

OPERATORS MANUAL

Starke Energy Series

EDS30-40



STARKE MATERIAL HANDLING GROUP

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STARKE
ENERGY

Please read the manual carefully before operation

- **This manual is universal manual. We reserve the right to modify technology of the electric stacker. If there is anything in the manual that is not consistent with the actual stacker, the actual stacker should be considered correct and the manual is only for reference.**

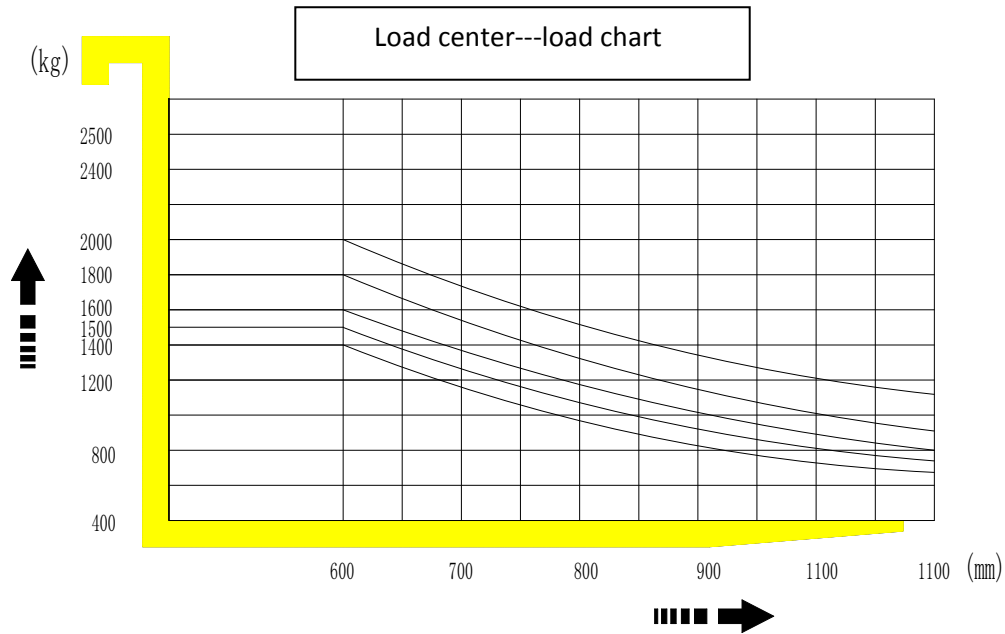
Warning

- **Operator of the truck must strictly follow ISO 3691“Safety Specification for Industrial Vehicles” and it is prohibited for untrained people to operate the truck.**

According to ISO3691: 1980 Safety regulation for industrial trucks the load capacity and lifting height of our EDS35-40ACX three-wheel electric forklift is regulated as follows:

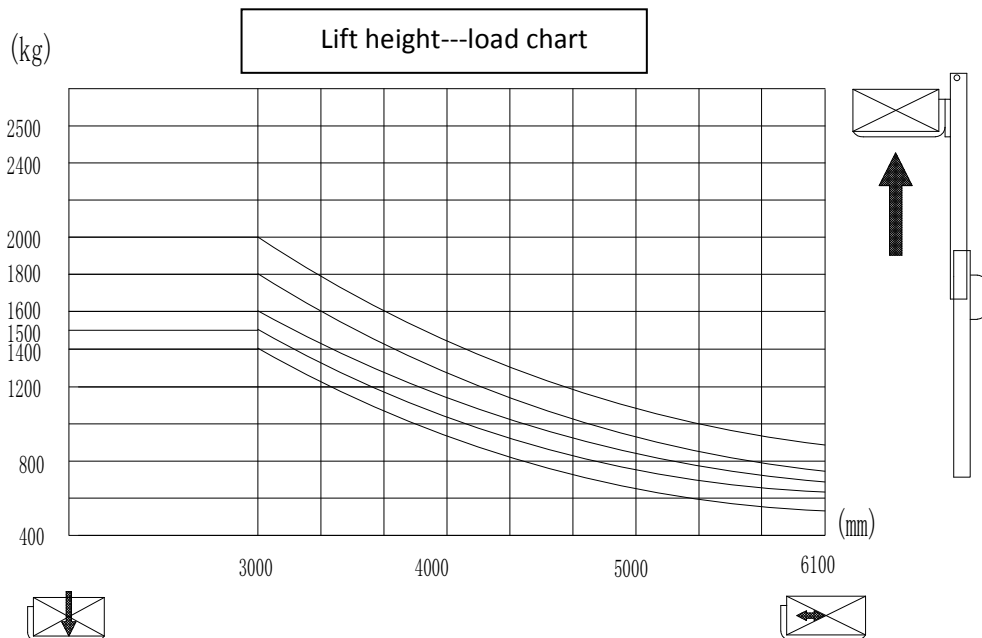
I. Load chart:

- When the lifting height of EDS30-40ACX three-wheel electric forklift is below 3000mm (including 3000mm), the max. capacity of the truck is the rated capacity, forbid overloading
- 1. Capacity plate information: the capacity plate is under the overhead guard, it contains: truck serial number, capacity information (load, load center and lift height), truck type (fire safety rating), truck weight with battery (does not include load), attachment information.
- 2. Reading capacity plate: capacity may be reduced as lift height increases. For example (ESD30-40ACX-16) on the sample plate, 1600kg can be lifted to 3000mm. But above 3000mm to 4800mm, capacity is reduced from 1600kg to 900kg.
- 3. Capacity is reduced as load center increase. For example (ESD30-40ACX-16) on the sample plate, 1600kg can be lifted if the load center is 600mm. The load center is increased from 600mm to 800mm, capacity is reduced from 1600kg to 1150kg.
- 4. You may not increase capacity if load center is less than shown on your capacity plate. Contact our company for load center distance, lift height and max. capacity.
- 5. Truck weight: Dock boards, elevators and some floors have limited capacity. Check the capacity plate for the weight of your truck. Make sure you use the correct units of measure.
- 6. Some truck types are not permitted in areas where there are fire hazards. Watch for marked areas. For example: you must not drive a type E or ES truck into an area restricted EE or EX trucks.
- 7. Attachment data: If an attachment on your truck does not match the information given here on your capacity plate, do not operate your truck. Your capacity plate maybe wrong. Report the problem to your supervisor.
- 8. Braking reduced: For added stability and comfort, braking may be reduced at some lift heights. Check your capacity plate and allow a longer stopping distance above that lift height.



Note:

Vertical coordinate stands for load capacity, cross coordinate stands for the load center. The load center is calculated from the front forks, the base point of standard load capacity refers to 1000mm center of the cube. When the mast has tilting forward, using nonstandard fork or load exceeding that in the normal width, which will reduce the load capacity, understand the load capacity in all load centers in time by the load chart. Reduce 200kg when adding side-shifter.




Note:

Vertical coordinate stands for the load capacity, cross coordinate stands for lift height. understand the load capacity in all load centers in time by the load chart. Reduce 200kg when adding side-shifter.

II. Nameplate

The basic data and the limit data (capacity, height and so on) must be included on the capacity plate of each truck, understand carefully before operation.

1. Model and Serial No.
2. Voltage
3. Rated capacity
4. Accessory product
5. Load center
6. Lift height
7. Total weight
8. Battery weight

		Electric Counterbalanced Forklift Trucks	
Model	ESD35ACX	Service weight	4010 Kg
Rated capacity	1600 Kg	Service weight (no battery)	3060 Kg
Max. lift height	4800 mm	Allow battery weight	920-980 Kg
Max. height capacity	950 Kg	Battery voltage	48 V
Load center	600 mm	Serial Number	

III. Capacity & Load Center

1. What is your truck capacity?

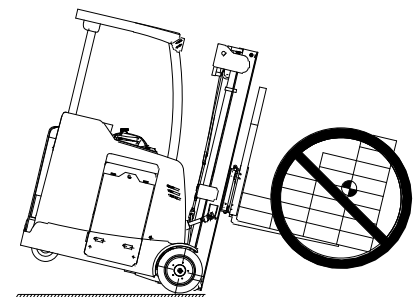
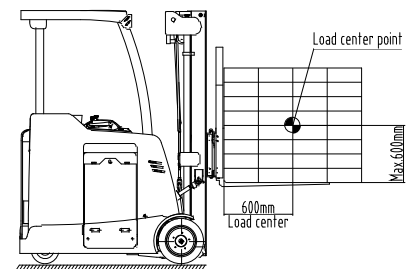
Capacity is the load that can be lifted to a given height at a given load center. See the capacity plate on your truck. Make certain you use the correct units of measure.

2. What is load center?

Load center is the distance from the end of the operator platform to the center of an evenly distributed load.

3. Loads must be evenly distributed

Your truck could tip over, in any direction, if a load is placed or shifted to the front, back or side of a pallet, cart, platform or container. Make sure you spread the load evenly as you load a pallet.



1. Brief introduction:

EDS30-40ACX series electric pallet stacker is powered by storage battery, and driven by AC motor. This kind of truck travels by means of gear transmission. The fork is lifted by means of DC motor and hydraulic actuation, which motivate hydraulic cylinder up and down to lift fork and goods together. As this truck is electrically driven for traveling and lifting, driving is stand, power steering in wheel it possesses many characteristics as labor-saving, high efficiency, stability in operation, simple and easy operation, safety and reliability, little noise and environmental friendly, etc. This truck adopts 36V large capacity battery cell, which greatly extends service time within one charge. The kind of truck is applicable for goods transportation on hard and flat ground.

Allowed environment for using:

- a. HEIGHT ABOVE SEA LEVEL SHALL NOT BE OVER 1000M;
- b. Ambient temperature shall not be higher than +40°C and no lower than -25°C.
- c. When the ambient temperature reaches +40°C, the relative humidity should not exceed 50%; at a lower temperature, higher relative humidity is allowed.
- d. Hard and flat ground.

It is prohibited to use the truck in a flammable, explosive or corrosive environment with acid and alkali.

Description:

The instruction manual shall be kept by the operator, and shall be read by the operator until he gets a full understanding.

The instruction manual is composed of correct operation, convenient and simple maintenance, and routine inspection.


The instruction manual shall be carefully read before operation, for purpose of correct drive and suitable maintenance to ensure safe and effective material transportation.

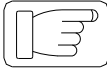
The instruction may be in disagreement with practical product due to product innovation.

The instruction manual shall be accompanied with in case of truck leasing or transfer.

Please come into contact with our sales department in case of any problem.

Description of symbol: Regulations of the following symbols are of great importance to your safety and others as well.

	Danger	Indicates an impending danger. Deaths or severe injuries would be resulted without any precaution or avoidance. You must observe those requirements.
	Warning	Indicates a potential danger. Deaths or severe injuries would be resulted without any precaution or avoidance. You must observe those requirements.

