

# CHEETAH PLUS

Owner's Manual



## About Manual

This manual contains details of the product, information on its operation and maintenance, and other helpful tips for owners. Read it carefully and familiarize yourself with the E-Bikes before using it to ensure safe use, reduce risk of damage and premature wear, and prevent accidents. Be sure to retain this manual as your convenient E-Bikes information source.

This manual contains many Warnings and Cautions concerning safe operation, and consequences if proper setup, operation and maintenance guidelines are not followed. All information in this manual should be carefully reviewed.



The safety grade color of Caution is orange, and if not avoided, may result in moderate or serious injury.



Users should also pay special attention to information marked in this manual beginning with **"NOTICE"**



The safety grade color of Warning is red, and if not avoided will likely result in serious injury or death.

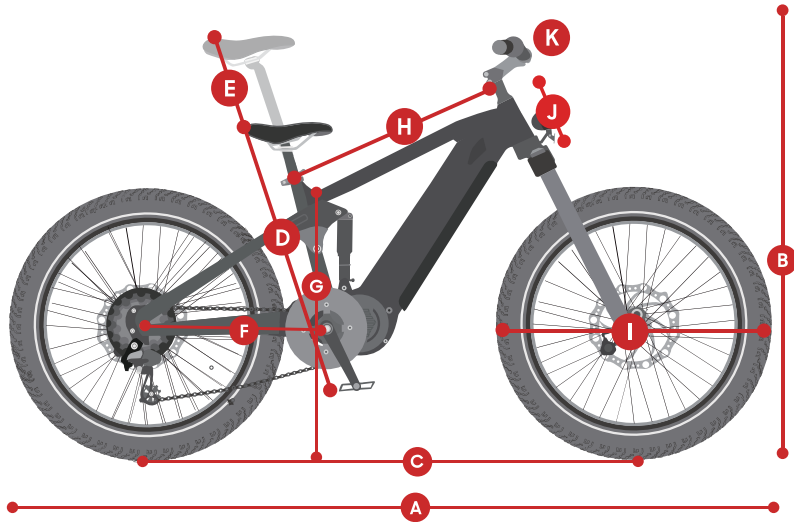
Because it is impossible to anticipate every situation or condition which can occur while riding, this manual makes no representations about the safe use of our bicycles under all conditions. There are risks associated with the use of any bicycle which cannot be predicted or avoided, and which are the sole responsibility of the rider. You should keep this manual, along with any other documents that were included with your bicycle, for future reference, however all content in this manual is subject to change or withdrawal without notice. Assembly and first adjustment of your E-Bikes requires special tools and skills, and it is recommended that this be performed by a trained bicycle mechanic if possible.

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## Bike Specification





A - Total Length	82.6 Inch
B - Handlebar Height	42.9 Inch
C - Wheelbase	51.1 Inch
D - Min Seat Height	30.3 Inch
E - Max Seat Height	37 Inch
F - Chain Stay Length	19.7 Inch
G - Standover Height	32 Inch
H - Top Tube Length	24 Inch
I - Wheel Diameter	30.3 Inch
J - Head Tube Length	5.1 Inch
K - Handlebar Length	27.6 Inch

