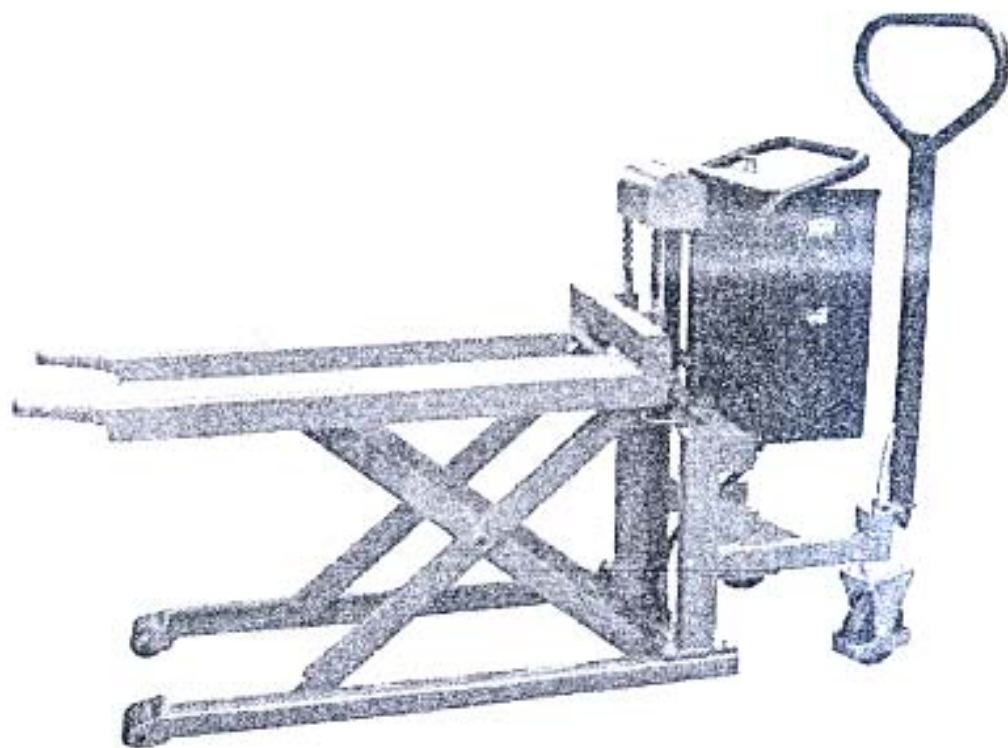


Instruction Manual

SKID LIFTER

MODEL PE50S/L, PE100S/L, PEL50S/L, PEL100S/L



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

SKID LIFTER

Model

PE50S/L, PE100S/L, PEL50S/L, PEL100S/L

Instruction Manual

READ THIS OPERATION MANUAL COMPLETELY BEFORE USING. THOROUGHLY UNDERSTAND AND FOLLOW ALL SAFETY INSTRUCTIONS. IF THIS IS LOST, PLEASE CONTACT YOUR LOCAL SUPPLIER FOR A NEW COPY. IF THE WARNING/CAUTION DECAL ON THE UNIT IS LOST, PLEASE CONTACT YOUR LOCAL SUPPLIER FOR A NEW COPY.

This Manual has been prepared for skilled and competent personnel. It provides instructions for using the product correctly and parts list. **This manual cannot replace the professional skills and expertise of the user.**

Note: On this manual, WARNING means the danger which can lead death or serious injury. CAUTION means the danger which can lead slight injury or property damage.

1.



WARNING! *If operating the work skid lifter improperly, a person may be seriously injured. Therefore, operate properly according to the following instruction.*

- ◇ DO NOT put hand near chain sprocket or other moving parts. SEVERE PERSONAL INJURY could result.
- ◇ DO NOT allow another person to stand in front of or behind lifter when it starts to move.
- ◇ ALWAYS travel with fork in lowered position.
- ◇ NEVER sit, stand or ride on forks or platform. SEVERE
- ◇ NEVER go under forks or platform. SEVERE PERSONAL INJURY

or DEATH could result.

