

# USER MANUAL



## **Table of Contents**

	Page No.
I - Preface	1
II - Parts Identification	6
III - Before Riding	13
Correct Frame Sizing	16
Riding Position	17
IV - Cycle Assembly	18
V - Operating Procedures	24
• Monitor Display	26
• How to Charge the Battery	27
VI - Maintenance/Repair	30
Schedule 1 - Lubrication	30
• Service Shecklist	31
<ul> <li>Tools Required for Maintenance</li> </ul>	32
• Travel Tools	32
Wheel Inspection	32
VII - Troubleshooting	43



## PREFACE

Congratulations on the purchase of your new E-bike! With proper assembly and maintenance, it will offer you years of enjoyable riding!

#### 🛨 Important 🖕

Carefully read and follow this manual (and any other materials included with this bike) before riding. Please retain this manual for future use. If this bike was purchased for a child, it is the responsibility of the purchaser to verify the bike has been properly assembled, and that the user has been properly trained and instructed in use of the bike. Please refer to our Online Videos for more information.

This manual is provided to assist you and is not intended to be a comprehensive manual covering all aspects of maintaining and repairing your bicycle. The bicycle you have purchased is a complex piece of equipment that must be properly assembled and maintained in order to be ridden safely.

If you have any doubts about the assembly or your ability to properly assemble and maintain the bicycle, you must have it assembled and maintained by a professional bicycle mechanic.

#### 

Electric bikes are fun to ride but can be dangerous too if not used properly. The user or consumer assumes all risk of personal injuries, damage, or failure of the bicycle or system and all other losses or damages to themselves and others and to any property arising as a result of using the bicycle.

#### 📎 DO NOT DISASSEMBLE, MODIFY OR REPLACE ELECTRICAL PARTS. 🚫

If you need to change any part, please consult a professional authorized "NINETY ONE" mechanic or contact customer service at "cares@outdoors91.com".

NOTE: YOUR INSURANCE POLICIES MAY NOT PROVIDE COVERAGE FOR ACCIDENTS INVOLVING THE USE OF THIS BICYCLE. TO DETERMINE IF COVERAGE IS PROVIDED, YOU SHOULD CONTACT YOUR INSURANCE COMPANY OR AGENT.

#### ▲ DANGER! ▲

Failure to properly assemble and maintain your bicycle could result in serious injury or can even be fatal for the rider.

This manual contains important safety, performance and service information. The purpose of this Owner's Manual is to help you use your bike safely in the manner it is intended and allow you to enjoy the benefits it offers for many years to come. Please read it before you take the first ride on your new bicycle, and keep it for reference.

If you have any questions or do not understand something, take responsibility for your safety and contact "NINETY ONE" customer service at "cares@outdoors91.com".





## ▲ CAUTION: ▲

For your safety you must carefully read this manual and follow its instructions. Your bicycle may come with additional instruction sheets that cover features unique to your bike. Please ensure that you read and become familiar with their contents and retain them with this manual for future reference. Remember, bicycles, in most areas, are subject to the same laws, rules, and regulations as motor vehicles.



Always wear an ISI approved helmet when riding your bike. Learn and follow local and state traffic use laws.

Any major service or adjustments on your bike not covered in this manual should be carried out by a professional bicycle mechanic. If you wish to make adjustments yourself, this manual contains important tips on how to do it.

## ▲ CAUTION: ▲

Any adjustments you make are entirely at your own risk. Do NOT use your bike for freestyle or stunt riding, jumping or competitive events. You should know that off-road use or any similar activities can be dangerous, and you assume the risk for personal injury, damages or losses incurred from such use. Do not ride your bike when any part is damaged or not working properly. You must, for your safety and the safety of other users, consult a professional bicycle mechanic for any questions on repairs or maintenance.

## ▲ WARNING: ▲

As with all mechanical components, the bicycle is subjected to wear and high stresses. Different materials and components react to wear or fatigue in different ways. As your bicycle ages, you should inspect it more frequently to look for deformed, cracked, bent, or loose components. Such conditions may lead to sudden failure. This may possibly cause injuries to the rider. If something is cracked or broken, do not ride until repairs have been made.

## RESPONSIBILITY OF THE OWNER!

IMPORTANT: Reading and following the information and instructions in this manual are essential to the ability of the owner or any other persons allowed to use this bicycle in order to ride safely.

 It is the responsibility of the owner or in the case of a younger rider, the parents of the rider to be certain all assembly instructions have been followed, even if the bike has been assembled by the seller or a professional assembly company.

- 2. Brakes are essential to safety. Be sure they are checked and working properly before each use. Remember that every mechanical system changes condition during use and must be maintained and checked before each use.
- 3. Rules for bicycle use (bicycle laws) vary from location to location. So be certain the rider knows and understands the rules that apply to bicycle usage in all areas where the bicycle will be used. Wearing a helmet, light or reflective clothing, using lights and reflectors are examples of rules which may exist and which make sense for rider safety precautions at all times.
- 4. Know how to operate the bicycle and all equipment on it before first use and be certain anyone allowed to use the bike knows how to properly and safely use the bike as well.
- 5. There are many different types of bicycles and often these types are designed for different uses. Make sure you know what type unit you have and do not exceed its service limitations

Be sure you check and understand the bicycle classifications set in this manual, including size of the unit that is proper for the rider to insure good control during use.

Riders who are too small or large may have control problems. Do not overload a unit with a rider that is too heavy or too large, and do not attempt to carry extra passengers, packages or loads on the bicycle. Do not use street bikes for off road riding.

- 6. Your electric bike is water-resistant, but must be properly maintained to preserve this condition. Please do not submerge the bicycle or any electric components in water. Water entering electric components can cause a short circuit and damage the electric components with possible injury to the rider and others.
- 7. The battery's performance can be affected by its environment. Generally speaking, battery's discharge performance is better in a higher temperature. Electric power will drop by more than 1/3 when the temperature is below 0°C. Thus, this e-bike's riding distance per charge will become shorter in winter or cold areas. It returns to normal / optimal when the temperature is higher than 20°C.

