

Instruction Manual

Electric Stacker



Note: Owner/Operator must read and understand this instruction manual before using the stacker.

RevB: 2014-01

Preface

I Operating Instruction Manual and Parts List are specially compiled for users to quickly know about the product structure and performance feature, thus to make a periodical maintenance and proper adjustment.

II Composed of the structure principle of the general drawing, Parts List can be used as a temporary instructive reference for users in maintenance or accessory replacement based on the related content of item, serial number and amount.

III The following detailed specifications must be attached if users will place an order for accessories of the fork truck:

1. Type, item No., and ex-factory date.
2. The ordered accessory's location, page, drawing Number in the Manual as well as the detailed number, serial number and amount, etc. No abbreviations or errors are allowed.

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THANK YOU FOR USING THIS FULL ELECTRIC STACKER. FOR YOUR SAFETY AND CORRECT OPERATION, PLEASE CAREFULLY READ THIS INSTRUCTION BEFORE USING IT.

NOTE: All of the information reported herein is based on data available at the moment of printing. The factory reserves the right to modify its own products at any moment without notice and incurring in any sanction. So it is suggested to always verify possible updates.

1. General Introduction

FN - Series Electric Stacker Vehicle is an all-electric handling vehicle based on storage batteries as power supply. Covering seven types such as standard type, wide-pedal type, wide-leg type and fork-leg type, the vehicle consists of two-grade nominal load in each type. Each grade of load consists of five different elevation specifications. It is very important for users to know the correct serial number name of each accessory in maintenance and adjustment. Users should check the detailed information to avoid errors.

With a number of advantages such as complete function, compact structure, small size, simple operation, convenient maintenance, high flexibility of applying in narrow passageways or buildings as well as environmental protection, low noise and low vibration, etc, the fork truck is an ideal carrying tool used in warehouses, docks, stations and so on. It can realize the unitized transport for factories to greatly reduce the work tension and improve efficiency if it can be used with the assistance of pallets.

Major structure features of the truck include: side-embedded power wheel, minimal turning radius available, applicable for special occasions.

2. Specifications

NO.	Parameter			Unit	Design Parameter				
1	Nominal load Q			Kg	1000/1200/1500				
2	Max. lifting height h3			mm	1600	2450	2900	3100	5000
3	Fork dimensions L×e×s			mm	1150×160×56				
4	Load center distance C			mm	600				
5	Full load climbing capacity			%	5				
6	Max. lifting speed	Without load	mm/s	100					
		With load	mm/s	90					
7	Max. lowering speed	Without load	mm/s	120					
		With load	mm/s	95					
8	Max. driving speed	Without load	Km/h	5.5					
		With load	Km/h	4.0					
9	Min. height of forks			mm	≤90				
10	drivingg motor			KW/V	1.2/24				
11	Lifting motor			KW/V	2.0/24				
12	Steering radius			mm	1550				
13	Battery	Voltage	V	24					
		Capacity	Ah	165					
		Weight	Kg	160					
14	Weight (Without battery)			Kg	570	640	662	675	890
15	Front wheel	78×70	Back wheel		150×75		Driving wheel		250×80

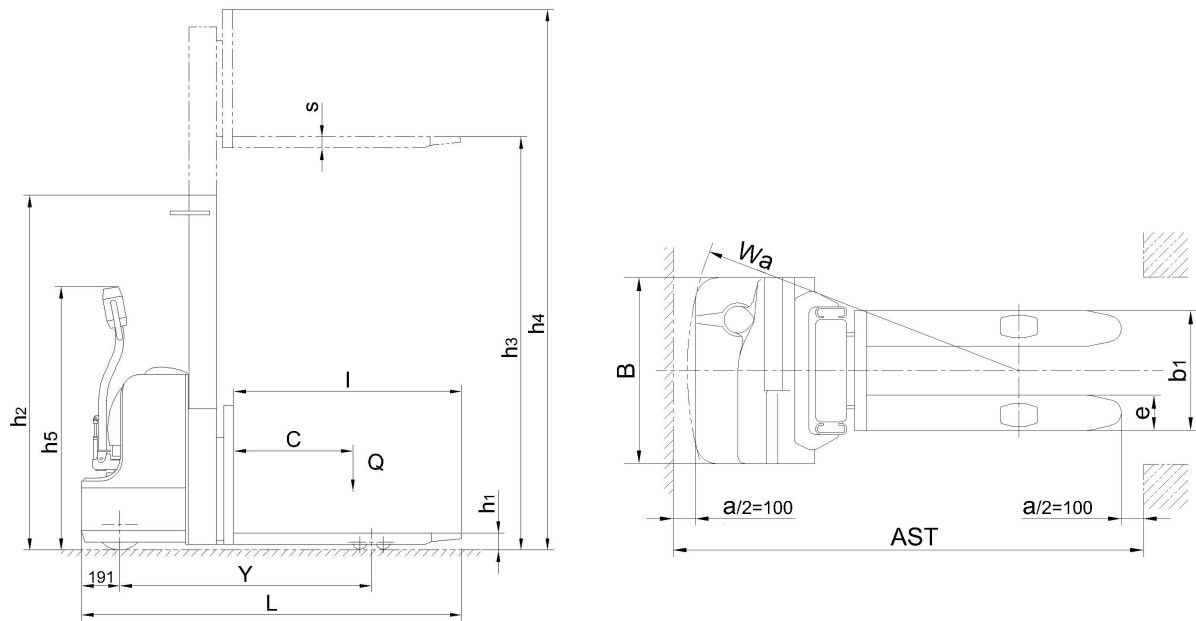


Figure 1: Dimensions

No.	Item	Co de	Parameter				
1	Lifting height	h3	1600	2450	2900	3100	5000
2	Min. Height of forks	h1	90				
3	Fork width	b1	540/685				
4	Dimensions	B	840				
5		h5	1340				
6		h2	2125	1800	2025	2125	2265
7		h4	2250	3100	3548	3750	5650
8		Y	1257				
9		L	1950				
10		Wa	1550				

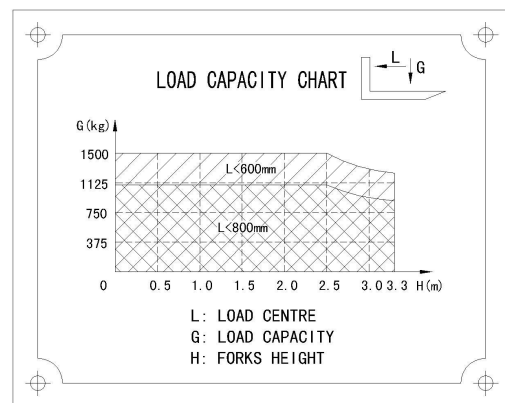
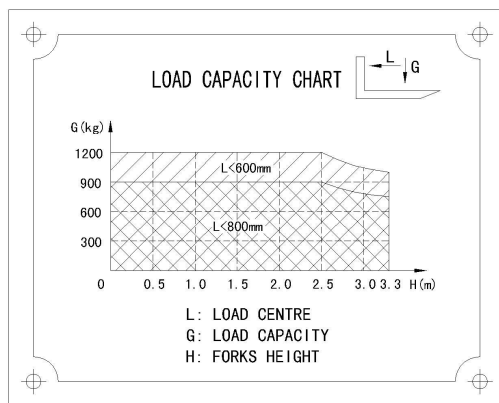


Figure 2

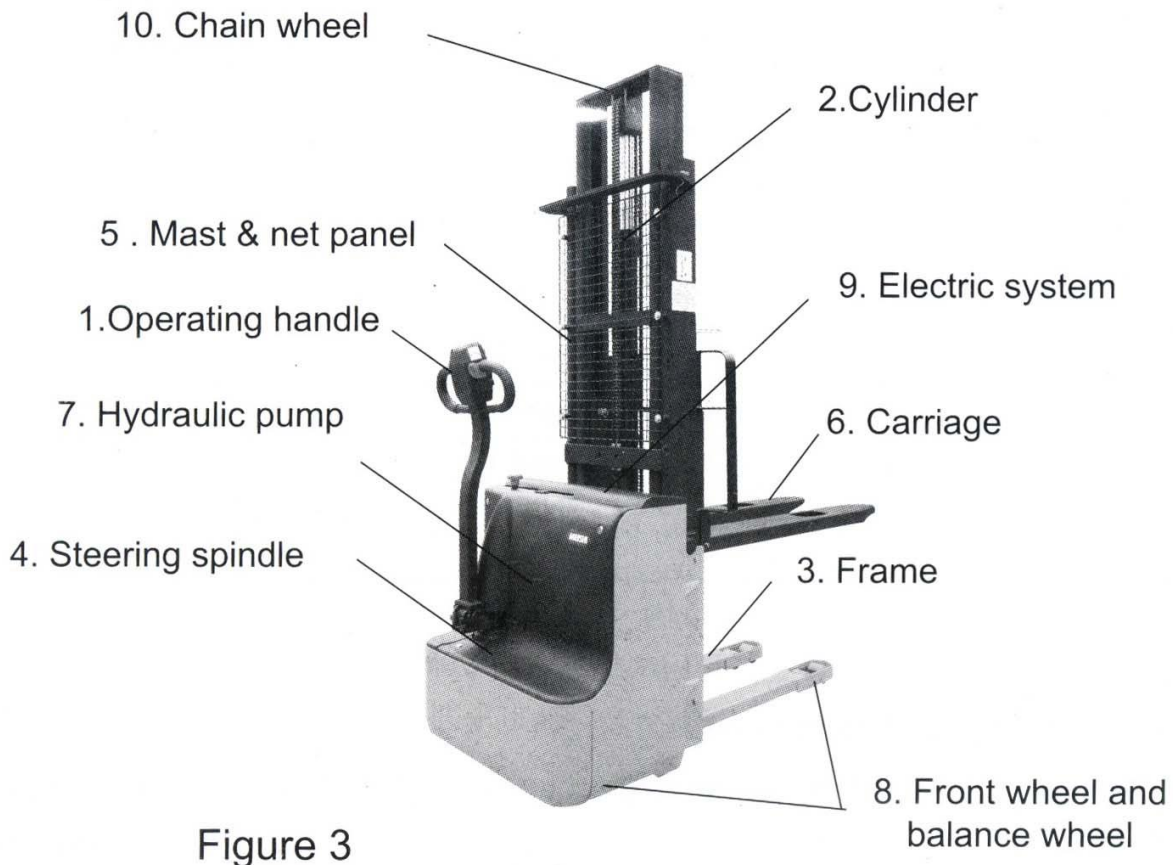


Figure 3

3. Structure Principle and Adjustment

Power Supply System

This system is mainly composed of lead acid storage batteries. It is necessary to know about the structure maintenance and Charging method of the storage battery, thus to reduce production cost and prolong its service life.