<b>Battery</b>	48V 20Ah Samsung/LG lithium battery	<b>Charger</b>	US standard 3.0 A smart charger
<b>Range</b>	60-80 miles	<b>Controller</b>	48V/30A
<b>Hub Motor</b>	1000W mid-drive motor	<b>Display</b>	LCD display with USB charging
<b>Total Payload Capacity</b>	400 lbs	<b>Weight</b>	88 lbs
<b>Recommended Rider Heights</b>	5'3" ~ 6'4"	<b>Pedal Assist Intelligent</b>	0-5 level pedal assist
<b>Tires</b>	26" x 4.8" CST fat tires	<b>Throttle</b>	Thumb throttle
<b>Brake lever</b>	Aluminum alloy comfort grip levers with motor cutoff switch	<b>Front Fork</b>	Alloy front suspension fork with lockout and adjustment
<b>Rear Light</b>	Battery powered bike light	<b>Pedal</b>	Alloy pedals with reflectors
<b>Freewheel</b>	Shimano 10-speed gear shift system	<b>Bike Frame</b>	6061 Aluminum frame
<b>Brake</b>	180mm Hydraulic Brakes	<b>Front Light</b>	48V LED light
<b>Chain</b>	KMC chain	<b>Saddle</b>	SR saddle
<b>Stem</b>	Promax MA-400 SSABK	<b>Seat Post</b>	Diameter 30.9mm length 300mm
<b>Crank</b>	170mm forged alloy	<b>Kickstand</b>	Heavy-duty aluminum
<b>Gearing</b>	Shimano- 14-28T BROWN/BK	<b>Spokes</b>	13 Gauge front / 12 Gauge rear

# Bike Assembly Guide

## ◆ Preparation Checklist



Extra tools needed: (1)10mm Wrench (2)15mm Wrench

**NOTICE:** Before assembling your bike, it's recommended to remove the battery for the reasons outlined below:

1. Determine if there's battery drain or damage during shipping.
2. Reduce the weight of the ebike to make it easier to maneuver the bike while assembling.
3. Avoid battery damage during the assembly process.

👉 Go to page 31 to learn about removing and charging the battery.

# Bike Assembly Guide

## ◆ Preparation Checklist



Headlight



Power cable



Transformer



Pedals



Hex wrench

Extra tools needed: (1)10mm Wrench (2)15mm Wrench

**NOTICE:** Before assembling your bike, it's recommended to remove the battery for the reasons outlined below:

1. Determine if there's battery drain or damage during shipping.
2. Reduce the weight of the ebike to make it easier to maneuver the bike while assembling.
3. Avoid battery damage during the assembly process.

👉 Go to page [21](#) to learn about removing and charging the battery.



## Recommended Torque Values

Hardware Location	Recommended Torque(NM)
Handlebar	12-18
Stem	12-18
Saddle	12-18
Front Wheel(For bikes with bolts on front wheel)	15-22
Rear wheel	30-38
Bottom Bracket Parts	30-50
Pedals	28-33
Disk Mounting Bolts	3-5
Disk Caliper Mount	6-8
Crank Bolts	32-36
Rear Derailleur Cable Pinch	3-5
Front Derailleur Clamp	3-6
Saddle Post Clamp	3-6

**NOTICE:** Using an impact driver to achieve the required torque is not recommended as it might cause damage. We suggest you use the wrench set we provided and extra tools to manually adjust nuts and bolts.

# Assembly Instructions

## ◆ Handlebar Installation (4mm Hex Wrench)

**Step 1:** Loosen the bolts on your bike stem.

**Step 2** Center your handlebars and rotate them to align to the marking pointed to in the below image.



**Step 3:** Tighten bolts to handlebar stem, but don't tighten completely as you may want to further adjust the angle later to align more precisely. Test the positioning, and adjust the handlebar to your preferred angle. After determining the best position, completely tighten all the bolts on the stem.



**NOTICE:** In addition to angle, the height of the handlebar can be adjusted by adding or removing the headset spacers if needed. For those without experience, we recommend having a professional make such adjustments for safety reasons.

## ◆ Front Wheel Installation

**Step 1:** Lay a mat down to protect both bike and floor from scratches. Next, carefully flip your bike upside down for the front wheel installation.



**Step 2:** Remove the plastic axle guards from the front wheel, being careful to avoid contact with the brake rotor set.



**Step 3:** Loosen the side bolts securing the hub axle. Using your hex key, remove the side bolt.



**Step 4:** Slide the hub axle out. Pull out the red pad, which is used to protect the hydraulic brake caliper.



**Step 5:** Align the fork dropouts with the axle of the wheel hub, making sure the dropouts are fully seated on the axle. Also ensure the brake rotor is properly inserted into the caliper.



