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# The instructions

CL1030J Full electric pallet truck



## Warning

Read the instructions of the operation guide before using this electric vehicle.

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# Catalogue

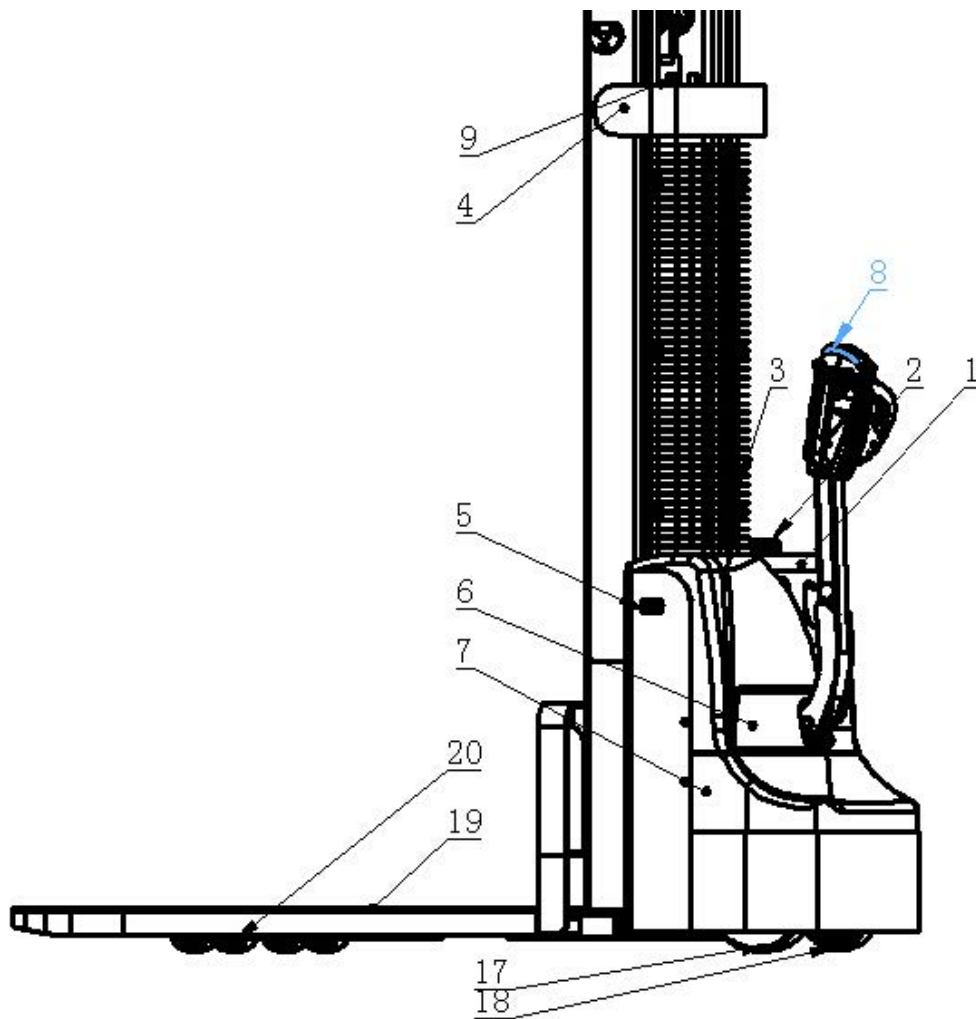
1. The correct using.....	3
1.1 An overview of main parts.....	4
1.2 The main data .....	6
2.Warning,the residual risk and safety instructions.....	9
2.1 Warning.....	9
2.2 The residual risk and safety instructions.....	10
3. Commissioning,transport,off-stream.....	11
3.1 Commissioning.....	11
3.2 Lifting/transport.....	11
3.3 Off-stream.....	12
4.Daily inspection.....	12
5.Operating instructions.....	13
5.1 Parking.....	14
5.2 Load curve.....	14
5.3 Lifting.....	14
5.4 Lowering.....	15
5.5 Travel.....	15
5.6. Steering.....	16
5.7. Brake.....	16
5.8. Fault.....	16
5.9 In case of emergency.....	16
6.The charging and replace of battery.....	16
6.1. Replacement.....	17
6.2. Power meter.....	17
6.3. Charge.....	18
7.Regular maintenance.....	18
7.1. Maintain inventory.....	19
7.2. Lubrication points.....	21
7.3. Inspection and hydraulic oil refill needed hydraulic oil type.....	21
7.4. Check the electric fuse.....	21
7.5.Install the nets.....	21
8.Fault analysis.....	22

