

# INSTRUCTION MANUAL

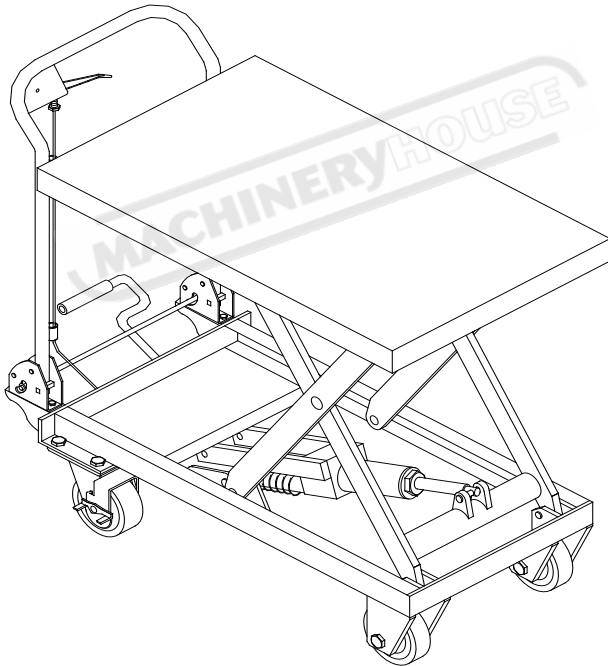
## LTH-500 Hydraulic Lifter Trolley 500kg Load Capacity



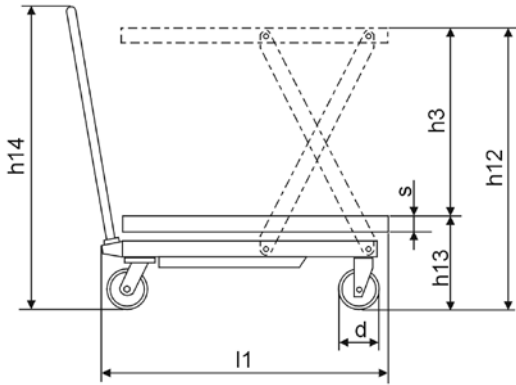
**J055**

SP300 / SPA300  
SP500 / SPA500  
Hydraulic Lift Table

- Operation manual
- Spare parts catalogue



## I. Configuration diagram



## II. Main technical parameters:

Model	SP300/SP500	SPA300/SPA500	
Capacity	Kg	300/500	300/500
Max.lift height	$h_{12}$ (mm)	900	900
Min.height of table	$h_{13}$ (mm)	280	340
Lifting height	$h_3$ (mm)	620	560
Table size	$l \times b \times s$ (mm)	815×500×50	855×500×50
Total height	$h_{14}$ (mm)	996	970
Overall length	$l_1$ (mm)	942	925
Foot pedal cycles to max height		≤32/≤45	≤32/≤45
Wheel diameter	$d$ (mm)	127	127
Weight	(kg)	75/85	82/87
Working volume of oil cylinder	(ml)	164	164
Oil capacity	(ml)	250	250

## III. Scope of application:

SP series table lift truck is a kind of high-lift transportation tool which is applicable for short-distance transportation as well as goods lifting and lowering. Besides, it can also be used as station facilities for workshop.

