

Full Electric Walkie Pallet Stacker

Instruction Manual



Hope that our products will give you more convenience.

- Please carefully read the Instruction Manual before using it.
- This manual is a general manual, and we reserve the right to make technical modifications to the stacker. When there is an inconsistency with the actual product, it should be subject to the actual product. Especially for non-standard stackers, the instruction manual is only for reference.

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Warning

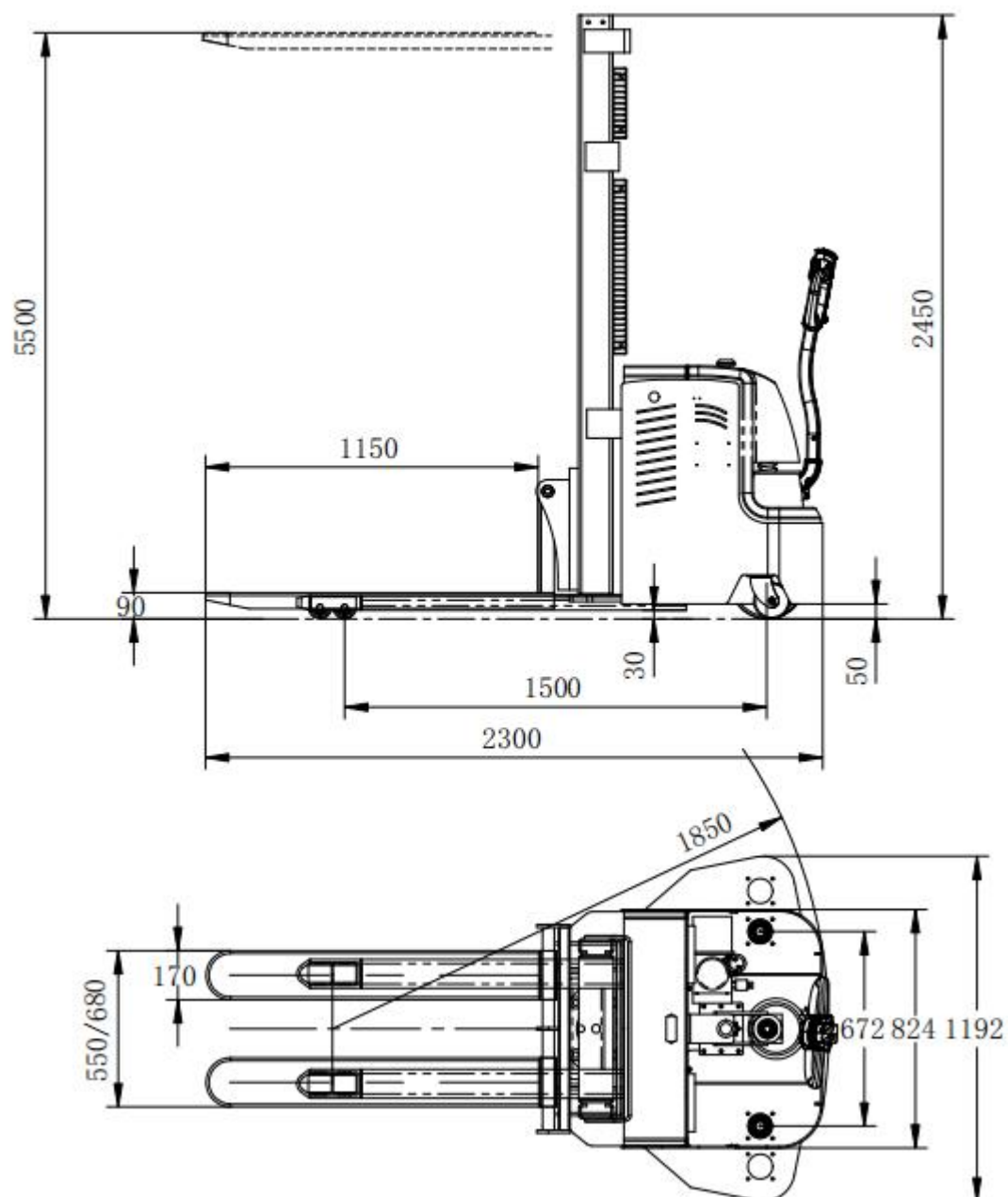
- Stacker operators must strictly implement ISO 3691 *Powered Industrial Trucks-Safety Code*.
- It is strictly forbidden for untrained personnel to operate this stacker.

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1. Outside Drawing

ES15K外形尺寸图



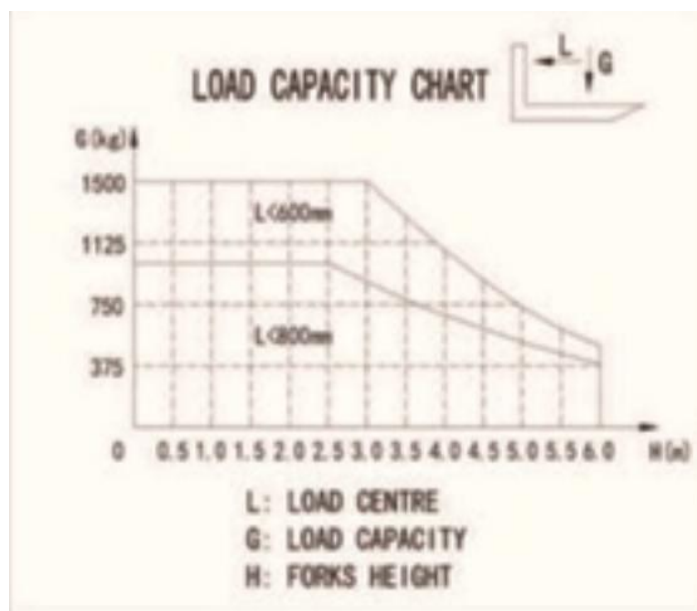
2. Main Technical Parameters

MODEL		ES-16K
TYPE		ELECTRIC
DRIVE METHOD		WALKIE
RATED LOADING CAPACITY	Q kg	1600
LOAD CENTER	C mm	500
WHEELBASE	Y mm	1500
WEIGHT WITHOUT BATTERY	kg	1255
WHEELS		PU
DRIVING WHEEL (D×W)	mm	∅ 250×80
AUXILIARY WHEEL (D×W)	mm	∅ 125×50
BALANCE WHEEL (D×W)	mm	∅ 80×70
WHEELS QTY (F/R) (x = DRIVING WHEEL)		x+2/4
OVERALL HEIGHT (MAST LOWERED)	h1 mm	2450
OVERALL HEIGHT (MAST EXTENDED)	h2 mm	6030
LIFTING HEIGHT	h3 mm	5500
FREE LIFT	h4 mm	1830
MAST		TRIPLEX
MIN. FORK HEIGHT	h5 mm	90
OVERALL LENGTH	L1 mm	2195
OVERALL WIDTH	b1 mm	1192
FORK SIZE	s/e/lmm	60/170/1150
FORK OUTER WIDTH	b4 mm	680
MIN. GROUND CLEARANCE	mm	30