**Step 6:** Reinsert the hub axle in the same direction as before, making sure the end with the bolt thread will be closest to the red suspension adjustment knob. Then reinsert the bolt into the hub axle and tighten, also tighten the two nearby bolts securing the bracket as shown in the image.



**WARNING:** Do not pull the brake lever without having either the red pad or the brake disc inserted, as this will damage the hydraulic brake caliper.

**Step 7:** Make sure the newly-installed front wheel spins freely and evenly.



#### ◆ Headlight & Taillight Installation (Extra Tool: 10mm Wrench)

**Step 1:** Secure the headlight and tighten the nut with your 10mm wrench. Then connect the light wire connectors together. Pay careful attention to the arrows to on the wire connectors, making sure the arrows align with each other to avoid damaging the interior circuitry.



**Step 2:** Pull the hook down to lock the taillight to the steel spring.



#### ◆ Pedals Intallation

Make sure your pedals are installed on the correct side, as installing on the wrong side will damage the threads. Indicators for the right pedal (R) and left pedal (L) can be found in two places:

1. the stickers on the plastic cover, and
2. the bottom of the pedal threads.





Before you install the pedals, apply a small amount of waterproof grease onto the spindle. Start threading the pedal on by hand to ensure the pedal is going in perfectly straight, rotating in the direction of the pointer shown on the crank. If it is not spinning smoothly, make doubly sure that you have the correct left or right pedal. After initial hand-tightening, finish tightening the pedals with a standard 15mm wrench .





## ◆ Seat Adjustment

### Adjust the Seat Height:

Open the seatpost quick release lever. Adjust the seatpost height by sliding the seatpost up or down to a height appropriate for your leg length and preferred riding position. Do not extend the seatpost beyond the minimum insertion marking etched onto the seatpost.



**WARNING:** Overextending the seatpost can cause it to break or come off your bike, putting you at very high risk of serious injury or death. Avoid this danger by inserting your seatpost into the seat tube far enough that the minimum insertion point is no longer visible.



### Adjust the Seat Angle:

**Step 1:** Loosen the seat adjustment bolt beneath the seat. Move the seat backward or forward and tilt to adjust the angle within the limit markings etched on the seat rail. Do not exceed the limit markings, to ensure the safety of yourself and the bike.

**Step 2:** Tighten the seat adjustment bolt. Ensure the top and bottom of the seat rail clamp are aligned, so that the seat adjustment bolt will clamp the seat rails together properly.



## ◆ After Bike Assembly

Please write down the serial numbers found on the motor, head tube and battery on the second page of this manual to facilitate failure reporting. Make sure each letter and number is correct.



**Make sure you take down the Capital Letters here!**

Bike frame number



Battery serial number



**Make sure you take down the "hyphen" here!**

Motor serial number

## Safety Checklist

Safety Check	Basic Steps
Brakes	<ul style="list-style-type: none"> <li>o Test front and rear brakes for proper function.</li> <li>o Ensure brake pads are not overworn and are correctly positioned in relation to rims.</li> <li>o Make sure brake control cables are lubricated, correctly adjusted and display no obvious wear.</li> <li>o Check that brake control levers are lubricated and tightly secured to handlebars.</li> </ul>
Wheels and Tires	<ul style="list-style-type: none"> <li>o Inflate tires to within recommended limits displayed on sidewalls.</li> <li>o Check for bulges or signs of excessive wear.</li> <li>o Clean tires to ensure tread is exposed</li> <li>o Ensure rims run true and have no obvious wobbles or kinks.</li> <li>o Check that all wheel spokes are tight and not broken.</li> </ul>
Steering	<ul style="list-style-type: none"> <li>o Ensure handlebar grips are properly installed, and handlebars and stem are correctly adjusted and tightened to allow proper steering.</li> <li>o Check that handlebar is set correctly in relation to forks and direction of travel.</li> </ul>
Chain	<ul style="list-style-type: none"> <li>o Check that chain is oiled, clean and runs smoothly.</li> <li>o Use extra care in wet or dusty conditions.</li> </ul>
Crank and Pedals	<ul style="list-style-type: none"> <li>o Securely tighten pedals to cranks.</li> <li>o Ensure cranks are securely tightened and are not bent.</li> </ul>
Derailleurs	<ul style="list-style-type: none"> <li>o Check that derailleur(s) are adjusted and functioning properly.</li> <li>o Ensure shift and brake levers are attached to handlebar securely.</li> <li>o Check all brake and shift cables for proper lubrication.</li> </ul>
Battery Pack	<ul style="list-style-type: none"> <li>o Ensure battery is charged before use.</li> <li>o Check for any visible damage to battery pack.</li> <li>o Lock battery securely to frame.</li> </ul>

