

# Operating Instructions

## Parts List



## EX Series 1T

# Electric high-lift Pallet Truck

**Note: Operator MUST read and understand this operating instructions before use this Pallet Truck**

Thank you for using this pallet truck. Your pallet truck is made of high quality steel and was designed to give you a durable, reliable and easy to use product. 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.**

**This pallet truck lifting by both manual and electric, lowering by manual.**

## Specification

Lifting capacity	1000kg	Suitable for ambient temperature	+1° C~ +40° C
Overall width	540 / 685mm	Fork length	1170mm
Min fork height	85mm	Max. fork height	800mm
Steering wheel size - front	180x50	Load wheel size - rear	75 x50mm

## Installation & Adjustment

If you have purchased a wooden box of pallet truck, some assembly is required. Certainly, you need some tools, a hammer, a pliers, a spanner, etc; and some parts, one axle with hole (105), two elastic pins (106)(**Note one is in the axle (105)**), these parts are putted in a plastic bag, which is putted into the draw-bar. **NOTE: The number of draw-bar and pump should be the same.**

### A. Handle installation

When attaching the handle, you had better squat just behind the pallet truck. Then you:

- 1) Insert the draw-bar onto the piston(303), then use a hammer to insert the axle with hole (105) into the hydraulic pump and draw-bar **from the right to left.**
- 2) Let control handle (120) to the '**LOWER**' position, then pass the adjusting nut (104), adjusting bolt (103) and chain (102) through the hole of axle (105) with your hand.
- 3) Press the draw-bar (111) down, take away the pin which is used to prevent the piston (303) escaping.
- 4) Let the control handle (120) on '**RAISE**' position, then raise the lever plate (323) with the pin and insert the adjusting bolt (103) into the front slot of lever plate (323), note to keep the adjusting nut (104) on the under side of the lever plate.
- 5) Use a hammer to tap another elastic pin (106) into the axle with hole (105).

The draw-bar is now assembled to the pump.

- 6) Insert the (129) into the (447).

### B. Handle adjustment

**There are 3 different positions with different functions for the Control Handle (120).**

Position I: Quick lifting for fork.

Position II: Slow lifting for fork.

Position III: Descending for fork.

**Test different functions by putting the Handle(120) in 3 different positions respectively.**  
 If it does not function properly, then adjust the Nut (104) or Adjusting Bolt (322) by following process.

<b>Problems</b>	<b>Turning direction of Nut (104)</b>	<b>Turning direction of Bolt (322)</b>
Fork not lifted up	- (counter-clockwise)	- (counter- clockwise)
Fork not lowering down	+ (clockwise)	+ (clockwise)
Slow lifting no function	+ (clockwise)	+ (clockwise)
Quick lifting no function	- (counter-clockwise)	- counter-clockwise)

**When to add oil**

If the fork can't be pumped up to its rated highest position, you may have to add hydraulic oil into the oil tank. The hydraulic fluid to be used must have a quality of ISO VG32 or equivalence, its viscosity should be 32cSt at 40°C. Mixing of different fluids is prohibited!

**Intended use**

The high-lift pallet truck, with forks for independent lifting of loads, is intended for both manual lifting/lowering and the manual transporting of loads. Its use requires a level and firm floor/ground surface.

The high-lift pallet truck, with forks for independent lifting of loads, is intended for on-site transporting of unit loads, e.g. in warehouses associated with industry and delivery companies etc., for short range transporting of standard and wire mesh pallets as well as other palletised loads. Additionally, the high-lift pallet truck can be made stationary as a working platform. (Automatic supports are placed once a lift of 400 mm is reached). It is not suitable for use in potentially explosive locations.

It is not suitable for use in hostile environments.

Alterations to the high-lift pallet truck and the addition of auxiliary units are only permitted with our express written approval.

Ensure that you take note of the technical data and details on functional characteristics!

**Regulations for prevention of accidents**

The high-lift pallet truck must be used and operated as intended and in accordance with relevant regulations.

**\*The current regulations of the country in which it is used must be complied with.**

EC Directive EN 1757-4 scissors pallet truck

EC Directive EN 1175-1

\* in the respective current version

**It is absolutely essential that the operating instructions below regulations for prevention of accidents are carefully read through before starting use.**

**Safety instructions**

## **Operation, assembly and maintenance only by:**

### **Instructed, qualified operators**

(Definition of qualified operators in accordance with IEC 364)

Qualified operators are persons who, on the basis of their training, experience, instruction and knowledge of the relevant standards and regulations, regulations for prevention of accidents and operating conditions, are authorised by the persons responsible for the safety of the plant to carry out the respective required tasks whilst being able to recognise and prevent potential associated dangers.

