Mineral Oil MTB Disc Brake Installation, Hose Shortening, and Bleed Manual

Bleed Manuals

Models: db-db8-a1

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REMOVE

Remove the component as indicated, either by hand or with a specified tool.

APPLY GREASE

Apply grease to lubricate and protect components from friction and/or moisture.

TORQUE

Tighten a fastener to a specified value, or apply a tightening force.

INSTALL

Install the component in the indicated position by pressing, attaching, or placing.

APPLY FRICTION PASTE

Apply friction paste to prevent movement between surfaces.

MEASURE

Measure a length or distance to a specified value.

Tools and Supplies

SAFETY AND PROTECTION SUPPLIES

SAFETY GLASSES

NITRILE GLOVES

APRON

SHOP TOWELS

LUBRICANTS AND FLUIDS

FRICTION PASTE

HYDRAULIC BRAKE GREASE

MAXIMA MINERAL BRAKE OIL

ISOPROPYL ALCOHOL

BICYCLE TOOLS

BRAKE HOSE CUTTER

BLEED BLOCK

UNIVERSAL BLEED BLOCK

PAD SPACER

ULTIMATE PISTON PRESS

MINERAL OIL SYRINGES

BICYCLE REPAIR STAND

COMMON TOOLS

SOCKET WRENCH

OPEN END WRENCH

8 mm

CROWFOOT

8 mm

HEX WRENCHES

2.5, 3, 4, 5 mm

HEX BIT SOCKET

2.5, 3, 4, 5, mm

TORX WRENCHES

T8, T25

TORX BIT SOCKETS

T10

TORQUE WRENCH

DIGITAL CALIPERS

Safety and Precautions

General Safety

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!

Precautions and Warnings

SAFETY INSTRUCTIONS

You must read and understand the Safety Instructions document included with your product before proceeding with the installation. Improperly installed components are extremely dangerous and could result in severe and/or fatal injuries. If you have any questions about the installation of these components, consult a qualified bicycle mechanic. This document is also available on www.sram.com.

1. Follow the safety instructions listed here. Any failure to follow these safety instructions could cause you to crash while riding your bicycle, which could result in serious and/or fatal injuries.

2. SRAM hydraulic disc brakes are intended for single-rider use; they are not intended for multi-rider cycling equipment.

3. Have your brakes installed, secured, and maintained by a qualified bicycle mechanic.

4. Brakes are a safety-critical component of a bicycle. Improper installation or use of brakes can result in loss of control of the bicycle which can lead to a crash that can cause severe injury and/or death. Follow the instructions in the user manual for proper installation.

5. Disc brakes offer increased stopping power over rim brakes and take less effort to lock-up a wheel when braking. Wheel lockup may cause you to lose control and lead to injury. Practice braking techniques on a flat level surface prior to aggressive riding.

6. Braking effectiveness is dependent on many conditions over which SRAM has no control including: bicycle speed, braking force, condition of the bike, weight of the rider, weather, terrain, and a variety of other factors. Always ride under control. It takes longer to stop in wet conditions. To reduce the possibility of a crash avoid locking-up your wheels.

7. If using SRAM Mineral Oil brakes in temperatures below -20°C (-4°F), you may experience reduced braking performance. SRAM recommends using a SRAM DOT fluid hydraulic brake system if you ride at or below these temperatures.

8. SRAM disc brakes are designed as a system. Do not use brake components from a manufacturer other than SRAM.

9. Use only DOT 4 or DOT 5.1 brake fluids with SRAM DOT fluid hydraulic brakes. Use only Maxima Mineral Brake oil in SRAM mineral oil brakes. Use of any other fluid or oil may damage the system and make the brakes unsafe to use.

10. Do not allow any brake fluid or oil to contact the brake pads. If this occurs, the pads are contaminated and must be replaced.

11. Do not allow any brake fluid or oil to contact the rotors. If this occurs, clean the rotors with isopropyl alcohol.

12. Do not touch the braking surface of the rotor with your bare hands. The oils from your fingers will degrade braking performance. Always wear gloves or handle the rotor by the spokes.

13. Do not touch disc brake rotors or calipers immediately after use; they become very hot during use and could cause burns. Allow them to cool prior to making any adjustments.

14. Do not use SRAM hydraulic disc brakes with radially spoked wheels.

⚠ WARNING

CRASH HAZARD

Do not use DOT 4 or DOT 5.1 brake fluids. Use only Maxima Mineral brake oil with SRAM Mineral oil hydraulic brakes. Do not use any other oil or fluid; it will damage the system and make the brakes unsafe to use, which could lead to serious injury and/or death.

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.

NOTICE

SRAM components are designed for use only on pedal-powered or pedal-assisted bicycles (e-Bike/Pedelec).

Warranty and Trademark

Consult sram.com/service whenever a separate manual is referenced in this document.

Read the full warranty policy for your components at sram.com/en/service/warranty.

For information about trademarks used in this manual, visit sram.com/website-terms-of-use.

Tool List

Highly specialized tools and supplies are required for the replacement and maintenance of your SRAM components. We recommend that you have a qualified SRAM dealer work on your SRAM components.

Tools and Supplies

SAFETY AND PROTECTION SUPPLIES

SAFETY GLASSES

NITRILE GLOVES

APRON

SHOP TOWELS

LUBRICANTS AND FLUIDS

FRICTION PASTE

HYDRAULIC BRAKE GREASE

MAXIMA MINERAL BRAKE OIL

ISOPROPYL ALCOHOL

BICYCLE TOOLS

BRAKE HOSE CUTTER

BLEED BLOCK

UNIVERSAL BLEED BLOCK

PAD SPACER

ULTIMATE PISTON PRESS

MINERAL OIL SYRINGES

BICYCLE REPAIR STAND

COMMON TOOLS

SOCKET WRENCH

OPEN END WRENCH

8 mm

CROWFOOT

8 mm

HEX WRENCHES

2.5, 3, 4, 5 mm

HEX BIT SOCKET

2.5, 3, 4, 5, mm

TORX WRENCHES

T8, T25

TORX BIT SOCKETS

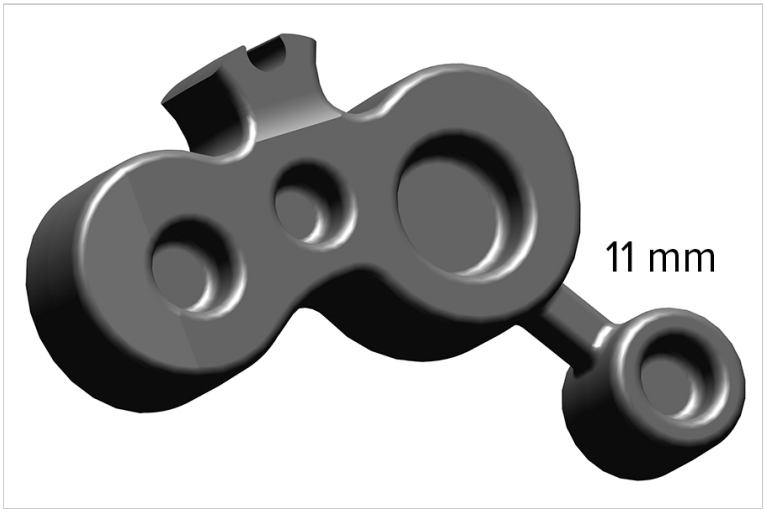
T10

TORQUE WRENCH

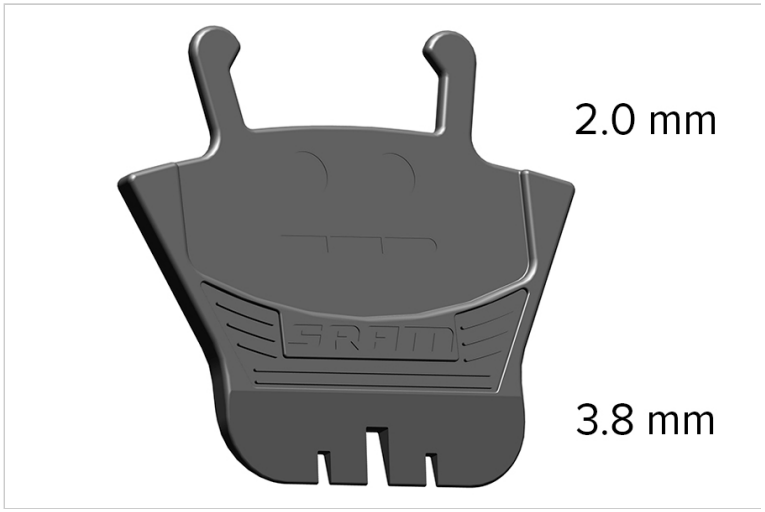
DIGITAL CALIPERS

Bleed Blocks and Pad Spacers

Maven

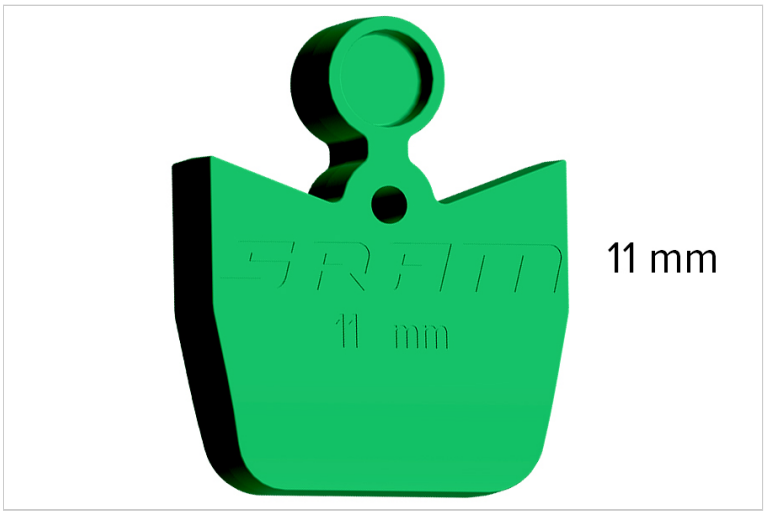


Bleed Block



Pad Spacer

Motive / DB8 / DB6 / DB4



Bleed Block

Pad Spacer

Ultimate Piston Press

Universal Bleed Block

The SRAM Ultimate Piston Press can be used as a bleed block.

All Disc Brake Calipers

Piston Massage Spacer

Use the Piston Massage Spacer in the *Troubleshooting - Disc Brake Piston Massage* section.

Universal Bleed Block

Remove the wheel from the bicycle according to the wheel manufacturer's instructions.

1. Remove the brake pads as shown in the *Prepare the Caliper* section.

2. Fully extend the Universal Bleed Block.

3. Install the bleed block into the caliper. Align the bleed block with the pad retaining bolt hole and install the pad retainer bolt.

4. Install the Pad Retainer Bolt.

5. Press down on the handle of the bleed block expanding the wedge until it cannot expand further.

Proceed with the bleed procedure.

2.5 mm

6. Remove the pad retainer bolt.

7. Remove the Universal Bleed Block.

8. Clean the pistons and caliper before installing the brake pads.

9. Install the brake pads as shown in the *Install the Brake Pads* section.

Rotor Wear

1. Fully extend the universal bleed block.

1.7 mm Min.

1.55 mm Min.

Use the appropriate slot to measure your rotors (1.55 & 1.7 Min.)

