



COSWHEEL
FTN

INSTRUCTION MANUAL FOR ELECTRIC BICYCLE OF BICYCLE

BICYCLE OWNER'S MANUAL

THIS MANUAL CONTAINS IMPORTANT SAFETY, PERFORMANCE AND MAINTENANCE INFORMATION. READ THE MANUAL BEFORE TAKING YOUR FIRST RIDE ON YOUR NEWBICYCLE, AND KEEP THE MANUAL HANDY FOR FUTURE REFERENCE.



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

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 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 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
- **Ride R 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.

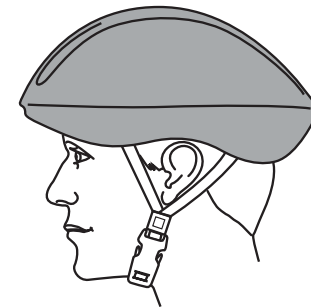
DO NOT RIDE AT NIGHT.

CPSC RECORDS SHOW THAT ABOUT 35% OF BICYCLE RELATED DEATHS OCCUR AFTER DARK.

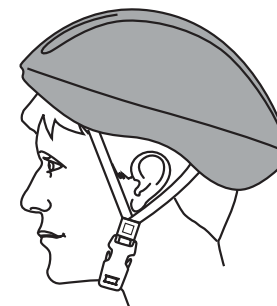
AVOID RIDING IN WET CONDITIONS.

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.

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

Notes: _____

PREFACE

PART 1 Bike Model Show and Tools.....

PART 2 Before You Ride

PART 3 Electrical Components &Charger

PART 4 Assembly

PART 5 Servicing.....

PART 6 Detailed Maintenance

ALL-TERRAIN ELECTRIC BIKE



CITY E-BIKE SERIES



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.

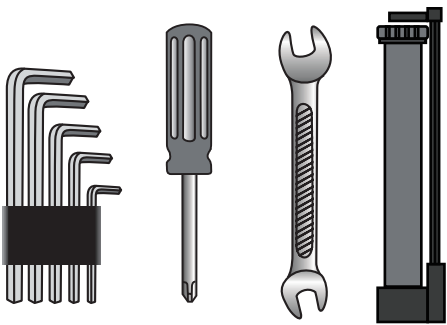
GENERAL WARNING

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.

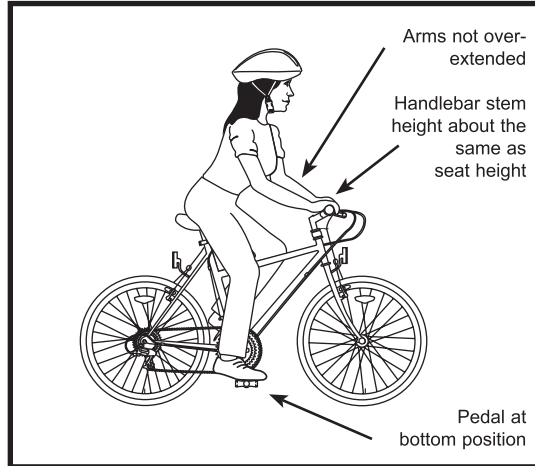
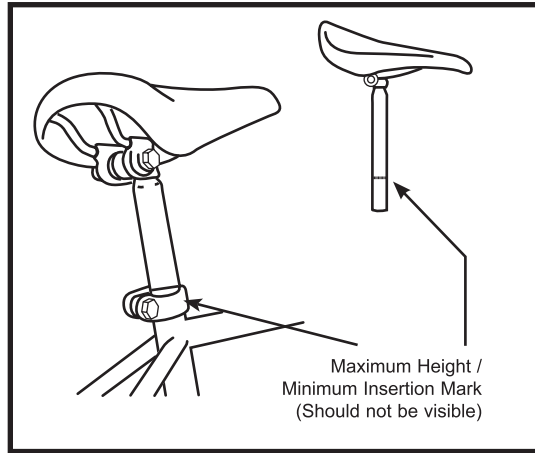
Your new bicycle was partially assembled in the factory and then partially disassembled for shipping. You may have purchased the bicycle already fully assembled and ready to ride OR in the shipping carton in the partially disassembled form. The following instructions will enable you to prepare your bicycle 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:



Typical Tools Required:

- Hexagon screwdriver 2mm,3mm,4mm,5mm,6mm
- Phillips head screw driver
- wrench
- bicycle pump

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.



