

MANTIS

Electric All-Terrain Bike



RAWTT
MANTIS

INSTRUCTIONS

Thank you for choosing the dirt bike (All-Terrain Bike) from Rawrr Inc. We are proud to present this user manual for your dirt bike (All-Terrain Bike). It contains important information and instructions for your safety, enjoyment, and the proper maintenance of your bike.

Please note that this manual should be considered a permanent part of your dirt bike (All-Terrain Bike) and should remain with it at all times, even if you resell it in the future. Rawrr Inc. has made every effort to include the latest production information before printing. However, we reserve the right to make changes without notice and without any obligation. As such, we hold the right of final interpretation of this manual.

Please be advised that no part of this publication may be copied, translated, reproduced, or transferred without written permission from Rawrr Inc. Additionally, the dirt bike (All-Terrain Bike) pictured in this manual may not match your actual bike. Therefore, we recommend that you read this manual carefully, follow all recommendations and procedures, and pay close attention to safety messages contained in this manual and on the dirt bike (All-Terrain Bike).

To ensure your safety and riding pleasure, it is crucial that you observe the break-in guidelines and perform pre-ride inspections and other periodic checks as instructed in this manual. We highly recommend that you take responsibility for keeping your dirt bike (All-Terrain Bike) well-serviced and maintained to protect your property.

We understand that you may have questions or concerns regarding the dirt bike (All-Terrain Bike), the manual, and related policies. Therefore, we advise that you contact Rawrr or an authorized dealer for assistance. Please note that we are not responsible for any unofficial statements or opinions regarding the dirt bike (All-Terrain Bike), the manual, and related policies.

For more information, please visit our website at www.riderawrr.com. We hope that you enjoy your dirt bike (All-Terrain Bike), but please remember that safety is the top priority. To ensure your safety and that of others, we have provided important safety information, operating procedures, and safety labels in this manual. Please take the time to familiarize yourself with this information.

Please be aware that it is not practical or possible to warn you about all hazards when operating or maintaining the dirt bike (All-Terrain Bike). Therefore, you must use your own good judgment and follow the safety instructions and precautions provided.

Finally, we must remind you that it is strictly prohibited to circulate the dirt bike (All-Terrain Bike) in public. This means that you should not operate the dirt bike (All-Terrain Bike) on public roads, highways, or other areas where motor vehicles are not permitted. Doing so could put yourself and others in danger and may result in legal consequences.

Once again, thank you for choosing Rawrr Inc. and the dirt bike (All-Terrain Bike). We wish you a safe and enjoyable riding experience.

California Proposition 65 Warning

WARNING: Operating, servicing, and maintaining a passenger dirt bike (All-Terrain Bike) or off-highway motor dirt bike (All-Terrain Bike) can expose you to chemicals, including engine exhaust, carbon monoxide, phosphates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust gases, do not idle the engine except as necessary, service your dirt bike (All-Terrain Bike) in a well-ventilated area and wear gloves or wash your hands frequently when servicing your dirt bike (All-Terrain Bike). For more information, go to www.P65Warnings.ca.gov/passenger-dirtbike

Catalogue

1. Safety Notice.....	1
2. Function Schematic	7
3. Quick Installation Guide	11
4. Ride Preparation	19
5. Learn to Ride	20
6. Vehicle use instructions	24
7. How to charge	26
8. Dirt bike (All-Terrain Bike) Parameters Table	29
9. Other Notes	31
Annexes (Dirt Bike Electrical Schematic)	32
Controller Alarm Code list	33
10. Fault phenomena and solutions	34
11. Maintenance Guide	36
12. Warranty Policy	41
13. Regular Maintenance Record Card	42
Maintenance Record Card	43

1 、 Safety Notice

Please read this chapter carefully for the safety of your life and property and that of others!

Before riding:

- Do not assemble, unpack, or pack this dirt bike (All-Terrain Bike) alone. Teamwork is required.
- Please use the dirt bike (All-Terrain Bike) in accordance with local regulations.
- You are obliged to know the local laws and use the dirt bike (All-Terrain Bike) in compliance with these laws.
- Carrying this manual and other documentation proving the ownership of the dirt bike (All-Terrain Bike) is recommended.
- Do not overload the dirt bike (All-Terrain Bike): avoid exceeding the weight limitation of this dirt bike (All-Terrain Bike). THIS DIRT BIKE IS NOT ALLOWED FOR ANY PASSENGER OTHER THAN THE RIDER.
- Make sure you are trained for riding a dirt bike (All-Terrain Bike) and know all its control functions.
- Know the abilities, capabilities, and limitations of the dirt bike (All-Terrain Bike). Familiarize yourself with the brake and motor systems to ensure good control of the dirt bike (All-Terrain Bike). Practice using the brake in an unobstructed and open area until you have smooth control of the dirt bike (All-Terrain Bike). The SPORT mode off-road of this dirt bike (All-Terrain Bike) is very powerful. The rider can be hurt seriously without proper knowledge and training.
- Avoid skidding to stop, as it may result in losing control or damaging the tires.
- Modifying the dirt bike (All-Terrain Bike) in any form is not recommended, as it may result in property damage and injury.
- This dirt bike (All-Terrain Bike) is not a children's toy.
- Be sure to use Rawrr's special lithium battery charger. The input AC voltage is 90 ~ 260 V. Before charging, check the charging port and charger to see if there is moisture or water. Please do not charge if it's wet. When charging, keep away from flammable and explosive, high-temperature objects, high dust, and other special environments; after charging is completed, please disconnect the power in time.
- It is forbidden to charge the lithium battery below 14 F. Otherwise, it will damage the battery. Please wait for the battery temperature to rise before charging.

Perform safety checks every time before you start the motor or ride.

Pre-ride Checklist

Loose Parts

There should be no unusual rattles or sounds from loose parts or broken components.

Ask an authorized dealer to check for you or call customer service if you need help.

Brake

Check the brake for proper function. When you squeeze the lever, the brake should provide positive braking action. When you apply the brake with the throttle on, the brake cut-off switch will stop the motor.

Tire Inflation

Check tire pressure and wear regularly, and inflate or replace tires as needed. Tire pressure must be 29~32psi (200~220Kpa), normal tread pattern and no nails, stones, glass, or other foreign objects embedded.

Frame, Fork, and Handlebars

Check for cracks or broken connections. Although broken frames are rare, it is possible for an aggressive rider to run into a curb or wall and wreck, bend or break the frame. Get in the habit of inspecting your product regularly.

Other parts

- Check whether the reflector is broken or contaminated.
- Check whether the power circuit, lighting, etc. are normal to ensure that the power meets the riding requirements.
- Spoke tightness: keep in sync with the actual spoke tension of the vehicle. Tighten immediately if there is looseness.
- The throttle is smooth without jamming and rapid return.
- Chain: If the chain is stuck, it is recommended that the mud and sand be cleaned off the chain surface and chain lubricant added; the chain displacement from the lowest to the highest position is 15-20mm under normal circumstances.
- The front and rear shock absorber moving parts are clean and free of dirt.

Safety Gear

Make sure that you are wearing approved personal protective equipment and suitable clothes, including

Approved helmet

Approved helmet with eye protection and high-visibility

Warning: Not wearing an approved helmet properly increases the chance of serious injury or death in an accident.

Gloves

Full-finger leather gloves with high abrasion resistance

Elbow pads and kneepads

Soft elbow pads and kneepads that cover your joints but do not limit your movements

Boots or Riding Shoes

Sturdy boots with non-slip soles and ankle protection

Jacket and Pants

Protective, highly visible, long-sleeved jacket and durable, long pants for riding (or a protective suit)

Additional Off-road Gear

On-road apparel may also be suitable for casual off-road riding. But if you plan on any serious off-road riding, you will need more serious off-road gear. In addition to your helmet and eye protection, we recommend off-road motorcycle boots and gloves,

riding pants with knee and hip pads, a jersey with elbow pads, and a chest/ shoulder protector.

Avoid wearing loose or baggy clothes that could get caught on any part of the dirt bike (All-Terrain Bike).

Do not let anyone else ride your dirt bike (All-Terrain Bike) on their own unless, after carefully reading this manual, they understand the features, functions, capacities, abilities, and risks of this dirt bike (All-Terrain Bike). The safety of new riders is your responsibility. Assist new riders until they are fully capable of operating this dirt bike (All-Terrain Bike). Make sure other riders also wear approved personal protective equipment and suitable clothes.

During transportation:

This dirt bike (All-Terrain Bike) is heavy. When moving the dirt bike (All-Terrain Bike) for riding or service, do not attempt to lift the dirt bike (All-Terrain Bike) alone to avoid any injury or damage to the dirt bike (All-Terrain Bike).

It is recommended to have the proper protection for the dirt bike (All-Terrain Bike) and movers at all times when moving and lifting the dirt bike (All-Terrain Bike).

Stay away from sharp and moving parts of the dirt bike (All-Terrain Bike) when moving the dirt bike (All-Terrain Bike), including but not limited to wheels, handlebars, gears, chains, footpegs, and any other parts that may hurt.

Securely fixing the dirt bike (All-Terrain Bike) during transport reduces the chances of injury and damage to the dirt bike (All-Terrain Bike).

When riding:

- Riding this dirt bike (All-Terrain Bike) on public streets, highways, or pedestrian trails is ILLEGAL. This dirt bike (All-Terrain Bike) is for recreational off-road use on enclosed roads, tracks, and private property.
- Riding this dirt bike (All-Terrain Bike) at full power increases the possibility of an accident regardless of the location. Do not exceed speed limits that jeopardize conductive capacity, and consider the existing climate and terrain conditions to avoid accidents or injuries.
- Take good care and drive at lower speeds considering the weather and road conditions.
- Riding in extreme weather such as snow, storms, or wild winds or riding on wet, muddy, icy, or slippery roads for any reason is not recommended.
- The braking distance will be extended when riding in rain, snow, or on wet roads. When the water on the road exceeds 9 inches, it may affect the normal operation of the brakes.
- Always have both hands on the handlebars and both feet on the footpegs. And pay attention to the road condition and surrounding environment.
- Using cell phones, cameras, headphones, earbuds, or any other mobile device is absolutely forbidden.
- Always consider the safety of other drivers and riders.
- Slow down and avoid pedestrians and vehicles when approaching or passing

through intersections, motorways, turnings, doorways, etc.

- When riding at high speed for a long time, it is recommended to use ECO mode and select the appropriate gear to meet the riding needs; using SPORT mode for a long time will shorten the range and affect the battery life.
- If the vehicle seems abnormal while riding, please stop riding immediately and find the cause of the alarm or malfunction. Wait until the warning is removed and repaired before using the vehicle. Contact the after-sales service for support as needed.

Warning: RIDING OR RIDING UNDER THE INFLUENCE (DUI) IS ILLEGAL.
Riding a dirt bike (All-Terrain Bike) under the influence of alcohol or drugs can reduce your judgment of road conditions and ability to respond to changing conditions. DUI is an absolute no.

People Who Should Not Ride The dirt bike (All-Terrain Bike) Include:

1. Anyone who is under the influence of alcohol or drugs.
2. Anyone who suffers from a disease that puts them at risk if they engage in strenuous physical activity.
3. Anyone whose weight is outside the stated limits (see Specifications). The recommended maximum weight is 100 kg (220 pounds)
4. Anyone who cannot balance a bicycle, motorcycle, and similar bikes.
5. Anyone who is pregnant.
6. Anyone who is restricted by law from driving or riding.
7. Anyone who is unable to engage in strenuous physical activity due to illness.
8. Anyone underage without the supervision of an authorized adult.

If You are Involved in a Crash

Personal safety is your top priority. If you or anyone else gets involved in a crash, take time to assess the severity of the injuries. Call for emergency assistance if necessary. Also, follow applicable laws and regulations if another person or dirt bike (All-Terrain Bike) is involved in the crash.

Lithium-Ion (Li-Ion) Battery

If you notice an unusual smell coming from the lithium-ion battery, immediately park your dirt bike (All-Terrain Bike) in a safe place outside and away from flammable objects. Turn off the motor and have your dirt bike (All-Terrain Bike) inspected by your dealer as soon as possible.

Racing

Racing always contains potential safety hazards, no matter how professional or well-trained a rider is.

Parking

Always park the dirt bike (All-Terrain Bike) on a firm, level, and safe surface with

easy access for the rider.

Parking procedures. To park:

1. Stop the motor.
 2. Step down the side stand.
 3. Slowly lean the dirt bike (All-Terrain Bike) to the side stand until it's firmly stood.
 4. Turn the handlebar fully in the same direction as the side stand.
 5. Lock the dirt bike (All-Terrain Bike) and remove the key.
- If you must park on an uneven or loose surface, park firmly so that the dirt bike (All-Terrain Bike) cannot move or fall.
 - Ensure no flammable materials are near hot parts such as batteries, motors, brakes, etc.
 - Do not touch the motor, battery, brakes, and other parts that may get high temperatures during the ride.
 - Always lock the handlebar and remove the key from the dirt bike (All-Terrain Bike) to reduce the chance of theft or start-up by accident. We recommend you use other anti-theft devices as well.
 - This dirt bike (All-Terrain Bike) is an electric offroad all-terrain bike with many electrical parts. Avoid submerging parts and the bike in water. Also, avoid prolonged exposure of parts and components to water or rain.

