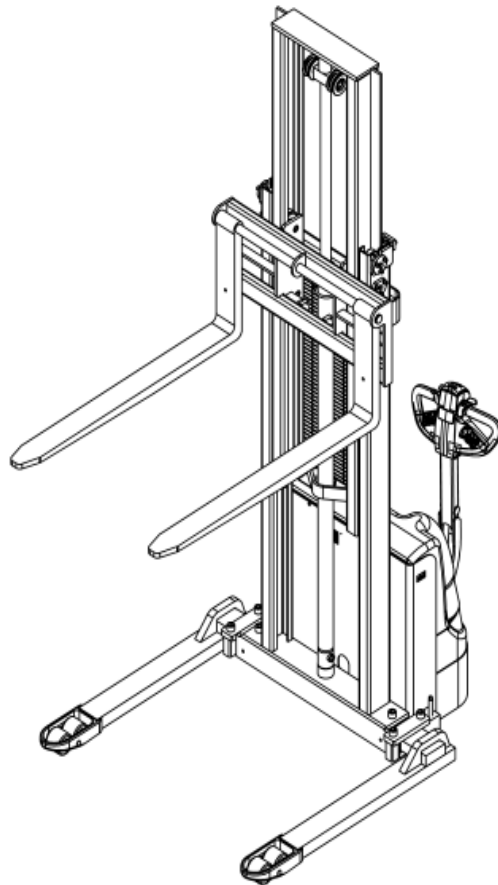


The Specification

EB12E Series Semi-Electric Stacker

Note: Before using, please read this manual!



EKKO Material Handling Equipment Manufacturing, Inc.

Contents

1. The correct use of Electric stacker	- 2 -
2. Warning,the residual risk and safety instructions	- 6 -
3. Commissioning, transport, outage	- 7 -
4. Daily inspection	- 8 -
5. Operating instructions.....	- 9 -
6. Battery charging and replacement.....	- 12 -
7. Regular maintenance	- 13 -
8. Fault analysis.....	- 16 -

1. The correct use of Electric stacker

Allow only based on this manual use this electric stacker.

Described in this manual stacker walking electric stacker, with electric operation to control the height of lifting function. High car is in order to ascend and reduce the transportation load to the desired lifting height and design. Improper use may result in personal injury or damage to the machine.

The operator / operating company needs to ensure the correct use, while ensuring the high car pile by only have been trained and authorized to use.

The stacker to flat on the firm foundation, using intact, plane and appropriate surface. The car to +5 C to +40 C Room temperature environment and indoor light load is applied without crossing the permanent disabilities or pits. Ban operating on a slope. When the load center, the goods must be placed approximately in high car pile of.

It is strictly prohibited to lift or carry personnel. As a carrier, the goods must be reduced to the lifting point (<118in).

Prohibited in lifting using this car carriage plate loading or unloading slope bench. Rated load in the load curve and the nameplate label. The operator must pay attention to these warnings and safety instructions. The operation must be a minimum of 50 lux illumination.

Changing:

Any of the vehicle load ratings, affect the stability or safety operation of change or change, must obtain prior car.

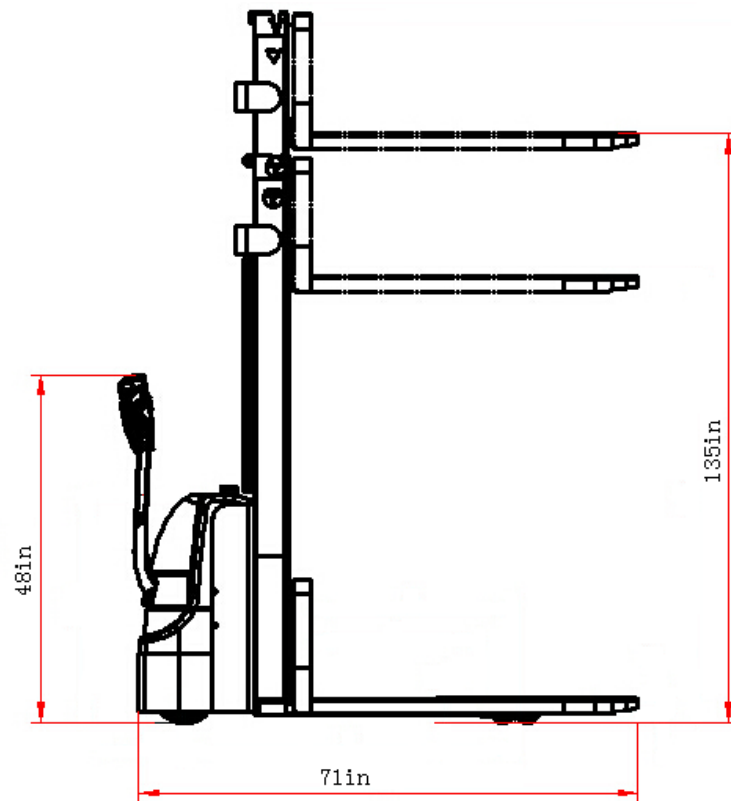
Written approval of a native business or authorized by the manufacturer or its successor. This includes the effects of the changes, such as: brake, steering, Increase the visibility and mobile accessories. When the manufacturer or its successor approved modify or change, load curve, label, The identification mark, operation and maintenance manuals will be corresponding changes.

