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Eoslift

T15J

Electric
Stackers

Instructions

Esteemed users:

Welcome to purchase T15 Series Electric Stackers.
For your safe and correct operation, please carefully read and fully understand the operating instructions and warnings on the truck before using it, to completely acquire and master the safety operation.

The operating instructions detail specifications of the different models of electric stackers. During of the truck. operation and maintenance work, pay attention to the description appropriate to the electric stacker.

The majority of this truck consists of recycled steel. Waste materials in conjunction with use, maintenance, cleaning or disassembly must be collected and disposed of in an environment-friendly way and in accordance with the local regulations. Such work must be carried out in areas intended for this purpose. The oil filter wastes batteries wastes and electronics wastes, if handledin correctly, will harm the environment or human body.

All parameters mentioned herein are based on data available at the moment of printing the instructions, we reserve the right to incorporate modifications to our own products at any moment without prior notice. If you want to know the latest product parameters, please contact us.

Table of Contents

Statement

T15electricstacker,manufacturedbyEoslift,arepowered vehicles on the place used for a particular purpose in the factoryplant,touristattractions,amusementparkspecified by the Regulations on Safety Supervision over Special Equipment.

Safe operating rules

1. Requirements for operator

The electric stacker must be operated by persons trained in operation. The operator shall be able to carry out operation demonstration of moving and controlling goods for users, and he or she is responsible for the electric pallet truck. Unauthorized persons are not allowed to operate the electric pallet truck. Do not carry or lift passengers.

2. Faults and defects

If electric stacker failure or defects occur, immediately notify the management personnel. If the electric pallet truck is not safe for operation (such as wheel worn or brake failed, etc.) , please stop using it before it is fully repaired.

3. Hazardous area

The hazardous area usually refers to the area where the electric pallet stacker or its lifting device (e. g. forks, attachments) will pose threat to persons during their operation or lifting process. Typically, this range extends to the area where goods or vehicle accessories are lowered.

> ⚠ **Warning**
>
> Unauthorized persons must leave the hazardous area. Whenever a situation causes possible harm to persons, the operator must give a warning. If the unauthorized persons still stays in the hazardous area after the warning is given, the operator must immediately stop the operation of the vehicle.

4. Safety devices and warning signs

Safety devices, warning signs and the above safety precautions must be heeded.

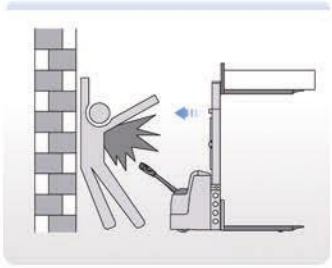
> ⚠ **Warning**
>
> When handling the goods, the fork height must not exceed 300mm.

5. Passengers

Carrying or lifting of passengers is forbidden.

6. Keep distance

The truck should not be driven on public roads outside a specific area. Remember that the vehicle in front of you may brake suddenly. Keep a reasonable distance.



Safe operating rules

7. Visibility

The operator must stare at driving direction to ensure legible sight for the road condition ahead. In case that cargo carried interrupts the sight, reverse the vehicle. If it doesn't work in this way, there must be another person walking ahead of truck to give guidance and warning.

8. Operation protection

Hands and feet shall be kept far away from moving parts, such as parts connecting the truck body and fork arms as well as wheels.

9. Loose or unstable stacking of goods or overloaded cargoes prohibited

Loose or unstable stacking of goods will cause falling of goods, or even turnover.

10. Speed

Adjust the speed according to the road conditions, the line of sight and operation safety. Avoid fast acceleration, braking and turning, which will cause turnover or falling of goods.

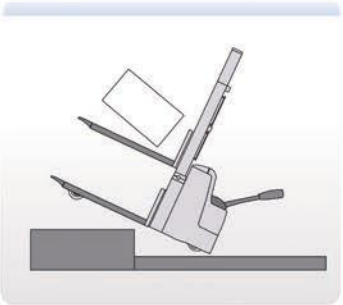
11. Signaling

Use the signal horn to give the warning signal when make a turning.

Safe operating rules

12. Negotiating of slopes

Negotiating of slopes is permitted only when they are recognized lanes, when they are clean and non-slipping, and when the technical specification of the truck permits safe driving on such slopes or inclines. Loads must always be carried facing uphill. U-turns, cutting obliquely over slopes and parking of the truck on slopes is not permitted. Slopes must only be negotiated at slow speed, with the driver ready to brake at any moment.



13. Ground load

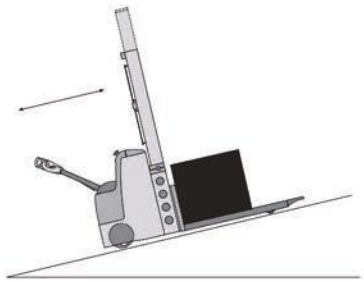
Carefully check the truck during its operation to see if the weight of truck body and loads or wheel pressure exceeds the ground load capacity.

14. Stable operation

Travel of stacker shall be stable, avoiding sudden brake, sharp turns and sudden start. The fork arms should be lowered to their lowest position during travel.

15. Loaded and unladen

When the loaded stacker travels, the goods must face uphill. When unladen stacker travels, the fork arms can face downhill.



16. Parking

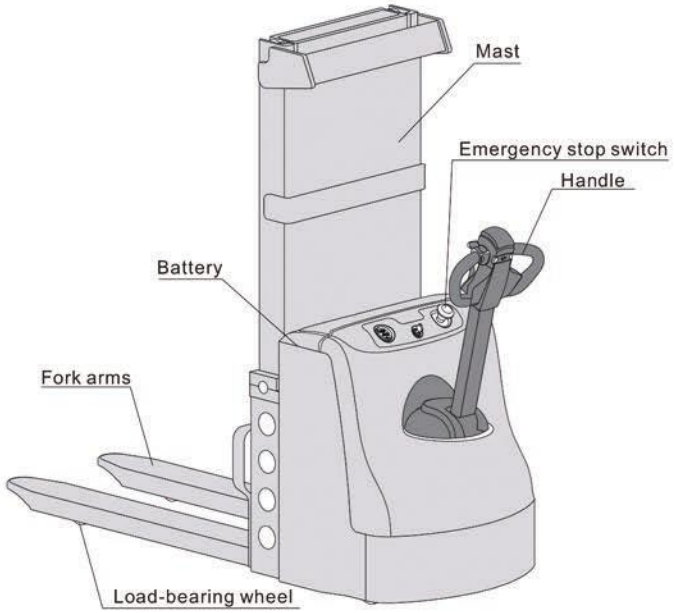
- The truck must be parked on a level and hard ground, engaged with a parking brake. The fork arms must be lowered to their lowest position. Always turn the key switch to the "OFF" position and remove the key when leaving the truck.
- If the truck is left unused for a prolonged period, ensure that its battery is fully charged, then the battery connecting wire should be disconnected.

