







WHERE WE'VE BEEN - WHERE WE'RE GOING

It was spring of 2006, after three years of development, when 50 SRAM Force and Rival equipped bikes first rolled away from the Quail Lodge near the Central California coast. The challenges seemed overwhelming, the competition insurmountable, but with technologies like DoubleTap and Exact Actuation, we knew we had something special. That moment launched SRAM into the complete road group market, and we've never looked back.

With several additional introductions, including the world's lightest RED group, what followed were Tour de France victories, Paris-Roubaix wins, Ironman™ World Championships, Cyclocross World Championships, and Olympic Gold Medals. SRAM on the road can easily be defined as an overwhelming success, and the family includes SRAM RED, SRAM Force, SRAM Rival, and SRAM Apex, all with WiFLi options.

Today we introduce SRAM RED 22, Force 22, and our Hydraulic road brake systems. While none of these technologies will shift the cycling paradigm, we continue to do what we always do, and that's continually improve. Everything we do is defined by elegance, marked with innovation, and inherently improves the experience of riding.

Thank you for sharing in the experience.



FROM THOSE WHO BROUGHT YOU 22

“The biggest change we’ve made, outside of going to twenty-two, was the considerable upgrade to Force. While the price has stayed the same, its weight, function, and features exceed our competitor’s top-end mechanical groupsets.”

Charles Becker, SRAM Global Road & Tri Product Category Manager

“We consider ourselves leaders in the braking category, and now with two new brake systems for the road, the hydraulic rim or disc options are absolute game changers.”

Paul Kantor, Brake Category Manager

“Making RED and Force even better, and actually giving you what you paid for, 22 usable gears, was our proudest accomplishment.”

Scott McLaughlin – Global Director of Drivetrain Development



TWENTY-TWO

Twenty-two isn't just our cool new logo that resembles chain links, nor a composite number that when divided by 7 roughly equals pi, or the square root of 484, it's the numeric expression of exactly what we mean when we introduced two 11-speed groupsets. Twenty-two means just that. For the majority of standard road frames you will get use of every gear in any combination. There is no trim, no rub, no rasp, and the freedom shift and ride any way you want with no instructional warning or shifting compromise. Combining Yaw™ technology with engineering ingenuity gives you what no other mechanical gruppo can, trim-free True 22.



READY FOR YOUR BEST

However you define yourself as a rider, SRAM Force 22 is ready to help you achieve your personal best, offering no compromise of quality, function and features. We have completely redesigned SRAM Force and loaded it with all of the key innovations of SRAM RED, with no apologies for its fleet looks, ergonomics, efficiency, and lightweight design.

Apart from the complete overhaul, Force also provides you twenty-two usable gears, Yaw™ shifting speed and precision that can only be matched by SRAM RED, and a new sleek finish. The understated SRAM Force 22 gruppo is for rational people with an irrational passion for performance. It is our most exciting introduction for 2013, and we designed it to be everything any rider at any level would ever require, and it's ready for your best.



- SIX BRAND NEW COMPONENTS: Shift/Brake Lever, Rear Derailleur, Front Derailleur, Crankset, Cassette and Chain.

- 11-SPEED Yaw™ FRONT DERAILLEUR: no trim, rub, or rasp – with chain spotter – and even lighter!

- TRUE 22: twenty-two usable gears

SRAM FORCE 22 SHIFT LEVERS

The new SRAM Force 22 ErgoDynamic™ Shifters were modeled after the best in class comfort of SRAM RED, and represent our most advanced thinking yet on perfecting the interface between rider and bike. Everything received the same detail, including the transition between handlebar and hoods, the grip texture, finger wrap, and the separate interfaces with both the shifter and brake lever. The understated black finish makes it look fast and a perfect match for any machine.

- Incredibly light weight at the bars, improving handling and control, at 307 grams.
- ErgoFit textured body improves grip and finger wrap with reduced diameter, providing better control, and a better transition to the bar.
- Individual Reach Adjust™ of brake and shift lever, now easier to access and uses a standard hex key, puts the controls exactly where you want them.
- Larger ErgoBlade lever improves shifting from the drops.
- DoubleTap® technology delivers both shifts from the single lever.
- ZeroLoss™ shifting, shifts engage immediately.
- New clamp allows better fit and adjustment for modern carbon and ergo bars.

KEY TECHNOLOGIES

Double Tap

ErgoDynamics

ZeroLoss



ErgoDynamics

- ERGOBLADE: LONGER BRAKE LEVER WITH IMPROVED REACH FROM THE DROPS
- EASY ACCESS REACH ADJUST FOR SHIFT AND LEVERS
- ERGOFIT: REDUCED GRIP DIAMETER AND TALLER BUMP PROFILE

Double Tap

ONE SHIFT LEVER FOR UP-AND-DOWNSHIFTING: FASTER AND EASIER GEAR CHANGE – LARGER SHIFT PADDLE FOR COMFORT AND EXCELLENT HANDLING

REACH ADJUST

- SIMPLE TO ADJUST SHIFT REACH WITH 2/5 MM HEX
- TWENTY-TWO USEABLE GEARS



SRAM FORCE 22 REAR DERAILLEUR

Adopting all the technologies that provide the fastest, quietest shifting available, the new SRAM Force 22 Rear Derailleur has been designed with our Exact Actuation™ technology for precise, efficient shifting throughout the extended gear range. We have given and even refining tooth geometry of the jockey wheel. The result is that the chain that runs smoother and quieter than ever before. With all the additional technologies we've managed to keep the weight the same, at well under 200 grams.