The damage of the vehicle does not follow these instructions and cause will lose the warranty Vehicle.

1.1An overview of 1.1 main parts

Fig 1: The main component overview

Model		EB12E
Load capacity	(lb)	2640
Load capacity on Max. height(kg)	(lb)	1540
The max. lifting height	(in)	119.4
Load center distance	(in)	24
Fork length	(in)	45
Single fork width	(in)	4
Overall fork width	(in)	8.3-33.5
Lowered fork height	(in)	2.35
Fixed leg length	(in)	36.5
Fixed leg width, single (Including the front double frame)	(in)	5
Inside width between fixed legs	(in)	35.4-59
Turning radius	(in)	52.6
Front wheel size, number		φ3.1×2.7、 4
Rear wheel size, number		φ8.3×2.7、 1
Balance wheel size, number		φ6×2.3、 1
Overall length	(in)	71
Max Overall width	(in)	61
Extended mast height	(in)	135
Lowered mast height	(in)	82
Battery voltage (dimensions)	(in)	2×12V/100AH (10/6.6/8.5)
The charger	V/A	24V/15A
Lifting Motor	V/Kw	2.2kw. Lift speed, laden/unladen:92/136mm/s Lowering speed: laden/unladen:112/98mm/s
Driving Motor		0.75kw.Driving speed: laden/unladen:4.0/4.2km/h
Service Weight	(lb)	1023



1.3 Optional

C. Safety devices and warning label, description

A The hook label

B The warning label: Do not stand at the fork below or the goods fork

C Load curve icon paste

D Read and observe the instructions of the label

E 'no take' label

F Nameplate

(3) The emergency stop switch

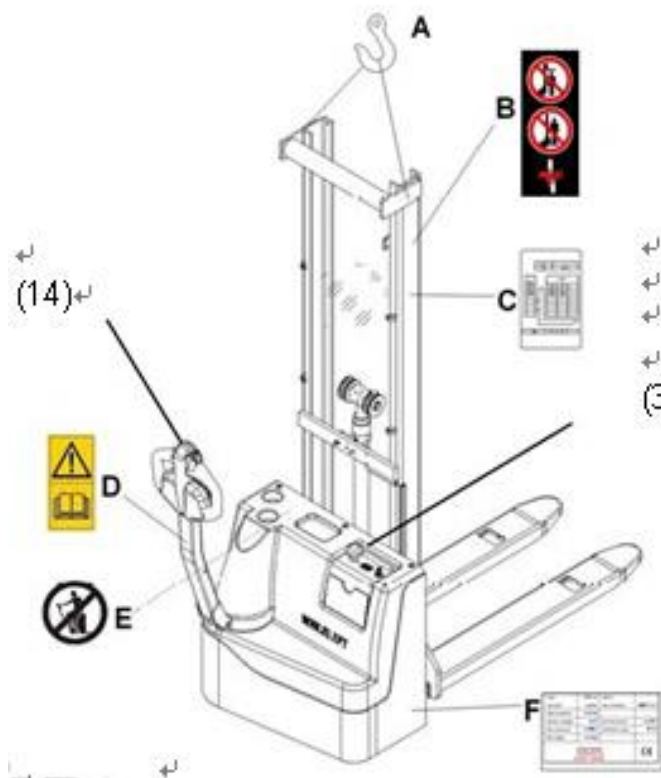
(14) Belly switch

The stacker has an emergency stop switch (2) can stop all lifting, falling and driving function, and can make the electromagnetic brake failure.

After checking the function of the controller, pull up the switch can operate this stacker.

Insert the key and switch (16) clockwise rotation. This car pile high, to prevent unauthorized use, key needs to be counterclockwise. Rotating and pull out.