	Caution	Indicates a potential danger. Moderate injuries would be resulted without any precaution or avoidance. You must observe those requirements.
	Notice	You shall pay attention to statements that are in direct or indirect relation with personal security and truck maintenance.

Standing type electric forklift can lift, side-shift and stack goods, it is designed specially to operate in the warehouse with narrow aisle.

Fork function, standard function and optional function

Standard fork or hydraulic function: lift and lower fork and tilting mast.

Also include other parts, such as side-shifter, carton clip or push-puller. The company can determine the relative function according to the working area and conduct relevant training.

How to drive the forklift

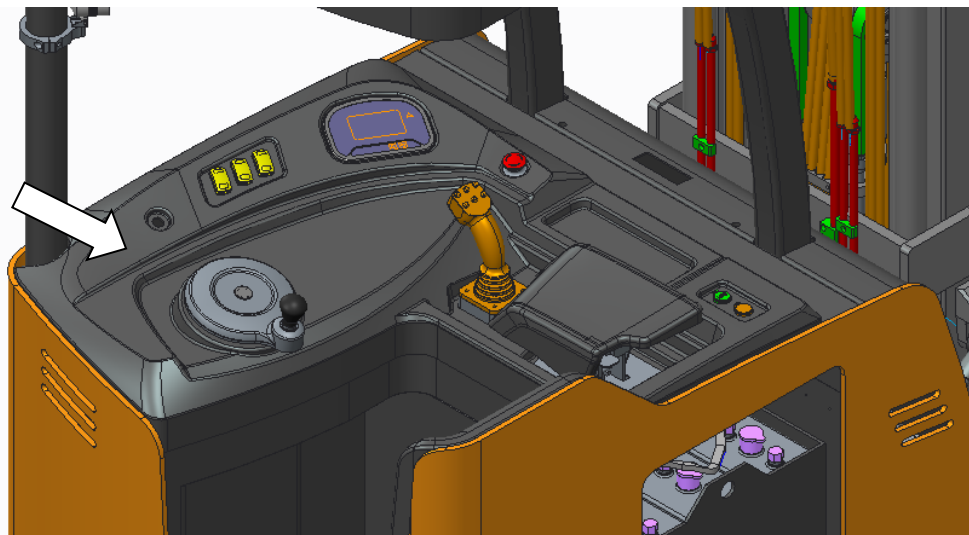
Forklift can be equipped with the soft cushion, adjustable handrail and moveable pedal in the operation area. The operator stands on the side and back on the soft cushion when driving. What's more, the hand and the foot is on the control handle and the pedal respectively, which can be comfortable and stable. In addition, observe the other direction when turning the head and drive in this direction.

Key switch

The key switch is on the right side of the operating table:

OFF –turn the key switch to OFF, disconnect the circuit.

ON-- turn the key switch to ON, connect the circuit.

