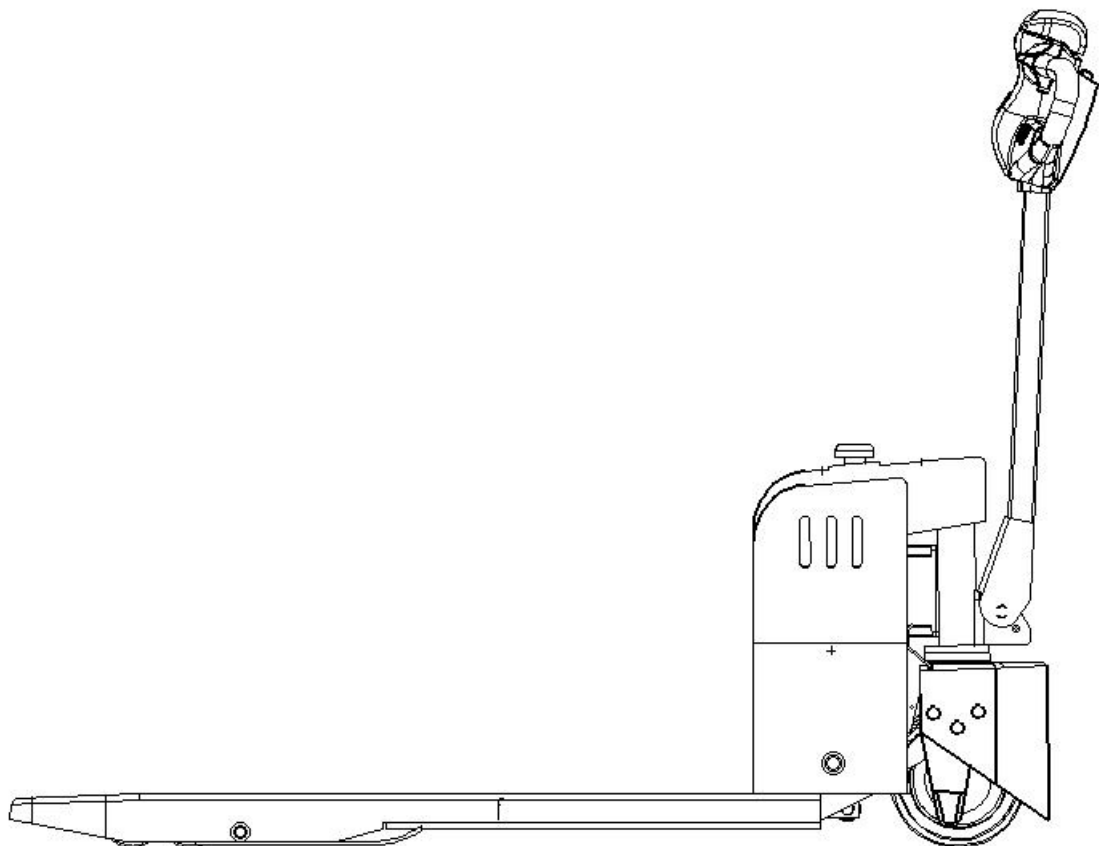


KX-QDCX15 Electric Pallet Truck

Instructions manual



CONTENTS

1. DESCRIPTION OF THE PALLET TRUCK.....	- 1 -
1.1 Overview of the pallet truck.....	- 1 -
1.2 Technical data.....	- 2 -
2. BASIC STRUCTURE.....	- 3 -
3. WORKING SYSTEM.....	- 4 -
3.1 Travelling system.....	- 4 -
3.2 Steering system.....	- 4 -
3.3 Operating system.....	- 4 -
3.4 Braking system.....	- 4 -
3.5 Working system.....	- 5 -
4. WARNINGS AND SAFETY INSTRUCTIONS.....	6
4.1 Warning.....	6
4.2 Storing.....	6
4.3 Checking before using.....	6
4.4 Operation Specification.....	7
4.5 Safety operation rule.....	8
5. ELECTRICAL CIRCUIT.....	9
6. HYDRAULIC CIRCUIT.....	10
7. MAINTENANCE AND SERVICE.....	11
7.1 Professional service manual.....	11
7.2 Service, charge and maintain of the battery.....	12
8. MAINTENANCE MANUAL.....	14