- **Operation is only permitted on a level and firm floor/ground surface.**
- **Transporting of persons and a presence within the danger zone is not permitted.**
- **A presence under a raised load is not permitted.**
- **The specified load capacity must not be exceeded.**
- **The loaded material must be distributed evenly on the fork.**
- **The high-lift pallet truck must never be loaded whilst the fork is in a raised position.**
- **The high-lift pallet truck is *not* made for or capable of off-loading like a fork lift truck or crane.**
- **Never leave the load unattended in a raised position.**
- **Never reach into moving parts.**
- **Defects are to be dealt with competently as soon as they become apparent.**
- **Only use genuine spare parts.**

## **Inspections**

**In accordance with relevant regulations ,the high-lift pallet truck must be inspected by a competent technical expert at least once per year, and otherwise as required.**

**We recommend that you record the results of the inspections in an inspection book.**

## **Operating instructions**

### **Functional description**

The electric high-lift pallet truck is a electric-operated hydraulic device.

The load is lifted by pressing the push-button.

Easy manoeuvrability due to 2 fixed and 2 steering rollers made of polyurethane.

## **Instruction for use**

### **Attention:**

Before taken the pallet truck into operation,replace the tank screw with the ventilation screw.

### **Operating:**

#### **Moving and steering using the steering handle**

The steering handle is connected to the steering rollers.

The wheels are steered automatically by moving the steering handle.

#### **Stationary device**

The electric high-lift pallet is equipped with 2 side supports. At a height of approx. 400 mm, the supports are automatically set on the floor. Once the supports are in place, further movement is not allowed respective not possible.

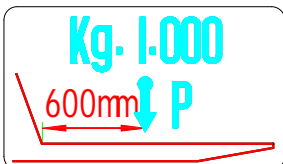
#### **Picking up a load**

Check that the load does not exceed the loading capacity of the electric high-lift pallet truck.

Each time check with the currently loading diagram. You can find an illustration of the diagram on the side of the pallet truck.

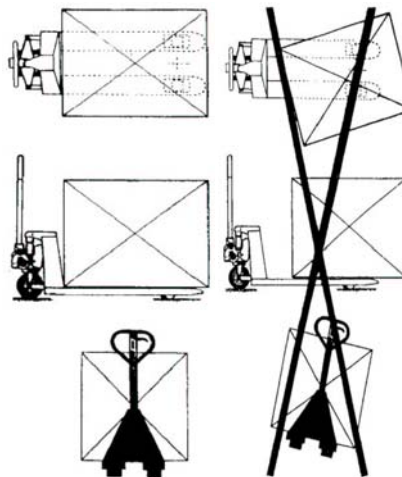
Roll the electric high-lift pallet truck slowly up to the pallet/load. Roll the fork prongs under the pallet until the back end of the fork rests against the load (pallet). Lift the load by executing the pumping movements shown.

**Loading diagram**



The load centre of gravity must not be exceeded. **over!**

The load must be evenly distributed across both prongs of the fork.



**Moving with the load**

As the electric high-lift pallet truck is not equipped with a brake it must not be used on upward or downward slopes.

As far as floor/ground clearance permits, the load should be transported across the floor/ground at as low a height as possible (max. 300 mm).

Move at a uniform speed appropriate to the load and floor/ground conditions.

**Setting the load down**

Stop just before the stacking area and lift the load in safe distance over the pile.

Manoeuvre the load directly above the pile.

Lower the load until fork arms are discharged.

Ensure safe reversing, move away and lower the fork arms.

**Functions of the buttons**

The power switch on the darw-bar body.Lifting of the fork by the pressing the pushbutton on the handle head.

**Battery and Charger**

Battery Voltage	12V / 65Ah	Input/Output Voltage of Charger	AC220V / DC12V
Max charging Current of Charger	8A		

**Recommendations for security in relation with the acid of the battery.**

The pallet truck should be put out of function before working on the battery.

**Service people:**

Read carefully the instructions of use and maintenance, given by the company manufacturing the battery.

**Maintenance of the battery:**

Be sure pole terminals and cable lug of battery are clean and covered slightly with grease and tightened.

***Do not retain discharged batteries. Recharge as soon as possible.***

***Avoid heavy discharge of more than 80% of nominal capacity.***

**Disposal of the battery:**

Please follow carefully national laws and recommendations concerning protection of environment of your country. Also follow battery manufacturer recommendations on this purpose.

