

ELECTRIC TRICYCLE ASSEMBLY MANUAL

 **MOONCOOL**



OUR PRODUCT DISPLAY



ELECTRIC TRICYCLE

24/26 INCH 7 SPEED



TRICYCLE

24/26 INCH 1/7 SPEED



FOLDING TRICYCLE

20/24/26 INCH 7 SPEED



MOUNTAIN TRICYCLE

24/26 INCH 7 SPEED



MOUNTAIN TRICYCLE

24/26/27.5 INCH 7 SPEED



FOLDING BICYCLE

20 INCH 7 SPEED



CRUISER BICYCLE

26 INCH 7 SPEED



CRUISER BICYCLE

26 INCH 7 SPEED



MOUNTAIN BICYCLE

24/26/27.5 INCH 21 SPEED



MOUNTAIN BICYCLE

24/26/27.5 INCH 21 SPEED



MOUNTAIN BICYCLE

24/26/27.5 INCH 21 SPEED



MOUNTAIN BICYCLE

24/26/27.5 INCH 21 SPEED

Dear Customer

Thank you for purchasing our product! Please read these instructions carefully.

This manual will show you how to assemble your electric tricycle. Please read the manual and follow it. If you have any questions, it is recommended to ask a tricycle mechanic for help. You can also contact us via your shopping account.



Important Notes

This manual contains important information of safety, performance and maintenance. Please ensure that you have read and understood the following warnings and precautions before using the this product for the first time. Special tools and skills are required to assemble and adjust the tricycle for the first time. If possible, it is recommended that it be done by a certified tricycle mechanic.

If you lend your electric tricycle to others, please ask them to read this manual to minimize the possibility of accidents.

WARNING: Wear suitable and qualified helmets when riding, and fluorescent or reflective clothing at night.

WARNING: As it is impossible to predict every situation or condition that may occur during riding, this manual makes no representations about the safe use of tricycles under any circumstances. There are unpredictable or avoidable risks in using tricycles, which are borne by cyclists alone.

WARNING: Your existing insurance policies may not cover everything that could occur when using an electric tricycle. Please consult your insurance company or your insurance broker.

WARNING: Improper assembly of your electric tricycle may cause significant damage to the tricycle and even personal injury.

WARNING: The motor, controller, sensor, battery and various cables on the tricycle shall not be used for other purposes. Do not disassemble or modify these parts, as this may cause serious damage to them. It may also do harm to your personal safety.

Our tricycles come with a one-year warranty on all defective or damaged parts.

Service department is located in Covia, CA.

Service email address: mooncool@yeah.net.

If you contact us via this email, please send the order number of your purchase.

It is recommended to contact us through your purchase order account for the fastest resolution.

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1 ELECTRIC TRICYCLE PARTS

Check all parts of the tricycle before assembly. If any parts are missing or damaged, please contact us via your account order.







NO.	Part Name
1	Rear Transmission
2	Rear Axle
3	Rear Wheel
4	Rear Axle Parts
5	Frame
6	Chain
7	Chain Cover
8	Front Fender
9	Front Wheel
10	Rear Fender
11	Battery
12	Handlebar
13	Pedal
14	Saddle
15	Rear Basket
16	Basket Long Gasket
17	LED Lamp
18	Wheel Reflectors
19	Disc Brake
20	Rear Fender Reflectors



2 TOOLS

TIPS: You can choose to use other tools with better functionality for the installation.

	
<p>Allen wrenchs</p>	<p>Wrench</p>
	
<p>Wrench (for wheels)</p>	<p>Screwdriver</p>

3 ASSEMBLY STEPS

3.1 FIX THE REAR DERALLEUR TO THE REAR AXLE

Parts And Tools

Rear Derailleur	Rear Axle	Allen wrench
		

Assembly Steps



Ensure the screws and washers are in the correct position on the rear derailleur, and align with the axle hole correctly. Tighten the screws vertically to secure.



1. screw hole of the rear axle.



2. Put the bolt of the rear derailleur into the hole of the rear axle.



3. Tighten with a Allen wrench.




4. Finished


3.2 THE ASSEMBLING OF REAR WHEEL


Parts And Tools

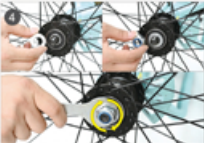
Assembled Parts	Rear Wheel	Nut caps	Wrench
			


Assembly Steps


- 


1. Differentiate the left or right wheel according to the shape of the screw hole.
- 


2. Differentiate the left or right of the rear axle according to the rear axle's ends shapes.
- 


3. Insert axle right end into the right wheel.
- 

4. Put the gasket, nut and tighten with a wrench.
- 

5. Put the metal tube on axle left end.
- 

6. Follow Step 3.
- 




7. Follow Step 4.
- 

8. Cover the rear axle nut caps.
- 


9. Finished


3.3 CONNECTING THE REAR AXLE TO THE FRAME


Parts And Tools


Assembling Parts	Frame	Wrench	Wrench
			


Assembly Steps


- 


1. Connect the rear axle and frame, as shown.
- 

2. Assemble rear axle and frame.
- 

3. Display
- 

4. Tighten the screws.
- 

5. Tighten the nuts.
- 

6. All screws and nuts are tightened.
- 

7. Finished.

3.4 THE ASSEMBLING OF FRONT FENDER AND LAMP

Parts And Tools



Assembly Steps



3.5 THE ASSEMBLING OF FRONT WHEEL

Parts And Tools



Assembly Steps



1. Assemble the gasket.



2. Assemble front fork.
(Note: Align green parts)



3. Assemble gasket.



4. Assemble screw nut.



5. Assemble plug.



6. Place two gaskets and front fork as shown.
Put front fork between two gaskets.



7. Assemble screw nut.



8. Assemble plug.



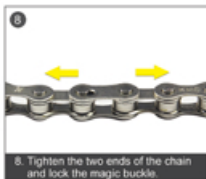
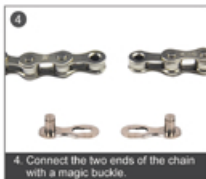
9. Finished.

3.6 THE ASSEMBLING OF CHAIN

Parts And Tools



Assembly Steps

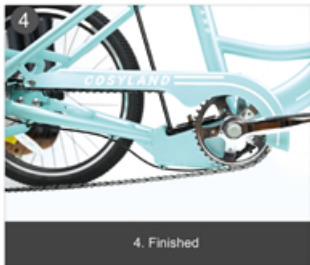
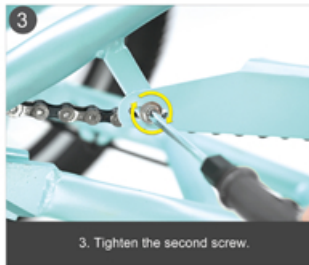
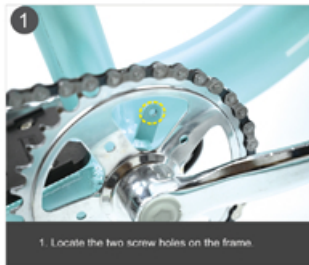


3.7 THE ASSEMBLING OF CHAIN COVER

Parts And Tools

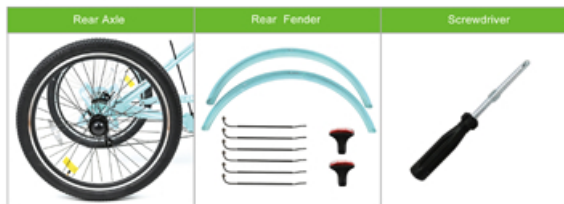
Assembly Parts	Chain Cover	Screwdriver
		

Assembly Steps



3.8 THE ASSEMBLING OF REAR FENDER

Parts And Tools



Assembly Steps



The number of screws differs from the types. Recommend to install as shown.