# Safety Precautions

The following safety notes provide additional information on the safe operation of your E-bike and should be closely reviewed. Improper operation, or failure to confirm correct installation, compatibility, and maintenance of any component or accessory may result in serious injury or death.

## Before Riding

- ◆ All users must read and understand this manual before first use. Additional manuals for components used on your bicycle may be provided and should also be read before use.
- ◆ Ensure you understand all instructions and safety notes/warnings.
- ◆ Follow the safety checklist on page 18 before first use and at regular intervals to ensure correct tightening and setup on your bicycle.
- ◆ Ensure the bike fits you properly before first use. Check local rules and regulations before riding.
- ◆ It is your responsibility to familiarize yourself with the laws and requirements of operation of this product in the area(s) where you ride.

## While Riding

- ◆ Always wear an approved bicycle helmet whenever using this product and ensure that all helmet manufacturer instructions are used for fit and care of your helmet. Failure to wear a helmet when riding may result in serious injury or death.
- ◆ Acceleration can be unexpectedly strong in pedal assist mode (Pedal Assist level 1-5), as when you pedal the motor assist will suddenly engage. Therefore, please pay careful attention when riding. We suggest you use Pedal Only Mode (Pedal Assist level 0) when you need to ride at a slow speed to cross roads, at intersections, or when pedestrian traffic is present, in order to avoid accidents caused by sudden acceleration.
- ◆ Make sure you securely close the quick-release lever of the front wheel, checking the wheel balance in Pedal Only Mode. If you notice the riding feels imbalanced, or the rotation of the front wheel makes noise, it likely means the bolts were not completely tightened or didn't align horizontally in the center.
- ◆ Off-road riding requires close attention and specific skills, and presents variable conditions and hazards which accompany the conditions.
- ◆ Wear appropriate safety gear and do not ride alone in remote areas.

## **E-Bike Use and Care**

The following table of contents provides general guidance on e-bike variable power assist settings and their effects on both range and performance. This content will apply broadly to most riders, but multiple factors will affect individual results including rider fitness, terrain, proper maintenance, etc. While we hope and believe you will thoroughly enjoy your e-bike, no guarantees of universal performance characteristics for all owners can be given.

# Battery Charging

## Charging Procedure for On-bike Charging

**Step 1:** Check the battery power indicator on your display.

**Step 2:** Assemble the charger as shown in Figure 1 by inserting the plug (Plug 1) into the transformer.



Figure 2

**Step 3:** Remove the rubber cover on the charging socket and insert the DC plug (Plug 2) of the charger into the battery charging socket (fig. 2).

**Step 4:** Connect the power plug (110/220 volt plug) to the power socket.

**NOTICE:** This order helps extend the battery life and effectively reduces battery damage caused by improper charging.

## Charging Procedure for Off-bike Charging

**Step 1:** Find the keys located on the handlebar (fig. 3) and cut tie to remove them. If you cut them from the handlebars, be careful not to damage any of the wires.