- Exact Actuation™ shifting provides fast, accurate shifts.
- More clearance with 28t cassettes thanks to a longer B-knuckle.
- New silent shifting with optimized AeroGlide Pulleys™.
- New spring-fixed barrel adjuster.
- New chain pulley cage adds precise chain management.
- WiFLi option

KEY TECHNOLOGIES

Exact Actuation

AeroGlide Pulleys



Exact Actuation

- HELPS STABILIZE THE CHALLENGE OF BALANCING THE REAR DERAILLEUR HANGER DESIGN, TIGHT COG SPACING, AND CABLE TENSION
- PRECISE SHIFTS BETWEEN GEARS PROVIDES CONSISTENT 22-SPEED SHIFTS



SRAM FORCE 22 FRONT DERAILLEUR

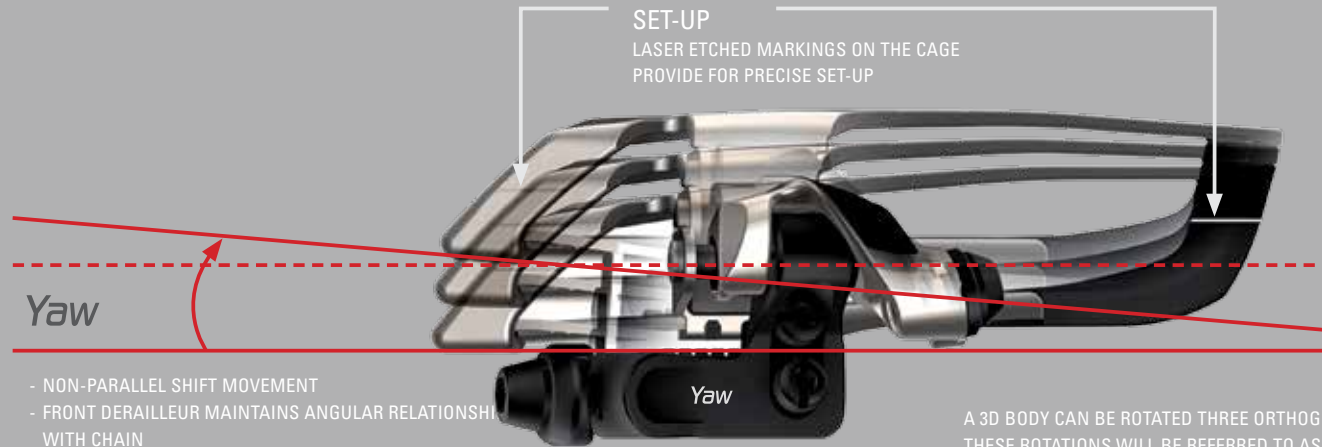
It's the front derailleur that changed everything, now with SRAM Force 22, giving riders the freedom to shift with incredible speed into either chainring, with no trim and no chain rasp. The Yaw™ rotating front derailleur cage was just one more elegant solution to a problem that plagued drivetrains for decades. Instead of multiple shifts using trim, with confusing microshifts, the SRAM Force 22 Yaw™ Front Derailleur actually rotates to maintain a consistent angular relationship with the chain. As a result, shifts feel more direct, more precise, system that works as one with the chain, cranks and chainrings.

- Yaw™ cage rotates in line with chain, improving the shifting speed and precision while eliminating the need for shifter trim.
- TRUE 22 – twenty-two usable gears in all gear combinations with no rasp or rub.
- Slim spring design eliminates frame interference.
- Durable, light, fast, precise and optimized to work with X Glide R™ chainrings.
- Precision alignment markings.
- Integrated chain spotter protects your frame, installs and adjusts independently of the derailleur itself.

KEY TECHNOLOGY

Yaw





Yaw

SET-UP
LASER ETCHED MARKINGS ON THE CAGE
PROVIDE FOR PRECISE SET-UP

- NON-PARALLEL SHIFT MOVEMENT
- FRONT DERAILLEUR MAINTAINS ANGULAR RELATIONSHIP WITH CHAIN
- TRIM REMOVED FROM SHIFTER
- SHIFTER IS MORE DIRECT AND PRECISE

A 3D BODY CAN BE ROTATED THREE ORTHOGONAL AXES. BORROWING AVIATION TERMINOLOGY, THESE ROTATIONS WILL BE REFERRED TO AS **YAW**, **ROLL** AND **PITCH**:

YAW: IF AN AIRCRAFT YAWS, IT MOVES IT MOVES SLIGHTLY TO THE SIDE OF ITS INTENDED DIRECTION.

ROLL: IF AN AIRCRAFT ROLLS, IT LEANS TO ONE SIDE AND THEN THE OTHER.

PITCH: IF AN AIRCRAFT PITCHES, IT MOVES UP AND DOWN. PITCH CHANGES THE VERTICAL DIRECTION AS THE NOSE MOVES UP AND DOWN.

