



**Rubicon 48V / Sedona 48V**

**Santa Cruz 48V / Catalina 48V**

**Baja 48V**

**Rocky Road 48V**

*Owner's Manual*

**[www.ElectricBicycle.com](http://www.ElectricBicycle.com)**

# PLEASE READ PRIOR TO RIDING

## IMPORTANT INFORMATION

***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-Po4 Lithium Batteries: 4-6 hours

### 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
- **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
- **RIDER BICYCLE MAINTENANCE** - a properly maintained bicycle will yield the greatest range possible
- **RIDER 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.

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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.**

## **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.

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

**PAS/TAG** – *Pedal Assist or Twist and Go* - A handlebar-mounted button allows selection of PAS or TAG modes.

### **BATTERY Systems**

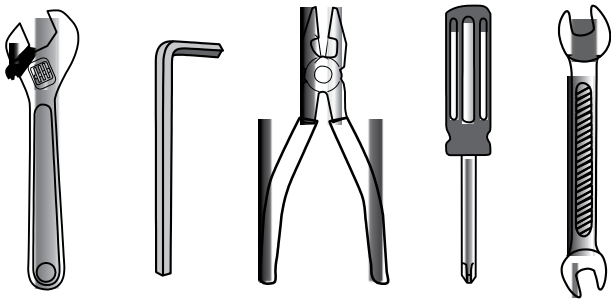
**RTMB** – *Rack Top Mounted Battery with Lithium polymer cells* - A single Li-Po battery pack lies horizontally inside the rack.

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

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.

### **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



**To avoid injury, this product must be properly assembled before use. if your bicycle was obtained asser that you review the complete assembly instruction.**

# 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 distractions.

## 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.

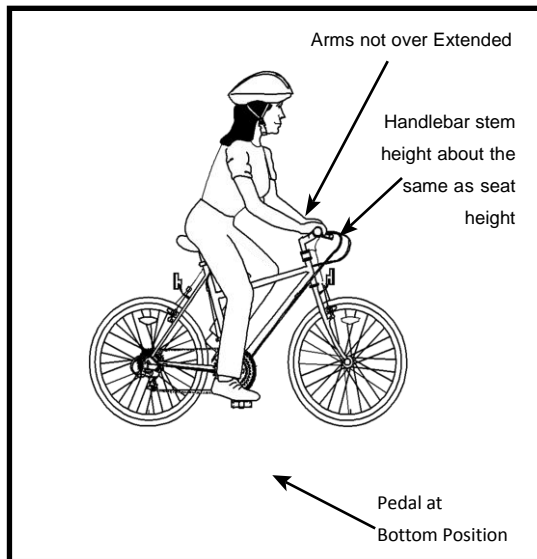
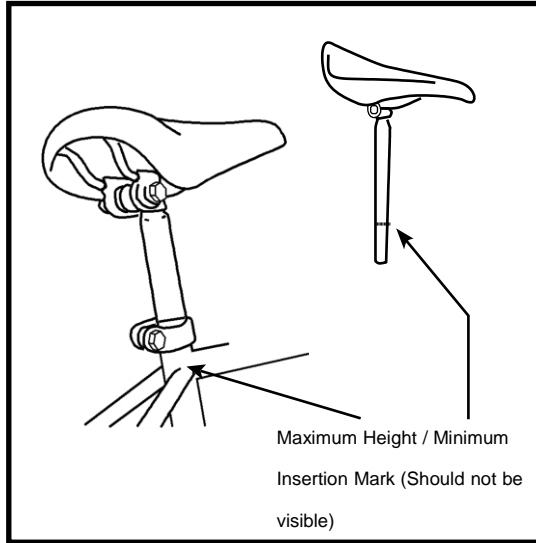


**For safe and comfortable riding there should be clearance of no less than 1 - 2 inches between the rider and the top tube of the bicycle frame, while the rider straddles the bicycle with both feet flat on the ground.**

The ideal clearance will vary between types of bicycles and rider preference. This makes straddling the frame when you are 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.

## RIDING POSITION



## Seat Height

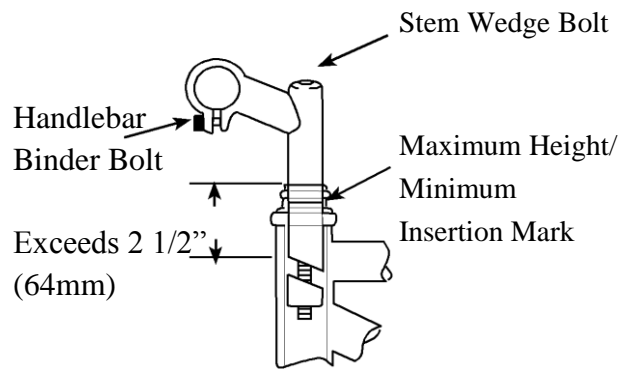
In order to obtain the most comfortable riding position and offer the best possible pedaling efficiency, the seat height should be set correctly in relation to the rider's leg length. The correct seat height should not allow leg strain from over-extension, and the hips should not rock from side to side 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 seat 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. 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 become injured. 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 29)



### 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.

### Handlebar Adjustment & Height

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 steering tube, which could cause you to lose control and become injured.

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 become injured. Place the front wheel of the bicycle between your legs and attempt to twist the handlebar/stem assembly using a reasonable amount of force. There should be no play or ability to move the handlebars in relation to the wheel. If you can twist the handlebars while the wheel remains in place, do not ride until proper alignment and is obtained, then tighten all bolts accordingly before use.



# SAFETY CHECKLIST

Before first initial ride and every ride after, it is important to carry out the following safety checks:

## 1. Brakes

- Ensure front and rear brakes work properly.
- Ensure brake calipers are not over worn and are correctly adjusted.
- 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. You can use the include spoke wrench to ensure all spoke are tight.
- 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 non-sealed 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 is 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 and Throttle**

- Ensure motor is functioning properly.
- Ensure throttle is functioning properly.

## **11. Battery pack**

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

# **BICYCLE CARE**

## **BASIC MAINTENANCE**

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

1. After initial set up be sure to check wheel spokes to make sure they are properly fitted. Be sure to check again after a few rides to ensure proper break in.  
Follow up with monthly checks.
2. Properly maintain the batteries by keeping them fully charged when not in use.
3. 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.
4. Periodically check the wiring and connectors to ensure there is no damage and the connectors have good continuity.
5. 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.
6. Store your bicycle under shelter. Avoid leaving it in the rain or exposed to corrosive materials.
7. 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.
8. 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.
9. Regularly clean and lubricate all moving parts, tighten components and make adjustments as required.
10. The use of alloy components and BED, SATIN and TITANIUM surface treatments minimizes the number of places where rust can surface



## **THROTTLE**

### **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 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 18-22mph (30-35km/h).

