

DOMINION A4 | SERVICE & BLEED GUIDE

HAYES

HAYES DISC BRAKE

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Support: hayesdiscbrake.com/support

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PROTAPER


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SPOKES

 **HAYES**
PERFORMANCE SYSTEMS

HAYES PERFORMANCE SYSTEMS WARRANTY

Limited Warranty:

HAYES warrants its products to be free from defects in materials or workmanship under normal intended use for a period of one year (two years in European Union countries) from the date of purchase, subject to normal wear and tear. Unless otherwise prohibited by law, any such defective products will be repaired or replaced at the option of HAYES when received with proof of purchase, freight prepaid. This warranty does not cover breakage, bending, or damage that may result from crashes or falls. This warranty does not cover any defects or damage caused by alterations or modifications of HAYES products or by normal wear, accidents, improper maintenance, damages caused by the use of HAYES products with parts of different manufacturers, improper use or abuse of the product, application or uses other than those set forth in the HAYES instruction manual or failure to follow the instructions contained in the applicable HAYES instruction manual. Instruction manuals can be found on-line at www.hayescomponents.com. Any modifications made by the BUYER or any subsequent user will render the warranty null and void. This warranty does not apply when the serial number or production code has been deliberately altered, defaced or removed from the product. The cost of normal maintenance or replacement of service items, which are not defective, shall be the BUYER's responsibility. If permitted by local law, this warranty is expressly in lieu of all other warranties (except as to title), express or implied, and in particular and without limitation HAYES disclaims the implied warranties of merchantability or fitness for purpose. If for any reason warranty work is necessary, return the component to the place of purchase or contact your dealer or local HAYES distributor. In the USA, contact HAYES for a return authorization number (RA#) at (888) 686-3472. At that time, instructions for repair, return, or replacement shall be given. Customers in countries other than the USA should contact their dealer or local HAYES distributor.

Limitation of Liability.

Unless required by mandatory law, HAYES shall not be liable for any incidental, indirect, special or consequential damages.

This warranty does not apply to normal wear and tear. Wear and tear parts are subject to damage through normal use, failure to service according to recommendations or riding in conditions other than recommended. The cost of normal maintenance or replacement of service items, which are not defective, shall be paid for by the original purchaser. Wear and tear parts that will not be replaced under warranty include but are not limited to the following:

Bushings	Dust Seals	Stripped or Worn Bolts
Rear Shock	Air Seals and/or O-rings	Remote Lockout Cable
Mount Hardware	Bearings	Gloves
Handlebar grips	Upper Stanchion Tubes	Lower Stanchion Tubes(Dorado)
Tubeless Valves	Tubeless Tape	Pads
Rotors		

INTRODUCTION

This manual is intended to provide the information necessary for installation, set-up, normal maintenance and service of the Hayes Dominion A4 disc brake system. We highly recommend installation be performed by a qualified mechanic. These instructions can be downloaded from the Hayes Disc Brake website at www.hayesdiscbrake.com

⚠ WARNING ⚠

We highly recommend that service to this brake be performed by a certified bicycle mechanic. Failure to follow instructions presented in this manual could lead to serious injury or death. Any questions about the servicing of this brake or the manual itself should be directed to Hayes Customer Support at:

Hayes Bicycle USA	5800 W Donges Bay Road Mequon WI 53092
	Phone: 888.686.3472
	Email: techsupport@hayesbicycle.com

Hayes Bicycle Europe	Dirnismaning 20 a 85748 Garching (b. Munich) Germany
	Phone: +49 89 203237450
	Email: techsupportEU@hayesbicycle.com

Hayes Bicycle Asia	16F, No. 37, Sec. 3 Mincyuan E. Rd. Zhongshan District Taipei City 10476 Taiwan ROC
	Phone: 886-2-2518-1108

SAFETY INFORMATION

As a serious rider you are well aware of the need to practice safety in all aspects of the sport. This includes service and maintenance practices as well as riding practices. Before each ride, always check your brakes for proper function and the brake pads for wear. When you ride, always wear a helmet.

⚠️ WARNING ⚠️

When you need to install any of the disc brake components, that installation work should be done by a qualified technician with the proper tools. Improper installation could cause severe or fatal injuries.

⚠️ WARNING ⚠️

This brake has been designed for use on a single person mountain bike. The use on any other vehicle or device will void the warranty and can cause serious injury.

⚠️ WARNING ⚠️

With use, disc brake components may become very hot. Always allow components to cool before attempting to service your bike.

⚠️ WARNING ⚠️

When following any of the procedures below, be sure to keep your hands and fingers from getting caught in the disc. Failure to do so could result in injury.

⚠️ WARNING ⚠️

Do not adjust the caliper while the wheel is spinning.

⚠️ WARNING ⚠️

Do not adjust the caliper while the caliper is hot.

⚠️ WARNING ⚠️

If your bike is involved in a fall or crash it is recommended your brakes are checked by a qualified mechanic before riding to ensure they are functioning properly. The following checks should be performed: Check that all components are securely mounted to the handlebar, frame, fork, or wheel; check for proper pad installation and retention; check that the brake builds and holds pressure; check hose and fittings for kinks or leaks; check master cylinder body and caliper for damage. Always have a qualified bike mechanic check your brakes if you suspect damage.

