



TINBOT

Operation manual

CS1



Tinbot Technology GmbH

CS1

Operation manual

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DEAR CUSTOMER

Congratulations on your decision to purchase a motorcycle. You are now the owner of a state-of-the-art sports motorcycle that will give you enormous pleasure if you service and maintain it properly.

Enter the serial numbers of your motorcycle below.

Chassis Number:	Dealer's stamp
Engine Number:	

The Owner's Manual contained the latest information for this model series at the time of going to print. Slight deviations caused by continuing development and design of the motorcycles can, however, not be completely excluded.

All specifications are non-binding. TINBOT specifically reserves the right to modify or delete technical specifications, prices, colors, forms, materials, services, designs, equipment, etc., without prior notice and without specifying reasons, to adapt these to local conditions, as well as to stop production of a particular model without prior notice. TINBOT accepts no liability for delivery options, deviations from illustrations and descriptions, misprints, and other errors. The models portrayed partly contain special equipment that does not belong to the regular scope of supply.

If you have any questions about this motorcycle, please contact our customer service center.

Wish you a safe and happy riding experience!

1 Means of representation

1.1 Symbols used

The meaning of specific symbols is described below.



All work marked with this symbol requires specialist knowledge and technical understanding. In the interest of your own safety, have these jobs performed by an authorized TINBOT workshop. There, your motorcycle will be optimally serviced



for by specially trained experts using the specialist tools required. Specify the referenced page (the given page contains more information about it).



Indicates information with more details or tips.

1.2 Formats used

The typographical formats used in this document are explained below.

Specific name	Identifies a proprietary name.
<u>Underlined terms</u>	Refer to technical details of the motorcycle or indicate technical terms that are explained in the glossary.

2 Safety advice

2.1 Use definition - intended use

Sport motorcycles are designed and made to withstand the normal stresses



Info

Only trained personnel are allowed to use vehicles.

2.2 Safety advice

A number of safety instructions need to be followed to operate the motorcycle safely.

Therefore, read this manual carefully. The safety instructions are highlighted in the text and are referred to at the relevant passages.



Info

The motorcycle has various information and warning labels at prominent locations. Do not remove information/warning labels. If they are missing, you or others may not recognize dangers and may therefore be injured.

2.3 Degrees of risk and symbols



Danger

Indicates a danger that will immediately and invariably lead to fatal or serious permanent injury if the appropriate measures are not taken



Warning

Indicates a danger that is likely to lead to fatal or serious injury if the appropriate measures are not taken.



Caution

Indicates a danger that may lead to minor injuries if the appropriate measures are not taken.



Note

Indicates a danger that will lead to considerable machine and material damage if the appropriate measures are not taken.



Warning

Indicates a danger that will lead to environmental damage if the appropriate measures are not taken.

2.4 Safe operation

Only operate the motorcycle when it is in perfect technical condition, in accordance with its intended use, and in a safe and environmentally compatible manner.

An appropriate driver's license is needed to ride the motorcycle on public roads.

Have malfunctions that impair safety promptly eliminated by an authorized TINBOT workshop. Adhere to the information and warning labels on the motorcycle.



Danger

A rider who is not fit to ride poses a danger to him or herself and others. Do not operate the motorcycle if you are not fit to ride due to alcohol, drugs or medication.



Warning

Some motorcycle components become very hot when the motorcycle is operated. Do not touch any parts such as the motor, shock absorber, or braking system before the motorcycle parts have cooled down.

2.5 Protective clothing

In the interest of your own safety, TINBOT recommends that you only operate the motorcycle while wearing protective clothing.



Warning

Missing or poor protective clothing presents an increased safety risk.

- Wear appropriate protective clothing such as helmet, boots, gloves as well as trousers and a jacket with protectors on all rides.
- Always wear protective clothing that is in good condition and meets the legal regulations.

2.6 Work rules

Special tools are necessary for certain tasks. The tools are not contained in the motorcycle but can be ordered under the number in parentheses.

During assembly, non-reusable parts (e.g. self-locking screws and nuts, seals and seal rings, O-rings, pins, lock washers must be replaced by new parts.

In some instances, a thread locker (e.g. Loctite ®) is required. The manufacturer instructions for use must be followed.

After disassembly, clean the parts that are to be reused and check them for damage and wear.

Change damaged or worn parts.

After you complete the repair or service work, check the operating safety of the motorcycle.

2.7 Environment

If you use your motorcycle responsibly, you can ensure that problems and conflicts do not occur. To protect the future of the motorcycle sport, make sure that you use your motorcycle legally, display environmental consciousness, and respect the rights of others. When disposing of used oil, other operating and auxiliary fluids, and used components, comply with the laws and regulations of the respective country.

2.8 User's manual

It is important that you read this Owner's Manual carefully and completely before making your first trip. The Owner's Manual contains useful information and many tips on how to operate, handle, and maintain your motorcycle. Only then will you find out how to customize the motorcycle ideally for your own use and how you can protect yourself from injury.

Keep the Owner's Manual in an accessible place to enable you to refer to it as needed.

If you would like to know more about the motorcycle or have questions on the material you read, please contact an authorized dealer.

The Owner's Manual is an important component of the motorcycle and should be handed over to the new owner if the motorcycle is sold.

3 Important notes

3.1 Manufacturer and implied warranty

The work specified in the service schedule may only be performed in an authorized workshop and must be recorded in both the Service & Warranty Booklet, otherwise any warranty coverage will become void. Damage or secondary damage caused by tampering with and/or conversion on the motorcycle is not covered by the warranty. Additional information on the manufacturer or implied warranty and the procedures involved can be found in the Service & Warranty Booklet.

3.2 Operating and auxiliary substances



Warning

Environmental hazard Improper handling of lubricating oil is a danger to the environment.

Do not allow lubricating oil to enter the groundwater, the soil, or the sewage system.

Use operating and auxiliary substances (such as lubricants) as specified in the Owner's Manual.

3.3 Spare parts, accessories

For your safety, use only spare parts and accessory products approved and/or recommended by the manufacturer and installed by a workshop authorized by the manufacturer, and installed by a service station authorized by the manufacturing plant. We do not accept any liability for other products or for damage or loss caused by them. Certain spare parts and accessory products are indicated in brackets in the description. Your authorized dealer will be happy to advise you.