This car pile high with belly switch (14), when the vehicle to the operator when running in a party, if the operating handle. Within touch belly switch, can make the vehicle to deviate from



the direction of the operator.

At the same time, follow the instructions on the label are shown in stick. Such as stickers please timely replacement of damaged or missing.

Fig 3: Safety devices and warning label

D. Nameplate

- 1 Name, type
- 2 Serial number
- 3 Rated capacity (ib)
- 4 Supply voltage (V)
- 5 No battery weight (weight) (ib)
- 6 The name and address of manufacturer
- 7 Minimum / maximum battery weight
- 8 Rated power (kW)
- 9 Load center distance
- 10 Manufacturing parameters
- 11 Optional

1	Type	xx●xx	Option	xx X xxx●	11
2	Serial No.	xxxxx●	Year of Manuf.	MM/YY●	10
3	Rated capacity	●xxxx	Load center distance	xxxin	9
4	System voltage	● xx V	Nominal power	● xx kW	8
5	Net weight without battery	●xxxib	Battery mass min/max	xxx / xxxih	7
6	XXXX XXXX XXXXXXXX xx XXXXX / XXXXXX			CE ●	If sell to Europe, please add CE logo here



2.Warning, the residual risk and safety instructions

Warning-----Please do not:

- 1/ In outdoor travel, stacking operation. The cargo lifting height is higher than the height of the lifting point (<11.8in).
- 2/ A foot or hand put the lifting mechanism or into the lifting mechanism in.
- 3/ Allow non-operating personnel in the vehicle or the lifting / lowering when standing in front of or behind the vehicle pile high.

The residual risk:

- 1/ The foot at the front wheels, which can lead to injury. Promotion of personnel.
- 2/ Personnel may fall and cause serious injury. Push pull air.
- 3/ Using this car on a slope. Use does not contain movable protective plate of the vehicle (Figure 1, third / protective net).
- 4/ Lateral load or tail load.
- 5/ The goods must be evenly distributed in the goods fork. Using this car loading unstable, unbalanced loads.
- 6/ Without the written consent of the manufacturer is using this car.

Safety instructions

- 1/ Sales and provide AC voltage on-board charger needed 110V or outside the 220V.
- 2/ Observation of different ground status when driving. The goods may be dropped, or vehicle may lose control. Please check the load from time to time. The situation. If the goods become unstable should immediately stop the operation of the vehicle.
- 3/ When the goods in the car sliding or slide down the body, vertical. Brake the vehicle and press the emergency stop switch (2). If the high car piles any fault occurs, please refer to chapter sixth.
- 4/ Perform maintenance work according to the regular inspection. This car pile high waterproof. Please use the car in the dry environment. Continuously for a long time.
- 5/ The operation may damage the battery assembly. Please stop the operation of the hydraulic oil temperature is too high. The operation of the stacker, the operator should wear safety shoes.
- 6/ This car is suitable for room temperature between +5 C to + 40 C indoor use. Must have minimum of 50 lux operating lighting.
- 7/ Ban operating a vehicle on a slope. As a sudden movement not prevent operation of the vehicle body produce unexpected (such as: others cause etc.), in the operation should be off the car. A power supply and pull out the key.

3.Commissioning, transport, outage

3.1 Test

Re commissioning on receipt of our new car pile high or needs, please in the (first) the following steps before operation vehicle: The final installation and charging a battery (see Chapter sixth) Work according to the inspection and routine inspection machine function.

3.2 lifting / transport. Transport

When transport, the removal of the goods, the fork fell to the lowest position, and according to the following chart security fixed special lifting equipment.

Lifting:

Please use the special cranes and lifting equipment;

Please don't stand under the shaking of the goods;

Please do not into the danger zone when lifting

Safe parking vehicles and according to the lifting point is shown in figure 5 tie car body.

