# CEPELO BATTERILIFT 1,2 TON – ELEKTRISK

# MANUAL

Læs venligst denne manual grundigt, før produktet tages i brug.

Bemærk: Forkert opsætning samt brug kan medføre personskade.


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## Machine Demolition

The machine must be demolished by authorized technicians, just like for assembling. The metallic parts can be scrapped as iron. In any case, all the materials deriving from the demolition must be disposed of in accordance with the current standards of the country in which the rack is installed. Finally, it should be recalled that for tax purposes, demolition must be documented; submitting claims and documents according to the current laws in the country in which the rack is installed at the time the machine is demolished.

# Contents



CC：

1.Quality certificate
2.Inspection report
3.Packing list
4.Selection and wiring method of 48V storage battery

# Safety Instructions

## 1. Safety rules

- Please read this manual carefully before using this machine. Strictly operating in accordance with the instructions, not free to operate. Only trained and qualified staff to operate and use the lift.
- Make sure the voltage, phase such Technical Parameters on the nameplate of motor before installation, the power connection must be done by a professional qualified electrician. Make sure the motor turn to the right direction.
- Use of equipment below 10 degree， should ensure that compressed air through the water filter effectively.
- When the battery lifting up and landing， people and equipment should keep a certain distance, no standing above and under the equipment, and the battery on lift can not take any staff.
- The weight of the battery which by lifting shall not exceed the lifting capacity range of the machine.。
- Remove all barrier around and under of platform before working.
- The multiple support points of new energy vehicle batteries should be ensured to be firm and reliable, and there should be no unsafe factors such as tilting or not being reliable.
- No operating main platform when the second lifting not reduced to it.
- When disassembling car batteries, it is important to ensure that the front legs of the equipment are reliably grounded.
- Equipment no working or overnight for long period, it should reduce to the lowest position, and drive away the vehicle, then cut off the power.

## 2. Machine Label

CE

Yantai Haide Science and Technology Co.,Ltd

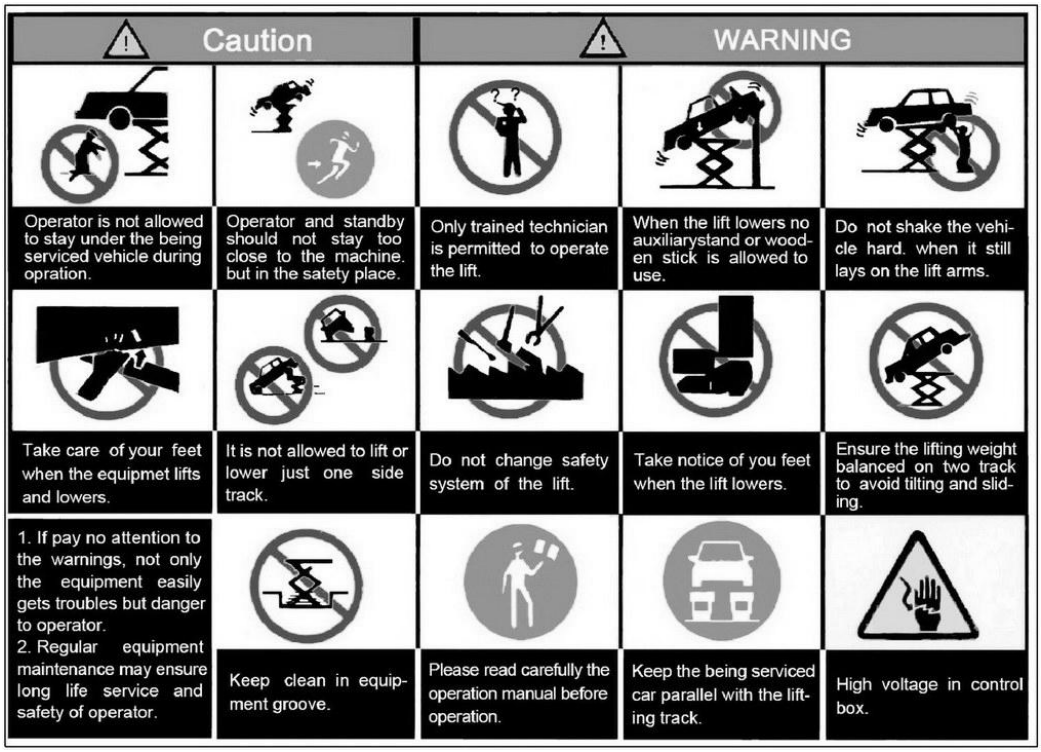
New energy battery trolley

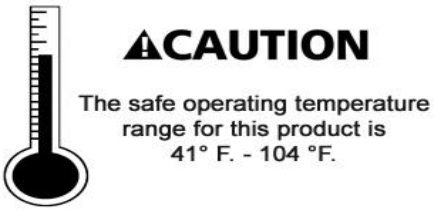
| | |
|---|---|
| ◇ Modle: GE1218E | ◇ Date: |
| ◇ Serial No.:GE23A001 | ◇ Lift height: 1800mm |
| ◇ Working voltage: DC48V 2.2Kw | ◇ Lift capacity: 1200Kg |
| ◇ Charging voltage: AC220V | ◇ Hydraulic Pressure: 20Mpa |
| ◇ Overall dimension: 2761x900x1800mm | ◇ Net Weight:685Kg |

ADD:21 Tongrun Road, APEC Industrial Zone, Zhifu District, Yantai, P.R.China

TEL:0086-535-6853129,6853812; FAX:0086-535-6853815,6853809

3. **Warning mark**




4. PRODUCT WARRANTY

Sunshine series lifts are covered under warranty for 18 months on equipment structure, to be free of defects in material and workmanship. Power units, hydraulic cylinders, and all other assembly components such as turnplates, slip plates, cables, oil pipes, valves, switches etc. are covered under warranty for one year against defects in material or workman- ship under normal use. Yantai Haide Technology Co., Ltd. shall repair or replace at their option for the warranty period those parts returned to the factory freight prepaid which prove upon inspection to be defective. Yantai Haide Technology Co., Ltd. will pay labor costs for the first 12 months only on parts returned as previously described.

