



EA15B / EA15D
SEMI-ELECTRIC PALLET STACKER
(STRADDLE LEG)
INSTRUCTION MANUAL

Welcome to use the pallet stacker!

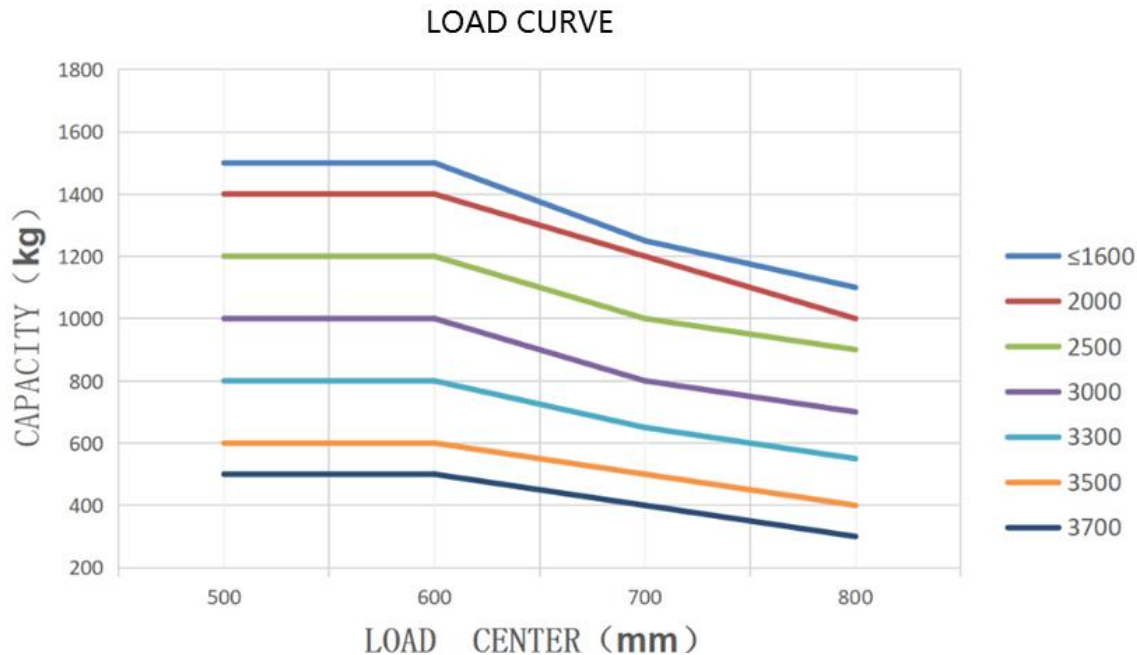
- Please read the instructions carefully before you use the pallet stacker.
- This manual is a general one. We reserve the right to make technical modifications to this vehicle. In case of any discrepancy between the content of this manual and the actual vehicle, the actual vehicle shall prevail. This manual is for reference only.

Warning

Vehicle operators must strictly abide by ISO3691 "Safety Specifications for Mobile Industrial Vehicles", and 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 figure. The figure below is the load curve diagram with the rated load of 1500 Kg.