17. Repair

- The operator without professional training and special authorization, must not repair or change installation position of any part, especially the switches and safety devices of the truck.
- All original parts have been checked by the quality inspection departments. To ensure the safety and reliability of the truck, only the manufacturer's parts can be used. Replaced parts, such as oil and fuel must be disposed of in accordance with the appropriate environmental protection rules.

Operation guide

1. Component



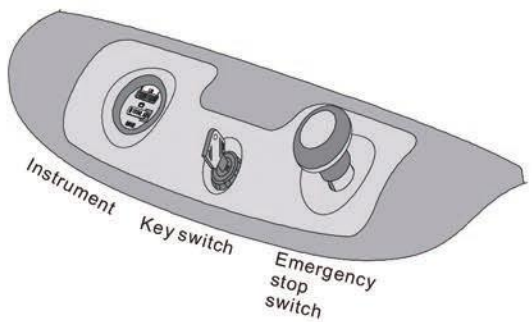
2. Switch

① Power off (emergency stop button)

Press the red button (emergency stop button) to cut off the power supply and turn off all electrical control functions. Turn off the power when the truck is not in operation. Operating the key switch can not disconnect all electrical control functions. If the truck does not function properly, please stop using it immediately.

② Key switch

When you turn this switch clockwise, it will switch on the power. When you turn this switch counterclockwise, it will switch off the power. Before leaving the stacker, fully lowered its forks and take out the key switch.



③ Belly switch

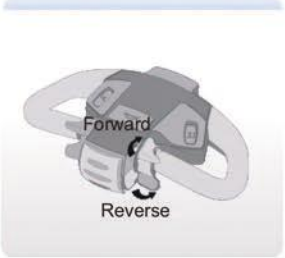
Emergency reverse driving function: Belly switch reverses the direction of the truck upon contact with the body of the operator during the backward travel, to avoid injury to operator.

Note: This button can not prevent all accidents.

④ Speed/direction control knob

One knob is equipped on each side of the control handle, used for controlling the direction and speed of the vehicle. Gradually rotate the knob forward, the vehicle moves forward. rotate the knob backward, the vehicle moves backward. Travel speed is related to the margin of the rotation of the knob: the larger the margin, the higher the speed, but the relation is not linear.

Note: the button will return to neutral when released, then the vehicle will be braked. To move forward, do not release the button.



⑤ Raise and lower button

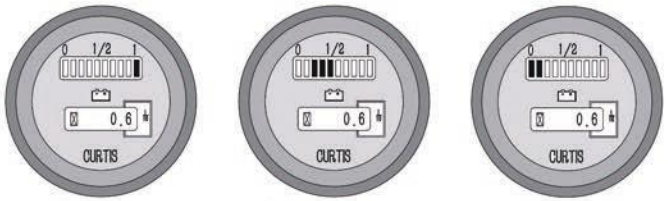
Raise button and lower button is located in the front of the upper part of the control handle. Press the raise button to lift the fork arms, press the lower button to lower the fork arms.

⑥ Creep speed button

When the operator simultaneously presses the creep speed button and the speed/direction control knob, the vehicle moves slowly, and suitable for travel in the confined areas.

3. Battery indicator

Discharging status of battery is indicated on battery indicator with ten indicator bars for each 10% increase. On the bottom, the truck's working hour can be displayed.



Sufficient　　Charge required　　Insufficient

4. Battery

① Battery cover

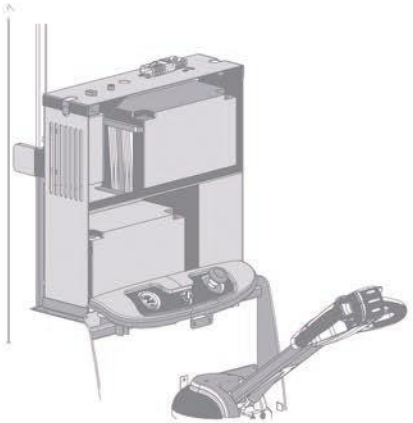
Opening the battery cover facilitates the checking of the charger, replacement of the battery or accessing to charging socket.

Note: Be careful to prevent fingers from being pinched!

② Battery replacement

Open the battery cover, tie the sling to the lifting point at the ends of the battery, lift and then move the battery transversely.

Note: after replacing the battery, pay attention to separate the cable, wire and sockets. Do not damage the wire and cable.



5. Vehicle check

Please check the vehicle works properly before using it, the vehicle can only be used after its safety is ensured. If abnormal or damaged parts found, please stop using it immediately and report the problem to management personnel.

① Carry out a thorough safety check before using the vehicle each time

- Make sure the battery is fully charged, the electrolyte level is normal and its vent is smooth. No smoking and lighting of fire on site.
- Check the wheel is installed firmly.
- Check whether the fork arms are bent, cracked or worn.
- Check whether the lifting chain is worn.
- If the load restrainer is selected and bought, ensure it is installed in place.
- Check if the oil leaks on the bottom of the vehicle.
- Press the horn to check its sound.
- Ensure the cut-out is normal.
- Check that all controllers are normal.

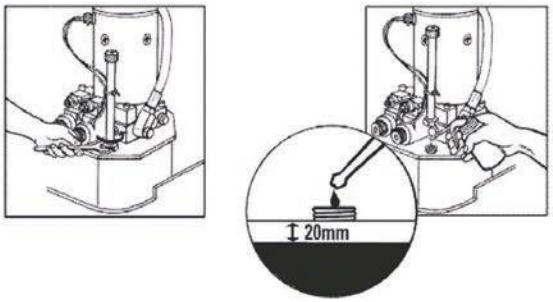
② Test the vehicle in open areas

- Test all hydraulic functions are normal.
- Check its steering.
- Drive the vehicle forward and backward slowly.
- Drive the vehicle forward and backward at full speed.
- Check the braking distance under forward and reverse travel, the distance is affected by cargo load and road conditions.
- Understand the braking distance before using the vehicle. If the distance is too long, please stop using it.

Note: If any abnormality is found in the vehicle, please stop using it immediately.

③ Check of the hydraulic oil

Loosen the hydraulic oil cap, pull out the dipstick to check the oil level.Add the hydraulic oil in time to maintain the liquid level.



④ Check the battery

- Check that the battery cover is firmly fixed.
- Check the ratio of the battery electrolyte. See “Battery” for details.
- Check whether the battery electrodes are loose or damaged and timely adjusted or replaced.

6. Specific operation procedure

① Move fork arms

- When moving the fork arms, firstly operate the control handle with both hands.
- When moving direction changes, note the position of your feet.

