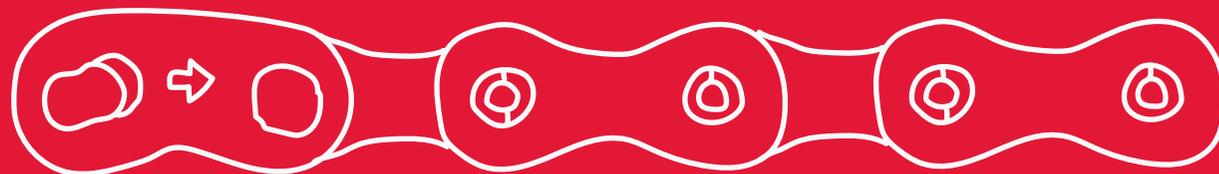


CHAIN ESSENTIALS GUIDE





NINO SCHURTER
2019 XCO WORLD CHAMPION



MADS PEDERSEN
2019 MEN'S ROAD WORLD CHAMPION



PAULINE FERRAND-PRÉVOT
2019 XCO WORLD CHAMPION



TOM PIDCOCK
2020 CYCLOCROSS WORLD CHAMPIONSHIPS SILVER MEDALIST



SAM HILL
2019 EWS WORLD CHAMPION



JAN FRODENO
3 X IRONMAN WORLD CHAMPION & OLYMPIC CHAMPION

**SRAM CHAINS COMBINE ADVANCED
GERMAN ENGINEERING WITH PRECISE
EUROPEAN MANUFACTURING TO PRODUCE
THE BEST CHAINS AVAILABLE.**

Whether your mountain, road, or e-bike has one speed or many, SRAM makes a chain for your application that delivers shifting performance and long-term durability that you can rely on—because regardless of price point—every SRAM chain is precisely manufactured in Portugal. Moreover, each chain plate profile, chamfer, radius, roller, pin, and surface treatment is German engineered to provide the smoothest shifting performance available. And to make our chains secure and simple to install, SRAM exclusively uses our PowerLock and PowerLink connecting links for the strongest possible connection.

Ridden to victory at both the Olympics and World Championships, SRAM chains are race proven at the highest level to ensure unrivalled performance. Because no matter how you ride, the chain is the vital link you rely on to deliver all of your energy to the rear wheel. Shift into peak performance with SRAM chains.

SRAM

THINGS TO REMEMBER



- 1** Chains play an absolutely essential role in the performance of your drivetrain. That's why SRAM carefully develops its chains in conjunction with the other drivetrain components (crankset/chainrings, rear derailleur, front derailleur, and cassette).
- 2** Advanced German engineering and precise Portuguese manufacturing offer the highest shifting performance and long-term durability.
- 3** SRAM offers a wide range of chain options for virtually every kind of drivetrain configuration, riding application, and price point.
- 4** SRAM exclusively uses its PowerLock and PowerLink connecting links for the strongest possible connection and it's ease of installation.
- 5** SRAM chains are race proven at the highest competition level to ensure unrivalled performance and strength.

Q & A

THE TRUTH ABOUT CHAINS

The humble bicycle chain is the most often neglected component of the bicycle drivetrain, despite its absolutely essential role in this carefully engineered mechanism. Every pedaling effort made by the rider is transmitted through the chain to propel the bicycle forward, yet little thought is typically given to understanding, selecting and maintaining this important component.

To better understand the technologies used in SRAM chains, learn how to select the right chain for your application and for tips on how to extend the usable lifespan of your chain, we've assembled this collection of frequently asked questions about chains.



How long has SRAM been making chains?

SRAM acquired Sachs' bicycle division in 1997. Based in Schweinfurt, Germany, Sachs had been making bicycle chains under their name since they purchased Sedis in the 80's. Sedis can trace their chain making lineage back as far as 1895.

Where are SRAM chains designed and made?

SRAM chains are designed and manufactured at our facility in Coimbra, Portugal. However, our drivetrains as a whole are engineered in Schweinfurt, Germany at the original Sachs' office location.

