

IZIP[™]
HYBRID ELECTRIC BICYCLES

eZip[™]
ELECTRIC POWERED BICYCLES

**THIS INSTRUCTION BOOKLET CONTAINS
IMPORTANT SAFETY INFORMATION. PLEASE
READ AND KEEP FOR FUTURE REFERENCE.**

OWNER'S MANUAL

This manual covers the following brands, models and model numbers:

eZip Trailz: EZ-TRZ-BK, EZ-TRZ-RD-W, EZ-TRZ-BL-W

eZip Skyline: EZ-SKY-SL, EZ-SKY-WH-W

eZip Tri-Ride: EZ-TRIRD-SL

Izip E3 Vibe: IZ-VIBE-BK, IZ-VIBE-RD-W, IZ-VIBE-BK-W, IZ-VIBE-BK-K6, IZ-VIBE-RD-W-K6

Izip E3 Path: IZ-PATH-GY, IZ-PATH-BL-W, IZ-PATH-M-GY, IZ-PATH-L-GY

Izip E3 Zuma: IZ-ZUMA-BL, IZ-ZUMA-RD-W, IZ-ZUMA-M-BL, IZ-ZUMA-L-BL, IZ-ZUMA-RD-W

Izip E3 Metro: IZ-MET-GY, IZ-MET-GY-W, IZ-MET-M-GYBL, IZ-MET-L-GYBL, IZ-MET-GYBL-W

Izip E3 Ultra: IZ-ULT-BK, IZ-ULT-M-BK, IZ-ULT-L-BK, IZ-ULT-BK-W

Izip Compact: IZ-COM-WH



Currie Technologies®
9453 Owensmouth Avenue | Chatsworth, CA 91311
Phone (818) 734-8123 | Fax (818) 734-8199
www.CurrieTech.com
Customer Service (800) 377-4532

Lot number _____
(Buyer to fill out)



FULLY CHARGE BATTERIES BEFORE FIRST USE - Batteries should be fully charged immediately when they are received and immediately after each use for the recommended charge times (see below).

- Li-Ion (Lithium Ion) batteries 4-6 hours (2-3 hours for Via Urbano)
- SLA (Sealed Lead Acid) batteries 6-10 hours

We recommend that you consult a bicycle specialist if you have doubts or concerns as to your experience or ability to properly assembly, repair, or maintain your bicycle.

Additional warning/cautions are in the assembly section of this manual

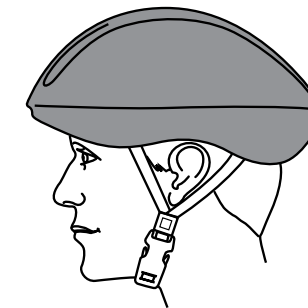
With proper care and maintenance your Currie Technologies® Hybrid Electric Bicycle will provide ease of use and be fun to ride. Below are points that will help you to maximize the enjoyment you get from your new hybrid electric bicycle.

FACTORS TO MAXIMIZE THE RANGE OF YOUR HYBRID ELECTRIC BICYCLE

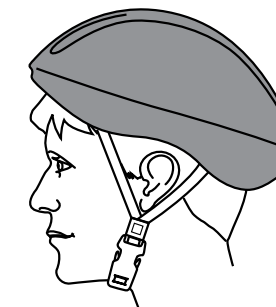
- **RIDER INPUT** - the more the rider pedals the further the distance traveled. Continuous riding, as opposed to frequent stopping and starting, will yield the greatest range possible
- **ELEVATION GAIN** - the flatter the road the further the distance traveled
- **WEATHER** - cold weather can adversely affect the battery capacity
- **WIND** - traveling with a tailwind will increase distance traveled, traveling into a headwind will decrease distance traveled
- **TERRAIN** - the smoother the terrain (roadways vs. fireroads, etc.) the further the distance traveled
- **RIDER WEIGHT** - the lighter the rider, resulting in less drain on the batteries, the further distance traveled
- **BICYCLE MAINTENANCE** - a properly maintained bicycle will yield the greatest range possible
- **TIRE PRESSURE** - properly inflated tires have less rolling resistance and will be easier to pedal
- **BATTERIES** - properly charged and maintained batteries will yield the greatest range possible. Batteries stored in cold areas (below 50 degrees Fahrenheit / 10 degrees Celsius) will show reduced range. Batteries that have not been kept in optimum condition will show reduced range and run time.

HELMETS SAVE LIVES!!!

- **ALWAYS WEAR A PROPERLY FITTED HELMET WHEN YOU RIDE YOUR BICYCLE.**
- **DO NOT RIDE AT NIGHT.**
- **CPSC RECORDS SHOW THAT ABOUT 35% OF BICYCLE RELATED DEATHS OCCUR AFTER DARK.**
- **AVOID RIDING IN WET CONDITIONS.**
- **CPSC RECORDS SHOW THAT ABOUT 65% OF INJURIES HAPPEN TO CHILDREN UNDER 15 YEARS OF AGE.**
- **RIDE ONLY WITH ADULT SUPERVISION**



CORRECT FITTING - MAKE SURE YOUR HELMET COVERS YOUR FOREHEAD.



INCORRECT FITTING. FOREHEAD IS EXPOSED AND VULNERABLE TO SERIOUS INJURY.

Personal Care from Currie Technologies®



**PLEASE DO NOT RETURN
THIS ITEM TO THE STORE.**

For questions or assistance on assembly contact
Currie Technologies® Customer Service

Congratulations on your new purchase!
**Our Service Department is dedicated to your
satisfaction with Currie Technologies® and its
products. For questions regarding performance,
assembly, operation, parts or returns, contact
the experts at Currie Technologies® directly by
calling toll free**

1-800-377-4532

Monday - Friday
8:00 am - 4:00 pm (PST)

**IMPORTANT – Please activate your warranty by
registering your new Currie product within 10
days of purchase by visiting our web site [www.
currietech.com](http://www.currietech.com) and clicking the “Register Your
Product” link.**

The following manual is only a guide to assist you and is not a complete or comprehensive manual of all aspects of maintaining and repairing your bicycle. The bicycle you have purchased is a complex object. We recommend that you consult a bicycle repair specialist if you have doubts or concerns as to your experience or ability to properly assemble, repair, or maintain your bicycle. You will save time and the inconvenience of having to go back to the store if you choose to write or call us concerning missing parts, service questions, operating advice, and/or assembly questions.

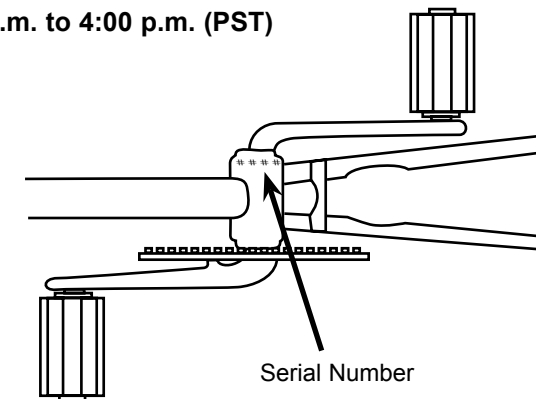
SERVICE

CALL TOLL FREE 1-800-377-4532

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Serial Number



Serial Number

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Customer Service (800) 377-4532

**Please Retain your Sales Receipt as Proof of Purchase.
Attach receipt here.**

Notes: _____



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Warning / Important - Take notice of this symbol throughout this manual and pay particular attention to the instructions blocked off and preceded by this symbol.

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TERMINOLOGY

POWER SYSTEMS

PAS – *Pedal Assist* - A sensor ring and pickup mounted near the bottom bracket allow the bicycle to sense forward pedaling and apply power. **PAS+** adds a handlebar-mounted control box that allows the rider to select between different levels of assist.

- Via Urbano (PAS+ only)

TAG – *Twist and Go* - A rider-controlled system, the motor activates only when the handlebar throttle is turned.

- Sereno, Tricruiser, Via Mezza

PAS/TAG – *Pedal Assist or Twist and Go* - A handlebar-mounted button allows selection of PAS or TAG modes. **PAS+/TAG** replaces the button with a handlebar-mounted control box that allows the rider to select between assist levels or switch to TAG.

- Coastline, Eco Ride, Skyline, Trailz, Via Lento, Via Rapido, Zuma; E3Metro (PAS+/TAG)

TMM – *Torque Measurement Method* - A sensor mounted in the rear dropout measures pedaling force and naturally adds motor power in response to rider effort.

- Trekking Enlightened, Urban Cruiser Enlightened, Ultra

BATTERY SYSTEMS

RMB – *Rack Mounted Battery with Sealed Lead Acid (SLA) cells* - Two SLA battery packs sit vertically in the rack.

- Coastline, Trailz, Via Lento

RTMB – *Rack Top Mounted Battery with Lithium Ion (Li Ion) cells* - A single Li-Ion battery pack lies horizontally inside the rack.

- Eco Ride, Via Rapido, Zuma

STB – *Seat Tube Battery with Sealed Lead Acid (SLA) or Lithium Ion (Li Ion) cells* - A single battery pack is mounted behind the seat tube.

- Tricruiser, Via Mezza, Skyline

Downtube (integrated) – *Enlightened series, Lithium Ion (Li Ion) cells* - A single Li Ion battery pack is hidden inside the frame's downtube

- E3Metro, Trekking Enlightened, Ultra, Urban Cruiser Enlightened, Via Urbano

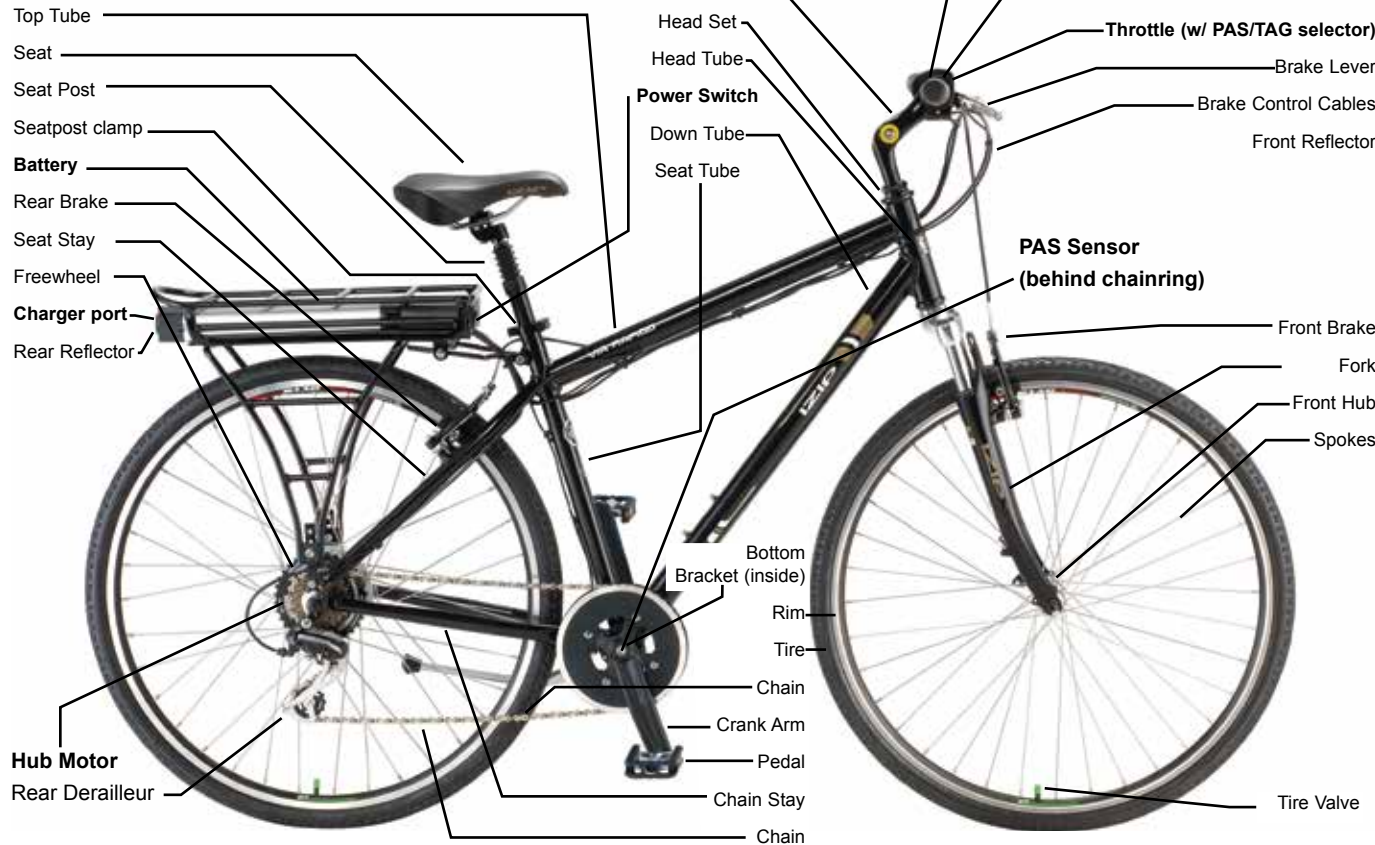




RTMB (RACK TOP MOUNTED BATTERY) BICYCLES & Standard bicycle components

Via Rapido, Zuma

Electrical components in **bold text**



*To see detailed spare parts diagrams for each bicycle, please visit www.izipusa.com and click on the page corresponding to your model.



FOLDING BICYCLES - Super portable, with easy folding design. Perfect for camping, fits in RV's, boats and car trunks.



*To see detailed spare parts diagrams for each bicycle, please visit www.izipusa.com and click on the page corresponding to your model. See page 10 for common components.



ENLIGHTENED SERIES - Lightweight, hidden, Li-Ion (Lithium Ion) battery pack in a modern designed frame. Perfect for Commuting and City Riding



*To see detailed spare parts diagrams for each bicycle, please visit www.izipusa.com and click on the page corresponding to your model. See page 10 for common components.

RMB (RACK MOUNTED BATTERY) BICYCLES



*To see detailed spare parts diagrams for each bicycle, please visit www.izipusa.com and click on the page corresponding to your model. See page 10 for common components.





Your new bicycle was partially assembled in the factory and then partially disassembled for shipping. You may have purchased the bicycle already fully assembled and ready to ride OR in the shipping carton in the partially disassembled form. The following instructions will enable you to prepare your bicycle for years of enjoyable cycling. For more details on inspection, lubrication, maintenance and adjustment of any area please refer to the relevant sections in this manual. If you have questions about your ability to properly assemble this unit, please consult a qualified bicycle service specialist before riding. If you need replacement parts or have questions pertaining to assembly of your bicycle, call the service line direct at:

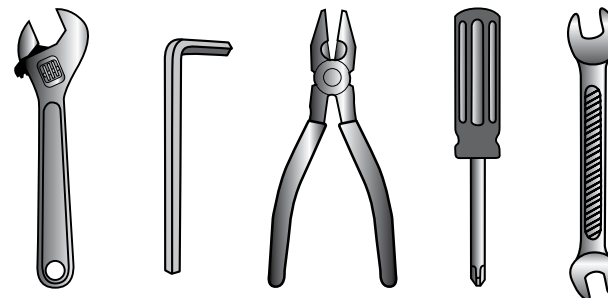
SERVICE AND TECHNICAL SUPPORT:

1 800 377 4532

Monday - Friday 8:00 a.m. - 4:00 p.m. (PST)

Typical Tools Required:

- Phillips head screw driver
- 2.5mm, 3mm, 4mm, 5mm 6mm & 8mm Allen keys
- Adjustable wrench or a 8mm, 9mm, 10mm, 13mm, 14mm, 15mm & 17mm open/box end wrenches
- A pair of pliers with cable cutting ability



When working on your bicycle as instructed by this manual, please refer to the torque values chart on pages 120-121 for detailed torque requirements. Under- or over-tightened components may loosen or break, causing a fall.



To avoid injury, this product must be properly assembled before use. If your bicycle was obtained assembled, we strongly recommend that you review the complete assembly instructions and perform checks specified in this manual before riding.





BEFORE YOU RIDE

ABOUT THIS MANUAL

It is important for you to understand your new bicycle. By reading this manual before you go out on your first ride, you'll know how to get better performance, comfort, and enjoyment from your new bicycle.

It is also important that your first ride on your new bicycle is taken in a controlled environment, away from cars, obstacles, and other cyclists.

GENERAL WARNING

Bicycling can be a hazardous activity even under the best of circumstances. Proper maintenance of your bicycle is your responsibility as it helps reduce the risk of injury. This manual contains many "Warnings" and "Cautions" concerning the consequences of failure to maintain or inspect your bicycle. Many of the warnings and cautions say "you may lose control and fall." Because any fall can result in serious injury or even death, we do not repeat the warning of possible injury or death where ever the risk of falling is mentioned.

A SPECIAL NOTE FOR PARENTS

It is a tragic fact that most bicycle accidents involve children. As a parent or guardian, you bear the responsibility for the activities and safety of your minor child. Among these responsibilities are to make sure that the bicycle which your child is riding is properly fitted to the child; that it is in good repair and safe operating condition; that you and your child have learned, understand and obey not only the applicable local motor vehicle, bicycle, and traffic laws, but also the common sense rules of safe and responsible bicycling. As a parent, you should read this manual before letting your child ride the bicycle. Please make sure that your child always wears an ANSI, ASTM, SNELL approved bicycle helmet when riding.

CORRECT FRAME SIZE

When selecting a new bicycle, the correct choice of frame size is a very important safety consideration. Most full sized bicycles come in a range of frame sizes. These sizes usually refer to the distance between the center of the bottom bracket and the top of the frame seat tube.

Please note that regardless of frame size, all IZIP bicycles (excluding the Tricruiser) have a weight limit of 240lbs/109 kg including rider and luggage.

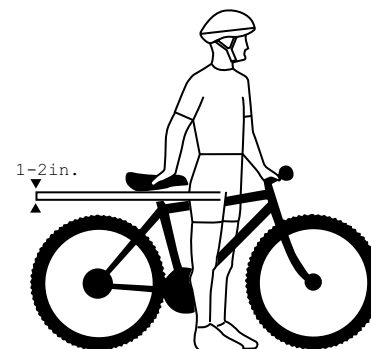


For safe and comfortable riding there should be clearance of no less than 1 - 2 inches between the groin area of the intended rider and the top tube of the bicycle frame, while the rider straddles the bicycle with both feet flat on the ground.

The ideal clearance will vary between types of bicycles and rider preference. This makes straddling the frame when off the seat easier and safer in situations such as sudden traffic stops. Women can use a men's style bicycle to determine the correct size women's model.

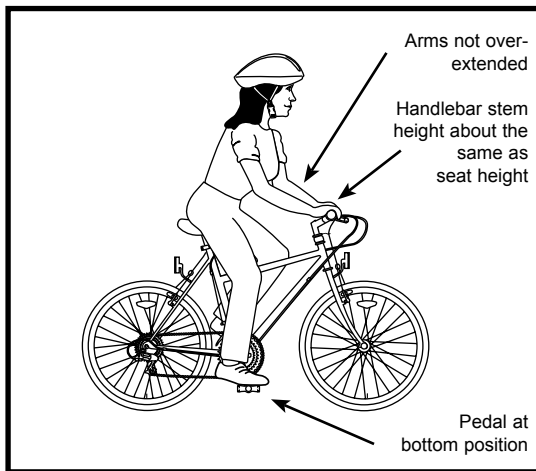
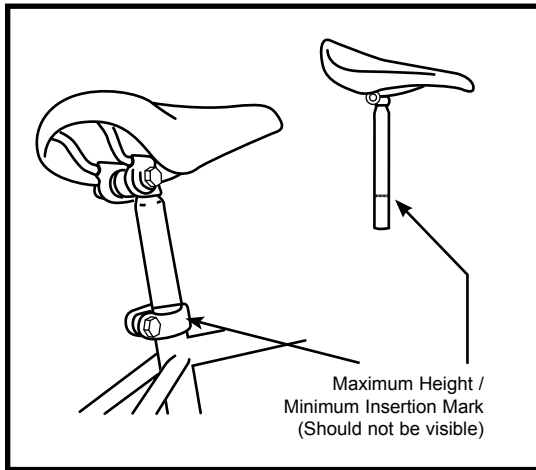
The following chart and diagram will help you make the correct choice. Rider leg length refers to approximate pant inseam.

Frame Sizing Guide



| Approximate Rider Leg Length | Suggested Frame Size for Racing/Touring Bicycle | Suggested frame Size for Mountain, Hybrid, Comfort, or Cruiser Bicycle |
|------------------------------|---|--|
| 61-69cm / 24-27 inches | - | 37cm / 14.5 inches |
| 66-76cm / 26-30 inches | - | 43cm / 17 inches |
| 71-79cm / 28-31 inches | 50cm / 19.5 inches | 45cm / 18 inches |
| 76-84cm / 30-33 inches | 55cm / 21.5 inches | 50cm / 19.5 inches |
| 79-86cm / 31-34 inches | 57cm / 22.5 inches | 52cm / 20.5 inches |
| 81-89cm / 32-35 inches | 60cm / 23.5 inches | 53-56cm / 21-22 inches |
| 86-94cm / 34-37 inches | 63cm / 25 inches | 58-60cm / 23-23.5 inches |





RIDING POSITION

Seat Height

In order to obtain the most comfortable riding position and offer the best possible pedaling efficiency, the seat height should be set correctly in relation to the rider's leg length. The correct saddle height should not allow leg strain from over-extension, and the hips should not rock from side to side when pedaling. While sitting on the bicycle with one pedal at its lowest point, place the ball of your foot on that pedal. The correct saddle height will allow the knee to be slightly bent in this position. If the rider then places the heel of that foot on the pedal, the leg should be almost straight.

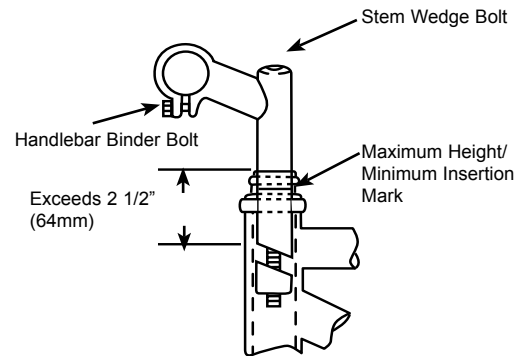


Under no circumstances should the seat post project from the frame beyond its "Minimum Insertion" or "Maximum Extension" mark. If your seat post projects from the frame beyond these markings, the seat post or frame may break, which could cause you to lose control and fall. Prior to your first ride, be sure to tighten the seat clamp properly. A loose seat clamp or seat post binder can cause damage to the bicycle or can cause you to lose control and fall. Periodically check to make sure that the seat clamp is properly tightened.

Reach

To obtain maximum comfort, the rider should not overextend his or her reach when riding.

To adjust this distance, the position of the seat can be altered in relation to the seat post. (Refer to page 66 on how to adjust the seat clamp.)



Threadless headsets and clamp-on stems are not easily adjustable. Please refer to page 61 for instructions on installation.

The stem's "Minimum Insertion" mark must not be visible above the top of the headset. If the stem is extended beyond this mark, the stem may break or damage the fork's steerer tube, which could cause you to lose control and fall.

Failure to properly tighten the stem binder bolt, the handlebar binder bolt, or the bar end extension clamping bolts may compromise steering action, which could cause you to lose control and fall. Place the front wheel of the bicycle between your legs and attempt to twist the handlebar/stem assembly using a reasonable amount of force. If you can twist the stem in relation to the front wheel, turn the handlebars in relation to the stem, or turn the bar end extensions in relation to the handlebar. Prior to riding, you must fully tighten the appropriate bolts accordingly.

Handlebar Height

Maximum comfort is usually obtained when the handlebar height is equal to or slightly higher than the height of the seat. You may wish to try different heights to find the most comfortable position.



USING THE BICYCLE RACK

Safety

Please consider the following instructions before using any luggage carrier (front or rear rack) attached to your bicycle:



- The maximum capacity of rear carrying racks on Currie products is 25kg (including any attached battery).
- The maximum capacity of front racks or baskets on Currie products is 10kg.
- Do not use any bicycle luggage carrier as a child seat.
- Be sure the combined rider and luggage weight of your bicycle does not exceed the bicycle's weight limit.
- Frequently check that all fasteners related to luggage carriers are fastened securely.
- Do not modify your luggage carrier.
- Currie bicycle racks are not designed to pull a trailer; do not attach a trailer to any luggage carrier.
- Note that bicycle handling (steering and stopping distance) may be different when the racks are carrying weight.
- Ensure that any luggage is securely fitted to the bicycle rack per the manufacturer's instructions, and that no hanging straps can get caught in the wheels.
- Be sure reflectors or lights attached to your bicycle are not obscured by your rack or attachments.
- Distribute luggage evenly on either side of the rack for even weight balance.

ATTACHMENT

The following hardware should be used to attach a rack to its respective bicycle

- RMB & RTMB bicycle racks - 4x M6 x 14mm bolts, with lock washer, stainless steel. Torque to 10Nm.
- Via Urbano rack - 4x M6 x 14mm bolts, with lock washer, stainless steel. Torque to 10Nm.
- Skyline (optional rack) - 4x M6, 14mm bolts, 2x m6 lock nuts. Stainless steel. Torque to 10Nm.
- Other racks - Use included hardware, tightening attachment bolts to 10Nm.

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SAFETY CHECKLIST

Before every ride, it is important to carry out the following safety checks:



1. Brakes

- Ensure front and rear brakes work properly.
- Ensure brake shoe pads are not over worn and are correctly positioned in relation to the rims.
- Ensure brake control cables are lubricated, correctly adjusted and display no obvious wear.
- Ensure brake control levers are lubricated and tightly secured to the handlebar.



2. Wheels and Tires

- Ensure tires are inflated to within the recommended limit as displayed on the tire sidewall.
- Ensure tires have tread and have no bulges or excessive wear.
- Ensure rims run true and have no obvious wobbles or kinks.
- Ensure all wheel spokes are tight and not broken.
- Check that axle nuts are tight. If your bicycle is fitted with quick release axles, make sure locking levers are correctly tensioned and in the closed position.



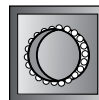
3. Steering

- Ensure handlebar and stem are correctly adjusted and tightened, and allow proper steering.
- Ensure that the handlebars are set correctly in relation to the forks and the direction of travel.
- Check that the headset locking mechanism is properly adjusted and tightened.
- If the bicycle is fitted with handlebar end extensions, ensure they are properly positioned and tightened.



4. Chain

- Ensure chain is oiled, clean and runs smoothly.
- Extra care is required in wet or dusty conditions.



5. Bearings

- Ensure all bearings are lubricated, run freely and display no excess movement, grinding or rattling.
- Check headset, wheel bearings, pedal bearings and bottom bracket bearings.



6. Cranks and Pedals

- Ensure pedals are securely tightened to the cranks.
- Ensure cranks are securely tightened to the axle and are not bent.



7. Derailleurs

- Check that front and rear mechanisms are adjusted and function properly.
- Ensure shift and brake levers are attached to the handlebar, shift and brake.
- Ensure derailleurs, shift levers and shift and brake cables are properly lubricated.



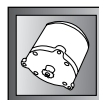
8. Frame and Fork

- Check that the frame and fork are not bent or broken.
- If either are bent or broken, they should be replaced.



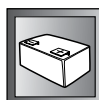
9. Accessories

- Ensure that all reflectors are properly fitted and not obscured.
- Ensure all other fittings on the bike are properly and securely fastened, and functioning.
- Ensure the rider is wearing a helmet.



10. Motor Drive Assembly and Throttle

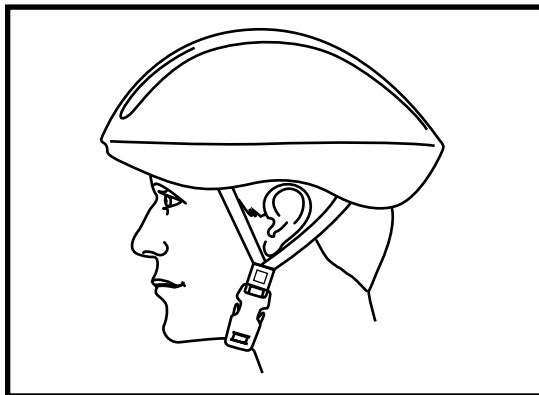
- Ensure all motor drive components are correctly mounted and functioning properly.



11. Battery Pack

- Ensure the batteries are in good operation condition and kept fully charged.





Helmets

It is strongly advised that a properly fitting, ANSI or SNELL approved, bicycle safety helmet be worn at all times when riding your bicycle.