The latest corresponding power components for your motorcycle can be found on the company's website: <http://www.tinbot-tech.com>

3.4 Service

A prerequisite for perfect operation and prevention of premature wear is that the service, motorcycle, and tuning work on the engine and chassis is properly serviced out as described in the Owner's Manual. Incorrect adjustment and tuning of the engine and chassis can lead to damage and breakage of components.

It is imperative that you adhere to the stipulated run-in times and service intervals. If you observe these exactly, you will ensure a much longer service life for your motorcycle.

3.5 Figures

The figures contained in the manual may depict special equipment.

In the interest of clarity, some components may be shown disassembled or may not be shown at all.

It is not always necessary to disassemble the component to perform the activity in question. Please follow the instructions in the text.

3.6 Customer service

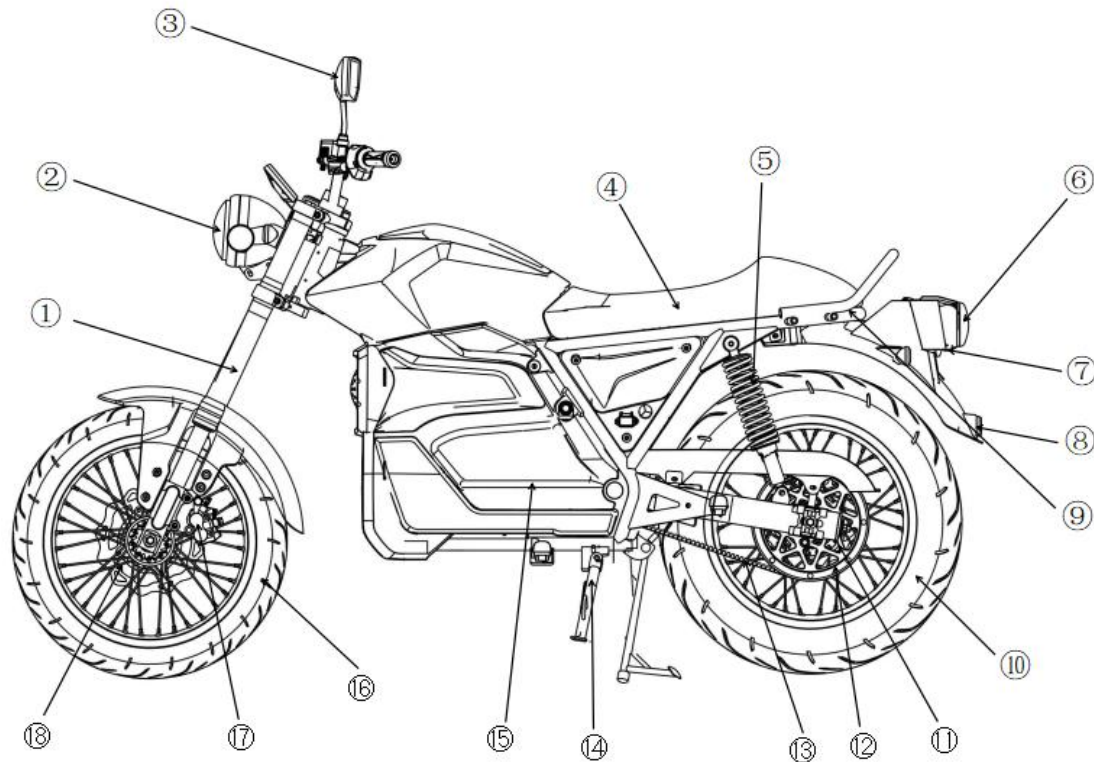
Our authorized dealers will be happy to answer any questions you may have about your motorcycle.

A list of authorized dealers can be found on our official website.

International official website: <http://www.tinbot-tech.com>

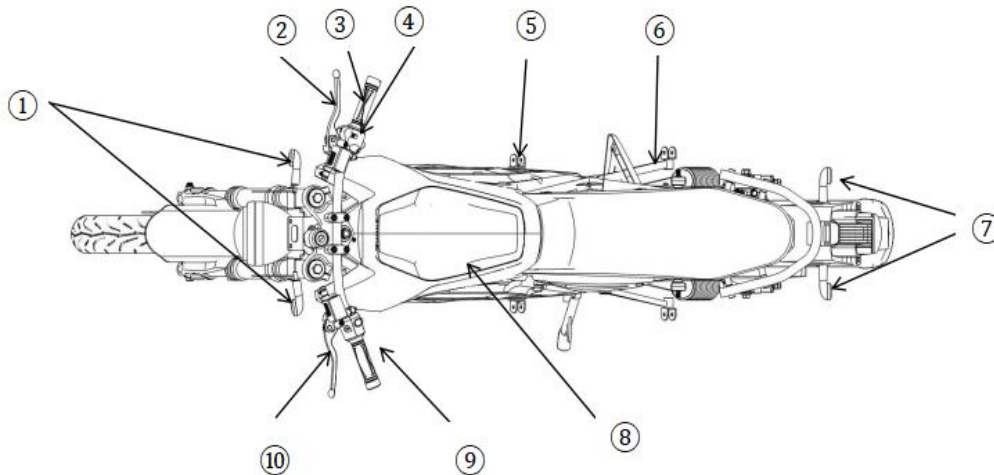
4 View of motorcycle

4.1 View of motorcycle, front left (example)



① Front shock absorber ② Front headlight ③ Rearview ④ Cushion ⑤ Rear shock absorber ⑥ Rear tail lamp ⑦ Rear license plate lamp ⑧ Rear reflector ⑨ Seat lock ⑩ Rear tire ⑪ Rear belt pulley ⑫ Belt guide ⑬ Belt ⑭ Side stand ⑮ Motor ⑯ Front tire ⑰ Front disc brake pump ⑱ Front brake disc

4.2 View of motorcycle, top (example)



- ① Front switch light ② Front brake handle ③ Accelerating handle ④ Right handle switch ⑤ Front foot rest ⑥ Rear foot rest ⑦ Rear steering lamp ⑧ storage box ⑨ Left hand handle switch ⑩ Rear brake handle

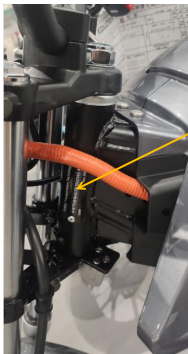
5 Serial numbers

5.1 Chassis Number



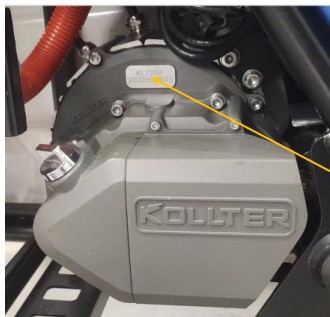
The chassis number ● is stamped on the right side of the steering head.