Figure 3



Figure 4

**NOTICE:** Please keep your key and its spare in a safe place. Once lost, they are difficult to copy. The key number correlates to the number on the keyhole (fig. 4).



**Step 2:** Use the key to unlock the battery (fig. 5). While holding the battery with one hand, detach the battery by turning the release switch located on the underside of the frame (fig. 6).



Figure 5



Figure 6

**Step 3:** Check the battery status (fig. 8):

Light Status	Charging Status
Red (on charger)	Charging
Green (on charger)	Fully charged
Yellow (on battery)	40%-60% power
Red (on battery)	40% < power



Figure 7



Figure 8

**NOTICE:** Please write down the serial number found on the battery beneath the barcode (fig. 7) on the inside front cover of this manual to facilitate failure reporting. Products that have the serial number and/or barcode removed, defaced, damaged, altered, or made illegible will not be covered by the warranty.

**Step 4:** Safest way to charge your battery-

First, assemble the charger as shown in Figure 1 inserting the plug (Plug 1) into the transformer.

Then insert the DC plug (Plug 2) into the battery charging socket.

Last, insert the power plug (Plug 3: 110/220 volt plug) to the power socket. This order helps extend the battery life and effectively reduces battery damage caused by improper charging.

The charger works on 110/220 V 56/60 Hz standard home AC power outlets. Do not open the charger to select voltage input as the charger can automatically detect and account for incoming voltage.

Project	Unit	Minimum	Max
Battery Input Voltage	V	28	55
Standby current	mA		0.1



## After Charging

1. Please unplug the main power supply first by removing the plug from the power socket, then remove the DC port from the battery. You can then check the battery status on the display screen
2. Hold the battery with one hand and turn the release switch with the other hand to install the battery. Lock the battery when finished to prevent theft.

**NOTICE:** If your battery does not seem to be charging normally and is taking longer to charge than expected, please stop charging and contact Bike seller immediately. If you notice a strange smell, or the charger and/or battery is overheating, please stop charging and contact Bike seller immediately.

## Charging Tips

- The battery can be recharged on or off the bike.
- A new battery may take longer to be fully charged when depleted.
- The charger will automatically stop charging once the battery pack is fully charged.
- You can recharge the battery after short rides as it does not have a memory effect.

## Precautions

- While charging, please keep your battery away from direct sunlight, liquid, dirt or debris, and metal objects. Do not allow the battery to be charged in environments under 14° fahrenheit (-10° Celsius) and over 104° fahrenheit (40° Celsius).
- Do not cover the charger when charging.
- Keep the battery away from children while charging.
- Make sure to only use an approved E-Bike charger purchased directly from E-Bike business for your specific bike serial number.

## Before Riding

Ensure that the battery has been properly secured to the bike before each use by grasping the battery pack and pulling upwards, testing the security of the pack.

## Battery Maintenance (48V 20AH Samsung/LG Lithium-ion battery)

- Do not fully drain your battery. Turn off the power when the battery charge is low.
- Fully charge the battery after each use, no matter how much power is used. This will prolong the battery life. If battery power is not used for a long time, store the battery with a full charge and charge it once a month.
- The Bike can be safely ridden in light rain. However, riding through very heavy downpours or through flooded streets is not recommended, as the crank and/or motor can get wet, which may cause damage.
- Keep the battery away from open flame and other high-temperature heat sources. Do not expose the battery to direct sunlight or recharge immediately after use in high-temperature weather.

**NOTICE:** It is not recommended to make any modifications to the battery or the motor. If the battery is tampered with, and there are any problems with the altered battery or motor, it will not be covered under warranty.

## Charger Care information

Please refer to the instruction manual in the charger box.

# Riding Modes

## ◆ PEDAL-ASSIST

Pedal-Assist is an operating mode on e-bikes designed to engage the motor to assist, but not replace, your own pedaling effort. When you are operating your bike in the pedal assist mode, you can adjust the setting according to your preference. The E-bikes has five pedal assist settings - ranging from 1 to 5.

