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# **Chapter I Driving Safety**

# CHAPTER I CRIVING SAFETY

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## **-01-**

### User Notice

#### Foreword

As an integral part of the electric motorcycle, the User Manual shall be handed over to new owner with the vehicle when reselling the vehicle.

The User Manual includes the latest production information up to the time of printing. VMOTO reserves the right to revise the Manual at any time. The contents of the Manual are subject to change without prior notice, and we do not bear any responsibility in this regard.

Any part of the Manual cannot be arbitrarily duplicated or copied without written consent of VMOTO.

The vehicle shown in figures of the Manual may be different with that you purchased actually.

# CHAPTER I CRIVING SAFETY

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Please do not borrow your electric motorcycle to a person who cannot drive it to avoid the unnecessary injury!

## **To dear customers:**

Thank you for choosing VMOTO Electric Motorcycle. Now, you can indulge in the safe and comfortable driving time.

The safety of you and others is quite important. Therefore, it is your important responsibility to safely operate the electric motorcycle.

To make sure you can drive it safely, please check the vehicle before driving, carry out regular maintenance and wear helmet and other PPEs.

The User Manual mainly introduces the correct use method, safe driving method, simple inspection method and others of the vehicle to ensure the safe and comfortable driving. Even users are proficient in using and driving the vehicle, please still carefully read the User Manual

# CHAPTER I CRIVING SAFETY

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before using due to the special configuration and use method for every vehicle.

Please do not borrow your electric motorcycle to a person who cannot drive it to avoid the unnecessary injury!

Please check the User Manual and "User Warranty Manual" to confirm the followings.

- ❶ Correct Use Method of Electric Motorcycle
- ❷ Overhauling and Maintenance
- ❸ Filling and Signing of Electric Motorcycle Warranty Card

Please comply with following items as they are very important for safe driving.

- ❶ Please carefully read this User Manual
- ❷ Please observe the recommended steps described herein
- ❸ Understand and observe the safety-related signs

Safety-related Signs

The different signs below indicate "it may lead damage to driver or others" and the method of



# CHAPTER I CRIVING SAFETY

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avoiding. The information is very important. Please carefully read it.

 **Danger.** It will lead to serious injury or death if not complying with this indication.

 **Warning.** It may lead to serious injury or death if not complying with this indication.

 **Caution.** You may lead to injury if not complying with this indication.

Other signs:

**Note: they are matters suggested to be followed to protect the electric motorcycle.**

All contents recorded herein are prepared according to the latest information mastered before printing. VMOTO has right to revise the Manual at any time without prior notice to users, and does not bear any responsibility in this regard. Any contents of the Manual shall not be duplicated without written consent of VMOTO.

Due to the specification and other changes of electric motorcycle, the manual cover, content and practical vehicle may be different.

The User Manual and user's warranty manual shall be handed over to new owner with the vehicle when reselling.

# CHAPTER I CRIVING SAFETY

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## Precautions for Safety Use:

- ❶ It is strictly prohibited that person aged 16 below drives the electric motorcycle on the road.
- ❷ Before driving, please check whether the headlight, wheel, brake, reflector and others are normal. The vehicle can be driven after confirming no error.
- ❸ Refitting the electric motorcycle against the regulations or using the non-conformable battery or charger is not allowed.
- ❹ It is prohibited to refit the vehicle to avoid danger, particularly changing the battery capacity and voltage, and improving the highest speed of vehicle.
- ❺ Do not make or receive a phone call in driving. Do not wear the headset, listen to music or so on. Please drive on the designated lane. Do not run a red light, retrograde or cross the lane. Do not tow or climb the motorcycle in driving.
- ❻ Persist in vehicle maintenance and service to keep the vehicle in good condition.
- ❼ Do not drink driving, speeding or keep pace with other vehicles.

## CHAPTER I CRIVING SAFETY

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- ⑧ It is strictly prohibited to borrow the vehicle to a person who is unable to control the vehicle and not familiar with vehicle performance to avoid injury.
- ⑨ The vehicle can be used to carry people or articles according to laws and regulations. Overload is definitely forbidden. Do not hang any articles onto the handlebar. Do not place any articles onto the pedal.
- ⑩ Driver must wear helmet that conforms to safety standards. Additionally, driver must wear cycling jerseys those are of high safety and high recognition, and convenient for driving according to weather and driving condition.
- ⑪ When driving in rainy and snowy days, the brake distance will be extended, which is easy to result in side slipping. Please speed down in such case. When there is a rainstorm and other harsh weathers, please avoid going out as possible. Please turn on the headlight when driving at night.
- ⑫ Do not stop the vehicle at building hall, staircase, evacuation exit, aisle or emergency exit. Do not occupy the firefighting access. The vehicle shall be stopped to a place where it is no combustible article, fire source, electric heat and gas equipment at surroundings.

## CHAPTER I CRIVING SAFETY

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13 The electric motorcycle shall not be stopped or charged in residential building, and shall keep away from combustibile article in charging. The charging time shall not be too long.

14 The battery shall be correctly used and maintained according to the method specified in battery manual. The old and waste battery shall not be dismantled at will but shall be recovered by relevant specialized departments.

15 The charger shall be correctly used and maintained according to the method specified in battery manual. Please carefully read the charger warnings before using. The replaced charger shall be matched with battery model.

16 Before driving, please check: whether the state of power line, lighting circuit and others are normal, whether the front and rear brake works normally, whether the handlebar, front and rear wheels are well fixed, whether the tire pressure is normal and whether the reflector is not broken or contaminated.

# CHAPTER I CRIVING SAFETY

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## **-02-**

### Precautions for Safety

#### Precautions for Safety

- ➊ Before starting, make sure the motor is unlocked and observe whether the vehicle and surroundings are normal or not.
- ➋ Turn on the power switch, and check power, light, buzzer, brake, wheel and other safety items.
- ➌ Retract the central support or side stand, sit on the saddle and slowly turn the governor handle inward.
- ➍ Driver shall hold the handlebars by both hands and put both feet onto pedal during the driving process.
- ➎ Please avoid operating the handlebar violently or drive the vehicle with single hand. Please pay

# CHAPTER I CRIVING SAFETY

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attention to driving safety.

- ⑥ Due to no engine sound, please constantly pay attention to surroundings, other vehicles and pedestrians.
- ⑦ When adjusting the handlebar and saddle, please note not to expose the safety line mark of handlebar stem and seat post.
- ⑧ Check whether reflectors are broken or contaminated, and timely handle them.

## Preparation for Driving

### 1. Helmet

It shall meet the safety standards and fits the head size with high recognition.

- ① It is recommended to adopt the product with relevant certificate.
- ② Please wear the helmet correctly and fasten the buckle
- ③ Please use the protective mask or goggles those do not hinder your vision to protect eyes.

# CHAPTER I CRIVING SAFETY

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## WARNING

**If the helmet is not used correctly, it may lead to serious injury or death in case of accident.**

**Driver must wear the helmet in driving.**

### 2. Gloves

High wear-proof leather gloves.

