

# Orion / Auriga Pro / Volans

## ▼ General Warning & Cautions

- Disc brake calipers, rotors and pads get 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 oil is leaking. Please carry on the proper repair, if you continue to ride with the oil spilling, the brake system may suddenly lose braking power.
- Read instructions thoroughly before attempting any work on the Tektro hydraulic disc brake. If you are in any doubt, you should seek the advice of a Tektro Service Center or other qualified mechanic.
- Be sure to confirm before riding the pads thickness must be more than 0.8 mm. Pads also 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 Tektro hydraulic disc brake system.

## ▼ Precautions

### Methods for using mineral oil

1. Always use safety glasses when handling and be careful to avoid contact with eyes. Contact with eyes may result in irritation.
2. Use gloves when handling. Contact with skin may cause skin irritation, rash and discomfort.
3. Make sure you are working in a well ventilated area and cover nose and mouth with a respirator type mask. Inhalation of oil mist or vapors may cause nausea.
4. Do not drink. May cause vomiting or diarrhea.
5. Always keep out of reach of children.
6. Do not cut, heat, weld, or pressurize the oil container as this may cause explosion or fire.

### Emergency care

1. In the event of eye contact, flush with fresh water and seek medical assistance immediately.
2. In the event of skin contact, wash well with soap and water.
3. If you inhale mist or vapor, go immediately to an area with fresh air, stay warm and stable and seek professional medical advice.

### Disposal of used oil

1. Always follow local county and/or state codes for disposal.
2. Use care when preparing oil for disposal.

### Directions for storage

After use, keep the container closed. Store in a cool, dark area, away from direct heat or sunlight.

## ▼ Installation

### A). Tools Needed For Assembly and Maintenance

The following tools will help you complete the installation:

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

### B). Mounting the Rotor

- 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 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.

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

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

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

### 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 rest inside the brake levers, twist-type shifters go on 2nd and rest outside the brake lever assembly.

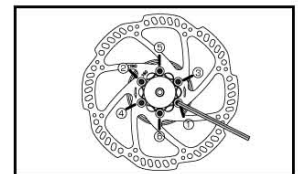
- Decide on lever placement relative to shifters.
- Using the C-clamp design, which eliminates the need to remove the grips and shifters before installing your brakes, attach lever to the handlebars with the hose pointing towards the stem/center of the handlebar.
- Adjust the angle of the brake lever assembly to your personal preference and tighten levers to 5–7 Nm (44–62 in lbs).

### D). Adjust Lever Reach

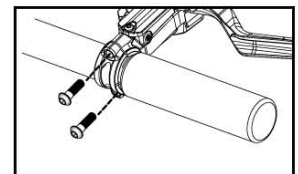
- Once you have the lever assembly positioned appropriately you can adjust the reach of the blade to suit your preferences.
- A reach adjustment knob located on the lever blade.

### E). Mount Brake Calipers to the Frame/Fork

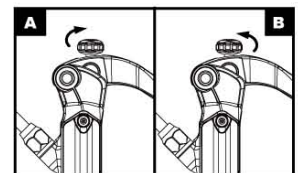
- Remove the wheel(s) and separate the front (F) and rear (R) assemblies.
- Hold the adapter so that the stamped "F" or "R" is facing you – away from the bike, rotor and wheel.
- Align caliper with frame/fork mounting holes.
- Attach the mounting bracket to the fork or rear disc tab using two mounting bolts and tighten to 6–8 Nm (52–69 in lbs)
- Attach the caliper to the mounting bracket, but don't tighten completely. The Dash system uses the mounting bracket to align and center the brake. Simply reattach the wheel, grab a handful of brake and then secure the remaining bolts. Once they are aligned tighten to 6–8 Nm (52–69 in lbs)
- Release the lever and check that the pads are aligned equally and that the wheel spins freely.
- Repeat for other wheel.