2. Use the slot to determine if the rotor is at the minimum recommended width it must be replaced.

Rotor wear will vary by product model. This is normal. Change the rotor when changing the pad material, or when the thickness is less than the minimum stated on the rotor: 1.55 mm for 1.85 mm rotors and 1.7 mm for 2 mm thick rotors.

Clamp Installation

MatchMaker X Installation

NOTICE

SRAM brake, shifter, and remote clamps are designed for use with 22.2 mm diameter handlebars.

T25
4 mm
3 N·m (27 in-lb)

T25
4 mm
5.5 N·m (49 in-lb)

1. Install the MatchMaker X (MMX) mount to the Controller or shifter.

2. Tighten the bolt MMX mount bolt.

3. Install the T-nut into the MMX clamp and onto the MMX mount.

4. Tighten the bolt.

5. Apply friction paste to the clamp surfaces.

6. Install the MMX Clamp and brake lever onto the handlebar. Install the clamp bolt.

7. Tighten the clamp bolt.

8. The clamp near the bolt head must be flush with the lever body. There may be a slight gap opposite the bolt head, this is okay.

⚠ WARNING

Apply friction paste to the inner clamping surface when installing on carbon fiber handlebars. Failure to do so may lead to the clamp slipping which may cause the rider to crash, resulting in serious injury or death.

Discrete Clamp Installation

⚠ WARNING

Apply friction paste to the inner clamping surface when installing on carbon fiber handlebars. Failure to do so may lead to the clamp slipping which may cause the rider to crash, resulting in serious injury or death.

NOTICE

SRAM brake, shifter, and remote clamps are designed for use with 22.2 mm diameter handlebars.

3. Shifter Clamp; T25/4 mm - 2 N·m (18 in-lb)
4. Brake Clamp; T25/4 mm - 5.5 N·m (49 in-lb)

1. Apply friction paste to the clamp surfaces.

2. Install the Discrete Clamp onto the handlebar.

3. Install the shifter onto the clamp and tighten the Discrete Clamp bolt.

4. Install the brake onto the clamp and tighten the Discrete Clamp bolt.

Reach Adjustment

Rotate the lever Reach Adjust knob or hex adjuster to move the lever blade closer to the handlebar.

Rotor Size Recommendation Chart

RECOMMENDED ROTOR SIZE (REAR/FRONT) (MM) [1]

SYSTEM WEIGHT (RIDER + BIKE)	ROAD, GRAVEL, CYCLOCROSS [2]	CARGO/E-CARGO, E-COMMUTER [3]	CROSS-COUNTRY [3]	TRAIL [3]	DO
<140 lbs (63 kgs)	140	160	160	160	180
140-170 lbs (63-77 kg)	140 R / 160 F	160 R / 180 F	160 R / 180 F	160 R / 180 F	180
170-200 lbs (77-91 kg)	140 R / 160 F	160 R / 180 F	160 R / 180 F	180 R / 200 F	180
200-230 lbs (91-104 kg)	160	180	180	180 R / 200 F	180
230-260 lbs (104-118 kg)	160	180	180	180 R / 200 F	200
260-290 lbs (118-132 kg)	160 R / 180 F	180	180	200	200
290-320 lbs (132-145 kg)	160 R / 180 F	200	200	200	200
>320 lbs (145 kg)	180	200	200	220	220

[1] If riding styles conflict, it is up to the user to size up or size down based on necessary braking power.

[2] Road, Gravel, Cyclocross -- Consult the fork or frame manufacturer's specifications before installing a 140 mm or 180 mm rotor. These rotor sizes have compatibility limitations on many forks and frames.

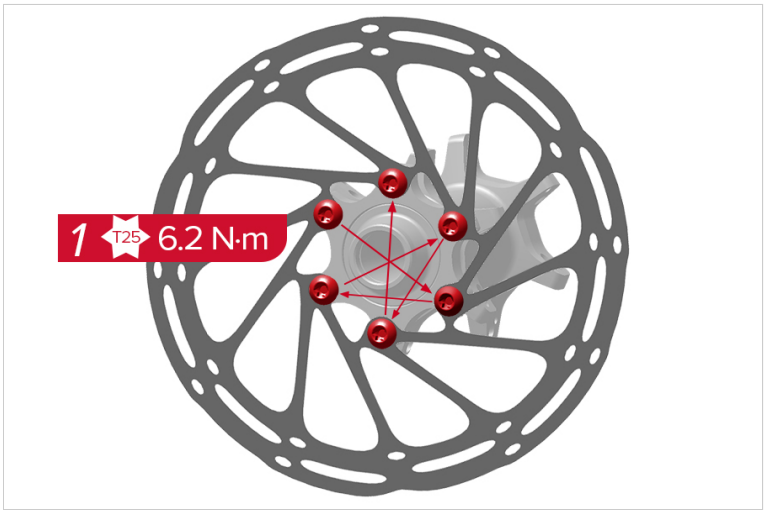
[3] E-bikes -- Consult the appropriate riding style column and select rotor size based on system weight.

Rotor Type	Intended Use	Compatibility
HS2	MTB	SRAM MTB and Road brakes.
Paceline	Road	SRAM Road brakes ONLY.
Centerline	All Ride Types	SRAM MTB and Road brakes.

Rotor Installation

All new disc brake pads and rotors should be put through a wear-in process called 'bed-in'. To perform this procedure, go to *the Disc Bed-in Procedure* section.

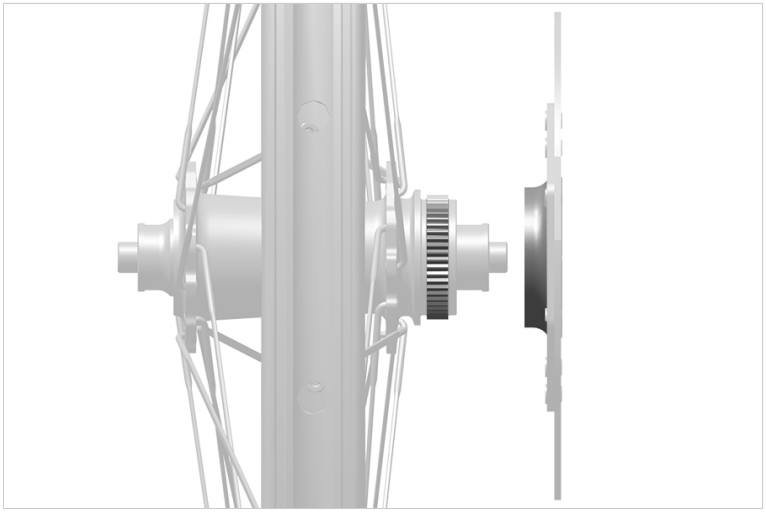
6-Bolt Rotor Installation

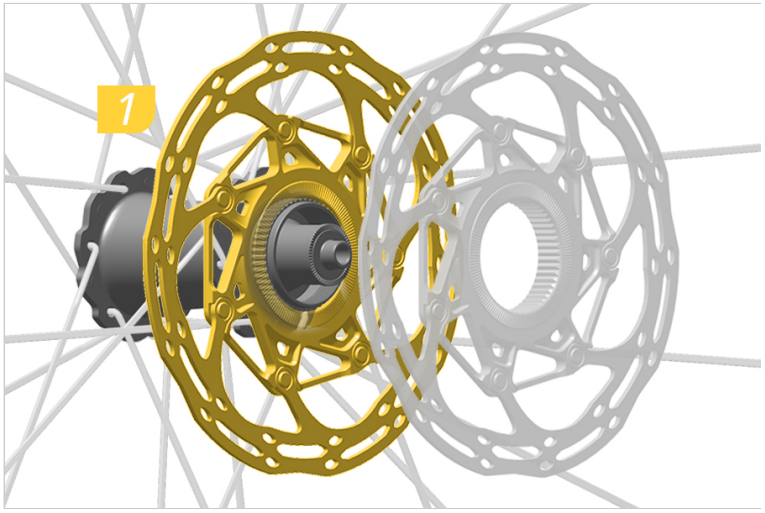


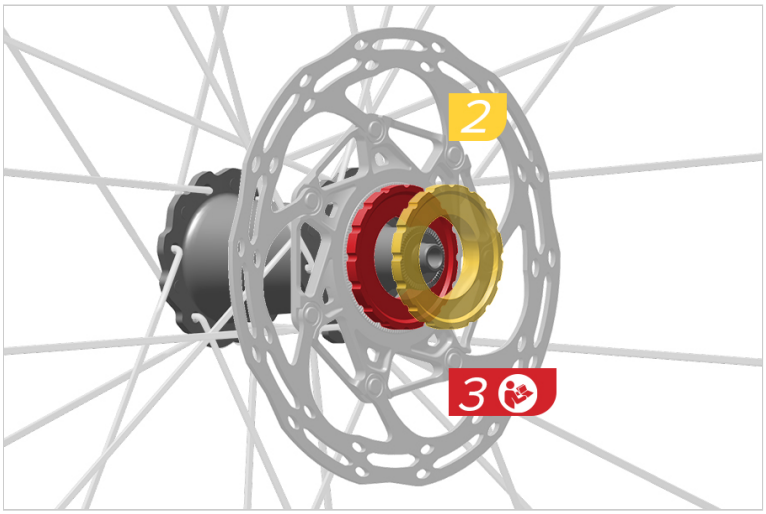
T25
6.2 N·m (55 in-lb)

1. Install the rotor with the new, threadlock prepped rotor bolts. Tighten the rotor bolts one turn in an alternating sequence until a torque of 6.2 N·m (55 in-lb) is achieved for each bolt.

Center Locking Rotor Installation







External bottom bracket tool

1. Install the rotor, tapered side first, onto the hub splines.

2-3. Install the center locking mechanism (not included) over the disc rotor and thread it into the hub, and tighten it to the torque specified by the locking mechanism's manufacturer.

If using a SRAM lockring, use a Ø44 mm 16-notch external bottom bracket tool to tighten to 40 N·m (354 in-lb).

Disc Brake Caliper Installation

NOTICE

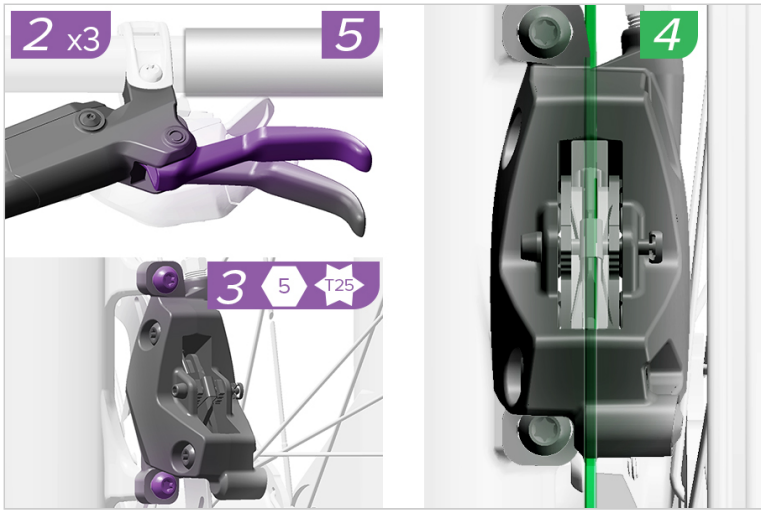
Identify the caliper mounting type, fork and frame standard, rotor size, and proper mounting hardware before proceeding with installation. Consult the MTB and Road Disc Brake Caliper Specifications on www.sram.com/service.