1. Storage battery

Any storage batteries are a kind of chemical apparatus that transform electric energy to chemical energy when charging and from chemical energy to electric energy when discharging. 12 pieces of 3VBS165 single lead acid storage batteries in series are used in this fork truck with the nominal capacity C5 of 165AH and voltage of 24V, being an ideal power supply.

(1) Electrolyte confection

1.1 Vitriol and distilled water specially suitable for HG/2693-1995 storage battery should be used in electrolyte confection according to standard percentage. Vitriol for industrial use and water are prohibited to use in electrolyte confection. Before the test drive, the factory has made the electrolyte confection and initial charging process.

1.2 Standard proportion for electrolyte confection can be seen in Table 3.

Whether the electrolyte is well confectioned or not will directly affect the voltage and capacity of the storage battery.

Optimal proportion is 1.28kg/dm^3 (30°C)=100% capacity.

Room temperature (°C)	Proportion of electrolyte (%)
30~40	1.27
20~30	1.28
20 and below	1.29

Battery Type	Sh ratio	Initial charging voltage		Common charging voltage	
	Capacity	Phase 1	Phase 2	Phase 1	Phase 2
	C5	0.10 C5	0.05 C5	0.14 C5	0.07 C5
3VBS165	165	16.5	8.25	23.1	11.55

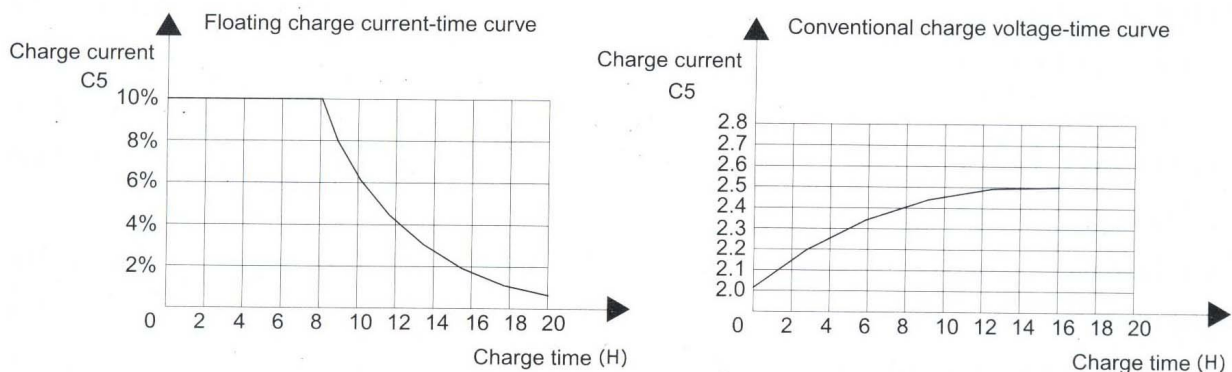
(2) Charging and discharging of storage battery

2.1 Storage batteries that finished initial charging process must start common charging after they have been place for a period of time, or the service life will be badly reduced. The operation method can be found in Table 4.

2.2 Each time, the discharge must be less than 80% of the nominal capacity C5. The longer the high current discharges, the faster the capacity drops. The service life of the storage battery will be rapidly reduced or immediately stopped if the electricity is discharged to the limit.

2.3 The discharged storage batteries should be charged immediately without delay even one day. The work temperature of the battery will increase and the capacity will enlarge in charging, but the highest temperature must be less than 45°C.

2.4 Polarity of the storage battery must accord with that of the charger, namely, positive to positive and negative to negative. Reverse charging is prohibited. Generally, when the temperature and voltage of electrolyte remain the same in two hours, lots of gas and bubbles will be released and the electrolyte proportion will stop increasing, which shows that charging reaches its limit and can stop. Performance can be seen in Drawing2 and Drawing3.



Remark:

1. Maximum floating charge current must be less than 10% of capacity C5
2. Maximum continuous floating charge time must be less than 8hrs.
3. C5 represents the rated capacity of battery, in Ah.
4. The temperature at the end of charging should be within 40°C-45°C

Figure 4

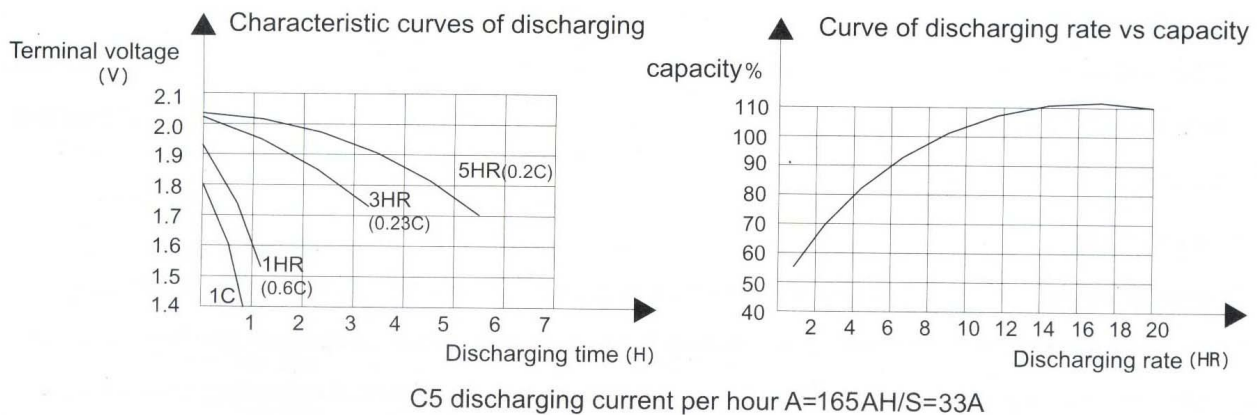


Figure 5

(3) Maintenance of storage battery

3.1 Both overcharging and overdischarging can badly affect the service life of the storage battery. In normal condition, each discharging should not be more than 80% of the nominal capacity. This fork truck is equipped with protective apparatus to avoid overcharging, and circuit will be automatically cut off if the charging continues.

3.2 Storage batteries with electrolyte are not allowed to be stored for a long time. The storage batteries that are not frequently used should be charged once a week to ensure all single batteries to bubble. Storage batteries should be stored in the ventilating storehouse with temperature between 5°C~40°C. The storage term is two years.

3.3 Operation should be stopped when the voltage of the battery reaches 22V, and the storage batteries should be adopted with initial charging and floating charging immediately within the time limit as is shown in Table 4 and Drawing2

3.4 Times of initial charging are generally called common charging. It is appropriate to realize 1.3~1.4 times of charging electricity than discharging electricity and to last 15 hours of charging time as is shown in Drawing2 and Drawing3.

3.5 Overcharging must be avoided. The best method is to charge with 0.02 C5 current (A) till the voltage of single batteries reaches 2.5V and batteries bubble from inside, and then reduce half of current (A) to continue charging, and reduce half after half an hour, and charge for one hour. Times and times like this until the charger switches off and the batteries bubble from inside.

3.6 Hydrogen gas will emit in the course of charging and plenty of heat energy will produce, so it is necessary to keep ventilating to avoid explosion.

3.7 Distilled water should be filled frequently and the batteries should be charged for 20-30 minutes each time after water filling to enable complete mixture of the distilled water and electrolyte. Fluid level and density should be kept in a normal range. Beyond this range, vitriol densimeter must be used to adjust to the value of $1.28 \pm 0.005 \text{ kg/dm}^3$ and to meet the label line position.

3.8 Battery conversion and direct sunlight should be prohibited. Storage batteries should be placed 2 meters beyond the power supply without being impacted and pressed. No metal impurities are allowed into the storage batteries.

2. Charging set

Charging set is a rectifying installation exclusively used for charging inspection. With compact structure and convenient maintenance, it also has the advantage of high protection and high reliability. Users should carefully read the Operating Instruction Manual to know about operating instruction and

safety particulars, etc before using it.

4. Safety Operation and Maintenance

I. Safety Operation

1. Before the fork truck works, it is necessary to check whether the joint of the accumulator looses, whether the horn is in normal state, whether the quality of electricity is sufficient, and whether the steering wheel is flexible. The fork truck is prohibited to dispatch with any failure.

2. Aside from the above-motioned problems, the fork truck starts operation with alarms to ensure no people and barriers around. It must strictly operate within the range of nominal load curve, and it should reduce the loading capacity in accordance with the curve when the gravity center of goods exceeds the designed load center distance.

3. Slanting shipment or single-prong shipment is prohibited.

4. First, the operator must to lower the fork in a low height, and then move the stacker to the position where you want. When you load the goods at high position, please lower the fork to the safety height.

5. It is prohibited to lift people with the fork or truck when the fork truck is in operation. No people are allowed to stay or walk under the fork truck when it is lifting no matter whether there are goods on it or not.

6. Sharp turning is prohibited for the fork truck, and it should operate in the uphill direction when it runs on the slope with the full load less than 5 percent; namely, reverse the fork truck to go down the slope with goods on the back.

7. Being a key carrying component, the fork truck is crucial to production safety. It is necessary to frequently check whether there is any distortion, crack or other failure. Operation should be stopped immediately once any failure is found.

8. It is prohibited to operate two buttons simultaneously.

II. Maintenance and service

A periodical maintenance must be made according to the following instructions to ensure the normal usage and safe production.

1. Daily maintenance (after each work shift)

1) Sanitary work like clearing out dirt

2) Check whether the bolt of each part is firmly fastened.

3) Check whether oil is leaked and power supply is sufficient.

4) Check whether the masts and chain wheels are well lubricated.

2. First-grade maintenance (monthly), the following items are added beside the daily maintenance:

1) Check whether the oil pump, cylinder and change valve are in normal condition.

2) Check whether the braking distance in full load is over 1000mm.

3) Check whether the proportion and liquid pressure of electrolyte meet the above-mentioned scope. The joint of the terminal and lead should be coated with Vaseline.

4) Check whether the lifting speed of the carriage meets the standard and whether there is vibration or block.

3. Secondary-grade maintenance (after six months)

1) Clean the oil tank, strainer and pipeline. Fabric thrums or cloths are prohibited to use in cleaning.

2) Check whether the transmission parts are well lubricated and firmly fastened.

- 3) Check whether the redirector is freely turned and well cleaned.
- 4) Check whether the fork, gliding frame, mast and vehicle frame and so on are deformed or cracked and whether the trolleys are well cleaned.
- 5) Check the inclined oil tank and lifting oil tank and replace the sealing elements for the seriously wearing pads.
- 6) Check whether the instruments and switch contacts are broken or with inaccurate measurement replace or adjust the inaccurate pads.