### 3. Boots

It shall be skid-proof and able to protect your ankles.

### 4. Overcoat and trousers

Please choose long-sleeved shirt and long pants those cover most of your body and can protect you.

# CHAPTER I CRIVING SAFETY

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## **-03-**

### Precautions for Driving

#### Precautions for driving

- ① Keep the relaxing posture and you can drive it with ease.
- ② Pay attention to protect knees from colliding during the driving process (particularly the emergency brake or bumpy road).
- ③ Please slow down when driving on broken road or gravel road, and note to observe.
- ④ When driving in rainy or snowy days, the road is wet, which is easy to result in side slipping. Please pay attention.
- ⑤ Keep ready to brake any time. When driving for wading, the brake effect may be reduced. Please slow down and watch out.



# CHAPTER I DRIVING SAFETY

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## Running-in

The correct running-in can keep vehicle in good performance.

Key points for running-in (driving distance:  $\geq 1000\text{km}$  / driving time:  $\geq 3$  months): avoid sudden startup, sudden acceleration, emergency brake or sudden deceleration. Please drive with caution.

## Brake

Please pay attention to the following items:

1. The front and rear brakes shall be used simultaneously
2. The unnecessary emergency brake shall be avoided
  - ① Please speed down when turning and before entering the curve.
3. Please drive the vehicle with caution on wet and slippery road in rainy days.
  - ① Wheels are easy to slip and need the longer brake distance.

# CHAPTER I CRIVING SAFETY

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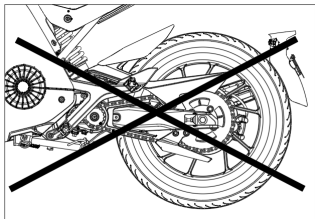
## 4. Avoid the continuous braking

❶ The brake effect goes bad which may be caused by temperature rising.

### **When driving with dim light (night, foggy days and so on)**

When driving with dim light, it may lead to traffic collision or turning over due to poor vision. Please turn on the headlight. If the headlight fails, please push the vehicle ahead.

Do not touch the motor and surroundings during the process of motor running or after stopping for a while.



# CHAPTER I CRIVING SAFETY

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## CAUTION

Surrounding components of motor and brake are still in high temperature during the process of motor running and stopping for a while.

It will result in scalding in case of touching.

Do not touch the surrounding components of motor, brake and other high temperature components before cooling.

The high temperature components cannot contact with combustible articles or other persons.

# CHAPTER I CRIVING SAFETY

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## **-04-**

### Accessory and Refitting

When installing accessories, it is recommended to use VMOTO genuine parts to ensure the safety.

Please consult with VMOTO repair service shop.

We strongly suggest that you shall not refit the vehicle or change the position of original part because such behavior will seriously affect the vehicle stability, brake performance and safety.

Vehicle refitting or changing the position of original part does not meet the requirements for driving safety and violates against relevant traffic management rules.

All quality issues and consequences brought by private refitting shall be assumed by users.

# CHAPTER I CRIVING SAFETY

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## WARNING

**Inappropriate accessories or refitting may lead to accident,  
even serious injury or death.**

**When installing accessories,  
please consult with VMOTO repair service shop and  
follow the attached User Manual.**

# CHAPTER I CRIVING SAFETY

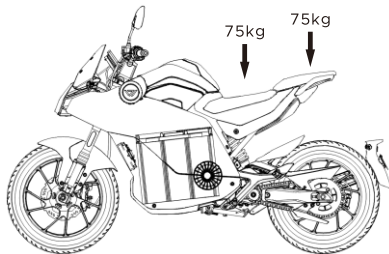
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**-05-**

## Loading Capacity

The design load of the vehicle is  $150\pm 10\text{kg}$  ( $75\pm 5\text{kg} + 75\pm 5\text{kg}$ ), and it is designed to be ridden by two persons (aged 16 above) to the maximum extent.

Loading capacity: as shown in figure below



# CHAPTER I CRIVING SAFETY

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Loading guideline:

- ❶ Do not overload. Please drive at a safe speed.
- ❷ Please do not put articles around the handlebar otherwise it may affect the operation of handlebar.
- ❸ Do not load around the headlight, taillight or motor. The light cover may be melted due to overheat.

# **Chapter II Operation Guideline**



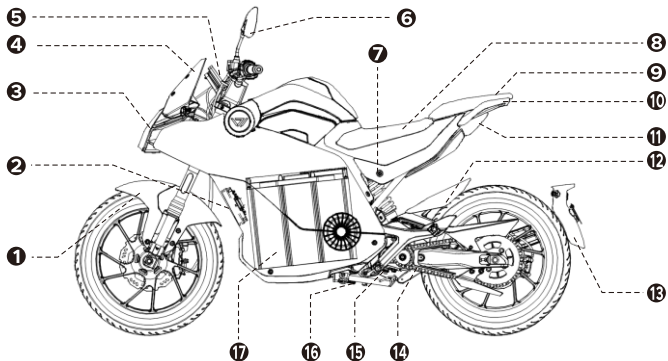
# CHAPTER II OPERATION GUIDELINE

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## **-01-**

### Vehicle Body

Side View



# CHAPTER II OPERATION GUIDELINE

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❶ Front fender

❷ Controller

❸ Headlight

❹ Front windshield

❺ Speedometer

❻ Back mirror

❼ Cushion lock

❽ Front cushion

❾ Rear cushion

❿ Rear handrail

⓫ Rear taillight

⓬ Rear fender

⓭ Rear shield

⓮ Chain

⓯ Mid-motor

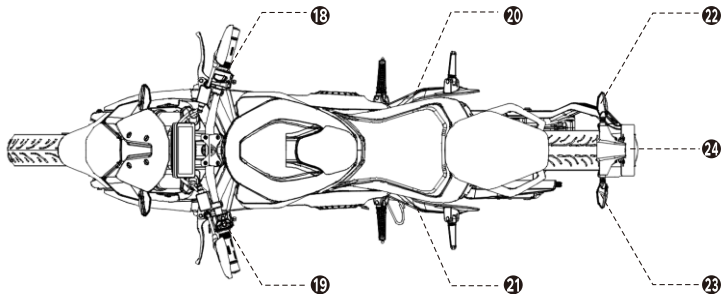
⓰ Side stand

⓱ Battery

# CHAPTER II OPERATION GUIDELINE

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Top View



18 Right switch assembly

20 Right pedal assembly

22 Right rear winker

19 Left switch assembly

21 Left pedal assembly

23 Left rear winker

24 Tail license

## CHAPTER II OPERATION GUIDELINE

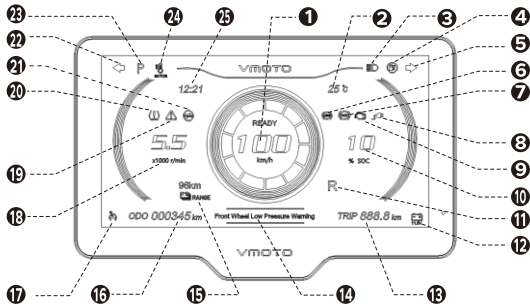
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# -02-

## Speedometer and Indicator Light

This model includes 2 speedometer interfaces.

