

Mountain Cycle product changes till about 1997. (Version 1.2 (11-15-23))

From time to time, inquiries arise regarding the vintage of certain products. I have tried to Pictures are collected from the internet or are mine. Please let me know if you own one of the pictures and would like it to be removed.

This guide was written early 2023 by me and therefore may of course contain errors. If you find an error or have additional information, I appreciate any input to keep this document as accurate as possible.

Contact me if you got any helpful input. You can reach me at mc@riot.ch

Please contact one of the Mountain Cycle Facebook pages if you want to discuss your bike/part.

About the author:

In the early 90's I was a small Mountain Cycle distributor in Switzerland. I did a lot of racing with San Andreas bikes, also owned some MoHO and AfteShock bikes. I also visited the Factory in San Luis Obispo back in the early 90's.



1990



Suspenders and Pro Stop Prototype

Quote from Robert Reisinger:

That was the 5th prototype fork raced for the first time at Mammoth Mt. DH race in I think 1990. The crown the replaced this prototype was hollow cast aluminum. A couple of years later I changed it back to CNC machined. John Tomac's sponsor, Yeti Bikes John Parker, asked me to give a pair of the Suspenders to them for Tomac to use at Mammoth at this same race, but I only had the one fork set.... Big bummer because Tomac won using a Manitou Fork.



Quote: Robert Reisinger

The very first, truly handmade, no tooling at all but wood molds, San Andreas. This was the first prototype that led to the production version.

(The frame has a not time correct 95 sticker on it)

1991



Suspenders final version 1. Clearly identified by the lower fork ends.
The change to System II was very quick.
Many early Pro-Stop also had purple parts.



Suspenders version 1 hollow cast fork crown



Version 1 with System II

Stop Right here.

Introducing Suspenders™ System II...
a smoother shock plus
the world's best brake.

Now you can ride faster, safer — with Suspenders System II from Mountain Cycle.

Combining front fork suspension and the bike world's first and only hydraulic disc brake, its amazing performance will simply stop you in your tracks.

STOP FASTER WITH
PRO-STOP™ HYDRAULIC
DISC BRAKES.

- One-finger braking.
- Superior stopping power, wet or dry.
- Excellent modulation and zero fade.
- "Simply the brakes to own...they just may change the way the world brakes..." — *BMX Plus*
- "...the best brakes ever made for a high performance off-road bicycle. No exceptions, no exclusions, and no doubts." — *Mountain Bike Action*

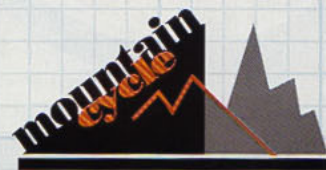
DON'T STOP NOW!

See your Mountain Cycle dealer today, and take a ride on Suspenders System II — the front fork system that puts it all together.

GO FASTER WITH
NEW, IMPROVED
LIGHTER
SUSPENDERS™

- Enhances control, reduces fatigue — lighter and stronger than original Suspenders.
- Motorcycle-proven inverted design.
- 2+ inches of travel absorbs the biggest bumps.
- Easily adjustable damping using tuned elastomers.
- No oil, no leaks, no mess.
- Quick-release axle now available.
- "There is no doubt that these babies are the strongest suspension forks we've ever tested...even on big, sharp impacts, the Suspenders (elastomer damping) felt spot on." — *Mountain Bike Action*

2494 Victoria Ave., San Luis Obispo, CA 93401 Tel (805) 545-8004, Fax (805) 545-9790
Dealer and OEM information available at (800) 676-4693. Made in the USA. Patent Pending.



Suspenders was released with System II but still had the hollow cast fork crown. The fork ends have been redesigned sometime in the running production.

First appearance of another prototype version of the San Andreas in 1991..

The sub frame is still mounted like on the prototype 1 and the elastomer shock seems still to be the same basic design.

But the cable routing has been reworked. Even it is still on the side of the main body.

What's SHAKing.

INTRODUCING THE SAN ANDREAS™
WITH MONOCOQUE FRAME, FULL SUSPENSION
AND HYDRAULIC DISC BRAKES.

No-fault performance, earth-shaking price, featuring:

- Suspenders™ System II, with new, lighter front Suspenders™ Pro-Stop™ hydraulic disc brake, and front hub.
- AfterShock™ rear suspension and rear Pro-Stop™ hydraulic disc brake with hub.
- Unique monocoque frame utilizing HMI™ (high moment of inertia) design to reduce frame flex and fatigue.
- Modular sub-frame with two seat-post angle settings.
- Radical new swingarm design for optimum anti-squat performance.

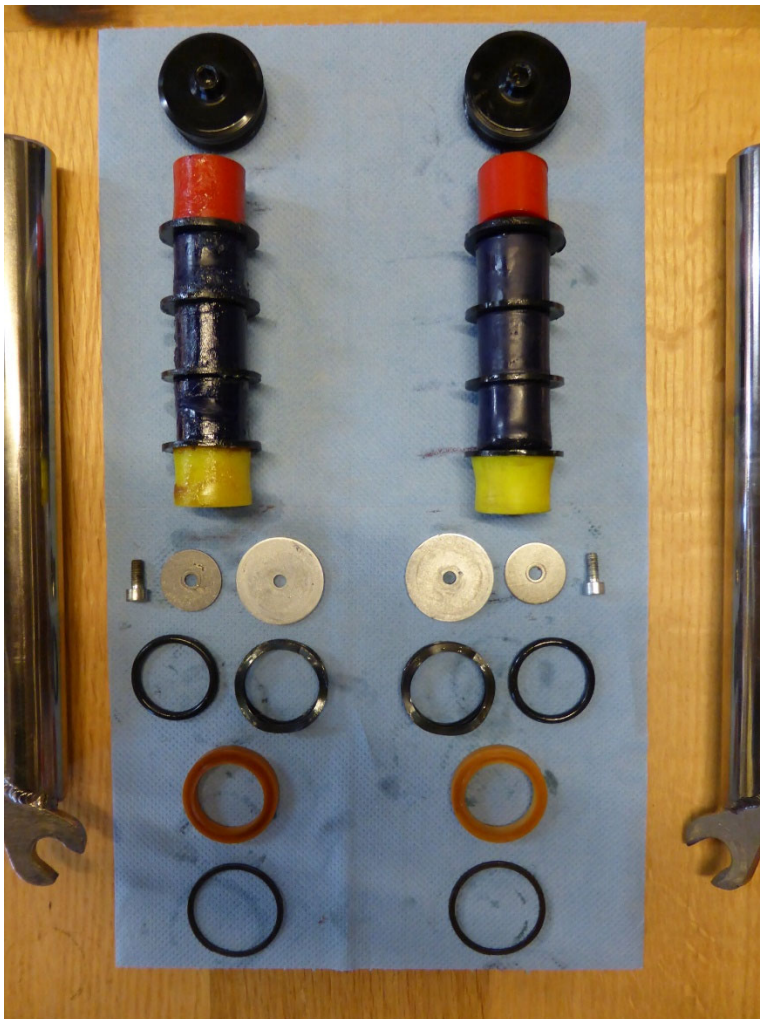
Check out your nearest Mountain Cycle dealer today.
If you don't, it's no one's fault but your own.

2494 Victoria Ave., San Luis Obispo, CA 93401 Tel (805) 545-8004, Fax (805) 545-9790
Dealer and OEM information available at (800) 676-4693. Made in the USA. Patent Pending.

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Photo by Steve Alley





Suspenders System II elastomer stack



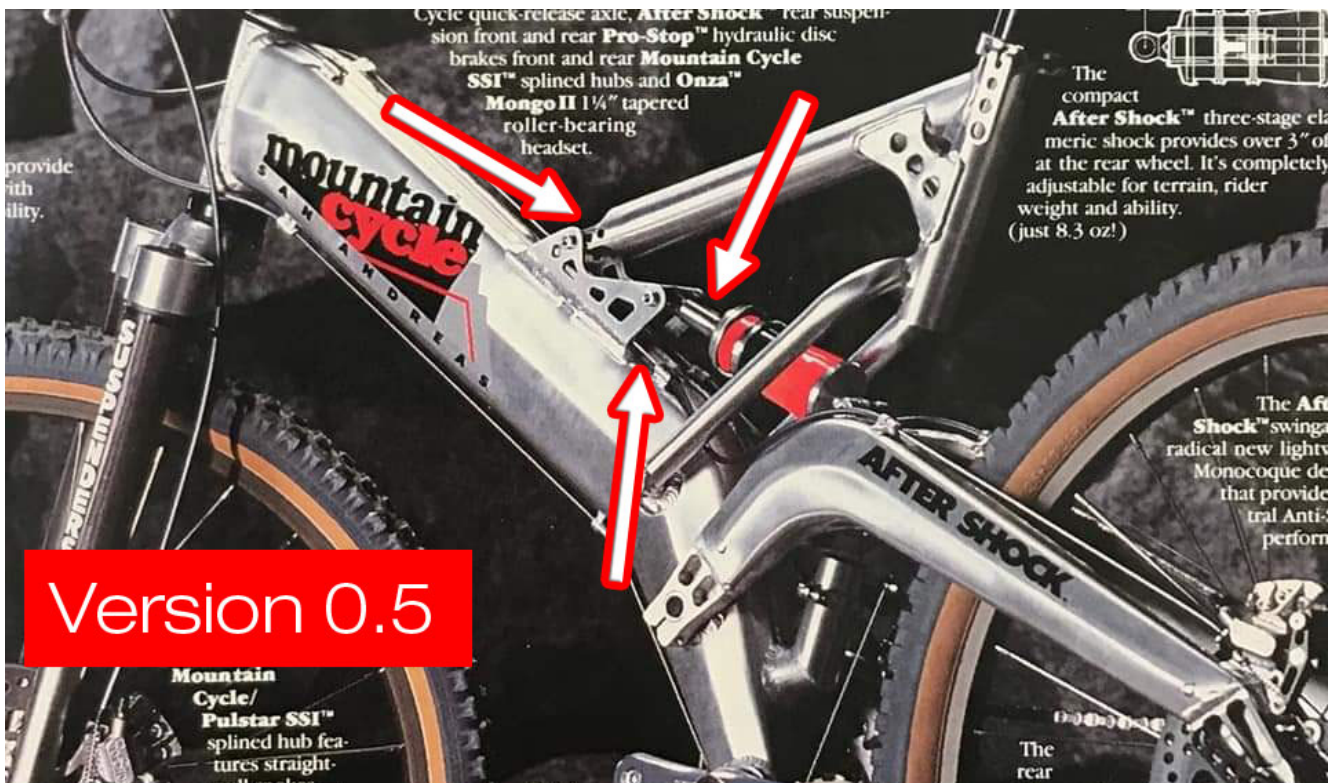
The elastomers were available as a service kit

1991/2 San Andreas Version 0.5

There were some San Andreas given out to racers/testers that had a slightly different shock mount, AfterShock design and subframe. It also looks like those frames did not come with bottle cage fixing points.

If you look closely you will see that the upper fixing point on the subframe was milled out the tube and features 3 adjustment point. The final production design consists of a machined and welded on mounting structure that has 2 adjustment points.

The shock mounting point on the mainframe was slightly moved back. Probably due the fact that they had to make room for the upper bottle cage fixing point. But the very first production models had the bottle cage mount on the lower side of the mainbody.



Version 0.5



Version 1.0

Version 1 has the "crocodile" swingarm mount. The bottle cage mounts are on the lower side of the main body.