5. Vulnerable Parts

No.	Belong to	Code	Description	Specification	Qty
1	1.Operating handle	10-60110	Travel switch	Z-LSGQ-13	1
		30-60130	Lifting button	ZB2-13E101C	2
		31-60131	Horn button	RIS-507	1
		46-60146	Micro move switch	VP531A-4F	3
		230-60125	Pneumatic spring	700N Journey 70mm	1
2	2.Lifting oil cylinder	58-60209	Dust proof ring	DH40 $\Phi 40 \times 48 \times 5$	1
		59-60210	Seal ring	UHS40 $\Phi 40 \times 50 \times 6$	1
		60-60211	Guiding ring		1
		61-60212	O-ring	$\Phi 68 \times 3.1$	1
		64-60215	O-ring	$\Phi 32 \times 3.5$	1
		66-60217	Guiding ring		1
		67-60218	Cut washer		1
		68-60219	Seal ring	UHS45 $\Phi 45 \times 56 \times 7$	1
3	4.Steering spindle	95-60415	Wheel housing	$\Phi 250 \times 80$	1
		96-60416	Driving wheel assembly		1
			Drag ring	$\Phi 90 \times 4.5$	1
4	8.Front wheel	150-60801	Front wheel	$\Phi 78 \times 70$	1
5	8.Balance wheel	170-60821	Roller	$\Phi 150 \times 75$	1
6	9.Electric system control	186-60915	DC contactor	DC88-317T	2
		195-60924	Emergency button	ZDK-200	1
		172-60901	Battery assembly	165AH/24V	1
		189-60918	Fuse	RT14-32 10A	1
		191-60920	Fuse	RT14-63 125A	1
		240-11135	Fuse	CNL10A	1
		242-11137	Fuse	CNL125A	1

6. Storage and Transport

1. The fork truck should be placed in the dry and clean storehouse to avoid sunshine or rain when it is not in operation.
2. The mast and fork should be unloaded and fastened backward if the whole set will be sealed in the storehouse for a long term.
3. The fork truck manufactured in our factory is in nude package, with plastic foams coating along the body, double flax pieces wrapping over it and wood frames fastening it.
4. Hydraulic-pressure oil should be filled into the oil tank according to standard before the fork truck operates and lubricant should be injected to all needed parts.
5. Balance lifting should be achieved and eccentric lifting is prohibited. The operator should deal any losses or accidents caused by improper operation mentioned above.

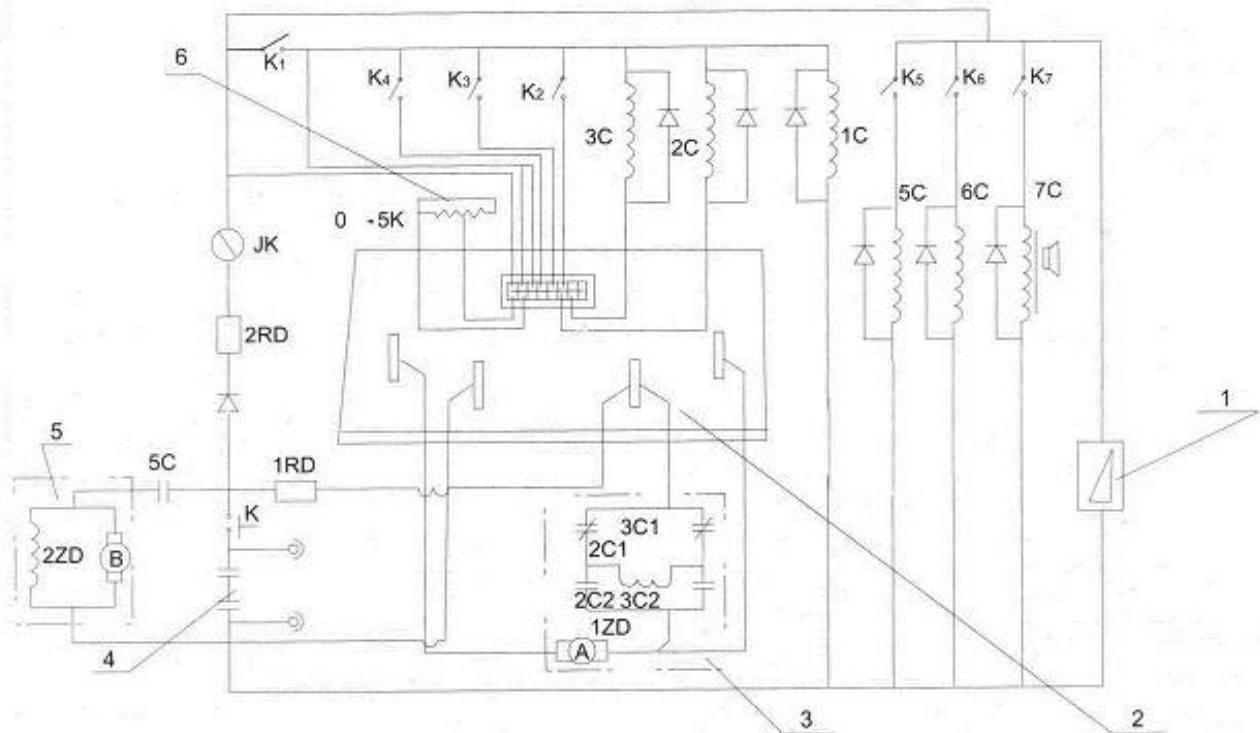
Manufacturer holds the ultimate explanation.

7. Troubles shooting

Trouble	Cause	Solution
The truck can't be operated or the speed descended sharply	1. The lock is closed. 2. The emergence stop is closed. 3. The driving wheel is in braked 4. Low-voltage of battery or high-resistance at the joint 5. Instant carbon accumulation in the ring header of the motor 6. Braked caused by improper adjustment of the motor 7. The gear-box of the driving wheel and bearing are lack of lubricant. 8. Short circuit in the armature.	1. Open the lock. 2. Open the switch. 3. Press the handle to a certain angle. 4. Check the voltage. 5. Clean the ring header. 6. Adjust the braking distance of the truck. 7. Clean and lubricate them again. 8. Replace a new motor.
Can't lift the load	1. Gears and pump body are abraded greatly. 2. Improper adjustment of safety valve. 3. Leakage in hydraulic-pressure circle pipe. 4. The temperature of the oil is too high, or the concentration of the oil is too thin. 5. Blocks in carriage and mast.	1. Replace the worn parts or the oil pump. 2. Readjust the safety valve. 3. Check the leakage and replace a new one. 4. Change the off-grade oil and find out the cause of the high temperature. 5. Check and adjust the clearance.
Can't brake	1. Braking coil is broken or short circuit. 2. Improper adjustment of braking disk clearance	1. Replace a new coil. 2. Readjust the clearance.
Insufficient pressure or low speed	1. Leakage caused by worn sealing rings. 2. Abrasion of the gears. 3. Rotate speed of the pump slows down. 4. Blocks in the pipe.	1. Replace the sealing ring. 2. Replace the pump. 3. Check the header, clean the accumulated carbon and adjust the position of the brush. 4. Check and clean
No signal on the display	1. The lock is closed. 2. The embedded parts and connection parts are loosened. 3. Display is broken.	1. Open the lock. 2. Check and repair. 3. Replace a new one.
Electric parts don't work normally	1. Micro-switch is in wrong position or broken. 2. Fuse of the main circuit or the controlling circuit is burnt out. 3. Low voltage of the battery. 4. The contactor is burnt out or dirty. 5. The contact doesn't work.	1. Replace the micro-switch or readjust the position. 2. Replace the fuse. 3. Recharge. 4. Repair or clean. 5. Check or replace.

Principle of electrical operation

Figure 6 (only for reference)



- | | | |
|--------------------|------------------------------------|---------------------|
| 1. Coulometer | 2. Electric velocity control panel | 3. 1ZD drive bus |
| 4. Storage battery | 5. 2ZD Hydraulic station bus | 6.0~5k Velometer |
| JK: Key switch | K-K7: Micro-switch | 1C~7C: DC contactor |
| 1RD-ZRD: Fuse | | |

