



**EA15C**  
**SEMI-ELECTRIC PALLET STACKER**  
**INSTRUCTION MANUAL**

**Welcome to use the pallet stacker**  
**Hope our products can bring you greater convenience!**

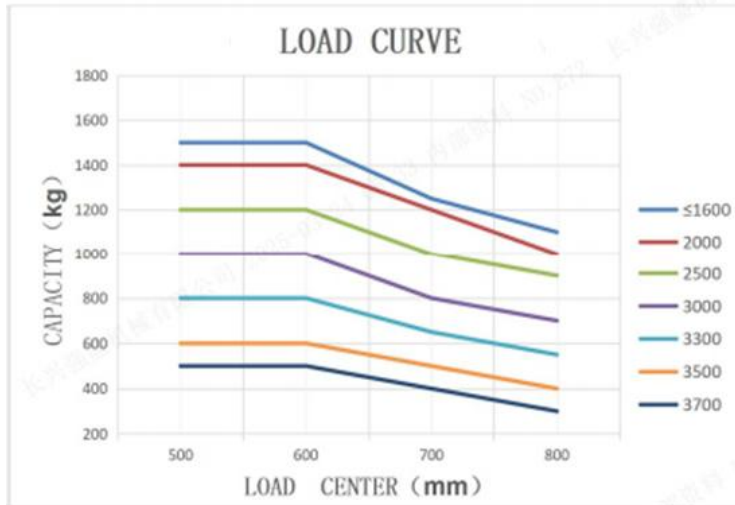
- Please read the instructions carefully before you use the pallet stacker.
- This manual is a general manual and we reserve the right to make technical modifications to this product. If there are any differences between the manual and the actual product, please refer to the actual product, and the instructions are for reference only.

## Warning

Vehicle operators must strictly follow the ISO3691 "Safety Specifications for Mobile Industrial Vehicles". It is strictly prohibited for untrained personnel to operate this vehicle.

According to ISO3691 "Safety Specifications for Mobile Industrial Vehicles", the following regulations are made for the load capacity and lifting height of the QSS type semi-electric pallet stacker produced by our company:

The load capacity can be referred to the following diagram. The diagram below is the load curve chart with a rated load of 1500Kg.



**Please use strictly according to the load curve, do not overload**

## Attention:

When the lifting height of the fork exceeds 500mm, the stacker must drive in a straight line at the lowest speed. Shall not turn to drive and the continuous walking distance shall not exceed 2m.

Failure to comply with these rules can result in:  
A Serious risk of injury to the driver or other person.  
B Damage to vehicles and goods.

## Forward

Before operating this stacker, please read this manual carefully and fully understand how to use this stacker. Improper operation may cause danger. This manual describes the use and operation of different types of pallet stackers. When servicing the stacker, make sure it matches your model.

Please keep it for future use. If this manual or warning/warning label is damaged or missing, contact your local dealer for a replacement.

This stacker complies with EN 3691-1 (Industrial vehicles - Safety requirements and verification, Part 1), The standards of EN 12895 (Industrial vehicles - electromagnetic compatibility), EN 12053 (Safe industrial vehicles - test methods for the measurement of noise emissions), EN 1175 (Safety of industrial vehicles - electrical performance requirements) must ensure that the vehicle is used in accordance with the above purposes.

According to EN 12053, the noise level in the driver's ear is 69 dB(A).

According to EN 13059 (if the vehicle has pedals), the vibration is 0,85 m/s<sup>2</sup>.

### Attention:

- Hazardous waste that is harmful to the environment, such as waste batteries, waste oil and electronic products. If not properly disposed of, it will have a negative impact on the biological environment or human health.
- Waste packaging should be classified into solid waste bins according to the material, and collected by the local special environmental protection bureau. In order to avoid pollution, it is forbidden to throw litter at random.
- In order to avoid oil leakage when using the product, users should prepare some absorbable materials (waste wood chips or dry rags) to absorb the leaking oil in time. In order to avoid secondary pollution of the environment, used absorbable materials should be handed over to specialized departments in accordance with local authority regulations.
- Our products continue to improve, because this manual is only for the operation/maintenance of the stacker for the purpose, so this manual can not guarantee other special circumstances. Please understand.



Note: In this manual, the symbols on the left indicate warnings and dangerous conditions that could result in death or serious injury if not followed.