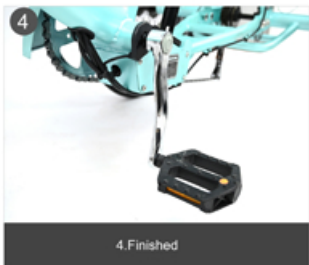
3.9 THE ASSEMBLING OF PEDAL

Parts And Tools



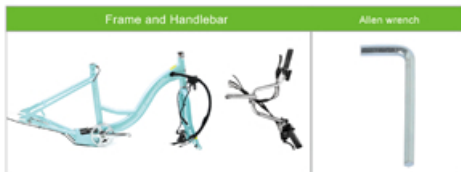
**PEDAL INSTALLATION
TORQUE FORCE 400 N.M**

Assembly Steps

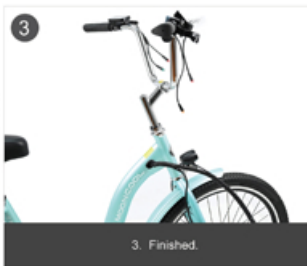
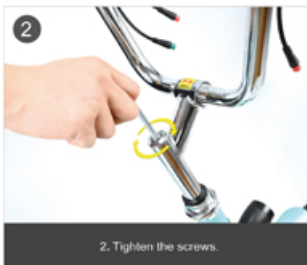


3.10 THE ASSEMBLY OF HANDLEBAR

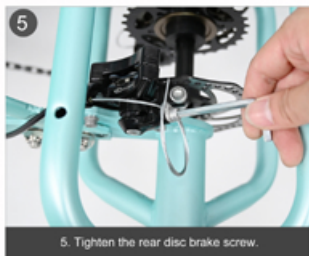
Parts And Tools



Assembly Steps



3.11 THE ASSEMBLING OF REAR BRAKE



3.12 THE ASSEMBLING OF FRONT BRAKE



1. Squeeze the brake lever, put the wire tip into the hole of the lever.



2. Rotate all parts of the brake until all the slots are in a straight line.



3. Pull the wire and rotate all parts of the brake to make sure the wire doesn't fall out.



4. Pass the wire through the front disc brake hole.



5. Tighten the front disc brake core and lock the screws.



7. Finished.



Figure 1

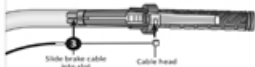


Figure 2

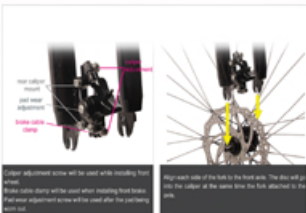


Figure 3

Connect the Brake Cable to the Brake Lever

If the brake cable is not connect to the brake lever follow these steps.

- 1 Rotate all parts of the brake until all the slots are in a straight line. Figure 1
- 2 Press the brake lever towards the grip.
- 3 Take the brake cable into the slots and place the cable head into the brake lever. Figure 2
- 4 Release the brake lever. Figure 3
- 5 Pull the cable and rotate all parts of the brake to make sure the cable doesn't fall out.



Caliper adjustment screws will be used when installing front brake.
Rear cable clamp will be used when installing front brake.
Rear caliper adjustment screws will be used after the parking brake is set.

Align each side of the fork to the front axle. The disc will go into the caliper at the same time the fork is attached to the axle.



Adjust caliper adjustment screws to set a relative distance between struts to each side of caliper.

Refriction should be offset to the outward side of the rear axle. Rear axle is 17/8" (21).

3.13 THE ASSEMBLING OF SHIFTER CABLE



Special Note:

- 1: When installing the transmission, the front shifter should be adjusted to the 7th speed.
- 2: When installing the transmission, the chain should be on the smallest free wheel.



1. Thread the transmission wire core through the wire tube.



2. Pass the derailleur cable through the screw hole in the figure



3. Press the derailleur cable under the gasket



4. Special Note: When installing the transmission, the front shifter should be adjusted to the 7th speed.



5. Special Note: When installing the transmission, the chain should be on the smallest free wheel.



6. Pull the cable to the tightest and tighten the nut.

3.13 THE ASSEMBLING OF SHIFTER CABLE

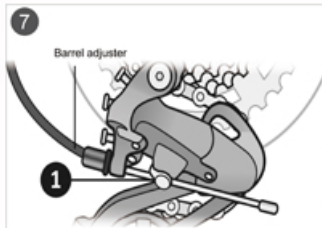


Figure 1

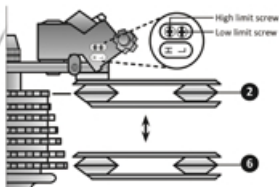


Figure 2

Adjusting the Rear Derailleur

The low limit screw determines how far the rear derailleur will travel toward the wheel of the bicycle, while the high limit screw determines how far the cage will travel away from the wheel.

- ① Shift the rear shifter to largest number indicated, disconnect the rear derailleur cable from the cable anchor bolt and place the chain on the smallest sprocket. Figure 1
- ② Adjust the high limit screw (H) so the guide pulley and the smallest sprocket are lined up. Figure 2
- ③ Reconnect the cable, pull out any slack, and retighten the anchor bolt securely.
- ④ Shift through the gears, making sure each gear achieved is done quietly and without hesitation. If necessary, use the barrel adjuster to fine tune each gear by turning it in the direction you want the chain to go. For example, turning clockwise will loosen the cable tension and move the chain away from the wheel, while turning counter-clockwise will tighten cable tension and direct the chain towards the wheel.
- ⑤ Shift the rear shifter to the gear one and place the chain on the largest cog.
- ⑥ Adjust the low limit screw (L) in quarter turn increments until the guide pulley and the largest cog are aligned vertically.
- ⑦ Again, shift through each gear several times, checking that each gear is achieved smoothly. It may take several attempts before the rear derailleur and cable is adjusted properly.

3.14 THE ASSEMBLING OF REFLECTORS

Parts And Tools



Assembling Steps



1. Attach the reflector to the spokes.



2. Insert the buckle into the hole of the reflector.



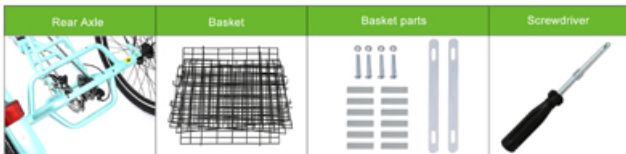
3. Tighten the buckle.



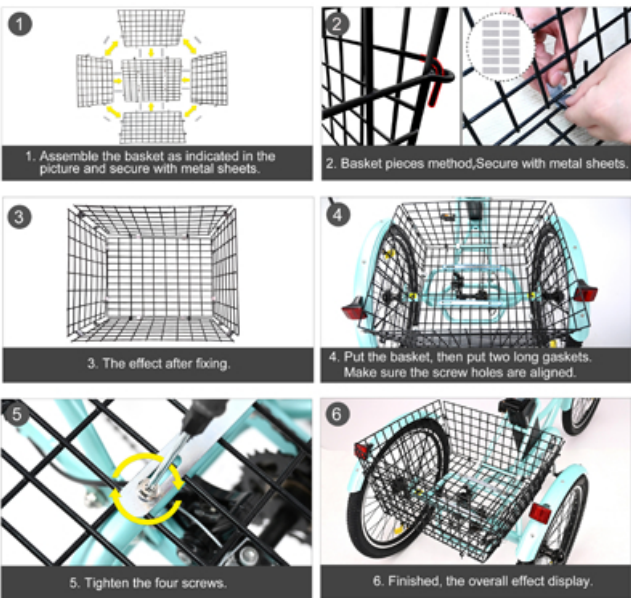
4. Finished, effect shows.

3.15 THE ASSEMBLING OF BASKET

Parts And Tools



Assembling Steps



3.16 THE ASSEMBLING OF SADDLE

Parts And Tools



Assembly Steps



3.17 INFLATE TIRES



1. Check the connection of hubs and tyres, make sure inner tubes don't exposure.



2. Dismantle the cover.



3. Connect the pump.
(Pay attention to air pressure)



4. Do not exceed the tire pressure marked on the outer tire when inflating.



Tire Inflation Operation Warning:

1. After getting the wheel, first deflate the tire, place the inner tube evenly in the outer tire, then install the edge of the outer tire to the inside of the rim.
2. Inflating the tire, when the air pressure reaches 180KPA(i.e. 50%),checking the two sides of the outer tire, whether the edge is completely inside the rim. If not, it needs to be deflated and adjusted again.
3. When the air pressure reaches 280-350KPA, the safety line between the outer tire and the rim contacting the edge evenly leaks out of the rim, and then the inflation is completed.

4 CIRCUIT CONNECTION

4.1 LED HEADLAMP CIRCUIT CONNECTION



1. Locate the connectors and distinguish the positive and negative poles.



2. Connect the cable with remark "+" to the positive connector (+). Connect the negative cable in the same way.

4.2 OTHER CIRCUIT CONNECTION

- WARNING:**
- 1. Make sure the color of the connector is the same.
 - 2. Assure the arrow sign on male & female connector in line before plug in.



1. Align and insert the connectors in the direction of the arrow. (Brake breaker: Red)



2. Align and insert the connectors in the direction of the arrow. (LED Display: Green)



3. Align and insert the connectors in the direction of the arrow. (Accelerator: Yellow)



4. Finish.

4.3 MOTOR CIRCUIT CONNECTION



1. Connect the motor connector, and pay attention to distinguish the plug interface type.



2. Insert the connector in the direction of the arrow. Complete installation.

4.4 THE ASSEMBLY OF POWER SUPPLY



WARNING: Turn off the power before you connect the circuit.