The warranty does not extend to...

- defects caused by ordinary wear, abuse, misuse, shipping damage, improper installation, voltage or lack of required maintenance;
- damages resulting from purchaser's neglect or failure to operate products in accordance with instructions provided in the owner's manual (s) and/or other accompanying instructions supplied;
- normal wear items or service normally required to maintain the product in a safe

operating condition;

- ♦ any component damaged in shipment;
- ♦ other items not listed but may be considered general wear parts;
- ♦ damage caused by rain, excessive humidity, corrosive environments or other contaminants.

5. **Noise level**

Noise emitted during operating the lift should be less than 70dB. For your health consideration, it is suggested to place a noise detector in your working area.

**6. Disposal of used oil**

Used oil, which is removed from the power unit and the plant during an oil change, must be treated as a polluting product, in accordance with the legal prescriptions of the country in which the lift is installed.

# Packing, Handing and Storage

## 1. Packing

a) The lift packed in 2 separate parts, packed by unbreakable material.

b) Motor power unit and electric control box packed separated in paper cartons.

## 2. Handing

a) Using crane or forklift by gravity centre of the machine during handling. b) Loading bearing stress of sling used for handling should be more than 2 ton. c) Avoid damager or deformation for equipment during handling. d) Take suitable protective measurements in case of rain or snow during handling.

## 3. Storage and stacking of packages

a) Packages must be stored in a covered place, out of direct sunlight and in low humidity, at a temperature between -10°C and +40°C. b) Stacking is not recommended: the package’s narrow base, as well as its considerable weight and size make it difficult and hazardous.

## 4. Delivery and check of packages

a) When the lift is delivered, check for possible damages due to transport and storage; verify that what is specified in the manufacturer’s confirmation of order is included. In case of damage in transit, the customer must immediately inform the carrier of the problem. b) Packages must be opened paying attention not to cause damage to people (keep a safe distance when opening straps) and parts of the lift (be careful the objects do not drop from the package when opening).

# Chapter I Overview

## 1.1 Features

New energy battery trolley is a special equipment for disassembling and installing battery pack, driving motor and other parts of new energy vehicle, and can meet the maintenance and disassembly of traditional automobile engine, gearbox, axle and so on.。

It adopts a bottom plate structure, a scissor type robotic arm, and uses a hydraulic system to generate lifting force. DC electromagnets control the opening of the safety lock. Equipped with a three-layer platform structure of main platform, flipping platform, and sliding platform, it can achieve multi-dimensional free flipping and horizontal movement, meeting the convenient hole installation of new energy vehicle batteries. The upper platform has a pull-out function, which can accommodate lifting of components of different sizes.

The entire machine has a simple structure, convenient operation, and is safe and reliable. Equipped with a remote control handle, it can achieve any position control function, and is equipped with an electric front wheel hydraulic trailer and steering mechanism, greatly saving manpower for operation. Equipped with electromagnetic braking function to enhance the safety of equipment operation. DC48V battery DC power supply, safe and reliable.

The main features are as follows:

1）The work table can achieve ±40 mm front and rear, left and right flip and ±32.5 mm left and right slide, To ensure that the battery is installed in full alignment hole position

2）Adopting a flat bottom structure, the appearance is beautiful and generous;

3）Equipped with an electric front wheel drive hydraulic trailer and steering system, it can easily achieve high torque drag and convenient steering; Simultaneously equipped with electromagnetic braking function, improving the safety of equipment operation.

4）Equipped with centralized console，Can display battery voltage in real time；

5) Use independent battery as power supply, no need external power supply when working;

6）DC48V pump station hydraulic drive, mechanical safety lock protection, stable and safe, save time and efficiency；

7）Cable remote control operation, DC48V electric control system, safe and fast.

8）The control box is externally mounted for easy inspection and maintenance.

## 1.2 Technical parameters

### 1.2.1 Main technical parameters

| | |
|---|---|
| Initial height | 800mm |
| Max lifting height | 1800mm |
| Lift trip | 1000mm |
| Lifting capacity | 1200kg |
| Dimension（mm） | 2761×900×1800 |
| Lift time | ≤40s |
| Fall time | Adjustable |
| Hydraulic pressure | 20Mpa |
| Platform length | 1740mm-2070mm |
| Platform width | 800mm |
| Weight | 685kg |
| Working voltage | DC48V |
| Charging voltage | AC220V |
| Motor Power | 2.2KW |
| Oil tank capacity | 4L |