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.

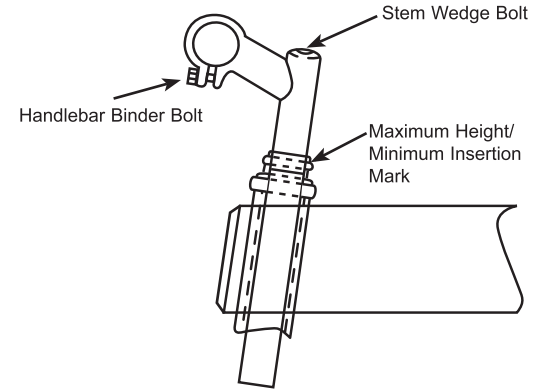


Under no circumstances should the seat post project from the frame beyond its “Minimum Insertion” or “Maximum Extension” mark. If your seat post projects from the frame beyond these markings, the seat post or frame may break, which could cause you to lose control and fall. Prior to your first ride, be 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.)



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.



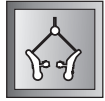
Threadless headsets and clamp-on stems are not easily adjustable. Please refer to page 61 for instructions on installation.

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.

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.



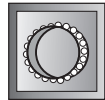
3. Steering

- 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.
- the If 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.



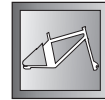
6. Cranks and Pedals

- 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.
- either If are bent or broken, they should be replaced.



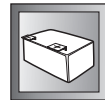
9. Accessories

- 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.



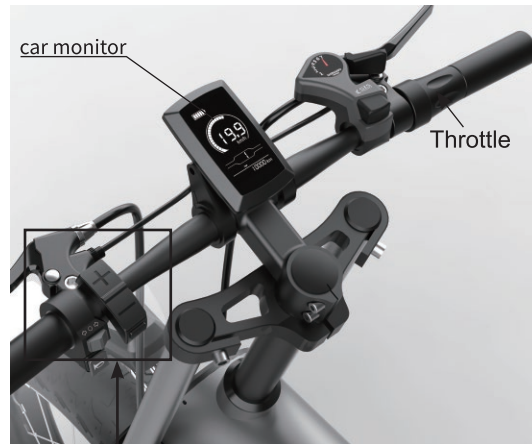
10. Motor Drive Assembly and Throttle

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

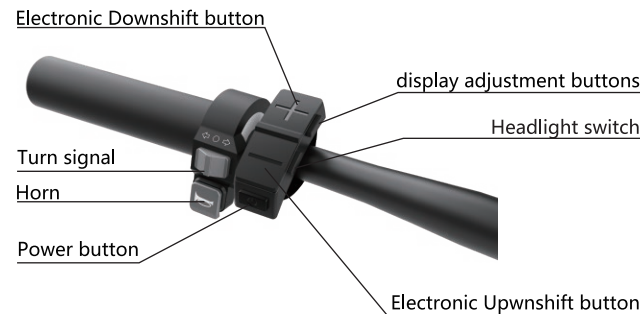


11. Battery Pack

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



Control adjustment button area



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).

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.



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

Battery Care and Information

Proper maintenance of batteries will maximize their lifespan and capacity. Currie Ruli vehicle warranties your new batteries from the date of purchase only if properly cared for—refer to the limited warranty for details.

Ruli use Li-Ion (Lithium Ion) batteries in all of our 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.

