



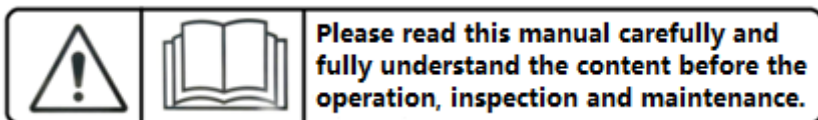
Operator Manual



HTL500-ECO

Mini Dumper

Original Instruction (EN)



Safety Warning Symbol



This symbol indicates a security warning. Please read and fully understand the information to avoid personal injury or death.

It is the responsibility of the owner or employer of machine to guide each operator to use it correctly and safely in detail.

Operators should be at least 18 years old, under 18 years old is prohibited to operate the machine.

Prior to running the machine, all operators must receive receive training on the operation and inspection of machine. You should be fully familiar with the content of this manual, learn and practice how to use the machine control correctly in a safe and open place before field operating.

Improper operation, inspection, and maintenance of machine will lead to injury or death.

Please read and understand this manual before any operation, inspection or maintenance.

Make sure to take this manual with you or on the machine (recommended). If it is lost or damaged, please order a new manual from the dealer immediately.

When you transfer this machine to others, please hand over this manual to the new owner.

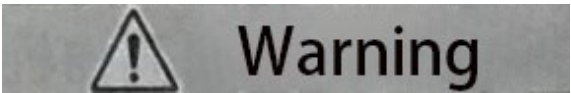
Thanks.

SYMBOLS

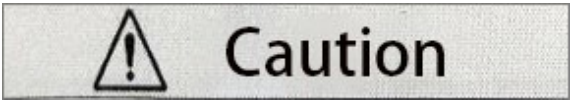
The safety tips appearing in this manual and pasted on the machine are warned by the words "Danger", "Warning" and "Caution". The meanings of these signal words are as follows:



"Danger" means that the level of danger is very high. If you can not avoid, it may lead to death or serious injury.







"Warning" means that the level of danger is moderate. If you can not avoid, it may lead to injury or serious injury.



"Caution" means that the risk is low. If you can not avoid, it may lead to injury.

The symbols used in this manual have the following meanings.

-  ,  . . . Prohibit
-  . . . Lock
-  . . . Unlock

FOREWORD

This manual introduces the operation, inspection and maintenance of machine, as well as the safety cautions , which should be paid attention to during above activities.

If you have any questions about the machine, please contact the sales or service Provider of Kenshi Heavy Industry.

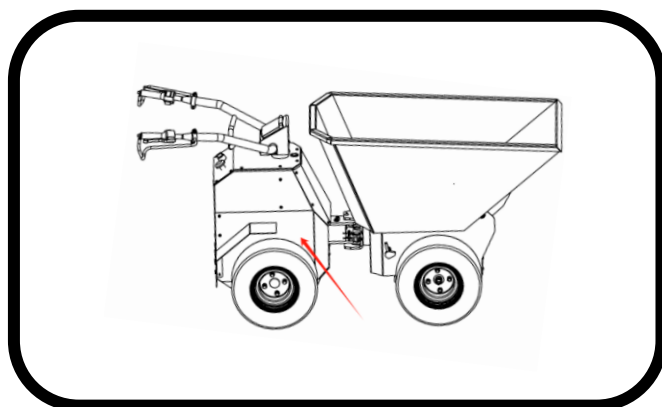
- Due to the improvement, revision and upgrade of machine, this manual may be different from the machine you used in some details.
- Note that: the information and the parameters of the whole machine in this manual are subject to change without notice. You can contact with the sales of Kenshi Heavy Industry to buy the newest manual.

Serial number

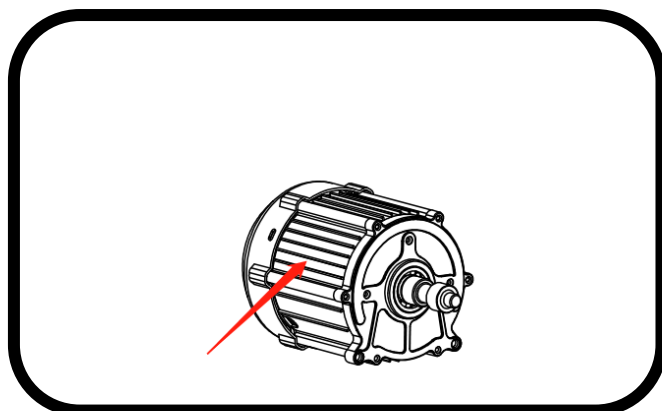
Important: Do not remove the nameplate with serial number from machine.

Check the serial number of machine and motor. Record them in the space below.

Machine number:

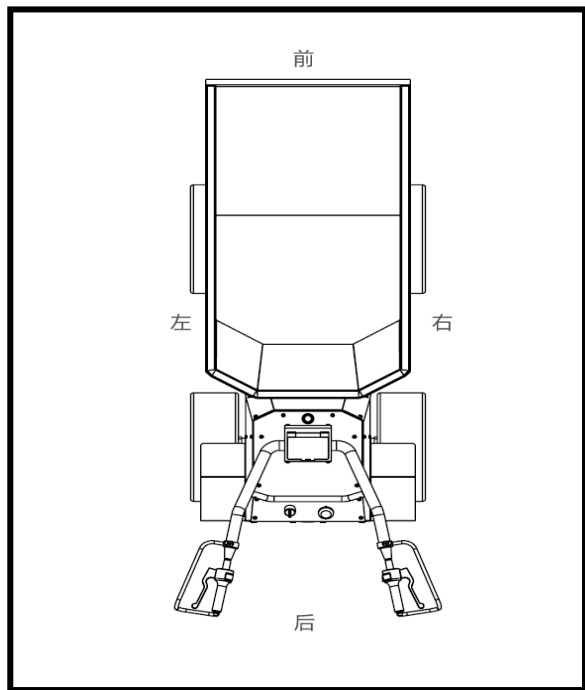


Motor number:



GENERAL DESCRIPTION

Front, back, left and right



The front, back, left and right of the machine stated in this manual is defined according to the position of operator.

Usage scenarios

This machine is mainly used for the following scenarios:

- Short- distance transportation of various materials, indoor or outdoor sites;
- Long-distance transportation of various materials in the wild.

Product features

- Compact, flexible, various applicable scenarios and can enter floors, elevators, hanging baskets or other narrow spaces to work.
- Low noise and can work in places with strict requirements for noise.
- Electric/hand- assisted tipping bucket can reduce the labor intensity of operators.
- The operation is simple, and the forward, backward and turning are controlled by the handle.
- Environment-friendly, electric-driven, pollution-free, and can meet the strict requirements of environmental protection.
- The battery can be replaced easily, which may increase the time and efficiency of working.
- Large bearing capacity.
- Four-wheel drive and well stability.
- Anti-slip vacuum tires have strong grip ability and wear-resistant.

Cautions

For the first 100 hours of the new machine (indicated by the hour meter), please follow the following instructions:

- The load should be lower than 80% of the maximum loading capacity. Avoid overloading.
- Don't start, accelerate, change direction, or stop suddenly unless necessary.

The wrong use may lead to the fast deterioration of performance and shorten the service life of machine.

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PART A

Safety





Safety General Cautions

You should be responsible for following the national laws and safety regulations of relevant departments. Please operate, inspect and maintain this machine according to the cautions and requirements in this manual.

In fact, all accidents can be attributed to failure to strictly comply with the basic safety regulations and cautions. Most accidents can be avoided by identifying potentially dangerous situations in advance.

Please read and understand the content. Do not operate the machine until you have understood how to operate, inspect and maintain it correctly.

Safety regulations

- The machine must be operated, inspected and maintained by the trained and qualified personnel.
- Prior to the operation, inspection and maintenance, all regulations, cautions, and safety instruments must be understood and observed.
- If there is abuse of alcohol and drugs, or fatigue and insufficient sleep, do not operate, check and maintain the machine.

When the machine is found to be abnormal

During the operation, inspection, and maintenance of machine, if it is found to be abnormal (serious noise/sound, vibration, odor, wrong instrument display, smoke or oil leakage), the sales or service agent should be informed immediately and appropriate measures should be taken. Do not operate the machine until the problem is solved.

Operating temperature of machine

To keep the performance of the machine and avoid premature wear, please observe the following cautions:

- Do not operate the machine if the outdoor temperature is over +45°C or below -10°C.
- Charging temperature: 0-35°C. Do not charge below 0°C or above 35°C.
- If the outdoor temperature is higher than +45°C, the battery may be overheated and its performance will get deteriorated.
- If the outdoor temperature is lower than -10°C, the rubber parts, such as gaskets, may become hard and lead to the premature wear or damage of machine.
- If you have to operate the machine out of the outdoor temperature range recommended, please consult your sales or service agent.



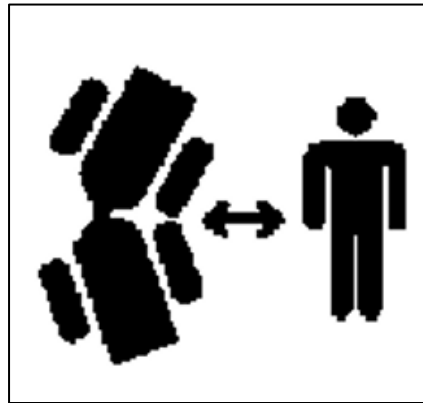
Safety General Cautions

Wear protective clothes and equipment during operation



- Do not wear loose clothes or decorations that may hang the control rods or moving parts.
- Please don't wear clothes with oil or fuel dirt, which are easy to catch fire in some condition.
- Wear safety shoes, safety helmet, safety glasses, filter mask, thick gloves, ear protection and other protective equipment according to the requirements of working environment. When using grinders, hammers or electric welding machine, you should wear appropriate protective equipment, such as safety glasses and filter masks, because splashing metal chips or other objects may cause serious injuries.

Avoid the squeezing or cutting



Never put your hands, feet or other body parts between the frame and the dumper, or between the bogies. When the machine gets moving, the size of these gaps will change, which may cause serious injury or even death.

Do not carry people



No one can be allowed to ride on any part of machine at any time when it is working.



Safety General Cautions

Avoid fire and explosion hazards



DANGER
BATTERY CHARGING



NO SMOKING
OR NAKED FLAMES

- Remove the sundries and rubbish from the machine, especially the greasy rags and other flammable materials.
- Handle all kinds of solvents and dry chemicals (e.g. foam fire extinguishers) according to the procedures marked on the containers in a well-ventilated place.
- Keep all flammable liquids and materials in a safe and well-ventilated place.
- A short circuit in the electronic system may cause a fire. Check whether the wire connection is loose or damaged every day. Re-tighten loose connectors and cable clips. In case of wire wear and damage, stop using the machine immediately and contact the dealer.



Safety General Cautions

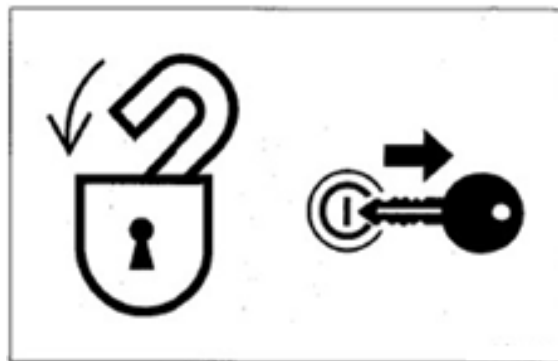
Modification of machine

Unauthorized modification of the machine will cause casualties. Never make unauthorized modifications to any part of the machine.

Use option products

- Please consult Kenshi Heavy Industry before installation., Please make sure that the installed accessories will not interfere with other parts of the machine.
- Please do not install the option products that are not approved by Kenshi Heavy Industry. Unauthorized modifications may endanger the safety and bring adverse effect on the operation and service life of machine.
- Kenshi Heavy Industry has nothing to do with the injury, accident or product damage caused by the use of unauthorized accessories.

Cautions before leaving



The tipping bucket should be lowered to the bottom point before leaving. At the same time, please pull out the key and turn off the power. The key should be taken or stored in a designated place.



Safety

Cautions during preparation

Understand the work area

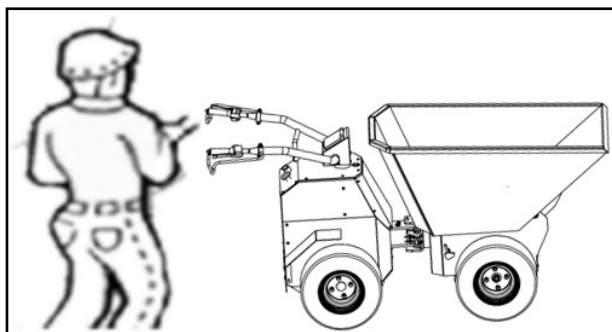
Before starting the operation, you should be familiar with the work area to ensure safety.

- Check the terrain and ground. Check the structure of the building when working indoors and take safety methods if necessary.
- Try to avoid dangers and obstacles (e.g. ditches, underground pipelines, trees, cliffs, overhead wires or dangerous areas of falling rocks or landslides).