② Startup and travel

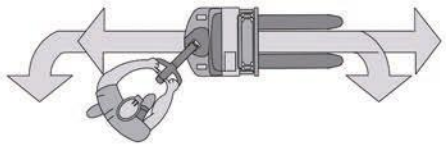
1. Startup

- Turn on the emergency stop switch.
- Turn on the key switch.

Turn the control handle toward the operator, then rotate two knobs with your thumbs. Travel speed is related to the margin of the rotation of the knob: the larger the margin, the higher the speed.

2. Steering

Moving the control handle right or left to control the steering: moving the control handle right will turn the truck right and moving the control handle left will turn the truck left.



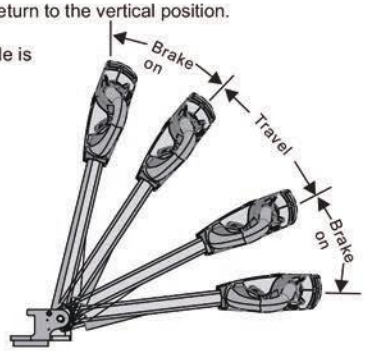
3. Deceleration

Release the knob, then the knob will automatically return to its original position and the vehicle automatically slows down.

4. Brake

- Move the control handle to vertical position or horizontal position, to brake the vehicle.
- Release the control handle, and it will automatically return to the vertical position.

Note: check the brake function of the control handle is normal before work.



5. Raise and lower

Push raise button or the lower button until the fork arms are at the desired height.

6. Loading

When approaching goods, the truck should move slowly.

- Stop the vehicle directly in front of the goods.
- Lower the fork arms to the lowest position. Drive the truck forwards and insert the fork arms beneath the pallet.
- Lift the fork arms until the fork arms are firmly supporting the pallet and goods.
- Reverse the truck until there is enough room to lower the fork arms.
- Lower the fork arms until they are 15-20cm above the ground.

Operation guide

7. Unloading

When approaching goods stacking area, the truck should move slowly.

- Carefully drive the loaded truck to a position directly in front of the goods rack.
- Lift the fork arms to a suitable height.
- Slowly lower the fork arms until the pallet bottom touches the rack.
- Slowly drive the truck out of the rack.
- Lower the fork arms until they are 15-20cm above the ground.

8. Parking

The truck should be parked on a level ground, with the fork arms lowered to their lowest position. Turn the key switch to the "OFF" position and take the key away.

9. Storage of vehicle for a long time

Carry out the following inspection and maintenance:

- Pull out the plugs to prevent the discharge.
- Apply anti-rust oil to exposed part, such as piston rod and wheel shaft.
- Clean the vehicle, cover it properly with the hood.
- Use the vehicle once every week, lifting it a few times to raise the fork arms to the highest position.
- Check if the electrolyte ratio and level are normal.
- Check the battery and level once per month.

Technical parameters

Model		T15
Manufacturer		Eoslift
Drive mode		Electric
Operation mode		Pedestrian-controlled
Rated capacity	lb	2640
Load center	In	19.7
Wheel-base [1]	In	55.6
Dead-weight (including battery)	lb	1639
Load per axle under full load, drive side / load-bearing side	lb	2477.2/1801.8
Load per axle, unladen, drive side / load-bearing side	lb	451/1108.8
Wheel		PU
Wheel size, load-bearing wheel	In	ϕ3.1×2.8
Wheel size, auxiliary wheel	In	ϕ3.9×1.6
Wheel size, drive wheel	In	ϕ9.1×2.6
Number of wheels, load-bearing wheel/drive wheel /auxiliary wheel		1x+2/2
Track, load-bearing wheel	In	16.1
Track, auxiliary wheel	In	20.5
Minimum mast height [3]	In	Refer to Table 1
Free lift height	In	Refer to Table 1
Lifting height [2]	In	Refer to Table 1
Maximum mast height [4]	In	Refer to Table 1
Height of fork arms lowered [6]	In	3.5
Overall length [7]	In	75.7
Fork length [10]	In	45.3
Truck body width [8]	In	28.3
Overall fork width [9]	In	22/27
Ground clearance at center of wheel-base	In	1
Width of minimum aisle	In	87.9
Minimum turning radius [11]	In	62.7
Travel speed, with / without load	mph	2.8/2.8

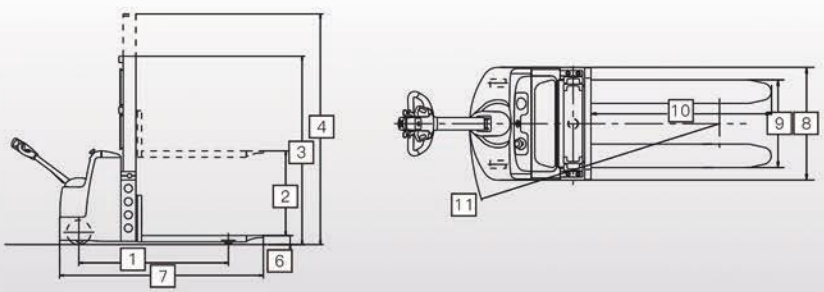
Technical parameters

Model		T15
Lift speed, with and without load	In/s	1.3/1.5
Lower speed, with and without load	In/s	1.5/1.2
Maximum negotiable gradient, with and without load	%	5
Drive motor power	kw	0.6
Lifting motor power	kw	2.2
Battery voltage / rated capacity	V/Ah	24/120
Brand of drive control		ZAPI
Level of noise at driver's ears	dB	≤70

Table 1

Model			T15	
Mast type			Double mast	
Weight(with battery)		lb	1683	1735.8
Axle load (120AH)	Loaded	lb	1830.4	1865.6
		lb	2492.6	2510.2
Axle load (120AH)	Unladen	lb	1216.6	1251.8
		lb	464.2	477.4
Mast	Closed mast height	In	80	92
Free lift		In	0	
Lifting height		In	118	142
Mast	Maximum mast height	In	138	162