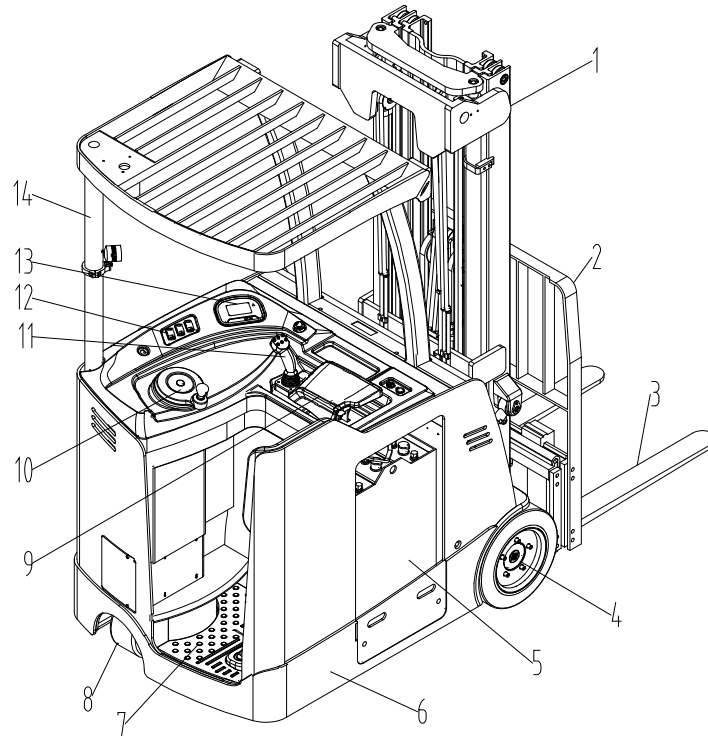


3. Main Technical Parameters

Characteristics	1.1	Model		ESD30ACX	ESD35ACX	ESD40ACX
	1.2	drive type		front wheel double motor drive		
	1.3	operation type		standing type		
	1.4	rated capacity	Q (kg)	1360	1600	1800
	1.5	load center	c (mm)	600	600	600
	1.6	distance from front axle to	x (mm)	300	300	300
	1.7	wheel base	y (mm)	1143	1200	1260
Weight	2.1	weight (no battery)	kg	2900	3060	3120
	2.2	axle load, laden front/rear	kg	(decide after test)	4780/830 (4.8m)	(decide after test)
	2.3	axle load, unladen front/rear (with Max. battery)	kg	(decide after test)	2130/1880 (4.8m)	(decide after test)
Wheels	3.1	wheel size front	spring solid	16x7x10.5	16x7x10.5	16x7x10.5
	3.2	wheel size rear	solid	10x5x6.5	10x5x6.5	10x5x6.5
	3.3	Wheel number-front		2	2	2
	3.4	Wheel number-rear		2	2	2
	3.5	thread-front	b10	890	890	890
	3.6	thread-rear	b11	170	170	170
Dimensions	4.1	mast/fork frame tilting angle, front		5	5	5
	4.2	mast/fork frame tilting angle, rear		5	5	5
	4.3	mast height, lowered	h1 (mm)	2000-2595	2000-2595	2000-2595
	4.4	free lift height	h2 (mm)	option	option	option
	4.5	lift height	h3 (mm)	3000-6000	3000-6000	3000-6000
	4.6	max. height, mast extended	h4 (mm)	4050-7050	4050-7050	4050-7050
	4.12	overall width	b1 (mm)	1070	1070	1070
	4.13	thickness	s (mm)	35	40	40
	4.14	width	e (mm)	100	100	100
	4.15	length	l (mm)	920 (1070)	920 (1070)	920 (1070)
	4.16	fork frame type		A	A	A
	4.17	fork frame width	b3 (mm)	1000	1000	1000
	4.18	bottom of mast height, laden	m1 (mm)	70	70	70
	4.19	truck body height off the ground	m2 (mm)	90	90	90
	4.20	aisle width for pallets 1000x1200 crossways	Ast (mm)	3000	3060	3120
	4.21	aisle width for pallets 800x1200 lengthways	Ast (mm)	3100	3160	3220
	4.22	turning radius	Wa (mm)	1380	1440	1500
Performance	5.1	travel speed, laden	km/h	11.5	11.5	11.5
	5.2	travel speed, unladen		12	12	12
	5.3	lift speed, laden	m/s	0.3	0.28	0.26
	5.4	lift speed, unladen		0.4	0.4	0.4
	5.7	gradeability, laden	%	10	10	10

	5.8	gradeability, unladen	%	15	15	15
	5.11	brake		Electric	Electric	Electric
Motor	6.1	drive motor power	KW	4.5 (AC)	4.5 (AC)	4.5 (AC)
	6.2	pump motor power	KW	8.6 (AC)	8.6 (AC)	8.6 (AC)
	6.3	system pressure	bar	140	150	160
Battery	7.1	voltage	V	36	36	36
	7.2	capacity	Ah	700	800	900
	7.3	battery weight	kg	820~880	920~980	1100~1160
Others	8.1	travel control		AC	AC	AC
	8.2	average noise	Db (A)	68	68	68

4. Introduction of Structure



No.	ESD30-40ACX	Name
1	●	mast
2	●	load backrest
3	●	fork
4	●	drive wheel
5	●	battery
6	●	truck frame
7	●	pedal
8	●	steering wheel
9	●	adjustable handrail
10	●	hydraulic power-assisted steering mechanism
11	●	multifunction handle
12	●	electrical control system
13	●	multifunction liquid crystal combined instrument
14	●	overhead guard
●=Standard		○=Option

5. Safety Norms:



Warning

Please pay attention to the following items first before operation of the truck:

- 1) This electric truck is only limited to utilization indoor with a hard flat floor. Operation in inflammable, explosive environment or corrosive environment such as acid or alkaline condition shall be strictly forbidden.
- 2) Only drivers who have received formal training or are authorized can be allowed to drive the truck.
- 3) Read this instruction carefully before operation so as to master the performance of the truck; check the truck whether it is in its normal condition before each operation. It is forbidden to use faulty truck; repair by untrained persons is forbidden as well.
- 4) Overloading operation is forbidden.
- 5) As for goods carrying and operation, center of gravity of the goods must be within range of the two forks. It is forbidden to transport loose goods
- 6) The truck shall travels slowly when forks pass in or out of pallet.
- 7) It is strictly forbidden to press the lifting or lowering button during the traveling of the truck. Meanwhile, don't switch lifting and lowering buttons rapidly or frequently, because rapid and frequent lifting or lowering will cause damage to the truck and goods.
- 8) Don't load heavy goods on the forks rapidly.
- 9) Don't lay the goods on the truck for a long time!
- 10) It is strictly forbidden to make sharp turn on narrow aisle. When it is turning, slow down the truck so as to ensure the safety of personnel and goods.
- 11) Descend the forks to the lowest position when the truck is not used.
- 12) It is strictly forbidden to put any part of the body under heavy goods and forks.
- 13) This truck is suitable to be used on flat ground or flat platform. Don't put the truck on the slope for a long time.
- 14) Overloading operation is forbidden. Otherwise the wheel will skid, resulting in the damage of wheel and motor as well as danger of the human body and goods.
- 15) It is strictly to use the truck under stipulated voltage of 20.4V.
- 16) It is strictly forbidden to conduct charge by connecting the plug to AC power directly.
- 17) It is strictly forbidden to put the operator's head, hand and foot out of the cabin.
- 18) It is strictly forbidden to drive when the forks are in lifting position.

5.1 Safety operation norms:

5.1.1 Training of driver:



Notice

Even though each electric pallet truck may have the same technical parameters, there may be differences on features of braking and acceleration as well. Never drive the truck until you get familiar with all those operations.

5.1.2 Wear of the driver during truck driving:



Notice

Please put on safety shoes and protective clothes. Do not wear clothes that are too loose for sake of being caught, which would result in danger.