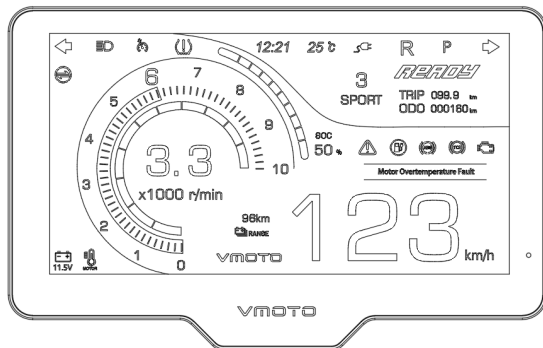
Interface 1:



# CHAPTER II OPERATION GUIDELINE

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Interface 2:



# CHAPTER II OPERATION GUIDELINE

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Interface 2:

- ❶ Speed display
- ❷ Ambient temperature
- ❸ High beam indication
- ❹ Charging indication
- ❺ Right winker
- ❻ ABS alarm prompt
- ❼ TCS
- ❽ Charger connection
- ❾ Fault indicator light
- ❿ SOC (state of charge) display
- ⓫ Gear display
- ⓬ Battery voltage
- ⓭ Trip display
- ⓮ Fault display
- ⓯ Endurance mileage
- ⓰ Total mileage display
- ⓱ Cruise control
- ⓲ Speed display
- ⓳ Exception prompt
- ⓴ Tire pressure alarm
- ⓵ CAN communication state
- ⓶ Left winker
- ⓷ Stopping gear
- ⓸ Temperature alarm
- ⓹ Time display

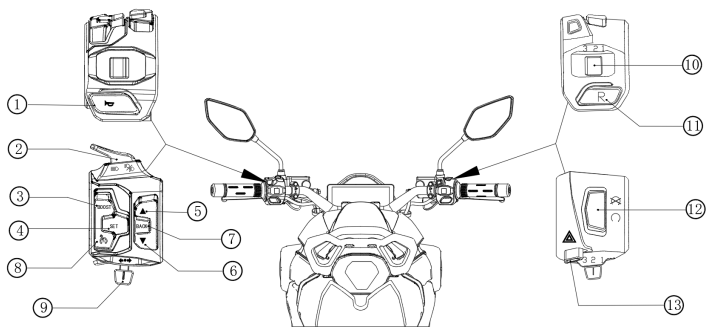
# CHAPTER II OPERATION GUIDELINE

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## -03-

### Switch Description




As shown in figure



# CHAPTER II OPERATION GUIDELINE

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## Function introduction

- 1 Horn button.
- 2 Headlight control button. Gear  is high beam, gear  is low beam and gear  is boost light (it needs to toggle it constantly to make headlight flicker).
- 3 BOOST button BOOST button can speed up the vehicle within a short time.
- 4 SET button. It is used to set speedometer.
- 5 UP button. It is used to turn up the time.
- 6 DOWN button. It is used to turn down the time.
- 7 BACK button. Press it to return interface after completing the speedometer setting.
- 8 Cruise control button
- 9 Winker button. Toggle it to left to turn on the left winker, and toggle it to right to turn on the right winker.
- 10 Speed gear button. It is used to adjust the speed and covers three gears: 1, 2 and 3.



## CHAPTER II OPERATION GUIDELINE

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- ⑪ Reverse button. It needs to press and hold the reverse button and rotate the handlebar when reversing.
- ⑫ Power control button. Rotate it to  to turn off the power supply, and rotate it to  to turn on the power supply.
- ⑬ Safety warning button.


## CHAPTER II OPERATION GUIDELINE

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### **-04-**

#### Startup Steps

##### Startup Steps

- ① Use the remote key to make the vehicle enter starting state.
- ② Straighten the vehicle and retract the side stand.
- ③ Get on the vehicle from left side and stably sit down with a correct riding posture. At this time, brace the floor with your feet to prevent vehicle from turning over.
- ④ Rotate the right switch assembly to the position of  (on).
- ⑤ Gently hold any one of brake lever.
- ⑥ Slowly rotate the governor handle to star up the vehicle.
- ⑦ Regulate the speed with governor handle. Slowly rotate the governor handle to speed up and quickly restore the governor handle to speed down.

## CHAPTER II OPERATION GUIDELINE

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### WARNING

**When gear P mode is released, put hands or articles onto seat,  
and rotate the governor handle and the vehicle will suddenly move ahead,  
leading to accident.**

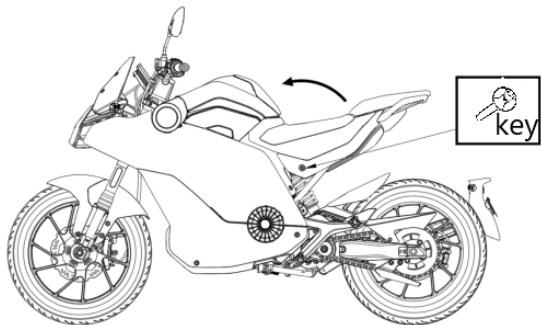
**When operating the governor handle,  
please sit on seat with a correct riding posture.**

# CHAPTER II OPERATION GUIDELINE

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## Cushion and Vehicle Power-off

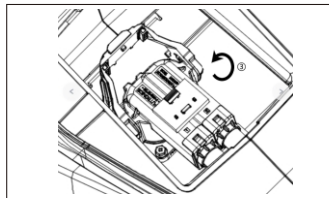
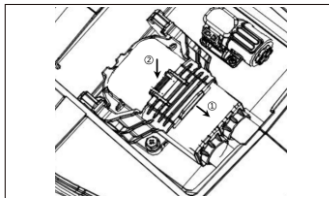
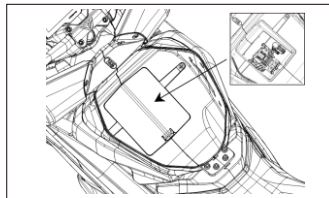
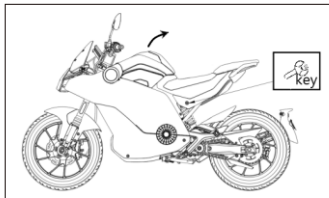
### Cushion



# CHAPTER II OPERATION GUIDELINE

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## Vehicle Power-off



## CHAPTER II OPERATION GUIDELINE

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### Cushion Opening Method

- ➊ Insert the key into cushion lock and rotate it anticlockwise.
- ➋ Toggle the cushion as per the direction shown in figure to remove the front cushion.