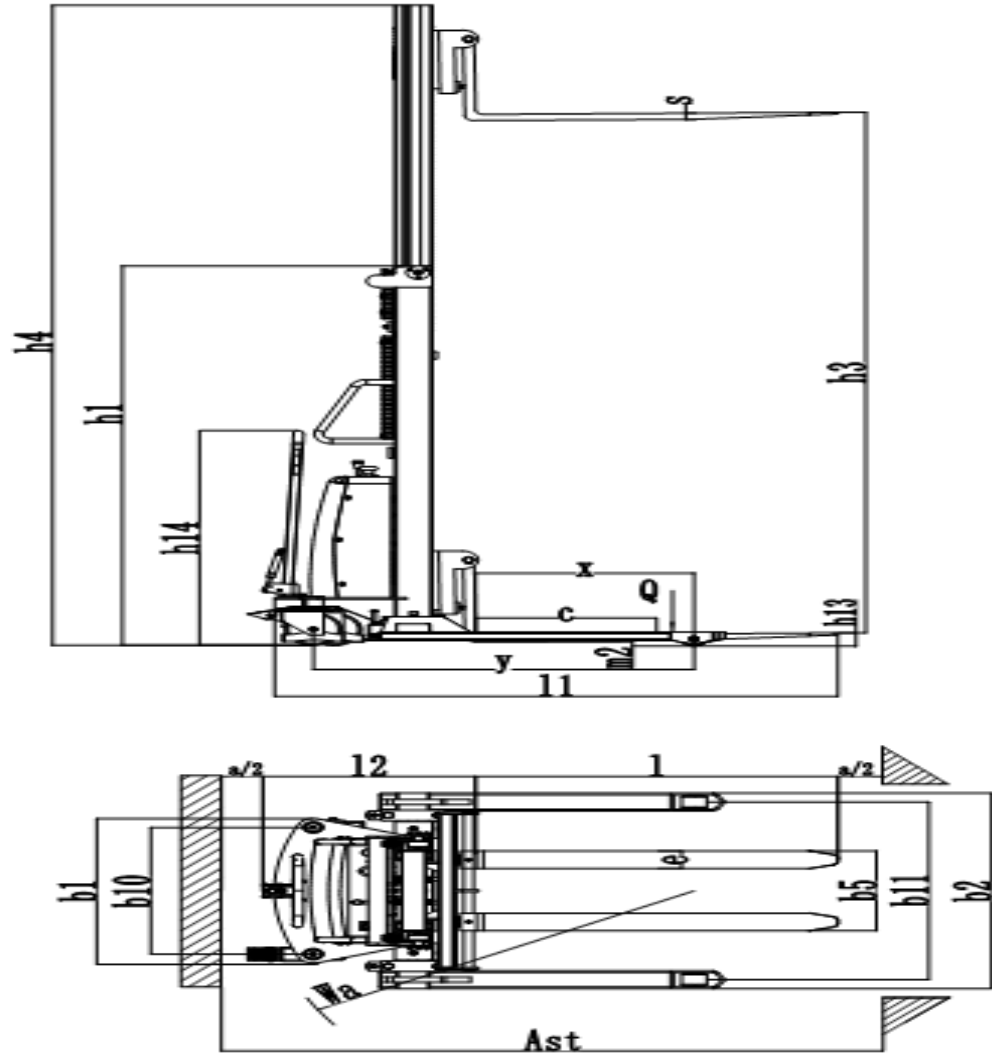


Please use strictly according to the load curve, do not overload

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1. Outline drawing



2. Main Technical Parameters

Distinguishing mark	1.2	Manufacturer's type designation	EA15B / EA15D	
	1.3	Power(battery,diesel,petrol gas>manual)	\	
	1.4	Operator type	Pedestrian	
	1.5	Load capacity/Rated load	Q(lbs)	3,300
	1.6	load centre distance	C(in)	24
Weight	1.8	Load distance,centre of drive axle to fork	x(in)	28
	1.9	Wheelbase	y(in)	48
	2.1	Service weight	Lbs.	1,096
Tires,chassis	2.2	Axle loading,laden front/rear	Lbs.	\
	2.3	Axle loading,unladen front/rear	Lbs.	\
	3.1	Tires		PU
	3.2	Tire size,front	ΦxW (in)	Φ7.1 x 2.0
	3.3	Tire size,rear	ΦxW (in)	Φ3.1 x 2.8
	3.4	Additional wheels(dimensions)	ΦxW (in)	Φ7.1 x 2.0
	3.5	Wheels,number front/rear(x=driven wheels)		1x+1/2
Dimensions	3.6	Track,front	b10(in)	28.1
	3.7	Track,rear	b11(in)	39.4-55.1
	4.3	Free lift height	h2(in)	\
	4.4	Lift height	h3(in)	118 / 138
	4.9	Height of tiller in drive position min/max	h14(in)	\
	4.19	Overall length	l1(in)	73.8
	4.20	Length to face of forks	l2(in)	24.9
	4.21	Overall width	b1/b2(in)	32.3/(43.3-59.1)
	4.22	Fork dimensions	s/e/l(in)	1.4/3.9/45.3
	4.25	Distance between fork-arms	b5(in)	8.3~33.5
	4.32	Ground clearance,centre of wheelbase	m2(in)	1.6
Performance	4.33	Aisle width for pallets 1000X1200 crossways	Ast(in)	88.3
	4.34	Aisle width for pallets 800X1200 lengthways	Ast(in)	87.2
	4.35	Turning radius	Wa(in)	53.9
	5.1	Travel speed,laden/unladen	m/h	\
	5.2	Lift speed,laden/unladen	ft/s	2.3/0.3
	5.3	Lowering speed,laden/unladen	ft/s	0.4/0.3
Motor	5.8	Max.gradeability, laden/unladen	%	\
	5.10	Service brake		Electromagnetic
	6.1	Drive motor rating S2 60min	Hp	\
	6.2	Lift motor rating at S3 10%	Hp	3.0
Additional data	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