Check the work area

- Confirm the performance limit of the machine, e.g. climbing ability, max. loading capacity, max. speed and stability etc.
- In areas where the line of sight is obstructed, e.g. narrow spaces, it is necessary to introduce a signalman or observer .
- Never allow anyone to enter the path and work area of machine.
- Before walking backwards, please check the safety of the rear and make sure that there is no one behind.

Keep the machine clean



- Wipe off the lubricating oil, grease, dirt, snow, or ice to prevent the accidents caused by slipping.
- Clean and remove all unnecessary things in the machine.
- Clean and remove any unnecessary objects in work area.

Check the vision before operating

- When working in a dark place, the additional lighting equipment may be necessary.
- When the vision is poor due to bad weather (e.g. fog, snow, rain or haze), stop operating until the vision gets better.
- Unauthorized machine modification or installation of unapproved accessories may affect the field of vision. The operator's field of vision must conform to ISO 5006 standard.



Safety

Cautions during preparation

Daily inspection



Failure to find out and repair the abnormal situation or damage of the machine will cause serious accidents.

- Before operating, please carry out the specified inspection and repair the problem immediately if necessary.
- If the machine cannot be operated, please stop it immediately according to the shutdown procedure and park the machine firmly until the problem is fixed.

Cautions at startup

Please ask any unauthorized people to leave the area before starting the machine.

Do not start the machine until you are sure that it can be started safely by checking the following items.

- Walk around the machine once and warn the machine maintenance person and those walking near the machine.
- Make sure there is no one around the machine before turning it on.



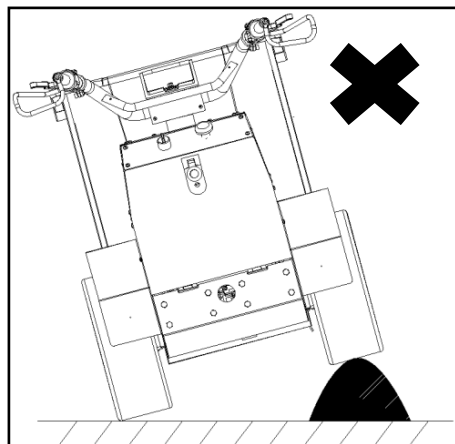
Safety Cautions during operation

Used in cold climates

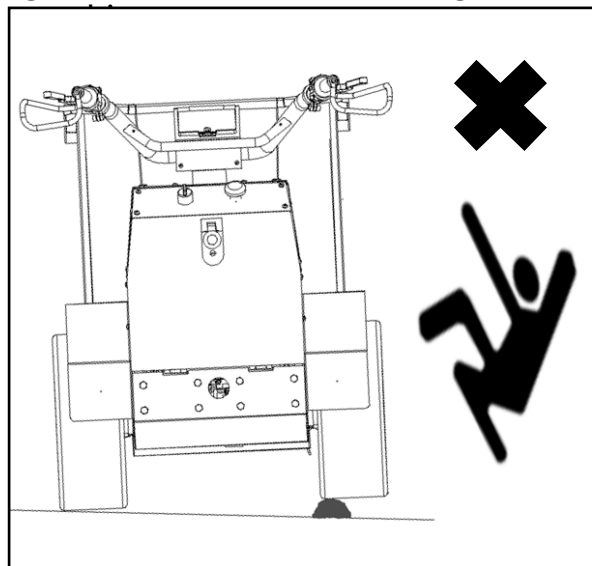


- Be careful of the frozen road. The handle may also be very slippery.
- Do not touch any metal parts of machine with bare hands in cold weather. Skin will freeze to metal, causing serious injury.
- When the machine walks in snow or on ice, you should drive at a low speed to avoid sudden start, stop, or direction changes.
- In snowy areas, you cannot see the objects placed on the shoulders and the sides of road. The machine may be overturned or collide with the objects buried in the snow, so do operate carefully.
- If the machine enters a thick snow-covered area, it may get overturned or be buried in the snow. Please drive the machine carefully in this case to avoid getting stuck in the snow. Do not go over the shoulder of the road.
- As for the frozen soil surface, the ground becomes soft when the temperature gets higher. This may cause the overturning of the machine and the operator to be trapped.

Obstacle crossing



- Try to avoid crossing obstacles. If you have to do, please walk slowly. Never cross an obstacle that will tilt the machine by 30° or more.
- keep walking at a low speed on uneven roads to avoid sudden starting, stopping or direction changing. Otherwise, the frames may come into contact with the ground and cause the damage of



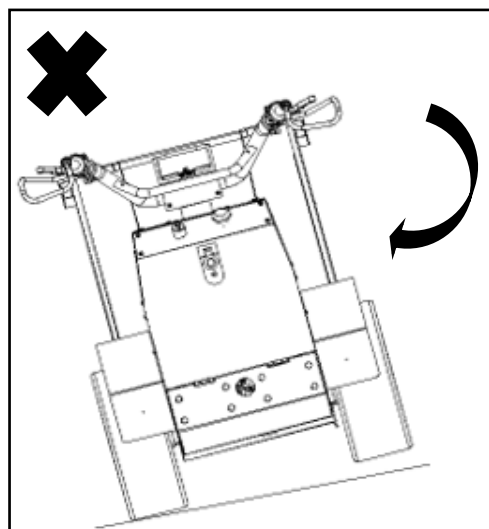


Safety Cautions during operation

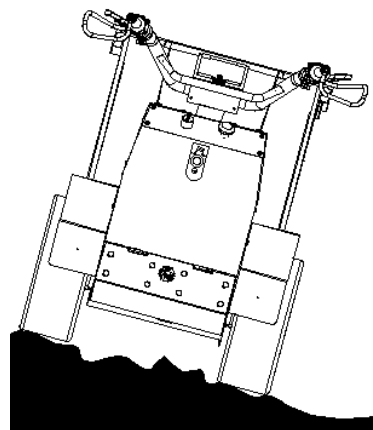
Driving on slopes

When driving on a slope or ramp, be careful not to let the machine overturn or slide down.

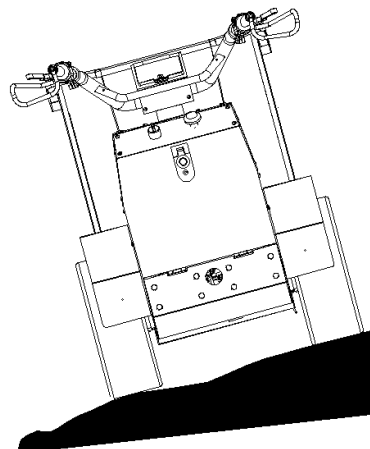
- Never driving on a steep slope where the machine cannot maintain its stability.
- When operating on a slope, turning the direction may cause the machine unstable or overturned, especially with a full load downhill. Please observe the ground in front of the machine at all times.
- Keep the head of operator facing the hillside when climbing a mountain. When going downhill, keep the head of operator facing downhill.
- The machine may slip on a slope covered with grass or dead leaves, or when walking on wet metal plates or frozen ground. Make sure that the machine does not stop sideways on the slope in any case.



Other dangerous work conditions



Please do not enter the soft ground. The machine may tilt due to its own weight and get overturned or stuck.

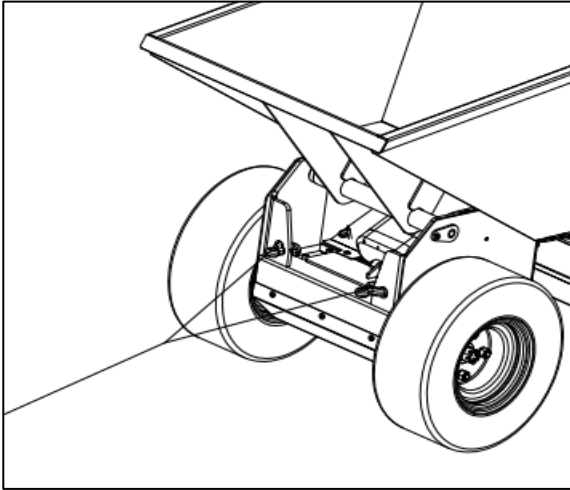


- Do not approach the unstable ground. If the ground collapses due to the weight or vibration of the machine, the machine may get falling or overturned.
- The soil is not hard after heavy rain or blasting. The ground at the top of the embankment and around the excavated trench is also not solid.



Safety Cautions during operation

Cautions in traction



During the traction , improper operation, wrong cable use or improper inspection may lead to serious injury or even death.

- Prior to traction, please release the braking system. Otherwise, it will cause the damage of machine.
- Danger will occur if the cable breaks or splits. Please use a wire rope that matches the traction.
- Do not use the twisted or even damaged cables.
- Do not suddenly put a heavy load on the cable.
- Please wear safety gloves when handling cables.
- Do not tow machines on slopes.
- When towing, no one should approach the cable.
- The allowable maximum force is 500 kN.

Points of traction

- Allowable force: 5000 N
- Tie the cable to the carabiner and hook the carabiner to the traction hole.
- Make sure the cable is at a cone Angle of 20° or less from the frame.
- Move the machine and tighten the cable.
- The machine is moved at a low speed of 2 km/h or less to a service site that is a short distance from the site.

Watch out flying objects

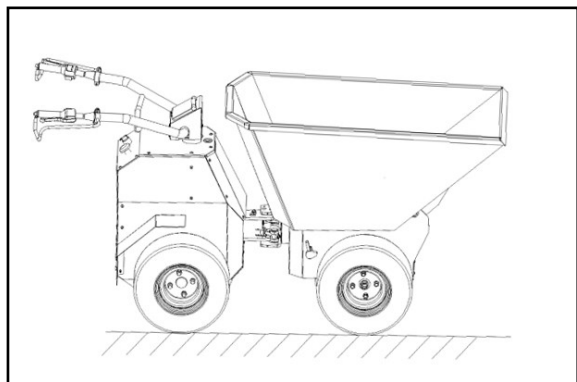
Before operating this machine, the operator should wear safety appliance (e.g. helmets, work clothes, goggles, and protective shoes).

This machine is not equipped with any equipment to protect against flying objects. So, do not use this machine in such places where the operators may be hit by flying objects.

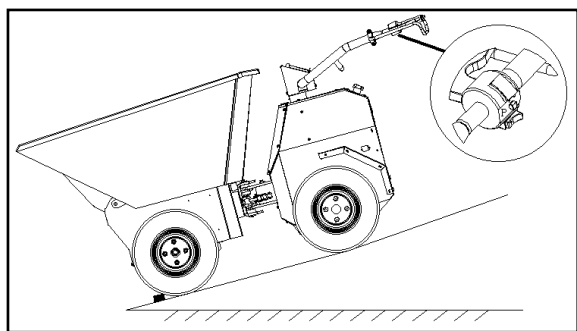


Safety Cautions during parking

Parking

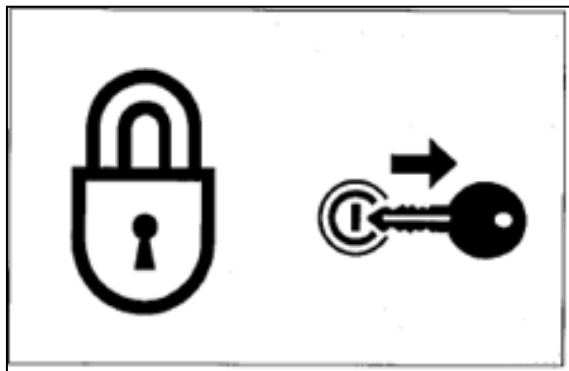


- Park the machine on a flat, solid and safe ground.



- If you have to park on a slope, the machine must be firmly braked and take measures to prevent the machine from moving or slipping.
- When parking in the street, you should use grilles, warning signs, lights, etc. to make the machine easy to see even at night to avoid being hit by other vehicles or personnel.

Power off and leaving



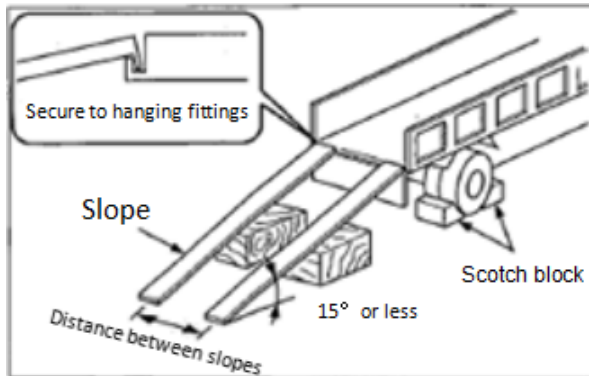
Before leaving the machine, please operate it as the following:

- Turn off the power switch.
- pull out the starting key and take it away or store it at a safe place.
- Turn off the emergency stop button.
- Check the working devices, covers, and front and rear frames of the machine. If any abnormalities are found, please repair them immediately.
- Use the charger provided by Kenshi Heavy Industry to charge the battery in a safe place.
- Remove the soil from the front and rear frames and check if the tire pressure is normal.



