SRAM®

2016-2019
Level™/Level T

service manual

GEN.0000000005817 Rev B

SRAM® LLC WARRANTY

EXTENT OF LIMITED WARRANTY

Except as otherwise set forth herein, SRAM warrants its products to be free from defects in materials or workmanship for a period of two years after original purchase. This warranty only applies to the original owner and is not transferable. Claims under this warranty must be made through the retailer where the bicycle or the SRAM component was purchased. Original proof of purchase is required. **Except as described herein, SRAM makes no other warranties, guaranties, or representations of any type (express or implied), and all warranties (including any implied warranties of reasonable care, merchantibility, or fitness for a particular purpose) are hereby disclaimed.**

LOCAL LAW

This warranty statement gives the customer specific legal rights. The customer may also have other rights which vary from state to state (USA), from province to province (Canada), and from country to country elsewhere in the world.

To the extent that this warranty statement is inconsistent with the local law, this warranty shall be deemed modified to be consistent with such law, under such local law, certain disclaimers and limitations of this warranty statement may apply to the customer. For example, some states in the United States of America, as well as some governments outside of the United States (including provinces in Canada) may:

a. Preclude the disclaimers and limitations of this warranty statement from limiting the statutory rights of the consumer (e.g. United Kingdom).

b. Otherwise restrict the ability of a manufacturer to enforce such disclaimers or limitations.

For Australian customers:
This SRAM limited warranty is provided in Australia by SRAM LLC, 1000 W. Fulton Market, 4th Floor, Chicago, IL, 60607, USA. To make a warranty claim please contact the retailer from whom you purchased this SRAM product. Alternatively, you may make a claim by contacting SRAM Australia, 6 Marco Court, Rowville 3178, Australia. For valid claims SRAM will, at its option, either repair or replace your SRAM product. Any expenses incurred in making the warranty claim are your responsibility. The benefits given by this warranty are additional to other rights and remedies that you may have under laws relating to our products. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

LIMITATIONS OF LIABILITY

To the extent allowed by local law, except for the obligations specifically set forth in this warranty statement, in no event shall SRAM or its third party suppliers be liable for direct, indirect, special, incidental, or consequential damages.

LIMITATIONS OF WARRANTY

This warranty does not apply to products that have been incorrectly installed and/or adjusted according to the respective SRAM user manual. The SRAM user manuals can be found online at sram.com, rockshox.com, avidbike.com, truvativ.com, or zipp.com.

This warranty does not apply to damage to the product caused by a crash, impact, abuse of the product, non-compliance with manufacturers specifications of usage or any other circumstances in which the product has been subjected to forces or loads beyond its design.

This warranty does not apply when the product has been modified, including, but not limited to any attempt to open or repair any electronic and electronic related components, including the motor, controller, battery packs, wiring harnesses, switches, and chargers.

This warranty does not apply when the serial number or production code has been deliberately altered, defaced or removed.

This warranty does not apply to normal wear and tear. Wear and tear parts are subject to damage as a result of normal use, failure to service according to SRAM recommendations and/or riding or installation in conditions or applications other than recommended.

Wear and tear parts are identified as:

- Dust seals
- Bushings
- Air sealing o-rings
- Glide rings
- Rubber moving parts
- Foam rings
- Rear shock mounting hardware and main seals
- Upper tubes (stanchions)
- Stripped threads/bolts (aluminium, titanium, magnesium or steel)
- Brake sleeves
- Brake pads
- Chains
- Sprockets
- Cassettes
- Shifter and brake cables (inner and outer)
- Handlebar grips
- Shifter grips
- Jockey wheels
- Disc brake rotors
- Wheel braking surfaces
- Bottomout pads
- Bearings
- Bearing races
- Pawls
- Transmission gears
- Spokes
- Free hubs
- Aero bar pads
- Corrosion
- Tools
- Motors
- Batteries

Notwithstanding anything else set forth herein, the battery pack and charger warranty does not include damage from power surges, use of improper charger, improper maintenance, or such other misuse.

This warranty shall not cover damages caused by the use of parts of different manufacturers.

This warranty shall not cover damages caused by the use of parts that are not compatible, suitable and/or authorised by SRAM for use with SRAM components.

This warranty shall not cover damages resulting from commercial (rental) use.

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SAFETY FIRST!

We care about YOU. Please, always wear your safety glasses and protective gloves when servicing SRAM® products.
Protect yourself! Wear your safety gear!

