

NOLEEN
RACING
1998



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**NINETEEN-NINETY-EIGHT
SUSPENSION**



**TECHNOLOGY-
ENHANCED
PERFORMANCE
(DON'T WORRY, ITS
PERFECTLY LEGAL)**

K2®. The name conjures visions of impassable peaks and raw adrenaline. But K2 is more than waist-deep powder and icy slopes. It's about attitude, and products that let you rip.

At K2, we're committed to developing products that do more than meet enthusiasts' needs. We design products that redefine the needs of hard core athletes, and let them perform better than they imagined possible.

How do we do it? By applying cutting-edge technology to the most extreme sports, and the most advanced sports equipment, in the world. K2 has innovated products including the piezoelectric "Smart Ski™," which uses aerospace technology to dampen vibrations, the Clicker™ step-in snowboard binding and the Softboot™ inline skate, which gives riders the comfort of a running shoe with the support of a plastic skate.

The size and breadth of experience K2's engineering department brings to Noleen Racing lets us think outside the bicycle industry "box," introducing advanced materials and suspension technology before our competitors. Technology that has been developed with partners like Boeing®, Easton® and Shimano®. Technology that improves performance so radically, it could almost be considered an unfair advantage.

With ten years of experience in suspension through its Noleen Racing division, the K2 R&D team knows bicycle shocks and forks. But 1998 signals a dramatic increase in corporate engineering and financial resources focused on one goal: to build the most advanced suspension components in the world.

K2 Bikes and Noleen Racing. Technology that will elevate your skill level and your thrill level.



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**WITH SUSPENSION
LIKE THIS, WHO
NEEDS A MOTOR?**

At Noleen Racing™, we've been building suspension for years. It's all we make, and all we race. In our quest for ultimate performance, we test every shock and fork on the market. Then we make our components better.



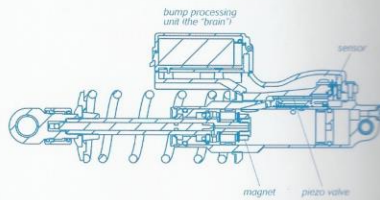
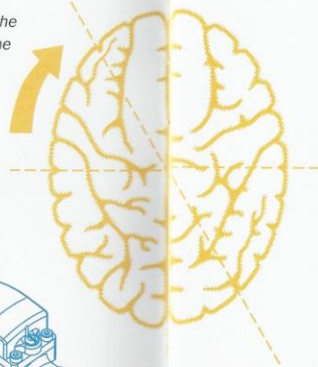
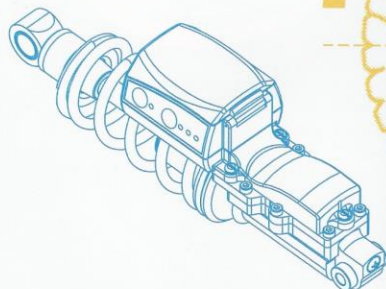
Install Noleen suspension components and you're riding more than a state-of-the-art racing fork or shock. You're tapping into 10 years of Noleen motocross experience. The Noleen boys build forks and shocks that give the factory teams fits on motorcycles capable of leaping 30 feet in the air. This technology is adapted to every shock and fork we make. Technology like multiple oil circuits, floating pistons, adjustable damping and stable nitrogen gas.

No other company uses its own pro motocross team as a test bed. And no other bicycle suspension delivers a ride so plush and responsive, you'll swear it comes with a motor.

**IF YOU HAD A BRAIN,
WOULD YOU BE
DANGEROUS? WE'D
LIKE TO THINK SO.
INTRODUCING THE
K2 SMART SHOCK™**

Variable electronic damping. It's used on the most exotic racing equipment in the world. Pit pundits claim it's an unfair advantage. Either way, it's been unattainable in the bicycle industry.

Until now. The new K2® Smart Shock™ is the world's first bicycle shock with a "brain." The brain, a piezoelectric compression valve, processes bumps by sensing piston



speed and position, and tailoring damping to handle terrain changes on the fly.