1. DESCRIPTION OF THE PALLET TRUCK

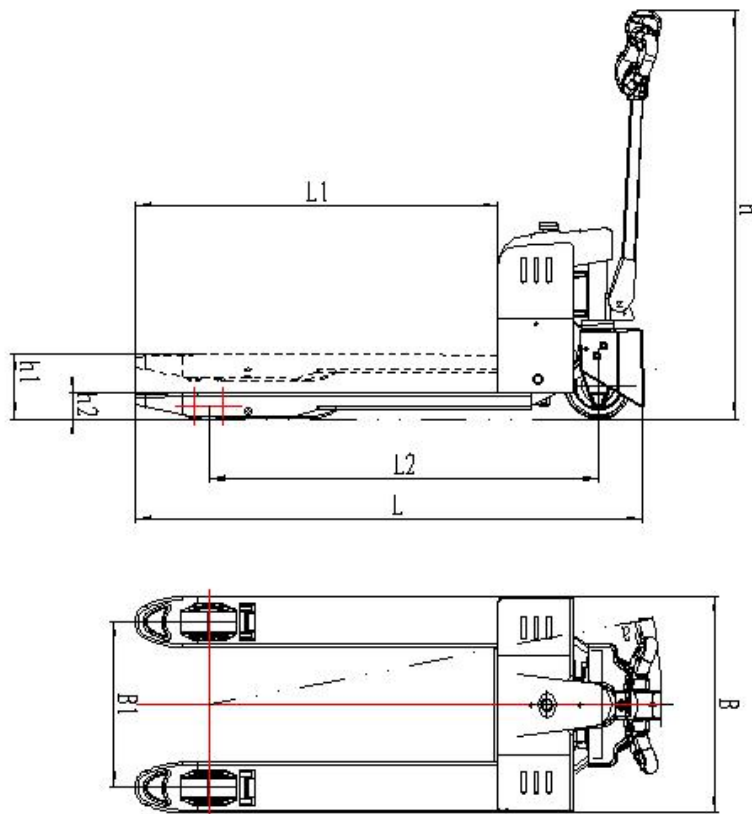
Warning

Please read the instructions manual carefully before using the pallet truck.

This manual works for all KX-QDCX15 series electric pallet truck, and we reserve our rights for technical reform. Pictures and object may be slightly different, please in kind prevail.

1.1 Overview of the pallet truck

- The rational design are practical and beautiful.
- The handle adopts ergonomic structure, which will be more stable. All operations can be achieved by this handle.
- The drive parts are advanced.
- The body is made by carbon constructional steel, and it becomes more durable.