Note: All the information reported in this article is based on the data available at the time of printing. The factory reserves the right to modify its products at any time without prior notice or liability. Therefore, it is recommended to always verify possible updates.

Designation	Lowered mast height h1(in)	Free lift height h2(in)	Lift height h3(in)	Extended mast height h4(in)	Lift+fork height h3+h13(in)
Single stage mast	84.1	—	60.6	84.1	63.0
Two stage mast	64.4	—	76.4	102.6	78.7
	74.2	—	96.1	122.2	98.4
	84.1	—	115.7	141.9	118.1
	93.9	—	135.4	161.6	137.8
Two stage mast FFL (Full-Free-Lift)	—	—	—	—	—
Three stage mast	—	—	—	—	—
Three stage mast FFL (Full-Free-Lift)	—	—	—	—	—

3. Safety regulations



Warning

3.1 Precautions for Using Semi-electric Stacker Lifters:

- (1) Before using this vehicle, please read the manual carefully. If necessary, contact the technicians 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 carry out maintenance and upkeep in accordance with the rules.
- (4) When moving this vehicle without load, lower the forks to the lowest 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 this 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. Please refer to the load curve chart of this vehicle. The indicator signs on the vehicle body must be kept clear frequently.
- (8) Do not use the stacker in other occasions except for lifting goods. When the vehicle is damaged, it can be repaired locally according to the relevant instructions.
- (9) The operator must be an adult and be responsible for the actions taken.

(10) If it is your first time operating a stacker crane, please follow the operating procedures. First, conduct unloaded adaptability practice in a relatively empty area. After you have basically mastered the performance of this crane, 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 crane should be placed stably and properly. The center of gravity of the heavy objects should be at the center of the two forks, within 600mm from the fork back, and the lifting load weight should be within the allowable range of this parameter; the load-bearing weight should refer to the load curve diagram on the label and it is prohibited to use beyond the range.

(13) When the stacker crane is lifting or lowering, it should stop moving. When preparing for long-distance walking, the forks should be lowered to a lower position.

(14) Battery handling: Waste batteries must be handled in an environmentally friendly way.

3.2 Safety Operating Procedures:

- (1) The stacker crane can be used only after the inspection is completed before use.
- (2) Operators are not allowed to drive the crane beyond the weight, height or speed limit. They are prohibited from making sudden braking or sharp turns.
- (3) All safety devices of the vehicle must be complete and in good condition. All components should be sensitive and effective, and the technical performance should be good. Driving the vehicle with faults is strictly prohibited.
- (4) Maintain the standard driving state. When driving, the stacker should be 20-30 cm off the ground. When stopping, it should be lowered to the ground. When operating on a slope, the weight should be appropriately reduced and the driving speed should be lowered. When driving downhill, the vehicle should be in front and the person should be behind; when driving uphill, the person should be in front and the vehicle should be behind.
- (5) If the controller of the stacker crane is out of control during driving, press the emergency stop immediately and disconnect the main power supply.
- (6) The load during handling should not exceed the specified value. The forks must be fully inserted under the goods and the goods should be evenly placed on the forks. It is not allowed to pick up objects with a single fork tip.
- (7) Driving and lifting cannot be carried out simultaneously.
- (8) During driving, attention should be paid to pedestrians, obstacles and uneven road surfaces. No one is allowed to stand on the forks. No one is allowed to be on the vehicle. Safety management regulations must be strictly followed.