### 1.2.2 Dimension

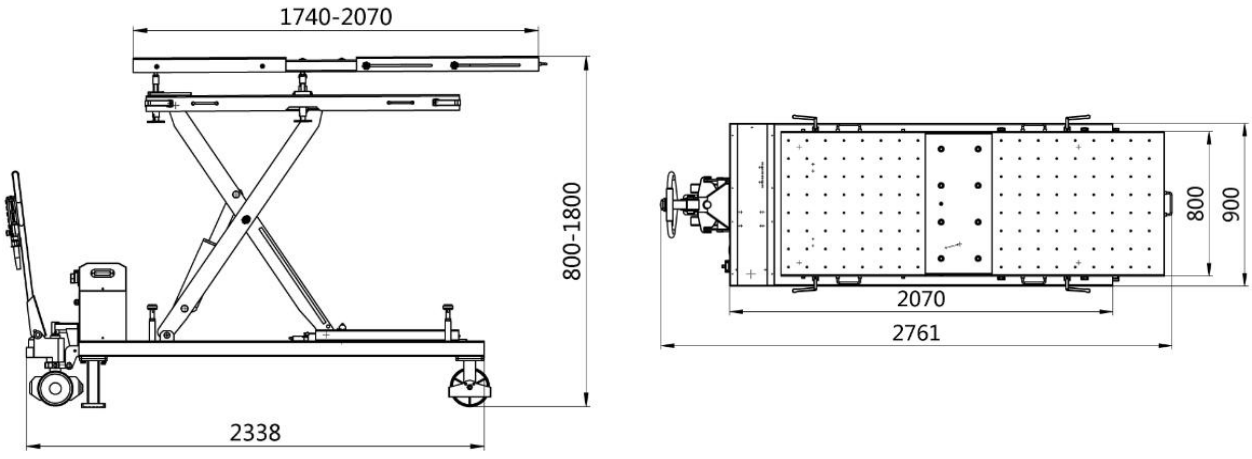



Fig 1 Dimensions

## 1.3 Structural Performance

This machine is mainly composed of three parts: mechanical system, hydraulic system and electrical system.

**1.3.1** The main components of the mechanical system are as follows (fig 2):

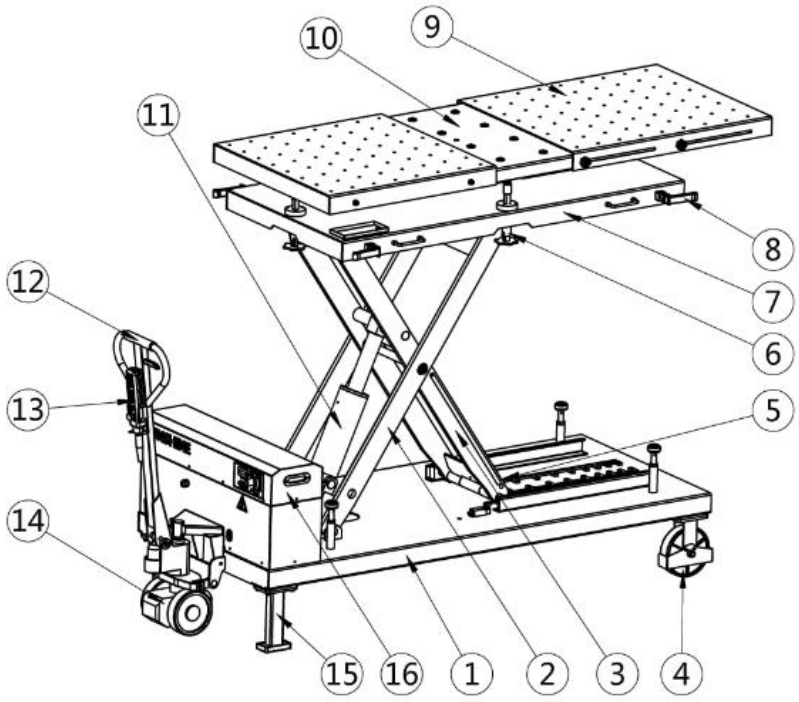



Fig 2 The mechanical structure of the lift

1. Base 2. Outer arm 3. Inner arm 4. Directional caster 5. Mechanical lock
6. Turning adjustment handle 7. Main platform and sliding platform
8. Push and pull clamp 9. Pullable support plate 10. Turning platform
11. Oil cylinder 12. Traction handle 13. Remote control handle
14. Walking drive motor 15. Front Outrigger 16. Console

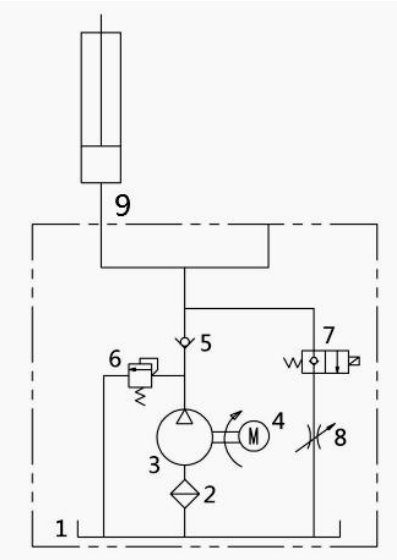
**1.3.2 Hydraulic system**

The hydraulic pump station system of the lift is installed in the console. The hydraulic schematic diagram is shown in fig 3, and the structural composition is shown in fig 4.

In fig 4, the overflow valve 3 is responsible for system pressure adjustment. The screw in the nut is screwed in to increase the pressure, and when it is screwed out, the pressure is

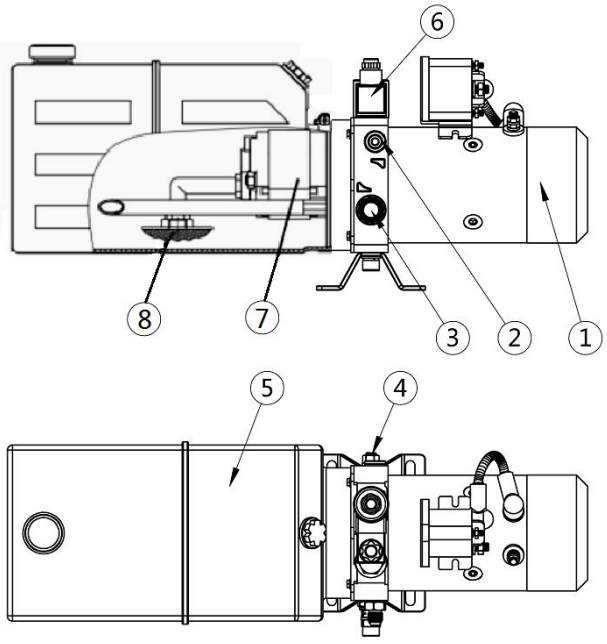
reduced. Throttle valve 4 is responsible for adjusting the descent speed, rotating out counterclockwise, the descending speed is accelerated, and rotating clockwise is slowing down.