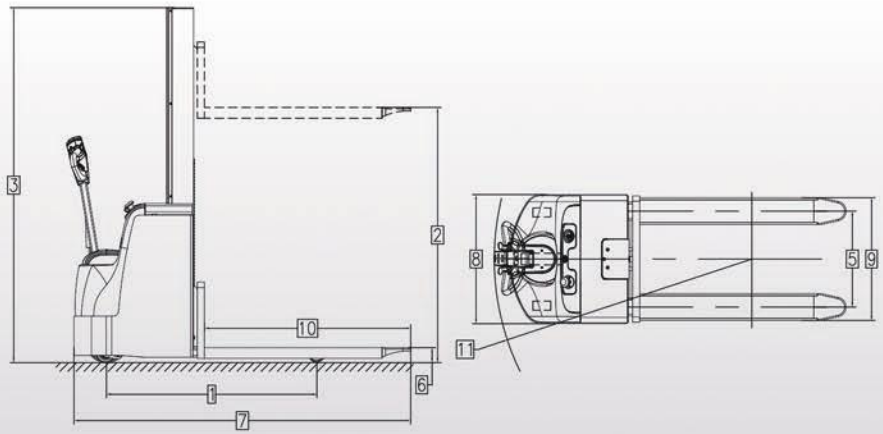
T15



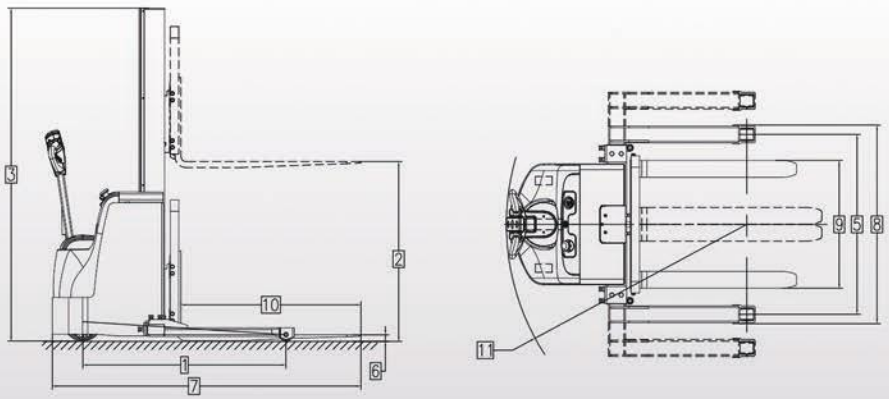
General Information		
Model		T15J
Mast type		Duplex Mast
Power		Electric
Operation Mode		Walking
Rated Capacity	lb.	3300
Load Center	in.	19.7
Wheel-base	in.1	47.6
Service Weight	lb.	1710
Wheels Chassis		
Wheel Type		PU
Drive Wheel	in.	Φ9.1×2.6
Load Wheel	in.	Φ3.3×2.8
Balance Wheel	in.	Φ3.9×1.6
Number of Wheels, Drive/Load		1+2/2
Track Width, Drive Side	in.	20.5
Track Width, Load Side	in.	42.1-53.9
Size		
Max. Lift Height	in.1	98.4/118.1/141.7
Free Lift Height	in.	0
Min. Mast Height	in.2	70/79.9/94
Max. Mast Height	in.	118/138/149.8
Min. Fork Height	in.3	1.7
Fork Length	in.	42.1
Fork Size	in.	1.57×3.9×42.1
Fork Width	in.4	7.9-31.4
Aisle Width for Pallets 1000x1200 Crossways	in.	92.5
Aisle Width for Pallets 800x1200 Crossways	in.	85.4
Min. Ground Clearance	in.	1
Overall Length	in.5	67.5
Overall Width	in.6	41.3-59.1
Turning Radius	in.7	54
Performance		
Travel Speed, Laden/Unladen	mph	2.8/2.8
Lift Speed, Laden/Unladen	in/s	3.9
Gradeability, Laden/Unladen	%	5/8
Service Brake		Electromagnetic
Drive		
Drive Motor/Power	KW	AC0.75
Lifting Motor/Power	KW	DC2.2
Battery Voltage	V/Ah	24V/60 Li-Ion

Technical parameters

T15 Single Mast



T52J Single Mast



Maintenance

No modifications or alterations to the parts of the stacker, especially the safety device shall be made without permission. The operating speed of the truck must not be changed.

All original parts have been checked by the quality inspection departments. To ensure the safety and reliability of the truck, only the manufacturer's parts can be used. Replaced parts, such as oil and fuel must be disposed of in accordance with the appropriate environmental protection rules.

1. Safety rules

- Maintenance personnel

  Only qualified persons specially trained by the manufacturer can carry out maintenance of the truck. The after-sales service department of manufacturer has dispatched special technicians who can be commissioned to sign on the maintenance record in the maintenance service appointed by manufacturer.

- Lifting of truck

  For lifting of the truck, the hoisting equipment should be safe and reliable (especially the hoisting position). When the truck is lifted, necessary measures should be taken to avoid slip and turnover of the truck (wedge block or wood block can be used) . The hoisting equipment can only be used when the forks are fixed and connecting cable with enough strength is applied.

- Cleaning operation

  Flammable fluid is strictly forbidden in cleaning of the truck. Before cleaning work, safety measures must be taken to avoid sparks (e.g. caused by short circuit) . Any operation of battery should be performed after cutting off the power of the battery. All electric elements and electronic assemblies can only be cleaned by weak wind blower or compressed air, or by non-conductive and antistatic brush.

> ⚠ **Warning**
> No modifications or alterations to the parts of the stacker, especially the safety device shall be made without permission. The operating speed of the truck must not be changed. All electric elements and electronic assemblies can only be cleaned by antistatic brush.

  If the truck is cleaned by water jet cleaner or high pressure cleaner, all electric elements and electronic assemblies should be covered in advance to avoid humidity which will cause faults. Cleaning the vehicle by steam nozzle is prohibited.

- Operation of electrical system

  Operation of electrical system should only be performed by trained professionals. Before any operation of electrical system, protection measures to avoid electric shock should be properly taken. During operation of battery, separate the inserts of battery apart to cut off the power of the truck.

- Operation of welding

  To avoid damage of electric and electronic assemblies, the assemblies should be removed away from the truck before welding.

- Installation

  After repair or replacement of the hydraulic components, electric elements and electronic assemblies, ensure that they are reinstalled to their original positions.

- Wheels

  The quality of wheels greatly affects the stability and driving performance of the truck. Any change to wheels should be approved by the manufacturer. During replacement of wheels, the truck must be kept level as original state (wheels must be replaced by pairs, e. g. both left and right) .

- Lifting chain

  If the lifting chain is not coated with lubricating oil, it will wear soon. The maintenance cycle stated in service manual refers to maintenance under the normal condition. Under worse conditions (dusts, temperature) , the parts should be lubricated regularly.

- Hydraulic oil pipe

  Oil pipe must be replaced every three years. When replacing hydraulic assembly, the oil pipe of hydraulic system should be replaced at the same time.

2. Routine maintenance(after each shift)

- Check if the battery level is within the specified range.
- Check each post, cable terminals and protective cover of the battery.
- Ensure that the battery box is secured firmly.
- Check whether the vehicle oil leaks.
- Check the cylinder, fork arms, oil pipe and horn are normal.
- Check the brake function is normal.
- Check the wear of the wheels.