TURNING RADIUS	Wa mm	1850
DRIVING SPEED (LOADED/UNLOADED)	km/h	5.5/6.0
LIFTING SPEED (UNLADEN)	mm/s	100
LIFTING SPEED (LADEN)	mm/s	50
GRADEABILITY (LADEN/UNLADEN)	%	5/7
BRAKE TYPE		ELECTROMAGNETIC BRAKE
DRIVE MOTOR	kW	AC1.5
LIFT MOTOR	kW	DC2.2
BATTERY	V/Ah	24V/324Ah

Note: These are parameters for the standard model; customized non-standard model parameters are subject to technical drawings. The company continuously introduces new technologies and optimizes existing model stackers. The color, specifications, configuration, etc. are updated and improved without further notice.

Load Curve:



3. Purpose and Applicable Scope

The BS series electric walking pallet stacker uses a battery as a power source and is equipped with a DC driving system to implement electric walking and electric lifting. It is labor-saving, light, efficient, stable, easy to operate, safe, reliable, low-noise, and non-polluting.

Operating environment:

- a The electric stacker is suitable for indoor use on hard and flat ground, not suitable for use on slopes and uneven ground. There should be no bumps and grit on the ground that will affect the rolling of wheels.
- b The altitude shall not exceed 1200m;
- c The ambient air temperature must not exceed + 40 ° C ,not lower than -25 ° C
- d When the ambient temperature is + 40 ° C , the relative humidity does not exceed 50%. At lower temperatures, a larger relative humidity is allowed.
- e It is forbidden to use the stacker in corrosive environment, such as flammable and explosive or acid and alkali environments.

4. Instructions for Use and Operation

It will make your work more convenient if you use it in the correct operation. If you perform the incorrect operation, it will damage the vehicle or cause danger to your personal safety and goods.

Please check whether the stacker is normal before use: whether the hydraulic pipeline has oil leakage, whether all wheels are intact and normal, and whether there is a stuck phenomenon. It is strictly forbidden to use a faulty stacker.

4.1 Instrument desk

The instrument desk is equipped with an emergency stop switch, an electric door lock, and an electricity meter, which are the basic controls of the stacker. Please refer to Figure 2-1.

4.1.1 Power switch: While lightly pressing the power-off button, turn the button clockwise about 5 ~ 10 degrees. The button will automatically move up, then the main power of the stacker is turned on. When pressing the button again, the power is turned off.

4.1.2 Electric door lock: Insert the power key into the keyhole of the electric door and turn it clockwise about 90 degrees to start the stacker. If counterclockwise, the stacker stops.

4.1.3 Electricity meter: The power storage status will be displayed only after the electric door lock is opened, which is displayed by a three-color indicator.

- a The indicator of the electricity meter displays green, indicating that the power supply is sufficient and can be used normally.
- b The indicator of the electricity meter displays yellow, indicating that there is still a small amount of power. Please pay attention to charging.
- c The indicator of the electricity meter is red, indicating that the power is insufficient. Please charge immediately!

4.2 Forward driving and reverse driving

The flower-shaped rotary buttons on the left and right above the rudder handle are used for controlling the driving speed , which can be operated by single or simultaneous operation of the left or right thumb.

- a Push the speed button up and forward, then the stacker will move forward. The speed of the vehicle is proportional to the angle of rotation. After releasing your finger, the speed button will automatically return to the 0 position, and the stacker will stop gently.
- b Push the speed button down and backward, then the stacker will move backward. The speed of

the vehicle is proportional to the angle of rotation. After releasing your finger, the speed button will automatically return to the 0 position, and the stacker will stop gently.

4.3 Emergency reverse switch

The red button at the top of the rudder handle is an emergency reverse switch.

When this switch is touched, the stacker will stop working.

4.4 Up and down switch and horn button.

The up button is located on the right side above the rudder handle. Press this switch, and the fork will move up.

The down button is located on the left side above the rudder handle. Press this switch, and the fork will move down.

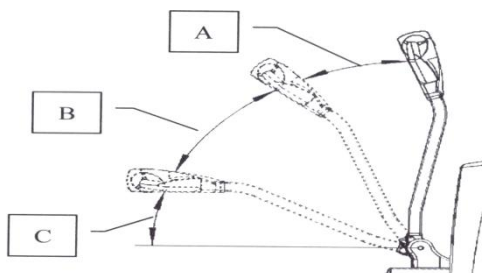
The horn button is located in the middle above the rudder handle. Press the button and the horn will sound.

4.5 Driving and braking

The rudder handle is divided into three areas A, B and C in the vertical plane, and the two areas A and C are the braking zone.

When the rudder handle is in area A, the stacker is in a braking state

When the rudder handle is located in area B, the stacker is in a normal driving state.



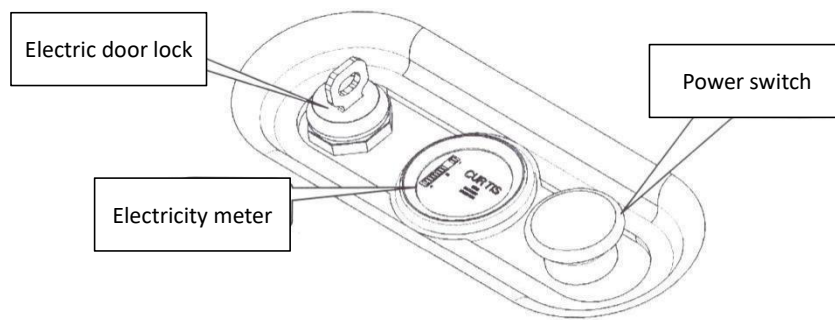


Figure 2-1

4.6. Charging port

The charging port is located in the throat of the stacker, and the charging port is related to the charger installed in the stacker:

- a With built-in charger, that is, the vehicle has its own charger, the charging port is a three-core socket, which can be connected to the municipal lighting power supply with the power cord.
- b External charger, that is, there is no charger in the vehicle, the charging port is a two-core socket, and an external charger is required for charging.