**Note! The overflow valve and throttle valve have been adjusted to the appropriate position when the equipment leaves the factory. For safety reasons, adjustment is strictly prohibited.**




| No. | name | remarks |
|---|---|---|
| 1 | fuel tank | |
| 2 | Oil filter | |
| 3 | Oil pump | |
| 4 | Motor | |
| 5 | Check valve | |
| 6 | Overflow valve | |
| 7 | Unloading valve | |
| 8 | Throttle valve | |
| 9 | cylinder | |

fig 3 Schematic diagram of hydraulic system




| No. | name | remarks |
|---|---|---|
| 1 | Motor | |
| 2 | Tubing connector | |
| 3 | Overflow valve | |
| 4 | Throttle valve | |
| 5 | Fuel tank | |
| 6 | Unloading valve | |
| 7 | Oil pump | |
| 8 | Oil filter | |

fig 4 Composition diagram of hydraulic structure

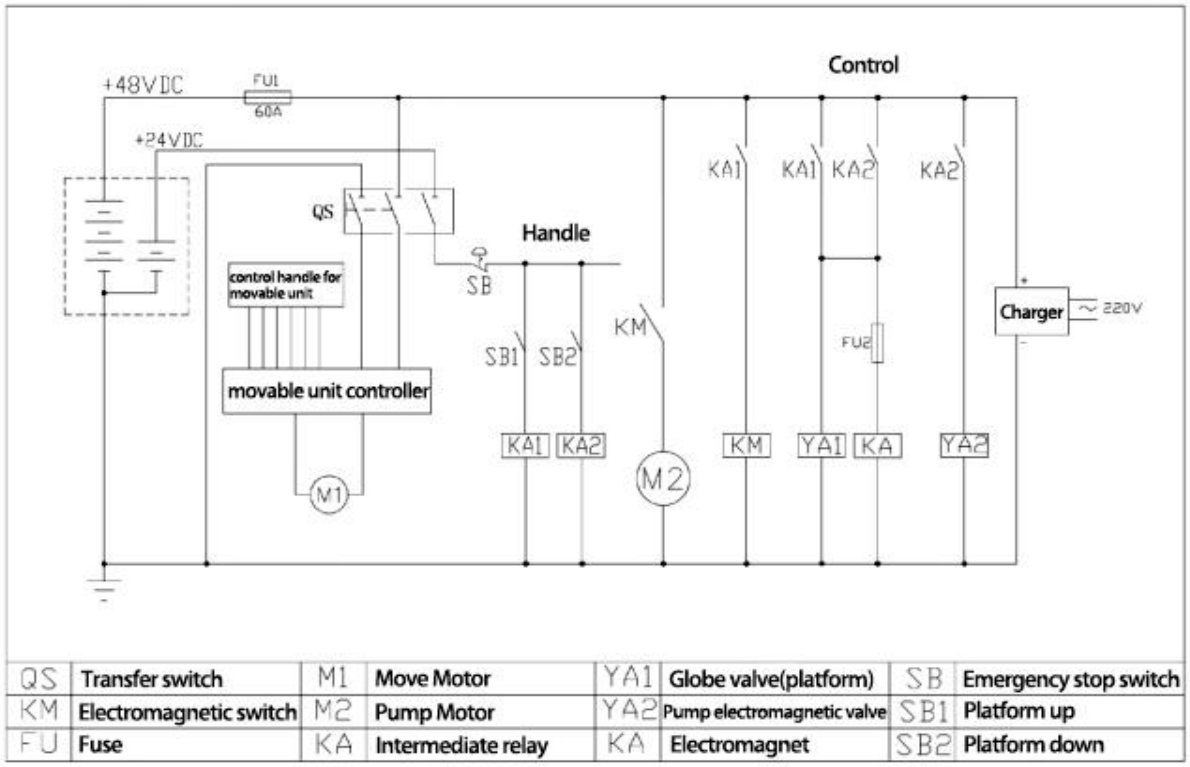
### 1.3.3 Electrical system

1.3.3.1 The lift uses a DC48V lead-acid battery pack as its working power. The digital display meter of the console can display the battery voltage in real time. When the voltage is lower than about 40V, the battery should be charged in time. The charging time is generally 8-10 hours.

1.3.3.2 This machine is equipped with AC220V national standard three-pin external power cord, which can be connected to a single-phase 220V power supply to charge the battery.

1.3.3.3 This machine is equipped with an unlocking electromagnet. When the up or down button is pressed, the electromagnet is energized and closed to keep the mechanical lock open. When the hydraulic oil pipe bursts or other accidents cause the platform to drop, the electromagnet will be in a power-off state, and the mechanical lock will be effectively locked to ensure the safety of personnel and equipment.