(9) When stacking, it is strictly prohibited to stand under the forks or walk under the forks. When the vehicle is in the lifting operation, the operator should wear personal protective equipment such as safety helmets and safety shoes. It is not allowed to handle goods that are not fixed or loosely stacked. Handle large-sized goods carefully. The driving speed should not exceed the maximum load capacity of this vehicle.

(10) When stacking, it should be done in a vertical position. When stacking on a slope or on uneven ground, attention should be paid to maintaining the balance and stability of the goods, and ensuring the braking and braking performance of the stacker crane. Operators should pay attention to maintaining a distance from the goods.

Do not allow the stacker crane to run out of power until the stacker cannot move. This will shorten the battery life. The battery has high voltage and energy. Do not allow tools to approach the battery terminals to avoid sparks or short circuits.

3.3 Operating Area and Safety Warning:

I. Operating Area:

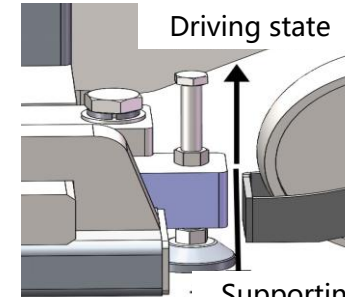
1. Clearly designated operation area: A specific area should be delineated within a particular warehouse, workshop or logistics site for the operation of semi-electric forklifts, avoiding crossing with the routes of other vehicles or pedestrians.
2. Goods storage area: Ensure that the storage area for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

II. Safety Warnings:

1. Vehicle Warning Signs: Post conspicuous safety warning signs on the stacker trucks, such as "Watch out for Pedestrians", "Limited Weight XX Kilograms", "No Passenger Carriage" etc.
2. Warning Lights: Install eye-catching warning lights, especially when operating at night or in dimly lit environments, to ensure the visibility of the vehicles.
3. Ground Markings: Draw clear traffic markings, speed limit signs and pedestrian passage signs on the ground of the operation area.
4. Hazard Area Markings: Set up "Hazard Area, Prohibit Approaching" signs within the lifting operation range of the stacker trucks.
5. Training Warnings: During safety training for operators, emphasize the importance of abiding by safety regulations and inform them of the serious consequences of violating the regulations.

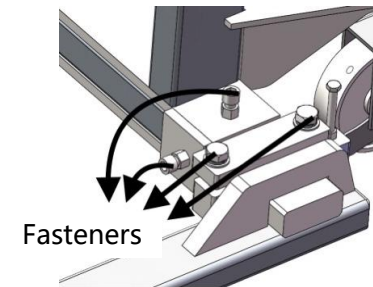
3.4 Steps for Moving the Vehicle Foot:

1. Turn the adjusting feet in the picture towards the ground until they support the ground (Note: When adjusting, the height difference between the two sides should not be too large to avoid causing the stacker to tip over)

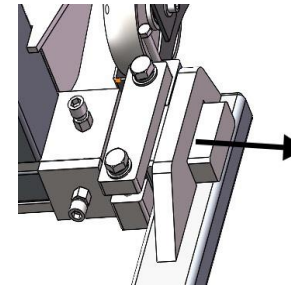


Supporting-ground state

2. Loosen all the fasteners in the attached figure.



3. Pull the footrests towards the arrow direction (the operation is consistent on the other side), and you can adjust the width of the footrests on both sides.