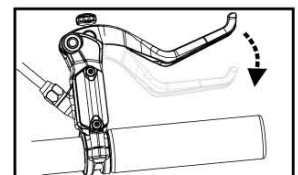
T25 Torx® wrench  
Final tightening torque: 4-6 Nm



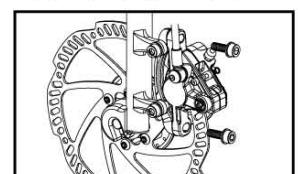
4mm Allen wrench  
Final tightening torque: 5-7 Nm



**A:** Lever closer to handlebar  
**B:** Further from handlebar



To center brake, squeeze 5 time then hold



5 mm Allen wrench  
Final tightening torque: 6-8 Nm

## ▼ Service

### A). When To 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 bleeding the system.

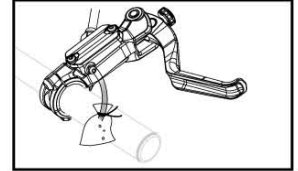
### B). Tools And Equipment Required

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

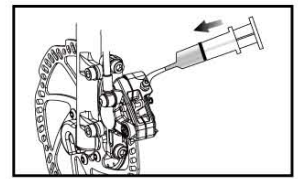
**CAUTION** - Cleanliness is a very important part of any maintenance of the Tekro hydraulic disc brake. If the pads or rotor become contaminated with oil, or if the hydraulics become contaminated with impurities, braking performance will be greatly impaired. Use only Tekro brake fluid with the Tekro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

### C). Bleeding The Brakes

- 1) Place the bike in a work-stand, setting the bike so that the reservoir tank is parallel to the ground.
- 2) Remove the reservoir tank cover and set aside.
- 3) Using a 7mm box end wrench, slide the wrench over the bleed nipple on the caliper and then attach a bleed tube to the nipple. Place the other end of the bleed tube into a clean receptacle.
- 4) Loosen the bleed nipple by an 1/8th of a turn to open, depress the brake lever, close the nipple and then release the lever.
- 5) When the oil goes into the hose the oil level in the reservoir tank will drop so be sure to continue adding oil to maintain the oil level in the reservoir so air is NOT drawn in through the port. Continue this process until you have only oil coming out of the caliper free of air bubbles.
- 6) After the system seems free of air, depress the brake lever a few times with the bleed nipple closed so that any remaining air bubbles in the system will rise up through the port into the reservoir tank. When bubbles stop appearing squeeze the brake lever as far as it will go. Under normal operation the lever should feel firm at this point.
- 7) Tighten the bleed nipple to 0.3–0.5 Nm (2.8–4.3 in lbs)
- 8) Fill the reservoir tank with oil and then replace the reservoir tank cover. Fill the reservoir tank to overflowing while replacing the cover to ensure no air bubbles enter the system. Wipe off any excess oil from the lever a caliper body. Be careful not to over tighten the reservoir cap screws, tighten to only 0.5–0.6 Nm (4.3–5.3 in lbs).



Attach a bag or a bottle to the tube



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

## ▼ Installing and Removing Brake Pads

**CAUTION** - 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

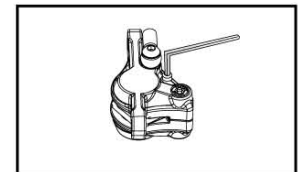
1. The Tekro hydraulic disc brake pads and pad connecting spring are held in place by a 3mm pad retainer bolt on the caliper. To remove the pads and pad connecting spring, unscrew the retainer bolt. Then gently push out the pads and holder - this may be easiest to achieve by using the Allen wrench.
2.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

### Installing the brake pads

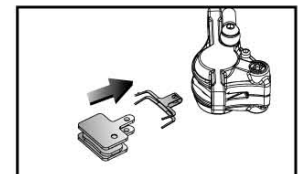
1. Position each pad on an opposite side of the holder so that the two braking surfaces are facing each other.
2. Taking care not to touch the braking surfaces, push the pads in the holder together and insert into the caliper so that the protruding lip with the retainer bolt hole is aligned with the 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 30-40 full stops to achieve their optimum braking power. This process is called bedding-in. After bedding-in is complete you may need to readjust the pads.

**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.



e-1. Unscrew pad retainer bolt



e-2. Replace pads and holder

## ▼ General Maintenance

### Pad replacement

Pads should be replaced if they become contaminated or have less than 0.8mm thickness. [see "Installing and Removing Brake Pads"]

### 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.

## ▼ Warranty

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