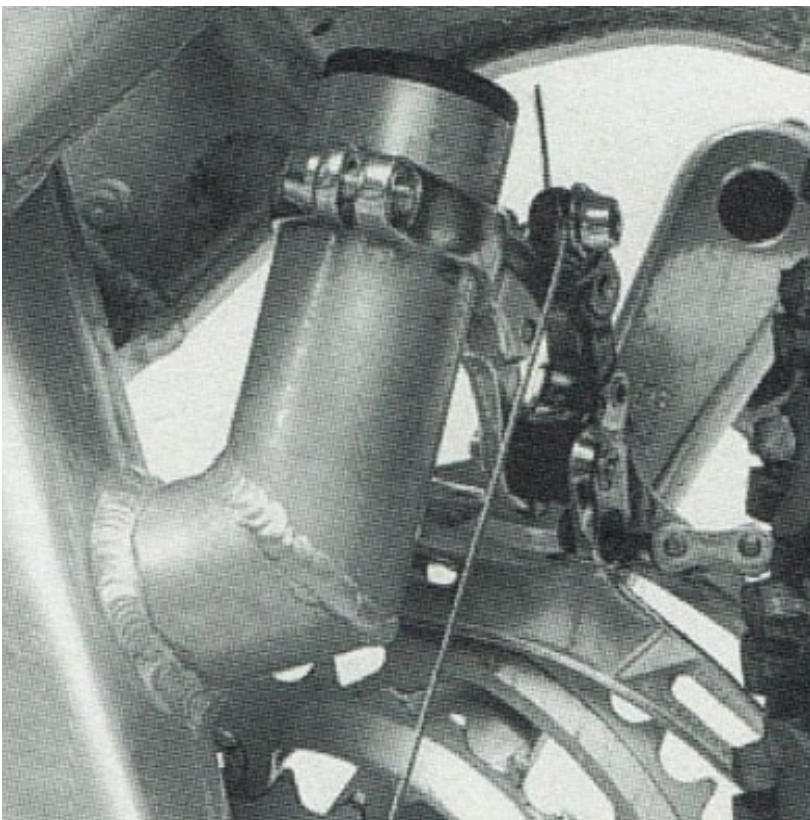
1992 San Andreas Version 1

- Horizontal (crocodile style) swingarm mount
- Bottle cage mounts on lower side of the main body
- High ratio 3:1 suspension design with 2" travel
- Suspenders version 1 System II fork
- Version one Pro-Stop and disc design
- Elastomer AfterShock spring
- 1 ¼" headset

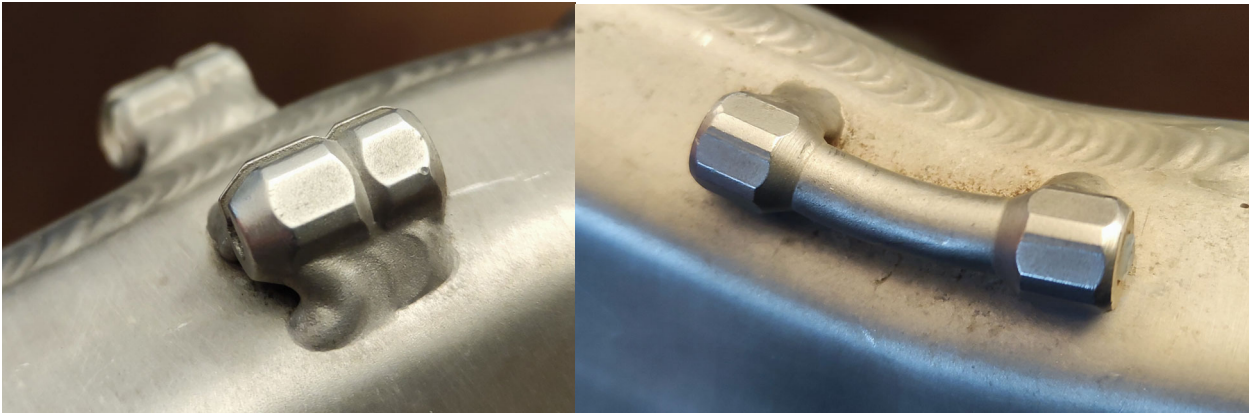




The swingarm clamp had a horizontal clamp style. Personally, I like to call it the crocodile mount.



From the prototype until the end of 95 the front derailleur post was angled.



Hexagonal cable stops on the whole frame were standard up till sometime of the end of 1994.

In 1995 they started to move away from them.



The first Pro-Stop discs used a threaded disc adapter. Hubs were Bullseye. After a few hard stops it was almost impossible to remove the disc spiders again.



Threaded disc star rear with v1 brake disc



Threaded disc star front disc with v1 brake disc



Prototype hub with the later released "wave style" rotor mount.
Only a very few have been sold,



The AfterShock elastomer spring was a standard up to the 94 model. There was no damping in the shock.



Lateral movement was fixed by cut plastic hoses instead of bushings



The original glide bushings are usually completely broken these days.
But there are perfect new ones from igus, Robert Reisinger told me that he also used igus ones back in the days.

They are imperial specs. 1/2"x3/8"x3/8"

Part JSI-0608-06 from [igus.com](http://www.igus.com)

1992 San Andreas Version 1 Revision 1

- The bottle cage mounts have been moved to the upper part of the main body

Have It Our Way...

"A bike so radical that it pushes the design limitations of not only bike frames but also suspension and brakes to new extremes." (MBA, Dec, '92)

San Andreas™ TEAM ELITE Frameset
HAND MADE IN SAN LUIS OBISPO, CA USA

The **TEAM ELITE** includes:
Suspenders™ System II fork. "Technologically the most advanced bumper system around!" (MBA, Dec, '92)
Posi-Lock™ oversize front QR axle.
Onza Mongo II™ headset.

Pro-Stop™ front and rear hydraulic disc brakes.
"Can you say SCREEEECH?" (Mountain Biking, Nov, '92)
SSI™ Pro-Stop™ compatible front and rear hubs and spokes.

After Shock™ rear elastomer shock.
"An excellent example of how a long travel rear suspension bike should feel." (MBA, Dec, '92)

Accessories:
• Hydraulic rear shock.
• And more...

mountain cycle

Suggested U.S. Retail Price \$1899.00

Mountain Cycle, 2494 Victoria Ave, San Luis Obispo, CA 93401 USA
805-545-8004 fax 805-545-9790



There was a Team Elite version which had no cantilever brake studs. So, it was designed for disc use only

Have It Your Way...

"The most rigid fully suspended bike we have ever ridden." (MBA, Dec, '92)

San Andreas™ TEAM Frameset

HAND MADE IN SAN LUIS OBISPO, CA USA

The TEAM includes:

Frame/swingarm.

After Shock™ rear elastomer shock and standard cantilever brake bosses.

You Choose Your Fork!

Use your existing fork or buy ours.

You Choose Your Brakes!

Use cantilever brakes or upgrade to our **Pro-Stop™** hydraulic disc brake.

Accessories:

- **Suspenders™ System II** fork kit (other brands available).
- **Pro-Stop™** rear hydraulic disc brake kit.
- Hydraulic rear shock
- And more...



Mountain Cycle, 2494 Victoria Ave. San Luis Obispo, CA 93401 USA
805-545-6004 - fax 805-545-9790

And there was also a Team version with brake studs on the swingarm

1992 San Andreas Version 1

Revision 2

- Change of the swingarm clamp to the circular mount
- Risse Racing shocks became a optional factory upgrade option



The second revision already had the new style “circular” swingarm clamp



Risse Racing shock were offered as a optional factory upgrade to the elastomer AfterShock

SUSPENSION ANATOMY

The annotations show the working, or non working parts of a full suspension set up, and the use and transference of energy.

FORK:

Isolates the wheel from the rest of the bike and dissipates/slows down the transfer of bump forces from the wheel to the frame.

SPRUNG MASS:

The parts of the bike that don't move when you hit bumps (well not as much anyway) – supported by springs

REAR SHOCK UNIT:

Does the same job as the fork – reduces and slows down the transfer of forces from the wheel to the rest of the bike.

UNSPRUNG MASS:

The wheels and the parts of the suspension that move when you hit bumps – not supported by springs.



In 1992 some bikes were sold as complete bikes instead of only being offered as frame kits. I found some full specs, of what I believe are from the 92 San Andreas Team (the Team Elite always had Pro Stop in front and rear). Please let me know if you got the specs of the Team Elite setup.

Might be helpful for someone that wants to do a correct rebuild.

Mountain Cycle San Andreas Team

Distributed by:

Mountain Cycle

2494 Victoria Ave.

San Luis Obispo, CA. 93401

Country of Origin: USA

Sizes Available: 19.75 in., (effective, measured center to top of seat tube)

Weight: Frame, 6.26 lbs.; Fork 2.80 lbs.; Bike 26.02 lbs.

Frame: 6061 T-6 Aluminum; Manitou II fork

Wheelbase -- 42.125 in.; 106.99 cm

Seat tube -- 19.75 in.; 50.16 cm, (effective, measured center to top of seat tube)

Top tube -- 23.50 in.; 59.69 cm, (effective)

Head angle -- 71 degrees

Seat angle -- 73 degrees

Chainstays -- 16.875 in.; 42.86 cm

Bottom bracket height -- 12.5 in.; 31.75 cm

Fork rake -- 1.5 in.; 3.81 cm

Trail --2.88 in.; 7.31 cm

Wheels:

Hubs -- Suntour XC Pro Grease Guard hub (rear), quick release, 135-mm axle spacing;

Pulstar hub (front), quick release

Spokes -- 32, 14/15-gauge (drive-side), 14-gauge (static/left-side), DT stainless, 3 cross, alloy nipples (rear); 32 15-gauge DT stainless, 3 cross, alloy nipples (front)

Rims -- Mavic M 231

Tires -- Onza Racing Porc's, Kevlar, 26x2.1 in.

Drivetrain:

Derailleurs -- Suntour XC Pro, Suntour Multi-Mount above-bar thumbshifters

Chain -- Suntour APII

Crankset -- Suntour XC Pro Micro Drive, 175 mm crankarms

Bottom bracket -- Syncros Titanium cartridge bearing, chromoly crank bolts

Freewheel -- Suntour Powerflo 8-speed cassette

Components:

Brakes -- Shimano Deore LX cantilevers (rear), Joes Brakes (front); Suntour Multi-Mount levers

Pedals -- Suntour XC Comp, Fisher nylon clips and straps

Headset -- Onza Mongo II

Seatpost -- Syncros Titanium, 330 mm 31.8mm

Saddle -- Odyssey Svelte Titanium

Bar/stem -- Syncros 23" alloy bar, Syncros 13.5 alloy stem, Onza grips

Brake Assembly Procedures

BLEED SCREWS
(EG-34-2076)

CALIPER
HOUSING
(89-90-0103)

MASTER
PISTON
SPRING
(51-00-0001)

SNAP RING
(51-01-0001)

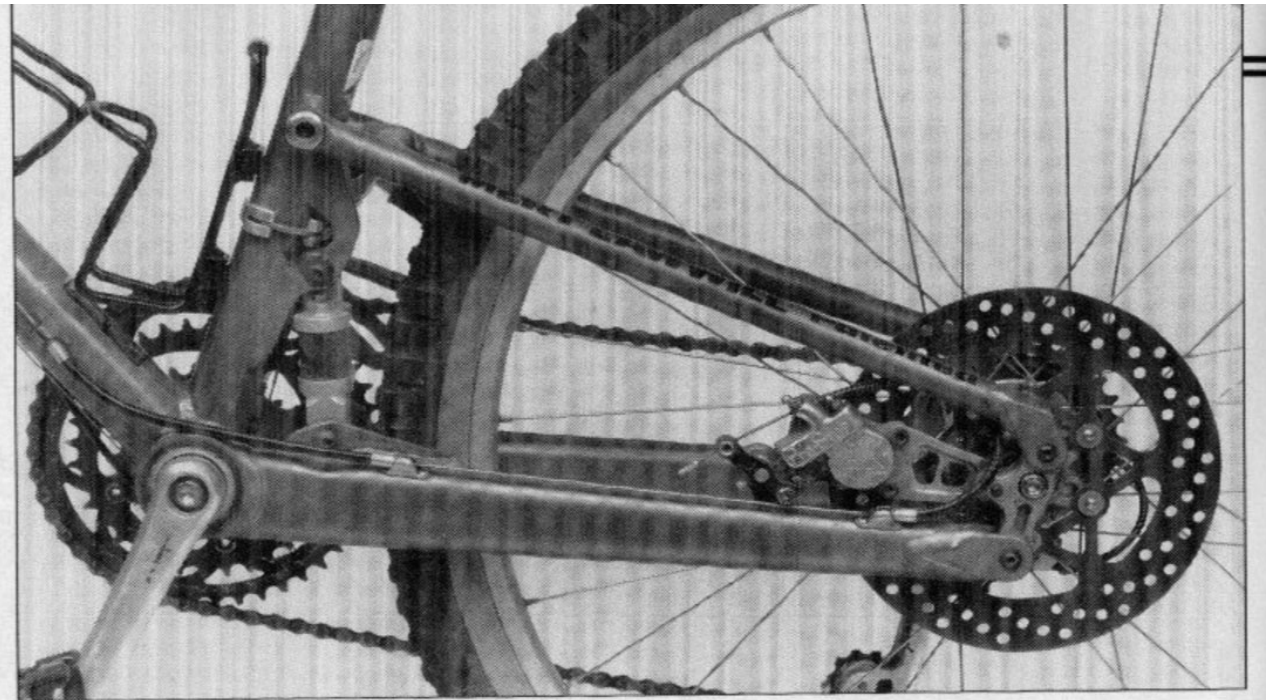
SLAVE PISTON
ASSEMBLY

MASTER
PISTON
ASSEMBLY

5. Thread bleed screws into the caliper housing. Close the bleed screws all the way, and then turn them one full turn.
6. Lube the master piston with a liberal amount of transmax. Insert the return spring into the master cylinder bore. Gently insert the master piston into the bore and install the snap ring into the recess (make sure the sharp edge of the snap ring is pointing out).
7. Insert the assembled slave piston into the slave piston bore in the housing. Press firmly on the slave piston to seat the positive retraction stud. Slave piston is properly seated when three distinct clicks are felt, and the slave piston will not move further with increased pressure.
8. Grease the shoulder bolt and attach the completed lever arm to the housing.
9. Stage the master piston in such a way that there is no play between the adjustment screw and the master piston. Make sure that the master piston is not pushed down any either.

