



MBB Series Electric Counter Balanced Pallet Stacker

Instruction

Banyitong Science&Technology Developing Co.,Ltd

www.mimaforklift.com

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Chapter 1 Safety Regulation

1. Summary of safety regulation

- 1.1 Please check all safety switches、equipment in advance every day according to the requirement before using the forklift, so as to ensure these safety devices normal.
- 1.2 Make sure all the precautions and design parameter on the forklift are not destroyed.
- 1.3 The batteries must be fixed safely in the battery case.
- 1.4 It's forbidden to use the forklift when it is damaged or out of order and cause unsafe use.
- 1.5 When maintaining or adjusting the forklift, only professionals can do that.

2. Operating the forklift

In the range of rated height, the forklift can go up and down freely. When the forklift is used in the place of cold storage, it must be made specially. When the forklift is in design and manufacture, it has certain restriction for using occasions:

- 2.1 Air with inflammable and explosive dust or gas.
- 2.2 As the tractor of other trucks.
- 2.3 Transport or lift persons.

3. Responsibility of operators

- 3.1 People who have been trained and approved can operate the forklift.
- 3.2 Obey the instruction and local relevant security rules, regulations and traffic rules.
- 3.3 It's forbidden to operate the forklift when there's oil on your hands and feet.

4. Workplace

- 4.1 The forklift can only run on hard and flat roads, such as concrete or pitch roads. Don't work in the greasy dirt area so as not to skid.
- 4.2 Make sure the ground can bear the total weight of the forklift, that is the forklift weight, loading weight and the operator's weight.

5. Driving and guiding in the course of transportation

- 5.1 Don't brake and turn suddenly under the condition of driving at high speed.
- 5.2 Slow down the speed on the slope, keep goods in minimum position, running should be straight up and down on the slope. It's forbidden to turn back on it.
- 5.3 Slow down on the slope, keep the cargo at the lowest position, drive straightly up and down on the slope, forbid raising the head on the slope, moving forward and backward, and lifting and lowering.
- 5.4 If the road surface skids, the operator should slow down the speed, in order to prevent the forklift from spinning or overturning.
- 5.5 Besides loading and unloading goods, the forks should not exceed 200mm high from the ground during driving. Don't lift the goods at the same time.
- 5.6 If sight is obstructed, please ask others to guide, so as to ensure the security.
- 5.7 Keep a safe distance with the vehicle, persons, objects in the front.
- 5.8 Ring the horn while you overtake.
- 5.9 It's forbidden to transport persons by the forklift.
- 5.10 Make sure the lift can bear all the weight before the forklift enters the lift.

Chapter 2 Warning, Trade Mark & Sign

The forklift has the following signs:

(Please read the signs on the forklift about relevant content)

Hydraulic operating handle with forward and backward tilting (Optional)

Accelerator knob

Horn sign

Safety sign

Holding spot

Nameplate

			
蓄電池平衡重叉車			
車 型 Model		產 品 編 號 Serial number	
額 定 載 重 Rated capacity	Kg	額 定 電 壓 Rated voltage	V
起 升 高 度 Lifting height	mm	無 載 自 重 Weight without load	Kg
載 荷 中 心 Load center	mm	蓄 電 池 最 大 重 量 Max battery weight	Kg
最 大 高 度 載 荷 Maximum height load	Kg	蓄 電 池 最 小 重 量 Min battery weight	Kg
出 廠 日 期 Produce date	年 月	產 地 Address	中 國 合 肥 Hefei, China
制 造 許 可 證 號		Made in China	
合 肥 搬 易 通 科 技 發 展 有 限 公 司 Banyitong Science&Technology Developing CO.,Ltd			

Chapter 3 Forklift Instruction

MBB series counter balanced pallet stacker is powered by batteries, moving controlled by buttons steering controlled by the handle.

Adopting 24V electronic system, and adjust its speed steplessly by a set a integrated circuit controller to steady speed and acceleration while driving. The forks rise by the advanced electric hydraulic pump. Lifting and lowering are controlled by the handle button.

If the forklift truck works in a cold and humid environment, it should be equipped with low temperature oil to adapt to the environment

1. Suitable occasion of the forklift.

The forklift is suitable for loading and unloading and transporting goods on a pallet.

2. Forbidden occasion of the forklift.

It can't be used in the following situations:

- 2.1 The places can cause fire or explosion, such as oil districts.
- 2.2 The forklift is used as the tractor of other trucks.
- 2.3 It's used for transporting or lifting and lowering people.
- 2.4 It works on the meadow or the sand ground.

3. Forklift parameter

The following table shows the parameters of MBB stacker

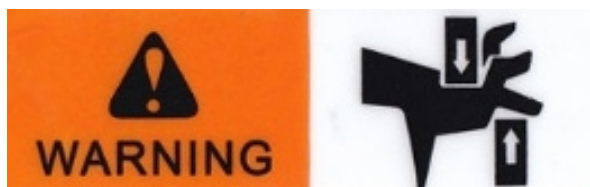
Model	MBB1025	MBB1525
Rated capacity kg	1000	1500
Load center mm	500	500
Travel speed with full load km/h	5.8	5.8
Travel speed with no load km/h	4.0	4.0
Max.grade-ability with full load %	5	5
Turning radius (pedal closed) mm	1415	1820
Overall length mm	2560	2960
Overall width mm	994	994
Height mast lowered mm	1760	1760
Service weight (incl. battery) kg	1800	1900

4 Safety signs

4.1 Danger warning sign near fork



4.2 Anti-clip sign warning sign



Chapter 4 Main components

1 Body system

The body system consists of body welding, load wheels, pedal components and so on. Five-point construction for superior gradeability and stability.

2 Lifting system

The hoisting system consists of gantry welding, fork welding, forged forks, lifting chain sets, composite rollers and so on.

3 Hydraulic system

MBB comes standard with 2KW pumping station, lifting cylinder drives the mast to lift; handle button controls the rising and falling functions.

4 Drive system

Standard AC 1.5KW drive motor, high-performance gear box, powerful output, stepless speed regulation, with guiding and shock absorbing mechanism, driving smooth and comfortable.

5 Steering system

During the driving process, the steering handlebar controls the walking and steering, and the maximum steering angle of the handlebar is 180°. The handlebar is automatically braked at the uppermost and lowermost ends.

6 Brake system

Electromagnetic brake.