SRAM® Level™ Brake Systems Service

We recommend that you have your SRAM Level components serviced by a qualified bicycle mechanic. Servicing SRAM components requires knowledge of bicycle mechanics as well as the special tools and lubricants/fluids used for service.

SRAM brake systems need to be serviced periodically to optimize braking function. If brake fluid is leaking from any area of the brake there may be damage or wear and tear to the internal moving parts. If the system has been contaminated with the wrong fluid there may be damage to all rubber and plastic internal parts. If your brake was damaged in a crash there may be damage to the lever blade, pushrod, and housing assemblies. Inspect and replace these parts to restore proper brake function.

Only Level and Level T calipers may be serviced. **Level and Level T levers are not serviceable**. Only clean Level and Level T levers with soap and water.

Visit www.sram.com/service for the latest SRAM Spare Parts catalog and technical information. For order information, please contact your local SRAM distributor or dealer.

For recycling and environmental compliance information, please visit www.sram.com/company/environment.

Information contained in this publication is subject to change at any time without prior notice. Your product's appearance may differ from the pictures contained in this publication.

SAFETY INSTRUCTIONS

Do not use mineral oil or DOT 5 fluid.

If the brake system has been contaminated with mineral oil or DOT 5 fluid, flush all of the parts with soapy water, rinse them with clean water, then allow all the parts to dry prior to rebuilding. Install new seals, a new bladder, and replace the hose.

For best results, use only SRAM High-Performance DOT 5.1 fluid. If SRAM brake fluid is not available, only use DOT 5.1 or 4 fluid.

Use only DOT compatible grease.

Always wear safety glasses and nitrile gloves when working with DOT brake fluid.

Used DOT brake fluid should be recycled or disposed of in accordance to local and federal regulations.

Never pour DOT brake fluid down a sewage or drainage system or into the groun d or a body of water.

Do not allow any brake fluid to come in contact with the brake pads. If this occurs, the pads are contaminated and must be replaced.

Place an oil pan on the floor underneath the area where you will be working on the brake.

Servicing your brakes removes all of the brake fluid from the system. You must bleed your brakes after you service the brake system. Consult the *SRAM MTB Disc Brake Hose Shortening and Bleed Manual* at www.sram.com/service.

⚠CAUTION

Do not use mineral oil or DOT 5 fluid. Do not use tools, rags, or syringes that are contaminated with mineral oil or DOT 5 fluid. Using contaminated materials will result in permanent damage to the seals and reduce braking performance. Brakes must be replaced if contaiminated with mineral oil or DOT 5 fluid.

Service Procedures

The following procedures should be performed throughout service, unless otherwise specified.

Clean the part with isopropyl alcohol and a clean, lint-free rag.

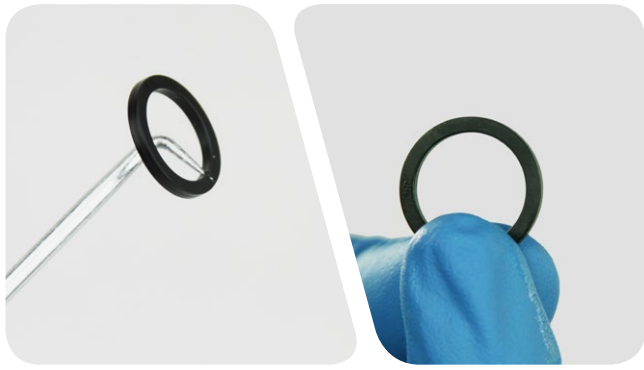
Clean the sealing surface on the part and inspect it for scratches.

Replace the o-ring or seal with a new one from the service kit. Use your fingers, a ziptie, or a pick to pierce and remove the old seal or o-ring.

Apply DOT grease to the new seal or o-ring when instructed.

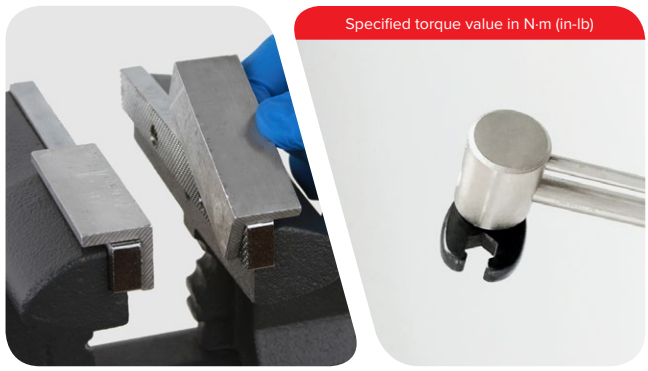
NOTICE

Do not scratch any sealing surfaces when servicing the product. Scratches can cause leaks. Consult the spare parts catalog to replace the damaged part.