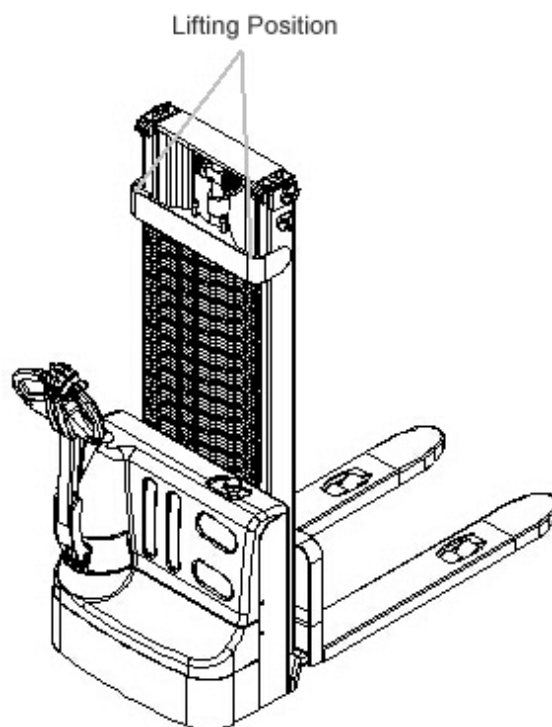


Fig. 5: Used crane hoisting

Transport:

- A. In the process of transportation vehicles must be firmly fixed in truck or truck.
- B. Reduce the fork to the lowest position and vehicle safety park. Use stainless steel tie transverse lashing car leg through the tray at the bottom middle gap,
- C. With the lifting of the special lock locking fixed in each of the two car is fixed on the tray.

3.3 outage

- A. When stored, move the goods, vehicles will be dropped to the lowest position, all lubrication points will be mentioned in this manual grease(check), to prevent vehicle corrosion and dust.
- B. Take out the battery and check the safety equipment after storage vehicles without extrusion.
- C. The final vehicle outages, give the vehicle to the designated recycling companies.
- D. According to regulations, oil, batteries and electrical components must be recycled.

4. Daily inspection

This chapter describes the operation of the vehicle should be carried out before the examination before work.

Daily inspection can effectively find faults in this car or failure. The following points should be checked before operating the vehicle.

The cargo will be removed from the body, reduce the fork.

If you find any fault, please stop using this car.

Check whether there are scratches, deformation or cracks.

Check the cylinder leaks.

Check the condition of the vehicle longitudinal driving.

Check the chain and the roller is damaged or corrosion.

Check whether the wheel can move smoothly.

Press the emergency stop button to check the emergency braking function.

Brake function check handle lever switch.

Press the button to check for lifting and lowering function.

Check whether there is damage and protective net is installed correctly.

Check the buzzer.

Bolts and nuts are tightened inspection of all.

Check the key switch function.

Check the speed limit switch.

Visually check whether there is any damage pipes or wires.

If the vehicle is equipped with a gear rack, check whether there is damage, whether the correct installation.

5. Operating instructions

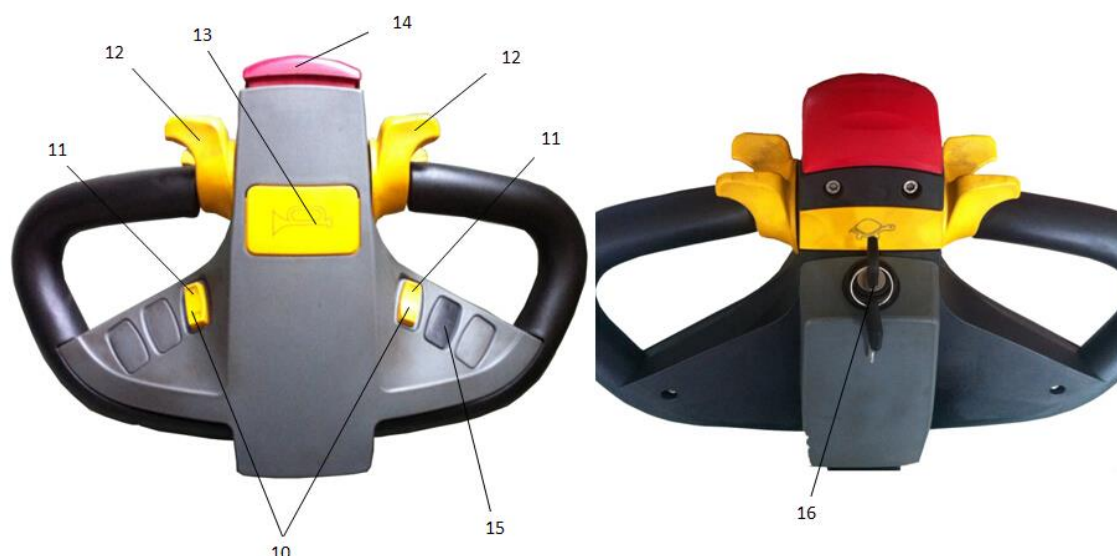
The operation of this car, please follow the warning and safety instructions (see chapter second).

The operation of this car, please see to it that the goods or other equipment will not lead to a lack of visibility!