8. Do not put any metal objects in charge hole or battery circuit, it may cause a short circuit, start a fire, or cause an explosion with personal injury or property damage.

NOTE: Max weight of Rider + Luggage + Bike = 110 Kg

NOTE: BEFORE TRANSPORTING THE BIKE AND/OR BATTERY, CONTACT CUSTOMER SERVICE AT 7778001408 FOR SPECIFIC DETAILED INSTRUCTIONS.

## 😴 ALWAYS WEAR A HELMET-IT COULD SAVE YOUR LIFE! 🌍

A properly fitting, ISI approved, bicycle helmet should be worn at all times when riding your bicycle. The correct helmet should:



Forehead Covered

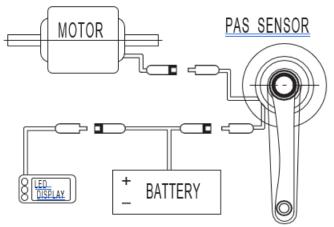


Forehead Exposed

- have good ventilation
- cover the forehead and fit correctly
- be securely fastened on the rider

## PARTS IDENTIFICATION

Circuit Diagram





1 - Monitor Display



2 - Handle bar



3 - Jandlebar Stem and Headset

7 © Alpha Vector India Private Limited | Ninety One



4 - Fork



5 - Front Brake

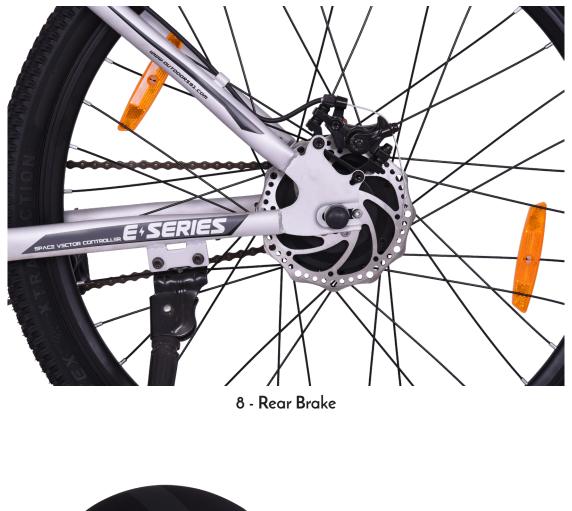


## 6 - Pedal, Pedal Crank Arm & Chain



## 7 - Motor, Wheel & Tire







9 - Saddle

10 © Alpha Vector India Private Limited | Ninety One



10 - Frame



11 - Charging Port (Opposite Side)



12 - KEY lock switch





## **BEFORE RIDING**

- 1. WARNING ON AND OFF-ROAD CONDITIONS: The condition of the riding surface is very important to your safety. If the surface is wet, or has sand, leaves, small rocks or other loose debris on the surface where you plan to ride, carefully decrease the speed of the bicycle and ride with extra caution. It will take a longer time and more distance to stop. Apply the brakes sooner and with less force. Always apply the rear brake first allowing time and distance for it to take effect. Then follow by cautiously applying the front brake, in order to maintain control of the bicycle. Rapid front brake application first may cause a front pitch over or fall. Learn to use your brakes properly under controlled conditions until you learn proper braking under all road conditions.
- 2. NOTICE: Vision is quite limited at dawn, dusk and at night for bike riders, motorists and by-standers. If you must ride at night, take extra precautions, use front and rear lights, wear flashers on your arms, wear light-colored clothing, and plan your route to ride in well lighted areas avoiding High speed traffic areas.
- 3. NOTE: Always wear shoes when riding a bicycle and avoid loose fitting clothes. Wear a cuff band or trouser clip to keep pants or other loose clothing from getting caught in the chain wheel. Long sleeves, long pants, gloves, eye protection, an ISI approved helmet, elbow and knee pads are recommended.
- 4. CAUTION: WET WEATHER WARNING: Check your brakes frequently. The ability to stop is critical to your safety. Roads are slippery in wet weather so avoid sharp turns and allow more distance for stopping. Brakes become less efficient when wet. Leaves, loose gravel and other debris on the road can also lengthen stopping distance. If possible, avoid riding in wet weather as vision and control are impaired, thus creating a greater risk of accidents and injury.

5. CAUTION: A bicycle rider's best defense against accidents is to be alert to road conditions and traffic in the area. Do not wear anything that restricts your vision or your hearing.

**SI** 

- 6. Obey all traffic regulations. Most traffic regulations apply to bike riders as well as automobile operators. Observe all state and local traffic regulations, signs and signals. Check with your local police station on bicycle licensing and inspection, and where it is legal to ride your bike.
- Keep to the LEFT SIDE of the road. Follow the traffic flow in a straight line close to the curb. Watch out for opening car doors and cars moving in and out of traffic. Use caution at intersections.
- 8. Never carry passengers. This is dangerous and it makes the bicycle harder to control. Never carry anything that can inhibit your ability to control the bicycle or see the road.
- When riding in pairs or in larger groups, form a single line along the right side of the road.
   Set up a sensible distance between riders. Don't follow too closely.
- 10. Always be alert. Animals or people may dart in front of you. Give pedestrians the rightof-way. Don't ride too close to pedestrians, and don't park your bicycle where it can get in the way of foot/vehicle traffic.
- 11. Be careful at all intersections. Slow down and look both ways before crossing.
- 12. Use hand signals. Always let other drivers and pedestrians know what you are going to do. Signal 100 ft. before turning unless your hand is needed to control the bike.
- 13. Never hitch rides. Never hold onto moving vehicles while riding. Never stunt ride or jump on your bike.

- 14. ON AND OFF-ROAD OPERATION: Avoid the following road hazards: drain grills, pot holes, ruts, soft road edges, gravel, leaves (especially when they are wet), uneven pavement, railroad crossings, manhole covers, curbs, speed bumps, puddles, and debris as all have an effect on your riding and may result in loss of control. Adjust your speed and the way you use your brakes if you must ride in such areas.
- 15. If any components become loose while riding, STOP!! Immediately and tighten, or bring to a mechanic for repair.