5.1.3 Rules that must be observed:



Notice

Never drive the truck when you are tired or un-concentrated, with an injection of drug, or after a liquor drinking.

Safety rules and regulations shall be observed during operation or maintenance of the truck.

5.1.4 Safety of working place:



Notice

This kind of electric truck is only limited to utilization indoor with a hard flat floor. Operation in inflammable, explosive environment or corrosive environment such as acid or alkaline condition shall be strictly forbidden.

- a. Good roadway condition shall be kept and the traffic should be smooth.
- b. Sufficient light ray shall be ensured on working place.
- c. Fire extinguishing appliances shall be equipped in the places where truck and charging is operated.
- d. The extinguishing appliances shall comply with the requirements of extinguishing fire of solid combustible matter and electric apparatus.
- e. The value of truck noise mentioned in instruction is measured under the condition of new truck running on flat, smooth and hard ground. If the traffic surface is bad or the tyre of truck is damaged, the noise may be amplified.



Notice

Before operating the truck make sure to fasten the safety belt and traction rope. Fix the chain and guardrail in appropriate position.

5.1.6 Safety of working place:



Notice

This kind of electric truck is only limited to utilization indoor with a hard flat floor. Operation in inflammable, explosive environment or corrosive environment such as acid or alkaline condition shall be strictly forbidden.

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- e. The value of truck noise mentioned in instruction is measured under the condition of new truck running on flat, smooth and hard ground. If the traffic surface is bad or the tyre of truck is damaged, the noise may be amplified.

5.1.7 Integrity of the truck shall be realized:



Warning

Do not make modifications on the truck.

- a. Please observe safety rules and regulations of your working place during operation, inspection, and maintenance of the truck.
- b. No modification or addition shall be made to the truck without written permission by our company. A modification of the truck may have a negative effect on its safe operation.

5.1.8 Prepare safety operation procedure:

Safety operation procedure shall be formulated with consideration of practical situations before operation of the truck. Safety shall be taken into full consideration in preparation of the safety operation procedure.

5.1.9 Operation of truck under unsafe condition is strictly forbidden:

- a. Operation under unsafe condition is forbidden, such as under conditions with uneven floor, or impeded road. Goods lifting on slope is strictly forbidden.
- b. Faulty truck is forbidden to use.
- c. Make sure a daily inspection of the truck would be taken. Please immediately repair or replace in case of any abnormal conditions.

5.1.10 Overloading operation of truck is forbidden:



Warning

Overloading operation of truck is forbidden. Overloading operation would cause damage to the truck or bring harm to operator.

5.1.11 Use suitable pallet:

- a. The pallet shall be of suitable dimensions, neither too wide nor too large.
- b. Fix the pallet or lifting table. If pallet is installed on the truck make sure the clip to the pallet is fastened. If there no pallet or pallet clip make sure lifting is safely fixed.
- c. Make sure the pallet or lifting table is well fixed or the stability on the forks. If there is pallet on the truck make sure the forks are in the outside edge to decrease the possibility of tilt of the truck.
- d. Put the goods evenly within the pallet limited size.
- e. Only allow to load stipulated weight and within the load center. Refer to plate.
- f. Keep well the focus of the goods and make sure the forks are under the goods.

5.1.12 Pay attention to load area:



Notice

Check the width of the board, loaded goods and safety. Pay attention to the strength of the ground

5.1.13 Electrical System Check:



Notice

Before checking the electrical system, turn off the key switches and the emergency isolation switches.

5.2 Safety Operation Specification

5.2.1 Check the safety condition around the truck:



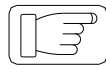
Notice

Before starting up the truck, please ensure that there is no person around it.



Notice

If the driver's view is shielded by the bulky goods carried, please drive backwards or drive under the guidance of other working personnel.



Notice

Ensure no people around the truck when driving backwards.



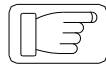
Notice

Driving through the narrow access shall be guided by working personnel.



Notice

At crossroad or other places impeditive for view, the driver shall not drive until there is no person at both sides.



Notice

Keep concentration when operating truck. No travelling while lifting or descending which is not safe.



Caution

The driving mechanism of truck is installed on the backside. Due to this difference from common vehicles, the backside of truck swings comparatively fast when turning around. For this reason, to prevent collision with other objects nearby the backside of truck, do drive or turn slowly.

5.2.2 Strictly forbid harsh driving:



Notice

Never start up, brake or turn abruptly.

Abrupt turning during traveling may cause the tilting of truck and result in serious accident.

Do decelerate and take care to turn.



Notice

Observe all items of safety rules on working place. Decelerate and sound horn when travel by other truck or vehicles. Avoid driving in places with bad view.



Notice

Ensure to provide certain clearance between truck and entrance

5.2.3 Never drive too close to roadside:



Notice

Ensure to provide enough distance between the truck and roadside or platform edge.

When running on narrow road or platform, keep a certain safety distance with the edge against falling of the truck.



Warning

Avoid turning or loading and unloading operation on slope; otherwise the truck can go tilting.

5.3 Operation norms:



Notice

The truck can only carry goods under rated capacity.