- ◇ DO NOT use in area of multi level floor surface that could create loss control and result in SEVERE INJURY and PROPERTY DAMAGE.
- ◇ DO NOT use lifter on slope, unlevel or soft surface. Lifter may become uncontrollable. SEVERE PERSONAL INJURY and PROPERTY DAMAGE could result.
- ◇ KEEP FEET CLEAR of rolling wheels that could result in SEVERE PERSONAL INJURY.
- ◇ DO NOT load one fork more than the other and DO NOT load tips on forks. SEVERE PERSONAL INJURY and PROPERTY DAMAGE could result.
- ◇ DO NOT overload lifter .ALWAYS stay within designated capacity and load center rating. SEVERE PERSONAL INJURY and PROPERTY DAMAGE could result.
- ◇ Replace chair every four years or if inspection reveals excessive wear on links, pins, side plates and deformed, bent rusted or broken links.
- ◇ SHEARING HAZARD. NEVER place hands or feet under lowering forks. SEVERE PERSONAL INJURY could result.
- ◇ NO FIRE during charging. Read battery operation manual.
- ◇ HIGH VOLTAGE. Disconnect battery socket before opening control panel box.
- ◇ DO NOT remove battery terminal cover. Short-circuit or electric shock could occur.
- ◇ DO NOT tamper with any type of valve, fitting, accessory or part of the applied hydraulic power pack; even simply loosening a valve might cause loads or structure to yield.
- ◇ BEFORE carrying out any type of operation or work on the hydraulic

power pack, disconnect the motors and any other type of electrical connection and disconnection operations must be carried out by skilled and competent personnel.

- ◇ USE safety guards while using the product according to the laws and regulations applied in country of destination, if necessary.
- ◇ DO NOT turn the control level continuously without interval. Strictly operate as defined.

2. CAUTION

- ◇ Hazard or unsafe practice which, if not avoided, may result in MINOR or MODERATE PERSONAL INJURY and PROPERTY DAMAGE.
- ◇ READ THE OPERATION MANUAL COMPLETELY BEFORE USING AND THOROUGHLY UNDERSTAND AND FOLLOW ALL SAFETY INSTRUCTIONS.
- ◇ This lifter is designed to use with stable uniform load on a solid level floor. DO NOT use the lifter for any other purpose than its intended use.
- ◇ Lifter shall be operated by TRAINED personnel, only. OPERATOR shall read "Operation Manual" completely and thoroughly understand the controls and operation of this equipment BEFORE operating the lifter.
- ◇ ALWAYS observe lifter and ALWAYS stay at the controls while the lifter is in motion, RELEASE controls and STOP lifter immediately if load on lifter appears to become unstable. NEVER leave the loaded lifter unattended unless the forks are in the fully lowered position.
- ◇ DO NOT slide the load on or off the forks. The lift may move allowing the load to fall. SEVERE PERSONAL INJURY and PROPERTY DAMAGE could result.

- ◇ DO NOT use lifter with unstable, unbalanced or loosely stacked load. Unbalanced loads may become unstable and fall. SEVERE PERSONAL INJURY and PROPERTY DAMAGE could result.
- ◇ ALL lifter service must be performed by qualified personnel only.
- ◇ DO NOT use forks of lift as a hoist or to pull up the load. SEVERE PERSONAL INJURY and PROPERTY DAMAGE could result.
- ◇ ALWAYS keep feet, hands and fingers away from casters, load wheels and all moving components. SEVERE INJURY could result.
- ◇ ALWAYS perform maintenance and inspections with lifter unloaded.
- ◇ DURING operations, such as start-up, normal work, maintenance, system adjustment and bleed, operation and drive on valves and various control components, and so on, sudden sprays and leaks of hydraulic fluid may occur and may reach temperatures that will burn the skin.
- ◇ Hydraulic fluid may be dangerous to your health and contact with the skin and eyes, may cause serious injuries.
- ◇ Carefully follow the protection and safety instructions provided by manufacturer and reported on the product technical and toxicological sheet.
- ◇ IN many cases, the temperature of the motors (especially DC motors) and the tanks may exceed the "Burn Threshold" as defined by the international standard UNI EN563; Since, as a technical solution, it is not possible to consider the "reduction of the surface temperature" (UNI EN563 appendix "C"), the user must consider the possibility of using personal protection measures (gloves).

- ◇ THE hydraulic power pack must be fed with the required voltage, should not exceed $\pm 10\%$ of the rated required voltage: Exceeding that value may reduce the service life of power pack and battery .
- ◇ THE guard of micro switch in hydraulic power pack must be always mounted.
The lifter is NOT waterproof and is intended to be used in a dry environment.