To ensure that the goods and stable placement, and daily check. At the beginning, put in the key, the clockwise rotation to the "open" position. The key can only be in step.

For the control type electric stacker using. Finally add keys to the former, must be small The heart will stop button to pull up.

Press the horn button to start the buzzer (13), (16) the key switch



5.1 Parking

No parking on slope.

This car is equipped with an electromagnetic fault protection parking and parking brake.

Please always completely reduce the fork and the vehicle to safe area. The key counterclockwise rotation to "Closed" position, pull out the key.

5.2 Load curve

Load curve shows a given load center C [mm] and horizontal load capacity of the largest load Q [kg] vehicle corresponding lifting height is H [mm].

The white mark on the door frame representation can reach ascension range.

For example: a cargo gravity center distance of C is 23.6, the maximum lifting height H 114in, the maximum load capacity of Q to 1763ibg.

5.3 Promote

Do not overload. The maximum load capacity of this car is 2205ib.

Only increase the load capacity allowed by the load curve.

When traveling, please the fork completely reduced to a car on the leg, and press the lift button (Figure 1, 11) until you reach your expectations lifting height.

5.4 Down

If the fork is on the shelf, first carefully the vehicle together with the tray rack or separate vehicles removed from shelves.

Carefully press the down button.

Goods will be reduced until the fork left tray rack, and then carefully pulled away from the goods.

5.5 Traveling

Only when the goods are upward only when running on slope.

Not to exceed the specified drive technology parameters on slope.

Only when the fork to lift point (<11.8in), was allowed to travel

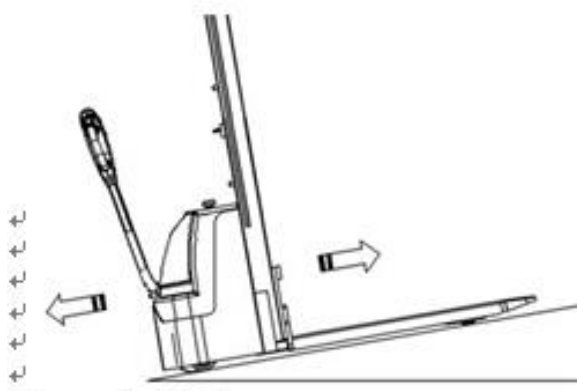


Fig 7: Goods up

Will have been put into the key is rotated to the "open" position (Figure 1 16; finally, carefully pull play urgent stop button), start the vehicle, the handle is moved to the area of operations ('F', FIG. 8). Direction of rotation to the desired Fw of the accelerator button. ' Or backward direction 'Bw.' (Figure 11). By carefully moving the accelerator button (12) to control the driving speed until it reaches the desired speed.

If you will move back to the middle position of the accelerator button, control the deceleration of the vehicle until the parking device. If the vehicle is stopped, then the parking brake to start work.

Be careful driving the vehicle to the destination. To observe the road conditions and through the accelerator button to adjust the speed.

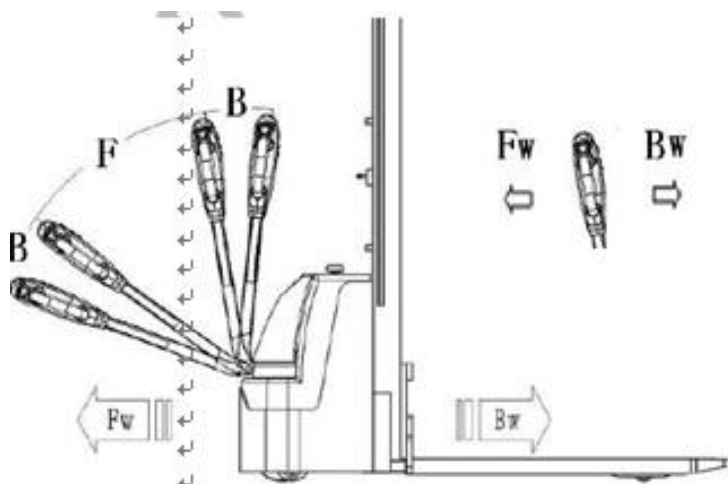


Fig 8: The direction of the operation

5.6. Steering

To move around by the handle for vehicle.

5.7. Brake

Load braking performance depends on the road conditions and vehicle.

Brake function can be activated by the following ways through the accelerator button (12) moved back to '0' position or the release of this button, the regenerative braking is activated. Vehicle brake to stop.