When not riding:

- Always turn off the motor when not riding your dirt bike (All-Terrain Bike).
- Keep your dirt bike (All-Terrain Bike) in a safe condition.
- It's important to keep your dirt bike (All-Terrain Bike) properly stored and in safe riding condition.
- Inspect the dirt bike (All-Terrain Bike) thoroughly before every ride to avoid a breakdown when the dirt bike (All-Terrain Bike) is off-road far from your base.
- Turn off the dirt bike (All-Terrain Bike) when not riding to avoid power loss and potential injury to you or anyone else and damage to the dirt bike (All-Terrain Bike).
- Keep unsupervised underaged people away from the dirt bike (All-Terrain Bike) to reduce potential safety risks.
- Storing the dirt bike (All-Terrain Bike), batteries, and cords away from water, open flames, and heat sources can effectively reduce the risk of disasters. Extremely hot or cold conditions may result in damage to the dirt bike (All-Terrain Bike), which could cause an accident when it's being ridden.
- Do not submerge the battery in water (the battery will be damaged, and this will destroy the waterproof performance of the battery); if the battery is submerged in water, it is strictly prohibited to charge the battery again, as it may cause the battery to overheat, potentially catch fire, and create a burning and explosion hazard.
- Battery Temperature: Vehicle operating temperature is between 14 and 113 degrees F. Recommended lithium battery storage temperature is between 32 and

104 degrees F. Do not store batteries or drive outside this range.

- Dirt bike (All-Terrain Bike) washing precautions: Please remove the battery when washing the vehicle, and only use low water pressure. Never clean the dirt bike (All-Terrain Bike) with a hydraulic monitor, which may cause damage to electrical components due to water intake.
- Children should not operate or play with any of the parts or tools of this dirt bike (All-Terrain Bike). No cleaning or maintenance work shall be done by children or any unauthorized adults.

Accessories & Modifications

It is not recommended to add accessories to your dirt bike (All-Terrain Bike) that are not designed or authorized by Rawrr. Unauthorized modifications may compromise the original design and render the dirt bike (All-Terrain Bike) unsafe. It is important to carefully inspect any accessories before use to ensure they do not impede ground clearance, cornering clearance, steering or control operation, or obscure lights or reflectors. Adding heavy accessories to the handlebar or front fork area can create instability due to improper weight distribution or aerodynamic changes. If accessories are added to these areas, they must be lightweight and kept to a minimum.

Certain accessories may also impact the rider's position, limiting movement and affecting control ability, which can result in a serious crash. Modifying your dirt bike (All-Terrain Bike) may also void your warranty and make it illegal to operate. Before installing any accessories, ensure they are safe and legal.



WARNING

Never carry cargo that would impair the performance of your dirt bike (All-Terrain Bike), pull a trailer with your dirt bike (All-Terrain Bike), or add a sidecar to your dirt bike (All-Terrain Bike). Never attempt to modify the dirt bike (All-Terrain Bike) for carrying another passenger. This dirt bike (All-Terrain Bike) is not designed for ride-sharing and cargo or delivery shipping.

**Warning**

Riding a dirt bike (All-Terrain Bike) on a rainy day will reduce the friction between the tires and the road and reduce braking performance and visibility, substantially increasing the risk.

**Special Warning:**

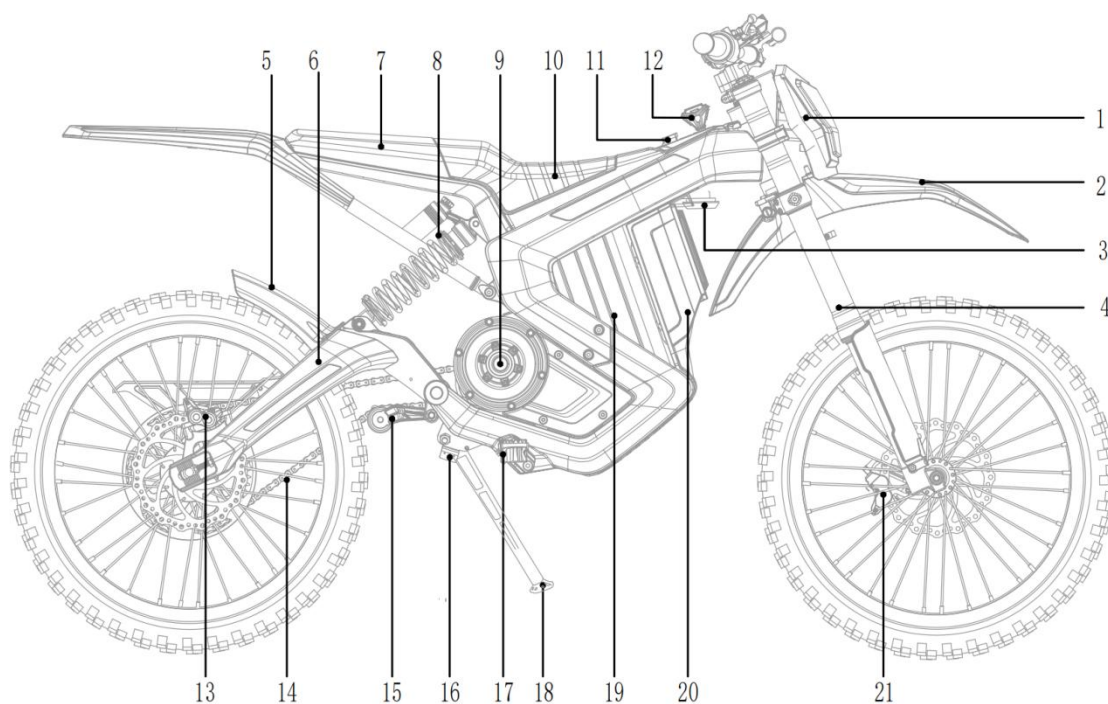
If the dirt bike (All-Terrain Bike) emits smoke or catches fire due to external forces, use a dry-chemical fire extinguisher or sandy soil to put it out.

Lithium-ion batteries may contain various chemical substances that can be harmful to humans and the environment if they are broken due to aging or external damage. It is strongly recommended to discard them as hazardous waste within 36 months of purchase and submit them to a professional company for proper disposal.

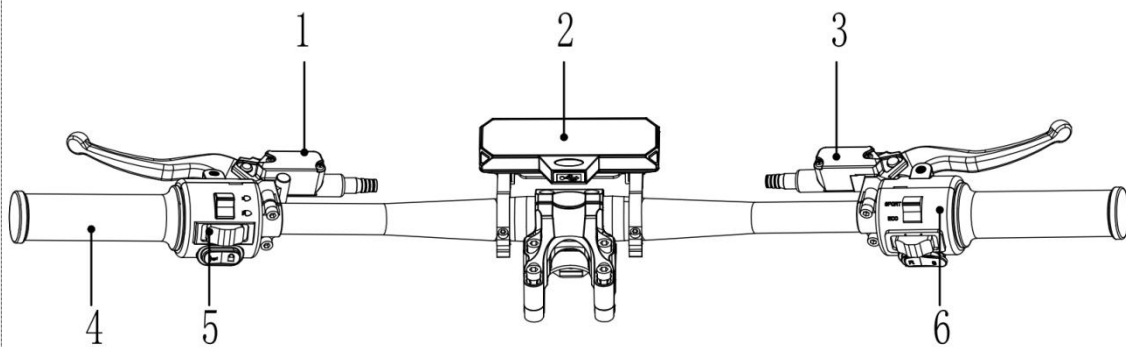
Manufacturer Disclaimers:

- a. We are not responsible for any damages caused by not conforming to the requirements in the application instructions.
- b. We are not responsible for any damages caused by any unauthorized modification.
- c. We are not responsible for any damages caused by force majeure.


2 、 Function Schematic



1-Headlight	2-Front mudguard	3-Horn	4-Front fork	5-Rear mudguard	6-Rear fork
7-Rear cushion	8-Rear shock	9-Motor	10-Front cushion	11-Charging port	12-Switch lock
13-Rear disc brake	14-Chain	15-Rising wheel	16-Side-support disconnect	17-Pegs	18-Side bracket
19-Battery	20-Controller	21-Front disc brake			



1-Rear brake handle 2-Gauge 3-Front brake handle 4-Left handle set 5-Left combination function switch 6-Right combination function switch


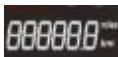
Left switches				
	High and low beam switching (headlights are required to be turned on)	Left and right turn signal switch	Horn switch	Seat cushion lock switch (to be used with power on)
Right switches				
	Driving light/ headlight on switch	SPORT and ECO mode change-over switch	Reverse gear (long press to start the reverse mode when power is on)	Forward gear (to be powered up and used in ECO mode, there are three forward gears D1/D2/D3 that can be switched)



KEL-801

Dimension (length, width, height)	127 x 39.3 x 25.9 mm
Screen display size (length, width)	94.6x20.9mm
Screen type	VA(black and white)
	Operating temp -4 - 176 F
Operating voltage	12V
Function	Left and right turn, headlight, ECO/SPORT, speed, mileage, fault
Communication	CAN/UART port
Waterproof level	IPX6

No	Function	Symbol	Note
1	Speed		Current speed display while riding
2	ODO		Total mileage ODO display, metric mileage switchable
3	Single Mileage		Single mileage is re-calculated every time you turn on the power
4	Gear indication		ECO/SPORT mode according to the actual display ECO mode includes 1/2/3 gears
5	Operating status		Working indication, speed off, no speed on
6	Undervoltage indication		Blinking when the battery is under voltage
7	Far light indication		High beam on indicator
8	Steering indication		Left and right turn signal indication
9	P-gear indication	Letter P display	Speed position is displayed in letters
10	Motor fault		Fault display
11	Power percentage		00%~ 100% - display the current battery level

12	Reverse gear indication		Display in reverse gear
13	Fault code display		Display fault codes (see controller specification for code content)

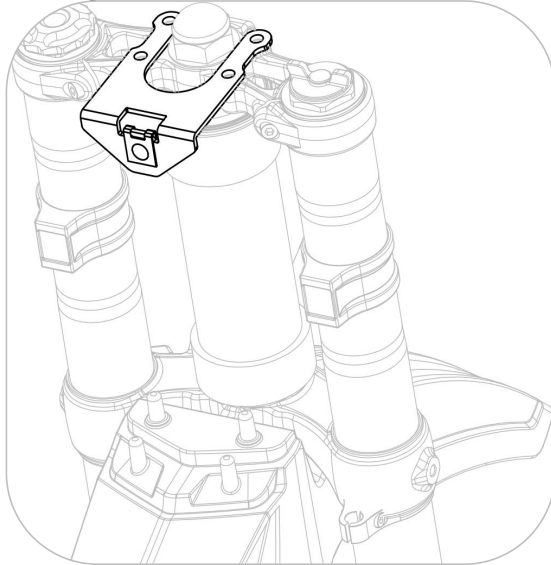
Recommended torque for installation of important parts		
No	Installation Location	Recommended torque
1	Front wheel axle fastening	25-30N.m
2	Switch lock cover fastening	3-5N.m
3	Rear wheel sprocket fastening	18-20N.m
4	Front and rear wheel disc fastening	5-7N.m
5	Front and rear brake caliper fastening	7-9N.m
6	Tension Wheel Fastening	18-20N.m
7	Tension arm fastening	20-22N.m
8	Side support fastening	30-35N.m
9	Motor fixing fastening	20-22N.m
10	Rear fork fastening	55-65N.m
11	Rear Shock Absorber Fastening	40-45N.m
12	Rear tailstock fastening	18-20N.m
13	Rear wheel axle fastening	60-70N.m
14	Handlebar fastening	7-9N.m
15	Steering Column Slotted Nuts	3-5N.m
16	Steering Column Cap Nuts	40-45N.m

3 、 Quick Installation Guide

DO NOT ASSEMBLE, UNPACK, OR PACK THIS DIRT BIKE (ALL-TERRAIN BIKE) ALONE. TEAMWORK IS REQUIRED.

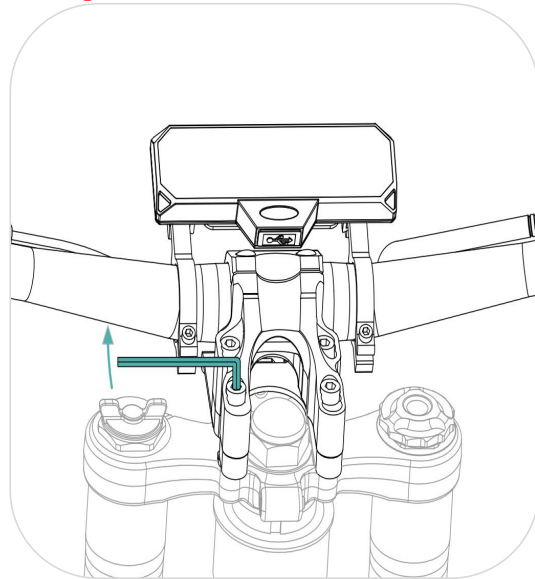
Mounting Handlebars

1 、 Place the headlight bracket on the upper coupling plate, align the four 4 holes, and snap the clamp nut in the slot in front of the headlight bracket.