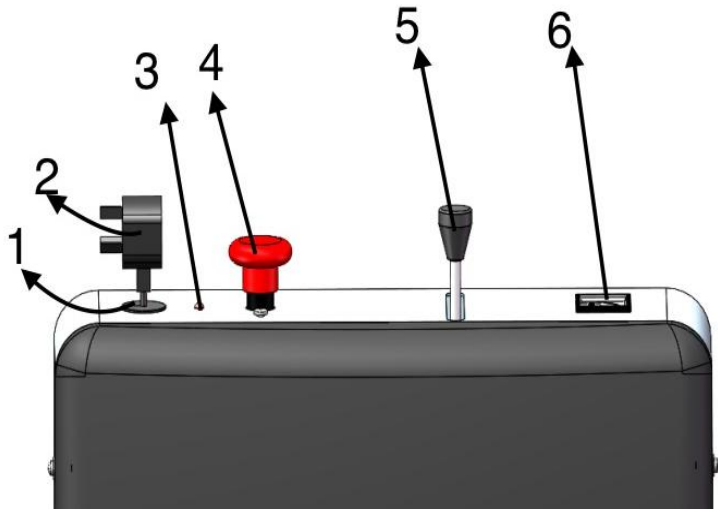


4. Then, tighten all the fasteners in Step 2 (the tightening sequence: first tighten two M16 hexagon nuts, then tighten two M20 bolts);
5. Adjust the adjustable feet in Step 1 upwards without affecting the vehicle's driving performance.

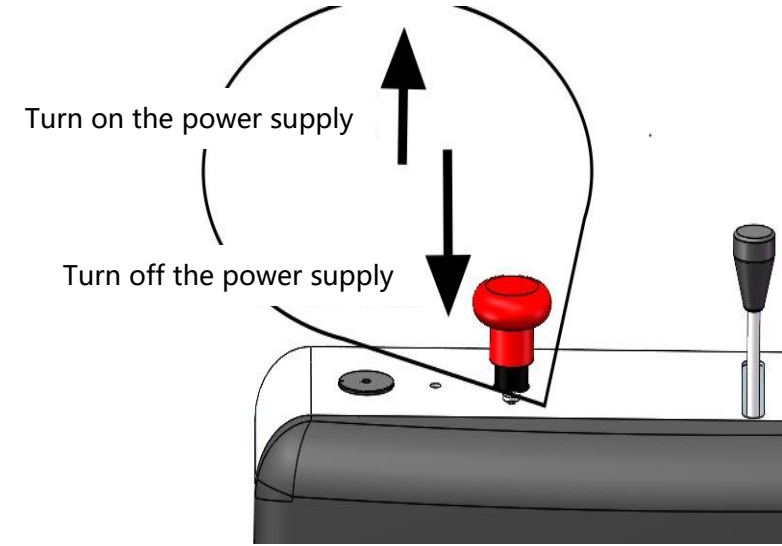
3.5 Button and Handle Operating Method:

1. Understand the components on the electrical box

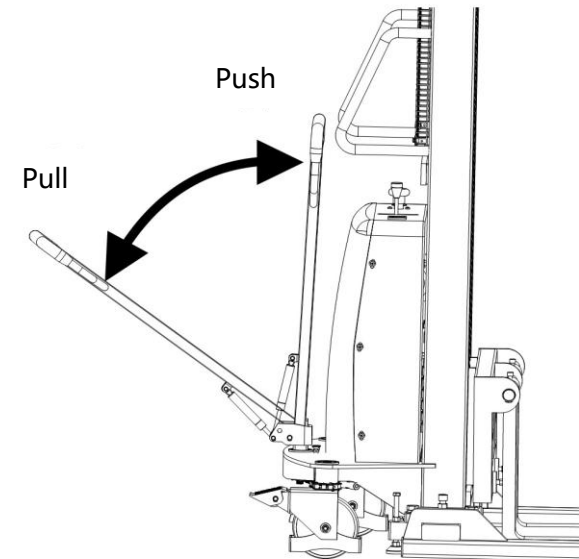
Serial number	Name	Function
1	Rubber wire plug	Convenient for the charging cable to be pulled out and placed away.
2	Charging plug	Plug it in and then pull it out to charge it.
3	Charging indicator light	When charging, the red light comes on; when it's completed, the green light comes on.
4	Emergency stop switch	A single operation can cut off the circuit and stop the equipment from running immediately.
5	Joystick	Control the lifting and lowering of the forks
6	Battery indicator	Check current battery level



2. Diagram of emergency stop switch operation



3. Diagram illustrating handheld operation



4. Maintenance

Note: Untrained personnel are not allowed to repair the vehicle

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 eliminated in time, and faulty vehicles should not be used to ensure safety and extend the service life of the vehicle.