1. Pull out the battery rail.



2. Take out the slide rail on the battery and install it on the corresponding position of the frame.



3. Insert the battery and then lock the saddle.



4. Turn the key right to lock the battery.

5 OPERATION & FUNCTION

5.1 PURE ELECTRIC MODE



1. Turn on the power.



2. Press and hold the power button for 3 seconds, the display will light up. The default gear is 0. At this time, the vehicle is powered on in neutral.

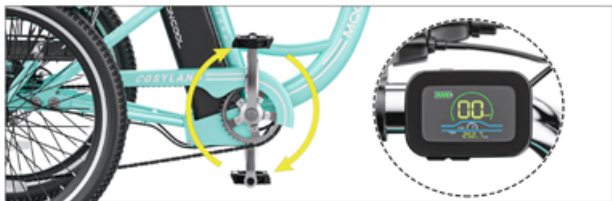


3. When in neutral, long press the button "-", the vehicle will initiate the auxiliary push forward function (going at a very slow speed), and the release will stop.



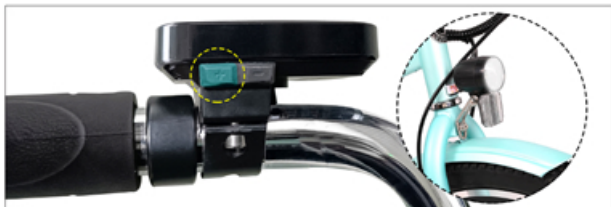
4. Press the "+" key below the display screen to enter the gear status (1-3 gears). At this time, press the acceleration handle, and the vehicle will move forward under the control of the handle.

5.2 ELECTRIC MODE AS ASSISTANCE



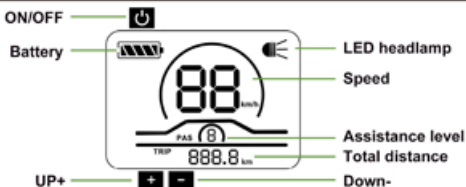
After startup, Press the button "+" to upshift. You can also get electric assistance by stepping on the pedal. Electricity and manpower will participate in riding together. If you stop pedaling, there will be no electric power. You can control the speed by upshift or downshift (The speed is the fastest when the gear is 3).

5.3 SWITCH THE LIGHT ON/OFF



Press the button "+" for 2 seconds to turn on the front light. If you want to switch it off, press the button again.

5.4 THE DISPLAY



Installation Instruction

Switch off the display before installing it on the left side of the handle. Please adjust the angle to make sure you can see it clearly.

General Operation

Switch the display on/off

To switch on the display, press and hold the switch button for 3 seconds. If you do it again, the system will be off.

If improper operation occurs, the user can switch off the display and restart. If the tricycle is not moved for about 10 minutes, the display will automatically turn off.

Speed Levels


When the control display is on, the speed level is 0. There are 3 speed levels. At level 0, it is pure electric mode. At the minimum power level 1, the riding assistance starts and you'll get the maximum power at level 3. You can change the speed level by using the + and - button.

Warning

1. Use the display with care. Please do not open the housing when the control display is switched on.
2. Avoid hitting the display with objects.
3. It is strictly forbidden to open the display and change the components or circuits.

6 BATTERY

6.1 CHARGING

 Always check the remaining power of your battery. If it is less than 20%, please charge your battery as soon as possible.



6 BATTERY

6.2 PRECAUTIONS AND GUIDELINES FOR THE BATTERY



Reading and understanding the following points can help you properly use, maintain, and store your battery, which is very important for improving the performance of your e-bike.

WARNING: If the battery stops working, use an appropriate charger to recharge the battery, as the lithium-ion battery can be severely damaged if fully discharged. Keeping the battery charged will help to preserve it. The battery can be fully charged in approximately 4-5 hours under normal conditions.

WARNING: Improper removal, maintenance or storage of the battery may result in serious consequences. It is strictly prohibited to use the battery of your electric tricycle for other vehicles or devices, which may result in serious consequences such as fire, serious bodily injury or death.

WARNING: Never short-circuit the battery which may result in an explosion, fire, and serious harm to your health.

WARNING: Do not use the battery if it gives off an odor, generates heat, becomes discolored or deformed, or appears abnormal in any way. If the battery is in use or being recharged, remove it from the device or charger immediately and discontinue to use it.

NOTE: Do not place any objects on the battery and charger during charging as this may cause overheating and serious consequences.

CAUTION: Never charge for more than 12 hours to avoid overcharging.

WARNING: Please charge with the supplied battery. If you use other chargers, the battery may be damaged, resulting in fire, injury or death.

WARNING: Do not pierce the battery case with nails or other sharp objects. Do not crack the battery case with a hammer or step on it.

TIP: You can recharge your battery at any time. If you do not charge the battery in time, the performance and life of the battery will be influenced. The service life of the battery can be extended through proper use and maintenance, but the reduction of total capacity is inevitable.

6 BATTERY

6.3 FACTORS INFLUENCING THE RANGE

Factors influencing the range of your electric tricycle

- Life and state of charge of the battery.
- External temperatures.
- Tire pressure.
- The rider's weight.
- Riding style and choice of assistance level.
- Road/ path conditions.
- Weather conditions.
- Frequent stops and restarts.
- Cleanliness and inertness of bearings and all moving parts.

6.4 RANGE OPTIMISATION

- Fully charge the battery.
- Check tire pressure.(recommended depending on body weight, load and route profile)
- Reduce the load.
- Do not ride too fast.
- Maintain a constant speed.

6.5 LONG TIME STORAGE

If stored for a long time(Don't use it over three months.),the battery should be stored in a dry and cool place. The battery should be stored at a temperature of 23+ and a humidity of 45%-75%.

Long-term unused batteries should be charged every 3 months.

6.6 DISPOSAL OF WASTE BATTERIES

According to the battery law, we are obliged to inform you. Regarding the sale of batteries or the delivery of equipment containing batteries/rechargeable batteries/lamps, we are obliged to inform you of the following.

Do not dispose of your old device in the household waste! You are legally obligated to return used batteries/rechargeable batteries/lamps as the end user. In the case of a removable battery/accumulator or illuminant, you must return them separately to the appropriate return system. You can return used devices/batteries/lamps to the collection points of the public waste disposal authorities.



7 TROUBLESHOOTING

7.1 BASIC TROUBLESHOOTING

Symptoms	Possible Causes	Most Common Solutions
The bike does not work.	<ol style="list-style-type: none">1. Insufficient battery power and faulty connections.2. Battery not fully seated in the tray.3. Improper sequence to turn on.4. Brakes are applied.5. Blown discharge fuse.	<ol style="list-style-type: none">1. Charge the battery.2. Clean and repair the connectors.3. Install battery correctly.4. Turn on the e-bike in proper sequence.5. Disengage brakes.6. Replace discharge fuse.
Irregular acceleration and/or reduced top speed.	<ol style="list-style-type: none">1. Insufficient battery power.2. Loose or damaged acceleration handle.	<ol style="list-style-type: none">1. Charge or replace the battery.2. Replace the acceleration handle.
The motor does not respond when the bike is powered on.	<ol style="list-style-type: none">1. Loose wiring.2. Loose or damaged acceleration handle.3. Loose or damaged motor plug wire.4. Damaged motor.	<ol style="list-style-type: none">1. Repair and/or reconnect.2. Tighten or replace.3. Secure or replace.4. Repair or replace.
Reduced range.	<ol style="list-style-type: none">1. Low tire pressure.2. Low or faulty battery.3. Driving with too many hills, headwind, braking, and/or excessive load.4. Battery discharged for a long period of time without regular charges, aged, damaged, or unbalanced.5. Brakes rubbing.	<ol style="list-style-type: none">1. Adjust tire pressure.2. Check the connections or charge the battery.3. Assist with pedals or adjust the route.4. Balance the battery; contact mechanic if reduced range persists.5. Adjust the brakes.
The battery can not be charged.	<ol style="list-style-type: none">1. Charger not well connected.2. Charger damaged.3. Battery damaged.4. Wiring damaged.5. Blown charge fuse.	<ol style="list-style-type: none">1. Adjust the connections.2. Replace.3. Replace.4. Repair or replace.5. Replace charge fuse.
The wheels or motor make strange noises.	<ol style="list-style-type: none">1. Loose or damaged wheel spokes or rim.2. Loose or damaged motor wiring.	<ol style="list-style-type: none">1. Tighten, repair, or replace.2. Reconnect or replace the motor.