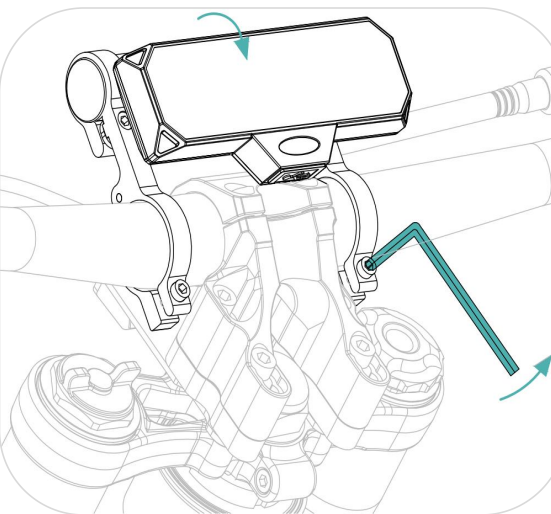
2、 Put the handlebar on the headlight bracket, align the holes, place the booster blocks, and lock the 4 screws with a 5# Allen wrench.

Note: The 4 screws should be added with bullet spacers



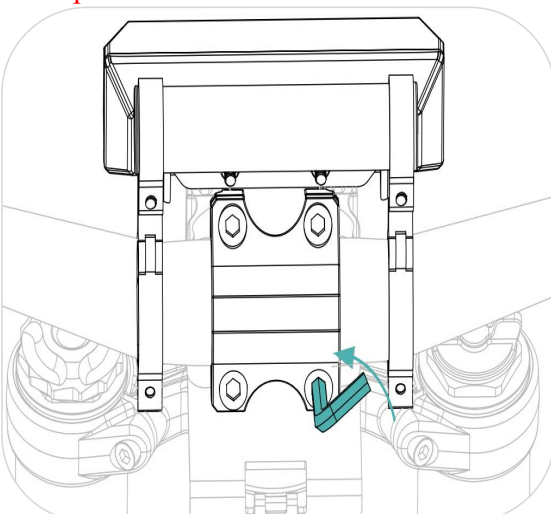
Handlebars Adjustment

1 、 Loosen 2 screws with a 3# Allen wrench and rotate the meter at a suitable angle.



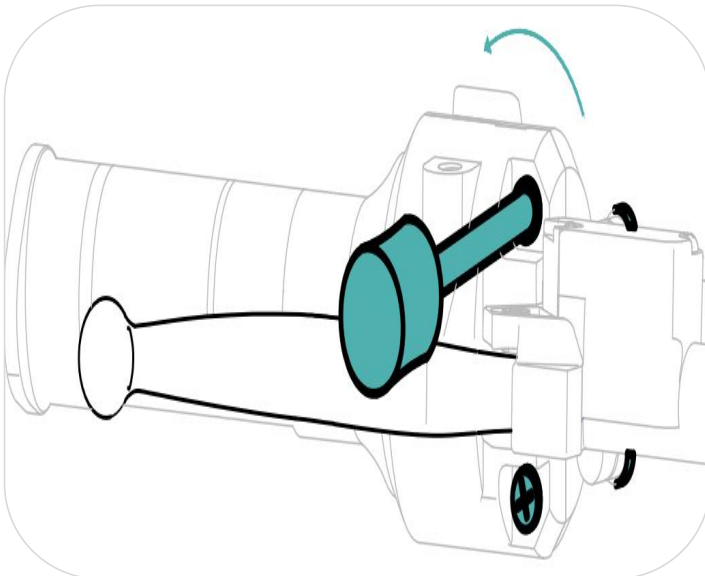
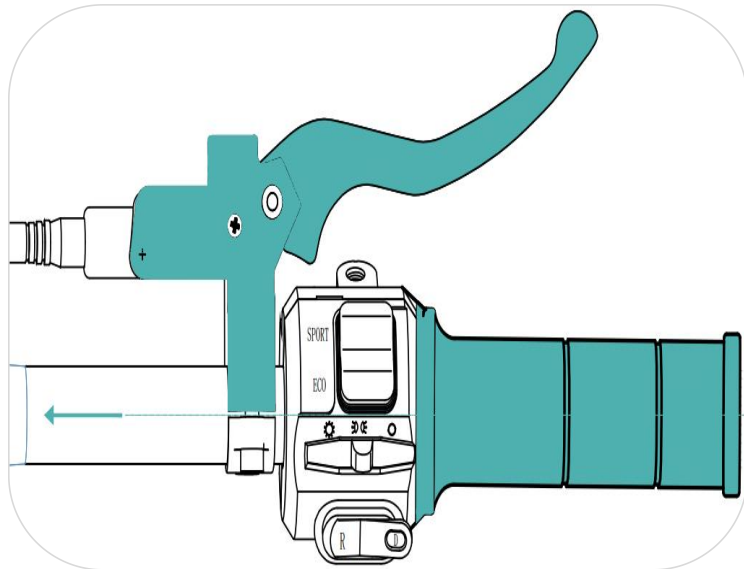
2 、 Loosen 4 screws with 5# hexagonal wrench to adjust the handle angle.

Note: Do not lose the screw spring spacer.



Installation of brake and throttle

1、As shown in the figure, adjust the front brake and throttle to the right angle.

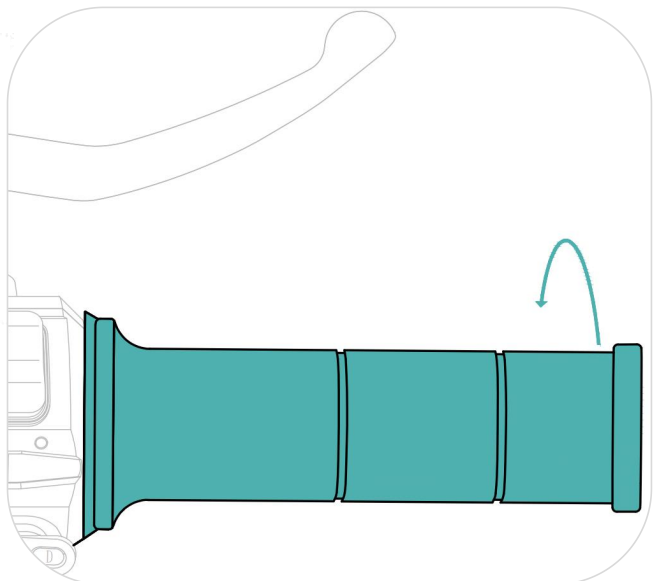


2、Use 4# hexagonal wrench and Phillips screwdriver to lock the throttle and front brake handle respectively

3、Turn the throttle to ensure that it can return to the normal position, inward for acceleration.

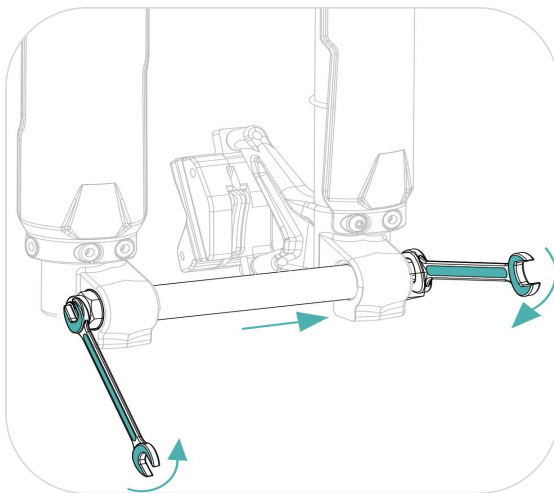
Note: If stuck, check the throttle

Note: The rear brake handle and left function switch are installed with the same steps as above.



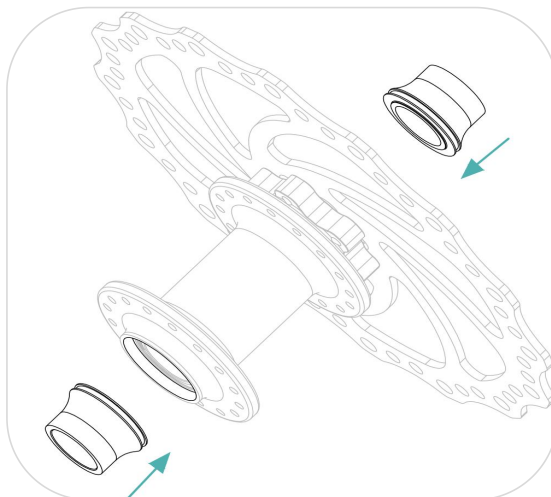
Mounting the front wheel

1 . Loosen the front wheel lock nut with two 19# wrenches and take out the shaft and nut.

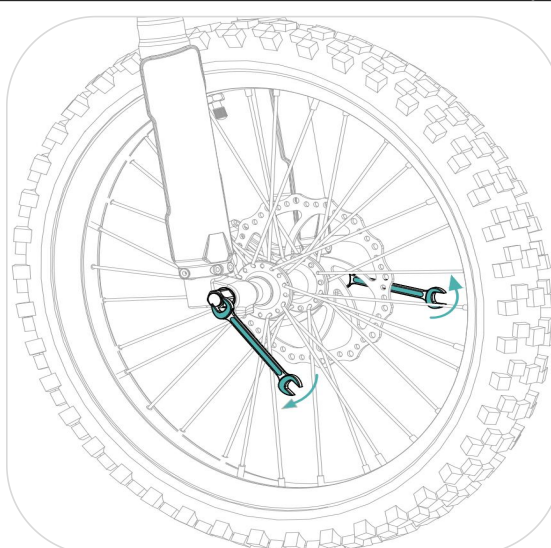
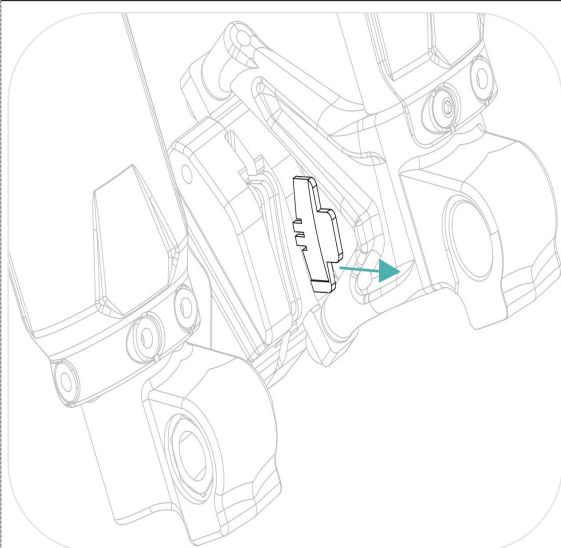


2 . Install the front axle bushings on each side

Note: Do not crush the seal.



3 . Remove the brake caliper clamping block, place the front wheel inside the fork, install the front axle so that it passes through the fork and the front wheel in turn, and fasten the front axle with two 8# Allen wrenches.



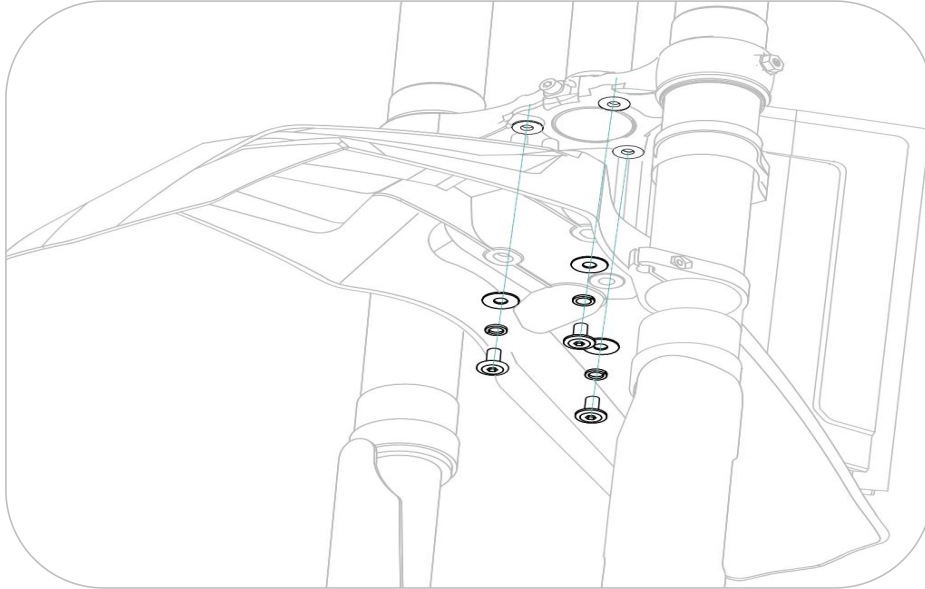
Note: 1. Please do not pinch the front brake handle after removing the caliper clamping block as it can cause the brake to clamp and make it difficult to put the disc brake disc in.

2. When installing the front wheel, ensure proper fitment of the disc brake disc and caliper. After installation, check that the front wheel rotates smoothly without any strange noise.

3. When installing the disc brake disc, apply anaerobic adhesive to the threaded part and heat the threaded part when disassembling.