Safety Cautions during shipment

Loading and Unloading of machine



When loading or unloading the machine, be sure to use a dedicated carrier and follow the following procedures:

- Machine loading and unloading should be done on a firm, level site and at a sufficient distance from the shoulder of the road.
- Fix ramps of sufficient strength and size to the truck bed. The slope of the ramp must not exceed 15°. If the ramp bends downward too much, support it with struts or pads.
- Keep the truck compartment and loading ramp clean, free of oil and other foreign objects such as sand, ice, Snow, etc. to prevent the machine from slipping sideways.
- Wedge the tyres of the transport truck with stop blocks to prevent movement.
- When loading or unloading the machine, if it is necessary to steer on the lorry carriage, the box may not be stable enough at this time, follow the signaller's signal and walk slowly.
- Do not steer on an inclined surface, the machine may tip over.
- Stabilise the machine's tyres with wedges, then tie the machine to the truck carriage with cables or chains.

Hoisting of machine

- Master right lifting gestures and use the correct hoisting equipment with good performance.
- Check the hoisting equipment. If there are any parts damaged or lost, replace or repair them prior to hoisting.
- Use a cable that can withstand the weight of machine and leave at least one time more safety margin.
- Do not hoist the machine when it is power on.
- Hoist slowly and smoothly with the help of signalmen or observer to avoid the overturning of machine.
- Keep all personnel away from the operation area during hoisting. Do not move the machine above the heads of people.



Safety

Cautions during shipment

Shipment of Machines

- During the shipment of machines, you should understand and abide by the applicable safety regulations, vehicle cautions and traffic rules.
- The length, width, height and weight of the truck after loading should be considered when choosing the best transport route.
- Do not start or stop suddenly or drive at high speed during shipment. Otherwise, the loaded machine may move or fall.



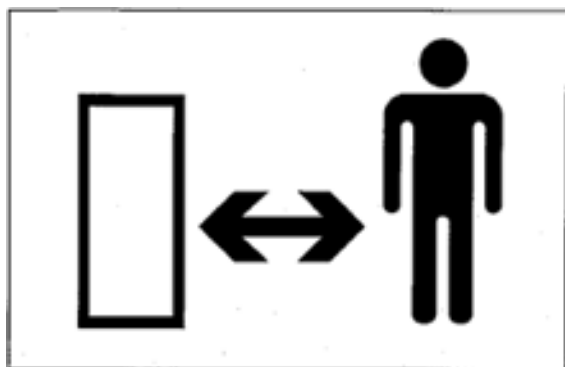
Safety

Cautions during maintenance

Preparation of site

- Choose a stable and flat ground with good lighting conditions. If the maintenance is carried out indoors, should ensure good ventilation conditions too.
- Remove obstacles and dangerous goods in maintenance site.

No irrelevant personnel



No unauthorized personnel can enter the operation area during maintenance.

Use of tools



Use right tools for maintenance. Do not use the damaged or deteriorated tools as well as designed for other purposes.

"Do not operate" sign

- If an unauthorized person starts the vehicle to run during inspecting and maintaining, it may cause serious injury accidents.
- Before maintenance, please turn off the machine, remove the key and take it with you.
- Hang "Do not operate" warning signs in conspicuous places, such as the start switch, control lever, etc.



Explosion-proof lights

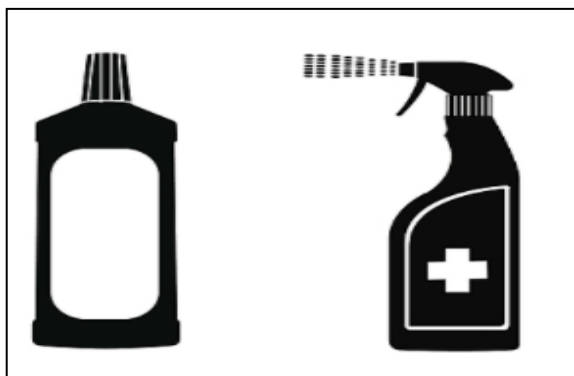


Please use explosion-proof lights when checking the motor, electric controller and battery to prevent fire or explosion, which will cause serious casualties.



Safety Cautions during maintenance

Keep the machine clean



- Turn off the motor before cleaning the machine.
- Please clean the machine before maintenance, including front frame, rear frame, covers and bucket. Do not clean directly with water. Use a cleaning foam agent and clean with a cloth.
- Do not clean batteries, electronic control components, sensors, connectors and handlebars with water or steam.

Battery handling



- Please turn off the power before repairing electronic system, handling battery or welding.
- Open the door panel of battery compartment, release the battery locking device, unplug the battery interface harness/ and pull out the battery.
- When reconnecting the battery, reverse the operation and connect the power cable last.
- The battery should be handled with care.
- Batteries should be stored in a dry and cool place, away fire and other heat sources.

Turn off the power before maintenance

Before maintenance, please take out the battery.



Safety Cautions during maintenance

Watch out moving parts



Keep away from all rotating and moving parts. If hands or tools get stuck in rotating or moving parts, it may lead to serious injury (even death) or damage to the machine.

Watch out heavy objects



If you have to put heavy objects or accessories on the ground temporarily in the process of disassembly or installation, put them in a stable place. Don't let unauthorized people near the place where such items are stored.

Watch out Flying debris

- When using angle grinder, hammer or welding equipment, rivets or metal chips may splash around, which may cause serious injury. Please wear protective equipment, e.g. goggles and gloves
- Make sure that no one is around when hitting hard metal parts such as pins, rivets and bearings with a hammer.

Regular replacement of crucial safety parts

Regularly replaced crucial safety components are refer to those have aged, worn and functionally degraded after repeated use. It is very difficult to determine the remaining service life of them based on visual inspection or operating experience, and they can only be replaced regularly.

- To improve the safety and reliability of the machine, it is essential to regularly replace crucial safety parts, e.g. brake oil, hoses, and tires, and conduct inspections & maintenance according to the plan.
- If there is any damage is found in visual inspection, please contact the sale or service provider of Kenshi Heavy Industry to buy the parts and replace them even the specified replacement interval has not been reached yet.



Safety

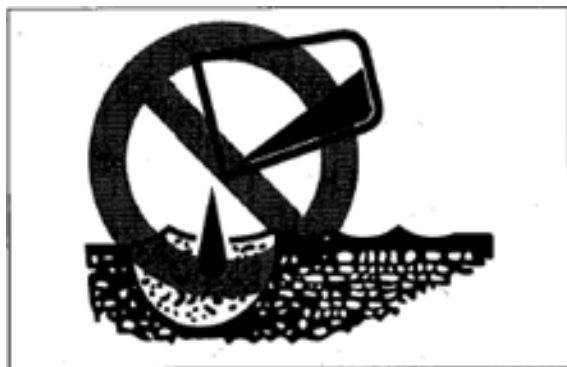
Cautions during maintenance

Cautions for welding

The welding must be carried out by qualified personnel in a well-equipped place. To prevent any parts of the machine from being damaged due to excessive current or electric spark, please pay attention to the following cautions:

- Turn off the power of machine and disconnect the battery cable or line before welding.
- The grounding point shall be connected within 1m from the welding site. Do not connect the ground terminal near the motor, electric controller or connector.
- Ensure that there is no sealing ring or bearing between the welding part and the grounding point.
- Do not link the grounding point around the pins of the working device.
- When welding the machine body, disconnect the connector of the electric controller in advance.

Disposal of waste and harmful chemicals



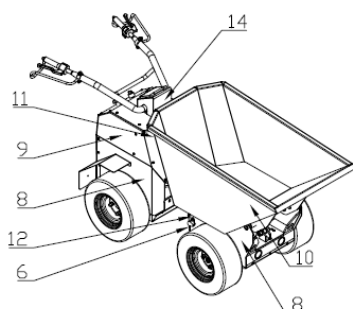
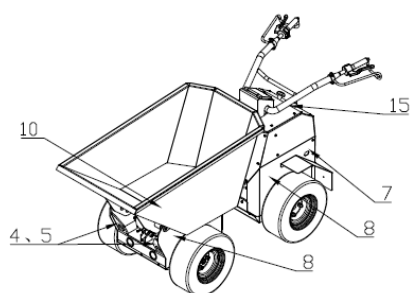
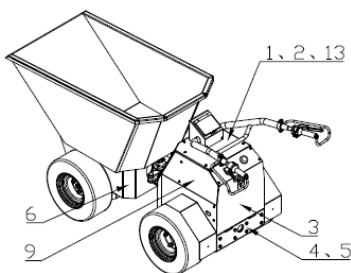
- Ensure that the waste oil discharged from the machine is collected into the container. Improper treatment of waste oil will do harm to the environment.
- Please follow the applicable laws and regulations when handling harmful objects such as lubricating oil solvents and batteries.
- Exposure to harmful chemicals without protection can cause serious personal injury. The harmful chemicals used in this machine include grease, battery electrolyte, coolant, paint and adhesive.
- Please handle the harmful chemicals carefully and properly.



Safety Signs and Marks

To ensure the safety of operators and workers around the work area, the following safety signs (marks) should be placed on the machine. Please walk around the machine with this manual and check the contents and places of these signs with your operator.

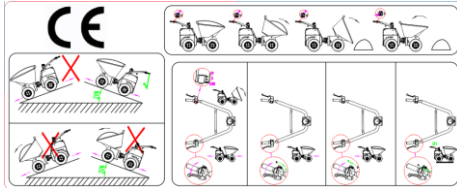
- Safety signs should be kept clean, clear and easy to identify. If any sign falls off or is damaged and becomes illegible, please replace it with a new label. When ordering new labels from the service provider of Kenshi Heavy Industry, you should provide the product serial number.
- When the parts/machine bodies with safety signs have been replaced, new signs/marks should be pasted onto the new parts/machine bodies.





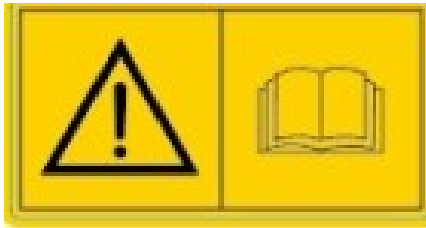
Safety Signs and Marks

1、 Maneuvering mode



2、 Warn

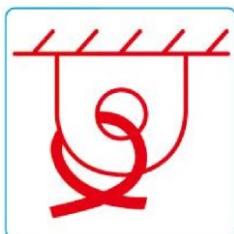
Read and understand the manual carefully before operating, inspecting and servicing the machine.



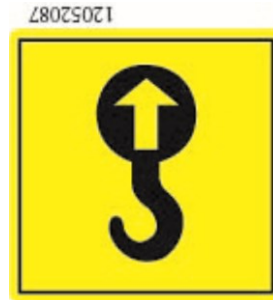
3、 Warning Beware of electric shock



4、 Fixed point



5、 Lifting direction



6、 Safety distance

Beware of machines crushing the body



7、 Charging position



Safety Signs and Marks

8、Tyre and rim safety – read driver's manual signs



9. Battery Voltage



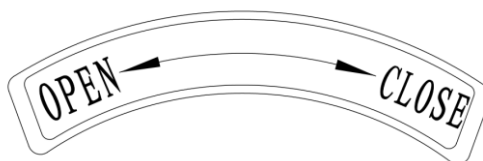
10、 Safe distance **Risk of collision with** **working equipment. Keep away** **from the machine when** **operating.**



11、 Caution



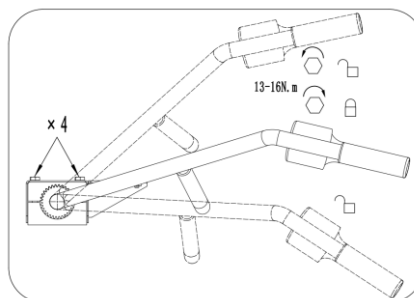
12、 Electromagnetic **brake manual release** **switch**