1.3.3.4 The electrical schematic is shown in fig 5.




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| QS | Transfer switch | M1 | Move Motor | YA1 | Globe valve(platform) | SB | Emergency stop switch |
| KM | Electromagnetic switch | M2 | Pump Motor | YA2 | Pump electromagnetic valve | SB1 | Platform up |
| FU | Fuse | KA | Intermediate relay | KA | Electromagnet | SB2 | Platform down |

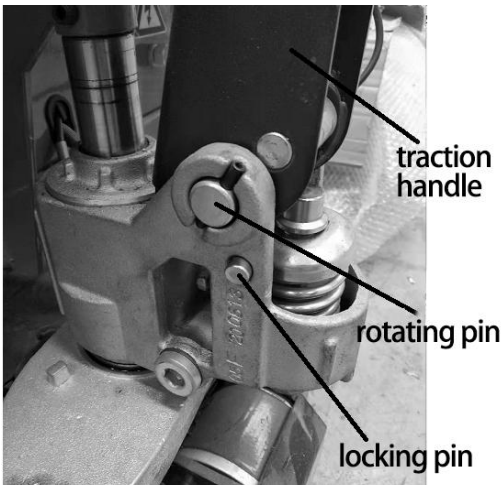
fig 5.

# Chapter II Installation and operation

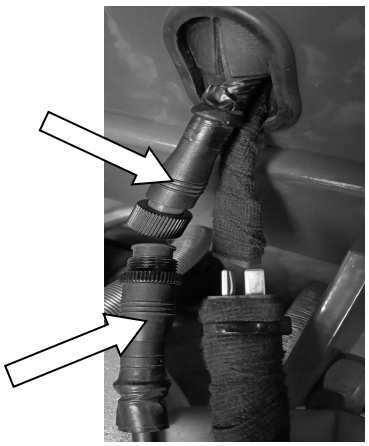
## 2.1 Accessories installation

2.1.1 Traction handle installation( fig6 ). Assemble the traction handle with the support base, At the same time, it is important to install the chain in the correct way, insert the rotating pin and then insert the spring pin at both ends of the rotating pin. Press down the traction handle, and then pull out the locking pin, the traction handle can work normally

2.1.2 Connect the lead-out wire of the traction handle controller with the plug of the box body（as Fig7 shows), and insert the wire into the box and keep a suitable length.(The wiring harness connector type may vary depending on the structure of the electric trailer. Please refer to the actual product, and this figure is for reference only)




(Fig6)

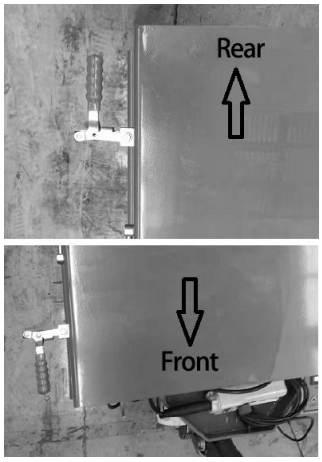


(Fig7)

2.1.3 Horizontal adjustment clamp installation

As(Fig8)shows, The clamp should be positioned horizontally in the direction shown in the fig8. Note that when the clamp rod is retracted, the handle

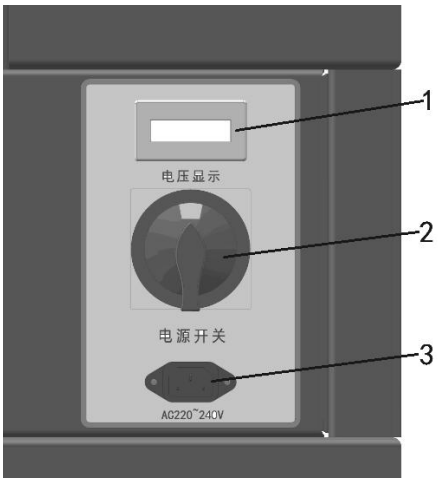
All towards the outside of the platform




(Fig8)

## 2.2 Control system

2.2.1 Control panel(Fig9)



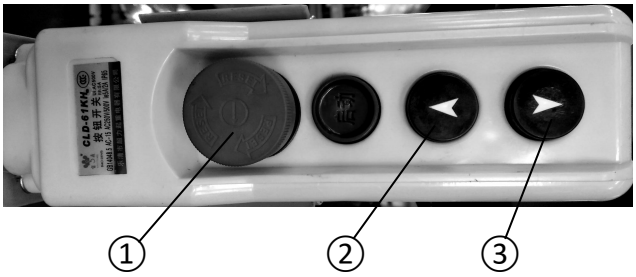

1. Digital voltmeter

2. Main power switch

3. Waterproof charging socket

（Fig9）

2.2.2 Wired remote control handle (Fig10)




1、Emergency stop button

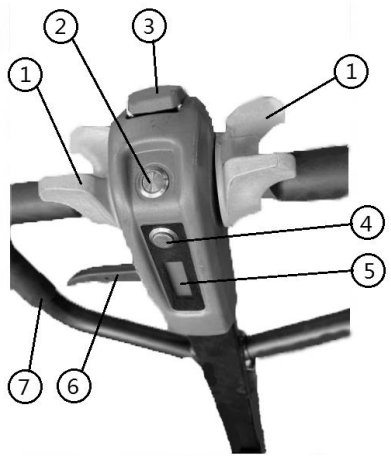
2、UP

3、Down

（Fig10）

2.2.3 Driving Motor Control System ( Fig11)

(The walking controller may vary depending on the structure of the electric trailer, please refer to the actual object. This figure is for reference only)




1、Forward and backward knobs

2、Power switch

3、Emergency stop

4、Horn switch

5、Power display

6、Pressure relief valve

7、Traction handle

（Fig11）

## 2.3 Preparation before operation

2.3.1 Check all pipe connections to ensure no leakage before starting work

2.3.2 It is forbidden to use the equipment when there is a problem with the safety device

2.3.3 Check whether the hydraulic oil is enough(Approximately 2.5 liters required), if not, fill it in time. Hydraulic oil must be above 43# high pressure anti-wear hydraulic oil produced by regular manufacturers

2.3.4 Before lifting, make sure that there are no people around the lifting vehicle

3.3.5 Check the voltage indicator of the control panel. If the battery voltage is insufficient, fully charge it in time before operation.