HARDWARE

MINIMIZED 4MM CABLE ANCHOR BOLT
WITH A 5MM THREAD



REFINED MOUNTING

YAW FD'S SLIM SPRING AND FRAME MOUNT
DESIGN ELIMINATE FRAME INTERFERENCE



INTEGRATED CHAIN SPOTTER

- 2.5MM MOUNTING AND ADJUSTING HEX BOLTS
- FULLY ADJUSTABLE TO FIT MOST SRAM CHAINRING SETS
- SIMPLE TO INSTALL OR REMOVE WITHOUT LOSS OF THE FD POSITION OR TUNING
- SUPERIOR CHAIN MANAGEMENT

SRAM
Force
22

SRAM FORCE 22 CRANKSET

The new Force 22 crankset delivers an upgrade in performance by utilizing unidirectional carbon in the crank arm matched to a forged alloy spider. And, like RED, the hidden bolt pattern makes better use of carbon fiber to further improve stiffness and shed weight. The stunning X Glide R™ chainrings are optimized for use with the YAW™ Technology in the front derailleur, delivering seamless, flawless performance. It comes in full-size and compact ratios and in multiple crank arm lengths.

- Hidden bolt pattern leverages the characteristics of carbon fiber while presenting a sleek appearance.
- Stiffer X Glide R™ chainrings feature thicker construction, advanced shift timing pins and ramps, which are optimized for shifting with the Yaw™ Front Derailleur.
- New 165mm arm length option.

KEY TECHNOLOGY

X Glide^R



X Glide^R

- CNC MACHINING ALLOWS FOR PRECISION CONTROL OF EACH TOOTH SHAPE, RAMP, AND NEARLY EVERY FEATURE OF THE CHAINRING
- CHAINRINGS, CHAIN, AND FRONT DERAILLEUR ARE DESIGNED AS A SINGLE INTEGRATED SYSTEM FOR OPTIMIZED PERFORMANCE



HIDDEN SPIDER TAB BOLT
FOUR ARM SPIDER REDUCES CRANK
WEIGHT AND ADDS STIFFNESS

SRAM POWERGLIDE 1170 CASSETTE

The SRAM PG-1170 Cassette's semi-spidered design maintains smooth and positive shifting performance with a matched cassette/chain combination that runs near silent and maintains great mud clearing capabilities. Pedaling and shifting transitions across the cassette will be made even smoother with the addition of the long desired 16 tooth cog. And to help you in the toughest climbs it is now available in the new 11-32 ratio.

- Cassette design for high shifting performance with a quieter chain/cassette combination.
- Semi-spidered design: light, strong, efficient.
- 16T cog (except for WiFLi: 14T)
- 231g (11-25)
- Gear ratio:
 - 11-25: 11,12,13,14,15,**16**,17,19,21,23,25
 - 11-26: 11,12,13,14,15,**16**,17,19,21,23,26
 - 11-28: 11,12,13,14,15,**16**,17,19,22,25,28
- WiFLi 11-32 cassette option
 - 11-32: 11,12,13,**14**,15,17,19,22,25,28,32



SRAM POWERCHAIN 1170

The newest narrower SRAM PC-1170 chain features more heavily chamfered outer plates for improved shifting and quieter running. The chrome hardened pin construction provides longer chain life.

- HollowPin™ construction: strong, precise and light weight
- PowerLock™ (silver) connecting link
- Narrower profile for 11-speed performance
- 256g (114 links)

KEY TECHNOLOGIES

PowerChain *PowerLock* *PowerLube*



PowerChain

OUTER PLATE CHAMFERS

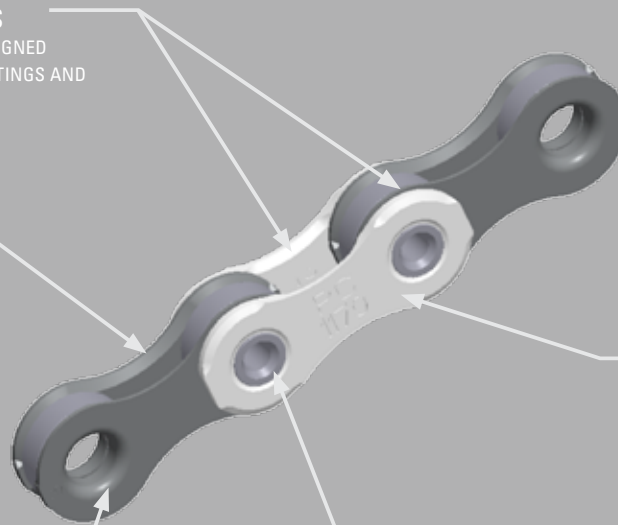
PRECISE AND CRITERIOUSLY DESIGNED CHAMFERS FOR SMOOTHER SHIFTINGS AND GEAR ADJUSTABILITY.

INNER PLATE CHAMFERS

PRECISE AND CRITERIOUSLY DESIGNED CHAMFERS FOR SMOOTHER RUNNING AND SHIFTING

NEW INNER PLATE MATERIAL

NEW DEVELOPED MATERIAL FOR INNER LINKS FOR CHAIN WEAR REDUCTION



NICKEL COATED

COATED OUTER LINKS FOR CORROSION PROTECTION, SMOOTHER RUNNING AND PROLONGED CHAIN LIFE.

FLUSH CHAMFERED RIVETING

RELIABLE, SAFE STRONG DESIGN WITH A MINIMUM PIN PUSH OUT FORCE OF 2500N

SRAM FORCE 22 BRAKESSET

The SRAM Force 22 Brakeset was designed with light weight, performance, and streamlined aesthetics as our guiding principles. Featuring Dual Pivot performance and a proprietary pad compound, the SRAM Force Brakeset delivers high power with low weight. Intelligent engineering combines cold-forged arms, stainless steel main pivot bolts, and a powerful return spring for positive engagement and release.