5.2 Nameplate



The nameplate ● is mounted on the chassis at the front left.

5.3 Motor number



The engine number is stamped on the left side of the engine under the engine sprocket. A barcode label with the motor number is attached to the right cover of the motor for easy viewing.

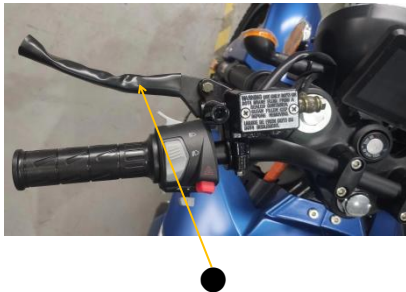
6 Controls

6.1 Front brake lever



The front brake handle ● is fitted on the right side of the handlebar.

6.2 Rear brake lever



The rear brake lever ● is fitted on the left side of the handlebar.

6.3 Throttle grip



The throttle grip ● is fitted on the right side of the handlebar.

6.4 Key-Switch/Steering Lock



The Key-Switch/Steering Lock is between the speedometer and handlebar.

○ In this position, the motorcycle is started.

⊗ In this position, the motorcycle cannot be activated. In this position, the steering is locked.



Info

- The steering lock is used to lock the steering. Steering, and therefore riding is no longer possible.
- Using the steering lock when parked prevents unauthorized use and helps prevent theft.

Lock the steering

1. Turn the handlebar all the way to the left.
2. With the key in the  position, push the key down and loose.
3. Remove the key.

Unlock the steering

1. Install the key and turn clockwise.
2. Remove the key.



Electric motorcycle faucet lock

1. Install the key and turn clockwise.
2. Remove the key.

6.5 Kill Switch



Flip the switch upward to  , the motorcycle cannot be activated;

Flip the switch down to  ,the motorcycle can be started.

6.6 Driving mode Switch



The driving mode switch ● is on the right handle switch.

Toggle between ECO, D(Dynamic), and S(Sport) modes.

The ECO selection reduces the acceleration and top speed of the motorcycle but increases the amount of regeneration when the throttle is released. It is an ideal mode for when you want softer acceleration. This position is also good for new riders and for extending range.



The SPORT selection causes the motorcycle to accelerate at a significantly faster rate but decreases the amount of regeneration when the throttle is released. This position is recommended for advanced riders.

The Dynamic selection has a dynamic performance between the ECO and SPORT mode.

6.7 Emergency flasher switch



When the button ● is pressed, the whole vehicle reversing function is triggered and the instrument will correspondingly display the R gear.

Before pressing the reverse switch button, please observe the surrounding environment and make sure it is safe to reverse before triggering the reverse function.

6.8 Headlight High/Low Beam Switch



The headlight high/low beam ● switch is on the left handle switch.

When the top of the switch is pressed, the headlight changes from low beam to high beam. It stays in the selected position until it is switched back. When in high beam position, the high beam indicator on the Speedometer illuminates.

6.9 Steering lamp switch

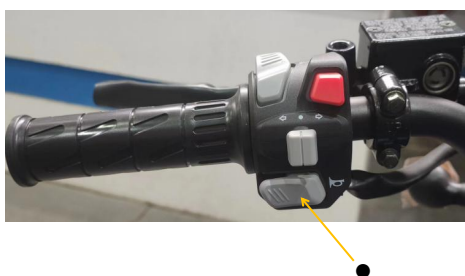


The steering lamp switch● is on the left handle switch.

When the steering lamp switch is pushed in the left or right position, the corresponding front and rear steering lamp flash. When the steering lamp switch is ON, the corresponding steering lamp indicator on the speedometer illuminates.

Operate the signal lamp as required by law. Unlike a vehicle, the steering lamp must always be canceled manually on the motorcycle. Push the switch to the center position when you need to cancel the signal.

6.10 Horn Button



When the key is in the ON position, the horn sounds when the button● is pressed. the horn can be used to warn pedestrians or other motorists of your presence.

6.11 Storage tool box



A is the tool storage box, which can store the accompanying tools and other items.

B is the keyhole of the tool storage box, which can be opened by twisting the key.

The same key is used for power locks, lockers and tap locks.

6.12 Side stand



Side stand is located at left side of motorcycle.

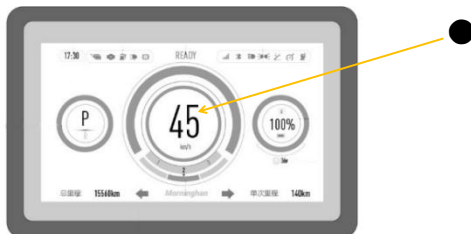


Info

Please fold the side stand before you ride it.

7 Speedometer

7.1 Speed display



Display current speed.