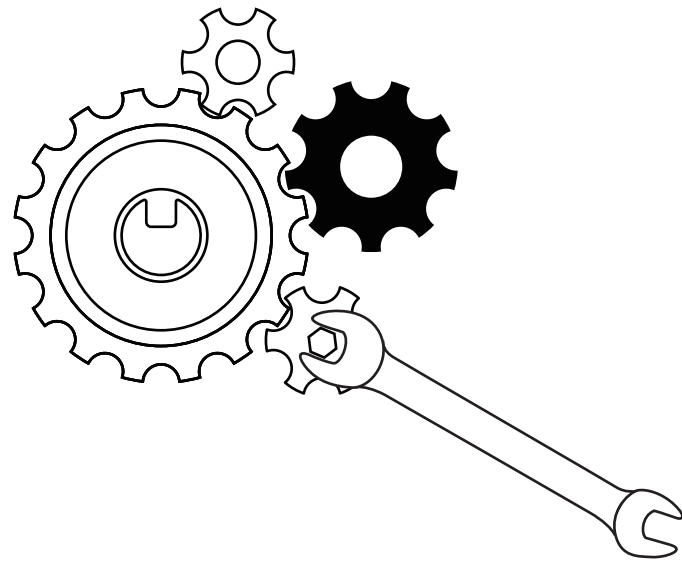
- Batteries should be fully charged immediately when they are received for the full recommended charge times.

Li-Ion recommended charge time: 4-6 hours 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.
- 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!

- Do not charge the battery indoors! ⚠

Thank you to provide us with valuable suggestions. When maintaining and repairing your vehicle, give us your valuable suggestion card together with the after-sale card. We will listen to your suggestions actively and modify our deficiencies in time



BIKE ASSEMBLY MANUAL

Bicycle Assembly

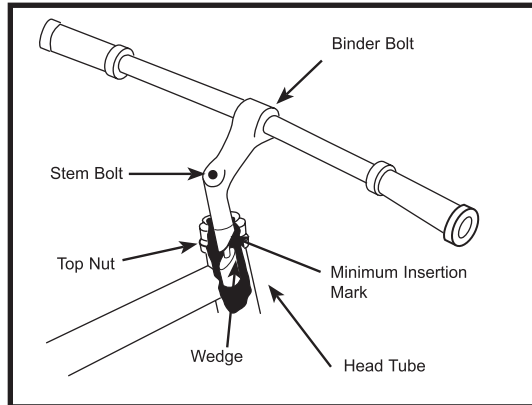
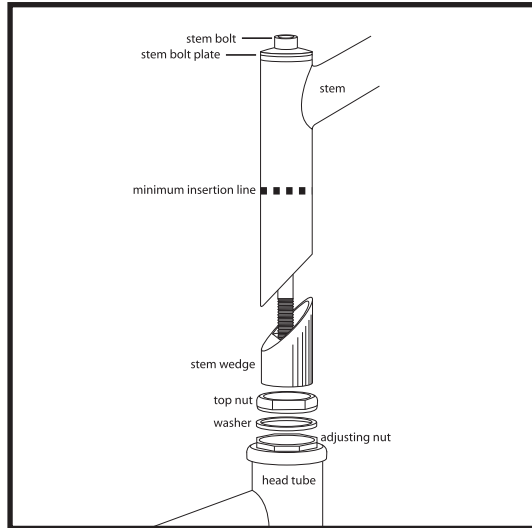
Assembly Guides

Individual assembly guides for each bicycle model can be found packaged with your bicycle

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.





Stem and Handlebars (Standard Quill-type)