- Dual Pivot design increases braking power and enhances progressive feel.
- SRAM / SwissStop™ Compound with Adjustable Cartridge Holder convex washers
- Cold-Forged Arms, Stainless Steel Pivot Bolt



SPECIFICATIONS



	SHIFTER	REAR DERAILLEUR	FRONT DERAILLEUR	CRANKSET	BOTTOM BRACKET	BRAKESSET	CASSETTE	CHAIN
Technology	Yaw™ / Double-Tap™ / Zero-Loss™ on Front and Rear / ErgoDynamics™ Fit/ Independent E-Z Access Shift / Brake Lever Reach Adjust™	Exact Actuation™ / Aero-Glide Pulleys™ / WiFLi	Yaw™ Shifting / Hybrid Cage/ Integrated Chain Spotter	Carbon Fiber Arms / X-Glide R™ chainrings/ Hidden Bolt configuration	GXP / Press-Fit GXP / BB30/ Press-Fit 30	Skeletonized Dual Pivot Design with Convex Washers/ Optimized Firecrest compatibility	Semi-spidered steel cogs	PowerChain™ / PowerLube™ / PowerLock™ / HollowPin™ / Chrome Hardened Pins
Speeds	11 Rear / 2 Front	11	2	2	N/A	N/A	11	11
Weight	307g (Pair)	178g	79g Braze-On / Chain Spotter 10.2g	755.5g (BB30 172.5mm 53x39 BB not included) / 820.8g (GXP 172.5mm 53x39 BB not included)	53g (BB30) / 105g (GXP)	280g (Pair)	231g (11-25T)	256g (PowerChain™ 1170 / 114 links)
Material // finish	Carbon / Aluminum // Hood Covers	Carbon Outer Cages / Aluminum Inner cage / Magnesium Inner link (Aluminum mid-cage) Aero Designed Stainless Steel hardware // Ice Grey & Black Anodized Finish	Steel Outer & Inner Cage / Composite Tail // Ice Grey & black Anodized Finish	Carbon Arms / Machined Alloy Ring & Spiders	CNC Alloy Cups / Steel bearings	Cold-Forged Aluminum Arms / Stainless Steel Pivot Bolt // Ice Grey & Black Anodized	Heat Treated Steel Cog Cluster / Aluminum Lock-ring	Nickel Silver / Silver PowerLock™
Compatibility	SRAM RED 22 & Force 22 Yaw™ Front Derailleurs / Exact Actuation™	SRAM RED 22 & Force 22 Rear Shift / Brake levers	SRAM RED 22 & Force 22 Front Shift / Brake levers	SRAM RED 22 & Force 22 Yaw™ Front Derailleurs / SRAM RED 22 & PC1170 chains	GXP / BB30 cranksets	SRAM Road Shift / Brake levers	SRAM RED 22 chain & SRAM PC-1170 chain	SRAM RED 22 & Force 22 Front & Rear derailleurs, Cranksets and cassettes



NO COMPROMISE

When we re-introduced SRAM RED in 2012 there was simply nothing more we could add to make it better. SRAM RED was all new, redesigned throughout, with innovations we've spent the past year touting and our athletes proving. It was loaded with features and benefits that matched the needs of professionals: fast, light, aerodynamic, ergonomic, near-silent, and, of course, trim-less, with ground breaking Yaw™ technology.

Adding two more gears to that combination was arguably the only improvement required. The added benefit is that now, without adding weight, we maintain a system that shifts incredibly fast upfront, and with the best and smoothest gear transitions in back. And, for the first time available anywhere, the system gives you twenty-two gears. No compromise and no trim, what we're calling True 22, in any gear combination. Welcome to SRAM RED 22.



- Completely rebuilt and redesigned throughout
- 11-speed Yaw™ front derailleur – no trim, rub , or rasp – with chainspotter – and even lighter!
- Hydraulic brake options: Hydraulic Road Rim braking (HRR) & Hydraulic Road Disc Braking (HRD)
 - Maintains lightweight leadership
 - WiFLi & Power Meter options

SRAM RED 22 SHIFT LEVERS

The SRAM RED 22 ErgoDynamic™ Shifters continue our philosophy of perfecting the interface between rider and bike. We have scrutinized everything, including the transition between handlebar and hoods, the grip texture, finger wrap, and the separate interfaces with both the shifter and brake lever. The result is an extremely comfortable, highly individual fit that makes the shifters feel like a natural extension of the rider.

- ErgoFit textured body improves grip and finger wrap with reduced diameter, providing better control, and a better transition to the bar.
- Individual Reach Adjust™ of brake and shift lever, now easier to access and uses a standard hex key, puts the controls exactly where you want them.
- Larger carbon ErgoBlade lever improves shifting from the drops.
- DoubleTap® technology delivers both shifts from the single lever.
- ZeroLoss™ shifting, shifts engage immediately.
- New clamp allows better fit and adjustment for modern carbon and ergo bars.

KEY TECHNOLOGIES

Double Tap

ErgoDynamics

ZeroLoss



SRAM YAW R2C 22 AERO SHIFTER LEVER

When we first launched the R2C (return to center shifter) we could have only hoped for the countless world-class triathlon and time trial wins, and it remains the shifting choice for 2012 Ironman™ winner Pete Jacobs. The new R2C 22 Aero Shifter features a wider surface for improved grasp, comfort, and our preferred lighter action. And despite other's attempts to copy, the fact remains that no other aero shifter moves the chain faster or puts you into the perfect aero position that you define, and return to that position, after every shift.