Through the accelerator button (12) driving direction move directly to the opposite direction from a vehicle with regenerative braking, until it began running in the opposite direction.

If the handle is moved upwards or downwards to the braking zone ('B'), vehicle braking. If the release lever, is automatically moved to the handle braking area ('B'). The vehicle starts until the parking brake.

Belly switch (14) can prevent the operator by extrusion. If you press this switch, the vehicle began to slow and / or the beginning of a period of reverse driving distance ('Bw.'), then stop. If the handle on the operating area and the vehicle is not running, please consider this switch can also operate on the vehicle.

5.8. Fault

If there is any fault or not operating the vehicle, please stop using the vehicle and press the emergency stop switch (2).

The vehicle park in a safe area, will be the key switch (16) counter clockwise rotation, and then pull out the key.

Immediately inform the manager and / or contact your customer service personnel. If necessary, use a professional lifting equipment will be vehicles from the area of operations.

5.9 In case of emergency

When you meet the emergency, press the emergency stop switch (2). All electrical functions will stop. Keep a safe distance.

6. Battery charging and replacement

1/ Only qualified personnel for repair or to recharge the battery. Please be sure to abide by the operation manual and battery manufacturer's instructions.

2/ These batteries are maintenance free, prohibited to fill.

3/ Battery recycling shall abide by state laws and regulations. Please abide by these provisions.

4/ Treatment of the battery, the prohibition of the use of fire, gas may cause an explosion!

5/ Battery charging region forbid storing flammable materials or flammable liquids. Smoking is prohibited, and the region must ensure that good ventilation.

6/ Start charging or install replace the battery before you park the vehicle safety.

7/ Perform maintenance work before, wiring harness is connected correctly and to other parts of the vehicle without interference.

8/ The car is equipped with the sealing liquid acid battery 2*12V/ 100Ah.

9/ Only allow the use of sealed lead-acid battery weight will have a certain impact on the operation of the vehicle behavior.

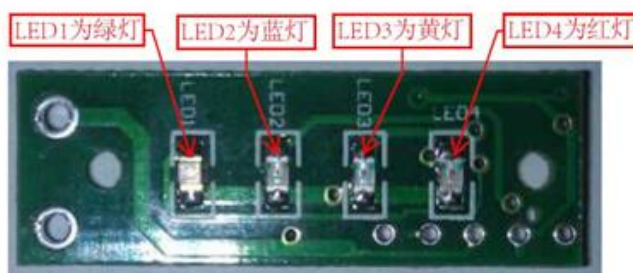
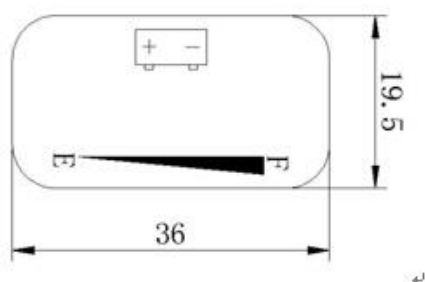
Note: Please consider the maximum operating temperature of the battery.