Most Currie bicycles use this stem type

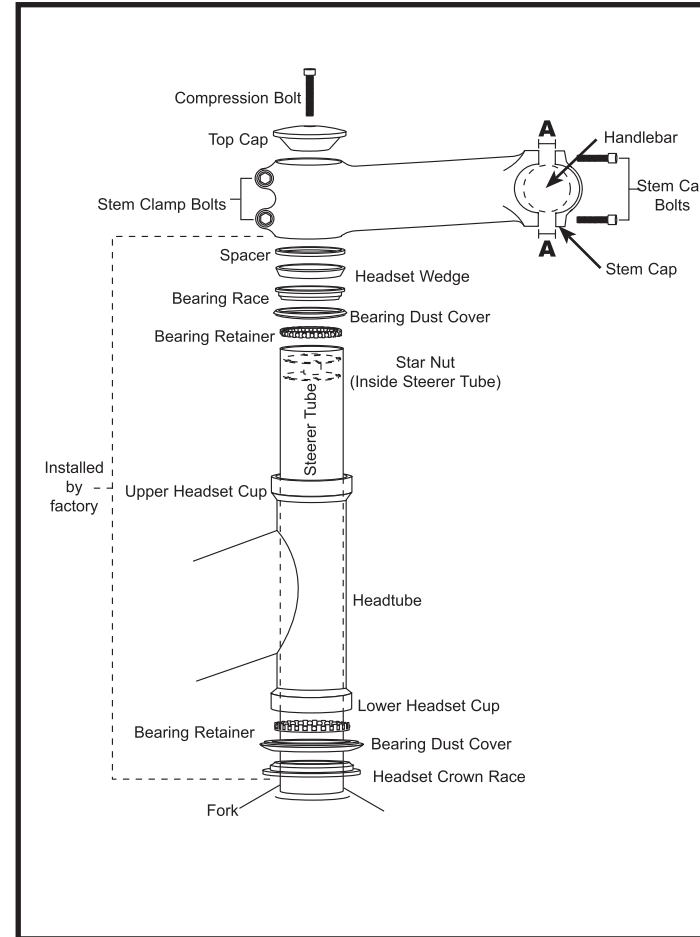
1. Remove the protective shipping cap from the stem wedge.
2. Remove the Stem Plug from the stem. Loosen the Stem Bolt with a 6mm allen wrench or 13mm box wrench.
3. Insert the stem into the headtube of the bicycle. Ensure that the Minimum Insertion Line is below the top nut of the headset.
4. Align 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.



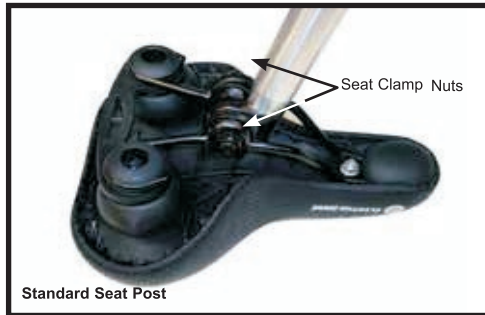
Stem and Handlebars (threadless/a headset)

Stem Installation (Should be assembled on the bike already)

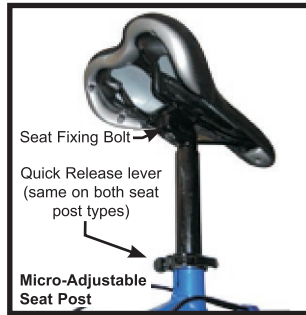
1. Insert the compression bolt through the top cap and the stem. Begin threading into the star nut.
2. Tighten compression bolt so it removes all play from the fork, but allows the fork to rotate smoothly.
3. Align the stem with the front wheel. Tighten the stem clamp bolts to secure the stem to the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



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.

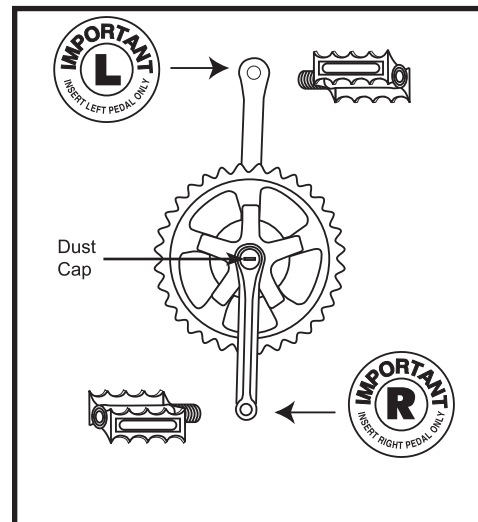
Micro-Adjustable Seatpost

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.



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.