### Cushion Closing Method

- ➊ Cover the cushion, press down the rear part of cushion and lock it. Please gently lift the cushion and confirm it is locked.

### Vehicle Power-off

- ➊ Insert the key into cushion lock and rotate it clockwise,open the storage box.
- ➋ Take out the inner cover of the storage box, disengage the battery connector clip as per steps and the direction shown in picture, pull out the battery connector wire and the vehicle will be powered off.

## CHAPTER II OPERATION GUIDELINE

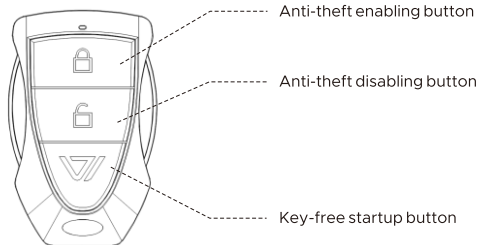
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### **-05-**

#### Remote Key

The remote key is configured to electric motorcycle and featured by simple operation, and provides the more efficient security assurance for the vehicle.

Remote control distance: 50m



## CHAPTER II OPERATION GUIDELINE

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Anti-theft enabling button: press it once under the non-starting state, and the speaker will sound once and the vehicle will enter anti-theft enabling state; press it once under starting state, the vehicle will enter the non-starting state and anti-theft enabling state.

Anti-theft disabling button: press it once under the non-starting state, and the speaker will sound twice and the vehicle will enter anti-theft disabling state; press it twice under starting state, the vehicle will enter the non-starting state.

Key-free startup button: press it once under the non-starting state to enter the starting state, and press it once under the starting state to enter the non-starting state.



## CHAPTER II OPERATION GUIDELINE

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### **-06-**

#### Battery Pack Installation

##### **Battery Pack Installation**

Please come to VMOTO repair service shop to install or replace the battery. Please do not use the battery pack for equipment other than electric motorcycle. Please do not dismantle or replace the battery pack.

If the vehicle is out of service for a long time, please power off the battery pack.

## CHAPTER II OPERATION GUIDELINE

---



### WARNING

**Improper use of the battery pack may lead to electric shock or fire,  
even serious personnel injury or death.**

**Please comply with the relevant precautions and instructions  
of how to use the battery pack in the Manual.**

## CHAPTER II OPERATION GUIDELINE

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### **-07-**

#### Battery Charging

Please use the special charger attached with vehicle to charge it. If the charger not from the original factory is used to charge the vehicle, it will make irreversible damage to battery and lead to circuit or battery fault. The consequence incurred therefrom shall be borne by users.



#### WARNING

**Charging will affect the medical electric device and may lead to serious injury or death.**

**The user who carries implantable cardiac pacemaker or implantable defibrillator or other medical electric devices shall consult with doctor or manufacturer of medical electric device for whether those devices will be affected by charging.**

## CHAPTER II OPERATION GUIDELINE

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### Prohibited matters in charging

Please do not charge the vehicle in the following places

- ❶ A place with combustible gas or inflammable articles
- ❷ High temperature place around heater or with direct sunshine
- ❸ A place where is easily exposed to rain or water
- ❹ A place where kids or pets play

### When using the charger, please comply with the following items

- ❶ Warning: the user must charge in accordance with the requirements in the Manual otherwise the consequences shall be assumed by themselves;
- ❷ Prompt: please use the original charger;
- ❸ Attention: the type of battery that the charger can charge and the applicable voltage are strictly prohibited for mixing;

## CHAPTER II OPERATION GUIDELINE

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- ④ The charger shall be placed in a ventilated environment. It is strictly prohibited to charge in a closed space or under the burning sun and high temperature environment. Do not place the charger onto saddle or into truck for charging;
- ⑤ When charging, firstly insert it into charging jack and connect to mains. After fully charging the vehicle, firstly cut off mains and then remove the plug on charging jack;
- ⑥ When the green light turns on, the power shall be cut off in time. It is forbidden to connect the charger to AC power for a long time without charging;
- ⑦ In the process of charging, if the indicator light is abnormal, there is a peculiar smell or the charger shell is overheated, stop charging immediately and repair or replace the charger;
- ⑧ During the use and storage process of the charger, pay attention to avoid the entry of foreign matter, especially to avoid the inflow of water or other liquids so as not to cause the charger internal short circuit; Try not to carry the charger with vehicle. If it needs to carry the charger, put it in toolkit after completing shock absorption treatment;

## CHAPTER II OPERATION GUIDELINE

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⑨ Do not dismantle or replace parts in charger privately.

If the vehicle power supply is damaged or charging system fails, please come to VMOTO designated repair service outlet for overhauling. Please charge the vehicle in the following places.

- ① The vehicle can be stably stopped to a flat place indoor
- ② Well-ventilated and not moist place



### WARNING

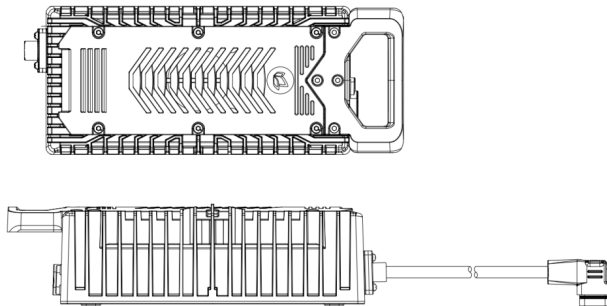
**It is high voltage when charging the battery, which may lead to electric shock or fire, and even serious injury or death in case of improper operation.**

**When charging the battery, please follow the method and key points recorded in special charger user manual.**

# CHAPTER II OPERATION GUIDELINE

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## About the Use of Power Supply



## CHAPTER II OPERATION GUIDELINE

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### States of charger indicator light:

Green light normally on: not connecting with battery / fully charged / no load.

Red light normally on: under normal charging.

Red light flicker: fault (over-voltage, under-voltage, short circuit, over-temperature, reverse connection).

### Precautions for Battery Use

❶ Please carefully read precautions hereunder because the improper use will greatly shorten the service life of battery and incur economic loss to you, or lead to battery heating, catching on fire and explosion, even personnel injury.

❷ It is strictly prohibited to dismantle or break down the battery, or place the battery accessible to kids or use metal object to short connect to charging / discharging port otherwise the instantaneous heavy current will lead to fire, explosion and personnel injury.



## CHAPTER II OPERATION GUIDELINE

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- ③ Do not place the battery in a high temperature and moisture environment. Do not throw, fall, roll or press the battery. Do not wash or soak the battery in water, or expose it to direct sunshine. Avoid battery to be struck by hard object or scratched by sharp object. In case of entering eyes, please do not rub. Immediately wash eyes with clean water and see a doctor.
- ④ Please use the charger matched with the battery for charging. The application of charger not conforming to specifications for charging is easy to result in over-voltage, over-current, and make battery heat or burn, leading to other dangers.
- ⑤ If the battery is broken and leaked, and the leaked substance enters eyes carelessly, please do not rub. Immediately wash eyes with clean water and see a doctor.
- ⑥ When the battery is short of power, please charge it to full in time. Do not put it over two weeks under the power shortage.
- ⑦ Do not charge it for a long time (not over 10 hours in general) to avoid overheating.