⚠️ WARNING ⚠️

The Hayes Dominion A4 brake system uses DOT 5.1 fluid. Any spilled on the brake assembly, bike or otherwise should be cleaned up with isopropyl alcohol. The brake rotor and pads should only be cleaned with isopropyl alcohol (not disc brake cleaner).

TABLE OF CONTENTS

SECTION	PAGE NUMBER
Tools And Materials	7
Master Cylinder Service	8-10
Caliper Rebuild	11-16
Bleed Instructions	17-22
Exploded Diagrams	23-24

TOOLS AND MATERIALS

Below is a list of tools and materials necessary for installing Dominion A4 brakes.

- Safety Glasses
- Nitrile Gloves
- Isopropyl Alcohol
- Lint-Free Rags
- Plastic Pick
- 5mm Hex Wrench
- 4mm Hex Wrench
- 3mm Hex Wrench
- Torx T10 Wrench
- T10 Torx Bit
- T30 Torx Bit
- 3mm Hex Bit
- Torque Wrench
- Hayes DOT 5.1 Bleed Kit (*Hayes Part Number 98-23572*)
- Dominion A4 Caliper Rebuild Kit (*Hayes Part Number 98-36140-K001*)
- Hydraulic Hose Cutter
- 8mm Flair Nut Wrench
- 8mm Crows Foot
- Ratchet
- Compressed Air With Rubber Tipped Nozzle

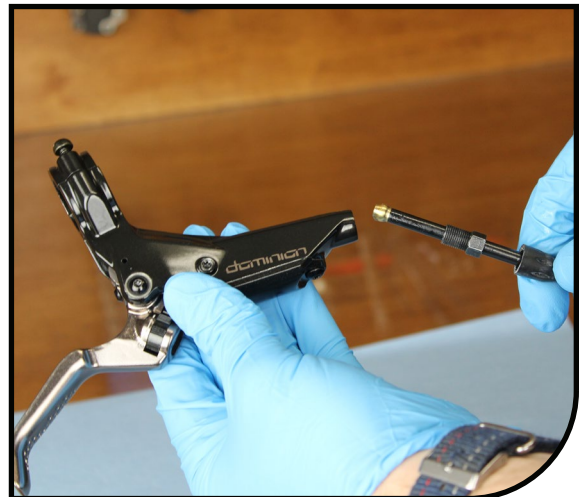
MASTER CYLINDER SERVICE

1 Hose Removal

Using an 8mm flair nut wrench, loosen and remove the hose nut from the master cylinder (MC). Slide it down the hose.



2 Pull the hose out of the MC. There will be residual fluid in the master cylinder body. Be careful to avoid spilling the fluid.



3 A new hose insert/compression bushing combination will be needed each time the hose is re-installed. Remove the old hose insert by cutting the hose next to it. The cut needs to be clean with no frayed ends.



MASTER CYLINDER SERVICE

1 Hose Assembly

Cut the hose to desired length using hose or cable cutters. The cut end must be clean and perpendicular to itself.



2 Slide the hose nut onto the hose.



3 Push the end of the barbed hose insert into the end of the hose. To ensure your bushing is fully seated mark your hose three millimeters down from your cut, push your bushing onto the hose using the side of your workbench until it reaches your mark. Always use a new hose insert/compression bushing.



MASTER CYLINDER SERVICE

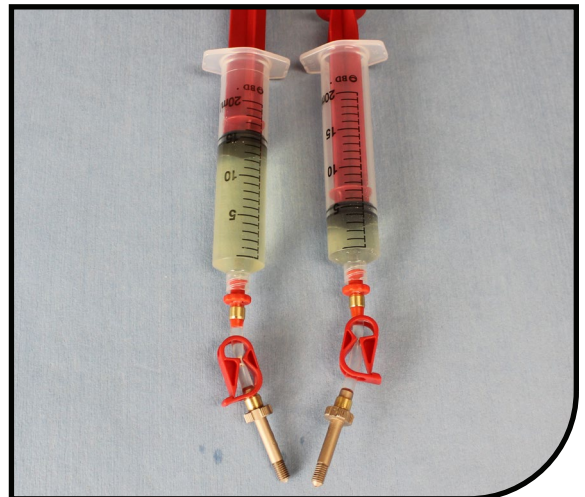
- 4** Slide the hose into the MC and install the hose nut. Be sure that the hose is inserted completely into the master cylinder. Be sure that the hose remains inserted while tightening the hose nut down.



- 5** Using an 8mm crow's foot, torque the hose nut to 70 ± 5 in lbs [7.9 ± 0.5 N m]



- 6** Bleed the system. (NOTE: See Bleed Instructions on page 17)



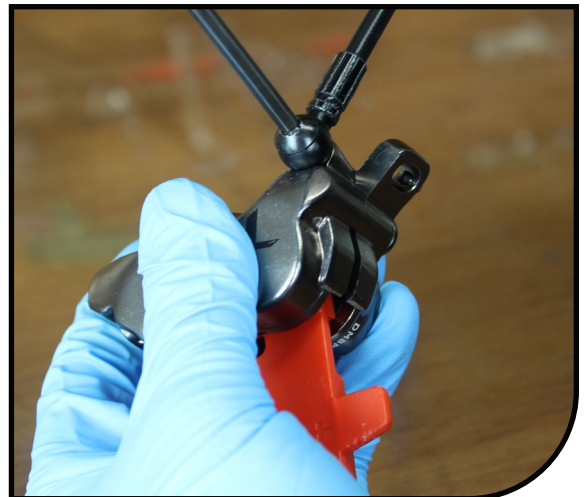
CALIPER REBUILD

1 Piston Removal

Remove the caliper from the bike by removing the two M6x1.0 x 18.4mm mounting bolts using a 5mm hex wrench.