3. Professional maintenance

Complete and professional maintenance is an important part for safe operation of stacker. Failure to conduct maintenance according to stipulated time interval will cause failure of truck and potential danger to person and equipment.

⚠ Warning

The maintenance cycle stated in operating instructions refers to maintenance under the normal condition with single shift operating. Under dusty condition, temperature varying greatly or under multiple shifts operating, the maintenance cycle should be shortened.

⚠ Warning

The following additional maintenance and check should be carried out during commissioning:
In the first operation of 50-100 hours or after two months:

- Check if any nut on wheels is loose and tighten it.
- Check if any leakage occurs on the hydraulic parts and tighten it if required.
- Replace hydraulic filter.

4. Storage

If the truck is to be stored for more than 2 months, the storage environment must be anti-freezing and dry. Before storing, all proper measures should be taken. During and after storage, execute the following operation:

- During the storage period, lift the vehicle to leave its wheels completely off the ground, in order to protect the wheels and their bearings inside.
- If the truck is to be stored for more than 6 months, please contact the repair department of the manufacture to obtain additional protective measures.

4.1 Prior to storage

- Thoroughly clean the vehicle.
- Check the brake function.
- Check the oil level of the hydraulic oil and add it if necessary.
- Apply lubricating oil or grease to all parts to protect them.
- Add lubricating oil or grease to the vehicle against the detailed lubrication period table.
- Recharge battery.
- Disconnect and clean the battery, apply the electrode grease to battery electrodes.

Note: In addition, the battery should be protected according to the requirements in the battery manual.

4.2 Measures taken during storage

Charge the battery every two months.

⚠ Warning

Regularly charging the battery is very important. Otherwise, the battery will discharge by itself, resulting in the loss of all power, then the battery will be completely scrapped.

4.3 Re-commissioning

- Thoroughly clean the vehicle.
- Add lubricating oil or grease to the vehicle against the detailed lubrication period table.
- Clean the battery, apply the electrode grease to electrode bolts, then connect the inserts.
- Recharge battery.
- Check if the oil in the gearbox contains water. If so, change the oil.
- Check if the hydraulic oil contains water. If so, change the oil.
- Start the vehicle.

Note: If poor contact occurs on the switch in the electrical system, spray the contact cleaner onto all exposed electrical inserts until oxide layer of the connectors is removed. Carry out electromagnetic brake test several times immediately after re-commissioning.

5. Maintenance list

● =Check, adjustment X=Replacement

① Batteries

Check point	Check item	Tool	Every day (8 hours)	Weekly (50 hours)	Monthly (200 hours)	Quarterly (600 hours)	Every half year (1200 hours)
Batteries	Level of electrolyte	Visual check		●	●	●	●
	Electrolyte	Densitometer		●	●	●	●
	Battery capacity		●	●	●	●	●
	Post Loose		●	●	●	●	●
	If connecting wire loosening		●	●	●	●	●
	Is the battery surface clean			●	●	●	●
	Is a tool left on the battery		●	●	●	●	●
	If air cap tightened firmly			●	●	●	●
	Far away from fire		●	●	●	●	●

② Controller

Check point	Check item	Tool	Every day (8 hours)	Weekly (50 hours)	Monthly (200 hours)	Quarterly (600 hours)	Every half year (1200 hours)
Controller	Check connector for wearing					●	●
	Check contactor for its normal operation					●	●
	Check sensitive switch for its normal operation					●	●
	Check if the connections between the motor battery and the power supply is safe and reliable					●	●

③ Motor

Check point	Check item	Tool	Every day (8 hours)	Weekly (50 hours)	Monthly (200 hours)	Quarterly (600 hours)	Every half year (1200 hours)
Motor	Clean foreign bodies on the motor				●	●	●
	Clean or replace the bearings						●
	Check the carbon brushes and commutator for wear; if worn, replace them.				●	●	●
	Check if the connecting cable is correct and firm				●	●	●
	Brush the carbon powder over the commutator plates					●	●

④ Transmission

Check point	Check item	Tool	Every day (8 hours)	Weekly (50 hours)	Monthly (200 hours)	Quarterly (600 hours)	Every half year (1200 hours)
Transmission	Too loud noise		●	●	●	●	●
	Oil leakage		●	●	●	●	●
	Oil change						X
	Lubricating rollers			●	●	●	●
	If steering flexible		●	●	●	●	●
	Abnormal sound		●	●	●	●	●
	Rotate the handle		●	●	●	●	●

Maintenance

⑤ Wheel (drive wheel, balance wheel and bearing wheel)

Check point	Check item	Tool	Every day (8 hours)	Weekly (50 hours)	Monthly (200 hours)	Quarterly (600 hours)	Every half year (1200 hours)
Drive wheel, balance wheel and bearing wheel	Check wear and cracks	Visual check	●	●	●	●	●
	Tighten bolts			●	●	●	●
	Clear ropes and debris off the wheels		●	●	●	●	●

⑥ Brake system

Check point	Check item	Every day (8 hours)	Weekly (50 hours)	Monthly (200 hours)	Quarterly (600 hours)	Every half year (1200 hours)
Brake sensitive switch	Check the brake condition when the handle is in the horizontal or vertical position	●	●	●	●	●
	If the sensitive switch is loose			●	●	●
Brake drum	Tightened			●	●	●
	Worn				●	●
	Clearance between brake drum and brake shoe				●	●
	If brake flexible	●	●	●	●	●

⑦ Hydraulic system

Check point	Check item	Tool	Every day (8 hours)	Weekly (50 hours)	Monthly (200 hours)	Quarterly (600 hours)	Every half year (1200 hours)
Hydraulic reservoir	Check the oil level, change oil if necessary.		●	●	●	●	
	Clean suction filter						●
	Remove foreign bodies						●
Hose, hose reel and swivel joint	Check for oil leakage, loosening, deformation and damage				●	●	●
	Replace hose						X (1-2years)
Hydraulic pump	Check for oil leakage and abnormal sound		●	●	●	●	●
	Check drive gear inside the pump for wear			X	●	●	●

⑧ Lifting device

Check point	Check item	Every day (8 hours)	Weekly (50 hours)	Monthly (200 hours)	Quarterly (600 hours)	Every half year (1200 hours)
Chain and pulley	Check the chain for tension, damage and rusting	●	●	●	●	●
	Chain lubrication			●	●	●
	Check if the chain and the pin are damaged			●	●	●
	Is the pulley deformed or damaged			●	●	●