## IV. Operation condition:

1. Lift table should be operated on solid and flat ground;
2. Operation temperature: -20-40C°.

## V. Notes (warning):

1. Read the instruction carefully before operation and get to know the performance and operation requirements of the lift table. And the hydraulic lift table can't be used unless it is authorized.
2. Do not overload the hydraulic lift table and operate it within the rated load. Overloading will cause damage to the hydraulic lift table and human body.
3. It is forbidden for operators to stand or sit on the table to work.
4. Don't put the hands or feet under the lowering table.
5. Please brake the truck when loading goods to prevent it from moving.
6. Off-set loading is forbidden when loading goods , and the goods should be distributed uniformly on the whole table.
7. Loose or unstable goods are not permitted to be loaded.
8. Don't put goods on working table for a long time.
9. The truck can't be moved when goods are being lifted.
10. The truck can only be moved on flat and hard ground, it is forbidden to be used on sloping ground or rugged ground;
11. When putting goods on table which has been hoisted, the weight of goods should be within rated load, and the goods should be loaded lightly. (Safety valve only works in hoisting process, if the truck has been hoisted, and then put overweight goods on it, the safety valve can't work. In this way, the truck may be damaged.)
12. When loading and unloading goods on hoisted table, don't drag goods in cross direction, which may cause serious off-set loading and make truck turn over.
13. When maintaining and repairing truck, stand bar should be used to support fork arm in order to prevent table from falling (there should be no goods on table), and guarantee the safety in maintenance and repairing.
14. Please operate strictly according to "notes (warning)", otherwise it will bring damage to truck and human body.

## VI. Operation methods:

1. Please step on the foot lever for several times to raise the working table.
2. Please lift the small handle upward slowly, to make the working table descend slowly.
3. Please make the brake open before moving the truck.

## VII. Maintenance and upkeep:

It is very important to conduct necessary maintenance and upkeep so as to prolong the service life and safety of the lift table. Please check the lift table before operation according to the following items:

1. Whether there is any distortion and bending of various positions of the lift table.

2. Please check the brake of the truck and the wearing condition of the wheels.
3. Check oil leakage in the hydraulic system.
4. Please add or fill lubricant to each friction surface before daily operation.
5. If there is any failure, the lift table should be repaired at once, then it can be put into use again.
6. Change the hydraulic oil every twelve months, choose the following or close brand hydraulic oil according to the climate conditions of different areas:
  - a) YBN32 is adaptive under the environment temperature of -10~ +40°C;
  - b) YCN32 is adaptive under the environment temperature of -20~ +40°C.
7. Hydraulic oil change methods:
  - a) screw out the sealing screw 11 of the attached drawing (2) with wrench;
  - b) raise the small handle ;
  - c) twist off screw 36 of the oil plug and fill in hydraulic oil.
8. No.1, no.3, no.4, no.21, no.29, no.32, no.40, no.43, no.47, no.48, no.33, no.41 and no.45 of attached drawing (2) are seal components of rubber, polyurethane and nylon. The general keeping time is two years. If exceeding the time limit, it will be aging and this will affect the service performance. If so, please change it in time.

## VIII. Trouble shooting methods (referring to drawing 2)

Faults	causes	Trouble shooting
The truck can not be raised , or the lifting height is not enough.	<ol style="list-style-type: none"> <li>1) Steel ball (23) of the check-valve is not closed down.</li> <li>2) Firing pin (28) withstands the steel ball (16).</li> <li>3) Short of hydraulic oil.</li> </ol>	<ol style="list-style-type: none"> <li>1) Clean the valve opening and change the steel ball (23).</li> <li>2) Adjust the tension rate of the steel wire rope to make firing pin at suitable place, and add or fill lubricant to the pin roll (30)</li> <li>3) Add enough hydraulic oil.</li> </ol>
The table-board rises, then descends.	<ol style="list-style-type: none"> <li>1) Steel ball (23)(24)(16) of the check-valve is not closed down.</li> <li>2) Firing pin (28) withstands the steel ball (16).</li> </ol>	<ol style="list-style-type: none"> <li>1) Clean the valve opening and change the steel ball (23) (24) (16).</li> <li>2) Adjust the tension rate of the steel wire rope to make firing pin at suitable place, and add or fill lubricant to the pin roll (30)</li> </ol>
The table-board does not descend	The travel of the firing pin (28) is not enough to open the steel ball (16).	Adjust the tension rate of the steel wire rope to make firing pin at suitable place, and add or fill lubricant to the pin roll (30)
Oil leakage at firing pin.	The o-ring (29) is damaged.	Change the o- ring (29).
Oil leakage at pump cylinder (2), pump plunger (5) and piston rod (44).	The seal ring (1)(3)(47)(48) are damaged.	Change the seal ring (1)(3)(47)(48)

## IX. Assembly method (referring to drawing 1):

(I) SP300 and SP500 type trucks are folding type. Only if the handle is pulled up, this series truck can be operated.