The narrow shifting blade is made of unidirectional carbon and has been shaped perfectly to fit between the thumb and the first finger. The inside titanium bolt enables you to adjust the initial position of the shift lever within a 40 degrees range for a 100% customized fit. Front and rear shifting are indexed for precise and flawless gear changes, and are refined for use with SRAM's 11-speed cassette and the new RED 22 and Force 22 groupsets. The SRAM R2C time trial shifters weigh in at 175g a pair.

- New ergo shaped lever design provides more rider control with less effort
- Two position Yaw™ front shifter is configured for rapid shift and forget, no trim shifting

KEY TECHNOLOGY

R2C



SRAM RED 22 REAR DERAILLEUR

Now refined for twenty-two speeds , the new SRAM RED 22 Rear Derailleur has been designed to deliver the performance advantage you have come to expect from SRAM. The derailleur is designed with our Exact Actuation™ technology for precise, efficient shifting. We have paid special attention to the finer details, like adding a hollow titanium anchor bolt and even refining tooth geometry of the jockey wheel. The result is that the chain runs through the new SRAM RED 22 Rear Derailleur smoother and quieter than ever before.

- Exact Actuation™ shifting provides fast, and accurate True 22 shifts.
- More clearance with 28t cassettes thanks to a longer B-knuckle.
- New silent shifting with optimized AeroGlide Pulleys™, ceramic bearings.
- New spring-fixed barrel adjuster.
- New chain pulley cage adds precise chain management.
- Titanium pinch bolt keeps a low profile while minimizing weight.
- WiFLi option

KEY TECHNOLOGIES

Exact Actuation

AeroGlide Pulleys



SRAM RED 22 FRONT DERAILLEUR

The SRAM RED 22 Front Derailleur changes everything, including offering every gear combination with no chain rub or rasp. Instead of simply moving back and forth, the derailleur cage actually rotates to maintain a consistent angular relationship with the chain. We call it Yaw™ Technology, and it eliminates the need for shifter trim. As a result, shifts feel more direct, more precise, and combined with the new SRAM RED crankset and chainrings, delivers an unmatched performance advantage in front shifting.

- Yaw™ cage rotates in line with chain, improving the shifting speed and precision while eliminating the need for shifter trim.
- Slim spring design eliminates frame interference.
- Optimized for shifting with X Glide R™ Chainrings.
- Best combination of aluminum and steel for the strongest and most durable cage we have ever made.
- Precision alignment markings.
- Integrated Chain Spotter protects your frame without adding any extra clunk, and adjusts independently of the derailleur itself.
- Two grams lighter than 10 speed version (69g)

KEY TECHNOLOGY

Yaw



SRAM RED 22 CRANKSET

Innovation often comes from places you would least expect. In order to make a lighter crankset, we made it bigger. To add stiffness, we used less material. The new SRAM RED 22 Exogram™ Crankset is completely hollow all the way to the spider. Its hidden bolt pattern makes better use of carbon fiber to further improve stiffness and shed weight. The stunning X Glide R™ chainrings are optimized for use with the Yaw™ Technology in the front derailleur, delivering seamless, flawless performance.

- Exogram™ technology uses a large, hollow cross section all the way to the spider, minimizing weight while maximizing stiffness. Our stiffest crank ever.
- Hidden bolt pattern leverages the characteristics of carbon fiber while presenting a sleek appearance.
- Stiffer X Glide R™ chainrings feature thicker construction, advanced shift timing pins and ramps, which are optimized for shifting with the Yaw™ Front Derailleur.
- GXP, PressFit, BB30, PressFit 30 availability.

KEY TECHNOLOGIES

Exogram X Glide^R



SRAM RED QUARQ 22 POWER METER

A lighter, more accurate power meter completely integrated with the philosophy and performance of SRAM RED. Advances in technology and performance paired with unrivaled ease-of-use. The sleek new geometry reduces system weight and delivers clearance for oversized frames and aerodynamic chainrings. The only visible power component is the low profile, all aluminum battery case. New stress flow lifts accuracy to +/- 1.5% and makes power measurement independent from chainring selection.


- Integrated electronics minimize interconnections and reduce exposure to the elements, bringing unmatched durability and reliability.
- Power Balance™ and ANT+™ give you compatibility, flexibility and every available metric
- ANT+™ ID is clearly visible to aid pairing and operation
- LED indicator signals power on and setting zero
- Tool-less, user-replaceable battery is a cycling industry standard CR2032
- OmniCal™: TT chainrings can be fitted without recalibration
- Rain, mud and snow; the waterproof design will survive the worst conditions



KEY TECHNOLOGIES

QUARQ

Exogram

Power Balance™ 

OmniCal™ 

SRAM X-GLIDE 1190 CASSETTE

The SRAM RED 22 Powerdome X™ is the most advanced cassette ever made. Super light, deadly silent, and precise. The nine cogs in the middle are machined from a single block of high-grade tool steel, increasing stiffness while weighing even less than a titanium cassette. Between each cog in the block sits a StealthRing™ elastomer to reduce vibration and noise. Cut-outs on the rear cog further reduce weight and add stiffness. And now with the addition of the 16T cog, it allows for a better cadence control.