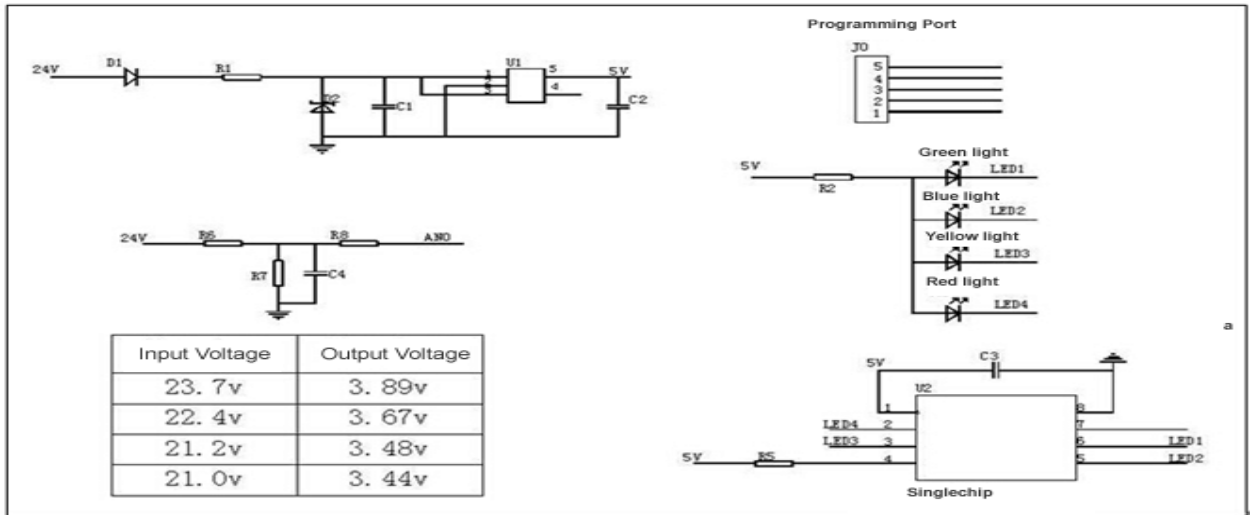
6.1. replacement

Safety park vehicles, with a key (16) close the stacker and press the emergency stop switch (2). Unscrew the 2 screws on the main cover, remove the main outer cover. First unscrew the

6.2. Power meter

Discharge with 4 LED display to show





6.3. Charge

Optional automatic voltage charger lorry with can only be applicable to the mentioned 110V or 220V. Charging space must ensure good ventilation. After the completion of the battery, disconnect the connector from the socket, and put it in the specified storage space.

7.Regular maintenance

Only qualified and trained personnel can this car maintenance.

Before maintenance, please take the goods from the fork up and dropped to the lowest position.

For lifting vehicles, please is shown using the specified binding or top according to the fourth chapter lifting equipment. Before the operation, please safety device (such as a specified jack, wedge or wood) under the vehicle in case of an accident downing, moving or sliding.

Please pay attention to the maintenance of the handle bar. Gas spring has been pressure. Carelessness will cause harm.

Please use the original spare parts approved and issued by your dealer.

Please consider the leakage of the hydraulic oil may cause the machine breakdown and accident.

Only allow repair technician trained for pressure regulating valve.

If you need to replace the wheel, please follow the above instructions. Caster must be and no abnormal wear round.

Check and maintain the list of items on the list.