⚠ WARNING

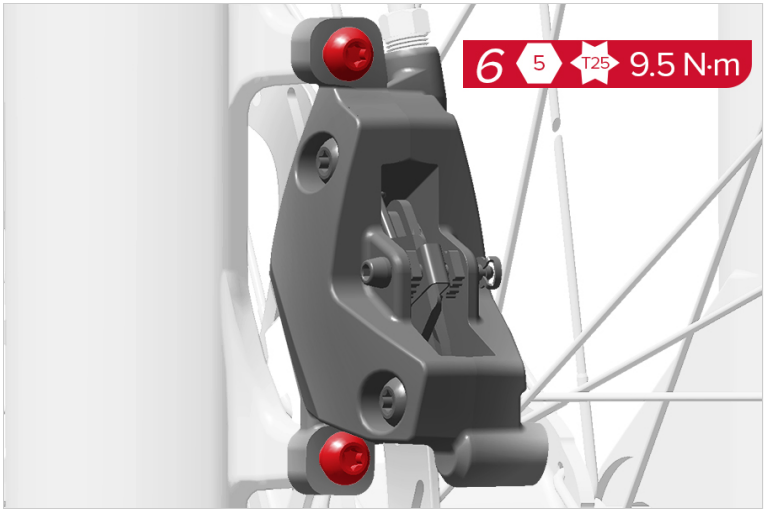
Choose the correct bolt length for proper thread engagement. Riding a bike with improper bolt engagement can allow the brakes to disengage from the bicycle, which can lead to a crash and serious injury or death to the rider.

Post Mount Installation

5 mm
T25



5 mm
T25



5 mm
T25
9.5 N·m (84 in-lb)

1. Loosely install the caliper onto the fork or frame.

2. Lightly squeeze the brake lever three times and hold.

3. Lightly tighten the bolts. Release the lever.

4. Check that the brake pads are equally spaced on either side of the rotor.

5. Lightly squeeze and hold the brake lever.

6. Tighten the bolts.

If the brake pads rub on the rotor, loosen the caliper bolts and adjust the caliper position. Repeat steps 2-6.

IS Mount Installation

5 mm
T25
9.5 N·m (84 in-lb)

5 mm
T25

5 mm
T25
9.5 N·m (84 in-lb)

1. Install the IS Mount onto the frame.

2. Tighten the IS Mount bolts.

3. Loosely install the caliper onto the IS Mount.

4. Lightly squeeze the brake lever three times and hold.

5. Lightly tighten the bolts. Release the lever.

6. Check that the brake pads are equally spaced on either side of the rotor.

7. Lightly squeeze and hold the brake lever.

8. Tighten the bolts.

If the brake pads rub on the rotor, loosen the caliper bolts and adjust the caliper position. Repeat steps 3-8.

Hose Angle Adjustment

T25
5 N·m (44 in-lb)

Loosen the banjo bolt a half turn to adjust the hose to the desired angle, then tighten the banjo bolt.

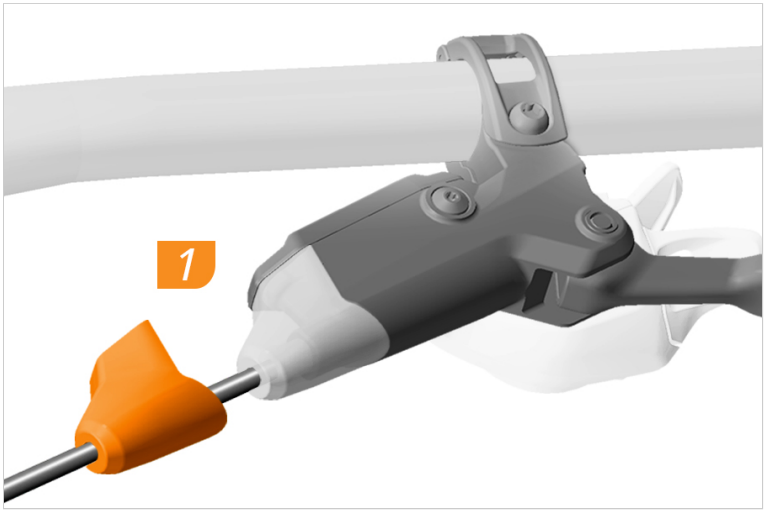
Hose Shortening

Remove the wheel from the bicycle according to the wheel manufacturer's instructions.

Secure a shop towel under the hose at the hose connection point to absorb any mineral brake oil that may drip when the hose is disconnected.

NOTICE

Do not allow mineral brake oil to come into contact with suspension seals, brake pads, or rotors. Clean contaminated rotors and seals with isopropyl alcohol. You must replace the brake pads if they become contaminated.



8 mm flare nut wrench

1. Remove the rubber hose boot.

2. Use an 8 mm flare nut wrench to loosen the compression nut.

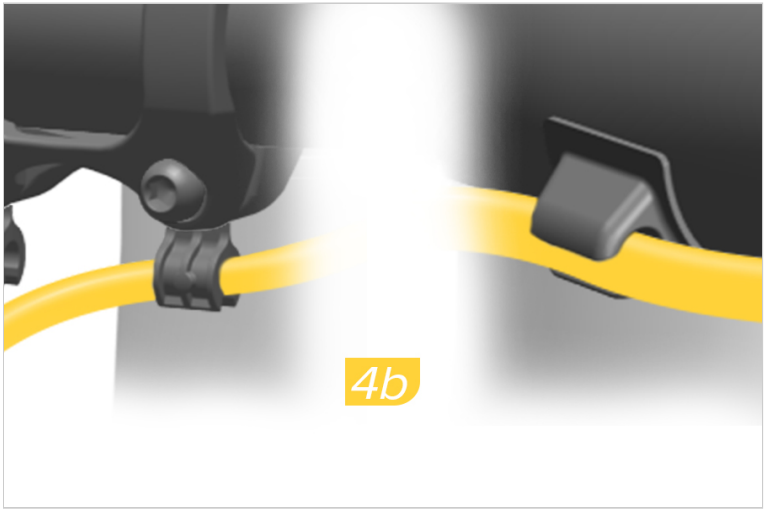
3. Remove the hose from the lever.

NOTICE

Do not engage the lever while the hose is removed. Engaging the brake lever will result in a loss of fluid.

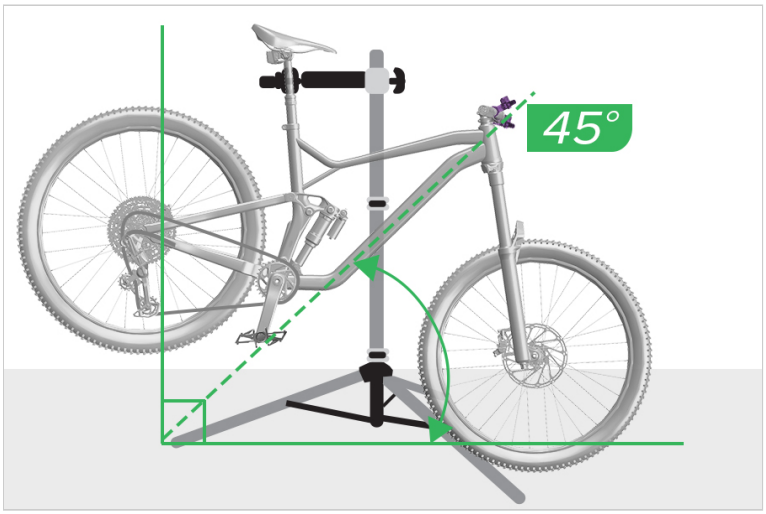
SRAM Brakes Hose Measurement

4a. The brakes should be installed with the hose properly routed and secured to the bicycle according to the frame manufacturer's instructions. For internally-routed frames, cut off the compression fitting then route the hose through the frame.



4b. If included, attach the hose to the installed stem mounted hose clips or hold the hose against the handlebar if using the adhesive clips.

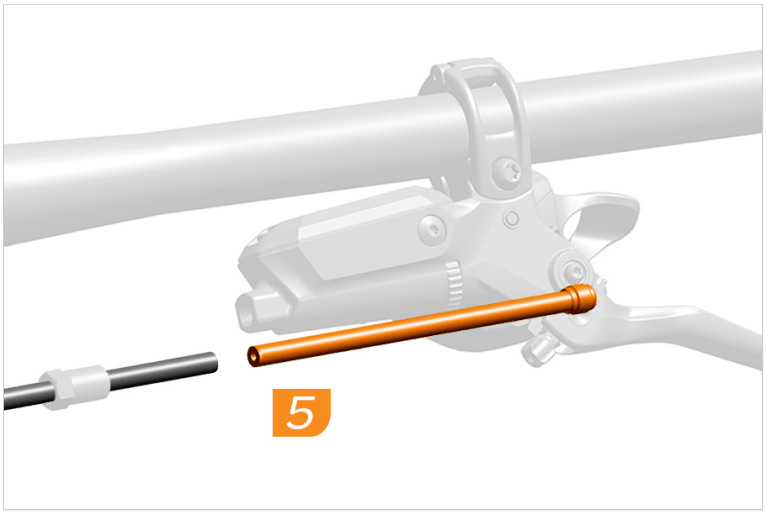
4c-4d. Hold the hose up to the brake lever with a length that creates a gentle bend in the hose and allows the handlebar to freely turn a minimum of 120 degrees to both sides, or as allowed by any rotation limiting devices.



45 degrees from the ground

NOTICE

Make sure the hose length will allow the lever to rotate on the handlebar 45 degrees from the ground plane for the bleed procedure.



5. Use a SRAM hydraulic hose cutter to cut the excess hose at the lever.

NOTICE

Cutting the hose introduces air into the brake system. You must bleed the brakes to ensure optimal braking performance.

A small amount of mineral brake oil may drip from the hose when it is cut, this is normal. Immediately clean any oil with isopropyl alcohol.

Stealth-a-majig Hose Barb and Fitting Installation

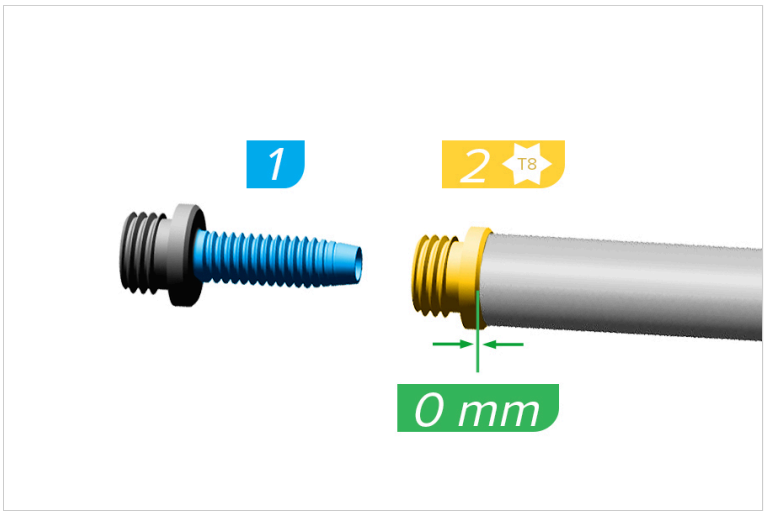
A: Stealth-a-majig Hose Barb
B: Stealth-a-majig Compression Fitting

⚠ WARNING

All SRAM brakes that use a compression fitting and hose barb must use a new SJ (Stealth-a-majig) hose barb and a new, red SJ compression fitting upon reassembly.