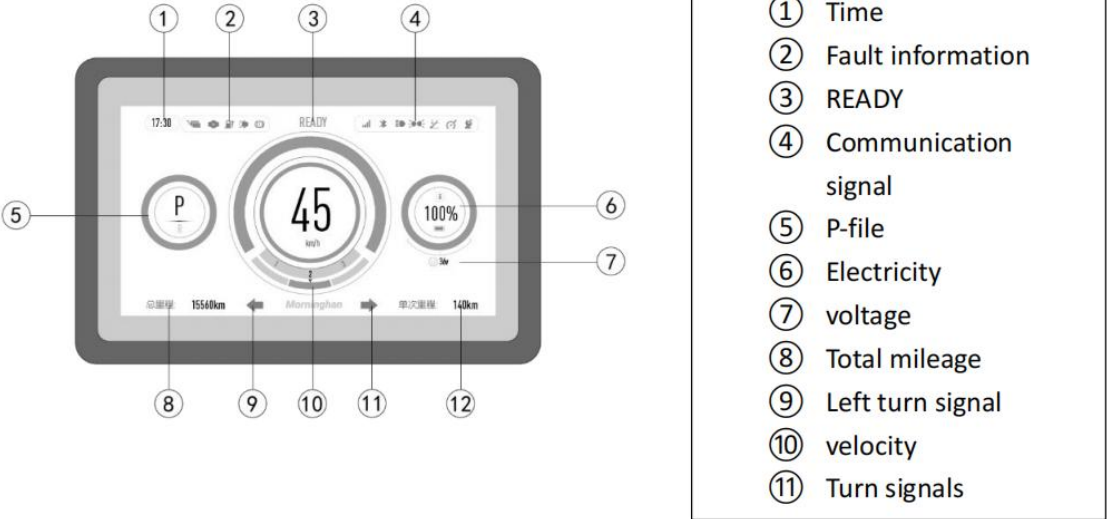
7.2 Driving mode display



The riding mode is a shift switch located on the handle switch

- ECO ❶ economic mode
- D ❷ normal mode
- S ❸ motion mode

7.3 Speedometer main interface UI, icons and their meanings



ICON	MEANING	ICON	MEANING
	ECU Fault		Bluetooth Connection
	Motor Fault		Headlamp
	Undervoltage Alarm		Clearance Lamp
	Handle Fault		Positioner
	Brake Fault		Cruise Control
	WiFi Connection		Controller Connection

Table . Main interface icons and their meanings

7.4 Mirror screen casting

After the smart meterWiFiconnection canusethe mobile phone mirrorscreen projection function, the screen projectionsupports verticalscreen, horizontal screenand information screen navigation, andthe UIinterface is slightly different.



Figure Vertical mirror projection interface UI



Figure Horizontal mirroring screen projection interface UI

7.5 WIFI connection (recommended method (2))

When connecting for the first time, the smart meter connects to the mobile phone WiFi in the following two ways: (Note: the mobile phone hotspot needs to be in the 2.4G band).

① Connect to WiFi by scanning the code through the Xiaomi Cycling APP (iOS system and Android 8.0 system or below are not supported).

The smart meter enters the My Car interface, the mobile phone opens WIFI to scan the QR code in the lower right corner of the My Car interface through the Xiaomi Cycling APP, scan the code and wait a few seconds to connect.

② Manually change your phone's hotspot information and turn on hotspot

Open the personal hotspot page in the mobile phone settings, turn on the WLAN hotspot and change the hotspot name and password to the WiFi name and WiFi

password in the My Car interface, and open the Xiaomi Cycling APP. Wait a few seconds and then connect automatically.

After the connection is bound, do not change the name and password of the WLAN hotspot, open the APP and wait a few seconds to automatically connect.

7.6 Bluetooth connection

The Bluetooth name of the smart meter is Bluetooth, click Pair after searching on the Bluetooth connection page in the mobile phone settings, the instrument will beep after successful connection, and the logo of the main page of cycling  turns blue. After the connection is successful, you can play the audio of the mobile phone.

7.7 OTA upgrades



Smart meter supports OTA remote upgrade, after the APP is connected to the smart meter, click Settings - My Car - Firmware Upgrade to check whether there is the latest version, if there is a click OK to perform OTA upgrade. The upgrade speed is determined according to the current network environment and mobile phone WiFi performance, generally not more than 2 minutes, please do not disconnect the WiFi hotspot during the upgrade process, otherwise there is a low probability of irreversible errors.

7.8 Audio playback & message alerts

The smart instrument has two speakers, located on both sides of the back cover, facing the front, the left speaker plays Bluetooth audio, and the right speaker plays system sound, including: USB internal audio, system sound.

The smart meter supports the message reminder function (Android 8.0 and above only), and can display WeChat, DingTalk, SMS, and phone message reminders on the main interface of the instrument after connecting to WiFi.



7.9 Light sense & note

The smart meter has a light sensing function that automatically brightens or dims depending on the current environment.

Watching network videos during screen casting will affect screen projection, which may cause a delay of 3 seconds in screen casting.

7.10 Light sense & note

The smart meter has a light sensing function that automatically brightens or dims depending on the current environment.

Watching network videos during screen casting will affect screen projection, which may cause a delay of 3 seconds in screen casting.

8 How to drive this motorcycle

8.1 Checks and service when preparing for use



Info

Before each drive, check the condition of the motorcycle to ensure safe operation.

Before riding the CS1 intelligent electric motorcycle, please check the following items, which will guarantee your safety on the road.

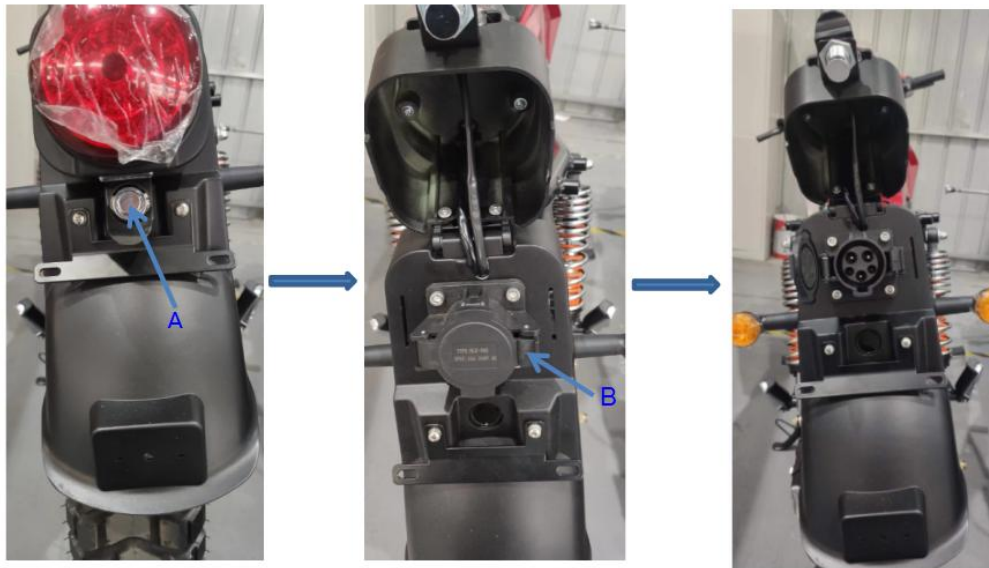
- ➡ Check whether the electrical system is working properly
- ➡ Whether the battery power is sufficient.
- ➡ Whether the direction handle is stable and the rotation is flexible
- ➡ Whether the switches on the left and right hand handles are working properly.
- ➡ Whether the speed grip works normally.
- ➡ Whether the brake oil quantity is sufficient and the handle and braking system are working properly.
- ➡ Check the front brake oil pipe.
- ➡ Check the rear brake oil pipe.
- ➡ Check the cleanliness of the belt.
- ➡ Check the belt tension.
- ➡ Check belt, front and rear pulleys and belt guides.
- ➡ To ensure normal tire pressure, recommended tire pressure (kPa) is
Single person 225 /225(front/ rear),Two person 225/225 (front / rear)
- ➡ Whether there is crack, damage, abrasion, foreign body puncture or adhesion on the tire surface.
- ➡ Whether the tread depth is enough and greater than 0.8 mm.
- ➡ If there is any fault warning light on the instrument panel after power-on.
- ➡ Whether the head and tail lights, brake lights and direction lights are working properly.
- ➡ Whether the horn is working properly.
- ➡ The rearview mirror is clean and adjusted to an appropriate angle.