2.3.6 When the operator leaves the trolley, turn off the power to avoid misoperation by other personnel.

***Attention: To ensure safety, only one person is allowed to operate the equipment for walking or lifting at the same time.**

## 2.4 Car Battery Removing

2.4.1 Turn the main power switch on to power on the system. The red power indicator lights up.

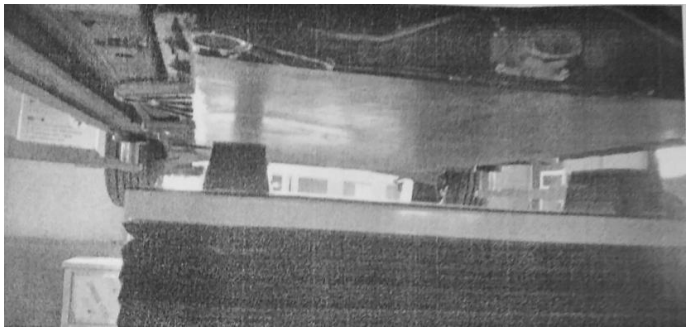
2.4.2 Repeatedly pressing the trolley moving handle backwards or pressing the pedals with your feet. The rear end of the trolley will move upwards, making the two Front Outrigge leave the ground.

2.4.3 Pull back the rotary knob of the trolley controller (in the direction of the operator), and the trolley will moving backward.Otherwise, Push it forward, and the trolley will move forward. The drive motor of this machine has an electromagnetic braking function. When the knob returns, the device will automatically brake and stop (under inertia when the load is heavy, the device will move forward for a certain distance before braking).Note that at the beginning of the operation, the knob should be slowly turned to keep the lifting truck moving slowly to ensure safe operation. Press the slow button, the moving speed of

the trolley will be decreased. When the trolley is moving, turn the operating handle, the trolley can be turned direction.

***Attention * To prevent danger from accidental operation, please be sure to turn off the power switch on the traction handle when stopping the mobile device (Fig 11-2)**

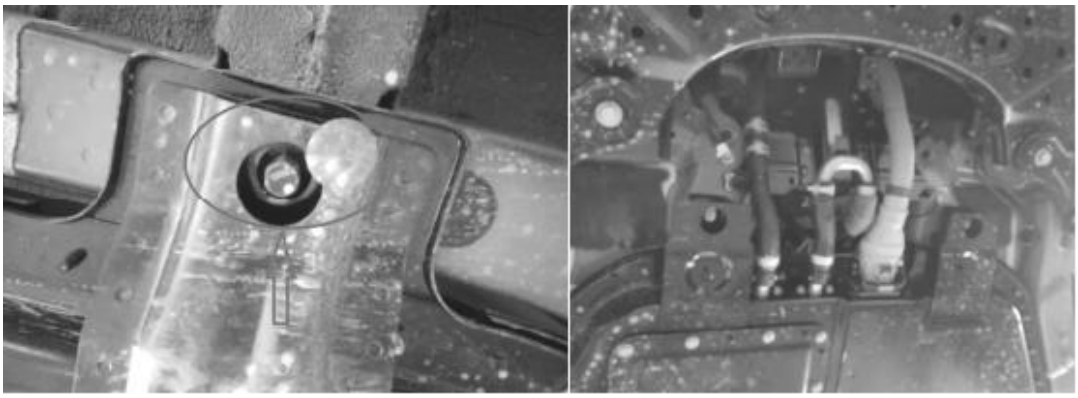
2.4.4 Operate the trolley under the battery of the new energy vehicle which is already lifted by a 2-post lift, press the up button to make the trolley platform approach the lower surface of the battery. At this time, you can turn the adjustment handle and the adjustment of the platform moving thrust clamp according to the actual situation. For example, due to uneven ground, the platform of the trolley can be left high and right low. At this time, the platform can be flipped left and right to adjust. The upper platform of the trolley can be adjusted parallel to the bottom of the power battery. (Figure 12)



（fig12）

2.4.5 Move the rubber pad Or adjustable elevated to a suitable location for the battery. According to the actual position, the position of the platform can be adjusted by turning and sliding the platform left and right, forward and backward walking of the trolley, so as to maximize the area of the lifting battery as much as possible. At the same time, please avoid positional interference between the platform and the bolts to be removed.

2.4.6 When the trolley is holding the car battery steadily, the pressure relief valve of the moving handle (shown in Fig 11-6) should be moved upward at this time to make the two Front Outrigge of the trolley touch the ground, which can then be operated by a professional person to disassemble the related mechanical connection parts and electrical wiring harnesses of the battery and the car body. (Figure 13)



（Fig 13）

2.4.7 Press the down button of the remote control handle to lower the trolley platform to a certain height slowly (it is required to reduce the height as much as possible to move the battery's center of gravity down and improve the safety of moving).

2.4.8 Pull down the pressure relief valve of the traction handle (shown in Fig 11-6), and then repeatedly press the traction handle up and down to make the two Front Outrigge of the trolley leave the ground.

2.4.9 Switch the knob of the moving controller to operate the trolley to move out of the trolley position. At this point, the knob should be slowly turned to keep the lifting truck moving slowly to ensure safe operation. After moving out of the position, The rotation angle can be gradually increased, and the lifting vehicle can quickly move to the battery storage area.