## **BATTERY CARE AND INFORMATION**

Proper maintenance of batteries will maximize their lifespan and capacity. X-Treme Scooters warrants your new batteries from the date of purchase for 1 full year when properly cared for. Visit <http://support.x-tremescooters.com> for more information.

### **Battery 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. With proper care, the life span of your batteries is between 500-700 cycles. 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-Po4 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 8 hours.
- Li-Po4 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.
- 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!

## 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 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. Li-Po4 batteries will last between 500-700 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

## CHARGER

The 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-Po4 Lithium batteries - charge for 4-6 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, 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 dis- charged (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.

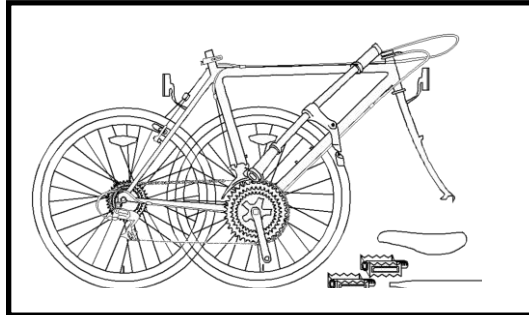


**The charger and charger port should be regularly inspected for damage (cord, plug, enclosure, etc.). if damage is found stop using the affected part until the it can be repaired or replaced.**

## Bicycle assembly

### Assembly Guides

Follow the assembly guide contained within this manual or visit [www.x-tremescooters.com/support/](http://www.x-tremescooters.com/support/) for assistance.



### 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.**

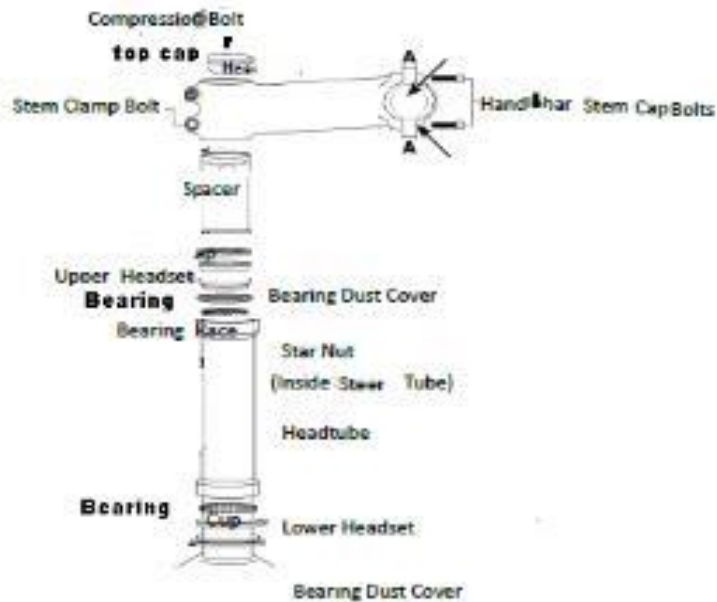
**\*\*Note:** Your bicycle may be equipped with different style components than the ones illustrated within this manual.

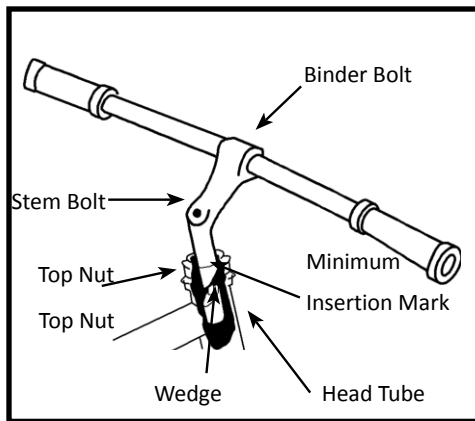


**We recommend that you contact X-Treme if you have doubts or concerns as to your experience or ability to properly assembly, repair, or maintain your bicycle**

## STEM AND HANDLEBARS (STANDARD QUILL-TYPE)

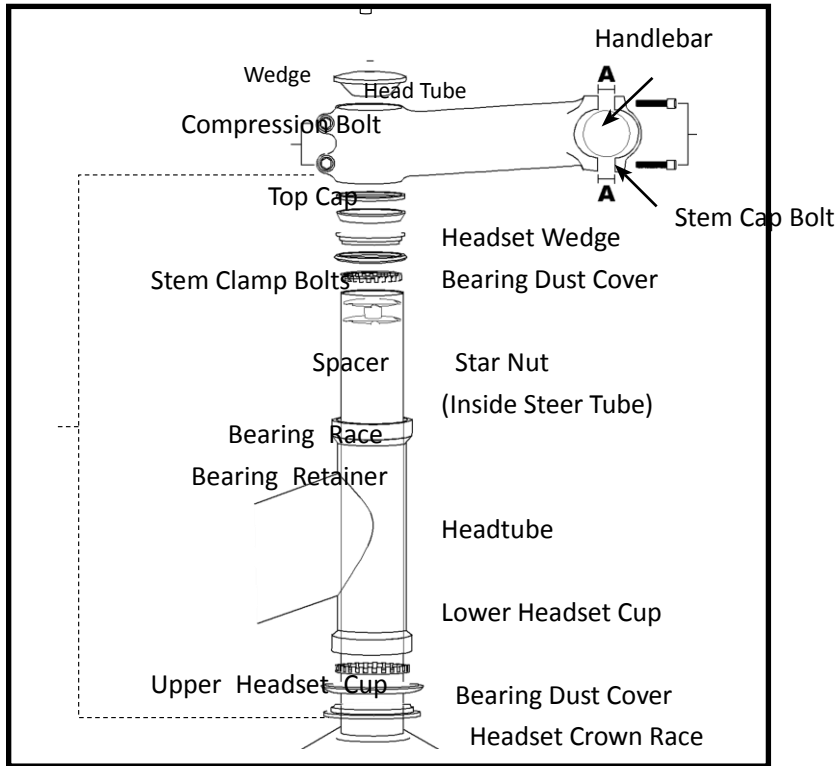
1. Remove the protective shipping cap from the stem wedge.
2. Remove the Stem Plug from the stem. Loosen the Stem Bolt with a 6mm allen wrench or 13mm box wrench.
3. Insert the stem into the head tube of the bicycle. Ensure that the Minimum Insertion Line is below the top nut of the headset.
4. Align the stem and handlebar so it is in line with the front wheel.
5. Tighten the Stem Bolt with a 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. Stem should be inserted into the top nut of stem bolt at least.**

**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 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 steering 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



# FRONT FORK (SR SUNTOUR Models XCT26"/700C)



*NOTE: We strongly suggest that your SUNTOUR forks to be installed or replaced by a skilled and qualified bicycle mechanic as knowledge and specialized tools are needed to complete. Should you attempt to install the forks on your own, we request you consult X-TREME SCOOTERS for assistance or seek Tech Support from the professionals at a local bike store. Please note that incorrect installation is extremely dangerous and can cause damage to your bicycle and/or possible injury or death to the rider.*

**DO NOT ATTEMPT TO DISASSEMBLE A SUSPENSION FORK YOURSELF. Consult X-Treme E-Bikes for assistance.**

## SAG SETTINGS

The SAG is the compression created by the impact from rider's weight and gravity. Different riders will have different weights so therefore you need to know about the PELOAD function to achieve the correct settings for riding according to your weight.