13、 Noise Marking



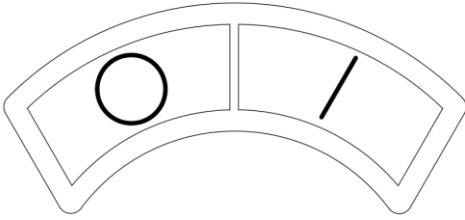
14、 Handlebar Adjustment **Diagram**





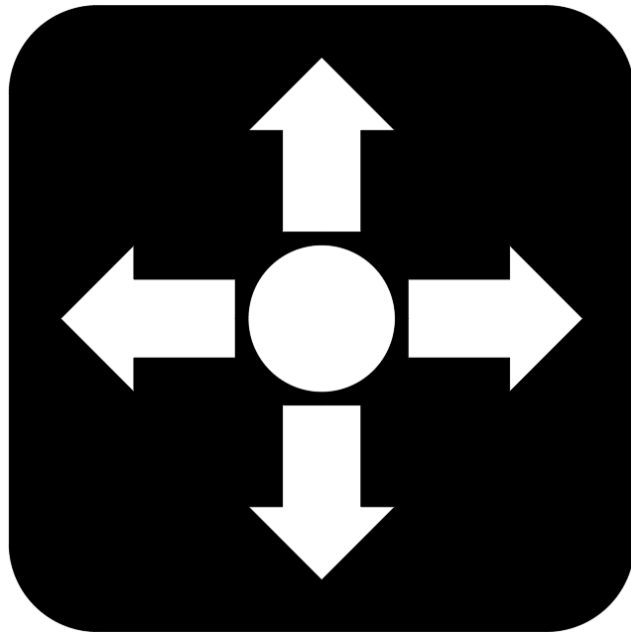
Safety Signs and Marks

15、Electric lock mark



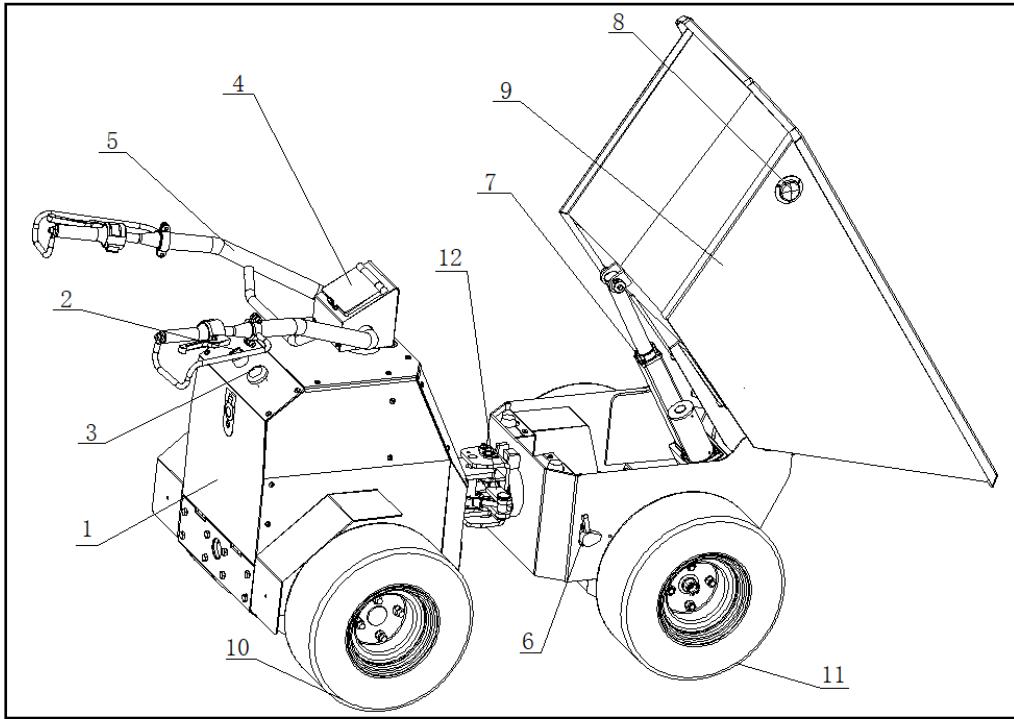
PART B

Control





Control Component name



Serial number	Name	Serial number	Name
1	Rear Box	7	Electric Cylinder
2	ElectricLock Switch	8	Angle Gauge
3	E-stop Button	9	Front Box
4	Instrument Display	10	Rear axle
5	Handlebar Assembly	11	Front axle
6	Electro-magnetic Brake Release Switch	12	Steering shaft weldment

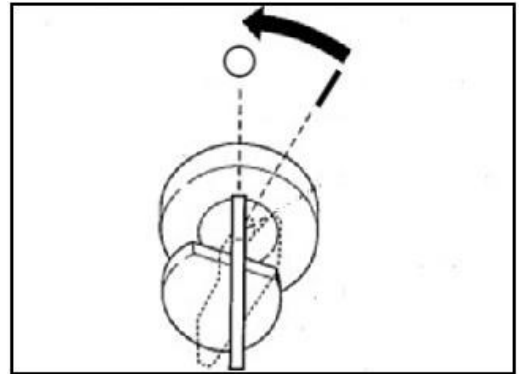


Control Switches and Handlebar

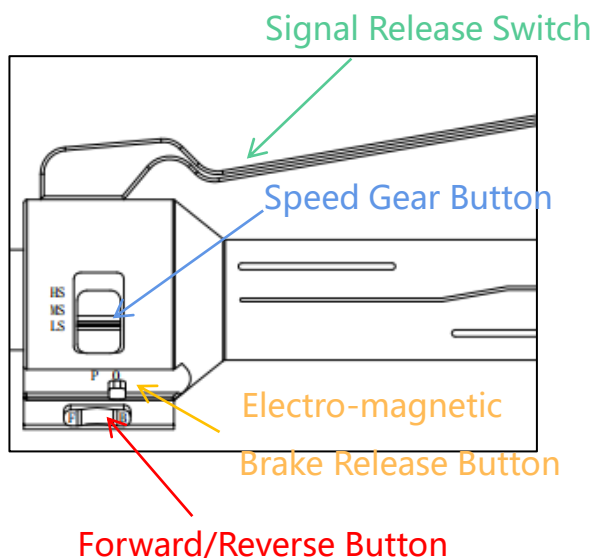
Power startup and shutdown

- Power startup: screw the electric lock switch to the ' | ' position;
- Power shutdown: screw the switch to the ' o ' position.

Note: 1. After starting the power, you need to release the signal release switch of the left/right handlebar to carry out the actions; 2. Before turning off the power, you need to put the hopper into position, not into the lifting state, and you need to push the electromagnetic brake switch to the 'P' position first.



Right Handlebar Buttons



The right handlebar contains three buttons and one switch:

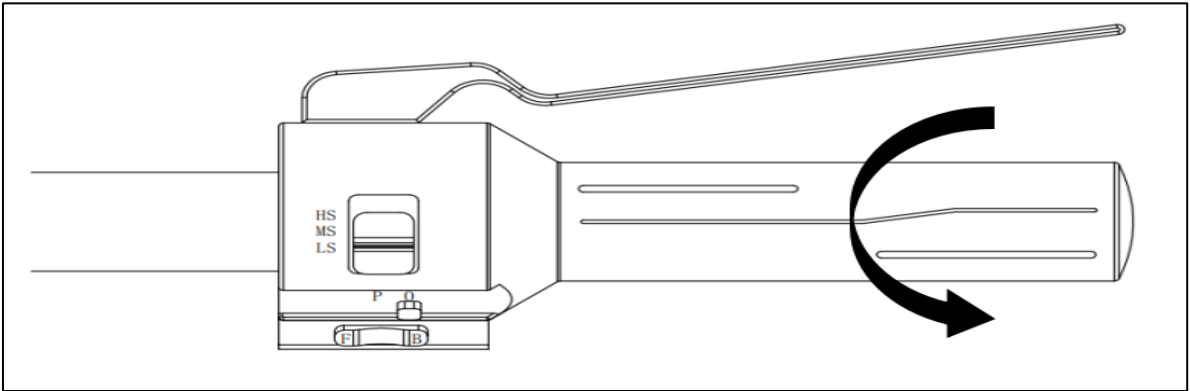
1. Forward/reverse button;
2. Speed gear buttons: LS low speed, MS medium speed and HS high speed;
3. Electromagnetic brake release switch (P park, O walk);
4. Signal release switch (activate the power supply and release the signal before the whole vehicle can move).



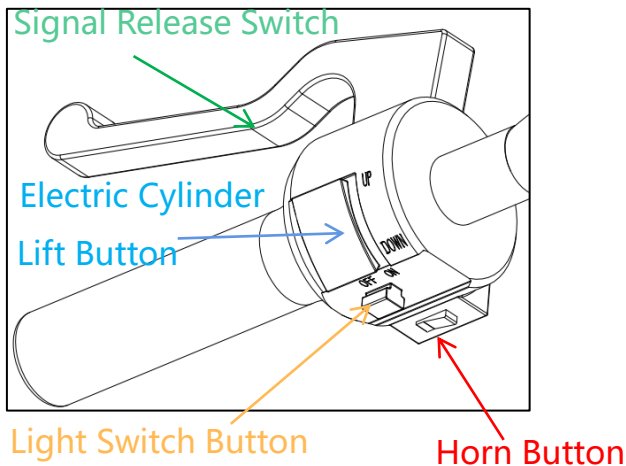
Control Switches and Handlebar

Handlebar

Right handlebar with acceleration. Turn the handlebar to adjust the speed.



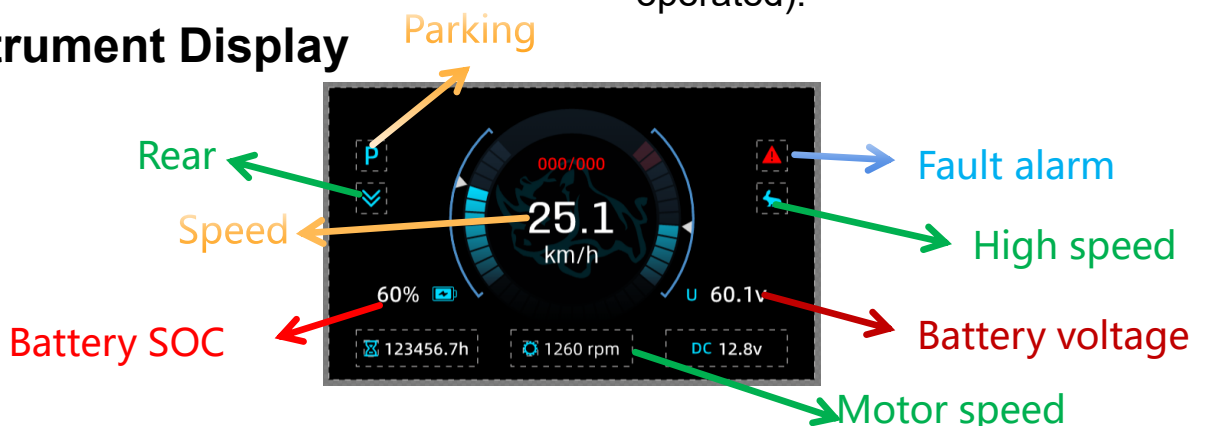
Left Handlebar Buttons



There are three buttons and a signal release switch on the left handlebar:

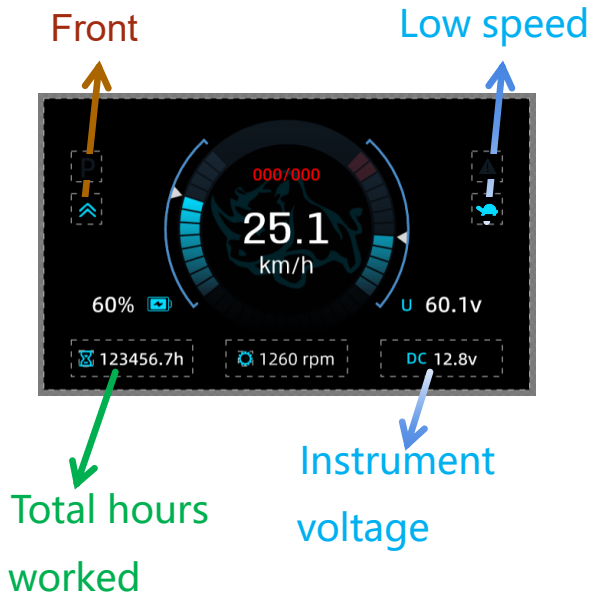
1. Electric cylinder lift button (UP for lift, N for neutral no action, DOWN for landing);
2. Light switch button;
3. Horn button;
4. Signal switch (start the power supply, and release the signal before the whole vehicle can be operated).

Instrument Display





Control Switches and Handlebar

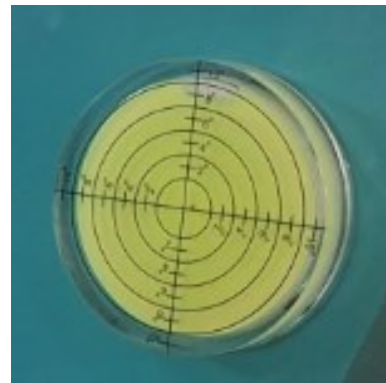


Instrument can display content:

- 1、High and low speed display:
 - Low speed: turtle shape bright;
 - Medium speed: rabbit shape is gray;
 - High speed: Rabbit shape bright.
- 2、Parking: P stands for parking; O is walkable;
- 3、Walking: Arrow up for forward; Arrow down for backward.
- 4、Fault alarm: A fault is on.
- 5、Speed of vehicle.
- 6、Battery SOC: battery power.
- 7、Battery voltage.
- 8、Motor speed.
- 9、Instrument voltage: can be judged according to the value, whether the DC fault, the conventional display 12.8V.
- 10、Total hours worked

Angle Meter

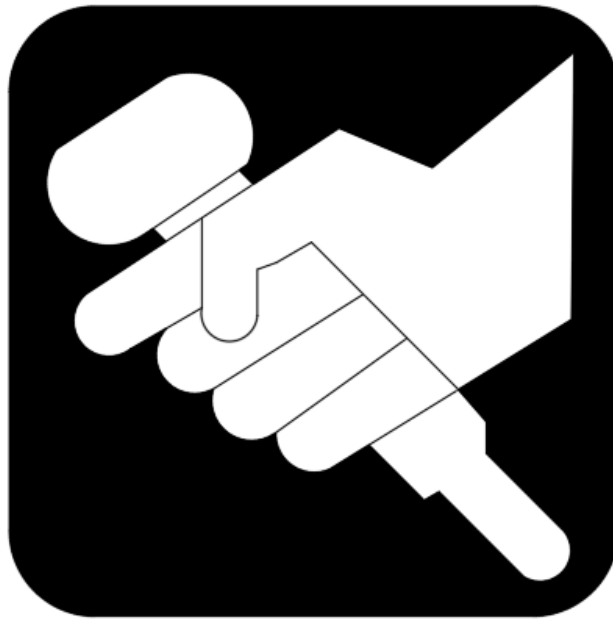
The Angle meter is used to observe the tipping Angle of the hopper through the position of the bubble. When the bubble in the Angle meter is located in the middle vertical line position, it indicates that the hopper is in a horizontal state.