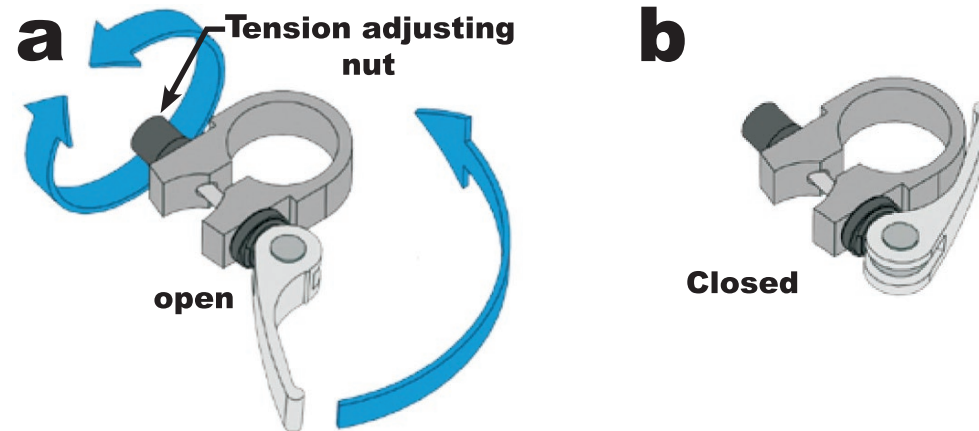
QUICK RELEASE USAGE

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.



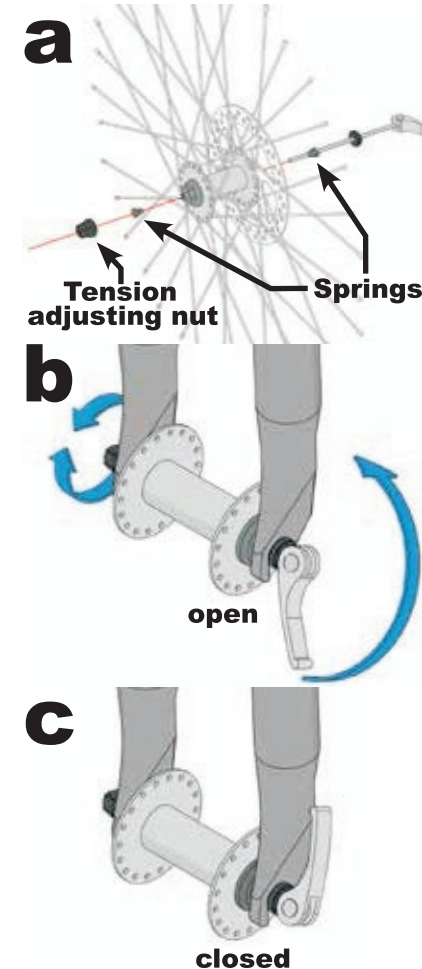
1. With the quick release clamp in the OPEN position, insert the seatpost, with saddle attached, into the bicycle's seat tube.
2. Swing the quick release lever into the CLOSED position.
3. Grab the saddle with both hands and attempt to rotate it (and thus rotate the seatpost in the seat tube).
4. If 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

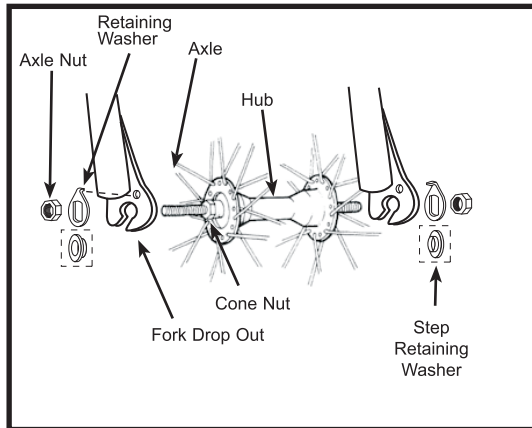
In a quick release system, the wheel hub is clamped in place by the force of the quick release cam pushing against one dropout and pulling the tension adjusting nut, by way of the skewer, against the other dropout. The amount of clamping force is controlled by the tension adjusting nut. Turning the tension 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.