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# 1. The correct using

1. Only allow use the electric stacker in accordance with these instructions.
2. This is a walking electric staker, which have the function of controlling the height of lifting with electric. The improper using may cause personal injury or damage to the machine.
3. Operator or operating companies need to ensure that the correct using. At the same time the stacker only be used by people which have been trained or authorized.
4. The stacker work on the ground where is with a solid foundation and the surface of the flat.
5. 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. Operation. When the load center, the goods must be placed approximately in high car pile of.
6. Ban on the slope. Operation, the goods must be placed in about stacker load center.
7. It is forbidden to ascend or carry personnel. If you have delivery, the goods must be to improve point (< 300 mm).
8. It is forbidden to use the stacker on the lifting plate or loading and unloading ramp.
9. Load capacity be marked on the load curve and nameplate. The operator must pay attention to the warning labels and safety instructions
10. The changes which affect the stacker's loading capacity, the stability and the safety, must obtain the written approval from the original manufacturer or its authorized manufacturers or its replacement at first. The influence of the change include braking, steering, visibility, and the increase of mobile accessories. Approved to modify or changes from the manufacturer or its replacement, the load curve, labels and markings, operation and maintenance manuals are correspondingly changes.
11. If the vehicle damage caused by not follow these instructions, it will be out of the quality warranty scope.

## 1.1 An overview of main parts



Picture 1: An overview of main parts(1)

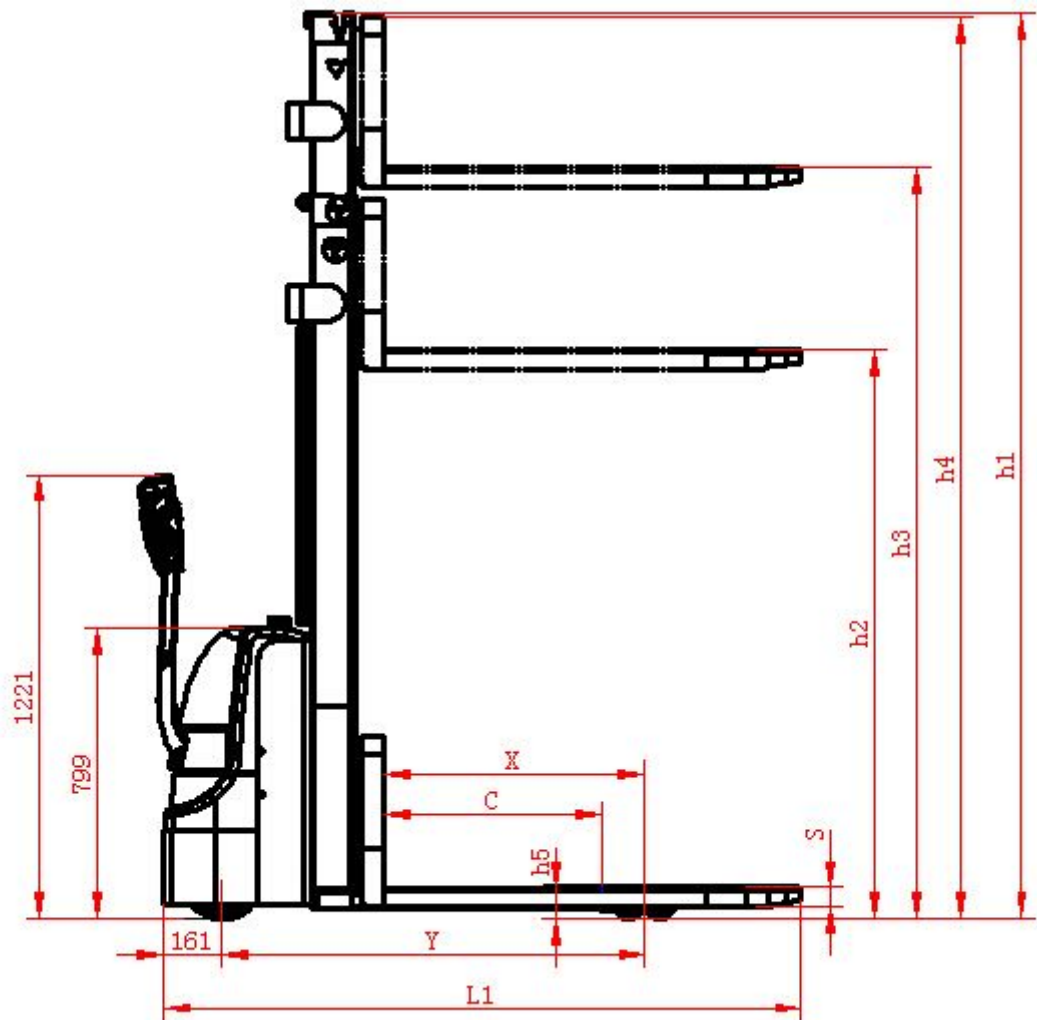
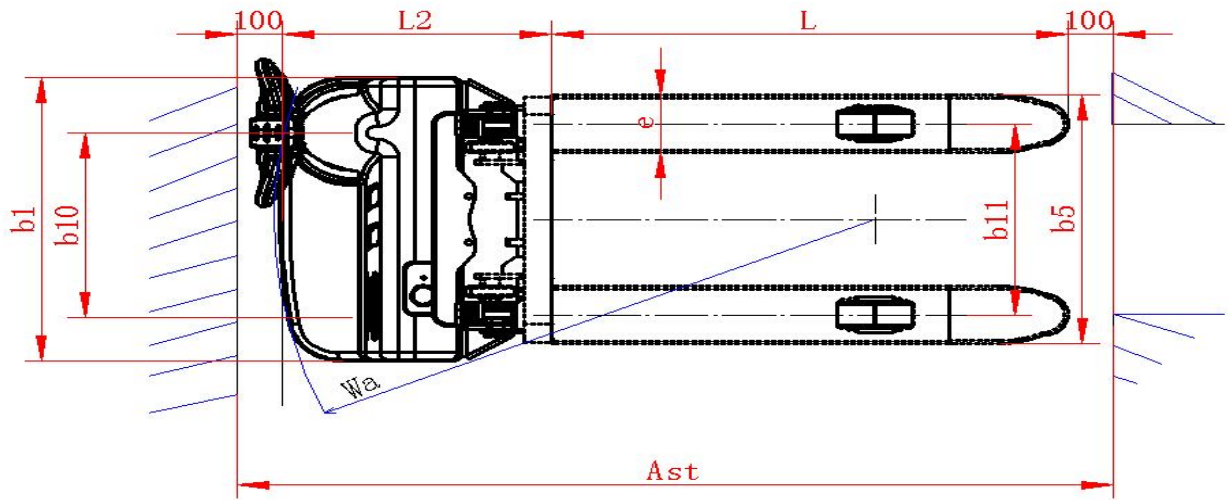
No.	Name	No.	Name
1	Upper cover	11	Up button
2	Scram button	12	Accelerator(butterfly button)
3	Protective net	13	Horn button
4	Mast assembly	14	Belly switch
5	Charge jack	15	Electric meter
6	Driving housing	16	Key switch
7	Lower cover	17	Driving wheel
8	Handle assembly	18	Steering wheel
9	Lifting cylinder.	19	Fork
10	Decline button	20	Loading wheel