To increase the PRELOAD of the forks turn the PRELOAD button clockwise located at the position No. 2 in the illustration.

Model	Max Rotor Diameter (mm)	Travel	SAG
XCT/M Series	160 mm	80 mm	15% - 20%

80mm refers to the limit of Travel length of the forks. Please note these forks are designed only for casual riding on city road surfaces or off road on mountains or dirt roads, but not for stunt movements or downhill racing!

These forks feature a LOCK function. When pedaling on flat surface road, lock the forks to save energy when braking to starting pedaling again. You should unlock forks while climbing or descending on bumpy mountain roads to protect your hand or wrist from being injured from the impact. **CAUTION! NEVER REACH FOR THE LOCK BUTTON BY LEANING FORWARD DURING PEDALING AS THIS MOVE MAY CAUSE A SEVERE ACCIDENT, INJURY OR DEATH. FOR YOUR OWN SAFETY, BE SURE TO STOP AND GET OFF OF THE BIKE TO LOCK OR UNLOCK FORKS!**



## Very Important Information

### WARNING!

**Be sure to read carefully the instructions below before using your suspension fork. Inappropriate usage of your suspension fork may cause damage to the product and/or injuries or death to the rider.**

1. Suspension forks contain fluid and gas under extreme pressure. Warnings included in these instructions must be followed in order to reduce the possibility of injuries and possible death. Never try to open any SR SUNTOUR cartridge, as stated above they contain fluids and gases under high pressure. Opening any SR SUNTOUR cartridge risks serious injury.
2. Only use genuine SR SUNTOUR parts. The use of aftermarket replacement and spare parts will void any warranty and may cause failure to the fork. Failure could result in an accident, injury or even death.
3. SR SUNTOUR suspension forks are designed for the usage by a single rider.
4. Always be equipped with proper safety gear. This includes a properly fitted and fastened helmet. According to your riding style you should use additional safety protection. Make sure your equipment is in flawless condition to ensure adequate protection in the event of an accident.
5. When using a bike carrier always fully release the quick release fastener. Not properly unfastening the quick release may result in bending, breaking, or other structural damage while removing your bike of the bike carrier. If your bike has fallen off the carrier please do not ride until it has been inspected by a qualified bike mechanic. When using a bike carrier that secures the bike by clamping the fork's dropouts, make sure to fasten rear wheel as well. An inaccurate fastened rear wheel could allow the bike to jiggle which may result in breakage of the dropouts.

## INSTALLATION INSTRUCTIONS

1. Remove the existing fork from your bike. Afterwards remove the crown race from the fork.
2. Measure the length of your old fork's steer tube against the length of the SR SUNTOUR fork steer (stem). SR SUNTOUR suspension forks are delivered with a standard steer tube length of 255mm. Therefore the steer tube may need cutting to the proper length.
3. In order to define the proper length of your steer tube you can apply the following formula:

FRAME'S HEADS TUBE (GOOSE NECK) + HEAD SET STACK HEIGHT + STEM'S CLAMP HEIGHT - 3mm CLEARANCE



### Warning!

**IF YOUR SR SUNTOUR FORKS DOES COME WITH A THREADLESS STEERER TUBE DO NOT ADD A THREAD TO IT. SUNTOUR'S FORK STEERERS ARE A ONE TIME PRESS FIT WHICH CAN NOT BE REMOVED. DO NOT TRY TO REPLACE THE STEERER TUBE WITH A THREADED STEERER. THIS WILL RESULT IN FAILURE OF THE PRODUCT AND/OR CAUSE SERIOUS INJURIES OR EVEN DEATH TO THE RIDER.**

4. Install the head set crown race (30mm for 1 1/8") firmly against the top of your fork crown. Install the fork unit (headset, spacers and stem) back on the bike.
5. Install brake and make sure to adjust the brake pads properly. If you use a disc brake, only mount your brake to the original disc brake mounting holes. Only use cantilever brakes which are intended to be used with a brace that does not have a hanger.
6. Re-install the wheel onto your bike. If you are using a quick release system to fasten your wheel, make sure that all fasteners and nuts are adjusted properly (four or more threads need to be engaged in the nut when it is closed). If your fork comes with a through axel system, make sure that all fixing bolts are tightened with the appropriate torque values.

## TIRE CLEARANCE

The SR SUNTOUR suspension fork is designed to be used with 26" tires. Each tire has a different outer diameter (tire width and height) therefore the clearance between your tire and fork must be checked to make sure that tire does not come in contact with any portion of the fork. Keep in mind that the narrowest part of your bike is located at the brake.



### **WARNING!**

**Note! Using a tire which exceeds the maximum tire size suitable for your fork is very dangerous and could cause an accident and/or serious injuries or even death to the rider.**

To complete a tire clearance test, measure the distance between the top of your tire and the bottom of the fork crown. Make sure the gap is no less than 10mm. Exceeding maximum tire size will cause the tire to rub against the bottom of the crown when fork is fully compressed.

Keep in mind that if you are using mudguard the clearance is limited! Repeat the tire clearance test again to make sure the gap is large enough. Every time you change your tire you must repeat the test.

# TEKTRO BRAKES

## INSTALLATION & ADJUSTMENT OF YOUR BRAKES

The Caliper and rotor for the front and rear of the bike are the same. The only difference between front and rear disc brakes is which adapter should be used to mount the caliper to the bike. The adapter for the front fork is marked with an "F" and is designed to fit forks with international standard disc brake mounts. The rear adapter is marked with an "R" and is designed to fit international mounts. The adapters for front and rear may be marked with "F.../R...", if so, check the brake rotor for diameter (160) to determine front or rear adapter.