1. Daily Cleaning

- (1) Regularly remove dust, debris and dirt from the stacker, especially on 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. If it is insufficient, add distilled water (not ordinary water).
- (3) Charge the battery according to the specified charging time and method to avoid overcharging or insufficient charging.
- (4) When the battery is not in use for a long time, it should be charged regularly to maintain its performance.

3. Maintenance of Chains and Sprockets

- (1) Regularly apply an appropriate amount of lubricating oil to keep the chains and sprockets well-lubricated.
- (2) Check the tightness of the chains. Adjust if they are too loose or too tight. Check for any deformation, cracks or severe wear of the chains and replace them promptly if found.

4. Maintenance of Hydraulic System

- (1) Check the level of hydraulic oil. If insufficient, add hydraulic oil of the specified type.
- (2) Observe whether there is 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 whether the wire connections are loose, damaged or aging, and tighten or replace them in time if necessary.
- (2) Test the working performance of various electrical components, such as ammeters, horns, controllers, etc.

6. Mechanical Components

- (1) Inspect the wear degree of the forks. If any deformation is found, correct or replace them promptly.
- (2) Tighten the bolts and nuts of all connecting parts to prevent loosening.

7. Regular Maintenance

- (1) Conduct a comprehensive inspection and maintenance of the stacker every certain working hours (e.g. 500 hours).
- (2) Replace worn-out components such as brake pads and oil seals.

8. Storage Environment

- (1) Store in a dry, ventilated place without corrosive gases.
- (2) Avoid direct sunlight and rain exposure.

9. Operational Training

Conduct regular training for the operators to ensure they operate and maintain the stacker correctly, thereby reducing damages caused by improper operation.

5. Common faults and troubleshooting methods

Serial number	Breakdown	Reasons	Solutions
1	The stacker 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 Damaged cylinder seal component	Replace the sealing element
2	The stacker is lifting slowly.	① There is air in the hydraulic system.	Remove air from the system
		② Insufficient oil pump pressure	Adjust the pressure of the oil pump
		③ Improper adjustment of the throttle valve	Regulate the throttle valve again
3	The forks cannot move horizontally.	① Chain loosening or breaking	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	Shaking during the operation of the stacker	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 or non-functional lights, non-functional horn, etc.)	① Fuse blown	Replace the fuse
		② Poor contact of the circuit	Check and fix the lines
		③ Electrical components are damaged.	Replace the damaged electrical components.

Serial number	Breakdown	Reasons	Solutions
6	Brake failure	① Brake pad wear	Replace brake pads
		② Insufficient brake fluid	Add brake fluid
		③ Brake system leakage	Repair the leakage points of the braking system
7	Abnormal movement of the stacker crane (such as deviation, lack of power)	① Uneven wear of the driving wheels	Replace the worn-out driving wheels
		② Motor failure	Overhaul the motor
		③ Failure of transmission components	Repair or replace the transmission components