The factory may have installed a non-red SJ compression fitting, which functioned properly prior to disconnection. Upon reconnection, you must install a new SJ hose barb and a new, red SJ compression fitting.

Brake hoses assembled with non-Stealth-a-majig hose barbs and compression fittings will not function.



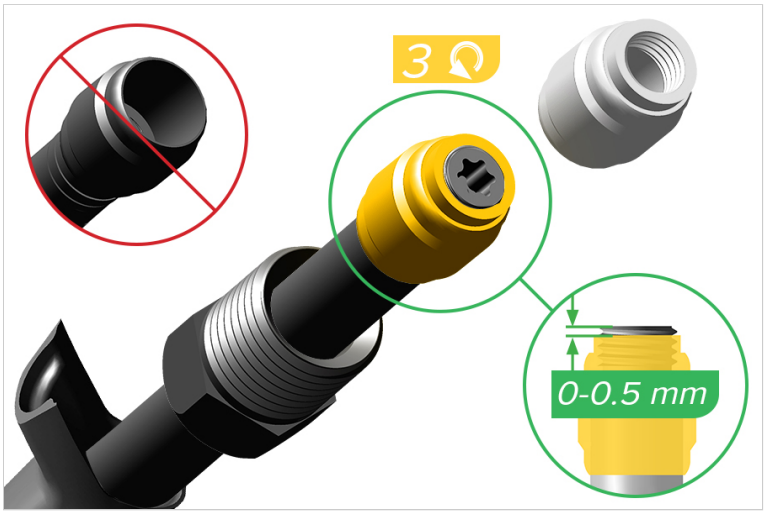
T8

1. Apply SRAM hydraulic disc brake grease to the hose barb threads.

2. Use a T8 TORX wrench to thread the Stealth-a-majig hose barb into the hose until it is flush with the end of the hose.

NOTICE

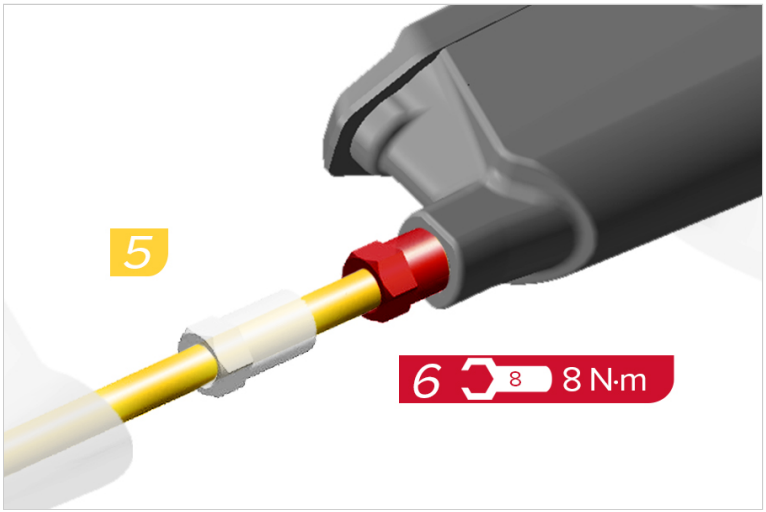
Do not overtighten the hose barb. Overtightening may cause damage to the hose liner.

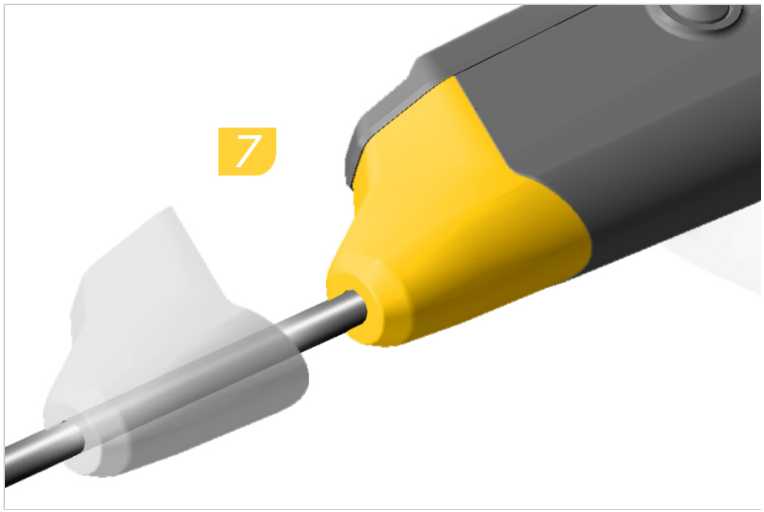


3. Thread the compression fitting over the hose barb, counter-clockwise, until it is flush or slightly lower than the hose barb.

The compression fitting is reverse threaded.

4. Apply SRAM hydraulic disc brake grease to the compression fitting and compression nut threads.





8 mm flare nut crowfoot wrench
8 N·m (71 in-lb)

5. Install the hose firmly into the lever body while threading the compression nut by hand.

6. Use an 8 mm flare nut crowfoot to tighten the compression nut.

7. Install the rubber hose boot.

NOTICE

Cutting the hose introduces air into the brake system. You must bleed the brakes to ensure optimal braking performance.

A small amount of mineral brake oil may drip from the hose when it is cut, this is normal. Immediately clean any

oil with isopropyl alcohol.

Mineral Oil Bleed Procedure

SRAM recommends bleeding your mineral oil brakes every other year to remove accumulated air. Bleed your brakes more often if you ride frequently or ride on aggressive terrain that requires heavy braking, and/or in sub-freezing temperatures. SRAM brake bleed videos can be found on www.sram.com/service.

The complete SRAM Mineral Oil Bleed Procedure consists of the following steps:

1. Caliper Identification

2. Prepare the Syringes

3. Prepare the Caliper

4. Prepare the Lever

5. Bleed the System

6. Disc Brake Piston Massage

Caliper Identification

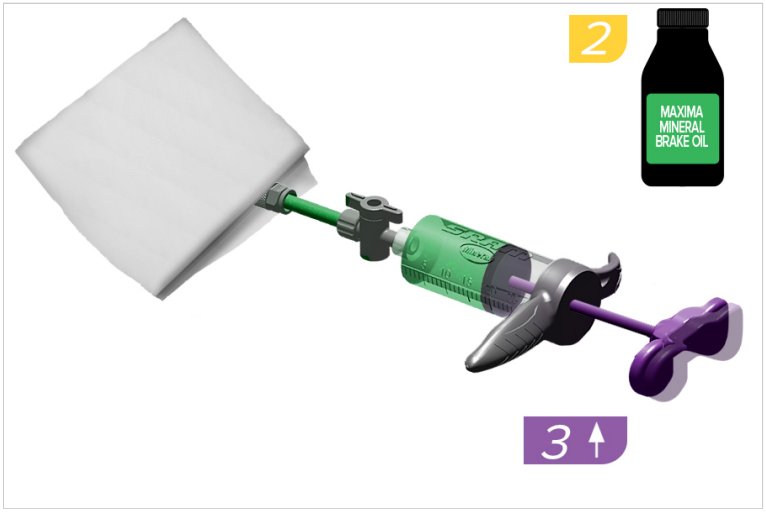
Identify your caliper bleed port style before bleeding your brakes.

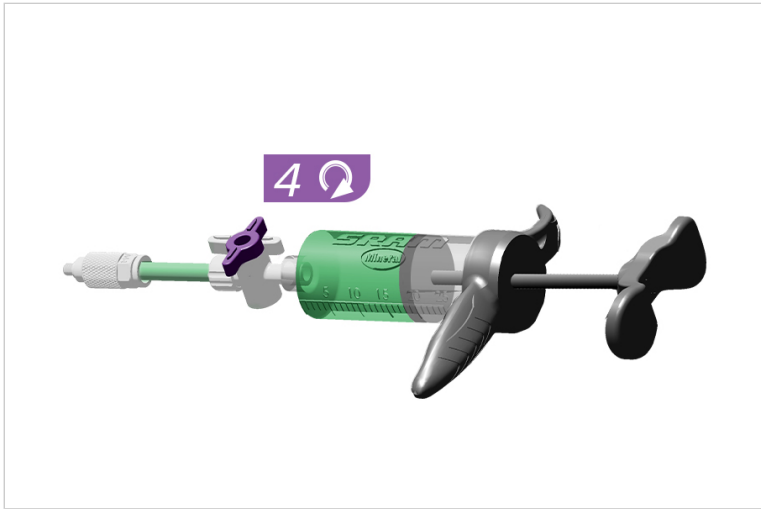
Bleeding Edge Bleed Port

Threaded Bleeding Edge Bleed Port

Prepare the Syringes

1. Assemble a syringe for the brake lever, thread the bleed clamp assembly with a threaded bleed fitting onto one of the syringe plungers.





2. Fill the syringe for the brake lever with Maxima Mineral Brake Oil until it is about 3/4 full.

Do not use DOT brake fluid.

3. Hold the syringe upright, cover the tip with a shop towel, and depress the plunger just enough to remove any air bubbles. The syringe should still be close to 3/4 full.

4. Close the valve or clamp on the syringe for the brake lever.

5. Assemble a syringe for the brake caliper.

Bleeding Edge: prepare a syringe with a Bleeding Edge fitting.

Threaded Bleeding Edge: prepare a syringe with a threaded bleed fitting.

6. Fill the syringe for the brake caliper with a small amount of Maxima Mineral Brake Oil.

Do not use DOT brake fluid.

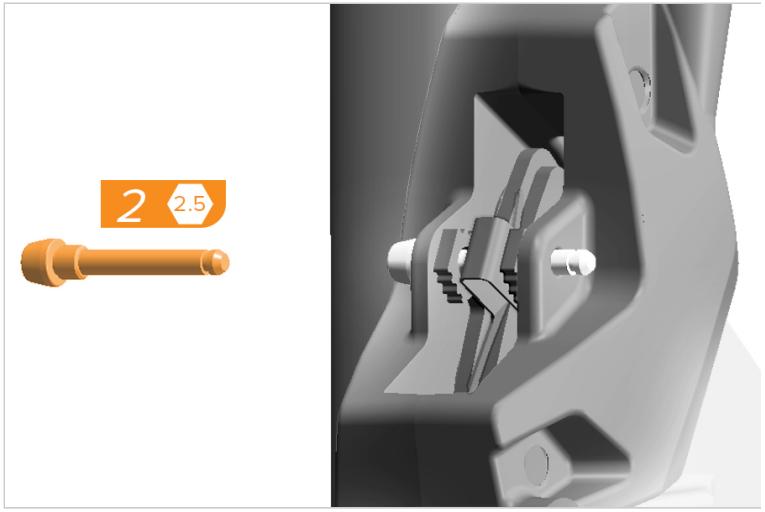
7. Hold the syringe upright, cover the tip with a shop towel, and depress the plunger just enough to remove any air bubbles.

Prepare the Caliper

Remove the wheel from the bicycle according to the wheel manufacturer's instructions.