### Mounting the Rotor to the Hub

1. Remove the wheel from the bike.
2. Attach the rotor to the hub with the supplied Allen bolts and tighten with Allen wrench.
3. Install the wheel onto the bike.

*Note: The rotor must be installed with the "rotation" arrows pointing in the same direction as the forward rotation of the wheel.*

### Mounting the Adapter and Caliper

*Note: Although front and rear caliper bodies are the same design, the adapter for the front is marked with an "F" and the adapter for the rear is marked with an "R".*

1. Mount the relevant adapter to the caliper body. Insert 5mm bolts through the two adapter slots on the body and screw into the holes on the adapter. **DO NOT TIGHTEN YET.**
2. Mount the caliper body and adapter to the frame/fork by placing the slot in the caliper body over the rotor. The mounting holes on the adapter should be behind the frame/fork mounting holes (the hub side). Screw and tighten 5mm Allen bolts into the upper and lower holes in the frame/fork mount.
3. Check that the rotor is centered between the disc brake pads and tighten the two bolts holding the caliper to the adapter. To re-adjust the caliper positioning, loosen these two bolts and slide the caliper over until it is centered on the rotor and then re-tighten the bolts.
4. Attach the cable and housing to the brake lever. Route the cable along the frame/fork of the bike. Insert the cable through the cable adjuster barrel on the caliper.
5. Making sure that the cable housing is firmly sealed within the cable adjuster barrel, insert the end of the cable through anchor bolt on the caliper. Take up slack in the cable, then tighten cable anchor bolt.
6. Be sure no more 20mm excess cable beyond anchor bolt.

### Adjusting the Pads and Caliper

*Note: When your pads are worn, make sure to adjust both clearances between rotor and pad to be equal to 0.3mm. Adjusting only one side will cause braking failure.*

1. Use 5mm Allen wrench to adjust the stationary caliper adjusting bolt at the back (hub) side of caliper (reach for the bolt with Allen wrench through space between spokes).

## Cable Barrel Adjustment

*Note: Do not only adjust the cable tension to compensate pad wear. After replacing with new pads, check if the rotor and pad come in contact with each other. If so, you need to adjust step pads and caliper again.*



### **Warning:!**

- 1. The pads and rotor must be kept clean and free from oil or grease-based contamination .If the pads become contaminated you must discard and replace them with a new set. A contaminated rotor should be cleaned with a detergent solution, rinsed thoroughly and dried.**
- 2. The disc brake pads, caliper and rotor get extremely hot during use. Serious injury could result from contact with a hot brake. Care should be take to not touch the caliper, rotor or pads while the disc brake is hot. Be sure to allow the brake to cool before trying to service it in any way.**
- 3. Read all instructions thoroughly before attempting any work on a Tektro mechanical disc brake. Test your disc brake gradually on a flat surface until you become accustomed to the braking power. If you lend your bike to another person, make sure that they are also properly accustomed to the braking power before riding.**

## **Shimano Altus Rear Derailleur**

- If gear shifting operations cannot be carried out smoothly, clean the derailleur and lubricate all moving parts.
- If the amount of looseness in the links is so great that adjustment is not possible, you should replace the derailleur.
- Grease the inner cable and the inside of the outer casing before use to ensure that they slide properly.
- For smooth operation, use the specified outer casing and the bottom bracket cable guide.
- Periodically clean the derailleur and lubricate all moving parts (mechanism and pulleys).
- If gear shifting adjustment cannot be carried out, check the degree of parallelism at the rear end of the bicycle. Also, check if the cable is lubricated and if the outer casing is not too long or short.
- If you hear an abnormal noise as a result of looseness in a pulley, you should replace the pulley.
- Using a frame with internal cable routing is strongly discouraged as it has tendencies to impair the SIS shifting function due to its high cable resistance.

### **For MTB/Trekking**

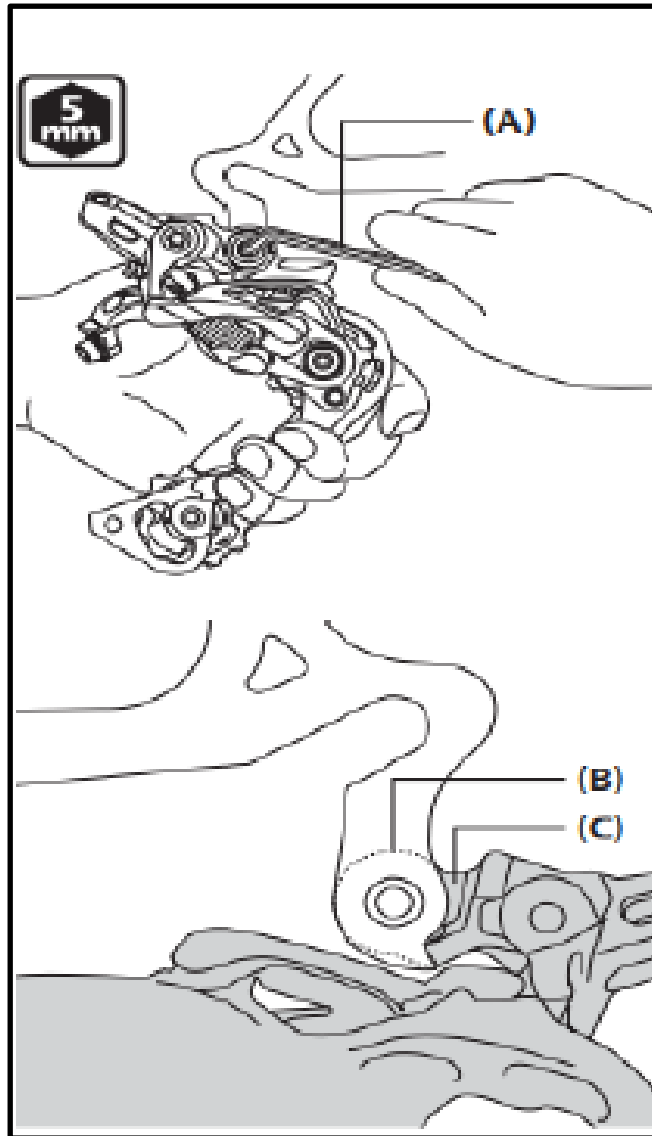
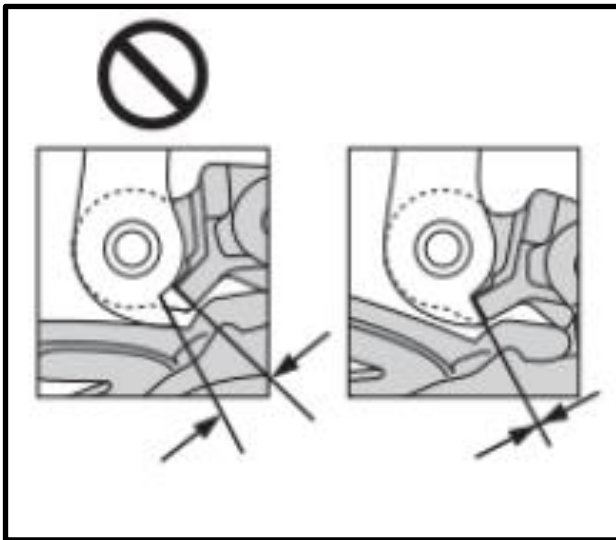
- The gears should be periodically washed with a neutral detergent. In addition, cleaning the chain with neutral detergent and lubricating it can be an effective way of extending the life of the gears and the chain.
- Always be sure to use the sprocket set bearing the same group marks, and never use in combination with a sprocket bearing a different group mark.
- Use an outer casing which still has some length to spare even when the handlebars are turned all the way to both sides. Furthermore, check that the shifting lever does not touch the bicycle frame when the handlebars are turned all the way.
- Special grease is used for the gear shifting cable. Do not use premium grease or other types of grease. These may cause deterioration in gear shifting performance.