➡ Please contact Customer Service Center for any abnormalities or operational doubts.

8.2 Battery charging port

8.2.1 Connection to motor vehicle charging ports

Before charging the batteries on motorcycle, must shut down the motorcycle first



The battery charging port is located in the lower part of the rear taillight, press button A to lift the rear taillight and leak out the charging port cover, wrench B to the right to open the cover and leak out the charging port, plug in the charging cable and then connect the power supply to charge.



Caution

If the waterproof cover of the interface is not tight, the battery may be damaged by water.

2.2 Connects to 220V power charging port



The charging port for connecting 220V power supply is located on the right side of the vehicle, with a plastic cover to cover A, and a charging indicator B is installed next to the charging port.

8.3 Starting

Before starting the vehicle, you must press the unlock button (top one on remote control) to unlock the vehicle, otherwise alarm may be triggered.



Info

Before driving, make sure all lines are connected correctly and the battery charging and discharging ports are connected with cables.

Check whether the air switch is on.

- 1) Fold the side stand.
- 2) Insert the key into the ignition lock and screw it into  position.
- 3) The motorcycle starts with a "drip" sound

8.4 Starting off



Select the driving mode switch on the right-hand handle switch. There are three modes for selection.
Eco (Economic Mode) Halve the motor output torque and revolving speed.
D (Standard Mode) Normal running mode.
S (sport mode) Increase motor power by 20 %.
Turn the throttle grip carefully and the motorcycle starts.

8.5 Braking



Warning

Excessively forceful application of the brakes blocks the wheels.



Warning

A spongy pressure on the front or rear brake reduces braking efficiency.

-Check the braking system and do not continue driving until the problem is eliminated.



Warning

Moisture and dirt impair the braking system.

-Brake carefully several times to dry out and remove dirt from the brake linings and the brake discs.

**Info**

The rear brake handle is located on the left side of the steering handle

-When braking, please release the Throttle grip and operate the front and rear brakes at the same time.

-Rear tire brakes should be mainly used when driving on sandy, waterlogged or smooth ground.

-Please brake in advance when entering the curve.

8.6 Stopping, parking

**Warning**

Danger of theft Used by unauthorized personnel.

Never park your motorcycle unattended.

Prevent unauthorized personnel from contacting the motorcycle.

**Warning**

Danger of scalding

Some parts of the motorcycle have quite high temperatures during operation.

Do not contact high temperature parts such as motors, shock absorbers and braking systems.

Allow the parts to cool before starting work on them.

**Note**

The parked motorcycle may slide or tip over.

Always park the motorcycle on a stable and flat ground.

**Note**

Some parts of the motorcycle have quite high temperatures during operation.

Do not park your motorcycle in a location with flammable and / or combustible materials.

Do not place objects on motorcycles that have reached operating temperatures.

The motorcycle must be cooled first.

**Note**

The side stand is only designed for bearing the weight of the motorcycle.

Please don't sit on the motorcycle when you park it by the side stand.

Otherwise, the side stand or chassis may be damaged and the motorcycle may tip over.

Brake motorcycle to stop.

Shut down the motorcycle.

Park the motorcycle on a solid ground.

8.7 Shutting down the motorcycle

1) Use the key to shut down

-If you use the key to start the motorcycle, you shall also use the key to shut down the motorcycle.

-Turn the key to the  position and the motorcycle is shut down .

-Lock the head.

2) Use the start-stop button to shut down

-Before using the start-stop button to lock the motorcycle, the motorcycle must be stopped first.

-After pressing the start-stop button, the motorcycle will be shut down.

3) Shut down with the remote controller

-Press and hold the lock key  until the motorcycle is shut down.

8.8 Transporting the motorcycle

-Closing the motorcycle. (see previous section)

-Secure the motorcycle with a fastening tape or other suitable fixing device to prevent tipping and sliding.



Warning

Danger of scalding

Some parts of the motorcycle have very high temperatures during operation.

Do not contact high temperature parts such as motors, shock absorbers and braking systems.

Allow the parts to cool before starting work on them.



Note

The parked motorcycle may slide or tip over.

Always park the motorcycle on a stable and flat ground.

8.9 Transporting the battery

Secure the battery pack with a fastening tape or other suitable fixing device to prevent tipping and sliding



Warning

The battery pack is a very important part

-Appropriate protective measures should be taken during transportation, otherwise serious injury will be caused.

-If proper protective measures are not provided, the transport motorcycle may be damaged.

9 Service schedule

Regular service can improve the service life and driving safety of the TS1 intelligent electric motorcycle. It is recommended that you refer to the following suggestions to take care of your car

9.1 Required work

The new motorcycle must be inspected and maintained for the first time at Service Center 1,500 kilometers or two months after delivery, whichever comes first. It is recommended that regular inspection and service be conducted at Service Center every 3,000 kilometers or every six months (whichever comes first).