1.2 Technical data

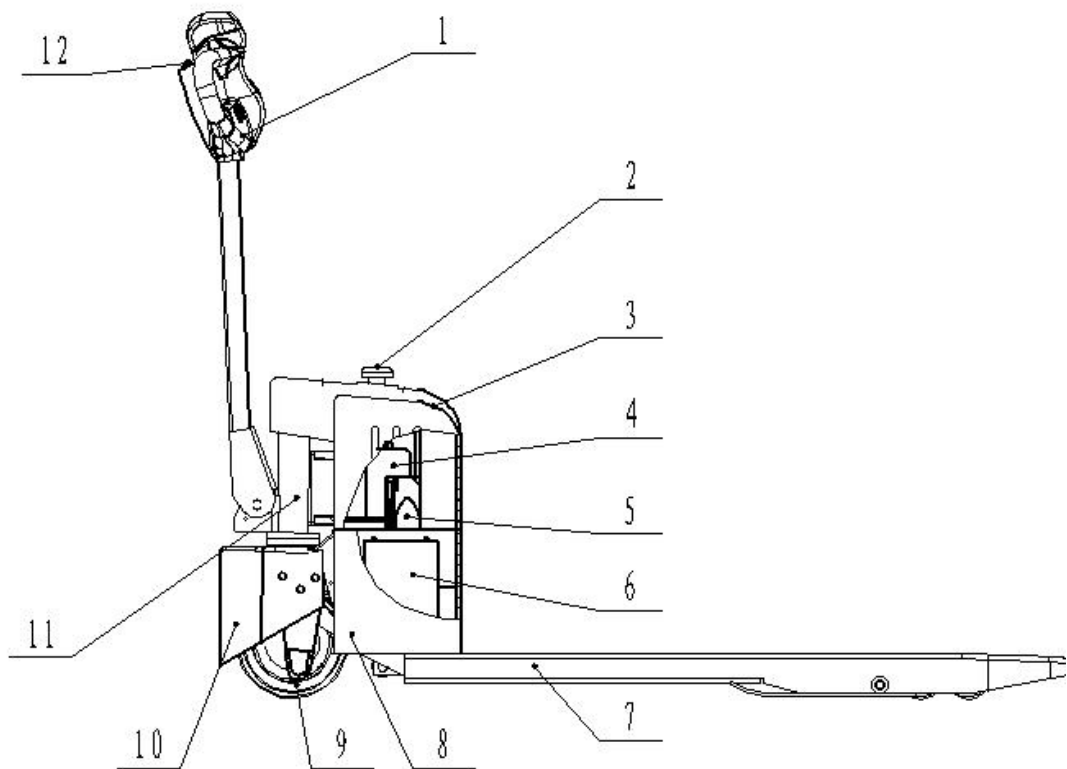
Model	Unit	KX-QDCX15
Operation type		Step/Stand
Drive		Electric
Rated load	lb	3300
Fork lowest height h2	in	3.3
Max. lifting height h1	in	7.8
Total length L	in	63.9
Wheel-base length L2	in	50
Overall width B	in	27.1
Track front B1	in	20.8
Fork size L1*e*s	in	45.2*6.2*1.9
Total height h	in	48.2
Front wheel size	in	Φ3.1*2.3
Driving wheel size	in	Φ8.2*2.7
Turning radius Wa	in	56.6
Load center C	in	19.6
Pumping station	V/Kw	24/0.8
Drive motor	V/Kw	24/0.6
Battery	V/Ah	2*12/65
Self-weight (unreserved battery)	lb	515

2. BASIC STRUCTURE

2.1 The pallet truck described in this manual uses battery as power source. All functions of the truck are controlled by the electric and hydraulic system, and it is easy to use the handle to achieve them, such as travelling, fork raising, fork lowering, going back, etc.

2.2 The electric pallet truck should be used on the flat ground. Staff should know the truck's function, structure, and maintenance clearly before using.

2.3 Structure of the truck shows as below:



No.	Name	No.	Name
1	Operating handle	7	Fork
2	Emergency stop button	8	Frame component
3	Top cover	9	Driving wheel
4	Hydraulic unit	10	Bottom cover component
5	Controller	11	Hydraulic cylinder component
6	Battery	12	Electric door lock

3. WORKING SYSTEM

3.1 Travelling system

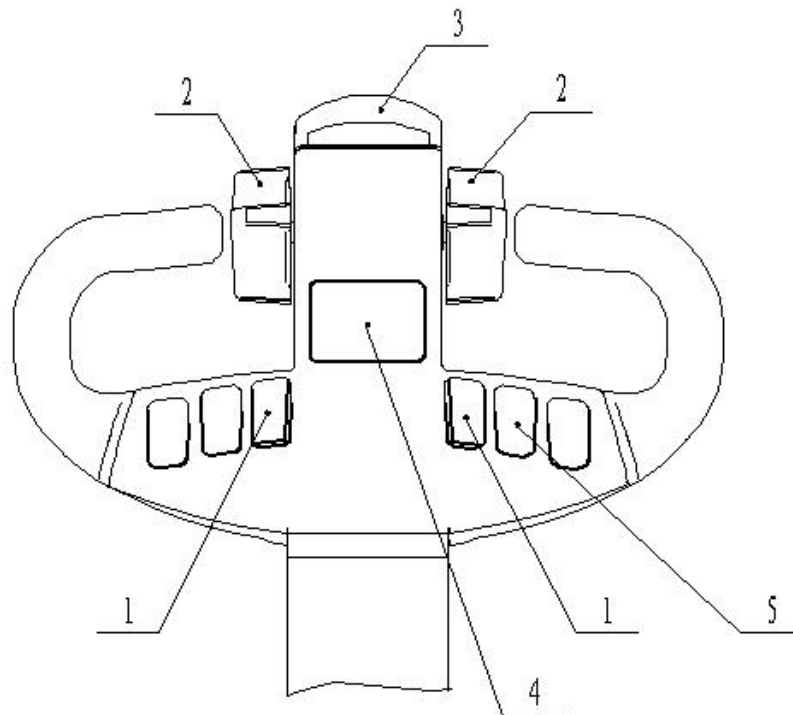
Travelling system is controlled by the DC motor on drive wheel, which uses battery as power source. Function of accelerator is achieved by changing rotate speed of the variable frequency motor.