### Copyright

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## 1. Proper use

This stacker is only allowed to be used in accordance with this instruction manual.

The stacker described in this manual is a self-propelled, walking pallet stacker with the function of electrically operated height control. This stacker is designed to lift, lower and transport rack loads.

Improper use can result in personal injury or machine damage. The operator/operating company shall ensure proper use and that the stacker is only operated by persons who have been trained and authorized to use the vehicle.

The stacker must be used on a solid foundation, flat, intact plane and suitable surface. The vehicle is designed for indoor use at room temperature from +5C to +40C and for light loads without crossing permanent obstacles or potholes. It is prohibited to operate on slopes. When operating, the goods must be placed approximately at the center of the load of the stacker.

Lifting or carrying of persons is strictly prohibited. If carried, the cargo must be lowered to the lift point.

It is prohibited to use this vehicle on the tailgate or on the loading ramp.

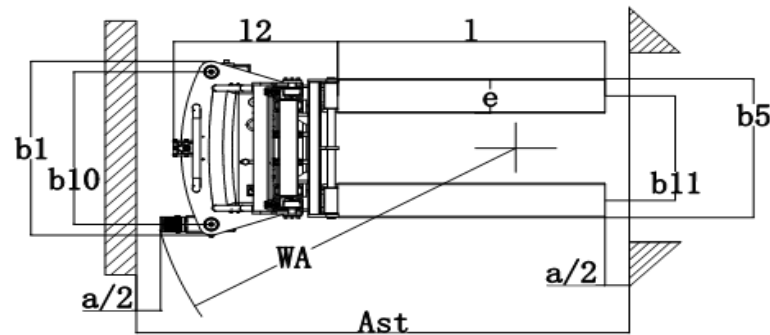
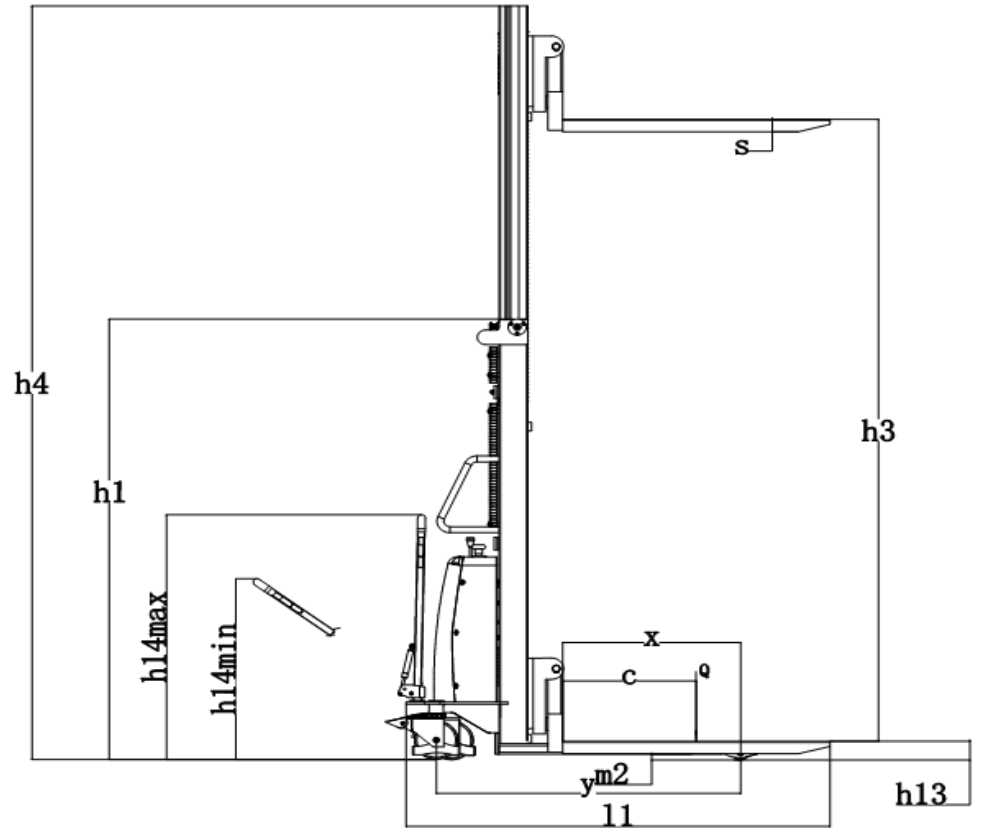
The load rating is indicated on the capacity label and nameplate, and the operator must pay attention to these warning signs and safety instructions. Operating illumination must be at least 50 lux.