NOTICE

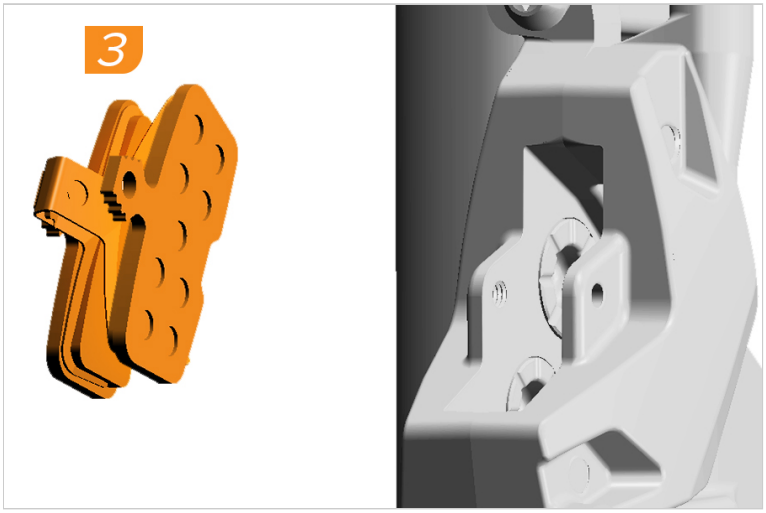
Do not allow mineral brake oil to come into contact with suspension seals, brake pads, or rotors. Clean contaminated rotors and seals with isopropyl alcohol. You must replace the brake pads if they become contaminated.

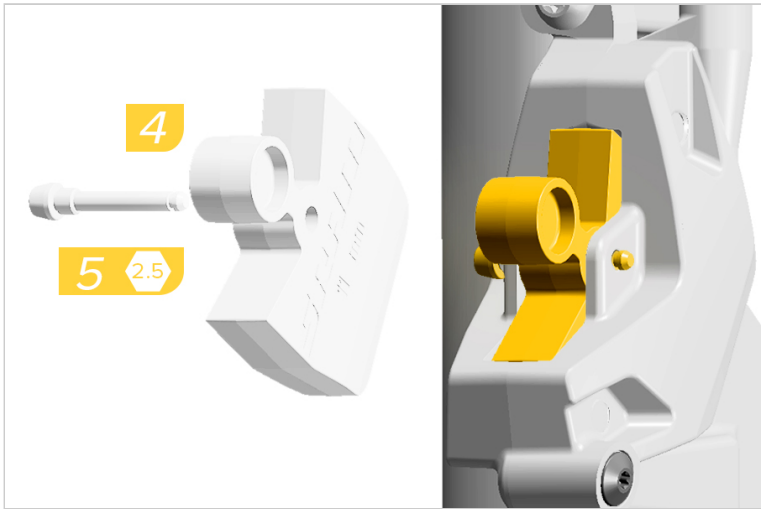


2.5 mm

1. Remove the e-clip.

2. Remove the pad retaining bolt.





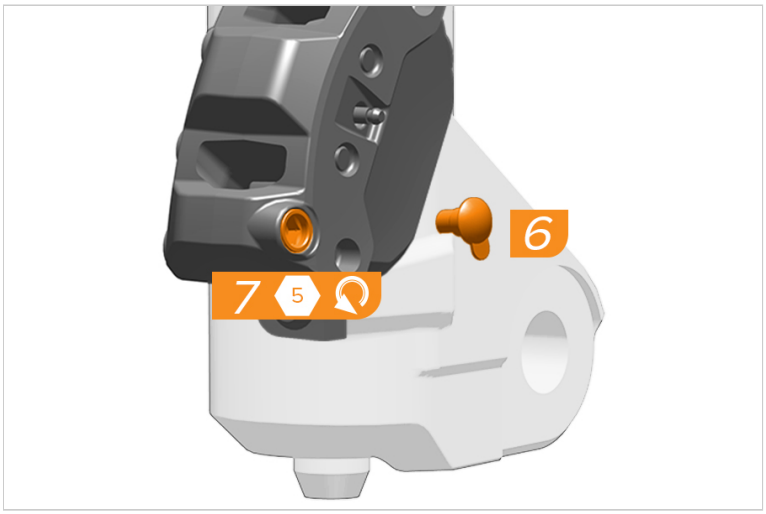
2.5 mm

3. Remove the brake pads from the caliper.

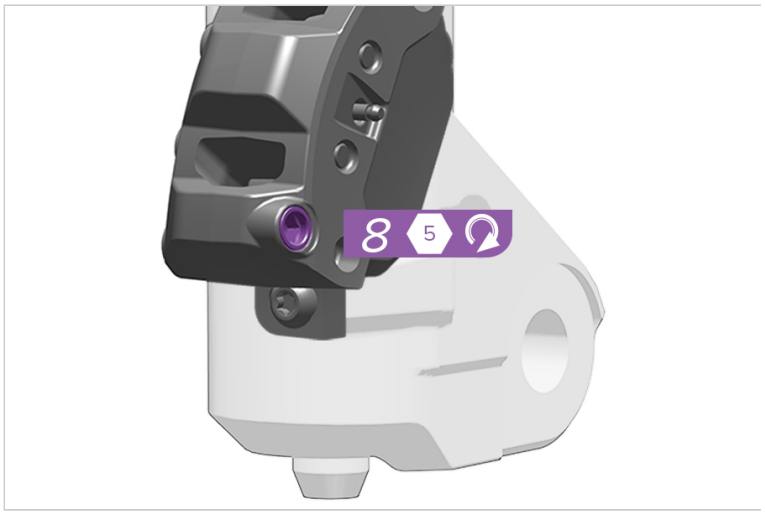
4. Install the bleed block.

5. Install the pad retainer bolt.

Bleeding Edge:



5 mm

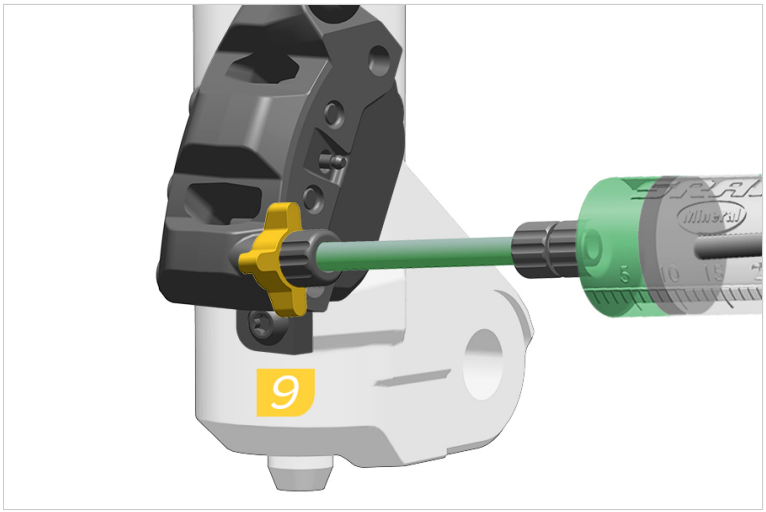


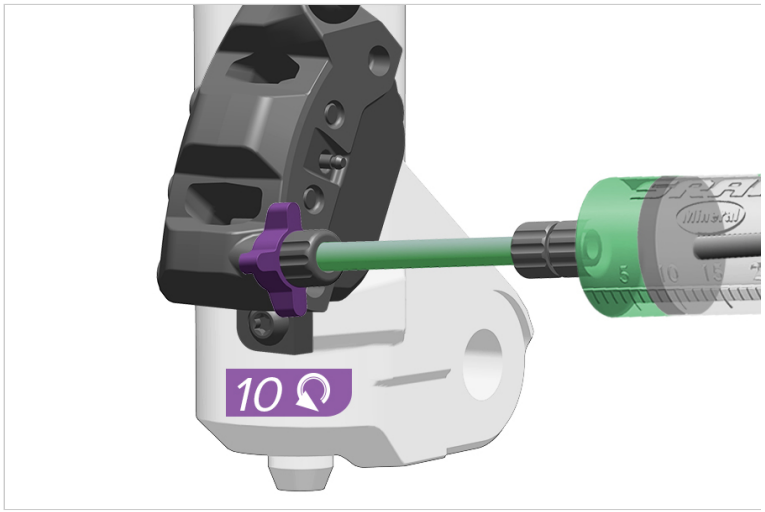
5 mm

6. Remove the bleed port cover.

7. Use a 5 mm hex wrench to loosen the bleed port valve 1/4 turn.

8. Gently retighten the bleed port.



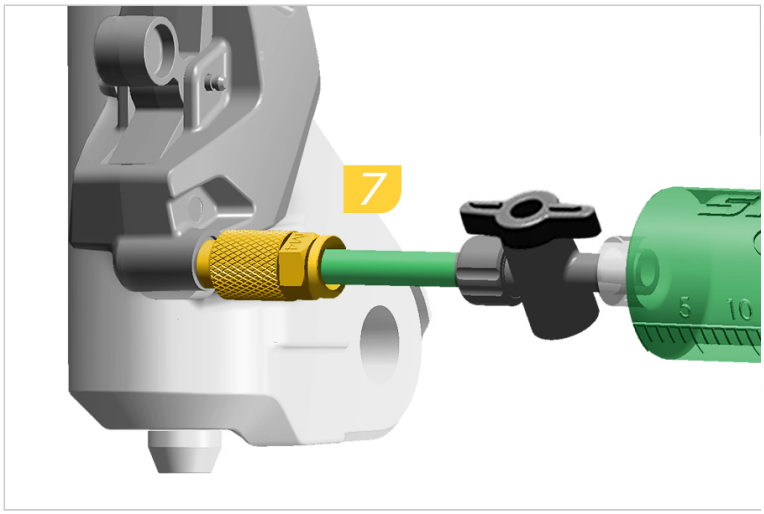


9. Install the syringe with the Bleeding Edge tool attachment into the bleed port. Push it into the bleed port until you hear and feel it click in place.

10. Rotate the Bleeding Edge tool attachment counter-clockwise one complete rotation to open the system.

Do not exceed two complete rotations.

Threaded Bleeding Edge:



T10

6. Use a T10 TORX wrench to remove the caliper bleed screw.

7. Thread the caliper syringe into the bleed port.

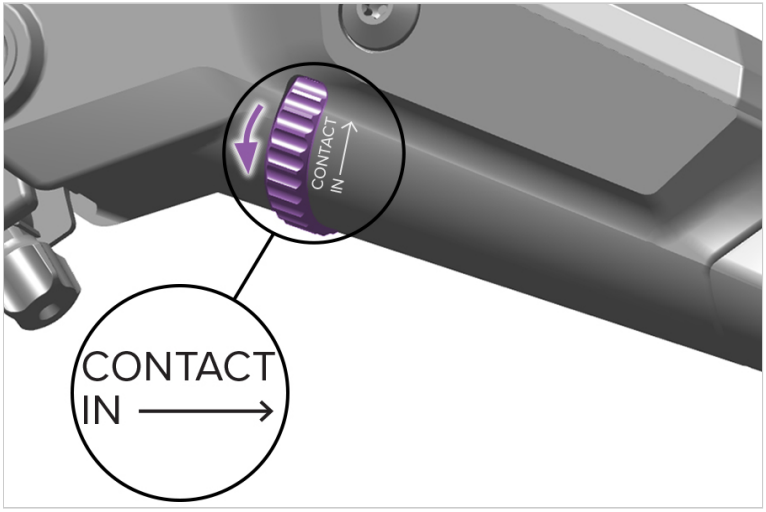
Prepare the Lever

Remove the wheel from the bicycle according to the wheel manufacturer's instructions.