**Battery loading**

Battery should be loaded as soon as lifting speed is slowing down, and/or green diode is dark.

To load the battery, open the cover on the front of the “Apron” of the frame and connect the built-in charger to electric current (220V). The loading is starting automatically, the red diode is on. The loading is finished when 8 to 10 diodes (including the red diode) of the discharge indicator is on. When loading is done the green pilot lamp is on. The electric high-lift pallet truck can be taken into operation again.

**The loading time is about 5 to 6 hours while the machine cannot be used. Never leave the built-in charger longer than 24 hours connected. Never discharge the battery totally (max. discharge 80%), this could damage the battery or even render it useless.**

**Inspection and maintenance instructions**

**Safety warning**  
**Before inspection and maintenance work is carried out, appropriate measures should be taken to remove all loads from the electric high-lift pallet truck.**

Maintenance and inspection work	Inspection intervals
Check operating elements for faultless operation.	daily or each time before use
Check condition of the travelling rollers and roller axles	
By the maximum height of 300 mm, the side supports must be set in place on the floor.	
Grease joints and bearings	monthly
Check functioning of wheels and rollers	
Check hydraulic system for leakage (Is the top lifting height reached effortlessly?)	every 3 months
Check the set-up of the drain valve	
Check all screw and bolt connections for tightness	
Grease joints and bearings	
Check functioning and turning capability of wheels and rollers	
Check all parts of the pallet truck for wear and replace defective parts where necessary	annually
Change oil in the hydraulic system	
Check readability of type plate.	
Authorise inspection by competent technical expert	