### Changes

Any alteration that may affect the load rating, stability or safe operation of the vehicle shall be subject to the prior written approval of the vehicle's manufacturer of origin or its authorized manufacturer or its replacement. This includes the effects of changes such as increased braking, steering, visibility and movable accessories. When modification or changes have been approved by the manufacturer or its replacement, nameplate capacity, labels, identification marks, operation and maintenance manuals will be changed accordingly.

Failure to follow these instructions to cause damage to the vehicle will result in loss of warranty.

## 2. Outline diagram



## 3. Main technical parameters

Distinguishing mark	1.2	Manufacturer's type designation		EA15C	
	1.3	Power(battery,diesel,petrol gas>manual)		Battery	
	1.4	Operator type		Manual type	
	1.5	Load capacity/Rated load	Q(lbs)	3,300	
	1.6	load centre distance	C(in)	23.6	
	1.8	Load distance,centre of drive axle to fork	x(in)	28.7	
	1.9	Wheelbase	y(in)	49.3	
	Weight	2.1	Service weight	Lbs	831
		2.2	Axle loading,laden front/rear	Lbs	\
2.3		Axle loading,unladen front/rear	lbs	\	
Tires,chassis	3.1	Tires		PU	
	3.2	Tire size,front	$\Phi \times W$ (in)	$\Phi 7.1 \times 2.0$	
	3.3	Tire size,rear	$\Phi \times W$ (in)	$\Phi 3.1 \times 2.8$	
	3.4	Additional wheels(dimensions)	$\Phi \times W$ (in)	$\Phi 7.1 \times 2.0$	
	3.5	Wheels,number front/rear(x=driven wheels)		0x+2/2	
	3.6	Track,front	b10(in)	28.1	
	3.7	Track,rear	b11(in)	15.4   19.3	
Dimensions	4.2	Lowered mast height	h1(in)	61.4	
	4.3	Free lift height	h2(in)	\	
	4.4	Lift height	h3(in)	118	
	4.5	Extended mast height	h4(in)	99.5	
	4.9	Height of tiller in drive position min/max	h14(in)	27.6/47.8	
	4.15	Height,lowered	h13(in)	3.3	
	4.19	Overall length	l1(in)	70.7	
	4.20	Length to face of forks	l2(in)	26.6	
	4.21	Overall width	b1(in)	32.3	
	4.22	Fork dimensions	s/e/l(in)	2.4/6.3/45.3	
	4.25	Distance between fork-arms	b5(in)	13-21.7   13-25.6	
	4.32	Ground clearance,centre of wheelbase	m2(in)	1.2	
	4.33	Aisle width for pallets 1000X1200 crossways	Ast(in)	93.4	
	4.34	Aisle width for pallets 800X1200 lengthways	Ast(in)	91.7	
	4.35	Turning radius	Wa(in)	59.6	
Performance	5.1	Travel speed,laden/unladen	m/h	\	
	5.2	Lift speed,laden/unladen	ft/s	0.23/0.33	
	5.3	Lowering speed,laden/unladen	ft/s	0.36/0.30	
	5.8	Max.gradeability, laden/unladen	%	\	
	5.10	Service brake		Electromagnetic	
Electric-engine	6.1	Drive motor rating S2 60min	Hp	\	
	6.2	Lift motor rating at S3 10%	Hp	2.1	
	6.3	Battery, acc to DIN 43531/35/36 A,B,C, no		\	
	6.4	Battery voltage,nominal capacity K5	V/Ah	12/120	
	6.5	Battery weight +/-5%	Lbs	75	
	6.6	Energy consumption acc. to VDI cycle	kWh/h	\	
Additional data	8.1	Type of drive control		\	
	8.4	Sound level at driver's ear acc. to EN 12053	dB(A)	69	

Characteristics	Reduce the height of the support frame h1(in)	Freedom to ascend to greater heights h2(in)	Improvement h3(in)	The extendable height of the gantry h4(in)	Lifting + lowest height of the fork lift h3+h13(in)
Single gantry	81.1	—	59.6	81.3	63.0
Two gantries	61.4	—	75.4	99.5	78.7
	71.3	—	95.1	119.2	98.4
	81.1	—	114.8	138.9	118.1
	90.9	—	134.4	158.5	137.8
Two gantries are fully free.	—	—	—	—	—
Three-column gantry	—	—	—	—	—
Three-column free-standing structure	—	—	—	—	—