Principle of hydraulic operation

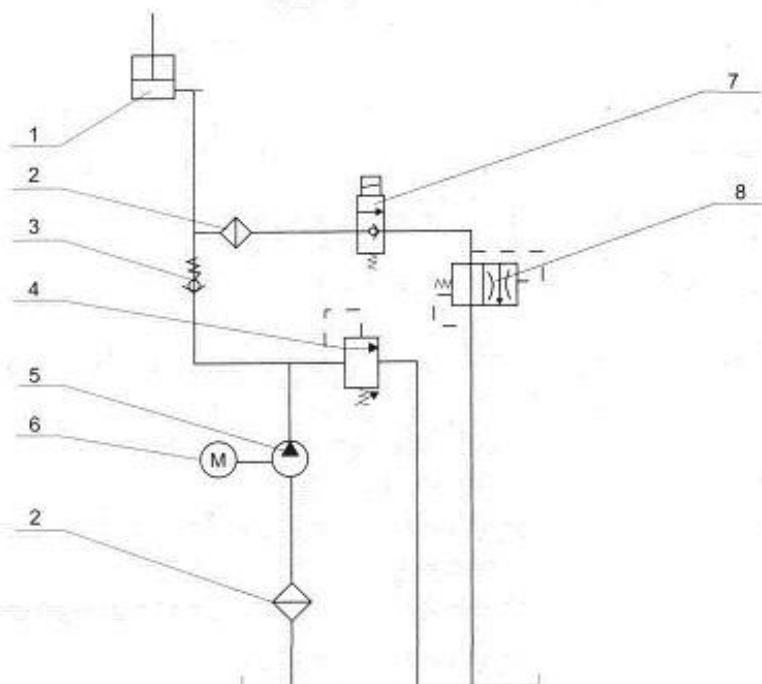


Figure 7

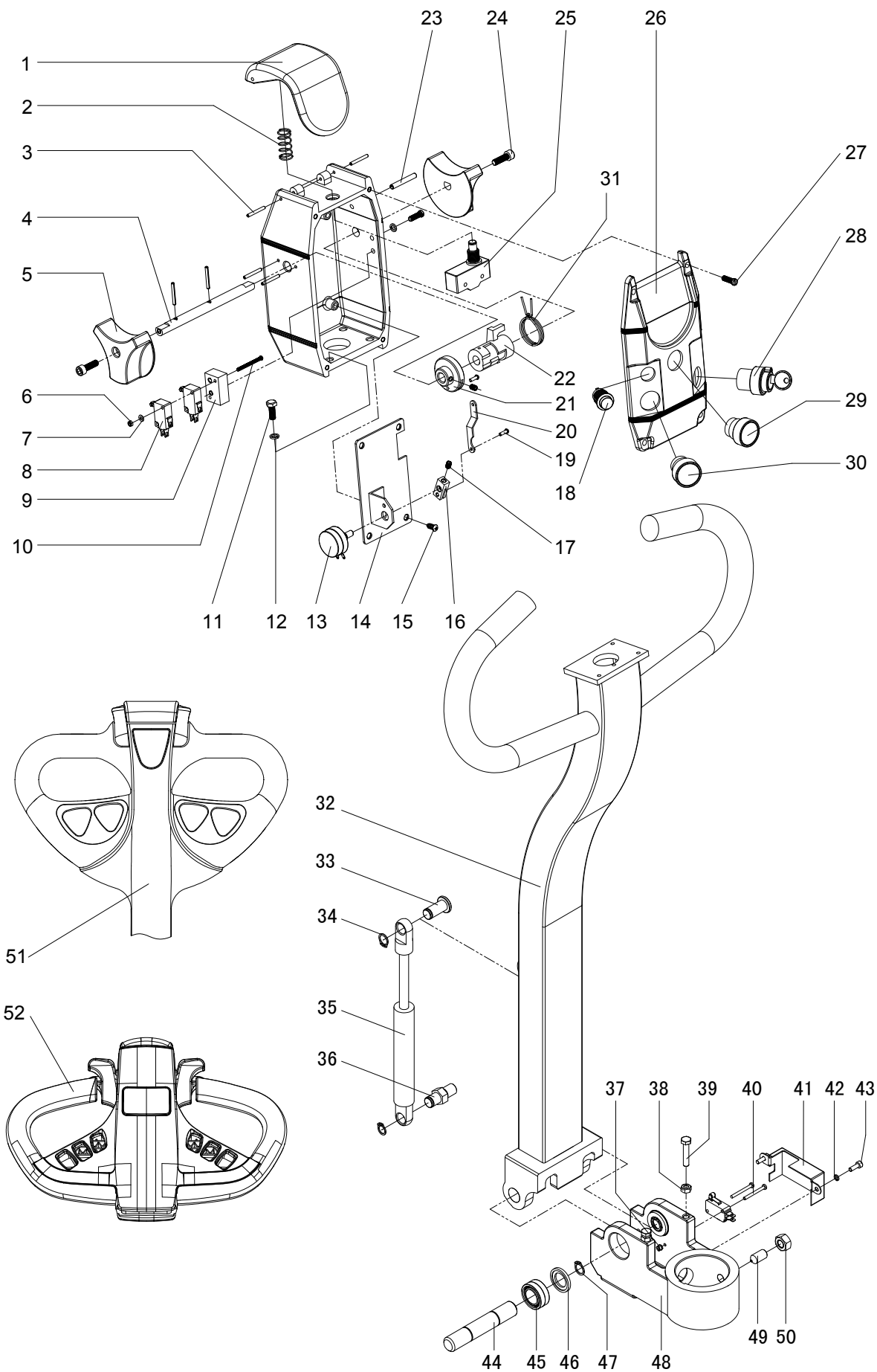
- | |
|---------------------------|
| 1. Lift |
| 2. Filter |
| 3. Single direction valve |
| 4. Overflow valve |
| 5. Gear pump |
| 6. Motor |
| 7. Discharge valve |
| 8. Speed limit valve |

8.Parts List

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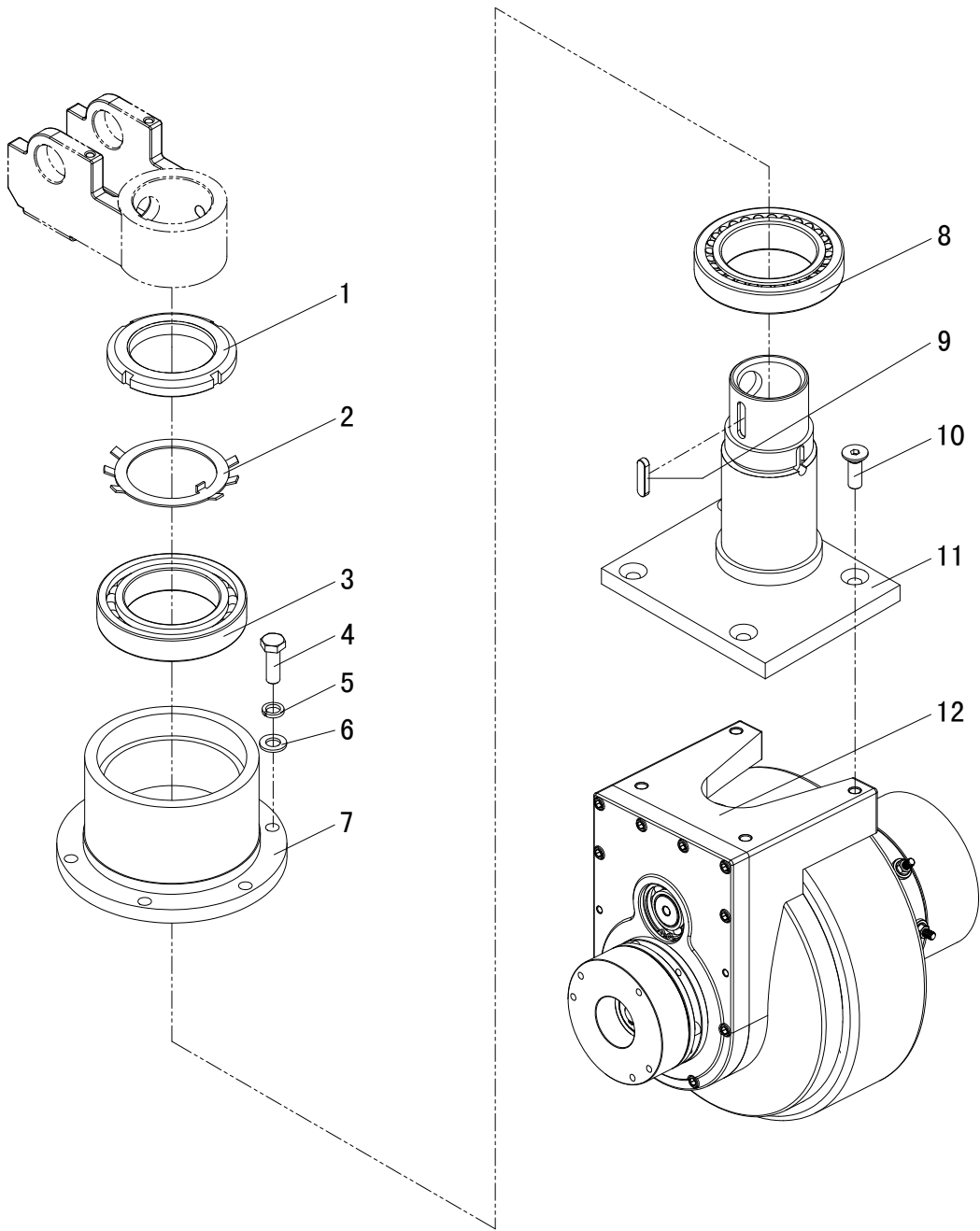
8.1 Handle Assembly

Item	Part No.	Description	Qty	Item	Part No	Description	Qty
1	10101	lever	1	27	10127	screw	4
2	10102	spring	1	28	10128	lock	1
3	10103	pin	6	29	10129	lifting button	1
4	10104	shaft	1	30	10130	lowering button	1
5	10105	rotator	2	31	10158	twist spring	1
6	10106	nut	2	32	130101	operating handle	1
7	10107	washer	2	33	130102	pin	1
8	10108	microswitch	3	34	130103	retaining ring	2
9	10109	block	1	35	130104	pnumatic spring	1
10	10110	screw	2	36	130105	pin shaft	1
11	10111	bolt	4	37	130106	nut	2
12	10112	spring washer	4	38	130107	nut	2
13	10113	regulator	1	39	130108	bolt	2
14	10114	base plate	1	40	130109	screw	2
15	10115	screw	4	41	130110	switch guard	1
16	10116	crank	1	42	130111	spring washer	2
17	10117	screw	2	43	130112	screw	2
18	10118	horn button	1	44	130113	shaft	1
19	10119	hollow rivet	2	45	10156	bearing	2
20	10120	connecting rod	1	46	130114	bush	2
21	10121	eccentric wheel	1	47	130115	retaining ring	2
22	10122	cam	1	48	130116	handle base	1
23	10123	spring pin	1	49	130117	screw	1
24	10124	screw	2	50	130118	nut	1
25	10125	brake switch	1	51	10159	REMA handle	1
26	10126	cover	1	52	10160	FREI handle	1