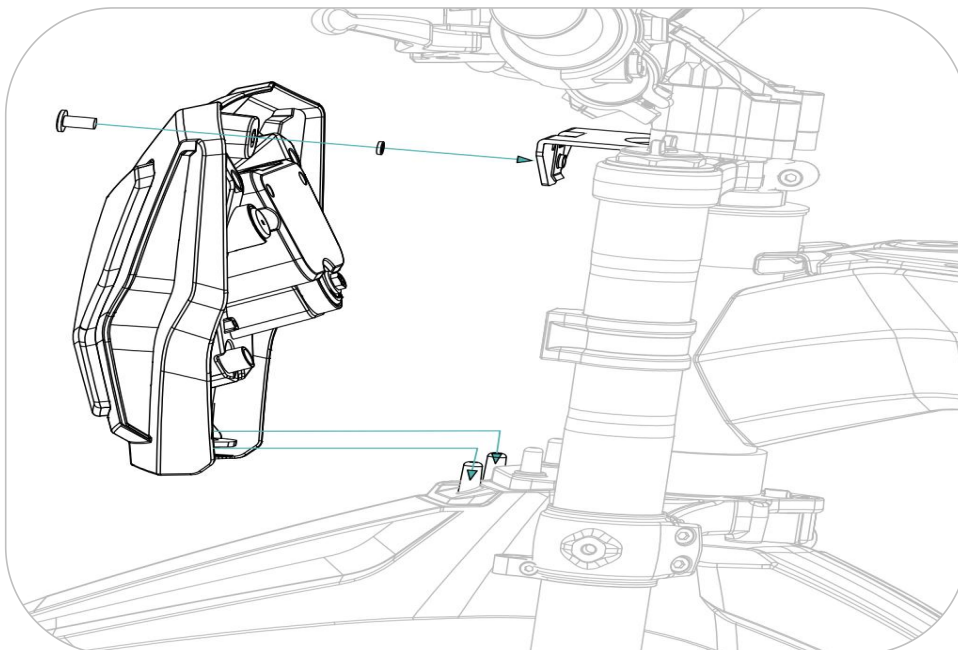
Installation of front mud fender

Secure the front fender to the lower coupling plate with 3 screws including flat pad and spring pad lock using 4# Allen wrench

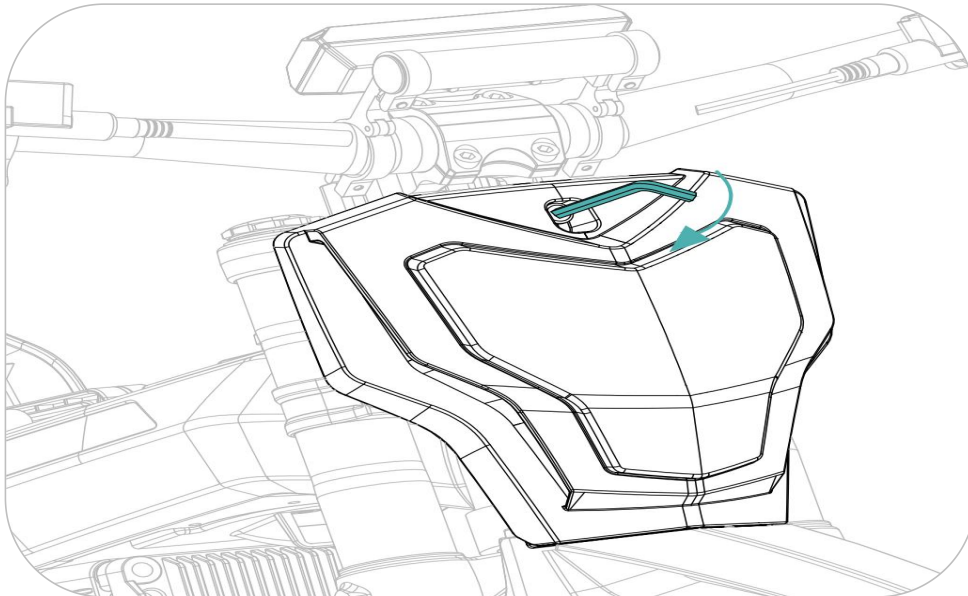


Installation of headlights

1. Place the headlight on the front fender positioning pin and add the adjustment spacer between the headlight and the bracket.



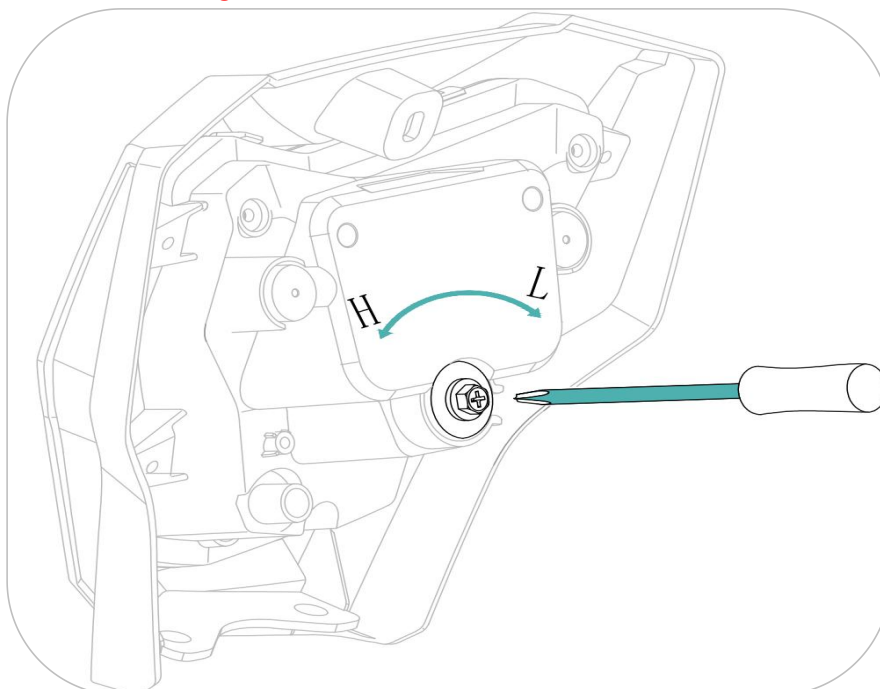
2. Adjust the position and tighten the middle fixing screw with 5 # hexagonal wrench



Headlight adjustment

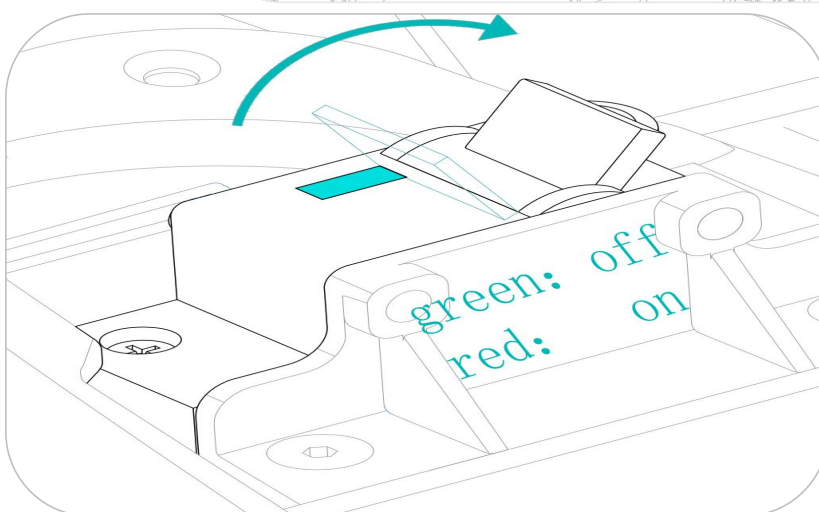
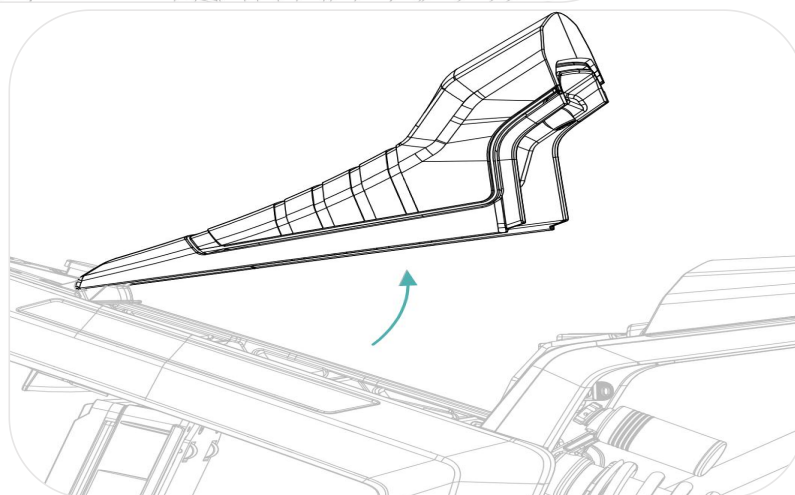
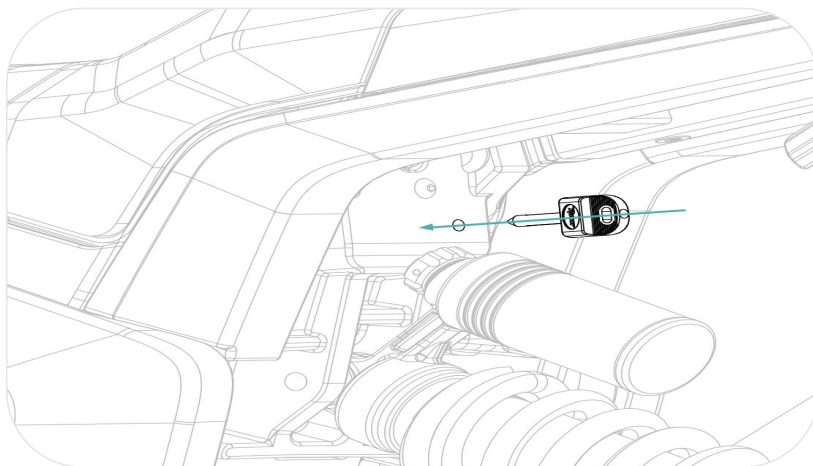
Adjust the height of the light by rotating the adjusting screw with a Phillips screwdriver.

Please note that turning the screw clockwise will lower the light, while turning it counterclockwise will raise it.

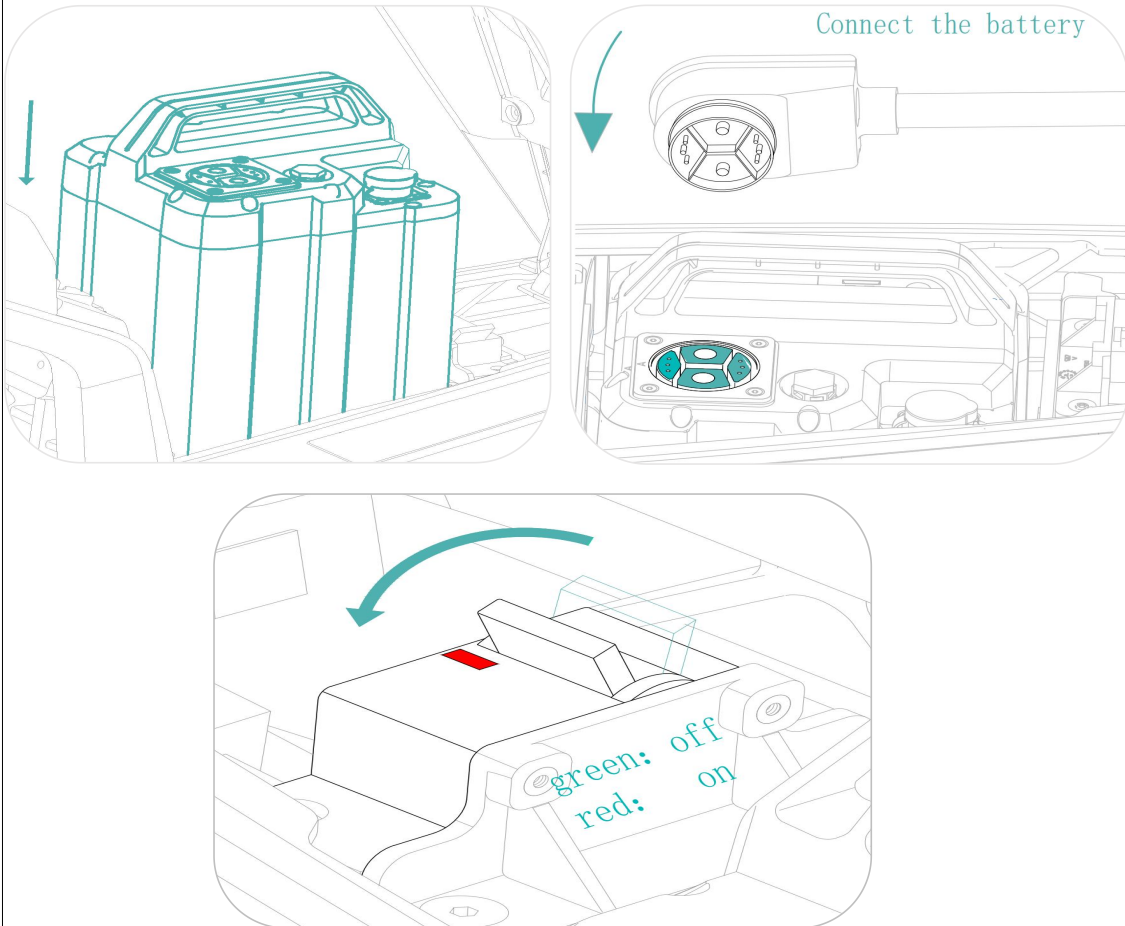


Installing the battery

1. Insert the key into the round hole located underneath the rear cushion. This method is only applicable in cases where the battery is unavailable or damaged, and the whole bike cannot be powered on. Under normal circumstances, simply unlocking the switch lock will power on the bike. To open the cushion, press the cushion switch on the handlebar. Once open, check the air switch to ensure it is in the off state.