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

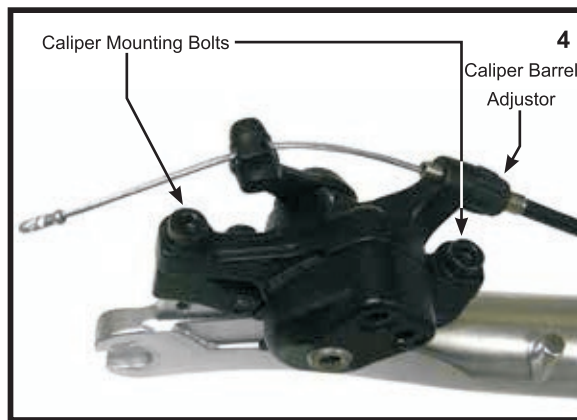
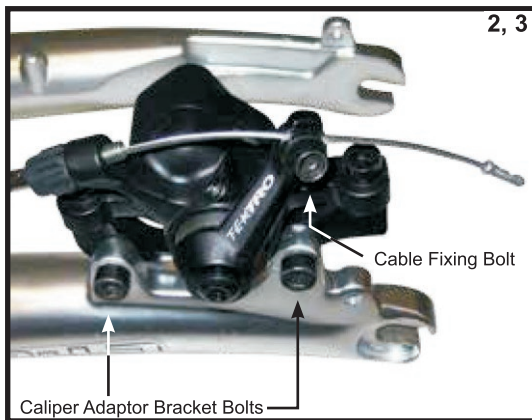
1. If the bicycle has rim brakes, make sure the brakes are loose enough to allow the wheel to pass through the brake pads easily. For disc brakes, no adjustment is required.
2. Most bikes have a plug or quick-disconnect box located on the seat stay or chain stay. These allow the motor to be easily disconnected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





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.



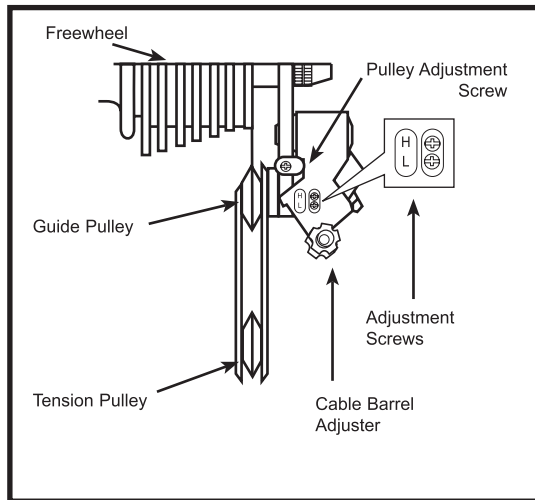
5. Install the wheel, making sure the brake rotor fits into the slot in the caliper. Center the caliper around the brake rotor, then tighten the caliper mounting bolts.
6. Using the inner pad adjusting bolt, adjust the inside brake pad so it is as close as possible to the rotor without rubbing.
7. Using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



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.

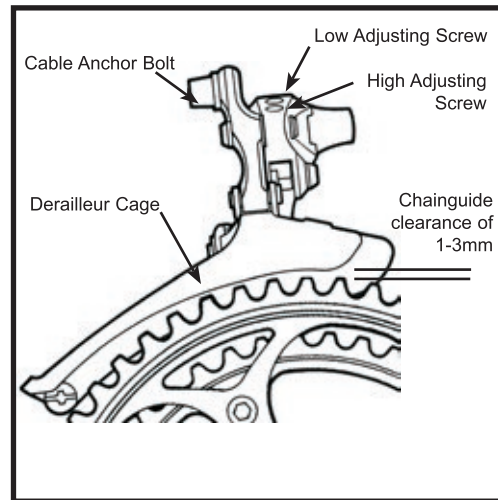
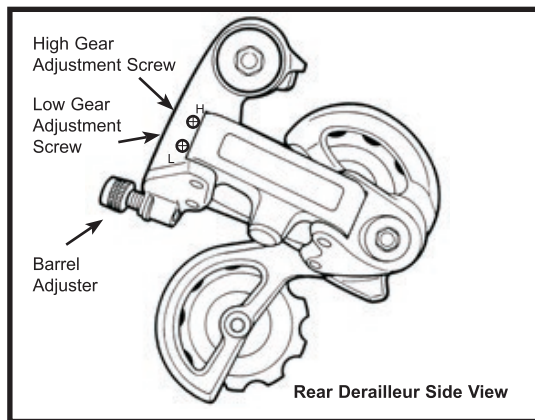
Derailleur

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.