(II) The handle and foot lever of SPA300, SPA500 type lift table are dismantled when ex-factory, they might be fixed together by the users when using. The assembly methods are as follows:

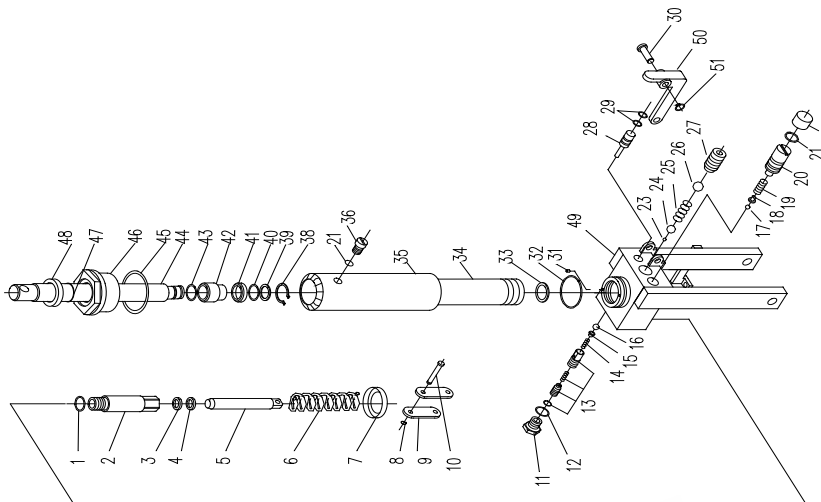
Handle installation method: according to the developed drawing, fix the handle bar (1) to mounting hole of the truck body (18) with bolt (64), spring washer (63), flat washer (62), then screw down the bolt (64) with wrench.

Foot lever mounting: insert the foot lever (47) into the hole of the square bar (60), screw in the screw (42), then put in the plain washer (6) and the spring washer (11) respectively and screw down the nut (12).

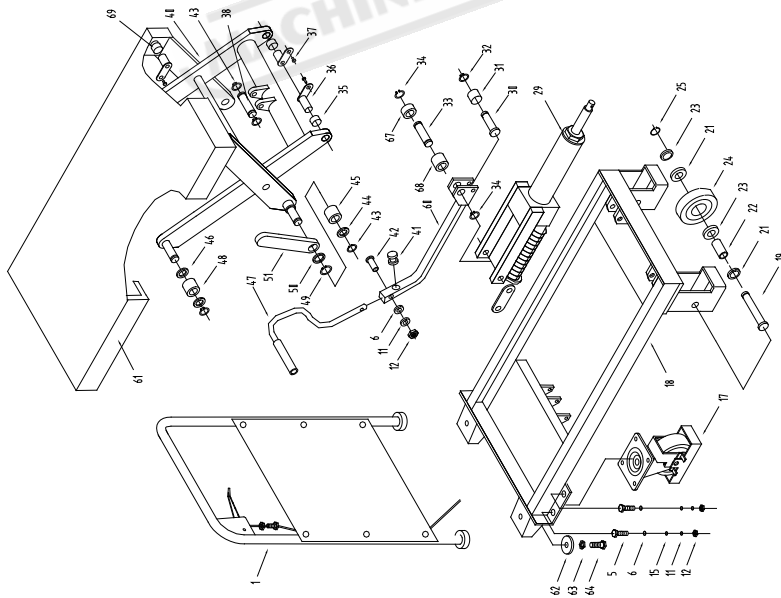
## X. Structure diagram and principle diagram