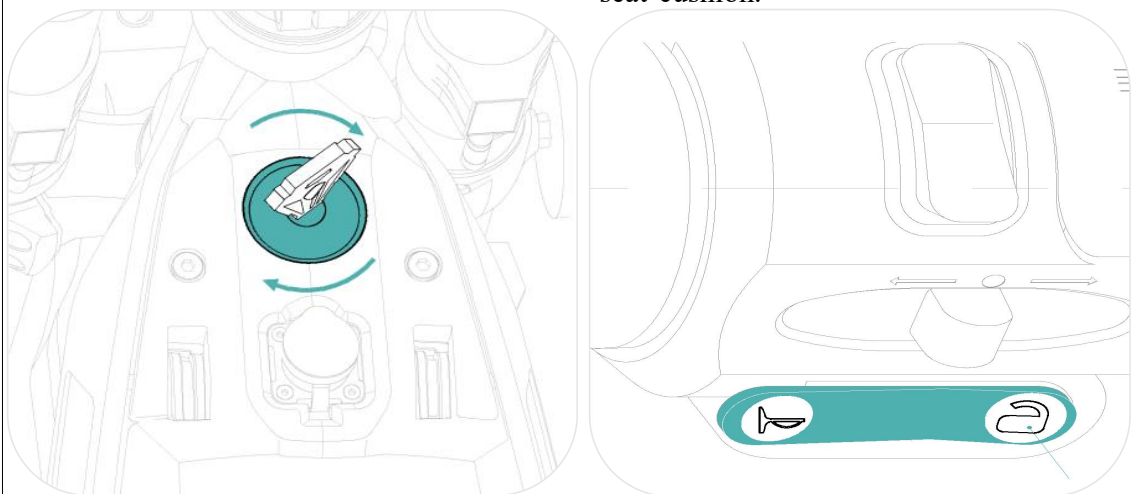
2. The battery charging port should toward the right side of the frame. Plug into the battery compartment; install the discharge plug, open the air switch to the left, close the seat, and close the switch lock to remove the key.



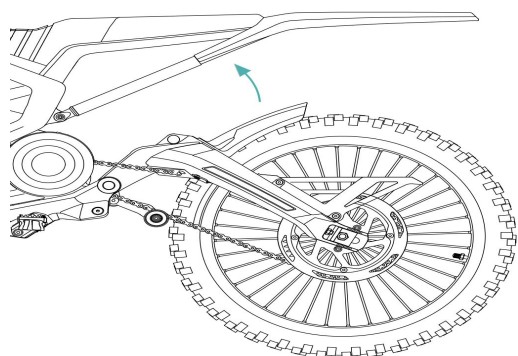
Open the cushion when the whole bike power on

1. Insert the key into the switch lock and turn it clockwise.

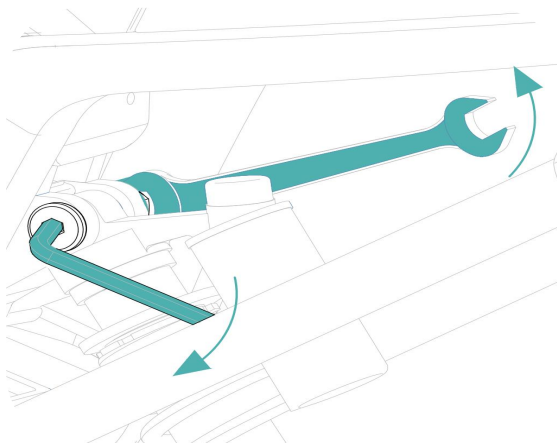
2. Press the seat cushion button on the left combination switch to open the seat cushion.



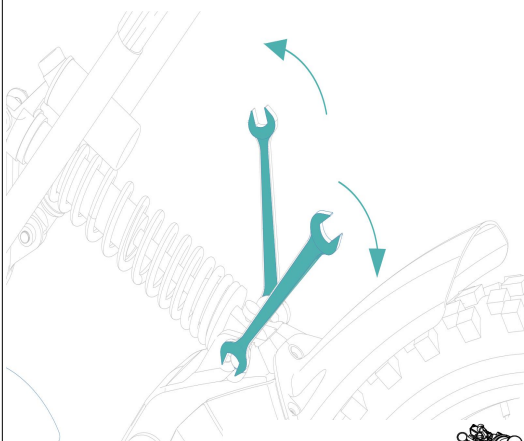
Rear shock mount



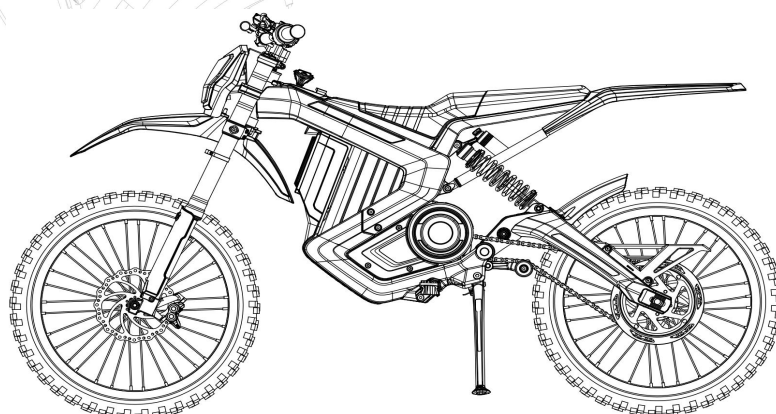
1. Lift the rear tailstock to reach the installation stroke of the rear shock absorber.



2. Align the front end of the shock absorber with the fixing hole slot of the frame and insert in the fixing bolt from the left side to the bottom.



3. To install the shock absorber, align it with the mounting hole slot of the frame and insert the fixing bolt through the bottom from the left side. Apply thread sealant to the upper and lower damping nuts. Use a 13# ring wrench to tighten the left bolt and a 14# ring wrench to tighten the right nut.



Warning: The nuts that fix the shock absorbers must be coated with thread sealant, and the bolts and nuts must be tightened to a torque of 40-45N.m.

4 、 Ride Preparation

Please ensure that you have read and understood all the safety instructions in Chapter P01 of this manual before riding. It is important to focus on the following items during your pre-ride check:

Check the front and rear tires:

1. Ensure that the tires are in good condition without any abnormalities.
2. The recommended tire pressure is between 200-220Kpa. Low tire pressure may lead to abnormal wear, steering, low riding speed, and shorter range. High tire pressure may cause abnormal wear on the tire tread, reduced tire adhesion, reduced riding comfort, and even a blowout, which could pose safety risks.

Check the LCD meter, horn, and brake:

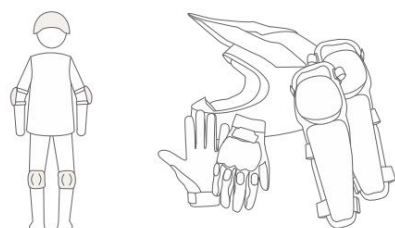
1. Check whether the function display of each instrument is working properly.
2. Ensure that the horn is working correctly.
3. Hold the front and rear brake handles, respectively, and check if the brakes are working correctly and if the wheels are rotating smoothly.

Check the handlebars:

Ensure that the handlebars are tightened without any wobbling, have flexible steering, no interference, and no strange noises.

Shock absorber adjustment:

Adjust the front and rear shock absorbers to meet your riding needs according to the actual situation.



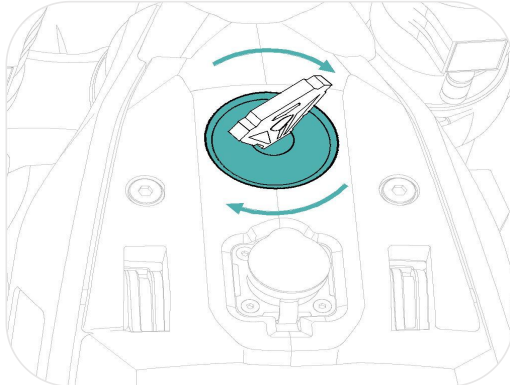
Warning: Please ensure your safety by wearing a helmet and other protective gear while riding. We highly recommend choosing a full-covered off-road helmet and off-road protective equipment for the best protection. The pictures in the manual are for reference only, so please always take full safety precautions.

It is important to not let anyone who is not familiar with the dirt bike (All-Terrain Bike) ride it. Riding with one hand or no hands is dangerous and should be avoided. Additionally, it is extremely dangerous to ride after consuming alcohol or drugs. Stay safe and always ride responsibly.

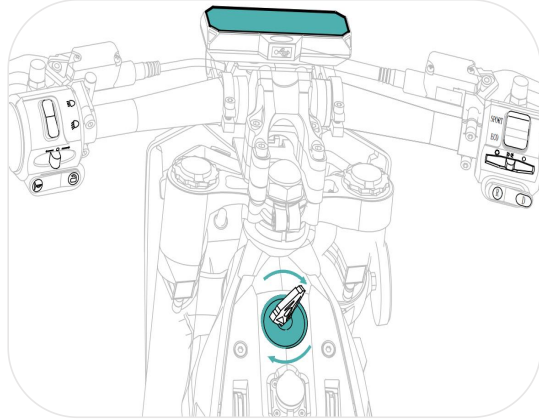
5 、 Learn to Ride

Start

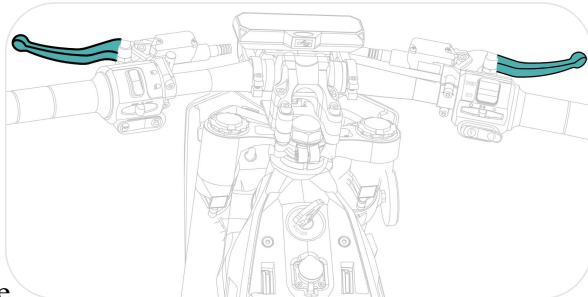
1. Insert the key into the electric lock hole and rotate clockwise to power it



2. Check whether the switches, instruments, horn, front and rear brakes are working properly.



3. Release side bracket to switch to driving mode.



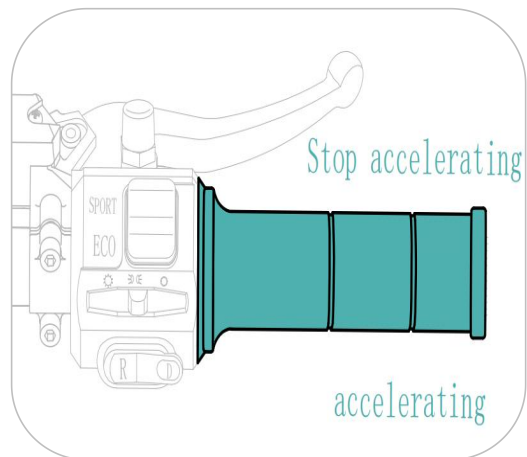
4. Before the vehicle starts: get on the bike and sit firmly, collect the side bracket.



Warning: Acceleration must be smooth and gentle. Do not over operate to avoid danger or damage to the dirt bike. Make sure first time riders use ECO mode. And only use SPOR mode after becoming fully familiar with the dirt bike.

5. Turn the throttle slowly, inward for acceleration, outward for stopping acceleration.

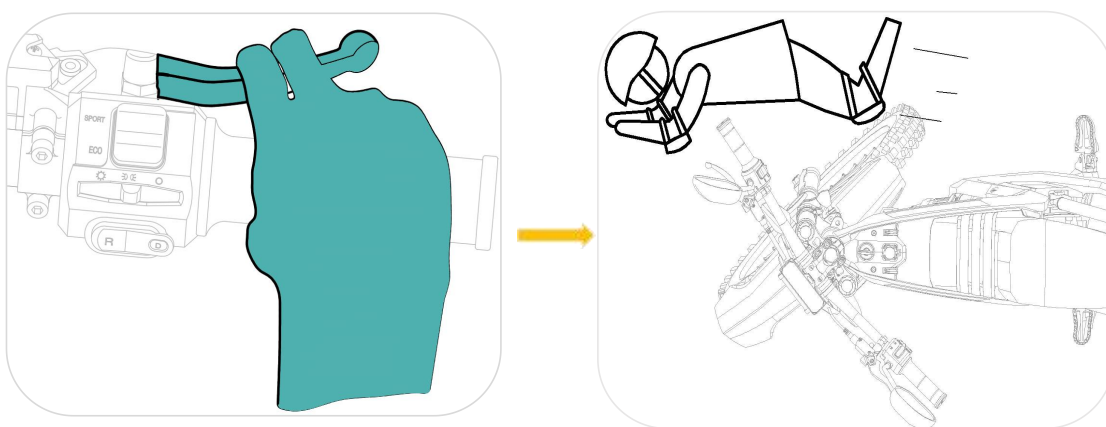
Note: You need to release the brake handle when accelerating, otherwise it will trigger the brake power-off function.