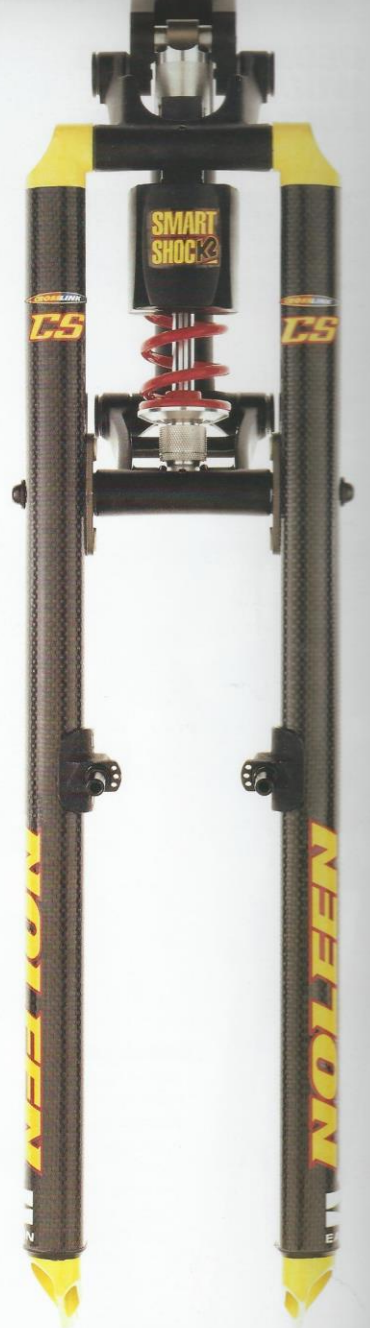
With conventional shocks, damping has always been a compromise: Set it up stiff, and the bike performs poorly in trail chatter. Set it up plush for rocks and roots, and you risk getting spit off on high-speed impacts. Smart Shock maintains control in all speed and terrain extremes by compensating for any impact in the blink of an eye.

The sensor in the shock reads piston speed and position, and sends the data to the smart circuit. The circuit returns a signal to the piezo valve, flexing the valve in a millisecond to increase or reduce oil flow that's 1/1000th of a second! The end result is increased tire-to-ground contact, letting you push yourself past the edge and come back in one piece. The "brain" thinks for you so you concentrate on riding. Not on bracing for bumps.

Some say you've got to be born with brains. We say you can clip into them with the patented K2 Smart Shock system, available now on the Cross-Link CS fork!

CROSS-LINK

**BUMP GUIDANCE,
NASA STYLE
(BUT A HECK OF A
LOT CHEAPER)**



CROSS-LINK CS



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CROSS-LINK

Cross-country racing and space travel. Both demand control, pinpoint accuracy and the durability to outlast hours of abuse. A cross-country fork has to help a rider perform in all types of terrain, when he's fresh, and when the only thing keeping him rolling is sheer will power.

Most telescopic forks exhibit inherent weaknesses: independent leg movement, stiction, brake scrub and lack of steering precision. The Cross-Link™ goes where no fork has gone before to provide the best steering and travel quality available for the sole purpose of cross-country riding and racing.

What's Cross-Link's secret? Links and legs. The heart of the Cross-Link fork lies in the forged "Uni-Links." Uni-Links resist torsional and lateral flex, converting horizontal bump energy into vertical link travel, and passing it through the links into the shock absorber. Uni-Links simplify Cross-Link, making it easier to tune and maintain.

Cross-Link's massive D-section leg design eliminates flex and independent slider movement, transferring steering input directly to the front wheel. Super-stiff Cross-Link legs come in extruded 6061 aluminum, Easton® Taper-Wall aluminum, and indestructible Easton Carbon Fiber.

If all this seems like a radical departure, so did Apollo VII. Hang on for a heck of a ride!



LEGS AND A BRAIN.