Pro-Stop Caliper Rebuild Kit

Mountain Cycle made a very special version of the Pro-Stop made for the Garry Fisher RS-1



Likewise: Just as the Mert Lawwill front end was deemed the best suspension fork, so too did Mert's rear "anti-squat" suspension receive accolades. The RS-1 rear suspension proved that elastomer bumpers can play a major role in mountain bike suspension designs. We still had reliability problems with the rear Pro-Stop disc brake.



The main function was the same but the body design was completely different.

I'm not sure about the precise year off the ACCU-TRAX (anyone got infos on it)

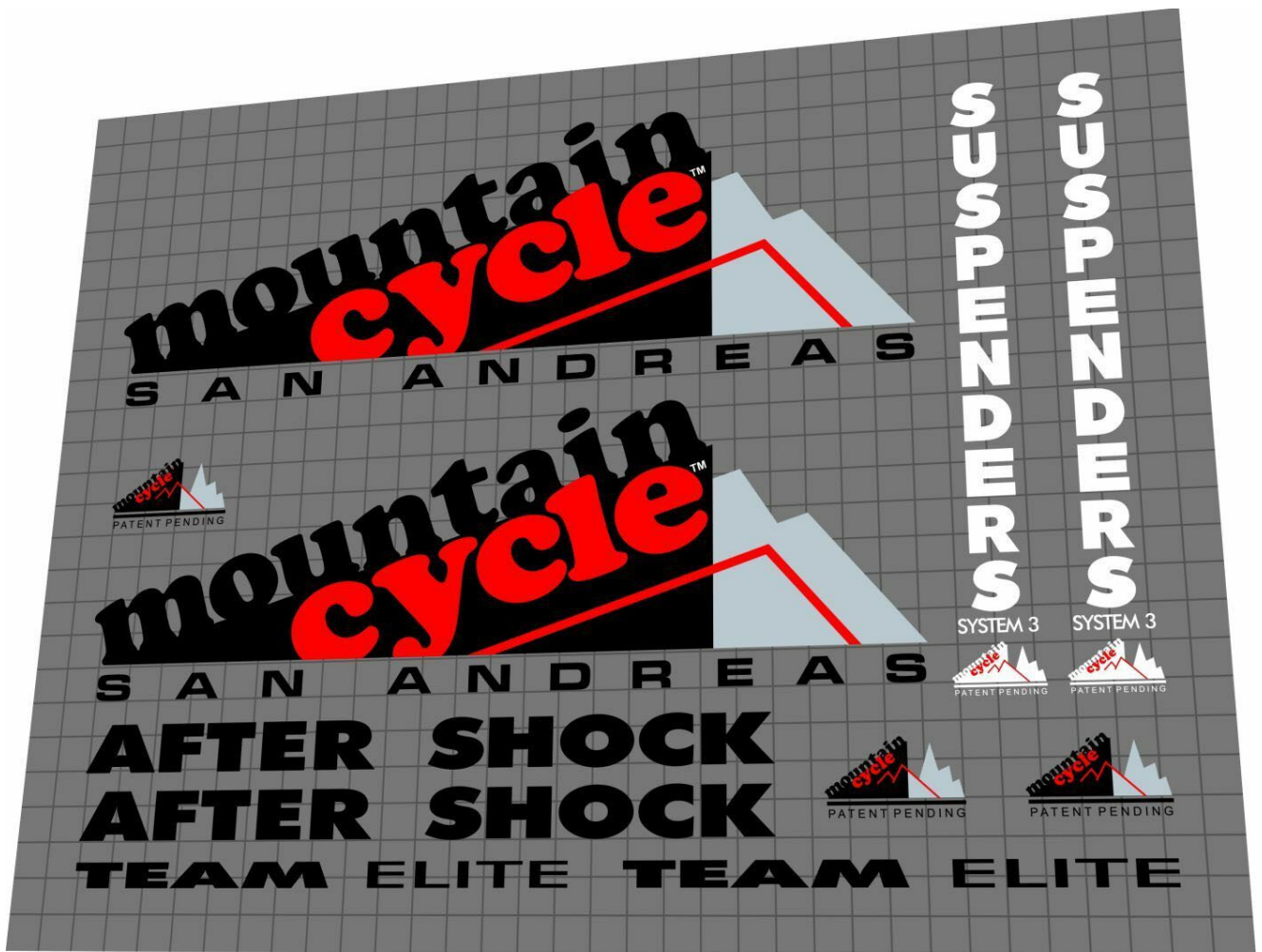


Probably 1992 ACCU-TRAX fork with Pro-Stop mount

1993

In 1993 there were no major changes in the production of the frame.

- The Pro-Stop received the “wave style” rotor mount.
- Pulstar hubs were the new standard. They thought, at the time, that this would be a nice option for disk brakes. You could replace broken spokes without removing the wheel from the bike.
- The Suspenders System II received the new milled crown sometime in that year
- Elastomer AfterShock spring was standard
- 1 ¼” headset



There is a fault on this sticker set. Suspenders was still System II



▲ **Crosstrac Sonoma:** The hydraulically suspended Crosstrac Sonoma has 4" of front and rear travel. Amazingly, the Sonoma retails for under \$2000 as a complete bike with a Shimano XT gruppo. For \$1300 you can get a frame, fork, seatpost and stem.

◀ **Mountain Cycles San Andreas:** Mountain Cycles' monocoque-framed San Andreas is one of the most eagerly anticipated off-road machines for '93. Included in the \$1950 asking price are a Suspenders fork, a set of straight-pull Pulstar hubs, and front and rear disc brakes.



Release of the “wave style” rotor mount



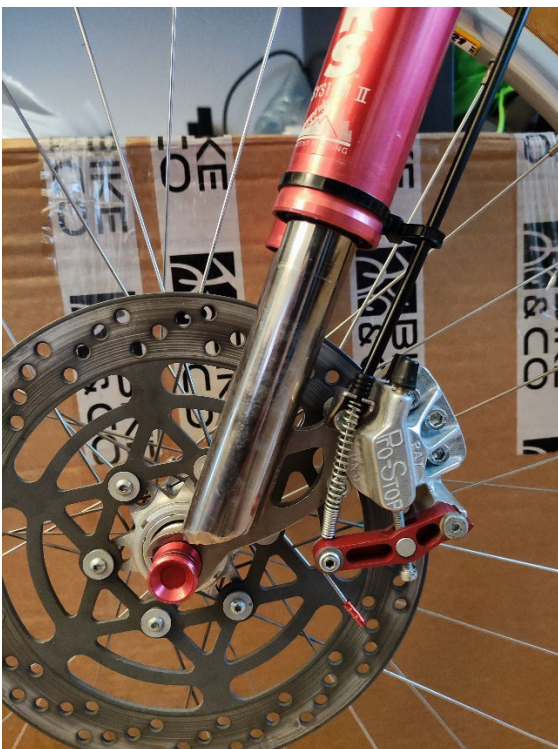
Pullstar became the new standard hub for the Pro-Stop
Robert Reisinger thought that it is a nice feature to be able to replace a broken spoke anytime easily.



The suspenders fork crown was redesigned in the upper part. The hollow cast fork crown was replaced with a milled design



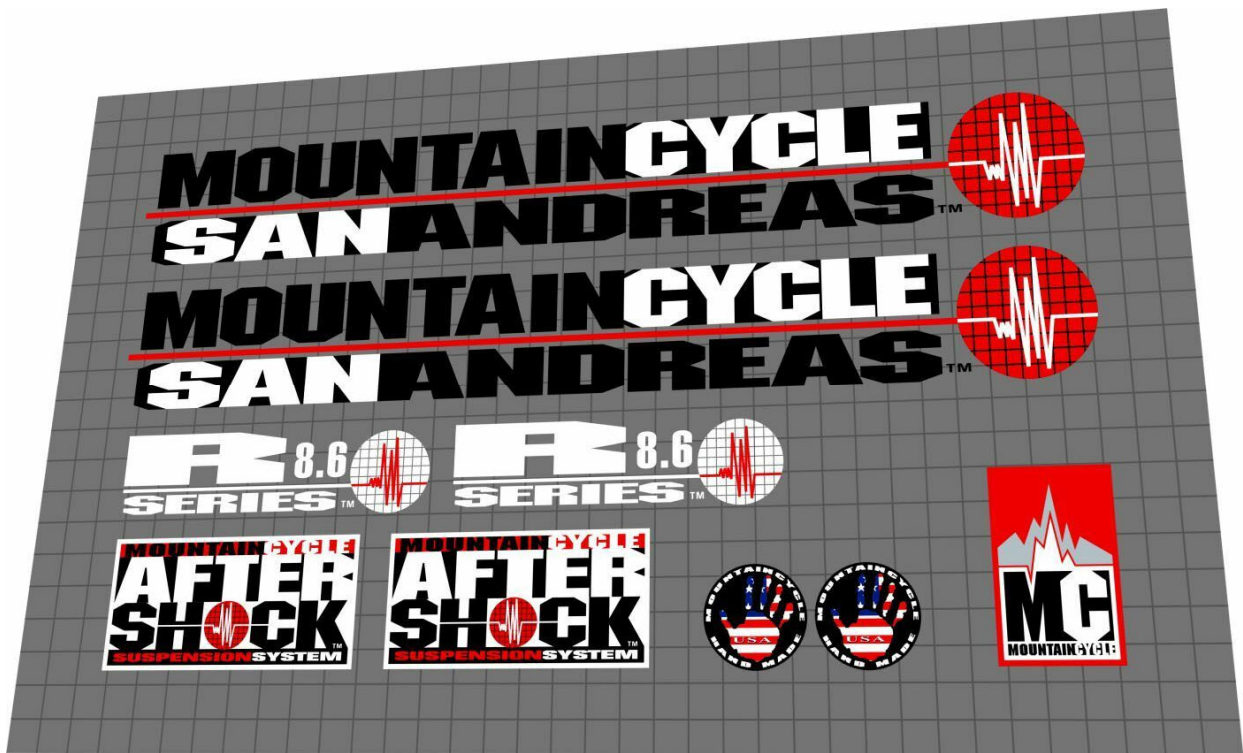
It seems there has been 2 revisions of the System II forks lowers over time. I never have seen the right one in the picture above. I own a System II with the left "initial" design. (let me know if you know anything about these changes)

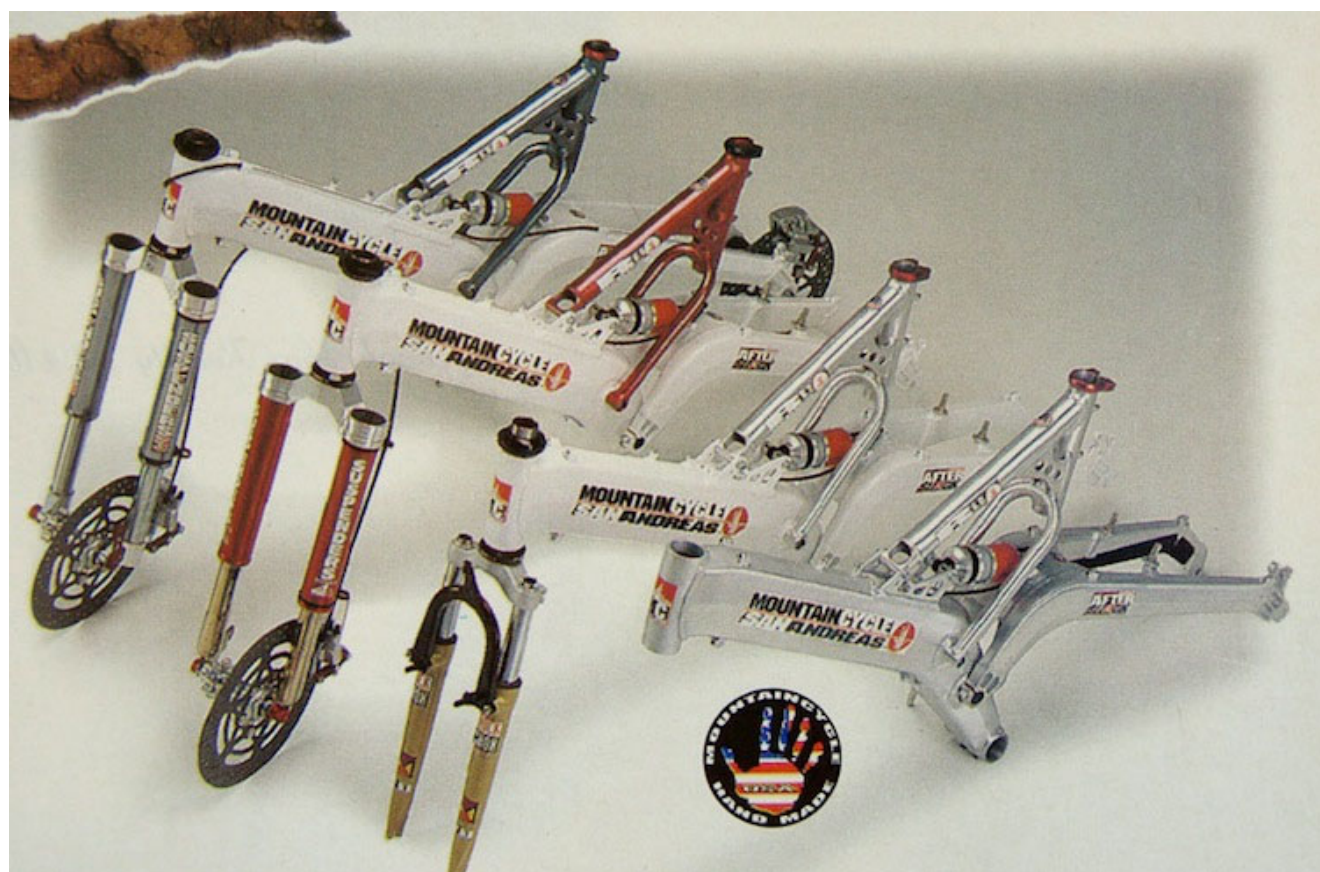


1994

The 94 Model was available from fall 93

- The frames received a new Logo
- The Team Elite frame was renamed to R-Series 8.6 (disc only)
- Suspenders System II and later System 3 with the milled crown was standard on the R-Series 8.6 and 8.4 kit options
- Frames were also available as a non-kit version
- The Team frame was renamed to R-Series 8.4 (with cantilever brake studs on the swingarm)
- Most frames were white but there was a brushed frame also as a option available
- Later in the year the sub frame was already changed with a simpler design in the front clamping area.
- Elastomer AfterShock spring was standard
- 1 ¼" headset







Initially the seat dome still had the “old style” front clamping part with the milled design.