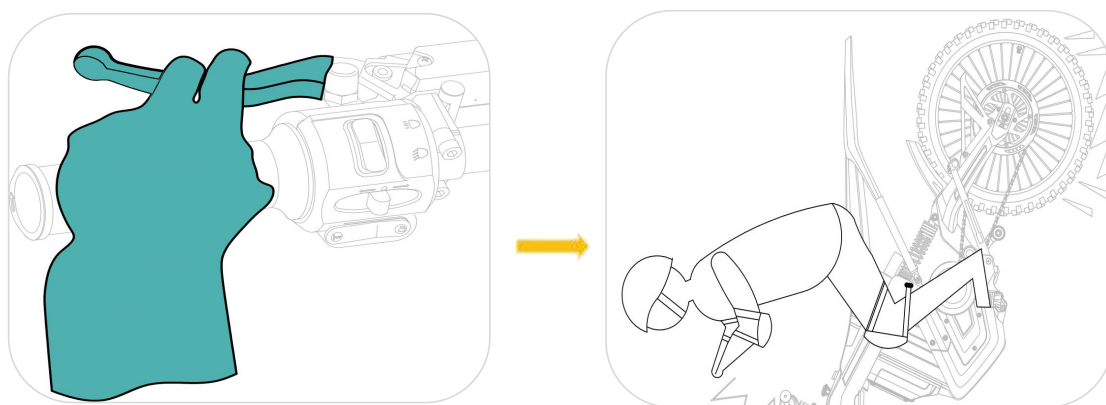


Warning: Please operate the brake handle according to the actual situation and gradually increase the force to prevent the wheel from locking and slipping, which can result in injury. Do not grip it suddenly. It is important to try to anticipate and avoid sudden braking, hard steering, and other operations that can easily cause side slips and falls. This is especially important when the road is slippery due to rain or other conditions.

Sudden squeezing of the front brake by the right hand while riding may lead to rollover.

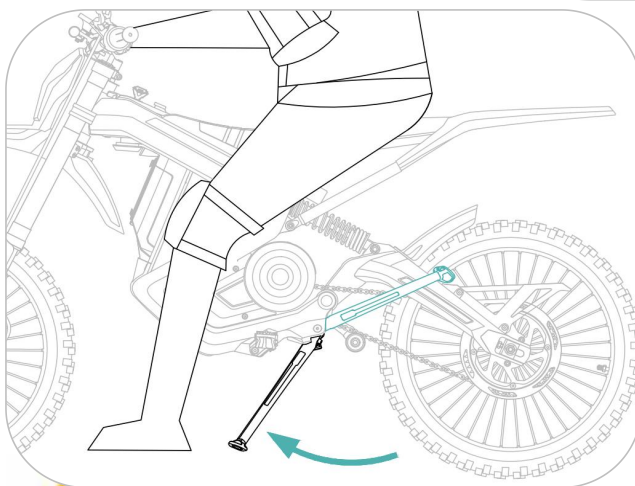
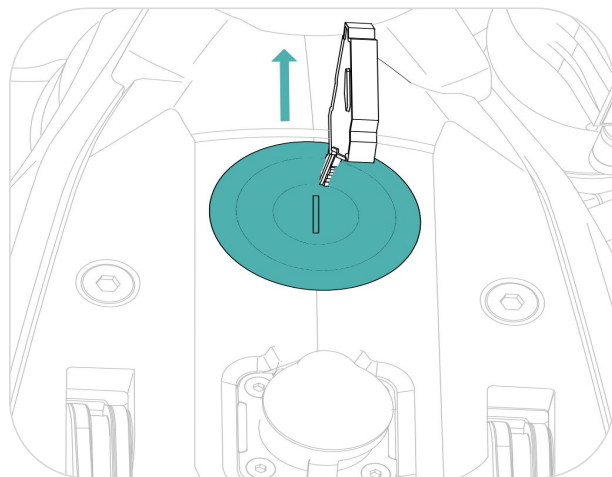
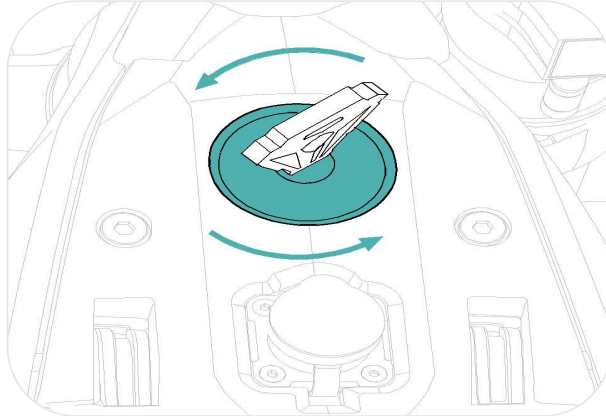


Sudden squeezing of the rear brake by the left hand while riding may lead to rollover.



Parking

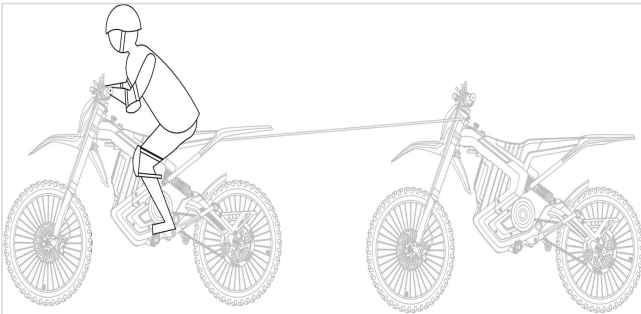
Please pay attention to road conditions and slow down when approaching a parking area. After the vehicle becomes stable, turn off the switch lock and remove the key. Use the side bracket to secure the vehicle in place.



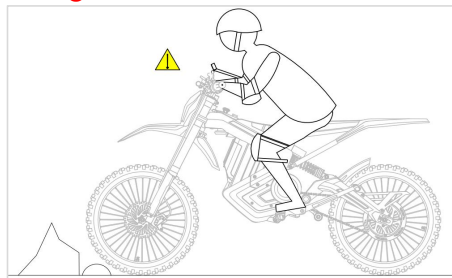
Warning: When parking and leaving the dirt bike, ensure to stand the side bracket, engage the P-gear parking function, and turn off the power to avoid accidental contact with the throttle, which can cause accidents.



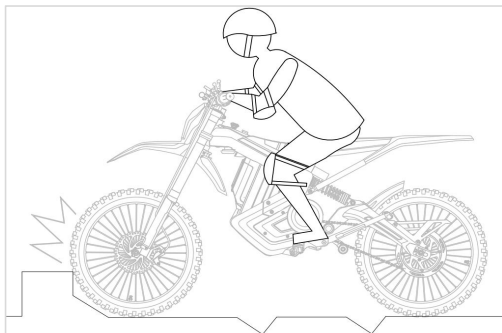
Please do not attach or tow other vehicles or



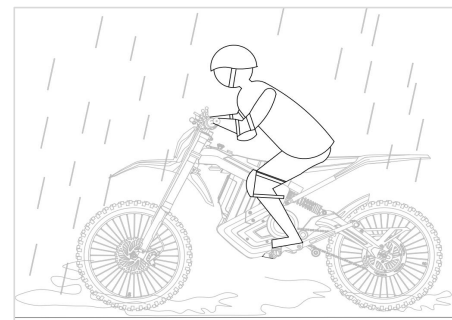
Do not use cell phones, cameras, headphones, ear plugs, etc. when riding.



Ride slowly and carefully in complicated road conditions.



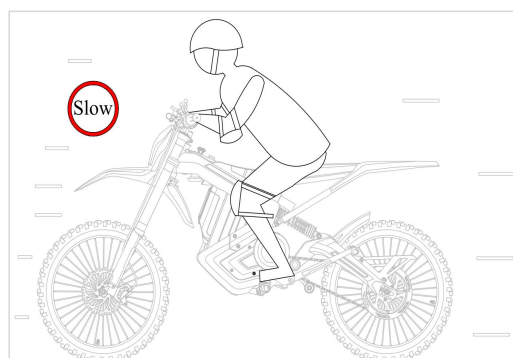
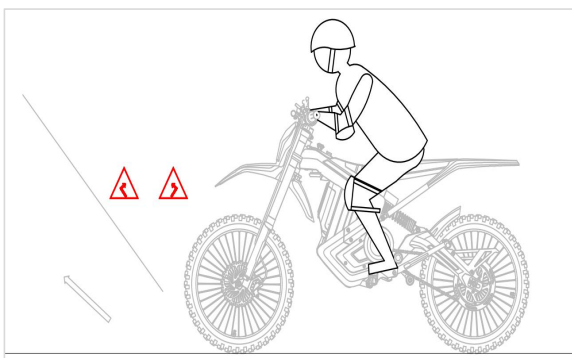
Do not drive in bad weather or when extremely tired. And do not wade deeply into the water, otherwise the battery will be damaged or cause personal injury.



Be sure to slow down before a sharp turn.



Please hold the handlebars with both hands and no speeding.



Safety hazards: pay attention to avoid them.
Do not use dangerous behaviors.
Do not ride after drinking.

6 、 Vehicle use instructions

● P-gear parking function

1. Enter the P-gear parking mode when turning on the power.
2. Support the side bracket to enter the P-gear parking mode.

Note: Open the side bracket before pinching the brake to activate the P-gear parking function.

● Vehicle "power off" (power on but lose power)

1. Brake power off: pinch the brake handle and turn the throttle, which will result in no power output.
2. Motor overheating protection.
3. Controller overheating protection.
4. Battery overheating and power reaching the under-voltage protection point.

● Vehicle power reduction

1. Controller overheating: when the working temperature exceeds 85°C, the derating process begins. Each 1° increase will result in a 10% derating. If it continues to overheat down to 20% of the rating, the power output will be cut off. It can be used again after the controller has cooled.
2. Motor overheating: when the working temperature exceeds 110°C, it starts to enter the derating process, with each 1° increase resulting in a 10% derating. If it continues to overheat down to 20% of the rating, the power output will be cut off. Wait for the motor to cool down before using it again.
3. Voltage from 53V to start linear derating processing, with each lower 1V reducing the output by 20%. The minimum drop is 15% of the rated.
4. When the power is zero, the power output will stop. (If it is not charged in time to continue to be used, the battery may enter over-discharge protection.)

Note: After over-discharge protection, the battery needs to be charged and activated with the charger. For the activation method, see the P35 fault phenomenon, Article 7.

● About the environment during use

1. It is not recommended to use the sports gear when the temperature is below 0°C ~ -20°C, as the battery may only perform at 80% capacity compared to room temperature.
2. When the temperature is higher than 50°C, it is recommended to avoid riding at full power for extended periods of time.

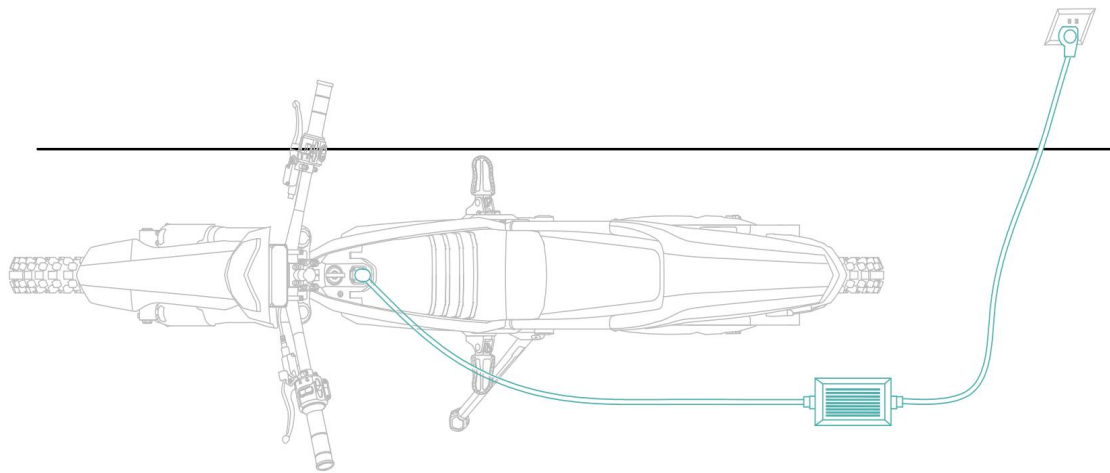
● About water wading

The electrical dirt bike (All-Terrain Bike) is capable of occasional wading up to a maximum depth of 24cm (9 inches), but prolonged soaking is not recommended, especially if the motor is at a high temperature. Water exposure can cause internal damage due to cooling and internal air contraction, leading to water absorption by the oil seal and cable position. The waterproof level of each component is as follows: Battery (IP55), Motor and controller (IP67), and Full vehicle connector (IP55).

7、How to Charge

Charging the whole dirt bike (All-Terrain Bike)

Connect the charger output to the vehicle charging port, then connect the other end to the power supply.



Warning: Do not charge the battery below 31°F, as this may damage the battery. Wait for the battery to warm up to the appropriate temperature before charging it.