It's hard not to notice a great set of gams. Take the Cross-Link CS's massive Easton® carbon fiber legs. They deliver rigid-fork steering – the kind cross-country pros demand – and 3" of luscious travel. A thermoplastic hot-coat keeps 'em abrasion-free.

Look closer. There's more to this baby than meets the eye. K2's® revolutionary Smart Shock™ is the first shock absorber with a "brain." Smart Shock's patented computer thinks for you, tailoring damping to handle terrain changes on the fly. From stutter bumps to wheel-swallowing depressions, Smart Shock can handle whatever you dish out and more.



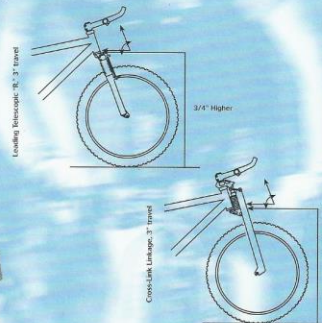
CROSS-LINK CS

- K2® Smart Shock™ variable compression damping
- Easton® carbon fiber leg with thermoplastic hot coat
- Adjustable rebound
- Nitrogen charged
- Grease port
- Lightweight aluminum shaft and shaved body
- 3" travel
- Titanium bolt kit available

GEOMETRY THAT WOULD MAKE EUCLID PROUD

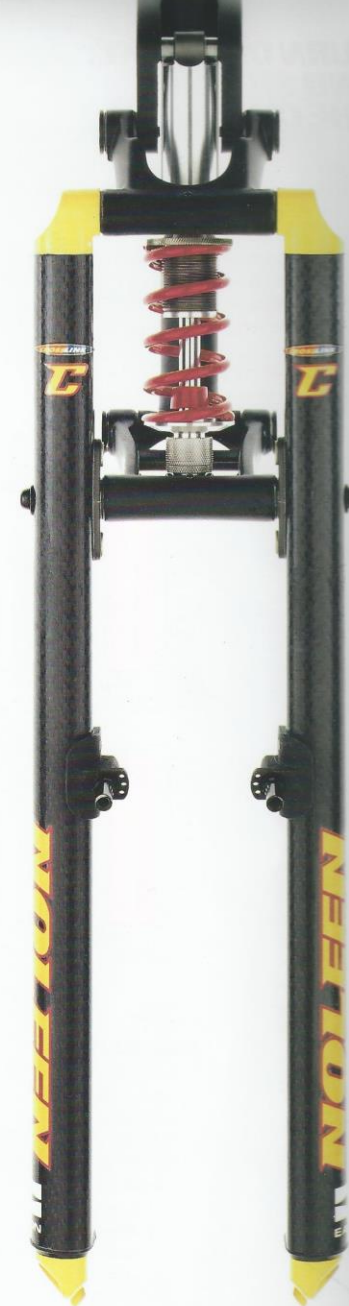
As travel increases, head tube height and angle can also increase. Before you know it, your bike is handling like a rusty door hinge. Bolting a 3" travel telescopic fork onto a frame designed for less travel jacks up the front end of the bicycle 3/4," and increases wheelbase by 1/4". On the trail, geometry changes lead to sketchy steering and a light front end on climbs.

Because Cross-Link's linkage design eliminates the need for tall telescopic fork crowns, you can add 3" of controlled travel to any frame without giving up the crisp handling you trust. Try that with a long-travel telescopic!



CROSS-LINK C

- Noleen NR-2
- Easton® carbon fiber leg with thermoplastic hot coat
- Adjustable rebound
- Nitrogen charged
- Grease port
- Lightweight aluminum shaft and shaved body
- 3" travel
- Titanium bolt kit available



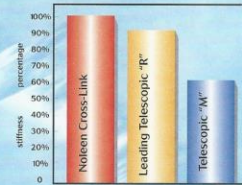
CROSS-LINK C

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TURN ON A DIME, AND SPIT OUT THE CHANGE

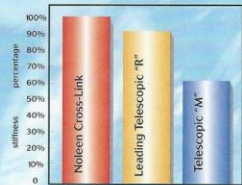
If a suspension fork isn't laterally and torsionally stiff, it won't steer precisely. Independent slider/ stanchion movement in telescopic designs leads to front wheel deflection, and loss of steering control. Most telescopic designs employ brake bridges as a cure for "slider slop," but no bridge can cure the inherent flexibility in telescopic designs. In fact, as travel increases, slider movement gets harder to control.