Maintenance

Check point	Check item	Every day (8 hours)	Weekly (50 hours)	Monthly (200 hours)	Quarterly (600 hours)	Every half year (1200 hours)
	Is the pulley shaft loose			●	●	●
Optional attachments	Performance check			●	●	●
Lifting cylinder	Check if the piston rod, screw and the stop pin are deformed and loose	●	●	●	●	●
	Check if cylinder function is normal	●	●	●	●	●
	Check for oil leakage	●	●	●	●	●
	Check the pins and bushings for wear or damage			●	●	●
Fork arms	Check the fork arm carriage for wear, crack and deformation			●	●	●
	Check the stop pin for wear or damage				●	●
	Check the fork leg bottom and welded hook for cracks and damage			●	●	●
Mast	Check cross members of internal and external mast for weld seam, crack and damage			●	●	●
	Check tilt cylinder support for cracks or damage			●	●	●

Check point	Check item	Every day (8 hours)	Weekly (50 hours)	Monthly (200 hours)	Quarterly (600 hours)	Every half year (1200 hours)
	Check the internal and external mast for weld seam, crack and damage			●		●
	Check the lift support for weld seam, crack and damage			●	●	●
	Is the roller bearing loose			●	●	●
	Is the mast support casing tube worn or damaged					●
	Are tightening bolts for mast bracket loose			● For initial application		●
	Check if the round-head bolts and U-bolts of hydraulic cylinder and piston rod and piston rod guide bolts are loose			● For initial application		●
	Check if the roller, roller pin and weld for cracks			●	●	●

Maintenance

⑨ Other

Check point	Check item	Tool	Every day (8 hours)	Weekly (50 hours)	Monthly (200 hours)	Quarterly (600 hours)	Every half year (1200 hours)
Emergency stop switch	Check if its function is normal		●	●	●	●	●
Raise and lower button	Check if its function is normal		●	●	●	●	●
Horn	Check if its function is normal		●	●	●	●	●
Instrument	Check if its function is normal		●	●	●	●	●
Cable and wire	Worn or loose			●	●	●	●
	If wiring is poorly connected				●	●	●

6. Regular replacement of key safety components

In order to improve the safety for operating the vehicle, the components listed in the following table should be replaced regularly. If abnormalities found before replacement period is expired, replace the parts immediately.

Components	Service life
Brake hose	(1-2 years)
Hydraulic hose (lifting system)	(1-2 years)
Lifting chain	2-4 years
High-pressure hose (hydraulic system)	2 years
Internal seals, rubber parts	2 years
Handle connecting wire	1 years

7. Tightening torque table of bolts

Unit: N.m				
Bolt diameter	Grade			
	4.6	5.6	6.6	8.6
6	4—5	5—7	6—8	9—12
8	10—12	12—15	14—18	22—29
10	20—25	25—31	29—39	44—58
12	35—44	44—54	49—64	76—107
14	54—69	69—88	83—98	121—162
16	88—108	108—137	27—157	189—252
18	118—147	147—186	176—216	260—347
20	167—206	206—265	245—314	369—492
22	225—284	284—343	343—431	502—669
24	294—370	370—441	441—539	638—850
27	441—519	539—686	637—784	933—1244

8. Hydraulic oil and lubricating oil or grease

Oil Name	Trademark, code	Capacity (L)	Remarks
Hydraulic oil	L—HM46	8	
Gear oil	GL-5 85W/90	1.5	
Yellow Vaseline	2#		**Battery electrode**
Lubricating grease	ZG2# or 3#		

9. Handling of pallet stacker

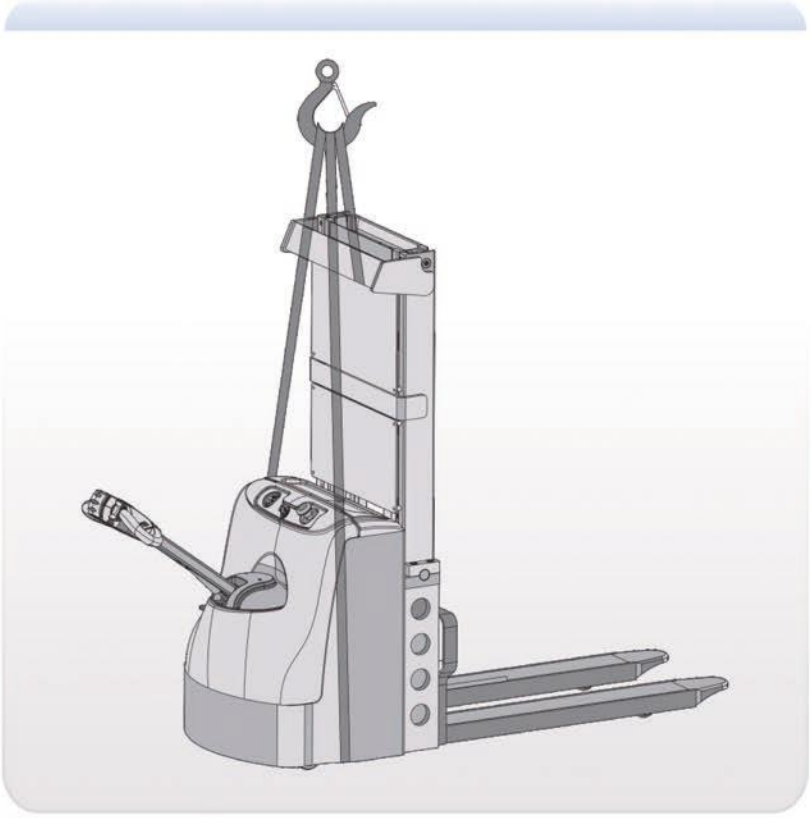
Transport

The truck is only used for material handling, can not be used as a tool for long-distance transport.
The truck must be transported by ship, train or automobile.

Transport with a crane

Thread the steel wire rope through both sides of external mast crossgirder and the bottom of the vehicle, then use a crane to handle the truck.

> ⚠ **Warning**
> Sling and crane must have enough capacity. Never stand under the truck when lifting it.