7 TROUBLESHOOTING

7.2 ERROR DETECTION

Your electric tricycle is equipped with an error detection system integrated into the display and controller. If the electronic control system breaks down, an error code should be displayed. The following error codes are the most common and can aid in troubleshooting. If your electric tricycle has an error code displayed at any time, it is recommended that you cease operation and contact us immediately.

Error code definition table

Fault Code	Fault Name	Fault Code	Fault Name
E021	Abnormal current.	E024	Hall component failure.
E022	Acceleration handle failure.	E025	Brake handle failure.
E023	Motor phase loss.	E030	Communication failure.

- 1) The communication error is because the instrument cannot detect the reply of the controller data within 10 seconds. Possible causes are as follows: ❶ The communication wire harness of the display screen and the controller is wrongly connected or broken. ❷ The controller does not match with the instrument protocol. ❸ The display communication circuit is burnt.
- 2) Possible causes of Hall component failure: ❶ Hall sensor of motor is damaged. ❷ Hall wire is wrongly connected or not connected properly.
- 3) Possible causes of acceleration handle failure: ❶ The handle does not return to its original position. ❷ The handle is not connected properly. ❸ The handle is damaged.
- 4) Possible causes of motor phase failure: ❶ Motor phase line is not well connected or wrongly connected. ❷ Short circuit between motor phase lines.
- 5) Possible causes of brake failure: ❶ The brake handle does not return. ❷ The brake is not properly connected or damaged.
- 6) Possible causes of abnormal current: The MOS of the controller is damaged or abnormal.

7.3 ADDITIONAL INFORMATION ABOUT WEAR

Components of the electric tricycle are subject to higher wear when compared with tricycles without power assistance. This is because the electric tricycle can travel at a higher average speed than regular tricycles and has a greater weight. Higher wear is not a defect of the product .

When the useful life of a component is surpassed, it can cause unexpected loss of function, which can result in serious injuries or even death. Therefore, pay attention to the wear characteristics such as cracks, scratches and changes in the color of components or operation, which could indicate the useful life has been exceeded. Worn components should be replaced immediately. If you are unfamiliar with regular maintenance, a certified electric tricycle mechanic should be consulted.



8 DATA SHEET

Main parameters of vehicle

Maximum speed:	25km/h
Maximum permissible load:	150kg

Main battery parameters

Battery type:	Lithium-ion
Nominal voltage:	36V
Nominal Capacity:	10.4Ah

Main parameters of the motor

Front wheel hub motor	
Power:	≤350W
Voltage:	36V

Controller parameters

Undervoltage protection value:	31V
Overvoltage protection value:	18A

Battery charger

Input voltage:	AC 100-240V~50/60Hz 2.5A
Output voltage:	42V DC
Output current:	2A

9 WARNING & SAFETY

1 Safety

SAFETY SIGNAL WORDS

The following safety signal words indicate a safety message. The symbol alerts you to potential hazards. Failure to follow the warning may result in damage to property, injury, or death.

This manual contains many Warnings and Cautions concerning the consequences of failure to follow safety warnings. Because any fall can result in serious injury or even death, we do not repeat the warning of possible injury or death whenever the risk of falling is mentioned.

⚠ WARNING!

Indicates a hazard or unsafe practice that will result in severe injury or death. Failure to read, understand and follow the safety information in this manual may result in serious injury or death.

⚠ CAUTION!

Indicates a hazard or unsafe practice that could result in minor injury.

NOTICE

Indicates a hazard unrelated to personal injury, such as property damage.

USER RESPONSIBILITY

⚠ WARNING!

Do not install any kind of power plant or internal combustion engine to a bicycle. Adapting a bicycle in this manner poses an extreme safety risk to rider and could result in loss of control or death.

All persons assembling, using, and maintaining the bicycle must read and understand the safety warnings and operating instructions in this manual before using the bicycle.

It is the responsibility of the user, or in the case of a child rider, an adult, to ensure the bicycle is properly maintained and in proper operating condition. Doing so will reduce the risk of injury. Always conduct regular maintenance and inspection of your bicycle. Complete the Safety Checklist at the end of this section before each use.

A responsible adult must always supervise the use of the bicycle by a child. You must ensure:

- The child is wearing the proper protective attire and approved bicycle helmet.
- The child is seated securely and the bicycle is properly fitted to the child.
- The child understands applicable laws and common sense rules of safe responsible bicycling.

Quick-release Levers

⚠ WARNING!

Improper setup or maintenance of the quick-release levers may result in an unexpected movement, loss of control, and serious injury or death. Before riding always check that the quick-release lever is firmly locked in place and the seat does not move.

Wheels

- 1 Some bicycles will come equipped with quick-release levers for the front wheel. The wheels must be securely locked. Ensure the wheel quick-release lever is firmly locked in place. **Figure 1**

Seat Post

- 2 Ensure the seat post's **minimum insertion marks** are not visible above the quick-release seat clamp and the clamp is locked in place.

Note: See **Section 4: Adjusting the Seat Height** if adjustments are needed.

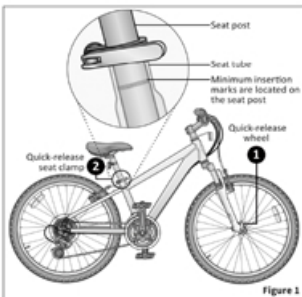


Figure 1

9 WARNING & SAFETY

PERSONAL SAFETY

WARNING!

Riding a bicycle without protective gear, clothing, or a helmet may result in serious injury or death. Always wear protective gear, clothing, and helmet when riding the bicycle. Ensure protective gear does not interfere with steering, braking, and pedaling.

Protective Gear and Clothing

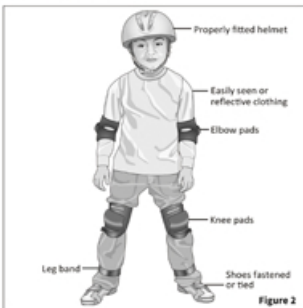
Always wear: Figure 2

- Colors that are easily seen and, if possible, reflective clothing.
- Clothing appropriate for the weather conditions.
- Use of protective gear such as pads for the knees and elbows is highly recommended for children.
- A properly fitted, ASTM or SNELL approved, bicycle helmet shall be worn at all times by riders of the bicycle.

Do not wear:

- Loose clothing parts, strings, or jewelry that may become entangled with moving parts on the bicycle or interfere with handling of the bicycle.

- Pants with loose pant legs. If necessary, always tuck pant legs into a sock or use a leg band to avoid the clothing becoming caught in the drive chain.
- Shoes with untied shoe laces.



Helmet Use

Important! Many states and provinces have passed helmet laws. Make sure you know your state's helmet laws. It is your job to enforce these rules with your children. Even if your state/province does not have a children's helmet law, it is recommended that everyone wear a helmet when cycling. When riding with a child carrier seat or trailer, children must wear a helmet.

It is strongly advised that a properly fitting, ASTM or SNELL approved, bicycle safety helmet be worn at all times when riding your bicycle. In addition, if you are carrying a passenger in a child safety seat, they must also be wearing a helmet.

The correct helmet should: Figure 3

- Be comfortable
- Have good ventilation
- Fit correctly
- Cover forehead

Incorrect helmet position: Figure 4

- Helmet **does not** cover the forehead



9 WARNING & SAFETY

Reflectors

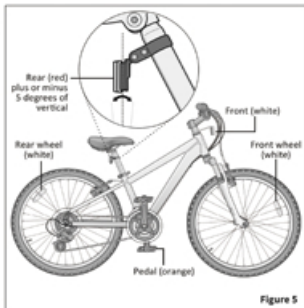
⚠ WARNING!

Missing, damaged, or dirty reflectors will affect the ability of others to see and recognize you as a moving bicyclist, increasing the risk of being hit, serious injury or death. Always check the reflectors are in place and make sure they are clean, straight, unbroken and securely mounted before riding the bicycle.

Important! Federal regulations require every bicycle over 16 inches to be equipped with front, rear, wheel, and pedal reflectors. Many states require specific safety devices. It is your responsibility to familiarize yourself with the laws of the state where you ride and to comply with all applicable laws, including properly equipping yourself and your bike as the law requires. Bicycles under 16 inches are considered "sidewalk bicycles" and may not be fitted with reflectors. These bicycles should **not** be ridden on streets, at night or unsupervised by an adult.

Check and confirm the front and rear reflectors are in the correct position: **Figure 5**

- **Front Reflector:** Should aim forward (when viewed from above) and be mounted so it is within 5 degrees of vertical.
- **Rear Reflector:** Should aim straight back (when viewed from above) and be mounted so it is within 5 degrees of vertical.