Use aluminum soft jaws when placing a part in a bench vise.

Tighten the part with a torque wrench to the torque value listed in the red bar. hen using a crowfoot socket and torque wrench, install the crowfoot socket at 90 degrees to the torque wrench.



NOTICE

Do not apply DOT brake fluid or grease to caliper pistons when performing troubleshooting procedures. Use of DOT brake fluid or grease can diminish braking performance and cause rotor rubbing.

If your brakes exhibit excessive lever throw or spongy feel, perform the following steps before bleeding the system:

1. Clamp the bicycle into a bicycle work stand.
2. Remove the wheel from the affected caliper.
3. Remove the brake pads.
4. Install the pad spacer.
5. Squeeze the brake lever several times until the pistons have advanced and contact the pad spacer. One piston may move faster than the other; continue to squeeze the lever until the pistons touch the spacer.
6. Remove the pad spacer.
7. Use a plastic tire lever to push the pistons back into the caliper bores.
8. Repeat steps 4-7 until the pistons move freely.
9. Install the brake pads and the wheel.
10. Loosen the caliper bolts.
11. Lightly squeeze (approx. 4 lbs) the brake lever several times to position the brake pads to the proper distance from the rotor.
12. Center the caliper on the rotor, and tighten the caliper bolts.
13. Spin the wheel and check the brake function. The pistons should move freely and there should not be excessive brake lever throw. If there is no improvement in the brake function, proceed with caliper service.

Parts and Tools Needed for Service

Parts

- Hydraulic Disc Brake Hose Fitting Kit
- Caliper Piston Kit (includes 2-21mm caliper pistons, seals & o-rings

Safety and Protection Supplies

- Safety glasses
- Nitrile gloves
- Oil pan
- Clean, lint-free rag

Lubricants and Fluids

- Isopropyl alcohol
- SRAM® High-Performance DOT 5.1 fluid. If SRAM fluid is not available, only use DOT 5.1 or 4 fluid.
- SRAM or AVID® DOT grease. If SRAM or AVID DOT grease is not available only use a DOT compatible grease.