**The service life of your electric high-lift pallet truck is limited. Worn parts must be renewed in adequate time.**

**Oil and lubricant recommendations**

**Hydraulic oil: ISO VG 32**

**Lubricant: Multipurpose lubricating grease ZG2# or 3#.**

**Waste oil must be disposed of in accordance with legal provisions!**

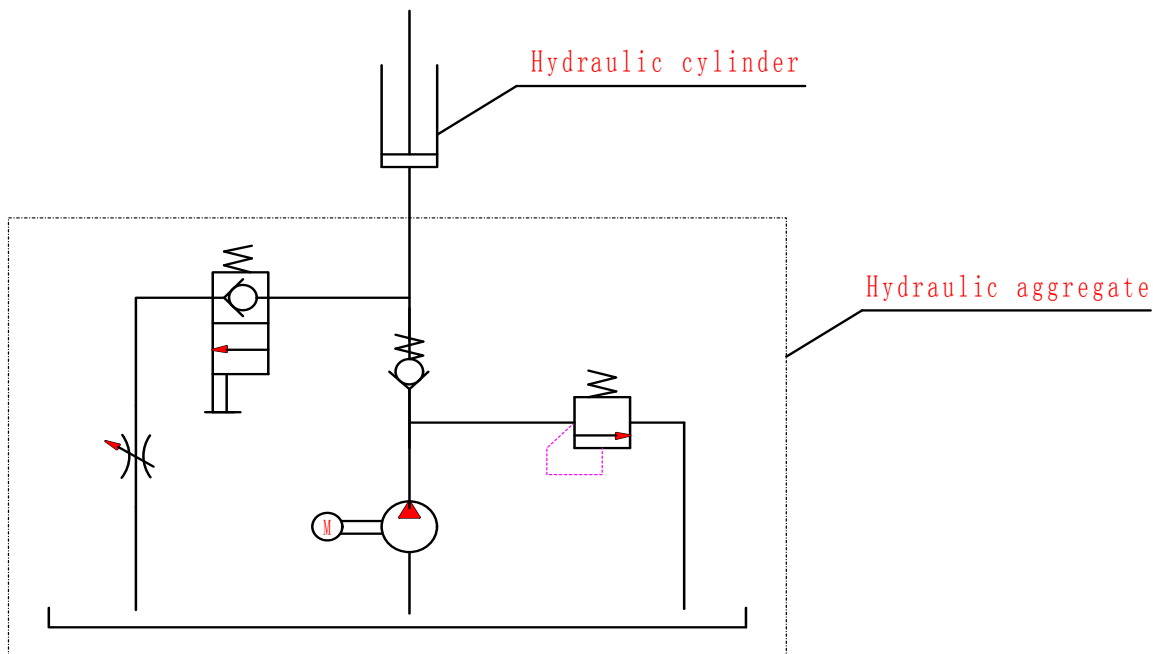
## Malfunctions and their causes

Failure	Cause	Elimination
Motor and hydraulic pump does not operate	Defective fuse FU1 et FU2	Replace the fuse
	Loose or unconnected plug	Reconnect
	Motor is burned out	Replace motor
The high-lift pallet truck does not lift the load, although the pump is working perfectly	Load is too heavy, overload valve is actuated	Reduce the load
	Lowering valve does not close any more or the valve face is not sealed because of dirt	Clean or replace it
	Electric circuit is disconnected	Check the wiring
	Electromagnetic switch KM is defective	Replace KM
	Up switch is obstructed resp.defective	Check resp. replace the switch
	Hydraulic pump does not work	Check the pump
The high-lift pallet truck does not lower the load	The fork or other parts are obstructed	Check all moving parts
	The adjusting bolt (322)or adjusting nut (104) not adjusted properly.	Adjust it properly
Raised load is lowered of its own.	Leakage in the hydraulic system	Seal!