Picture 2: An overview of main parts (2)

## 1.2 The main data

1	Model		CL1030J
2	Power		Battery
3	Operator type		Walking
4	Load capacity	KG	1000
5	Load center distance	C (mm)	600
6	The optimal length of bearing	x(mm)	718
7	Wheelbase	Y(mm)	1164
8	Service weight	kg	465
9	Tire		PU
10	The driving wheel size,number	Ø*ω(mm)	Ø210 × 70,1
11	The front wheel size,number	Ø*ω(mm)	Ø80× 70,4
12	The balance wheel size,number	Ø*ω(mm)	Ø150 × 58,2
13	Track width (back)	b10 (mm)	516
14	Track width (front)	b11 (mm)	535
15	When reducing the height of mast	h1 (mm)	1994
16	The height of handle in the min. / max. driving position	(mm)	736/1121
17	Height lowered fork	h5(mm)	86
18	Overall length	l1 (mm)	1755
19	Fork size	s/e/l (mm)	55*160*1150
20	Length of the fork face	l2 (mm)	602
21	Overall width	b1 (mm)	795
22	The distance between the fork arm	b5 (mm)	695
23	Min.Aisle width for pallets 1000×1200	Ast (mm)	2165
	Min.Aisle width for pallets 800×1200		2240
24	Turing radius	Wa (mm)	1336
25	Driving speed:laden/unladen	Km/h	4.0 / 4.5
26	Lift speed,laden/unladen:	mm/s	100/150
27	Lowering speed,laden/unladen:	mm/s	150/130
28	Maximum gradeability laden/unladen:	%	3/10
29	Brake		Electromagnetic brake
30	Battery voltage	V/Ah	2* 12V/ 100Ah
31	The battery weight	kg	25*26.5
32	The drive control mode		DC-The speed controller
33	The driver's ear noise level according to EN12053	dB(A)	<70



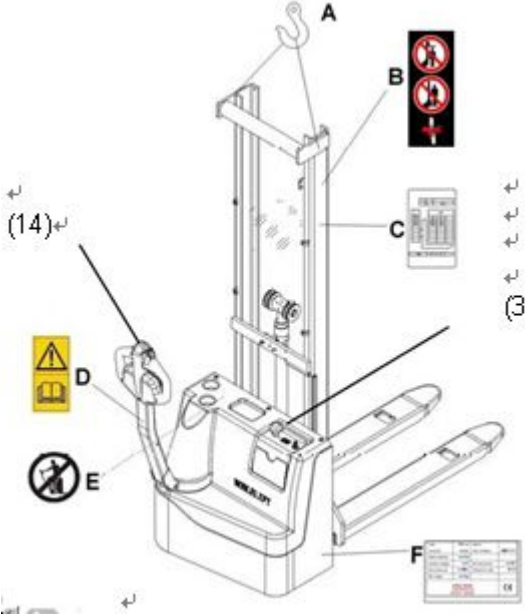
Picture 3: Technical data

**C. Safety devices and warning label, description**

- A.Hook label
  - B.Do not stand on the fork or under the fork
  - C. Load curve icon paste
  - D. Read and observe the instructions of the label
  - E. 'no ride' label
  - F. Nameplate
- (3) The key to the emergency stop switch
- (14) Belly switch

The stacker has an emergency stop switch (2).It have the function to stop all lifting, fall and driving .and can make the electromagnetic brake failure.After to check the function of the controller, pull up the switch operating the stacker.