The correct helmet should:

- be comfortable
- be lightweight
- have good ventilation
- fit correctly
- cover forehead



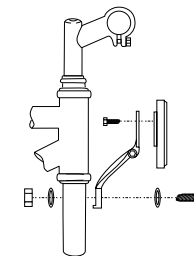
Always wear a properly fitted helmet which covers the forehead when riding a bicycle. Many states require specific safety devices. It is your responsibility to familiarize yourself with the laws of the state where you ride and to comply with all applicable laws, including properly equipping yourself and your bike as the law requires. Reflectors are important safety devices which are designed as an integral part of your bicycle. Federal regulations require every bicycle to be equipped with front, rear, wheel, and pedal reflectors. These reflectors are designed to pick up and reflect street lights and car lights in a way that helps you to be seen and recognized as a moving bicyclist. Check reflectors and their mounting brackets regularly to make sure they are clean, straight, unbroken and securely mounted. Replace damaged reflectors and straighten or tighten any that are bent or loose.

Reflectors

Your bicycle is supplied with one front (white), one rear (red), two wheel (white), and four pedal (orange) reflectors. These are an important safety and legal requirements, and should remain securely fitted and in good, clean condition at all times. Periodically inspect all reflectors, brackets and mounting hardware for signs of wear or damage. Replace immediately if damage is found. Some bicycles will require you to install your reflectors onto your bicycle. Please refer to the following section for instructions on all the types of bicycle reflectors.

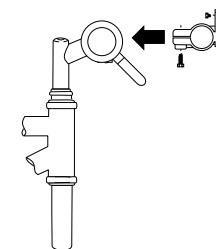
Fork Mount Reflector Bracket Assembly

First insert one washer onto the hex bolt and insert hex bolt through the reflector bracket and then through the fork. Next, insert a second washer onto the bolt and thread a hex nut onto the bolt behind the fork. Tighten bolts until snug, making sure the reflector is in an upright position. See diagram at the right.



Front Reflector Mount with Handlebar Bracket Assembly

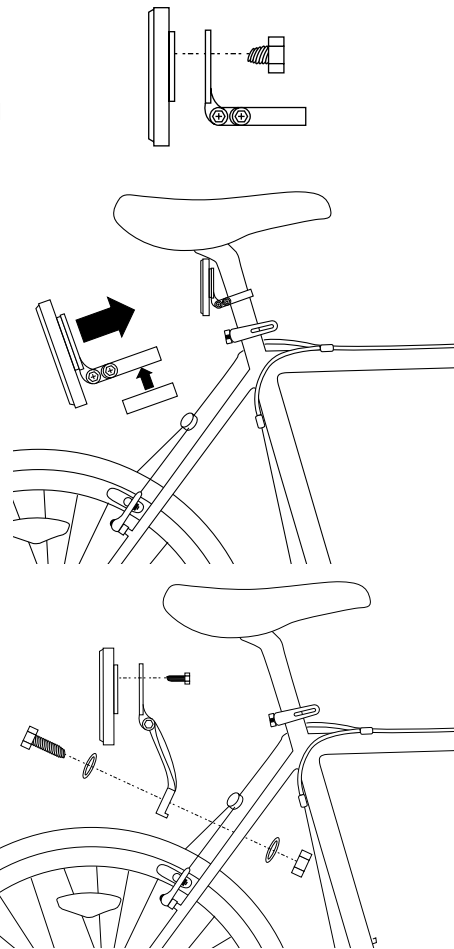
First attach the reflector to the reflector bracket with the reflector screw, if not already done. Next, remove the clamp screw and open the reflector clamp bracket. Place reflector clamp bracket around the handlebar. Tighten the clamp screw to hold reflector assembly in place. Finally, adjust the reflector assembly in place and ensure that it is upright and facing away from the bike.





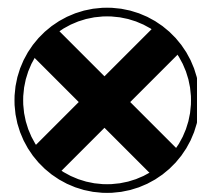
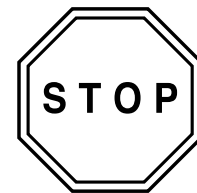
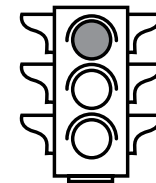
Seat and Handlebar Mounting Reflectors

First attach the reflector to the reflector bracket with the reflector screw, see the top diagram. Next, remove the clamp screw and open the clamping reflector bracket. Place clamping reflector bracket around the handlebar or seatpost. If the clamp is too loose, insert a rubber spear inside of the clamp. Tighten the clamp screw to hold reflector assembly in place, see the second diagram. Finally, adjust the reflector assembly in place and ensure that it is upright and facing away from the bike.



Seatstay Mount Reflector Bracket Assembly

First insert one washer onto the hex bolt and insert hex bolt through the reflector bracket and then through the seatstay bridge. Next, insert a second washer onto the bolt and thread a hex nut onto the bolt behind the seatstay bridge. Tighten bolts until snug, making sure the reflector is in an upright position. See diagram at the bottom right.



RIDING SAFELY

General Rules

When riding obey the same road laws as all other road vehicles, including giving way to pedestrians, and stopping at red lights and stop signs.

For further information, contact the Road Traffic Authority, police department or Department of Motor Vehicles in your State.

Ride predictably and in a straight line. Never ride against traffic.

Use correct hand signals to indicate turning or stopping.

Ride defensively. To other road users, you may be hard to see.

Concentrate on the path ahead. Avoid pot holes, gravel, wet road markings, oil, curbs, speed bumps, drain grates and other obstacles.

Cross train tracks at a 90 degree angle or walk your bicycle across.

Expect the unexpected such as opening car doors or cars backing out of concealed driveways.

Be extra careful at intersections and when preparing to pass other vehicles.

Familiarize yourself with all the bicycle's features. Practice gear shifts, braking, and the use of toe clips and straps, if fitted.

If you are wearing loose pants, use leg clips or elastic bands to prevent them from being caught in the chain or gears. Wear proper riding attire and avoid wearing open toe shoes.

Don't carry packages or passengers that will interfere with your visibility or control of the bicycle. Don't use items that may restrict your hearing.

Do not lock up the brakes. When braking, always apply the rear brake first, then the front. The front brake is more powerful and if it is not correctly applied, you may lose control and fall.

Maintain a comfortable stopping distance from all other riders, vehicles and objects. Safe braking distances and forces are subject to the prevailing weather conditions.

Use designated bicycle paths if possible.

This bicycle is designed for on-road use only. It is not intended to be used for stunt riding, jumping, carrying passengers, or riding off-road. If used incorrectly, the rider risks damage to components, injury, or death.





Wet Weather



IT IS RECOMMENDED TO NOT RIDE IN WET WEATHER This hybrid electric bicycle is not meant for use in the water (damp roads, puddles, rain, streams, etc.). Never immerse this product in water as the electrical system may be damaged.

Although the electrical components are water resistant and there is little risk of electric shock from wet weather, you should exercise caution and strongly consider not riding in such conditions, especially heavy rain.



- In wet weather you need to take extra care.
- Brake earlier, stopping distance is up to 6 times longer.
- Decrease your riding speed, avoid sudden braking and take corners with additional caution.
- Be more visible on the road.
- Wear reflective clothing and use safety lights.
- Potholes and slippery surfaces such as line markings and train tracks all become more hazardous and more difficult to see when wet.



Night Riding



IT IS RECOMMENDED TO NOT RIDE AT NIGHT

- Ride at night only if necessary. Slow down and use familiar roads with street lighting, if possible.
- Ensure bicycle is equipped with a full set of correctly positioned and clean reflectors.
- Use a properly functioning lighting set comprising of a white front lamp and a red rear lamp.
- If using battery powered lights, make sure batteries are well charged.
- Some rear lights available have a flashing mechanism which enhances visibility.
- Wear reflective and light colored clothing.



Pedaling Technique

- Position the ball of your foot on the center of the pedal.
- When pedaling, ensure your knees are parallel to the bicycle frame.
- To absorb shock, keep your elbows slightly bent.
- Learn to operate the gears properly. (Refer to pages 118-119)

Hill Technique

- Gear down before a climb and continue gearing down as required to maintain pedaling speed.
- If you reach the lowest gear and are struggling, stand up on your pedals. You will then obtain more power from each pedal revolution.
- On the descent, use the high gears to avoid rapid pedaling.
- Do not exceed a comfortable speed; maintain control and take additional care.

Cornering Technique

Brake slightly before cornering and prepare to lean your body into the corner. Maintain the inside pedal at the 12 o'clock position and slightly point the inside knee in the direction you are turning. Keep the other leg straight, don't pedal through fast or tight corners. While going through the turn, keep your eyes parallel to the horizon and look as far ahead of you as possible.

Please refer to pages 116-117 for braking techniques and pages 118-119 for gear shifting techniques.

Rules for Children

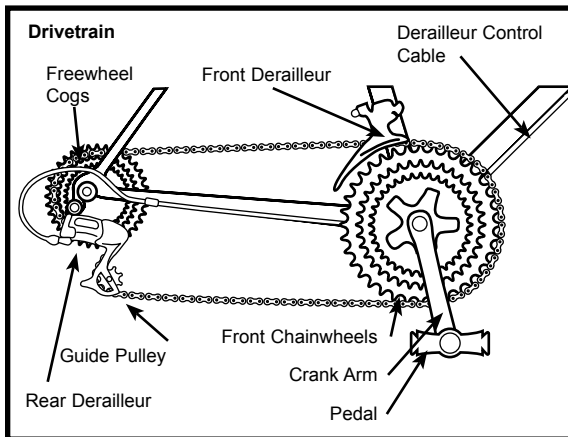
Currie products are designed for riders age 13 or older. To avoid accidents, teach children good riding skills with an emphasis on safety from an early age. Children should always be supervised by an adult.

1. Always wear a properly fitted helmet.
2. Do not play in driveways or the road.
3. Do not ride on busy streets.
4. Do not ride at night.
5. Obey all the traffic laws, especially stop signs and red lights.
6. Be aware of other road vehicles behind and nearby.
7. Before entering a street: Stop, look right, left, and right again for traffic. If there's no traffic, proceed into the roadway.
8. If riding downhill, be extra careful. Slow down using the brakes and maintain control of the steering.
9. Never take your hands off the handlebars, or your feet off the pedals when riding downhill.



The Consumer Protection Safety Commission advises that the riding of small wheel diameter bicycles at excessive speeds can lead to instability and is not recommended. Children should be made aware of all possible riding hazards and correct riding behavior before they take to the streets. Do not leave it up to trial and error.





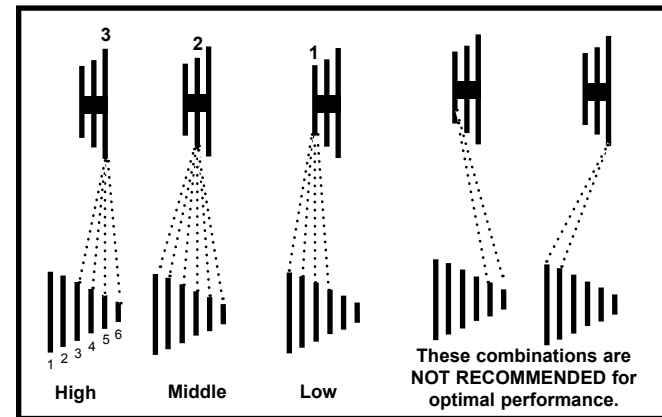
GEARS - HOW TO OPERATE

Derailleur Gears

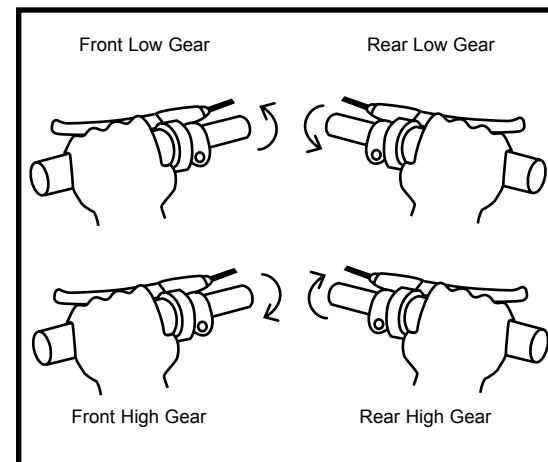
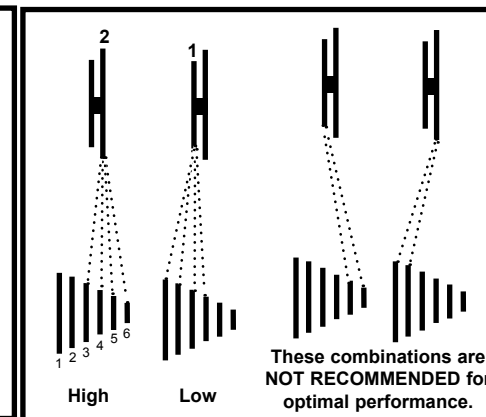
Most multi-speed bicycles today are equipped with what are known as derailleur gears. They operate using a system of levers and mechanisms to move the drive chain between different sized driving gears or cogs. The purpose of gears is to let you maintain a constant, steady pedaling pace under varying conditions. This means your riding will be less tiring without unnecessary straining up hills or fast pedaling down hill. Bicycles come with a variety of gear configurations from 5 to 30 speeds. A 5 or 6 speed bicycle will typically have a single front chainwheel, a rear derailleur, and 5 or 6 cogs on the rear hub. Bicycles with more gears will additionally have a front derailleur, a front chainwheel with 2-3 cogs, and up to 10 cogs on the rear hub.

Operating Principles

No matter how many gears, the operating principles are the same. The front derailleur is operated by the left shift lever and the rear derailleur by the right. To operate you must be pedaling forward. You can not shift derailleur gears when you are stopped or when pedaling backwards. Before shifting ease up on your pedaling pressure. For a smooth gear change when approaching a hill, shift to a lower gear BEFORE your pedaling speed slows down too much. When coming to a stop, shift to a lower gear first so it will be easier when you start riding again. If, after selecting a new gear position, you hear a slight rubbing noise from the front or rear gears, some adjustments may be necessary. Gently adjust the appropriate shifter using the barrel adjusters until the noise goes away. For optimal performance and extended chain life, it is recommended that you avoid using the extreme combinations of gear positions (Refer to diagram on page 31) for extended periods. It is recommended that a trained bicycle technician perform all adjustments to the shifters and derailleurs.



Recommended Chainwheel/Rear Sprocket Gear Combinations



Hand Grip Shifters

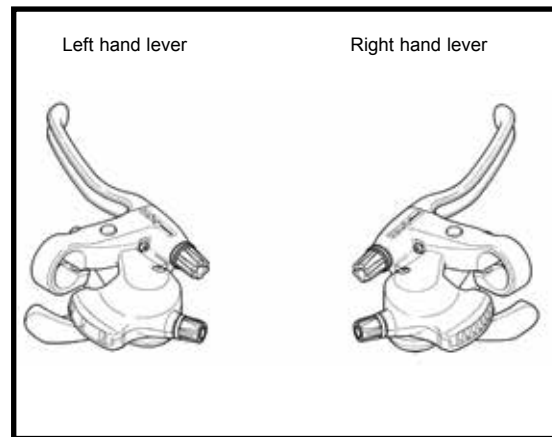
Some bicycles are equipped with a shifting mechanism called Grip Shift™, which is built into the handlebar grips and does not make use of separate levers. The actuating mechanism is built into the inside part of the grip so that the hand and palm wrap around them naturally. To select a lower gear, twist the left shifter toward you to engage a larger rear cog. You can shift one gear at a time by moving the Grip Shift™ one click, or through multiple gears by continued twisting. To select a higher gear, twist the left shifter forward or away from you to engage a smaller rear cog. Single shifts can be achieved by twisting one click at a time and multiple shifts by larger twists.





Below the Bar Shifters

Many mountain style bicycles now use a shift lever arrangement mounted on the underside of the handlebars, which use two levers operated by the thumb and index finger. To select a lower gear push the larger (lower) right shifter with your thumb to engage a larger rear cog. One firm push shifts the chain one cog, continuing to push will move the chain over multiple cogs. Pulling the smaller (upper) left shifter with your index finger moves the chain from a larger to a smaller chainwheel. To select a higher gear pull the smaller (upper) right lever with your index finger to engage a smaller rear cog. Pushing the larger (lower) left lever with your thumb will move the chain from a smaller to a larger chainwheel. Please refer to pages 118-119 for additional instructions in "How Things Work".



BICYCLE CARE

Basic Maintenance

The following procedures will help you maintain your hybrid electric bicycle for years of enjoyable riding.

Properly maintain the batteries by keeping them fully charged when not in use.

Do not ride your hybrid electrical bicycle in the water (damp roads, puddles, rain, streams, etc.) and never immerse it in water as the electrical system may be damaged.

Periodically check the wiring and connectors to ensure there is no damage and the connectors have good continuity.

For painted frames, dust the surface and remove any loose dirt with a dry cloth. To clean, wipe with a damp cloth soaked in a mild detergent mixture. Dry with a cloth and polish with car or furniture wax. Use soap and water to clean plastic parts and rubber tires. Chrome plated bikes should be wiped over with a rust preventative fluid.

Store your bicycle under shelter. Avoid leaving it in the rain or exposed to corrosive materials.

Riding on the beach or in coastal areas exposes your bicycle to salt which is very corrosive. Wash your bicycle frequently and wipe or spray all unpainted parts with an anti-rust treatment. Make sure wheel rims are dry so braking performance is not affected. After rain, dry your bicycle and apply anti-rust treatment.

If the hub and bottom bracket bearings of your bicycle have been submerged in water, they should be taken out and re-greased. This will prevent accelerated bearing deterioration.

If paint has become scratched or chipped to the metal, use touch up paint to prevent rust. Clear nail polish can also be used as a preventative measure.

Regularly clean and lubricate all moving parts, tighten components and make adjustments as required. (Refer to Parts 5 and 6 of this manual for further details).

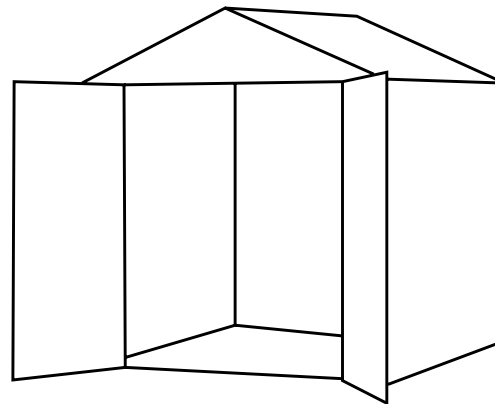
The use of alloy components and BED, SATIN and TITANIUM surface treatments minimizes the number of places where rust can surface.





Storage

Keep your bicycle in a dry location away from the weather and the sun. Direct sunlight may cause paint to fade or rubber and plastic parts to crack. Before storing your bicycle for a long period of time, clean and lubricate all components and wax the frame. Deflate the tires to half pressure and hang the bicycle off the ground. Charge your batteries and make sure they are protected from water. Batteries should be charged every 30 (Lithium Ion) or 90 (SLA) days to avoid capacity loss. Don't cover the bicycle with plastic as "sweating" will result which may cause rusting. Please notice that your bicycle warranty does not cover paint damage (except as outlined in the warranty section of this manual), rust, corrosion, dry rot or theft.



Security

It is advisable that the following steps be taken to prepare for and help prevent possible theft.

1. Maintain a record of the bicycle's serial number, generally located on the frame underneath the bottom bracket or on the head tube.
2. Register the bicycle with the local police.
3. Invest in a high quality bicycle lock that will resist hack saws and bolt cutters. Always lock your bicycle to an immovable object if it is left unattended.

ELECTRONIC COMPONENTS

Battery Gauge

When the throttle or sensor is engaged (powering the motor) and the bicycle is in motion, the LEDs on the battery gauge (on the throttle or separate unit) indicate instantaneous line voltage as measured at the battery terminals – not the available energy in the battery pack.

The line voltage will wobble out from a dead stop, or going up a steep hill, the motor will be under a high load and may show a reduced number of LEDs or show the "Yellow" or even "Red" LED.

When the throttle is disengaged (i.e. no power to the motor due to the bicycle being stationary or coasting) the LEDs on the throttle will indicate the voltage of the battery pack. The voltage of the battery pack will rise when no load is on the motor. The best indication of how much battery life is remaining is to check the throttle LEDs, after reaching cruising speed, on a flat straight road as this will allow the battery voltage to stabilize and give a much more accurate reading.



TAG Throttle with Battery Gauge



PAS / TAG with Battery Gauge



TMM Control Box with Battery Gauge





Press **POWER** to turn on the bicycle

After pressing 'Power', all eight meter lights will flash in sequence, indicating that the bike is ready to ride.

If your bike has an additional physical switch or battery selector located behind or in front of the batteries, be sure it is turned to the proper position before pressing 'Power'.

The **BATTERY** lights indicate remaining charge

The battery gauge provides five indications of battery level.

When the battery is depleted to the point of automatic shutoff, the lowest gauge light will blink indicating the need to recharge immediately. Of course, the bicycle can still be ridden with the system turned off.

Due to the way the battery gauge measures charge, the indicator lights may fluctuate while riding based on the motor's current load.

The best indication of remaining battery life is to check the battery level gauge LEDs after reaching cruising speed on a smooth, flat, straight road. This will allow the battery voltage to stabilize and will give a much more accurate reading.



The **ASSIST +/-** button controls motor assist power

The PAS system provides three assist levels, which you can cycle between using the 'Assist +/-' button.

Each level of assist corresponds to a maximum motor speed; at level 3, the motor runs at full power. Overall range decreases at higher power levels.

The system defaults to the lowest assist level at startup.

The motor will activate when the system senses the rider pedaling. It is not possible to activate the motor without turning the cranks.



Press **ON/OFF** to turn on the bicycle

Do not put any pressure on the pedals when turning the bicycle on. Doing so may affect the TMM sensor calibration (the TMM sensor is re-calibrated each and every time the power is turned on).

If your bike has an additional physical switch or battery selector located behind or in front of the batteries, be sure it is turned to the proper position before pressing 'Power'.

After pressing 'ON/OFF', all ten meter lights will flash in sequence, indicating that the bike is ready to ride.

To turn the bicycle off, hold the 'ON/OFF' button for about 3 seconds.

The **BATTERY** lights indicate remaining charge

The battery gauge provides five indications of battery level.

When the battery is depleted to the point of automatic shutoff, the lowest gauge light will blink indicating the need to recharge immediately. Of course, the bicycle can still be ridden with the system turned off.

Due to the way the battery gauge measures charge, the indicator lights may fluctuate while riding based on the motor's current load. This behavior does not apply to the IZIP Ultra, which uses state-of-charge (SoC) information from the battery pack to display very accurate battery charge information.

The best indication of remaining battery life is to check the battery level gauge LEDs after reaching cruising speed on a smooth, flat, straight road. This will allow the battery voltage to stabilize and will give a much more accurate reading.



The **+** and **-** buttons control motor assist power

The TMM system provides five assist levels which you can choose between using the '+' and '-' buttons.

Each increasing level of assist gives more motor power, but also decreases overall range.

The system defaults to assist level 3 at startup.

The motor will activate when the system senses the rider applying pressure to the pedals. It is not possible to activate the motor without rider input. The 500 Watt IZIP Ultra has an additional safety sensor that requires the bicycle to be rolling forward before the motor is activated.



PAS+ITAG

PEDAL ASSIST SYSTEM

Press ON/OFF to turn on the bicycle

After pressing 'Power', all ten meter lights will flash in sequence, indicating that the bike is ready to ride.

To turn the bicycle off, hold the 'ON/OFF' button for about 3 seconds.

E3Ultra:

Do not put any pressure on the pedals during startup. Doing so may affect the pedal-force sensor calibration (the pedal-force sensor's zero-point is re-calibrated each and every time the power is turned on).

The BATTERY lights display remaining charge

The meter box has five battery level indicators. The battery pack reports state-of-charge (SoC) information to the controller and the meter box uses this information to display the battery level with high accuracy.

When the battery is depleted to the point of automatic shutoff, the lowest gauge light will blink indicating the need to recharge immediately. Of course, the bicycle can still be ridden with the system turned off.

PAS Mode: the '-' and '+' buttons control motor assist power

PAS mode provides three levels of assist. You can choose between them by pressing the '+' and '-' buttons. Each increasing level of assist gives more motor power, but decreases overall range. The system defaults to assist level 2 at startup. Regardless of the mode setting, the



Mode Select (green button)

throttle is always able to provide 100% power.

E3Metro:

The motor will activate when the system senses the rider pedaling. It is not possible to activate the motor without turning the cranks. The throttle can act as a "boost" once the bike is rolling, but if crank movement is discontinued, power will drop away within 1-2 seconds with or without throttle use.

E3Ultra:

The motor will activate when the system senses the rider applying pressure to the cranks. It is not possible to activate the motor otherwise in PAS mode. Also the bicycle must be rolling forward at about 3km/h before the motor will activate. This safety feature is intended to prevent unintentional acceleration.

The amount of pedal pressure and the amount of motor assist are proportional; harder pedaling will result in the motor providing more assistance. The throttle acts as a "boost" once the bike is rolling, and overrides the pedal sensor when applied.

TAG Mode

In TAG mode, the pedal sensor (E3Metro) or pressure sensor (E3Ultra) used for PAS mode operation is disabled, and the bike responds only to throttle input. Just twist the throttle to apply 0-100% of motor power. The '-' and '+' buttons are not used in this mode.

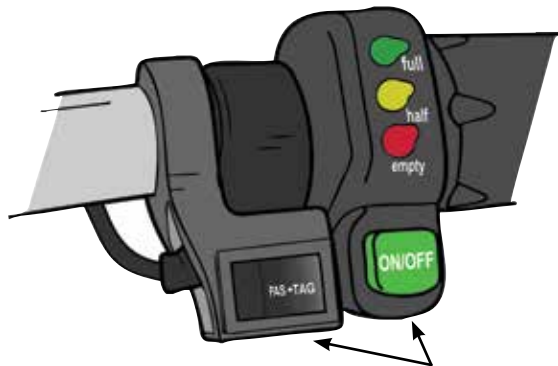




TAG Throttle



PAS Sensor Ring



Power and PAS / TAG selector toggle switch. For some models the ON/OFF is on the battery or rack (see battery section of manual)

Throttles

Throttles are equipped on some models of electric bicycles. Throttles operate by rotating the throttle towards the rider much like a motorcycle. They generally are the inner half of the right side handlebar grip and may also contain a battery gauge. The more you twist the throttle, the faster the motor system will propel the bicycle.

TAG (Twist and Go)

Before you begin riding, turn the main power switch on, then start riding as you would ride any regular, non motor assisted bicycle. After you have begun to ride, slowly twist the throttle (on equipped models) towards you. The more you twist the throttle, the more motor power will be applied to the wheels. You may feel the pedals get a “lighter” feel than when riding without the motor assisting you. Once you have twisted the throttle all the way, the motor will accelerate you to its full speed of about 18-20mph (28-32 km/h).

PAS (Pedal Assist)

Electric bicycles with this system have a throttle that is only active when the pedals are in a forward motion. A sensor ring on the bottom bracket spindle rotates and a sensor reads this rotation.

Begin by first riding as if you are on a normal non-electric bicycle. After a few seconds, the motor will slowly activate and ramp up to 50% power. Then, while the pedals are in motion, you can slowly twist the throttle towards you to activate the full motor power.

PAS / TAG throttle switch

The type of system enables the rider to select between the PAS and TAG modes via the toggle switch (left in = PAS, right in = TAG).

Note: When using the TAG mode you will use more battery power and thus shorten range of the bicycle.

Press ON/OFF to turn on the bicycle

The battery gauge lights will illuminate, indicating that the bike is ready to ride. For some models the ON/OFF is on the battery (see battery section of manual)

The gauge lights indicate remaining charge

The battery gauge provides three indications of battery level. Because the gauge simply measures the voltage of the battery pack, it may fluctuate under load (like when riding up a hill).

The PAS/TAG switch changes between “Pedal Assist” and “Twist and Go” power modes.

In Pedal Assist mode, the motor will automatically run at 50% power while the rider is pedaling. The throttle acts as a “boost” in this mode, allowing the rider to control up to 100% of the motor’s power. The throttle is only active while the pedals are turning.

Twist and Go is a simple throttle-only mode. Just twist the throttle toward you to apply 0-100% of the motor’s power. In this mode, the pedal assist sensor is not enabled, and the motor will not activate unless the throttle is twisted.





Battery Care and Information

Proper maintenance of batteries will maximize their lifespan and capacity. Currie Technologies® warranties your new batteries from the date of purchase only if properly cared for—refer to the limited warranty for details. Currie uses SLA (Sealed Lead Acid) or Li-Ion (Lithium Ion) batteries in all of our hybrid electric bicycles and scooters. These are both very user-friendly types of batteries when cared for properly.