## CHAPTER II OPERATION GUIDELINE

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### WARNING

If the socket with grounding connected with earth leakage circuit breaker is not used,  
it may lead to electric shock or fire,  
and even serious injury or death due to electric leakage.

Please put the socket with grounding connected with earth leakage circuit breaker into use.

#### About the use of charger

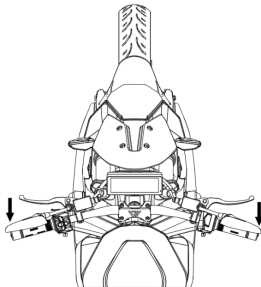
- ① Please wring out the rag before wiping.
- ② Please do not wash it water or use high pressure car washer, detergent, chemical drugs, oil grease and so on to prevent electric shock or breakage.

## CHAPTER II OPERATION GUIDELINE

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### **-08-**

#### Use Method of Brake



The disk brake is adopted for the front and rear wheels of the motorcycle.

For realizing the effective brake force, it needs to use the front and rear brake lever at the same time.

## CHAPTER II OPERATION GUIDELINE

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### WARNING

Please pay special attention for brake, acceleration or turning.

Please slowly drive to maintain the sufficient brake distance.

When driving on smooth surface, such as: rail, iron plate, cover,  
route with paint or other places, please pay much attention.

When driving in wet weather, rainy days or on soft road, the brake force will be reduced.

Please pay much attention for such case.

# **Chapter III Maintenance and Repair**

# CHAPTER III MAINTENANCE AND REPAIR

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## **-01-**

### Basic Knowledge of Maintenance

#### Maintenance Significance

To ensure the vehicle driver's safety and comfortable driving experience, please regularly inspect it based on the daily use of vehicle and according to indications in maintenance schedule.



#### WARNING

**The failure of normal maintenance or the failure of correctly releasing failure before driving may lead to serious injury or fatal accident.**

- ❶ Please comply with maintenance methods and key points recorded in the User Manual and user warranty manual for maintenance and service.
- ❷ Please repair the abnormal part before driving.

# CHAPTER III MAINTENANCE AND REPAIR

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## Maintenance Safety

The following items shall be noted in maintaining

- ❶ Please perform maintenance in a flat and solid place
- ❷ Motor surroundings, brake and other heating part may lead to scalding. Please do not touch those parts before cooling.
- ❸ When the charger is connected with vehicle, maintenance is not available.

## Daily Inspection

It is performed on the basis of user's judgment and according to legal provisions and daily use of vehicle to ensure the comfortable driving experience. It is suggested that the inspection time is after long-distance driving or in vehicle washing, after completion of charging or so on. Please record the inspection results into user warranty manual. In case of abnormal sound or feeling, please immediately contact with VMOTO repair service shop.

# CHAPTER III MAINTENANCE AND REPAIR

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## Battery

The battery capacity will reduce gradually after the long-term use. To ensure the normal use, please regularly come to VMOTO repair service shop to inspect it.

## Emergency Treatment for Accident

In case of followings, please immediately visit a doctor after taking the emergency measures.

**❶** Treatment of water entering battery:

Water entering battery will lead to short circuit internally, and the battery shall be prohibited to be used due to hidden safety hazard.

**❷** Emergency treatment scheme for high temperature accident:

Please immediately cut off power supply, and use dry-ice fire extinguisher or sand to cover it, or take other measures to put out the fire.



## CHAPTER III MAINTENANCE AND REPAIR

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### WARNING

The electrolyte solution in battery is a flammable organic solvent. Improper use of battery may lead to personnel scalding or serious injury.

- ❶ Keep the battery away from spark, open fire and other heat source that may lead to high temperature.
- ❷ Place the battery to a place not accessible to kids.
- ❸ Please do not break down or refit battery.
- ❹ Please do not make battery suffer from excessive physical impact.

## CHAPTER III MAINTENANCE AND REPAIR

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### Charging Port Cleaning

If the charging port is dirty, please use the clean cloth to wipe it and use it for charging after drying.

When installing the electric component or accessories to drive the lighting device, please use the genuine parts. If the non-genuine parts are adopted, it may lead to battery exhausting or fault.

### Tire

#### Pressure Inspection

The tire pressure slowly decreases. Sometimes the insufficient air pressure cannot be found by naked eyes so the pressure shall be inspected by tire gauge at least once every month. Tires may warm up after driving and the pressure may rise. In such case, please inspect it after cooling.

## CHAPTER III MAINTENANCE AND REPAIR

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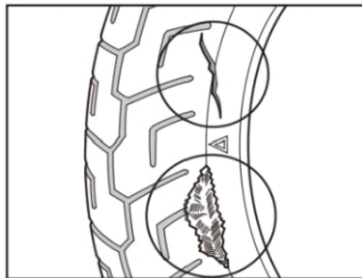
Reference value for cold tire pressure:

	Front tire	Rear tire
Tire pressure, Psi	36.26	36.26

**⚠ Warning:** 1Psi=6.895kPa (36.26Psi ≈ 250kPa)

### Crack and Damage Inspection

Inspect whether the whole tire is cracked, damaged, fractured or whether spike, stone or other foreign matters are embedded into side face of tire or tread pattern. When the side-face of tire contacts with curbstone on road or after going cross the pit or protrusions, please check it.

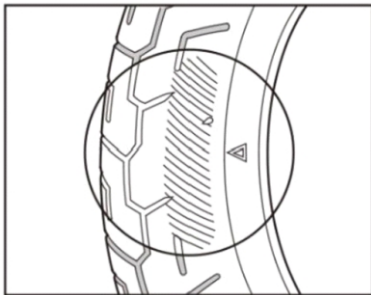


## CHAPTER III MAINTENANCE AND REPAIR

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Check the depth of tread pattern

Check the wearing indication marks of tread pattern. If the wearing indication marks are visible, please immediately replace tire. For driving safety, the tire shall be replaced when reaching the minimum depth of tread pattern.



## CHAPTER III MAINTENANCE AND REPAIR

---



### WARNING

**Using the excessively worn or improperly inflated tire will lead to accident of falling down from vehicle, and even serious injury or death.**

**Please follow the tire pressure in User Manual, and replace the tire with wearing out of specified value.**

When replacing tire, please choose the designated tire. The non-designated tire may affect the controllability and stability. Please do not use it.

Please consult with VMOTO repair service shop for tire replacement.



### WARNING

**The installation of non-designated tire will affect the controllability and stability, and lead to serious injury or fatal accident.**

**When replacing the tire, please install the designated tire recorded in technical parameters.**

## CHAPTER III MAINTENANCE AND REPAIR

---

### **-02-**

#### Operation and Dismantling Method of Main Parts

##### Torque of Fastening Parts

Come to service station every 3 months to check whether fastening parts are loose, and timely fasten them in case of any looseness.