## 4. Safety regulations

### Warning

#### 4.1 Precautions for Using Semi-Electric Stacker Lifters

- (1) Before using this vehicle, please read the manual carefully. If necessary, contact the technical staff by phone.
- (2) Do not disassemble or repair it at will. Non-professionals' maintenance will reduce the safety factor of this stacker.
- (3) After use, please perform maintenance and upkeep in accordance with the rules.
- (4) When moving the vehicle without load, lower the forks to a low position. Be careful not to harm anyone at the work site.
- (5) Do not have people standing on the forks of the stacker.
- (6) After using the vehicle, do not leave it at the work site.
- (7) The load, the height of the lift, and the position of the center of gravity of the heavy object on the forks all have an impact on the vehicle. Please refer to the load curve chart of this vehicle and keep the indicator signs on the vehicle body clear at all times.
- (8) Do not use the stacker for other purposes except for lifting goods. When the vehicle is damaged, you can repair it locally according to the relevant instructions.
- (9) The operator must be an adult and be responsible for the actions taken.
- (10) If this is your first time operating the stacker, please follow the operating procedures. First, conduct a practice with no load in a relatively open area. After basically mastering the performance of this vehicle, then proceed with actual operation.
- (11) When operating, maintaining, or repairing, please wear the corresponding work clothes.
- (12) The heavy objects on the forks of the stacker should be placed stably and properly. The center of gravity of the heavy object should be at the center of the two forks, within 600mm from the fork back, and the lifting load weight should be within the parameters allowed by this parameter; the load capacity should refer to the load curve chart on the label and must not be used beyond the range.
- (13) When lifting, the stacker should stop moving. When preparing for a long-distance walk, the forks should be lowered to a lower position.
- (14) Battery handling: Used batteries must be handled in an environmentally friendly manner.

## 4.2 Safety Operating Procedures

- (1) The stacker crane can only be used after a thorough inspection before operation.
- (2) Operators are not allowed to drive beyond the weight limit, exceed the height limit, or exceed the speed limit. They are also prohibited from making sudden braking or sharp turns.
- (3) The vehicle safety devices must be complete and in good condition, with all components functioning sensitively and effectively, and with excellent technical performance. It is strictly prohibited for vehicles to operate with malfunctions.
- (4) Maintain the standard driving posture. When driving, the forks should be 20 to 30 centimeters off the ground. When stopping, they should be lowered to the ground. When operating on a slope, the load should be appropriately reduced and the driving speed should be decreased. When going downhill, the vehicle should be in front and the operator should be at the back; when going uphill, the operator should be in front and the vehicle should be at the back.
- (5) During the operation of the stacker, if the controller malfunctions, immediately press the emergency stop button and then cut off the main power supply.
- (6) During loading and unloading, the load should not exceed the specified limit. The forks must be fully inserted under the goods and the goods should be evenly placed on the forks. It is not allowed to lift the goods with a single fork tip.
- (7) Driving and lifting operations must not be carried out simultaneously.
- (8) When driving, be cautious of pedestrians, obstacles and uneven road surfaces; do not allow people to stand on the forks, and no one is allowed to be on the vehicle; strictly abide by safety management regulations.
- (9) When stacking goods, it is strictly prohibited for people to stand under the forks or walk under them. When the vehicle is in the process of ascending, the operator must wear personal protective equipment such as a safety helmet and safety shoes. Do not handle goods that are not securely fixed or are loosely stacked; handle large-sized goods with care; do not exceed the maximum load capacity of this vehicle when moving.
- (10) When stacking, it should be done in a vertical position. When stacking on slopes or uneven ground, it is necessary to ensure the balance and stability of the goods, and also to guarantee the braking and braking performance of the stacker. Operators should keep a safe distance from the goods.
- (11) Do not charge the stacker crane when its battery power is depleted to the point where the forklift cannot move. This will shorten the battery's lifespan. Batteries carry high voltage and energy. Do not allow tools to come into contact with the battery terminals to avoid sparks or short circuits.