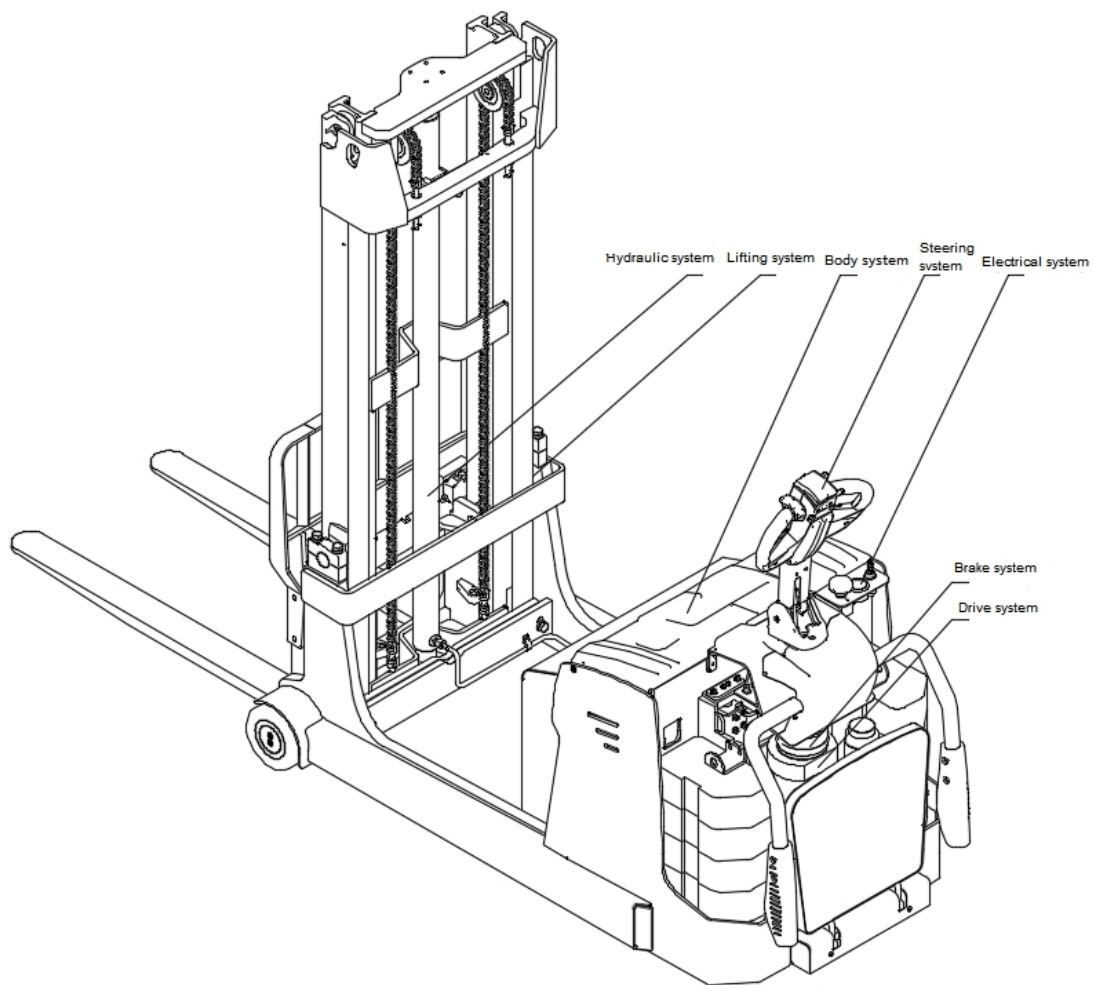
7 Electrical system

Controller: internationally renowned brand precise control

Battery: 24V/210AH

Emergency stop switch: emergency power off, stop lifting, lowering, driving function, and disable electromagnetic brake!

Chapter 5 Control Device



1 Lift control

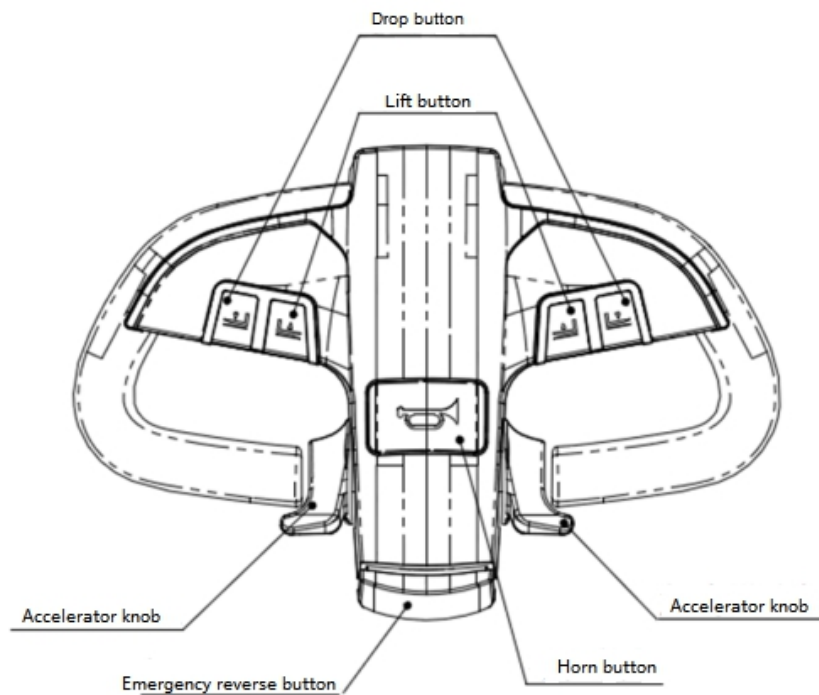
Open the key switch and operate the multi-way valve handle in the direction indicated to lift or lower the fork and adjust the speed freely.

2 Driving direction and speed control

Turn the joystick to control the direction and adjust the speed and acceleration by turning the accelerator knob.

3 Emergency reverse switch

The operator faces the fork and the cargo in the direction of operation. When the direction is reversed and the body is too late to avoid, the joystick is in contact with the body, the control switch is closed, and the forklift is operated in reverse. The direction selector switch must be restored to the neutral position before continuing.



4 Horn button

Press the handle horn button to sound.

5 Battery connector

Unplug the battery connector under the following conditions.