Just a minute spent before each ride can significantly improve your safety and the fun of the ride. So, EACH TIME before you ride make a habit of performing the following safety checks:

- Stand in front of the bicycle facing rearward and hold the front wheel securely between your legs. Try to twist the handlebar and verify that they do not move. Then pull the handlebars up, trying to lift the bike. There should be no movement.
- Try to push the front wheel from side to side and confirm that it feels tight and will not wobble. Lift the front wheel up by the handlebars and strike the wheel downward with the heel of your hand to confirm that it is securely attached to the wheel. Spin the front wheel and confirm that it does not wobble or contact the fork or brake pads.
- Try to lift/push down on and twist the seat to confirm it is tight.
- Look at the connection of the pedals to the crank arm. You should not see pedal screw threads and the pedal should feel firm and be parallel to the ground.
- Apply your brake(s) and make sure they feel firm to the touch, and then spin the wheel(s). Apply the brakes. The brakes should stop the wheel(s).
- Check to be sure that the fenders and accessories (if equipped) are firmly attached and will not contact any moving parts. Make sure all reflectors are in position and not broken.

Now, put on your BICYCLE SAFETY HELMET and enjoy your ride. Your safety is well worth just a minute. Also, be sure to read and follow the warnings and instructions in this manual





## **CORRECT FRAME SIZING:**

When selecting a new bicycle, the correct choice of frame size is a very important safety consideration. The ideal clearance will vary between types of bicycles and rider preference. This makes straddling the frame when off the saddle easier and safer in situations such as sudden traffic stops. Women can use a man's bicycle to determine the correct size women's model.

THERE SHOULD BE A CLEARANCE OF approximately 1-2 INCHES BETWEEN THE GROIN AREA OF THE

INTENDED RIDER AND THE TOP TUBE OF THE BICYCLE, WHILE THE RIDER STRADDLES THE BICYCLE WITH

1-2" BOTH FEET FLAT ON THE GROUND.



THE SEAT POST "MINIMUM INSERTION" / "MAXIMUM HEIGHT" MARK SHOULD NOT BE VISIBLE WHEN THE SEAT POST IS INSERTED INTO THE SEAT MAST OF THE BIKE. DO NOT RAISE THE SEAT POST BEYOND THIS MARK. THE SEAT POST OR FRAME MAY BREAK CAUSING YOU TO LOSE CONTROL AND FALL. ALWAYS CHECK TO MAKE SURE THE SEAT POST ADJUSTING MECHANISM IS TIGHTENED SECURELY BEFORE RIDING.



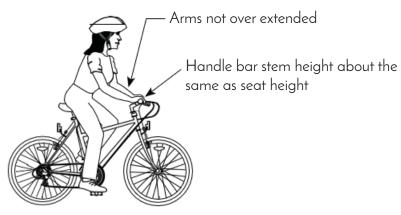
## **RIDING POSITION**

#### **SADDLE HEIGHT**

In order to obtain the most comfortable riding position and offer the best possible pedaling, 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 the pedal. The correct saddle height will allow the knee to be slightly bent in this position.

#### REACH

To obtain maximum comfort, the rider should not over extend his or her reach when riding. There should be a slight bend in the rider's elbows. Refer to the section regarding seat and seat posts to learn how to adjust the seat post height.



Pedal bottom position



## **CYCLE ASSEMBLY**

Your new bicycle was assembled and tuned in the factory and then partially disassembled for shipping. 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. We highly recommend that you take "91 CARES" for installation or take help of NINETY ONE authorized mechanic and Frog/NINETY ONE dealership near you.

TO AVOID INJURY, THIS PRODUCT MUST BE PROPERLY ASSEMBLED BEFORE USE. WE STRONGLY RECOMMEND THAT YOU REVIEW THE COMPLETE ASSEMBLY GUIDE AND PERFORM CHECKS SPECIFIED IN THE OWNER'S MANUAL BEFORE RIDING.

#### Tools required for assembly:

- 5/6mm Allen Key
- Multi Spanner

#### **Assembly Instructions:**

- Place the packed box in the correct orientation and in an open space, and inspect for any
  visible damage to the box from outside. In case of a damage, please contact your dealer
  immediately.
- 2. Cut the packing cables using a cutter or any suitable tool and proceed to open the box.
- 3. Remove the seat, loose cardboard boxes and packing material inside the box. The tools needed for assembly are provided inside.
- 4. Slowly remove the bicycle in the semi-assembled state and rest it on a horizontal support. Please note that it may be difficult for one person to lift the cycle out of the box. Seek help if needed.
- 5. Cut the cable ties holding the front wheel and handle bar on to the frame and keep the components aside.

- 6. Cut all the packing material like cable ties, foam and cardboard attached to the bicycle carefully. Please take precautions to not damage any component of the bicycle in the process. Inspect the bicycle for any visible damage. In case of any visible damage, please contact your dealer immediately.
- Remove the cap of the stem, place the handle bar and fix the cap back by tightening the Allen bolts. Make sure the handle bar is perfectly aligned in the center and all the bolts are fixed properly.
- 8. Take the quick release mechanism from the box and insert it into the hub of the front wheel such that the latch/cam is towards the left (near the Disk Brake Rotor).
- 9. Remove all the packing material from the front wheel and latch the wheel into the front drop-outs. Please make sure the brake disk slides into the caliper perfectly and take precautions to not damage it in the process. Tighten the quick release nut and lock it near the fork as shown in the images.
- 10. Take the pedals from the box and fix it on to the crank using a spanner. Please make sure you are fixing the right pedal on the right side. The nut is rotated in the counter-clockwise direction on the left pedal and clockwise on the right pedal using a spanner. Interchanging the pedals may damage the threading on the crank or pedal making it unsafe for any further use. Make sure the pedals are tight by rotating the crank.
- 11. Clamp the rear reflector (red) on to the seat post. Adjust the seat height, align the seat and tighten the clamp on the seat tube. Apply pressure on the seat to check if it is fixed properly.
- 12. Fix the connectors coming from the handlebar to the connectors coming out of the frame. Use the color-codes and number of pins in the connector to match the right connections. Do not force the connectors too much as it may damage the pins.
- 13. Wrap the spiral harness around the connectors

- 14. Connect the front reflector (white) on the fork.
- 15. Rotate the front and rear wheel to check if they are rotating freely. Apply brakes to check if the brakes are working properly.