2 If there is nothing wrong with the hose and the hose fitting, completely remove the caliper hose assembly using a 3mm hex wrench.



3 Remove the two bridge bolts - with a T30 Torx wrench. When you remove the two bridge bolts, the caliper will come apart into two pieces. There will be an inner and an outer caliper half and an O-ring between.



CALIPER REBUILD

- 4** Take the transfer port O-ring out and inspect it for any cuts or debris. This O-ring may be reused when the caliper is put back together.

NOTICE

Do not scratch O-ring groove when removing the O-ring, as this could cause the O-ring to leak.



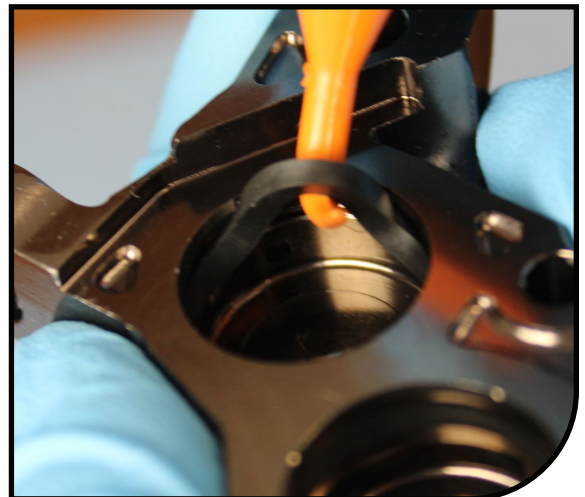
- 5** Remove the pistons from the caliper with pressurized air. Avoid chipping the piston. Ensure bleed plug is installed, angle the caliper so the piston is facing downward, then direct pressurized air thru the hole that connects the two halves together. This will force the first piston out of the caliper half. Be sure you are blowing the piston into a clean rag. The air pressure will force the piston out at a high rate of speed. Place a rag and your thumb over the open bore and use air to blow the second piston out.



- 6** Carefully remove the square seal from inside the piston bore. The replacement kit will consist of a new piston and square seal.

NOTICE

Scratching the sealing surface of the piston bore can cause leaking. To prevent this use a plastic pick to extract the piston seals.



CALIPER REBUILD

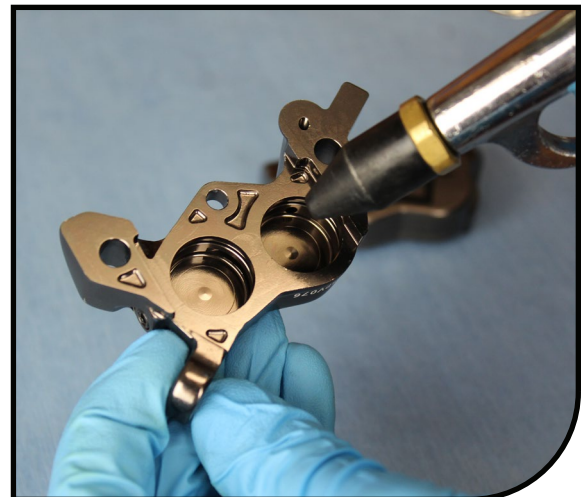
- 7** Remove the piston and square seal from the opposing caliper half in the same way.



- 8** Clean all of the parts. Then rinse each part with mild soap and water. Be sure to clean the caliper through all of the holes.



- 9** Wipe down each part to remove the residue. Then use compressed air to blow dry and remove all of the remaining dirt, etc. For both caliper halves, be sure to blow compressed air through both the bleeder hole and the transfer port, and all around the square seal groove. Take extra care to get the square seal grooves free of any hair, dirt, scratches, etc. that could cause the caliper to leak.



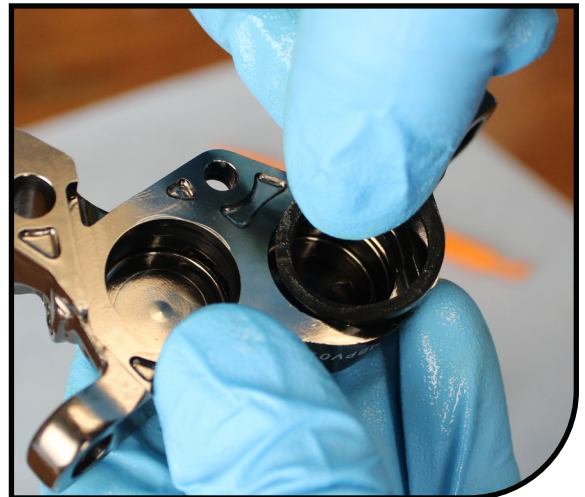
CALIPER REBUILD

1 Piston Assembly

Begin re-assembly of the caliper by lightly lubricating the new square seals with Hayes DOT 5.1 fluid and installing the new seals in the caliper halves.