	Lowering valve does not close any more or the valve unit is not sealed because of dirt	Clean or replace
	Incorrect valve set-up.	Adjust lowering valve
	Pressure relief valve (pump) is leaky (pump turns slowly backwards.)	Clean or replace the valve
Oil loss on hydraulic cylinder	Sealing elements are worn	Replace sealing elements
The raised load is lowered too slowly	Temperature too low – the hydraulic system oil is too thick	Find a warmer location
Fork does not raise till upper position	Insufficient oil in the tank	Refill with oil (while the fork is lowered)
	Battery discharged	Charge the battery
	Limit switch is not positioned	Reposition the limit switch
Battery capacity to low	Battery is not charged enough	Recharge
	Battery is defective	Replace the battery
Battery can not be charged	Fuse FU2 is defective	Replace FU2
	Battery resp. charger defective	Replace battery resp. charger
Too early battery discharge	Silted battery	Replace battery
	Sulphating or other failure in the battery.	Replace battery
	Accidental earth contact in the electric system or battery.	Repair or replace battery

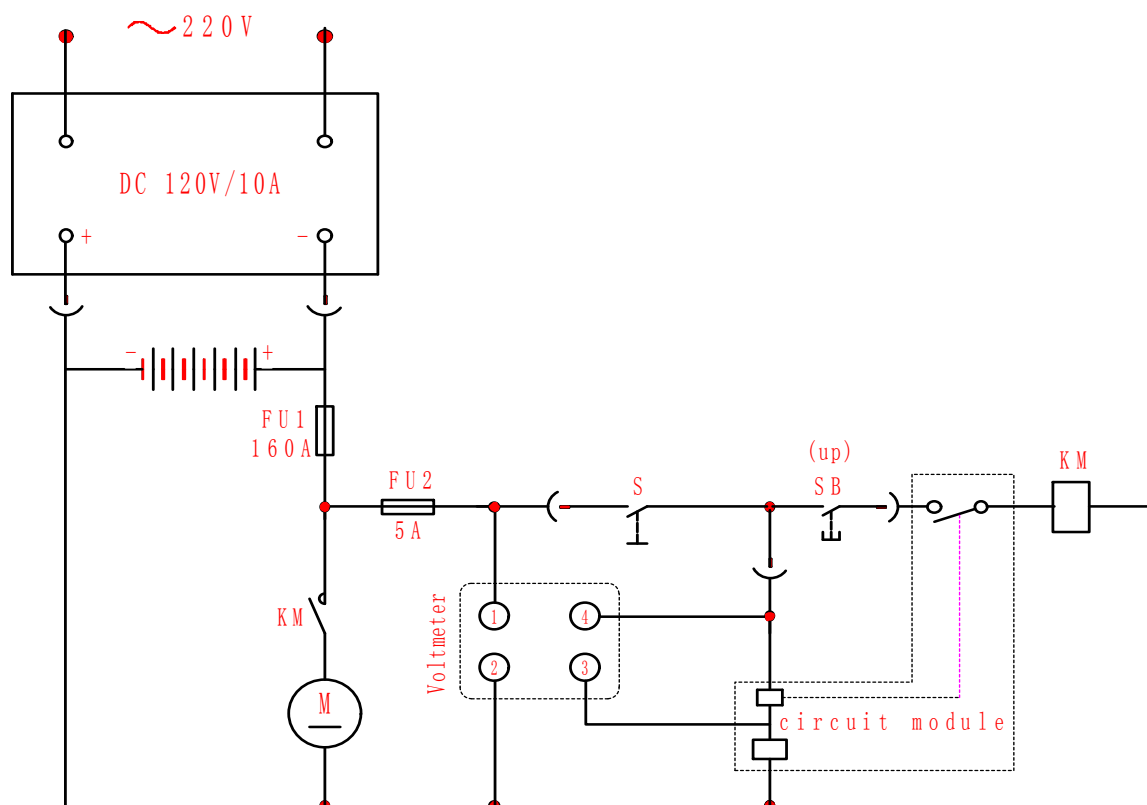
**Disposal:**

After placing out of service, the high-lift pallet truck parts must be disposed of or recycled in accordance with legal provisions.