Before operation, insert the key, and make the switch (16) clockwise.If you do not operate the stacker, in order to prevent unauthorized use, should be the key counterclockwise and pull out.The stacker with a belly switch (14), as a vehicle travels to the operator side, as long as the touch the belly switch lever operation scope, can cause the vehicle to drive towards the direction deviating from the operator. At the same time, At the same time, follow the labeled.If the label damaged or missing, please change in time.



Picture 4:Safety devices and warning label



## D. Nameplate

- 1.Name, type
- 2.Serial number
- 3.Rated capacity (kg)
- 4.Supply voltage (V)
- 5.No battery weight (weight) (kg)
- 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 kg	Load center distance	●xxx mm	9
4	System voltage	● xx V	Nominal power	● xx kW	8
5	Net weight without battery	● xxx kg	Battery mass min/max	● xxx / xxx kg	7
6	XXXX XXXX XXXXXXXXXX xx XXXXXX / XXXXXX			CE●	If sell to Europe, please add CE logo here

CE

## 2.Warning,the residual risk and safety instructions

### 2.1 Warning

1. In outdoor travel, stacking operation. The cargo lifting height is higher than the height of the lifting point (<300MM).
- 2.Please do not put foot or hand in hoisting mechanism under or into hoisting mechanism.
- 3.Please do not allow the operator stand behind or in front of the stacker.when the stacker being driving or lifting or lowering.
- 4.Please do not overload.

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5. Please do not put the foot at the front of wheel, may lead to injury.
  6. Please do not increase personnel. People may fall and cause serious injury.
  7. Please do not push and pull the goods.
  8. Please do not operating this car on slope.
  9. Please do not use the vehicle without contain mobile protective plate(Picture 1, item 3 / fence)
  10. Please do not put the goods on one side or end of fork. The goods must be evenly distributed on the pallet fork.
  11. Please do not use this stacker load instability, imbalance of the goods
  12. Please do not use the stacker without manufacturers written consent.
  13. Please do not provide car charger needed to 110 v or 220 v ac voltage.

## **2.2 The residual risk and safety instructions**

1. Please check road conditions in the process of driving . The goods may fall or vehicles may be out of control.
2. Please check the load at times. If the goods unstable should stop vehicle immediately.
3. When the goods in the stacker sliding or slide down the body, the braking of vehicle and press the abrupt stop switch (2).
4. If the stacker appear any fault, please refer to chapter 6.
5. Check the vehicle condition maintenance on a regular basis.
6. The stacker is not waterproof. Please use it in a dry environment.
7. Continuous operation for a long time may damage the battery components.
8. When the hydraulic oil temperature is too high, please stop the operation.
9. When operating the stacker, the operator must wear safety shoes.
10. This car is suitable for room temperature from + 5 °C to + 40°C indoor.
11. Lighting must be a minimum of 50 lux operation.
12. For the operation of the vehicle body produce unexpected sudden movement (such as: others cause, etc.), if it not be used should be closed.

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## 3. Commissioning,transport,off-stream

### 3.1 Commissioning

Table 2: test data

Model	CL1030J
Service weight [kg]	465
Lifting height [mm]	3000

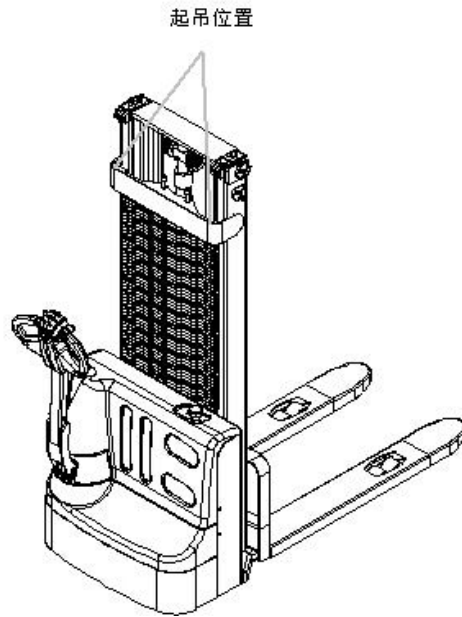
After receiving our new stacker or need to debug, please make the following steps at the first operation:

- A. check whether contains all of the parts without damage.
- B. battery charged at the end of the installation and (see chapter 6)
- C. according to the daily inspection work situation and machine function

### 3.2 Lifting/transport

#### Lifting:

1. When in transport, first to removal of the goods, than to fell the fork to the lowest position, and according to the following chart secured special lifting equipment.
2. Please using special cranes and lifting equipment to lift.
3. Please don't stand under the shaking of the goods.
4. Please don't into the danger zone when lifting.
5. Safe parking vehicles. According to the figure 5 the lifting point to pack the body. The arrive destination, please put the vehicle in the safety place before removing the hoisting equipment.