Later in the year they started to change the subframe towards the 95 model. The front clamping part lost the milled part. But the seat post tube was still cut horizontal.

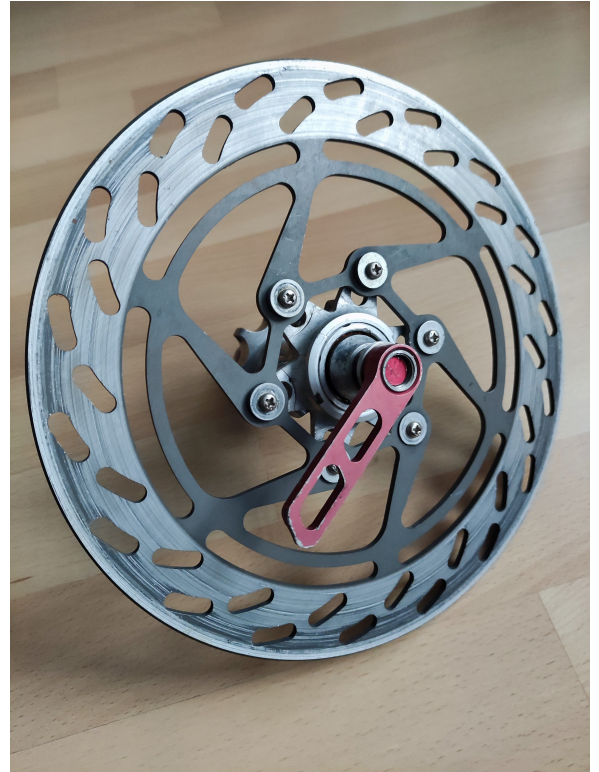
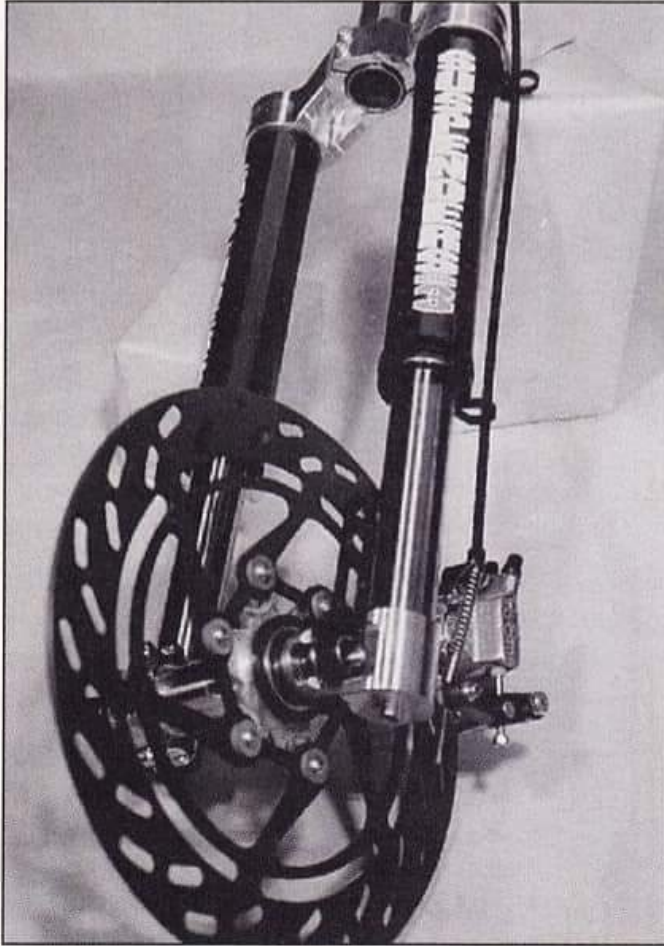
Suspenders with System 3 was also released later in 94. System 3 forks featured a new fork crown and fork legs





Fork legs off System 3 Suspenders

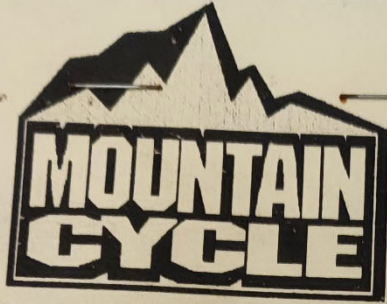
When the Suspenders with System 3 was released there was also a different Pro-Stop disc available for a short period of time. I will call it v1.5 as its a development between v1, the one with the hole pattern and the later one with the slits design. But it still features the support ring in the front disc v1. There are also more and smaller slits than on the v2.



MOUNTAIN CYCLE SYSTEM 3—\$700
WEIGHT: 2.9 lb. **TRAVEL:** 2.125".
DAMPING: Elastomer. **STEERER SIZES:** 1", 1.125" and 1.25". **MATERIAL:** 6061 T-6 aluminum crown and stanchions, 4130 chromoly sliders. **COLOR:** Cobalt gray, natural aluminum. **COMMENTS:** Includes Pro-Stop disc brake, SSI front hub with spokes, and Mountain Cycle Posi-Lock QR axle.



Pivot Shaft & Bearing Kit



2494 Victoria Avenue
San Luis Obispo, CA
93401 USA
(805) 545-8004

Pro Stop™

TC DISC BRAKE

Brake Instruction



Caliper Rebuild Kit, Positive Retraction



Some European distributors offered the San Andreas with a WP shock as a option

White Power” Suspension – not a political statement, but an allusion to the striking white springs used for his products.

The white coating of the springs was originally due to the chosen supplier being a hospital bed manufacturer, and white was the only colour they had available.

Yet this colour choice is as iconic as it is pragmatic.

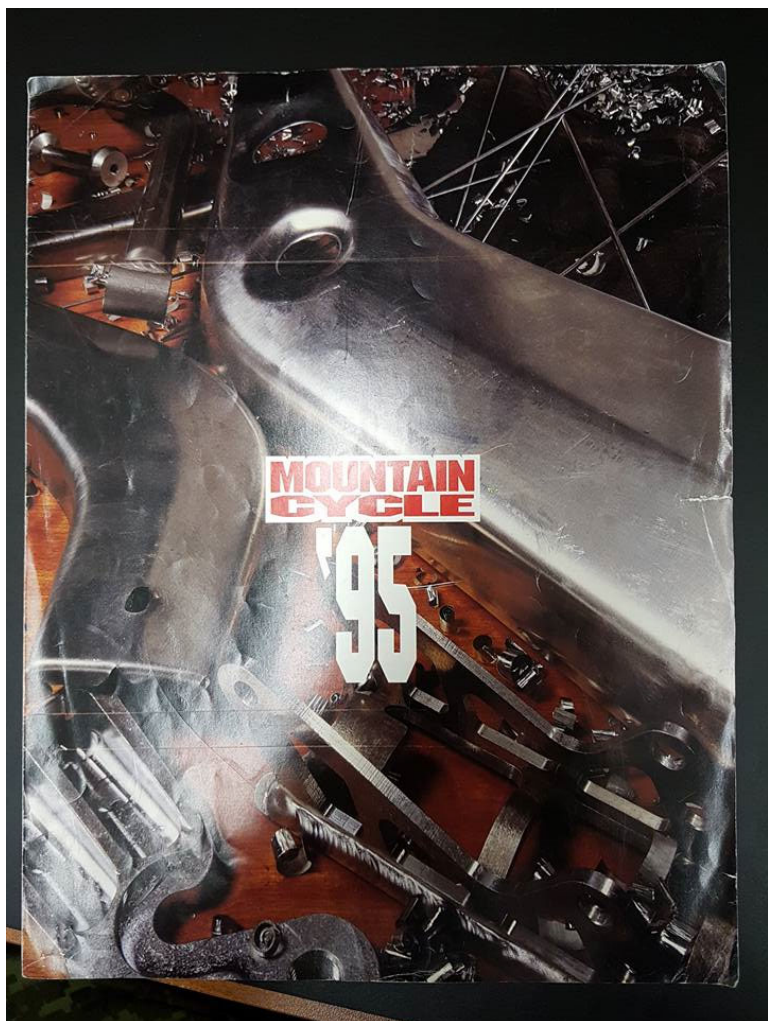
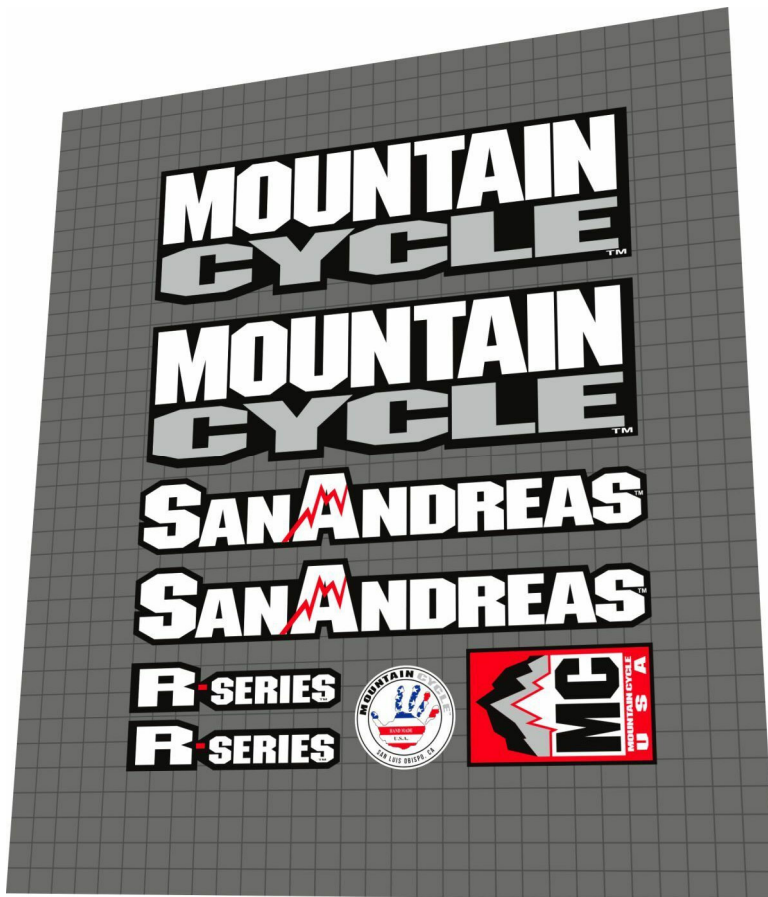
The company was founded in 1977 as White Power Suspension B.V. in Malden, Netherlands, by Wim Peters, who was a famous motocross racer back then. After a heavy crash he had a timeout of over a year. He used that time to optimize suspension parts for his bike. Initially never ment to be sold to others. Today it is amongst the largest manufacturers of suspension components for motorcycles. It is today a wholly owned subsidiary of KTM AG

A interesting side note:

In 1994, WP supplied suspension components to the B194 car by Benetton which propelled Michael Schumacher to his first Formula 1 world championship title.