5. Operation and Maintenance of Battery

- 1 Recharge in time to ensure that the battery is in a full load state. Do not allow the battery power to be consumed until the vehicle cannot move before considering charging. Excessive discharge will damage the battery.
- 2 It should always check whether the connection part is firm and the terminal surface is clean to ensure good contact.
- 3 When cleaning the surface of the battery, please do not use a dry cloth or a fiber to wipe, to prevent static electricity and explosion.
- 4 The vent hole of the battery cannot be blocked, and it must be prevented from being blocked by ice water in winter; otherwise, the internal pressure of the battery will rise and the casing may burst.
- 5 It is strictly forbidden to place metal conductive objects near the battery terminals to avoid short-circuiting and ignition of the two poles and burning the battery.
- 6 It is forbidden to check whether the battery has power by short-circuiting the ignition.
- 7 If the battery is not used for a long time, the battery should be removed or the cathode wires should be disconnected. The battery should be fully charged and stored in a dry, non-frozen place. The battery needs to be charged with balanced electricity once a month to ensure the battery can be

used at any time.

- 8 Please use the original charger that comes with the stacker. Do not use other chargers, otherwise it will damage the battery.
- 9 Prevent external mechanical force from injuring the battery.
- 10 A replaced battery should be consistent with the original battery configuration, and random replacement may be harmful to the stacker.
- 11 The waste batteries must be recycled in strict accordance with the local laws and regulations, and shall not be discarded at will.

6. Possible Faults and Solutions during Use

In Table 2, it is the common troubleshooting method for reference for fault diagnosis and maintenance

S/N	Fault	Cause Analysis	Troubleshooting
1	After turning on the power switch, the electricity meter does not display.	The 10A fuse on the panel of the electrical box is blown, or the power switch is damaged.	Replace the fuse or power switch.
2	The lifting height cannot meet the design requirements.	The hydraulic oil in the oil box is not enough.	Add hydraulic oil
3	The motor pump of the hydraulic station makes noise, and the lifting fork cannot rise or fall.	The solenoid valve of the hydraulic station is blocked or stuck.	Remove the solenoid valve core and clean it with gasoline or kerosene.
4	After the power switch is turned on, the power is displayed, but the lifting fork cannot be raised.	The 175A fuse in the lifting circuit is blown, or the battery protection controller is damaged.	Replace the fuse or battery protection controller. If it is still blown after replacement, check whether the circuit is short-circuited or the device is damaged.
5	Oil impregnation or oil leak	The gasket is damaged or invalid, the threaded joint is loose	Replace the new sealing ring and tighten the joint.

Table 2

7 Packaging and Transportation

The stacker is packed on a pallet. It is not allowed to be turned over or upside down during transportation. It is not allowed to collide when lifting and loading. Do not damage the outer surface of

the stacker when unpacking.

8 Warnings (Precautions)

- 8.1 Please read the instruction manual before operating the stacker to familiarize yourself with the stacker's performance.
- 8.2 To avoid damage to the goods and the stacker, please do not press the up and down buttons when the stacker is moving, or switch the up and down buttons quickly and frequently.
- 8.3 It is an electric stacker, which does not need to shake the handle in the form of high speed and high frequency!
- 8.4 Do not quickly load heavy objects on the fork!
- 8.5 It is strictly forbidden to use it overloaded, and it is not allowed to load additional weight, and it must not exceed the running load. This action has a high probability of accidents.
- 8.6 The goods should be in the center of the fork; otherwise, it may damage the fork or cause the goods to fall during operation.
- 8.7 It is not allowed to load loose or unstable goods.
- 8.8 Do not leave the goods on the stacker for a long time!
- 8.9 It is strictly forbidden to take a sudden turn on narrow passages. In this case, it should slow down and turn slowly to ensure the safety of people and goods.
- 8.10 When the stacker is not in use, the fork should be lowered to the lowest position to prevent the fork from accidentally injuring pedestrians
- 8.11 It is strictly prohibited to put any part of the body under heavy objects and forks.
- 8.12 This stacker is suitable for use on flat ground or a flat working platform. It is strictly forbidden to park on a slope for a long time.
- 8.13 It is strictly forbidden to operate with an overload or ramp. Otherwise, it will cause the wheels to slip, damage the wheels and the motor, as well as the cargo and personal safety.
- 8.14 The sockets of the stacker should be protected from rain, and should be wiped clean in case of water intrusion.
- 8.15 It is strictly forbidden to use the stacker below the specified voltage of 20.4V.
- 8.16 Unless the stacker has a built-in charger, it is strictly forbidden to directly connect it to external AC power.