Care

Even with proper care, rechargeable batteries do not last forever. Every time the battery is discharged and subsequently recharged, its relative capacity decreases by a small percentage. You can maximize the life of your battery by following the instructions in this guide.

- Batteries should be fully charged immediately when they are received for the full recommended charge times.

SLA recommended charge time: 6-10 hours (depending on model)

Li-Ion recommended charge time: 4-6 hours (2-3 hours for Via Urbano). For a complete, 100% charge, leave the battery on the charger for one full hour after the charger indicator light turns green.

- Never charge batteries for longer than 24 hours.
- SLA and Li-Ion batteries do not have a “memory.” Partial discharge/charge cycles will not harm the batteries’ capacity or performance.
- The rated output capacity of a battery is measured at 77°F (25°C). Any variation in this temperature will alter the performance of the battery, and shorten its expected life. High temperatures especially reduce overall battery life & run time.
- Currie bikes and scooters are equipped with a five-minute sleep function. If no activity is detected after five minutes, the bike/scooter will go into “stasis” mode to conserve battery power. Simply cycle the bike/scooter off then on again to re-activate the battery.
- Always be sure to turn the bike/scooter power switch to “OFF” after each use. If you leave the power switch in the “ON” position, or your product has not been charged for a long period of time, the batteries may reach a stage at which they will no longer hold a charge.
- Be friendly to the environment! Be sure to recycle your old batteries at a local battery-recycling center. Do not throw them in the garbage! Check www.call2recycle.org for more information on free battery dropoff locations.



Storage

When storing your batteries for a long period of time (longer than two months):

- Charge your batteries every 90 days to avoid capacity loss. Batteries slowly self-discharge when left unused for a long period of time; if the battery cells are allowed to reach a critically low voltage, their lifespan and capacity will be permanently reduced.
- Always disconnect your charger from the wall outlet and battery before storing the battery.
- Avoid storing your batteries in extreme temperatures, whether hot or cold.
- Batteries are best kept in a cool, dry place. Do not allow batteries to accumulate condensation, as this could cause shorting or corrosion.
- The recommended storage temperature for both SLA and Li-Ion batteries is between 32-77 °F (0-25°C).
- Avoid exposing the battery to extreme heat (104°F or higher) for long periods of time.

FAQ

Q: Do I need to “break-in” my batteries?

A: Yes, it is recommended that you perform a “break-in” cycle consisting of ~ three discharge/charge cycles to allow your batteries to reach optimum performance. This involves three complete discharges and three complete recharges. After this initial “break-in” cycle the batteries will have maximum possible performance and less line voltage fluctuations under load.

Q: Is it normal that the batteries get warm when recharging?

A: Yes, it is normal that the batteries will become warm to the touch during the recharging process. This is because the increase of internal resistance and less energy conversion efficiency from electric energy to chemical energy.

Q: How long will my batteries last before needing replacement?

A: Average battery life depends on use and conditions. Even with proper care, rechargeable batteries do not last forever. Conservatively, an SLA battery will come to the end of its useful life after ~200 full discharge/charge cycles, while Li-Ion batteries will last about 500 cycles. A partial charge/discharge counts fractionally against those numbers; running the battery down halfway then recharging it completely uses up one half of a charge cycle.

“End of useful life” refers to the point at which a battery can no longer supply 80% of its original rated capacity in ampere-hours. After this point, the aging process will accelerate and the battery will need to be replaced.



Battery Terminal Covers

Bicycles with Rack Mounted Batteries are equipped with battery terminal cover(s) (see photo). These protect the battery terminals from debris and water when the terminal is not in use (i.e. when the battery is removed from the bike).

These battery terminal covers need to be removed in order for the battery to make contact with terminals.



Charger

The hybrid electric bicycle comes with its own "Smart Charger" that connects with an easy-access charger port for recharging the batteries. This charger unit has lights that show the battery charge status. Refer to the instructions that appear on the charger unit and its instructions.

Batteries work best when they have a full charge, so always be sure to recharge them fully after each ride. If you leave them in a run-down condition, without recharging them, it will shorten their life expectancy.

- Li-Ion (Lithium Ion) batteries - charge for 4-6 hours for full charge
- SLA (Sealed Lead Acid) batteries - charge for 6-10 hours for full charge

The charger may get warm to the touch, so make sure you charge them in an open area and do not lay anything on the charger unit while charging. Although you cannot over-charge the batteries using the Currie "Smart Charger", we recommend that you do not leave the charger plugged in for more than 24 hours.

If your charger shows a solid green light after charging for a short period of time, your battery may have been only partially discharged (short ride), or this may be the sign of a partially worn out battery with reduced storage capacity. Continue charging for the full time, to cover all the bases. If the battery still has not charged, you may need to replace it.

Even with proper care, a rechargeable battery does not last forever. Average battery life depends on use and conditions.

FCC INSTRUCTIONS

FCC Warning for the battery charger

Warning: Changes or modifications to the charger not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- * Reorient or relocate the receiving antenna.
- * Increase the separation between the equipment and receiver.
- * Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- * Consult the dealer or an experienced radio/TV technician for help.



The charger and charger port should be regularly inspected for damage (cord, plug, enclosure, etc.). If damage is found stop using the affected part until it can be repaired or replaced.

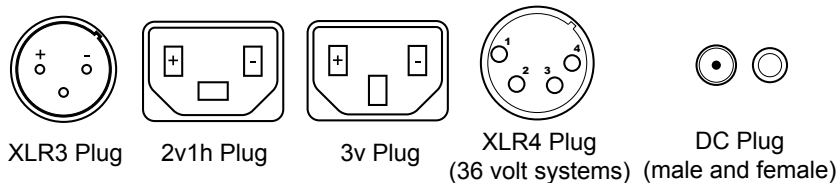




How to use the SLA Chargers (standard)

1. Plug the charger into the outlet. The indicator light on the top of the charger will illuminate when the charger is working properly. Refer to the sticker on the charger for actual status light indication.
2. Insert the plug (XLR, 2v1h, DC, or 3v) into the charger port on the bike being sure the charger plug is fully seated in the charger port. The light should be solid red or blinking green to indicate charging however you will need to refer to the sticker on the charger for actual status light indication, as there are different chargers for different battery chemistries.
3. Once the battery reaches full charge, the light will return to solid green however you will need to refer to the sticker on the charger for actual status light indication.
4. When charging is complete, unplug the charger from the wall before removing it from the charger port.

Charge for the full time. If the battery still has not charged, you may need to replace it.



! Use only Currie Authorized SLA chargers with bicycles equipped with SLA batteries. Using any other charger will damage the batteries and void your warranty.

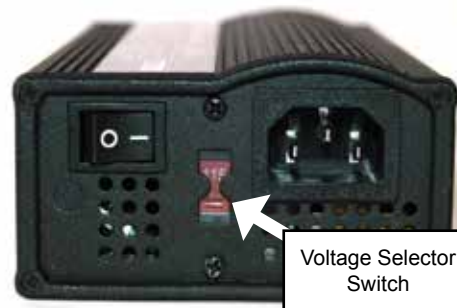


Example of SLA Charger w/ XLR Plug

How to use the Li-Ion Chargers

Before using the charger locate the voltage selector switch (Li-Ion chargers only) on the back of the charger. Select either 115 Volts or 230 Volts depending on the country you reside in. Using the wrong voltage setting will permanently damage the charger and/or electrical components on the hybrid electric bicycle.

1. Select the proper voltage for your country
 - 115V for North American
 - 230V for most of Asia and Europe
2. Be sure the charger's power switch is turned "OFF" (red light should be off) *front and rear views below*



1. Connect power cord to charger then plug power cord into wall outlet





3. Plug charger into 24V battery charger port



4. Turn the charger's power switch "ON"



5. The red light should come on indicating the charger has power. The orange light should then come on indicating that the charger is charging the battery. When the light changes from orange to green the battery is full and the charger has completed charging the battery.



* If the orange light flashes when the charger is plugged into the battery, the charger does not recognise your battery. Please contact Customer Service for help resolving this issue.

Main Power Switches

Standard Power Switches

The power switch may be located, depending on the model of bike, in the following locations

- On the battery pack itself (STB Series)
- On the back side of the rack behind the rear reflector (RMB Series 2008+)
- On the front side of the rack, directly beneath and behind the saddle (RTMB 2009)
- On the controller box (Via Urbano, RTMB 2010)

Be sure to turn the switch off whenever you are not using the bicycle or when charging the bicycle.



STB Bicycles



RMB Bicycles (2008+)



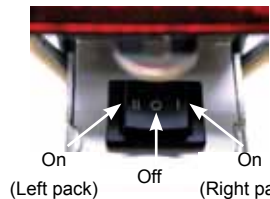
RTMB Bicycles (2009+)



Via Urbano

Three-Position Power Switches

Bikes with dual rack mounted battery packs (RMB) are equipped with a three-position power switch. This switch has two "ON" positions that correspond to the two battery packs. The switch is "OFF" when placed at the center position.



Three-Position Power Switch

! Use only Currie Authorized Li-Ion chargers with bicycles equipped with Li-Ion batteries. Using any other charger will damage the batteries and void your warranty.





Handlebar Power Buttons

Some 2010 RMB and TMM models feature a handlebar-mounted power button, either on the control box or as a separate two-button control next to the throttle.

On TMM bicycles this handlebar button is the sole means of turning the electrical system on and off; there is no other power switch.

RMB bicycles with handlebar-mounted power buttons use a two-position battery selector switch as described in the following section, in addition to the handlebar-mounted controls.

Two-Position Power Switches

RMB bicycles with handlebar mounted power buttons use a two-position ON/ON switch, located behind the rear reflector on the backside of the rack. The left or right switch position selects a corresponding battery, and does not need to be changed again unless a different battery source is desired.

Key Lock Power Switches

Certain models (ex. HG1000, Tricruiser) are equipped with a key lock power switch. This feature provides added security allowing only the person with the key to turn the power on or off. This key lock switch has the same function as a standard power switch.



Handlebar Power Button
(RMB & RTMB 2010)



Control Box Power Button
(TMM)



Two Position Power Switch



Control Box Power Button
(RMB)



Key Lock Power Switch

Fuses

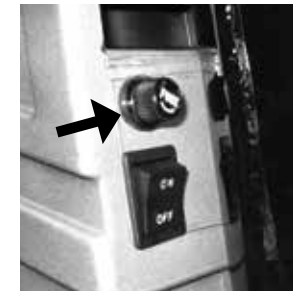
All Currie Technologies® Hybrid Electric Bicycles are equipped with fuses. The fuse may be located, depending on the model of bike, in the following locations

- CX Series (40A glass type fuse) - On the battery pack, externally accessible
- RMB Series (40A glass type fuse) - On the backside of the battery pack, externally accessible
- STB Series (24V, 40A glass type fuse) - Inside the battery, must open the battery pack to access
- STB Series 2011+ (24V, 40A glass type fuse) - On the battery pack, externally accessible
- STB Series (36V, 40A glass type fuse) - On the battery pack, externally accessible
- Enlightened Series (Li-Ion, 30A blade type fuse & 5A blade type fuse) - inside the bottom end of the downtube, remove downtube cap to access

In the event of an overload the fuse will pop and need to be replaced. In this instance replace only with an approved part from Currie Technologies®



Risk of fire. Do not bypass fuse.



CX Bicycles



RMB Bicycles (2007, 2008)



STB Bicycles (36V)



STB Bicycles (24V)



STB Bicycles (24V) 2011



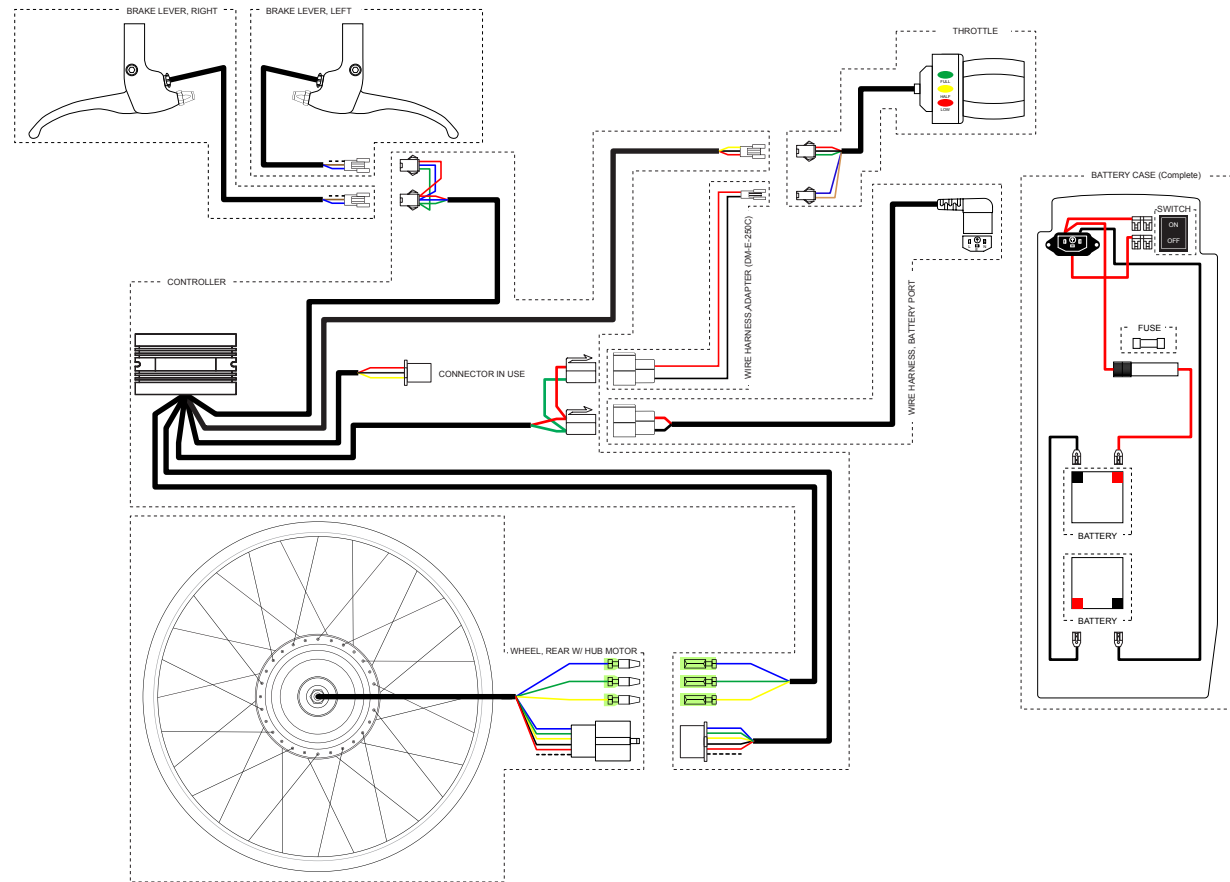
Enlightened Series (Li-Ion)





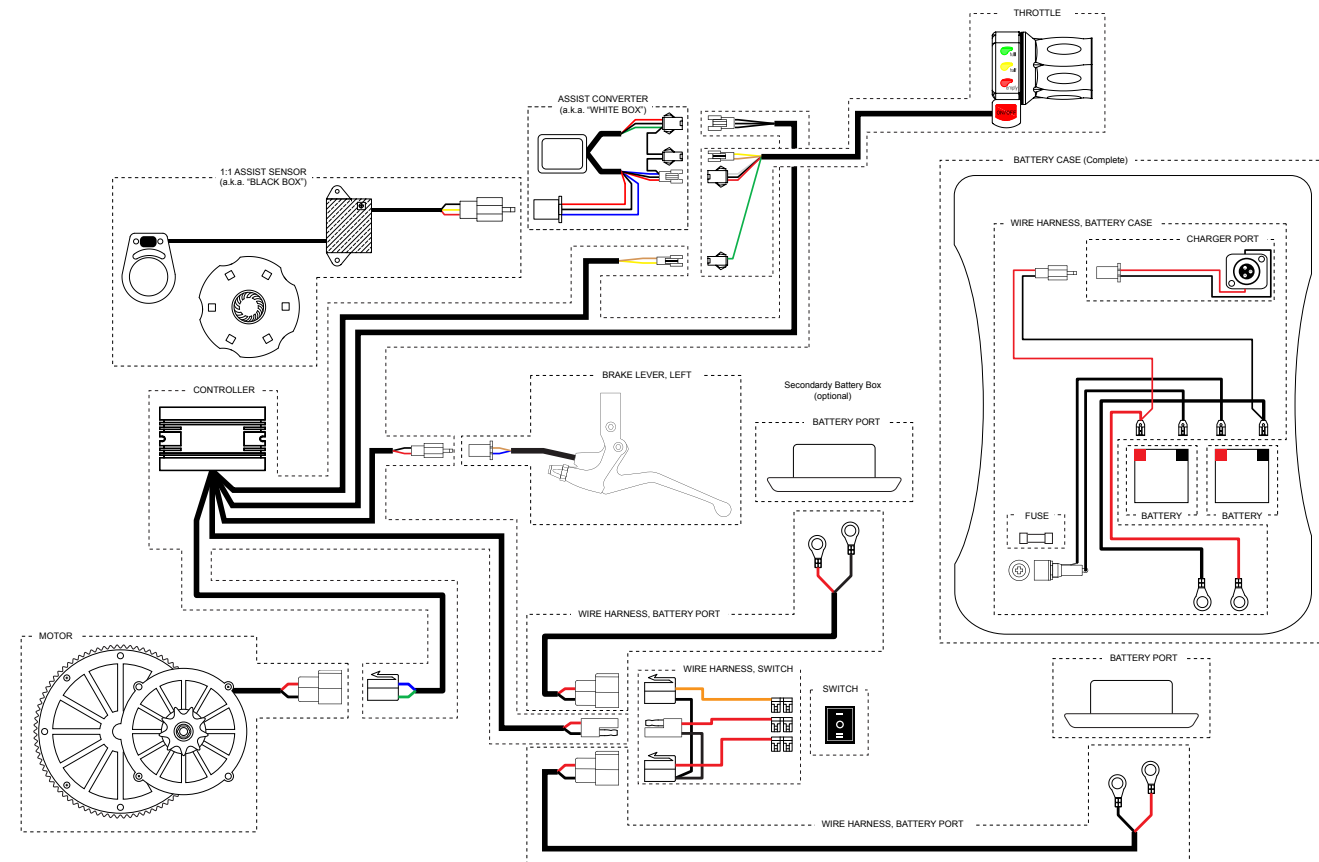
Wiring Diagram - Via Mezza (TAG system) w/ STB Bicycles

(Diagram is for representational purpose only. Your bicycle's wiring system may differ)



Wiring Diagram - TAG/PAS w/ RMB Bicycles (2008)

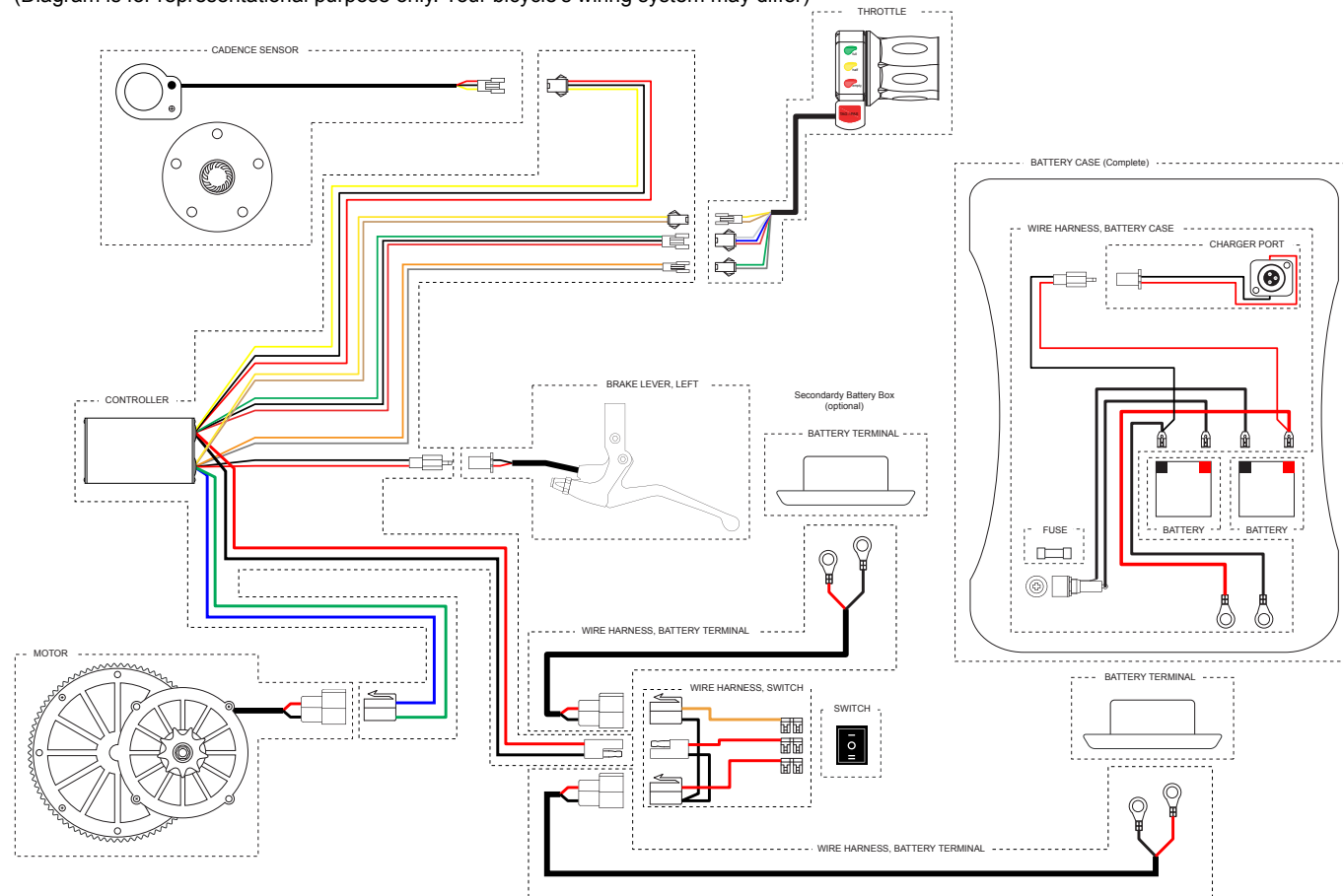
(Diagram is for representational purpose only. Your bicycle's wiring system may differ)





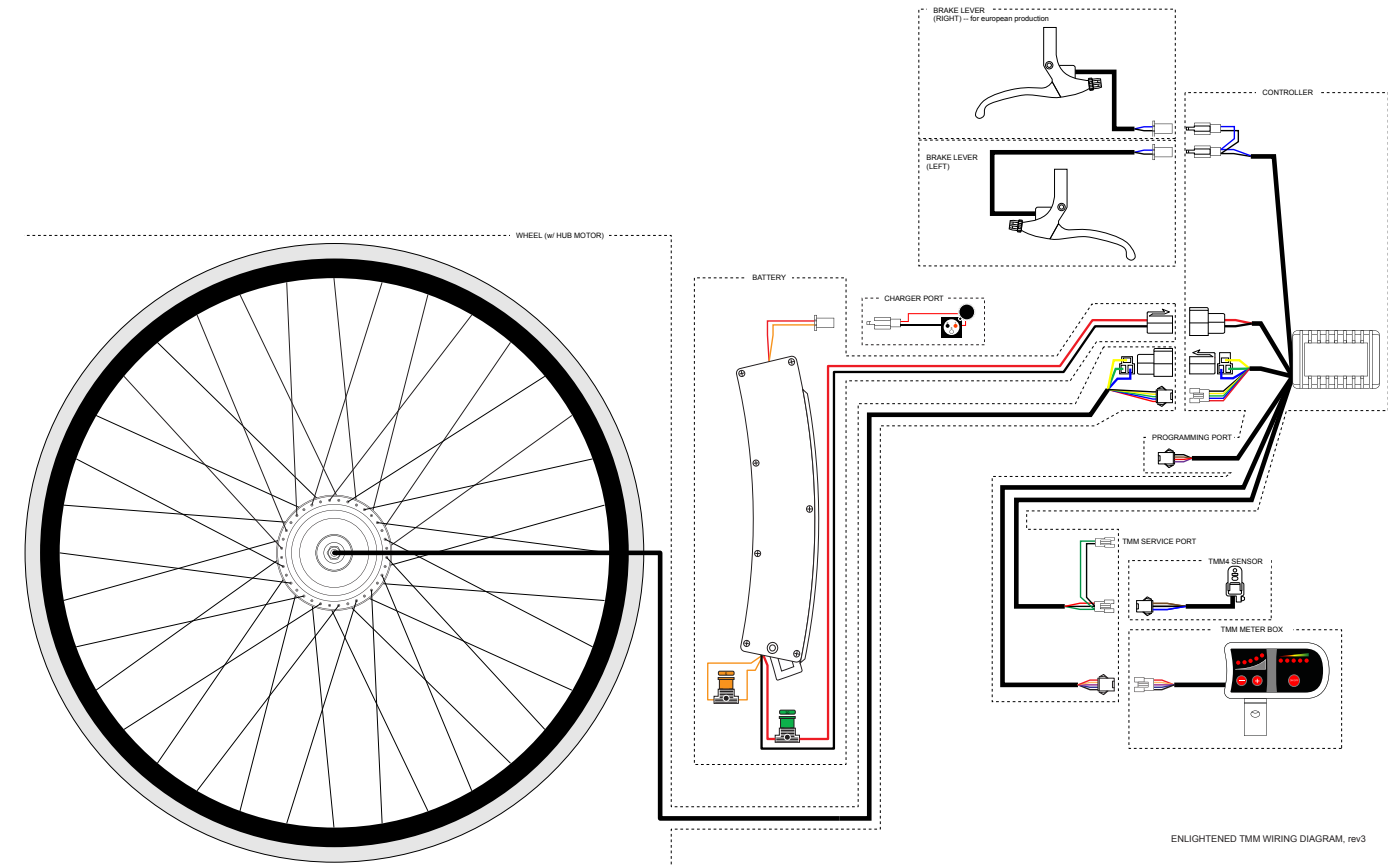
Wiring Diagram - TAG/PAS w/ RMB Bicycles (2009+)

(Diagram is for representational purpose only. Your bicycle's wiring system may differ)



Wiring Diagram - TMM Bicycles

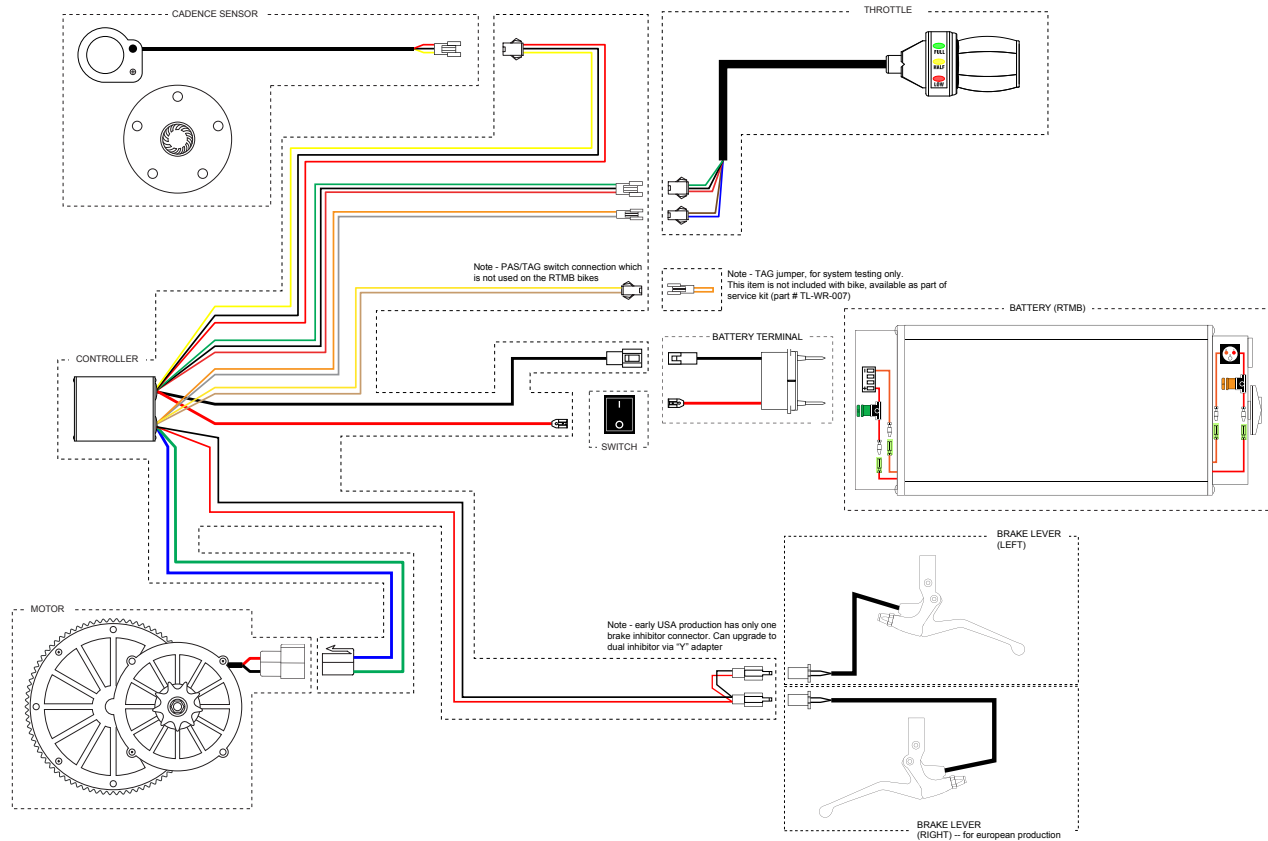
(Diagram is for representational purpose only. Your bicycle's wiring system may differ)