RIDING SAFETY

⚠ WARNING!

Riding the bicycle in unsafe conditions (i.e. at night), in an unsafe manner, or disregarding traffic laws may result in an unexpected movement, loss of control, and serious injury or death.

General Safety

- Familiarize yourself with all the bicycle's features before riding. Practice gear shifts, braking, and the use of toe clips and straps, if installed.
- Always ride defensively in a predictable, straight line. Never ride against traffic.
- Expect the unexpected (e.g., opening car doors or cars backing out of concealed driveways).
- Take extra care at intersections and when preparing to pass other vehicles.
- Maintain a comfortable stopping distance from all other riders, vehicles and objects. Safe braking distances and forces are subject to the prevailing weather conditions. Do not lock up the brakes. When braking, always apply the rear brake first, then the front. The front brake is more powerful and if it is not correctly applied, you may lose control and fall.
- Always use the correct hand signals to indicate turning or stopping.
- Obey the traffic laws (e.g., stopping at a red light or stop sign, giving way to pedestrians).

- Wear proper riding attire, reflective if possible, and avoid open toe shoes.
- Do not use items that may restrict your hearing and vision.
- Do not carry packages or passengers that will interfere with your visibility or control of the bicycle.

Road Conditions

- Be aware of road conditions. Concentrate on the path ahead. Avoid pot holes, gravel, wet road markings, oil, curbs, speed bumps, drain grates and other obstacles.
- Cross train tracks at a 90 degree angle or walk your bicycle across.

Wet Weather

- When riding in wet weather always wear reflective clothing and use safety lights to enhance visibility.
- Exercise extreme caution when riding in wet conditions.
- Ride at a slower speed. Turn corners gradually and avoid sudden braking.
- Brake earlier, it will take a longer distance to stop.
- Pot holes and slippery surfaces such as line markings and train tracks all become more hazardous when wet.

9 WARNING & SAFETY

Night Riding

- **Important!** Riding a bicycle at night is **not** recommended. Check your local laws regarding night riding.
- Ensure bicycle is equipped with a full set of correctly positioned and clean reflectors.
- Use a white light on the front and a red light on the rear. Use lights with flashing capability for enhanced visibility.
- If using battery powered lights, make sure batteries are well charged.
- Wear reflective and light colored clothing. Wear reflective clothing and use safety lights for increased visibility.
- Ride at night only if necessary. Slow down and use familiar roads with street lighting.

Hill Technique

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

BEFORE YOU RIDE SAFETY CHECKLIST

Before every ride, it is important to carry out the following safety checks. Do not ride a bicycle that is not in proper working condition!

Accessories

- The reflectors are properly placed and not obscured.
- All other fittings on the bike are properly and securely fastened, and functioning.
- The rider is wearing a properly fitted helmet (protective gear if necessary) and that clothing and loose items are properly constrained.

Bearings

- All bearings are lubricated, run freely and display no excess movement, grinding or rattling.

Brakes

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

Cornering Technique

- Brake slightly before cornering and prepare to lean your body into the corner.
- Maintain the inside pedal at the 12 o'clock position and slightly point the inside knee in the direction you are turning.
- Keep the other leg straight, do not pedal through fast or tight corners.
- Decrease your riding speed, avoid sudden braking and sharp turns.

Safe Riding Rules for Children

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

Chain

- The chain is oiled, clean and runs smoothly.

Crank and Pedals

- The pedals are securely tightened to the crank arms.
- The crank arms are secured to the axle and are not bent.

Frame and Fork

- The frame and fork are not bent or broken.
- The quick-release clamps are locked in place.

Steering

- The handlebar and post are correctly adjusted and tightened, and allow proper steering.
- The handlebars are set correctly in relation to the forks and the direction of travel.
- The handlebar binder bolt is tightened.

Wheels and Tires

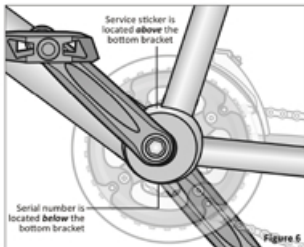
- The rims do not have dirt or grease on them.
- The wheels are properly attached to the bicycle and axle.
- The tires are properly inflated within the recommended pressures displayed on the tires sidewall.
- The tires have the proper amount of tread, no bulges or excessive wear.

9 WARNING & SAFETY

2 Adjustments

After your bicycle is assembled you will need to make adjustments. If you need replacement parts or have questions pertaining to the assembly of your bicycle, contact us with e-mail mooncool@yeah.net we will reply within 24 hours.

Note: You will need your model number and date code located on the service sticker near the bottom bracket area. **Figure 6**



Adjusting the Disc Brake

▲ WARNING!

- Disc brakes are sharp, keep fingers away from the brake caliper and rotor. If fingers contact the disc brake while the wheel is turning serious injury may occur.

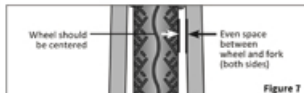
Important! Different types of disc brakes may require specific adjustments not covered in this section. If you are unsure of what needs to be done see a **qualified bicycle mechanic**.

Misalignment of the disc brake may be due to the following:

- The wheel is not centered.
- The caliper body is misaligned.
- The brake pads are not centered.

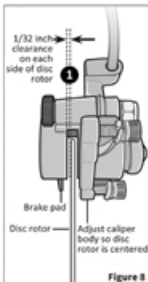
Center the Wheel

- 1 Rotate the wheel and look at the gap between the rim and fork. If the gap is uneven, loosen the axle nuts and adjust until the wheel and disc rotor are centered. **Figure 7**



Realign the Caliper Body

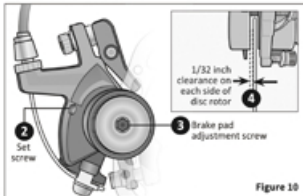
- 1 Using a 5 mm Allen wrench, loosen the two centering adjustment screws. Adjust the caliper body until the gap between the disc rotor and the brake pads in the caliper body is even ($1/32''$ per side). **Figure 8**
- 2 Tighten the centering adjustment screws.



9 WARNING & SAFETY

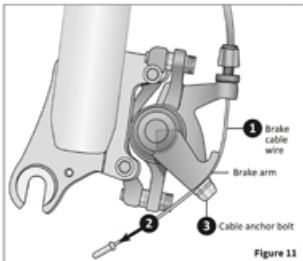
Center the Brake Pads

- 1 Insert a $1/32$ " spacer gage between the disc rotor and brake pad. **Figure 10**
- 2 Using a 2.5 mm Allen wrench, loosen the set screw.
- 3 Using a 5 mm Allen wrench, turn the brake pad adjustment screw to move the brake pad. Turning the pad clockwise moves it towards the disc rotor, counterclockwise moves the pad away from the disc rotor.
- 4 Adjust the pad until the gap between the disc rotor and the brake pads are even ($1/32$ " per side).
- 5 Re-tighten the set screw.



Attaching the Brake Cable to the Brake Arm

- 1 If the brake cable wire is not attached to the brake arm then loosen the cable anchor bolt until you can see a gap large enough for the brake cable wire. **Figure 11**
- 2 Pull on the brake cable wire and place it under the cable anchor bolt.
- 3 Tighten the cable anchor bolt. **Note:** The brake cable should not be "pulling" on the brake arm.



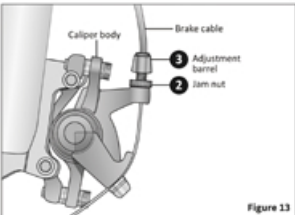
Adjusting the Cable Tension

- 1 Check that the brake cable tension allows the brake lever about $1/3$ of the travel before the brake pads contact the disc rotor. If the cable has stretched or slipped, re-adjust the brake cable tension. **Figure 12**
- 2 At the caliper body, or brake lever, slightly loosen the jam nut that is next to the adjustment barrel. **Figure 13**
- 3 Turn the adjustment barrel to adjust the cable tension. Turning clockwise will loosen the brake cable tension, counter-clockwise will tighten the brake cable tension.
- 4 Re-check that the brake cable tension allows the brake lever about $1/3$ of the travel before the brake pads contact the disc rotor. When you have the brake tension you want then tighten the jam nut.

Brake is correctly adjusted when:

- The brake pads do not drag on the disc rotor.
- Both brake pads move away from the disc rotor equally when the brake is released.
- When the brake is applied, the brake pads contact the disc rotor before the brake lever reaches about $1/3$ of the way to the handlebar.