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.



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

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.



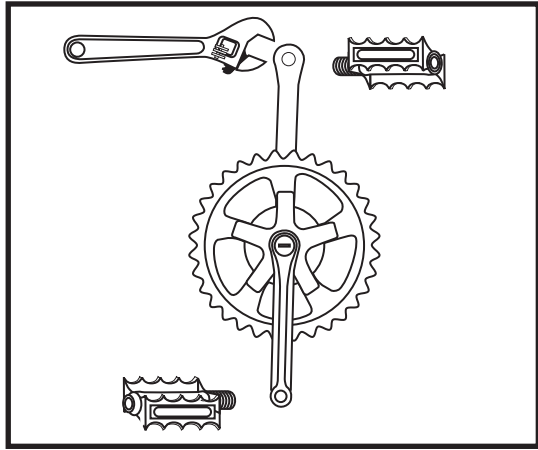
Tighten both rear wheel axle nuts or the quick release mechanism securely. Failure to do this may cause the rear wheel to dislodge from the frame dropouts resulting in serious damage or injury.

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



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.

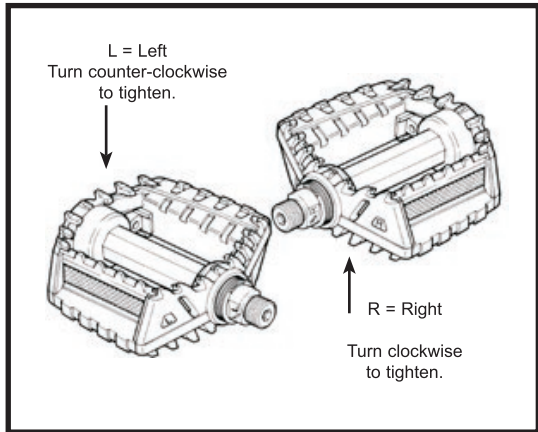
Inspection

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

- Check correct tightness into the crank arms. 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. 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 securely fitted.
- Also ensure that the toe clips, if fitted, are securely the pedals.



Never ride with loose pedals



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	<ul style="list-style-type: none"> - Freewheel internal pawl pins are jammed 	<ul style="list-style-type: none"> - Lubricate. If problem persists, replace freewheel
Brakes not working effectively	<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - Replace brake blocks - Clean blocks and rim - Clean/adjust/replace cables - Adjust brake levers - Center brakes
When applying the brakes they squeal/squeak	<ul style="list-style-type: none"> - Brake blocks worn down - Brake block toe-in incorrect - Brake blocks/rim dirty or wet - Brake arms loose 	<ul style="list-style-type: none"> - Replace blocks - Correct block toe-in - Clean blocks and rim - Tighten mounting bolts
Knocking or shuddering when applying brakes	<ul style="list-style-type: none"> - Bulge in the rim or rim out of true - Brake mounting bolts loose - Brakes out of adjustment - Fork loose in head tube 	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - Axle broken - Wheel out of true - Hub comes loose - Headset binding - Hub bearings collapsed - QR mechanism loose 	<ul style="list-style-type: none"> - Replace axle - True wheel - Adjust hub bearings - Adjust headset - Replace bearings - Adjust QR mechanism

Problem	Possible Cause	Remedy
Steering not accurate	<ul style="list-style-type: none"> - Wheels not aligned in frame - Headset loose or binding - Front forks or frame bent 	<ul style="list-style-type: none"> - Align wheels correctly - Adjust/tighten headset - Take bike to a bike shop for possible frame realignment
Frequent punctures	<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - Replace Inner tube - Replace tire - Replace with correct tire - Remove sharp object embedded in tire - Correct tire pressure - File down spoke

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 sensor (Enlightened Series)	Replace sensor and retest
	Faulty throttle	Replace throttle and retest
	Faulty controller	Replace controller and retest
Bicycle 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	Replace charger
	Faulty batteries	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	Inspect wire
	Faulty batteries	Replace batteries