2 Carefully push the square seal into its seal groove – making sure that the seal is worked into the groove all of the way around and that it is pushed all of the way to the back of the seal groove.



3 Put a coating of Hayes DOT 5.1 all around the piston as a lubricant, and carefully push the piston into the bore, past the seal, until it seats at the bottom of the bore. The piston should push in easily, if it doesn't, take the piston out and again push the square seal all of the way to the back of the groove and then try again.

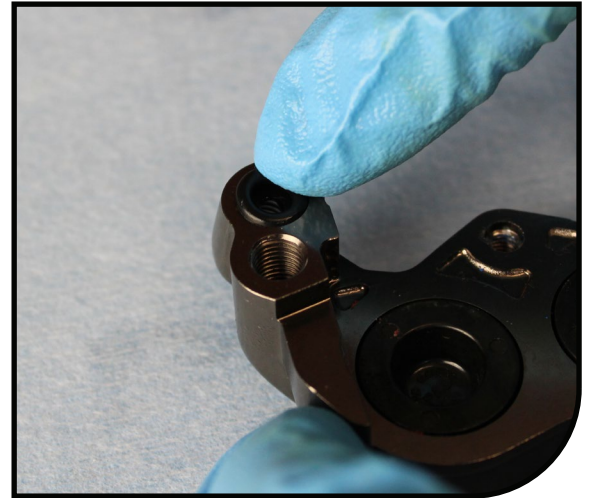


CALIPER REBUILD

1

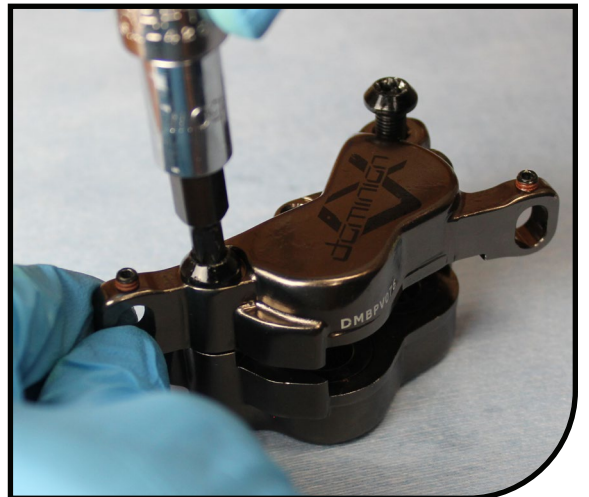
Caliper Assembly

Place the Transfer port O-ring into the O-ring seat in the outer caliper half.



2

Put the two caliper halves together and install the bridge bolts. Torque the bridge bolts to 170 in lbs +/- 5 in lbs [19.2 N m +/- 0.5 N m]



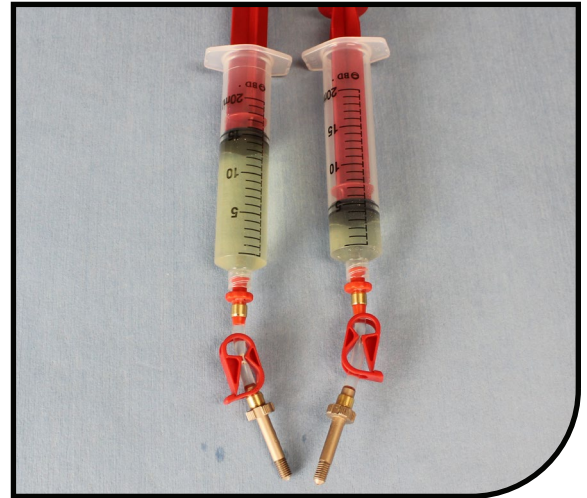
3

Reattach the hose to the caliper. Torque the Bajo bolt to 60 in lbs +/- 5 in lbs [6.78 N m +/- 0.5 N m]



CALIPER REBUILD

- 4 Reattach the hose to the caliper and bleed the system.
(NOTE: See Bleed Instructions on page 17)



BLEED INSTRUCTIONS

1 Clamp another handlebar into a repair stand and attach your MC. Position the bar so that it is 45 degrees from horizontal and position the master cylinder (MC) 45 degrees from the bottom of the bar. This positions the bleed port at the highest point of the reservoir.



2 Using a 3mm hex key remove the KingPin from your caliper and remove the pads. Push the pistons back fully. Make sure the caliper is vertical when bleeding.

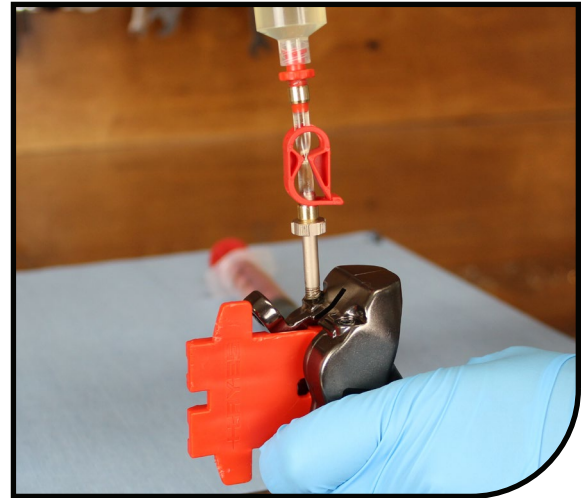


3 Fill space in caliper with dummy pads and bleed block or something else. If nothing is available then be careful during bleed not to advance the pistons.