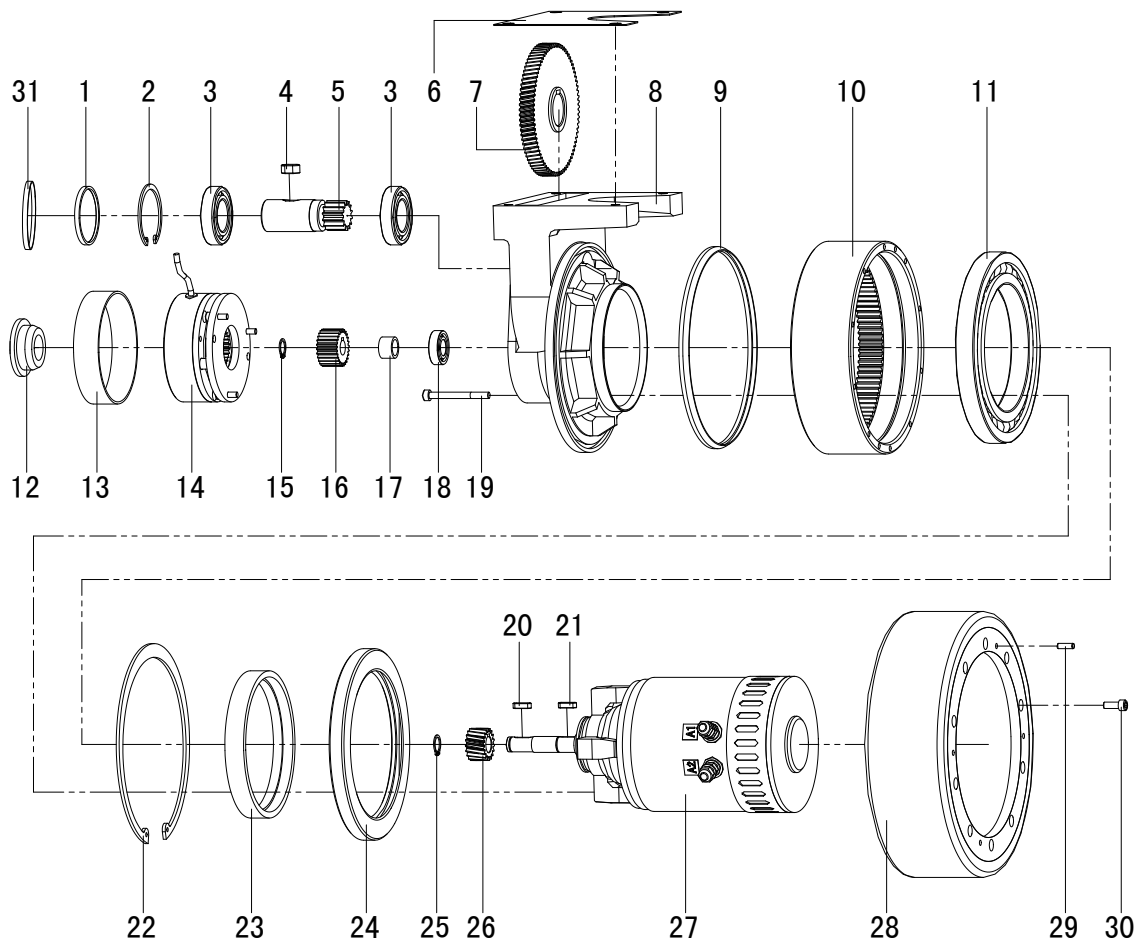
8.2 Steering System

Item	Part No.	Description	Qty	Item		Description	Qty
1	130201	round nut	1	7	130207	base flage	1
2	130202	washer	1	8	130208	bearing	1
3	130203	bearing	1	9	130209	key	1
4	130204	bolt	6	10	130210	screw	4
5	130205	spring washer	6	11	130211	spindle	1
6	130206	washer	6	12	30218A	DC driving unit	1
					30218B	AC driving unit	1



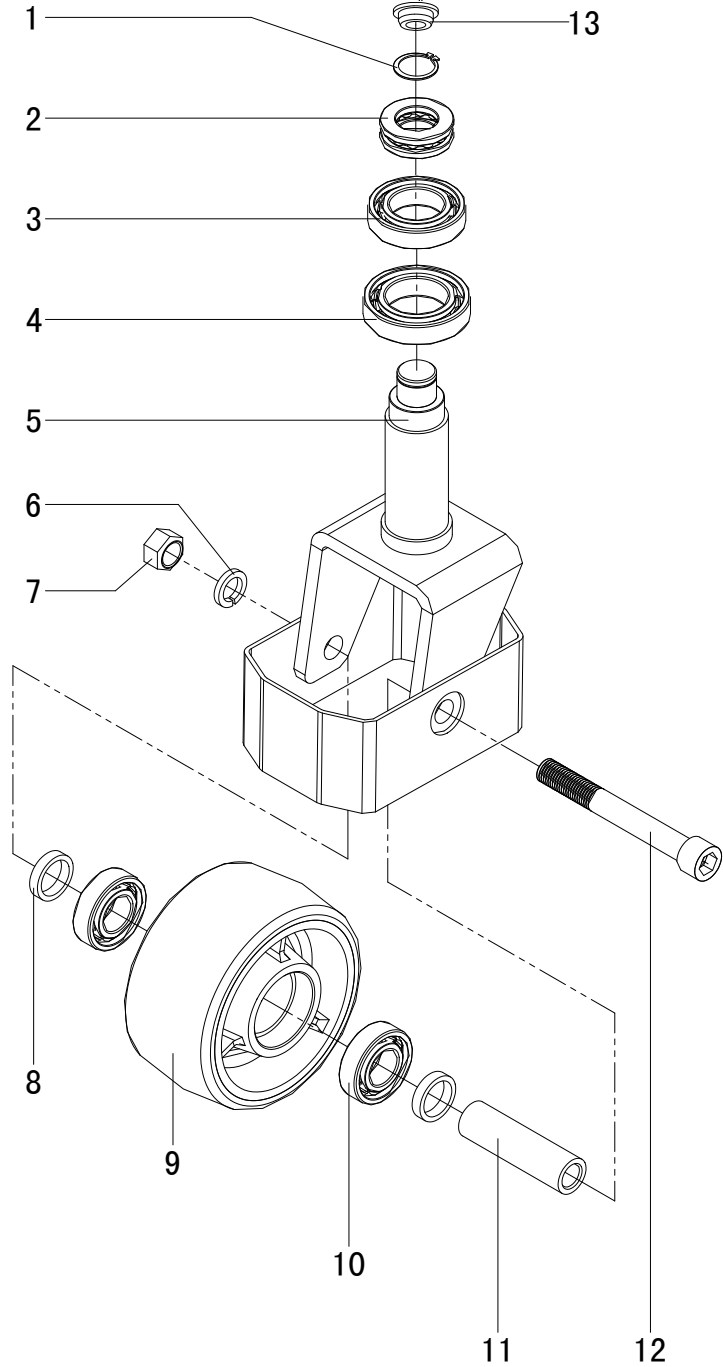
8.3 Driving Wheel Assembly

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	30431	skeleton seal	1	18	30418	bearing	1
2	30402	retaining ring	1	19	30419	screw	3
3	30403	bearing	2	20	30420	straight key	1
4	30404	straight key	1	21	30421	straight key	1
5	30405	pinion gear	1	22	30422	retaining ring	1
6	30406	gasket	1	23	30423A	DC motor ring	1
7	30407	speed gear	1		30423B	AC motor ring	1
8	30408	housing	1	24	30424	oil seal	1
9	30409	gasket	1	25	30425	retaining ring	1
10	30410	crown gear	1	26	30426	motor shaft gear	1
11	30411	bearing	1	27	30427A	DC motor	1
12	30412	dustproof nut	1		30427B	AC motor	1
13	30413	break guard ring	1	28	30428	driving wheel	1
14	30414	electric brake	1	29	30429	pin	2
15	30415	retaining ring	1	30	30430	screw	10
16	30416	hub	1	31	30401	bearing cover	1
17	30417	bushing	1				



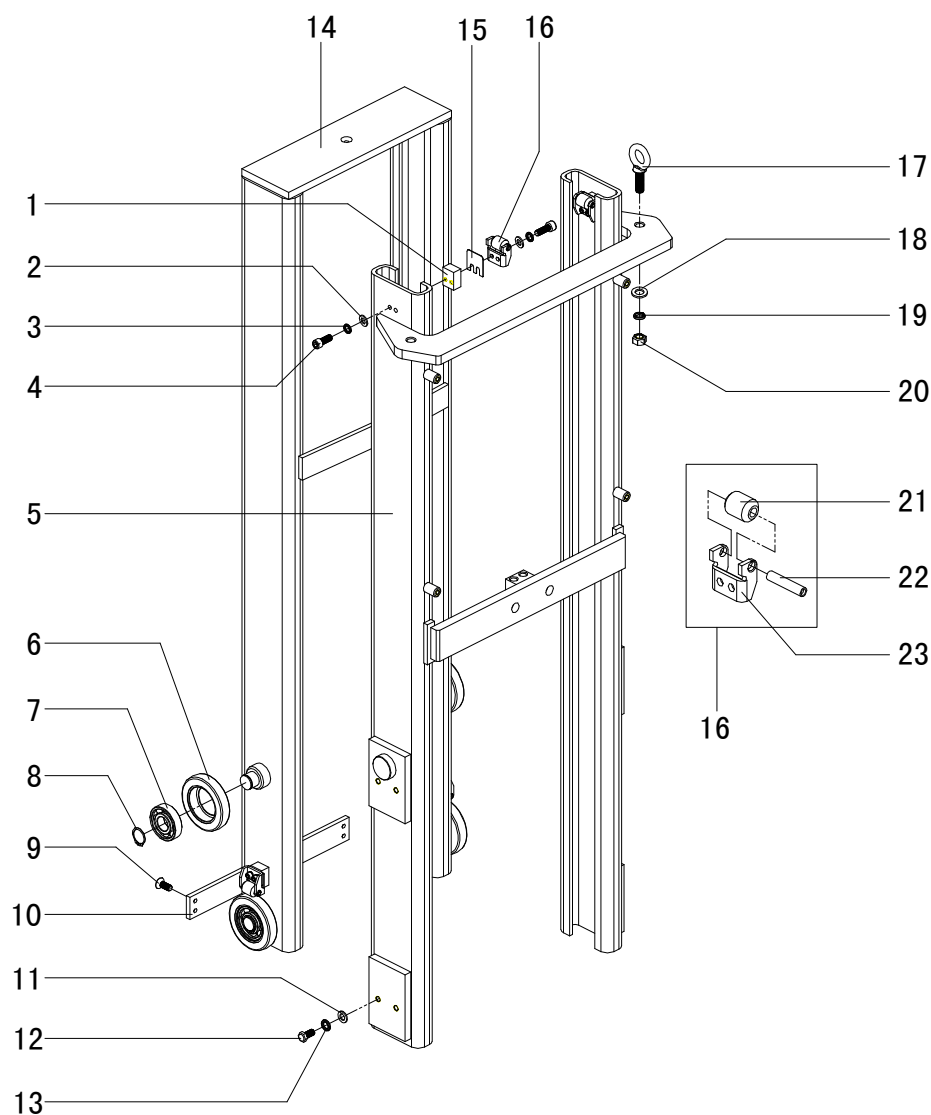
8.4 Balance Wheel Assembly

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	30501	retaining ring	1	7	30507	nut	1
2	30502	bearing	1	8	30508	locating ring	2
3	30503	bearing	1	9	30509	balance wheel	1
4	30504	bearing	1	10	30510	bearing	2
5	30505	wheel frame	1	11	30511	bush tube	1
6	30506	spring washer	1	12	30512	screw	1
				13	30513	dustproof cap	1