- 1) Forbid overloading operation.
- 2) Forbid deflective transportation.
- 3) Passengers on truck must be forbidden.
- 4) Never push or pull the handle abruptly
- 5) Never use the truck as towing vehicle.
- 6) When transporting over-wide goods, the driver shall be extremely careful to turn slowly to keep balance of the goods. Decelerate when ascent and descent, meanwhile, watch around for sake of safety.
- 7) The faulty truck for future repair must not be parked at places impeditive for traffic. Lower down the fork arms to the lowest position and put on the warning board. Pull off the key.
- 8) The truck cannot be operated when the protective cover for the mast and other protective facility are not installed.
- 9) Avoid wind risk while loading.



Notice

Avoid wind risk while loading.

10) The driver must control the speed according to the on spot situation. The driver must drive slowly when turn around, passing narrow aisle, passing rotating door, and view impeding places. Appropriate braking distance must be kept with the other truck in front and control the electric well at all time. It is prohibited to stop abruptly (except there is an accident), turn around quickly or surpass the other truck in dangerous or view impeded position. It is prohibited to put the body or the hand out of the cabin.

11) Driver's view during driving: The driver must keep his view in the driving direction and mind the situation on the road. If the transported goods impede the driver's view the goods

must be moved to the back of the driver. If the goods cannot be adjusted an additional personnel is needed at the side front to guide the driver.

12) Up and down slopes: Up and down slopes must be on the stipulated driving road. The road surface should be clean and not slippery. The road must be suitable for stackers and safe and reliable. Up slopes laden the forks must be forward and down slopes backward. No turn around side drive or loading and unloading during up or down slopes. Deceleration is necessary down slopes and is ready to brake at any time.

13) Drive the stack to elevator or loading table: If it is necessary to drive the stacker to elevator or loading table make sure that the elevator or loading table is able to stand the weight and the structure is capable of bearing the stacker and at the same time to get permission from the equipment user. All needs to be done before hand. When driving the stack into elevator the goods must come in first. Choose a suitable place to stand to avoid collision with the tunnel wall during lifting or descending. If there is working staff going together with the stacker make sure to wait until the stacker is positioned well to come in. After reaching the destination level the working staff will leave the elevator first.

14) Necessary conditions for the transported goods: The stack driver must check the goods carefully to make sure no danger will happen. Before transporting the goods make sure the goods is well placed and fixed. If there is the possibility that the goods may be upside down or fall off protective facility (such as guardrail) must be installed.

5.4 Protective facility for the operator



Notice

The overhead guard is a protective facility for the operator to avoid possible falling objects. But it will not guard from all possible hit. It is forbidden to dismantle the overhead guard.



Be carefull

The traction rope and the safety belt is to protect the operator to prevent him from fall off the working table. The traction rope can reduce the strength of falling object. Before operating the truck the traction rope must be installed well and make sure it is fastened.

5.5 Important notice after operation:

5.5.1 Parking: Park the truck at appointed place. Never park the truck on slope.

Ensure the following points to be achieved before leaving away the truck:

Lay down the fork to the lowest position naturally.

Turn the steering wheel to the middle position.

Turn off the key switch.

5.5.2 Clean up the truck:



Notice

When cleaning up the electrical system, use compressed air but not water.

5.5.3 Charge:



Warning

Open flame is forbidden to appear at the charge places, otherwise, explosion or fire disaster can be caused.

Make a record of charge. As for the charge method, refer to the part about storage battery operation.

6. Initial operation

6.1 Initial operation:

6.1.1 In order to stop power supply in dangerous situation the battery plug (not included in shipment) must be connected with the emergence stop plug of the electric truck.



Warning

No operation of the truck without the emergency stop plug.

6.1.2 The stack can only be driven by the power from the battery. Rectified alternating current can damage the electric components of the stacker. The cable of the battery (towing cable) is no longer than 6 m.

6.1.3 If the stack is driven by an external battery via a towing cable it is forbidden to increase the load.

6.1.4 Inspection before use:

- a) If the equipment is complete and in normal condition.
- b) If the battery is not installed, install the battery. Pay attention not to damage the battery cable.

6.1.5 Adjust the characteristic curve of the charger (charging curve)

6.1.6 After the stacker being idle for a long time the side touching the ground of the wheel is a lot bit flat. After it travel for a while the flat part will recover.

6.2 The stacker is not driven by the drive device of itself:



Warning

It is strictly forbidden to pull or to drag the stacker on slopes.

- If pull or drag the stacker in emergence cases the Em brake must be loosened.
- After park the electric truck in stipulated area the Em brake must be fixed well again so that the stacker can resume back to the em brake condition.

7. Instruction of Operation

Electric stacker travel and lift by battery for short distance transportation and stacking; Proper use of the truck will bring you great convenience in work and improper use will damage the truck and bring danger to your personal safety and the goods as well.