Noleen's linkage concept delivers 3" of controlled suspension travel without compromising steering performance. A Cross Link keeps the front wheel tracking straight and true with rigid fork steering and long-travel.



Torsional Stiffness-

*50 pound load applied 90° from tire patch, Cross-Link as signed 100% stiffness as reference for relative deflection.



Lateral Stiffness-

*50 pound load applied 90° from tire patch, Cross-Link as signed 100% stiffness as reference for relative deflection.

CROSS-LINK ELT

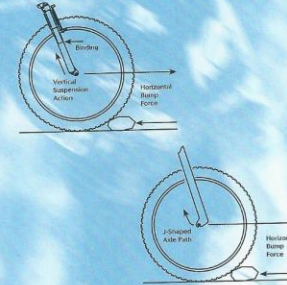
- Noleen NR-2
- Easton® 6061 aluminum leg
- Adjustable rebound
- Nitrogen charged
- Grease port
- Lightweight aluminum shaft and shaved body
- 3" travel
- Titanium bolt kit available



CROSS-LINK ELT

THROW BUMPS A CURVE.

The biggest challenge to any front suspension system is to convert horizontal bump forces to vertical suspension action. Because of the way telescopic forks are designed, stanchion tubes bind against sliders when the fork hits a bump. This "stiction" can wreak havoc with your fork's handling. Cross-Link's J-shaped axle path smooths the transition of horizontal bump forces into the vertical linkage arc, absorbing energy and keeping you rolling in the roughest terrain.



CROSS-LINK EXP

- Noleen NR-1
- 6061 aluminum leg
- Nitrogen charged
- Grease port
- Lightweight aluminum shaft and shaved body
- 3" travel
- Titanium bolt kit available



CROSS-LINK EXP



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**GET A CHUBBY™
AND SHRED THE
BANZAI PIPELINE.**



CHUBBY

CHUBBY

Riding the big steeps is like surfing; once you commit, there's no turning back. But the consequences of a fall are exponentially higher than a dip in the drink. A good fork can make the difference between carving seconds off your run and skin off your knees.

Every Chubby model uses dual triple clamps for stiffness and steering precision. Its telescopic leading axle design is ideal for slamming berms and busting big air, delivering a whopping 4 to 6 inches of travel and rock-solid stability. Inside, a combination of MCU, coil springs, and an air damping chamber soaks up the G's on the Chubby and Chubby LT.

On the DH, full moto-valving with coil springs and adjustable compression and rebound smooth the shock of reentry. Go ahead, attempt the impossible. Just make sure you've got a Chubby under you when you land.

RIDING ON AIR

Noleen's innovative MCU/Coil spring stack is easily serviceable with a single 5mm Allen key. Its performance secret lies in dual air damping chambers. These trick little units stay plush in the rough, and take the sting out of monster hits. Add the included heavy-duty springs and float through carnage like you're on Cloud 9.



CHUBBY

- MCU and coil springs
- Air damping chamber
- Stiffer springs included
- Easton EA-70® stanchions
- Magnesium sliders
- Disc brake ready
- 4" travel

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PROTECTING YOUR CHUBBY

Details? We thought of them. Fork boots keep performance-robbing crud out of critical internals, while rubber stanchion guards protect your frame at full lock. Add liberal amounts of K2 Goo on the inner workings, and you're free to let it roll. The Chubby's got you covered.