STEP 1-4: Remove the bicycle in the semi-assembled state from the box



STEP 5-6: Remove the cable ties, foam and detach the front wheel and handle bar from the frame



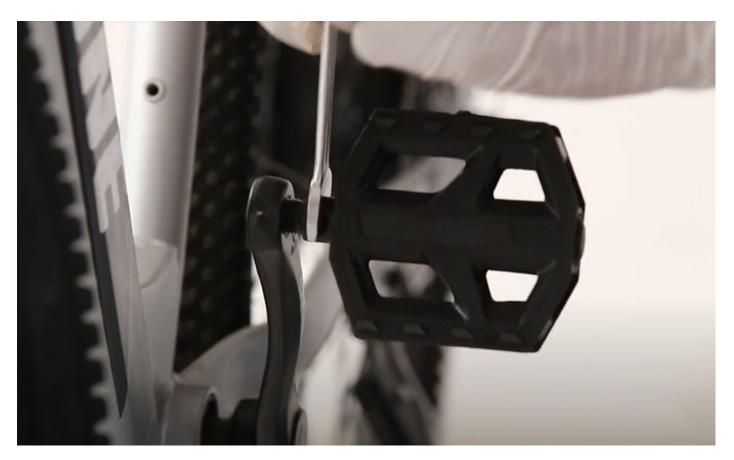


STEP 7: Fix the handle bar



STEP 8-9: Fix the Front Wheel and Quick Release mechanism





STEP 10: Fix the Pedals



STEP 11: Fix Reflectors and Seat



STEP 12: Fix the Connectors



STEP 13: Wrap the spiral harness around the cable

## **OPERATING PROCEDURES**

#### **START YOUR E-BIKE:**

Turn ON the Battery using the Key Lock Switch. The switch is located on the right side of the Handlebar.

Next please press the Power BUTTON on the monitor display for 3 seconds. The monitor display will turn ON.



Once the E-Bike and Monitor display are ON, verify that the Battery Charge Meter (LED display) shows sufficient charge for your ride. If the battery does not have sufficient charge for your ride, please refer to instructions on how to charge the Battery.

Be sure to turn the Key Lock switch off when not in use or while Recharging.

#### **START YOUR RIDE:**

Once you begin riding, you can choose the appropriate assistance level using the INCREASE MOTOR ASSIST [+] or DECREASE MOTOR ASSIST [-] buttons on your display. The motor will assist you once you start pedaling. There are 3 levels of assistance on the display.

You can also use the throttle to take assistance as and when you need from the motor. Minimize using throttle as it adversely impacts the range of cycle and also drastically reduces human effort.





#### **NOTES DURING RIDING:**

Frequent braking and again accelerating will deplete the battery faster. The motor will stop assisting once you stop pedaling. Your e-bikes rated maximum load is 110kg including the rider, thus do not overload the E-Bike.

WARNING: When stopped, turn off the battery in case the crank arm keeps turning while you push the bike. The motor would start suddenly which may lead to an accident

FOR YOUR SAFETY, PLEASE MAINTAIN AND CLEAN YOUR E-BIKE REGULARLY

Add purely manual ride option in description



## **MONITOR DISPLAY:**

Your e-bike is equipped with an LED meter that monitors motor assist and battery energy level. To turn the meter on, make sure the battery is charged in the E-Bike and the Power Switch is in the ON position.

Press the power on/off button on the button selector located near the left grip on the handlebars to turn the meter on. You can adjust the motor assist power level to have more power by hitting the INCREASE MOTOR ASSIST [+] button and can move to a lower level power by hitting the DECREASE MOTOR ASSIST [-] button.

When first riding your e-bike, you will notice that when the motor assist function is activated, the motor will supply power when you turn the pedals forward.

In motor assist level "low", you will get assistance at around 30% of the maximum power from the motor and if it's medium we get 65% power from motor. In level "high", you will get 100% assistance from the motor. When the monitor display is powered off, the bicycle will operate without assistance. Experiment with the different levels of motor assist to become familiar with how much power you want. You will need different levels of assist for different riding conditions.

The bars of the battery charge indicator display the amount of power remaining in the battery. The more bars that are displayed, the more battery power available.

When not riding the bike, you can turn off the meter by holding down the POWER BUTTON for five seconds.

#### FUNCTIONS OF THE MONITOR DISPLAY:

- Battery charge indicator
- Choosing motor assistance level from LOW to HIGH
- On/Off Button

**91** 



#### HOW TO CHARGE THE BATTERY:

Park the E-Bike where an electric socket is available. With the battery off, plug the other end into a standard 100-240-volt AC outlet insert the round charging plug of the charger into the charging hole on your e-bike frame after the light on charger turns green. When the light on charger turns red, the battery is charging. When the charging light turns green, the charging is finished and the battery is fully charged.

It takes about 3-4 hours to fully charge an empty battery. When the charging is finished, unplug the electrical plug first, then unplug the charging plug connected to the e-bike, in that sequence.

This is a lithium battery, it has no memory effect, and so you can charge or discharge anytime. In normal circumstances, the battery can be used for more than 2 years.



#### **NOTES FOR CHARGING:**

- Make sure to charge your bike before rides. Do not attempt to ride with too little power available.
- PLEASE CHARGE THE BATTERY IN A DRY, INDOOR, WELL VENTILATED AREA WITH ADEQUATE and STABLE POWER SUPPLY.
- To protect the battery, only use the original charger. Please do not use this charger to charge other e-bike batteries.
- Warranty is void if you use any other charger other than the approved charger for charging the battery.
- The charger contains high-voltage circuit. Do not dismantle it.
- Only charge the battery while it is switched off.
- Please avoid any liquid or foreign substance from entering the charger. Please protect the charger from impact. Never let it drop or drop objects onto it.
- Do not cover the charger when it is charging.



- Please keep and use our charger in a dry and ventilated area.
- Pls charge the battery indoors
- Battery should be charged below 45°C
- Unplug the charger outlet from the wall socket when not in use.