3.2 Steering system

Steering system is controlled by turning the operating handle left or right.

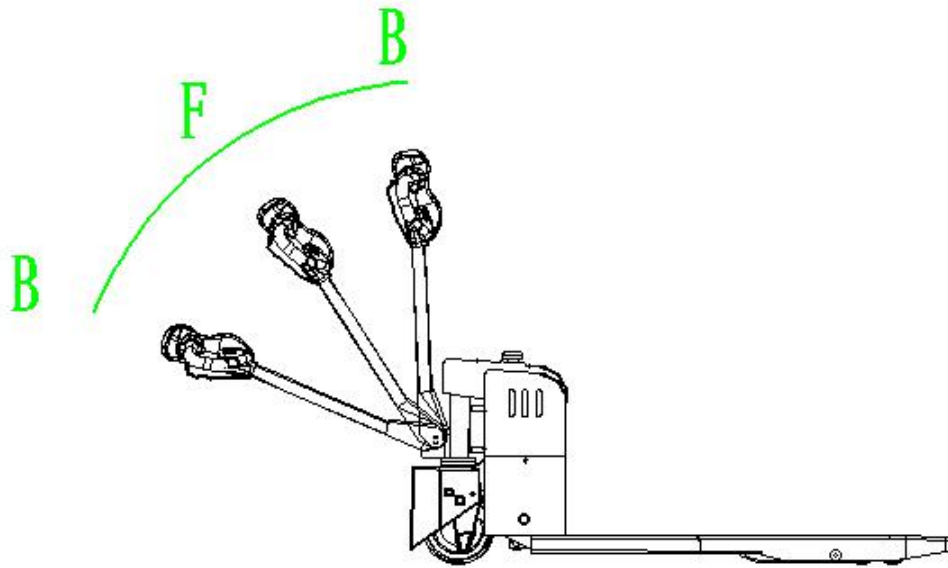
3.3 Operating system

1. raise and fall button 2. Travel switch 3. Anti-collision button 4. Alarm 5. Voltmeter



3.4 Braking system

Brake performance is affected by the road condition and truck load. Braking system can be activated by releasing the travel switch, or turning the travel switch to the opposite direction.



As the picture shows above, moving the handle to the braking area B can also stop the truck. Anti-collision button is used to prevent collision. When staff touches the anti-collision button, the truck will go to the opposite direction to avoid collision.

3.5 Working system

The main working part of the truck is the fork, which is used to load and move the goods. The expansion of oil cylinder is controlled by operating handle. The loop of the lifting oil cylinder has a steady lowering valves to control the lowering speed in order to make safety lowering.

4. WARNINGS AND SAFETY INSTRUCTIONS

4.1 Warning

1. Please use electric pallet truck carefully in order to avoid injures.
2. Please read the instructions, warnings, and related stickers carefully.
3. Do not drive the electric pallet truck before training.
4. Please checking the electric pallet truck carefully before using.
5. In order to avoid damage, do not change, add or disassemble spare parts of the electric pallet truck without manufacturer's permission.

4.2 Storing

Please store the electric pallet truck at dry and ventilated place. Please fall the fork down, turn off power, turn on emergency stop, and turn off the electric door lock when you are not using it. Please charge the truck every 30 days when you don't use it for a long time.

4.3 Checking before using

1. If the truck was damaged during transfer, do not use it. Please contact the manufacturer or the maintenance department immediately.
2. The electric pallet truck is already filled with lubricating oil, and the oil cylinder is filled up with hydraulic oil before leaving the factory.
3. The electric pallet truck is equipped with a battery, and the battery is already charged. Battery may be low if the truck has left the factory for a long time, so please check the voltmeter before using. Please charging immediately when battery is low.