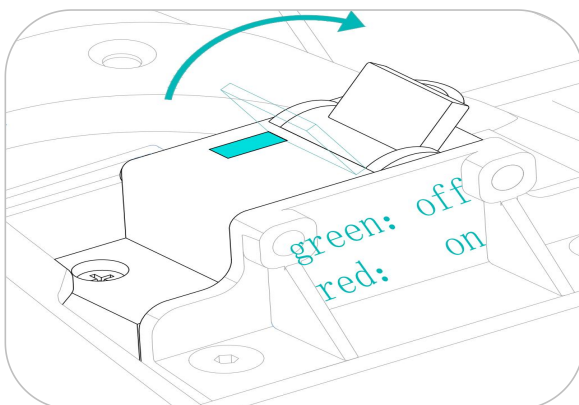
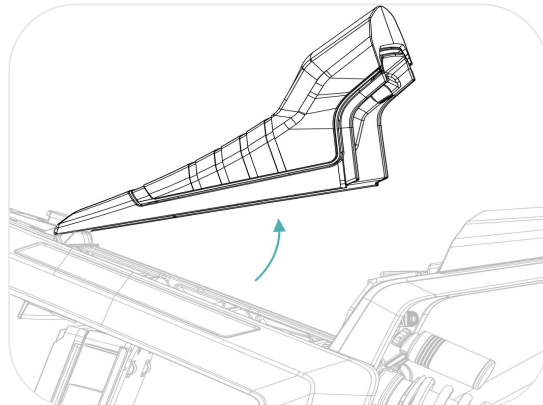
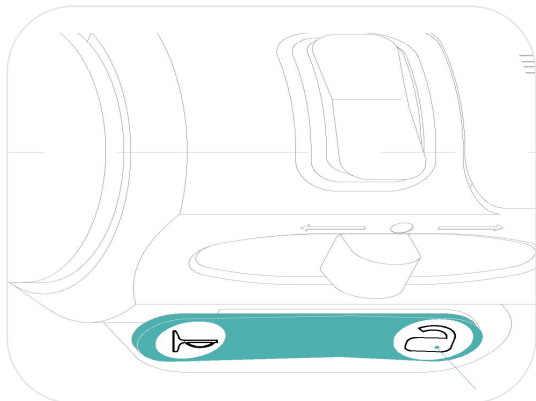
To ensure the correct use and maintenance of lithium batteries, do not dismantle them without permission. Abandoned batteries must be recycled in an appropriate facility.

When not using the dirt bike for over one month, turn off the air switch or unplug the charger, and keep the battery fully charged. When not charging, please make sure to fasten the charging sealing rubber cap.

Portable Charging

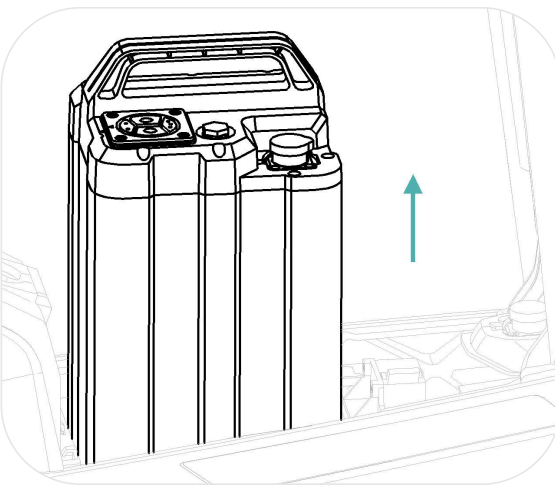
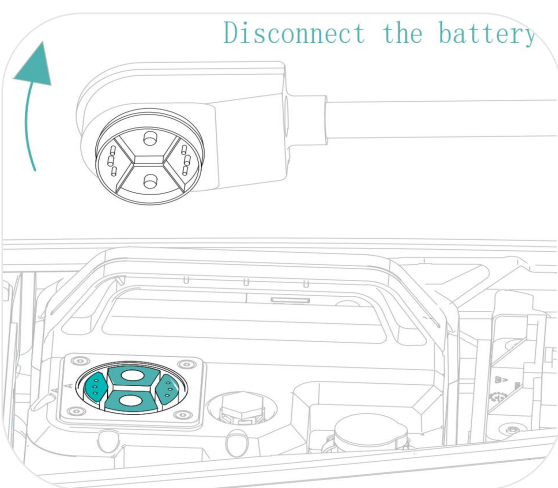
1 、 Remove the battery

(1) Ensure the switch lock is in the open state, press the left combination function switch unlock button, open the seat, and close the air switch.



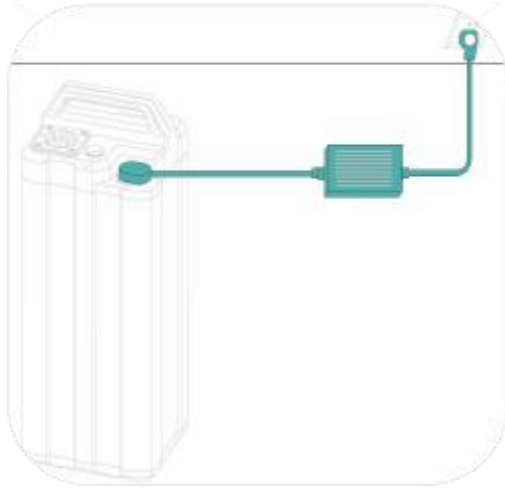
The picture is only a reference schematic, the actual product appearance and function may differ.

(2) Remove the discharge plug on the battery and pull upward to remove the battery.

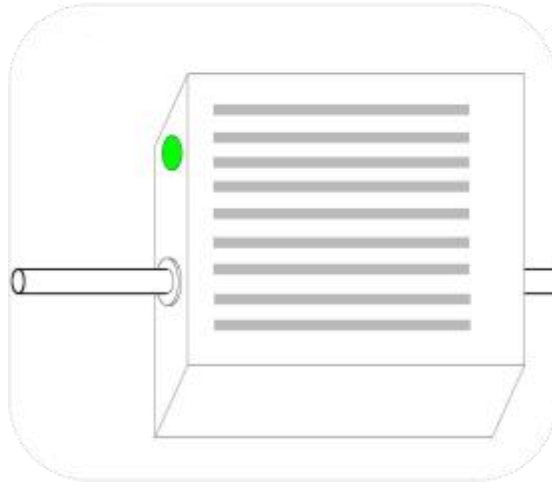


2 、 Battery Charging

(1) Connect the output of the charger to the Li-ion battery charging port first, and then connect the other end to the power supply.



(2) The charger indicator displays a red light while charging and switches to a steady green light once the battery is fully charged. Please power off on time.



About Charging

- Charge the electric dirt bike away from children.
- Do not place any objects on the charger. Use the charger in a dry and well-ventilated environment.
- If you detect an odor or find the temperature is too high during charging, please stop charging immediately. If the battery still does not show full charge after a long time, please send it to the repair office for servicing.



Warning: It is important to use the authorized lithium battery charger specifically designed for this dirt bike. When replacing the charger, please ensure to use an OEM charger to avoid potential damage. Always turn off the motor and switch before installing or removing the battery. Plugging in the charger while the electricity is on can negatively affect the life of the battery. Failure to insert the battery plug with the switch open can pose a risk of ignition and lead to damage to the plug or other components.

8 、 Dirt bike (All-Terrain Bike) Parameters Table

	Item	Parameter	
Basic Information	Brand	RAWRR	
	Overall vehicle size (L*W*H)	1935*795*1200mm	
	Overall vehicle weight (including battery weight)	60V/74Kg	72V/76Kg
	Maximum load capacity	100Kg	
Major Parameters of the Dirt Bike	Wheelbase	1290mm	
	Seat height	850mm	
	Min. ground clearance	310mm	
	Max. speed	80Km/h	
	Max. power	7.5Kw	
	Full charge range	60V Average Speed 25Km/h≥120km	72V Average Speed 25Km/h≥144km
	Protection class	IP65	
Body System	Body type	Double-beam forged aluminum alloy	
	Wheel type	Spoke rim-aluminum alloy 19*1.6	
	Front tire type	Off-road tire 70/ 100- 19	
	Rear tire type	Off-road tire 80/ 100- 19	
	Drivetrain	428H chain 108 links	
	Front brakes	203mm 4-piston hydraulic disc type	
	Rear brakes	203mm 4-piston hydraulic disc type	
	Suspension system	Double-shoulder front fork-travel 220mm Adjustable external airbag hydraulic shock absorber-travel 75mm	
Motor	Rated power	3800W	
	Rated torque	10N.m	
	Rated speed	3800r/min	
	Climbing angle	100% slope	
	Cooling method	Natural cooling	
Controller	Control scheme	FOC sine wave vector control	
	Rated input voltage	60V	72V
	Rated output current	85AH	71Ah
	Operating ambient temperature	-20~+65	
	Undervoltage protection value	49V	59V

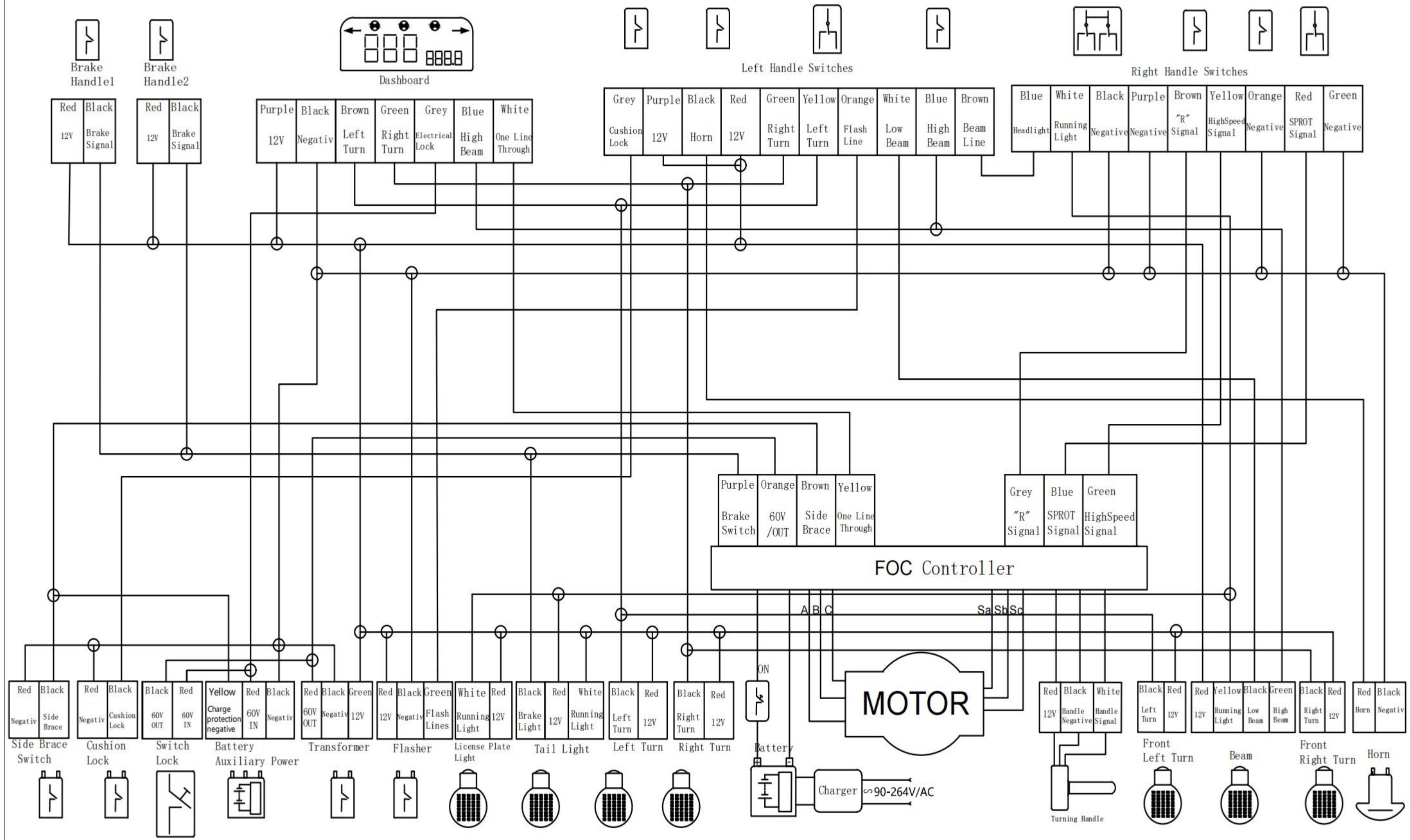
Charger	Charger type	Lithium charger	
	Rated output voltage	60V	72V
	Input voltage	100~264VAC 50/60HZ	100~264VAC 50/60HZ
	Output voltage	67.2V	84V
	Output current	6A	6A
Other	Handlebar specifications	Φ22~Φ32 reducer goose handle	
	Communication port	CAN / One line through	
	Lamp system	LED	
	Instrument type	VAbblack and white	
	Cell phone charging port	USB-5V standard interface 1000mA	

Note: The range may vary greatly depending on the testing environment. The data is measured with the cyclist weighing 220lbs and ambient temperature 80 F.

9 、 Other Notes

1. RAWRR is committed to continuously improving the performance of its products, and as such, product specifications and manual content may change without prior notice. We kindly ask for your understanding on this matter. If there are any discrepancies between the icons and pictures in this manual and the actual product, please refer to the actual product for accuracy.
2. RAWRR reserves the right to interpret and explain this product statement to the extent permitted by law.
3. Should you ever decide to resell or transfer your RAWRR dirt bike, we kindly request that you include this manual as it is an integral part of the product. Should you have any inquiries regarding RAWRR, our team is available to assist you at any time. Once again, we appreciate your trust in and selection of our product.