3. DAILY INSPECTION

Daily inspection is effective to find the malfunction or faulty on the lifter. Check the lifter on the following points before the operation.

CAUTION

DO NOT use lifter if any malfunction or faulty is found.
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- ◇ Check scratch, bending or crack on the lifter.
- ◇ Check smooth movement of the wheels.
- ◇ Check if there is oil leakage from the cylinder and hydraulic power pack.
- ◇ Check vertical creep of forks.
- ◇ Check the function of brake.
- ◇ Check if all the bolts and nuts are tightened firmly.
- ◇ Check if there is scratch, crack or kink on the chain.
- ◇ Check the level and condition of the hydraulic fluid.

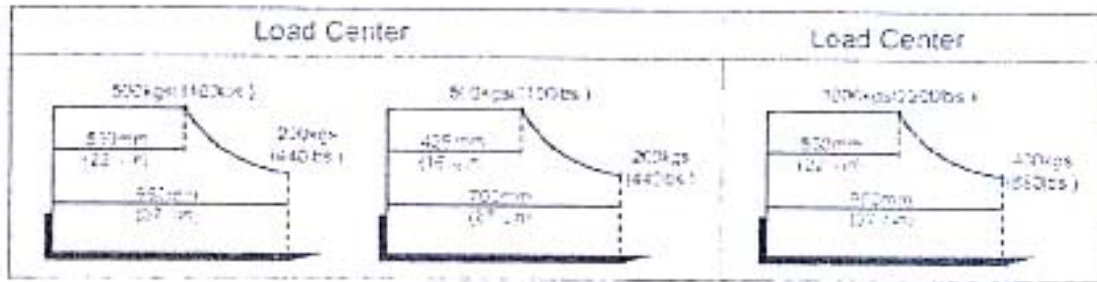
4. OPERATING LIFT TABLE

1. LOADING DIAGRAM

Following are the maximum capacity on forks:

Model	Max. capacity	Model	Max. capacity
PE50S PE50L PEL50S PEL50L	500KG	PE100S PE100L PEL100S PEL100L	1000KG

However, the capacity fluctuates according to the position of load center. The following diagrams are showing the relation between the position of load center and capacity.



Example: PE50S

If the load center is located at the position of 950mm from the root of forks, the max. capacity become 200kg. Do not load more than 200kg.

2. OPERATION OF BRAKE

CAUTION

Always brake lifter when it is not in motion.

(1) Braking the wheel

Press the brake pedal on this side of brake pedal.

(2) Releasing the brake.

Press the brake pedal on the other side of brake pedal.

3. LIFTING UP FORKS

CAUTION

DO NOT overload lifter. Stay within its rated capacity.

DO NOT load one fork more than the other. Lifter could be damaged.

- ◇ Insert the forks to the pallet to be lifter up and brake lifter.
- ◇ Lift up the emergency stop switch fully.
- ◇ Pull the control lever to the UP position and forks rise.

4. LOWERING FORKS

CAUTION

DO NOT lower forks with load too fast and suddenly. Impact load could be created and lifter could be damaged.

- ◇ Check if there is nothing under the forks or load.
- ◇ Push the control lever to the DOWN position and the forks lower.

Lowering speed changes according to the angle of the control lever. Release the control lever when the forks reaches to the bottom of lift stroke. The forks stops when the control lever is released.

5. EMERGENCY STOP

Push down the emergency stop switch and the up of forks stops.

6. MOVING THE LIFTER

WARNING

DO NOT move lifter on slope or inclined surface. lifter become uncontrollable and create danger.
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- (1) Make the load stable to prevent it to fall.
- (2) Lower the forks down to the height of approx. 200mm from the floor.
- (3) Release the brake and move PE50S PE50L with holding maneuver handle and move PE100S PE100L with the up-handle.

CAUTION

KEEP watching the condition of load. Stop operating lifter if load become unstable.

