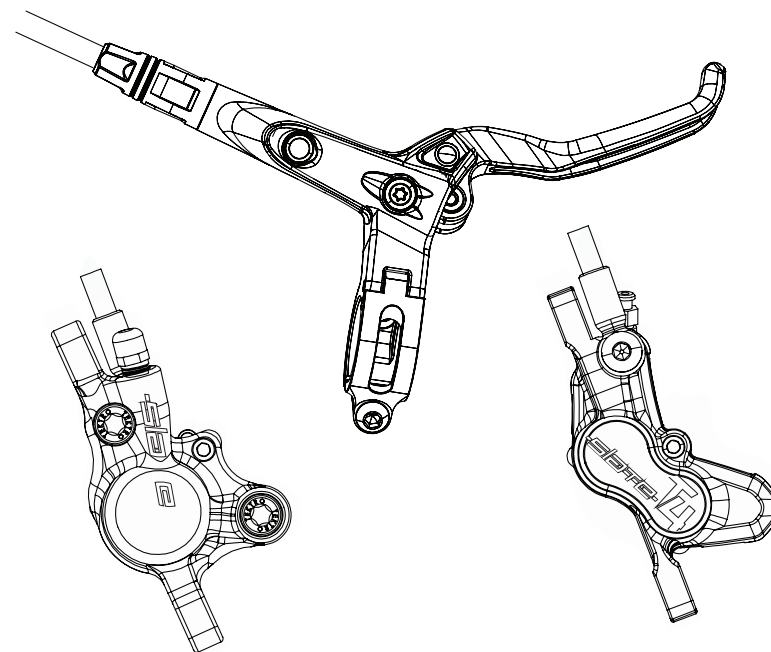


SLATE

HYDRAULIC DISC BRAKE SYSTEM



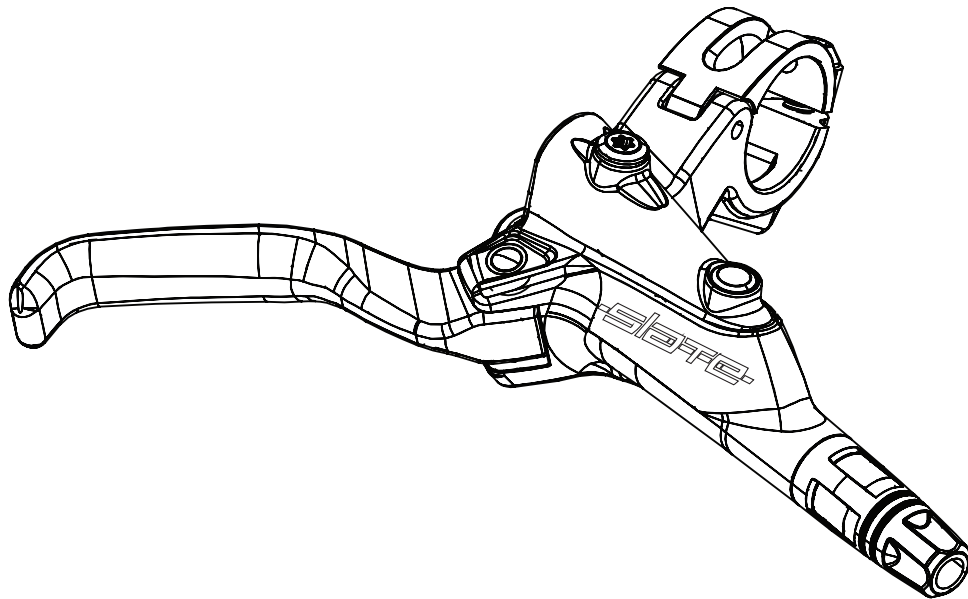
SLATE

TRP

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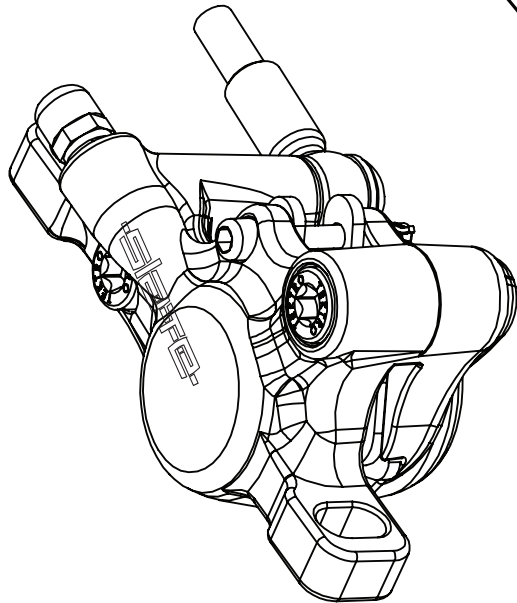
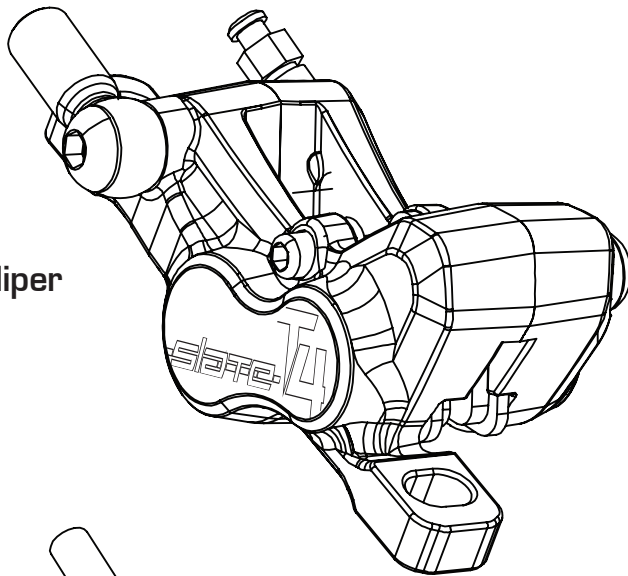
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INTRODUCTION

PLEASE READ THIS OWNER'S MANUAL COMPLETELY BEFORE ATTEMPTING TO INSTALL, SERVICE OR USE YOUR SLATE HYDRAULIC DISC BRAKE SYSTEM. FAILURE TO UNDERSTAND HOW TO PROPERLY INSTALL, USE AND MAINTAIN YOUR SLATE SYSTEM MAY LEAD TO INJURY AND DEATH. TRP RECOMMENDS HAVING YOUR SLATE SYSTEM INSTALLED BY A PROPERLY TRAINED BICYCLE MECHANIC.

T4 Caliper



X2 Caliper

a. Welcome to TRP

TRP manufactures performance oriented components for discerning individuals. Our brakes, levers, calipers, components and accessories are designed to offer premium performance across a variety of applications. Each product is conscientiously designed and thoroughly tested to ensure the best performance and quality possible.

b. Slate X2/T4

Thank you for your purchase of Slate Hydraulic Disc Brake System. The Slate system is designed to offer superior performance and unsurpassed durability in all conditions. This hydraulic brake system has been field tested by some of the worlds best riders and each system is fully vetted in the laboratory prior to shipping by our 250/250/24 QC procedure. The Slate system comes with either 160, 180 or 203mm rotor options. Depending on your application choices, you can switch to a different rotor size with the appropriate adapter.

c. Break In Period and Preferred Fluids

Hydraulic brakes have a 30-40 cycle break-in period to achieve optimal pad seating and performance. Exercise caution for the first 30-40 cycles each time you replace the brake pads. Your Slate disc brake is engineered to use TRP/Tektro branded Mineral Oil, which is environmentally friendly and offers increased performance by limiting the absorption of water better than DOT based oils. Use of other manufacturers' oils will void the warranty and may negatively impact the performance of the brakes leading to injury or death.

II. SAFETY WARNINGS & INFORMATION

a. Safety Precautions and Considerations

WARNING - This braking system was designed for use on a single rider bicycle. Use of this system on any other vehicle or apparatus will void the warranty and possibly cause you great personal harm and injury.

WARNING - Disc brake systems, including the calipers and rotors get VERY HOT during regular use. DO NOT TOUCH or attempt to service the rotor, caliper or brake assembly until you've allowed for sufficient cooling to occur.

WARNING - These hydraulic brakes offer a significant increase in performance over traditional cable actuated systems. Follow the break-in recommendations listed in this manual allowing yourself time to learn and become accustomed to the braking characteristics.