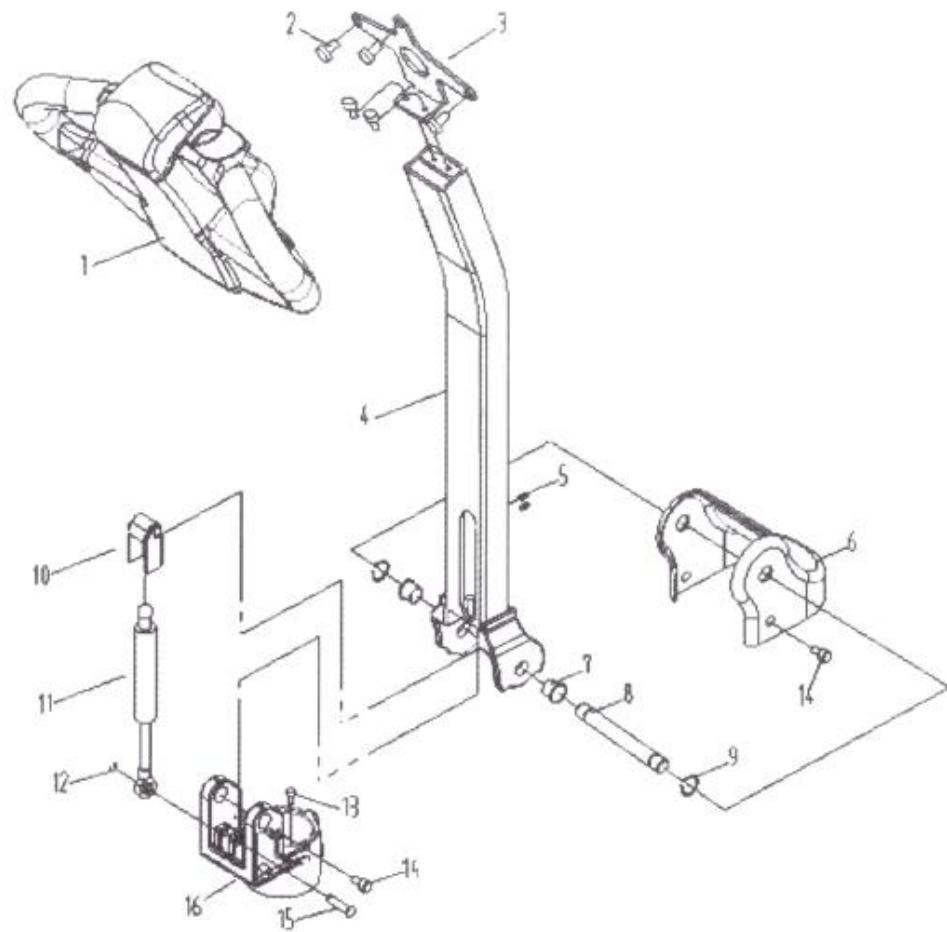
- 8.17 It is a walking-type electric stacker. For your safety, do not sit on it to drive it.
- 8.18 It is forbidden to repair it by yourself without training.
- 8.19 When the lifting height of the fork exceeds 500 mm, the stacker must be driven at the lowest speed, and the continuous walking distance shall not exceed 2 m.

Walkie Electric Stacker

● Parts catalog



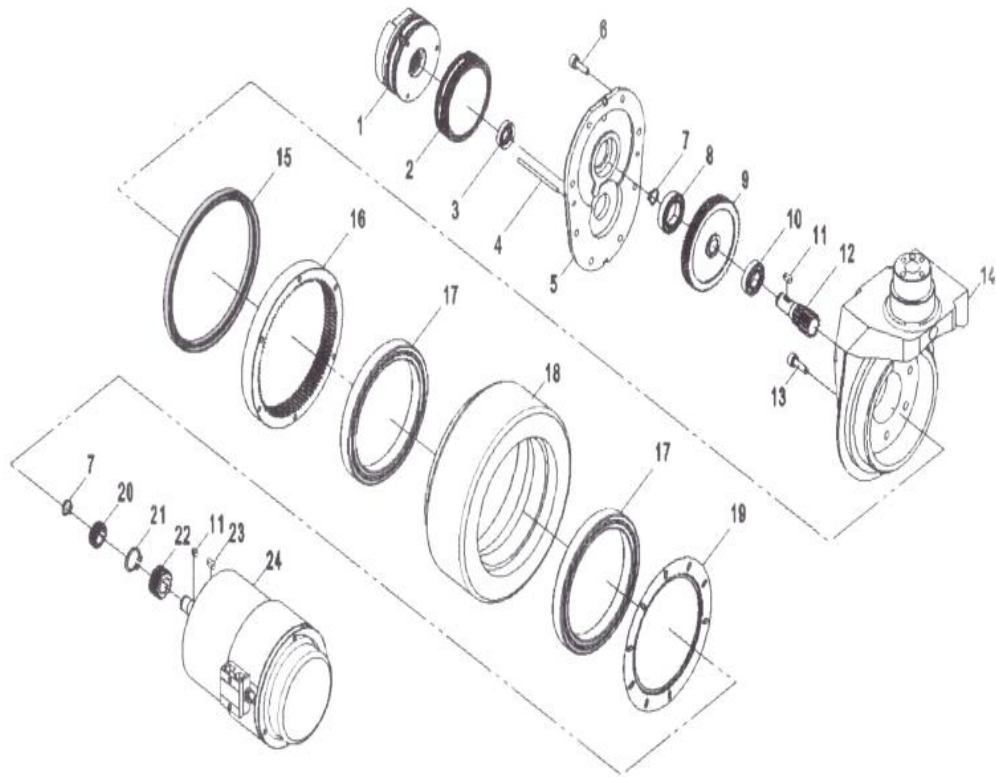
1 Rudder tiller system



S/N	Part name	Quantity	S/N	Part name	Quantity
1	Handle	1	9	Retaining ring	2
2	Screws	5	10	Gas spring pushing block	1
3	Handle fixing plate	1	11	Gas spring	1
4	Handle board	1	12	Retaining ring	1
5	Screws	4	13	Screws	4
6	Steering seat cover	1	14	Screws	3
7*	Bushing	2	15	Pin shaft	1
8	Pin shaft	1	16	Connecting seat	1

