

INSTALLATION INSTRUCTION

Hydraulic Disc Brake System

SECTION 1 GENERAL WARNING & CAUTIONS

- Read instructions thoroughly before attempting any work on Tekro hydraulic disc brakes. It is highly recommended that you seek the service of an authorized Tekro Service Center or other qualified mechanic.
- Disc brake pads, calipers and rotors may become extremely hot when used. Serious injury could result from contact with a hot brake. Care should be taken not to touch the caliper, rotor or disc brake while it is hot. Be sure to allow the brake to cool before attempting to service it in any way.
- Stop riding the bike immediately if the brake fluid is leaking or if there is an insufficient amount of brake fluid resulting in reduced or complete loss of braking power. Please seek qualified service to make the proper repairs. Continued operation with leaking brakes or insufficient brake fluid could result in a loss of braking power which may cause serious injury or death.
- Hydraulic disc brakes inherently offer considerable braking power. Care should be taking during operation to properly maintain control of the bicycle.
- Tekro hydraulic disc brake is not designed to work with the bicycle upside down. The brake may not work correctly, and a serious accident could occur, if the bicycle is turned upside down. Be sure to operate the brake lever a few times to check the brake operate normally.
- If feel no resistance when depressing the brake lever, immediately stop using the brake system, and go to dealer to check for you.

- CAUTION**
- Before every ride: confirm the brake pad thickness is greater than 2.5mm thickness. (Metal plate & wear material)
 - Pads and rotors must be kept clean and free of all contaminants including but not limited to oil, lubricants, hydraulic fluid and solvents.
 - If the pads or rotors become contaminated you must discard them and replace them with a new set.
 - The brake pads are specifically formulated to achieve optimum use with the Tekro hydraulic disc brake system. Tekro does not guarantee performance with any non-Tekro brand brake pads.

PRECAUTIONS

- **Methods for using mineral oil**
 - (1) Wear safety glasses at all times while using mineral oil. Contact with the eyes may cause inflammation. If mine real oil comes in contact with the eyes, immediately flush with water and seek medical attention.
 - (2) Wear anti-solvent gloves and long sleeves at all times while using mineral oil. Contact with the skin may cause inflammation. If mineral oil comes in contact with the skin, immediately wash with soap and water. If skin irritation develops, seek medical attention.
 - (3) Make sure your work area is well ventilated. Inhaling the fumes from the mineral oil may be harmful to your health. If you feel dizziness, nausea or any discomfort from inhalation of mineral oil fumes, seek medical attention.
 - (4) Do not ingest mineral oil. Ingestion of mineral oil may cause severe abdominal distress and vomiting and is harmful to your health. If ingested, immediately contact your nearest poison control center and seek medical attention.
 - (5) Keep mineral oil away from children.
 - (6) Do not cut or puncture the mineral oil container. Avoid excessive heat or pressure which may cause the mineral oil to explode or catch fire.

- **Waste Oil**
Please deal with it according to the laws of your country.

- **How To Store Mineral Oil**
 - (1) Please keep it under normal room temperature and in a dark place.
 - (2) Keep it out of direct sunlight.

GENERAL MAINTENANCE

- **Pad replacement**
Pads should be replaced if they become contaminated or have less than 2.5mm thickness. (Metal plate & wear material)
- **Before riding**
 - Check the pads for wear or contamination.
 - Check the hose for cracking, wear or deformation. Replace if necessary.
 - Check if the brake system is operating correctly.
- **After riding**
 - Remove any mud or contamination from the rotor slot on the caliper.
 - Clean the caliper body with a cloth.
- **At regular intervals**
 - Check the oil level in the reservoir.
 - Lubricate the brake lever pivot with grease.
 - Check to make sure that all the bolts are tightened to the correct torque specifications.

SECTION 2 INSTALLATION & ADJUSTMENT

- **Tools And Equipment Required**
The following tools are necessary to install the Tekro hydraulic disc brake:
 - 2.5mm Allen Wrench
 - 3mm Allen wrench
 - 4mm Allen wrench
 - 5mm Allen wrench
 - 8mm Spanner
 - T25 Torx® wrench

The caliper and rotor for the front and rear of the bike are the same. The only difference between front and rear disc brakes is which adapter should be used to mount the caliper to the bike. The adapter for the front fork is marked with an "F" and is designed to fit forks with international standard disc brake mounts. The rear adapter is marked with an "R" and is designed to fit international standard mounts. These adapters are an integral part of Tekro disc brakes. They allow the setup of the disc brake caliper to be relatively simple.