WARNING - Leaking oil indicates a potential BRAKE FAILURE. If your system is leaking oil, stop immediately and determine the nature of the problem. DO NOT continue to ride a leaking system.

WARNING - If your bike is involved in a fall or crash, stop and fully check the brake function including: lever, caliper, and rotor are securely attached to the bike, pads are correctly installed and functioning, oil line is free from kinks, nicks, and leaks, and master cylinder is intact and functioning correctly.
Always have a qualified mechanic check the brakes if you have any doubts.

WARNING - Pad thickness must be at least 0.8 mm per side. Confirm this before each ride. Keep pads clean and free of oil or hydraulic fluid. If pads become contaminated, discard and replace.

CAUTION - Read this manual completely before attempting to install or work on your TRP Brakes. If you are unfamiliar with any element of assembly or maintenance of this braking system, please consult a qualified mechanic for assistance.

CAUTION - Only use TRP or TEKTRONIC branded replacement Mineral oil when servicing the brakes. Other disc brake fluids, ESPECIALLY DOT based oils, will harm the system and compromise braking performance.

CAUTION - Store Mineral oil at normal room temperature in a dark place. Keep out of direct sunlight.

b. Emergency Information

CAUTION - As with any oil, precautions in handling and clean up of any spills should be handled according to accepted best practices as governed by your state or country. Help the world and clean up any spills promptly and completely.

CAUTION - If Mineral oil gets in your eyes IMMEDIATELY FLUSH WITH WATER for several minutes and seek medical attention.

CAUTION - If Mineral oil comes in contact with your skin, IMMEDIATELY RINSE with soap and water.

CAUTION - Do not inhale Mineral Oil, it is harmful. If inhaled, move to a well ventilated environment and seek medical attention.

CAUTION - If you ingest Mineral Oil, it may cause vomiting and/or diarrhea.

CAUTION - Please keep out of reach of children.

III. EQUIPMENT ITEM LIST

a. Slate – each complete brake comes with the following

- Fully bled brake system – READY TO RIDE!
- 160 mm, 180 mm or 203 mm rotor
- Textured Brake Lever Blade with Lever Reach Adjustment
- 950 mm Hose (front), 1800 mm Hose (rear)
- Post Mount Forged Aluminum Caliper

IV. INSTALLATION INSTRUCTIONS

a. Tools Needed for Assembly and Maintenance

The following tools will help you complete the installation:

- 2 mm Allen Wrench
- 3 mm Allen Wrench
- 4 mm Allen Wrench
- 5 mm Allen Wrench
- T25 Torx Wrench

b. Mounting the Rotor

NOTE : Be sure the rotation arrows point in the same direction as the rotation of the wheel.

Remove wheel from bike.

Clean the disc and hub-mounting surface with isopropyl alcohol (Do not use disc brake cleaner).

Using a Torx T25 driver, attach the rotor to the hub using supplied bolts and tighten to 6-8 Nm (53-71 in-lbs).

Use a star-pattern sequence to tighten the disc screws. DO NOT simply tighten them clock-wise or counter-clockwise. (Fig. 1)

Replace the wheel per manufacturers specifications.

Check and re-torque disc bolts after a few hours, and after the first ride or two.

WARNING : DO NOT touch the disc immediately after use – it will be HOT !

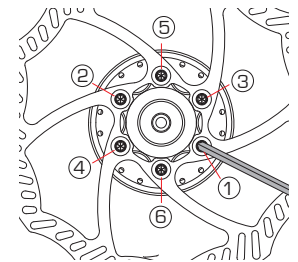


Fig. 1

c. Mounting the Brake Levers

Before mounting the brakes you should make note of where to place the shifters. Typically thumb-type shifters go on first and fasten inside the brake levers, twist-type shifters go on 2nd and rest outside the brake lever assembly.

Decide on lever placement relative to shifters.

Using the C-clamp design, which eliminates the need to remove the grips and shifters before installing your brakes, attach lever to the handlebars with the hose pointing towards the stem/center of the handlebar.