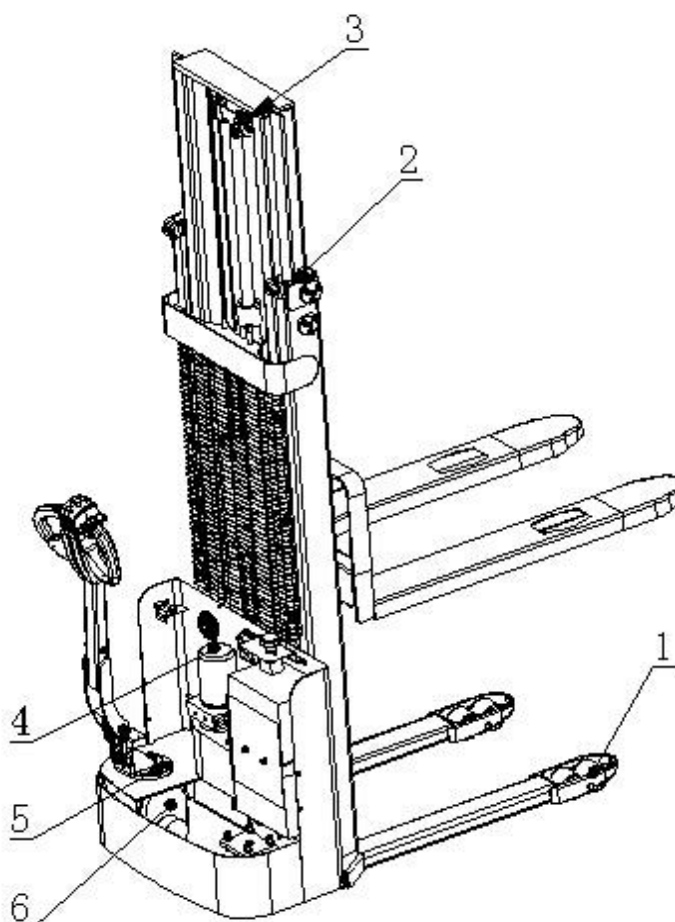
7.1. Maintain inventory

Table4: Maintain inventory		The interval of time			
		1	2	6	12
1	Check the hydraulic oil cylinder, the piston is there noise and leakage damage		●		
2	Check the hydraulic connections and tubing for damage and leakage		●		
3	Check the hydraulic oil level, then fill if necessary		●		
4	And then filled with hydraulic oil (12 months or 1500 hours)				●
5	Check and adjust the pressure valve function (2205ib+0/				●
Mechanical system					
6	Check whether the deformation and crack of fork		●		
7	Check whether the deformation and crack of the chassis		●		
8	Check all the screws are fixed completely		●		
9	Check the door frame and the chain if there is corrosion,	●			
10	Check whether the noise and leakage of gear box		●		
11	Check whether the wheel deformation and damage, replace if		●		
12	A steering bearing lubrication				●
13	Check and lubrication center point		●		
14	Grease nozzle	●			
15	Protective and / or protection board, if damaged, replace	●			
The electrical system					
16	Check the wire is damaged				
16	Check the wire is damaged		●		
17	Check the electrical connectors and connecting terminal		●		
18	Detection of the emergency stop switch function		●		
19	Check whether the electric drive motor noise and damage		●		
20	Detection display		●		
21	Check whether the use of the correct fuse, replace if necessary		●		
22	Test buzzer		●		
23	Check the current contactor		●		
24	Check whether there is leakage of the frame (insulation test)		●		
25	Check the accelerator function and wear		●		
26	Check the drive motor of electric system		●		
Brake system					
27	Check the brake performance, brake disc replacement or adjustment gap if necessary		●		
Battery					
28	Check the battery voltage		●		
29	Clean and give the terminal grease, check whether there is corrosion and damage		●		
30	Check the battery shell is damaged		●		
Charger					
31	Check the main power line is damaged		●		
32	Start protection program check during charging		●		
Function					

33	Test buzzer	●			
34	Air gap electromagnetic brake check	●			
35	Detection of the emergency brake function	●			
36	Detection of reverse braking and regenerative braking function	●			
37	Detection of belly switch function	●			
38	Check the steering function	●			
39	Check the lifting and lowering function	●			
40	Check the handle lever switch function	●			
41	Detection of the key switch is damaged and function	●			
42	The detection speed limit switch (lifting height is >~11.8in)	●			
	Comprehensive				
43	Check all label is clear and complete	●			
44	Check protective plate and / or protection is not damaged	●			
45	Check the steering wheel, if worn for height adjustment or replacement		●		
46	A test run	●			

7.2. Lubrication points

Lubrication maintenance shown in listing marked points on the. Required grease specification: DIN51825, standard grease.



- 1、 The wheel bearing
- 2、 The door frame
- 3、 Chain
- 4、 Hydraulic system
- 5、 Steering bearing
- 6、 Gear box

7.3. inspection and hydraulic oil refill needed hydraulic oil type

Anti-wear hydraulic oil 32#

Viscosity is 32 - 38

Based on the model, the amount of oil is from ~2.5L to 3.0L.

Waste materials such as waste oil, waste batteries or other materials must be recycled according to national law.

7.4. check the electrical fuse

7.5. Removed

install the protective net, if the protective device is damaged or is not installed properly, do not use this car!

If you need to remove protective net, unscrew the screw fixation and remove protective net. Screw is still in the protective net. Re installation, the protective plate placed in the correct position and the right fixed each screw. If you need to change parts, please contact your nearest after sale service partner.

8.Fault analysis

If the vehicle to follow the instructions of the sixth chapter explains, still failure.

Table Failure analysis of 6:

Fault	Reason	Repair
The goods cannot ascend	Excessive weight	Only increase the maximum load
	Battery discharge	Battery charging
	Enhance the fuse failure	Check and the eventual
	The hydraulic oil level too low	Check and finally filled with
	The oil spill	Seal repair tubing and / or cylinder
Not oil	Oil is too high	Reduce oily
The goods cannot be	Oil dirty blocking control valve	Check the hydraulic oil and

dropped	Declining electromagnetic valve does not open or damage	Check or replace down solenoid valve
High car pile can not operate	The battery is charging	With the battery completely, and
	Battery is not connected	The battery is connected correctly
	Fuse failure	Check and eventually replace the
	Low battery	Battery charging
	The emergency stop switch is activated	pull the knob to eliminate the emergency stop switch Function
	The handle at the operation area	The handle is moved to the braking
Vehicle to only one direction of travel	Accelerator and connectors from damage.	Check the accelerator and connector
Stacker walking very slowly	Low battery	Check the discharge display battery
	Has launched the electromagnetic brake	Check the electromagnetic brake
	The handle is not connected or damage related wiring harness	Check the wiring harness and connector handle
Piled high car suddenly start	The controller damages	Replace the controller
	The accelerator is not transferred back to the middle position	Repair or replace the accelerator

If the vehicle failure and can be operated in the working area, the vehicle up, and put a fixed device under the car And guarantee the safety of vehicles. Then the vehicle out of the channel.