## Install of the Rear Derailleur

Install the rear derailleur

- (A) 5mm Allen Wrench
- (B) Fork end
- (C) Bracket

NOTE: Periodically check that there is no gap between the fork end and the bracket as shown in the illustration. If there is a gap between these two parts, problems with gear shifting performance may occur.



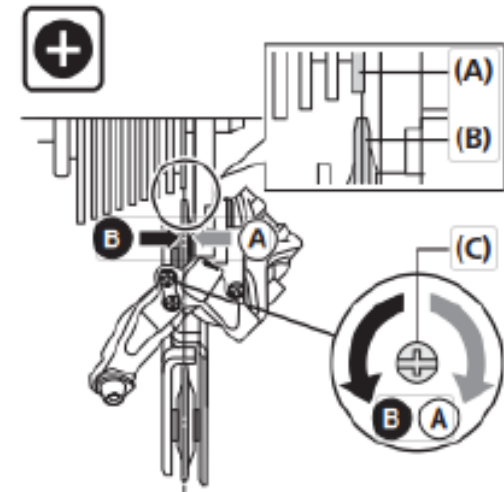
## Stroke Adjustment

As shown in illustration No. 1

- (A) Smallest Sprocket
- (B) Guide Pulley
- (C) “H” Adjustment Bolt

Turn the “H” adjustment bolt to adjust so that the guide pulley is in line with the outer line of the smallest sprocket when looking from the rear.

No. 1

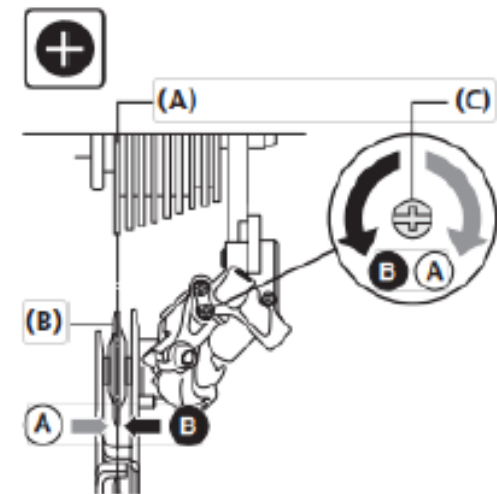


As shown in illustration No. 2

- (A) Largest Sprocket
- (B) Guide Pulley
- (C) “L” Adjustment Bolt

Turn the “L” adjustment bolt so that the guide pulley moves to a position directly in line with the largest sprocket.

No. 2





## Using the B-Tension Adjustment Bolt

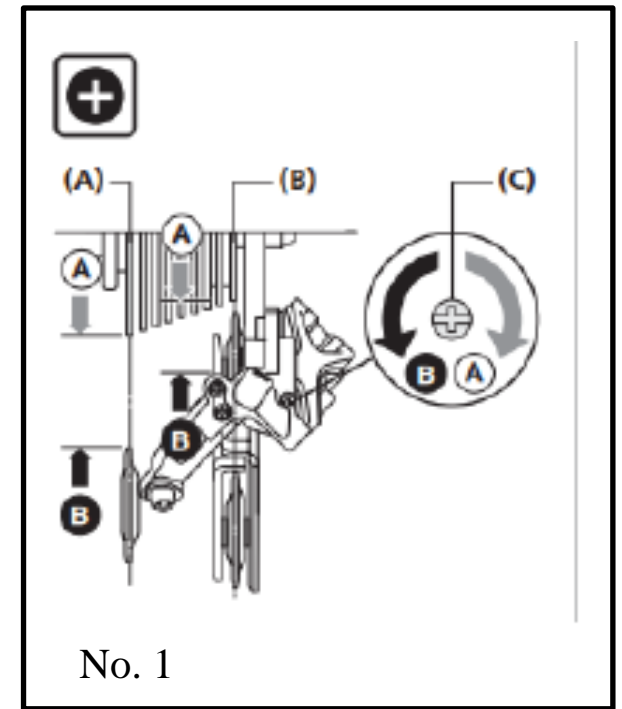
As shown in illustration No. 1

- (A) Largest Sprocket
- (B) Smallest Sprocket
- (C) B-Tension Adjust Bolt

Mount the chain on the chain ring and the largest sprocket and turn the crank arm for shifting.

Adjust the B-tension bolt so that the guide pulley does not interfere with the sprocket but do not let the pulley come close to the chain that they come in contact with each other.

Next, set the chain on the smallest sprocket. Do not let the pulley touch the sprocket.

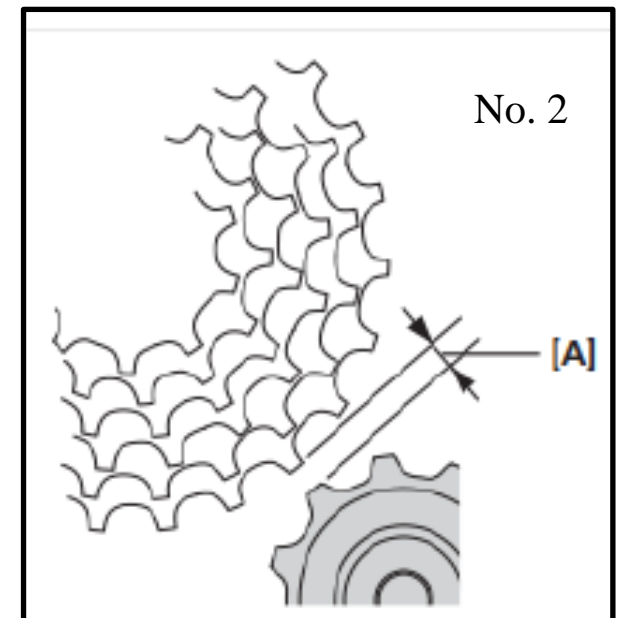


## Checking the Distance Between the Largest Sprocket and the Guide Pulley

Set the rear derailleur to the largest sprocket and with the wheel stopped check that the distance between the tip of the guide pulley and the tip of the largest sprocket is within the range indicated in the table below.