- Higher pedal settings (L4/5) would be most helpful for those who want to ride faster with minimum effort. These settings are perfect for people who want to arrive fresh and timely at work, without being sweaty and exhausted.
- Lower pedal settings (L1/2) are popular for riders to use after work, or when leisurely exercise is preferred. These are best to use on the way home from work, to refresh yourself and relieve stress accumulated throughout the entire workday. Moreover, lower settings can extend usable range for longer rides, maximizing enjoyment while minimizing physical stress and fatigue.

## ◆ THROTTLE-ONLY

The throttle mode is similar to how a motorcycle or scooter operates, alleviating the need to pedal or providing an additional boost simply by twisting the throttle.

Cheetah plus can reach speeds of up to 28 miles per hour with throttle mode, which not only allows you to travel faster, but also reassures riders with extra power whenever needed, depending on traffic conditions and rider energy levels. If you are an adventurer who chases after speed and distance without compromising comfort or safety, the throttle-assisted would be your perfect companion.

## ◆ PEDAL-ONLY

In this mode, the E-bikes will perform like a normal bike, as you'll be riding without any assistance from the motor. This mode is especially useful if you run out of battery, or are looking for more intensive resistance training.

We suggest that you select a lower assistance level when you first ride your Bike. After becoming more comfortable with the riding characteristics of our e-bike, and more familiar with the varying range requirements of your most common destinations and commuting routes, you can then make any needed adjustments to pedal assist settings, as well as throttle use frequency, riding position, etc.

## ◆ Riding Limitations

Following are some limitations needing riders' careful attention to ensure the hub motor does not overheat or become damaged from excessive loading:

- Do not attempt to ride up hills steeper than 15% grade.
- Use the pedals to assist the motor when climbing hills and accelerating from a stop.
- Avoid sudden starts and stops.
- Generally accelerate at a moderate pace, rather than aggressively.

## Parking & Transport

Follow these basic parking, storage, and transport tips to ensure your bike is well cared for, both on and off the road:

- When walking with the bike, turn off the power to avoid accidental acceleration.
- Though our bikes are water resistant (IPX4 Water Resistance), please do not park your bike outdoors in cold or inclement weather for extended periods.
- When parking, switch the power and any lights off to conserve battery, remove the key from the bike, and ensure the battery is secured and locked to the frame.
- In public places, help keep your Bike safe and secure from theft by always locking it up.
- Make sure to not park, store or transport your Bike on a rack that is not designed for the size and weight of the bike. When storing or carrying your bike on a rack for transport, remove the battery to reduce the weight and make lifting or loading easier.

## Carrying Loads & Cargo

Total Payload Capacity of Cheetah Plus: 400 lbs      Weight: 88 lbs

### Cargo Safe Operation Tips:

The following list provides important tips for the safe operation of the Cheetah Plus when used for carrying

cargo. Make sure to load the cargo as low as possible to lower the center of gravity and improve stability.

1. Ensure your loads are properly secured and periodically check that nothing has loosened.
2. Plan your route accordingly when cargo is loaded on the Cheetah plus, considering hill climbing ability, steering, and braking. Also account for moderately reduced range when carrying extra cargo weight (or an additional passenger).
3. Try to get a feel for the cargo load in a flat and open private area before riding on public roads.
4. Make sure to not use the front brake by itself, with or without cargo. Always apply the rear brake first followed by the front brake. Failure of the front fork or loss of control is possible when the front brake is operated independently, especially at higher speeds.
5. The kickstand is not designed to hold the bike upright with cargo by itself, always manually hold the bike upright when loading or carrying cargo.