6.1 Accident

6.2 Emergency, dangerous situations

6.3 When welding

Note!

When welding around the body, the battery is easily damaged, and if the welding current is broken into the battery, it will cause damage. At this time, the socket must be pulled out.

When charging, unplug the battery connector and connect the battery connector to the charger connector. After charging is complete, reset the battery connector.

6 Key switch

This switch function is to turn the control circuit on and off.

7 Electricity meter

When the key switch is in the open state, the power meter displays the battery remaining amount, a total of ten grids. When the leftmost two LED lights exchange flashing, it indicates that the battery is insufficient and the battery needs to be charged.

Chapter 6 Driving

1 Start

Please proceed in the following order, otherwise the forklift will not run:

1.1 Make sure the battery connector is securely inserted.

1.2 Turn the key switch to the open position.

1.3 Make sure that the battery pack has enough power.

Note!

Operating the forklift for a long period of low power can damage the battery life. Do not start the truck until the battery is fully charged.

1.4 The steering handle is moved downwards from the uppermost position and should be between the uppermost and lowermost ends.

1.5 Correctly choose the driving direction, rotate the accelerator, and control the speed in an ideal state. Slowly accelerate to the desired speed.

Note!

It is not possible to operate a forklift truck with serious functional defects that endanger safety. The following security features should be checked before working every day:

The speaker function is normal.

The manipulation function is intact.

The brake function is normal.

The hydraulic function is normal.

2 Brake

2.1 When the joystick is moved to the uppermost or lowermost end, the forklift implements energized braking.

2.2 When the direction switch is turned to the reverse position during normal operation, the reverse current braking function can be performed. Controlling the running speed can control the magnitude of the power of the walking electric mechanism.

2.3 Forklift parking

The truck is stopped by releasing the direction switch to return it to the neutral position.

3 Steering

3.1 Steering is controlled by the joystick, and the steering angle can be anywhere within 90° of the left and right direction.

3.2 When the forklift encounters an obstacle, it should not be forced to pass. You can turn the handle forward or backward to bypass the obstacle.

Warning!

The wheels are not allowed to slip.

If the operator's hands or shoes are stained with oil, it is easy to operate and the forklift is out of control, so dry hands or shoes before driving.

4 Parking

4.1 Release the direction selector switch.

4.2 Release the control arm and the long arm will automatically return to the parking brake position.

4.3 Lower the fork to the lowest position so that there is no system pressure in the hydraulic system.

4.4 Turn the key switch to the off position.

Note!

Driving without permission is not allowed.

If you leave, please take the key with you.

Chapter 7 Transportation of Goods

1 Transportation

1.1 The weight of the cargo shall be within the lifting capacity of the approved forklift.

1.2 When loading and unloading goods, it should be stable and safe. Be careful with ultra-high and long cargo.

1.3 When loading and unloading ultra-high cargo, the forklift should be equipped with suitable storage shelves.

1.4 When the forklift is driving, the fork should be lowered to the lowest point.

1.5 When turning, it should be slowed down.

1.6 Irregular objects should be safe during transportation. When turning, pay attention to leaving room.

1.7 If the operator's front line of sight is affected, ask others to direct directions.

1.8 When the upper and lower slopes are decelerated, it is forbidden to turn the head and tilt the gantry on the slope (optional).

Note!

1.9 Turning on the slope, the forklift is in danger of overturning.

When going downhill, the brake distance of the forklift is extended and the braking time is increased. Therefore, you should slow down to reduce braking time. Do not force up and down the slope.

1.10 Before entering the elevator, the forklift should ensure that the elevator can withstand the entire load (forklift weight, cargo weight, operator weight). The forklift should first enter the elevator and finally leave the elevator.

Note!

Before starting the elevator, you should clearly understand the carrying capacity of the elevator and avoid accidents.

1.11 Before the forklift drives to the bridge, it should be decelerated and kept at a certain distance from the edge of the platform.

Danger!

Check the load capacity of the bridge beforehand to verify its safety to avoid rollover and fall.

2 Loading

- 2.1 Deceleration and positioning parking before the shelf.
- 2.2 Lift the fork to the desired position.
- 2.3 Slowly drive the truck forward so that the fork is inserted into the bottom of the card.
- 2.4 Lift the fork to raise the cargo to a certain height.
- 2.5 Slowly retreat the forklift to get the goods off the shelf.
- 2.6 Lower the fork to the low position and drive away carefully.
- 2.7 Slow start before accelerating operation.

Danger!

Do not lift the cargo (or tilt the gantry) while the forklift is in motion to avoid overturning.

3 Unloading

- 3.1 Deceleration parking positioning in front of the shelf.
- 3.2 Lift the fork to the desired position.
- 3.3 Slowly drive the forklift forward to position the cargo accurately on the shelf.
- 3.4 Lower the fork to remove the cargo.
- 3.5 Slowly retreat the forklift.
- 3.6 Lower the fork to the lowest position and leave carefully.
- 3.7 Slow start to accelerate operation.

Danger!

Do not lift the fork (or tilt the gantry) while the forklift is in motion to prevent the cargo from falling.

Chapter 8 Battery and Charger

1 Changing the battery

Replace batteries that match the original battery model and have the same weight. (The weight of the battery affects the stability of the vehicle and its braking function.)

Warning !

Do not change the weight and size of the battery, otherwise it will affect the gravity of the car body. If the battery is too heavy or too light, it will affect the stability and braking ability of the battery balance forklift. The weight must be the same as the value on the truck battery label.

1.1 Remove the Low Power battery sequence:

1.1.1 Open the battery compartment cover.

1.1.2 Disconnect the battery connector.

1.1.3 Use a suitable battery box hook to remove the battery from the battery balance forklift body.

1.1.4 Close the battery cover.

1.2 Sequence of installing the battery:

1.2.1 Open the battery compartment cover.

1.2.2 Use the lifting device to lift the battery with sufficient power into the battery box.

1.2.3 Plug in the battery connector.

1.2.4 Close the battery cover.

2 charging

2.1 Do not smoke or use an flame while charging.

Using an automatic charger to charge the battery. In order to protect the battery, not to under charge or overcharge. The maximum charging current of the charger is:

Battery (Ah)	Charger (A)
210	30

Danger !

The battery electrolyte contains dilute sulfuric acid with corrosive. If splashed on the skin, rinse with water and soap as soon as possible. If you splash into your eyes, please contact a doctor and wash your eyes with clean water. Wear protective goggles and gloves when checking the battery.