Tightening torque index of main fastening parts:

Part Name	Part Name	Tightening torque N*M
Rear absorber	Frame side	40-50
	Swingarm side	40-50
Steering stem	Steering stem nut	59-89
	Top bridge (fixing the front absorber)	20-25

## CHAPTER III MAINTENANCE AND REPAIR

---

Part Name	Part Name	Tightening torque N * M
Steering stem	Lower bridge (fixing the front absorber)	29-34
	Handlebar holder	9.8-14
Wheel	Front wheel axle	54-64
	Rear wheel axle	70-79
	Front brake disk bolt	39-44
	Rear brake disk bolt	39-44
	Main sprocket	40-50
Rear Swingarm	Rear Swingarm axle	54-64
	Swingarm side axle 1	40-50
	Swingarm side axle 2	40-50
	Swingarm side axle 3	40-50
	Swingarm side axle 4	40-50

## CHAPTER III MAINTENANCE AND REPAIR

---

Part Name	Part Name	Tightening torque N*M
Brake	Right brake lever bolt	0.5-1.5
	Right brake lever nut	0.5-1.5
	Left brake lever bolt	0.5-1.5
	Left brake lever nut	0.5-1.5
	Front brake lower pump mounting bolt	24-29
	Rear brake lower pump mounting bolt	24-29
Battery	Battery fixed pinboard	24-29
Headlight	Headlight bracket	9.8-14

### Inspection of Front Brake Pad

Check the wearing mark state of brake pad.

If the brake pad is worn to the mark, it needs to be replaced.



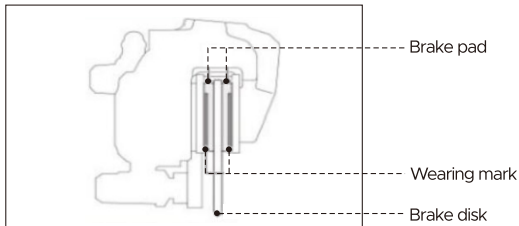
## CHAPTER III MAINTENANCE AND REPAIR

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Check the brake pad from the lower of brake caliper.

When necessary, please ask dealers for replacing the brake pad.

Please replace the left and right brake pad at the same time.



### Replacement of Brake Fluid

Please do not add or replace the brake fluid except the emergency. Only the new brake fluid collected from a sealed container can be used. If you add the brake fluid, please contact VMOTO repair shop to inspect the brake system as early as possible.

## CHAPTER III MAINTENANCE AND REPAIR

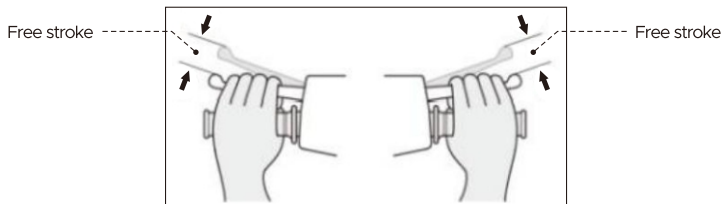
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Notes:

- ❶ The brake fluid will damage the plastics and painted surface.
- ❷ In case of splashing, please immediately wipe off and completely clean it.

### Inspection of Free Brake Stroke

Pull the brake level till you feel the resistance, and use the measure gauge to confirm whether the free stroke in front of lever is within the specified range (free stroke of brake lever: 30~45mm).



Please adjust it when exceeding the specified range.

## CHAPTER III MAINTENANCE AND REPAIR

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### -03-

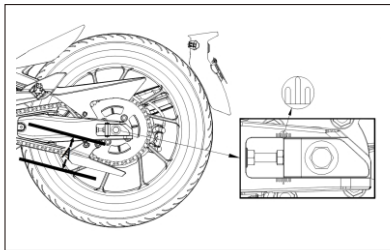
#### Other Adjustments

##### Inspection and Adjustment of Chain Tightness

Judgment Criteria

Method 1: check the range of movement of the drive chain = 15~20mm.

Method 2: observe the position of chain regulator, and adjust the front end of chain regulator to middle scale of swingarm scale line.



## CHAPTER III MAINTENANCE AND REPAIR

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### WARNING

It may lead to chain separating or breaking if the chain is loose or tight excessively,  
which will bring hidden hazard to your safety.

Please come to service station to regularly inspect and adjust it.

# **Chapter IV Troubleshooting**

## CHAPTER IV TROUBLESHOOTING

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### **-01-**

#### Speedometer Fault Code

When the vehicle fails, the fault indicator light area in speedometer will display the corresponding fault code. The specific fault code and description is shown as below:

Fault Code	Fault Description
0101/0102	Charging over-voltage protection
0103/0104	Charging overheating protection
0105	Charging over-current protection
0106	Charging low temperature protection
0107/0108/0109	Discharging under-voltage protection
0110/0111	Discharging over-current protection

## CHAPTER IV TROUBLESHOOTING

---

Fault Code	Fault Description
0112	Discharging overheating protection
0113	Discharging low temperature protection
0114	Discharging MOS overheating protection
0115	Pre-discharging exception
0116	Cell voltage difference protection
0117	Discharging short circuit protection
0118	BMS communication fault
0119	Charging MOS fault
0120	Discharging MOS fault
0121	Pre-charging MOS fault
0122	Temperature sensor fault
0123	Collection front end fault

## CHAPTER IV TROUBLESHOOTING

---

Fault Code	Fault Description
0124	Insulation fault
0125	Battery pack opening circuit
0126	Battery over-temperature prompt
0127	Charging exception
0601	AC input over-voltage fault
0602	AC input low voltage protection
0603	Output over-voltage fault
0604	Output under-voltage fault
0605	Charger overheating protection
0606	Hardware fault
0607	Communication fault
0608	Short circuit protection



## CHAPTER IV TROUBLESHOOTING

---

Fault Code	Fault Description
0501	Temperature sensor fault
0502	Optical sensor fault
0503	Self-inspection fault
0520	Tire pressure state _ front wheel
0521	
0522	Tire leakage _ front wheel
0523	Low power _ front wheel
0524	Signal state _ front wheel
0525	Tire temperature state _ front wheel
0526	Tire pressure state _ rear wheel
0527	
0528	Tire leakage _ rear wheel

## CHAPTER IV TROUBLESHOOTING

---

Fault Code	Fault Description
0529	Low power _ rear wheel
0530	Signal state _ rear wheel
0531	Tire temperature state _ rear wheel
0301	MOSFET fault
0302	Drive voltage fault
0303	Current sensor fault
0304	Short circuit fault
0305	Motor magnetic encoder fault
0306	Motor hall fault
0307	Handlebar fault
0308	Brake switch fault
0309	Controller temperature sensor fault