**Hydraulic flow diagram**

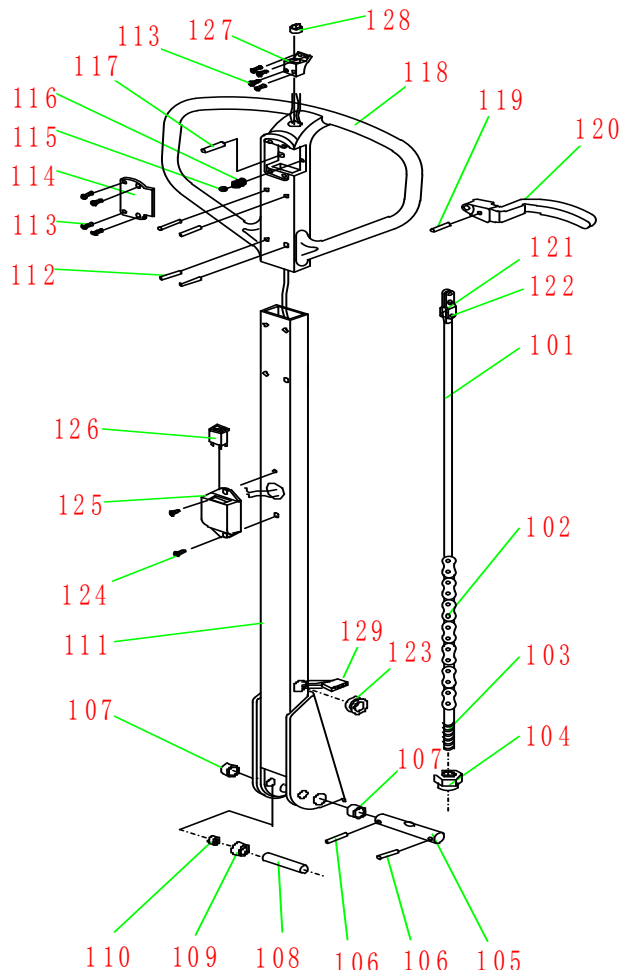


**Circuit diagram**





### Spare parts list

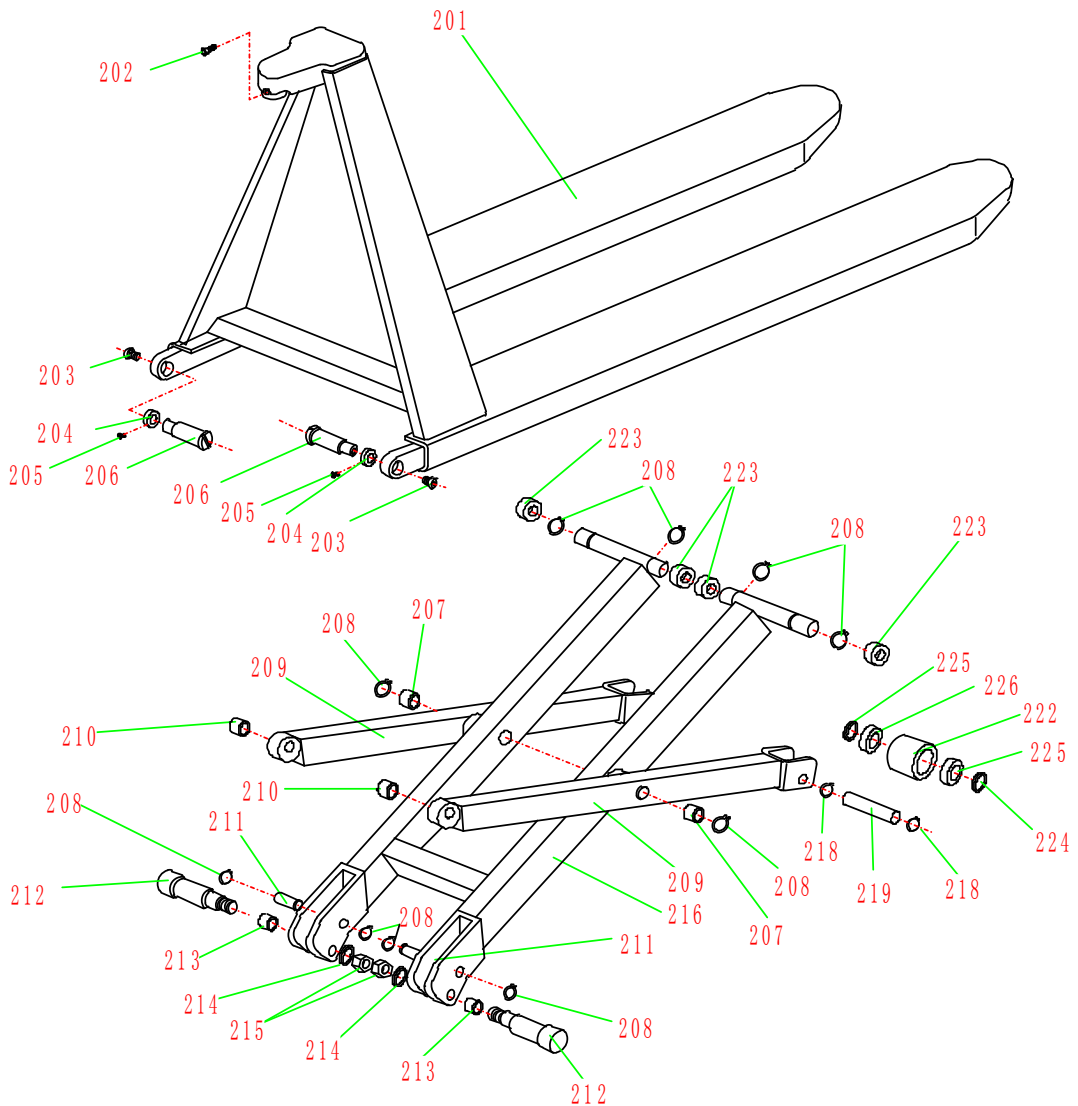


#### LIST of DRAW-BAR

No.	Description	Qty	No.	Description	Qty
101	Release Rod	1	116	Spring	1
102	Chain	1	117	Pin	1
103	Adjusting Bolt	1	118	Handle	1
104	Adjusting Nut	1	119	Pin	1
105	Axle with Hole	1	120	Controlling Handle	1