Wiring Diagram - Rack Top Mount Battery (RTMB 2009)

(Diagram is for representational purpose only. Your bicycle's wiring system may differ)

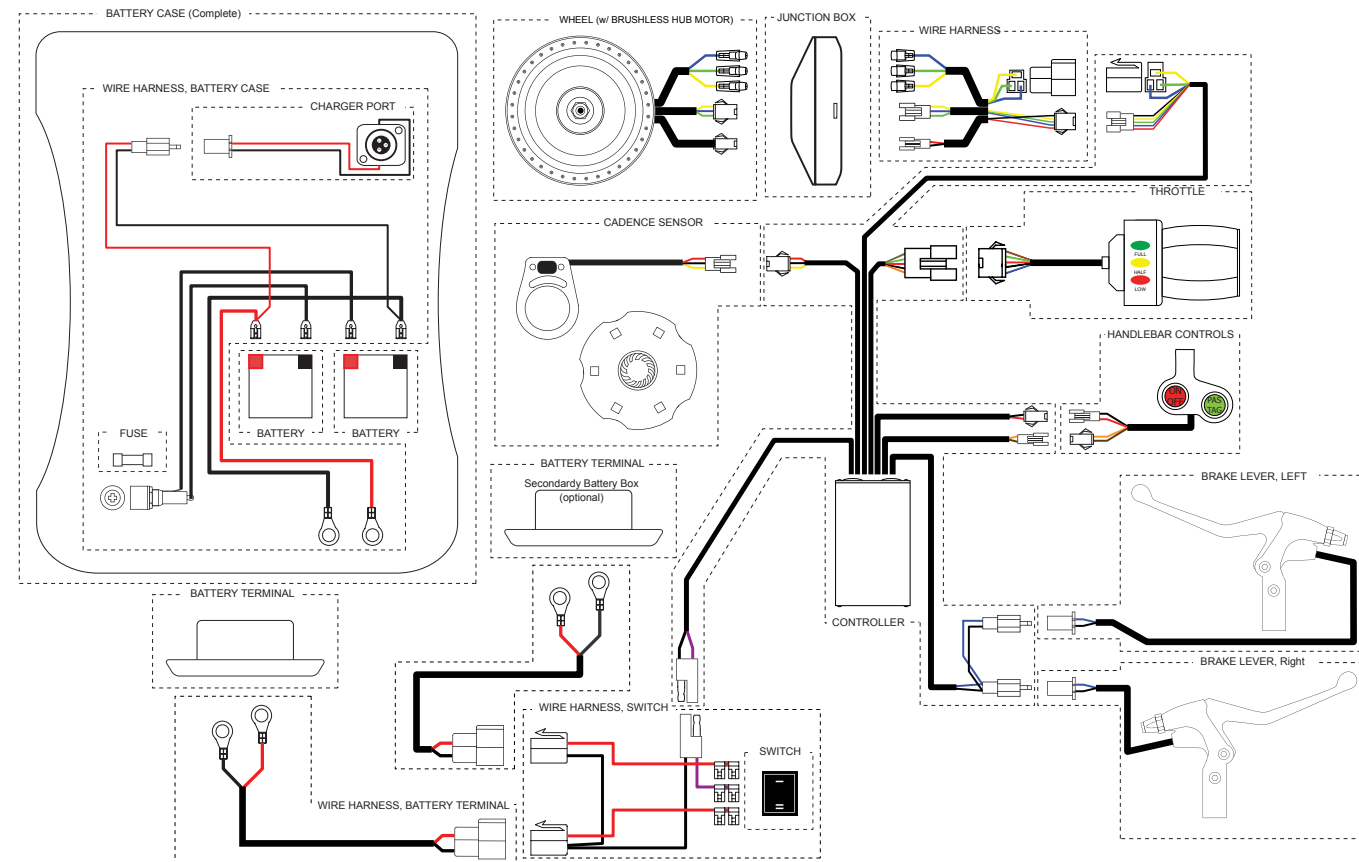


Rack Top Mount Battery (RTMB w/ Li-Ion Batteries) Bikes (2009 USA) WIRING DIAGRAM
Bikes with serial numbers that start with "DM"



Wiring Diagram - TAG/PAS w/ RMB Bicycles (2010+) with hub motor

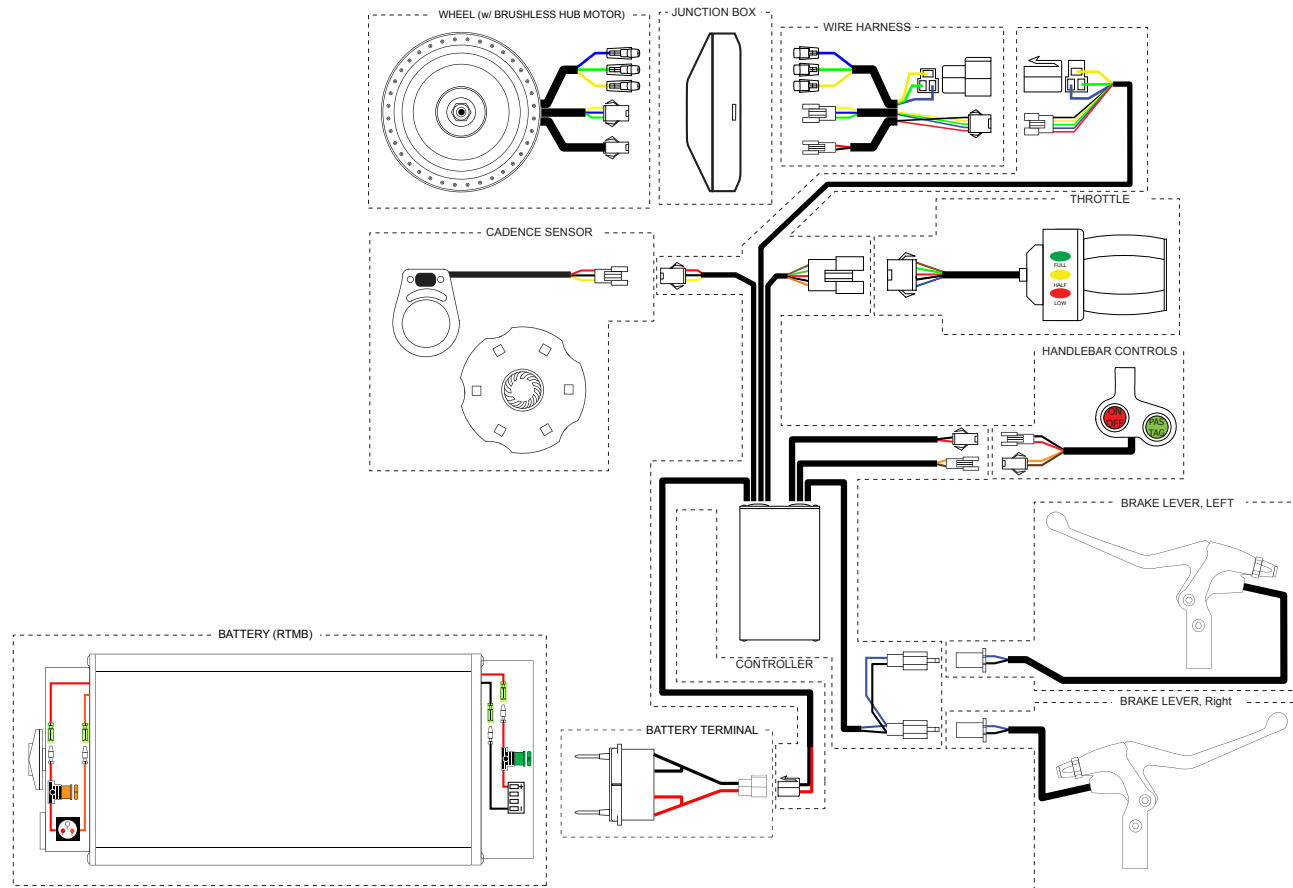
(Diagram is for representational purpose only. Your bicycle's wiring system may differ)





Wiring Diagram - Rack Top Mount Battery (RTMB) 2010+ with hub motor

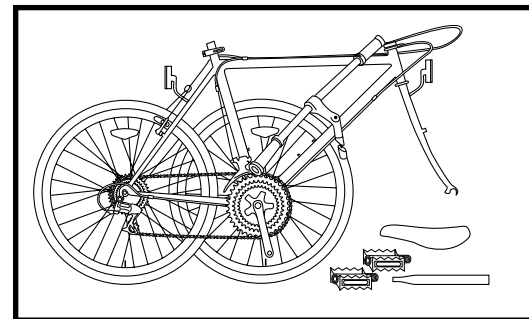
(Diagram is for representational purpose only. Your bicycle's wiring system may differ)



Bicycle Assembly

Assembly Guides

Individual assembly guides for each bicycle model can be found packaged with your bicycle, or viewed online by visiting www.curriotech.com and clicking on the page for your model.



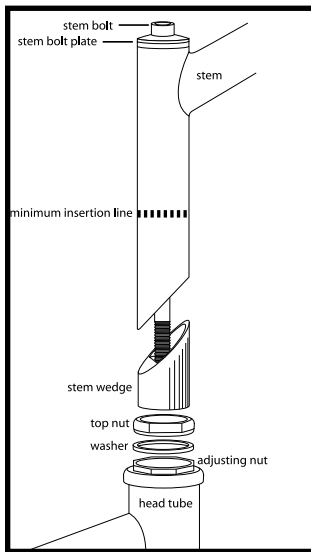
Getting Started

Open the carton from the top and remove the bicycle. Remove the straps and protective wrapping from the bicycle. Inspect the bicycle and all accessories and parts for possible shortages. It is recommended that the threads and all moving parts in the parts package be lubricated prior to installation. **Do not discard packing materials until assembly is complete to insure that no required parts are accidentally discarded.** Note: Your bicycle may be equipped with different style components than the ones illustrated.



We recommend that you consult a bicycle specialist if you have doubts or concerns as to your experience or ability to properly assemble, repair, or maintain your bicycle.





Stem and Handlebars (Standard Quill-type)

Most Currie bicycles use this stem type

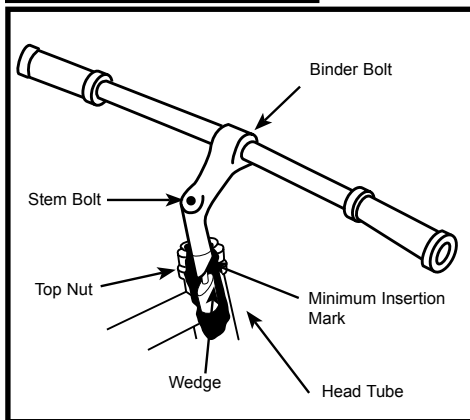
1. Remove the protective shipping cap from the stem wedge.
2. Remove the Stem Plug from the stem. Loosen the Stem Bolt with a 6mm allen wrench or 13mm box wrench.
3. Insert the stem into the headtube of the bicycle. Ensure that the Minimum Insertion Line is below the top nut of the headset.
4. Align the stem and handlebar so it is in line with the front wheel.
5. Tighten the Stem Bolt with the 6mm allen wrench. Reinsert the Stem Plug into the stem.
6. Check the headset for smooth rotation and that the top nut is secured tightly.
7. Loosen the 6mm Binder Bolt and rotate the handlebar so the levers are at a 45 degree angle below the handlebar.
8. Retighten the Binder Bolt to ensure the handlebar does not rotate in the stem.

WARNING: MINIMUM INSERTION LINE MUST BE HIDDEN WITHIN THE HEADTUBE OF THE BICYCLE.

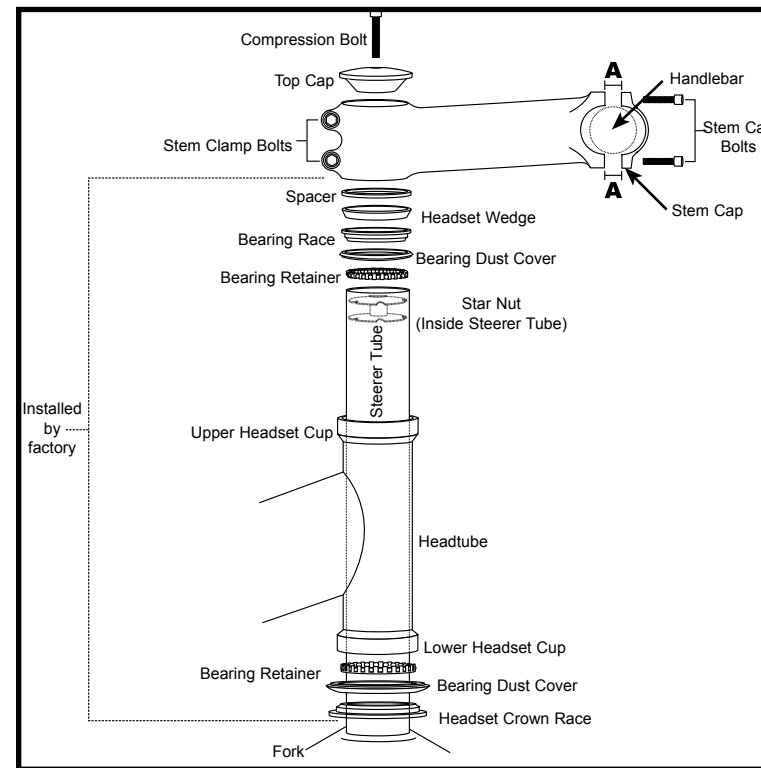


If the stem is not inserted into the top nut to at least the "Minimum Insertion" mark, it is possible to over-tighten the stem bolt and damage the fork steerer tube. If these instructions are not followed, it could cause an unsafe condition and risk injury to the rider. Check steering tightness prior to riding by straddling the front wheel. Try turning the handlebar. If you can turn it without turning the front wheel, the stem is too loose. Re-align the handlebar with the front wheel and re-tighten the stem bolt.

NOTE: Some models of bicycles may be equipped with a stem that has an adjustable angle. In addition to the normal assembly, these stems will require angling the stem to the desired position, and securely tightening the 6mm Allen bolt located underneath the stem. **Failure to do this may cause loss of steering control.**



Stem and Handlebars (Threadless/Aheadset)

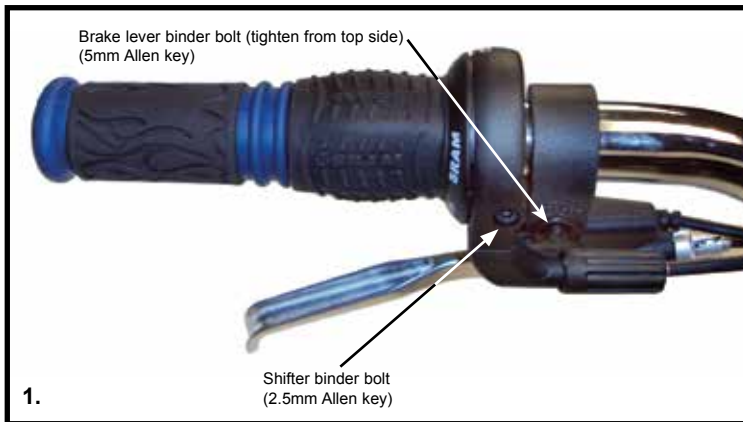


Stem Installation (Should be assembled on the bike already)

1. Insert the compression bolt through the top cap and the stem. Begin threading into the star nut.
2. Tighten compression bolt so it removes all play from the fork, but allows the fork to rotate smoothly.
3. Align the stem with the front wheel. Tighten the stem clamp bolts to secure the stem to the steerer tube.

Handlebar Installation

1. Remove the stem cap bolts and stem cap.
2. Insert handlebar into the stem cap.
3. Tighten the stem cap bolts equally. Note the distance between the stem and stem cap "A" should be equal on the top and bottom of the stem cap.

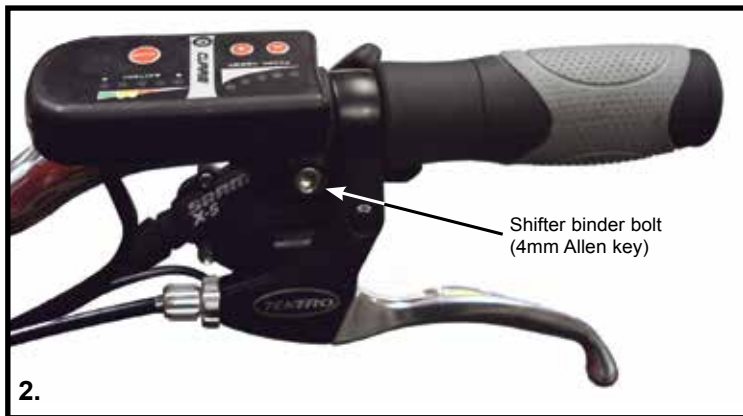


Shifters

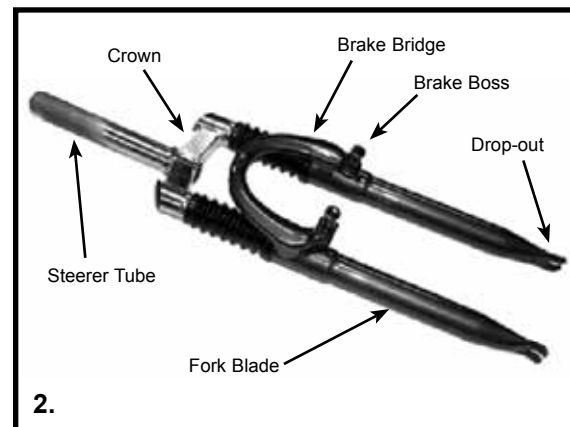
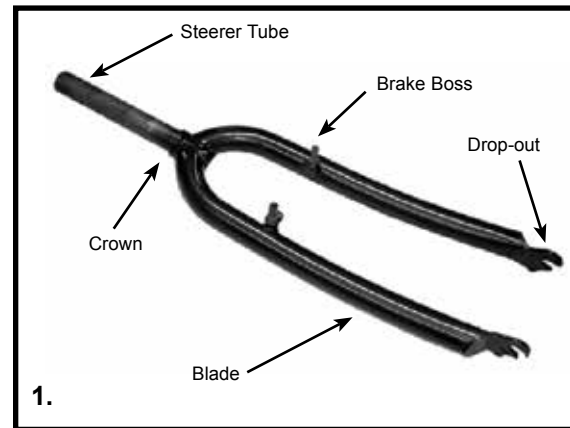
Tighten the bolts that clamp the shifters and brake levers to the handlebar using a 5mm Allen key or Phillips head screwdriver. This step is completed at the factory, but it should be checked before operating your bicycle.

(Figure 1) Handlebar with Grip Shifter.

(Figure 2) Top mounted thumb shifter.



Failure to properly tighten clamping bolts may cause sudden movement of the component resulting in loss of steering control.



Forks

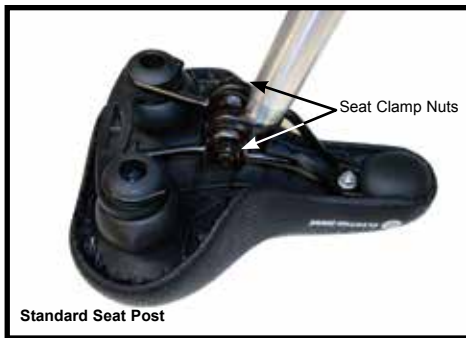
There are two different types of forks that vary in styles and dimensions. One type is a rigid fork (Figure 1) consisting of stationary tubing with curved blades. The other type is a suspension fork (Figure 2) consisting of inner stanchion tubes riding on elastomers or springs inside of a straight outer fork leg. This mechanism acts as a shock absorber with a specified amount of travel that varies between models. Some suspension forks are not adjustable and are very difficult to disassemble. If service is needed on a suspension fork, consult a professional bicycle repair technician.



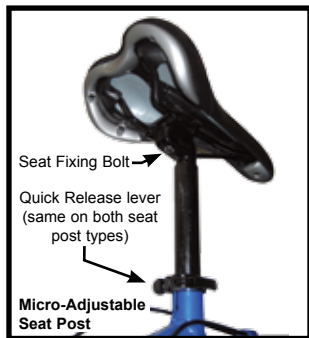
Do not attempt to disassemble a suspension fork yourself. Consult a professional bicycle repair technician.

If your bike is equipped with a suspension fork, check that the fork compresses and rebounds smoothly. To do this, place the fork dropouts against the ground, push and release the handlebar. The fork will generally compress 1-2" and rebound quickly. Most elastomer type forks will gradually soften with use.





Standard Seat Post



Seat and Seat Post

Your bicycle may come equipped with either a standard or a micro-adjustable seatpost.

Standard Seatpost

Attach the seat to the seat post by first loosening the nuts on the seat clamp. Insert the tapered end of the seat post into the seat clamp until it is at the top of the clamp. Partially tighten the nuts on the seat clamp, then insert the seat assembly into the frame of the bicycle and adjust the seat to the proper height. The seat post must be inserted to at least the "Minimum Insertion" line. Move the quick release

lever to the closed position. You should feel considerable resistance while moving the lever. If not, re-open and tighten the lever, then move it to the closed position. See the section in this manual regarding quick releases for more detailed instructions. Adjust the seat to be centered in the clamp and generally level with the ground, then re-tighten the clamp nuts evenly before riding. Avoid riding the bike with a loose saddle.

Micro-Adjustable Seatpost

Loosen the seat fixing bolt, then slide the seat into the clamp. The two seat rails should fit into the corresponding channels in the clamp. There is usually no need to completely remove the fixing bolt, but it may be necessary in some cases. Partially tighten the seat fixing bolt, then insert the seat assembly into the frame of the bicycle and adjust the seat to the proper height. The seat post must be inserted to at least the "Minimum Insertion" line. Move the quick release lever to the closed position. You should feel considerable resistance while moving the lever. If not, re-open and tighten the lever, then move it to the closed position. See the section in this manual regarding quick releases for more detailed instructions. Adjust the seat to be centered in the clamp and generally level with the ground, then re-tighten the seat fixing bolt before riding. Avoid riding the bike with a loose saddle.

NOTE: Some models of bicycles may be equipped with a suspension seat post (See diagram on next page). Some suspension posts can be adjusted for stiffness using the preload adjusting screw. Turning the 6mm Allen screw Clockwise will make the suspension stiffer, while turning the 6mm Allen screw Counter-clockwise will make the suspension softer.



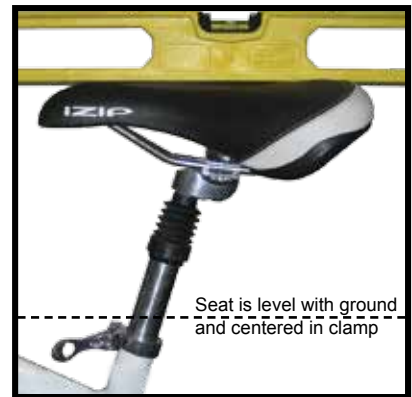
The seat post must be inserted so that the minimum insertion mark cannot be seen. The quick release mechanism must be tightened securely to prevent a sudden shift of the seat when riding. Failure to do this may cause loss of bicycle control.

Suspension Seatpost



Attach Seat Here, Boot, Minimum Insertion Mark, Preload adjusting screw on underside

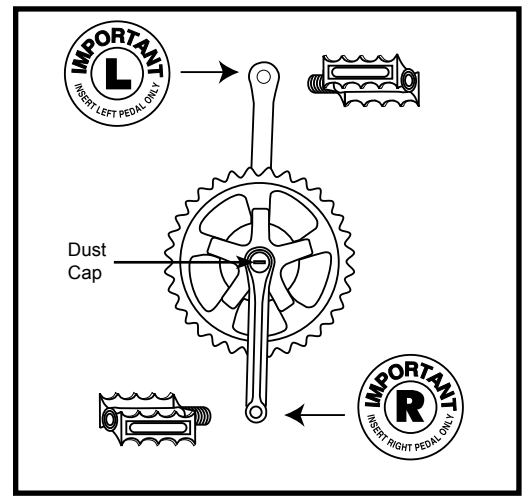
Proper Seat Position



Seat is level with ground and centered in clamp

Pedals & Crank Set

Look for the letters "R" for right, and "L" for left, stamped on each pedal spindle. Start threading each pedal by hand to avoid stripping the threads. Tighten with a 15mm narrow open ended wrench. Note that the right hand pedal attaches to the chainwheel side crank arm with a right-hand (clockwise) thread. The left pedal attaches to the other crank arm and has a left-hand (counter-clockwise) thread. It is very important that you check the crank set for correct adjustment and tightness before riding your bicycle. New cranks may become loose with initial use, refer to pages 107-109 for proper crank set adjustment and maintenance. Once the pedals have been installed, remove the dust caps from the center of each crank arm. Tighten the spindle nuts securely (approx. 350 in. lbs.) with a 14mm socket wrench or an 8mm Allen wrench, depending on style, then replace the dust caps.



Attachment of an incorrect pedal into a crank arm can strip pedal threads and cause irreparable damage. Before your first ride, please check to insure your pedals are attached correctly.



Seat Post Clamp - Quick Release

Many IZIP and eZip bicycle models use quick release (QR) levers to facilitate common tasks such as front wheel removal and seat height adjustment. When properly adjusted, quick release levers are both safe and convenient, but you must understand and apply the correct technique to adjust them properly before riding your bicycle to prevent serious injury or death from a fall.

Quick release levers use a cam action to clamp the wheel or other components in place. Because of their adjustable nature, it is critical that you understand how they work, how to use them properly, and how much force you need to apply to secure them.

Warning: The full force of the cam action is needed to clamp the wheel securely. Holding the nut with one hand and turning the lever like a wing nut is NOT a safe or effective way to close a quick release and will not clamp the wheel or other components safely.

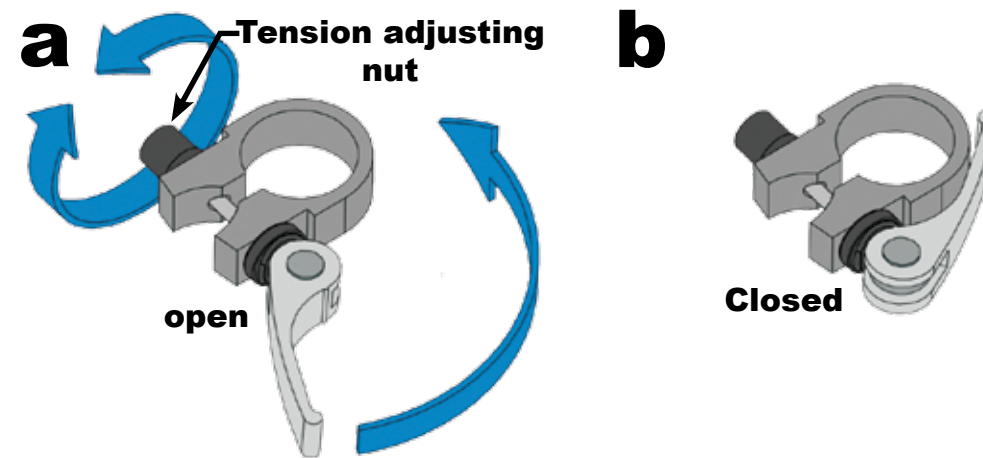
QUICK RELEASE USAGE

Riding with an improperly adjusted wheel quick release can allow the wheel to wobble or fall off the bicycle, which can cause serious injury or death. Therefore, it is essential that you:

1. Ask your dealer or a local bike shop to help you make sure you know how to install and remove your wheels safely.
2. Understand and apply the correct technique for clamping your wheel in place with a quick release.
3. Each time, before you ride the bike, check that the wheel is securely clamped.