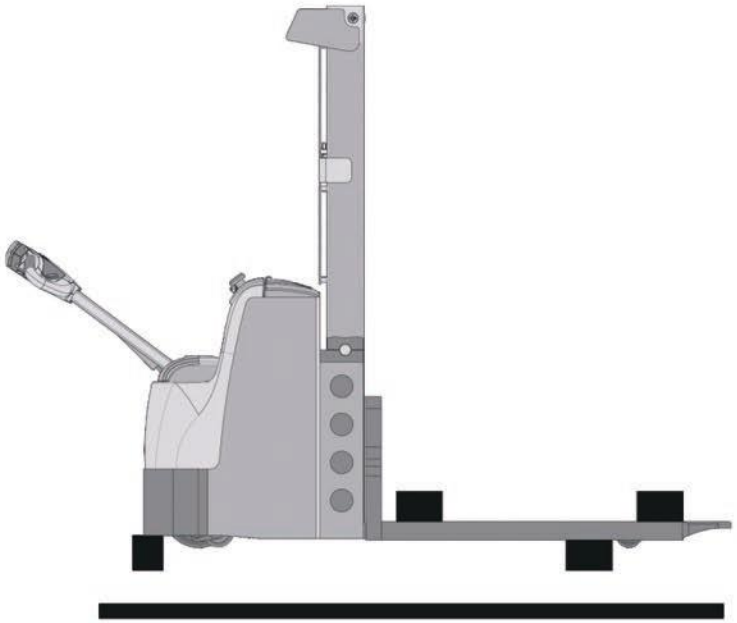


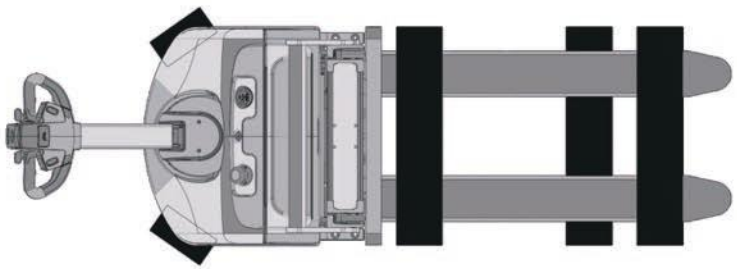
Maintenance

Long-distance transport

During long-distance transport, the truck must be firmly secured , placed on special pallet and fastened with strapping band to prevent loosening during transport.

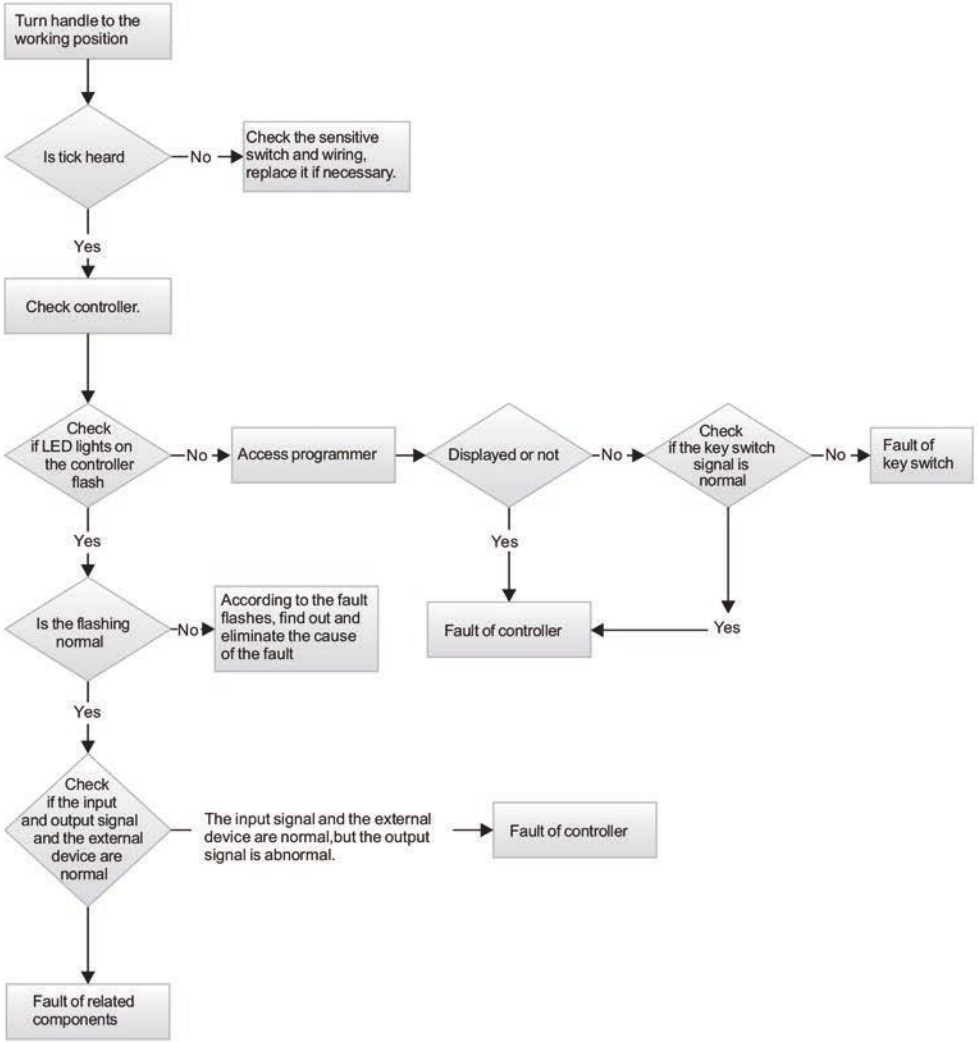
> ⚠ **Warning**
> Truck must be firmly secured, otherwise loosening during the handling and transport can cause body damage or even accidents!