Annexes (Dirt Bike Electrical Schematic)



Electrical Schematic

Controller Alarm Code List

Alarm Code (Buzzer Beep)	Fault Name	Protective Action	Troubleshooting
1 (1 short)	Software overcurrent	Shutdown	1.Restart with the key. 2.Check if the wiring harness is loose. 3.Replace the powertrain.
2 (2 short)	Motor over speed	Shutdown	1.Restart with the key. 2.Replace the controller wiring harness. 3.Replace the motor.
3 (3 short)	Battery over- voltage	Shutdown	1. Restart with the key. 2.Replace the battery.
4 (4 short)	KEY power abnormality	Shutdown	1. Restart with the key. 2.Replace the switch key. 3.Replace the main wiring harness.
5 (5 short)	12V power supply abnormality	Shutdown	1.Replace the DC converter. 2.Replace the power cable.
6 (6 short)	5V power supply abnormality	Shutdown	1.Replace the controller harness. 2.Replace the motor harness. 3.Replace the motor throttle. 4.Replace the controller.
7 (7 short)	Angle sensor disconnection	Shutdown	1.Replace the controller harness. 2.Replace the motor harness.
8 (8 short)	Hardware overcurrent	Shutdown	1.Restart with the key. 2.Replace the motor. 3.Replace the controller.
9 (9 short)	Current closed loop failure	Shutdown	1.Replace the motor. 2.Replace the controller.
10 (1 long)	Battery undervoltage	Frequency reduction	1.Charge the battery. 2.Replace the battery.
11 (1 long 1 short)	Controller over temperature	Frequency reduction	1.Turn off the power and let the controller to cool down.
12 (1 long 2 short)	Motor overtemperature	Frequency reduction	1.Turn off the power and let the motor to cool down. 2.Replace the controller harness. 3.Replace the motor harness.
13 (1 long 3 short)	Current sensor abnormal	Shutdown	1.Replace the controller.
14 (1 long 4 short)	Angle signal interference	Shutdown	1.Replace the motor.
15 (1 long 5 short)	Turnbuckle signal over limit	Shutdown	1. Check the throttle harness. 2. Replace the throttle.
16 (1 long 6 short)	Turnbuckle not reset	Shutdown	1.Loosen the throttle completely when powering up. 2.Check the throttle harness. 3.Replace the throttle.
17 (1 long 7 short)	Motor blocking	Frequency reduction	1.Make sure the drive wheel rotates freely. 2.Replace the motor.
18 (1 long 8 short)	BMS failure	Shutdown	1.Restart with the key. 2.Replace the battery.
19 (1 long 9 short)	BMS communication disconnection	Shutdown	1.Check the BMS communication cable. 2.Replace the battery. 3.Replace the controller.
21 (2 long 1 short)	Brake failure	Shutdown	1.Unplug the brake sensor cable. 2.Replace the brake sensor switch.

10 、 Fault phenomena and solutions

No	Item	Cause of failure	Troubleshooting method
1	Turn on the power and the motor does not work	1. Battery connection wire is loose 2. The throttle connector is off 3. Motor wiring is loose or disconnected 4. Brake handle does not return, or brake switch failure	1. Check whether the connection line is connected firmly 2. Repair the plug to connect firmly 3. Reconnect and tighten the repair place 4. Check the brake handle and brake switch
2	The speed regulation is not working, or the maximum speed is low	1. Battery voltage is too low 2. throttle failure	1. Fully charge the battery 2. Replace the throttle at the maintenance service
3	The range of one charge is not enough	1. Insufficient tire pressure 2. Insufficient charging or charger failure 3. Improper brake adjustment, riding resistance is too high 4. Battery aging or damaged 5. Uphill more headwind frequent acceleration and deceleration load	1. Tires inflated to the appropriate air pressure 2. Charge enough or check the charger plug contact 3. Readjust the brake 4. Replace the battery 5. The use of the environment to reduce the range of the normal phenomenon
4	Charger does not charge	1. Charger plug off or loose connection 2. Battery pack connection cable plug loose	1. Insert the plug or plug-in to open the battery compartment of the seat cushion and insert the plug tightly 2. Open the battery of the seat cushion, and insert the plug tightly
5	Cushion does not open	1 、 No battery or battery damage. The whole bike cannot be powered on the case 2 、 Cushion lock failure	1. Use the Emergency key to open the lock 2. Repair the aftermarket to replace the cushion lock

6	Abnormal rattling from dirt bike (All-Terrain Bike) body during riding	1.Unreasonable chain tightness 2.Tire deflection	1.Adjust the chain tightness 2.Adjust the left and right jacks to center the tires
7	After connecting the power supply, the charger does not work normally, and the power meter does not show the power level	Battery over-discharge protection due to a long time without charging, or improper battery storage	Connect the charger's output to the battery charging port, connect the input plug of the charger to the utility grid, then long-press the battery power meter button for 1 S. Then the battery will enter the forced activation charging mode after the battery power meter lights up, the battery will enter the normal charging state
8	The brake does not work	Friction pads worn	Replace friction pads
9	Other faults	1. When you encounter a fault that you cannot eliminate by yourself under the above guidance or a fault that cannot be determined 2. Motor, controller, charger, battery damage	Please contact the supplier or repair station if you encounter the above situation. Do not open the above parts without permission. Otherwise, you will lose the company's warranty commitment

11 、 Maintenance Guide

In principle, with normal riding, the first check should be performed at 10~30km (which can also be understood as the first warranty). The inspection should cover the following content:

1. Check the tightness of the front and rear wheel wire spokes.
2. Inspect the front steering column bearing for gaps.
3. Check the chain tightness.
4. Verify if the chain is in the tension wheel guide groove.
5. Inspect the shock absorber for oil leakage and confirm if the compression and rebounds are in the correct position. Note that the adjustment knob should not be screwed to the left or right during the adjustment process.
6. Check the tightness of the screws that fix the handlebars.

Special Note: Before starting any maintenance, make sure to turn off the power to the dirt bike.

Pay full attention to safety when checking.

1. choose a wide and flat place and park the vehicle.
2. If necessary, drive the vehicle to a safe area while being aware of the surrounding environment and conditions.
3. If any abnormalities are found during the inspection, refrain from driving until the issue is resolved. If you cannot resolve the problem on your own, please contact the after-sales service or a designated authorized service outlet for assistance.

Note

1. Front and rear brakes are disc brakes. The brake friction pad should be replaced before it becomes too worn.
2. Pay attention to the cleanliness of the disc brake system in daily use to avoid prolonged adhesion of mud and sand, especially to avoid oil pollution.

Inspection of operating parts

1. Check whether the shock absorber is bent, deformed, or damaged. Shake the handlebar up and down to check for abnormal sound caused by the front shock absorber if it is damaged or leaking oil.
2. Brake inspection: Check whether the free gap of the brake handle is within the specified range of 15~30mm, and adjust it if it does not meet the requirement after measurement.
3. Inspection of braking effect: Please check the braking effect by riding at low speed on a dry and flat road, using the front and rear brakes separately.
4. Inspection of tires, spokes, tensioning wheels, and chains: The tires of your dirt bike (All-Terrain Bike) are in contact with the ground for a long time, and foreign objects such as stones, glass, and nails on the ground can cause damage to your tires. So, you should pay attention to the road when riding and avoid riding in places that may damage your tires. In addition, you should always check whether the tires have obvious cracks and other damage, whether they are embedded with stones, glass, and other foreign objects, and whether there is unreasonable and abnormal wear.
5. Check the air pressure with a tire pressure gauge while the tires are cool.
6. Check for cracks, damage, and abnormal wear.
7. Check whether the wheel rim spokes are loose.
8. Check the tension of the chain. The chain up and down range should be 10~20mm.
9. Check the depth of tire grooves.

Check the tire wear, groove depth, and replace the tire when the wear amount reaches 2/3 of the bump. When there is a strange noise or fluttering in the tire ride, please contact the aftermarket or designated authorized outlets to check and repair.

Recommended: rear axle nut locking torque is 40N.m, and the front axle nut locking torque depends on the front fork.

Note: When experiencing a suboptimal braking effect, ensure to hold the brake handle tightly. If the issue persists, it is recommended to inspect the disc brake pad cleanliness and thickness size. If the problem persists, please contact the authorized service outlet for after-sales inspection

Battery check

Check the power

To check the power of the bike, ensure that the battery is fully charged, and then use a multimeter to measure the positive and negative voltage of the electric port. For normal operation, the full voltage should be between 66.2~67.2V.

Additionally, it's important to check the appearance of the battery for any signs of damage. If the upper and lower sealing covers or power indicator are broken, this can lead to the risk of water seeping in after seal failure. If you notice any such damage, please contact the aftermarket or designated authorized service outlets..

Note.

1. Ensure that the switch lock and air switch are turned off before removing or installing the battery. Additionally, cover the charging port with the sealing rubber cap.
2. If you encounter difficulty inserting the battery into the compartment, do not force it in. Instead, remove the battery and check for any foreign objects that may be obstructing its placement.
3. During winter battery storage, it is recommended that the battery be kept indoors at a temperature above 0°C. Additionally, it is advised to regularly check the power level of the battery to maintain its optimal condition.

Battery charging and charger use

1. The dirt bike must be charged with the original model compatible charger. Do not use other models that do not match the charger so as not to damage the battery or be dangerous.
2. Check whether the charger input voltage is consistent with the grid voltage.
3. The charger will automatically turn off when it is fully charged, but try to avoid

connecting the charger to the grid for a long time. The maximum time after a full charge should not exceed 6 hours.

4. It is strictly forbidden for users to disassemble the battery to avoid damage and danger.

5. When the battery over-discharged protection has occurred, it needs to be activated by charging with the charger. The activation method is described in P3 5 (fault phenomenon and troubleshooting method), Article 7.

6. Use and maintenance of electrical appliances

1) Regularly check the motor fixing screws for looseness.

2) Regularly check the motor and controller wiring for looseness and insulation condition.

3) Periodically check whether the air switch wiring is loose.

4) Do not drive in water that is too deep so as not to affect the brake friction life and motor working

Note: When the motor temperature or controller temperature is too high, or the battery power is too low, the dirt bike (All-Terrain Bike) will automatically reduce power operation, which is not a fault.

Maintenance and repair of motor

Use

1. If the controller malfunctions during operation, the dirt bike (All-Terrain Bike) cannot be started directly.
2. During operation, there should be no intermittent or abnormal sounds or vibrations.
3. Before starting the dirt bike (All-Terrain Bike), ensure the gear oil is filled with GL-4 85W-90 oil, about 100mL.

Maintenance

The first maintenance is performed on the assembly when the new dirt bike has ridden about 1000 km. During the first maintenance, the gear oil of the reducer should be replaced. Iron chips adsorbed on the oil drain screw plug should be cleaned up, and the residual iron chips in the reducer should be cleaned up. The dust and foreign matter around the ventilation plug should be cleaned up and kept clear. Then the signals and bolts of the sensors should be checked for tightening.

After the first maintenance, implement maintenance inspection on the assembly according to the maintenance requirements of the whole dirt bike (All-Terrain Bike), as follows.

- a. Check the motor sensor signals, and replace them in time if broken or damaged signal lines are found.
- b. Check the suspension of the assembly and whether the fastening bolts of each part are loose. If they are loose, they should be tightened immediately.
- c. Check the assembly's sealing surface and oil seal, and replace the damaged oil seal in time to ensure the sealing performance of the assembly.
- d. Clean the foreign matter around the vent plug and keep the vent plug open.
- e. Replace the gear oil every three months or 5,000 km (whichever comes first) according to the riding conditions of the dirt bike (All-Terrain Bike), and clean up the iron filings.

12 、 Warranty Policy

Rawrr Inc. provides a limited warranty on all of its products.

The unit has a 30-day warranty for workmanship defects and operational issues.

Additionally, there is a 30-day (100 miles) warranty on all parts and OEM accessories.

For the power system, which includes the motor, controller, and battery, there is a 365-day (1,000 miles) warranty.

Please note that Rawrr Inc. does not allow returns on product orders unless the unit is not operational upon arrival. Once the unit has been ridden, it is considered used, and Rawrr Inc. does not allow returns on used units.

Therefore, we highly recommend that customers conduct thorough research before completing their purchase. If a unit has scratches, chips, or minor cosmetic issues, we may offer a reasonable discount, but these issues are not grounds for a warranty replacement or unit return..

13 、 Regular Maintenance Record Card

Regular Maintenance Record Card		
Maintenance period	Maintenance requirements	Maintenance Person/ unit seal
300Km/ 1 month	Whole dirt bike (All-Terrain Bike) fasteners, check chain, tension wheel tensioning check (motor, brake, spokes, etc.)	
1000Km/3 months after the first warranty	Whole dirt bike (All-Terrain Bike) safety parts fastening inspection, high current circuit inspection, chain and tension wheel tensioning degree inspection motor, brake, spokes, etc.	
2000Km/6 months	High-current circuit check, brake oil circuit check, brake pad check, spoke chain and tensioner wheel tensioning course magnetic check	

Note:

1. Users are required to perform mandatory maintenance projects described in the "Regular Maintenance Record Card" at authorized service outlets on schedule.
2. Failure to perform maintenance on time may result in the warranty being voided.


Maintenance Record Card


[illegible]



@RIDERAWRR

Rawrr Inc

 5550 Stockdale Ct Jurupa Valley, CA 92509

 Hello@riderawrr.com