During charging, if the charger emits any smell or it becomes excessively hot, please stop charging and contact customer service at 7778001408







## **MAINTENANCE/REPAIR**

Correct routine maintenance of your new bike will ensure a longer life for your bike and a safer ride for you.

Every time you ride your bike, 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 will assist you in knowing what tasks need to be performed and how often. If you have any doubts about your abilities to accomplish these tasks, we recommend you take your bike to a professional bicycle mechanic periodically to have them done.

Frequency	Component	Lubricant	How to Lubricate
Weekly	Chain	chain lube or light oil/ Phoenix line / recommended 91	brush on or squirt brush on or squirt
	Crank	Cycle dealer chain lube or light oil	
Monthly	Brake calipers	OIL for all three	3 drops from oil can 2
	Brake levers	components	drops from oil can
Every Six	Freewheel	oil	2 drops from oil can
Months	brake cables	lithium based grease	disassemble
Yearly	Bottom bracket	lithium based grease	Bicycle Mechanic
	Pedals	lithium based grease	Disassemble
	Derailleur cables	lithium based grease	Disassemble
	Wheel bearings	lithium based grease	Bicycle Mechanic
	Headset	lithium based grease	Bicycle Mechanic
	Seat pillar	lithium based grease	disassemble

#### **SCHEDULE 1 - LUBRICATION**

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

Maintenance should be carried out by 91 authorized dealers only

#### SERVICE CHECKLIST:

Frequency	Task
Before every ride	Check wheel and pedal tightness Check tire pressure
	Check brake operation
	Check wheels for loose spokes, loose axle nuts or quick release Make sure all fasteners are tightened securely
After every ride Quick wipe down with damp cloth	
Weekly	Lubrication as per schedule 1
Monthly	Lubrication as per schedule 1
	Check brake and gear cable adjustment Check tire wear and pressure
	Check wheels are true and spokes tight
	Check hub, head set and crank bearings for looseness Check pedals are tight
	Check handlebars are tight
	Check seat and seat post are tight and comfortably adjusted Check frame and fork for trueness
Every six months	Lubrication as per schedule 1
	Check all points as per monthly service Check and replace brake pads, if required Check chain for excess play or wear
Yearly	Lubrication as per schedule 1



#### **TOOLS REQUIRED FOR MAINTENANCE:**

- 1. Multi spanner
- 2. 18mm wrench
- 3. Allen key wrenches: 4mm, 5mm, 6mm, 8mm
- 4. Standard slip joint pliers
- 5. Tire pump
- 6. Tube repair kit
- 7. Tire levers

#### **TRAVEL TOOLS:**

We suggest you take the following items with you when going on a long bike ride. Tools should be fully secured in a sturdy bag or container

Attached to the seat or frame of the unit during travel:

- 1. Spare tube
- 2. Patch kit
- 3. Pump
- 4. Tire levers
- 5. Multi-tool
- 6. Cell phone or change for a pay phone

#### WHEEL INSPECTION:

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

• Dirty or greasy rims:

Caution: Do not clean them with oily or greasy materials. When cleaning, use a clean rag or wash with soapy water, rinse and air dry. Don't ride while they're wet. When lubricating your bicycle, don't get oil on the braking surfaces of the disc brakes. Never spray/ splash clean the cycle /rim

**51** 

• Wheels not straight:

Lift each wheel off the ground and spin them to see if they are crooked or are not aligned. If wheels are not straight, they will need to be adjusted. This is quite difficult and is best left to a professional bicycle mechanic. (91Cares)

• Broken or loose spokes:

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

Caution: Such damage can result in severe instability and possibly an accident if not corrected. Again, spoke repairs are best handled by a mechanic (91 Cares/ authorized 91 dealer)

• Loose hub bearings:

Lift each wheel off the ground and try to move the wheel from side to side. Caution: If there is movement between the axle and the hub, do not ride the bicycle. Adjustment is required.

• Axle nuts:

Check that these are tight before each ride (27 NM)

#### TIRE INSPECTION

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

• Inflation:

Ensure tires are inflated to the pressure indicated on the sidewall of the tire (60-62 psi). Improper inflation is the biggest cause of tire failure. Due to the slightly porous nature of bicycle inner tubes, it is normal for your tires to lose pressure over time. For this reason, it is critically important to maintain the proper tire inflation on your bike.



Caution: Use a hand or foot pump to inflate tires. NEVER inflate tires with an air compressor at a gas station. This can cause the tubes to over inflate and blowout.

• Bead Seating:

When inflating or refitting the tire, make sure that the bead is properly seated in the rim.

• Tread:

Check that the tread shows no signs of excessive wear or flat spots, and that there are no cuts or other damage.

CAUTION: Excessively worn or damaged tires should be replaced.

• Valves:

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

#### **RECOMMENDED TIRE PRESSURES:**

The recommended pressure is molded on the sidewall of your bicycle tires (60-62 psi)

#### HOW TO FIX A FLAT TIRE

- You can take it to the nearest tire repair shop/ cycle mechanic, if there is nothing close vicinity then follow the steps as below:
- 2. Remove the wheel from the bicycle.
- 3. Deflate the tire completely via the valve. Loosen the tire bead by pushing it inward all the way around.
- 4. Press one side of the tire bead up over the edge of the rim. Note: Use tire levers, not a screwdriver, otherwise you may damage the rim.



- 5. Remove the tube, leaving the tire on the rim.
- 6. Locate the leaks and patch using a tube repair kit (as prescribed authorized 91 dealer) or replace the tube (as prescribed by authorized 91 dealer) Note: Ensure that the replacement tube size matches the size stated on the tire sidewall and that the valve is the correct type for your bicycle.
- 7. Match the position of the leak in the tube with the tire to locate the possible cause and mark the location on the tire.
- 8. Remove the tire completely and inspect for a nail, glass, etc. and remove if located. Also inspect the inside of the rim to ensure there are no protruding spokes, rust or other potential causes. Replace the rim tape which covers the spoke ends.
- 9. Remount one side of the tire onto the rim.
- 10. Using a hand pump, inflate the tube just enough to give it some shape.
- Place the valve stem through the hole in the rim and work the tube into the tire. NOTE:
   Do not let it twist.
- 12. Using your hands only, remount the other side of the tire by pushing the edge toward the center of the rim. Start on either side of the valve and work around the rim.
- 13. Before the tire is completely mounted, push the valve up into the rim to make sure the tire can sit squarely in position.
- 14. Fit the rest of the tire, rolling the last, most difficult part on using your thumbs.