After brake adjustment, squeeze the brake lever as hard as you can several times and re-inspect if the wheel and brake pads are centered. If necessary, repeat brake adjustments.



9 WARNING & SAFETY

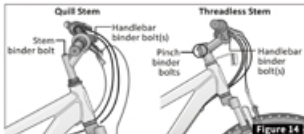
ADJUSTING THE HANDLEBAR

⚠ WARNING!

- Improper adjustment of the handlebar may result in damage to the stem post, steering tube and result in loss of control, serious injury or death. Ensure the **minimum insertion marks** on the stem post are **not** visible above the top of the headset.
- Failure to properly tighten handlebar components may result in loss of control, serious injury or death. Always check the handlebar cannot move and is secured to the frame before riding the bicycle.

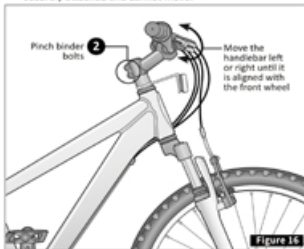
Adjusting the Handlebar Height

Instructions for adjusting the handlebar height depend on whether your bicycle has a **quill** or **clamp (threadless) stem**. **Figure 14**



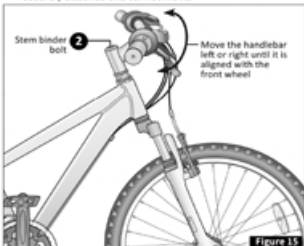
Align the Handlebar (with threadless stem)

- Stand in front of the handlebar and hold the front wheel between your legs.
- Using an Allen wrench, loosen the pinch binder bolts and move the handlebar left or right until it is aligned with the front wheel. **Figure 16**
- Tighten the stem binder bolt and check the handlebar is securely attached and cannot move.



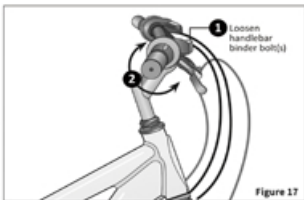
Align the Handlebar (with quill stem)

- Stand in front of the handlebar and hold the front wheel between your legs.
- Using an Allen wrench, loosen the stem binder bolt and move the handlebar left or right until it is aligned with the front wheel. **Figure 15**
- Tighten the stem binder bolt and check the handlebar is securely attached and cannot move.



Adjust the Handlebar Angle (all stem types)

- Using an Allen wrench loosen the handlebar binder bolt(s). **Figure 17**
- Rotate the handlebar into the desired position.
- Check that the handlebar is centered to the frame and front wheel. Sit on the seat and check your reach to grips, shifters and brakes. Refer to **Section 1, Fig. 1.2: Seat Height and Handlebar Reach** for guidelines.
- Tighten the handlebar binder bolt(s) and check the handlebar is securely attached and cannot move.



9 WARNING & SAFETY

Adjusting a Threadless Headset

Threadless headsets are similar to threaded headsets, they use two sets of bearings and bearing cups. Unlike a threaded headset, a threadless headset does not have an upper threaded race or use a threaded steerer tube. Instead the steerer tube extends from the fork all the way through the head tube and above the headset and is held in place by the stem clamped on top.

Conduct the following checks to determine if there is play in the headset:

- 1** **Shakiness:** Apply the front brake and push the handlebars back and forth, front to back or if the bicycle is on a workstand and the front wheel removed, push and pull on the forks. If you feel a knocking sensation or "clunk" it means the headset is too loose. **Important!** Use care with suspension forks, because the legs may have play in sliders. Grab upper portion of fork. **Figure 18**
- 2** **Stiffness:** Lift the front of the frame so the front wheel is off the ground. The handlebar and wheel should flop to one side or another. If there is drag or binding the headset is too tight.

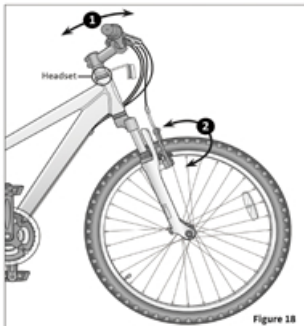


Figure 18

- 1** Loosen the top cap bolt and remove the top cap.

Important! Do not disassemble the headset or loosen any parts. Be sure the end of the fork is on the ground or being held with your free hand, because once you loosen the top cap the fork assembly may fall out of the frame. **Figure 19**

- 2** Check that the gap between the top of the steerer tube and top of the stem is between 3 - 5 mm (1/8" - 3/16").

Figure 20

If the gap is not correct add or remove spacers until it is. The stem needs to press down on the spacers in order to adjust the bearings. If the gap is correct then re-install the top cap and tighten the top cap bolt until it is snug. **Do not over tighten.**

- 3** Slightly loosen the stem pinch bolts. The stem probably won't move but make sure the stem remains aligned with the fork and wheel.
- 4** Re-install and tighten the top cap down with a 1/4 to 1/2 turn of the top cap screw and test for shakiness in the headset. If there is still play in the headset then turn the top cap bolt another 1/4 to 1/2 turn. Repeat this process until the shakiness is gone.
- 5** Lift up the front wheel of the bicycle, if the wheel **does not** move freely left to right the top cap bolt is too tight. If this is the case turn the top cap bolt back some.

- 6** Repeat steps 3 and 4 until there is no play in the headset. If the play in the headset cannot be rectified with these adjustments see a **qualified bicycle mechanic for these repairs.**

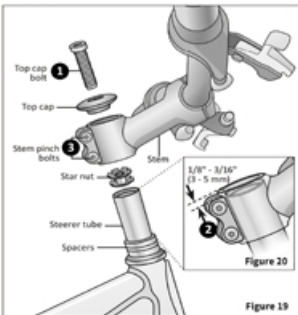


Figure 20

Figure 19

9 WARNING & SAFETY

3 Use

⚠ WARNING!

Failure to follow all local and state regulations and laws pertaining to bicycle use as well as the safety warnings in this manual may result in serious injury or death. Always follow all local and state regulations and laws pertaining to bicycle use, follow the safety warnings in this manual and use common sense when riding the bicycle. Always conduct a pre-ride check of the bicycle condition before riding.

BRAKE OPERATION

⚠ WARNING!

- If the front brake is applied too quickly or too hard, the front wheel can stop turning resulting in a front pitch over or cause the bicycle to lose steering function leading to a crash.
- Disc brake rotors become hot during use and can burn the skin if contacted. Do not touch or come in contact with the disc rotor when it is hot. Allow it to cool before touching.

Hand operated brakes have a separate hand lever to operate front and rear brakes. Front hand brake levers are located on the left side of the handlebar, and rear hand brake levers are located on the right side of the handlebar. **Figure 21**

GEAR OPERATION

⚠ WARNING!

Improper shifting can result in the chain jamming, or becoming derailed resulting in loss of control, serious injury or death. Always be sure the chain is fully engaged in the desired gear before pedaling hard. Avoid shifting while standing up on the pedals or under load.

Multi speed bicycles can have *internal* or *derailleur* gear systems.

Important! Best practices for proper shifting:

- Pedal the bicycle with little pressure on the pedals, and move the shifter one gear at a time, ensuring that the chain is fully engaged in that gear before applying more pressure on the pedals.
- For bicycles with 3 front chain rings; avoid "Cross Chaining", which is the position when the chain is in the smallest cog in the rear combined with the inner or smallest chain ring in the front, or the largest cog in the rear and the outer or largest chain ring in the front. These gear positions put the chain at the most extreme angle and can cause premature wear to the drivetrain. Bicycles with 3 front chain rings have enough gear "overlaps" that these gears are not needed. **Figure 22**
- It is OK to ride the whole time in only one gear if this is comfortable.
- Shift only while pedaling forward and seated. When shifting, lessen the pressure exerted on the pedals during the shift.

You may operate one brake at a time, or all together, however, be careful to pay close attention to front brakes locking up. To avoid this:

- Apply both brakes simultaneously, while shifting your body weight back slightly to compensate for braking force.
- As terrain changes, the rider must practice and learn how the bicycle will respond in a new terrain or weather change. The same bicycle will react differently if it is wet, or if there is gravel on the road etc.
- Always test the brakes and be sure you feel comfortable with the reaction. If the riding conditions are too steep (off road for example) and you are unsure, dismount the bicycle and walk past the questionable terrain before riding again.
- Remember that as you apply the brakes your weight will want to shift forward, and the wheels will want to stop.

Note: See **Section 4: Adjusting the Brakes** for information on brake adjustment.