2.2 Charging preparation

The battery balance truck must be charged as soon as possible after use. The storage time must not

exceed 24 hours.

2.2.1 After parking, turn the key switch to the off position and remove the key.

2.2.2 Open the battery compartment cover and ensure that the battery is ventilated.

2.2.3 Remove the battery connector and insert the connector on the charger with the battery connector.

2.2.4 Open the battery filler cap to breathe.

2.2.5 Turn on the AC and turn on the charger.

Warning !

Maintain a good ventilation when charging in a closed area. During the charging process, hydrogen and oxygen are generated from the battery. When exposed to flame or an electric spark, it will cause an explosion!

Therefore, the charging power should be cut off before removing the power outlet.

2.2.6 During Charging

The charging method and maintenance should refer to the battery instruction manual. You can use the following methods to determine whether the power is sufficient:

- ※ The specific gravity of the battery electrolyte remains stable for 2 to 3 hours or more. .
- ※ The electrolyte surface of the battery generates strong bubbles, and the electrolyte turns from milky to white.

The above situation indicates that the battery is fully charged.

2.2.7 Full charge

- ※ Turn off the AC power and charger.
- ※ Remove the charger connector from the battery connector.
- ※ Connect the battery connector to the cable connector.
- ※ Close the breathable cover on the battery.

The comparison table of the fully charged battery temperature and the electrolyte specific gravity is as follows:

Temperature ° C	Proportion g/cm3
-15	1.31
0	1.30
+15	1.29
+30	1.28

+45	1.27
-----	------

If the specific gravity in the table is not met, it should be adjusted by adding acid or distilled water.

3 Battery Maintenance

3.1 In order to ensure the battery life, the battery should be fully charged before using. The battery cannot be used, if it is not fully charged.

3.2 The battery should avoid overcharging and over-discharging. Overcharging and over-discharging will seriously affect the performance and life of the battery.

3.3 The battery liquid plug and venting cover should be kept clean, removed or opened during charging and it should be installed or closed after charging. The battery surface, connecting wires and screws should be kept clean and dry. If there is sulfuric acid, wipe it off with a cotton yarn and lye. Be careful not to let the lye enter the battery.

3.4 After the charging is completed, the battery level should be checked and distilled water should be added to maintain the liquid level. It is strictly forbidden to add dilute sulfuric acid under normal conditions.

3.5 After the battery is used, it should be charged in time. And the storage time is generally not more than 24 hours.

3.6 Good ventilation should be maintained during charging. Fireworks are strictly prohibited.

3.7 The battery needs to be charged in a balanced manner in the following cases.

3.7.1 Normally used batteries (balanced charging every 3 months).

3.7.2 Unused batteries for a long time.

3.7.3 There is a "backward battery" in the battery pack (the backward battery means that the voltage value during charging and discharging is lower than other batteries or batteries that have been repaired due to faults).

3.8 Balanced charging method.

3.8.1 Perform normal charging first.

3.8.2 Stop charging for 1 hour until fully charged, then charge with 0.25I₅ for 1 hour.

Repeat several times according to 3.8.2 until the charger is turned on and there is a bubble in the battery.

3.9 When the battery is not in use, it must be recharged once according to the normal charging method each one month.

3.10 The battery should be protected from direct sunlight. And the distance from the heat source should

not be less than 2M.

3.11 Avoid contact with any liquids and hazardous materials. Any metal impurities should not fall into the battery.

4 Electromagnetic Brake Maintenance

4.1 Preventing rust when the forklift work in an environment with high humidity for a long time. Rust will affect the use of forklift. Please remove the rust.

4.2 The friction surface should not be contacted with the hand directly, and there must be no oil. Otherwise, the maximum torque cannot be achieved. Please clean and wipe the clean friction surface.

4.3 When the temperature in the environment is high, please install it in a place with ventilation. Generally, the ambient temperature is -10 °C~40 °C.

4.4 The initial torque value is low. Please use the running torque for a period of time to stabilize.

4.5 Please check regularly. The check the items regularly: Is the switch action normal? Is there any noise? Is there abnormal fever? Is there any foreign matter, oil stains in the friction part and the rotating part? Is the clearance at the friction part appropriate? Is the voltage normal?