4.4 Operation Specification

Staff should be familiar with every switch/button's function of the truck before using.

4.4.1 Start, operation, and stop

1. Turn off the emergency stop switch.
2. Turn off the electric door lock.
3. Press the operating handle to control the speed and direction.
4. The maximum permissible gradient is 6 degrees. When the pallet truck is full loaded, pressing down travel switch to make the truck get the maximum power when climbing the gradient.
5. When finish using, please fall the fork down to the lowest position, turn on the emergency stop switch, turn off the electric door lock and take the key out.

4.4.2 Emergency stop switch

Press down emergency stop switch will disconnect power but not turn off power. Please contact your maintenance department if the pallet truck is abnormal.

4.4.3 Voltmeter

Voltmeter will shows the capacity of the battery.

4.4.4 Carrying operation

4.4.4.1 How to carry goods?

Drive the pallet truck to front of the goods, insert the fork under the goods, press raise and fall button to lifting the good, back off the truck, and drive the truck to desired location after the truck completely leave the storing area. Please be careful to avoid hurting other goods around.

4.4.4.2 How to place goods?

Slow down when the truck is closed to destination. Stop the pallet truck when arrive the storage area, then press the raise and fall button to fall the goods down. Back off to move the fork out. Please make sure there is no barrier at the backside before backing off.

4.5 Safety operation rule

4.5.1 Operator's requirements: The operator must be trained before operating.

4.5.2 Safety operation and environmental protection: Checking and maintaining must follow the schedule strictly.

4.5.3 Malfunction and damage: Stop using the truck when malfunction and damage occur. Please contact maintenance department immediately.

4.5.4 Safety device and warnings: Please pay attention to the safety device, warnings and announcements that mentioned in the handbook.

4.5.5 High-risk environment: There must be safety device when the pallet truck working at the high-risk environment.

4.5.6 Dangerous area: The dangerous area usually refers to the following areas: the area where pallet truck is working or travelling.

4.5.7 Driving at the public: The pallet truck should only be used in designated area. Other public areas are forbade.

4.5.8 Distance between the trucks: Keeping safety distance from the front truck because it may stop suddenly.

4.5.9 Travelling line and working area: The pallet truck must drive at the specified line. Staff who is not driving truck should not stay at the working area, and goods must be placed at the specified area.

4.5.10 Load of the ground: Before using, please check whether the ground can support the weight of the truck and load or the pressure from wheels.

4.5.11 Using in the elevator: please check the elevator's capacity before driving the truck into the elevator.

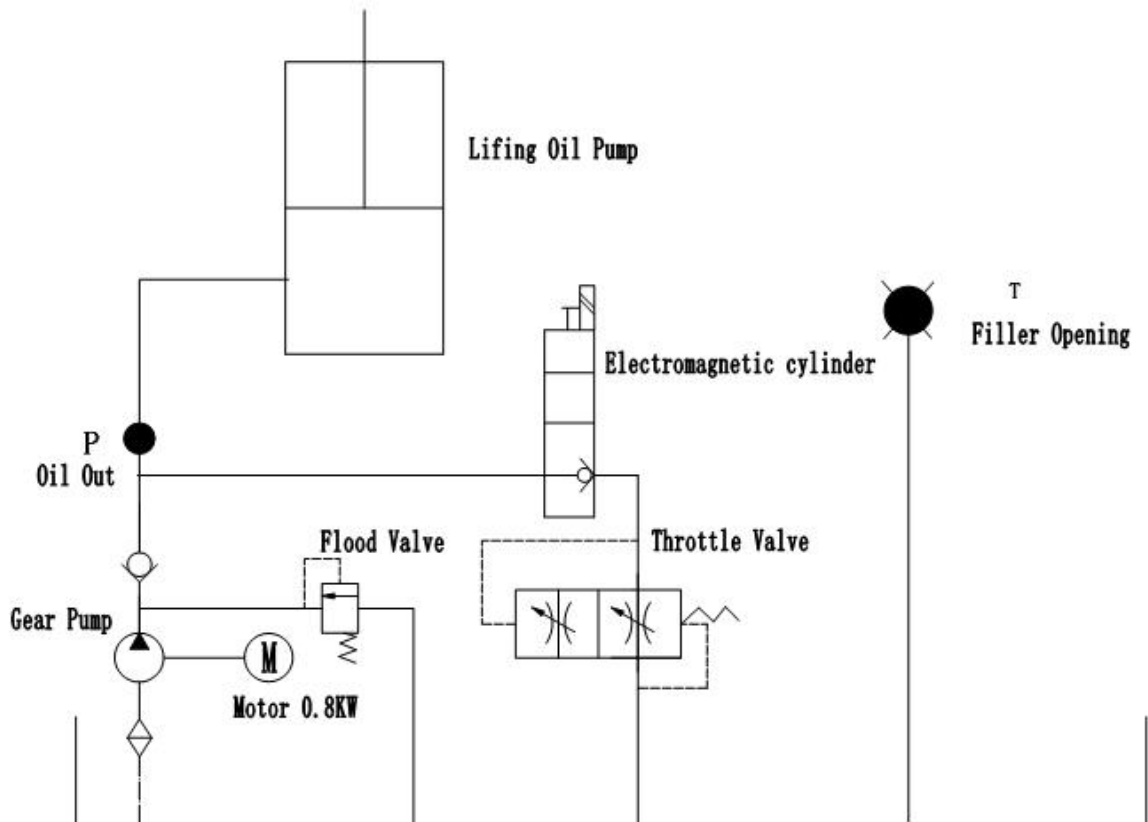
4.5.12 Visibility: Operator must pay attention to the direction, in order to make sure the situation on the travelling line is good.