- Hollow steel dome makes for the stiffest gear cluster ever at the lightest weight.
- Heat-treated, high-grade tool steel provide superlative durability and a beautiful finish.
- StealthRing™ elastomers and advanced tooth profiles eliminate vibration and noise for a smooth, silent ride.
- Aluminum cog: lighter, stiffer, stronger due to the design, material and production process.
- Gear ratio:
 - 11-25: 11,12,13,14,15,16,17,19,21,23,25
 - 11-26: 11,12,13,14,15,16,17,19,21,23,26
 - 11-28: 11,12,13,14,15,16,17,19,22,25,28
- WiFLi 11-32 cassette option
 - 11-32: 11,12,13,14,15,17,19,22,25,28,32

KEY TECHNOLOGIES

X Glide

Powerdome X

StealthRing

SRAM RED 22 CHAIN

The new SRAM RED 22 chain features more heavily chamfered outer plates for improved shifting and quieter running. Other advancements include a new inner plate finish plus chrome hardened pin construction, both for longer chain life. The HollowPin™ construction of SRAM's 11 speed chain provides smooth, precise shifting and weight savings without sacrificing strength.



- HollowPin™ technology equals strength, incredible shifting efficiency, and light weight.
- 242 grams, 114 links (PC 1090R weigh 250g).
- PowerLock™ silver connector, easiest install in the world.
- PowerLube™: high performance grease.

KEY TECHNOLOGIES

PowerChain *PowerLock* *PowerLube*

SRAM RED BRAKE CALIPERS

Your brakes should not slow you down until you squeeze the levers, that's why the SRAM RED brakeset has been created with a host of wind-cheating features to make the brake body more aerodynamic, helping you keep your speed until the moment you are ready. The new patented AeroLink™ arm reduces frontal area while improving braking performance and modulation. The brake body has been sculpted to provide a sleek aerodynamic profile to the wind. Even the smallest details, like the barrel adjuster, point away from the wind. And to finish off the package, Swiss-Stop® Flash Pro pads come standard with the brake. It's a better brake in every way.

- AeroLink™ arm amplifies braking power while reducing frontal area.
- Aero design extends to the shape of the indexed four-position quick release, the bladed barrel adjuster, low-profile pinch bolts, and recessed spring tension adjusters.
- Wider clearance for modern wheelsets.
- Lighter, aero pad retainers carry SwissStop® Flash Pro pads standard.

KEY TECHNOLOGY

AeroLink





HYDROR

Road braking has remained in the dark ages. Sure, they're shinier and lighter, but rudimentary. While frame and drive train development has been the stuff of modern space exploration, road braking has languished with the likes of horse shoes and buggy whips.

Until now.

SRAM, long a leader in hydraulic braking technology with our Avid brand, has reset the vision for road bike braking for the coming decade. Not unlike every other high speed conveyance, SRAM brings hydraulic technology to road cycling for multiple applications. Disc or rim brake, SRAM will stop what you've propelled, faster and with better modulation. Go ahead and go in deep.

WHY HYDRAULIC?

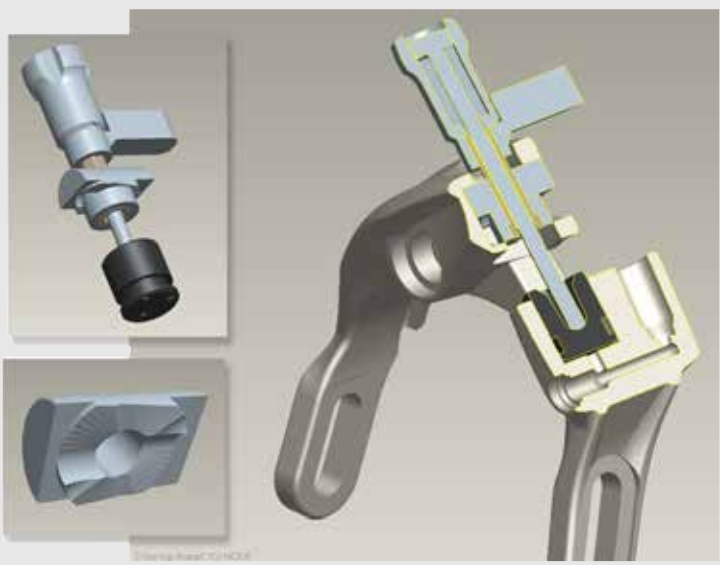
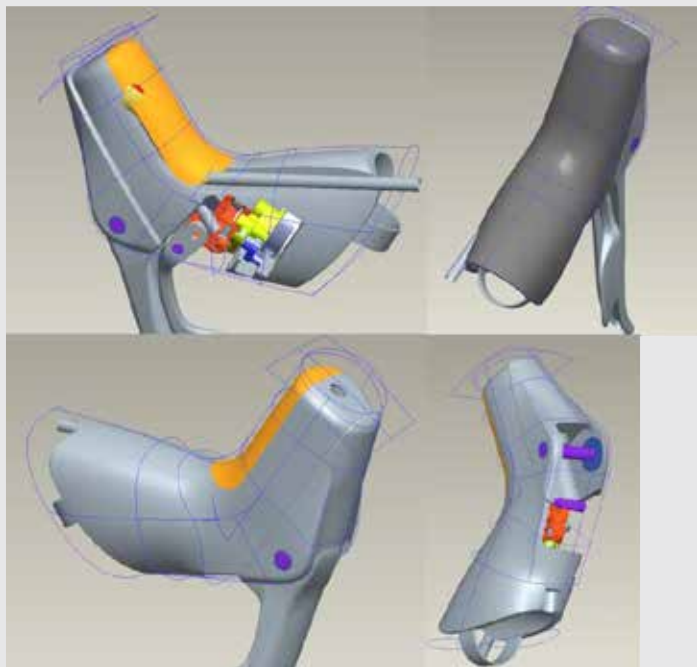
This is driven from a few directions. With all of the challenging braking conditions in Road and Cross, we still rely on old technology to slow us down.