Adjust the angle of the brake lever assembly to your personal preference and tighten levers to 5–7 Nm (44–62 in lbs). (Fig. 2)

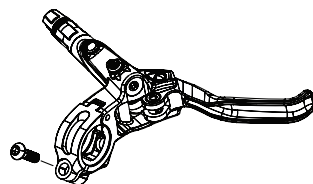


Fig. 2

d. Mount Brake Calipers to the Frame/Fork

Attach the caliper to the mounting bracket, but don't tighten completely. The Slate X2 Hydraulic Disc Brake System uses the mounting bracket to align and center the brake. Reattach the wheel. Squeeze the lever to self-align the caliper to the rotor then secure the mounting bolts. Tighten to 6–8 Nm (53–71 in lbs). (Fig 3.)

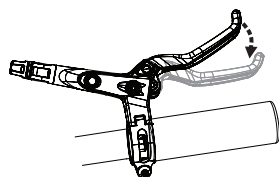


Fig. 3

Release the lever and check that the pads are aligned equally and that the wheel spins freely. Repeat for other wheel. (Fig. 4)

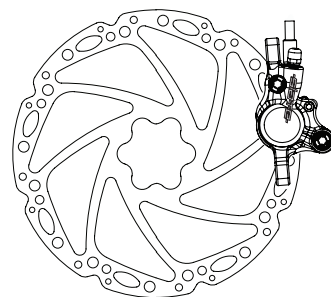
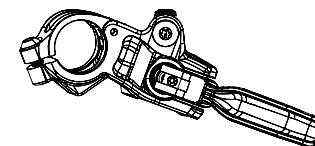


Fig. 4

c. Mounting Matchmaker and I-Spec Levers



d. Adjusting Lever Reach

You can adjust the resting position of the lever blade by using a 2mm Allen Wrench to turn the reach adjustment screw located on the inside of the lever blade, near the lever pivot pin. (Fig. 6)

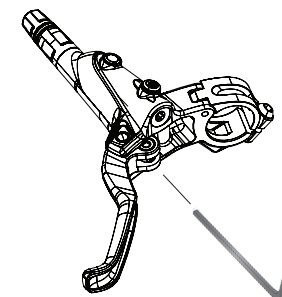


Fig. 6

V. MAINTAINING YOUR SLATE X2 DISC BRAKE

a. Safety Check

Before Every Ride.

Spin wheel to be sure rotor is undamaged and aligned.

Check for fluid leaks and/or oil loss.

Check brake pad thickness. If pads are less than 0.8mm, replace.

Check bolt tension, re-torque if necessary.

b. Changing Brake Pads

Remove wheel from bike.

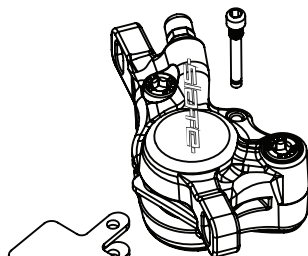
Pull the cotter pin from the brake pad retaining bolt – be careful not to lose this piece – and loosen the bolt with a 3mm allen key. Slowly pull the bolt out of its sleeve and set the bolt and cotter pin aside.

Remove the pads from the either the top or bottom of the caliper. Be careful to save the spring assembly for later use.

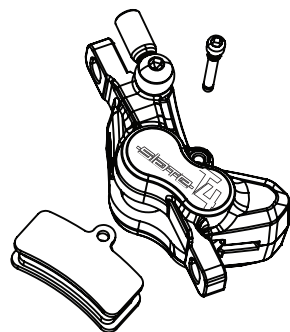
Using a disc pad setting tool, (or other non-sharp tool, such as a plastic tire lever,) be sure each piston is fully retracted by pushing it back into its housing. Push the pistons in evenly. Install new pads and spring assembly into the calipers. Reinsert brake pad retaining bolt into the caliper and reattach the cotter pin. Tighten the brake pad retaining bolt.

Repeat for other caliper.

Bleed brakes if necessary.



Slate X2



Slate T4

c. Bleeding The Brakes

- Place the bike in a work-stand, setting the lever so that the reservoir is parallel to the ground.

- Remove pads, (see section Installing and Removing Brake Pads.)

- Insert a disc brake piston setting tool or other non-sharp tool and push the pistons back into the caliper.

- Using a T15 Torx, remove the reservoir bleed plug. Set aside.

- Install the knurled bleed fitting supplied with the bleed kit into the reservoir port. Firmly attach a long plastic tube over the bleed fitting, placing the other end into a clean, dry empty bottle or plastic bag.

- Fill the syringe halfway with brake fluid. Hold the syringe vertically with the tip up and tap out any air bubbles.