Chapter 9 Faults Diagnosis

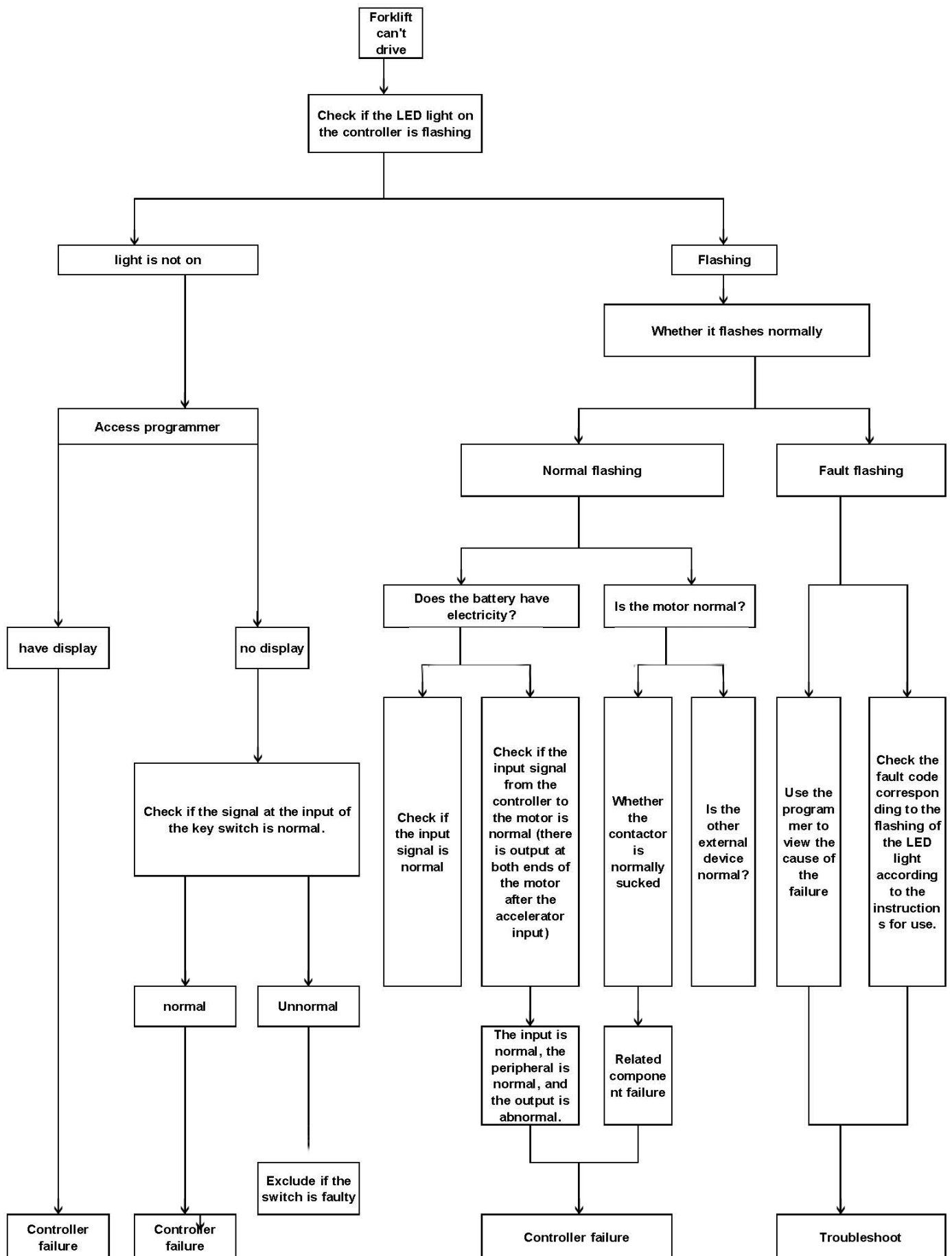
1 Faults diagnosis of controller

The product controller is equipped with an LED display light that displays different information through a combination of different color lights.

LED Display message description	
Display	Description
LED light is not working	The controller power is not turned on; the vehicle battery is exhausted; other serious failures.
Yellow LED light flashing	The controller is working properly
Yellow and Red LED light on	The controller is in the state where the program is loaded
Red LED light on	The watchdog is invalid or the software is not installed. Restart the key switch and restart. Re-install the software if needed
Red and yellow LED alternating flashing of lights	The controller found the fault and the fault display code consisted of 2 digits. The red light flashing number indicates whether the code is the first digit or the second digit. The number of yellow flashes represents the specific digit of the corresponding digit.

In the event of a fault, if it is confirmed that it is not a wiring error or a mechanical failure of the vehicle, try restarting with the vehicle key switch. If the fault persists, turn off the key switch and check that the 35-pin connector is properly connected or dirty. After repairing and cleaning, reconnect and try again.

When the vehicle electrical failure occurs, the fault flag on the electronic control flashes for reference for diagnosis and maintenance. The following table is troubleshooting.



Customers can use the above methods to troubleshoot. Please read the code after reading the LED light and contact our after-sales service.

2 Faults diagnosis of EPS

The pure electric forklift steering system is a high-precision, work-sensitive and energy-saving, environmentally-friendly and high-performance steering system. The correct use and maintenance can guarantee the performance of the steering system and improve the service life of the steering system. After the fault occurs, find the corresponding fault content according to the fault code displayed by the controller. And then check whether the corresponding components are loose or not, whether the harness is intact, whether the terminal is dropped or loose resulting in poor contact, whether the components are damaged.

The controller of this product is equipped with LED display lights, which display different information through LED light changes.

LED Display message description	
Display	Description
LED light is not working	The controller power is not turned on; the vehicle battery is exhausted; other serious failures.
Red LED light flashing	The controller is working properly
Red LED light on	The controller is in the state where the program is loaded
Different color LED alternating flashing of lights	The controller found the fault and the fault display code consisted of 2 digits. The red light flashing frequency indication code is the first digit after a long interval, and the red light flashing frequency indicating code is the second digit after a short pause.

Customers can use the above methods to troubleshoot. Please read the code after reading the LED light and contact our after-sales service.

Chapter 10 Maintenance

After the battery counterbalance forklift runs for 500 hours, it is routinely maintained. The efficiency, life and safety of the forklift depend on daily maintenance.

For the repair of the forklift, the replacement spare parts should be provided by the company to ensure the quality. It is recommended to contact the product agent or the after-sales service department of the company. To make your forklift run safer and more economical.

1 The Safe Regulation of Maintenance

Repair work can only be carried out after systematic study.

1.1 Keep the maintenance site clean and hygienic.

1.2 When repairing, do not bring loose items or valuables on your body.

Warning!

When repairing the electrical system of the forklift, if the metal contacts the energized electronic components, it may cause short circuit or combustion. So take off your watch, earrings or other accessories.

1.3 Before the forklift is repaired, first unplug the power outlet and disconnect the power supply.

1.4 Turn off the forklift's key switch before opening the left and right lids or electrical system.

1.5 Before checking the hydraulic system, the fork should be lowered to release the system pressure.

1.6 When checking the oil leakage of the car body, please wipe it with paper or cardboard. Do not touch it directly with your hands. To avoid burns.

1.7 Please note that the oil temperature in the transmission or hydraulic system may be high. The forklift should be cooled first, then replace the gear oil or hydraulic oil to prevent the oil from burning and causing combustion.

1.8 The hydraulic system should be filled with new cleaning oil.

Warning!

If the hydraulic fluid is not clean, it will affect the precision hydraulic components and reduce the overall hydraulic system capacity. If different grades of hydraulic oil are used, damage the hydraulic components will also affect the system capability. Therefore, when adding or replacing hydraulic fluid, pay attention to the use of a uniform grade.

1.9 Please comply with relevant regulations, protect the environment, store and discharge oil as required. Do not discharge it into the sewer.

1.10 when do body welding, disconnect the battery power. Because welding current may enter the battery during soldering, turn off the battery to avoid this.

1.11 When working under the forklift, the forklift should be supported by the bracket.

Warning!

Improper support, the forklift will tip over and hurt people. If the forklift does not have lifting equipment or bracket support protection, it is forbidden to work under the forklift.

2 The Maintenance that Users Can Finish

2.1 Routine maintenance and safety inspection.

2.1.1 It is the responsibility of the operator to carry out routine maintenance and inspection of the truck.

2.1.2 The forklift does not perform routine maintenance, which will affect the safety and reliability of the forklift.

A serious accident occurred.

