the tips pointed a few degrees down for added rider comfort.

Wilderness Trail Handlebar Shims

A 1.030" OD x .875" ID x 2-plus" length shim must be used to fit a 7/8" flat bar to a Wilderness Trail Bikes stem as well as with other stems using a 26.0mm (Italian standard) bore. These aluminum shims have a tapered edge on either side and extra length to help relieve the acute stress where the handlebar and stem meet.

Wilderness Trail Aluminum Cable Hanger

Our thick aluminum cable hanger provides a solid stop for the front brake cable housing and, therefore, a more precise feel for the front brake. The piece is available in black or silver and beautifully machined with radiused edges from 3/16" high strength aluminum plate. The Wilderness Trail Bikes cable hanger clamps between top nut and threaded headset cup, so measure to make sure your fork steerer tube is long enough.

Wilderness Trail Handlebar Grips

Magura ergonomic rubber grips have a bulge in the center of the grip to fit your hand thereby increasing comfort. Wilderness Trail Bikes radiuses the flange down for easier access to the shifters. Tough and comfortable. Use handlebar endplugs to prevent the handlebar from punching a hole in the end of the grip if the bike is dropped. These grips last.

Wilderness Trail Chainstay Protectors

Extra thick, energy absorbing, durable rubber with adhesive backing is cut 10" x .9" to .6" tapered for maximum protection and noise dampening. Chainstay should be clean and dry before protector application. Heat chainstay protector in the sun for best results.

Wilderness Trail Internal Pumps

This is another original Wilderness Trail Bikes concept for mountain bikes. A standard Zefal Solibloc pump is modified by Wilderness Trail

Bikes for internal fit. The pump has a special plastic handle which fits inside SunTour XC seatposts or other seatposts with 7/8" or larger inside diameter. The pump is held handle-side up in the seatpost by friction. Internally mounted pumps stay clean, can't fall off, and retain an uncluttered appearance. Note: Smaller frames with water bottle bosses on the seat tube may not provide clearance for pump length. Raising and lowering the seat can damage the pump. Overall pump length is 18".

Wilderness Trail Toe Flips

Here's another original Wilderness Trail Bikes design: A plated spring steel device shaped through years of research to provide a purchase for a quick, easy flip of the pedal allowing fast insertion of the foot in the toe clip. A real advantage where dismounting and remounting is frequent. Toe Flips are superior to stock kick tabs due to the carefully designed shape which provides a ramp for easier entry where your foot has to slide across the edge of the pedal cage.

Short Sleeved WT-Shirts

Ink and shirt colors vary to keep up with current trends. Top quality 100% Hanes "Beefy-T" or Russell "Jerzees" with large Wilderness Trail Bikes logo on back and small logo over heart on front. New or slightly different designs are always in the works, so please ask.

Long Sleeved WT-Shirts

We use top quality 100% cotton Hanes "Beefy-T" shirts in popular colors. Sleeves have small logo with Ground Control tread pattern running down from shoulder to cuff and large logo on front and back.

Wilderness Trail Sweatshirts

Sweatshirts from Hanes and Russell are the finest quality available. Our famous logo is screened over the heart and a large logo covers the back. The sweatshirt has a hood and kangaroo pocket.

Wilderness Trail Water Bottles

Large (28 oz.) or small (21 oz.) translucent Specialized water bottles printed with our very popular Wilderness Trail Bikes logo in black on two sides. A must for the equipped rider. Buy extras. Fresh bottles are a happiness.

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