106	Elastic Pin	2	121	Pull Board	1
107	Bushing	2	122	Pin	1
108	Roller Pin	1	123	Rubber band	1
109	Pressure Roller	1	124	Screw	2
110	Bushing	1	125	Socket of switch	1
111	Draw - bar	1	126	Switch	1
112	Pin	4	127	Socket of button	1
113	Screw	4	128	Button	1

Electric high-lift pallet truck

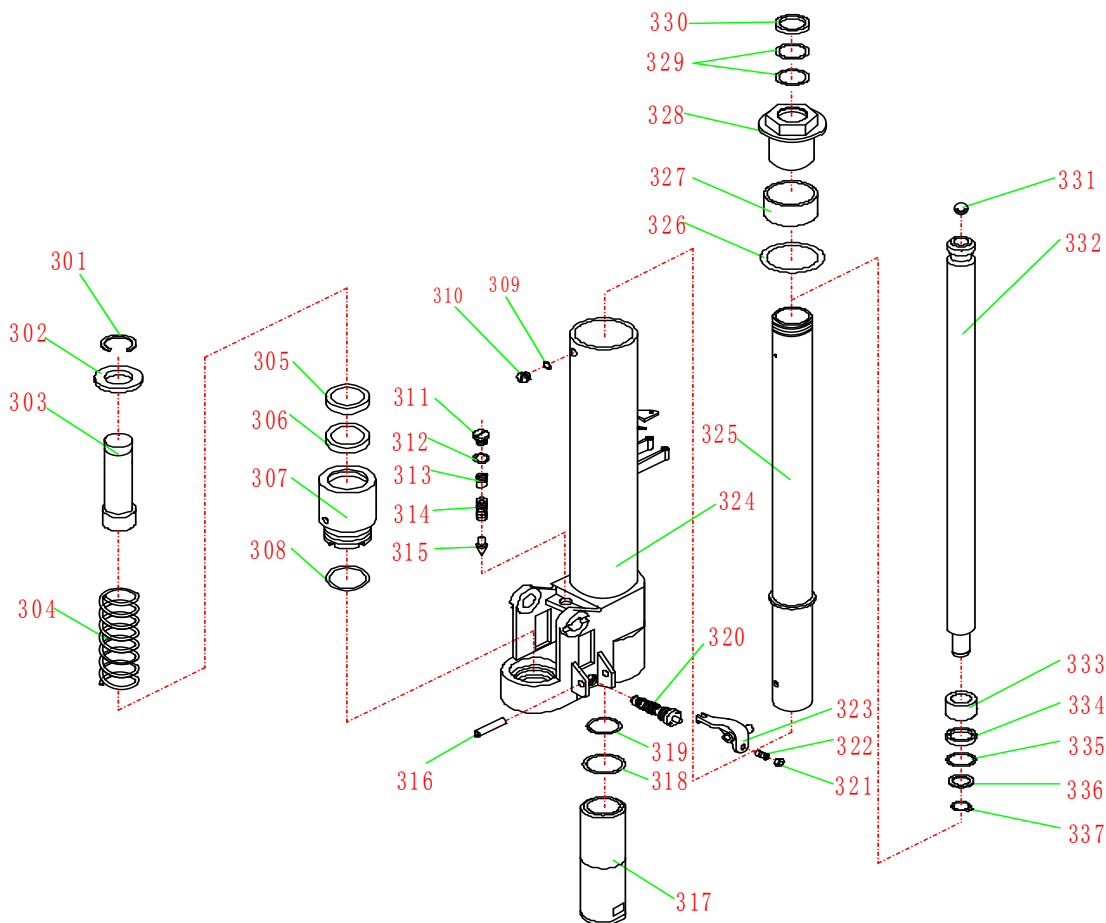
114	Cover	1	129	Connector plug	1
115	Ball	1			