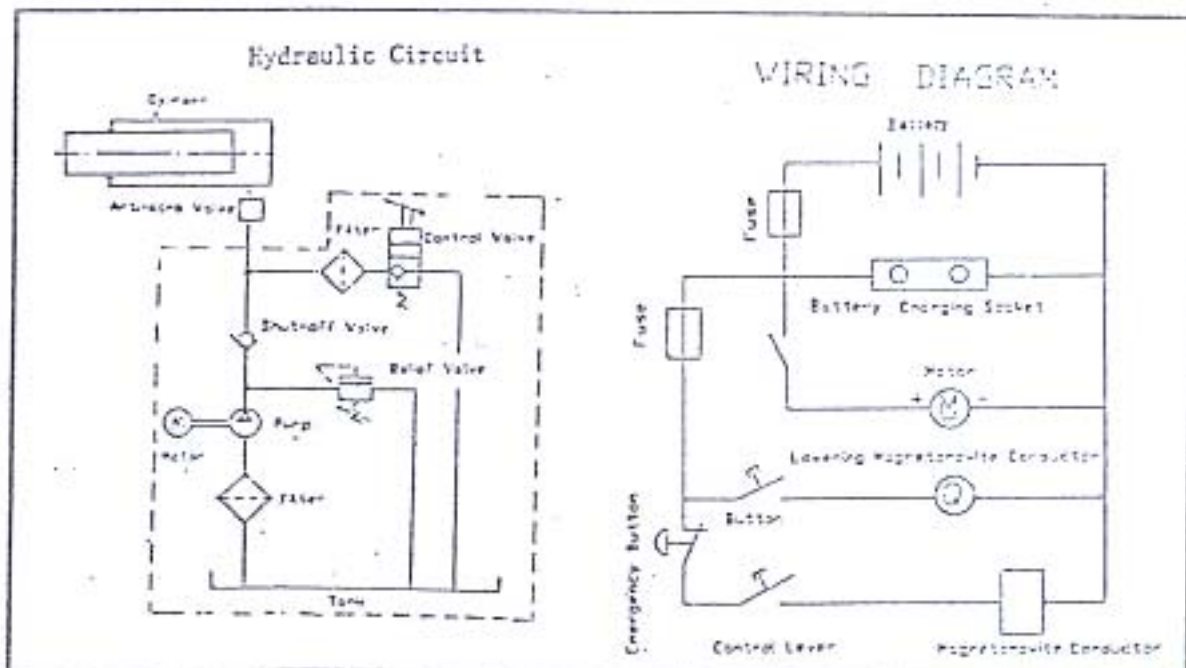
7. CHARGING THE BATTERY

- (1) Check the quantity of Battery fluid. If it is insufficient, add the battery fluid.
- (2) Connect the charging port of battery socket to the battery charger.

8. SPECIFICATIONS

Model		PE50S	PE50L	PE100S	PE100L	PEL50S	PEL50L	PEL100S	PEL100L
Capacity	(kg)	500	500	1000	1000	500	500	1000	1000
Platform		without platform				With platform			
Min. bearing height	(mm)	85				88			
Max. bearing height	(mm)	830				833			
Fork length	(mm)	1115							
Platform length	(mm)					1115			
Fork width	(mm)	526	691	526	691				
Platform width	(mm)					538	703	538	703
Front roller	(mm)	φ 70×68 polyurethane				φ 70×68 polyurethane			
Steering wheel	(mm)	φ 150×40 polyurethane				φ 150×40 polyurethane			
Overall length	(mm)	1620	1620	1740	1740	1620	1620	1740	1740
Overall width	W1(mm)	580	740	550	720	580	740	550	720
Overall height	H1(mm)	1050	1050	1307	1307	1050	1050	1307	1307
Approx. Lifting at full charge and rated load (s)						≤25			
Hydraulic power pack		MC3-61-V-B-F:5-PF-MEN-TO-F1							
Limitation of work cycle		MAX. running time of 30 seconds with a min. interval of 180 seconds							
Motor	output					1600			
	Voltage D.C					12			
	Revolution per minute					3500			
Protection class		IP43							
Insulation class		F							
Battery Charger	Input A.C					220			
	Output D.C					12			
Battery	Voltage D.C					12			
	capacity					100			
Net weight	(kg)	172	176	174	180	188	197	195	206

9. HYDRAULIC CIRCUIT / WIRING DIAGRAM



10. REGULAR INSPECTION

Perform the regular inspection for the safety operation.