## CHAPTER IV TROUBLESHOOTING

---

Fault Code	Fault Description
0310	Motor temperature sensor fault
0311	Motor hall lack of one phase
0312	Motor hall lack of multiple phases
0313	Motor phase open circuit fault
0314	Motor blocking alarm
0315	Over-voltage alarm
0316	Under-voltage alarm
0317	Controller over-temperature alarm
0318	Motor over-temperature alarm
0415	GPS fault
0416	Bluetooth fault
0417	Gyroscope fault

## CHAPTER IV TROUBLESHOOTING

---

Fault Code	Fault Description
0418	BMD communication exception
0419	Controller communication exception
0420	Speedometer communication exception
0421	DC power supply exception
0422	Falling alarm
0401	Low beam output short circuit fault
0402	Low beam line breakage fault
0403	High beam output short circuit fault
0404	High beam line breakage fault
0405	Left winker output short circuit fault
0406	Left winker line breakage fault
0407	Right winker output short circuit fault

## CHAPTER IV TROUBLESHOOTING

---

Fault Code	Fault Description
0408	Right winker line breakage fault
0430	Lead-acid battery high voltage exception
0431	Lead-acid battery low voltage exception

In case of above faults, please come to VMOTO repair service shop for repairing as early as possible.

## CHAPTER IV TROUBLESHOOTING

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### **-02-**

#### Tire Repairing

If the tire has been punctured or worn, please replace it but not repairing. No matter the tire is repaired temporarily or permanently, the performance will never reach the standard of new tire.

If a tire is repaired temporarily or urgently, please speed down and drive the vehicle with caution to VMOTO service shop for replacing.

Even the tire is repaired professionally with a permanent internal patch, the performance still cannot reach the new tire and also the bearing capacity will be affected accordingly. Please drive the vehicle at a low speed. As a result, we highly recommend you to replace the damaged tire in time.



**Note: if you choose to repair the tire, please make sure the wheel balance before you drive.**

# CHAPTER IV TROUBLESHOOTING

---

## Tire Replacement

The original tires are designed to reach the optimal performance, provide the best operation performance, brake performance, durance and driving comfort.

Please choose tires with the following specifications:

Front tire: 100/80-17, vacuum tire

Rear tire: 120/70-17, vacuum tire



## WARNING

**Using the tire with different specification will affect your control stability, make the vehicle out of control and bring hazard to your safety.**

**Please replace your tires according to tire specification and size recommended in the Manual.**

## CHAPTER IV TROUBLESHOOTING

---

### **-03-**

#### About the Battery

About the battery

The power of electric motorcycle is totally from battery. The improper battery use and maintenance will reduce the battery capacity and finally affect the vehicle endurance millage. When necessary, the working state of battery can be improved through maintenance and service. Please refer to the Manual for more details.

##### **Endurance Millage**

The endurance millage is closely related to battery capacity, driving habit, use environment and vehicle maintenance state.

As the gradual increasing of battery service time and vehicle driving millage, the battery capacity



## CHAPTER IV TROUBLESHOOTING

---

will gradually reduce and the vehicle endurance millage will shorten as well, which is normal. Different driving habits and use environments will affect the endurance millage. The constant high-speed driving, frequent braking and starting, riding with heavy load, climbing steep slope, adding power consuming device on vehicle, driving at upwind or other cases will decrease the endurance millage.

The battery capacity will be affected by ambient temperature. When the ambient temperature is  $-20^{\circ}\text{C}\sim 0^{\circ}\text{C}$ , the effective battery capacity will be reduced for 20%~30%.

Therefore, in winter or cold area, it is normal that endurance distance decreases after charging once. When the battery capacity is reduced significantly, please come to VMOTO repair service shop for inspection and to confirm whether such case is normal.



**Note:** if the non-original battery is used for your vehicle, it will be unable to be ridden.

# **Chapter V Relevant Information**

## CHAPTER V RELEVANT INFORMATION

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### **-01-**

#### **Vehicle Cleaning**

Cleaning and other maintenance works are very important for prolonging the service life of vehicle. The exception that is easily ignored in common can be found through maintenance. In addition, sea water and pavement anti-freezing agent contains salt, which will accelerate vehicle rusting. After driving by coast or on the road sprinkled with anti-freezing agent, please wash the vehicle.

#### **Vehicle Washing**

The motor surroundings, brake and other high temperature parts cannot be washed before cooling.

## CHAPTER V RELEVANT INFORMATION

---

- ➊ Firstly flush the whole body with water to remove dirt.
- ➋ If it is heavily dirty, you can use the diluted neutral detergent or use sponge or soft cloth to wipe it (please flush away the dirt with a plenty of water to prevent scratching).
- ➌ Flush away the dirt with a plenty of water and wipe it with soft cloth.
- ➍ When the vehicle body is dry, apply the lubrication oil to moving parts.
- ➎ It can be waxed to prevent vehicle body from corroding.

### Precautions for Vehicle Washing

The following items shall be observed when washing the vehicle:

- ➊ Do not use the high pressure car washer
  - (1) If a high water pressure is applied onto vehicle body when washing it, it may lead to poor running of moving part of electric components, or lead to fault.
  - (2) When cleaning the headlight glass or other plastic parts, please use a plenty of water to flush away dirt to prevent scratching.

## CHAPTER V RELEVANT INFORMATION

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② Do not directly spray water onto brake drum, motor, front and rear axle to prevent water affecting the performance and life of relevant spare parts. Meanwhile, please avoid water flow to impact the harness adapter, fuse and other live parts (especially the water entering the charging socket is prohibited).

 **Note: the high pressure water flow (or gas flow) will damage some parts of electric motorcycle.**

③ Do not apply the high pressure water to flush it from the lower of saddle

(1) It may lead water entering into the inside, and make documents affected with damp.

④ The wet brake shall be handled in time.

(1) The brake effect may go bad due to the influence of water. Please fully dry the vehicle after washing it, and brake it with caution.

⑤ When wax, chemicals and oil greases are used

(1) Avoid oil, grease, wax and chemicals sticking to brake or tire. Otherwise, it may lead to brake failure, even the accident.

## CHAPTER V RELEVANT INFORMATION

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(2) When wax or chemicals are used, please confirm whether the inconspicuous part of vehicle body is foggy, scratched, uneven color or so on. Some categories of material may be coated with a thin film or may be in uneven color.

(3) When the matte paint is coated onto the surface with wax or chemicals, the matte effect may disappear or color may be uneven. Please do not use it.

### ⑥ When headlight is foggy

(1) After turn on the headlight, the foggy will disappear slowly.

### Aluminum Parts

Aluminum parts may be corroded due to soil or salt. Please pay attention to the following matters in operating to avoid making damage to aluminum parts.