## 4.3 Operating Area and Safety Warnings

### I. Operating Area:

1. Clearly designated operation area: A specific area should be designated within a particular warehouse, workshop, or logistics site for the operation of semi-electric stackers, avoiding crossing with the routes of other vehicles or pedestrians.
2. Cargo storage area: Ensure that the cargo storage area is properly planned, with sufficient space for the stacker to operate, and the passageways are unobstructed.
3. Charging area: Establish a dedicated safe charging area, away from flammable and explosive materials, and equip it with corresponding fire-fighting equipment.

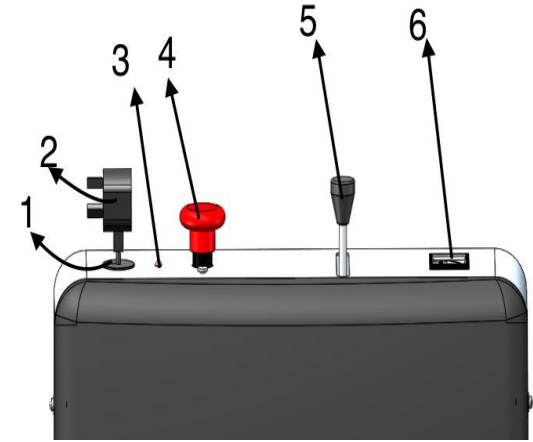
### II. Safety Warnings:

1. Vehicle Warning Signs: Post conspicuous safety warning signs on the stacker vehicles, such as "Watch out for pedestrians", "Maximum weight XX kilograms", "No passengers allowed" etc.
2. Warning Lights: Install prominent warning lights, especially when operating at night or in low-light conditions, to ensure the visibility of the vehicles.
3. Ground Markings: Draw clear traffic markings, speed limit signs and pedestrian passage signs on the operating area's ground.
4. Hazard Area Markings: Set up "Danger zone, do not approach" signs within the lifting operation range of the stacker vehicle.
5. Training Warnings: During safety training for operators, emphasize the importance of following safety regulations and inform them of the serious consequences of violating the rules.

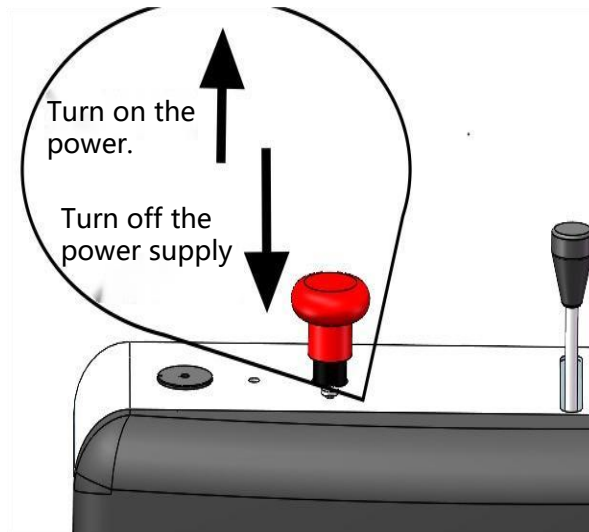
## 4.4 Button and Handle Operating Methods

### 1. Understanding the components on the electrical box

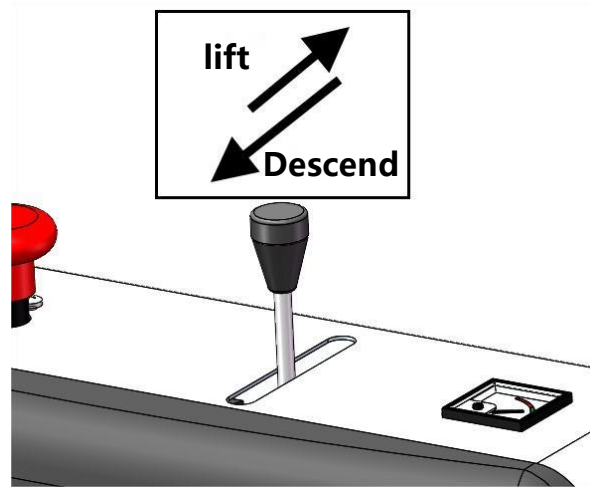
Serial Number	Name	Function
1	Rubber wire plug	Easy to pull out and place the charging cable
2	Charging head	Can be plugged in to the power supply for charging
3	Charging indicator light	When charging, the red light comes on; when it's completed, the green light comes on.
4	Emergency stop switch	With just one operation, the circuit can be disconnected, causing the equipment to immediately stop running.
5	Joystick	Control the lifting and lowering of the forks
6	Battery meter	Check the current battery level