7.1 Prepare before operation:

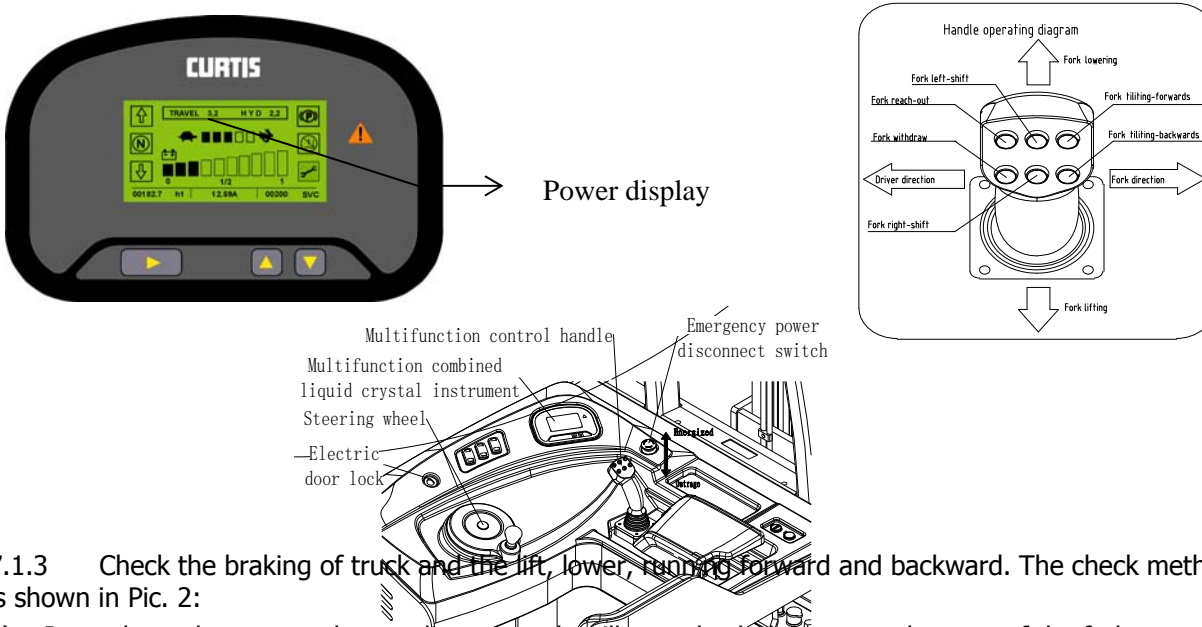
For your own safety and maximum service life of the lift truck, make a thorough walk-round inspection before mounting the lift truck or starting to move it. Look for such items as loose bolts, trash build-up, oil leakage, condition of tires, mast, carriage, forks, or attachments.



Warning - Never use the faulty truck.

7.1.1 Inspect the truck before operation: 1. Check whether there is loosening the screws. 2. Clean any mud or debris from the floor plates for safe footing. 3. Check the instrument panel for damage to the indicator display. 4. Check Mast, chains, horns and other devices. 5. Check the frame, mast, forks and accessories for wear and damage, if there is no fixed installation screws. 6. Check the tires and wheels for proper inflation. Cuts, gouges, foreign objects and loose or missing nuts. 7. Check the overhead guard for damage. Loose or missing mounting bolts. 8. Check the hydraulic system for leaks, worn hoses or damaged lines. 9. Check the drive axle housing for oil leaks. 10. Check the battery compartment for loose connection, frayed cables and properly secured battery restraint. 11. Observe the electrolyte level for proper level. 12. Check the light for proper operation. 13. Check the support wheel whether it works or not, there is unimpeded phenomenon of death or not, prohibited the use of faulty vehicles.

7.1.2 Check whether the battery has power, the method shown in Figure 1. Pull out the power switch to open the main power, turn on the electric locks, check the truck's power meter on the dashboard, if left last grid is on, at this time the battery has no electricity, charging the battery, prohibited the use of the truck in case of the absence of electricity, which will greatly reduce battery life, or even damage to the battery.



7.1.3 Check the braking of truck and the lift, lower, running forward and backward. The check method is shown in Pic. 2:

- Press down the ascent, descent button on the tiller to check the ascent, descent, of the forks.
- Turn the speed control button on picture 2 right the truck moves forward and to turn it left the truck moves backward and it control the speed of moving forward or backward as well.

- c) As shown in picture 2 the speed control button returns back to middle position from forward and backward driving position the truck should be braked immediately.
- d) As shown in picture 2 the direction control handle turns clockwise is turn right and turns anti-clockwise is turn left.

Through the above check if the truck is trouble free it can be used and if it has trouble it is prohibited to use a faulty truck.



Warning

When forking goods or moving goods, never rotate the accelerator knob rapidly to speed up the truck abruptly.

7.1.4 Lift chain



1. Check the whole chain whether it is in good condition, if a certain chain bent, then moving on sprockets will cause wearing by friction with each other.
2. Check to ensure that every section of the chain pin is not exposed out.
3. If a section of the chain pin head has exposed out, indicating that the interior of the chain pin of this section has been broken.
4. Check chain joints and fixing holes for wearing.

7.2 In operation:

- 7.2 Note: The truck is equipped with a magnetic brake near the drive wheel motor shaft, the stacker can operate only when energized, brake when not energized.

7.2.1 Operator seated

- 7.2.2 Operator gets into the operating table, put down the barricade switch, switch off the left foot, left hand steering wheel, right hand operating grip handle.

- 7.2.3 Operating handle is provided with forward and backward speed up the knob, lifting, lowering speed control knob and horn button.

- 7.2.4 Open the electric lock and emergency stop switches, meters lights, warning lights flashing, the truck enters the standby state.

7.2.5 Driving

- 7.2.6 In the lower left side of the instrument has a speed selection button, pressing, H, L, S character will appear on the LCD screen, corresponding to the maximum speed truck 12km / h, 8km / h and 5km / h. Select the appropriate speed according to the working environment requirement or proficiency of operator.

- 7.2.7 Check before traveling, no matter the truck is under load or overload conditions, do not let the forks touch the ground directly.

- 7.2.8 Rotate the accelerating knob clockwise, the truck moves forward. Rotate the accelerating knob counter-clockwise, the truck moves backwards.

- 7.2.9 Counter-clockwise rotation of the steering wheel with the left hand, the truck turned left. Clockwise rotation of the steering wheel with the left hand, the truck turned right.