NOTE: Avoid using tire levers as these can easily puncture the tube or damage the tire.

- 15. Check that the tube is not caught between the rim and the tire bead at any point.
- 16. Using a hand pump, inflate the tube until the tire begins to take shape. Check that the tire bead is evenly seated all the way around the rim. When properly seated, fully inflate the tire to the pressure marked on the sidewall.

Replace the wheel into the frame checking that all gears, brakes and quick release levers are properly adjusted



#### PEDAL INSPECTION

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

- Check that the pedals are tightened securely against the crank arm. If pedals are allowed to become loose, they will not only be dangerous to the rider but will also cause irreparable damage to the mating threads of the cranks.
- 2. Check that pedal bearings are properly functioning. Move the pedals up and down, and right to left, and also rotate them by hand. If you detect any looseness or roughness in the pedal bearings then lubrication or replacement is required. Check your pedals to see if adjustment is possible to correct the looseness.
- 3. Ensure that the front and rear pedal reflectors on each pedal are clean, not cracked, and securely fitted.

WARNING! Never ride with loose pedals. Improperly installed or tightened pedals can work loose, damaging the bicycle and causing possible serious injury or death to the rider.

Always wear solid, well-constructed shoes while riding.

PEDAL ATTACHMENT - Note: The right and left pedals of a bicycle each have a different thread and are not interchangeable. Never force a pedal into the incorrect crank arm. Check for the right (R) and left (L) letters on each pedal bolt end. Not all crank arms are marked but the right pedal crank arm is on the right side of the bike with a rider in normal riding position and the left crank arm is located on the left side of the bike. Match the appropriate pedal to each crank (right to right and left to left) for assembly. Insert the correct pedal into the crank arm and begin to turn the thread with your fingers only. When the axle is screwed in substantially all the way then securely tighten using a 15mm narrow open-ended wrench so that the shoulder of the pedal spindle is securely tightened against the crank arm. If removing a pedal, remember that the right pedal axle must be turned counter clockwise, i.e. the reverse of when fitting.



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

If replacing the original pedals with a new set, make sure the size and the axle thread is compatible with the cranks on your bicycle.

NOTE: Never try and force a pedal with the wrong thread size into a bicycle crank. If the pedal is too loose or too tight, it is the wrong pedal and might come loose in use.

#### **CHAIN INSPECTION**

The chain on your bicycle must be kept clean, rust free and frequently lubricated (91 dealer recommended oil/ phoenix lines) in order to have the best possible performance when riding and extend its life as long as possible. It will require replacement if it stretches, wears, breaks, due to excessive dirt or debris embedded in the chain. Make sure that there are no stiff links; they must all move freely.

#### CHAIN LUBRICATION:

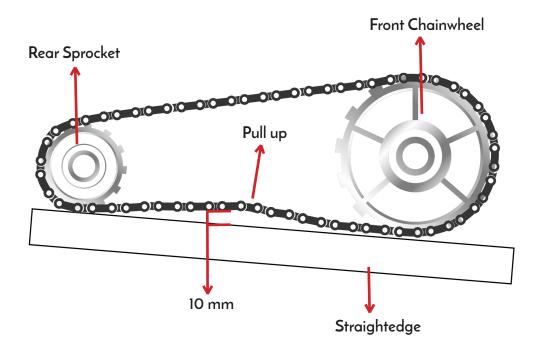
The chain should be lubricated (91 dealer recommended oil/ phoenix lines) with light oil at least every month, or after use in wet, muddy, or dusty conditions. Take care to clean the chain of debris before lubrication. After lubrication, wipe off excess oil. NOTE: Do not get oil on the tires or rim braking surfaces.

### CHAIN ADJUSTMENT AND REPLACEMENT:

On derailleur geared bicycles, the rear derailleur automatically tensions the chain. To adjust the chain:

- 1. Loosen the rear axle nuts and move the wheel forward to loosen, or backward to tighten the chain, in the frame.
- 2. When correctly adjusted, the chain should have approximately 10mm of vertical movement when checked in the center between the chain wheel and rear sprocket.

Chains require a special tool to fit and remove damaged chain links, or to change the length. We recommend that you consult a professional bicycle mechanic (91Cares) to replace or change the length of your chain. They will have the special tools required to perform the repairs correctly.





#### **BATTERY CARE**

**51** 

The charger will charge a fully depleted battery in 3-4 hours. The indicator light on the charger will be red when the discharged battery is charging. The indicator light will turn green when the battery is fully charged. Avoid subjecting the battery to high temperatures, such as direct sun, for prolonged periods of time.

Don't charge the battery above 45°C temperature. Batteries should be charged indoors

\*Do not charge continuously for more than 8 hours.\*

Recharge the battery before it becomes completely discharged. Completely discharging will reduce the numbers of recharging cycles during the battery's life and limit the capacity. Never store the battery in a discharged state.

After much use, your battery's charge-holding capacity will decrease. If you find that your battery does not hold a sufficient charge, please contact customer service at 7778001408.

If the battery will not be used for an extended period of time, charge it fully and recharge it every 3-6 months. Store it in a cool, dry place. Your battery is engineered with precision for high capacity and a long, useful life. If you experience unusual sounds or odors coming from the charger or the battery, unplug the charger and battery immediately and contact customer service.

Clean visible oxidation from the plugs and metallic parts. Change to a different outlet if the plug becomes hot during charging. Over-heating from a battery's ability to hold a full charge may lead to a short circuit and damage your charger, battery, and unit

#### Battery / Charger Disposal:

Battery pack / charger contains regulated materials and must be disposed / discarded in accordance with State/ Federal laws as applicable in the region. DO not discard battery / charger into fire, water or ordinary wet and dry household waste. Take it to an authorized waste facility for lithium and electronic waste in your area.