CHUBBY LT

- MCU and coil springs
- Air damping chamber
- Stiffer springs included
- Easton EA-70® stanchions
- Magnesium sliders
- Disc brake ready
- 5" travel



CHUBBY LT

CROWNS FIT FOR A KING

To rule over gnarly terrain, 3" of travel just won't do. In the right configuration, telescopic forks deliver unparalleled performance for freeriding and downhill. Many manufacturers eliminate the top triple clamp on their telescopic designs. Big mistake. A single crown can't come close to equalling the stiffness and predictability of a dual triple clamp Chubby. Our triple clamps are as light as a comparable single crown. Get a Chubby and hold court on your riding buddies.



CHUBBY DH

- Coil springs
- Oil damping with separate compression and rebound pistons
- Adjustable compression, rebound and spring preload
- 36mm 7075 aluminum stanchions
- 7075 aluminum sliders
- Disc brake ready
- 20mm clamped axle
- 6" travel



CHUBBY DH

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THE SHOCKING TRUTH

Sure, you've ridden a few suspension bikes in your day. Does that make you an expert? You bet it does. Anyone who's ridden suspension knows all shocks aren't created equal. Shock absorbers may look similar, but the technology inside, and the performance they deliver, can be as different as orange juice and shock therapy.

Noleen's damping system uses multiple oil circuits, floating pistons, stable nitrogen gas and fully adjustable damping to deliver factory racing performance. In fact, Mountain Bike Action Magazine remarked "Noleen took a decade of motorcycle suspension knowledge and stuffed it all into a diminutive nitrogen charged hydraulic shock. Noleen's sophisticated valving has made its shocks the kings of crush for five years to date."

To make the most of your full suspension rig, bolt on the shock absorber that sets the mountain biking standard. Noleen: designed to handle any shock.

NOLEEN NR-1

- Nitrogen-charged floating piston
- Chrome silicon steel spring
- Adjustable preload
- New lighter body

NOLEEN NR-2

- Nitrogen-charged floating piston
- Chrome silicon steel spring
- Adjustable preload
- Adjustable rebound
- New lighter body



NOLEEN NR-4

- Nitrogen-charged floating piston
- Chrome silicon steel spring
- Adjustable preload
- Adjustable compression
- Adjustable rebound
- Remote reservoir

COIL SPRINGS

Available in six spring rates to suit your weight and riding style. Chrome silicon steel for durability. Choose from red, yellow, black or titanium to shave grams. Installs in minutes.

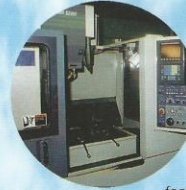


K2 GOO

For a suspension fork to last, it's critical to seal mud, dirt, and grime out of the mechanism, and keep it all well lubricated. K2 Goo is specially formulated with teflon and performance additives for all suspension applications. Link grease ports make "Goo-ing" your fork a breeze.



SCULPTED BY THE MASTERS



We CNC machine our shock bodies from blocks of heat-treated 6061 aluminum billet for ultimate precision. Then we hard-coat the units to eliminate friction and reduce long term oil contamination. You can't see it, but you'll feel it in the ride.

A TAILORED FIT

We custom valve and spring every Noleen shock to fit the requirements of individual frame manufacturers' geometries and leverage ratios, as well as your body's dimensions. Through internal valving and tuning knobs, high and low speed compression damping are infinitely adjustable. Give us your measurements, and we'll set one up for you!

TORTURE TESTED

The mad scientists in our Testing Department can pound a shock with 100,000 cycles in days, simulating years of destructive off-road miles. Before any shock goes out the door, it gets dyno tested to prevent leaks, and give you reliable performance. We beat up our shocks because we know you will too.



"Overall, the best fork for normal humans is (drum roll): the Cross-Link ELT. Precise handling, the easiest (and most meaningful) preload and damping adjustments, great workmanship, smooth shock action, the longest travel packed into a reasonable fork length and the best big-hit capability in the test make this fork our choice in the real-world price range."

• *Bicycling Magazine*, 10 Fork Suspension Shoot-out, June 1997

"The '97 Cross-Link ELT, with its superb Noleen shock, has evolved into one of the best cross-country forks on the market, period."

• *Mountain Bike Magazine*, 10 Fork Suspension Shoot-out, August 1997