- Secure the oil-filled syringe hose to the bleed valve on the caliper.

- Use a disc brake piston setting tool, 10mm bleed block or equivalent spacer to keep the pistons from moving.

- With a 7mm wrench, loosen the bleed valve 1/8-1/4 turn.

- While holding the pistons in place, start filling the brake with new mineral oil by pushing the syringe. Air bubbles may come out of the reservoir. Continue pushing fluid until you no longer see bubbles coming out of the tube.

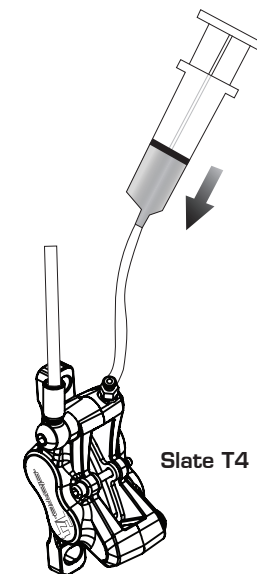
- Close the caliper bleed valve. Tighten to 0.3-0.5Nm (2.8-4.3in lbs.)

- Remove the syringe.

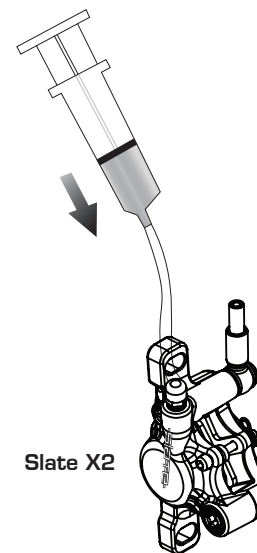
- Repeatedly squeeze the brake lever a few times. You may see a few more bubbles come up. The action should feel stiff and not spongy.

- Remove the knurled bleed fitting.

- Replace reservoir bleed plug. Tighten to 2-4Nm (18-35 in-lb.)



Slate T4



Slate X2

Fig. 5

VI. TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION CORRECTIVE ACTION
Lever pulls to handlebar	Air in system System leak	Re-bleed look for leak and See "fluid loss"
Disc rotor rubbing on pads	Caliper not centered Inadequate clearance Bent disc / rotor	Re-center caliper over disc Push pistons back Replace disc / rotor
Spongy lever	Air in system	Re-bleed
No braking power	Dirty disc / rotor Contaminated pads	Clean disc / rotor with alcohol Replace pads
Fluid Loss	Banjo leaking Hose leaking Master cylinder cap leaking	Replace hose Tighten hose nut Replace hose Tighten cap screws

CAUTION - Cleanliness is a very important part of any maintenance of the TRP hydraulic disc brake. If the pads or rotor become contaminated with oil, or if the hydraulic system becomes contaminated with impurities, braking performance will be greatly impaired. Use only TRP / TEKTRONIC brake fluid with the TRP hydraulic disc brake. Other brake fluids are not compatible and will damage the system

VII. TORQUE CHART

ITEM	TORQUE
Disc / Rotor Screws	6 - 8 Nm (53 - 71 in-lbs)
Handlebar Clamp Bolt	5 - 7 Nm (44 - 62 in-lbs)
Master Cylinder Hose Nut	5 - 7 Nm (44 - 62 in-lbs)
Master Cylinder Bleed Screw	0.6 - 0.8 Nm (5.3 - 7.0 in lbs)
Adapter Bolts	6 - 8 Nm (53 - 71 in lbs)
Lever Pivot Set Screw	0.5 - 0.6 Nm (4.4 - 5.3 in lbs)
Caliper Mount Bolts	6 - 8 Nm (53 - 71 in lbs)
Banjo Hose Connection - Caliper	6 - 8 Nm (53 - 71 in lbs)

VIII. WARRANTY AND CONTACT

TRP's Slate Hydraulic Disc Brake Systems are warranted against manufacturing defects in materials and/or workmanship for two years from the date of original retail purchase.

Not covered under this warranty is damage resulting from improper installation, adjustment or maintenance, lack of maintenance, alterations, crashes or use judged by TRP to be excessive or abusive.

For warranty related questions or more information on the Slate X2 Hydraulic Disc Brake System or any other TRP product, please visit our website at www.trpbrakes.com or contact your nearest TRP service center.

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