4.5.13 Operation manage: travelling speed must suit to the specified situation.

4.5.14 Passing ramp way: Passing ramp way only when you are well knowing the situation of the ramp way. The ramp way should be clean, antiskid, and the performance of the truck was allowed. Do

6. HYDRAULIC CIRCUIT

Oil pump motor provides hydraulic power by driving gear pump. It is used to control lifting and lowering the fork. The lifting and lowering oil loop is controlled by button on the handle. The pressure of the hydraulic system can only adjust on the valve block, which is already adjusted before leaving factory. In order to avoid accident, please do not adjust it except the professional serviceman.



7.MAITENANCE AND SERVICE

7.1 Professional service manual		Service interval			
		Working time 50h	Working time 250h	Working time 500h	Working time 2000h
Electrical system	Check operating switch, display function and component function	√			
	Check alarm system and safety device		√		
	Check cables whether they are damaged or electric leakage			√	
	Check the function of the micro-switch	√			
	Check controller			√	
	Check cable and the fixation of motor			√	
Power supply	Check battery		√		
	Check plug			√	
	Check connection of battery and cable			√	
Travelling system	Check whether there is the abnormal sound in the gearbox			√	
	Check the oil on the travelling parts and the resetting function on the handle		√		
	Check the damage of the driving wheels and load wheels			√	
	Check the fastening of the wheels and bearing			√	
Frame	Check the damage of the frame			√	
	Check intactness of labels			√	
Hydraulic motion	Check the functions of the hydraulic system		√		
	Check the fastening of the pipeline tube, and damage of the seal		√		
	Check the damage of the seal of cylinder block and piston			√	
	Check damage of the load part			√	
	Check the oil level of the oil cylinder			√	
	Change hydraulic oil				√

7.2 Service, charge and maintain of the battery

Stop the truck at safety place when you do any operating on battery.

7.2.1 Maintainer

Only professional serviceman can charge, service, and maintain the battery. Please read the instructions manual, include operating manual, supplies preparing, and charging requirement carefully

7.2.2 Fire proofing measures

Smoking and open fire are prohibited when operating battery. Keep safety distance (at least 2 meters) when storing or charging battery. The place that used to store battery should has fire-fighting equipment and be aeration-dying.