1995

- The frames received once again a new logo design
- The sub frames were changed to a simpler design in the front area. The sub frame received a angled cut at the lower seat post clamping tube.
- Cable stops were changed from the hexagonal version to a round version. This change was fluid. I own a SA with a mainframe that has hexagonal cable stops, while the swingarm already has the new rounded ones
- Travel was extended to 3" with a longer Noleen Nr1 shock
- rounded ones.
-
- R 8.6 LT was the full disc kit that had a Noleen NR-3PB Piggyback shock and was delivered with a Rock Shox Judy DH or a Manitou EFC.
Polished and clear anodized main frame, swingarm and subframe
- R 8.6 was the full disc kit that had a Noleen NR-3PB Piggyback shock and was delivered with a Rock Shox Judy XC or a Manitou 4.
Red power coated main frame,natural brushed swingarm and subframe
- R 8.4 was a kit with front disc brake and cantilever studs in the rear. It had a Noleen NR-1 shock and was delivered with a Rock Shox Judy XC or a Manitou 4.
Red power coated main frame,natural brushed swingarm and subframe
- R 8.0 was the frame only with Noleen NR-1 shock and cantilever studs
Available in natural brushed main frame, subframe and swingarm
- Risse shocks were available as a factory upgrade
- Pro-Stop received the second disc design with a slotted disc
- 1 ¼" headset, 1 1/8" was being offered optional
- Suspenders was EOL and was not an option anymore
- MoHo was released



MOUNTAIN CYCLE SAN ANDREAS R-SERIES

(418 589 573)



Frame Material: 6061 T-6
Aircraft Aluminum

Bottom Bracket Shell: 73mm, standard,
thread-in

Frame Size: One size only, fits 16-21"
frameset range (smaller subframe also
available; approximates 14-17" frame size)

Seatpost Diameter: 31.6mm

Top Tube Length: 22.30-24.00"

Front Derailleur Post: 31.8mm

Dual-Position Subframe Angles:
71 and 73 degrees

Chain Line: 49-50mm

Head Angle: 71 degrees

Wheel Base (center axle to axle): 42.00"

Headset Diameter: 1.250"
(Optional 1.125" headset size available)

Standover Height: 28.00"

All San Andreas frames include
cantilever mounts and a Pro-Stop
Hydraulic Disc Brake mount
on the swingarm.

The Mountain Cycle San Andreas™, the first successful delta box/monocoque full suspension frameset is one of the finest full suspension frames ever produced. The high tech features and quality craftsmanship in this frameset are unequalled in the industry. Add to this the choice of Pro Stop™ Disc Brake options available and you have the best of the best.

San Andreas™ R8.6 (shown in optional High Polish Finish) frameset features a Noleen NR-3PB long travel rear shock (4 1/8" travel), Pro Stop™ Disc Brakes front and rear with Mountain Cycle SSI hubs*. Red main frame, brushed swingarm and sub-frame.

San Andreas™ R8.4 frameset features a Noleen NR-1 rear shock (3" travel), front Pro Stop™ Disc Brake Kit* with Mountain Cycle™ SSI hub. Red main frame, brushed swingarm and sub-frame.

San Andreas™ R8.0 frameset features a Noleen NR-1 rear shock (3" travel). Natural brushed finish.

Other finishes available, call for more information.

All framesets include Mountain Cycle's new lightweight S-Series aluminum seatpost collar.

Risse Racing air/oil rear shocks are available with any frame for an additional charge.

Any frameset is upgradeable to Pro Stop™ Disc Brakes, front and rear.

* Disc Brake kits available for a variety of front forks.

8.6



8.4



8.0





1995 Product Guide

Volume 1, Issue 2

A Mountain Cycle Publication

Interbike 1994

1995 San Andreas 8-Series Framesets

Mountain Cycle, innovator of the first successful aluminum monocoque full-suspension frameset (the San Andreas) and the first truly functional hydraulic disc brake for bicycles (Pro-Stop), is proud to introduce the 1995 line up of R-Series full suspension framesets.

The **San Andreas 8.6 LT** frameset features Pro-Stop hydraulic disc brakes both front and rear; a complete set of Mountain Cycle/Pulstar SSI hubs with spokes; Rock Shox Judy DH or Manitou EFC front fork; and a Noleen NR-3PB long-travel piggy back rear shock. **Finish:** Polished and clear anodized main frame, swingarm, and subframe.
MSRP: \$3499

The **San Andreas 8.6** frameset features Pro-Stop hydraulic disc brakes both front and rear; a complete set of Mountain Cycle/Pulstar SSI hubs with spokes; Rock Shox Judy XC or Manitou 4 front fork; and a NR-3PB long-travel piggy back rear shock. **Finish:** Red powder coated main frame; natural brushed subframe and swingarm.
MSRP: \$2999

The **San Andreas 8.4** frameset features Rock Shox Judy XC or Manitou 4 front fork; Pro-Stop hydraulic disc brake with Mountain Cycle SSI front hub; rear cantilever brake mounts on the swingarm*; and a Noleen NR-1 rear shock. **Finish:** Red powder coated main frame; natural brushed subframe and swingarm.
MSRP: \$2199

The **San Andreas 8.0** frameset features cantilever brake mounts on the swingarm*; and a Noleen NR-1 rear shock. **Finish:** Natural brushed aluminum main frame subframe and swingarm.
MSRP: \$1599

All framesets will include Mountain Cycle's new lightweight S-Series aluminum seatpost collar. Risse Racing (std. and long travel) or Noleen piggy back rear shocks are available as upgrades.

**Indicates upgradeable to Pro-Stop Hydraulic Disc Brake*

MOUNTAIN CYCLE SAN ANDREAS

8-SERIES SPECIFICATIONS

- Frame Material: 6061 T-6 Aircraft Aluminum
- Bottom Bracket Shell: 73mm, std. thread-in
- Frame Size: One size only, fits 16"-21" frame-set range (smaller subframe also available; approximates 14-17" frame size)
- Seatpost Diameter: 31.6mm
- Top Tube Length: 22.30"-23.00"
- Front Derailleur Post: 31.8mm
- Dual-Position Subframe Angles: 71 and 73 degrees
- Chain Line: 49-50mm
- Head Angle: 71 degrees
- Wheel Base (center, axle to axle): 42.00"
- Headset Diameter: 1.250"
- Standover Height: 28.00"
- Every San Andreas frame includes cantilever mounts and a Pro-Stop hydraulic disc brake mount on the swingarm.

What's Inside...

Page 2: New Moho Rigid Frame

Page 3: Pro-Stop Retrofit Kits

Page 4: Pro-Stop Compatible M-4

Page 4: Brakes, Brakes, and More Brakes

Page 5: Product Update...New Pro-Stop Caliper

Pages 6/7: Shocking News!

Page 7: The Shape of Things to Come

Pro-Stop™ Hydraulic Disc Brake Kits - Now you can get the superior stopping power of the Pro-Stop™ Hydraulic Disc Brake for your front fork! With over four years experience in disc brake design and manufacturing, Pro-Stop™ by Mountain Cycle™ is "the best brake made for high performance off-road bicycles. No exceptions, no exclusions and no doubt." - *Mountain Bike Action*

Rock Shox Kit

'93-'94 Mag 21, Mag 21 SL and Mag 10, '93-'94 Quadra 10 and 21, '95 Mag 21, Quadra 5 and 21, Judy XC, SL and DH

Answer Manitou Kit

Manitou 3, Manitou 4

New Pro-Stop™ Positive Retraction Caliper - Lightest, most powerful brake available with superior modulation. One finger stopping power in all conditions...wet or dry.

Patented Floating Rotor - Enhances brake performance, eliminates drag.

New, Lighter 9" Hard Coated Alloy Rotor - Best no-fade stopping power, 55g lighter than our original disc.

New, Mountain Cycle™ SSI Hub - Our lightweight, custom CNC'd 6061 Aluminum hub has a massive 17mm 7075 Aluminum axle 12mm bearings and is designed to be used with a standard skewer. Fits all 9mm dropouts. Available in 32 hole, conventional spoke drilling only.

Pre-stressed Brake Cable and Housing - Minimizes cable stretch.

Custom Aluminum Anodized Mounting Assembly - CNC machined especially for Rock Shox or Manitou, our 7075 Aluminum clamps and 6061 Aluminum mounting plate offer superior strength and light weight.

Includes All Mounting Hardware and Fasteners - Each kit comes with everything you need for fast, easy, bolt-on installation

Lightweight - Caliper, disc, web and web fasteners weigh only 405 grams. Aluminum clamps weigh just 61 grams.



Manitou 4 Now Available with Pro-Stop™ Disc Brake Dropout - Mountain Cycle™ has teamed up with Answer Products to produce a Pro-stop™ compatible Manitou fork. No need for a retrofit kit here...the Pro-stop brake simply bolts right on to the custom Mountain Cycle-designed 6061 dropout.

Manitou EFC Fork (With custom CNC'd 6061 dropout with Pro-Stop™ mount), Caliper, Rotor, Hub, Cable and Housing, and All Mounting Hardware.

Mountain Cycle™ Seismic Gear - Hats, sweatshirts, T-shirts... Mountain Cycle™ has all the cool stuff to separate you from the rest of the weenies on the planet.



**MOUNTAIN
CYCLE**

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In 95 there were 2 versions of the discs available. The upper version in this pic was only available in 1995. The lower version with the longer and less slits was available till 1997 when it was replaced with the version for the FH version.

MOUNTAIN CYCLE MOHO 'SOFTAIL'



7.4



The Mountain Cycle MOHO™ provides the superior stiffness of delta box/monocoque construction in the front, transitioning to square tubing at the rear for exceptional rigidity. The CNC engineered wishbones connecting the rear triangle provide a superb shock dampening effect, making the ride less harsh than the traditional aluminum frame, thus the 'Softail' designation.

Moho™ 'Softail' R7.4 frameset features a 6061 T-6 aluminum delta box/monocoque frame with suspension specific geometry, S-Series seatpost collar and Pro Stop™ Front Disc Brake with Mountain Cycle™ SSI front hub.*

7.0



Moho™ 'Softail' R7.0 frameset features a 6061 T-6 aluminum delta box/monocoque frame with suspension specific geometry. Includes S-Series seatpost collar.*

Many fork options are available, call for more information.

* Rear disc brake kit available as an option.

Frame Material: 6061 T-6
Aircraft Aluminum

Bottom Bracket Shell: 71mm, standard
thread-in

Frame Size: Three sizes: small 16-1/2",
medium 17-20", large 20-21"

Seatpost Diameter: 31.6mm

Front Derailleur Post: 34.9mm

Chain Line: 49-50mm

Head Angle: 71.5 degrees

Wheel Base (center, axle to axle):

Headset Diameter: 1.250"
(Optional 1.125" headset size available)

Standover Height: 26.00"

Chainstay Length: 16.50"

All Moho frames include cantilever
mounts and a Pro-Stop Hydraulic
Brake mount on the rear seatstay.

Unique 'Softail' (pat. pend.) feature

Shock Dampening Effect

'Softail' Wishbone Traction System

Top View of Chainstays





Introduction of the rounded cable stops



The front clamping area of the sub frame lost the milled part and was fixed through a hole in the sub frame tubing.



The sub frame got a cut away on the seatpost support for weight savings

1995 "Mix Frame"

It seems Mountain Cycle has used old 94/95 stock parts and already started to make rolling production changes sometime later in the year of 1995 inside the 95 frame production,

The following 95 R-8.6 bike has been proofed to be purchased in 95.

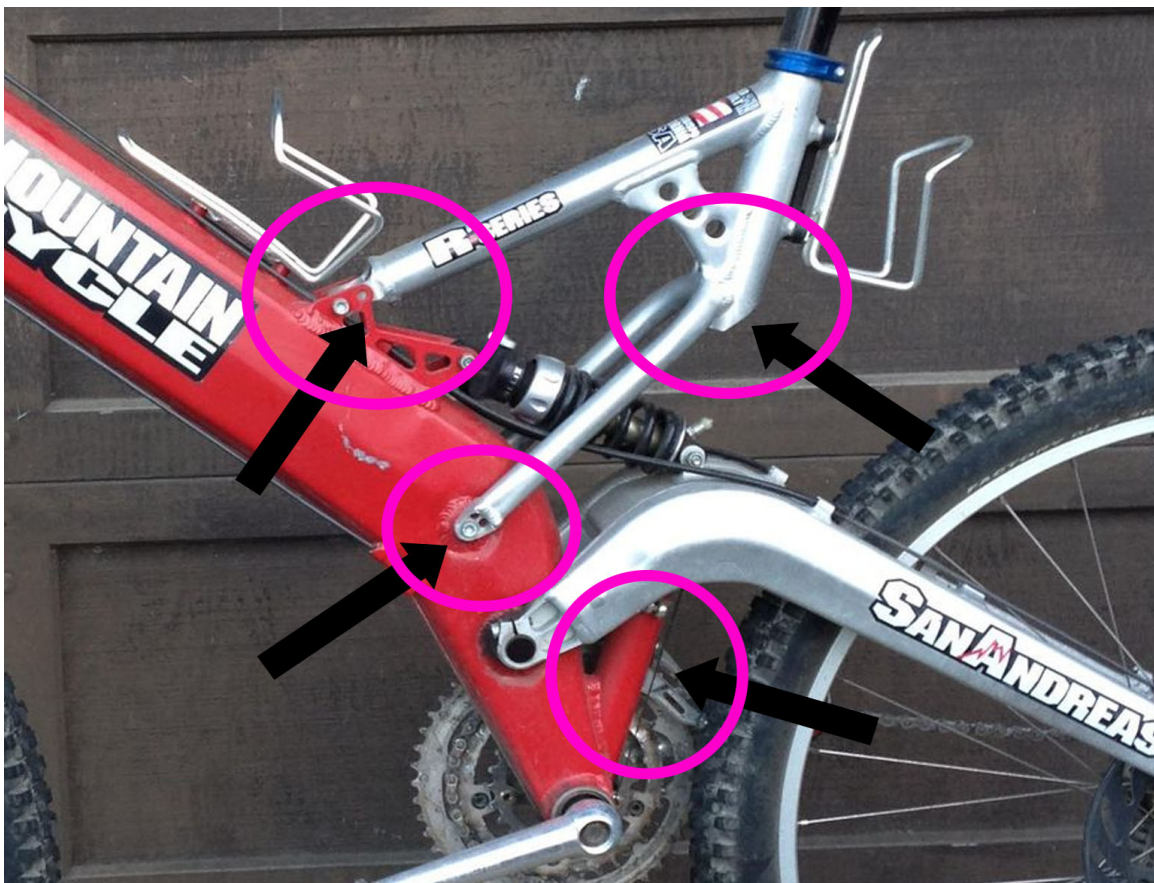
Originally it has been delivered with a Manitou EFC and the Noleen NR-3PB piggyback shock

It's a real strange combination and shows that the had a fluid production change.