## Safety and Care Instructions

To ensure safe riding conditions and maximize e-bike longevity, you must follow the guidelines outlined below:

- To clean the e-bike, wipe the frame with a damp cloth soaked in a mild, non-abrasive, non-corrosive detergent mixture. Wipe or spray all unpainted parts with anti-rust treatment after being used in coastal areas or areas with salty air or water.
- Never immerse the bike or any components in water, as the electrical system may be damaged. If the hub and bottom bracket bearings have been submerged in water, they should be removed and re-greased (this will prevent accelerated bearing deterioration).
- Periodically check wiring and connectors to ensure there is no damage, and the connections are secure.
- Store under shelter, avoiding extended exposure to cold or inclement weather. If exposed to rain or excess moisture, dry your bicycle afterward and apply anti-rust treatment to the chain and any other unpainted steel surfaces.
- Regularly clean and lubricate all moving parts, tighten components and adjust as required.
- Your cables, spokes, and chain will stretch after an initial break in period of 80-160 km, and additionally bolted connections can loosen with time and usage. Therefore, we suggest you contact a certified bicycle mechanic every two months to ensure your bike is safe and problem-free for years of use.
- If the paint has become scratched, or the metal chipped, use touch-up paint to prevent rust (clear nail polish can also be used as a preventative measure).
- Damage from corrosion is not covered under warranty, therefore special care should be given to protect and extend the life of your bike.

# Maintenance

## ◆ Battery Maintenance (48V 20AH Samsung/LG Lithium-ion battery)

1. Don't fully drain your battery. Turn off the power when the battery charge is low.
2. Fully charge the battery after each use, no matter how much power is used. This will prolong the battery life. If the battery is not used for a long time, store the battery with a full charge and charge it once a month.
3. The Bike can be safely ridden in light rain. However, riding through very heavy downpours or through flooded streets is not recommended, as the crank and/or motor can get wet, which may cause problems.
4. Keep the battery away from open flame or a high-temperature heat source. Do not expose the battery to direct sunlight or recharge immediately after use in high-temperature weather.

## ◆ Chain Maintenance

1. We recommend cleaning the chain after each ride, especially in rainy and humid environments. Use a dry cloth to wipe the chain and its accessories clean. Use a brush to remove sand and dirt stuck in the chain, along with use warm soapy water if needed. Do not use strong acidic or alkaline cleaning agents (such as rust remover), because these chemicals can damage the chain.
2. Apply lubricating oil after cleaning to avoid rust. First, make sure the chain is dry, and then apply the lubricating oil into the bearings.
3. To prevent unnecessary chain wear, try to maintain a vertical chain position when shifting gears (do not use the smallest gear with the smallest flywheel, or the largest gear with the largest flywheel, etc.).

## ◆ Front Fork Maintenance

1. Always use a clean, oil-free lint-free cloth with plain or soapy water to clean your bike. To prevent water from flowing into the front fork, you can turn the bike upside down. Dry with a lint-free towel after washing. Pay specific attention to the inner tube and the dust seal to reduce wear and prevent thinning of the inner tube, which can lead to significant damage if the aluminum is exposed to air.
2. We recommend using a front fork dust cover to protect the inner tube of your front fork. This prevents dust from entering as well as hard objects from hitting the inner tube.

## ◆ Brake Maintenance

### 1. Pad replacement:

Pads should be replaced if they become contaminated or have less than 2.5mm thickness. (Metal plate & wear material)

### 2. 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.

### 3. After 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.

### 4. 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.

## 5. 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-bleeding the system.

Tools and equipment required:

- 2mm Allen wrench
- 4mm Allen wrench
- 7mm wrench
- T15 Torx® wrench
- 20cc syringe
- Piece of tubing
- Tektro brake fluid
- Piston holder
- A clean, empty bottle or plastic bag
- A cleaning towel

**CAUTION:** Cleanliness is a very important part of any maintenance of the Tektro 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 Tektro brake fluid with the Tektro hydraulic disc brake. Other brake fluids may not be compatible and may damage the system.



Step By Step Guide (See 4a - 4e)

Step 1: Place the bike in a stand. Position lever so that it sits parallel to the ground. (See 4a)

Step 2: Remove disc brake pads to avoid contamination during the bleed procedure. -Insert a disc brake piston setting tool or other non-sharp tool and push the pistons back into the caliper.