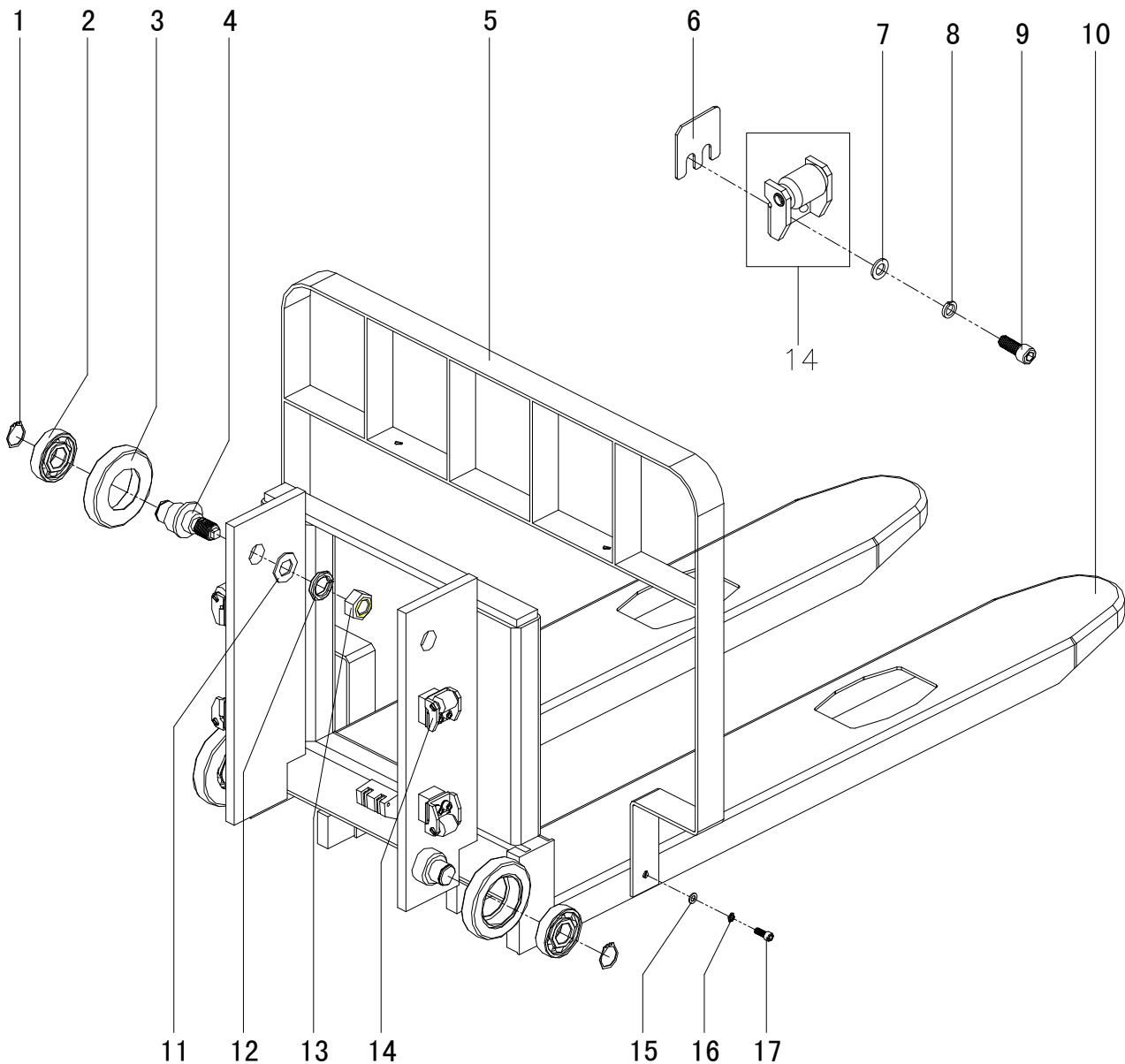
8.5 Mast Assembly

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	30601	block	2	13	30622	washer	8
2	30602	washer	8	14	30612	inner mast	1
3	30603	spring washer	8	15	30613	adjusting washer	N
4	30604	screw	8	16	30614	lateral roller unit	4
5	130501	outer mast	1	17	30615	lifting screw	2
6	30605	mast roller	4	18	30623	washer	2
7	30606	bearing	4	19	30616	spring washer	2
8	30607	elastic collar	4	20	30617	nut	2
9	30608	screw	4	21	30618	lateral roller	4
10	30609	fixing plate	1	22	30619	pin	4
11	30610	washer	8	23	30620	lateral roller base	4
12	30611	bolt	8				



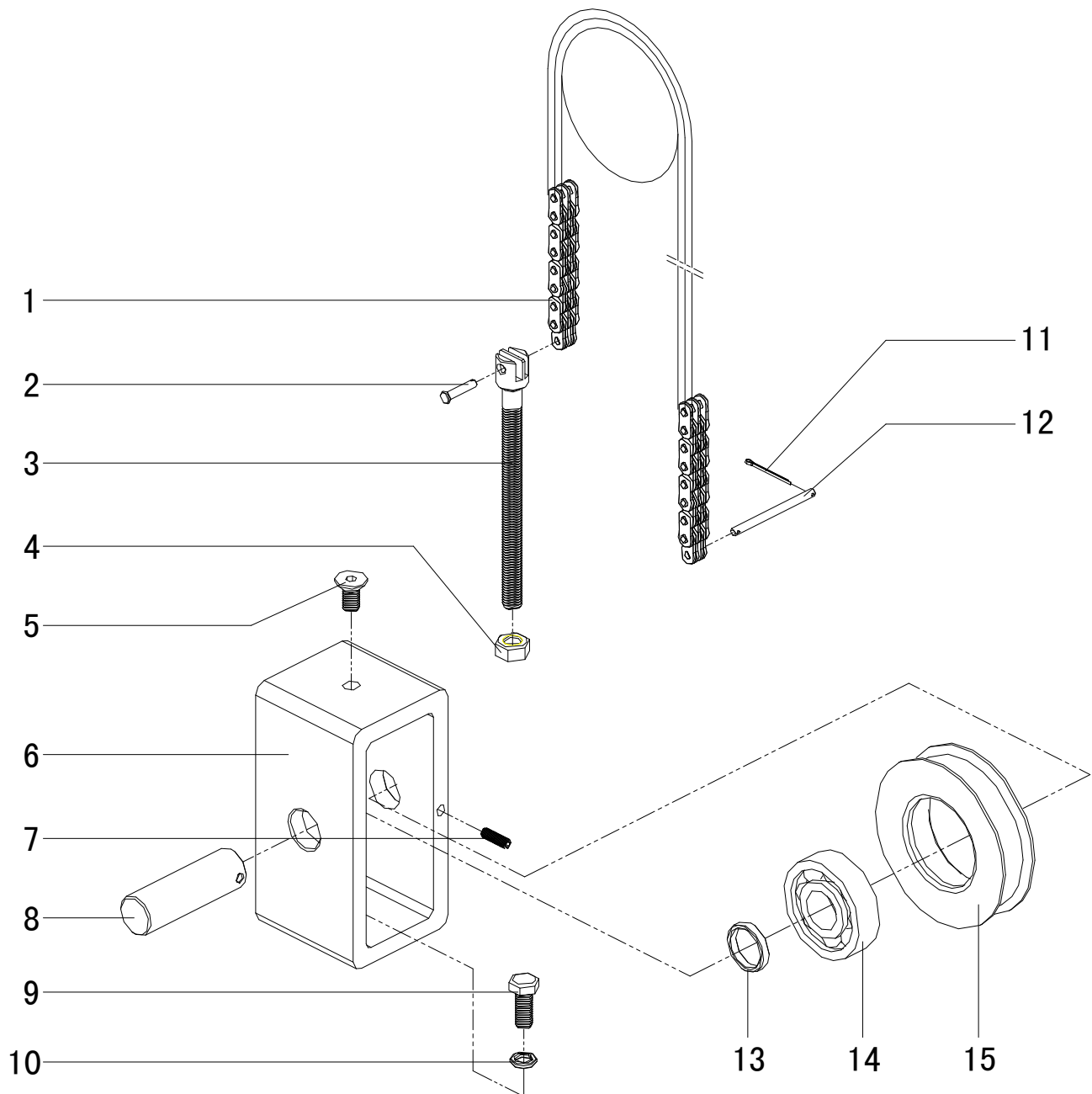
8.6 Fork Carriage Assembly

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	30607	elastic collar	4	10	30705	fork carriage body	1
2	30606	bearing	4	11	30706	washer	2
3	30605	mast roller	4	12	30707	spring washer	2
4	30701	eccentric shaft	2	13	30708	nut	2
5	30702	carriage baffle	1	14	30614	lateral roller unit	4
6	30613	adjusting washer	N	15	30711	washer	4
7	30710	washer	8	16	30712	spring washer	4
8	30703	spring washer	8	17	30709	screw	4
9	30704	screw	8				