What are the major differences between the various grades of chains that SRAM makes such as the PC-1110, PC-1130, PC-1170, etc.?

We have an extensive line of chains that covers a broad range of price points. For details on what technologies and finishes are employed in each of our chains, please see the chain comparison chart.

Each of the technologies and finish options offer specific benefits to the user. To better understand this let's

take a closer look at our line of 11- and 12-speed chains: Our most affordable 11-speed chain, the PC-1110, uses polished links and a solid pin. The PC-1130 gains nickel-plated outer links for better corrosion resistance and appearance. The PC-1170 adds HollowPin technology for a lighter and stronger interface, and the RED 22 chain adds nickel-plated inner links as well for our lightest and most durable road chain.

Our X01 and XX1 Eagle 12-speed chains and our XX1 11-speed chains also use our HARD CHROME finish to deliver up to two times the elongation (wear) resistance compared to chains with polished links, making them especially well suited to MTB riding conditions.

When should a chain be replaced?

Typically the drivetrain industry standard is that you should replace the chain before reaching +1% elongation. With the use of aluminum alloys in the bicycle industry instead of steel, the number has decreased to just +0.8% elongation. The reason for this is to avoid irremediable wear on the sprockets. By replacing the chain before it is excessively worn you can extend the life of your drivetrain.

Once a chain is excessively elongated it can rapidly increase the amount of wear on the rest of the drivetrain.

Replacing chains early can save money that would otherwise need to be spent on replacing cassettes and chainrings as well.

You can check chain elongation with a chain checker tool. There are many available from various bicycle tool manufacturers.

SRAM chains use the same nominal pitch (distance between pins) as other chains on the market that are designated for a given number of speeds (e.g. 9, 10, 11, etc.).

Does this make SRAM chains cross compatible between various chain and drivetrain manufacturers?

Bicycle chains from all manufacturers use a 0.5" standard pitch (12.7mm), but SRAM designs and tests our 11- and 12-speed chains specifically and exclusively for use with our drivetrains. Furthermore, chains that are designated for specific mountain or road drivetrains such as our Eagle, XX1 and Flattop chains should only be used on the drivetrains they were designed for. However, our 8-, 9- and 10-speed chains were designed and tested to work also with Campy and Shimano drivetrains.

What about the design of SRAM 11- and 12-speed chains makes them uniquely suited to SRAM 11- and 12-speed drivetrains respectively?

Every detail of the inner and outer plate profile, coining, rounds and chamfers is engineered. The shape of the rollers and even the delta hardening and finish specification, which is responsible for fast and smooth shifting and a long service life, are made specifically to work with the shaping of the teeth, recesses, ramps, and pins on the chainrings and cassettes for which they were designed.

Why do SRAM chains use either a PowerLock or PowerLink for joining the chain?

PowerLock and PowerLink provide not only the most convenient tool-free way of joining a chain, but an incredibly strong and secure interface as well when compared to a replacement pin. PowerLock and PowerLink are also designed to clearly indicate when you've joined the chain properly. This is far preferable compared to a replacement pin arrangement where it can be difficult to ascertain whether the pin is at the correct insertion point.

The biggest difference between PowerLink and PowerLock is that

PowerLink can be opened and closed without tools as many times as you want, whereas the PowerLock is made for one-time use only and requires a tool to remove it from the chain.

What is the best way to lube a chain? Where does the lube need to go and what is the best way of getting it there?

To extend chain life, lube needs to be applied to the rollers of the chain in order to penetrate inside on the inner plates and pin contact areas. Applying lube directly to the rollers and letting it sit long enough to penetrate is recommended.

Does SRAM recommend any specific maintenance practices to extend the life of SRAM chains?

Clean your chain when it gets wet or dirty, don't let dirt sit on the chain, lube as necessary, but don't allow excess lube to sit on the chain either.

What products can or can't I use for cleaning the chain?