The sub frame is a complete mix of 94 trough 96...

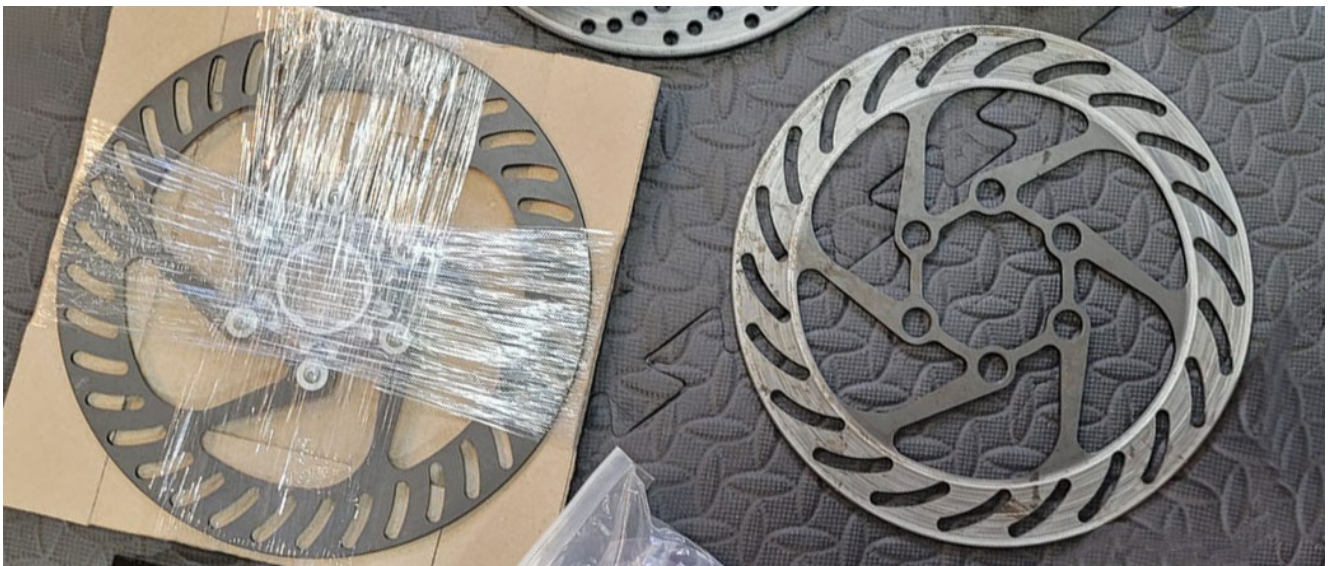
- Pre 95 milled subframe part for the upper fixing point
- 95 angled cut on the seat tube
- The lower sub frame fixing point looks like its been influenced by a 96 design as it does not use the tubular design anymore

It also has already the straight front derailleur post and a 1 1/8" headset dimension that was fully introduced in the 96 series





New logo hubs, move away from the Pullstar hubs



Revision of the Pro Stop discs, new with slits instead of a hole pattern.
The left one was only available in 95. The right one was available from 95 to 97 until it was replaced with the new drilled version of the FH brake.



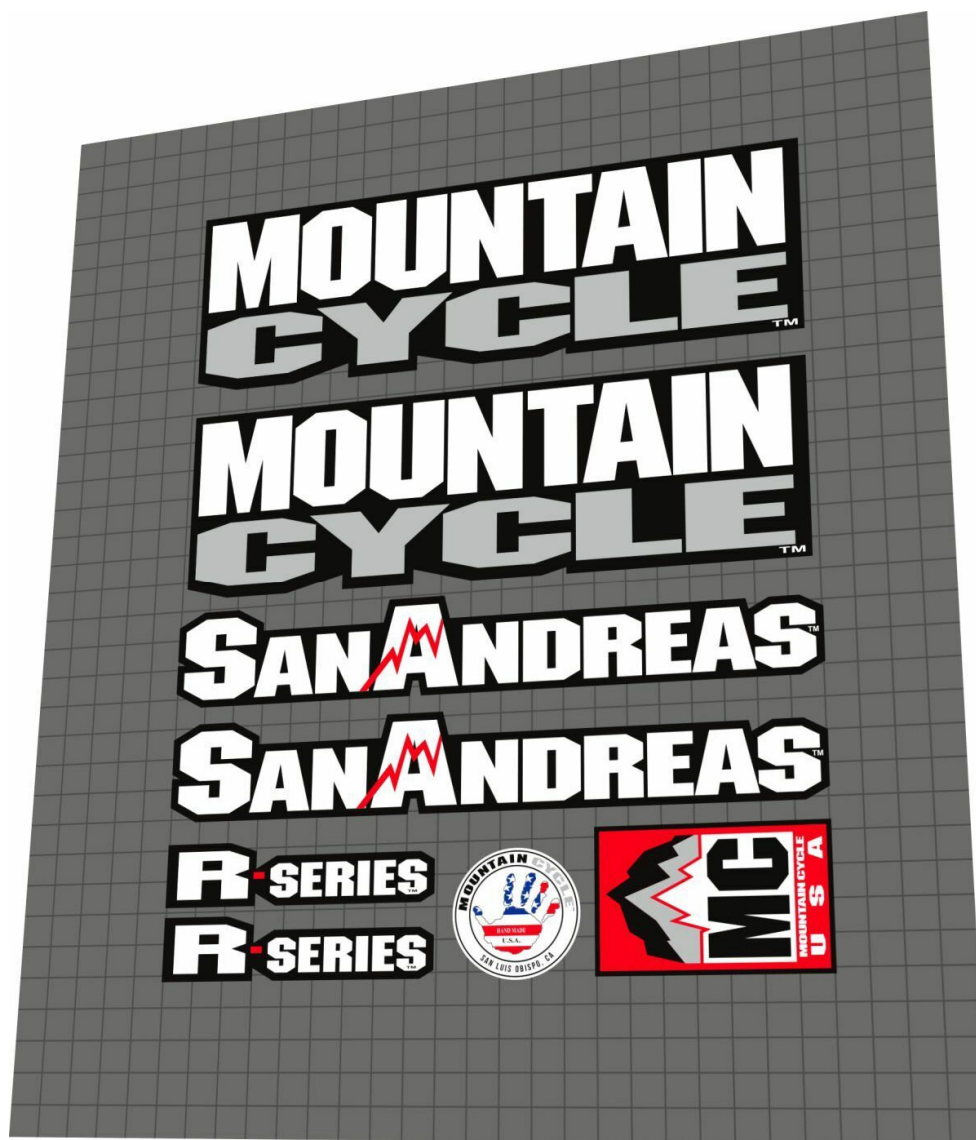
The Noleen NR1 shock allowed for longer 3" travel



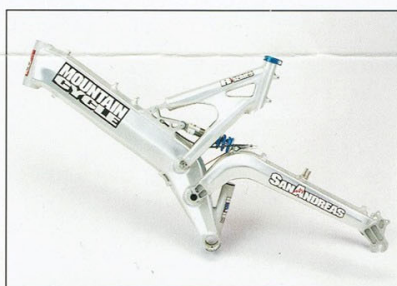
1995 Manitou EFC fork with Pro-Stop mount but with later 1996 Pro-Stop 2 mounted on them.

1996

- Introduction of the new style sub frame
- Change to 1 1/8" headset
- Change of the swingarm axled bearing
- Release of the Pro-Stop 2 brakes

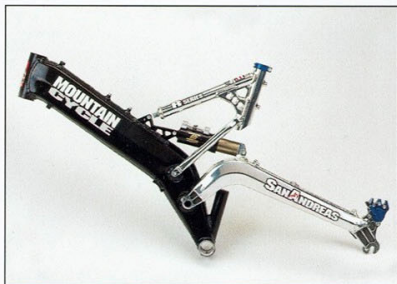


SAN ANDREAS R-SERIES



SAN ANDREAS™

The standard San Andreas features our exclusive AfterShock™ rear shock which yields 4½" of rear wheel travel. Shown in its natural brushed finish, the San Andreas embodies the latest in monocoque frame technology. Strong, light and rigid, it has unparalleled race-tested durability.



SAN ANDREAS DHS™

Mountain Cycle pushes the envelope of full suspension with the San Andreas DHS. It features a Risse Terminator shock with 6" of rear wheel travel and adjustable rebound and compression damping. Add our all-new ProStop FH™ disc brake system and you have the most advanced machine on the market today.

THE SAN ANDREAS R-SERIES

The Mountain Cycle San Andreas, the first successful delta box/monocoque full suspension frameset, is one of the finest full suspension framesets ever produced. The high-tech features and quality craftsmanship in this frameset are second to none. New this year is our exclusive monocoque subframe with 4½" of rear wheel travel on the San Andreas, and our DHS with 6" of travel in the rear.

THE MOHO R-SERIES

All MOHO frames provide the superior stiffness of delta box/monocoque construction up front, transitioning to square tubing in the rear for exceptional rigidity. And only the MOHO features the Softail Traction System, interconnected rear triangle wishbones that provide a superior shock dampening effect for a smoother ride than traditional aluminum frames. We call it the Softail, you'll call it the best ride you've ever had. And new for '96 is our full suspension cross country frame, the MOHO CXS, and our highly acclaimed MOHO Road.

MOUNTAIN CYCLE — SIMPLY THE BEST.

All Mountain Cycle products are Made in America by one of the few companies in the industry that still makes the majority of its products in its own factory. We cut, weld, mitre, fabricate, CNC machine and perform quality control all on-site here in San Luis Obispo, California. This allows us to offer products of uncompromising quality, reliability and durability, and gives us the confidence of knowing that our products are simply the best.

GET THE BIKE YOU WANT . . . GET A MOUNTAIN CYCLE!

At Mountain Cycle, our goal is to make sure that our customers get the exact bike they want. That's why we offer all sorts of options including different finishes, shocks, disc brakes and full component kits. And if you can't find it in this catalog, give us a call — chances are, we offer it!



Introduction of the new Sub Frame

PROSTOP™ DISC BRAKE KITS

The Mountain Cycle ProStop disc brake is "the best brake for high performance off-road bicycles. No exceptions, no exclusions, no doubt." (*Mountain Bike Action*)

The ProStop was the first and original bicycle disc brake, and has made Mountain Cycle the industry leader and innovator in disc brake technology for over five years. Our experience has resulted in unsurpassed performance and quality, and allows Mountain Cycle to make the lightest, most powerful disc brakes on the market.

For 1996, we are pleased to offer two systems: the ProStop2 and the all-new ProStop FH. Both systems include:

Patented Floating Hard Coated Rotor — Enhances brake performance while eliminating drag, for the best no-fade stopping power.

Mountain Cycle SSI Hub — Our lightweight, custom CNC'd aluminum hub has a massive 17mm 7075 aluminum axle, 12mm bearings and is designed to be used with a standard skewer. Fits all 9mm dropouts. Available in 32 hole only.

Brake Pads — Custom formula brake pads for long wear and easy installation.

Bleed Kit — Our specially formulated hydraulic brake fluid and syringes for ease in bleeding and adjusting your brakes. If you're tired of hassling with the adjustment of your cantilevers, you'll love how easy it is to adjust our ProStops!

Custom Aluminum Mounting Assembly for a variety of forks — CNC machined especially for Rock Shox and Manitou forks, our aluminum clamps and mounting plate are lightweight, yet provide superior strength. Each kit comes with everything you need for fast, easy bolt-on installation.

So for braking power and performance that is simply the best, take your pick: the cable-actuated ProStop2 or the fully hydraulic ProStop FH disk brake system.



THE MOUNTAIN CYCLE PROSTOP2

The ProStop2 features a red anodized CNC-machined Positive Retraction Caliper and comes complete with pre-stressed cable and housing.