NOTICE

Do not allow mineral brake oil to come into contact with suspension seals, brake pads, or rotors. Clean contaminated rotors and seals with isopropyl alcohol. You must replace the brake pads if they become contaminated.

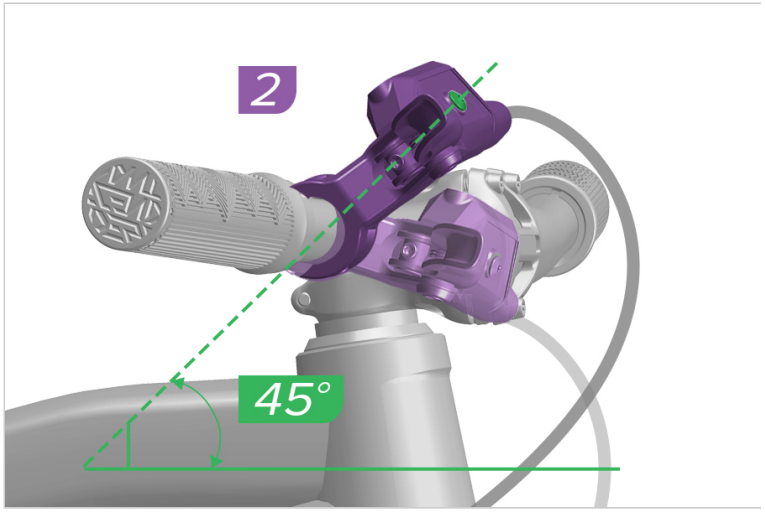
For levers with Contact Point Adjustment:



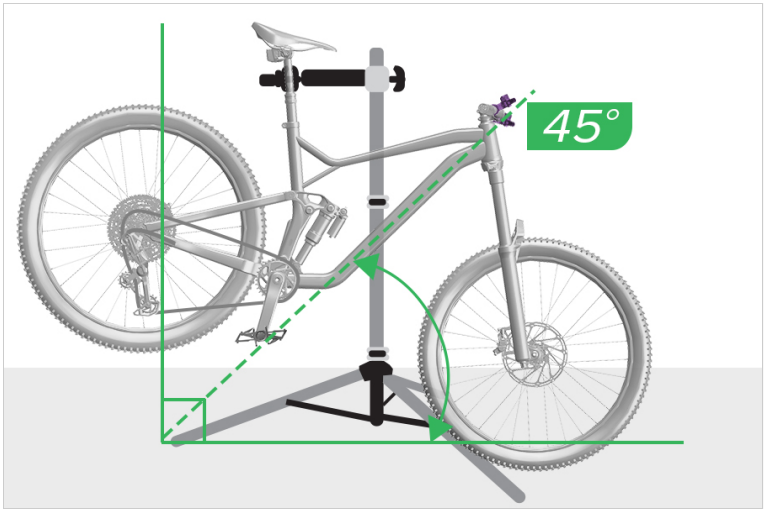
Rotate the Contact Point Adjustment dial in the opposite direction of the arrow until it stops.

For levers with the reservoir on top (DB6 and DB4):

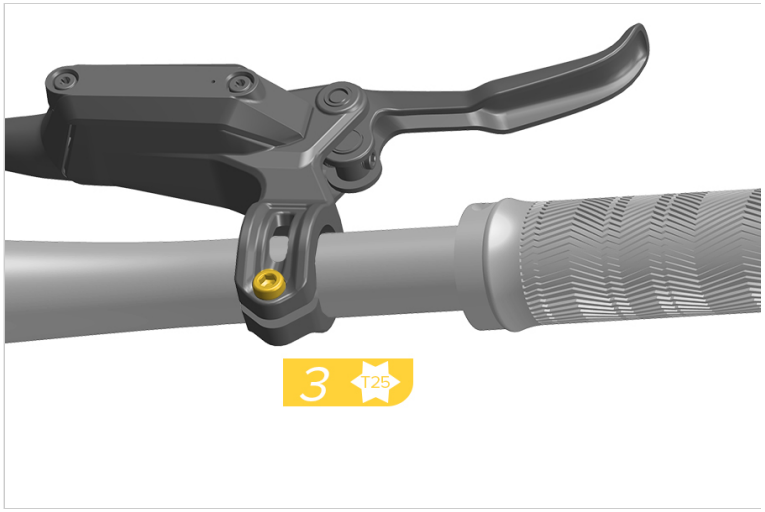
T25



45 degrees from the ground



45 degrees from the ground

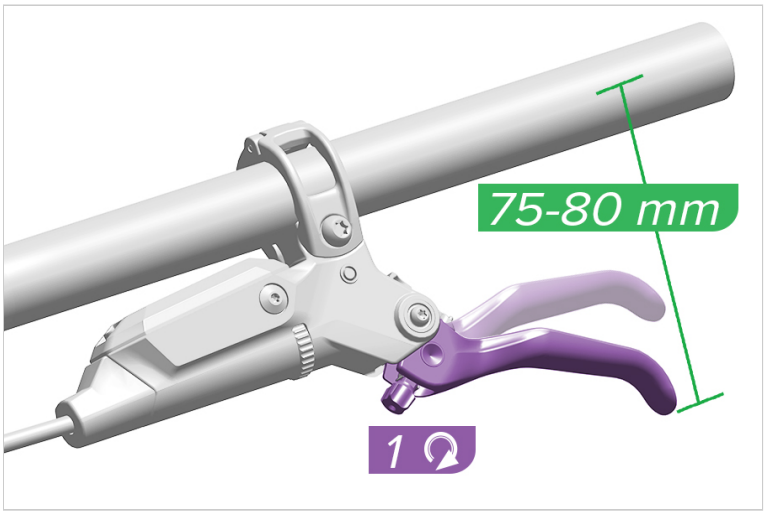


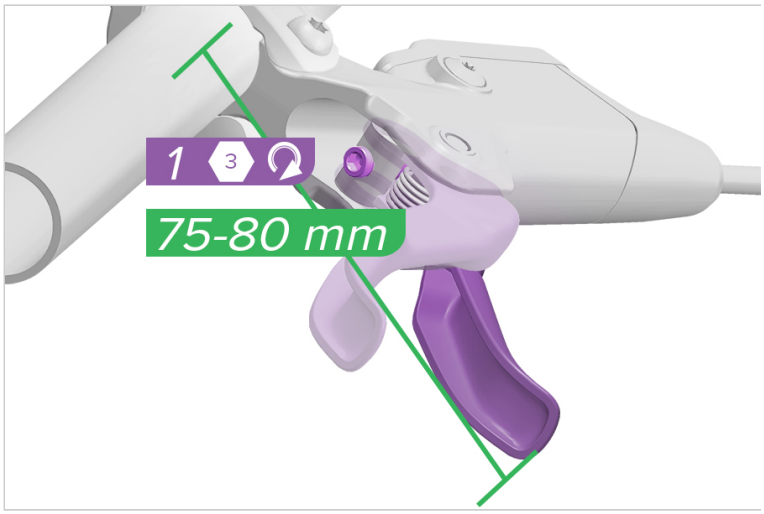
T25 / 4 mm

1. Loosen the Split Clamp bolt.

2. Rotate the lever so the bleed port is 45 degrees from the ground plane.

3. Tighten the Split Clamp bolt to hold the lever in place for the bleed procedure.

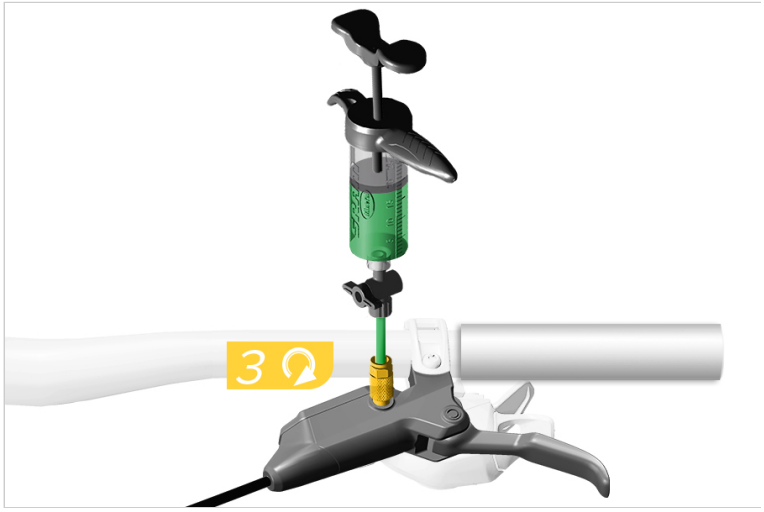




3 mm

1. Rotate the lever Reach Adjust knob or hex adjuster until the lever blade is 75-80 mm from the centerline of the handlebar.

T10



2. Use a T10 TORX to remove the bleed screw from the lever. Oil will drip out of the bleed port.

Clean any mineral brake oil that drips from the bleed port with isopropyl alcohol and a shop towel.

3. Thread the 3/4 full syringe into the lever bleed port.

Bleed the System

1. Open the valve or clamp on the syringe at the lever.

2. Hold the syringe vertically. Gently push the plunger down, stopping before air enters the hose tube. Oil will fill the syringe at the brake caliper.

NOTICE

If the oil in the syringe at the caliper is discolored, continue to push all the oil out of the system. Restart the bleed procedure with new fluid in both syringes.

3. Hold the syringe at the caliper vertically while slowly pulling the syringe plunger at the lever upward to draw oil from the syringe at the caliper.

Stop before any air enters the hose tube at the caliper.

If needed: repeat steps 2 and 3 until only a small amount of bubbles appear.

4. Close the valve or clamp on the syringe for the brake lever.

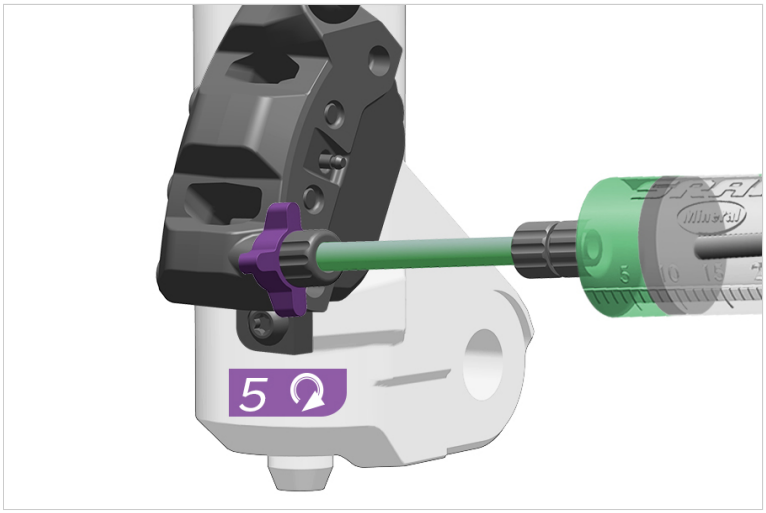
Threaded Bleeding Edge:

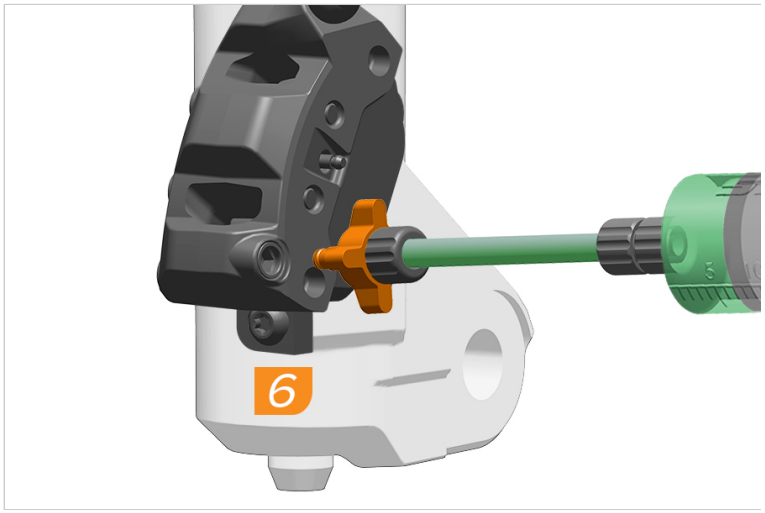
T10
1.6 N·m (14 in-lb)

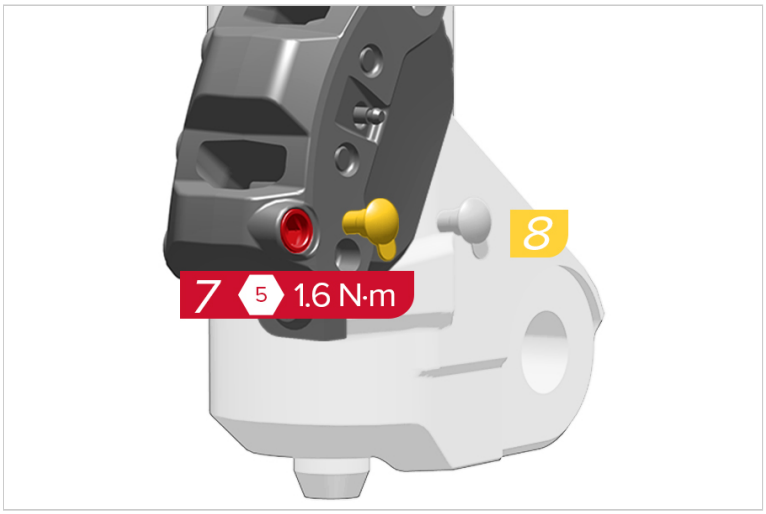
5. Unthread the syringe from the caliper.

6. Use a T10 TORX to install the bleed screw.

Bleeding Edge:







5 mm
1.6 N·m (14 in-lb)

5. Rotate the Bleeding Edge tool attachment clockwise until it stops to close the system.

6. Remove the syringe with the Bleeding Edge tool attachment from the bleed port by pulling the Bleeding Edge tool straight from the caliper. **Do not rotate the Bleeding Edge tool while removing.**

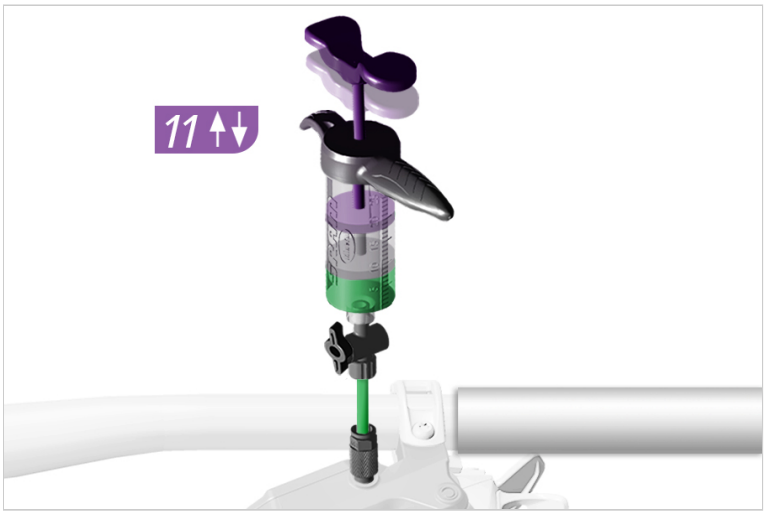
7. Use a 5 mm hex wrench to tighten the bleed port to 1.6 N·m (14 in-lb).

8. Install the bleed plug.

Threaded Bleeding Edge / Bleeding Edge:

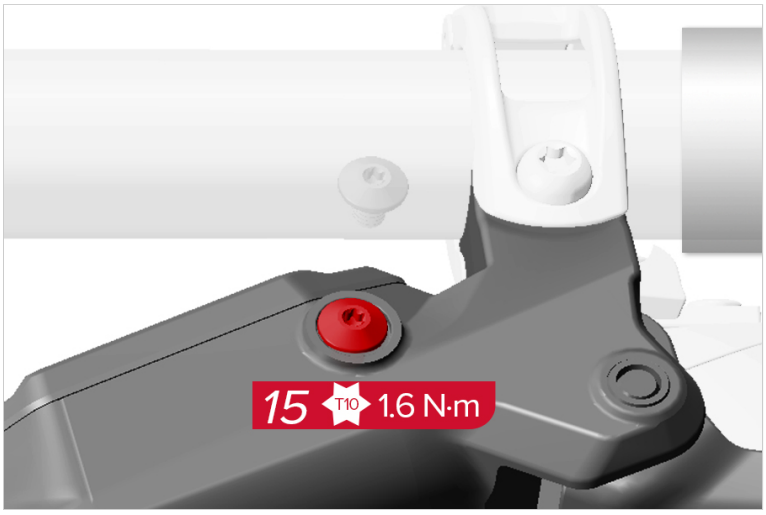
9. Open the valve or clamp on the syringe at the lever.

10. Squeeze and release the lever blade 3-5 times.



11. Hold the syringe at the lever vertically. Firmly pull on the plunger to create a vacuum, then compress the plunger to pressurize the system. Repeat this process several times or until only a small amount of bubbles exit the system.

12. Lightly compress and release the plunger at the lever to equalize the system.

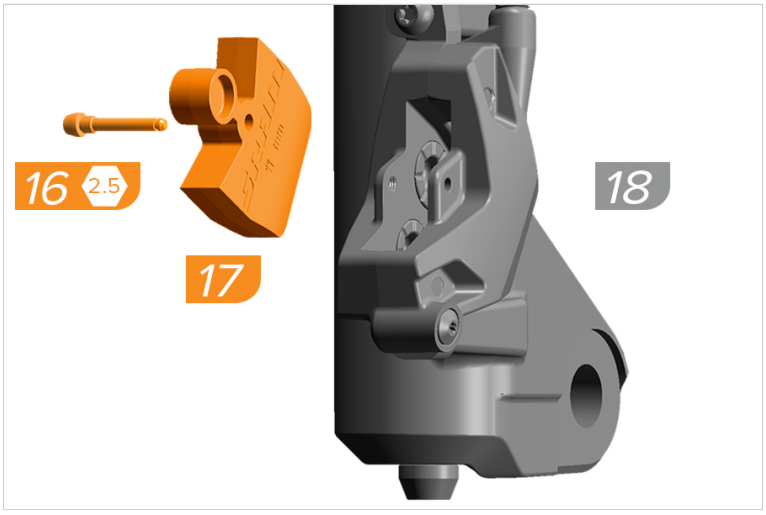


T10
1.6 N·m (14 in-lb)

13. Close the valve or clamp on the syringe at the brake lever.

14. Remove the syringe at the lever from the bleed port.

15. Install the bleed screw and tighten the bleed screw. Clean any mineral brake oil that drips from the bleed port with isopropyl alcohol and a shop towel.



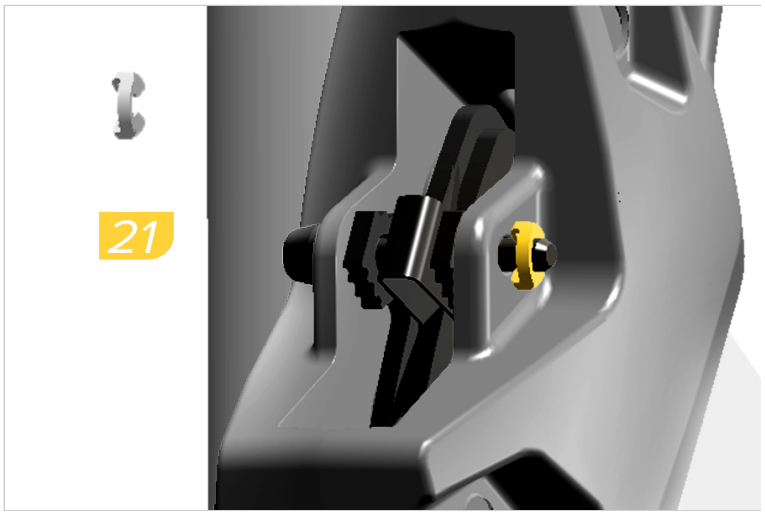
2.5 mm

16. Remove the pad retainer bolt.

17. Remove the bleed block.

18. Spray isopropyl alcohol on the brake lever and caliper and clean them with a shop towel.

19. Install the brake pads.



2.5 mm
1.1 N·m (9.7 in-lb)

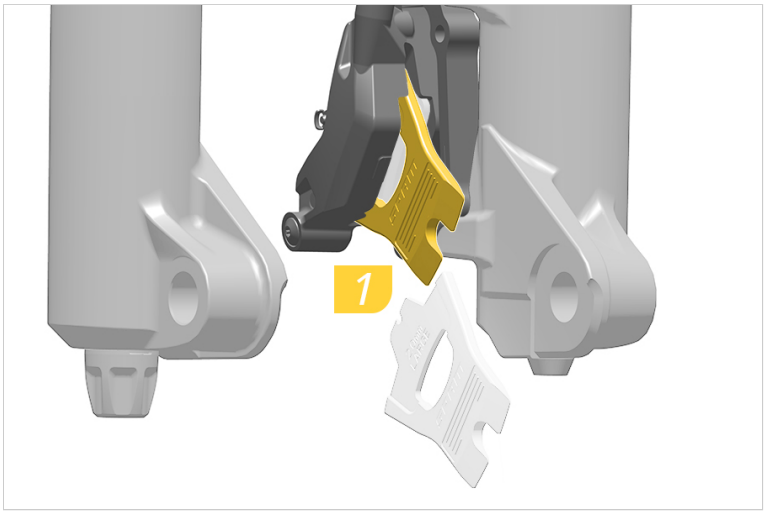
20. Install the pad retainer bolt.

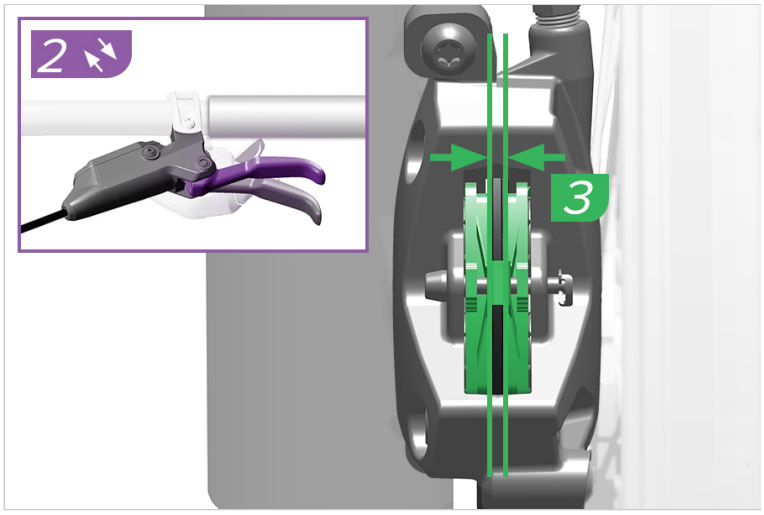
21. Install the e-clip.