***Attention: Before lifting heavy objects and moving them, the platform must be lowered to the lowest position!**

## 2.5 Car battery installation

2.5.1 Lift up new energy vehicle with a 2-post lift. Lock the 2-post lift to keep the vehicle safe and stable.

2.5.2 Push the trolley loaded with battery under the vehicle.

2.5.2 Press the "up" button to lift the battery near the bottom of the car. At this time, press the button little by little to make the battery gradually approach the car chassis.

2.5.3 Check the distance of the positioning pins and holes around the car battery. You can turn the flip adjustment handle to adjust the battery flip front or back and left or right directions of the battery. You also can operate the pushing pliers to move the upper platform left or right and make battery just ok to the positioning pin he hole.

2.5.4 After that, you can press the up and down buttons while checking carefully. At the same time cooperate with the turning and the platform moving to install the battery to the designated position. Note that after finding the correct position, the pressure relief valve of the trolley moving handle should be operated to make the wheels to be landed on the ground.

2.5.5 The mechanical connection of the car battery and the car body and the connection of the electrical wiring harness should be carried out by professional operators.

2.5.6 Press the down button to lower the main platform to a certain position. After operating the trolley moving handle to lift the two Front Outrigge off the ground. The trolley can be moved out of the lift station. The battery is finished installation.

# Chapter III common faults and roubleshooting

| Failure phenomenon | Reason | Troubleshooting methord |
|---|---|---|
| Motor does not work | remote control handle button failure | replace button |
| | Poor wire contact | Check and connect the line |
| | Motor disconnection and burnt out | Check and replace the motor |
| | he limit switch is out of line, bad action, damaged | Connect the circuit, adjust or replace the limit switch |
| | If the battery voltage is insufficient or no power | fully charge the battery |
| The motor works but does not rise | The hydraulic oil is not enough | replenish the hydraulic oil |
| | The relief valve is loose or has obstacles | Adjust or clean the relief valve |
| | Gear pump damaged | replace gear pump |
| | The oil suction pipe is loose or falls off | Tighten the oil suction pipe |
| Slow unloading occurs after rising | check oil pipe for oil leakage | replace oil pipe |
| | the seal of oil cylinder is not good | replace the seal of oil cylinder |
| | Poor sealing of check valve | disassemble, clean and remove or replace |
| | The poor relief valve | be cleaned or replaced |
| | Poor electromagnetic unloading valve | Disassemble, clean and remove or replace |
| The rising speed is slow | The rising speed is slow | Clean, remove or replace it |
| | The oil is mixed with air | Replenish hydraulic oil |
| | Overflow valve is not adjusted in place | adjust |
| | Hydraulic oil becomes hot (above 45 degrees) | Change hydraulic oil |
| | Cylinder seal worn | Replace the seal |
| Slow descent | Obstruction, throttle stuck | Cleaning removal or replacement |
| | Dirty hydraulic oil | Change hydraulic oil |

| | | |
|---|---|---|
| | Obstruction in oil pipe | Remove or replace the oil pipe |
| The translational thrust clamp does not move | Platform tilt or uneven clamp thrust | Push the clamps on both sides at the same time |
| hard to turn the adjustment handle | adjusting screw is lack of grease | Add grease regularly |
| | thrust ball bearing is damaged | Check and replace the ball bearing |

**Note: if you need troubleshooting, please contact the after-sales service for help. We will help you solve the problem at the first time. Providing relevant fault information and fault pictures can make the after-sales service personnel remove the fault for you in the shortest time.**

# Chapter IV Maintenance

Simple routine maintenance can ensure the normal operation and safety of the equipment. The following are some routine maintenance requirements. The recommended routine maintenance time can be implemented according to the usage environment and frequency of the trolley.

**4.1 Check items before daily operation**

·Check the connection of the oil pipe and whether there is oil leaking.

·Check whether the electrical connection is good.

·Check whether the battery is deficient

·Check the connection of each axis of the lifting shear arm.

**4.2 Weekly checking items**

·Check the flexibility of the moving parts.

·Check the condition of safety components.

·Check the hydraulic oil capacity. If it cannot be lifted to the highest height, it means that the hydraulic oil is insufficient and you need to add oil.

**4.3 Monthly checking items**

·Check the tightness of the hydraulic system.

·Add lubricating grease between the nylon slider and the slide rail, the oil cup of the rotating shaft, and the turning adjustment screw.

·Check the lubrication and wear conditions of the lubricating parts, and replace them in time if they are worn.

**4.4 Annual checking items**

·Empty the oil tank to check the condition of the hydraulic oil, and replace it if necessary.

·Check the lubrication and wear conditions of the lubricating parts, and replace them in time if they are worn.

**Warning: If the equipment is maintained in strict accordance with the requirements, the equipment will always be in normal working condition and accidents can be avoided to a large extent.**

**GE1218E**

**New energy battery trolley**

# Qualification certificate

This product implements Q / 0601KHD002-2013 standard, passed the test are allowed to leave the factory.

Appearance dimension: mm × mm × mm

Serial no:

Legal representative: Inspector:

Date:

**YANTAI HAIDE SCIENCE&TECHNOLOGY CO.,LTD.**
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HOTLINE: 0086-535-6853812, 6853816
SERVICE HOTLINE: 0535-6853811/6853813I .