Adjusting a quick release seatpost clamp

In a seatpost quick release system, the seatpost is clamped in place by the force of the quick release cam pushing against one side of the clamp and pulling the tension adjusting nut, by way of the skewer, against the other. The amount of clamping force is controlled by the tension adjusting nut. Turning the tension adjusting nut clockwise while keeping the cam lever from rotating increases clamping force; turning it counterclockwise while keeping the cam lever from rotating reduces clamping force. Less than half a turn of the tension adjusting nut can make the difference between safe clamping force and unsafe clamping force.



1. With the quick release clamp in the OPEN position, insert the seatpost, with saddle attached, into the bicycle's seat tube.
2. Swing the quick release lever into the CLOSED position.
3. Grab the saddle with both hands and attempt to rotate it (and thus rotate the seatpost in the seat tube).
4. If you are able to force the seatpost out of alignment with the frame, the seatpost clamp needs to be adjusted. Holding the quick release lever in the OPEN position with one hand, tighten the tension adjusting nut with your other hand about 1/2 turn clockwise.
5. Attempt to swing the lever into the CLOSED position. If the lever cannot be pushed all the way to the CLOSED position (figure b), return the lever to the OPEN position, then turn the tension adjusting nut counterclockwise one-quarter turn and try tightening the lever again. Repeat steps 3, 4 & 5 until proper quick release tension is achieved.



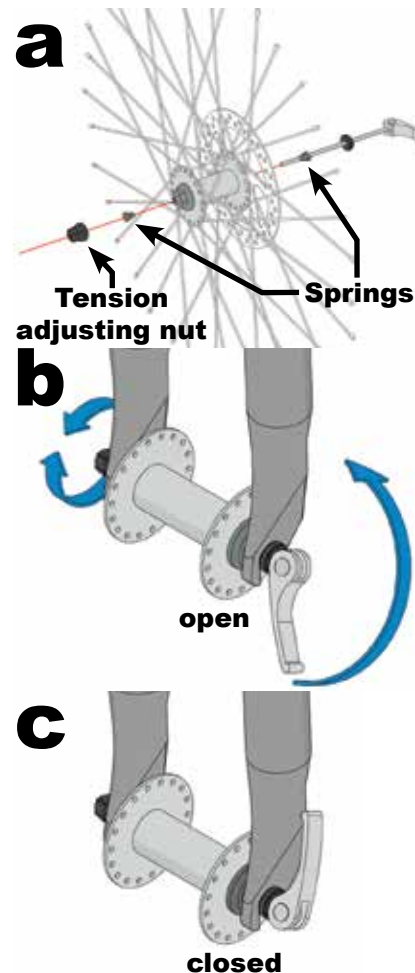


Front Wheel - Quick Release

Installing a quick release front wheel

In a quick release system, the wheel hub is clamped in place by the force of the quick release cam pushing against one dropout and pulling the tension adjusting nut, by way of the skewer, against the other dropout. The amount of clamping force is controlled by the tension adjusting nut. Turning the tension adjusting nut clockwise while keeping the cam lever from rotating increases clamping force; turning it counterclockwise while keeping the cam lever from rotating reduces clamping force. Less than half a turn of the tension adjusting nut can make the difference between safe clamping force and unsafe clamping force.

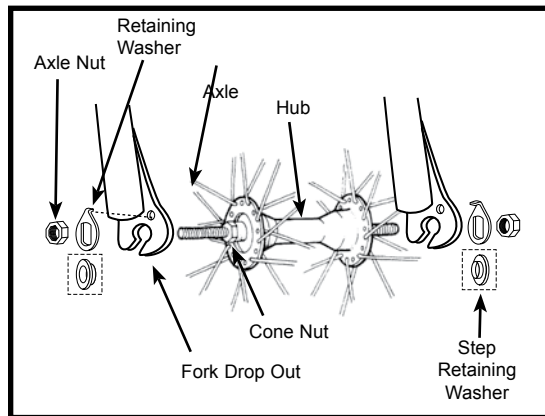
1. Remove the tension adjusting nut and one of the small springs, then slide the quick release skewer through the hub. If your bicycle has a disc brake, insert the skewer starting on the side with the brake rotor. Replace the spring and tension adjusting nut (fig a).
2. If your bicycle has rim brakes, disengage them to increase the clearance between the tire and brake pads.
3. Install the wheel into the dropouts, making sure the quick release lever is on the left side of the bicycle.
4. Holding the quick release lever in the OPEN position with one hand, tighten the tension adjusting nut with your other hand until it is finger tight against the fork dropout.
5. While pushing the wheel firmly to the top of the slots in the fork dropouts, and at the same time centering the wheel rim in the fork, move the quick-release lever upwards and swing it into the CLOSED position (fig b & c) The lever should now be parallel to the fork blade and curved toward the wheel. To apply enough clamping force, you should have to wrap your fingers around the fork blade for leverage, and the lever should leave a clear imprint in the palm of your hand.



WARNING: Securely clamping the wheel takes considerable force. If you can fully close the quick release without wrapping your fingers around the fork blade for leverage, and the lever does not leave a clear imprint in the palm of your hand, the tension is insufficient. Open the lever; turn the tension adjusting nut clockwise a quarter turn; then try again.

6. If the lever cannot be pushed all the way to a position parallel to the fork blade, return the lever to the OPEN position. Then turn the tension adjusting nut counterclockwise one-quarter turn and try tightening the lever again.
7. Re-engage the brake to restore correct brake pad-to-rim clearance; spin the wheel to make sure that it is centered in the frame and clears the brake pads; then squeeze the brake lever and make sure that the brakes are operating correctly.





Front Wheel - Bolt-on Installation

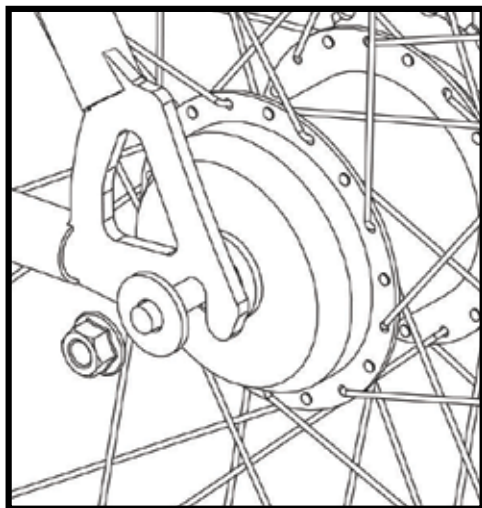
1. Make sure the brakes are loose enough to allow the wheel to pass through the brake pads easily.
2. Place wheel into fork dropouts.
3. Install retaining washers with raised lip pointed towards the fork, and insert into the small hole of the fork blade. **NOTE:** Some bikes may have step retaining washers in place of the retaining washer (shown in dotted box). If so, install the step retaining washer, raised portion sliding in to the fork dropouts.
4. Install axle nut and tighten. Make sure the wheel is centered between the fork blades.
5. Spin the wheel to make sure that it is centered and clears the brake shoes. Tighten the brakes if necessary.



It is very important to check the front wheel connection to the bicycle. Failure to properly tighten may cause the front wheel to dislodge.

Rear Wheel - Bolt-on Installation

1. If the bicycle has rim brakes, make sure the brakes are loose enough to allow the wheel to pass through the brake pads easily. For disc brakes, no adjustment is required.
2. Place the wheel into the frame dropouts.
3. Slide a washer onto each side of the axle
4. Install axle nuts and tighten. Make sure the wheel is centered in the frame. This may be easiest with the bike turned upside-down.
5. Spin the wheel to make sure that it is centered and clears the brake shoes. Tighten the brakes if necessary.



E3Metro, showing quick disconnect plug on chain stay.



Via Lento, showing quick-disconnect box on seat stay.



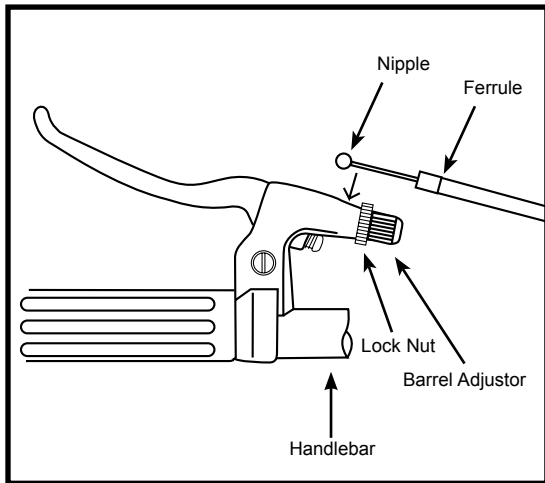
Tighten both rear wheel axle nuts securely. Failure to do this may cause the rear wheel to dislodge from the frame dropouts resulting in serious damage or injury.



Periodically, disassemble the mechanism from the bicycle and inspect for any wear or damage and replace if necessary. When reinstalling, it is very important to ensure the connections are made properly.

Rear Wheel - Bolt-on Removal

1. If the bicycle has rim brakes, make sure the brakes are loose enough to allow the wheel to pass through the brake pads easily. For disc brakes, no adjustment is required.
2. Most IZIP bikes have a plug or quick-disconnect box located on the seat stay or chain stay. These allow the motor to be easily disconnected from the controller. Simply undo the single large plug (Zuma, E3Metro, Ultra, Via Rapido) or open the black plastic box and undo the five plugs inside (most other IZIP bikes).
3. With the bicycle in a stand or upside-down, loosen the axle nuts then remove the wheel from the bicycle.



Brakes

Determine which type of brake your bike is equipped with and refer to the appropriate assembly instructions. For more information on brake adjustment and maintenance, refer to pages 74-81.

Brake Lever Setup (All Brake Types)

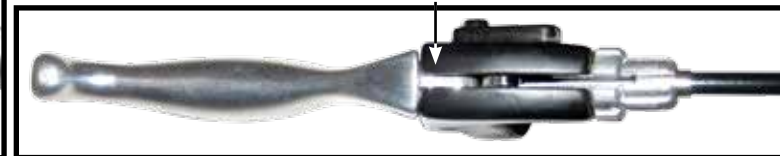
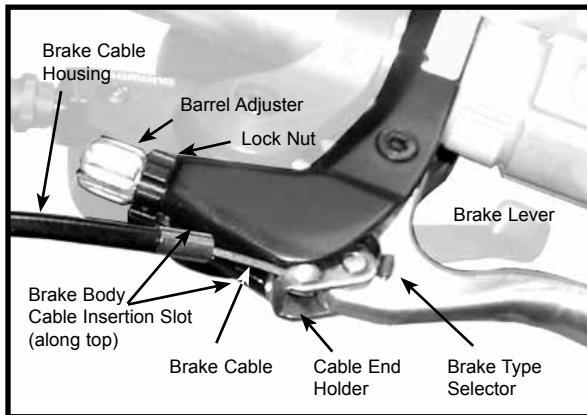
Squeeze the brake lever and place the nipple of the brake cable into the lever's cable end holder, then release the lever. Line up the slots in the barrel adjuster and lock nut with the slot on top of the brake body. Pull the cable housing into place in the barrel adjuster, then turn the barrel so the slots no longer align. Finally, tighten the locknut against the brake body.



A slightly greater force is required to activate the rear brake due to longer cable length.



It is important to become familiar with the use of hand brakes. When properly adjusted, hand brakes are an efficient braking system. Keep the rim and brake shoes clean and free from wax, lubricants and dirt at all times. Keep brakes properly adjusted and in good working condition at all times.



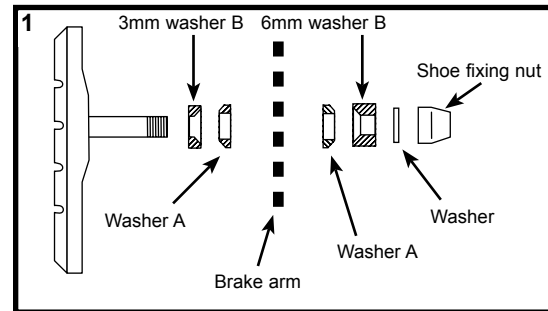
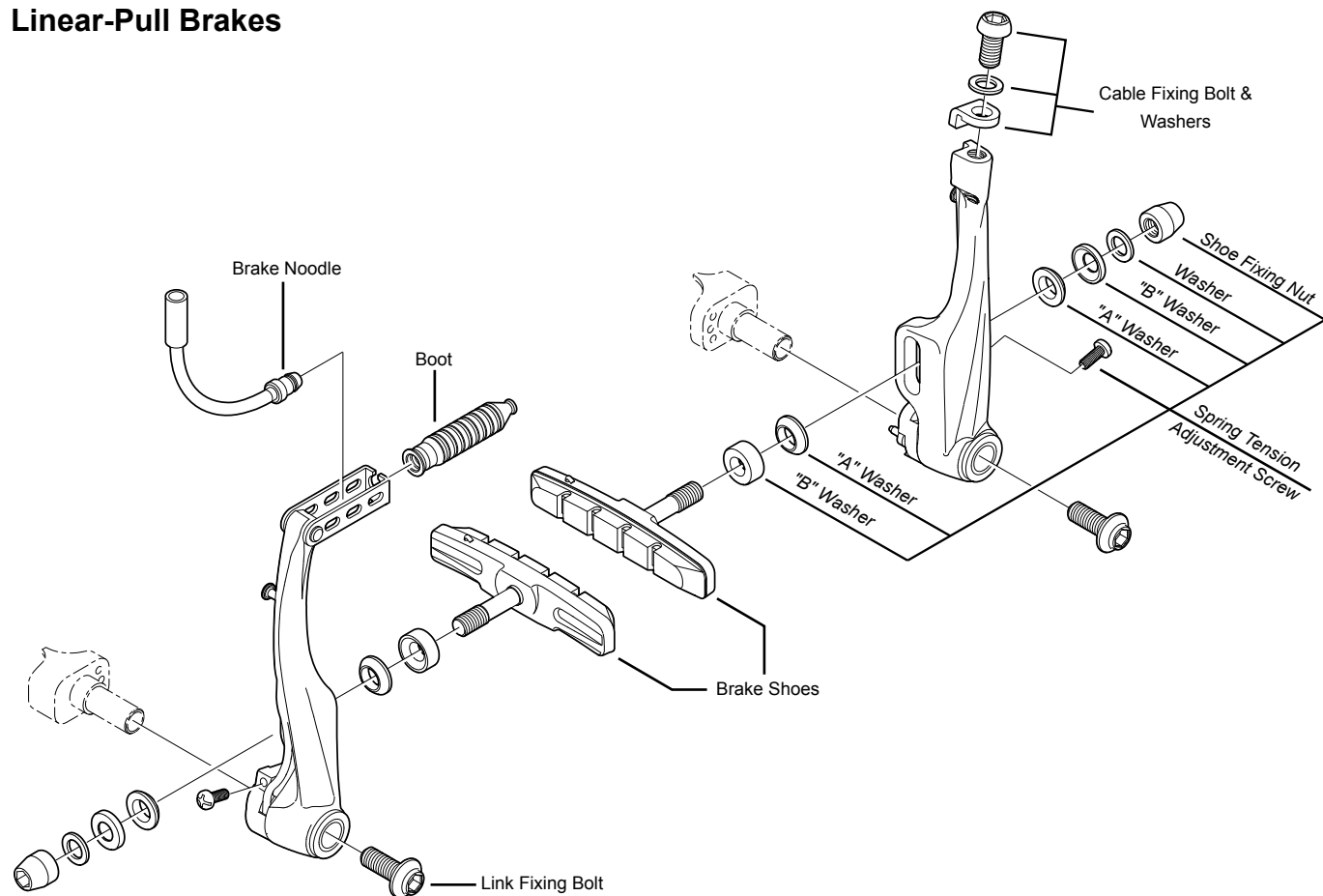
Warning! Bicycles rims that are used for braking will wear out with use. To extend the life of your rims, always keep the braking surfaces and brake pads clean and free of grease or abrasives. Check your brake pads regularly for bits of metal or debris and clean the pads with a wire brush or pick if necessary. Worn rims can cause brake or wheel failure, resulting in a fall. Your bike may be equipped with rim wear indicator. Check the decals on the rim to confirm if there is instruction on checking wear.



In most countries by law or common convention, the left brake lever controls the front brake and the right brake lever controls the rear brake. For the UK and some others this is reversed. Please make a quick check on your bike to check the arrangement.

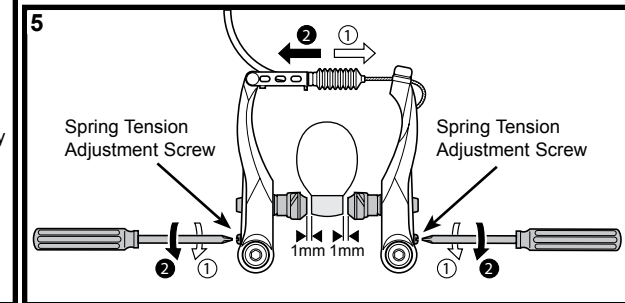
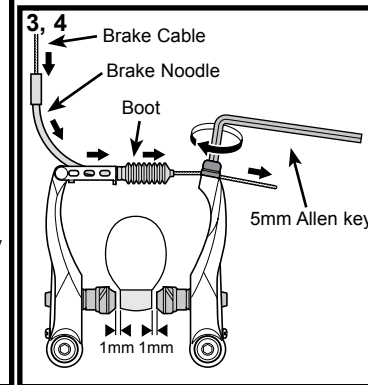
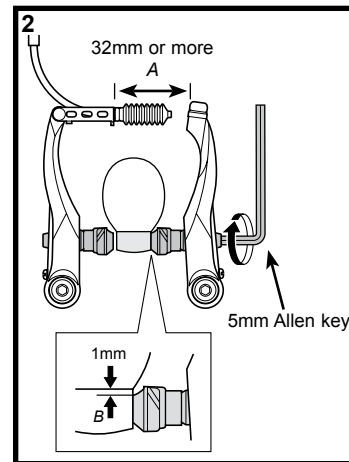


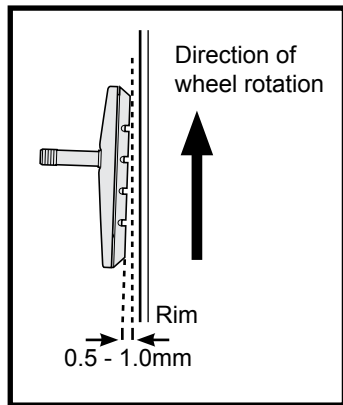
Linear-Pull Brakes



Linear-Pull Brake Setup

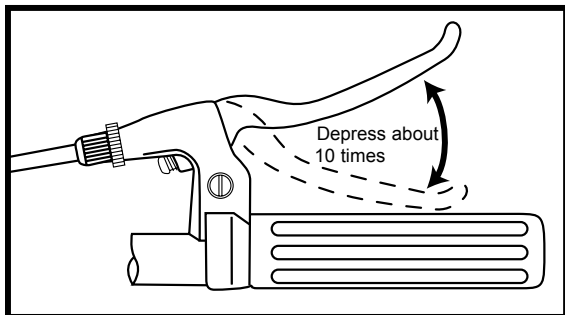
1. While holding the brake shoe against the rim, adjust the amount of shoe protrusion by changing over washer B (3mm or 6mm) so that dimension A is kept at 32 mm or more. Generally, you will install the 6mm washer on the inside for narrow 700c wheels, and the 3mm washer on the inside for wider 26" wheels.
2. While holding the shoe against the rim, tighten the shoe fixing nut. The brake shoe should be centered vertically on the rim.
3. Thread the brake cable through the brake noodle and boot.
4. Set the clearance between the brake shoes and the rim to ~1mm on each side and tighten the cable fixing bolt. This distance does not need to be set exactly at the brake arm, as you can finely adjust it more easily with the brake lever barrel adjustor (see photo on page 72).
5. If the brake pads are not centered around the rim, you can adjust the balance with the spring tension adjustment screws.





Linear-Pull Brake Setup, ctd.

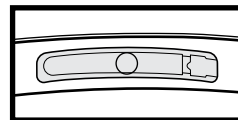
1. For best braking performance, the brake pads should be "toed-in," so that the trailing portion of each brake pad is about 0.5 - 1.0mm farther from the rim than the leading portion of the pad. This gap can be set by hand or by using a small piece of thick paper as a shim between the rim and the rear half the pad to set the gap.
2. Depress the brake lever about 10 times as far as the grip to check that everything is operating correctly and that the shoe clearance is correct before riding the bike. This also serves to pre-stretch the cable and seat brake components. If cable slack develops after pumping the brakes, repeat step 4 or adjust the brake lever barrel adjuster.



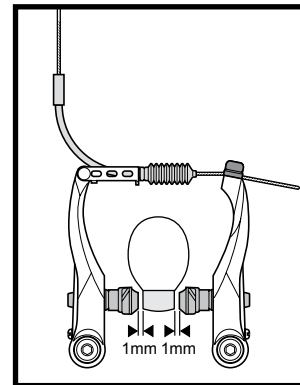
Check your Brakes

Press each brake lever to make sure that there is no binding and that the brake pads press hard enough on the rims to stop the bike. The brake pads should be adjusted so they are 1 mm to 2 mm away from the rim when the brakes are not applied. Brake pads should be centered on the rim and "toed-in" so the rear portion of each brake pad is about 0.5 - 1.0 mm farther from the rim than the front portion of the brake pad.

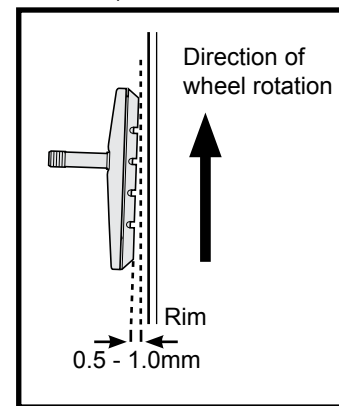
Brake pads should be aligned with the rim surface. The brake pads must not contact the tire.



Brake pads should be parallel to the rim



Brake pads should be toed-in



Do not ride the bicycle until the brakes are functioning properly. To test, apply the brakes while trying to push the bike forward to make sure they will stop the bicycle. Never ride a bicycle that is not functioning properly.



Do not lock up brakes. Sudden or excessive application of the front brake may pitch the rider over the handlebars, causing serious injury or death. When braking, always apply the rear brake first, then the front.



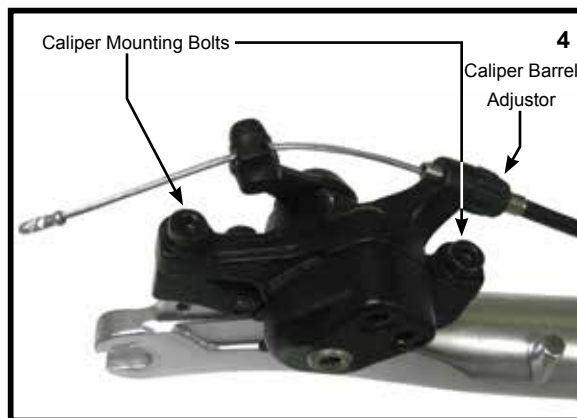
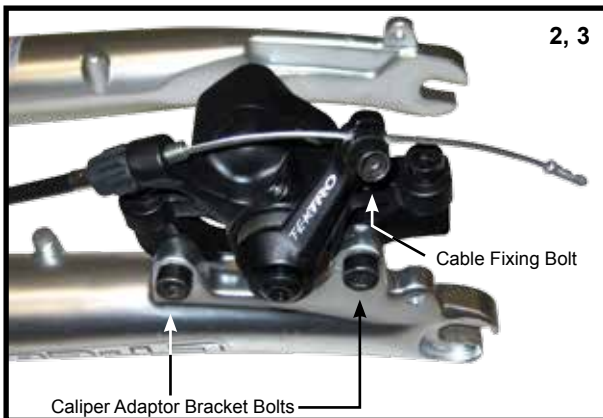
Never ride your bicycle if the brake pads rub the tire. Brake pads rubbing on the tire can lead to a blowout, and possibly cause you to fall.





Disc Brakes - Tektro

1. Check the tightness of the six disc mounting bolts holding the brake rotor onto the wheel. If you need to remove these bolts, be sure to use a thread-locking compound when re-installing them.
2. Make sure the two bolts securing the caliper adaptor bracket to the fork are tight.
3. Thread the brake cable through the caliper as shown and secure it with the cable fixing bolt.
4. Loosen the two caliper mounting bolts enough to allow the brake caliper to float freely.



5. Install the wheel, making sure the brake rotor fits into the slot in the caliper. Center the caliper around the brake rotor, then tighten the caliper mounting bolts.
6. Using the inner pad adjusting bolt, adjust the inside brake pad so it is as close as possible to the rotor without rubbing.
7. Using the caliper barrel adjuster, adjust the outside brake pad so it is as close as possible to the rotor without rubbing.

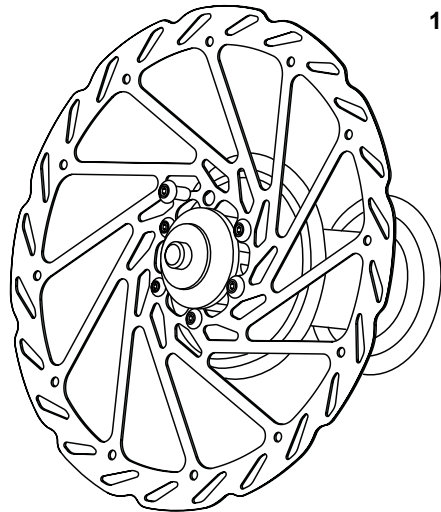


Disc brakes require breaking in. Ride and use the brakes gently for about 13 miles before using the brakes in downhill conditions, for sudden stops, or any other serious braking. Please be aware that your brake system will change in performance throughout the wear-in process. The disc brake should be cleaned before the first ride using rubbing alcohol. NEVER use oil or similar products to clean your disc brake system. Avoid touching the rotor (disc) with your fingers at any time. Naturally oily fingers can contaminate the rotor and/or the brake pads and diminish the brake's effectiveness.



Brake rotors get hot! Severe injury could result from contact with the hot rotor. Mind your legs, as well as your hands.

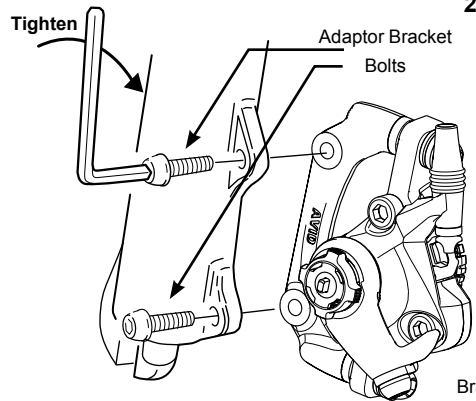




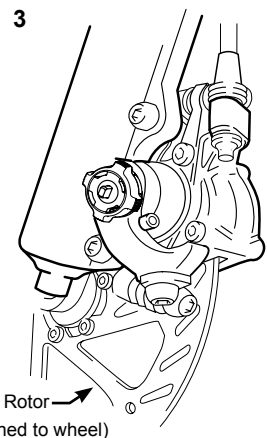
Disc Brakes - Avid BB7

1

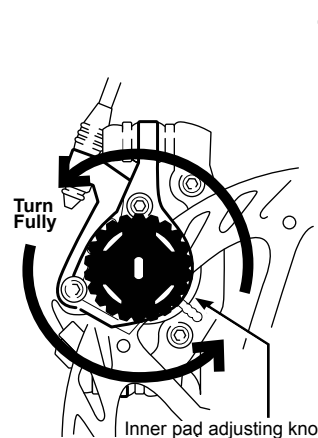
1. Check the tightness of the six disc mounting bolts holding the brake rotor onto the wheel. If you need to remove these bolts, be sure to use a thread-locking compound when re-installing them.
2. Make sure the two bolts securing the caliper adaptor bracket to the fork are tight.
3. Install the wheel, making sure the brake rotor fits into the slot in the caliper.
4. Turn the two pad adjustment knobs counter-clockwise fully.