	Every 3000km (1864mi)	
	The first 1500km (932mi)	
Check whether the electrical system is working properly.	☐	☒
Check the rechargeable battery pack.	☐	☒
Whether the direction handle is stable and the rotation is flexible		☒
Whether the switches on the left and right handles are working properly		☒
Whether the brake oil quantity is sufficient and the handle and braking system are working properly.		☒
Check the front brake oil pipe.		☒
Check the rear brake oil pipe.		☒

Check the cleanliness of the belt.		●
Check the belt tension.		●
Check belt, front and rear pulleys and belt guides.		●
To ensure normal tire pressure, recommended tire pressure (KPa) is:Single person 225 / 225 (front / rear) Two person 225 / 225 (front / rear)	○	●
Whether there is any crack, damage, abrasion, foreign body puncture or adhesion on the tire surface.	○	●
Whether the tread depth is enough and greater than 0.8 mm. If there is any fault warning light on the instrument panel after power-on.	○	●
Whether the head and tail lights, brake lights and direction lights are working properly.		●
Check whether the horn is working properly.		●
The rearview mirror is clean and adjusted to an appropriate angle.		●

○ One-off cycle

● Periodic cycle

9.2 Recommended inspection

Every 2 years		
Every 6000 km(3728mi)		
Every 3000 km(1864mi)		
Replace the front brake fluid		●
Replace the rear brake fluid		●
Lubricate directional column bearings		●
Front suspension maintenance	●	
Rear cushion maintenance	●	
Replace gear oil	●	●
Check the cradle bearing	●	●

● Periodic cycle

10 Motorcycle Transmission

10.1 Belt drive



Belt vibration frequency of 75 Hz

Belts need to be maintained periodically, and major problems need to be replaced with new belts in a timely manner.



Warning

- Maintain proper tension to avoid damage caused by looseness or over-tightness.
 - Clean and lubricate frequently and adjust belt tension. Keep the belt drive clean and lubricated to avoid dust and dirt from entering. The tension of the belt drive should also be adjusted to maintain proper tension to avoid damage caused by loose or over-tightened
-

Preliminary work

- Hold up the motorcycle with a lifting chassis
- Check the belt tension.

Main work

- Pay attention to the environment in which the drive belt is used. In humid and corrosive environments, choose drive belts that are corrosion and humidity resistant.
- Pay attention to the environment in which the drive belt is used. In humid and corrosive environments, choose drive belts that are corrosion and humidity resistant.
- Periodically check the drive belt alignment to ensure that the drive belt and hub bearings are correctly centered.

10.2 Motorcycle adjustment operation



Preliminary work

- Hold up the motorcycle with a lifting chassis
- Check the belt tension.

Main work

- Loosen the rear axle nut①
- Loosen the nut②
- Adjust the belt tension by rotating the left and right adjusting bolts③

Requirement

Rotate the left and right adjusting bolt③to ensure the relative positions between the marks of the left and right belt tensioners④and the reference marks are the same.

This indicates that the rear tires have been correctly calibrated

- Tighten the nut②
- Make sure that the belt tensioner④abuts on the adjusting bolt③on
- Tighten the nut①

Requirement

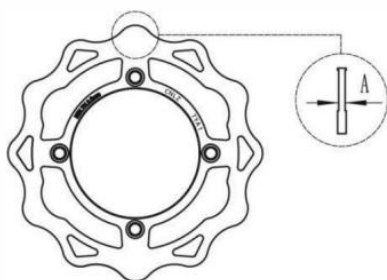
Rear axle nut-90 Nm

Finishing

Remove the motorcycle from the rear tire support.

11 Braking system

11.1 Checking the brake disc



-Check the thickness A of the brake disc.

Front brake disc	$\geq 3\text{mm}$
Rear brake disc	$\geq 3\text{mm}$



Warning

Worn-out brake discs reduce the braking effect.

Make sure that worn-out brake discs are replaced as soon as possible. (Your authorized workshop will be glad to help.)

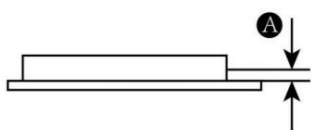
11.2 Check the brake lining



Warning

Worn-out brake linings reduce the braking effect. -

Make sure that worn-out brake linings are replaced as soon as possible. (Your authorized workshop will be glad to help.)



-Observe the lining from the top or rear of the pump under the rear disc brake. Visually inspect the minimum thickness A of the brake lining.

Minimum thickness A of brake lining	$\geq 1\text{ mm}$
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» If the minimum thickness of the lining is less than the specified value: Please replace the brake linings.

- Check whether the brake lining is damaged or cracked.

» If there is any damage or crack, please replace the brake lining.

11.3 Checking the brake fluid



Warning

- Lack of brake fluid will cause the braking system to fail.
- If the brake fluid level drops below the specified marking or the specified value, the braking system is leaking or the brake linings are worn down.
- Check the braking system and do not continue riding until the problem is eliminated. (Your authorized workshop will be glad to help.)



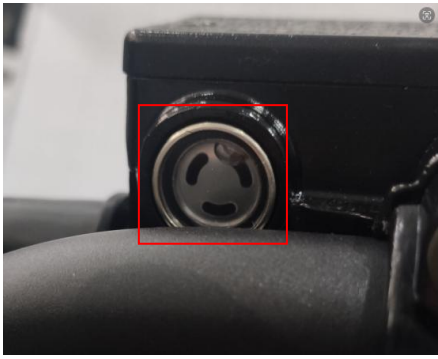
Warning

- Overuse of brake fluid reduces the braking effect.
- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized workshop will be glad to help.)



Warning

- Brake fluid may cause skin irritation.
- Keep brake fluid out of the reach of children.
- Wear suitable protective clothing and safety glasses.
- Do not allow brake fluid to come into contact with the skin, the eyes or clothing.
- Consult a doctor immediately if brake fluid has been swallowed.
- Rinse the affected area with plenty of water in the event of brake fluid contacting with the skin.
- Rinse eyes thoroughly with water immediately and consult a doctor if brake fluid comes into contact with the eyes.
- If brake fluid spills onto your clothing, change the clothing.



- Place the brake fluid cup installed on the directional handle in a horizontal position.
- Check the brake fluid level through the oil cup.
 - » When the brake fluid level drops below the MIN mark: Replenish brake fluid for front tire brake.

