

# **Operating Manual of Series Electric Stackers - A**

(KLD-K/KLD-DA/KLD-E/KLD-DS/KLD-EB/KLD-DD)

the First Edition of 2021

Notice: Before using this vehicle, each operator should read and comprehend this operating manual, as well as the related warning labels that are attached on the vehicle. The illustrated picture is only for reference, the benchmark is based on the real product.

## **Preface**

Welcome to use this electric stacker made in our company, China. This vehicle is made by special sectional material as designed compact as durable and easily-operated. For the sake of your safety and proper operation, please read and comprehend this operating manual, as well as the relevant warning labels that are attached on the vehicle, before using the stacker.

Notice: All the parameters of the manual are subject to this edition of this manual, Our company reserves the right to update its own products. The update will not be informed any more; please contact our company if wanna know the latest parameters of products.

Notice: The forklift vehicle manufactured by our company, under the terms of China Special Equipment safety surveillance, is only specially used in the indoor zones of factory, tourist attraction, pleasure ground, and so on.

## **Contents**

1. Use Range
2. Operation Procedure
3. Safety Norm
4. Battery
5. Regular Failure & Troubleshooting
6. Upkeep & Maintenance
7. Electrical Schematic Diagram

## 1. Use Range

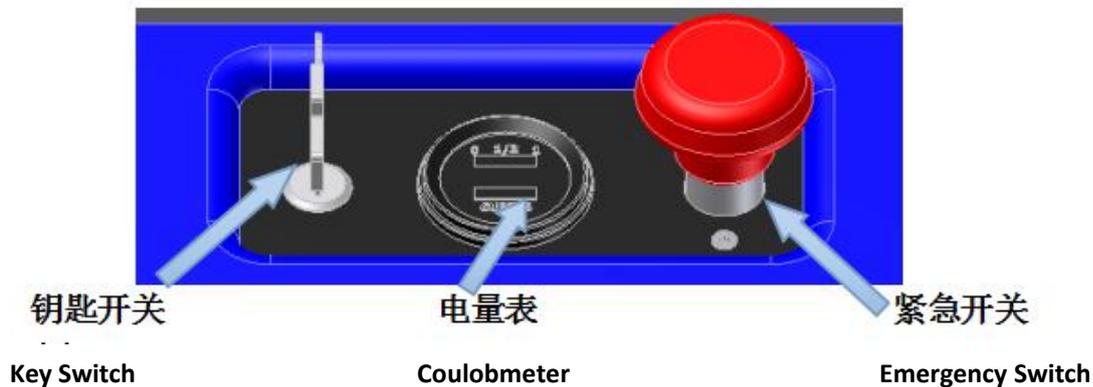
Pallet Stacker is a warehousing forklift that is specially-designed for high-altitude stacking and transporting goods on even ground.

## 2. Operation Procedure

### Start

Please operate by the procedure as follows, otherwise, the forklift will not work:

1. Ensure the plug inserts the power socket firmly.
2. Switch on emergency-switch, key-switch is at turn-on.
3. Ensure battery pack is of sufficient electric quantity.



### Attention !

Long-term operation by low electric potential will reduce battery life. Do not start the forklift before the completion of battery charging.

4. Steer at the correct direction, slowly accelerate the speed to the optimal speed

### Notice !

Don't operate those forklifts that are dysfunctional and unsafe. First, check the following safety functions before everyday work.

- a) Check if horn is normal to work
- b) Check if steering is normal to work
- c) Check if brake is normal to work
- d) Check if hydraulic system is normal to work

### Braking

1. The forklift performs braking as the control handle steers at the top or the lowest.
2. It operates electric braking when direction-switch turns to the reverse while normal travelling.
3. Let it go back to neutral gear by loosening the travel-direction-switch to stop the travel of the forklift.

## Turning

1. The turning is controlled by the steering handle, the steering angle is on anywhere from left 90° to right 90°
2. Should not go forcibly through a barrier that is in front of the forklift, may turn the steering handle to bypass it forwards or backwards.

## Notice !

Wheels are not allowed to slip.