Gear Combination	A (shown in illustration No. 2)
11-36T	5-6mm
11-34T	5-6mm

Turn the crank arm to ensure the shift is smooth.



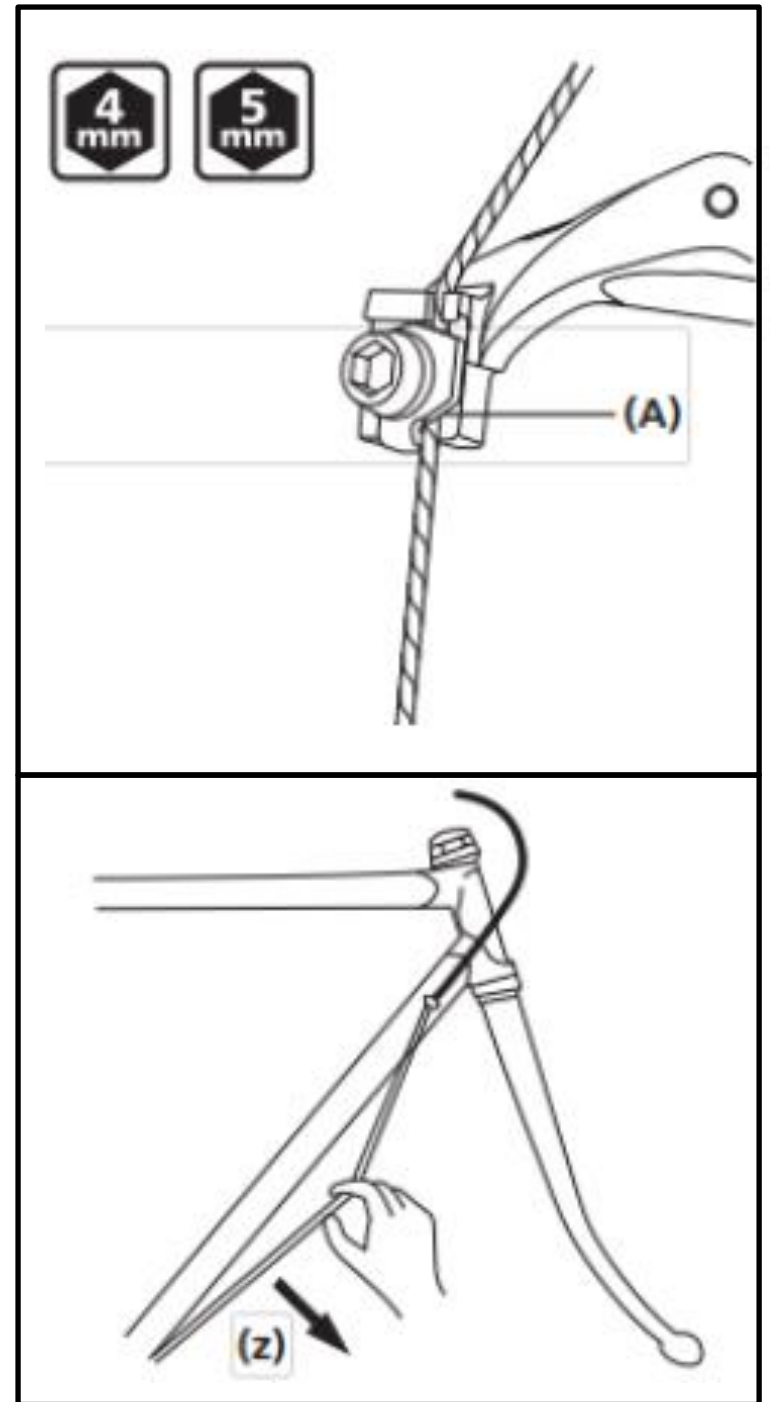
## How to Take Up the Slack in the Cable

As shown in the illustration

(A) “A” Slot

(Z) Pull

Connect the inner cable to the rear derailleur as shown in illustration (A).



Remove the initial slack from the cable as shown in the illustration (Z).

Reconnect the cable to the derailleur and secure the cable in the slot.

## How to Adjust Rear Derailleur Step By Step

1. Loosen the bolt on derailleur and remove cable, afterwards check the finger shifter to be sure that finger shifter pointing at the figure No. 9.
2. Set the chain on the smallest gear sprocket and use screw driver to adjust "H" bolt (refer back to "H" adjustment bolt), keep in mind that when this setup is done, do not turn the "H" bolt anymore as this setup is to prevent the chain from coming off of the smallest sprocket during shifting.
3. Connect cable to derailleur. Before connecting cable, you have to locate the cable tension barrel on the derailleur and turn the barrel counterclockwise until it's tightened, then back out the barrel for 2 rounds to leave some threads for cable tension adjustment.
4. Take up initial slack in the cable and re-connect cable to the derailleur again ( refer back to instructions "How to Take Up Slack in the Cable")
5. Turn crank arm to run gear up to the largest sprocket. If at any time you find out the finger shifter is hard to shift during shifting check the "L" bolt and turn it counterclockwise till chain can run up to the largest sprocket. Refer back to "L" adjustment bolt and also check B-TENSION BOLT for the distance between the largest sprocket and the guide pulley. When this setup is finished do not turn "L" bolt anymore as this setup is to prevent the chain from coming off of the largest sprocket during shifting.
6. Shift gear up and down and try every gear to be sure that the shift runs smoothly, If any noise during shifting, adjust the cable tension barrel on the derailleur. (Turn clockwise, cable tension increases which helps chain to run up from the smallest sprocket to the largest sprocket. Turn counterclockwise, whereas each time just turn a little bit like a quarter round)
7. If problem is still there with gear shifting, try the process all over again till the problem is fixed. If problem can not be fixed and you are sure the process was completed correctly check for wear or damage and deformation to the chain, frame fork end, chain ring, derailleur, guide pulley, B-tension pulley and gear sprocket.