*indicates wearing parts

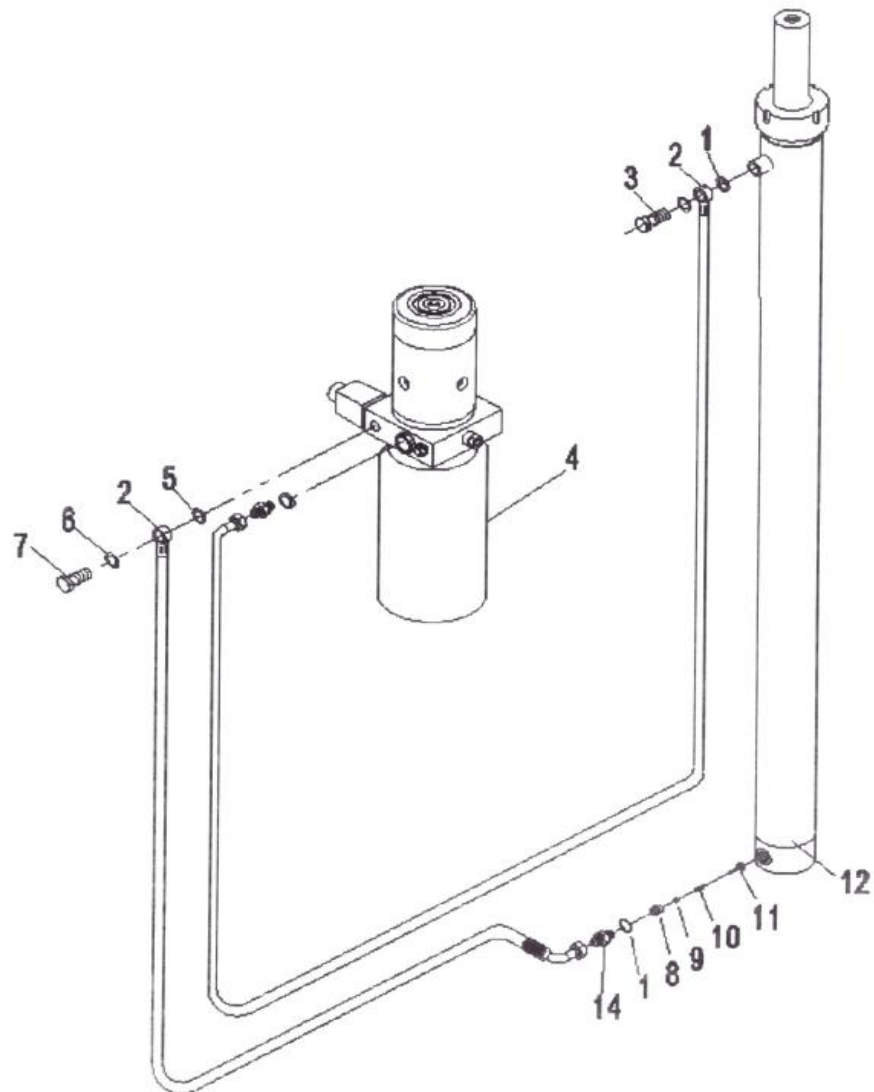
2 Driving system



S/N	Part name	Quantity	S/N	Part name	Quantity
1	Electromagnetic brake assembly	1	13	Screws	8
2	Motor dust cover	1	14	Box body	1
3*	Oil seal	1	15*	Oil seal	1
4	Cylindrical pin	2	16	Large straight ring gear	1
5	Tank cover	1	17	Bearing	2
6	Screws	5	18*	Driving wheel	1
7	Retaining ring	2	19	Dustproof ring	1
8*	Bearing	1	20*	Inner gear	1
9	Large helical gear	1	21	Retaining ring	1
10*	Bearing	1	22*	Small helical gear	1
11	Key	2	23	Key	1
12	Small straight gear	1	24	Motor	1

*indicates wearing parts

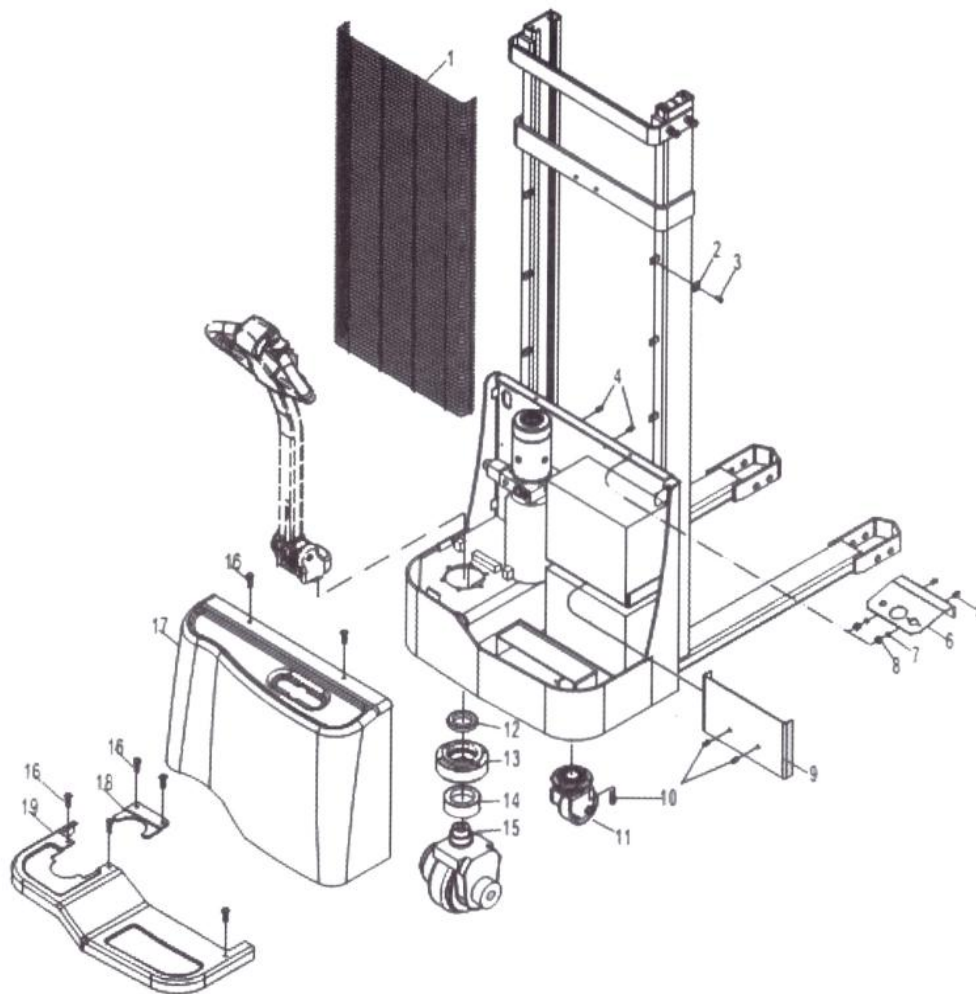
3. Hydraulic system



S/N	Part name	Quantity	S/N	Part name	Quantity
1	Red copper pad	4	8	Safety valves	1
2	Connector	2	9	Locking nut	1
3	Oil Return Pipe Tie-in	1	10	Spring	1
4	Hydraulic station	1	11	Safety valve seat	1
5	Combined gasket	2	12	Cylinder assembly	1
6	High pressure oil pipe	1	13	Oil return pipe	1
7	Delivery connection	1	14	flared type tube fittings	1

*indicates wearing parts

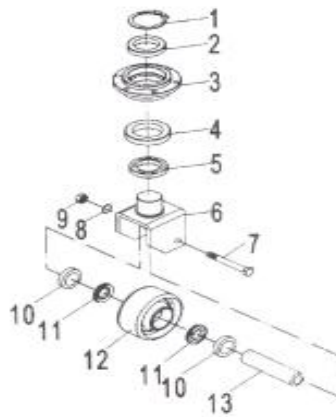
4 Frame assembly



S/N	Part name	Quantity	S/N	Part name	Quantity
1	Grid 1.6M	1	10	Screws	8
	Grid 2.5M	1	11	Direction wheel assembly	1
	Grid 3M	1	12*	Bearing	1
2	Fixed climb		13	Driving wheel base	1
3	Screws		14*	Bearing	1
4	Screws		15*	Driving wheel assembly	1
5	Screws		16	Screws	7
6	Instrument panel		17	Back cover	1
7	Flat washer		18	Bottom cover	1
8	Locking nut		19	Small bottom cover	1
9	Storage battery cover				