2.1.3 Check for problems or find faults should be repaired immediately and stopped.

Parts	Checking Point	Check content
1	Joystick	Check if it is functioning properly
2	Emergency reverse switch	Check if it is functioning properly
3	Horn	Check if it is functioning properly
4	Steering	Check if it is functioning properly
5	Hydraulic device	Check if it is functioning properly
6	Electricity meter	Check if it is functioning properly
7	Hydraulic system	Check the oil level and whether it leaks oil
8	Drive unit	Check for abnormal noise and oil leakage
9	Electromagnetic clutch	Check if it is working properly and if it is in poor contact
10	transmission	Check if it is functioning properly
11	Wheel	Check for damage, remove oil, metal debris
12	Frame	Check for damage and remove oil
13	Battery	Check the electrolyte level
14	Fork	Check for deformation or cracks
15	Lifting device	Check for damage and remove oil
16	Hydraulic cylinder	Check for damage and oil leakage

2.2 Maintenance work completed within 1 day, 1 week and 1 month as indicated in the maintenance table can be completed.

(show in section 4 Maintenance Table)

2.3 Other maintenance sections given in the table. It can only be done by our company's maintenance personnel or our company's approved maintenance organization.

3 Clean forklift

Regular cleaning every week is important to ensure reliability. Please pay attention to remove the battery connector before cleaning to avoid damage to the electrical system caused by short circuit.

3.1 External cleaning

3.1.1 Remove attachments from the wheels daily to maintain flexibility

3.1.2 After cleaning lubricating oil shall be filled according to the lubricating parts specified in the table of ,lubricating parts for forklift to be lubricated .

3.2 Clean electrical components

Use compressed air to blow clean motor dust lines do not wipe with a wet cloth.

Attention

Electrical components should not be flushed with high pressure flushing devices.

Do not damage electrical components on the circuit board . To keep electrical components in position and avoid short circuit .

4 Maintenance List

Part No.	Running interval	1day	1week	1months	3months	6months	12months	36months
1	Body system							
1.1	Check cover plate(left. Right)				★			
1.2	Check battery box				★			

	fixture							
1.3	Check the frame for cracks				★			
1.4	Check that the body is securely				★			
2	Electrical machinery							
2.1	Check for loose joints			★				
2.2	Clean the motor			★				
2.3	Check installation bolts for firmness			★				
2.4	Check for abnormal bearing noise			★				
2.5	Check insulation resistance				★			
2.6	Check commutator and brush				★			
3	Drive system							
3.1	Check for leak					★		
3.2	Check the oil level				★			
3.3	Check the noise					★		
3.4	Oil change							★
4	The part of wheel							

Part No	Running interval	1day	1week	1months	3months	6months	12months	36months
4.1	Remove cords and debris from wheels	★						
4.2	Check drive wear and bolts				★			
4.3	Check whether the universal wheel and axle are Flexible and tight				★			
4.4	Check the wear condition of Universal wheel				★			
4.5	Check whether the support wheel can rotate and whether the joints is tight					★		
4.6	Check the wear of supporting wheels				★			
4.7	Remove and lubricate wheel body bearings					★		
5	Brake parts							
5.1	Clean brake				★			
5.2	Check the wear				★			

	condition of brake friction disc							
5.3	Check brake condition under loose brake condition			★				
6	Electric control bar							
6.1	Cleaning and Installation inspection				★			
6.2	Secure tight cable connector				★			
6.3	Check contactor contacts					★		
6.4	Check the action of contactor					★		
Parts No	Running interval	1day	1week	1months	3months	6months	12months	36months
7	Storage battery							
7.1	Check the level of electrolyte (the level should be 10-15mm above the plate)		★					
7.2	Check if the connection between the battery forklift and the charger is tight		★					

7.3	Check each battery and its insulation heath for displacement		★					
7.4	Check electrolyte specific gravity and temperature			★				
7.5	Clean accumulator	★						
8	Hydraulic							
8.1	Check piping and joints for leaks					★		
8.2	Check for line wear					★		
8.3	Check fuel tank for oil leakage					★		
8.4	Heck the oil quantity					★		
8.5	Oil change						★	
9	Oil cylinder							
9.1	Check the oil leak					★		
9.2	Check installation					★		
10	Portal							
10.1	Check for damage and cracks					★		
Parts no	Running interval	1day	1week	1months	3months	6months	12months	36months

10.3	Check roller movement					★		
10.4	Whether the lifting chain and pin are damaged and sprocket wheel wear				★			
10.5	Check the fork for signs of breakages				★			
11	Operating arm							
11.1	Check installation tightness					★		
11.2	Check brake switch				★			
11.3	Check whether the fastening screw falls					★		
11.4	Check the safety					★		
11.5	Check and adjust shock absorbing spring					★		

5.The position form of lubrication

Parts no	Lubrication	Interval time (h)			Types of lubricating oil and grease
		500	1000	3000	
1	Wheel bearing (including steering)		L		A
2	Hydraulic system	H	O		B
3	Driving gearbox	H		O	C
4	Lifting chain	L			D
5	Lifting system bearing	L			G

L= lubricating H= inspect O= oil change

6.The oil and fat of lubrication

Oil category		Specification		Applicable parts
		-20℃～0℃	0℃～40℃	
A	Lubricating grease	3#Drop point of lithium base grease170		Bearings and bushing
B	Hydraulic oil	L-HV 32 Arctic hydraulic fluids	L-HM 46 Antiwear hydraulic oil	Hydraulic system
C	Transmission	70W/75 (abroadSAE75W)	85W/90 (abroad SAE80W/90)	Gear case
D	Grease	Drop point of lithium base grease170		Lifting system bearing

Chapter 11 Transporting and preserving the forklift

1 Forklift size and weight with standard mast

Motorcycle type	MBB1025	MBB1525
The total length of forklift truck (pedal)	2560	2960
The total height of the forklift	1760	1760
Forklift overall width	994	994
Implicit battery vehicle weight	1800	1900

2. Start to hang the forklift

When lifting the whole vehicle ,lift the forklift truck from hole with lifting equipment .

Attention

Do not lift the forklift from other lifting points, otherwise the vehicle may lose its balance and turn over,injuring personnel and equipment, so it must be lifted from the marked lifting point.