- **Mounting the rotor to the hub (See 2a)**
 - (1) Remove the wheel from the bike. Attach the rotor to the hub with the supplied Torx® bolts and tighten it with a T25 Torx® wrench. Final tightening torque: 4-6Nm.
 - (2) Install the wheel on the bike according to the manufacturer's instructions.

NOTE - The rotor must be installed with the "rotation" arrows pointing in the same direction as the forward rotation of the wheel.

- **Mounting the adapter (See 2b)**
 - (1) Before installing the calipers, ensure each wheel axle is correctly seated in the dropouts. (The brake rotor should be on the caliper mounting side)
 - (2) Select the correct adapter (front or rear) for the size of rotor. If your frame and/or fork utilizes IS disc, brake mounts you will need the included IS-to-post mount caliper adapter.
 - (3) Holding the adapter, with the engraved "F" or "R" facing toward you (away from the rotor and wheel), position it behind the frame/fork mounting holes. Bolt the adapter in this position to the frame/fork mounts. Now the engraved "F" or "R" should not be visible behind the mounts. Tighten the bolts to a final tightening torque of 6-8Nm.
 - (4) Make sure the pads are correctly positioned in the caliper. Attach the caliper to the adapter using the supplied Allen bolts. Do not tighten the bolts at this stage.
 - (5) With the caliper mounting bolts still loose, depress the brake lever. The caliper will correctly center itself to the rotor. Keeping the brake lever depressed, tighten the caliper mounting bolts. Final tightening torque: 6-8Nm.

- **Adjust Hose Angle (See 2c)**
Caliper with banjo connector can adjust hose angle to improve hose routing.
 - (1) A little loosen the banjo bolt with M5 Allen wrench and adjust hose angle for proper routing.
 - (2) Re-tighten the banjo bolt with tighten torque 5-6Nm.
 - (3) This adjustment maybe cause air into the caliper. Check if the brake system is operating correctly before riding.
 - (4) If brake feeling is soft then need to bleed the system.

- **Mounting the brake levers (See 2d)**
 - (1) Install the brake lever onto the handlebars in proper position and the brake hose pointing towards the center of the handlebar.
 - (2) Tighten the brake lever in the desired position by tightening it with the 4mm Allen bolt. Final tightening torque : 6-8 Nm.
 - (3) Once you have the lever assembly positioned appropriately, you can adjust the reach of the blade by 2mm Allen wrench to suit your preference. Except model No.HDC300 & HDC301 is not reach adjustable.

CAUTION - Do not completely remove any of the bolts on the lever.

SECTION 3 REMOVING THE PADS

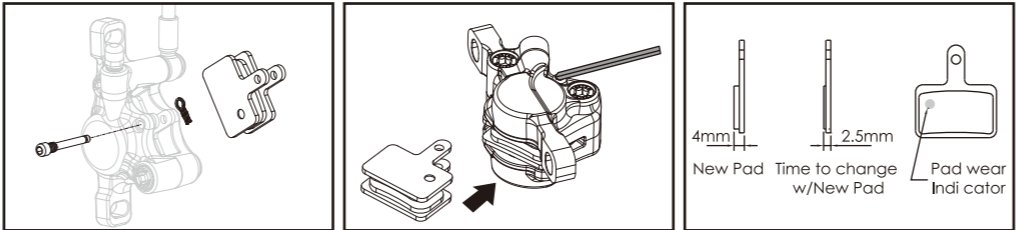
The pads and rotor must be kept clean and free from oil or hydraulic fluid. If the pads become contaminated you must discard them and replace them with a new set. The brake pads are specifically formulated to achieve optimum use with the Tekro hydraulic disc brake system.

- **Removing the brake pads**
 - (1) The Tekro hydraulic disc brake pads and pad connecting spring are held in place by a 3mm pad retainer bolt on the caliper. To remove the pads and pad connecting spring, unscrew the retainer bolt. Then gently push out the pads and holder - this may be easiest to achieve by using the Allen wrench.
 - (2) Once free of the caliper, the pads may be easily removed from the pad connecting spring.