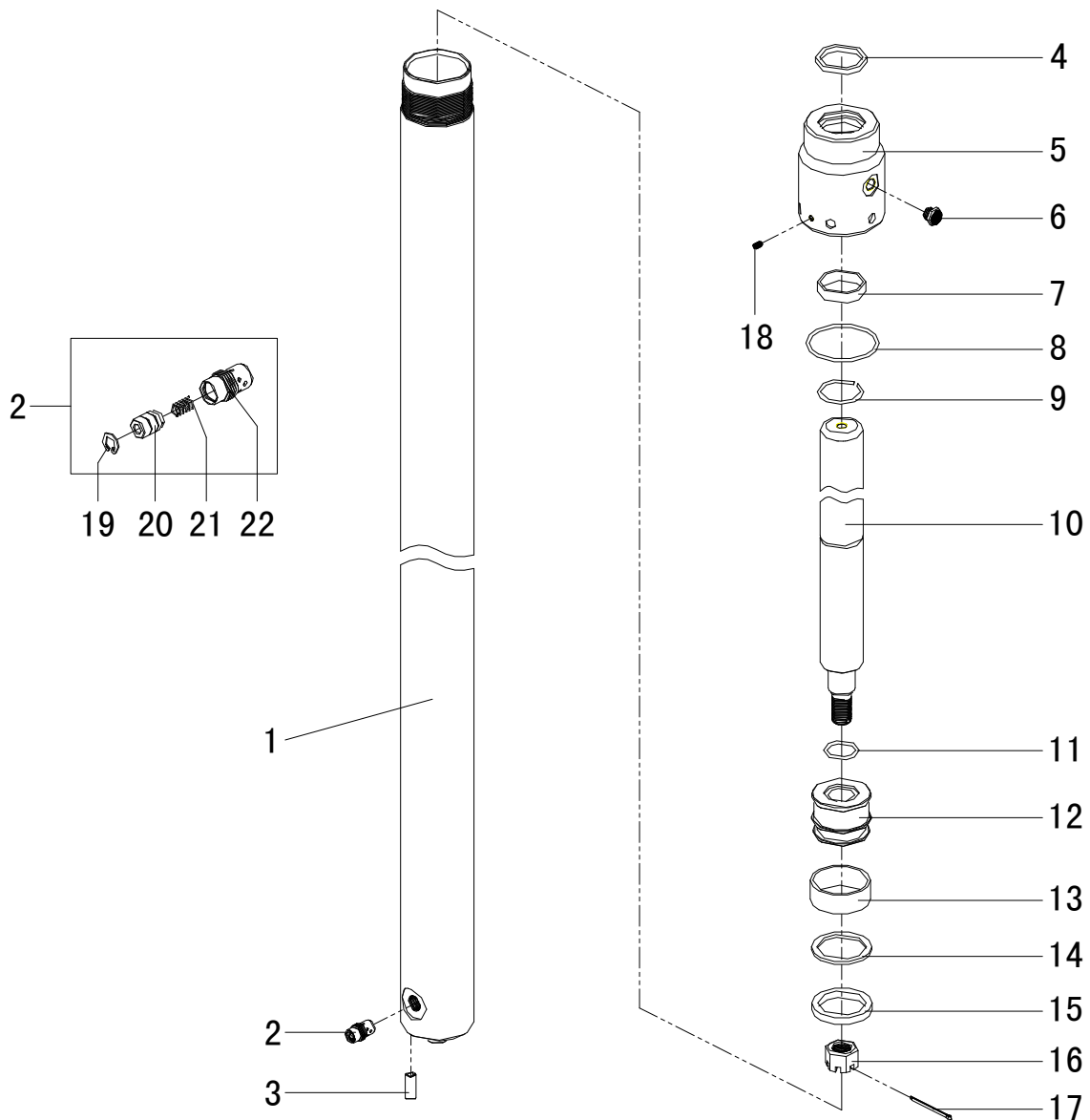
8.7 Chain Wheel Assembly

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	30801	chain	2	9	30809	bolt	1
2	30802	pin	2	10	30810	spring washer	1
3	30803	adjusting bolt	2	11	30811	split pin	4
4	30804	nut	6	12	30812	pin	1
5	30805	screw	1	13	30813	locating ring	2
6	30806	chain base	1	14	30814	bearing	2
7	30807	screw	1	15	30815	chain wheel	2
8	30808	pin	1				



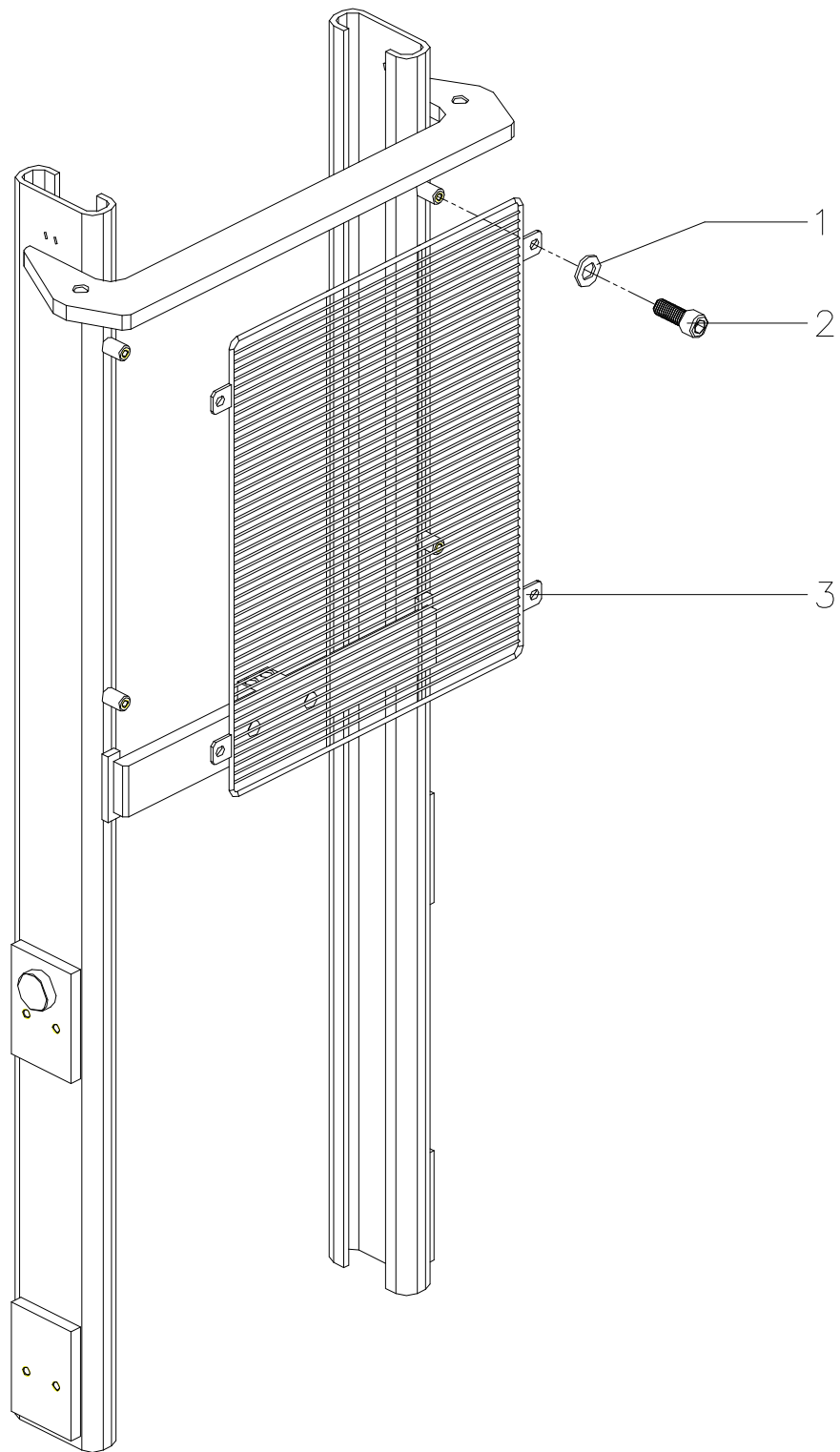
8.8 Lifting Cylinder Assembly

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	30901	cylinder	1	12	30912	piston	1
2	30902	speed reducing valve	1	13	30913	guiding ring	1
3	30903	spring pin	1	14	30914	cut washer	1
4	30904	dust-proof ring	1	15	30915	seal ring	1
5	30905	cylinder cap	1	16	30916	lock nut	1
6	30906	ventilating nut	1	17	30917	split pin	1
7	30907	guiding ring	1	18	30918	screw	1
8	30908	O ring	1	19	30919	retaining ring	1
9	30909	retaining ring	1	20	30920	guiding ring	1
10	30910	piston rod	1	21	30921	spring	1
11	30911	O ring	1	22	30922	valve tube	1



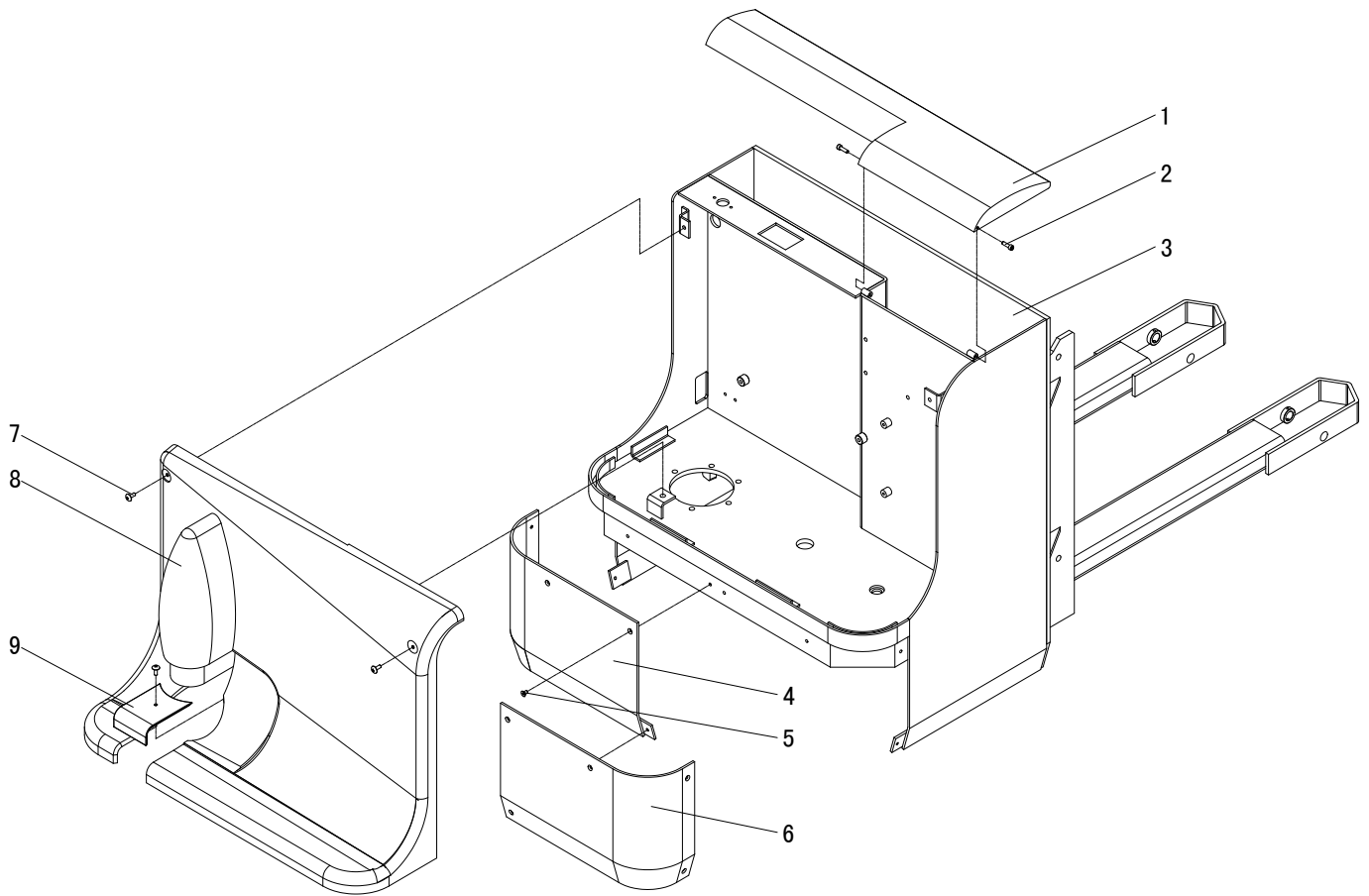
8.9 Protection Net

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	31001	washer	4/6	3	130901	protction net	1
2	31002	screw	4/6				