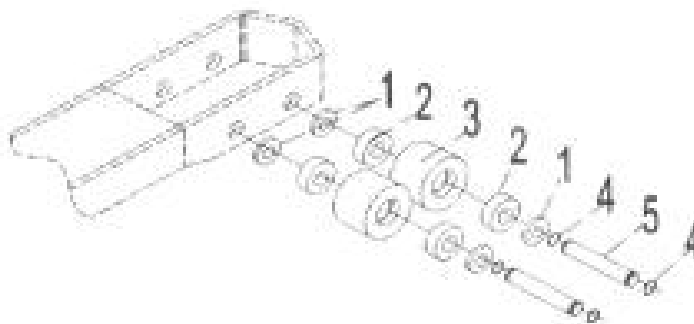
*indicates wearing parts

5 Universal wheel assembly



S/N	Part name	Quantity	S/N	Part name	Quantity
1	Check ring for shaft	1	8	Spring washer	1
2	Deep groove ball bearing with sealing ring	1	9	Hexagon nut	1
3	Universal wheel outer ring	1	10	Spacer bush	2
4	Single row angular contact ball bearing	1	11	Deep groove ball bearing	2
5	Framework oil seal	1	12	Universal wheel	1
6	Rotation shaft welding assembly	1	13	Tubular shaft	1
7	Hexagon bolts with high strength	1			

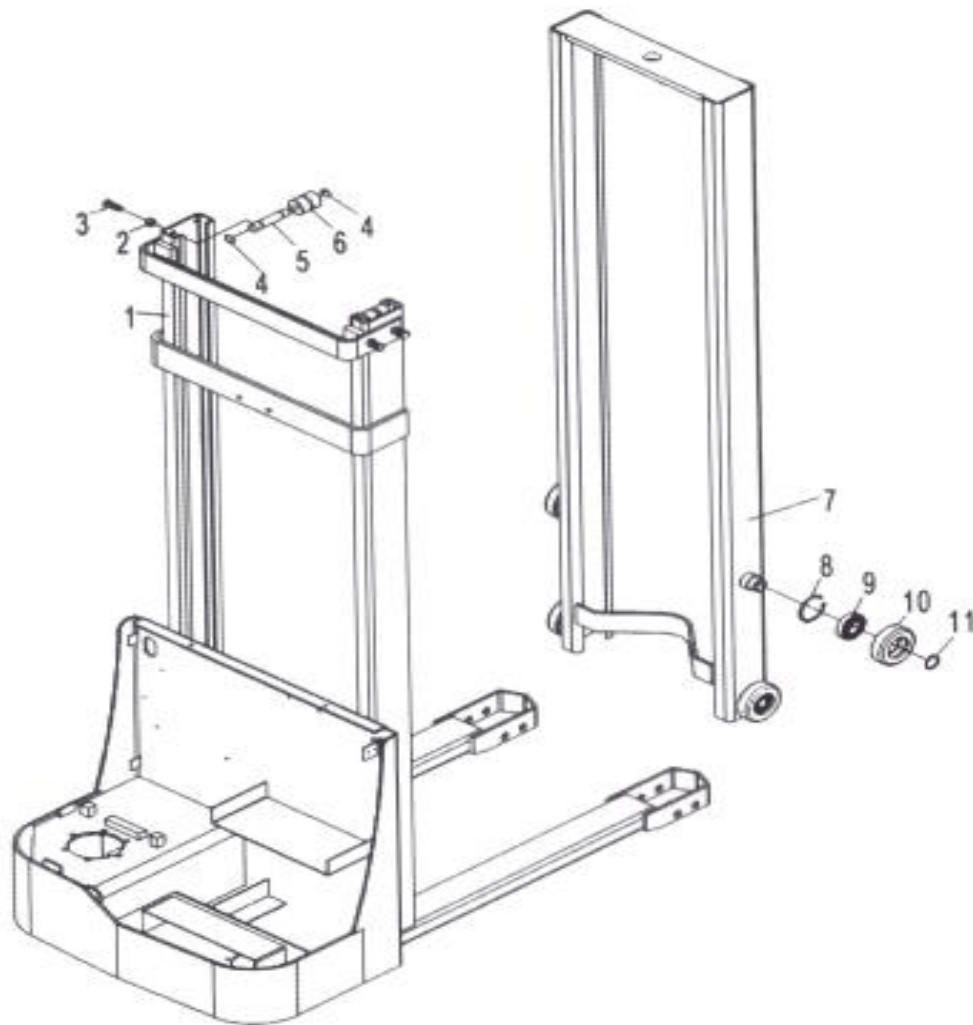
6 Double wheel assembly



S/N	Part name	Quantity	S/N	Part name	Quantity
1	Retaining ring	4	4	Elastic ring for shaft	4
2	Bearing	4	5	Pin shaft	2
3	Fork wheel	2			