Advance the Pistons

NOTICE

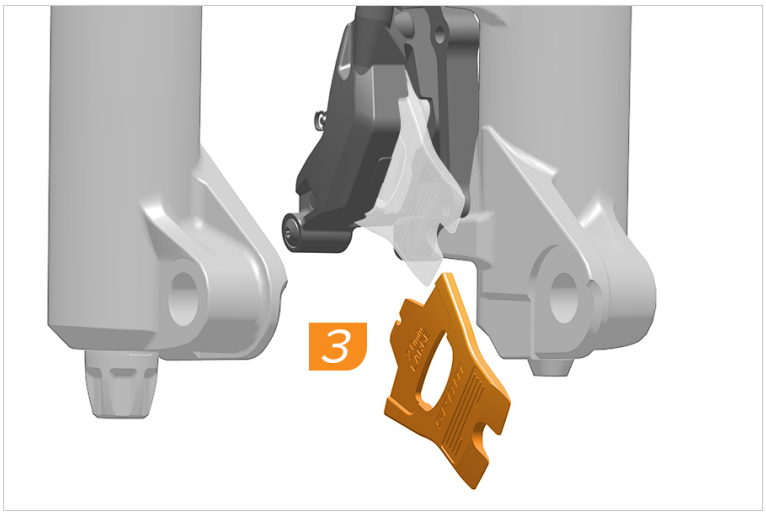
Advancing the pistons helps to reduce deadband and improve lever feel by lowering the pad gap of the caliper.

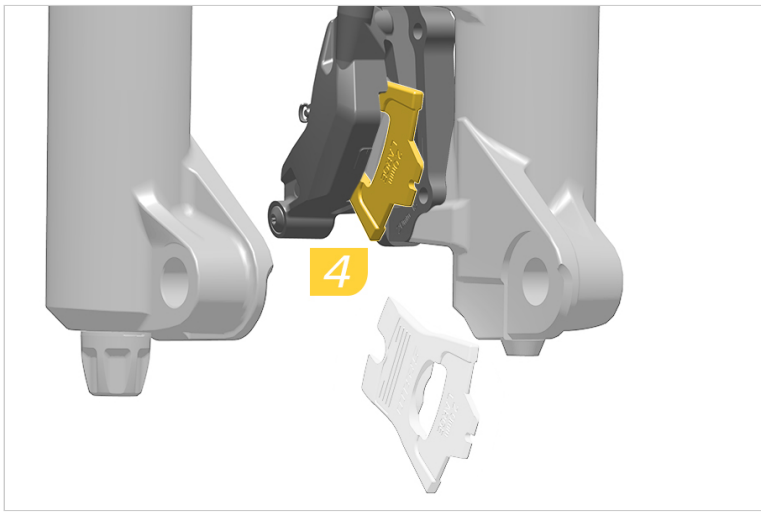




1. Insert a brake pad spacer into the caliper between the pads, thin side first.

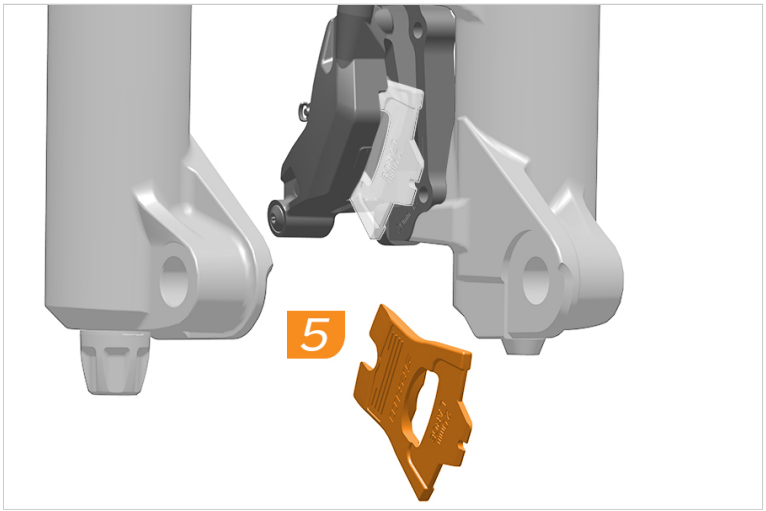
2. Squeeze the brake lever to advance the pads until they contact the pad spacer.





3. Remove the pad spacer.

4. Reinsert the pad spacer using the thick wedge side to push the pads back into the caliper.



5. Remove the the pad spacer. Install the wheel according to the wheel manufacturer's instructions.

6. Squeeze the brake lever to advance the pistons. Spin the wheel and check for brake lever feel and function.

Proceed to the *Disc Brake Caliper Installation* section to center the rotor between the brake pads if needed.

Proceed to the *Clamp Installation* to adjust your levers if needed.

This completes the bleed procedure for SRAM MTB disc brakes. For new brake pads and rotors, complete the *Disc Bed-in Procedure*.

Disc 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: SRAM: Disc Brake Bed-In Procedure.

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

⚠ 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.

Maintenance

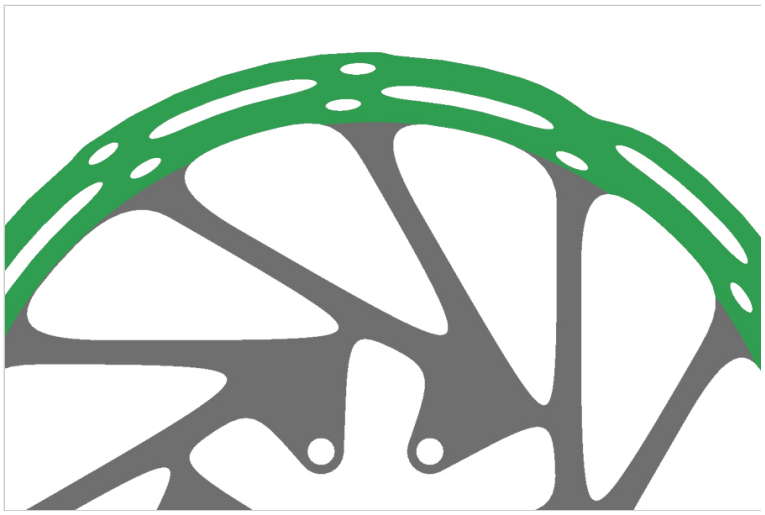
SRAM recommends to bleed your mineral oil brakes every other year to remove accumulated air. Bleed your brakes more often if you ride frequently, ride on aggressive terrain that requires heavy braking, and/or in sub-freezing temperatures. SRAM brake bleed videos can be found on www.sram.com/service.

Routinely check the rotor bolts, clamp bolts, and caliper bolts for the correct torque values; never ride with loose bolts.

Inspect disc brake pads for wear every month. When the thickness of the backing plate and pad material is 3 mm or less, they are worn and need to be replaced with new disc brake pads.

Rotor and Pad Wear

HS2



CenterLine

Rotor and pad wear will vary by product model. This is normal.

Disc brake pads should be replaced when the brake pad material and backer plate measure less than 3 mm in width. Change the rotor when changing the pad material, or when the thickness is less than the minimum stated on the rotor: 1.55 mm for 1.85 mm rotors and 1.7 mm for 2 mm thick rotors.

Use calipers or the Maven Pad Spacer to measure disc brake pad and rotor wear.

Low Temperature Riding

⚠ WARNING

If using SRAM Mineral Oil brakes in temperatures below -20°C (-4°F), you may experience reduced braking performance.

Syringe Storage

NOTICE

Store used bleed syringes with Mineral brake fluid in the syringe hose and the clamp open to extend the life of the syringe hose. Used syringe hoses can become cloudy and brittle if left empty.

Empty the syringe and use fresh Mineral brake fluid before you begin a new bleed procedure.

Use only Maxima Mineral brake fluids in the syringes. Do not use syringes that have come in contact with any other fluid.

Troubleshooting

Disc Brake Piston Massage

NOTICE

Do not apply brake oil, fluid, or grease to caliper pistons when performing troubleshooting procedures. The use of brake oil, fluid, or grease on the pistons will reduce braking performance.

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. Measure the brake pads for wear. If the pads measure less than the minimum thickness, replace the pads.

4. Re-install the pad retainer bolt.

5a. For road brakes: Install the Piston Massage Spacer or the thicker side of the appropriate pad spacer through the caliper between all pistons.

5b. For MTB brakes: Install the Piston Massage Spacer or two 1.85 mm thick rotors through the caliper between all pistons.

6. Squeeze the brake lever several times until the pistons have advanced and contact the spacing device being used. One piston may move faster than the other; that is okay. Continue to squeeze the lever until the pistons touch the spacer.

7. Remove the Piston Massage Spacer, pad spacer, or two 1.85 mm thick rotors.

8. Use a plastic tire lever to push the pistons back into the caliper bores.

9. Repeat steps 5-8 until the pistons move freely.

10. Remove the spacer and pad retainer bolt from the caliper and reinstall the brake pads.

11. Install the thinner side of a pad spacer between the brake pads.

12. Squeeze the brake lever lightly 5 times (approximately 4 lbs.) until the pads contact the spacer. Remove the spacer.

13. Install the wheel.

14. Loosen the caliper mounting bolts.

15. Lightly squeeze (approximately 4 lbs.) the brake lever several times to position the brake pads to the proper distance from the rotor.

16. Center the caliper on the rotor, and tighten the caliper mounting bolts to the torque specified in the appropriate user manual.

17. Spin the wheel and check the brake function. The pistons should move freely and there should not be excessive brake lever throw.

NOTICE

If there is no improvement in brake function or reduction of excessive lever throw, you must bleed the system. If a system bleed does not resolve the brake function, then a caliper service may be necessary. Consult your Disc Brake Service Manual for instructions.

Trailside Disc Brake Pad Advance

NOTICE

Do not apply brake oil, fluid, or grease to caliper pistons when performing troubleshooting procedures. The use of brake oil, fluid, or grease on the pistons will reduce braking performance.

If your levers have excessive brake lever throw, it may be the result of the caliper pistons advancing only minimally as the pads wear, sometimes from light use, such as dragging the brakes frequently or not braking hard enough to advance the pistons.

You can advance the pistons by performing the following steps:

1. Adjust the lever reach all the way out. Count the number of clicks or note the reach measurement beforehand.
2. Pull hard on the lever 5 times. You may use two fingers if needed, but you do not need to pull the lever all the way to the handlebar.
3. Adjust the reach to the starting position measured in step 1.

NOTICE

If there is no improvement in brake function or reduction of excessive lever throw, you must bleed the system. If a system bleed does not resolve the brake function, then a caliper service may be necessary. Consult your Disc Brake Service Manual for instructions.

Recycling

♻ For recycling and environmental compliance, please visit sram.com/en/company/about/environmental-policy-and-recycling.

Used mineral brake oil must be recycled or disposed of in accordance to local, state, and federal regulations. Never pour used brake oil or fluid down a sewage or drainage system or into the ground or body of water.