Picture 5: Used crane hoisting

## transport

1. In the process of transportation, vehicles must be firmly fixed on the wagon or truck.
2. The lower pallet fork to the lowest position and safe parking vehicles. Stainless steel cable tie cross tie legs through the middle gap at the bottom of the tray.
3. Use the lifting a dedicated lock locking fixed in every two cars on the tray.

## 3.3 Off-stream

1. Storage, removal of the goods, the vehicle down to the lowest position, will be mentioned in this manual all lubricating points daub grease (check), beware of vehicles rust and dust.
2. Remove the battery and check the safety devices to ensure that the storage after the vehicle without extrusion.
3. Eventually shut down the vehicle, the vehicle to the designated recycling companies. According to the laws and regulations, oil, storage battery and electrical components must be recycled.

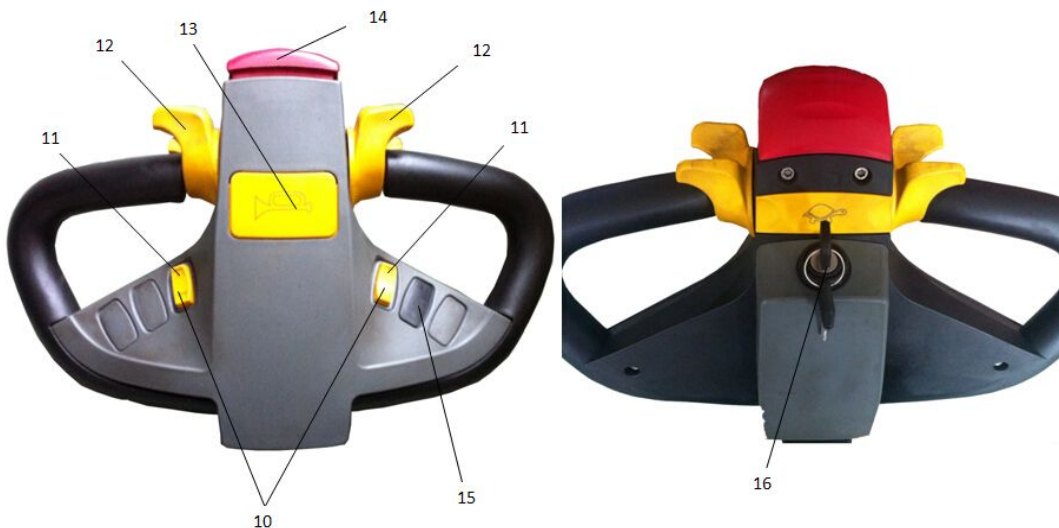
## 4. Daily inspection

This chapter expounds the need for routine examination before operating the vehicle. Daily checking can effectively fund the problems of the stacker. Check the following points before operation:

1. Move the goods, lowering the height of the fork.
2. If found any fault, please stop it..
3. Check whether there is a scratch, deformation or fracture.
4. Check whether the oil cylinder leaking oil.
5. Check the vehicle's longitudinal driving conditions
6. Check whether there is damage or corrosion from chain and roller.
7. Check whether this is the wheels moving smooth.
8. Press the scram button to check the emergency brake function
9. Check the handle switch brake function.
10. Press the button to check for lifting and lowering function.
11. Check whether there is damage of the fence and is properly installed.
12. Check the buzzer.
13. Check whether all the bolts and nuts are tight.
14. Check the function of the key switch.
15. Check the speed limit switch.
16. Visual check for damaged tubing or wires.
17. If the vehicle is equipped with gear rack, check if it was damaged and installed correctly.

## 5. Operating instructions

Before operating this car, please follow the warnings and safety instructions (chapter one), please ensure that the goods or other equipment will not lead to lack of visibility. Please ensure that the goods be putted steadily to have routine checking. In the beginning, in the key, the clockwise to "open" position. The key can only be used in walking control type electric truck. Before into the key , must be careful to pull out the scram button . The horn button (13) to start the buzzer, key switch (16).



## 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.

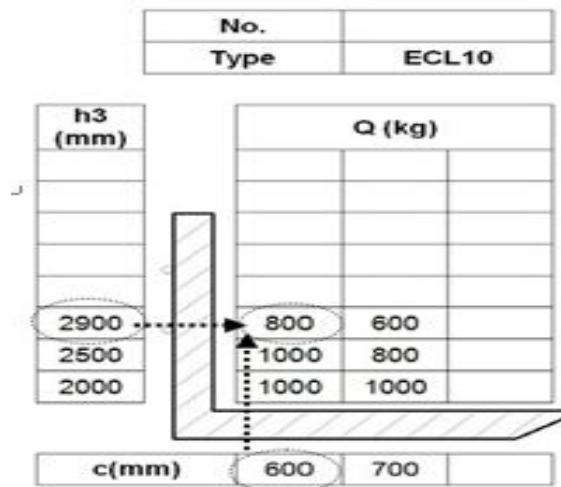
## 5.2 Load curve

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 mast representation can reach ascension range.