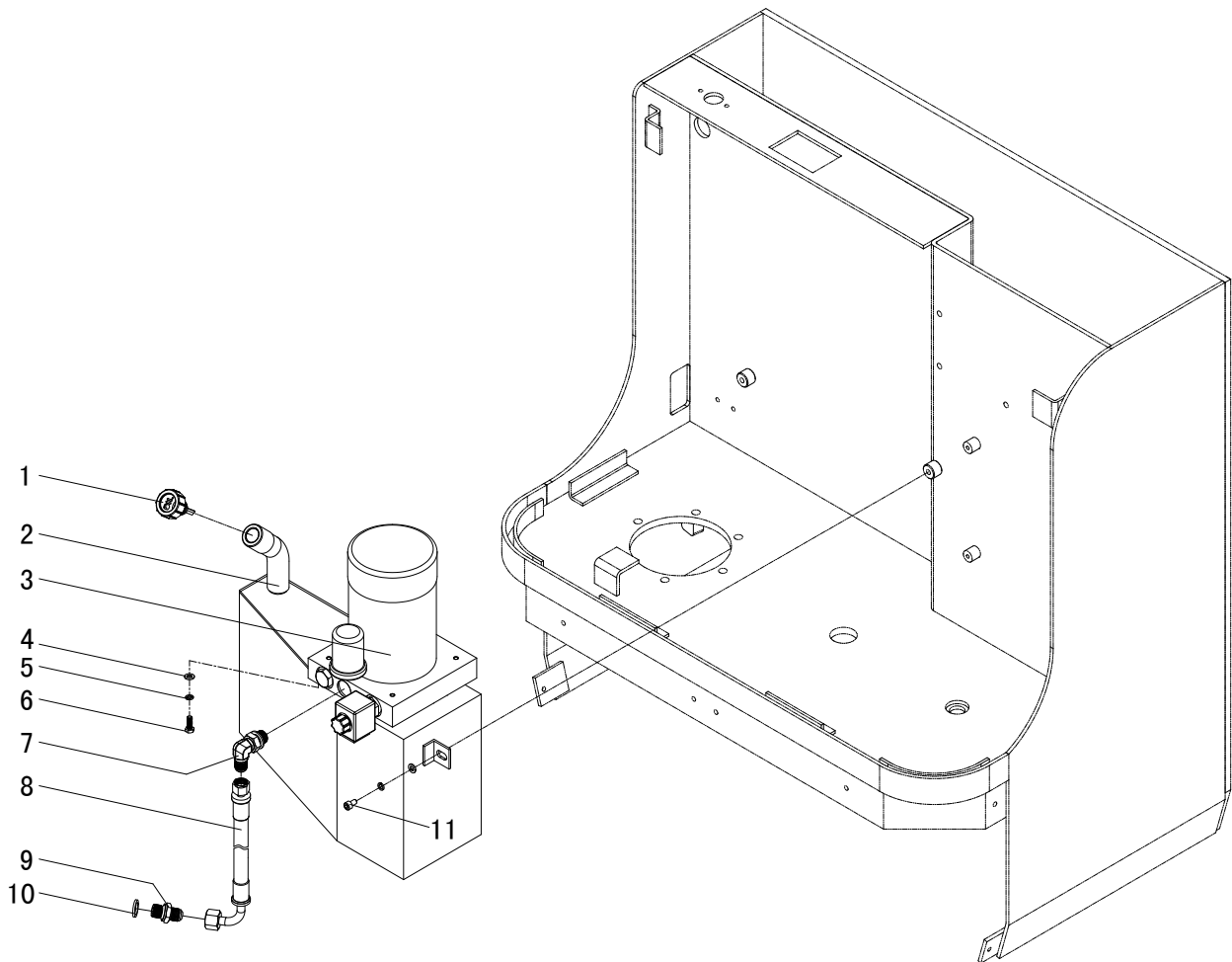
8.10 Chassis

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	131001	battery box cover	1	6	131006	right guard plate	1
2	131002	screw	2	7	131007	screw	3
3	131003	chassis	3	8	131008	rear cover	1
4	131004	left guard plate	1	9	131009	auxiliary cover	1
5	131005	screw	9				



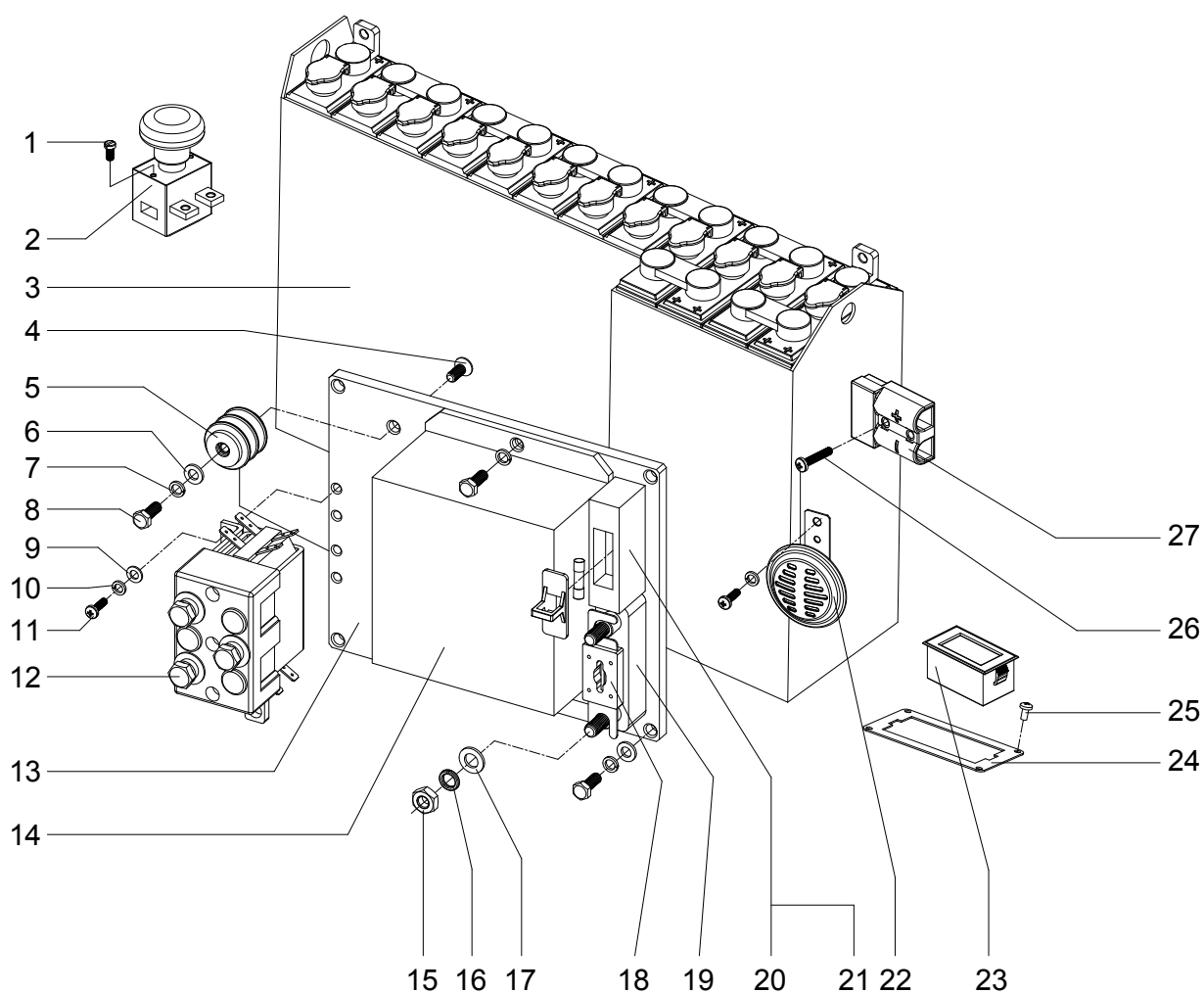
8.11 Oil Pipe

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	31401	oil filling cap	1	7	31404	right angle joint	1
2	131101	oil tank	1	8	131105	hydraulic pipe	1
3	31402	hydraulic power unit	1	9	31406	pipe joint	1
4	131102	washer	4	10	31409	seal washer	1
5	131103	spring washer	4	11	131106	screw	2
6	131104	bolt	4				



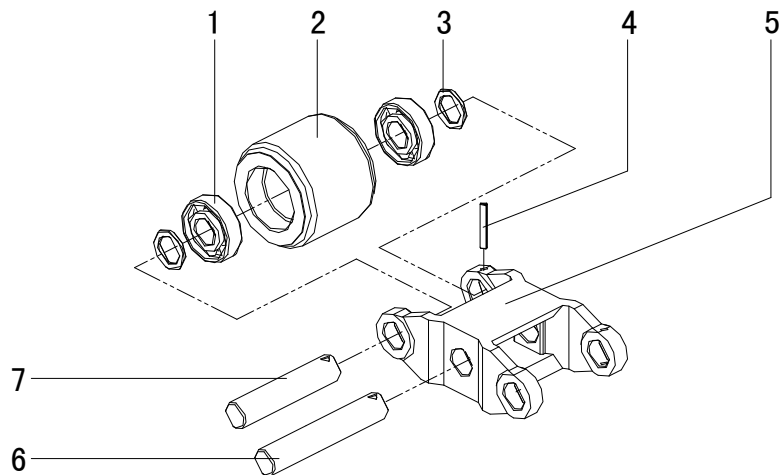
8.12 Electric Control System

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	10701	screw	2	15	10715	nut	2
2	10702	emergency switch	1	16	10716	spring washer	14
3	131201	battery	1	17	10717	washer	12
4	10704	screw	1	18	10718	fuse	1
5	10705	insulating base	2	19	10719	fuse base	1
6	10706	washer	1	20	10720	fuse base	1
7	10707	spring washer	1	21	10721	fuse	1
8	10708	bolt	1	22	10722	horn	1
9	10709	washer	2	23	10726	digital meter	1
10	10710	spring washer	2	24	10724	meter base	1
11	10711	screw	2	25	10725	screw	4
12	10712	DC contactor	1	26	131202	screw	2
13	10713	electric board	1	27	31303	charging plug	1
14	10714	speed controller	1				



8.13 Front Wheel Assembly

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	31501	bearing	8	5	31505	wheel frame	2
2	31502	front wheel	4	6	31506	pin	2
3	31503	locating sleeve	8	7	31507	pin	4
4	31504	spring pin	6				



8.14 Cylinder Fixing Assembly

Item	Part No.	Description	Qty	Item	Part No.	Description	Qty
1	31602	washer	2	4	31603	spring	2
2	31604	fixing	2	5	31606	bolt	2
3	31605	holder	2				