- **Installing the brake pads**
 - (1) Position each pad on an opposite side of the holder so that the two braking surfaces are facing each other.
 - (2) Taking care not to touch the braking surfaces, push the pads in the holder together and insert into the caliper so that the protruding lip with the retainer bolt hole is aligned with the bolt hole on the caliper.
 - (3) Insert the retainer bolt and tighten it with a 3mm Allen wrench. Final tightening torque should be 3-5 Nm.

NOTE - New pads require about 10 full stops to achieve their optimum braking power.

WARNING - Tekro hydraulic disc brake offers considerable braking power. Test your Tekro hydraulic disc brake gradually on a flat surface until you become accustomed to the braking power. If you lend your bike to another person, make sure they are also properly accustomed to the brake power before riding.



SECTION 4 BLEED THE SYSTEM

You should always bleed the system after you have shortened or replaced the hose or have opened the system to the air at any time. Additionally, if the brake action feels spongy, you may improve performance by re-bleed the system.

- **Tools And Equipment Required**
 1. 2mm Allen wrench
 2. 4mm Allen wrench
 3. 7mm spanner
 4. T15 Torx® wrench
 5. 20cc syringe
 6. Piece of tubing
 7. Tekro brake fluid
 8. Piston holder
 9. A clean, empty bottle or plastic bag
 10. A cleaning towel

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

- **Step By Step Guide (See 4a - 4e)**
 - (1) With the brake correctly installed, place the bike in a stand or similar device to hold it securely parallel to the ground.
 - (2) Firmly attach a long plastic tube (supplied in the service kit) over the outlet valve, placing the other end into the syringe with oil by suitable volume.
 - (3) Using a 4mm Allen wrench, slightly loosen the brake lever's bracket retaining bolt. Turn the brake lever so that the reservoir tank is parallel to the ground.
 - (4) Using a T15 Torx® wrench remove the bolt that is on top of the reservoir tank.
 - (5) Place the outlet valve on the hole and firmly attach a long plastic tube over the outlet valve, placing the other end into a clean, dry empty bottle, or plastic bag.
 - (6) Open the outlet valve on the caliper slightly (1/8 turn to 1/4 turn). Brake fluid should now appear in the plastic tube connected to it. You may also notice air bubbles in the tube.
 - (7) Start filling the reservoir with new mineral oil by pushing the syringe. Air bubbles may come out the tube from the outlet valve on the reservoir tank of the brake lever's bracket. Be sure to fill the oil by pushing the syringe until the oil is out of the outlet valve on the reservoir tank of the brake lever's bracket, so that no air gets into the system.
 - (8) Tighten the bleed valve. Final tightening torque should be 4-6 Nm Replace the rubber outlet valve cover.
 - (9) Depress the brake lever a few times. The action should feel stiff and not spongy.
 - (10) When no more air bubbles appear to be coming out of the outlet valve, remove the outlet valve from the bracket. Using a T15 Torx® wrench tighten the bolt on that side reservoir tank. Final tightening torque 0.6-0.8 Nm.
 - (11) Wipe the lever, caliper, and hose with a lint-free towel.

- **Adjust Lever Reach**
 - (1) Once you have the lever assembly positioned appropriately you can adjust the reach of the blade to suit your preferences.
 - (2) Orion : with a reach adjustment knob located on the lever blade.
 - (3) Gemini / Auriga / Vela : The reach of the brake lever may be adjusted closer to the handlebar by tightening the 2mm reach-adjuster bolt on the lever.

WARRANTY

Tekro mechanical disc brakes are warranty against manufacturing defects in materials and /or workmanship for a period of two years period from the date of original retail purchase.

- This warranty does not apply product is damage resulting from improper installation, adjustment or maintenance, lack of maintenance, alterations, crashes or use judged by Tekro to be excessive or abusive.
- This warranty does not apply normal wear and tear.
- This warranty does not cover when product has been modified.
- This warranty does not cover any damages caused by using parts from other manufacturer.

For warranty related questions or more information on the Tekro disc brake, please contact a Tekro Service Center or contact us directly at :

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