12 Wheels, tires

12.1 Checking the status of wheels and tires

- Inspect both wheels for the following:
 - » Bent, loose, or missing spokes.
 - » Bent or cracked rims.
 - » Impact marks on the rims.
- Inspect both tires for the following:
 - » Cuts, cracks, splits, or missing tread lugs on the tread or sidewall area.
 - » Bumps or bulges on the tire body.
 - » Uneven tire tread wear. Wear on one side of the tire tread or flat spots in the tire tread indicate problems of the tire or motorcycle.
 - » Exposed tire thread or cords.
- If either the wheel or the tire is found to have any of the above conditions, replace the wheel and tire immediately.

12.2 Checking the tire pressure



Warning

- Under-inflation is a common cause of tire fault and may result in severe tire cracking, tread separation, “blowout,” or unexpected loss of motorcycle control, causing serious injury or death.
-
- Tire pressure should be checked and adjusted to the proper inflation levels before each ride. Tire pressure should be checked using an accurate gauge when the tires are

cold. This means that the tires have not been ridden on for at least 3 hours. Always replace the air tap cap after adjusting tire pressures.

Model	Front tire	Rear tire
CS1	225 kPa	225 kPa

13 Battery

13.1 Install the battery



Caution

- You must leave your motorcycle on the charger if you expect it to sit in storage or unused for over 90 days.

- Steps to install the battery pack.

» Hold up the motorcycle with the side stand.

» Open the seat cushion with the key.

» Pick up the battery and place it in the battery compartment. Pay attention to the arrow above the battery when placing it.

» Insert discharge plug and charging plug.

13.2 Install the battery

- Steps to install the battery pack.

» Hold up the motorcycle with the side stand.

» Unplug the discharge plug and charging plug.

» Lift the battery out of the battery compartment.

13.3 Battery charging



Caution

- The power pack must be charged within 24 hours if it is fully discharged, and shall be charged within 90 days after it is fully charged.

- We recommend you plug in your CS1 after 90 days. Even if it is fully charged, please leave your CS1 plugged in whenever possible.

- The power pack is a lithium-ion power system. While it does require charging, it does not require maintenance.
- The power pack should be kept away from excessive heat. The temperature of lithium-ion cells should not be above 65 °C. It shall not be stored in a hot trailer or be placed under direct sunlight.
- Only the authorized service agent is qualified to unpack the power pack.
- Dispose of the power pack according to your state and local laws. It is encouraged that the power pack be recycled rather than disposed of in landfills.
- Please contact us via info@TINBOT.com or contact the recycling center in your area.

Motorcycle charging



A

B

Preparatory work

- Stop the motorcycle on the flat ground.
- Shut down the motorcycle.

Main work

To charge the battery, use the charging cable supplied with the vehicle, connect one end to the right side of the vehicle at A, and one end directly to the power supply. B is to indicate the amount of charge during the charging process. When it reaches 100%, the battery is fully charged.



Preparatory work

- Stop the motorcycle on the flat ground.
- Shut down the motorcycle.

Main work

Follow the steps in 8.2.1 to open the charging port at the taillight and use the motor vehicle charging post charging head to connect to the charging port on the whole vehicle to start charging.



- Warning

- Pay attention to water resistance to prevent the battery pack from being drenched and invaded by water;
- Operating temperature during charging: 0-45 °C, operating temperature during discharging: 20 - 65 °C;
- The battery pack should be charged as soon as it is used. When it is not used for a long time, it must be removed from the motorcycle and stored.
- It is strictly prohibited to short-circuit the positive and negative poles of the input and output terminals of the battery pack;
- Keep the battery pack away from children, fire sources and heat sources, and do not throw it into the fire.
- Strenuous exercise, impact and extrusion should be avoided;
- The designated special charger must be used. It is forbidden to charge the battery pack with other chargers.
- This product has been strictly inspected before leaving the factory, and it is strictly prohibited to disassemble it without permission. In case of any problems, please contact our after-sales service department.

14 Service for the Motor

14.1 Checking the gear oil



Preparatory work

- Stop the motorcycle on the flat ground.
- Shut down the motorcycle.

Main work

- Rotate the oil gauge ● and use a paper towel to clean the oil stains on it.
- Insert the oil gauge again, but do not screw in it.
- Check the oil level.
 - » If the oil level is below the oil gauge grid areaⒶ: Replenish gear oil.
 - » If the oil level is above the oil gauge grid areaⒶ: Adjust gear oil.



14.2 Changing the gear oil



Warning

- Gear oil becomes very hot when the motorcycle is operating.
- Wear suitable protective clothing and safety gloves.
- If you have been scalded, irrigate the burn with lukewarm water immediately.



Preparatory work

- Stop the motorcycle on its side stand on a flat ground.
- Shut down the motorcycle

Main work

- Place a suitable container under the motor.

- Remove oil drain bolt.
- Remove the oil gauge.
- Let the gear oil drain fully.
- Mount and tighten the oil drain bolt.



Oil drain bolt	M10x1.5x16	20N.m
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- Fill gear oil 0.35 L with special oil pot.
- Clean the oil splashed on the outside surface.
- Install and tighten the oil gauge

15 Cleaning and service

15.1 Cleaning the motorcycle

Cleaning: clean the motorcycle with clean water and neutral lotion. Clean the surface with soft cloth and sponge; it is strictly prohibited to use metal brushes and sandpaper to clean, so as not to scratch the surface of parts. After cleaning, dry the motorcycle with a soft cloth.



Note

Please disconnect the main circuit breaker before you clean the motorcycle.
Do not flush the motorcycle with strong water stream directly, so as to avoid machine parts fault due to water and gas invasion.



Note

If you clean the motorcycle regularly, its value and appearance will be maintained over a long period.
Avoid direct sunshine on the motorcycle during cleaning.

15.2 Cleaning the motorcycle



Note

- If the motorcycle is used in the winter, the case that salt is sprinkled on the

roads for snow melting should be taken into consideration. Precautions need to be taken against corrosive salt for snow melting.

- If the motorcycle runs on the road with salt for snow melting, it is necessary to clean the motorcycle with cold water after riding. Warm water would enhance the corrosive effects of salt.

- Clean the motorcycle.

- Clean the braking system.



Note

- After riding on the road with salt for snow melting, thoroughly wash the brake calipers and brake linings with cold water and dry them carefully. This should be done after the parts are cooled down and while they are installed.

- After riding on the road with salt for snow melting, thoroughly wash the motorcycle with cold water and dry it well.