- (1) Check if there is any rust, scratch, crack or kink on the chain.
(Every month)
- (2) Lubricate with grease the guides where roller moves. Also, lubricate the grease nipples and chains. (Every month)
- (3) Lubricate all the pivoting points and axles. (Every 6 months)
- (4) Replace the hydraulic oil. (Every 12 months)

NOTE: It is recommended to change the hydraulic fluid the first time after first ten hours of operation; Change the fluid afterwards at least once each year; Each time the hydraulic fluid is changed replace the filters and clean the tank. And fluid must be removed from the system before changing the hydraulic fluid . The hydraulic fluid used must always be new and filtered. DO not mix hydraulic fluids from different manufacturers or of different types, since this may lead to the formation of sludge and sediments which might reduce system operation performances. The above refers to an optimum operating temperature range of 30 °C ~60 °C (fluid temperature). Higher temperatures may lead to a drastic reduction in service life of the hydraulic fluid.

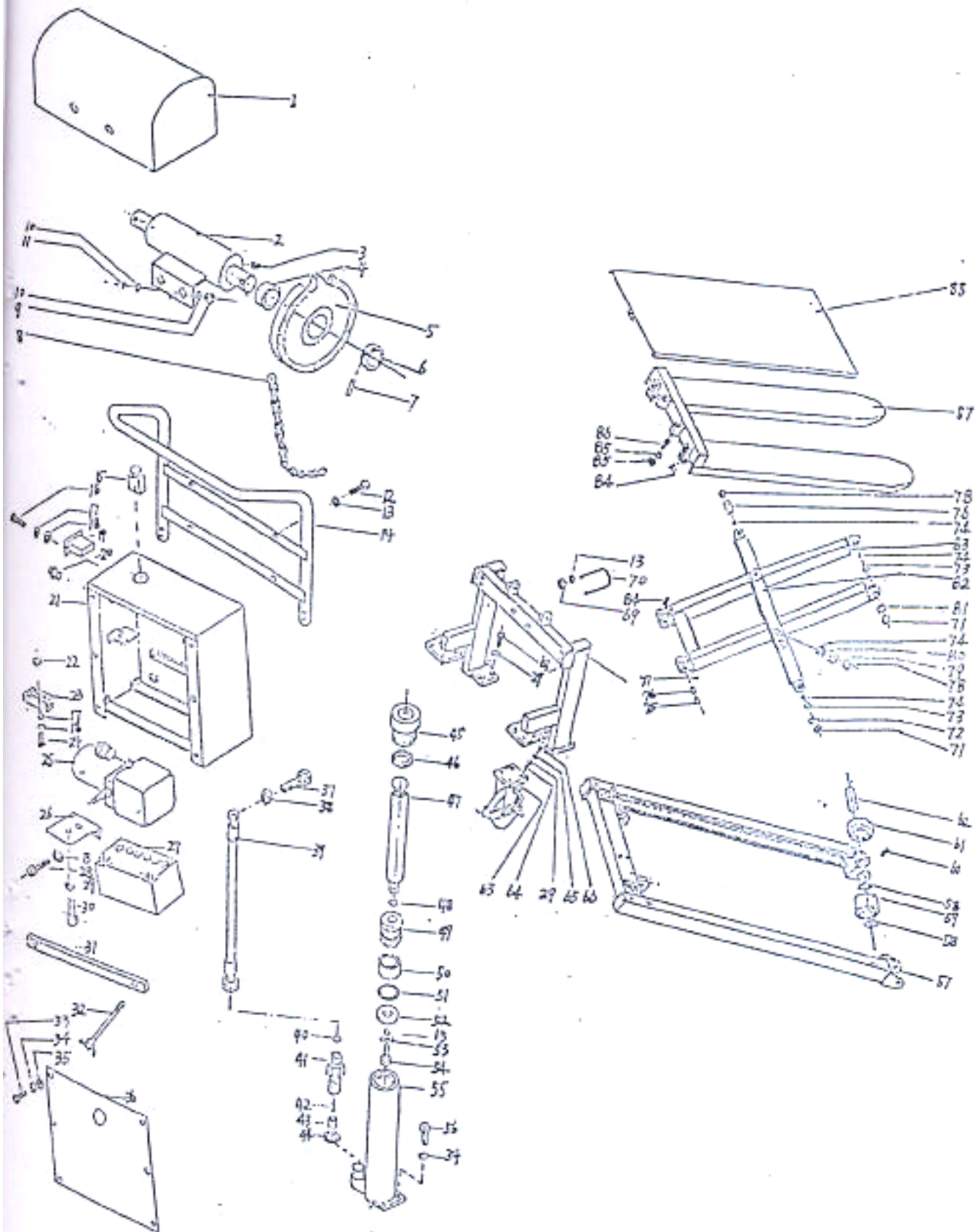
11. RECOMMENDED HYDRAUCIC OIL

Temperature	Oil
-5°C ~45°C	L-HL46 Hydraulic oil (equivalent to ISO VG46)
-15°C ~5°C	L-HL32 Hydraulic oil (equivalent to ISO VG32)