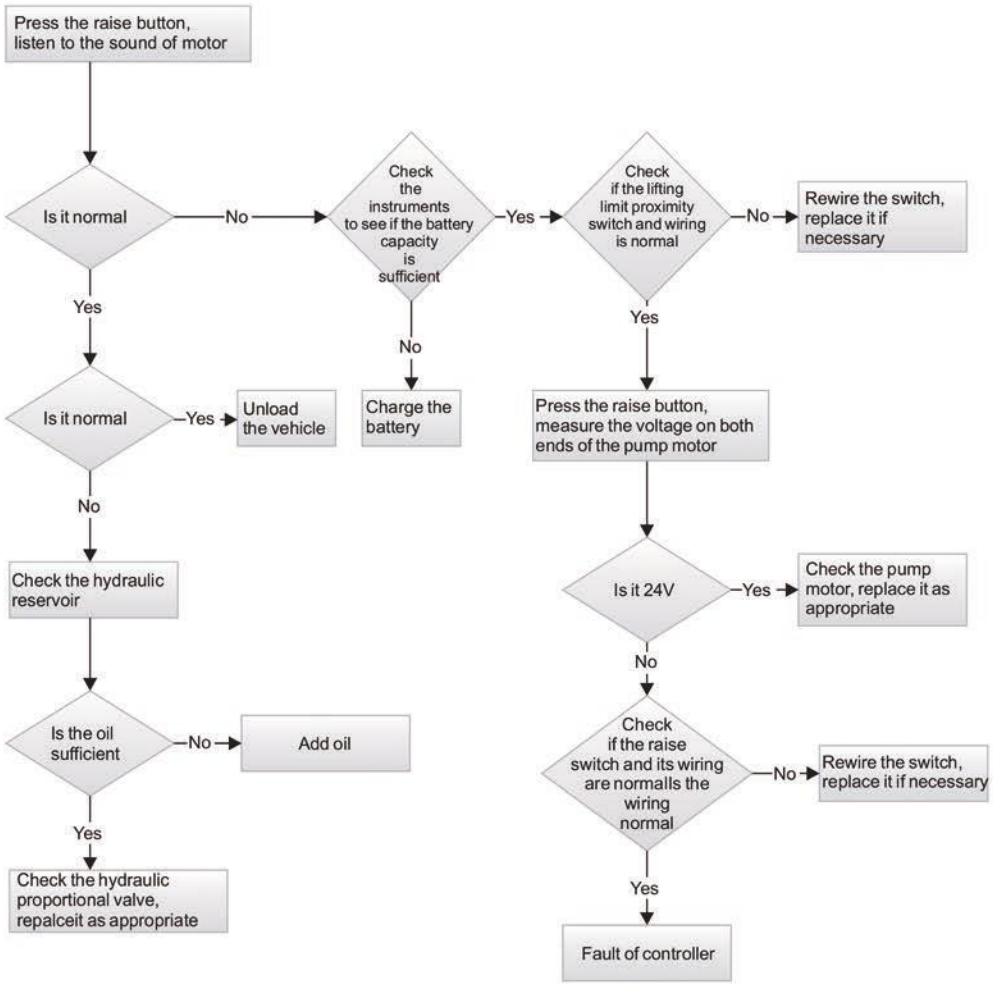
Trouble shooting

1. Unable to move forward and backward



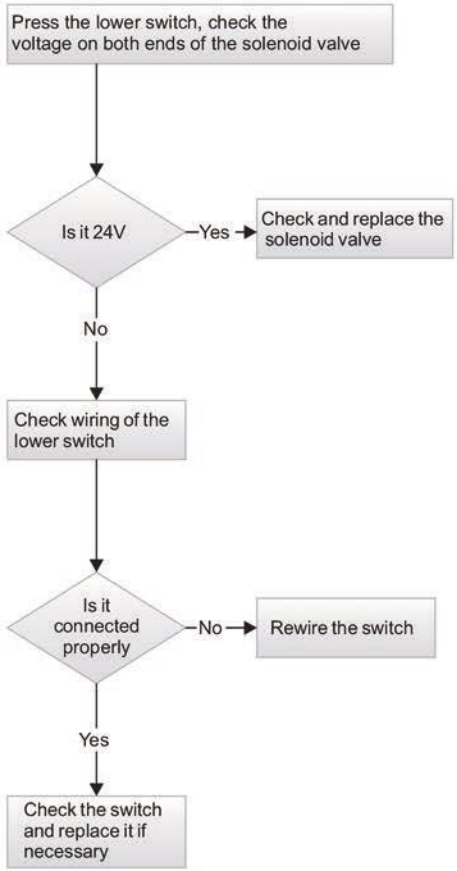
2. Unable to lift

Make sure the power switch is turned on, the battery is sufficient and the emergency stop button is pushed. then follow these steps to check the equipment:



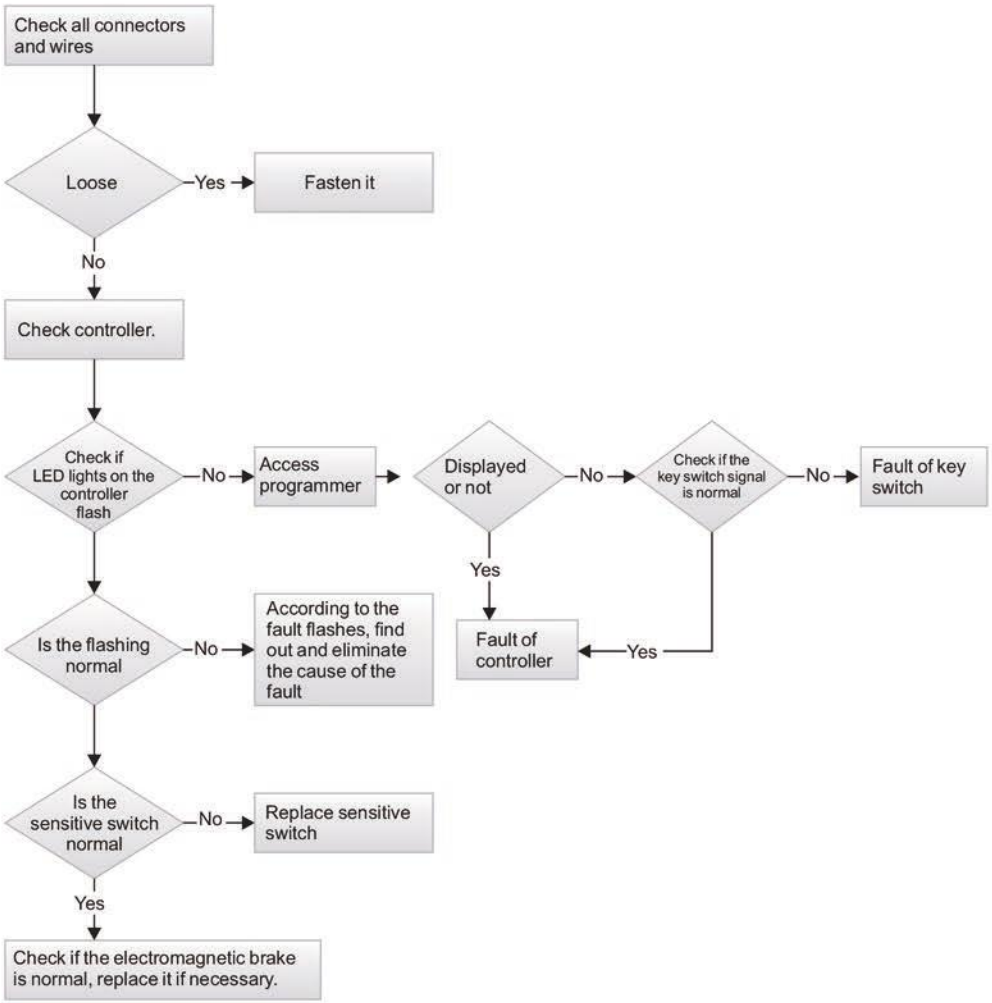
3. Unable to lower

Make sure the power switch is turned on, the battery is sufficient and the emergency stop button is pushed. then follow these steps to check the equipment:



4. Brake fault

- Brake can not be realized with control handle in the vertical and horizontal position.
- Parking can not be achieved after releasing knob.
- Parking can not be achieved after pressing the emergency stop button.



5. Fork arms lower automatically without operation