BLEED INSTRUCTIONS

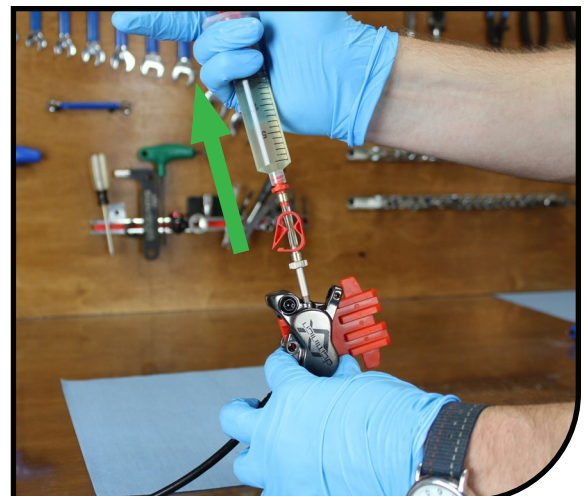
- 4** Fill a syringe 3/4 full of DOT 5.1 fluid, eliminate all air from syringe, and close hose clip. Remove the MC bleed screw using a T10 Torx wrench. Place the caliper slightly lower than the MC, and attach to either caliper bleeder.



- 5** Fill second syringe 1/4 full of DOT 5.1 fluid, eliminate all air from syringe, and close hose clip. Remove the MC bleed screw using a T10 Torx wrench and attach to the MC bleeder.

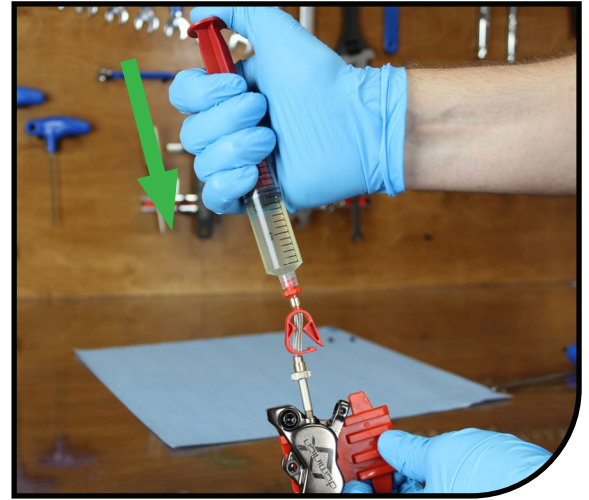


- 6** Open both syringe hose clips and pull a small vacuum at the caliper syringe to pull any air that was introduced.



BLEED INSTRUCTIONS

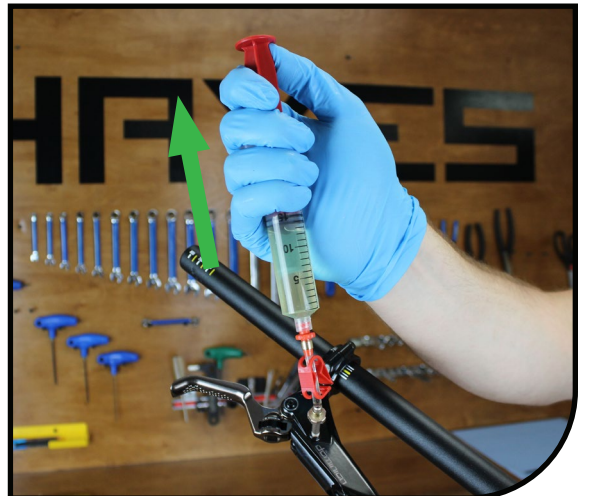
- 7** Push all DOT 5.1 fluid from caliper syringe to MC syringe, then return. Repeat until no bubbles are found.



- 8** Push DOT 5.1 fluid from caliper syringe to MC syringe while flicking the lever several times, then return.

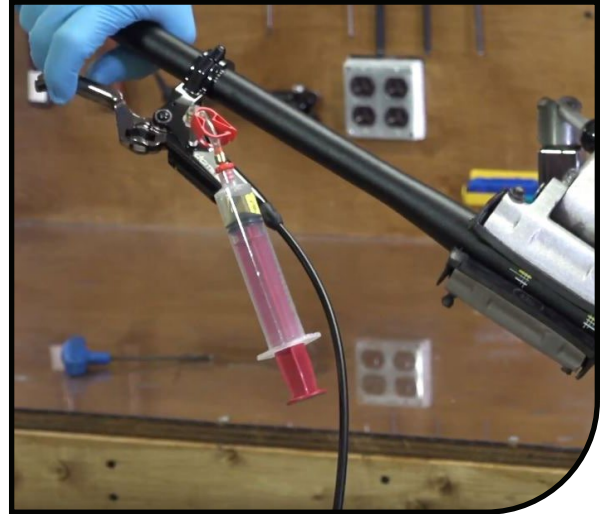


- 9** Pull a vacuum at the MC syringe to remove any remaining bubbles.