12. TROUBLE SHOOTING

TROUBLE	CAUSE	REPAIR
Forks do not raise while motor does not run.	1. Faulty wiring.	1. Check the wiring referring to the actual wiring diagram.
	2. Battery socket is disconnected.	2. Connect the battery socket.
	3. Battery charge is insufficient.	3. Charge the battery.
Forks do not rise while motor runs.	1. Faulty adjustment of relief valve.	1. Adjust relief valve again.
	2. Faulty hydraulic pump.	2. Replace power pack.
	3. Shortage of hydraulic oil.	3. Add oil.
Vertical creep of forks.	1. Oil leakage in control valve.	1. Replace control valve.
	2. Oil leakage from hydraulic circuit.	2. Check hydraulic circuit and repair.
Oil leakage from cylinder.	Faulty sealing.	Replace sealing.
Oil leakage from piping or joint.	Faulty sealing.	Replace sealing.
Oil leakage from air breather.	Excessive quantity of oil.	Reduce oil quantity.

ELECTRIC LIFT TABLE PE50S PE50L PEL50S PEL50L



PE50S/L&PEL50S/L Parts List

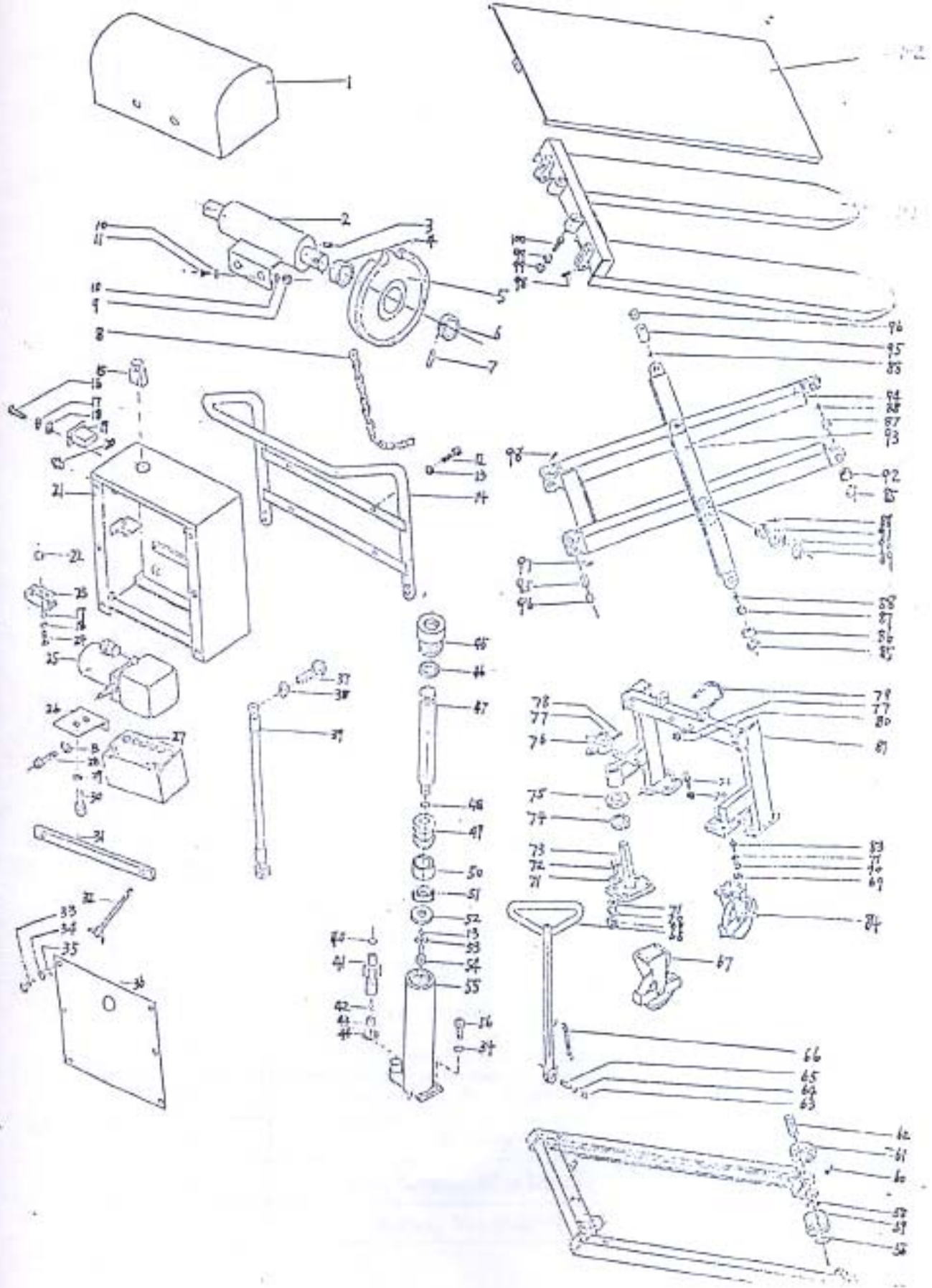
Item No.	Description	Quantity
1	Sprocket Case	1
2	Sprocket Spindle Welding	1
3	Hex Socket Set Screw M8x8	1
4	Sprocket Bush	2
5	Sprocket Wheel	2
6	Casing Locator	2
7	Spring Straight Pin 4x40	2
8	Chain	2
9	Nut M5	2
10	Washer 5	2
11	Plus-Cap Screw M5x16	2
12	Hex Socket Bolt M8x20	1
13	Spring Washer 8	3
14	Welding Part of Handle	1
15	Emergency Switch	1
16	Slotted counter sunk screw M3x12	2
17	Spring Washer 6	2
18	Washer 3	2
19	Charging Capacity Indicator	1
20	Indicator Switch	1
21	Battery Case Weldment	1
22	Nut M3	2
23	Charging Socket	2
24	Cap Screw M3x20	2
25	Hydraulic Power Pack	1
26	Fastening Bar Weldment	1
27	Battery	1
28	Hex Socket Bolt M8x12	2
29	Spring Washer 10	2