For example: a cargo gravity center distance of C is 600mm, the maximum lifting height H2900mm, the maximum load capacity of Q to 800kg.



Picture 7: Load curve

## 5.3 Lifting

Do not overload. The maximum load capacity of this car is 1000kg.

Only increase the load capacity allowed by the load curve.

When traveling, the fork completely lowered to on the fixed leg, and press the lifting button (Figure 1, 11) until reach height your expectations.

## 5.4 Lowering

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.

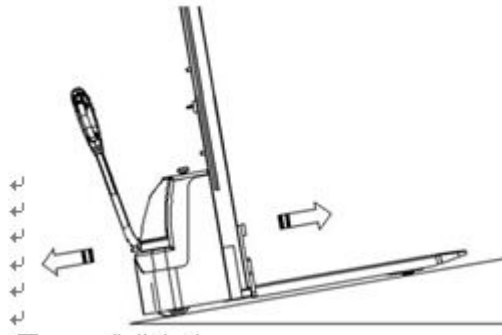
Goods will be reduced until the fork left tray rack, and then carefully pulled away from the goods.

## 5.5 Travel

Only when the goods are upward then allow running on slope.

Not to exceed the specified drive technology parameters on slope.

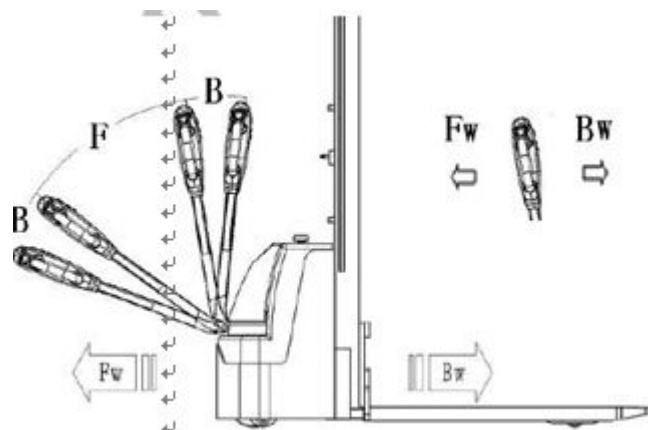
Only when the fork to lift point (<300MM), allowed to drive.



Picture 8: Goods up

Turn the key to "on" position (figure 1, 16; finally pull up the scram button), vehicles launch, remove the handle to "F" operating area (figure 8). Rotate the accelerator button to the desired direction "Fw" or "Bw" backward direction (figure 11). By carefully moving accelerator button (12) to control the speed until the desired speed. If you move the accelerator button back to the middle position, the controller will slow down until the parking vehicle. If the vehicle stops, the parking brake set to work.

Careful driving the vehicle to the destination. Watch the road condition and adjust speed by accelerator button.



Picture 9: The direction of the operation

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## 5.6. Steering

By moving the handle to move the vehicle steering.

## 5.7. Brake

Braking performance depends on the situation of the load and road conditions .

The brake function can be activated through the following several ways:

1. By accelerator button (12) will be moved back to "0" position or release the button, regenerative braking is activated. The vehicle brake until it stop.
2. Make the accelerator button (12) from one direction to the opposite direction direct, vehicles for regenerative braking until it began to run in the opposite direction.
3. If the handle move up or down to the braking area "B", vehicle braking. If the release handle, the handle automatically move first braking area "B", the vehicle parking brake until stop.
4. Belly switch (14) can prevent the operator to be squeezed. If you press the switch, the vehicle began to slow or reverse driving distance, then stop. If the handle on the operating region and vehicle not driving, please consider this switch also may carry on the operation of vehicles.

## 5.8. Fault

If there is any problem of the vehicle , please stop the vehicle and press the abrupt stop switch (2). If possible, will be parked in a safe area, the key switch (16) counterclockwise, then pull out the key. Immediately notify management or contact your after-sales service. If necessary, use the vehicle towed away from professional lifting equipment will operate in areas.

## 5.9 In case of emergency

In case of emergency, press the abrupt stop switch (2), all the electric function will stop. Please keep a safe distance.

# 6.The charging and replace of battery

Only professionals can repair or charge of the battery. Please be sure to abide by the operation manual and battery manufacturer's instructions:

1. The battery is a free maintenance, no bleeding again.
2. The battery recycling shall abide by state laws and regulations.
3. When handling the battery, it is prohibited to use fire, gas could cause an explosion.
4. The recharge area is prohibited of flammable materials or flammable liquid. Smoking is prohibited , and the area must ensure good ventilation.