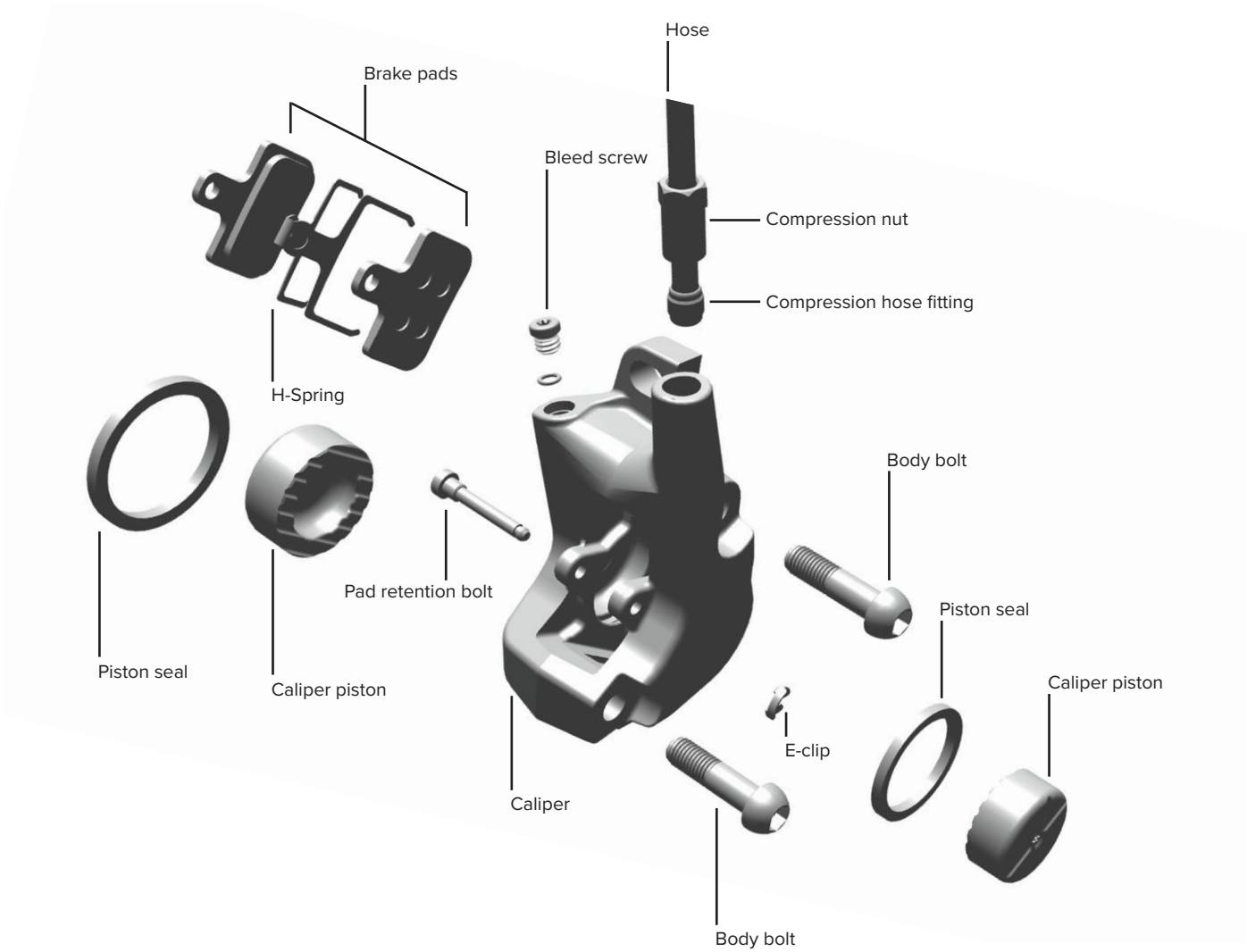
Common Tools

- 2.5 mm hex wrench
- 5 mm hex bit socket
- 8 mm flare nut wrench
- 8 mm open end wrench and crowfoot
- Digital caliper
- Needle nose pliers
- Pick with a 90 degree bent tip
- Rubber tipped blow gun chuck
- Soft rubber or piece of inner tube
- Torque wrench

SRAM Tools

- SRAM Brake Bleed Kit (includes: Bleed Block and Bleeding Edge™ Fitting)

Caliper Exploded View



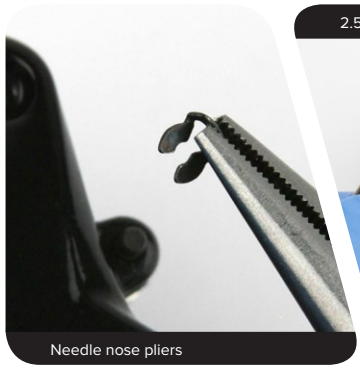
Caliper Brake Pad Removal

1 Use a 5 mm hex wrench to remove the brake caliper from the fork or frame.

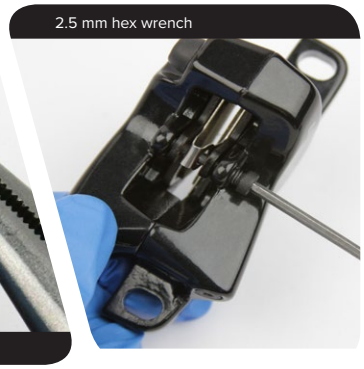
Remove the caliper mounting bracket and hardware from the caliper, then set the bracket and hardware aside in the order they were removed.

2 Remove the E-clip from the pad retention bolt.

Remove the pad pin from the caliper.



Needle nose pliers

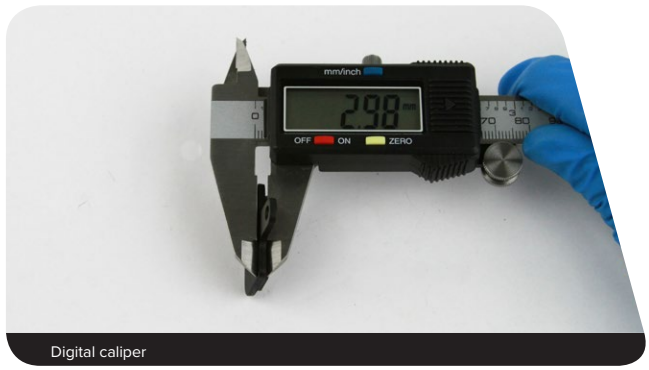


2.5 mm hex wrench

3 Remove the brake pads from of the caliper.

NOTICE

Brake pads must be replaced if the total thickness of the backing plate and pad friction material is less than 3 mm.