7.2.3 Service of the battery

- 1) The nut on each battery should be kept dry and clean. In order to prevent corrosion, each terminal and cable should be screwed and coated grease. The exposed parts should be covered by antiskid insulation hat.
- 2) The cable of each 2 units battery should be contacted well. Fasten each nut on the connecting parts.
- 3) Keep the battery clean and dry. After charging, please using cotton yarn or brush to clean the acid on the surface of the battery. It is ok to use the wet towel to scrub the surface of battery if necessity.
- 4) Please avoid overcharging and over-discharging, also, quick charge and under charge should be forbade. Otherwise, it will affect lifetime of the battery.
- 5) Do not put the conduction things on the battery include mental tools, which may cause short circuit or explode.
- 6) Do not splash any harmful liquid or solid things onto the battery. Please keep the surface of the battery cleaning when using densitometer or thermometer.
- 7) Please charge immediately (do not over 24 hours) when the battery is fully discharged or charging signal is on, otherwise, it may shorten the service life of battery. Do not over charge or over discharge, in order to avoid battery damage (charging time: 8 hours). The battery may not charge outside if it is cold. Please move the truck indoor, then charge it.
- 8) If you are not using the battery for a long time, please fully charging the battery once per month.
- 9) Please add some water when the electrolyte level is low during charging or using.
- 10) Please check and fix the malfunction of the battery immediately If it can not be fixed, please change it.
- 11) In order to avoid explode, do not smoke or have open fire during charging.
- 12) Because of the virulence and causticity of electrolyte, please wearing work clothes and protective glass to avoid touching.
- 13) If electrolyte splashed to the skin or eyes, please use water to wash, then go to the hospital immediately.
- 14) The weight and size of battery will affect truck's stability, so you can use the different model of battery only after the manufacture agreed.
- 15) Do not allow heavy load discharge, such as travelling and lifting at the same time.

7.2.4 Disposal of used batteries

Used batteries must be recycled and stored at specific area according to the local policy. All of works should be done by professional company.

7.2.5 Specification of battery

Battery		Charger	
Rated voltage: 24V	Rated capacitance: 65Ah	Input: 195/265VAC 50/60Hz	Output: 24V 10A

The contact rod on the battery should be covered by the insulation hat. When connecting battery and socket, truck's power must be cut off and the switch should be kept off. When changing or installing battery, please make sure that the battery is fastened in the battery box.

7.2.6 Storage and transportation of battery

Please stopping the truck on flat ground. In order to avoid short circuit, the exposed terminal and binding post should be covered by insulation hat. When taking battery out, please make sure that the plugs and cable don't obstruct the path.

7.2.7 Voltmeter

Voltmeter: There are 10 bars show the percentage of power on the voltmeter. Each bar represent 10% of power.

When battery drain, the bars on the voltmeter will decrease.

Color state:

Name	color	Parameter
Remaining capacity	Green	70-100%
	Orange	30-60%
	Flashing red	0-20%

When the remaining capacity of battery is lower than 30%, the red light will flash to show the "power capacity" warning.

When the remaining capacity of battery is lower than 20%, two light will flash to show the "power used up" warning.

7.2.8 Charging

Please read the instructions carefully before charging.

Please make sure that there is no metal on the battery when charging. Check all cables and plug to make sure there is no flaw on it before charging. Please follow all the safety instructions strictly, such as charging instruction, charging preparation.

Please make sure that power is cut off when connect or disconnect the charger.

8. MAINTENANCE MANUAL

Malfunction	Cause	Solution
Truck cannot move	The connector is not connected	Connecting
	Battery switch is off	Turns battery switch to “0”
	Emergency stop switch is on	Turn emergency stop switch off
Cannot lift	Power used up	Charging
	Fuse burnout	Changing fuse
	Hydraulic oil is not full	Refill hydraulic oil
	Fuse is damaged	Changing fuse
	Over load	Following instruction handbook
	Raise and fall button is not well connected or damaged	Checking fuse
Cannot fall	Controller valve is blocked because of dirty oil	Washing controller blocking, and changing hydraulic oil
	Lowering magnetic valve is broken or not open	Checking or changing magnetic valve
Cannot stopping when lifting	Raise and fall button is broken	Cut off power and change raise and fall button
Moving in one direction	Raise and fall button is not well connected with cable	Repairing raise and fall button, and make it well connected with cable
Moving slowly	Low battery or the cable is not well connected	Charging and make the cable well connected
Suddenly start	Controller is damaged	Chang controller
	The control handle is not restoration	Repair or change to make it restoration

Remark: if you cannot solve problems with solutions above, please contact service department.