Note: The maximum tipping Angle of the hopper is 80° , exceeding this Angle may cause machine damage.

PART C

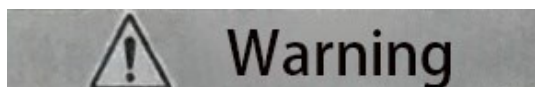
Operate



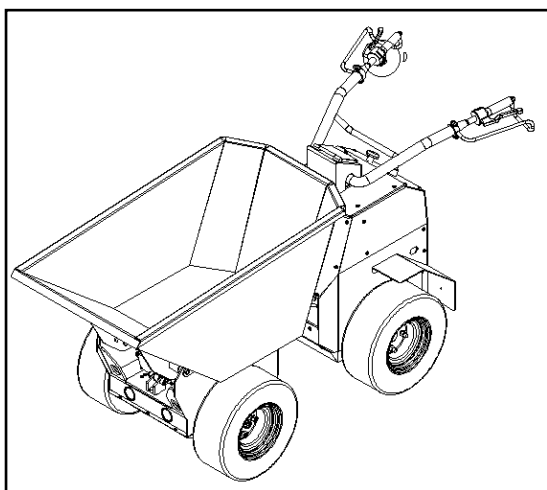


Operate Preparation and diagram

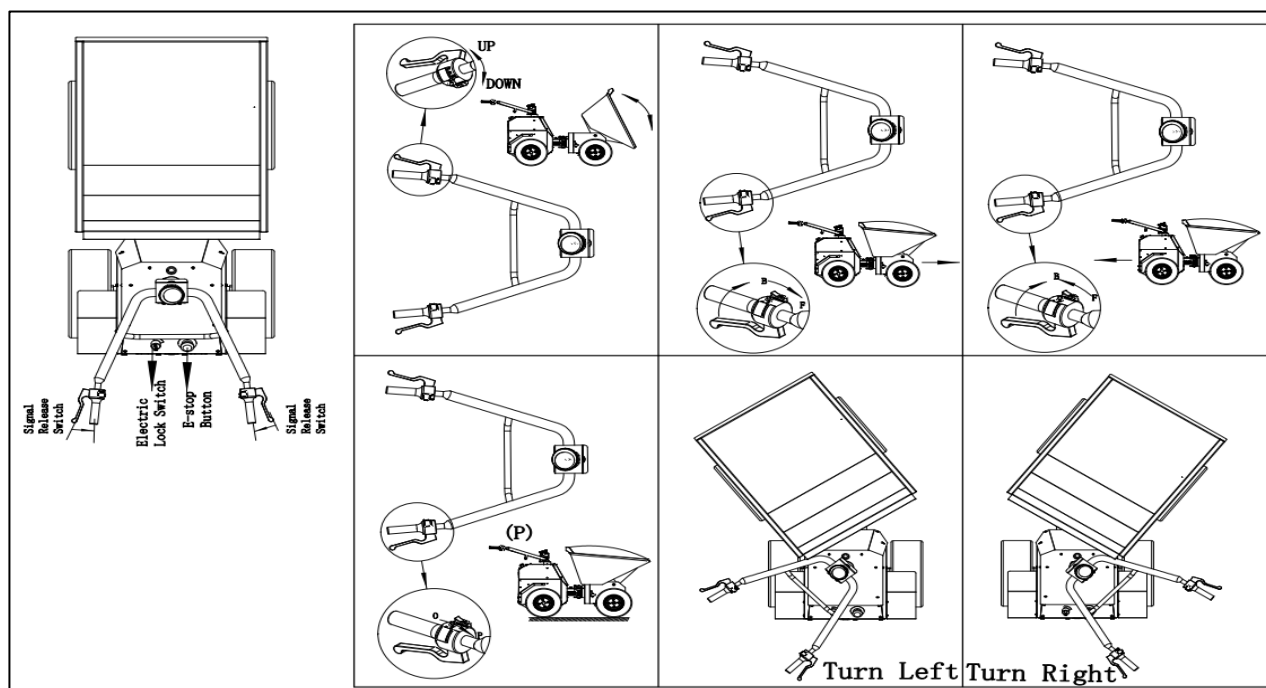
Before starting the operation everyday



- Before starting the power for the first time every day, perform a walk around inspection.
For details, please refer to PART D "Maintenance, Daily Routine Inspection".
- Do not jump on or off the machine at any time.



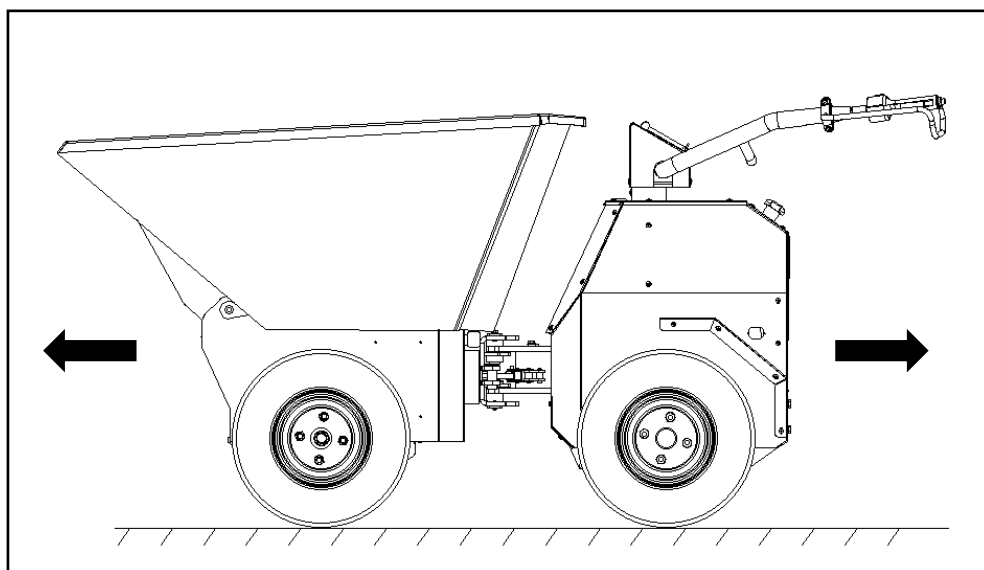
Operation diagram



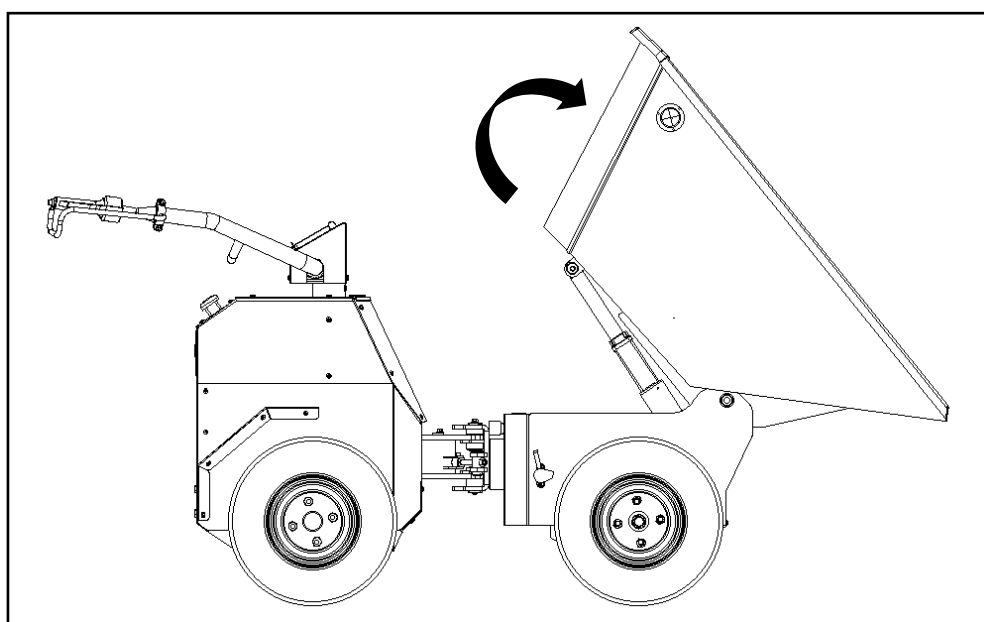


Operate Operation of machine

The medium to short distance transportation



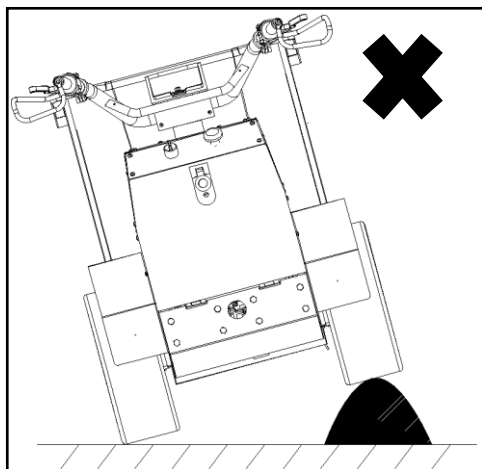
Unloading



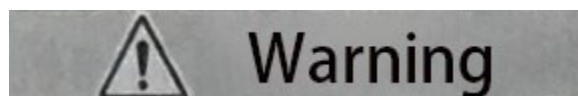
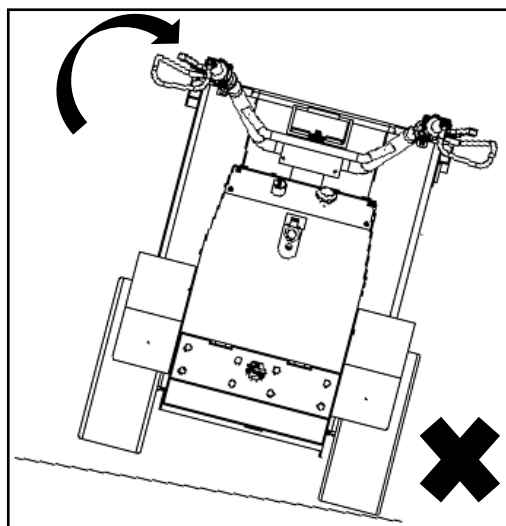


Operate Cautions

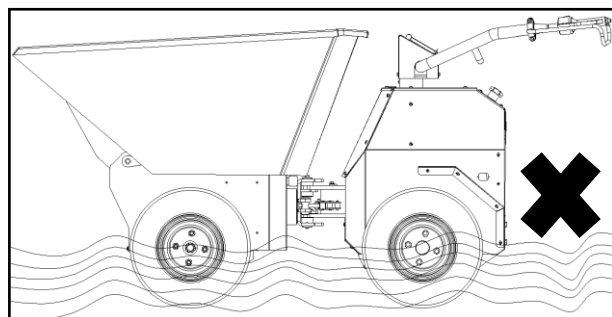
Watch out obstacles



When the machine runs over high/deep obstacles (e.g. rocks, stumps, grooves etc.), the body may bear a large load, which may cause the permanent damage of machine. Please try to avoid running over obstacles. If you have to, Please walk at a low speed so that the center of tires can cross the obstacle.



No wade



The motors are fixed on the bottom of front & rear frames. In addition, the rear frame is equipped with a battery. Please do not let the machine wade in the water for the safety of the motor, battery and operators.

Driving on slopes

- The performance of the machine on the slope will be degraded seriously. So, do not walk on a slope where the machine cannot maintain its stability.
- Please always pay attention to the road conditions ahead of the vehicle and drive at a low speed.
- Do not change direction on slopes or cross slopes. When walking on a gentle slope covered with grass or dead leaves or on a wet metal plate or frozen surface, the machine may slip sideways.
- Do not stop the machine on the slope horizontally.



Operate Extreme Weather Considerations

Preparation before start

When the temperature decreases, the performance of the battery may get bad significantly. Therefore, try to park the machine in a warmer place.

Before operation, the battery should be carefully checked. If the battery is severely depleted, please do not operate the machine and charge it immediately.