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5. Before charging or installing/replacing the battery, please park your stacker well.
  6. Before completing the maintenance work, please ensure that all of the wiring harness connected correctly, and not interfere with other parts in a car.
  7. It is equipped with the following seal liquid acid battery 2 piece of 12 v / 100 ah. Only allows the use of sealed lead-acid battery
  8. Please consider the maximum operating temperature of the battery.

## 6.1. Replacement

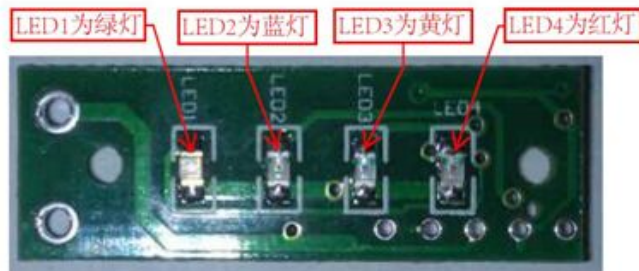
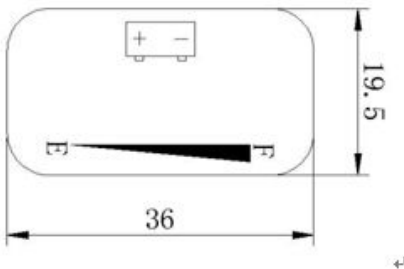
Close the stacker and press the abrupt stop switch (2). Unscrewing the two screws on the cover, remove the main cover.

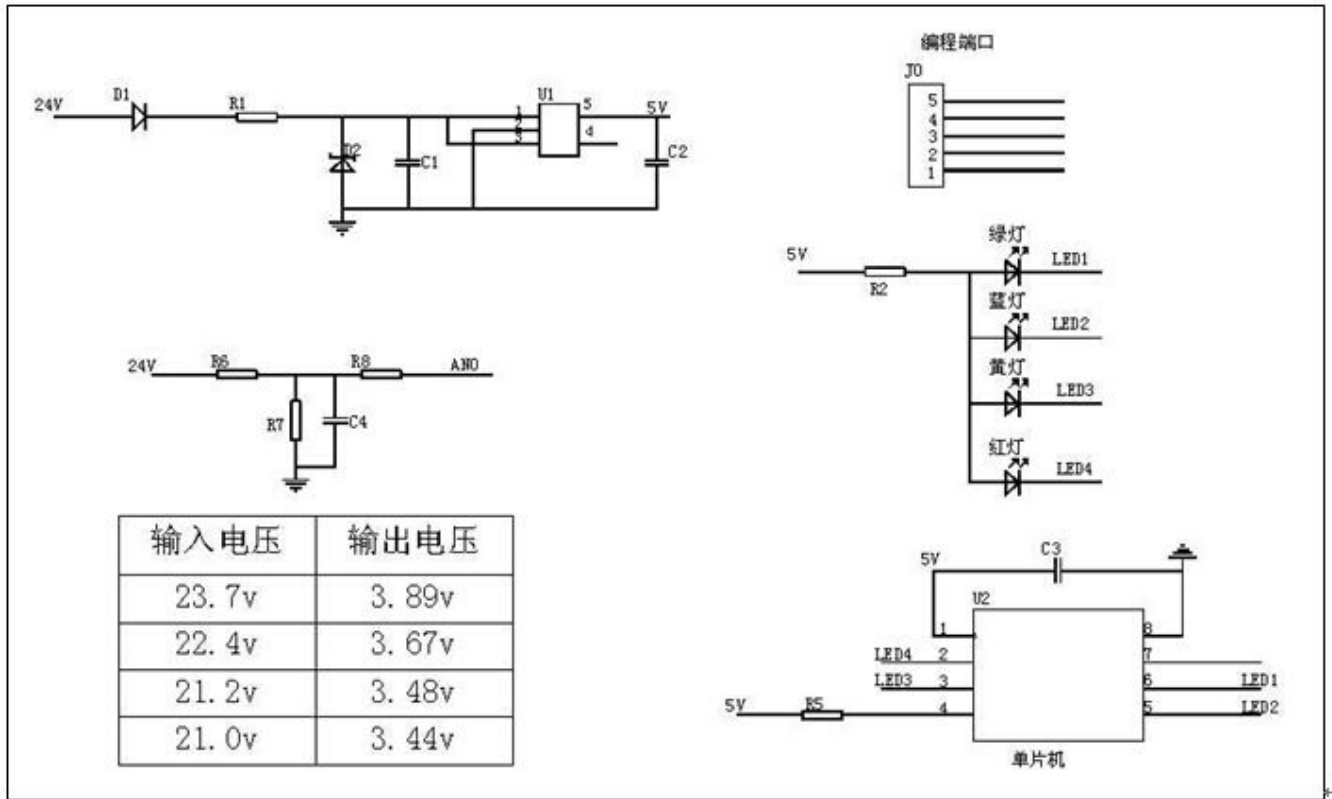
At the first Unscrewed negative side screw (shown as ' - '), then back off is the screw (shown as ' + ') and wiring harness on the side. Unscrew battery stents and unload them. Observed when removed from the battery, don't touch electrical dashboard or above at the top of the tank.