*indicates wearing parts

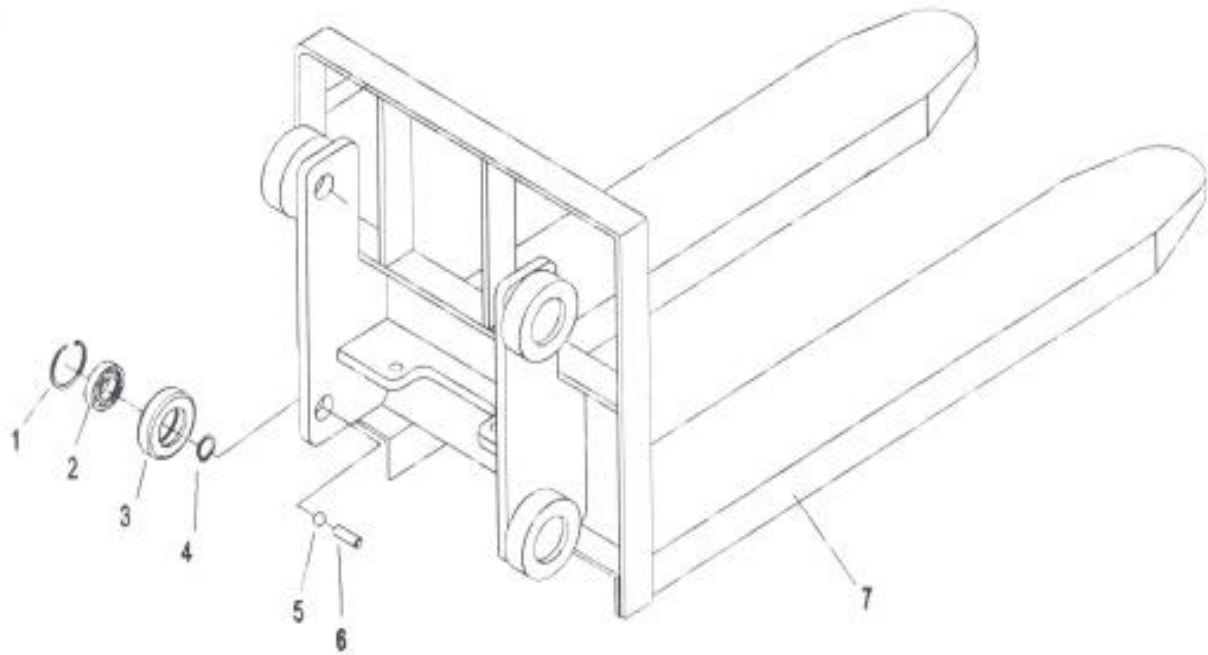
7 Gantry assembly



S/N	Part name	Quantity	S/N	Part name	Quantity
1	Outer gantry assembly	1	7	Inner gantry assembly	1
2	Nut	4	8	Retaining ring	4
3	Screws	4	9	Bearing	4
4	Retaining ring	4	10	Roller	4
5	Side roller bearings	2	11	Retaining ring	4
6	Side roller	4			

*indicates wearing parts

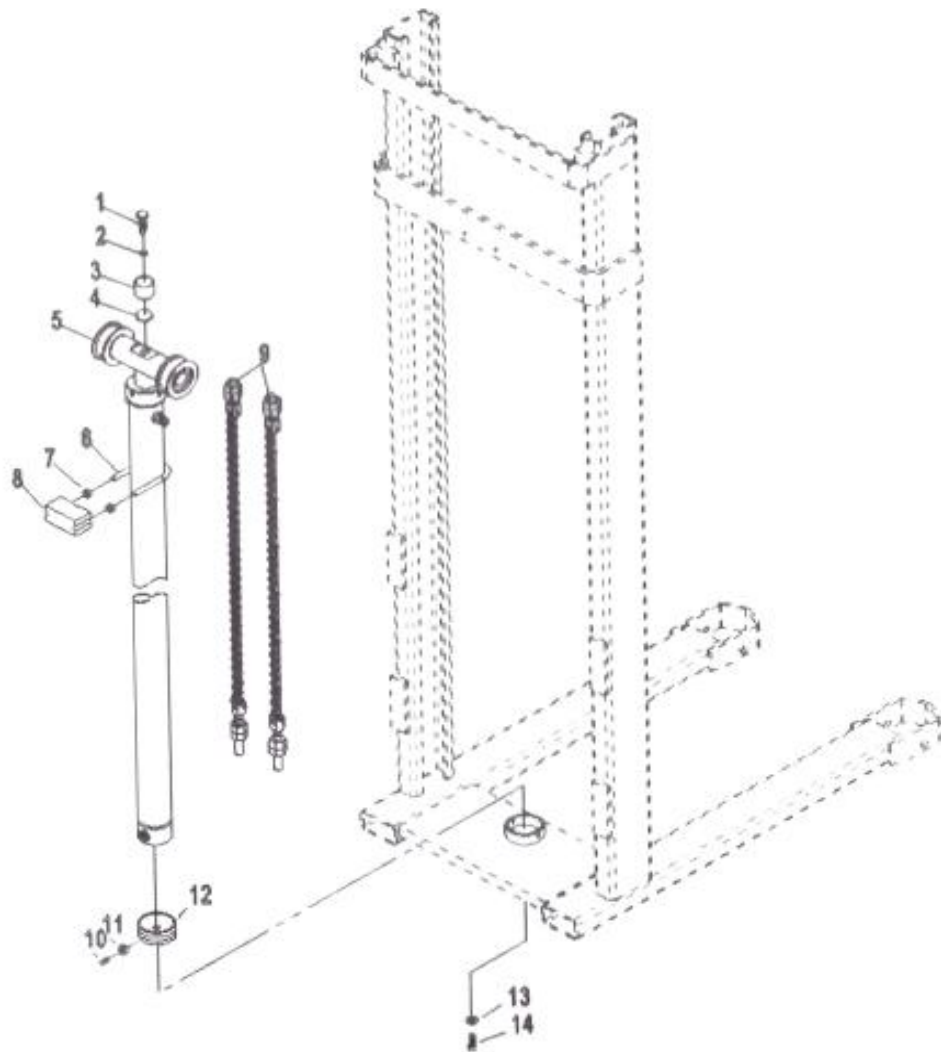
8 Lifting table assembly



S/N	Part name	Quantity	S/N	Part name	Quantity
1	Retaining ring	4	5	Steel ball	4
2	Bearing	4	6	Screws	4
3	Pulley	4	7	Fixed lifting table	1
4	Retaining ring	4			

*indicates wearing parts

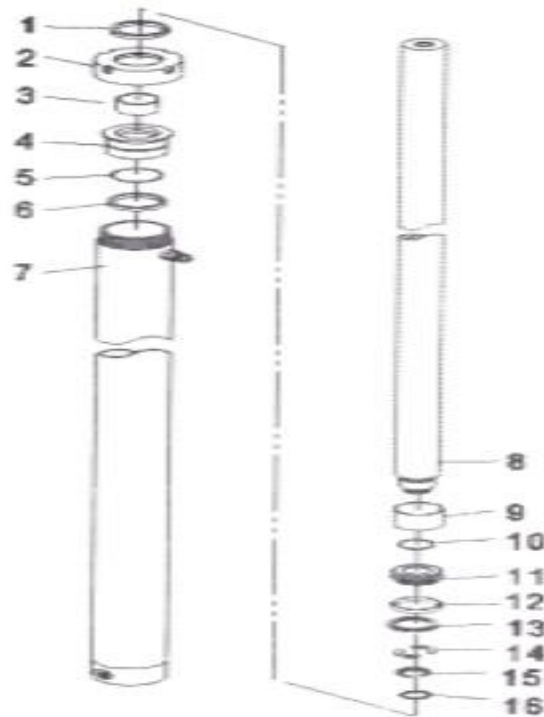
9 Lifting gear



S/N	Part name	Quantity	S/N	Part name	Quantity
1	Screws	1	8	Rubber pads	1
2	Spring washer	1	9	Chain assembly	2
3	Top block	1	10	Screws	2
4	Hydro-cylinder gasket	1	11	Nut	2
5	Sprocket assembly	1	12	Hydro-cylinder gasket	1
6	Hydro-cylinder holding	1	13	Flat washer	1
7	Locking nut	2	14	Bolt	1