Cautions in operation

- Due to insufficient grip on frozen ground, the climbing and stability of the machine will significantly deteriorate. Please be careful and operate slowly.
- Do not touch any metal parts of machine with bare hands in cold weather. Skin will freeze to metal, causing serious injury.
- When the machine walks in snow or on ice, you should drive at a low speed to avoid sudden start, stop, or direction changes.
- In snowy areas, you cannot see the objects placed on the shoulders and the sides of road. The machine may be overturned or collide with the objects buried in the snow.
- As for the frozen soil surface, the ground becomes soft when the temperature gets higher. This may cause the overturning of the machine and the operator to be trapped.

Cautions after operation

Please observe the following cautions to prevent mud, water or ice on the frames from making it impossible to move the machine.

- Remove all mud, water, snow and ice from the body.
- Park the machine in a warm, hard, and dry place.
- Because the battery capacity will drop obviously in low-temperature environments, please cover it or take it out and keep in a warm place.





Operate

Extreme Weather Considerations

Do not use this machine during thunderstorms

Thunderstorms can pose significant risks to excavators and their operators. If you continue to work in lightning weather, the following conditions may occur:

- The operator may receive electric shocks and the machinery may be damaged.
- Lightning can also cause fires.

PART D

Shipment





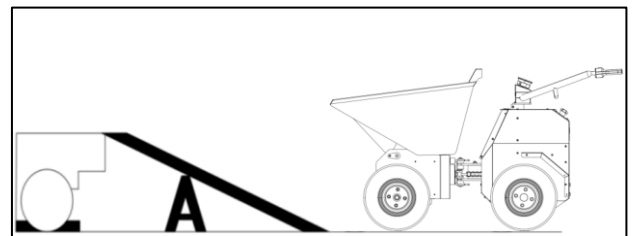
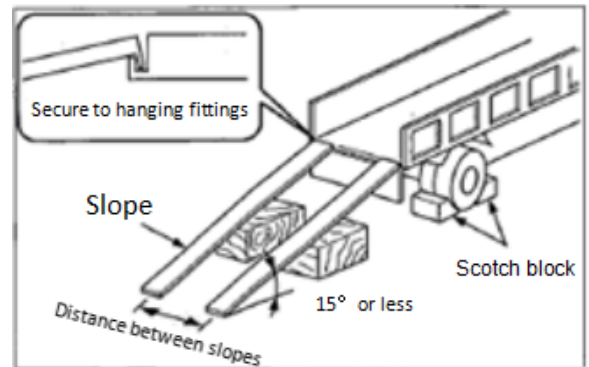
Shipment Unloading and loading



Warning

During the loading or unloading of machines, be sure to use an inclined plane or platform and follow the following procedures.

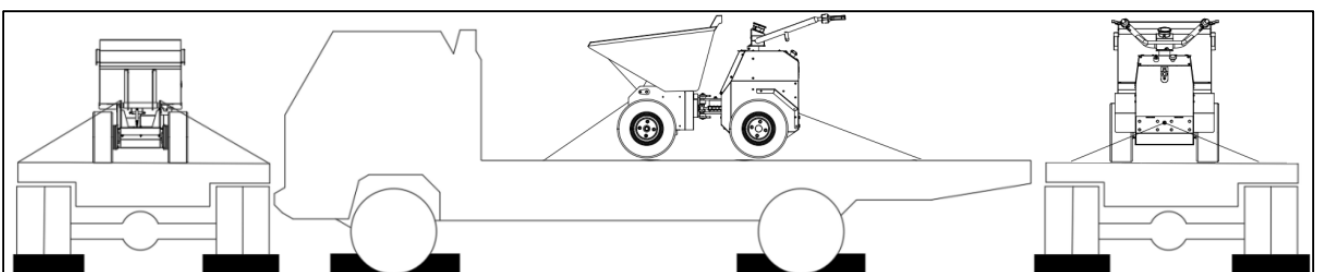
1. Choose a solid and flat ground and keep distance from the shoulder.
2. Park the transport vehicle in place and wedge the wheels.
3. Firmly install the bevels with sufficient strength and size to the truck trailer or cargo-box. Align the center of truck trailer or cargo-box with the center of machine and align the center of bevels with the center of tires.
4. The slope of the bevels should not exceed 15° . If the bevels bends down too much, please support it with pillars or pads.
5. Keep the truck and bevels clean and free of oil, sand, ice, snow and other objects to prevent the machine from slipping.
6. When moving on a truck trailer or cargo-box, the footing may not be stable enough. Please drive at a slow speed.
7. The route should not be changed on the bevels. The machine may tip over or overturn.



8. Load the machine to the designated position of the transport vehicle or unload the machine to parking position. Wedge the tires firmly, and then fasten the machine to the truck trailer or cargo-box with cables or chains.

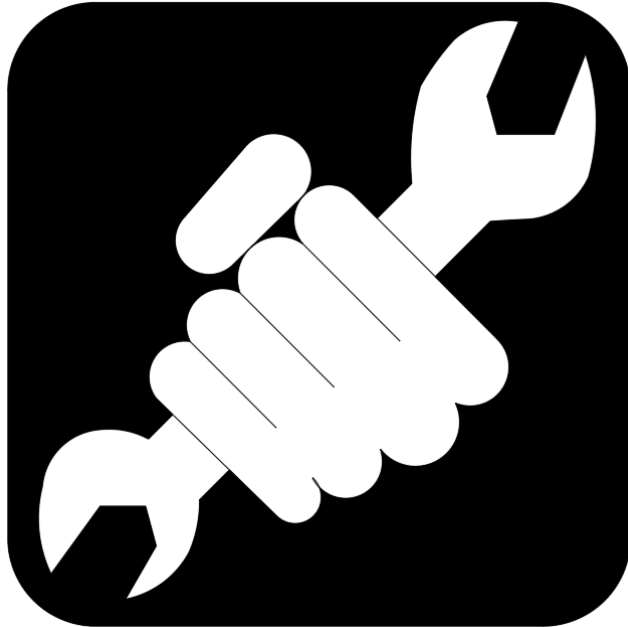
Shipment of machines

- During the shipment of machines, you should understand and abide by the applicable safety regulations, vehicle cautions and traffic rules.
- The length, width, height and weight of the truck after loading should be considered when choosing the best transport route.



PART E

Maintenance





Maintenance Overview and cautions

Overview

In order to keep the machine in a good condition and can be used longer, please follow the procedures recommended in this manual and carry out the maintenance correctly.

According to operation time, the inspection and maintenance items of machine can be divided into several groups: every 10 hours (walk around inspection and daily routine inspection), every 50 hours, every 200 hours, etc. Please refer to the reading of hour-meter to decide when to start the maintenance.

Items whose inspection and maintenance intervals cannot be determined are listed in "When needed" .

When the machine is used in extremely harsh environment (e.g. dusty or high temperature), it should be inspected and maintained earlier than the time suggested in this manual.

Cautions

- The installing and disassembling of parts should be carried out in a dust-free place. Clean the work area and clean the parts to prevent dust from entering.
- Please clean the machine before conducting the inspection and maintenance.
- Turn off the power before cleaning the machine. Cover the electrical components to prevent water ingress. Electrical components may cause shortcircuits or failure after water enters. Do not use water or steam to clean batteries, electronic control components, sensors and connectors.
- When installing and disassembling parts, please ensure that all contact surfaces of parts are clean. If the sealing groove of the contact surface is damaged, please contact your sales or service agent for repair or replacement.
- Do not carry out any other inspection and maintenance not listed in this manual.
- As for items not listed in this manual, please ask your sales or service agent for help.



Maintenance Lubricating oil & grease

Please refer to the following table to select the appropriate lubricating oil and grease according to the temperature.

- Whether or not it has reached the specified time, if the oil becomes too dirty or deteriorated, please replace it.
- Never mix different brands of oil when refueling. If you need to change the brand, please change all the lubricating oil.

Place	Type	Types selected according to temperature	Replacement time
Steering shaft weldment	Grease	1#, 3#	Every 100 hours
Travelling reduction gears	Gear oil API:GL-4	SAE 90	First 250 hours* every 100 hours thereafter

*: If walking accounts for a high proportion of the total operating, the gear oil should be replaced before the specified time.

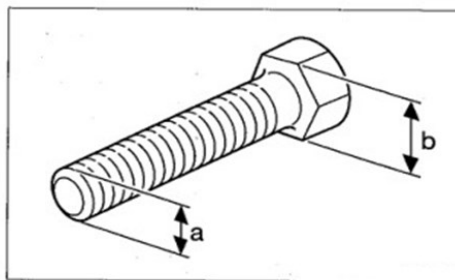
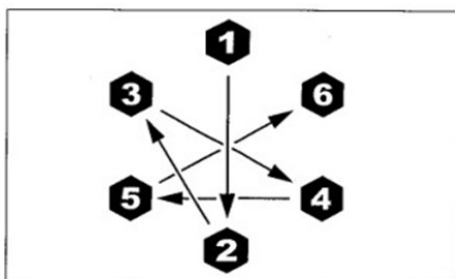


Maintenance Tightening torque

The grade of the nuts and bolts used in this machine is 10.9 (ISO10.9).

Unless otherwise specified in the text, please tighten the nuts and bolts according to the torques shown in the following table.

- The tightening torque for installing the plastic cover is not listed in the table below. For more details, please consult your seller or service agent. Excessive tightening will cause damage to it.
- When replacing nuts and bolts, replace them with nuts and bolts of the same size and standard.
- When tightening nuts and bolts, the nuts and bolts should be tightened alternately (top, bottom, left to right) or twisted for 2 to 3 times to ensure uniform tightening.



Categorisation	Head Width (b)	Sizes (a) × Pitch	Tightening Torque	
			Normal Connection	
			N · m	ft · lb.
Coarse Tooth	10	M6 x 1.0	9, 8 ± 0, 5	7, 2 ± 0, 4
	12, 13	M8 x 1.25	22, 6 ± 1, 1	16, 6 ± 0, 8
	14, 17	M10 x 1.5	47, 1 ± 2, 4	34, 7 ± 1, 7
	17, 19	M12 x 1.75	83, 4 ± 4, 1	61, 5 ± 3, 0
	19, 22	M14 x 2.0	134, 4 ± 6, 7	99, 1 ± 4, 9
	22, 24	M16 x 2.0	207, 9 ± 10, 4	153, 3 ± 7, 7
	27, 30	M20 x 2.5	410, 9 ± 20, 5	303, 1 ± 15, 1
Fine Tooth	12, 13	M8 x 1.0	24, 5 ± 1, 2	18, 1 ± 0, 9
	14, 17	M10 x 1.25	50 ± 2, 5	36, 9 ± 1, 8
	17, 19	M12 x 1.5	87, 3 ± 4, 3	64, 4 ± 3, 2
	19, 22	M14 x 1.5	135, 3 ± 6, 8	99, 8 ± 5, 0
	22, 24	M16 x 1.5	220, 6 ± 11	162, 7 ± 8, 1
	27, 30	M20 x 1.5	452, 1 ± 22, 6	333, 4 ± 16, 6



Maintenance

Crucial safety components

Crucial safety components

To use the machine safely, the following crucial safety components should be replaced regularly. Damage to these parts may cause serious injury or accident.

Name	Crucial safety components	Replacement interval
Walking device	Tyres	Every 2 years

Maintenance list

Inspection and maintenance project	Page number
Walk-around inspection	
Walk around the machine for inspection.	
Daily routine inspection	
Check the battery voltage.	
Check the brake	
Check the handlebar steering.	
Check the tires	
Check whether there is any hidden danger in the electrical control circuit and whether the electrical connection wire is damaged.	
Every 100 hours	
Chain plus lubricating oil	
Lubricating oil for steering mechanism	
Every 500 hours	
Check the gearbox for oil leakage.	
Check the brake system	
Change the transmission gear oil or change it in 3 months.	
It takes time	
Check the tires	
Replace a tire	

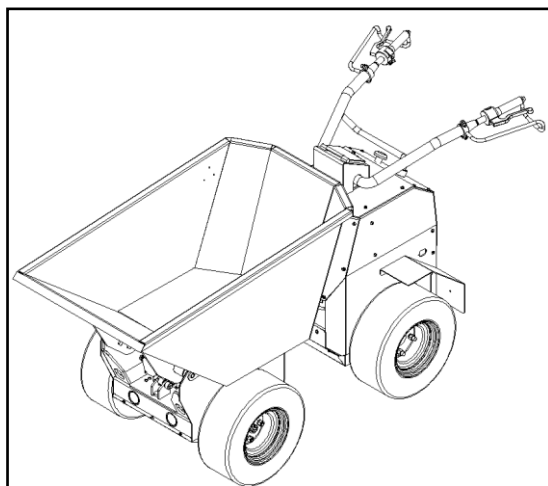


Maintenance Walk-around inspection

Please check the following items before starting the machine for the first time every day.

- Check whether there are branches, leaves, oil or other combustible materials around the motor and battery.
- Check whether there is lubricating oil leakage around the motor and gearbox.
- Check whether the nuts and bolts are loose or damaged.
- Check the motor, controller, battery or harness connector for leakage.
- Check the wiring harness and connectors for damage.
- Check the pin shaft, steering device (chain and gear) for damage.
- Check the handlebars and rear covers for damage and loose bolts.
- Check whether all tires are deflated and whether the fastening screws are loose.
- Check the gearbox for oil leakage.
- Check whether the fixing plate of the bucket shaft is damaged.
- Check the safety signs for dust, damage or lost.