Hydraulic Road Rim (HRR) brakes still face many of these challenges because we are relying on the same braking surface and friction materials (pads). We can however produce more braking force with less hand effort using hydraulics along with a sealed system that doesn't suffer from cable drag if installed on a frame with tight radii.

Hydraulic Road Disc (HRD) take this the next level. We can create more braking power and control by braking onto a steel rotor than we can achieve on any carbon or aluminium rim given the weight constraints of a wheel.

No heat is transferred into the tire or tube improving safety.

Wheel designs are free from the constraints of accommodating a braking surface.



SRAM RED 22 HYDRAULIC BRAKES

Master Cylinder and Shifter

- All new master cylinder specifically designed for road applications.
- New RED 22 shifter design and ergonomics including reach adjust.
- Standard & Moto options are available
- Lower hand forces required.
- Open system hydraulic
- Fully sealed system.
- Easy bleed access.

KEY TECHNOLOGY

Hydro^R



SRAM RED HYDRAULIC DISC BRAKE CALIPERS

Hydraulic Road Disc (HRD)

- Optimized power & modulation for road & cross.
- 19mm front/18mm rear pistons.
- Lower hand forces required.
- Road specific caliper and piston ratio.
- Fully sealed system.
- Quick-disconnect Banjo Option (OEM option).
- Rotors & caliper mounting spacers/brackets are sold separately.
- 160mm for pavement, 140mm option for off-road.
- 449 grams per wheel (Lever, Caliper, Hose and 160mm HSX rotor)

KEY TECHNOLOGY

Hydro^R



SRAM RED HYDRAULIC RIM BRAKE CALIPERS

Hydraulic Road Rim (HRR)

- Optimized power & modulation for road
- Quick Release
- Tools-free contact point adjust
- Tire clearance: 28c
- Firecrest™ rim compatibility (27.4mm)
- 387 grams per wheel (Lever, Caliper, Housing 600mm)

KEY TECHNOLOGY

Hydro^R



SRAM S-700 HYDRAULIC DISC BRAKE

- 10 Speed Compatible Only.
- Aluminum Shift and Brake levers.
- Steel-backed pads.
- Stainless hardware.
- HS1 rotors sold separately.
- 160mm for pavement; 140mm option for off-road.
- 493 grams per wheel (Lever, Caliper, Hose and 160mm HS1 rotor)

KEY TECHNOLOGY

Hydro^R



SRAM S-700 HYDRAULIC RIM BRAKE

- 10 Speed Compatible ONLY.
- Aluminum Shift and Brake levers.
- Stainless hardware.
- Quick Release.
- Tool-free contact point adjust.
- Tire clearance: 28c.
- Firecrest rim compatibility (27.4mm).
- 422 grams per wheel (Lever, Caliper, Housing 600mm)

KEY TECHNOLOGY

Hydro^R



SRAM CONNECTAMAJIG

The Connectamajig™ is the coupling hose that makes setting up your SRAM road hydraulic brake systems easy, fast and convenient. The intimidation of hydraulics is gone with a push and a twist, its just that easy. You can route your brake housing internally, and it works for SRAM's RED 22 and S-700 hydro systems.

- Intended Use: Option for installation of internal hose routing
- Bleed Free recoupling of the hose
- For Banjo Calipers only
- Road and Mountain bike compatible

KEY TECHNOLOGY

Connectamajig



ROTOR AND HARDWARE OPTIONS

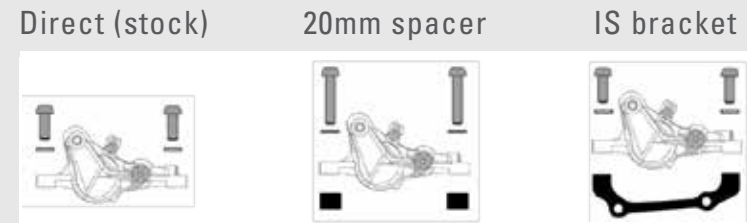
ROTOR options for RED 22 HRD & S700 HRD

- HSX 140mm Black (includes Ti bolts)
- HSX 160mm Black (includes Ti bolts)
- HSX CenterLock 140mm Black
- HSX CenterLock 160mm Black
- HS1 140mm
- HS1 160mm