### INSTRUCTION FOR LI-ION BATTERY PACKS

Straightedge	Significance	
	Warning of general danger.	
8	Read operating instructions and safety notices!	
	Do not dispose of as domestic waste.	
	Recycling symbol - recyclable material.	
max. 50°C	Only use and store the battery at temperature of between - 10°C and +50°C.	
	Keep away from heat and open flames - never throw into a fire - RISK OF EXPLOSION.	
	Keep away from water - do not immerse in liquids.	

#### CHARGER

Included with your new e-bike is a lithium ion battery, along with a charger, which plugs into a standard household electric receptacle. (See charger specifications input voltage specifications)

A lithium ion battery requires specially designed chargers. You should never charge your battery with a substitute charger that is not designed for this use. Use of an unsuitable charger to charge a lithium ion battery could result in over-heating, fire or even explosion.





Using charger beyond the specified voltage and current limit or using another charger will void the warranty of battery pack and charger.

- Recharge battery after every use.
- Do not disassemble or alter the battery or battery charger.
- Do not place the battery near fire or corrosive substances.
- Do not allow any liquids on or inside the battery/charger.
- Do not expose the battery/charger to extreme weather conditions.
- Do not operate the battery/charger if damaged.
- Recharge the battery only with a charger specified by the manufacturer.
- Do not use the battery/charger for any use other than its intended purpose.
- Only use the battery/charger on approved products
- Unplug the charger outlet from wall socket (5A) when not in use

#### CAUTION:

Don't drop battery or charger.

Don't open / disassemble / modify the battery/ charger.

No serviceable parts inside.

Warranty void if any of the above is done.

### APPEARANCE CARE

Periodically clean your electric bike with a damp cloth. DON'T spray the e-bike with a water hose to avoid electrical issues. Store your e-bike in a dry shelter area away from direct sunlight and wet or damp environment. It is also recommended to apply chain lube to the drive-train of your e-bike when you clean it or wipe it down to keep it in good running condition.





#### NOTE:

- Washing your e-bike with a hose or high-pressure hose is not possible (Voids warranty of the cycle), because it will cause failure or even accidents caused by damage of electronic components and circuits. Do not rinse the electrical parts of your e-bike, use a moist cloth only.
- Please use natural detergents and use a rag to clean its surface gently, finally clean the bike with a dry cloth.

IROUBLESHOUTING				
Problem	Possible Cause	Remedy		
Slipping chain	<ol> <li>Excessively worn/chipped chain ring or freewheel sprocket teeth</li> <li>Chain worn. stretched</li> <li>Stiff link in chain</li> <li>Non-compatible chain/chain ring/freewheel</li> </ol>	<ol> <li>Replace chain ring, sprockets and chain</li> <li>Replace chain</li> <li>Lubricate or replace link</li> <li>Seek advice at a bicycle shop</li> </ol>		
Chain jumping off	1. Chain ring out of true	1. Re-true if possible, or		
freewheel sprocket or	2. Chain ring loose	replace		
chain ring	3. Chain ring teeth bent	2. Tighten mounting bolts		
	or broken	<ol> <li>Repair or replace chain ring/set</li> </ol>		
Constant clicking noises	1. Stiff chain link	1. Lubricate chain/Adjust		
when pedalling	2. Loose pedal	chain link		
	axle/bearings	2. Adjust bearings/axle		
	3. Loose bottom bracket	nut		
	axle/bearings	3. Adjust bottom bracket		
	4. Bent bottom bracket or	4. Replace bottom		
	pedal axle	bracket axle or pedals		
	5. Loose crank set	5. Tighten crank bolts		
Grinding noise when	1. Pedal bearings too	1. Adjust bearings (91		
pedalling	tight	CARES)		
	2. Bottom bracket	2. Adjust bearings (91		
	bearings too tight	CARES)		
Freewheel does not	1. Freewheel internal	1. Lubricate. If problem		
rotate	pawl pins are jammed	persists, replace freewheel.		

# TROUBLESHOOTING



Brakes not working       1.       Brake disc/rotor worn       1.       Replace brake rotor         effectively       2.       Brake disc/rotor       2.       Clean brake of greasy, wet or dirty       3.       Clean/adjust, cables         3.       Brake cables are       cables       cables         binding/stretched/       4.       Adjust brake         4.       Brakes levers are       5.         binding       5.       Brakes out of         adjustment       3.       Brakes out of	disc / rotor /replace levers
2.Brake disc/rotor greasy, wet or dirty2.Clean brake of Greasy, wet or dirty3.Brake cables are binding/stretched/ damaged3.Clean/adjust, cables4.Brakes levers are binding5.Align disc w.r.5.Brakes out of5.Align disc w.r.	/replace levers
greasy, wet or dirty 3. Clean/adjust, 3. Brake cables are cables binding/stretched/ 4. Adjust brake damaged 5. Align disc w.r. 4. Brakes levers are binding 5. Brakes out of	/replace levers
<ul> <li>3. Brake cables are cables</li> <li>binding/stretched/</li> <li>damaged</li> <li>4. Adjust brake</li> <li>damaged</li> <li>5. Align disc w.r.</li> <li>4. Brakes levers are binding</li> <li>5. Brakes out of</li> </ul>	levers
binding/stretched/ 4. Adjust brake damaged 5. Align disc w.r. 4. Brakes levers are binding 5. Brakes out of	
damaged 5. Align disc w.r. 4. Brakes levers are binding 5. Brakes out of	
<ul><li>4. Brakes levers are binding</li><li>5. Brakes out of</li></ul>	t rotor:
binding 5. Brakes out of	
5. Brakes out of	
adjustment	
When applying the         1.         Brake disc/rotor down         1.         Replace disc/	<sup>/</sup> rotor
brakes, they 2. Brake disc/rotor toe-in 2. Correct disc/r	rotor toe-
squeal/squeak incorrect in	
3. Brake disc/rotor dirty 3. Clean disc/ro	otor
or wet 4. Tighten mour	nting bolts
4. Brake mounting loose	-
Knocking or shuddering 1. Bulge in the rim or rim 1. True wheel or	r take to a
when applying brakes out of true bicycle shop f	for repair
2. Brake mounting bolts 2. Tighten bolts	
loose 3. Centre brakes	s and/or
3. Brakes out of adjust brake a	disc/rotor
adjustment tighten and a	adjust
4. Fork loose in head tube 4. Tighten head	lset
Wobbling wheel         1. Axle broken         1. Replace axle	
2. Wheel out of true 2. Replace whee	el
3. Hub comes loose 3. Adjust hub be	earings
4. Headset binding 4. Adjust headset	et
5. Hub bearings collapsed 5. Replace bear	
6. QR mechanism loose 6. Adjust/Tighte	
mechanism	
	.1
Steering not accurate 1. Wheels not aligned in 1. Align wheels of a state of the st	
frame 2. Adjust /tighte	
2. Headset loose or 3. Take bicycle t	
binding bicycle shop f	
3. Front forks or frame possible fram	ie
bent realignment	