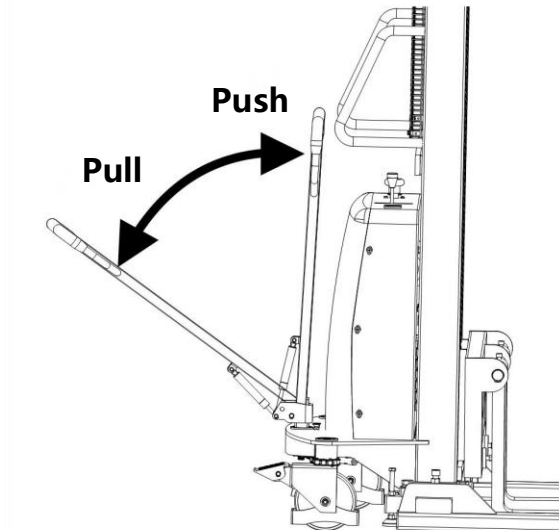
### 2. Stop Switch Operation Diagram



### 3. Paddle control operation diagram



### 4. Handle operation diagram



## 5. Maintenance and upkeep

**Note: It is strictly prohibited for untrained personnel to perform vehicle maintenance.**

Whether a vehicle can be used satisfactorily depends on careful maintenance. If maintenance is neglected, it may endanger personal safety, damage the vehicle and property. Therefore, during use, regular checks should be conducted frequently, abnormal phenomena should be promptly eliminated, and faulty vehicles should not be used to ensure safety and extend the service life of the vehicle.

#### 1. Daily cleaning

(1) Regularly clean the dust, debris and dirt on the stacker, especially the forks, frame, motor and battery, etc.

(2) Avoid using high-pressure water guns to directly rinse electrical components to prevent damage.

#### 2. Battery maintenance

(1) Keep the battery surface clean and dry to prevent leakage.

(2) Before charging, check the electrolyte level and add distilled water (not ordinary water) if insufficient.

(3) Charge according to the specified charging time and method to avoid overcharging or insufficient charging.

(4) When not in use for a long time, regular charging should be performed to maintain battery performance.

#### 3. Chain and sprocket maintenance

(1) Regularly apply an appropriate amount of lubricating oil to keep the chain and sprocket lubricated.

(2) Check the tension of the chain, adjust it if it is too loose or too tight.

(3) Check for deformation, cracks or severe wear of the chain, and replace it in time.

#### 4. Hydraulic system maintenance

(1) Check the hydraulic oil level, add the specified type of hydraulic oil if insufficient.

(2) Observe for any oil leakage from the hydraulic oil pipes.

(3) Regularly clean the filter screen of the hydraulic oil tank to prevent blockage.

#### 5. Electrical system inspection

(1) Check if the wire connections are loose, damaged or aging, and tighten or replace them in time.

(2) Test the working performance of various electrical components, such as the ammeter, horn, controller, etc.

#### 6. Mechanical components

(1) Check the wear degree of the forks, correct or replace them if deformed.

(2) Tighten the bolts and nuts of each connection to prevent loosening.

#### 7. Regular maintenance

(1) Conduct a comprehensive inspection and maintenance of the stacker every certain working hours (such as 500 hours).

(2) Replace worn-out components, such as brake pads, oil seals, etc.

#### 8. Storage environment

(1) Store in a dry, ventilated, and non-corrosive gas-free place.

(2) Avoid direct sunlight and rain.

#### 9. Operation training

Conduct regular training for operators to ensure their correct operation and maintenance of the stacker, reducing damage caused by improper operation.