30	Hex Bolt M10x15	2
31	Battery Depressed Plate	1
32	Screw Weldment	2
33	Cap Screw M6x10	6
34	Spring Washer 6	6
35	Washer 6	6
36	Covering Plate	1
37	Screwed Joint	1
38	Combinated Washer 14	2
39	High-Pressure Hose Assembly	1
40	O-Seal 9x1.9	1
41	Anti-Bomb Valve Body	1
42	Pushing Spring	1
43	Anti-Bomb Valve Stem	1
44	Combinated Washer 18	1
45	Cylinder Cover	1
46	Dust Seal $\Phi 38 \times \Phi 30 \times 5$	1
47	Cylinder Rod	1
48	O-Seal $\Phi 20 \times 2.4$	1
49	Cylinder Piston	1
50	Retainer For Rod	1
51	Combinated Seal	1
52	Pad Used For Seal	1
53	Washer	1
54	Hex Socket Bolt M8x25	1
55	Cylinder-Body Weldment	1
56	Hex Socket Bolt M6x16	2
57	Chassis Weldment	1
58	Locating Casing	4
59	Front Wheel	2

60	Spring Cylindric Nip 4x30	2
61	Bearing 60204	4
62	Front Wheel Spindle	2
63	Rear Where	2
64	Nut M10	8
65	Washer 10	8
66	Hex Socker Bolt M10x30	2
67	Hex Socker Bolt M10x20	6
68	Frame Used For Rear Wheel	1
69	Nut M8	4
70	U-Bolt	1
71	Spring Etainer Ring For Axle	2
72	Quiding Rouer	2
73	Bush	2
74	Grease Valve M6	4
75	Bush Used For Joint	2
76	Shorter Nip	2
77	Grease Valve M6 45°	2
78	Spring Ratsiner Ring 25	2
79	Cover	2
80	Locating Key	2
81	Roller For Forks	2
82	Outer Scissors Assembly	1
83	Inside Scissors Assembly	1
84	Spring Cylindric Nip 4x40	4
85	Nut M16x1.5	4
86	Adjustably Balt	2
87	Forks	1
88	Table	1