Before operation, be sure to fix all the covers. If any problems are found during the walk around inspection, please repair them immediately if necessary.





Maintenance

Daily routine inspection

Battery voltage

The multimeter is set to 100V firstly.

Measuring range of multimeter: As for a digital multimeter, different modes have their corresponding measurable maximum and minimum values. When the range of measurement is unknown, the range switch should be set to the maximum first, and then switch from the large range to the small one until the instrument pointer indicates about 1/2 of the full scale.

Handlebar steering

Turn the handlebars. If the rotation is not smooth, you should drive to the workshop for inspection.

Electromagnetic brake release system

First, the car will be disconnected from the car, and then the electromagnetic brake release switch to 'O', and then push the car, if you can more easily turn the tyre, that the system is normal. If you can not turn the tyre, it means that the system is abnormal, need to be checked and repaired immediately.

Note: When checking the system, the trolley should be unloaded.

Tires

The following methods can be used in daily routine inspection:

First, check tires by visual inspection. Is the pressure of four tires normal? If a tire loses too much air or is deflated, it will be obvious that the tire has a large contact with the ground, and this wheel will also drop significantly. In this case, it is necessary to inflate the tire in time to check whether the tires are leaking.

Second, visually check the aging degree of four tires. This is mainly to observe the wear degree of all tires and the aging degree of the rubber. If there are many cracks on the rubber surface of a tire, it is recommended to replace it in time.

Third, use a small tire pressure gauge and measure the pressure data of four tires. Under normal circumstances, the tire pressure should be between 2.2 bar and 2.5 bar.

Electrical system

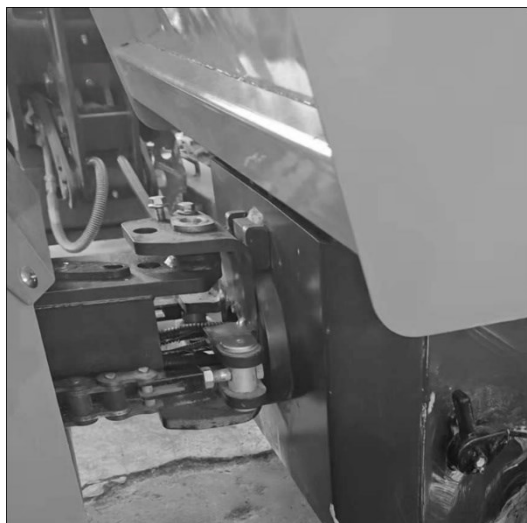
Before starting the power supply, you should check whether the electrical control circuit is damaged or leaked. If so, please go to the maintenance office for maintenance.

Record



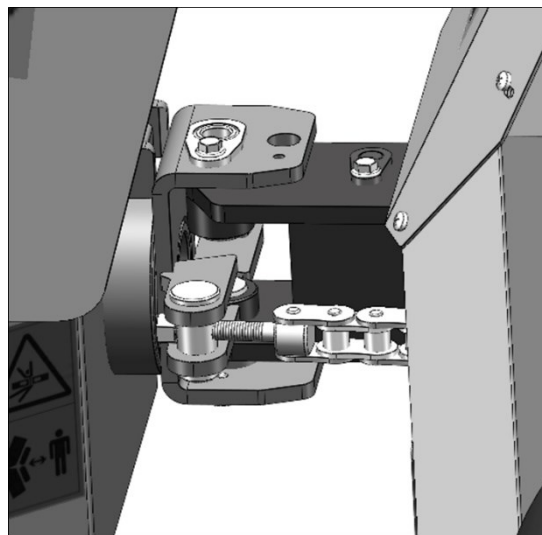
Maintenance Every 100 hours

Steering chain and gear



- Check the chain every 100 hours for looseness and rust.
- Add lubricating oil to reduce the wear of the chain and prolong the life of steering device.

Steering & swing device



Add lubricating oil to the bogie and swing seat every 100 hours to reduce the friction and wear of them.

Record



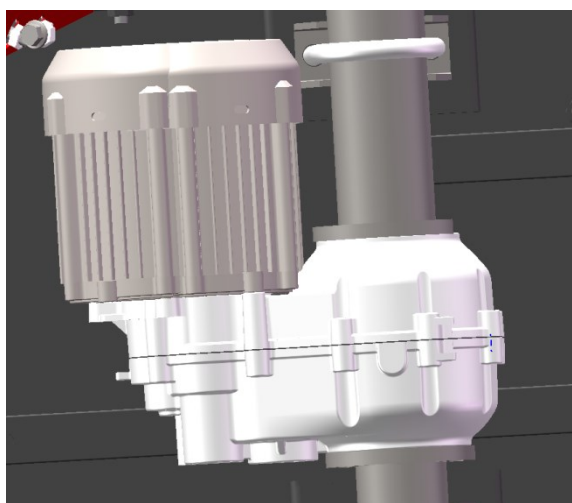
Maintenance Every 500 hours

Check the gearbox

Visually check or touch the joint of the gearbox. If there are some oil stains mixed with dust, please check it after cleaning. If there is still oil leakage after re-inspection, you should stop the machine and replace the oil seal.

If the leakage point is at the top of the gearbox, the solution is to apply sealant to the leakage point after surface cleaning. This method does not need to dis-assemble the gearbox.

Due to the differences in shell materials and processing between different batches, some gearboxes may have leakage issues. If traces of lubricating oil flow are found on the surface of gearbox, you should go to the workshop for inspection and maintenance as soon as possible.



Record



Maintenance

Replace when needed

Replacement of Tire

- Loosen the nuts and lift the whole machine. If the rim has a cover, pry the cover out first and then you will see several nuts on the rim. Loosen them slightly with a wrench (as long as they are loosened slightly, don't unscrew the whole nuts, for this may cause the wheels to suddenly loosen and the machine will tilt because it is out of balance). Then, lift the machine with a jack.
- For the nuts has been loosened slightly when the tire touches the ground, it is easy to remove all the nuts and take off the tire when the machine is lifted.
- Inflate the new tire. The normal tire pressure should be between 2.2 bar and 2.5 bar. If the tire pressure is too high or too low, it will both affect the safety of the machine.
- Put a new tire in the position. Screw on the nuts and slightly tighten them in diagonal order to ensure that the force on each nut is relatively even.
- Put down the machine, take off the jack, and further tighten the nuts in diagonal order again. At this time, the nuts should be tightened with great force to ensure that the tire will not fall off when driving.
- Finally, check again whether the pressure of each tire is consistent and between 2.2bar and 2.5bar.



Record



Maintenance

Lithium Battery Maintenance

Maintenance work is to ensure that the product can better play the original function, timely detection of hidden faults, to avoid abnormal damage to the product.

Matters needing attention

- It is strictly prohibited to store with power loss: power loss can easily cause over-discharge of the battery cell (total voltage should not be lower than 43.2V);
- Regular checking: regular checking of voltage data and temperature can help prevent some failures;
- Avoid high-power discharge: avoid high-power discharge, which will deplete the service life of the battery (no more than 1.6kW).
- Prevent exposure to sunlight: exposure to sunlight can easily cause high activity of lithium-ion material and damage battery life (not higher than 55 degrees);
- Check the charging connections before charging and make sure that the charging plug is in place: impurities or false connections in the plug can cause localised heating and malfunction;
- All maintenance and operations must be carried out in accordance with the relevant norms and relevant safety standards.
- In order to ensure the safety of the user, battery maintenance work should be carried out under the guidance of our technicians and with the assistance of professional technicians with expertise in batteries.
- At least two on-site maintenance personnel are required during maintenance.

Emergency situation

1、When smoke or fire occurs in the vehicle or battery system, the following measures should be taken immediately:

- Switch off the vehicle key, disconnect the low-voltage power supply and evacuate;
- In case of fire, use carbon dioxide or dry powder extinguishers to extinguish the fire;
- Arrange for the system to be serviced routinely, only carbon dioxide or dry powder extinguishers should be used to extinguish fires, the use of water may result in human electrocution due to high voltage components.

Note: If smoke or fire is caused by charging abnormality, please turn off the charging power first and then extinguish the fire.

2、Wade in water

Take the following measures when wading in normal conditions:

- When the vehicle enters the water for a short time (the water surface height is lower than the sealing surface on the battery box, the water depth cannot exceed the battery box), the performance is not affected, and the vehicle can be driven out of the water as soon as possible;
- When the instrument has insulation alarm, turn off the vehicle key, disconnect the low-voltage power supply, evacuate personnel and arrange system maintenance;



Maintenance

Lithium Battery Maintenance

- After a vehicle has been submerged in deeper water for an extended period of time, switch off the key to the entire vehicle, disconnect the low-voltage power supply and evacuate personnel; tow the vehicle out of the water and drain it; and arrange for the system to be serviced.

NOTE: Wear high-voltage insulating gloves when you must handle high-voltage wiring harnesses or high-voltage components!

Operational protection measures

- 1、During the use of the battery system, the operation must be carried out in strict accordance with the manual. Any violation of the manual will affect the normal use of the battery system.
- 2、The battery system poses a risk of electric shock or short circuit. To avoid electric shock and injury, please have the system maintained by professional personnel. Observe the following warnings during battery system operation or system maintenance:
 - Do not wear watches, rings or similar metal objects;
 - Use insulated tools; wear rubber shoes and gloves;
 - Metal tools or similar metal parts must not be placed on the battery module;
 - When removing the battery system, you must first disconnect the low voltage power supply and remove the MSD maintenance switch;
 - Do not pull hard on the system connection wires.
- 3、The battery cells should not be opened or damaged by non-professionals. The electrolyte in the battery cells contains strong acids and other dangerous substances that can cause skin and eye damage. If you accidentally come into contact with the electrolyte, wash immediately with plenty of water and go to a hospital for examination.
- 4、Do not short-circuit the positive and negative terminals of the battery system, which can cause electric shock or fire.



Maintenance

Lithium Battery Maintenance

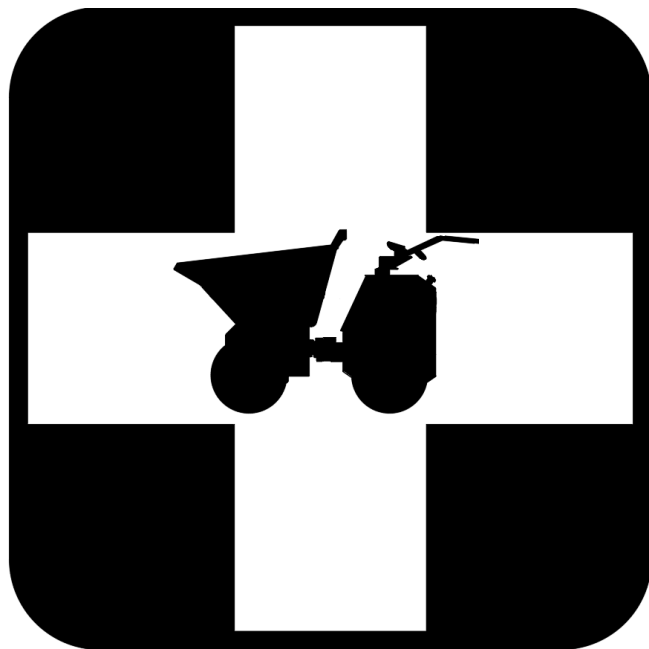
Maintenance contents

Users should check the following contents of this product according to a certain number of years of use.

Inspection content \ year		0.5	1	2	2.5	3	4	5
Appearance	Coating	▲	▲	▲	▲	▲	▲	▲
	Shell deformation	▲	▲	▲	▲	▲	▲	▲
	Case fixtures	▲	▲	▲	▲	▲	▲	▲
	Check high and low voltage connectors	▲	▲	▲	▲	▲	▲	▲
Historical information analysis (if there is a monitoring data platform)	Dynamic voltage	▲	▲	▲	▲	▲	▲	▲
	Dynamic temperature	▲	▲	▲	▲	▲	▲	▲
	Temperature rise	▲	▲	▲	▲	▲	▲	▲
	SOC Range of change	▲	▲	▲	▲	▲	▲	▲
	Troubleshooting Causes	▲	▲	▲	▲	▲	▲	▲
Communication signal check	Communication message	▲	▲	▲	▲	▲	▲	▲
	CAN Periodicity	▲	▲	▲	▲	▲	▲	▲
Insulation withstand voltage		▲	▲	▲	▲	▲	▲	▲
Static voltage detection	Voltage consistency	▲	▲	▲	▲	▲	▲	▲
SOC Valuation variance		▲	▲	▲	▲	▲	▲	▲
BMS Capture	Software version and fault information	▲	▲	▲	▲	▲	▲	▲
Internal structural inspection	Internal appearance inspection				▲			
	Connection status confirmation				▲			
	Dust accumulation				▲			
	Wiring harness inspection				▲			
	Corrosion anomaly				▲			
	Confirmation of sealing status (IP55 test)				▲			

PART F

Debugging





Debugging Power failure

No power

- Check whether the battery is fully charged;
- Check whether the fuse has blown. If so, please replace the fuse;
- Check whether the power lock is burnt out. If so, please replace it;
- Check whether the internal electrode connection is loose. If so, connect again as required.