- Treat the motor, swing arm, and all other exposed and zinc-plated parts (except for the brake discs) with wax-based corrosion inhibitor.



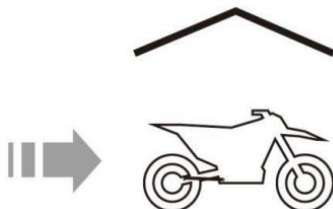
Note

- Corrosion inhibitor is not allowed to contact with the brake discs as this would greatly reduce the braking force.

- Clean the belt.

16 Storage

16.1 Storage



- The motorcycle shall be stored in a dry and cool room as far as possible to reduce sun exposure and rain, so as to avoid reduction of service life due to corrosion of parts.

- When storing the motorcycle for a long time, please shut down the air switch and disconnect the battery power supply circuit to prevent the battery from

discharging excessively.

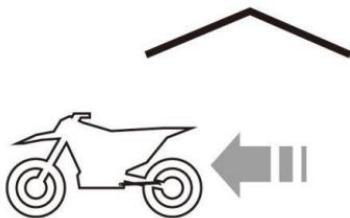
- After long-term storage, please fully charge the battery before use.
- When the battery pack needs to be stored for a long time, please charge the battery pack to a semi-saturated state (after the battery pack is discharged, charge it for 3 hours). Place it in a dry and ventilated place and charge it for 2 hours every two months.
- Battery packs and chargers should be stored in a clean, dry and ventilated place. Avoid contact with corrosive substances and keep away from power and heat sources;
- Storage conditions of battery pack: ambient temperature - 20- 35°C, ambient humidity $\leq 65\%$;
- Disconnect the battery pack when storing the charger.

16.2 Preparing for use after storage



Info

If the battery pack has not been used for more than six months, start the motorcycle and discharge the battery pack until it is used up. Then recharge the battery pack completely



- Install the battery pack.
- Turn on the power.
- Implement inspection and service measures.
- Try riding

17 Troubleshooting

Fault phenomenon	Cause of fault	Solution
The motorcycle is not powered on and the start / stop button is not on	1) The battery connection is not in place 2) The air switch is not on	1) The battery main plug is connected in place 2) Turn on the air switch
After electrifying, turn the speed regulating grip and the motor does not rotate	1) Insufficient battery power 2) Side stand is not folded 3) The parking key is not closed 4) Brake handle does not return in place 5) Grip fault 6) Controller plug is loose 7) Controller fault	1) Charge the battery 2) Fold the kick stand 3) Close the parking key 4) Brake handle returns to original position 5) Replace the grip 6) Reseat the controller plug-in 7) Replace the controller
The driving speed is slow or the driving mileage is short	1) Insufficient battery power 2) Insufficient tire pressure 3) Serious overload 4) Brake pad interference 5) Battery aging or normal scrap	1) Recharge the battery 2) Replenish the tire pressure and check the tire 3) Develop good habits and keep proper load 4) Change the brake pads and check the braking system before each ride 5) Replace the battery
The battery cannot be charged	1) Poor contact of charging main plug 2) Wrong charger 3) Battery aging or normal scrap	1) Check whether the main plug is plugged in place 2) Use TINBOT special charger 3) Replace the battery
Fault code31	Overcharge protection warning	Please stop charging and check the charger
Fault code32	Charging overcurrent protection warning	Please stop charging and check the charger
Fault code33	Charging overvoltage protection	Please stop charging and check the charger
Fault code34	Charging is prohibited at low temperature (below 0 °C for 30s and below - 20 °C for 3s)	The motorcycle was pushed indoors or in a warm place and waited for a moment
Fault code35	Over-release protection warning	If 35 is always displayed, please stop riding

Fault code36	Discharge overcurrent protection warning	Please stop charging and check the charger
Fault code37	Battery overheat protection warning	Please stop for a while before starting
Fault code38	Battery supercooling protection	Stop the motorcycle indoor or in a warm place and wait for a moment
Fault code39	BMS communication fault	Check whether the charging interface is connected properly and contact the after-sales service or dealer
Fault code40	Battery short circuit protection warning	Please contact your after-sales service or dealer
Fault code41	Other abnormal battery warnings (battery open circuit / battery differential voltage greater than 0.3V)	Please contact your after-sales service or dealer

18 Technical Data

18.1 Engine

Engine Type	Permanent magnet synchronous motor
Rated power	5 kW
Max Power	6.5kw
Max Torque	10.6N.m/4500rpm
Maximum speed	4500rpm
Primary transmission ratio	6.6
Cooling mode	Natural air cooling
Gear oil grade	Gear oil (SAE 85W/90)
Gear oil capacity	0.35L

18.2 Complete motorcycle

Overall size	
Motorcycle profile dimensions	2080 × 840 × 1140mm
Wheelbases	1410mm
Seat cushion height	780mm
Speed	
Top speed	95km/h
Range	100km(50KPH)
Quality	
The mass of the a group of battery of the motorcycle	140kg
Maximum allowable load mass of front tires	99kg
Maximum allowable load mass of rear tires	191kg
Maximum allowable load mass of the motorcycle	150kg
Frame	
Frame	Carbon steel
Head pipe angle	25°
suspension	
Front suspension stroke	110mm
Rear suspension stroke	50mm
Braking system (CBS)	
Braking system (CBS)	Disc brake (double -piston pliers)
Rear braking system	Disc brake (single -piston pliers)
Front brake disc diameter	240mm
Rear brake disc diameter	210mm
Minimum thickness of front brake disc	3mm
Minimum thickness of rear brake disc	3mm
Tire	
Front tire size	100/80-17
Rear tire size	120/80-17
Front tire pressure	225 kPa
Rear brake disc diameter	225 kPa
Number of teeth of small sprocket	13
Number of teeth of large sprocket	51
Electrical System	
Nominal voltage	72V
Voltage under full charge	84V
Capacity	76Ah(5.5kWh) / 58Ah(4.2kWh)
Weight	29kg/25kg

Charger	
Input AC voltage	100 ~ 230V
Power	1000W
Output voltage	84V
Maximum output current	10A
Other	
Voltage converter output fuse	10A
USB charger fuse	5A
Front headlight	LED 14W
Steering lamp	LED
Rear tail lamp	Bulb 10W/5W