① Do not use hard brush or steel wool

② Avoid to scratch the aluminum alloy hub

③ Please avoid riding the vehicle to road shoulder otherwise it may lead to rim deformation

## CHAPTER V RELEVANT INFORMATION

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### **-02-**

#### Vehicle Storage

When the vehicle is stopped outdoor, please cover the vehicle. Please cover the vehicle after motor surroundings cool down. Additionally, if the vehicle is out of use for a long time, please comply with the following matters.

- ❶ Please stop the vehicle in a cool place to prevent battery from aging. (Recommended temperature: 0-25°C)
- ❷ Please make the anti-rust treatment before storage to prevent it from rusting.
- ❸ When rain stops, remove the vehicle cover to dry the body.

When the vehicle is re-used after being stored for a long time, please firstly charge it to full and carry out inspection and maintenance for every part according to the storage time.

## CHAPTER V RELEVANT INFORMATION

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### **-03-**

#### Environmental Protection

Waste Categories:

- ❶ Oily cloth, gloves, old and waste parts (tire, stay wire, flexible axle, bearing, gear and so on);
- ❷ Empty tank of installed oil, gear oil, damping fluid, brake fluid, anti-rust agent, carburetor cleaning agent, spray paint, electrolyte etc.;
- ❸ Waste oil, gear oil, brake fluid and other waste fluids;
- ❹ Old and waste battery;
- ❺ Old and waste spare parts including printed circuit board.



## CHAPTER V RELEVANT INFORMATION

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To protect the natural environment (atmosphere, water and soil) where we live, please comply with the followings:

- ❶ Wash the vehicle in a special washing place to prevent waste water containing oil from being directly drained to soil;
- ❷ Purchase the spare parts from VMOTO repair service shop. Do not use asbestos-containing material and spare parts containing other hazardous substances, such as brake shoe, electroplated part and so on;
- ❸ Do not discard the following wastes as rubbish at will. Please hand it to VMOTO service shop who will collect and send them to waste disposal center with qualification for disposing.

# **Chapter VI Technical Parameters**

# CHAPTER VI TECHNICAL PARAMETERS

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## **-01-**

### Technical Parameters

Size and quality parameters

L*W*H (mm)	2030*810*1100
Wheel base (mm)	1400
Curb weight (kg)	153
Payload mass (kg)	150
Tire spec. (front wheel)	100/80-17
Tire spec. (rear wheel)	120/70-17
Max. speed (km/h)	120
Endurance millage (km)	*80 (EU-V working condition)
Gradeability (°)	27
Min. ground clearance (mm)	175

# CHAPTER VI TECHNICAL PARAMETERS

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## Motor

Model	160YC-J7290409NA
Motor type	IPMSM mid-motor
Rated voltage (V)	74
Rated speed (r/min)	6000±3%
Rated output torque ( $N^2 \cdot m$ )	14.3
Rated output power (W)	9000

## Controller

Model	ZWK72220A-A
Rated voltage (V)	74
Rated current (A)	220

## CHAPTER VI TECHNICAL PARAMETERS

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### Battery

Battery type	Lithium polymer battery
Rated capacity (Ah)	97
Nominal voltage (V)	74

### Charger

Input voltage (V)	100-240V
Frequency (Hz)	50-60Hz

# CHAPTER VI TECHNICAL PARAMETERS

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## **-02-**

### Remote Key

Frequency range of remote key: 433.05-434.79 MHz/9-190 kHz

- ❶ Do not arbitrarily change use scenario or use condition, expand the transmitting frequency or increase the transmitting power (including the additionally installed radio frequency power amplifier). Do not arbitrarily change the transmitting antenna;
- ❷ Do not generate harmful interference to other legal radio station or ask for the protection against harmful interference;
- ❸ It is supposed to suffer from the interference from radio frequency energy of industry, science and medical (ISM) application equipment or the interference from other legal radio stations;
- ❹ When the harmful interference is generated to other legal radio stations, please immediately stop using, and take measures to eliminate interference for continuous use;

## CHAPTER VI TECHNICAL PARAMETERS

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- ⑤ When the micro power equipment is used in aircraft and in electromagnetic environment protection areas, such as radio observatory, thunder head, satellite earth station (including measurement and control, distance measurement, receiving and guidance station) and military and civilian radio station, airport and others divided according to laws, relevant national regulations and standards, please comply with relevant rules of electromagnetic environmental protection and other regulations issued by competent department of relevant industry;
- ⑥ It is prohibited to use different models of remote controller in an area centered on the center point of airport runway with a radius of 5000m;
- ⑦ The used micro power short-distance radio transmitting device shall meet relevant national regulations on radio management.

# APP

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STASH smart electric motorcycle has GPRS communications, GPS locate and other functions which can be connect to your smart phone. You can manage your motorcycle, query and do other operations by VMOTO APP.

- 1 At present, the mainstream mobile phone system version is iOS and Android operating system.
- 2 please confirm the operating system of your smart phone before installation.

 Apple IOS 9.0 version and above is supported.

 Android 4.4 version and above is supported.



Download APP



Bind APP to vehicle

PASTE  
BARCODE



## CHAPTER VI TECHNICAL PARAMETERS

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### **-03-**

#### Maintenance Table

Please check the vehicle according to the period in maintenance table

Maintenance List	1000km/ 3months	3000km/ 6months	6000km/ 12months	9000km/ 18months	12000km/ 24months	Tightening torque N×M
Brake fluid	○		○		●	
Tire pressure and wearing	○	○	○	○		
Front and rear lining wearing		○	○	○		
Front and rear brake disk wearing			○			
Tighten the front axle nut	○		○			54-64
Tighten the rear axle nut	○		○			70-79
Tighten the rear Swingarm axle nut	○		○			56-64

## CHAPTER VI TECHNICAL PARAMETERS


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Maintenance List	1000km/ 3months	3000km/ 6 months	6000km/ 12months	9000km/ 18months	12000km/ 24 months	Tightening torqueN×M
Tighten the Main sprocket (52 teeth)	○		○		•	40-50
Motor and clamp nut of motor holder bolt	○		○			40-50
Tighten the rear absorber nut	○		○			40-50
Lock nut of steering stem						59-89
Tighten the front caliper bracket (glued thread)	○		○			24-29
Tighten the front brake disk (glued thread)	○		○			39-44
Tighten the rear caliper bracket (glued thread)	○		○			24-29
Tighten the rear brake disk (glued thread)	○		○			39-44
Battery	○	○	○	○		

## CHAPTER VI TECHNICAL PARAMETERS

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The maintenance table below specifies all maintenance items those are required for your vehicle under frequent use. The maintenance shall meet VMOTO standards and shall be completed by specialized technician with rich experience. For ensuring safety, we suggest those maintenance items could be performed by VMOTO repair service shop. After completing the regular maintenance every time, the road test shall be carried out by the specialized technician of VMOTO repair service shop.

 **Note:** the odometer reads and months shall prevail whichever comes first. If the odometer reads is high, the maintenance and service shall be conducted more frequently.

**MAINTENANCE RECORD**

**Content:**

**Date:**

**MAINTENANCE RECORD**

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