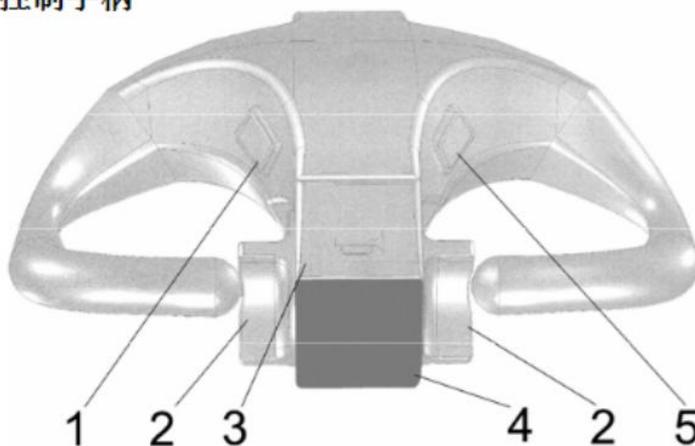
If the operator's hands and shoes are oily, easily makes misoperation to cause the forklift out of control, so must wipe and dry the hands and shoes before driving the vehicle.

## Parking

1. Release direction switch
2. Release the steering handle that will be back itself to the braking status.
3. Lower the forks to the lowest and release oil pressure out of hydraulic system.
4. Turn Key-switch to turn-off

## Control Handler

控制手柄



- 1 下降按钮
- 2 前进/后退 旋钮
- 3 喇叭按钮
- 4 肚皮开关
- 5 起升按钮

1. Lowering Button, 2. Forward/Backward Knob, 3. Horn Button, 4. Reverse Emergency Switch, 5. Lifting Button.

## Notice !

1. Don't permit to operate the vehicle without authorization.
2. Please keep the key away with you when you leave .

### **3. Safety Norm**

#### **Summary**

- 1、 all safety switches and devices must be checked in advance every day before using the forklift and ensure these safety facilities are normal to work.
- 2、 Check to ensure all the warning labels and rated parameter plates are normal as attached on the vehicle.
- 3、 It doesn't allow to use the stacker under the circumstance that the stacker gets something broken, or there is fault which affects the safety.
- 4、 There should be professionals who are charge in maintaining, repairing and fixing the forklift.

#### **Forklift Operation**

Forklift may lift and lower freely within a certain altitude scope. Specially manufactured is the forklift which is used for refrigeration house. Based on the design and manufacture of forklift, some working occasions are inappropriate as below:

- 1、 There is inflammable and explosive dust or gas in the air of work site.
- 2、 The forklift plays a role of a tow truck for another vehicle.
- 3、 The forklift is used to transport or elevate a person.

#### **The responsibility of forklift operator**

- 1、 The forklift operator cannot operate the forklift without training and recognition.
- 2、 Abide by this operating manual, as well as the local legal regulation of safety, and traffic rules.
- 3、 It is prohibitive to operate the forklift when the operator's hands and feet are oily.

#### **Work Site**

- 1、 A stacker is only able to be operated on even solid road such as concrete or pitch road. Do not operate on oily area, in case of slipping of travel wheels.
- 2、 Ensure the ground or floor has sufficient load capacity that can load the total amount of weight of forklift, namely the aggregate weight of the forklift and the goods plus the operator.

### 3、 Guidance for Driving:

- (a) Avoiding sudden braking or turning at a fast travel speed.
- (b) Keeps the goods at the bottom during travelling.
- (c) During all the process of travelling on ramp, slow down the travel speed and keep the goods at the bottom, it is banned from direction turning as well as mast lifting and lowering.
- (d) Slow down if the road is slippery, in case of idling or rollover of forklift.
- (e) Except of the process of loading and off-loading goods, the goods forks should be lowered to as no more than 200 mm as the height from the ground during the process of travelling. don't lift and rotate goods at the same time.

4、 Someone is needed to direct you around if your sight is confined, ensure safety.

5、 Keep a certain safety distance from front vehicle, persons, and objects.

6、 Honk horn if excessive speed.

7、 Stacker forklift is prohibited from transporting person.

8、 Ensure the elevator has sufficient load capacity for the whole weight of forklift, before entering into.

### 9、 Loading & off-loading of Goods

(a) Only allowed to lift the goods forks to operate during the process of off-loading the goods or forking the goods, meanwhile keeping the distance from persons around the vehicle. It is banned from lifting and lowering or tilting goods forks during the process of travelling, meanwhile keep the height of goods forks as no more than 200 mm as the height from the ground.

(b) The transported goods keeps symmetric, compares the left side to the right; it is not allowed to transport the unstable and unsafe.

(c) Banned from touching the mast when lifting goods, in case of pinching hands.

(d) It is only allowed to load or off-load goods at the range of maximum lifting weight and load centre, moreover adjust the symmetric position of goods loaded on the goods forks, in light of the outer size of the goods. Refer to the load capacity chart in details.