You should always follow SRAM user manual instructions and never use products not suitable for chains. Clean the chain with biodegradable cleaners only. Rinse thoroughly with water and allow the parts to dry, then lubricate

the chain. WARNING - Do not use acidic or grease-dissolving agents on the chain. Do not soak or store the chain in any cleaning product. They will become brittle and can break under load.

Should mechanics remove the stock chain lubricant and replace it with a thinner lubricant when installing a new chain?

No. Our factory lube is the highest quality chain lube available, not just a coating for shipping. Because it is applied with a sophisticated industrial process, it does not come with the inherent compromises of chain lubes in a bottle that have to balance performance properties with ease of application.

What is the best lube to use with a SRAM chain? Are there any lubricant types that should not be used?

We've found that "wet" lubes provide the longest chain service life, but as long as you're keeping your chain clean and lubing it with a chain lubricant at appropriate intervals, you can use any lube relevant to the conditions in which you're riding. Do not use anything that isn't specifically designed as a chain lube.

START HERE

WHAT SPEED IS YOUR REAR CASSETTE?

WHICH CHAIN IS BEST FOR YOU?

SPEED	CHAINRING / CASSETTE COMPAT.	SRAM CHAIN	INNER/OUTER COLOR	WEIGHT**	INNER/OUTER FINISH	PIN	PIN TREATMENT	CONNECTOR
12	1x Eagle Cassette Only	XX1 Eagle	Gold/Gold	239g	Chrome +PVD/Nickel +PVD	Hollow Pin	Chrome Hardened	PowerLock Eagle
			Black/Black	239g	Chrome +PVD/Nickel +PVD	Hollow Pin	Chrome Hardened	PowerLock Eagle
			Rainbow	239g	Chrome +PVD/Nickel +PVD	Hollow Pin	Chrome Hardened	PowerLock Eagle
			Copper	239g	Chrome +PVD/Nickel +PVD	Hollow Pin	Chrome Hardened	PowerLock Eagle
	1x Eagle Cassette Only	X01 Eagle	Silver/Silver	239g	Chrome/ Nickel	Hollow Pin	Chrome Hardened	PowerLock Eagle
	1x Eagle Cassette Only	GX Eagle	Silver/Silver	239g	Chrome/ Nickel	Hollow Pin	Chrome Hardened	PowerLock Eagle
11	1x Eagle Cassette Only	NX Eagle	Silver/Silver	239g	Chrome/ Nickel	Hollow Pin	Chrome Hardened	PowerLock Eagle
	1x / 2x Road AXS Cassette	SRAM RED	Silver/Silver		Chrome/ Nickel	Hollow Pin	Chrome Hardened	PowerLock Flattop
	1x / 2x Road AXS Cassette	SRAM Force	Silver/Silver		Chrome/ Nickel	Solid	Chrome Hardened	PowerLock Flattop
	1x 2x 3x	XX1	Silver/Silver	246g	Chrome/Nickel	Hollow Pin	Chrome Hardened	PowerLock 11-speed
	1x 2x 3x	RED 22 (Road Only)	Silver/Silver	246g	Nickel/Nickel	Hollow Pin	Chrome Hardened	PowerLock 11-speed
	1x 2x 3x	PC-1170	Grey/Silver	246g	Polished/Nickel	Hollow Pin	Chrome Hardened	PowerLock 11-speed
10	1x 2x 3x	PC-X1	Black/Silver	259g	Black Oxide/Nickel	Solid	Chrome Hardened	PowerLock 11-speed
	1x 2x 3x	PC-1130	Grey/Silver	259g	Polished/Nickel	Solid	Chrome Hardened	PowerLock 11-speed
	1x 2x 3x	PC-1110	Grey/Grey	259g	Polished/Polished	Solid	Chrome Hardened	PowerLock 11-speed
	1x* 2x 3x	PC-1091R (Cutout Plates)	Silver/Silver	251g	Nickel/Nickel	Hollow Pin	Chrome Hardened	PowerLock 10-speed
	1x* 2x 3x	PC-1071	Grey/Silver	259g	Polished/Nickel	Hollow Pin	Chrome Hardened	PowerLock 10-speed
	1x* 2x 3x	PC-1051	Silver/Silver	271g	Nickel/Nickel	Solid	Chrome Hardened	PowerLock 10-speed
9	1x* 2x 3x	PC-1031	Grey/Silver	271g	Polished/Nickel	Solid	Chrome Hardened	PowerLock 10-speed
	1x* 2x 3x	PC-971	Grey/Silver	297g	Polished/Nickel	Solid	Chrome Hardened	PowerLink 9-speed
	1x* 2x 3x	PC-951	Grey/Silver	297g	Polished/Polished	Solid	Chrome Hardened	PowerLink 9-speed
UP TO 8	1x* 2x 3x	PC-870	Grey/Silver	310g	Polished/Nickel	Solid	Chrome Hardened	PowerLink 8-speed
	1x* 2x 3x	PC-850	Grey/Grey	310g	Polished/Polished	Solid	Chrome Hardened	PowerLink 8-speed
	1x* 2x 3x	PC-830	Grey/Grey	310g	Polished/Polished	Solid	Hardened	PowerLink 8-speed
1	1x 2x 3x	PC-1	Silver/Silver	328g	Nickel/Nickel	Step	Heat Treated	SnapLock
E	1x 2x 3x	EX1 (E-Bike Only)	Grey/Silver	271g	Polished/Nickel	Solid	Chrome Hardened	PowerLock 10-speed