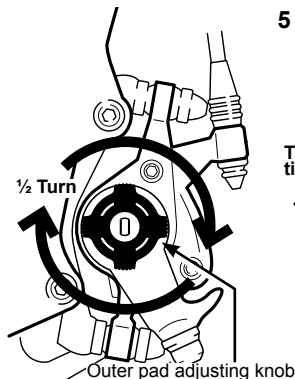
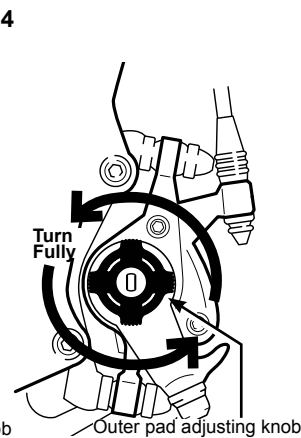
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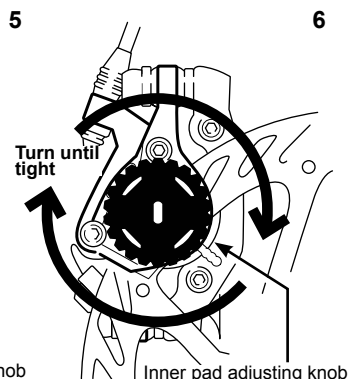
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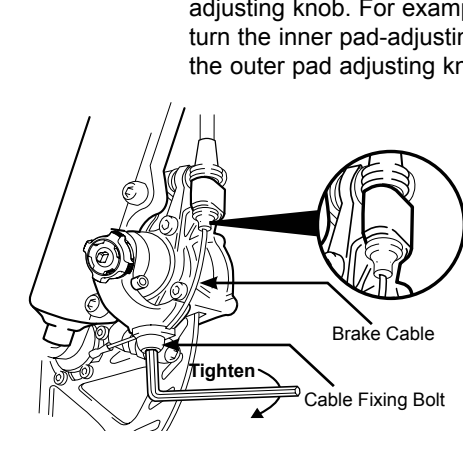
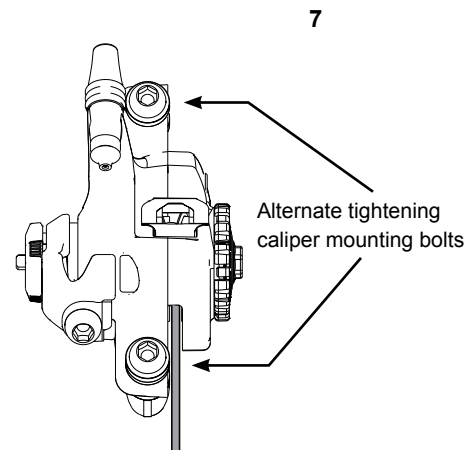
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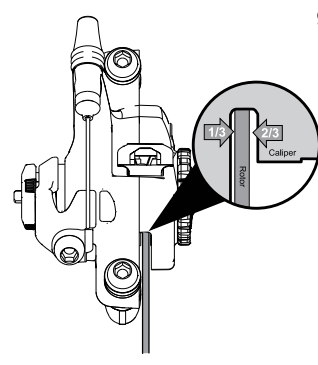
6

1. Turn the outer pad-adjustment knob about 1/2 turn clockwise.
2. Turn the inner pad-adjustment knob clockwise until it stops, locking the rotor. This aligns the caliper body and pads to the rotor face.
3. Tighten the caliper mounting bolts, alternating between the two as you secure them fully.
4. Thread the brake cable through the caliper as shown and secure it with the cable fixing bolt. Do not allow the caliper arm to move upward while securing the bolt.
5. Set pad clearance. Loosen outer pad adjusting knob approximately 1/4 turn counter-clockwise. Loosen inner pad adjusting knob approximately 1/2 turn counter-clockwise. Inner pad (fixed pad) to rotor gap should appear larger than the outer pad to rotor gap.
6. Squeeze lever to test caliper brake. Adjust lever modulation setting by moving pads inward or outward from rotor by using both pad-adjusting knobs. To maintain the 2:1 ratio, turn the fixed pad-adjusting knob twice as many clicks as the moving pad-adjusting knob. For example, if a looser modulation is desired, turn the inner pad-adjusting knob counter-clockwise 4 clicks and the outer pad adjusting knob counterclockwise only 2 clicks.

7

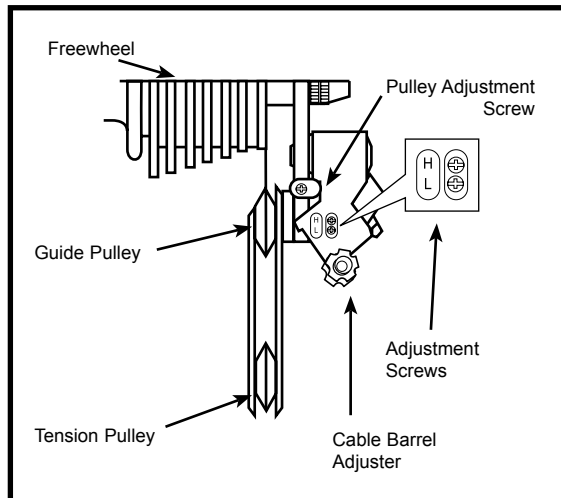


8



9





DERAILLEUR SYSTEMS

The derailleur system includes the front and rear derailleurs, the shift levers, and the derailleur control cables, all of which must function correctly for smooth gear shifting to occur.

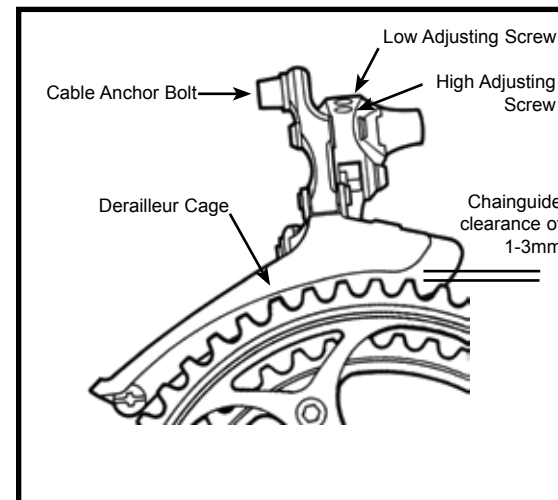
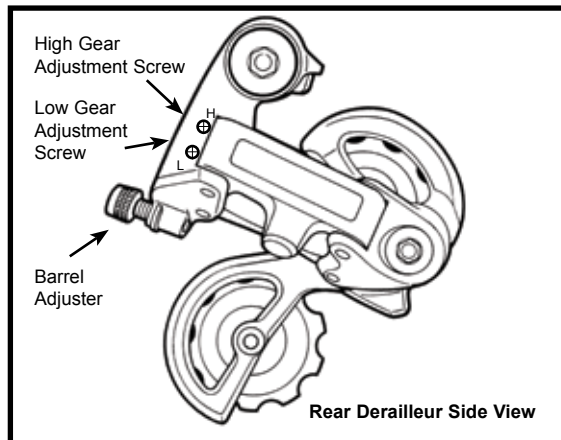
Derailleur

Although the front and rear derailleurs are initially adjusted at the factory, you will need to inspect and readjust both before riding the bicycle.

Rear Derailleur

Begin by shifting the rear shifter to largest number indicated, loosen the cable from the rear derailleur cable anchor bolt, and place the chain on the smallest sprocket.

Adjust the High limit screw so the guide pulley and the smallest sprocket are lined up vertically. Re-tighten the cable, pull out any slack, and retighten the anchor bolt securely. Shift through the gears, making sure each gear achieved is done quietly and without hesitation. If necessary, use the barrel adjuster to fine tune the cable tension by turning it the direction you want the chain to go. For example, turning clockwise will loosen the cable tension and move the chain away from the wheel, while turning counter-clockwise will tighten cable tension and direct the chain towards the wheel.



Do not ride a bicycle that is not shifting properly. Overlooking proper adjustments may cause irreparable damage to the bicycle and/or bodily injury. Never move the shifter while pedaling backward, nor pedal backwards after having moved the shifter. This could jam the chain and cause serious damage to the bicycle and/or rider.

Shift the rear shifter to the gear one and place the chain on the largest cog. Adjust the Low limit screw in quarter turn increments until the guide pulley and the largest cog are aligned vertically. Again, shift through each gear several times, checking that each gear is achieved smoothly. It may take several attempts before the rear derailleur and cable is adjusted properly.



Ensure all bolts are secured tightly and the chain does not fall off in either direction.

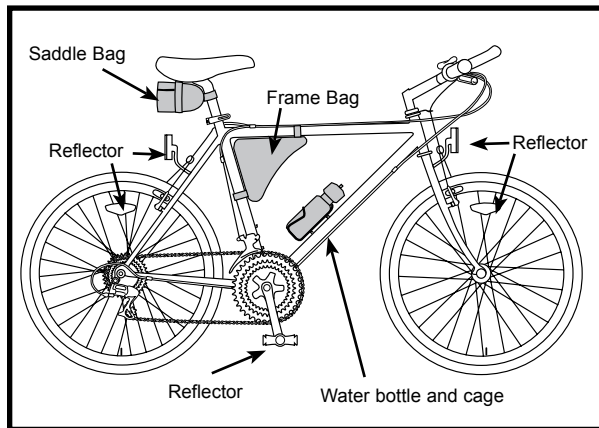
Front Derailleur

Shift both shifters to the smallest number indicated and place the chain on the corresponding cog and chainwheel. Disconnect the front derailleur cable from the cable anchor bolt. Check the position of the front derailleur; it should be parallel with the outer chainwheel and clear the largest chainwheel by 1-3mm when fully engaged.

With the chain on the smallest chainwheel in front and the largest cog in back, adjust the Low limit screw so the chain is centered in the front derailleur cage. Reconnect the cable, pull any slack out, and tighten the anchor bolt securely. Shift the front shifter to the largest chainwheel. If the chain does not go onto the largest chainwheel, turn the high limit screw in 1/4 turn increments counter-clockwise until the chain engages the largest chainwheel. If the chain falls off the largest chainwheel, and into the pedals, you will need to turn the High limit screw in 1/4 turn increments clockwise until the chain no longer falls off.

Shift through every gear, using the barrel adjusters to fine tune the cable tension. The barrel adjuster for the front derailleur is located on the front shifter where the cable comes out of the shifter. Clockwise will loosen the cable tension and direct the chain closer to the frame while counter-clockwise will tighten the cable tension and direct the chain away from the frame.





Accessories

If your bike is supplied with a water bottle and cage, attach the cage to the bicycle using the Allen bolts provided.

Some bikes come equipped with a saddle bag or frame bag. The saddle bag installs under the seat with the zipper facing the rear wheel. Undo the straps that wrap around the bag, thread them through the rails underneath the seat and secure around the bag. The smaller strap wraps around the seat post. Frame bags install at the apex of the top and seat tubes. Secure the straps around each tube.

NOTE: The frame bag straps must not bind the cables. The straps must go around the frame only.

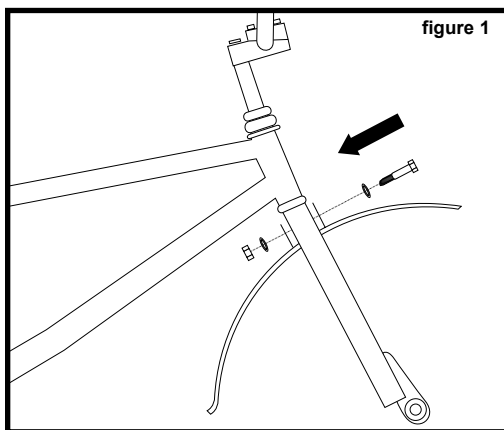


figure 1

Fenders

Front Fender

The front fender is mounted at the fork crown. To install the fender, first remove the front wheel from your bicycle. Place the fender assembly onto the fork making sure the attachment holes and fender bracket holes line up. Attach the fender with the 10mm hex bolt and nut. Tighten the bolt until secure.

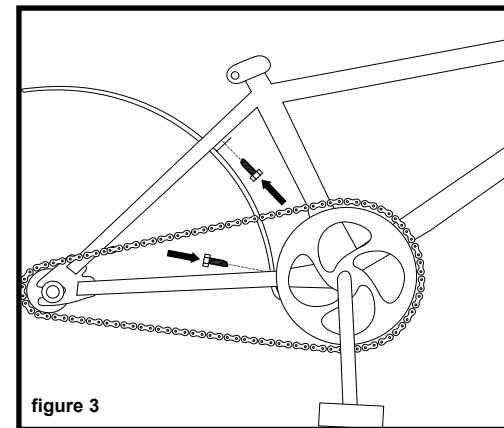


figure 3

Rear Fender

The rear fender is mounted at the seatstay brace. There are two ways in which to mount your rear fender. The first is the screw mounting system (see figure 3), and the second is the 10mm bolt and screw system (see figure 4). Identify the mounting system used on your bicycle and follow the given instructions for that particular type of mounting system.

1. Screw Mounting System

First remove the rear wheel. Place the fender assembly between the stays, making sure the fender bracket holes line up with those in the frame. Attach the fender by using two screws to directly mount the fender onto the frame. The mounts are located below the seat post and near the rear of the crank. Tighten all screws until snug.

2. 10mm Bolt and Screw System

First remove the rear wheel. Place the fender assembly between the stays, making sure the fender bracket holes line up with those in the frame. Attach the fender by using one screw to directly mount the fender onto the frame near the crank. Next, use the 10mm hex bolt and nut to attach the fender to the brace between the seat stays, near the seat post. Tighten all bolts and screws until snug.

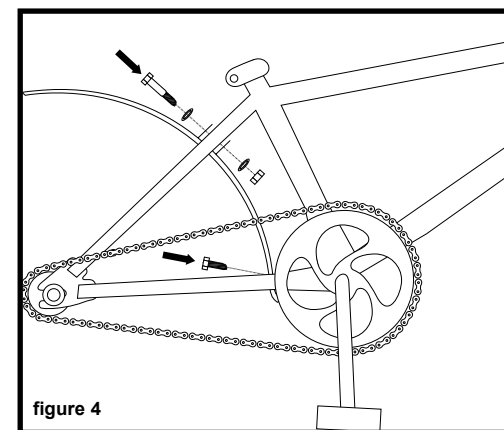


figure 4





Final Check

- After all adjustments have been made, shift through every gear several times at varying speeds. This will ensure all your adjustments are correct and will allow you to pinpoint any trouble areas. If you encounter any problems, refer to the appropriate section and make any necessary adjustments.
- Check the tire pressure and inflate each tube to the recommended psi as stated on the sidewall of the tire.
- Check that the kickstand operates smoothly and the kickstand bolt is secured tightly.
- Finally, examine the bicycle. Make sure all accessories are attached and all quick releases, nuts and bolts have been tightened securely.
- Correct maintenance of your bicycle will ensure many years of happy riding. Service your bicycle regularly by referring to the relevant sections of this manual, OR take it to a professional bicycle shop.
- Remember: Always wear a helmet and obey all traffic laws.



Never inflate a tire beyond the maximum pressure marked on the tire's sidewall. Exceeding the recommended pressure may blow the tire off the rim, which could cause damage to the bicycle and injury to the rider and bystanders.



Tighten both rear wheel axle nuts or the quick release mechanism securely. Failure to do this may cause the rear wheel to dislodge from the frame dropouts resulting in serious damage or injury.

Correct routine maintenance of your new bike will ensure smooth running - Longer lasting components - Safer riding - Lower running costs

Every time you ride your bicycle, its condition changes. The more you ride, the more frequently maintenance will be required. We recommend you spend a little time on regular maintenance tasks. The following schedules are a useful guide and by referring to Part 6 of this manual, you should be able to accomplish most tasks. If you require assistance, we recommend you see a bicycle specialist.

Schedule 1 - Lubrication

| Frequency | Component | Lubricant | How to Lubricate |
|-------------------------|--------------------|-------------------------|------------------------|
| Weekly | Chain | Chain Lube or Light Oil | Brush On or Squirt |
| | Derailleur Pulleys | Chain Lube or Light Oil | Brush On or Squirt |
| | Derailleurs | Oil | Oil Can |
| | Brake Calipers | Oil | 3 drops from oil can |
| | Brake Levers | Oil | 2 drops from oil can |
| Monthly | Shift Levers | Lithium Based Grease | Disassemble |
| Every Six Months | Freewheel | Oil | 2 squirts from oil can |
| | Brake Cables | Lithium Based Grease | Disassemble |
| Yearly | Bottom Bracket | Lithium Based Grease | Disassemble |
| | Pedals | Lithium Based Grease | Disassemble |
| | Derailleur Cables | Lithium Based Grease | Disassemble |
| | Wheel Bearings | Lithium Based Grease | Disassemble |
| | Headset | Lithium Based Grease | Disassemble |
| | Seat Post | Lithium Based Grease | Disassemble |

Note: The frequency of maintenance should increase with use in wet or dusty conditions. Do not over lubricate - remove excess lubricant to prevent dirt build up. Never use a degreaser to lubricate your chain (WD-40™)





Schedule 2 - Service Checklist

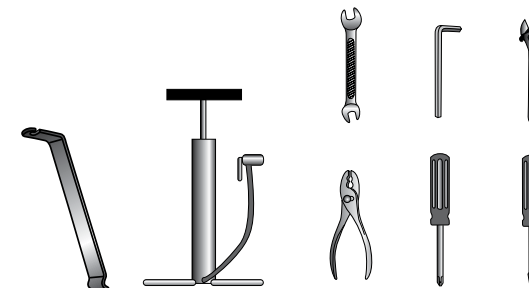
| Frequency | Task | Page Reference |
|---|--|-----------------|
| Before every ride | Be sure batteries are fully charged | 44-48 |
| | Check tire pressure | 91-93, 120-121 |
| | Check brake operation | 72-81, 116-117 |
| | Check wheels for loose spokes | 90 |
| | Perform safety check | 20-21 |
| After every ride | Be sure to fully charge batteries | 45-48 |
| | Quick wipe down with damp cloth | |
| Weekly | Lubrication as per schedule 1 | 87 |
| Monthly | Inspect wires | |
| | Inspect connectors | |
| | Lubrication as per schedule 1 | 87 |
| | Check derailleur adjustment | 81-83 |
| | Check brake adjustment | 72-81 |
| | Check brake and gear cable adjustment | 97 |
| | Check tire wear and pressure | 91-93, 120-121 |
| | Check wheels are true and spokes tight | 70 |
| | Check hub, head set and crank bearings for looseness | 93, 98, 103-105 |
| | Check pedals are tight | 101 |
| | Check handlebars and stem are tight | 94-95 |
| Check seat and seat post are tight and comfortably adjusted | 64-65 | |
| Check frame and fork for trueness | | |
| Perform safety check | 20-21 | |
| Every Six Months | Lubrication as per schedule 1 | 87 |



| Frequency | Task | Page Reference |
|-----------|---|----------------|
| | Check all points as per monthly service | 87 |
| | Check and replace brake pads, if required | 74-81 |
| | Check chain for excess play or wear | 106-107 |
| Yearly | Lubrication as per schedule 1 | 87 |

Tools Required

1. Open ended wrench or ring wrenches: 8mm, 9mm, 10mm, 12mm, 13mm, 14mm, 15mm
2. Open end or pedal wrench 15mm
3. Allen key wrenches: 2.5mm, 3mm, 4mm, 5mm, 6mm, 8mm
4. Adjustable wrench
5. Standard flat head screwdriver
6. Standard Phillips head screwdriver
7. Standard slip joint pliers
8. Tire pump
9. Tube repair kit
10. Tire levers



Travel Tools

1. Spare Tube
2. Patch kit
3. Pump
4. Tire levers
5. Multi-tool
6. Change (phone call)

Carry these items with you on every ride, in case you experience mechanical difficulties





DETAILED MAINTENANCE

WHEELS AND TIRES

Wheel Inspection

It is most important that wheels are kept in top condition. Properly maintaining your bicycle's wheels will help braking performance and stability when riding. Be aware of the following potential problems:

•Dirty or greasy rims:

Caution: These can render your brakes ineffective. Do not clean them with oily or greasy materials. When cleaning, use a clean rag or wash with soapy water, rinse and air dry. Don't ride while they're wet. When lubricating your bicycle, don't get oil on the rim braking surfaces.

•Wheels not straight:

Lift each wheel off the ground and spin them to see if they are crooked or out of true. If wheels are not straight, they will need to be adjusted. This is quite difficult and is best left to a bicycle repair specialist.

•Broken or loose spokes:

Check that all spokes are tight and that none are missing or damaged.

Caution: Such damage can result in severe instability and possibly an accident if not corrected. Again, spoke repairs are best handled by a bicycle repair specialist.

•Loose hub bearings:

Lift each wheel off the ground and try to move the wheel from side to side.

Caution: If there is movement between the axle and the hub, do not ride the bicycle. Adjustment is required.

•Axle nuts:

Check that these are tight before each ride.

•Quick release:

Check that these are set to the closed position and are properly tensioned before each ride.

Caution: Maintain the closed position and the correct adjustment. Failure to do so may result in serious injury.

Tire Inspection

Tires must be maintained properly to ensure road holding and stability. Check the following areas:

Inflation: Ensure tires are inflated to the pressure indicated on the tire sidewalls. It is better to use a tire gauge and a hand pump than a service station pump.

Caution: If inflating tires with a service station pump, take care that sudden over inflation does not cause tire to blow out.

Bead

Seating: When inflating or refitting tire, make sure that the bead is properly seated in the rim before you fully inflate the tire.

Tread:

Check that the tread shows no signs of excessive wear or flat spots, and that there are no cuts or other damage. **Caution:** Excessively worn or damaged tires should be replaced.

Valves:

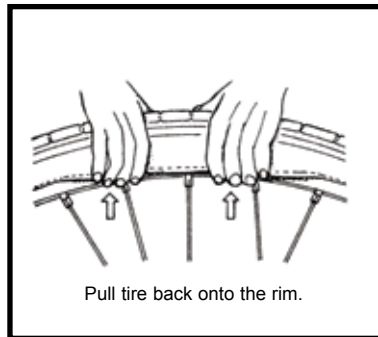
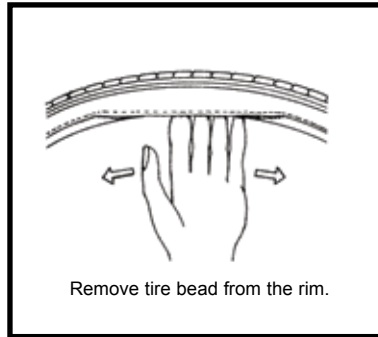
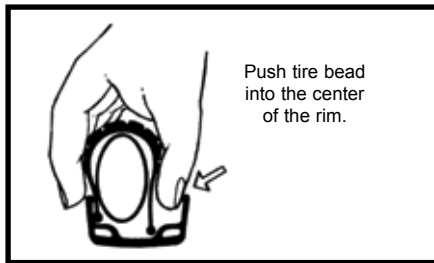
Make sure valve caps are fitted and that valves are free from dirt. A slow leak caused by the entry of the dirt can lead to a flat tire, and possibly a dangerous situation.

Recommended Tire pressures:

The recommended inflation pressure is molded on the sidewall of your bicycle tires; use this chart as a general guide only.

| | |
|------------------------------|-------------|
| BMX/Folding (16"-20") | 35-50 psi |
| Mountain Bike "MTB" (26") | 40-65 psi |
| Road Touring (700c X 35) | 70-90 psi |
| Road Racing (700c X 25) | 110-125 psi |
| Hybrid/Crossbike (700c X 38) | 60-100 psi |



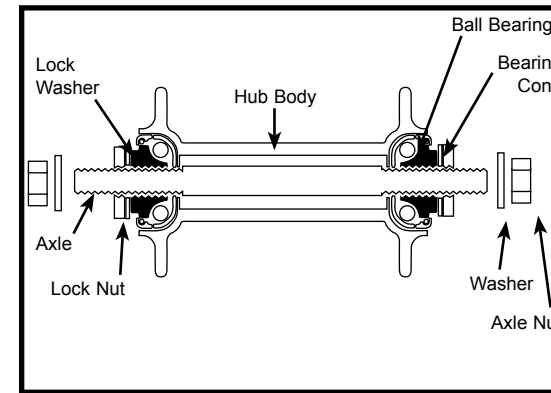


How To Fix a Flat Tire

If you need to repair a tire, follow these steps:

1. Remove the wheel from the bicycle.
2. Deflate the tire completely via the valve. Loosen the tire bead by pushing it inward all the way around.
3. Press one side of the tire bead up over the edge of the rim. Note: Use plastic tire levers, not a screwdriver, otherwise you may damage the rim and tire.
4. Remove the tube, leaving the tire on the rim.
5. Locate the leaks and patch using a tube repair kit, carefully following the instructions, or replace the tube. Note: Ensure that the replacement tube size matches the size stated on the tire sidewall and that the valve is the correct type for your bicycle.
6. Match the position of the leak in the tube with the tire to locate the possible cause and mark the location on the tire.
7. Remove the tire completely and inspect for a nail, glass, etc. and remove if located. Also inspect the inside of the rim to ensure there are no protruding spokes, rust or other potential causes. Replace the rim tape which covers the spoke ends, if damaged.
8. Remount one side of the tire onto the rim.
9. Using a hand pump, inflate the tube just enough to give it some shape.
10. Place the valve stem through the hole in the rim and work the tube into the tire. Note: Do not let it twist.
11. Using your hands only, remount the other side of the tire by pushing the edge toward the center of the rim. Start from the opposite side of the valve and work around the rim.
12. Before the tire is completely mounted, push the valve up into the rim to make sure the tire can sit squarely in position.
13. Fit the rest of the tire, rolling the last, most difficult part on using your thumbs. Note: Avoid using tire levers as these can easily puncture the tube or damage the tire.
14. Check that the tube is not caught between the rim and the tire bead at any point.

15. Using a hand pump, inflate the tube until the tire begins to take shape. Spin the wheel and watch the tire mold lines. They should be evenly spaced from the edge of the rim all the way around the wheel. When properly seated, fully inflate the tire to the pressure marked on the sidewall. Use a tire air pressure gauge to check.
16. Replace the wheel into the frame checking that all gears, brakes and quick release levers are properly adjusted.

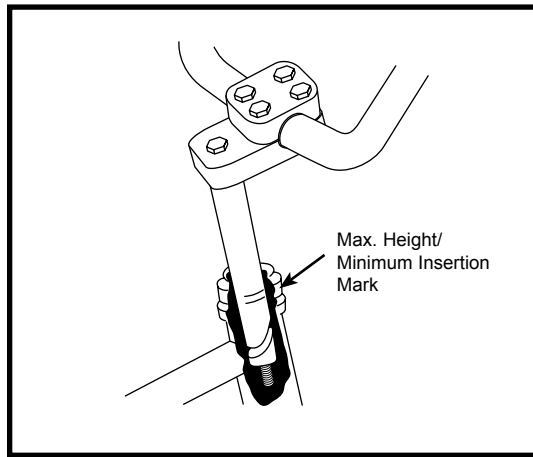


Hub Bearing Adjustment

When checked, the hub bearings of either wheel will require adjustment if there is any more than slight side play.

1. Check to make sure neither locknut is loose.
2. To adjust, remove wheel from bicycle and loosen the locknut on one side of the hub while holding the bearing cone on the same side with a flat open end wrench.
3. Rotate the adjusting cone as needed to eliminate free play.
4. Re-tighten the locknut while holding the adjusting cone in position.
5. Re-check that the wheel can turn freely without excessive side play.



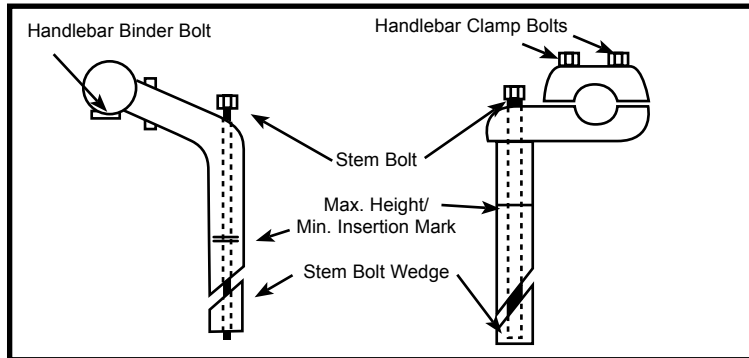


HANDLEBARS AND STEM

Stem

The stem fits into the steering column and is held firmly by the action of a binder bolt and expander wedge which, when tightened, binds with the inside of the fork steerer tube. When removing the stem, loosen the stem bolt two or three turns, then give it a tap to loosen the wedge inside.