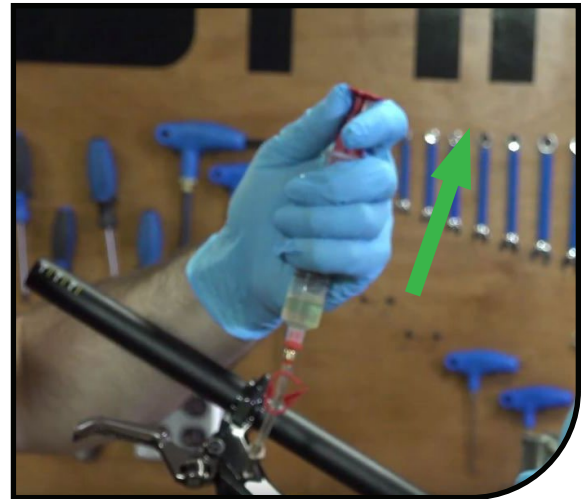


BLEED INSTRUCTIONS

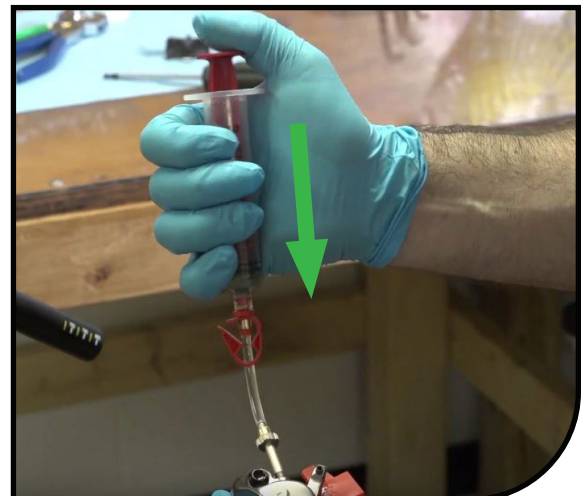
- 10** Once there are no air bubbles, push all the DOT 5.1 fluid from the caliper syringe to the master cylinder while flicking the lever several times, and then return the DOT 5.1 fluid back.



- 11** Pull a slight vacuum at the master cylinder to remove any remaining air bubbles and then add positive pressure by slightly depressing the plunger of the syringe.



- 12** Add positive pressure from the caliper syringe and remove it from the caliper.



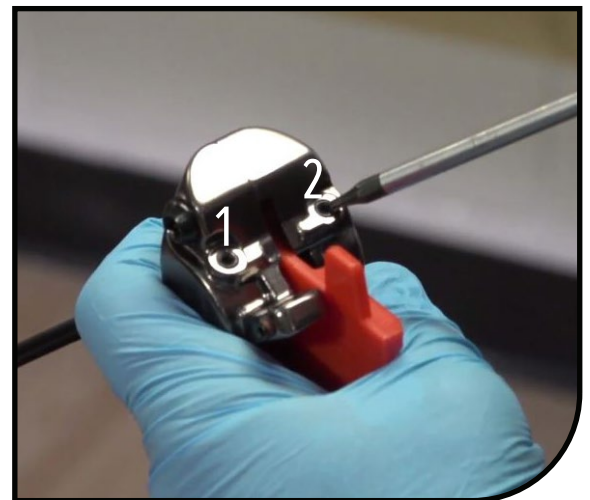
BLEED INSTRUCTIONS

- 13** Re-install the bleed screw using a T10 torx and torque to 12 in lbs [1.5 N m]. If no air remains in the system then skip to step 14. If air remains see *optional steps below.

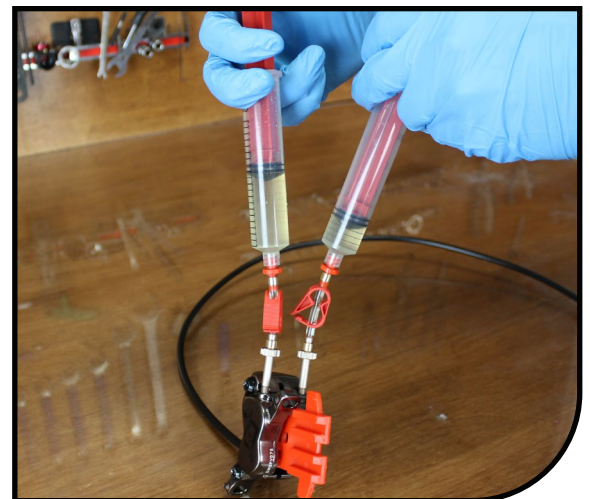


*Optional Two Stroke Features:

- *1** If air has been introduced into the system from a caliper rebuild you can utilize our Two Stroke Caliper technology to remove all air. With the caliper lower than the MC, remove the second bleed screw and repeat the entire bleed process.