**LIST of FRAME**

No.	Description	Qty	No.	Description	Qty
201	Fork Frame	1	214	Elastomeric gasket	
202	Bolt	1	215	Nut	2
203	Screw	2	216	Inner Leg	1
204	Gasket	2	217		
205	Screw	2	218	Elastic collar	4
206	Pin	2	219	Shaft of Roller	2
207	Bushing	2	220		
208	Elastic collar	10	221		
209	Left Leg	2	222	Roller	2
210	Bushing	2	223	Steel Roller	4
211	Pin	2	224	Gasket	4
212	Centrifugal Axle	2	225	Bearing	4

213	Bushing	2		
-----	---------	---	--	--

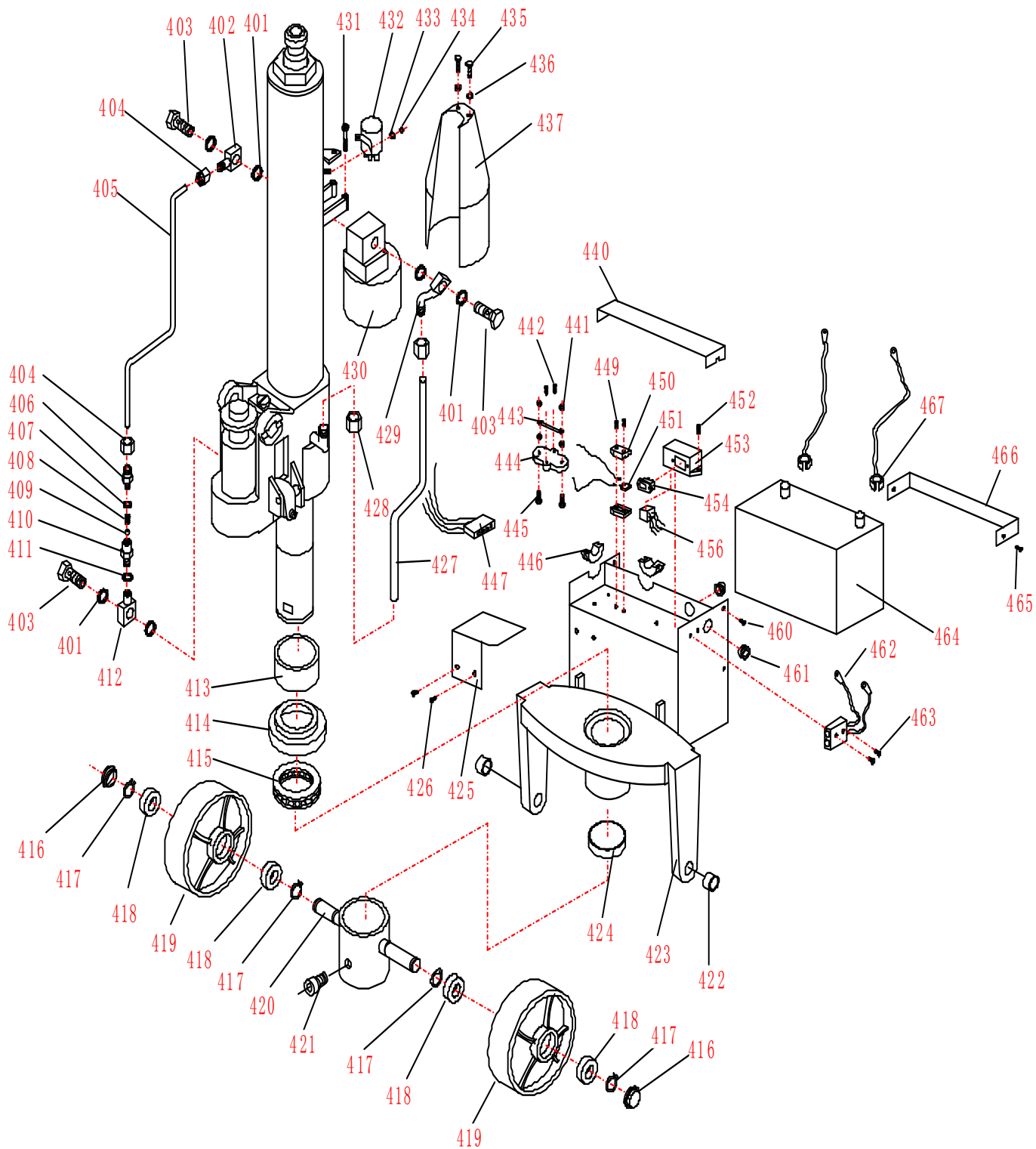


**LIST OF PUMP**

No.	Description	Qty	No.	Description	Qty
301	Locking Ring	1	320	Valve Cartridge	1
302	Gasket for Spring	1	321	Nut	1
303	Piston	1	322	Screw	1
304	Spring	1	323	Lever Plate	1
305	Dust Ring	1	324	Pump Body	1
306	Y - Ring	1	325	Cylinder	1
307	Pump Cylinder	1	326	Seal Gasket	1
308	O - Ring	1	327	Bushing	1
309	Seal Gasket	1	328	Screw Cover	1
310	Screw Plug	1	329	O - Ring	1
311	Screw Plug	1	330	Dust Ring	1
312	O - Ring	1	331	Steel Ball	1
313	Adjusting Bolt	1	332	Piston Rod	1
314	Spring	1	333	Piston	1
315	Spindle of Safety Valve	1	334	Cup Packing	1
316	Elastic Pin	1	335	O - Ring	1
317	Lower Cylinder	1	336	Gasket	1

Electric high-lift pallet truck

318	O - Ring	1	337	Elastic collar	1
319	O - Ring	1			



**LIST OF FRAME**

<b>No.</b>	<b>Description</b>	<b>Qty</b>	<b>No.</b>	<b>Description</b>	<b>Qty</b>
401	Seal Gasket	6	435	Screw	2
402	Connector	1	436	Gasket	2
403	Bolt	3	437	Motor Cover	1
404	Nut	2	438		
405	Oil Pipe	1	439		
406	Carve Tie-in	1	440	Battery Cover	1
407	Seal Gasket	1	441	Nut	4
408	Spring	1	442	Screw	2
409	Steel Ball	1	443	Fuse	1
410	Seat of Valve	1	444	Fuse Carrier	1
411	Seal Gasket	1	445	Bolt	2
412	Connector	1	446	Rubber band	2
413	Bushing	1	447	Connector plug	1
414	Seat of Bearing	1	448		
415	Bearing	1	449	Screw	2
416	Dust Cover	2	450	Fuse Carrier	2
417	Elastic collar	4	451	Fuse	1
418	Bearing	4	452	Screw	2
419	Wheel	4	453	Seat of Voltage Meter	1
420	Holding Site for Wheel	1	454	Voltage Meter	1
421	Bolt	1	455		
422	Bushing	2	456	Circuit Module	1
423	Thrust Plate	1	457		
424	Bushing	1	458		
425	Cover	1	459		
426	Screw	2	460	Screw	2
427	Oil Pipe	1	461	Rubber band	2
428	Nut	2	462	Socket	1
429	Connector	1	463	Screw	2
430	Motor Assembly	1	464	Battery	1
431	Bolt	2	465	Screw	2
432	Electromagnetic Switch	1	466	Baffle	1
433	Gasket	2	467	Battery Wires	2
434	NUt	2			