(e) Be more discreet when loading or off-loading those which are higher and heavier; it must be equipped with load-backrest when loading or off-loading those goods that are gigantic.

### 10、 Attention for Vehicle Parking

(a) Lower the forks to the lowest after stable parking.

(b) Banned from parking on ramp

(c) Parking at an appointed place

(d) Banned from parking on the emergency exit

(e) Banned from parking at busy work place.

(f) Shut off power supply after forklift parking.

## 4、 Battery

### Charging

1、 Banned from smoking and open fire when charging.

Charge the battery by an automatic charger, avoiding undercharge or overcharge, in case of battery damage. The maximum electric current of charging as follows:

| Storage Battery (Ah) | Battery Charger (A) |
|----------------------|---------------------|
| 80/100               | 10/15               |

### 2、 Charging Preparation

- (a) Turn key switch to turn-off condition after parking, pull out the key.
- (b) Unplug the plug of power supply, plug the plug of charger into the plug (detachable) of power supply of battery.
- (c) Switch on alternating current and start charging by the charger.

Notice !

Keep favourable ventilation when charging, especially in close zone. During the process of charging, battery produces hydrogen, oxygen that triggers explosion so long as mixing with open fire and electric sparks.

Cut off charging power supply before unplugging the plug of power supply.

### Upkeep of Storage Battery

- 1、 In order to keep the use life of storage battery, the battery should be charged fully before come into use, undercharged battery may not to be used.
- 2 、 Storage battery avoids overcharge and over-discharge as much as possible, overcharge and over-discharge heavily affect the use life of storage battery.
- 3、 Must charge the battery in time after using the battery, no less than two hours per charging.
- 4、 Keep favorable ventilation when charging, banned from smoking.

## 5. Troubleshooting

| Serial | Faults                                    | Reason  | Solution   |
|--------|---|---|--|
| 1      | The forks cannot lift to the top          | Hydraulic oil is insufficient   | Fill with hydraulic oil  |
| 2      | The forks cannot lift                     | Either no hydraulic oil, or the oil is impure   | Either fill with hydraulic oil, or replace the oil.  |
| 3      | The motor of pump station doesn't work    | <ol style="list-style-type: none"> <li>1. has not switched on emergency switch.</li> <li>2. the voltage of battery is low.</li> <li>3. the connector of power supply is loose.</li> <li>4. the contactor of motor is broken.</li> </ol>   | <ol style="list-style-type: none"> <li>1. switch on the emergency switch.</li> <li>2. charge the battery.</li> <li>3. fasten.</li> <li>4. replace</li> </ol>   |
| 4      | The forks cannot lower                    | <ol style="list-style-type: none"> <li>1. deformation of the big piston rod or oil cylinder body, due to deviated or overloads goods.</li> <li>2. long-time parking of goods forks at the higher position, it results that the piston rod gets rusty by the exposure of the rod in the air and obstruct the move of the piston.</li> <li>3. the relief valve of pump station cannot open, due to its worn or broken.</li> </ol> | <ol style="list-style-type: none"> <li>1. replace the big piston rod or oil cylinder.</li> <li>2. please lower the forks to the lowest after use, pay attention to lubricate the piston rod.</li> <li>3. replace the relief valve of pump station</li> </ol> |
| 5      | Oil leakage                               | <ol style="list-style-type: none"> <li>1. oil seal is ageing or broken.</li> <li>2. some parts are cracked</li> </ol>   | <ol style="list-style-type: none"> <li>1. replace</li> <li>2. replace</li> </ol>   |
| 6      | Goods forks slide downwards by themselves | <ol style="list-style-type: none"> <li>1. the relief valve cannot close tightly, due to the impure hydraulic oil.</li> <li>2. sealing piece is ageing or broken.</li> <li>3. the relief valve is broken</li> </ol>  | <ol style="list-style-type: none"> <li>1. replace</li> <li>2. replace it by new one</li> <li>3. replace it by new one</li> </ol>   |
| 7      | battery fails to be charged               | <ol style="list-style-type: none"> <li>1. battery is broken</li> <li>2. the charging plug is loose</li> </ol>   | <ol style="list-style-type: none"> <li>1. replace by new one</li> <li>2. plug tightly</li> </ol>   |

Attention: banned from arbitrary repairing without authorization and training.