## Kick Stand

The Kickstand features an adjustment function. Locate the adjusting bolt at the back of the Kickstand and use an Allen wrench to adjust the Kickstand to the desired position for the bike to lean against the Kickstand.

## Rear Suspension



As shown in the illustration

(A) Suspension Connection Piece

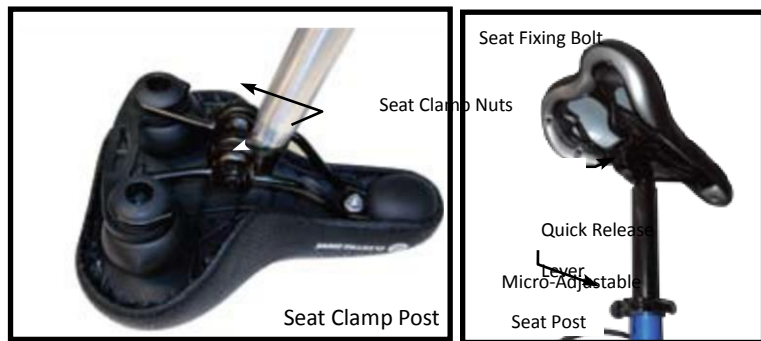
(B) Bolts

The rear suspension consists of suspension connection pieces (A) that are connected with bolts (B). These bolts are for exclusive use to secure the suspension connection pieces. There is a coating on the threads of the bolt to prevent the bolt from backing out.

**CAUTION! Do not use regular bolts for replacement. Contact X-Treme Bicycle for replacement spare parts.**



**Be sure to check the tightness of each bolt prior to riding your E-Bike. Make sure that these bolts are not loose PRIOR TO EACH RIDE. Failure to follow these instructions may cause an accident and/or severe injuries or death.**



## SEAT AND SEAT POST

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

### Standard seat post

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 seat post

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. 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.**





**Figure 1**



**Figure 2**



**Figure 3**



**Figure 4**



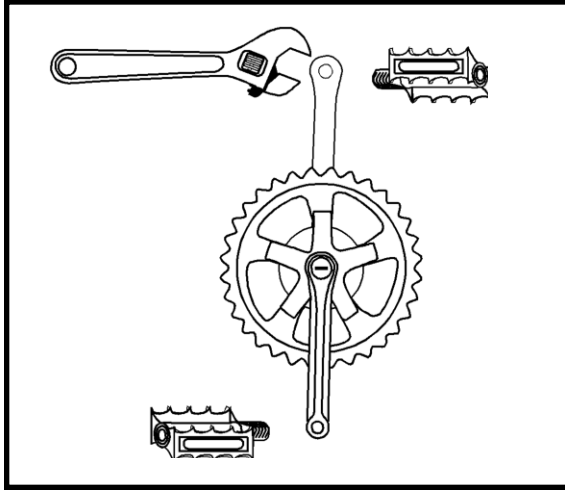
**Figure 5**

## **INSTALLING THE FRONT WHEEL**

1. Make sure the brakes are loose enough to allow the brake pads easily.
2. Place wheel into fork drop outs (Figure 1).
3. Insert Quick Release Axle (Figure 2) as shown in Figure 3 & 4 with nut.
4. When axle is in place, push lever down on axle to lock into place (Figure 5).
5. Spin the wheel to make sure it is centered and clears the brake shoes. Tighten brakes if necessary.

### **\*\*IMPORTANT\*\***

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



## Drivetrain

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

## Pedals

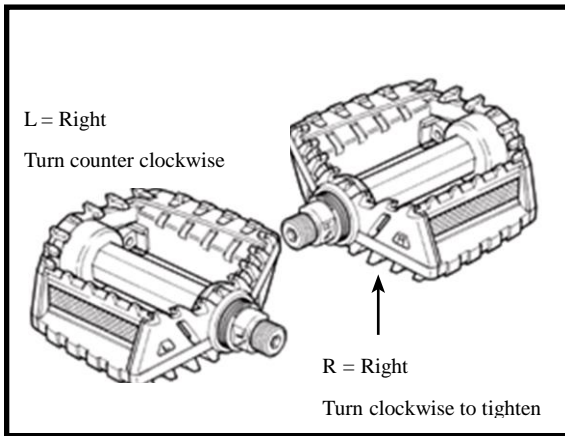
Pedals are available in a variety of shapes, sizes and materials and each are designed with a particular purpose in mind. Some pedals can be fitted with toe clips and straps. These help to keep the feet correctly positioned and allow the rider to exert pulling force, as well as downward pressure on the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

### Inspection

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

- Check for correct tightness in to 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 the 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 bearing then adjustment , lubrication or replacement is needed.
- Ensure that the front and rear pedal reflectors are clean and securely fitted.
- Ensure that the toe clips, if fitted, are securely tightened to the pedals

**IMPORTANT! The left pedal has left handed threads and turns counter clockwise to tighten!**



# TROUBLESHOOTING

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 disc	Adjust brakes and/or caliper
	Riding in hilly terrain, headwind, etc.	Reduced range to be expected
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
	Faulty switch	Replace switch and retest Faulty controller
	Faulty controller	Replace controller and retest
Bicycle runs at full speed without pedaling	Faulty TMM sensor (Enlightened Series)	Replace TMM sensor and retest Faulty throttle
	Faulty throttle	Replace throttle and retest Faulty controller
	Faulty controller	Replace controller and retest
Battery indicates full charge when tested at the charger port but bicycle doesn't operate	Blown fuse	Replace fuse
	Loose connectors	Check all connectors
	Poor contact between battery terminals	Inspect and clean battery terminals
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
	Faulty "White Box" sensor ring is 1-2mm	Replace "White Box" and retest
Throttle does not spring back to neutral position	Grip jammed against throttle	Adjust the gap 1-2mm between grip and the throttle
	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-Po4 chargers)	Replace fuse
	Faulty charger	Replace charger
Charger (Li-Po4) indicator light only flashes orange and never changes to red	Damage wire from charger port to battery	Inspect wire
	Faulty batteries	Replace batteries

## 48 VOLT SPECIFICATIONS

Battery:	48V/8AH LiPo4 Lithium Battery, 52 cells
Frame:	Alloy 6061-T6, TIG welded
Front Fork:	Suntour Front Suspension
Handlebar:	Alloy, with adjustable alloy handlebar stem with scale
Cranks and Chain wheel:	Forged alloy cranks and single steel chain wheel
Brake:	F/R Tektro disc brakes, full alloy brake lever, with power-off control
Front/Rear Hub:	Quick Release Alloy Front/Rear Hub with bearings
Motor:	48V 500 Watt Zero Resistance Rear Hub Motor
Seat:	Low Profile super soft, with double rubber spring – Mountain Bikes Big - Wide - Comfort Beach Cruiser Seat With Suspension – Beach Cruiser Bikes
Rim:	Alloy, double wall
Tire:	26" x 1.95, black
Gears:	SHIMANO Atlus 9-speed, Front/Rear derailleur, gearbox
Accessories & Special Features:	King Meter LCD Smart PAS Digital System With USB Phone Charging Port, Digital Torque Sensing, Alloy adjustable rear rack, Rear side stand, Front LED Light, Drink hold on handlebars