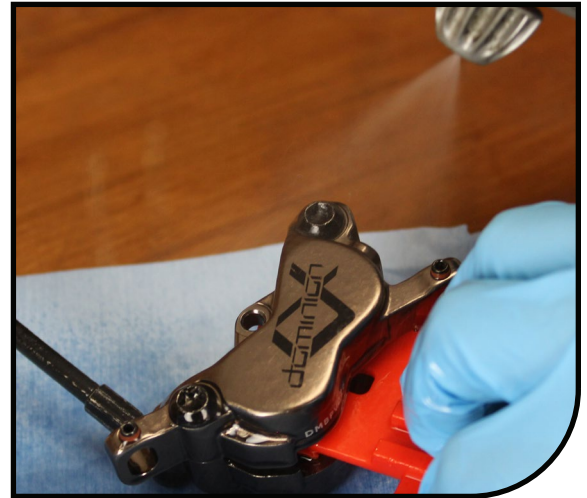


- *2** The Two Stroke system allows you to ensure that all air is removed from the caliper by performing a DOT 5.1 fluid flush of the caliper only. Simply follow the same bleed procedure as before but with both syringes attached to each bleed port on the caliper. Remember to add positive pressure to each syringe before removing at the end of the bleed.



BLEED INSTRUCTIONS

- 14** Add slight positive pressure to the MC and remove the syringe from the master cylinder and install the bleed screw using your T10 torx and torque to 12 in lbs [1.5N m]. Clean your MC and caliper with isopropyl alcohol and check the brake for proper function.



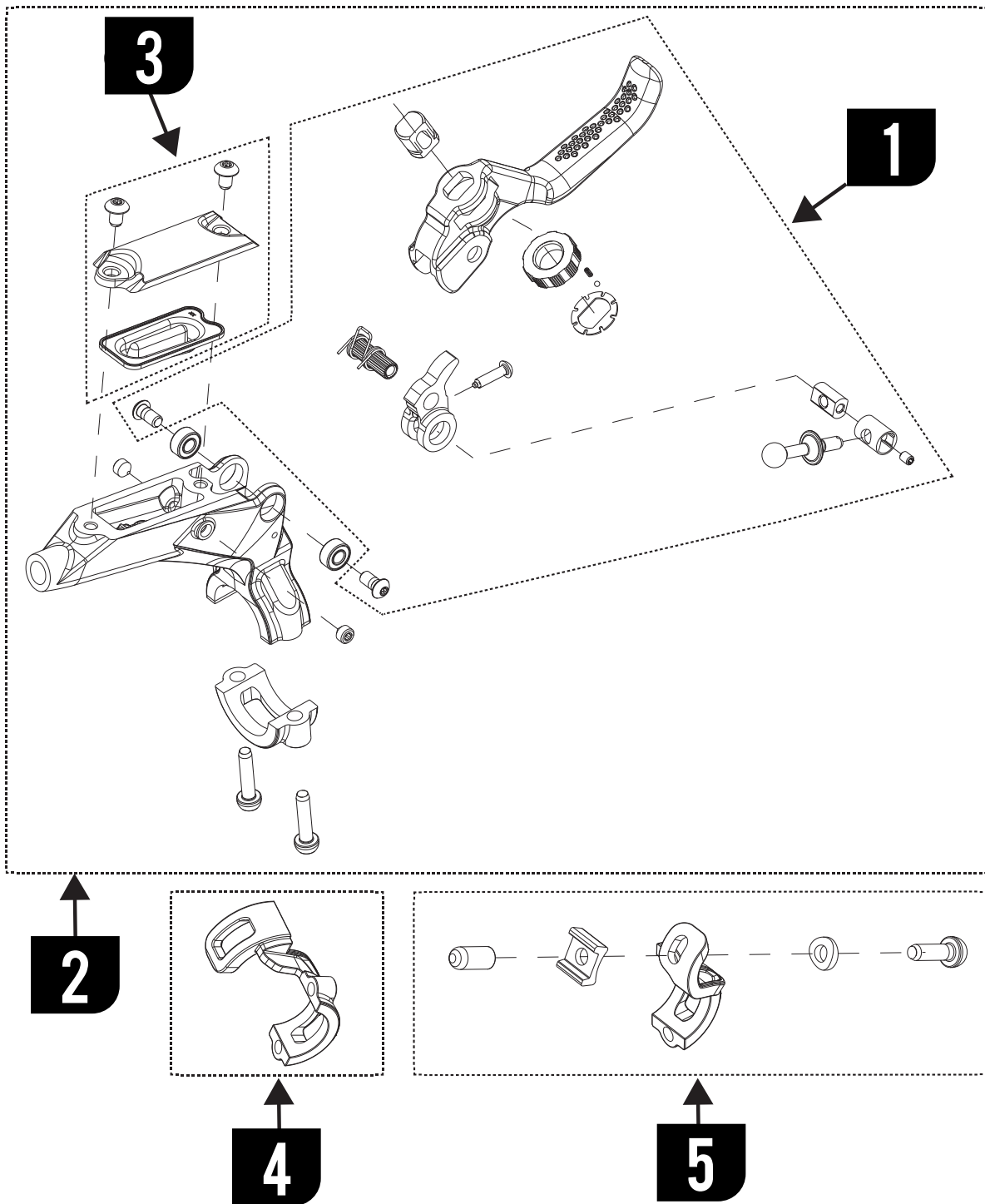
- 15** Re-install your pads and tighten KingPin using 3mm hex, torque to 30 in lbs [3.5 N m]