Note:No.88 only used for PEL50S&PEL50L, i.e. not included in PE50S&PE50L

ELECTRIC LIFT TABLE PE100S PE100L PEL100S PEL100L



PE100S/L&PEL100S/L Parts List

Item No.	Description	Quantity
1	Sprocket Cover	1
2	Sprocket Spindle Welding	1
3	Hex Socket Set Screw M8x8	1
4	Sprocket Bush	2
5	Sprocket Wheel	2
6	Casing Locator	2
7	Spring Straight Pin 4x40	2
8	Chain	2
9	Nut M5	2
10	Washer 5	2
11	Plus-Cap Screw M5x16	2
12	Hex Socket Bolt M8x20	1
13	Spring Washer 8	3
14	Welding Part of Handle	1
15	Emergency Switch	1
16	Slotted counter sunk screw M3x12	2
17	Spring Washer 6	2
18	Washer 3	2
19	Charging Capacity Indicator	1
20	Indicator Switch	1
21	Battery Case Weldment	1
22	Nut M3	2
23	Charging Socket	2
24	Cap Screw M3x20	2
25	Hydraulic Power Pack	1
26	Fastening Bar Weldment	1
27	Battery	1
28	Hex Socket Bolt M8x12	2
29	Spring Washer 10	2

30	Hex Bolt M10x15	2
31	Battery Depressed Plate	1
32	Screw Weldment	2
33	Cap Screw M6x10	6
34	Spring Washer 6	6
35	Washer 6	6
36	Covering Plate	1
37	Screwed Joint	1
38	Combinated Washer 14	2
39	High-Pressure Hose Assembly	1
40	O-Seal 9x1.9	1
41	Anti-Bomb Valve Body	1
42	Pushing Spring	1
43	Anti-Bomb Valve Stem	1
44	Combinated Washer 18	1
45	Cylinder Cover	1
46	Dust Seal $\Phi 38 \times \Phi 30 \times 5$	1
47	Cylinder Rod	1
48	O-Seal $\Phi 20 \times 2.4$	1
49	Cylinder Piston	1
50	Retainer For Rod	1
51	Combinated Seal	1
52	Pad Used For Seal	1
53	Washer	1
54	Hex Socket Bolt M8x25	1
55	Cylinder-Body Weldment	1
56	Hex Socket Bolt M6x16	2
57	Chassis Weldment	1
58	Locating Casing	4
59	Front Wheel	2

60	Spring Cylindric Nip 4x30	2
61	Bearing 60204	4
62	Front Wheel Spindle	2
63	Spring Retainer Ring For Axle 12	1
64	Washer 12	1
65	Nip	1
66	Extension Spring	1
67	Steering Wheel	1
68	Steering Handle Assembly	1
69	Nut M10	8
70	Spring Washer 10	8
71	Washer 10	8
72	Hex. Socket Bolt M10x25	4
73	Seat -Weldment For Steering Wheel	1
74	Bearing 8306	1
75	Bush For Bearing	1
76	Weldment For Holding Handle	1
77	Spring Washer 8	2
78	Hex. Socket Bolt M8x20	1
79	U-Bolt	1
80	Nut M8	2
81	Frame For Rear Wheel	1
82	Hex. Socket Bolt M10x20	8
83	Hex. Socket Bolt M10x30	4
84	Rear Wheel	1
85	Spring Retainer Ring For Axle 20	2
86	Guiding Roller	2
87	Roller Bush	
88	Grease Valve M6	4
89	Spring Retainer Ring For Axle 25	2

90	Cover	2
91	Locating Key	2
92	Roller For Forks	2
93	Outer Scissors Assembly	1
94	Inside Scissors Assembly	1
95	Shorter Nip	2
96	Bush For Joint	2
97	Grease Valve M6 45°	2
98	Spring Cylindric Nip 4x40	4
99	Nut M20x1.5	4
100	Adjustably Balt	2
101	Forks	1
102	Table	1

Note:No.102 only used for PEL100S&PEL100L, i.e. not included in PE100S&PE100L.