# Inspection Report

Product Name：New energy battery trolley

Model : GE1218E

This product implement Q / 0601KHD002-2013 standard, here is inspection item and results before sending out of factory.

| No. | Inspection Items | unit | Standard Value | Measured Value |
|---|---|---|---|---|
| 1 | Lifting Height | mm | 1800 | |
| 2 | Lifting Weight | Kg | 1200 | |
| 3 | System Pressure | Mp | 20Mp | |
| 4 | Lift time | s | ≤40 | |
| 5 | Fall time | s | ≤40（Adjustable） | |
| 6 | No-load moving speed | m/min | 75 | |
| 7 | Flip back and forth | mm | ±40 | |
| 8 | Flip left and right | mm | ±40 | |
| 9 | Right-left transition | mm | ±32.5 | |

Inspection：

Date：

# Packing list

| No | Name | Specification | Quantity | Remark |
|---|---|---|---|---|
| 1 | Machine | GE1218E | 1 | |
| 2 | Electric trailer assembly | DC48V-800W | 1 | |
| 3 | Level adjustment clamp | | 4 | (Some models are already installed on the platform) |
| 4 | Strong Rod | Φ12x200 | 2 | |
| 5 | Pull plate | 202x32x8 | 2 | |
| 6 | Rubber block | 163x120x65 | 4 | |
| 7 | Rubber pad | 240x140x13 | 4 | Installed on the platform |
| 8 | Activity handle | ϕ9-M10-120 | 5 | Installed on the platform |
| 9 | Star shaped handle | M10x25 | 4 | Installed on the platform |
| 10 | Hexagonal socket head cap screw | M16X40 | 2 | |
| 11 | Self-locking nut | M16 | 2 | |
| 12 | Pin | 16x50 | 2 | |
| 13 | Split pin | ϕ4x40 | 2 | |
| 14 | Power cord | 3m | 1 | |
| 15 | Remote control handle | | 1 | With 5m Spiral cable |
| 16 | Inspection report | | 1 | |
| 17 | Manual | | 1 | |
| 18 | Packing lsit | | 1 | |

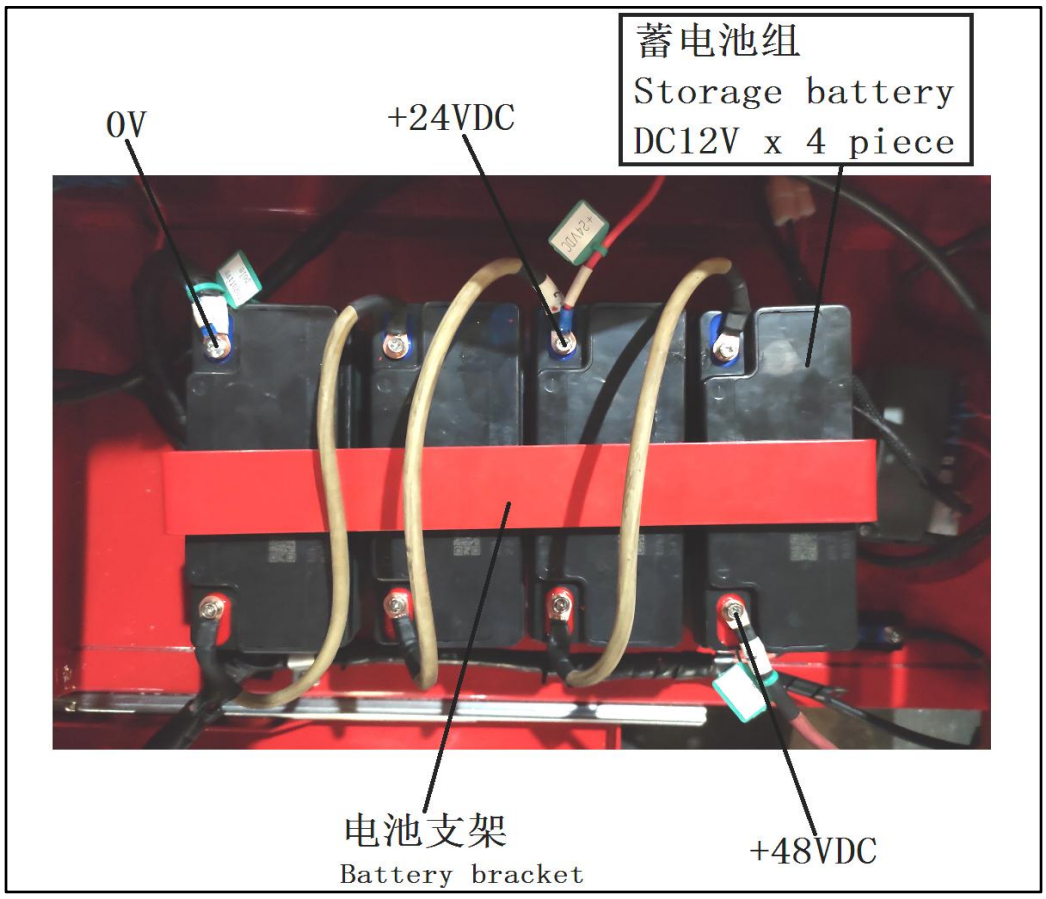
Packed by：　　Inspected by：

Packing Date：　　Inspection Date：

# Selection and wiring method of 48V storage battery

Note: since the storage battery can not be shipped, it needs to be provided by the customer on site. In order to ensure the correct selection of storage battery, the following description is made according to the circuit characteristics of the equipment.

1. A total of 4 pieces of single-chip DC12V batteries shall be selected to form a DC12Vx4 = DC48V battery pack, and the positive and negative electrodes of the battery shall be connected in series according to the method shown in the figure below;



2. Remove the upper cover plate at the front end of the equipment box, install the battery pack at the reserved position on the front side of the box, and then fix it with the configured battery bracket;

3. Connect the red thick harness marked with "DC48V" to the terminal positive electrode after the battery is connected in series, connect the red thin harness marked with "DC24V" to the battery negative electrode at the middle tap of the battery pack, and connect the gray thick harness marked with "negative pole" to the terminal negative electrode (i.e. 0V) after the battery is connected in series.