## 6. Upkeep & Maintenance

Regular upkeep once per 500-hour operation of forklift; the efficiency, use life and safety of forklift reply on routine upkeep. The replaced parts should be supplied by the original manufacturer KING-Lift to ensure the quality. Recommend the end users to contact the agent of the product or the persons who are in charge of after-service of King-lift company, in order to ensure your forklift to perform safer and more economical.

### Safety Rule of Maintenance Work

The maintenance is only worked on by those who have systematically studied the maintenance.

1. Keep the maintaining site clean and sanitary
2. Don't bring loose item and valuables with your body during maintenance

### **Attention !**

During the process of maintaining the electrical system of forklift, please take off wrist watch, earrings and metal ornaments, in case that it could be short-circuited or burnt when metal contacts the electrical elements.

3、 First unplug the plug of power supply, then shut off power supply before the maintenance of forklift.

4、 Must turn key-switch to turn-off and press down emergency switch before opening the rear cover.

5、 Release the system pressure as lowering the forks before checking the hydraulic system.

6、 Don't use hand to contact directly before checking the oil leakage of vehicle body, in case of scalding.

7、 the temperature of the oil inside transmission gear or hydraulic system may be high, must cool down the forklift before replacing the gear oil or hydraulic oil, in case that the oil temperature is so high that the oil burns.

8、 Fill the hydraulic system with new hydraulic oil, 46# Hydraulic oil is advisable .

### **Attention !**

If the hydraulic oil is not clean, that could affect the precise hydraulic elements and make the performance of hydraulic system decreased . If use the hydraulic oil of different brand, that harms hydraulic elements, also affects the performance of hydraulic elements, therefore, please pay attention to using the oil of identical brand during adding or replacing the hydraulic oil.

9、 Please abide by some relevant legal rules, protect environment, store and discharge the oil material in accordance with some stipulations, it is prohibited from discharging it into sewer pipes.

10、 Please cut off power supply if vehicle body needs welding, in case that the electric current goes into the storage battery.

11、 Every and each parts of human body cannot enter under the mast or the forks without reliable bracket.

## Notice !

Forklift could be rolled over to hurt persons if inappropriate holding up; it is banned from working under the vehicle if there is no lifting equipment or no propping protection of bracket.

### **Some maintenance work could be accomplished by users.**

#### Daily maintenance & safety check

1. It is duty for a forklift operator to keep routine maintenance and check.
- 2、 It affects the safety and reliability of forklift without routine maintenance, that could result in accidents occurred.
- 3、 Immediately stop using the forklift, in addition, engaging in fixing, as soon as detecting its problem or finding out its faults.
- 4、 In order to keep the vehicle in good using status, it is necessary to check and maintain the vehicle every day, the crucial checking is as follows:

| Serial | Component checked  | Checking content  |
|--------|--------------------|---|
| 1      | Operating control  | Check if it is normal to work                                     |
| 2      | Belly Switch       | Check if it is normal to work                                     |
| 3      | Horn               | Check if it is normal to work                                     |
| 4      | Steering           | Check if it is normal to work                                     |
| 5      | Hydraulic device   | Check if it is normal to work                                     |
| 6      | Coulombmeter       | Check if it is normal to work                                     |
| 7      | Hydraulic system   | Check the oil level and whether there is oil leakage or not       |
| 8      | Drive Device       | Check if there is abnormal noise or oil leakage                   |
| 9      | Clutch, Brake      | Check if it works, or with poor contact                           |
| 10     | Transmission       | Check if they are normal to work                                  |
| 11     | Vehicle wheels     | Check if they are damaged after wiping off oil dirt & metal chips |
| 12     | Chassis frame      | Check if they are damaged after wiping off oil dirt               |
| 13     | Goods forks        | Check if they are deformed or cracked                             |
| 14     | Hydraulic cylinder | Check if it is damaged or oil leakage                             |

## Clean up Forklift

Proceed on regular cleaning per week, it is crucial to ensure its reliability. Please unplug the socket of power supply before cleaning, in case of short circuit that will damage the electrical system.

Clean away the exterior of vehicle

1. Clear away the attachment attached on the vehicle per day to keep its flexible rotation.
2. Must blow off the dust on the motor by air-compressor when cleaning up the electrical elements, it is by no means to use damp cloth to wipe off the dust on the electrical wiring.
3. Must replenish grease oil on some related parts after the completion of cleaning up.

## Attention !

Electrical elements cannot be flushed by high-pressure water, to avoid short circuit by unable to destroy the electrical elements on electric board.

## 7. Electrical Schematic diagram