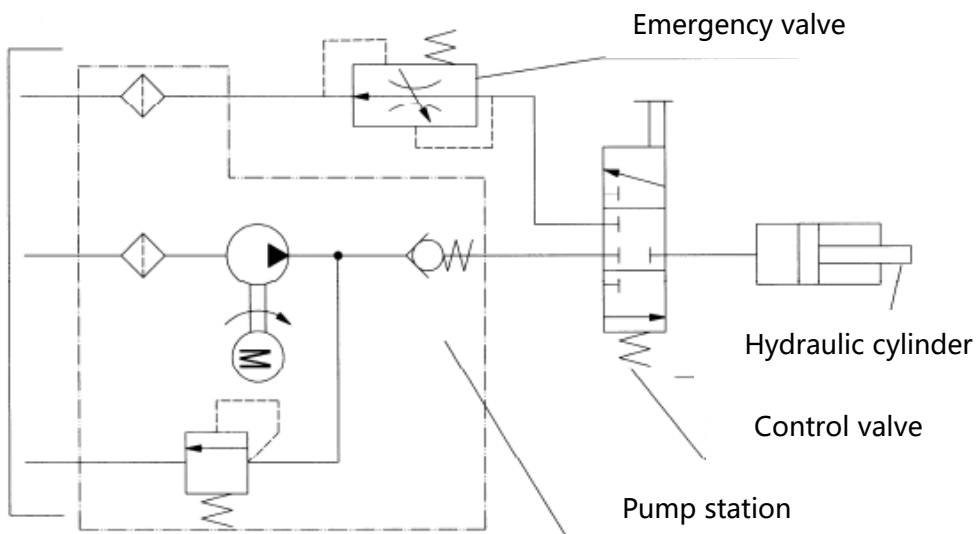
Note: When troubleshooting, it is imperative to strictly abide by relevant safety operation procedures and, if necessary, seek assistance from professional technicians.

6. Storage and Transportation

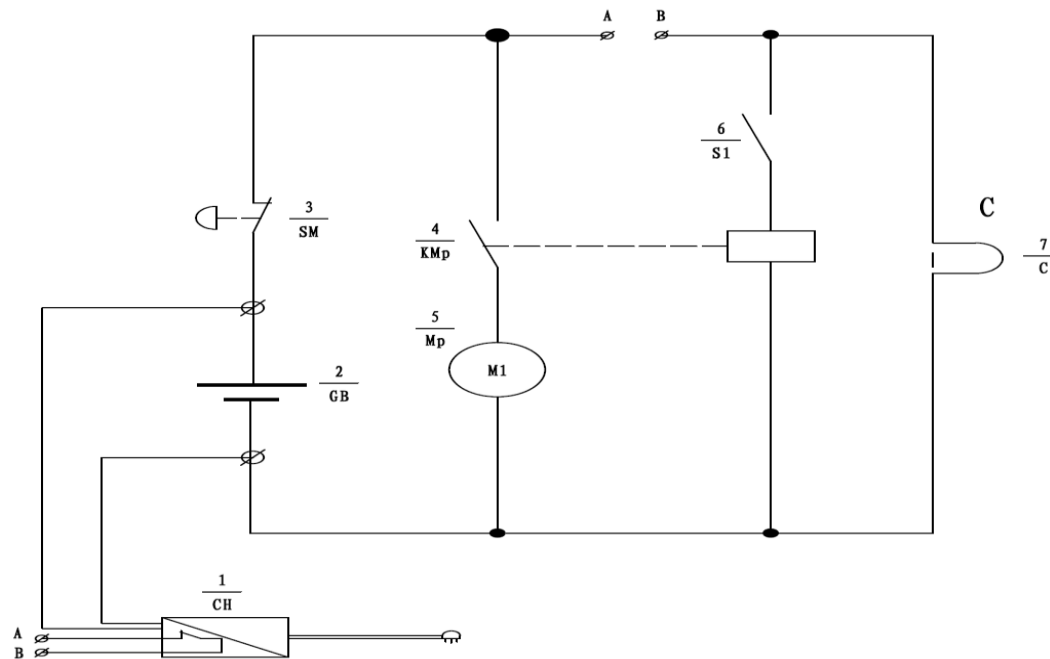
1. When the vehicle is not in use for a long time, it should be fully charged and supplementary charging should be carried out regularly.
2. When storing the vehicle, it should be placed in a dry and well-ventilated place, avoiding direct sunlight and rain.
3. During transportation, the vehicle should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

7. Schematic diagram

1. Hydraulic schematic diagram



2. Electrical schematic diagram



Serial Number	Symbol	Description
1	CH	Charger
2	GB	Battery
3	SM	Emergency stop switch
4	KMP	Contactora
5	MP	Lifting motor
6	S1	Lifting switch
7	C	Battery indicator