2.1 Attention should be paid to the center o gravity of the vehicle when lifting or overhead pallet truck for maintenance .

2.2 The spreader must have sufficient strength , safety and reliability .

3.Tow and transport faulty forklift

3.1 When towing or towing a forklift with a rope , the forklift being towed must be steered by a drive to release the brakes .

3.2 When the brake function of the forklift truck is perfect,pull the forklift truck by pulling the control handle to the operating position and ask others to help push the truck (at the outer door frame) to send the forklift truck to the destination or the maintenance point of our company for repair.

3.3 If the drive wheel of the forklift falls ,the forklift can be towed by traveller or tractor.

Attention

The deicing wheel of forklift truck must be lifted off the ground otherwise the wheel and motor will be damaged seriously.

3.4 If the forklift electromagnetic brake fails and cannot hold the brake, the forklift will move with the terrain after it is parked. At this time, wedge blocks must be placed on the wheel in an appropriate way to prevent movement.

4. Preservation of the forklift

If the forklift needs to be stored for a long time, please take the following measures:

storage battery:

4.1 Recharge the battery, and then according to the daily maintenance of the battery maintenance methods.

4.2 Charge maintenance and check electrolyte level every 3 months.

hydraulic system:

Replace the hydraulic fluid in the hydraulic system when the forklift has been stored for more than one year. Please refer to the maintenance section and lubrication section list.

Driving system:

When the storage time is more than a week, the drive wheel should be fixed firmly and can be supported to prevent it from moving, also, unload the cargo.

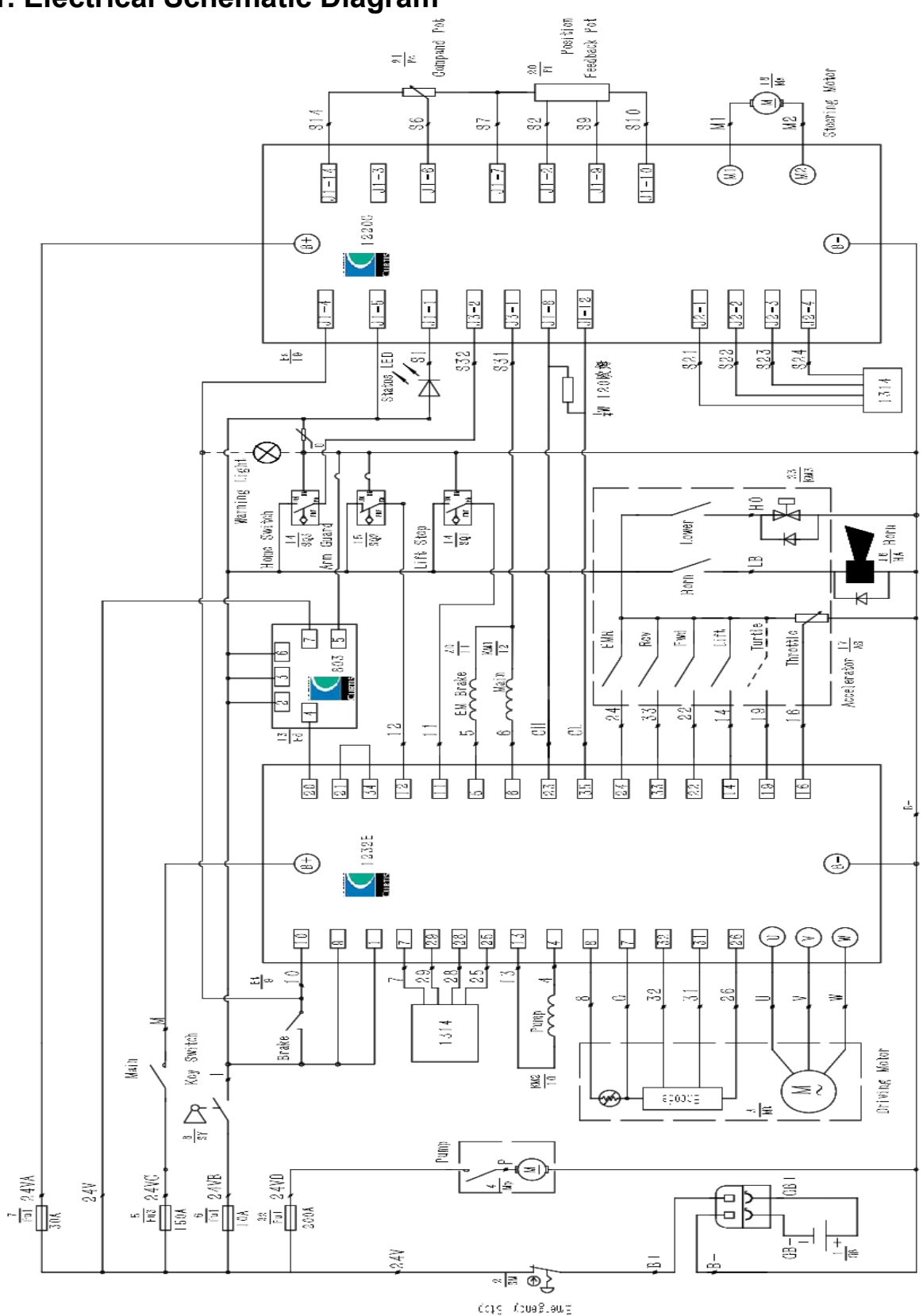
5. Precautions for Re-use of Forklift after Storage