- 7.2.10 Truck travel speed is limited by the angle of the steering wheel. When the steering wheel is in the range of 0-10 °, the traveling speed can reach 100%. When the steering wheel is in the 10-90 ° range, driving speed decreases linearly until the steering wheel at 90 ° is 50%.

- 7.2.11 Truck travel speed is limited by the lifting height of forks, immediate speed under the immediate height is displayed on the meter. At different speeds corresponding to the height of the truck refers to the following table:

speed height	5km/h (E)	8km/h (S)	12km/h (H)
0- free lift height	5km/h	8km/h	12km/h
Higher than free lift height	2.5km/h	4km/h	6km/h

- 7.2.12 In the bottom of the instrument with a turtle speed button, press the truck will drive in a low-speed. Slow speed corresponding to different speed options is as follows:

Speed selection	5km/h (E)	8km/h (S)	12km/h (H)
Low speed	0.8 km/h	1.27 km/h	1.9 km/h

- 7.2.13 The truck has a regenerative braking and electrical braking. When accelerating the knob back to the middle position, the truck brakes themselves.

7.3 Lifting

- 7.3.1 Rotate clockwise lifting, lowering speed control knob, the forks lift. Rotate Counterclockwise lifting, lowering speed control knob, the forks lower.
- 7.3.2 Lowering of the fork is buffered. When the fork drops to about 610 mm from the ground will slow down in order to avoid heavy impact on the ground when dropped.
- 7.3.3 Steering wheel angle of the forklift is limited by lift height of the forks. When the lift height of the fork is less than 4500mm, automatic control at $\pm 90^\circ$ rotation. When the lift height of the fork is above 4500mm, automatic control at $\pm 10^\circ$ rotation.
- 7.3.4 The lift height of the fork is less than 4500mm, the steering wheel angle is greater than $\pm 10^\circ$.when lifting more than 4500mm, the truck will automatically adjust to the steering wheel angle $\pm 10^\circ$, and then continue lifting.
- 7.3.5 Tilting forwards and backwards
- 7.3.6 Press the control button up, the mast tilts forward. On the contrary, the mast tilts backward.
- 7.3.7 Side shift of the fork
- 7.3.8 press the control button left, the fork shifts left. On the contrary, the fork shifts right.
- 7.3.9 Operating order and security settings
- 7.3.10When the driver leaving the driving station, the truck cannot lift and lower.
- 7.3.11When the driver entered the driving station, you can step away from the switch before turning on the electric locks and emergency stop switch. But before turn on the electric lock and emergency stop switch, rotating forward / backward acceleration or turning knob lifting / lowering speed control knob Deemed the driver operates in the wrong order.
- 7.3.12For the safe operation of forklifts, lifting chain is fitted tensioner switch, when the fork is put on hold when the chain is loose, the truck can only lifting, lowering and traveling is terminated.

7.4 Transport and stack operation:



Notice

The following items should be checked before operating the truck:
Make sure in the loading area no goods will fall off or be damaged.
Make sure no goods or objects will impede safety.

As shown in Figure 1, Pull out the main power switch to turn on the main power and the electric lock, drive the truck near heap (the fork head is in 300mm distance from the stockpiles), according to the operating handle shown in Figure 2 lowers the forks, adjust the fork height into place, insert the fork slowly as deep as possible into the cargo pallets, operate the handle lifting fork to 200-300mm height from the ground, driving the truck to stop the arrival of shelf space and slow prong at a distance of 300mm shelf unit, then operate the handle lifting fork up to proper height of the shelf (bottom of the pallet is over the shelf 100mm or so), slowly move the cargo to the exact position of shelf. At last, operating the handle lowering fork, carefully placing goods on the shelves, and made the forks leaving the cargo, slowly drive the truck, so that make the fork out of the shelf (the fork head is in 300mm distance from the shelf), lower the fork down to about 300mm from the ground, the truck leave the shelves . It should be noted the obstacles around in the process of moving, slow down when turning.



Notice

Unlike the common truck the driving steering device of this truck is installed in the front of the truck. When turning around the front of the truck swing fast. When the front of the truck reaches near other objects be sure to drive or turn around slowly to avoid collision.

7.4.1 The operation of taking down the goods from the shelf:

As shown in Figure 1, pull out main power switch to turn on the main power and the electric lock, drive the truck near the goods shelf (the fork head is in 300mm distance from the good shelf), according to the operating handle shown in Figure 2 lowers the forks, adjust the fork height into place, insert the fork slowly as deep as possible into the goods pallets, operate the handle lifting the goods to the height that the bottom of the pallet is 100mm over the shelf, slowly drive the truck, so that make the goods out of the shelf (the fork head is in 300mm distance from the shelf), lower the fork down to about 200-300mm off the ground, the truck leave the shelves. Then park the truck after travel to the needed position, at last, lower the fork and the goods, make the fork leave the goods completely, shift the fork out of the pallet slowly.

7.5 Treatment of abnormal circumstance in operation:

7.5.1 Pull back the tiller the forks are lifted, but when the tiller released back to the middle position the forks are still ascending. Lifting is out of control. In such case switch off the power immediately. Move the truck to safe place and lower down the goods manually. Inspect the circuit.

7.5.2 If brake is found not working immediately stop operation and inspect and repair the truck.

7.6 After use:

Park the truck to fixed area after use and make daily maintenance in line with clause 6. Charge the truck.



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