Digital caliper

Caliper Piston Removal

NOTICE

DOT brake fluid will damage painted surfaces. If any fluid comes in contact with a painted surface (i.e. your frame) or printing on the brakes, wipe it off immediately and clean it with isopropyl alcohol or water. Damage to painted and/or printed surfaces by DOT brake fluid is not covered under warranty.

1 Remove the compression nut

Pull the brake hose and fitting from the caliper hose port.

Hold the caliper over a container to catch any fluid that may leak.

8 mm Flare nut wrench

2 Remove the caliper body bolts.

5 mm hex wrench

3 Separate the caliper body halves.

4 Place each caliper half, piston side down, on a soft rubber mat or a small section of inner tube on a flat surface.

Insert a rubber-tipped blow gun chuck nozzle into the caliper hose port.

⚠CAUTION - EYE HAZARD

Wear safety glasses.

The caliper piston may dislodge rapidly from the caliper, which can lead to bodily injury or damage to the parts. Point the caliper piston toward a rubber surface before forcing air into the caliper.

Use the air chuck to force air into the caliper hose port and dislodge the piston from the caliper.

Remove the piston from the caliper.

5 Pierce the piston seal with a pick, then remove the piston seal from inside both the inboard and outboard half of the caliper body and install a new seal inside each caliper body half.

NOTICE

Do not scratch the seal gland with a pick. Scratches can result in a slow fluid leak when the brake is applied.

6 Spray isopropyl alcohol on inside and outside of the caliper halves and both of your gloves, and clean them with a rag.

Caliper Piston Installation

NOTICE

DOT brake fluid will damage painted surfaces. If any fluid comes in contact with a painted surface (i.e. your frame) or printing on the brakes, wipe it off immediately and clean it with isopropyl alcohol or water. Damage to painted and/or printed surfaces by DOT brake fluid is not covered under warranty.

1 Inspect the caliper pistons for damage and replace the pistons if necessary.

Apply a small amount of SRAM® High-Performance DOT 5.1 fluid to each piston. Install a piston into each of the caliper body halves so that the piston grooves are aligned as shown.

You can also use Avid® DOT Grease or DOT 5.1 or 4 compatible grease as a lubricant.

2 Remove the caliper o-ring from the inboard caliper half then install a new o-ring.

3 Align the caliper body halves, then install each body bolt.

Tighten each body bolt to 9.8-11.8 N·m (87-104 in-lb).

4 Tighten the compression nut and hose fitting to 5-5.4 N·m (44-48 in-lb).

Install a crowfoot socket at 90 degrees to the torque wrench to ensure an accurate torque value.

5 Insert the Level™ bleed block into the caliper.

⚠WARNING

You must bleed your brakes before reinstalling the brake pads. Installing the brake pads prior to bleeding the brakes could contaminate the brake pads and lead to a brake failure.

6 Spray isopropyl alcohol on the caliper and clean it with a rag.

⚠CAUTION

Servicing your brakes removes all of the fluid from the system.

You must bleed the brakes after you service the brake caliper and/or lever.

For brake bleed and brake hose shortening instructions, visit www.sram.com/service.

Disc Brake Pad and Rotor Bed-in Procedure

All new brake pads and rotors should be put through a wear-in process called 'bed-in'. The bed-in procedure, which should be performed prior to your first ride, ensures the most consistent and powerful braking feel along with the quietest braking in most riding conditions. The bed-in process heats up the brake pads and rotors, which deposits an even layer of brake pad material (transfer layer) to the braking surface of the rotor. This transfer layer optimizes braking performance. To watch a video of the bed-in procedure, visit www.sram.com/service.

⚠WARNING- CRASH HAZARD

The bed-in process requires you to perform heavy braking. You must be familiar with the power and operation of disc brakes. Braking heavily when not familiar with the power and operation of disc brakes could cause you to crash, which could lead to serious injury and/or death. If you are unfamiliar with the power and operation of disc brakes, you should have the bed-in process performed by a qualified bicycle mechanic.

To safely achieve optimal results, remain seated on the bike during the entire bed-in procedure. Do not lock up the wheels at any point during the bed-in procedure.

- Accelerate the bike to a moderate speed, then firmly apply the brakes until you are at walking speed. Repeat approximately twenty times.
- Accelerate the bike to a faster speed, then very firmly apply the brakes until you are at walking speed. Repeat approximately ten times.
- Allow the brakes to cool prior to any additional riding.
- After the bed-in procedure has been performed, the caliper may need to be re-centered.

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