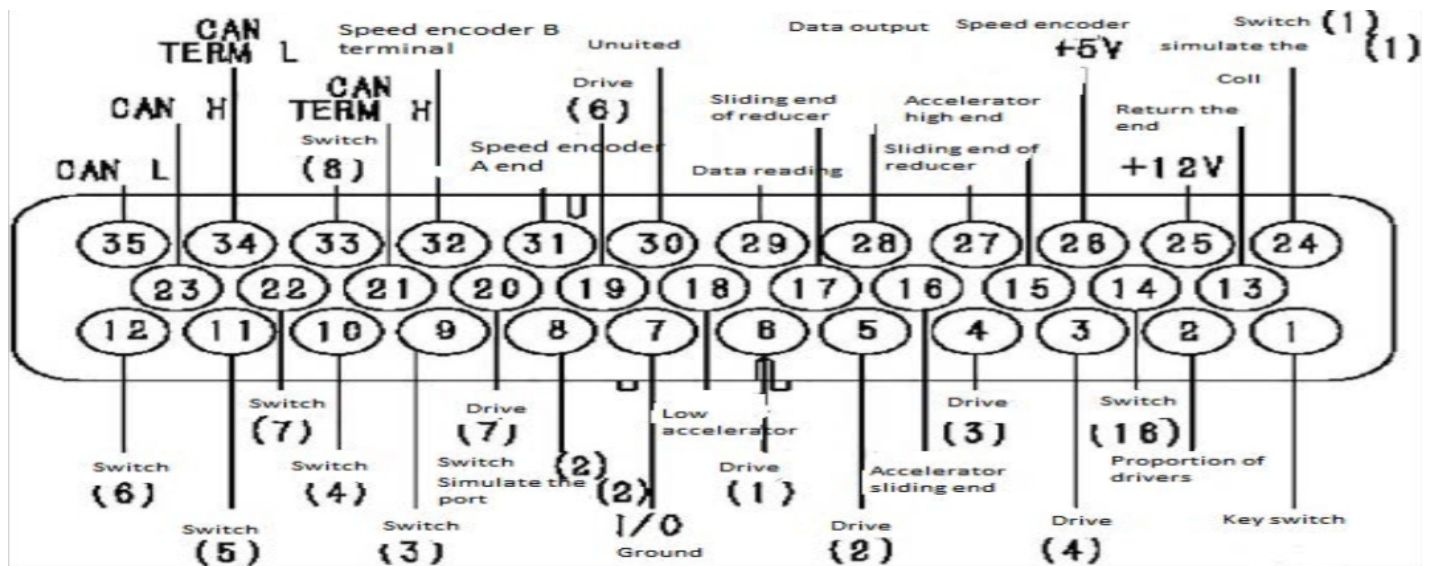
5.1 When stored for a period of time, before re-use, should be routine maintenance and safety inspection, the use of function and safety inspection.

5.2 When the storage time is more than 3 months, preventive maintenance can be carried out according to the requirements of this manual (at intervals) of 500 hours.

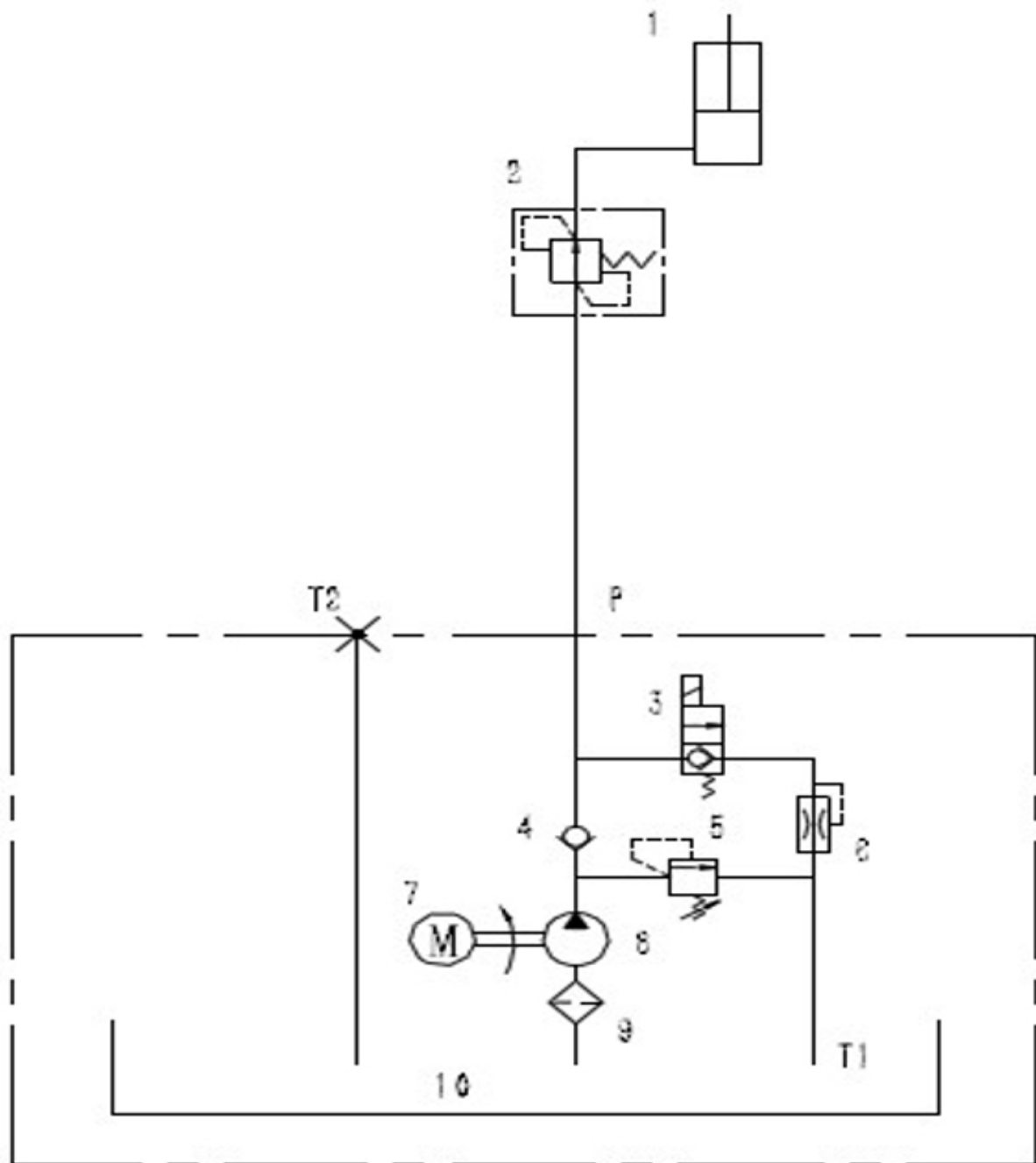
Chapter 12 Schematic Diagram

1. Electrical Schematic Diagram





2 Hydraulic Schematic Diagram



Name of the part shown above

- 1、 Lifting jack 2、 Stop valve 3、 Electromagnetic unloading valve
- 4、 Check valve 5、 Safety valve 6、 Throttle 7、 Electrical machine 8、 Gear pump
- 9、 Filter element 10、 Hydraulic fluid chamber