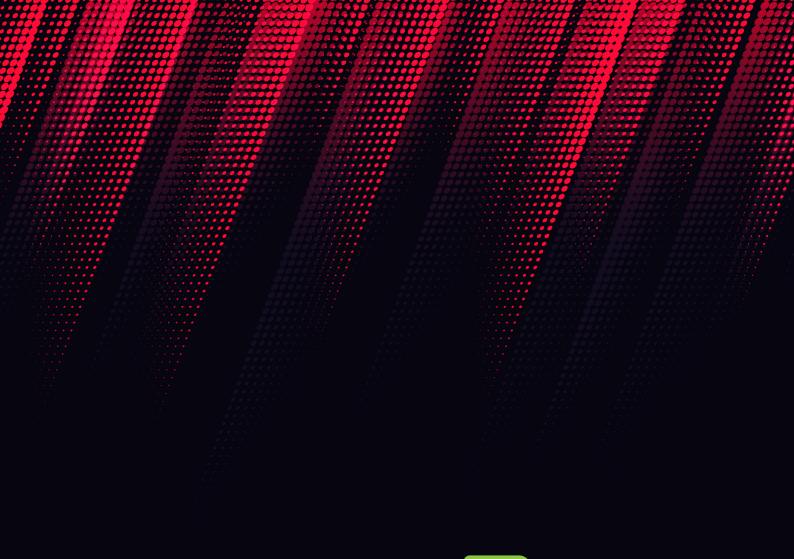




Problem	Possible Cause	Remedy
Frequent punctures	1. Inner tube old or faulty	1. Replace inner tube
	2. Tire tread/casing worn	2. Replace tire
	3. Tire unsuited to rim	3. Replace with correct
	4. Tire not checked after	tire
	previous puncture	4. Remove sharp object
	5. Tire pressure too low	embedded in tire
		5. Correct tire pressure
Pievela has reduced	1. Low batteries	1 Chause hattaries for
Bicycle has reduced		<ol> <li>Charge batteries for recommended time</li> </ol>
range and/or speed	2. Faulty or old batteries	
	3. Low tire pressure	2. Replace batteries
	4. Brakes dragging	3. Inflate tires to
	against rotor 5. Riding in hilly terrain,	recommended pressure
	5. Riging in hilly ferrain, headwind, etc.	<ol> <li>Adjust brakes and/ or rotor</li> </ol>
	nedawina, efc.	5. Reduced range to be
		expected in these
		Types of terrain and/or weather conditions
		weather conditions
Hub motor makes a	1. Low batteries	1. Charge batteries for
"clicking" noise and has	2. Damaged planetary	recommended time
reduce power and/or	gears	2. Replace hub
shuts off		motor/wheel
No power when the	1. Blown fuse	1. Replace fuse
switch is	2. Loose connectors	2. Check all connectors
turned "ON"	3. Broke wire	3. Inspect all wires for
	4. Faulty switch	damage
	5. Faulty controller	4. Replace switch and
		retest
		5. Replace controller and
		retest
Bicycle operates OK but		1. Check throttle and/or
battery gauge does not	1. Loose connectors	battery gauge
light up	2. Damaged wires	connectors
	3. Faulty battery gauge	2. Inspect all wires
		3. Replace battery gauge



Problem	Possible Cause	Remedy
Battery gauge lights up	1. Faulty brake inhibitor	1. Replace brake
but bicycle does not	2. Loose motor wire	inhibitor(s) and retest
operate	connector	2. Check motor wire
		connector
Bicycle runs at full speed	1. Faulty sensor	1. Replace sensor and
without pedalling	2. Faulty throttle	retest
	3. Faulty controller	2. Replace throttle and
		retest
		3. Replace controller and
		retest
Battery indicates full	1. Poor contact between	1. Inspect and clean
charge when tested at	battery terminals	battery terminals
the charge port but	2. Loose connectors	2. Check all connectors
bicycle does not operate	3. Faulty controller	3. Replace controller
Throttle (on bicycle so	1. Grip jammed against	1. Reposition grip so gap
equipped) does not	throttle	between it and the
spring back to neutral	2. Faulty throttle	Throttle is 1-2mm
position	2. I daily mone	2. Replace throttle
position		2. Replace mome
Bicycle has intermittent	1. Loose connectors	1. Check all connectors
power	2. Damaged wires	2. Inspect all wires
Charger shows a full	1. Faulty charger	1. Replace charger
charge in an unusually	2. Faulty batteries	2. Replace batteries
short amount of time		
Indicator light on	1. Outlet has no power	1. Check outlet for power
charger not Illuminated	2. Faulty charger	2. Replace charger
when charger is plugged	2. Tudity charger	2. Replace charger
into outlet		
Charger indicator light	1. Damage wire from	1. Inspect wire
only flashes red and	charger port to battery	2. Replace batteries
never changes to green	2. Faulty batteries	
Patton ( and matting		1 Doulans chaustering t
Battery not getting	1. Charger port faulty.	1. Replace charging port
charged even after 3-4	2. Charger faulty.	2. Replace charger
hrs of charging	3. Battery faulty.	3. Replace batteries





Reclaim the Outdoors

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