# 6. Common Faults and Their Solutions

Serial Number	Malfunction	Reason	Elimination method
1	The stacker crane is unable to lift the goods.	① Insufficient hydraulic oil	Add hydraulic oil
		② Oil pump failure	Overhaul the oil pump
		③ Oil passage blockage	Clean the oil passage
		④ Seal of the oil cylinder is damaged	Replace the seals
2	The stacker crane is lifting slowly.	① There is air in the hydraulic system.	Remove the air from the system
		② Insufficient oil pump pressure	Adjust the pressure of the oil pump
		③ Improper adjustment of the throttle valve	Re-adjust the throttle valve
3	The forks cannot move horizontally.	① Chain loosening or breakage	Adjust or replace the chain
		② Chain wheel failure	Repair or replace the sprocket
		③ The guide rail is stuck.	Clean the guide rails
4	The stacker crane shakes during operation	① Wear of the wheels or bearings	Replace the wheels or bearings
		② Uneven tire pressure	Adjust the tire pressure
		③ The center of gravity of the goods is unstable.	Reposition the goods to stabilize their center of gravity.
5	Electrical system failures (such as dim lights, non-functioning horn, etc.)	① The fuse has blown.	Replace the fuse
		② Poor contact of the circuit	Check and repair the lines
		③ Electrical components are damaged.	Replace the damaged electrical components
6	Brake failure	① Brake pad wear	Replace the brake pads
		② Insufficient brake fluid	Add brake fluid
		③ Brake system leakage	Repair the leakage points of the braking system
7	The stacker crane is experiencing abnormal movement (such as deviation or lack of power)	① Uneven wear of the driving wheels	Replace the worn-out driving wheels
		② Motor failure	Overhaul the motor
		③ Transmission component damaged	Repair or replace the transmission components

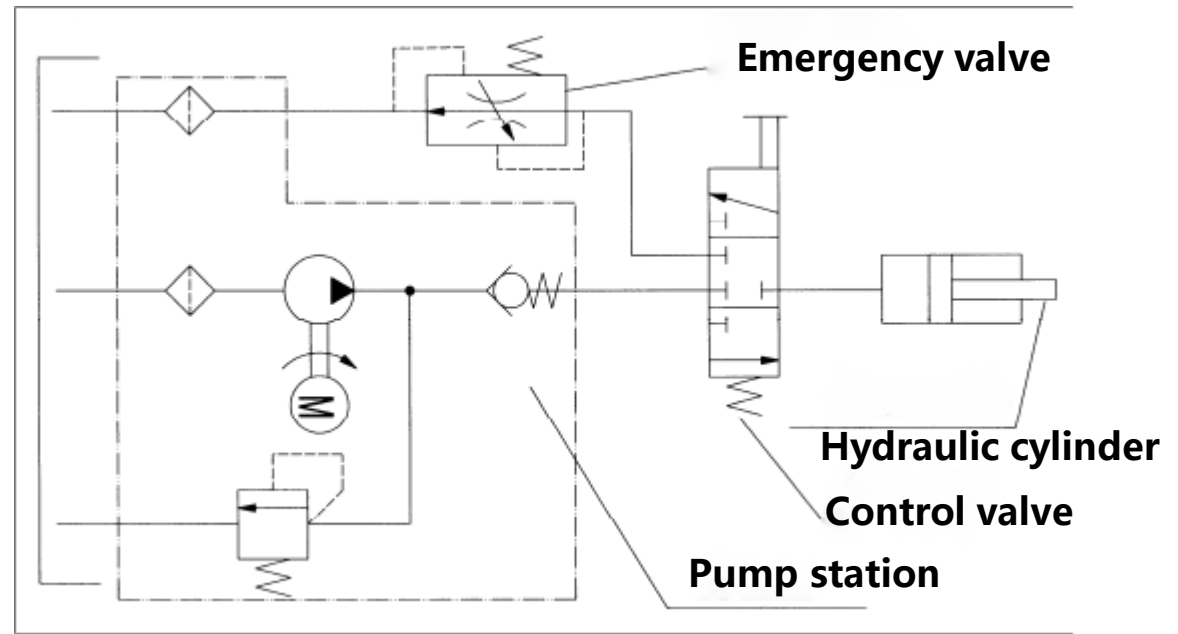
**Note: When troubleshooting, it is essential to follow the relevant safety operating procedures and, if necessary, seek assistance from professional technicians.**

# 7. Storage and Transportation

1. When the device is not in use for a long time, the battery should be fully charged and supplementary charging should be carried out regularly.
2. When storing the vehicle, it should be placed in a dry and well-ventilated area, avoiding direct sunlight and rain.
3. During transportation, the vehicle should be securely fixed to prevent collisions and damages.

# 8. Schematic diagram

## a. Hydraulic schematic diagram



## b. Electrical schematic diagram