Connected to the battery positive first, otherwise might damage the vehicle.

## 6.2. Power meter

Discharge with 4 LED display to show





Electricity meter lamp working condition

Input Voltage(V)	Battery level	Showing	Margin of error(V)
$V \geq 23.7v$	100%	Green light	$\pm 0.1v$
$V \geq 22.4v$	>60%	Blue light	$\pm 0.1v$
$V \geq 21.2v$	>20%	Yellow light	$\pm 0.1v$
$V \leq 21.0v$	<20%	Red light	$\pm 0.1v$

## 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

- 1.Only qualified and trained personnel can work for maintenance of this car.
- 2.Before maintenance, please moved the goods from the fork ,and fell the fork to the lowest position.

3.If need to lift the vehicle, please use the binding or top of equipment as shown in the fourth chapter. Before operation, please put safety devices (such as specified in the jack, wedge or block) to prevent accidental fall under the car, mobile or sliding.

4.Please pay attention to the maintenance of the handle bar. The gas spring has preloading. Carelessness will cause harm.

5.Please use the original parts which approved and released by your dealer.

6.Please consider the hydraulic oil leakage may cause machine failures and accidents.

7.Only allowed by trained service technicians which can adjust the pressure valve.

8.If you need to change the wheels, please follow the above instructions. Castor must be round and no abnormal wear and tear.

9.Check the maintenance projects listed on the list.

## 7.1. Maintain inventory

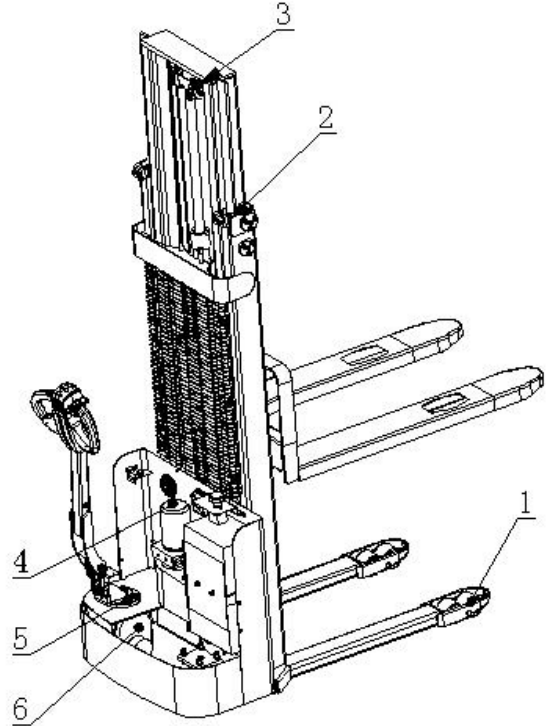
Table4: Maintain inventory		The interval of time			
		1	2	6	12
1	Check the hydraulic oil cylinder, the piston is there noise and leakage damage		•		
2	Check the hydraulic connections and tubing for damage and leakage		•		
3	Check the hydraulic oil level, then fill if necessary		•		
4	And then filled with hydraulic oil (12 months or 1500 hours)				•
5	Check and adjust the pressure valve function (1000 kg +0/+10%)				•
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, deformation or damage, replace if necessary	•			
10	Check whether the noise and leakage of gear box		•		
11	Check whether the wheel deformation and damage, replace if necessary		•		
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 >~300mm)	•		
	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

The point of lubrication maintenance list required oil specification for: DIN51825, standard oil.

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



## 7.3. Inspection and hydraulic oil refill needed hydraulic oil type

1. Check the hydraulic oil, fill, the hydraulic oil model for 32 # anti-wear hydraulic oil, with 32 to 38 viscosity. According to the model, it amount need 2.5 L to 3.0 L.

2. Waste materials such as waste oil, waste batteries or other materials must be based on national law for recycling.

## 7.4. Check the electric fuse

## 7.5. Install the nets

if the protective device is damaged or not correctly installed, please do not use the car!

If the nets need removed, at the first screw out the screw and remove the nets carefully . Screw is still in the protective net. To install the protective plate, in right place and right fixed each screw. If you need replacement parts, please contact with your neighboring after-sales service partners.

## 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 capacity is shown on the nameplate
	Battery discharge	Battery charging
	Enhance the fuse failure	Check and the eventual replacement of ascending fuse
	The hydraulic oil level too low	Check and finally filled with hydraulic oil
	The oil spill	Seal repair tubing and / or cylinder
Not oil	Oil is too high	Reduce oily
The goods cannot be dropped	Oil dirty blocking control valve	Check the hydraulic oil and cleaning control valve. Replace the hydraulic oil
	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 then the main power supply plug from the
	Battery is not connected	The battery is connected correctly
	Fuse failure	Check and eventually replace the fuse
	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	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
	Haslaunchedtheelectromagnetic 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 damage	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.