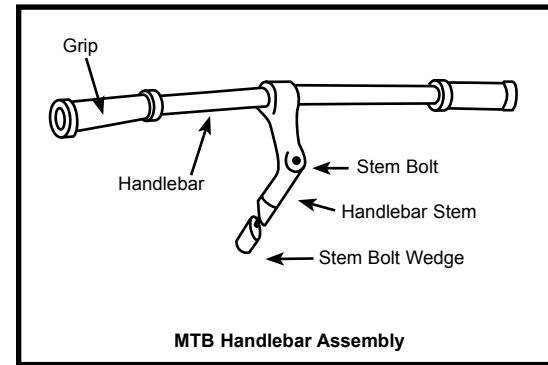
Lubricate by first wiping off any old grease and grime, then applying a thin film of grease to the part, including the wedge, that will be inserted into the frame. The height of the handlebar can be adjusted to suit your comfort preference. If the stem is removed from the steering column, you will notice a mark about 65mm up from the bottom with the words "max. height" or "minimum insertion".



Never ride a bicycle if the stem has been raised so that the max. height/ minimum insertion line can be seen.



Warning: Over tightening the stem bolt or headset assembly may cause damage to the bicycle and/or injury to the rider.



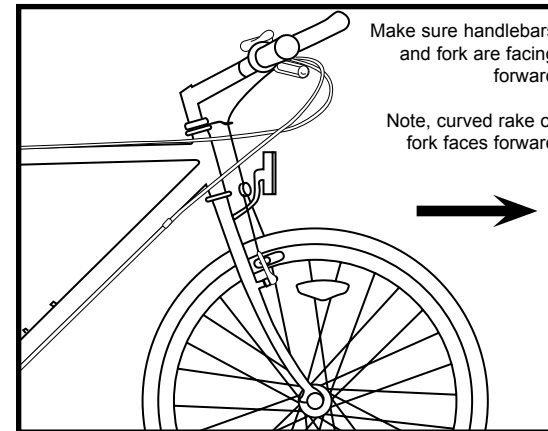
When re-fitting the stem, make sure the handlebars are correctly aligned and tightened using the appropriate hex wrench or allen key.

Do not over tighten.

Test the security of the handlebar within the stem, and the stem within the fork steerer tube, by clamping the front wheel between your knees and trying to move the handlebar up and down, and from side to side. The handlebar should not move when applying turning pressure.

Handlebars

The exact positioning of the handlebar is a matter of personal comfort. For MTB bicycles, the bar should be approximately horizontal, with the ends pointing back and slightly up. On MTB and racing style bicycles, the handlebar is usually tightened in the stem by a single allen key bolt or hexagonal bolt. On beach cruiser style bicycles there may be four clamping bolts.

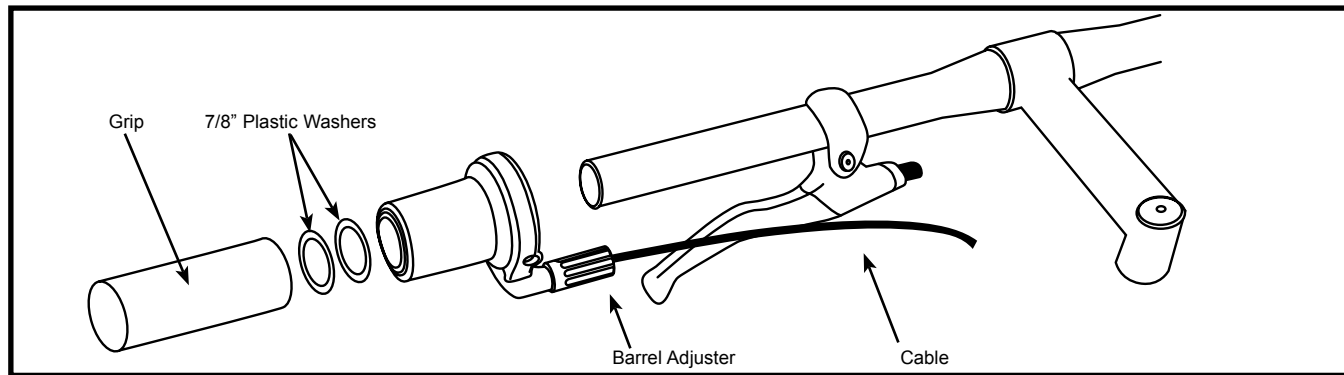


Please note that if you need to replace the fork on your bicycle at any time, please consult a qualified bicycle technician.



Never ride unless the handlebar clamping mechanism has been securely tightened.





GRIP SHIFTERS

Grip Shift™ - Installation

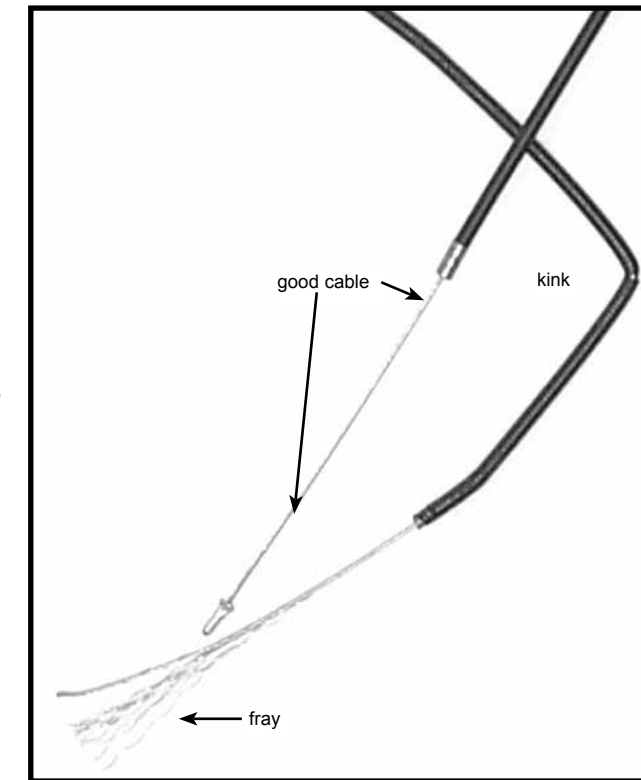
1. Slide front Grip Shift™ assembly over left side of handlebar leaving proper clearance for handlebar grip. If necessary, move the brake lever to accommodate Grip Shift™ and handlebar grip.
2. Rotate assembly until cable exits beneath brake lever with adequate clearance for brake lever movement.
3. Firmly tighten recessed clamp screw. Installation torque should be 20 in.-lbs.
4. Slide the two 7/8" plastic washers over handlebar. The washers prevent the grip from interfering with Grip Shift™ rotation.
5. Slide handlebar grip over handlebar. Thread the cable inner wire through cable housings and frame, and attach to derailleur. Make sure that the cable is in the V groove at the derailleur attachment bolt. If trimming the cable housing is necessary, be sure to replace the housing end cap.
6. Adjust indexing.
7. Slide rear Grip Shift™ over right side of handlebar and repeat steps 2 - 6.
8. Actuate front and rear brake levers to be certain of proper operation. If Grip Shift™ interferes with brake lever movement, rotate brake lever or Grip Shift™. **Check for proper brake lever operation again.**

Cables and Cable Housing

Cables and housing are one of the most overlooked parts on the bicycle. The first indication that your cables and housing need to be replaced is an increased amount of pressure needed to operate the brakes or shifters. Before every ride, check that there are no kinks or frays in the cables and housing. Also check that the housing is seated properly into each cable stop of the bicycle. It is recommended that the cables and housing are replaced at least every riding season to prolong the life of your bike.



Do not ride a bicycle that is not operating properly.





HEADSET

Inspection

The headset bearing adjustment should be checked every month. This is important as it is the headset which locks the fork into the frame, and if loose, can cause damage or result in an accident. While standing over the frame top tube with both feet on the ground, apply the front brake firmly and rock the bicycle back and forth; if you detect any looseness in the headset, it will need adjustment. Check that the headset is not over tight by slowly rotating the fork to the right and left. If the fork tends to stick or bind at any point, the bearings are too tight.

Note: If your bike is equipped with a threadless headset, please see a qualified specialist for repairs and adjustments.

Adjustment

Loosen the headset top locknut or remove it completely along with the reflector bracket, if fitted. Turn the adjusting cup clockwise until finger tight. Replace the lock washer or reflector bracket and re-tighten the lock nut using a suitable wrench.

Note: Do not over tighten or bearing damage will occur.

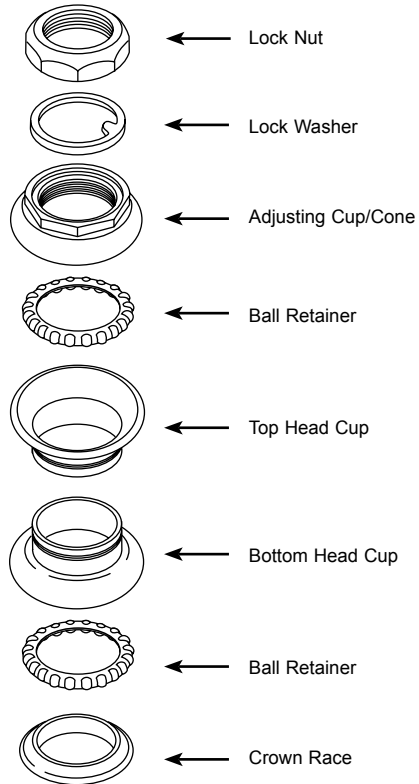


Always make sure that the headset is properly adjusted and that the headset locknut is fully tightened before riding.



Warning: Over tightening the stem bolt or headset assembly may cause damage to the bicycle and/or injury to the rider.

Standard Headset



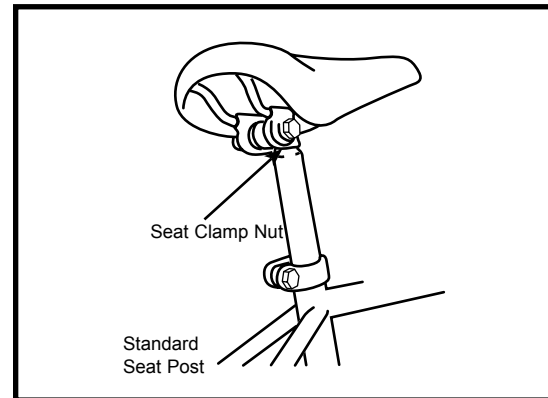
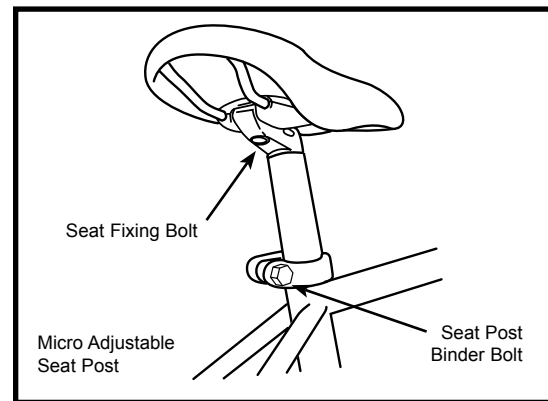
SADDLE AND SEAT POST

Inspection

The seat fixing bolt and the seat post binder bolt should be checked for tightness and adjustment every month. On removing the seat post from the frame, you will notice a mark about 65mm up from the bottom with the words "max. height" or "minimum insertion".



To avoid damage to either the seat post, the frame or possibly the rider, the minimum insertion mark must be inside the frame.



Lubrication

Remove the seat post from the frame and wipe off any grease, rust or dirt. Then apply a thin film of new grease to the part that will be inserted into the frame. Re-insert, adjust and tighten the seat post in the frame.



Adjustment

As mentioned in Part 2, the seat can be adjusted in height, angle and distance from the handlebars to suit the individual rider.

Seat angle is a matter of personal preference but the most comfortable position will usually be found when the top of the seat is almost parallel to the ground, or slightly raised at the front.

The seat can also be adjusted by sliding it forward or back along the mounting rails to obtain the most comfortable reach to the handlebars.

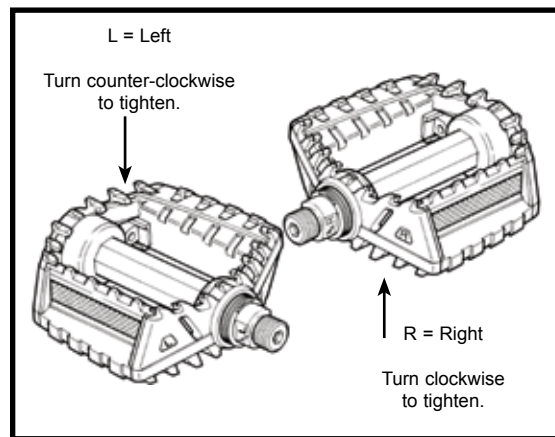
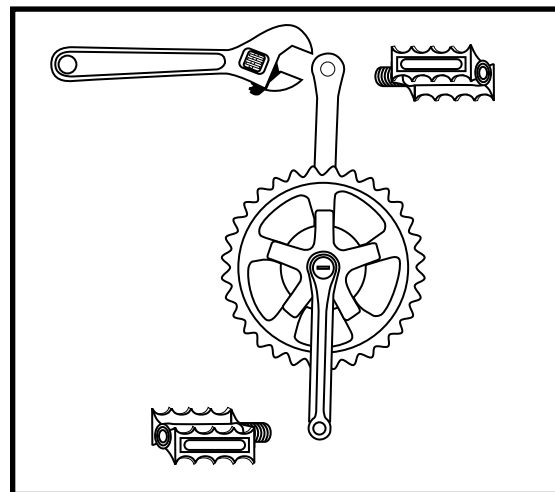
When fitting, position the seat post into the clamp under the seat and place it in the frame without tightening. Adjust it to the desired angle and position and tighten the clamping mechanism.

There are two types of seat clamps commonly in use. The most common employs a steel clamp with hexagonal nuts on either side to tighten. The other type, known as a micro-adjustable clamp, uses a single vertically mounted Allen head fixing bolt to tighten. After fixing the seat to the desired position on the post, adjust the height to the required level and tighten the binder bolt.

Note that the type of binder bolt may be either a hexagonal bolt, an Allen head bolt or a quick release mechanism. The operation of a seat post quick release mechanism is the same as for quick release hubs. (Refer to pages 66-67)

Test the security by grasping the seat and trying to turn it sideways. If it moves, you will need to further tighten the binder bolt.

Note: Remember that the minimum insertion mark must remain inside the frame assembly.



DRIVETRAIN

The drivetrain of a bicycle refers to all parts that transmit power to the rear wheel including the pedals, chain, chainwheel, crank set and freewheel.

PEDALS

Pedals are available in a variety of shapes, sizes and materials, and each are designed with a particular purpose in mind. Some pedals can be fitted with toe clips and straps. These help to keep the feet correctly positioned and allow the rider to exert pulling force, as well as downward pressure, on the pedals. Use of toe clips with straps requires practice to acquire the necessary skill to operate them safely.

Inspection

Pedals should be inspected every month, taking note of the following areas:

- Check correct tightness into the crank arms. If pedals are allowed to become loose, they will not only be dangerous but will also cause irreparable damage to the cranks.
- Check that pedal bearings are properly adjusted. Move the pedals up and down, and right to left, and also rotate them by hand. If you detect any looseness or roughness in the pedal bearings then adjustment, lubrication or replacement is required.
- Ensure that the front and rear pedal reflectors are clean and securely fitted.
- Also ensure that the toe clips, if fitted, are securely tightened to the pedals.



Never ride with loose pedals.



Lubrication and Adjustment

Many pedals cannot be disassembled to allow access to the internal bearings and axle. However, it is usually possible to inject a little oil onto the inside bearings, and this should be done every six months. If the pedal is the type that can be fully disassembled, then the bearings should be removed, cleaned and greased every six to twelve months. Because of the wide variety of pedal types and their internal complexity, disassembly procedures are beyond the scope of this manual and further assistance should be sought from a specialist.

Attachment

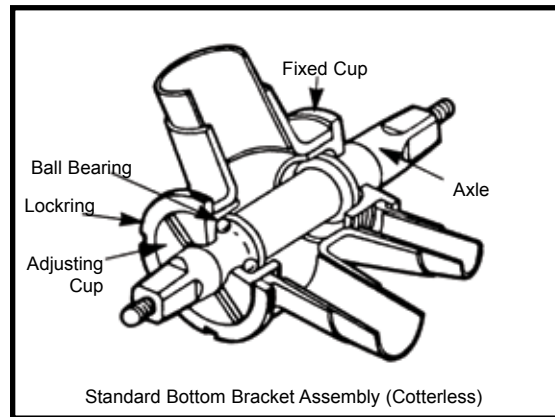
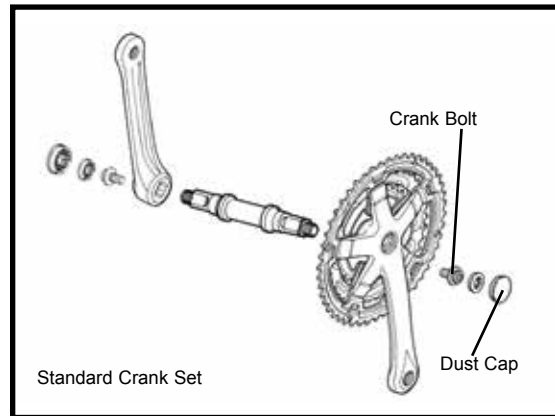
Note: The right and left pedals of a bicycle each have a different thread and are not interchangeable.

Never force a pedal into the incorrect crank arm. The right pedal, which attaches to the chainwheel side, is marked 'R' on the end of the axle, and screws in with a clockwise thread. The left pedal, which attaches to the other crank arm, is marked 'L' on the axle, and screws in with a counter-clockwise thread.

Insert the correct pedal into the crank arm and begin to turn the thread with your fingers only. When the axle is screwed all the way in, securely tighten using a 15mm wrench.

If removing a pedal, remember that the right pedal axle must be turned counter clockwise, i.e. the reverse of when fitting. If replacing the original pedals with a new set, make sure the size and the axle thread is compatible with the cranks on your bicycle.

Note: Never try and force a pedal with the wrong thread size or thread direction into a bicycle crank.



CRANK SET

The crank set refers to the bottom bracket axle and bearings, the crank arms, and chainrings.

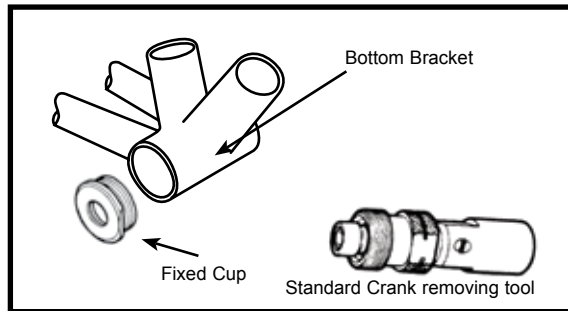


Never ride your bike if the cranks are loose. This may be dangerous and will damage the crank arms beyond repair.

Inspection

The crank set should be checked for correct adjustment and tightness every month. Crank nuts must be kept tight, and the bottom bracket bearings must be properly adjusted. Remove the chain and try to move the cranks from side to side with your hands. The cranks should not move on the axle, and there should be only very slight movement in the bottom bracket. Next, spin the cranks. If they don't spin freely without grinding noise, then adjustment or lubrication will be needed. Also check that there are no broken teeth on the chainrings, and wipe off excess dirt and grease that may have built up on them.





Lubrication and Adjustment

To adjust the free play in a three piece type bottom bracket, loosen the locking on the left side by turning it counter-clockwise, then turn the adjusting cup as required. Re-tighten the locking taking care not to alter the cup adjustment.

To disassemble:

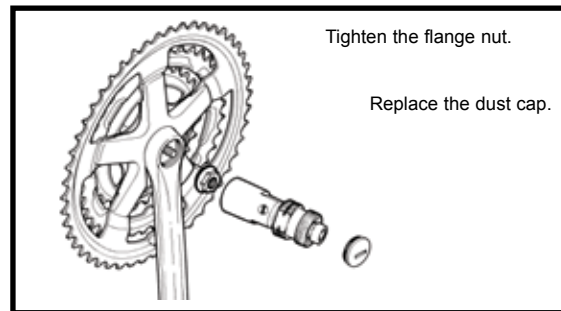
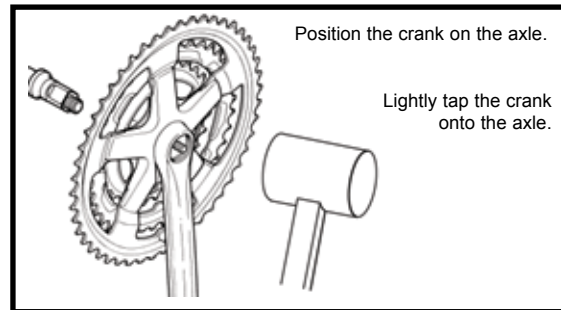
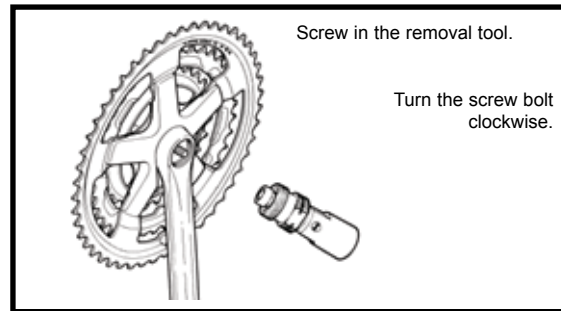
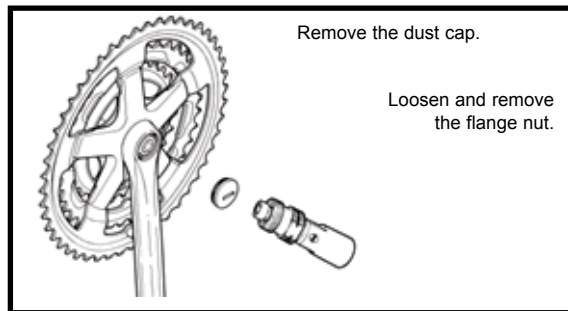
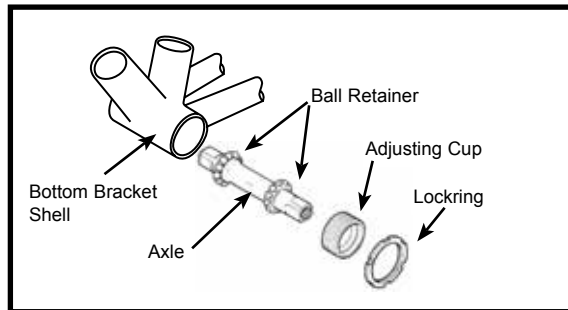
1. Remove the cranks from the axle.
2. Remove the left side locking by turning it counter-clockwise.
3. Remove the adjusting cup by turning it counter-clockwise.
4. Remove the left ball retainer and slide the axle out of the frame to the left.
5. Remove the right side fixed cup by turning it counter-clockwise and remove the right ball retainer. Clean and inspect all bearing surfaces and ball retainers, and replace any damaged parts. Pack the ball bearing retainers with grease, then re-assemble in reverse of the above procedure.

Standard Crank Removal

To remove cotterless cranks use the following procedure.

Note that a special tool will be required.

1. Remove the dust cap with a coin or screwdriver.
2. Loosen the flange nut or bolt and washer, and remove.
3. Screw the removing tool into the crank and tighten.
4. Turn the screw bolt down until the crank comes away from the axle.



Standard Crank Replacement:

1. Replace the crank arm onto the axle.
2. Tap the crank arm lightly with a mallet.
3. Refit the washer and tighten flange nut or bolt securely to a torque of 27Nm.
4. Replace the dust cover

Adjustment After Use:

1. Remove dust cap.
2. Tap the crank arm lightly with a mallet.
3. Re-tighten the flange nuts, and refit the dust caps.



New cranks may become loose with initial use. Perform the following task after several hours of riding, and repeat it two or three times after further use. Cranks should then remain tight.



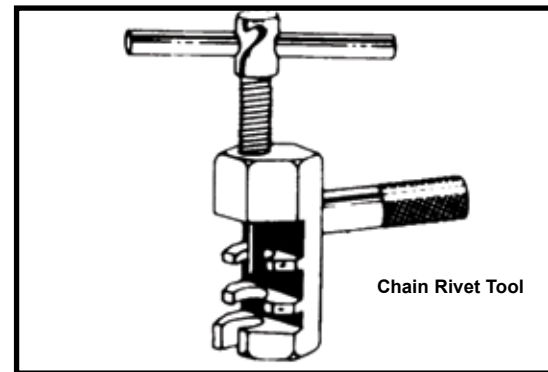
CHAINS

Inspection

The chain must be kept clean, rust free and frequently lubricated in order to extend its life as long as possible. It will require replacement if it stretches, breaks, or causes inefficient gear shifting. Make sure that there are no stiff links, they must all move freely.

Lubrication

The chain (bicycle and motor drive) should be lubricated with light oil at least every month, or after use in wet, muddy, or dusty conditions. Take care to wipe off excess oil, and not to get oil on the tires or rim braking surfaces.



Adjustment and Replacement

On derailleur geared bicycles the rear derailleur automatically tensions the chain. To adjust the chain on single speed freewheel, coaster hub brake or internally geared bicycles:

1. Loosen the rear axle nuts (and coaster brake arm clip if fitted) and move the wheel forward to loosen, or backward to tighten, in the frame.
2. When correctly adjusted, the chain should have approximately 10mm (3/8") of vertical movement when checked in the center between the chainwheel and rear sprocket. Center the wheel in the frame and re-tighten the axle nuts after any adjustment. Bicycles which have a single speed freewheel, coaster hub brake or 3-speed hub, generally use a wider type chain than derailleur geared bicycles. These chains can be disconnected by way of a special U-shape joining link, that can be pried off of the master link with a screwdriver. To replace, feed the chain around the chainwheel and rear sprocket, fit the master link into the rollers into each end of the chain, position the master link side plate, and slip on the U-shaped snap-on plate. Make sure the open end of the U-shaped plate is trailing as the link approaches the chainwheel when pedaling forward.

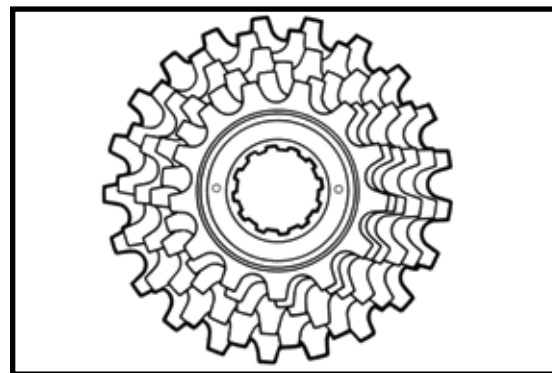
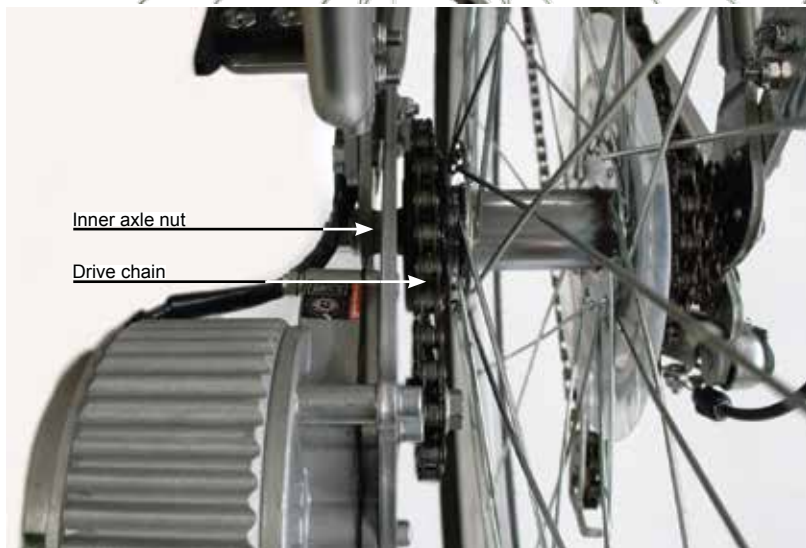
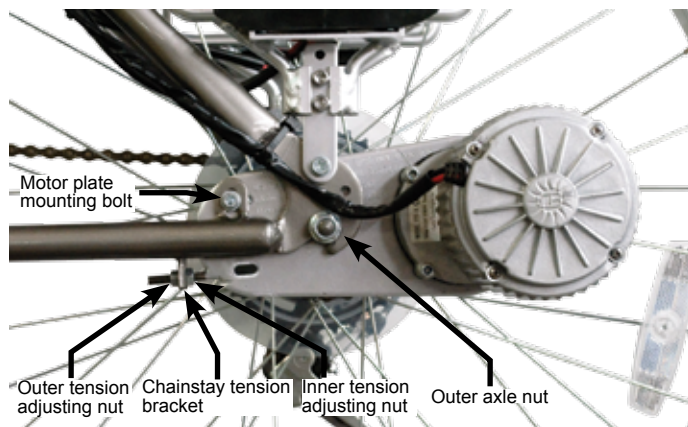
Derailleur geared bicycles use narrower chains and require a special tool to fit and remove chain links, or to change the length. To remove, fit the rivet tool so that the punch pin is centered over any one of the chain rivets. Push the rivet almost all the way out, then back out the punch and remove the tool. Holding the chain on both sides of the punched rivet, bend it slightly to release link from the rivet. To install, feed chain around chainwheel, rear sprocket and derailleur cage with rivet facing away from the bicycle. Bring the two ends together within the special tool and punch the rivet into place. Be sure not to push rivet too far through side plate.