MOUNTING HARDWARE options for RED 22 HRD & S700 HRD

- 20mm spacer set
- 0mm IS bracket
- 20mm IS bracket



SPECIFICATIONS



	SHIFTER	HYDRO SHIFTER	REAR DERAILLEUR	FRONT DERAILLEUR	CRANKSET	POWER METER	BRAKESSET	HYDRAULIC RIM BRAKESSET	HYDRAULIC DISC BRAKESSET	CASSETTE	CHAIN
Technology	Yaw™/Double-Tap™/Zero-Loss™ on Front and Rear / ErgoDynamics™ Fit / Independent E-Z Access Shift / Brake lever Reach Adjust™	Hydro®/Yaw™/Double-Tap™/Zero-Loss™ on Front and Rear / ErgoDynamics™ Fit / Independent E-Z Access Shift / Brake lever Reach Adjust™	Exact Actuation™ / AeroGlide Pulleys™ / High Grade Ceramic bearings™ / WIFLi	Yaw™ Shifting / Hybrid Cage / Integrated Chain Spotter	Exogram™ Hollow Crank Arm and Spider w / X Glide R™ Chainrings / Hidden Bolt Spider Tab	Quarq™ / Power Balance™ / OmniCal™ / ANT+™ / X Glide R™ Chainrings	Aerolink™ / Aero QR / Barrel Adjuster	Hydro® / Connectamajig®	Hydro® / Connectamajig®	Powerdome X™ / X Glide™ Cogs / StealthRings™	PowerChain™ / Powerlube™ / Powerlock™ / HollowPin™ / Chrome Hardened Pins
Speeds	11 Rear / 2 Front	11 Rear / 2 Front	11	2	2	2	N/A	N/A	N/A	11	11
Weight	280g (Pair)	Weight included in the Hydraulic Rim and Disc Brakesets	145g	69g Braze-On, Chain Spotter with hardware 10.2g	557g (BB30 172.5mm 53x39 BB not included) / 609g (GXP 172.5mm 53x39 BB not included)	778g (GXP 172.5mm 53x39 BB not included)	240g (Pair)	387 grams per wheel (Lever, Caliper, Housing 600mm)	449 grams per wheel (Lever, Caliper, Hose and 160mm HSX rotor)	151g (11-25T)	242g (SRAM RED 22 / 114 links)
Material // finish	Carbon / Titanium / Textured Hood Covers	Carbon / Titanium / Textured Hood Covers	Carbon Cages / Carbon Inner links / Aero Designed Titanium Hardware // Falcon Grey & Black Anodized Finish	Aluminum Outer Cage / Tool Steel Inner Cage / Composite Tail // Falcon Grey & black Anodized Finish	Carbon Arms / Machined Alloy Rings	Carbon Arms / Machined Alloy Spider & Rings	Cold-Forged Aluminum Arms / Aero Designed Pinch Bolt / Swiss-Stop® Pad Compound // Falcon Grey & black Anodized Finish	Forged Aluminum Arms / SwissStop® Pad Compound	Forged Aluminum Disc Caliper / Stainless steel backed pads / Titanium Hardware	High Grade Tool Steel Cog Cluster / Heat Treatment Process / Heat Treated Aluminum lowest Range Cog / Elastomer Rings	Nickel Silver / Silver PowerLock™
Compatibility	SRAM RED 22 & Force 22 Yaw™ Front Derailleurs / Exact Actuation™ Rear Derailleurs	SRAM RED 22 & Force 22 Yaw™ Front Derailleurs / Exact Actuation™ Rear Derailleurs / SRAM RED 22 HRR & HRD	SRAM RED 22 & Force 22 Rear Shift/Brake levers	SRAM RED 22 & Force 22 Front Shift/Brake levers	SRAM RED 22 & Force 22 Yaw™ Front Derailleurs / SRAM RED 22 & PC1170 chains	SRAM RED 22 & Force 22 Yaw™ Front Derailleurs / SRAM RED 22 & PC1170 chains	SRAM Road shifters	SRAM RED 22 Hydraulic Shift / Brake levers	SRAM RED 22 Hydraulic Shift / Brake levers	SRAM RED 22 chain & SRAM PC-1170 chain	SRAM RED 22 & Force 22 Front & Rear derailleurs, Cranksets and cassettes



MEDIA RESOURCES

All year long, the SRAM website provides you all the information about our products and technologies.

Our social media outlets: theroaddiaries.com, SRAM Facebook pages and SRAM Road Diaries Twitter take you behind the scenes with SRAM's exclusive interactive content to meet the world's greatest cyclists at the world's biggest races. Follow us and you will have access to stories and photos that are unique.



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www.theroaddiaries.com/



BILL KEITH



Bill Keith was our co-worker who passed away in the winter of 2013. When the tragic news hit us at SRAM, we collected and reflected on who Bill was. Many who read this also knew him well and knew he was a special person. He gave us so many things during his time, including professionalism, kindness, enthusiasm, and loyalty. BK was a true team player and as we've said, no collection of words can adequately define a life, nor a life lost. He was by definition our co-worker, our faithful product manager, but only for a short time relative to his time in the cycling industry. He was a dedicated husband to his wife Pam, a passionate athlete, a fanatic surfer, a loyal training partner, a good person, and a great friend. Bill was a person who absolutely squeezed the most out of every single day. We miss him.

A single page in our new product catalogue is hardly a tribute to a man we deeply cared for, but we want to continue to honor his memory and dedication to our sport and the products he helped define.

The logo you see we have created represents Bill's dedication to three of his favorite things: surf, triathlon, and family. While a large version will be placed on Bill's surfboard and proudly display it at SRAM HQ, we have decals that we hope you place on your bike in his memory.

To dedicate to World Bicycle Relief in Bill's memory, please visit:
<http://action.worldbicyclerelief.org/page/outreach/view/individual/billkeith>

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