NOTICE

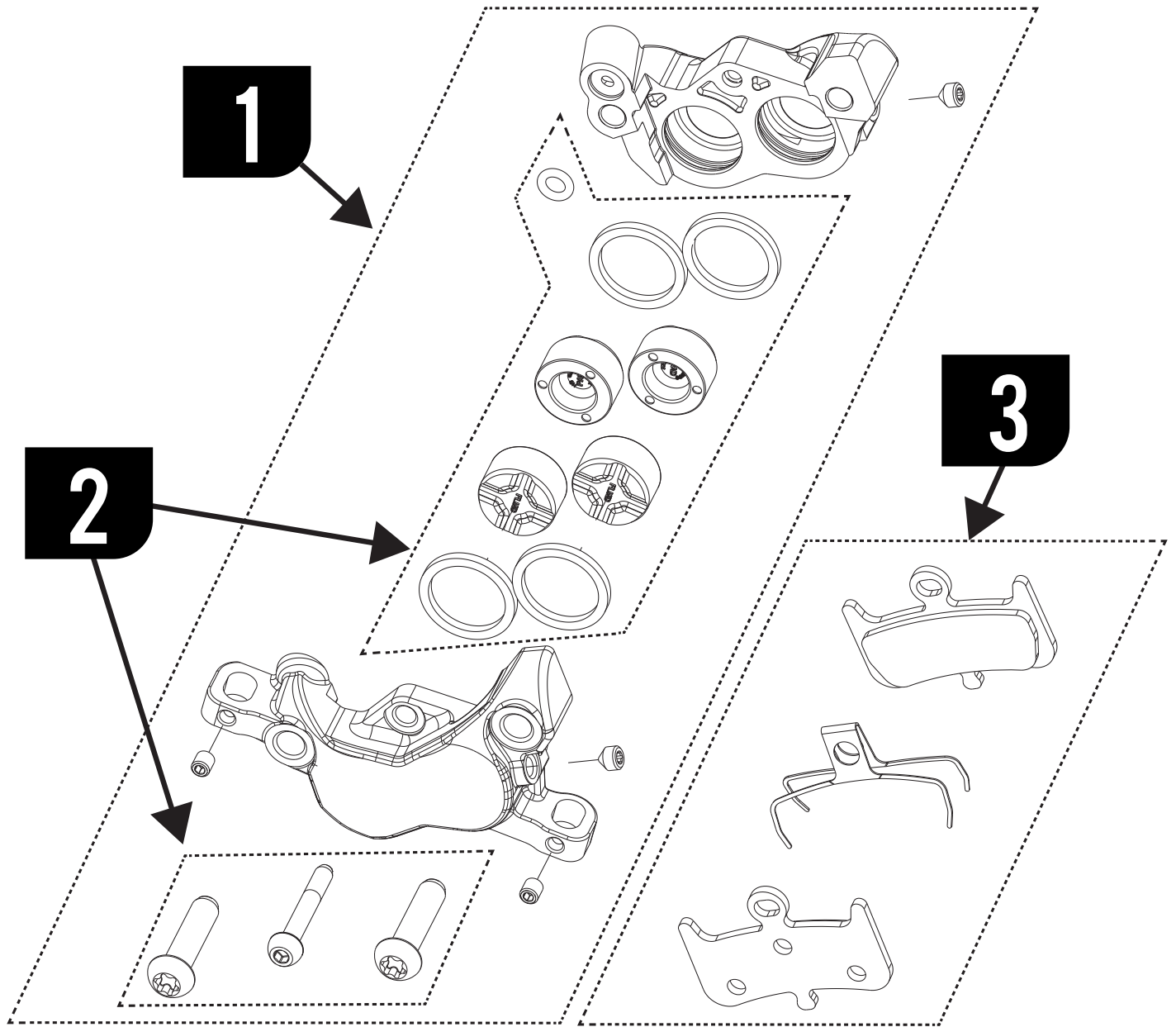
Performing the proper burnish process is essential to ensure that your new brakes have consistent, high power braking in all riding conditions. Hard braking before proper burnish can result in a reduction in brake performance. A proper burnish, or break in process of 50+ stops under 15 mph or 24 Km/h is required in order to reach full braking power.

MASTER CYLINDER EXPLODED VIEW



ITEM	KIT NUMBER	KIT DESCRIPTION
1	98-36117-K001	LEVER KIT ASSEMBLY, BRONZE
2	98-36118-K001	MASTER CYLINDER ASSEMBLY, BRONZE
3	98-36136-K001	RESERVOIR CAP, BLACK
4	98-36137-K001	SHIFT CLAMP, SHIMANO, BLACK
5	98-36137-K002	SHIFT CLAMP, SRAM, BLACK

CALIPER EXPLODED VIEW



ITEM	KIT NUMBER	KIT DESCRIPTION
1	98-36139-K001	COMPLETE CALIPER, BRONZE
2	98-36140-K001	CALIPER REBUILD KIT
3	98-36141-K001	T100 BRAKE PAD KIT
	98-36141-K002	T106 BRAKE PAD KIT

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