Reusable

* We recommend using a guide for this application. ** 114 links

SRAM CHAIN TECHNOLOGIES

HARD CHROME

Found on our 12-speed XX1 Eagle, X01 Eagle and 11-speed XX1 chains. SRAM HARD CHROME chains have two times the elongation (wear) resistance of our other MTB chains. This is due to a new finishing process on the inner links and rollers. Push pin strength and ultimate strength are equivalent to our current chains. The HARD CHROME chain lasts longer and is just as strong.

Flow Link

Developed for our 12-speed Eagle chains, FLOW LINK chains feature ultra-smooth chain inner-plates that are completely devoid of square edges, resulting in a chain that engages the cassette and chainring with far less friction, for quieter performance and better wear

life. The design allows a narrower overall profile that can withstand greater angles, and also allows for a flatter outer-plate, which means more consistent chain riveting and enhanced overall strength.

PowerChain II

Extremely strong. Incredibly precise. SRAM's PowerChain II increases front and load shifting performance without sacrificing rear shifting precision. The Step2 riveting process increases the push pin power for increased strength and durability.

PowerLock

Used with our 10-, 11- and 12-speed chains, SRAM chain engineers developed PowerLock as a tool free, sure and consistent way to connect our chains. While PowerLock does

not require special tools for install, the especially tight tolerances of 10-, 11- and 12-speed drivetrains mandate that each PowerLock is good for a one-time application only.

PowerLink

Employed to join our 8- and 9-speed chains, PowerLink provides a tool-free way to install and remove chains for easy maintenance and cleaning. Our PowerLink also provides an incredibly strong and simple method for joining chains.

HollowPin

Found on our PC-991 9-speed chains; PC-1091R, PC-1091 and PC-1071 10-speed chains; and our 11-speed RED 22 and PC-1170 chains, we employ HollowPin construction. HollowPin yields plate retention strength, front

and rear shifting efficiency and low weight benchmarks unreachable in solid pin chain applications.

PowerLube

All SRAM chains are coated both inside and out at our Coimbra, Portugal factory with our specially formulated PowerLube to provide the longest lasting, best protecting lubricant available to extend the life of the chain and deliver smooth and quiet operation.

Flattop

To enable X-Range gearing technology, we developed a narrower chain. The unique link shape of Flattop technology not only allowed for a wider gear range, but also results in quieter drivetrain operation and increased chain strength and durability.

The image features a dense, textured background of bicycle chain links in various colors including orange, silver, and dark grey. The links are scattered across the frame, creating a complex, repeating pattern. In the center, the word "SRAM" is printed in a bold, italicized, white sans-serif font. The overall aesthetic is industrial and technical.

SRAM