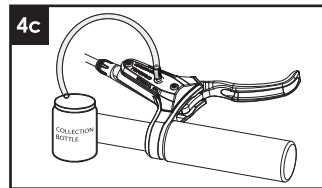
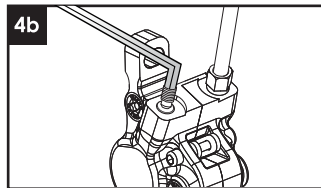
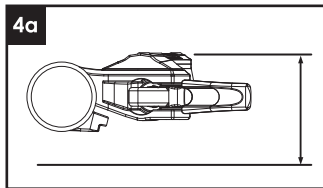
Step 3: Insert Tekro bleed block into caliper. Bleed block ensures that pistons will not move inward during bleed procedure.

Step 4: Using a T15 Torx, unscrew the bolt located at the caliper bleed port. (See 4b)

Step 5: Attach a section of plastic tubing with knurled silver bleed fitting to your syringe (supplied with bleed kit). Fill Syringe halfway with Tekro Mineral Oil. Hold the Syringe vertically with the tip up and tap out any air bubbles. Install the knurled silver bleed fitting (supplied with the bleed kit) into the caliper bleed port.

Step 6: Using a T15 Torx, remove the Reser/oir bleed plug. Set aside.

Step 7: Install the knurled silver bleed fitting (supplied with the bleed kit) into the reservoir bleed port. Firmly attach a long plastic tube over the bleed fitting, placing the other end into a clean, dry empty bottle or plastic bag .(See 4c)



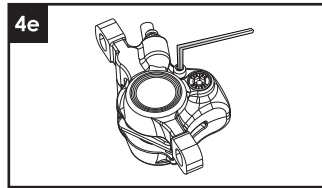
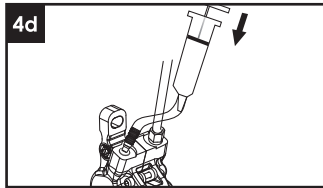
Step 8: Start filling the brake with new mineral oil by slowly pushing the syringe. Air bubbles may come out of the reservoir. Continue pushing fluid until you no longer see bubbles coming out of the tube. (See 4d)

Step 9: Remove the plastic bag or collection bottle, section of tube, and knurled bleed fitting from the brake lever reservoir. Re-install the T-15 reservoir bleed plug. Tighten to 2-4Nm.

Step 10: With the bleed plug installed at the reservoir, you may now remove the syringe and knurled bleed fitting from the caliper. Re-install the T-15 caliper bleed plug. Tighten to 2-4Nm.

Step 11: Wipe off any excess oil from the lever and caliper body.

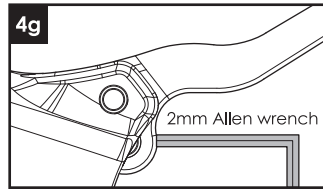
Step 12: Remove 2-Piston Bleed Block and reinstall the brake pads.



Adjust Lever Reach (See 4f - 4g)

4f. Tool free reach adjustment type-by the reach adjustment knob on the lever.

4g. By tightening the 2 mm reach-adjuster bolt on the lever.



**WARNING:** TEKTRO had implemented 2 key improvements this year for better performance, 2.3mm thickness rotors and 5.0mm brake pads.

If there is lasered "5.0mm Pad" and (or) "2.3mm rotor only" or "E.2.3" on the caliper of your hydraulic disc brakes, please make sure to replace your brake pads and rotors according to the original setup of each model. You can find more information about 2.3mm rotors and 5.0mm pads on TEKTRO website. (See 4i).

Rotor replacement:

2.3mm thickness rotor should be replaced if worn to 1.9mm thickness.

1.8mm thickness rotor should be replaced if worn to 1.5mm thickness.