Not walk with power

Generally, this is an electrical system problem or the brake is locked.

- First, check whether the electrode connection between battery and motor is loose. If so, please connect again as required.
- Check whether the motor controller is burnt out. If so, please contact the dealer to purchase a new one and replace it as required.
- Check whether the brake handle is released. If the machine can be driven when the handle is held by hand, please contact the dealer to purchase a new handle and replace it as soon as possible.

Motor failure

If the motor does not turn:

- check whether the speed regulating handle and brake handle are in good condition. Replace the power-off switch of the brake if it is broken;
- Check whether the motor phase line is short-circuited. If so, it needs to be separated by hand.

Servo Motor Encoder Failure and Repair

- Faulty encoder connection cable:

Fault performance: encoder cable open, short circuit or poor contact.

Solution: Check the broken position or connection of the cable, repair or replace the cable. At the same time, special attention should be paid to whether the cable is loose and lead to open-circuit welding or broken circuit, at this time the cable should be clamped.

- Insufficient power supply voltage of the encoder:

Fault cause: power supply failure or loss caused by high resistance of the transmission cable.

Solution: overhaul the power supply or replace the cable.

- Fault in the encoder itself:

Fault performance: the encoder cannot generate and output the correct waveform.

Solution: Replace the encoder or repair its internal parts.



Debugging Power failure

Maintenance needs to pay attention to the following points:

1. Disconnect the power before carrying out maintenance operations to ensure safety;
2. When replacing parts, pay attention to the use of the same model and specifications of the parts to ensure the performance and safety of the motor;
3. After the repair is completed, carry out power-on test to observe whether the motor operates normally.



Debugging Controller failure

Commonly used methods

Measure without connecting

When the controller is not connected with any plug, measure the resistance between the three phase wires with a universal resistance mode (200K), which should normally be greater than 18 K. If it is less than 18K, it can basically be judged that the power tube is burnt out.

Visual inspect

Visual inspection is mainly to check whether the wire color connection of each plug is correct before started to avoid wrong connection and burning out of controller.

Measure when the machine is started.

Problem A: Turn the handle and the motor do not turn (use 60V motor as a sample)

- a) Measure whether the power cord and the electric door lock cord are 60 V using the DC 200V mode of a multimeter. If the voltage is lower than 60V, check whether the vehicle power cable is in normal contact.
- b) Refer to the motor Hall detection method and check whether the motor Hall is normal.
- c) Use the DC 20V mode of multimeter to measure whether the voltage

between the power supply (red and black lines) of handlebar is 4.3V. If it is not, there is a problem with the internal power supply of controller.

- e) Measure the voltage between the signal line (green) and the ground (black) of the handlebar (measured at the output line of the controller) with the DC 20V mode. When the handlebar is rotated, the voltage should change linearly between 0.8V and 4.2V. If the voltage remains unchanged, you can replace a new handlebar and try again. If it cannot be solved yet, replace the controller.

Problem B: Always running at a low speed, unable to shift to high-speed gear

- a) Check whether the two low-speed locking lines (gray and black) are shorted. In this case, the low speed gear will be locked. Unplug the connector and check whether the speed gears can be converted now.
- b) Measure whether the battery voltage is lower than the battery voltage threshold under load using the DC 20V mode. If the battery voltage is too low, the power may not be converted. This is a normal phenomenon to protect the battery from being damaged when it is discharged under low voltage. It is recommended to re-verify with a fully charged battery.



Debugging Charger failure

Output features

No.	item	Item parameters	remarks	
1	Output power	Output voltage:58.4V Charge current:8A Fan turn lamp current0.8A Max.Output Power:467.2W		
2	Load characteristics	No load voltage:58.4V Max.Charge Voltage:58.4V Line regulation : $\pm 0.2V$ Load Regulation; $\pm 5\%$		
3	Efficiency	When the input voltage is 220VAC andthe maximum load currentoutput ,the efficiency more than90%		



Debugging Charger failure

Protective features

No.	item	Item parameters
1	Under voltage protect	When the input voltage is less than 200VAC, the charger has no output; When the input voltage condition is satisfied, it can automatically return to normal.
2	Output short circuit protection	After the output short circuit is removed, the charger can resume normal operation by pulling out and inAC plug .
3	Output overflow temperature protection	The power supply will automatically return to normal operation after the over-flow temperature fault is removed.
4	Output over voltage protection	When the output voltage exceeds the rated voltage, the power supply will be protected and the power
5	Output low voltage protection	When the battery voltage is less than25V, the charger is protected,the fault is removed and the charger restarts to work.
6	Output reverse connection protection	When the output terminal is reversely connected, the charger will be protected and the charger can resume normal operation by re plugging the AC plug
7	Protection class	IP30 (Indoor use)



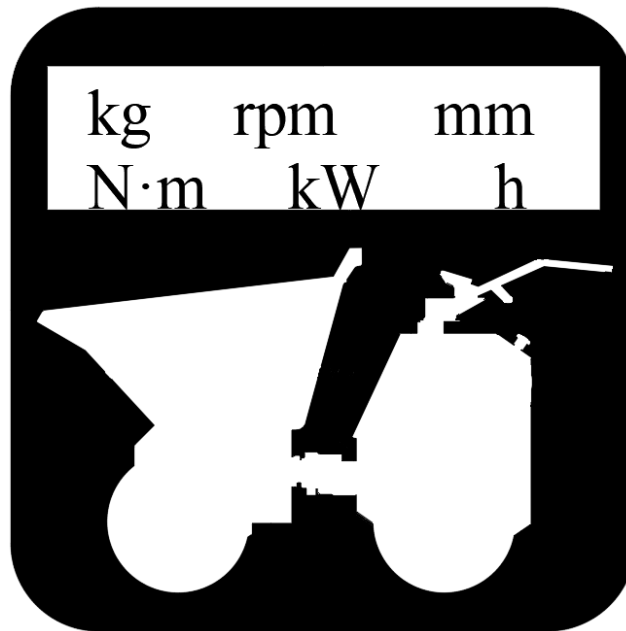
Debugging Other problems

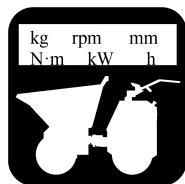
For problems not listed in the table below, or if the problem is still existed after taking appropriate solutions, please consult your sales or service agent.

Phenomenon	Cause	Exclusion method
Turn on the key and turn the knob, and the motor will not work.	Battery voltage is too low	Charge
	The controller input power supply is not normal	Check whether the cable connection is reliable
	Handle damage	Replace the handle.
	Brake switch is damaged	Replace brake switch.
	Controller damage	Replace the controller
Turn on the key and the motor will rotate immediately.	The knob has not been reset	Replace the handle.
	Controller damage	Replace the controller
Slow speed Short working time for one charge.	Tire inflation is insufficient	Sufficient gas
	Battery capacity is declining or faulty.	Replace a new battery.
Motor is unable or continues to work.	Battery voltage is too low	Charge
	Poor contact of motor contact	Check the connector and reconnect it.
The vehicle speed is always kept at a low speed and cannot be increased.	In a low-speed locking state	Replace the handle.
	Battery voltage is too low	Charge

PART G

Machine Parameters





Machine parameter

Basic parameters

Applicable model: HTL500-ECO

Name	Value
Operating mass	255kg
length of a wagon	2075mm
Body width	782mm
Body height	1012mm
wheelbase	805mm
wheel tread	782mm
Max. forward speed	5.7km/h
Max. Reverse speed	2.2km/h
Maximum tipping angle of bucket	80°
Bucket capacity	0.25m ³
Rated bearing weight	500kg
Power of motor	2×0.8kW
Battery capacity	1.54kWh
Charging time	6h
Noise decibel	71 dB
Vibration at the handle	2m/s ²
Maximum gradient of full-load climbing*	46%
Maximum gradient of full-load downhill slope	35%

* The performance parameters of machine is obtained when the machine works on a solid and flat surface. When the working conditions are different (e.g., uneven ground, soft ground), the final performance may be changed significantly.



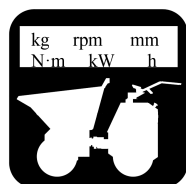
Machine parameter

Basic parameters

Applicable model: HTL500-ECO

Vibration and near-ear noise:

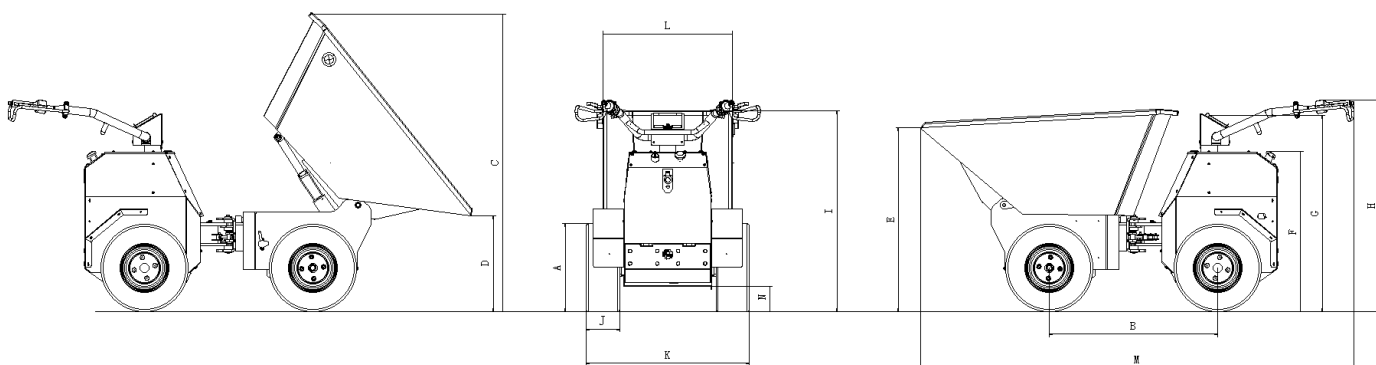
- A-Weighted emission sound pressure level at the operator's position measured according to work cycle procedures specified in "ISO 6396:2008" is 71 dB(A), The uncertainty of measurement is 2.5 dB.
- The A-weighted emission sound power level is 86 dB(A). The uncertainty of measurement is 1.5 dB. Measured according to 2000/14/EC.
- The hands and arms are exposed to a weighted root mean square acceleration that is less than 2.5 m/s². The uncertainty of measurement is 0.5 m/s².
- Measurements are obtained on a representative machine using the procedures in the following standards:
 - ' ' ISO 2631-1"
 - ' ' ISO 5349-1"
 - ' ' ISO 5349-2"



Machine parameter

External dimensions

Applicable model: HTL500-ECO



A Tire height	420mm
B Wheelbase	805mm
C Maximum unloading dump height	1402mm
D Maximum unloading height	175mm
E Height of front end of tipping bucket from the ground	880mm
F Height of power button from ground	765mm
G Height of display screen from the ground	940mm
H Height of handlebar from the ground (adjustable)	900 ~ 1200mm
I Height of rear end of tipping bucket from ground.	960mm
J Tire width	160mm
K Wheel tread	782mm
L Skip width	680mm
M length of a wagon	2075mm
N Chassis height	122mm

EC DECLARATION OF CONFORMITY I DECLARATION CE DE CONFORMITE I DECLARACIÓN DE CONFORMIDAD CE I DECLARAÇÃO CE DE CONFORMIDADE

GBIUS

We, PACLITE EQUIPMENT, 1 rue de Biesme 02320 Pinon, France, hereby certify that if the product described within this certificate is bought from an authorized Paclite dealer within the EEA, it conforms to the following directives: Machinery Directive 2006/42/EC, Electromagnetic Compatibility Directive 2004/108/EC (as amended by 92/31/EEC & 93/68 EEC). The physical agent (vibration) conforms with the directive 2002/44/EC. The low voltage directive 2006/95/EC, BS EN ISO 12100-1/2 Safety of machinery and associated harmonized standards, where applicable. Noise emissions conform to directive 2005/88/EC Annex VI), for machines under article 12 the notified body is TÜV Rheinland Product Safety GmbH - Am Grauen Stein - D- 51105 Köln, Germany.

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E

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PRODUCT TYPE.....	TYPE DE PRODUIT....	TIPO DE PRODUCTO..	TIPO DE PRODUCTO..
MODEL:	MODELE.....	MODELO.....	MODELO.....
SERIAL No :	N° DE SERIE.....	N° DE SERIE.....	N° DE SÉRIE.....
DATE OF	DATE DE	FECHA DE	DATA DE
MANUFACTURE:	FABRICATION.....	FABRICACIÓN.....	FABRIC.....
WEIGHT	POIDS.....	PESO.....	PESO.....



Signed by:
Signature:

Anita Tan

Quality Manager - On behalf of Uni-corp Europe
Directrice de Qualité - au nom de Uni-corp
Europe S.A.R.L.

Operator Manual

HTL500-ECO Mini Dumper



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