THE MOUNTAIN CYCLE PROSTOP FH

The fully hydraulic ProStop FH system features a blue anodized CNC-machined Positive Retraction Caliper designed specifically to match Mountain Cycle's own custom CNC-machined brake levers and cylinders. This system comes complete with custom hydraulic hose and all the fittings. Quite simply, it's the most advanced braking system on the planet!

MOUNTAIN CYCLE SEISMIC GEAR

Hats, sweatshirts, T-shirts, aprons, jerseys and more! Simply the best clothing and accessories to separate the winners from the weenies.



2494 Victoria Avenue
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Fax (805) 545-9790

Specifications subject to change without notice.

Release of the Pro-Stop 2

MOHO R-SERIES



MOHO ROAD SOFTAIL

Guaranteed to revolutionize the way road bikes are designed in the future, the Mountain Cycle MOHO Road features a 6061-T6 delta box/monocoque frame coupled with classic road bike geometry. It's light, rigid, agile and features our exclusive Softail Traction System. It rides like you're floating on air!



MOHO SOFTAIL

The MOHO features a 6061-T6 aluminum delta box/monocoque construction and suspension-specific geometry. You simply have to experience the ride to believe the difference our patent pending Softail Traction System makes in both comfort and performance.



MOHO CXS

You asked for it, and here it is — the full suspension Mountain Cycle MOHO. It features the same delta box/monocoque construction as its siblings, yet has 3" of rear wheel travel. Lightweight, yet rigid, this is the future of cross country framesets!

FINISH OPTIONS

Frame	Blue	Red	Black	Brushed	Polish	White	Yellow
San Andreas	•	•	•	▽	•	•	•
San Andreas DHS	•	•	• MF	•	▽ SA, SF	•	•
MOHO	▽	▽	•	n/a	•	•	•
MOHO Road	•	•	•	n/a	•	▽	•
MOHO CXS	•	•	•	n/a	•	•	▽

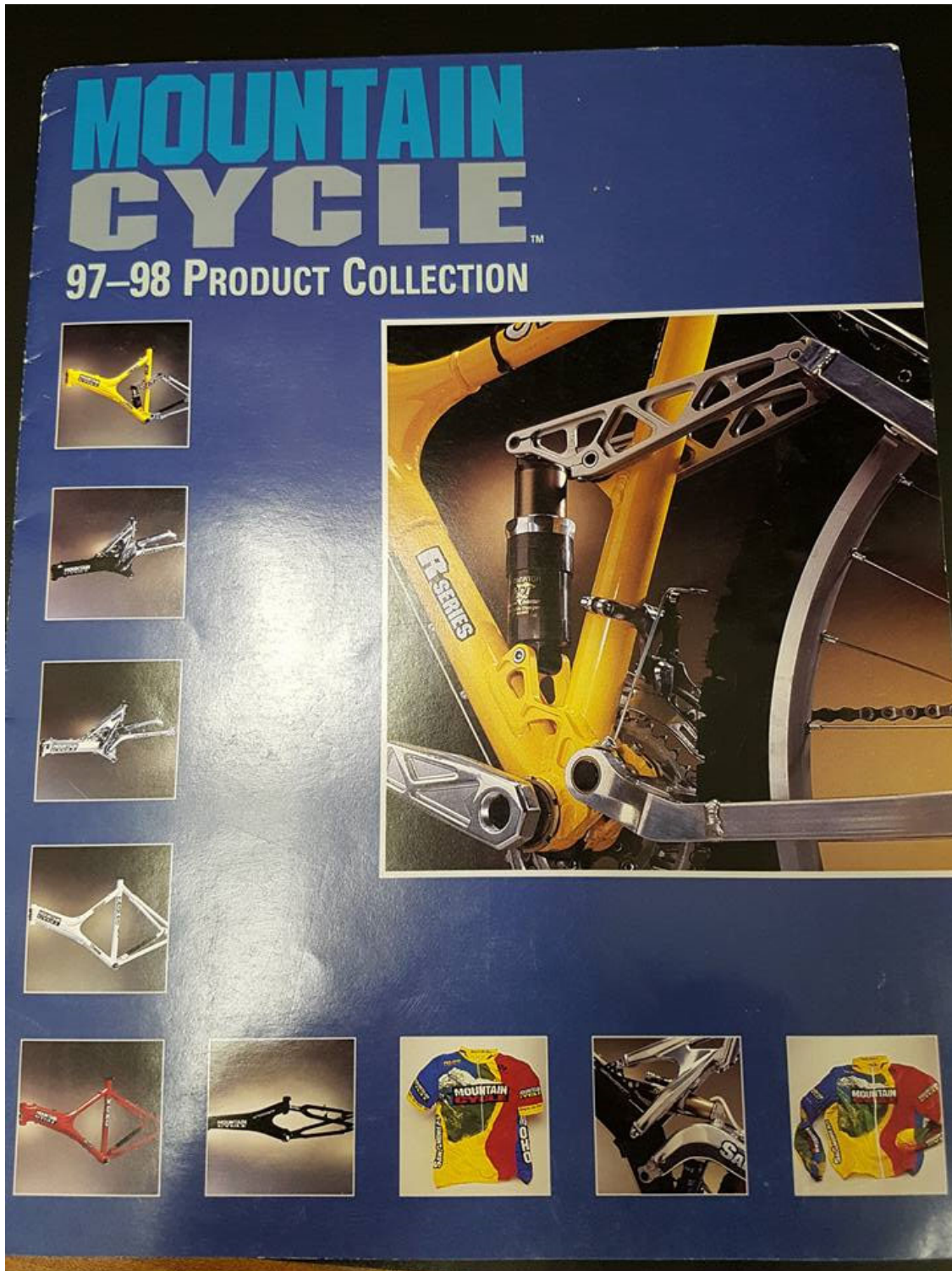
▽ Standard Finish
• Optional Finish
MF Mainframe
SA Swingarm
SF Subframe

SPECIFICATIONS

Frame	BB Shell	Seatpost	Fr. Der.	Headset	Wheelbase	Chainline	Head Angle	Standover	Rear Travel
San Andreas	73mm	31.6mm	31.8mm	1 1/8"	42"	49-50mm	71°	28"	4"
San Andreas DHS	73mm	31.6mm	31.8mm	1 1/8"	42"	49-50mm	71°	28"	6"
MOHO	73mm	31.6mm	34.9mm	1 1/8"	41.5"	49-50mm	71.5°	26"	Softail
MOHO Road	73mm	31.6mm	34.9mm	1 1/8"	39.9"	43-45mm	73°	25.4"	Softail
MOHO CXS	73mm	31.6mm	34.9mm	1 1/8"	41.9"	49-50mm	71.5°	26"	3"

1997

- Release of the Pro-Stop FH (full hydraulic)
- Optional fork stops integrated in the main frame to stop double crown forks bumping into the main body



At Mountain Cycle, we never follow trends — we start them! The San Andreas was the first monocoque full suspension bike, and it was the first bike to feature full disk brake compatibility. That's why you can be sure that when you buy a San Andreas, it's not just some copycat. Like all Mountain Cycle bikes, it is simply the best!



San Andreas™

The San Andreas has "... the body of a jet fighter, the soul of a junkyard dog, the strength of a farm implement and the speed of a motocross bike..."

(Mountain Bike Action, March 97)



San Andreas™

The Mountain Cycle San Andreas is truly the bike that started a revolution. The San Andreas was the first successful delta box/monocoque full suspension frameset ever produced and its high tech features and quality American craftsmanship are still second to none — a fact recognized by the San Francisco Museum of Modern Art when they chose the San Andreas to become a part of their permanent collection.

With a single hard anodized fully greaseable Teflon coated pivot riding on "O" ring sealed composite bearings — its innovative moveable position seat subframe section and race proven monocoque mainframe and swingarm — the San Andreas was the first true "freeride" bike ever created. This classic design couples superb performance with Mountain Cycle's rugged durability and quality for a ride you'll never forget.

Available as frameset or complete, fully assembled bike.

BB Shell	Seatpost	Fr. Der.	Headset	Wheelbase	Chainline	Head Angle	Standover	Rear Travel
73mm	31.6mm	31.8mm	1 1/4"	42"	49-50mm	71°	28"	4 1/2"



This is the heart of the San Andreas' distinctively smooth, yet responsive feel. The main frame, swingarm and subframe are all linked together at this pivotal (excuse the pun) point to yield the optimal suspension for the best ride of any monocoque suspension frame available!



San Andreas™ DHS

Do you feel the need for speed? Do you frequently find yourself hurtling down rocky mountain slopes at breakneck speeds? Then this is the bike you've been dreaming of — the Mountain Cycle San Andreas DHS.

Like Air Force test pilots, the San Andreas DHS has the right stuff to help you push the envelope of downhill performance. Like its older sibling the San Andreas, the DHS features a 6061/T6 delta box/monocoque frame, but the DHS goes one step further in performance by adding a rear shock with 6 1/2" of travel with adjustable rebound and compression damping. The result: one of the most advanced downhill machines available anywhere!

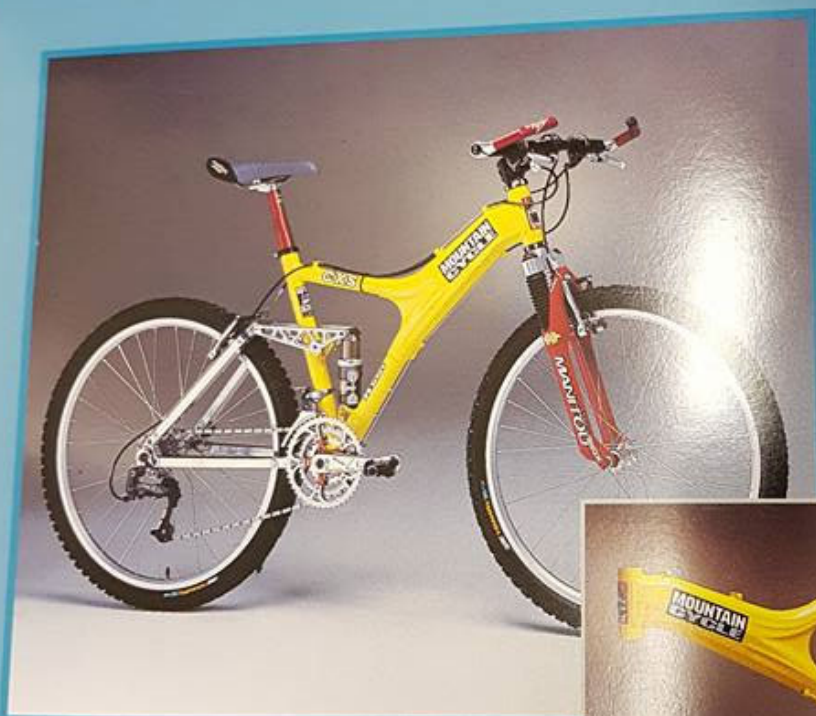
The San Andreas DHS frameset comes standard in black with chrome powdercoat swingarm and subframe.

BB Shell	Seatpost	Fr. Der.	Headset	Wheelbase	Chainline	Head Angle	Standover	Rear Travel
73mm	31.6mm	31.8mm	1 1/4"	42"	49-50mm	68-70°	28"	6 1/2"

Downhill and cross country riding are very different. So why are most full suspension bikes made primarily for downhill? The Moho CXS could very well be the first bike created specifically for the needs of cross country riding. One look at the CXS' innovative design and you'll know that this is one unique bike. One ride and you'll want one for yourself!



Moho™ Mountain



"... The CXS has what it takes. It's ultra-rigid laterally, very light for a long-travel cross country bike, handles like a dream... The whole exceeds the value of its parts."

(Mountain Bike Action, July 97)



Moho™ CXS

Here is the crown jewel in Mountain Cycle's 97-98 lineup — The MOHO CXS. This frame was designed from the ground up to be a cross country machine.

The MOHO CXS incorporates features not found on any other full suspension bike: Pretensioned, self lubricated composite bearings, rubber "O" ring seals and grease ports for each hard anodized, Teflon coated pivot. The specially designed rocker arms and chainstay/seatstays provide the most laterally rigid rear end available on a cross country bike. This combination works to give the CXS suspension the best performance available on the market today, period!

Not only is the MOHO CXS ahead of its time, but it features the famous rugged durability of all Mountain Cycle frames. The MOHO CXS is available as a frameset or a complete fully assembled bike. Finish: yellow with a ball burnished rear triangle.

BB Shell	Seatpost	Fr. Der.	Headset	Wheelbase	Chainline	Head Angle	Standover	Rear Travel
73mm	31.6mm	34.9mm	1 1/8"	41.9"	45-50mm	71.5°	26"	3 1/2"



All Moho frames without rear suspension feature Mountain Cycle's exclusive Softail Traction System (patent pending), inter-connected rear triangle wishbones that provide a superior shock damping effect for a smoother ride than traditional aluminum frames.

