

INSTALLATION INSTRUCTIONS FOR HY/RD HYBRID HYDRAULIC DISC BRAKE

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, possibly cause you great personal harm and injury.

WARNING - Disc Brakes, calipers, and rotors get VERY HOT during regular use. DO NOT touch or attempt to service the rotor, caliper, 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, allow yourself 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, the cable is operating smoothly and the lever feels firm when actuating the brake.

Always have a qualified mechanic check the brakes if you have any doubts.

WARNING - Pad thickness must be at least 0.8 mm. 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 TEKTRO branded replacement Mineral Oil when servicing the brakes. Other disc brake fluids, ESPECIALLY DOT based oils, can 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. Our Mineral oil is Non-Toxic, but 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 go to the hospital.

CAUTION - If Mineral oil gets on your skin RINSE IMMEDIATELY with soap and water.

CAUTION - Do not inhale Mineral Oil, it is harmful. If inhaled move to a well ventilated environment and proceed to the hospital for appropriate care.

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

CAUTION - Please keep out of reach of children.

INSTALLATION

TOOLS NEEDED FOR ASSEMBLY AND MAINTENANCE

- 5mm Allen Wrench
- T25 Torx® wrench

A) MOUNTING THE ROTOR

- Remove wheel from bike.
- Clean the disc and hub-mounting surface with an 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 4 – 6 Nm (52 – 69 in-lbs).
- Use a star-pattern sequence to tighten the disc screws. DO NOT simply tighten them clock-wise or counter-clockwise.

(See photoA-1)

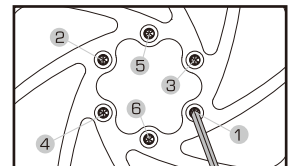
NOTE: Be sure the rotation arrows point in the same direction as the rotation of the wheel.

- Replace the wheel per the manufacture specifications.
- Check and re-torque disc screws after a few hours, and after the first ride or two.

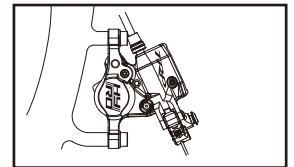
WARNING : DO NOT TOUCH THE DISC IMMEDIATELY AFTER USE – IT WILL BE HOT!

B) MOUNTING THE CALIPER

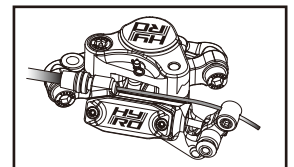
- For IS mount, hold the adapter so that the stamped "F" or "R" is facing you – away from the bike, rotor and wheel. For post mount proceed directly to next step.
- Align caliper with frame/fork mounting holes. (See photoB-1)
- Attach the caliper to the fork or frame using two mounting bolts, but do not fully tighten.
- Push the lock knob and thread into the actuating arm. Pull the cable through the arm and tighten the cable with 5mm allen wrench. (See photoB-2 ~ B-3)
- After cable is tightened release the lever arm lock. (See photoB-4)
- To align the caliper, reattach the wheel, pull the brake lever firmly to self-align the caliper on the rotor and tighten the caliper mounting bolts to 6 – 8 Nm (53 – 71 in lbs).
- Release the lever and check that the pads are aligned equally and that the wheel spins freely.
- Repeat for other wheel.
- New cable and housing will stretch after initial instruction, repeat cable tightening process to maintain proper performance. Use barrel adjuster for fine tuning only.



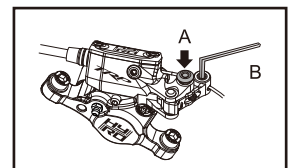
A-1 Rotor torquing sequence



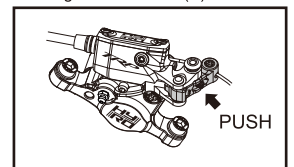
B-1 Mounting caliper



B-2 Insert the cable



B-3 Push and thread in the knob (A)
Tighten the cable (B)



B-4 Push arm and unlock the knob

BLEEDING THE SYSTEM

A) When To Bleed The System

You should always bleed the system after you have opened the system to the air at any time. Additionally, if the brake action feels spongy, you may improve performance by bleeding the system.

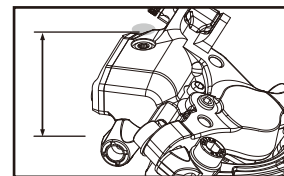
B) Tools And Equipment Required

- 3mm Allen wrench, (for bleed plug)
- T15 Torx® wrench
- Bleed fittings, (included in bleed kit)
- Piece of tubing
- Tektro brake fluid
- Piston setting tool/Bleed block
- Clean, empty bottle or plastic bag
- Cleaning towel

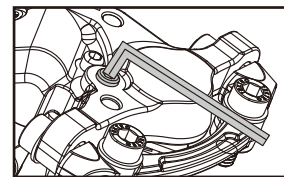
CAUTION - Cleanliness is a very important part of any maintenance of the TRP hydraulic disc brake. If the pads or rotor become contaminated with oil, or if the hydraulic system becomes contaminated with impurities, braking performance will be greatly impaired. Use only Tektro/TRP brake fluid with the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