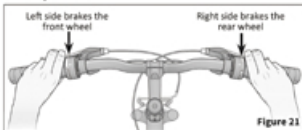


Figure 21

- Once you have successfully shifted gears, it is OK to start to pedal hard if desired.
- Pedaling hard while shifting can cause the chain to skip and not engage the appropriate gear.
- Backpedaling should be avoided on derailleur bikes because the chain can jam and cause the bike to become unstable. See **Section 4: Adjusting the Derailleur** for further information on proper gear adjustment.

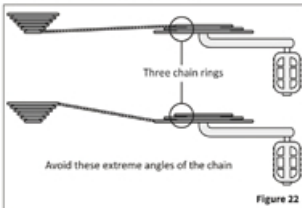


Figure 22

9 WARNING & SAFETY

Using the Rear Shifter

The rear shifter (right) will have an indicator that reads either **low to high** or a series of numbers from 1 and up. Low or "1" is the lowest gear. This is used for slower riding, hill climbing, or to allow for easier pedaling. It is recommended to start off in this gear and move through the gears as speed increases as needed, or comfortable.

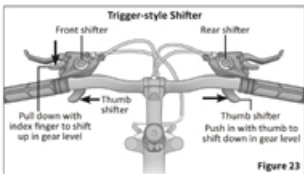
Using the Front Shifter

Note: Not all models have a front shifter. The front (left) shifter will have an indicator that reads either **low to high** or a series of numbers from 1 and up. Low or "1" is the lowest gear. The front shifter acts much like the rear shifter, but the change between gears is greater. This means that one shift at the rear derailleur will be a subtle change in pedaling speed, but one shift at the front derailleur will be a large change in pedaling speed. Think of the front shifter as a range; **low and high** or **low, medium, and high**. Low is used for slower riding, hill climbing, or to allow for easier pedaling. It is recommended to start off in this gear and move through the gears as speed increases as needed, or comfortable.

To Use the Trigger-style Shifter

Rear shifter: Use your index finger to shift up to a higher gear, and your thumb to shift down to lower gear.

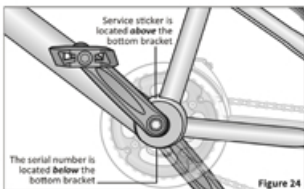
Left shifter: Use your index finger to shift down to a lower gear, and your thumb to shift up to higher gear. **Figure 23**



SECURITY

You just bought a new bicycle! Don't lose it. It is advisable that the following steps be taken to prepare for and help prevent possible theft:

- Maintain a record of the bicycle's serial number, generally located on the frame underneath the bottom bracket. **Figure 24**
- Register the bicycle with the local police and/or bicycle registry.
- Invest in a high quality bicycle lock that will resist hacksaws and bolt cutters.
- Always lock your bicycle to an immovable object if it is left unattended. Keep in mind that individual parts of a bicycle may be stolen. Most commonly, if you lock just a wheel or just the frame, other parts may be removed from the bicycle. Although it is impossible to lock all the parts, it is suggested to lock the major components if possible. **Figure 25**
- Use a lock that is long enough to lock the frame and both wheels if possible. Some models with quick-release front wheels allow the front wheel to be placed beside the frame so a smaller lock can be used to lock all 3 components.
- Be aware that a quick-release seat post can be stolen. It is recommended to remove the seat post and saddle and carry it with you if you believe that this is a risk.



9 WARNING & SAFETY

4 Maintenance

▲ WARNING!

- Failure to conduct maintenance on the bicycle may result in malfunction of a critical part and serious injury or death. Proper maintenance is critical to the performance and safe operation of the bicycle.
- The recommended intervals and need for lubrication and maintenance may vary depending on conditions the bicycle is exposed to. Always inspect the bicycle and conduct necessary maintenance before each use of the bicycle.

This section presents important information on maintenance and will assist you in determining the proper course of action to take if you do have a problem with the operation of the bicycle. If you have questions regarding maintenance please contact us with e-mail mooncool@yeah.net. **Do not** call the store where the bicycle was purchased.

Correct routine maintenance of your new bike will ensure:

- Smooth running
- Longer lasting components
- Safer riding
- Lower running costs

BASIC MAINTENANCE

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

- For painted frames, dust the surface and remove any loose dirt with a dry cloth. To clean, wipe with a damp cloth soaked in a mild detergent mixture. Dry with a cloth and polish with car or furniture wax. Use soap and water to clean plastic parts and rubber tires. Chrome plated bikes should be wiped over with a rust preventative fluid.
- Store your bicycle under shelter. Avoid leaving it in the rain or exposed to corrosive materials.
- Riding on the beach or in coastal areas exposes your bicycle to salt which is very corrosive. Wash your bicycle frequently and wipe or spray all unpainted parts with an anti-rust treatment. Make sure wheel rims are dry so braking performance is not affected. After rain, dry your bicycle and apply anti-rust treatment. If the hub and bottom bracket bearings of your bicycle have been submerged in water, they should be taken out and re-greased. This will prevent accelerated bearing deterioration.
- If paint has become scratched or chipped to the metal, use touch up paint to prevent rust. Clear nail polish can also be used as a preventative measure.
- Regularly clean and lubricate all moving parts, tighten components and make adjustments as required.

LUBRICATION SCHEDULE

Component	Lubricant	Method
Weekly		
Chains	Chain lube or light oil	Brush on or squirt
Brake calipers	Oil	Three drops from oil can
Brake levers	Oil	Two drops from oil can
Freewheel	Oil	Two drops from oil can
Derailleur Systems	Light oil or grease	All pivot points should be lubricated (more often in severely rainy or muddy conditions). Wipe off any excess oil.
Brake cables	Lithium based grease	Remove cable from casing. Grease entire length. Wipe off excess lubrication from other surfaces.
Brake lever and caliper pivot points	Light oil	Two to three drops from oil can
Shifting cables	Thin layer of grease	Clean and grease
Yearly		
Bottom bracket	Lithium based grease	Disassemble
Pedals	Lithium based grease	Disassemble
Wheel bearings	Lithium based grease	Disassemble
Headset	Lithium based grease	Disassemble
Seat stem	Lithium based grease	Disassemble
Pedals: that can be disassembled		See bicycle mechanic for maintenance.

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 chains (WD-40®).

9 WARNING & SAFETY

PARTS MAINTENANCE

Tires

Frequency: Inspect and maintain at least each use.

Inspect	Action	Maintenance
Tire Inflation	Check tire pressure.	Inflate tire to the pressure indicated on the tire sidewall. See "Inflating a Tire Tube" for more detail. If the tire is flat see "Fixing a Flat Tire" for more detail.
	Check the bead is properly seated while inflating or refitting the tire.	Reduce air pressure in the tube and re-seat the bead.
	Spin wheel and check rotation / alignment is smooth and even.	Loosen axle nut[s] and adjust until properly seated. If the hub bearings need repair see a bicycle mechanic for repair.
Bead Seating	Check for broken or loose spokes.	See bicycle mechanic for repair.
Tread	Inspect for signs of excessive wear, flat spots or cuts and damage.	Replace tire.
Valves	Check that valve caps are fitted and free of dirt.	Clean dirt from the valve.

Wheels

Frequency: Inspect and maintain at least each use.

Inspect	Action	Maintenance
Rims	Inspect for dirt and grease.	Use a clean rag or wash with soapy water, rinse, and air dry.
Wheels	Check the wheels are securely fastened to the bicycle and axle nuts are tight.	Adjust if necessary and tighten axle nuts.
	Spin wheel and check rotation / alignment is true	See bicycle mechanic for repair.
Spokes	Check for broken or loose spokes.	See bicycle mechanic for repair.
Hub Bearings	Lift each wheel and see if there is movement side to side.	See bicycle mechanic for repair.

Drivetrain (pedals, chains, chainwheel, crank set, freewheel)

Frequency: as noted

Inspect	Action	Maintenance
Pedals	Every month, check each pedal is securely set and tighten into the crank arm.	If necessary, re-set and tighten.
	Before each ride, check each front and rear pedal reflectors are clean and in place.	Clean or replace.
Pedal Bearings	Every ride, check the pedal bearings are properly adjusted. Move the pedal up and down, left and right. If looseness or roughness is detected adjustment, lubrication or replacement is required.	See bicycle mechanic for repair.
Chains	Every week, check the chain is clean, properly lubricated, rust-free, and is not stretched, broken, or has stiff links.	Lubricate if necessary. Replace if rusted, stretched, or broken.
Crank Set	Every month, check the crank set (crank arms, chain rings, and bottom bracket axle and bearings) is correctly adjusted and tight.	See bicycle mechanic for repair.