"... The MOHO performs like two disparate frames - a flex-free front triangle and a plush rear one - grafted together at the seat tube... The short stays keep the rider over the drive wheel for superb climbing traction."

(Bike, May 96)



Moho™ Softail

At Mountain Cycle, we've discovered that a bike without a rear shock doesn't necessarily have to be a bike without rear suspension. Our Moho Softail is a ride that you simply have to experience to believe because our patent pending Softail Traction System makes an incredible difference in both comfort and performance.

The Moho features 6061 aluminum delta box/monocoque construction up front, transitioning to square tubing in the rear for exceptional rigidity. The Moho frame also features suspension-specific geometry plus our Softail Traction System, inter-connected rear triangle wishbones that provide a superior shock damping effect for a smoother ride than traditional aluminum hardtail frames. If you don't have the Softail; you'll call it the best ride you've ever had.

The Moho Softail is available as a frameset or a complete, fully assembled bike. Finish: red powdercoat.

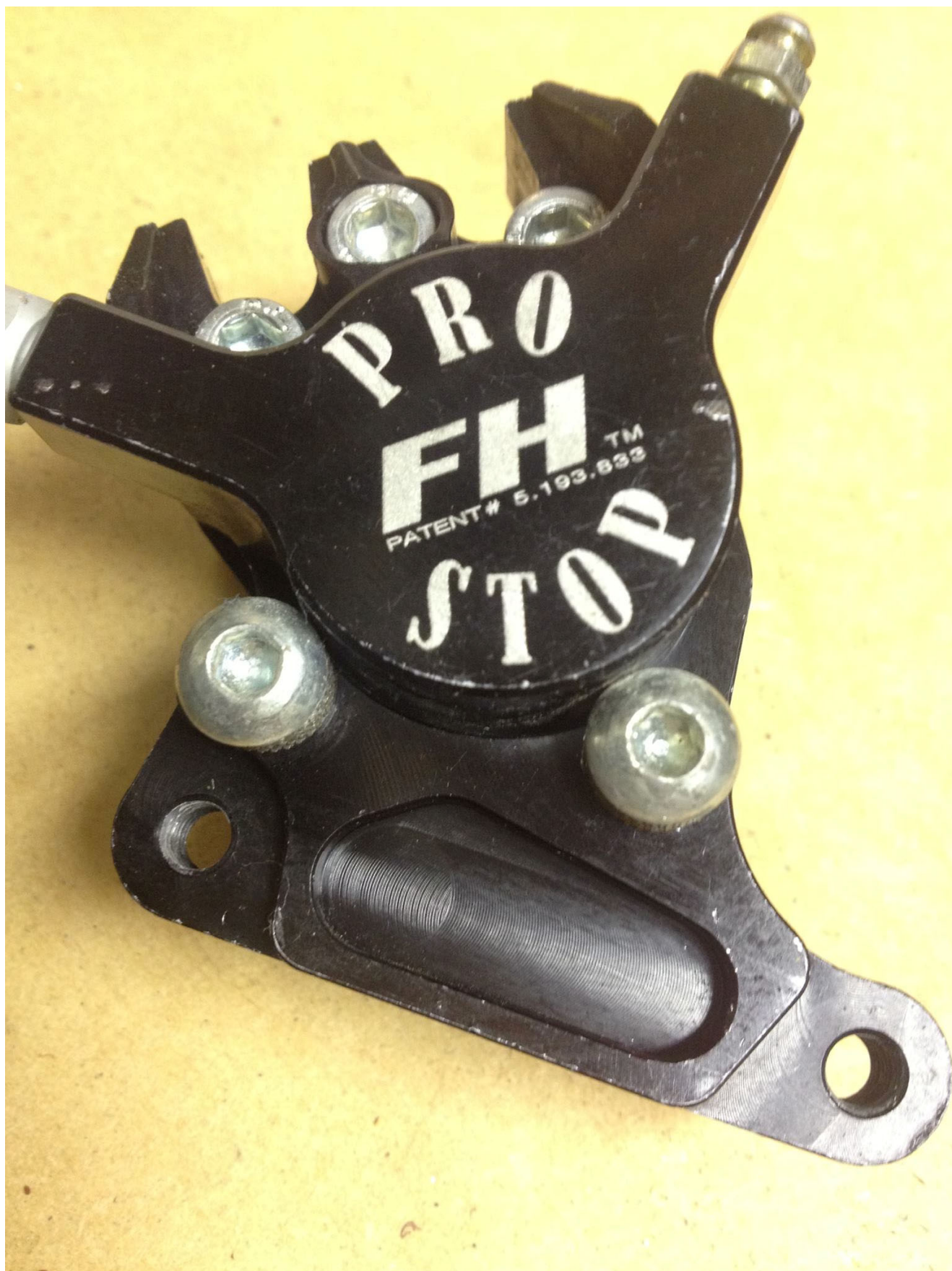
BB Shell	Seat Tube	Fr. Der.	Headset	Wheelbase	Chainline	Head Angle	Standover	Rear Travel
73mm	31.8"	34.9mm	1 1/8"	41.5"	49-50mm	71.5°	26"	Softail



New decal on hubs



Pro-Stop FH with matching disc design





Pro-Stop 2 discs shown with a 6-hole pattern adapter.

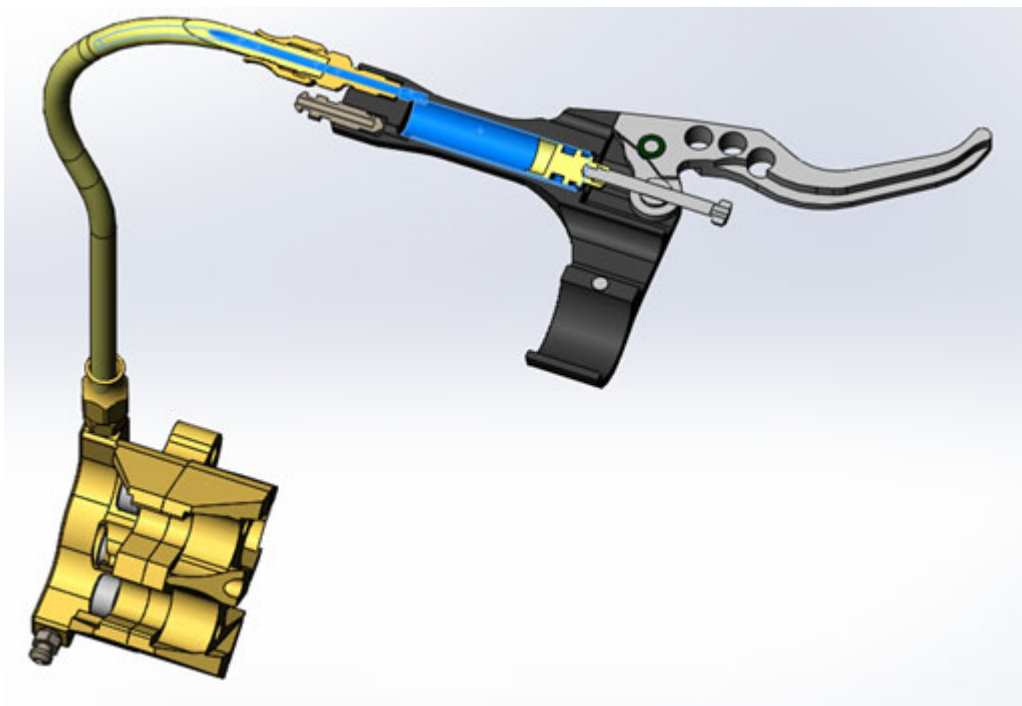
O-ring

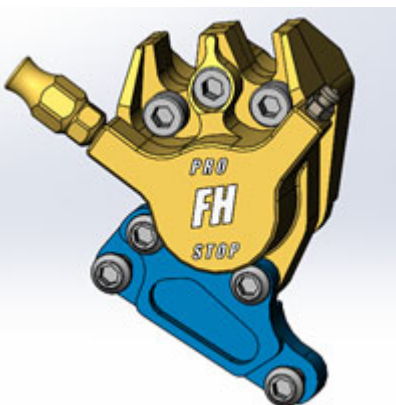
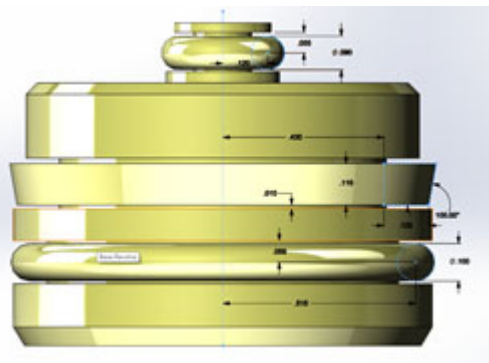
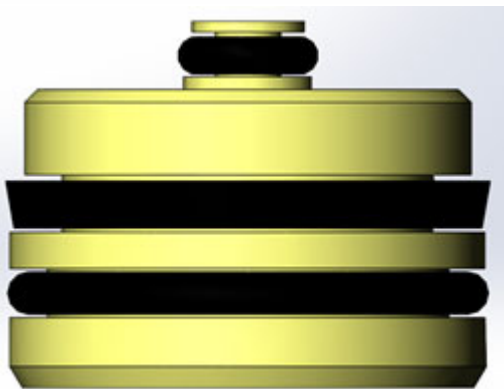
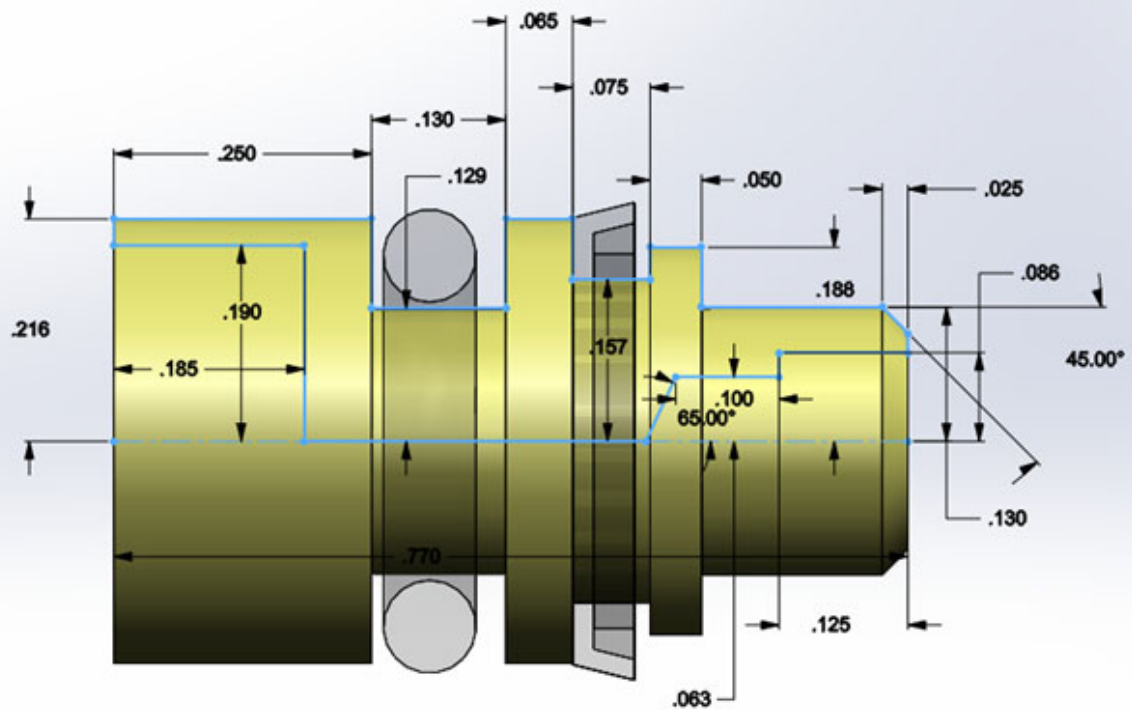
Specifications	CS (IN)	ID (IN)	OD (IN)	CS (MM)	ID (MM)	OD (MM)
Master Piston	0.070	0.239	0.379	1.78	6.07	9.63
Slave Piston	0.103	0.924	1.130	2.62	23.47	28.71

U-Cups

Specifications	Nominal Dimensions - Decimal			Nominal Dimensions - Fractional		
	C/S	I.D.	O.D.	C/S	I.D.	O.D.
Master Piston	.062	.312	.437	1/16	5/16	7/16

Slave piston U-cup I.D. is 0.875, W= 0.135", the O-ring groove I.D. is 0.945 DIA, W= 0.115". Master Piston u-cup I.D. = 0.314", w= 0.075". O-ring groove I.D. = 0.258", w = 0.130" Slave piston has a nominal DIA of 1.125", Master Piston nominal DIA is 7/16 (0.4375") DIA. This information should make it pretty easy to find U-cup and O-ring seals. If you choose a seal material to withstand DOT brake fluids, you can change over to that oil. Stock ProStop brakes came with Buna-N seals and used mineral transmission oil, silicone-based oils, but did not work with DOT





1998



Release of their own rebranded DNM shock