Currie Drive Chain Tension Adjustment

1. Loosen (do not remove) the 5mm motor plate mounting bolt.
2. Loosen (counter-clockwise) the 10mm outer tension adjusting nut, then tighten (clockwise) the 10mm inner tension adjusting nut to unclamp the chainstay tension bracket.
3. Loosen the 15mm outer axle nut.
4. Using a cone wrench, loosen the 17mm thin inner axle nut.
5. Slide the motor with the motor plate forward or backward to adjust the drive chain tension to allow only about 5mm of vertical slack ($3/16''$).
6. Tighten the 17mm inner axle nut.
7. Tighten the 15mm outer axle nut.
8. Tighten the 5mm motor plate mounting bolts.
9. Tighten (clockwise) the outer adjusting nut and loosen (counter-clockwise) the inner adjusting nut, clamping the chainstay tension bracket.



FREEWHEEL

Inspection

Like the chain, the freewheel must be kept clean and well lubricated. If the chain has become worn and needs replacing, then it is likely that the freewheel will also have become worn and should also be replaced. Take the chain off the freewheel and rotate it with your hand. If you hear a grinding noise or the freewheel stops suddenly after spinning it, it may need adjustment or replacement. Such action is beyond the scope of this manual and you should consult a specialist.

Lubrication

Remove any accumulated dirt from the freewheel with a brush and a degreaser. Disassembly of the freewheel is a complicated procedure requiring special tools, and should be left to a specialist. Apply oil to the freewheel whenever you lubricate the chain, taking care to wipe off any excess.

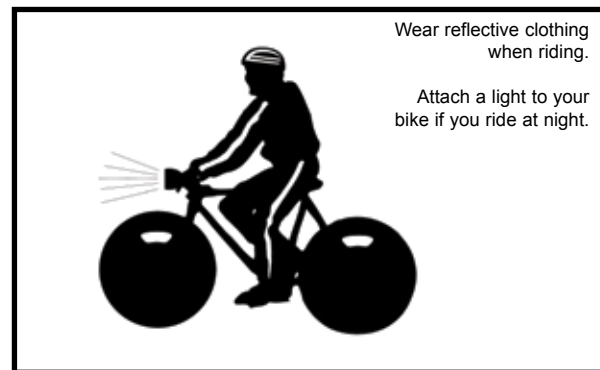
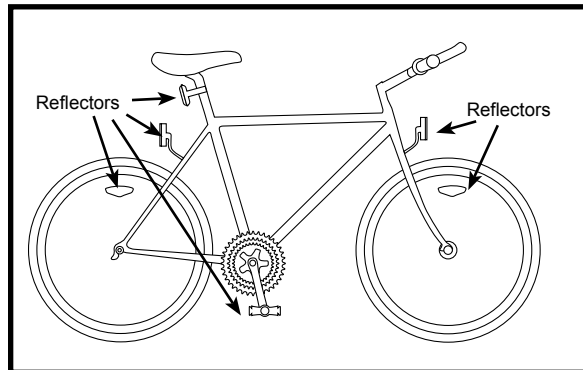




REFLECTORS

Your bicycle is supplied with one front (white), one rear (red), two wheel (white), and two pedal (orange) reflectors. These are an important safety and legal requirement, and should remain securely fitted and in good, clean conditions at all times.

Periodically, inspect all reflectors, brackets and mounting hardware for signs of wear or damage. Replace immediately if damage is found. Please see pages 22-26 for more information.



Problem

Possible Cause

Remedy

| | | |
|---|---|--|
| Gear shifts not working properly | <ul style="list-style-type: none"> - Derailleur cables sticking/stretched/damaged - Front or rear derailleur not adjusted properly - Indexed shifting not adjusted properly | <ul style="list-style-type: none"> - Lubricate/tighten/replace cables - Adjust derailleurs - Adjust indexing |
| Slipping chain | <ul style="list-style-type: none"> - Excessively worn/chipped chainring or freewheel sprocket teeth - Chain worn/stretched - Stiff link in chain - Non-compatible chain/chainring/freewheel | <ul style="list-style-type: none"> - Replace chainring, sprockets and chain - Replace chain - Lubricate or replace link - Seek advice at a bicycle shop |
| Chain jumping off freewheel sprocket or chainring | <ul style="list-style-type: none"> - Chainring out of true - Chainring loose - Chainring teeth bent or broken - Rear or front derailleur side-to-side travel out of adjustment | <ul style="list-style-type: none"> - Re-true if possible, or replace - Tighten mounting bolts - Repair or replace chainring/set - Adjust derailleur travel |
| Constant clicking noises when pedaling | <ul style="list-style-type: none"> - Stiff chain link - Loose pedal axle/bearings - Loose bottom bracket axle/bearings - Bent bottom bracket or pedal axle - Loose crankset | <ul style="list-style-type: none"> - Lubricate chain / Adjust chain link - Adjust bearings/axle nut - Adjust bottom bracket - Replace bottom bracket axle or pedals - Tighten crank bolts |
| Grinding noise when pedaling | <ul style="list-style-type: none"> - Pedal bearings too tight - Bottom bracket bearings too tight - Chain fouling derailleurs - Derailleur jockey wheels dirty/binding | <ul style="list-style-type: none"> - Adjust bearings - Adjust bearings - Adjust chain line - Clean and lubricate jockey wheels |





| Problem | Possible Cause | Remedy |
|---|---|--|
| Freewheel does not rotate | - Freewheel internal pawl pins are jammed | - Lubricate. If problem persists, replace freewheel |
| Brakes not working effectively | - Brake blocks worn down - Brake blocks/rim greasy, wet or dirty - Brake cables are binding/stretched/damaged - Brake levers are binding - Brakes out of adjustment | - Replace brake blocks - Clean blocks and rim - Clean/adjust/replace cables - Adjust brake levers - Center brakes |
| When applying the brakes they squeal/squeak | - Brake blocks worn down - Brake block toe-in incorrect - Brake blocks/rim dirty or wet - Brake arms loose | - Replace blocks - Correct block toe-in - Clean blocks and rim - Tighten mounting bolts |
| Knocking or shuddering when applying brakes | - Bulge in the rim or rim out of true - Brake mounting bolts loose - Brakes out of adjustment - Fork loose in head tube | - True wheel or take to a bike shop for repair - Tighten bolts - Center brakes and/or adjust brake block toe-in - Tighten headset |
| Wobbling wheel | - Axle broken - Wheel out of true - Hub comes loose - Headset binding - Hub bearings collapsed - QR mechanism loose | - Replace axle - True wheel - Adjust hub bearings - Adjust headset - Replace bearings - Adjust QR mechanism |



| Problem | Possible Cause | Remedy |
|-----------------------|--|---|
| Steering not accurate | - Wheels not aligned in frame - Headset loose or binding - Front forks or frame bent | - Align wheels correctly - Adjust/tighten headset - Take bike to a bike shop for possible frame realignment |
| Frequent punctures | - Inner tube old or faulty - Tire tread/casing worn - Tire unsuited to rim - Tire not checked after previous puncture - Tire pressure too low - Spoke protruding into rim | - Replace Inner tube - Replace tire - Replace with correct tire - Remove sharp object embedded in tire - Correct tire pressure - File down spoke |



Use approved replacement parts, particularly for safety-critical components. Consult with Currie or your dealer as needed.



| PROBLEM | POSSIBLE CAUSE | REMEDY |
|--|---|--|
| Bicycle has reduced range and/or speed | Low batteries | Charge batteries for recommended time |
| | Faulty or old batteries | Replace batteries |
| | Low tire pressure | Inflate tires to recommended pressure |
| | Brakes dragging against rim | Adjust brakes and/or rim |
| | Riding in hilly terrain, headwind, etc. | Reduced range to be expected in these types of terrain and/or weather conditions |
| Hub motor makes a "clicking" noise and has reduce power and/or shuts off | Low batteries | Charge batteries for recommended time |
| | Damaged planetary gears | Replace hub motor/wheel |
| No power when the switch is turned "ON" | Blown fuse | Replace fuse |
| | Loose connectors | Check all connectors |
| | Broke wire | Inspect all wires for damage |
| | Faulty switch | Replace switch and retest |
| | Faulty controller | Replace controller and retest |
| Bicycle operates OK but battery gauge does not light up | Loose connectors | Check throttle and/or battery gauge connectors |
| | Damaged wires | Inspect all wires |
| | Faulty battery gauge | Replace battery gauge |
| Battery gauge lights up but bicycle does not operate | Faulty brake inhibitor | Replace brake inhibitor(s) and retest |
| | Loose motor wire connector | Check motor wire connector |
| | TMM sensor not adjusted | Re-adjust TMM sensor |




| PROBLEM | POSSIBLE CAUSE | REMEDY |
|--|--|---|
| Bicycle runs at full speed without pedaling | Faulty TMM sensor (Enlightened Series) | Replace TMM sensor and retest |
| | Faulty throttle | Replace throttle and retest |
| | Faulty controller | Replace controller and retest |
| Bicycle (RMB or STB Series) works in TAG mode but not in PAS mode | Sensor and sensor ring not aligned | Realigned so gap between sensor and sensor ring is 1-2mm |
| | Faulty "White Box" | Replace "White Box" and retest |
| Battery indicates full charge when tested at the charger port but bicycle does not operate | Blown fuse | Replace fuse |
| | Loose connectors | Check all connectors |
| | Poor contact between battery terminals | Inspect and clean battery terminals |
| Throttle (on bicycles so equipped) does not spring back to neutral position | Grip jammed against throttle | Reposition grip so gap between it and the throttle is 1-2mm |
| | Faulty throttle | Replace throttle |
| Bicycle has intermittent power | Loose connectors | Check all connectors |
| | Loose fuse | Check fuse connector |
| | Damaged wires | Inspect all wires |
| Charger shows a full charge in an unusually short amount of time | Faulty charger Faulty batteries | Replace charger Replace batteries |
| Indicator light on charger not illuminated when charger is plugged into outlet | Outlet has no power | Check outlet for power |
| | Blown fuse (Li-Ion chargers) | Replace fuse |
| | Faulty charger | Replace charger |
| Charger (Li-Ion) indicator light only flashes orange and never changes to red | Damage wire from charger port to battery Faulty batteries | Inspect wire Replace batteries |

How Things Work

It's important to your performance, enjoyment and safety to understand how things work on your bicycle. Even if you're an experienced bicyclist, don't assume that the way things work on your new bike is the same as how they work on older bikes. Be sure to read and to understand this section of the Manual. If you have even the slightest doubt as to whether you understand something, talk to a qualified specialist.

Brakes

NOTE: For most effective braking, use both brakes and apply them simultaneously.

 **WARNING:** Sudden or excessive application of the front brake may pitch the rider over the handlebars, causing serious injury or death.

1. How brakes work

It's important to your safety that you instinctively know which brake lever controls which brake on your bike. In the U.S., bikes are required to be set up with the right brake lever controlling the rear brake, and the left lever controlling the front brake.


The braking action of a bicycle is a function of the friction between the brake surfaces -- usually the brake shoes and the wheel rim. To make sure that you have maximum friction available, keep your wheel rims and brake shoes clean and free of lubricants, waxes or polishes.

Make sure that your hands can reach and squeeze the brake levers comfortably. If your hands are too small to operate the levers comfortably, consult your dealer before riding the bike. The lever reach may be adjustable; or you may need a different brake lever design.

Most brakes have some form of quick release mechanism to allow the brake shoes to clear the tire when a wheel is removed or reinstalled. When the brake quick release is in the open position, the brakes are inoperative. Make sure that you understand the way the brake quick release works on your bike and check each time to make sure both brakes work correctly before you get on the bike.

In most countries by law or common convention, the left brake lever controls the front brake and the right brake lever controls the rear brake. For the UK and some others this is reversed. Please make a quick check on your bike to check the arrangement.

Brakes are designed to control your speed, not just to stop the bike. Maximum braking force for each wheel occurs at the point just before the wheel "locks up" (stops rotating) and starts to skid. Once the tire skids, you actually lose most of your stopping force and all directional control. You need to practice slowing and stopping smoothly without locking up a wheel. The technique is called progressive brake modulation. Instead of jerking the brake lever to the position where you think you'll generate appropriate braking force, squeeze the lever, progressively increasing the braking force. If you feel the wheel begin to lock up, release pressure just a little to keep the wheel rotating just short of lockup. It's important to develop a feel for the amount of brake lever pressure required for each wheel at different speeds and on different surfaces. To better understand this, experiment a little by walking your bike and applying different amounts of pressure to each brake lever, until the wheel locks.

 **WARNING:** Some bicycle brakes, such as linear-pull and disc brakes, are extremely powerful. You should take extra care in becoming familiar with these brakes and exercise particular care when using them. Applying these brakes too hard or too suddenly can lock up a wheel, which could cause you to lose control and fall.

When you apply one or both brakes, the bike begins to slow, but your body wants to continue at the speed at which it was going. This causes a transfer of weight to the front wheel (or, under heavy braking, around the front wheel hub, which could send you flying over the handlebars). A wheel with more weight on it will accept greater brake pressure before lockup; a wheel with less weight will lock up with less brake pressure. So, as you apply brakes and your weight shifts forward, you need to shift your body toward the rear of the bike, to transfer weight back on to the rear wheel; and at the same time, you need to both decrease rear braking and increase front braking force. This is even more important on steep descents, because descents shift weight forward. The keys to effective speed control and safe stopping are controlling wheel lockup and weight transfer. Practice braking and weight transfer techniques where there is no traffic or other hazards and distractions.

Everything changes when you ride on loose surfaces or in wet weather. Tire adhesion is reduced, so the wheels have less cornering and braking traction and can lock up with less brake force. Moisture or dirt on the brake shoes reduces their ability to grip. The way to maintain control on loose or wet surfaces is to go more slowly to begin with.

2. Adjusting your brakes

If either brake lever on your bike fails the Mechanical Safety Check you can restore brake lever travel by turning the brake cable adjusting barrel counterclockwise, then lock the adjustment in by turning the barrel's lock nut clockwise as far as it will go. If the lever still fails the Mechanical Safety Check, or you have any question about whether your brakes are working properly have your dealer check the brakes.



Shifting

Your multi-speed bicycle will have a derailleur drivetrain, an internal gear hub drivetrain or, in some special cases, a combination of the two.

1. Why all those gears?

You will get the greatest fitness benefit, produce the greatest sustained power and have the greatest endurance if you learn to spin the pedals at high revolutions per minute (called cadence) against low resistance. You will get the least fitness benefit and have the least endurance by pushing hard on the pedals against heavy resistance.

The purpose of having multiple gears on a bicycle is to let you choose the gear that allows you to maintain your optimum cadence under the widest range of riding conditions. Depending on your fitness level and experience (the more fit, the higher the cadence), optimum cadence is between 60 and 90 pedal revolutions per minute.

2. Shifting a derailleur drivetrain

If your bicycle has a derailleur drivetrain, the gear-changing mechanism will consist of:

- A rear sprocket cluster, called a freewheel or freewheel cassette
- A rear derailleur
- Usually a front derailleur
- One or two shifters
- One or two control cables
- One, two or three front sprockets called chainrings
- A drive chain

The number of possible gear combinations (“speeds”) is the product of multiplying the number of sprockets at the rear of the drivetrain by the number of sprockets at the front ($6 \times 2 = 12$, $6 \times 3 = 18$, $7 \times 3 = 21$ and so on).

a. Shifting Gears

There are many different types of shifter mechanisms, each preferred for specific types of application because of its ergonomic, performance and price characteristics. The designers of your bike have selected the shifter design which they believe will give the best results on your bike.

The vocabulary of shifting can be pretty confusing. A downshift is a shift to a “slower” gear, one which is easier to pedal. An upshift is a shift to a “faster”, harder to pedal gear. What’s confusing is that what’s



happening at the front derailleur is the opposite of what’s happening at the rear derailleur (for details, read the instructions on Shifting the Rear Derailleur and Shifting the Front Derailleur below). For example, you can select a gear which will make pedaling easier on a hill (make a downshift) in one of two ways: shift the chain down the gear “steps” to a smaller gear at the front, or up the gear “steps” to a larger gear at the rear. So, at the rear gear cluster, what is called a downshift looks like an upshift. The way to keep things straight is to remember that shifting the chain in towards the centerline of the bike is for accelerating and climbing and is called a downshift. Moving the chain out or away from the centerline of the bike is for speed and is called an upshift. Whether upshifting or downshifting, the bicycle derailleur system design requires that the drive chain be moving forward and be under at least some tension. A derailleur will shift only if you are pedaling forward.

1. Shifting the Rear Derailleur

The rear derailleur is controlled by the right shifter. The function of the rear derailleur is to move the drive chain from one gear to another on the rear gear cluster, thereby changing gear drive ratios. The smaller sprockets on the gear cluster produce higher gear ratios. Pedaling in the higher gears requires greater pedaling effort, but takes you a greater distance with each revolution of the pedal cranks. The larger sprockets produce lower gear ratios. Using them requires less pedaling effort, but takes you a shorter distance with each pedal crank revolution. Moving the chain from a smaller sprocket of the gear cluster to a larger sprocket results in a downshift. Moving the chain from a larger sprocket to a smaller sprocket results in an upshift. In order for the derailleur to disengage the chain from one sprocket and move it on to another, the chain must be moving forward (i.e. the rider must be pedaling forward).

2. Shifting the Front Derailleur:

The front derailleur, which is controlled by the left shifter, shifts the chain between the larger and smaller chainrings. Shifting the chain onto a smaller chainring makes pedaling easier (a downshift). Shifting to a larger chainring makes pedaling harder (an upshift).

b) Which gear should I be in?

The combination of largest rear, smallest front gears is for the steepest hills. The smallest rear, largest front combination is for the greatest speed. It is not necessary to shift gears in sequence. Instead, find the “starting gear” which is right for your level of ability -- a gear which is hard enough for quick acceleration but easy enough to let you start from a stop without wobbling — and experiment with upshifting and downshifting to get a feel for the different gear combinations. At first, practice shifting where there are no obstacles, hazards or other traffic, until you’ve built up your confidence. Once you’ve learned the basics, experience will teach you which gear is appropriate for which condition, and practice will help you shift smoothly and at precisely the optimum moment.



Tires and Tubes

1. Tires

Bicycle tires are available in many designs and specifications, ranging from general-purpose designs to tires designed to perform best under very specific weather or terrain conditions. Your bicycle has been equipped with tires which the bike's manufacturer felt were the best balance of performance and value for the use for which the bike was intended. If, once you've gained experience with your new bike, you feel that a different tire might better suit your riding needs, your dealer can help you select the most appropriate design.

The size, pressure rating, and on some high-performance tires the specific recommended use, are marked on the sidewall of the tire. The part of this information which is most important to you is Tire Pressure.

WARNING: Never inflate a tire beyond the maximum pressure marked on the tire's sidewall. Exceeding the recommended maximum pressure may blow the tire off the rim, which could cause damage to the bike and injury to the rider and bystanders. The best way to inflate a bicycle tire to the correct pressure is with a bicycle pump.

CAUTION: Gas station air hoses move a large volume of air very rapidly, and will raise the pressure in your tire very rapidly. To avoid over-inflation when using a gas station air hose, put air into your tire in short, spaced bursts.

Tire pressure is given either as maximum pressure or as a pressure range. How a tire performs under different terrain or weather conditions depends largely on tire pressure. Inflating the tire to near its maximum recommended pressure gives the lowest rolling resistance; but also produces the harshest ride. High pressures work best on smooth, dry pavement. Very low pressures, at the bottom of the recommended pressure range, give the best performance on smooth, slick terrain such as hard-packed clay, and on deep, loose surfaces such as deep, dry sand. Tire pressure that is too low for your weight and the riding conditions can cause a puncture of the tube by allowing the tire to deform sufficiently to pinch the inner tube between the rim and the riding surface.

CAUTION: Pencil type automotive tire gauges and gas station air hose pressure settings can be inaccurate and should not be relied upon for consistent, accurate pressure readings. Instead, use a high quality dial gauge.

Check inflation as described in you'll know how correctly inflated tires should look and feel. Some tires may need to be brought up to pressure every week or two.



Some special high-performance tires have unidirectional treads: their tread pattern is designed to work better in one direction than in the other. The sidewall marking of a unidirectional tire will have an arrow showing the correct rotation direction. If your bike has unidirectional tires, be sure that they are mounted to rotate in the correct direction.

2. Tire Valves


The tire valve allows air to enter the tire's inner tube under pressure, but doesn't let it back out unless you want it to. There are primarily two kinds of bicycle tube valves: The Schraeder Valve and the Presta Valve. The bicycle pump you use must have the fitting appropriate to the valve stems on your bicycle. All eZip and IZIP bicycles use Schraeder valves


The Schraeder is like the valve on a car tire. To inflate a Schraeder valve tube, remove the valve cap and push the air hose or pump fitting onto the end of the valve stem. To let air out of a Schraeder valve, depress the pin in the end of the valve stem with the end of a key or other appropriate object.

The Presta valve has a narrower diameter and is only found on bicycle tires. To inflate a Presta valve tube using a Presta headed bicycle pump, remove the valve cap; unscrew (counterclockwise) the valve stem lock nut; and push down on the valve stem to free it up. Then push the pump head on to the valve head, and inflate. To inflate a Presta valve with a gas station air hose, you'll need a Presta adapter (available at your bike shop) which screws on to the valve stem once you've freed up the valve. The adapter fits the end of the air hose fitting. Close the valve after inflation. To let air out of a Presta valve, open up the valve stem lock nut and depress the valve stem.

Bicycle Suspension

Some bicycles come equipped with suspension systems which are designed to smooth out some of the shocks encountered while riding. There are many different types of suspension systems — too many to deal with individually in this manual. If your bicycle has a suspension system of any kind, consult a qualified specialist to provide you with the appropriate adjustment and maintenance instructions.

 **WARNING:** Failure to maintain, check and properly adjust the suspension system may result in suspension malfunction, which may cause you to lose control and fall.

 **CAUTION:** Changing suspension adjustment can change the handling and braking characteristics of your bicycle. Never change suspension adjustment unless you are thoroughly familiar with the suspension system manufacturer's instructions and recommendations, and always check for changes in the handling and braking characteristics of the bicycle after a suspension adjustment by taking a careful test ride in a hazard-free area.



CAUTION: Not all bicycles can be safely retrofitted with some types of suspension systems. Before retrofitting a bicycle with any suspension, check with the bicycle's manufacturer to make sure that what you want to do is compatible with the bicycle's design.



WARNING: If your bike has suspension, the increased speed you may develop also increases your risk. When braking, the front of a suspended bike dips. You could lose control and fall if your skill is not up to handling this system. Get to know how to handle your suspension system safely before trying any downhill or very fast mountain biking.



Suspension can increase the handling capabilities and comfort of your bicycle. This enhanced capability may allow you to ride faster; but you must not confuse the enhanced capabilities of the bicycle with your own capabilities as a rider. Increasing your skill will take time and practice. Proceed carefully until you are sure you are competent to handle the full capabilities of your bike. Never ride at a speed or on terrain which is not suitable for your personal riding skill and experience. Always proceed cautiously in areas where you are not familiar with the terrain. If you exceed your limitations, serious injury or death could occur.

ADD'T'L SAFETY INSTRUCTIONS



- » Do not allow hands, feet, hair, body parts, clothing, or similar articles to come in contact with moving parts, wheels or drivetrain, while the motor is running.
- » Make sure that the areas that the bicycle is to be used in are safe and suitable for safe operation.
- » Make sure that all safety labels are in place and understood by the rider. No passengers are allowed on the bicycle
- » Make sure that any and all axle guards, chain guards, or other covers or guards supplied with the bicycle are in place and in good working condition.
- » Make sure that tires are in good condition, inflated properly, and have sufficient tread remaining.
- » Persons with following conditions are cautioned not to operate the bicycle:
 - » Those with heart conditions
 - » Pregnant women
 - » Those with head, back, or neck ailments, or prior surgeries to those areas of the body
 - » Those with any mental or physical conditions that may make them susceptible to injury or impair their physical dexterity or mental capacities to recognize, understand and perform all of the safety instructions and to be able to assume the hazards inherent in operating the bicycle.



BICYCLE TORQUE VALUES

| <u>Component</u> | <u>Recommended Torque Value (in-lb)</u> | <u>Nm</u> |
|--|---|-------------|
| Headset, Handlebar, Seat area | | |
| Seat fixing bolt (seat rail binder) | 174 - 347 | 19.7 - 39.2 |
| Stem handlebar binder bolts (2) | 174 - 260 | 19.7 - 29.4 |
| Stem wedge (binder) bolt - quill type for threaded headset | 174 - 260 | 19.7 - 29.4 |
| Threaded headset locknut | 130 - 150 | 14.7 - 16.9 |
| Threadless stem clamp bolts | 120 - 144 | 13.6 - 16.3 |
| Crankset, Bottom Bracket, Pedal area | | |
| Chainring bolt (aluminum) | 44 - 88 | 5.0 - 9.9 |
| Chainring bolt (steel) | 70 - 95 | 7.9 - 10.7 |
| Crank bolts | 305 - 391 | 34.5 - 44.2 |
| Pedal (into crank) | 307 - 350 | 34.7 - 39.5 |
| Derailleur, Shift lever area | | |
| Front derailleur cable pinch | 44 - 60 | 5.0 - 6.8 |
| Front derailleur clamp mount | 44 - 60 | 5.0 - 6.8 |
| Rear derailleur cable pinch bolt | 35 - 45 | 4.0 - 5.1 |
| Rear derailleur mounting bolt | 70 - 86 | 7.9 - 9.7 |
| Shift lever (MTB thumb-type) | 22 - 26 | 2.5 - 2.9 |
| Shift lever (SRAM "grip-shift" type) | 17 | 1.9 |

BICYCLE TORQUE VALUES, CTD.

| <u>Component</u> | <u>Recommended Torque Value (in-lb)</u> | <u>Nm</u> |
|---|---|-------------|
| Rack area | | |
| Bicycle rack to frame (6mm bolts) | 88.5 | 10 |
| Wheel area | | |
| Wheel axle nuts to frame/fork | 360 - 390 | 29.4 - 44.1 |
| Brakes | | |
| Brake cable pinch bolt (linear pull) | 53 - 69 | 6.0 - 7.8 |
| Brake caliper (linear pull) to frame/fork | 45 - 60 | 5.1 - 6.8 |
| Brake lever (MTB type) | 53 - 69 | 6.0 - 7.8 |
| Brake pad to caliper | 50 - 70 | 5.6 - 7.9 |
| Disc brake caliper mount | 60 - 90 | 6.8 - 10.2 |
| Disc rotor to hub | 35 - 55 | 4.0 - 6.2 |





Purchase Record Card

Fill in Immediately and retain as a record of your purchase.

*Please retain your sales receipt for any possible warranty claims.

Your Name: _____

Address: _____

Date Purchased: _____ Place of Purchase: _____

Model & Brand Information: _____

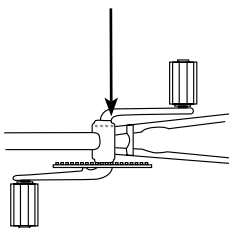
Wheel Size: _____

Color: _____

Serial Number: _____



Serial Number Location



PART 8 - PURCHASE RECORD & WARRANTY

FULLY CHARGE BATTERIES BEFORE FIRST USE - Batteries should be fully charged immediately when they are received and immediately after each use for the recommended charge times (see below).

- LI-Ion (Lithium Ion) batteries 4-6 hours
- SLA (Sealed Lead Acid) batteries 6-10 hours



With proper care and maintenance your Currie Technologies® Hybrid Electric Bicycle will provide ease of use and be fun to ride. Refer to the inside front cover for points that will help you to maximize the enjoyment you get from your new hybrid electric bicycle.

IZIP
HYBRID ELECTRIC BICYCLES

eZip
ELECTRIC POWERED BICYCLES



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