*indicates wearing parts

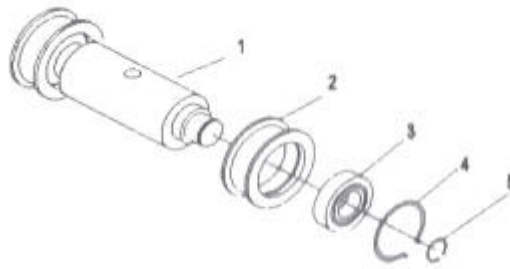
10 Hydro-cylinder assembly



S/N	Part name	Quantity	S/N	Part name	Quantity
1*	Dustproof ring	1	8	Piston rod 2.5M	1
2	Top cap	1		Piston rod 3M	1
3	Bushing	1		Piston rod 3.5M	1
4	Slide bushing	1	9	Bushing	3
5*	Sealing ring	1	10*	Sealing ring	1
6*	Sealing ring	1	11	Piston	1
7	Hydro-cylinder tube 1.6M	1	12*	Guide ring	1
	Hydro-cylinder tube 2.5M	1	13*	Sealing ring	1
	Hydro-cylinder tube 3M	1	14	Semi-circular ring	2
	Hydro-cylinder tube 3.5M	1	15	Semi-circular ring sleeve	1
8	Piston rod 1.6M	1	16	Retaining ring	1

*indicates wearing parts

11 Sprocket assembly



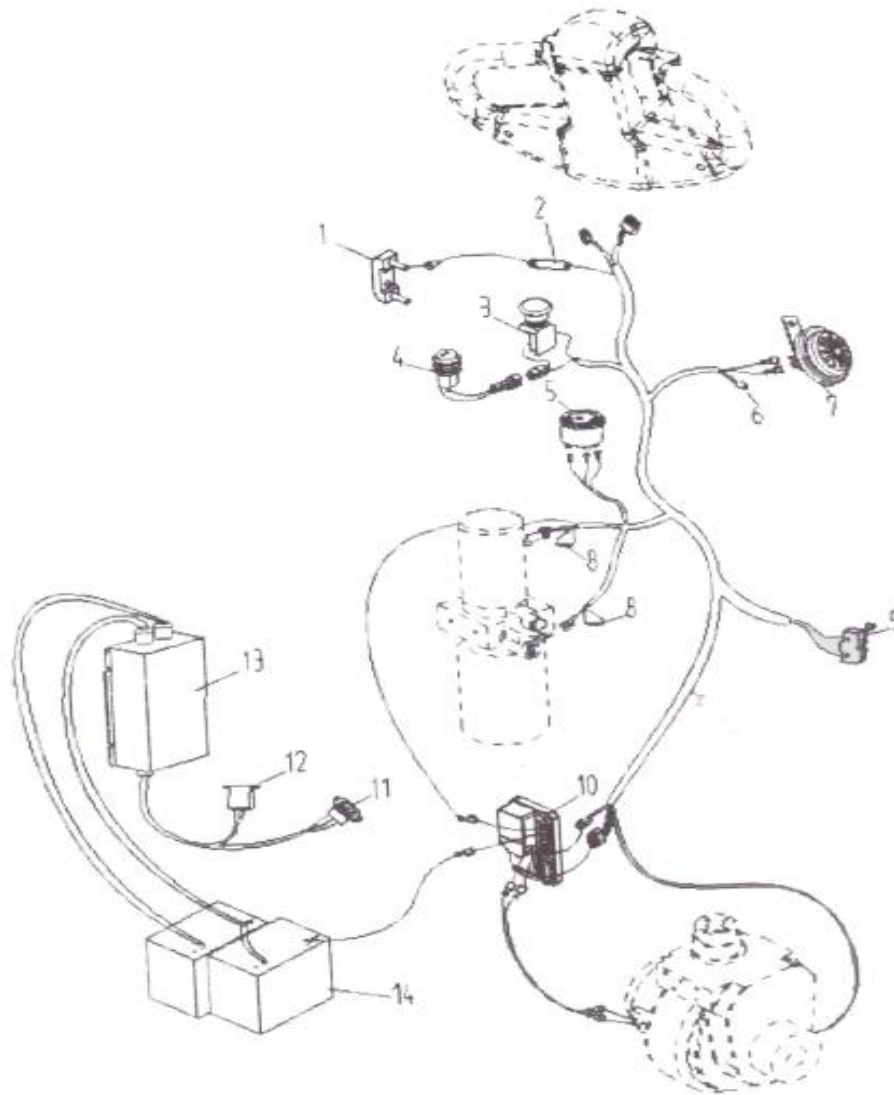
S/N	Part name	Quantity	S/N	Part name	Quantity
1	Sprocket shaft	1	4	Sprocket	2
2	Retaining ring	2	5	Retaining ring	2
3	Bearing	2			

12 Chain assembly



S/N	Part name	Quantity	S/N	Part name	Quantity
1	Nut	4	6	1.6M Chain	1
2	Chain puller I	1		2.5 M Chain	1
3	Cotter pin	2		3M Chain	1
4	Cotter pin	2		3.5 Chain	1
5	Chain pin	2	7	Chain Puller II	1

13 Electric system



S/N	Part name	Quantity	S/N	Part name	Quantity
1	Fuse box	1	9	Micro switches	1
2	Fuse	1		Micro switches	1
3	Emergency stop switch	1	10	Controller	1
4	Electric door lock	1	11	Charger socket	1
5	Electricity meter	1		European standard line	1
6	Capacitor	1	12	Relay	1
7	Buzzer	1	13	Charger	1
8	LED	2	14	Battery	2