C) Step By Step Guide

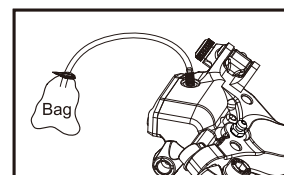
- With the brake correctly installed, place the bike in a stand or similar device to hold it securely. **(see photo C-1)**
- Remove pads (see section below INSTALLING AND REMOVING BRAKE PADS)
- Insert piston setting tool or bleed block between pistons and press pistons back into caliper.
- Using 3mm allen wrench remove caliper bleed plug and install knurled bleed fitting. **(see photo C-2)**
- Using a T15 Torx® wrench remove the reservoir bleed plug.
- Install the other bleed fitting in the reservoir bleed port. Firmly attach a long plastic tube over the reservoir bleed fitting, placing the other end into a clean, dry empty bottle, or plastic bag. **(see photo C-3)**
- Fill the syringe halfway with brake fluid. Hold the syringe vertically with the tip up and tap out any air bubbles. With the plastic tube firmly attached to the syringe, slide the open end of tube over the caliper bleed fitting.
- Use a disc brake piston setting tool or equivalent spacer to keep the pistons from moving while filling with fluid.
- Start filling the brake with new mineral oil by pushing on the syringe. Air bubbles may come out the tube from the reservoir bleed fitting. Continue pushing until you no longer see bubbles in the fluid. **(see photo C-5)**
- With light pressure on the syringe, remove the reservoir bleed fitting and replace the reservoir bleed plug using a T15 Torx® wrench. Tighten 2-4Nm (18-35 in-lb).
- Remove syringe, tube and caliper bleed fitting. Replace caliper bleed plug with a 3mm allen wrench. Tighten to 4-6Nm (35-53 in-lb.)
- Depress the brake lever a few times. The action should feel stiff and not spongy. **(see photo C-6)**
- Wipe the lever, caliper, and hose with a lint-free towel. Isopropyl alcohol can be used to clean up excess oil.



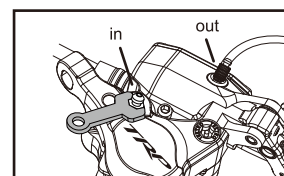
C-1. Position the body parallel to ground



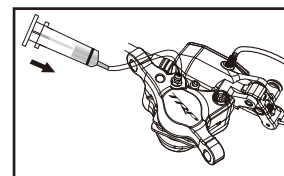
C-2. Remove caliper bleed plug



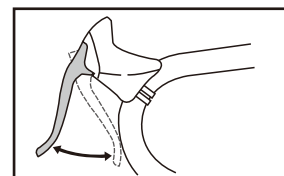
C-3. Attach a bag or a bottle to the tube



C-4. Open the outlet valve 1/4 turn



C-5. Fill the reservoir with oil by pushing the syringe



C-6. Depress the brake lever

INSTALLING AND REMOVING BRAKE PADS

A) 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. Set the bolt and cotter pin aside. **(see photo D-1)**
- Slowly pull the bolt out of its sleeve while placing your palm over the rotor end of the brake pads to catch them when they are released. Be careful to save the spring assembly for later use.
- Remove the pads from the bottom end of the caliper.
- Using a disc brake piston setting tool or similar non-sharp implement, (such as a plastic tire lever,) be sure each piston is fully retracted by pushing it back into its housing.
- Install new pads and spring assembly into the calipers.
- Reinsert brake pad retainer bolt into the caliper and re-attach the cotter pin. Tighten the brake pad assembly bolt. Be sure that the small tabs on the ends of the pads are properly aligned and seated in the notch on the top of the caliper.
- Repeat for other caliper and bleed brakes if necessary.

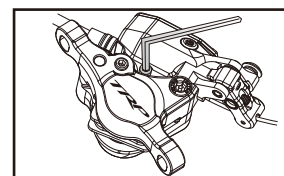
BREAK IN PERIOD AND PREFERRED FLUIDS

A) Break In Period and Preferred Fluids

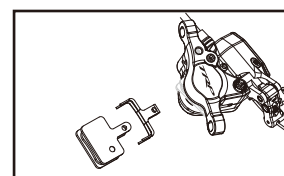
Hydraulic brakes have a 30-40 cycle break-in period to achieve optimal pad seating and performance. Exercise caution for the first 30-40 cycles each time you replace the brake pads. Your Parabox R disc brake is engineered to use TRP/Tektro branded Mineral Oil, which is environmentally friendly and offers 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.

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



D-1. Unscrew pad retainer bolt



D-2. Replace pads and holder

For questions about setup, usage or general inquiries, please contact TRP by e-mail at info@trpbrakes.com or by phone toll free in US, 877-807-4162 or outside US 1-801-648-7079.