## How To Check Battery Terminals If Battery Not Charging Properly

- 1.) Remove battery pack from bike
  - 2.) Remove cap from end of battery that has the Four Slots (Key end).
  - 3.) Remove cover plate.
  - 4.) You are now able to look at the Red and Black wires; the Two Black wires should be on the same side as the Key.
  - 5.) If the Black wires are not on the side of the Key carefully open the Terminal Block Cover.  
    \*Note: if the Red and Black wires touch they may spark, keep them separate to avoid this.
  - 6.) With the terminal block cover open lift out the pair of Red and Black wires and relocate them with the Black pair on the same side as the Key.
  - 7.) Close cover on terminal block.
  - 8.) Place terminal block back into cap, place cover on terminal block and install screws.
  - 9.) Re-install cap onto battery.
  - 10.) Charge battery per manual instructions. Your battery should now be charging correctly.
- 

## How To Adjust Brakes - Additional Information for Tektro Brakes

Should the disc rotor noticeably deflect to one side upon squeezing the brake lever, simply re-adjust the disc bracket where it attaches to the frame and center the disc rotor in the slot of the caliper. It may be necessary to back the brake pads away from the rotor in order to center the disc rotor. (Remember though, when you loosen this bracket that the interface between the pads & the rotor will be changed making it harder to re-adjust the pads without having them rub, also if the rotor is not perfectly true it may cause a slight rub when adjusted properly. This will simply require some break in time to allow the pads to wear parallel once again with the rotor.)

Adjust the brake pads before tightening the cable anchor bolt. Adjusting the brake pads with the cable detached allows for a more precise adjustment because there is no pressure on the internal spring in the caliper.

Adjust the pads inward on both sides until the pads slightly touch, then with your thumb push the actuating arm of the caliper forward to mimic the movement of the brake lever. It may take 3 or 4 times of this procedure in order to obtain the best adjustment (this seems to be the best way to compensate for the float in the caliper).

Once the pads are adjusted properly, one can then connect the cable to the actuating arm of the caliper and tighten it down with the anchor bolt. The actuating arm on the caliper should be at the 11-12 o'clock position when brake is not being used.

After the cable is secured to the caliper, squeeze the lever several times to see if the brake rubs. At this point in time adjust the brake pads inward or outward depending on if the brake is rubbing or if there is a space between the pad(s) and rotor. (hint: a half turn of adjustment inward of the brake

pad can be the difference between having a brake lever that feels spongy to one that is not.)

---

## **How To Replace Brake Lever**

- 1.) Loosen brake cable at caliper to gain slack in cable.
  - 2.) Remove cable from brake lever
  - 3.) Remove handlebar grip.
  - 4.) The easiest way to switch the brake wires is to cut and splice the wires between the lever and where the wire enters the frame. The alternate method would be to fish the wires through the frame back to the controller.
  - 5.) Loosen brake lever holder and slide off handlebar.
  - 6.) Assemble in reverse order.
- 

## **How To Adjust Derailleur – Additional Information for Shimano Atlas**

- 1.) The cable simply needs to be adjusted for 6th & 7th gear to work.
  - 2.) With it on the center stand run the gears down to 1st gear.
  - 3.) On the derailleur there is a Clamp that holds the Cable - Loosen this nut.
  - 4.) Go to the gear shifter on the handlebar and push the other end of the cable In to the socket so that there is No Slack at that end.
  - 5.) Go back to the derailleur and use a pair of pliers to pull the cable snug and tighten the clamp nut.
  - 6.) Run the gears up and down the derailleur. You may Fine Tune with the two screws on the derailleur as described in the manual.
- \*\*\* The key to this adjustment is NOT to have any slack in the cable at the gear shifter end on the handlebar.
- 

## **How To Remove Rear Wheel**

- 1.) Remove the four screws from the aluminum plate located on the lower left side of the bike.
  - 2.) You will have access to the controller and wires.
  - 3.) Disconnect the three heavier gauge wires: Blue, yellow and green.
  - 4.) Next you will see a six pin connector (only five wires). Using a paperclip or toothpick bend the retaining tab on the terminals to remove all five wires from the connector
  - 5.) Be sure to install wires back into the connector in the proper location when reassembling.
  - 6.) Loosen the axle nuts and slide the wheel out of the frame.
  - 7.) With the wire connector removed from the wires you can now remove the wheel assembly.
-

## How To Replace Pedal Shaft

(Left & Right is based on sitting on bicycle) Keep parts laid out in order for easier installment. Make yourself a drawing if needed and label each part when removed.

- 1.) Remove plastic pedal arm cover, that covers center shaft and nut and remove the nut and pull arm off of shaft. (Make note of distance inner ring sticks out from outer ring to be used later for reassembly)
  - 2.) Turn larger outer ring counterclockwise with punch and remove from inner adjustment ring.
  - 3.) Remove inner bearing adjuster ring and remove inner bearing set.
  - 4.) Perform steps 1-3 for the right side.
  - 5.) Remove center shaft. Before reassembly grease bearings and inner bearing races with high grade grease.
  - 6.) Replace new part with one that was needed replaced and reassemble in reverse order. Install left section first and set the distance recorded from last part of step 1).
  - 7.) Installing right side adjust inner ring to bearing pressure by turning clockwise until stiffness while rotating the shaft and back off screw 1/8" turn out counterclockwise. (One rotation equals full turn, and 1/2 turn would be equal to from 12 o'clock to 6 o'clock, a 1/4 would be 15 min position, and 1/8 position would be equal to 5-7 min on clock.) Use a marker and mark a line from this to frame to keep this position. Install outer lock ring tight but keeping inner ring on the mark.
  - 8.) Install both arms and nuts and covers.
-



**DO NOT RETURN TO STORE!**

**IF YOU NEED HELP  
CALL OR GO ONLINE**

**1-253-777-0690**

**<http://support.x-tremescooters.com/>**

**For General Information or Parts  
Visit [www.x-tremescooters.com](http://www.x-tremescooters.com)**

**[www.ElectricBicycle.com](http://www.ElectricBicycle.com)**