Brakes

Frequency: inspect and maintain before each use

Inspect	Action	Maintenance
Levers	Check the levers are securely fastened to the handlebar.	Position the levers to fit the rider's grip and screw tight to handlebar.
Pads	Check pad position, gap and pressure.	See Section 4: Adjusting the Brakes
Cables	Check the outer casing for kinks, stretched coils and damage. Check cables for kinks, rust, broken strands or frayed ends. Check the outer casing for kinks, stretched coils and damage.	Replace cable.
	Check the housing is seated properly into each cable stop of the bicycle.	It is recommended that the cables and housing be replaced every riding season.

9 WARNING & SAFETY

HUB BEARINGS

Hub bearings require special thin wrenches called **cone wrenches**. If you do not own these tools, do not attempt hub bearing adjustments. Have a qualified bicycle mechanic perform the adjustment if you have any doubts.

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

REPAIRING A FLAT TIRE

WARNING!

An unseated tire can rupture unexpectedly and cause serious injury or death. Be sure the tire is properly seated when inflating the tube.

Follow these steps to fix a flat tire:

- 1 Match tube size and tire size (see tire sidewall for size).
- 2 Remove the wheel from the bicycle. Deflate the tire tube completely.
- 3 Squeeze the tire beads into the center of the rim.
- 4 Opposite the valve, use a bicycle tire lever to pry the tire bead up and out of the rim. Repeat around the wheel until one bead is off the rim.
- 5 Remove tube. Release second tire bead.
- 6 Remove tire.

INFLATING THE TIRE TUBE

WARNING!

- An unseated tire can rupture unexpectedly and cause serious injury or death. Be sure the tire is properly seated when inflating the tube.
- Over inflation or inflating the tube too quickly may result in the tire blowing off the rim and damaging the bicycle or causing injury to the rider. Always use a hand pump to inflate the tube. **Do not** use a gas station service pump to inflate the tube.

Follow these steps to inflate a tire:

- 1 Remove the valve cap and add air.
- 2 Be sure the tire is evenly seated on the rim, both sides.
- 3 Spin the wheel and check for high and low areas.
- 4 Complete inflation to the recommended psi found on the sidewall of the tire.
- 5 Be sure the tire is evenly seated on the rim, both sides. If not, release some air and repeat steps three through six.
- 6 Check for dirt in the valve cap or stem. Clean dirt from cap or stem.
- 7 Securely replace the valve cap on the stem.
- 7 Carefully inspect inside of the rim and tire for the cause the flat.
- 8 Inflate the tube $\frac{1}{2}$ full and place inside tire.
- 9 Insert the valve stem through valve stem hole in rim.
- 10 Start at the valve stem and install the first bead onto the rim. Repeat for the second bead.
- 11 Slowly inflate the tire tube, checking the tire is seated properly and not pinched as the tire tube is inflated.
- 12 Inflate to recommended pressure [see tire sidewall].

9 WARNING & SAFETY

TROUBLESHOOTING GUIDE

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

Problem	Possible Cause	Remedy
Freewheel does not rotate	<ul style="list-style-type: none"> • Freewheel internal pawl pins are jammed 	<ul style="list-style-type: none"> • Lubricate. If problem persists, replace freewheel
Brakes not working effectively	<ul style="list-style-type: none"> • Brake pads worn down • Brake pads greasy, wet or dirty • Brake cables are binding/stretched/damaged • Brake levers are binding • Brakes out of adjustment 	<ul style="list-style-type: none"> • Replace brake pads • Clean pads • Clean/adjust/replace cables • Adjust brake levers • Center brakes
When applying the brakes they squeal/squeak	<ul style="list-style-type: none"> • Brake pads worn down • Brake pads toe-in incorrect • Brake pads/rim dirty or wet • Brake arms loose 	<ul style="list-style-type: none"> • Replace pads • Correct pads toe-in • Clean pads and rim • Tighten mounting bolts
Knocking or shuddering when applying brakes	<ul style="list-style-type: none"> • Bulge in the rim or rim out of true • Brake mounting bolts loose • Brakes out of adjustment • Fork loose in head tube 	<ul style="list-style-type: none"> • True wheel or take to a bike shop for repair • Tighten bolts • Center brakes and/or adjust brake pads toe-in • Tighten headset
Wobbling wheel	<ul style="list-style-type: none"> • Axle broken • Wheel out of true • Hub comes loose • Headset binding • Hub bearings collapsed • Quick-release mechanism loose 	<ul style="list-style-type: none"> • Replace axle • True wheel • Adjust hub bearings • Adjust headset • Replace bearings • Adjust quick-release mechanism

9 WARNING & SAFETY

Problem	Possible Cause	Remedy
Steering not accurate	<ul style="list-style-type: none">• Wheels not aligned in frame• Headset loose or binding• Front forks or frame bent	<ul style="list-style-type: none">• Align wheels correctly• Adjust/tighten headset• Take bike to a bike shop for possible frame realignment
Frequent punctures	<ul style="list-style-type: none">• Inner tube old or faulty• Tire tread/casing worn• Tire unsuited to rim• Tire not checked after previous puncture• Tire pressure too low• Spoke protruding into rim	<ul style="list-style-type: none">• Replace inner tube• Replace tire• Replace with correct tire• Remove sharp object embedded in tire• Correct tire pressure• File down spoke

5 Warranty

1 YEAR LIMITED WARRANTY AND POLICY ON REPLACEMENT PROCEDURES PROMOTIONAL BICYCLES

Your promotional bicycle includes the following warranty which is in lieu of all other express warranties. This warranty is extended only to the initial consumer purchaser. No warranty registration is required.

FRAME

Steel, aluminum and dual suspension frames are guaranteed against faulty materials and workmanship for 1 year as long as the initial consumer purchaser has the bicycle, subject to the Terms and Conditions of this Limited Warranty. If frame failure should occur due to faulty materials or workmanship during the guarantee period, the frame will be replaced. For frame replacement under this Limited Warranty, contact us, stating the nature of the failure, model number, date received and the name of the store from which the bike was received, at the address given on this page. Frame must be returned for inspection at customer's expense. Please note: the fork is not part of the frame. The length of the useful life cycle will vary depending on the type of bike, riding conditions and care the bicycle receives. Competition, jumping, downhill racing, trick riding, trial riding, riding in severe conditions or climates, riding with heavy loads or any other non-standard use can substantially shorten the useful product life cycle. Any one or a combination of these conditions may result in an unpredictable failure that is not covered by this warranty. All bicycles and frame sets should be periodically checked by an authorized dealer for indications of potential problems, inappropriate use or abuse. These are important safety checks and are very important to help prevent accidents, bodily injury to the rider and shortened useful product life cycle.

PARTS

All other parts of the bicycle, except Normal Wear Parts, are warranted against defective materials and workmanship for 1 year as long as the initial consumer purchaser has the bicycle, subject to the Terms and Conditions of this Limited Warranty. If failure of any part should occur due to faulty materials or workmanship during the warranty period, the part will be replaced. All warranty claims must be submitted to the address in the front of the manual and must be shipped prepaid and accompanied by proof of purchase. Any other warranty claims not included in this statement are void. This especially includes installation, assembly, and disassembly costs. This warranty does not cover paint damage, rust, or any modifications made to the bicycle. Normal Wear Parts are defined as grips, tires, tubes, cables, brake shoes and saddle covering. These parts are warranted to be free from defects in material and workmanship as delivered with the product. Any claim for repair or replacement of Normal Wear Parts (grips, tubes, tires, cables, brake shoes and saddle covering) and missing parts must be made within thirty (30) days of the date of purchase.

CONDITIONS OF WARRANTY

1. Your bicycle has been designed for general transportation and recreational use, but has not been designed to withstand abuse associated with stunting and jumping. This warranty ceases when you rent, sell, or give away the bicycle, ride with more than one person, or use the bicycle for stunting or jumping.
2. This warranty does not cover ordinary wear and tear or anything you break accidentally or deliberately.
3. This warranty does not cover normal wear and tear, improper assembly or maintenance, or installation of parts or accessories not originally intended or compatible with the bicycle as sold. The warranty does not apply to damage or failure due to accident, abuse, misuse, neglect, or theft. Claims involving these issues will not be honored.
4. It is the responsibility of the individual consumer purchaser to assure that all parts included in the factory-sealed carton are properly installed, all functional parts are initially adjusted properly, and subsequent normal maintenance services and adjustments necessary to keep the bicycle in good operating condition are properly made.
5. This warranty does not apply to damage due to improper installation of parts, installation of any kind of power plant or internal combustion engine, modification or alteration of the brakes, drive train, or frame in any way, or failure to properly maintain or adjust the bicycle.

NOTICE: Bicycle specifications subject to change without notice.