See the principle diagram of the hydraulic system in the attached drawing (3)

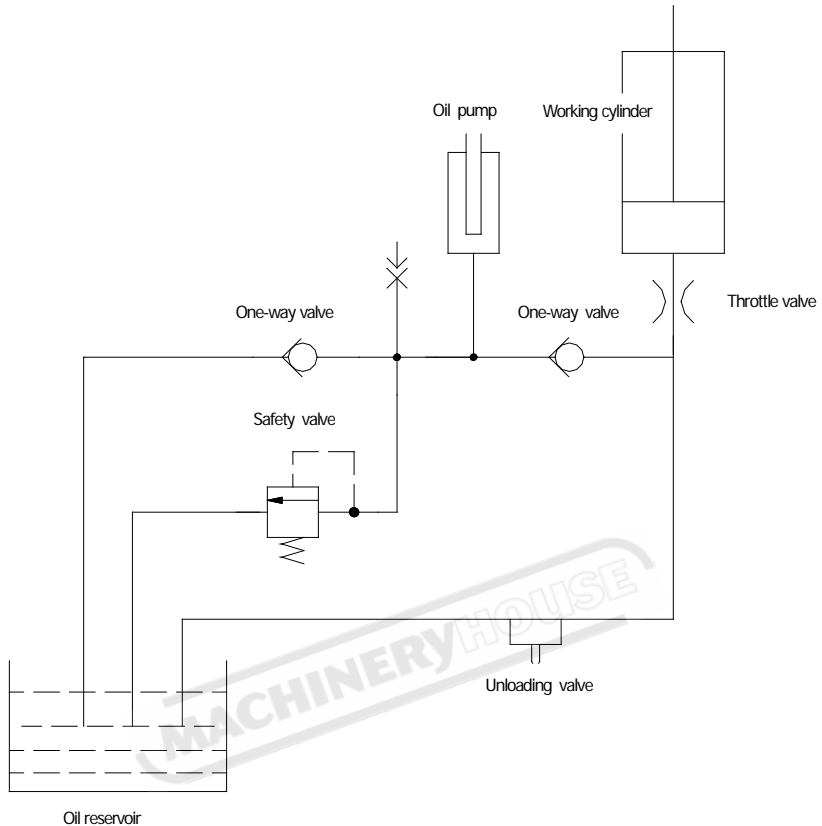




Attached drawing (2)



Attached drawing (1)



#### Principle specification

1. The restriction chock and the constant pressure overflow valve leak oil at the same when no-load, the no-load vehicle descend faster, and it can meet the customers the demand.
2. When the load is more than 50kg, the system pressure is 8MPa, the constant pressure overflow valve closes automatically, the hydraulic oil leaks through the restriction chock, the vehicle descend slowly, and this agrees with the safety standards.

Attached drawing (3)

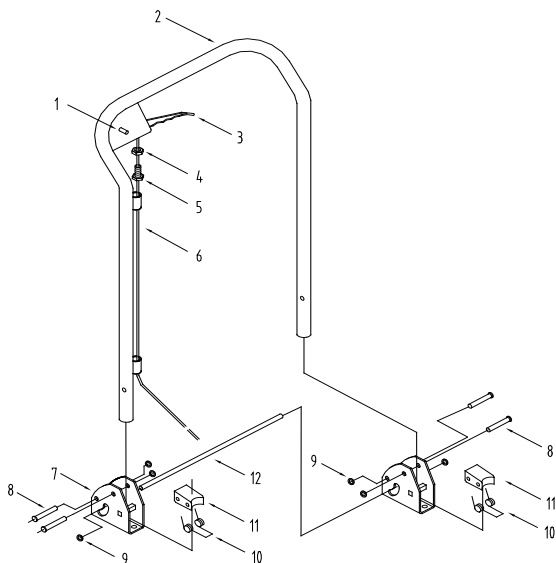


## Spare parts catalogue

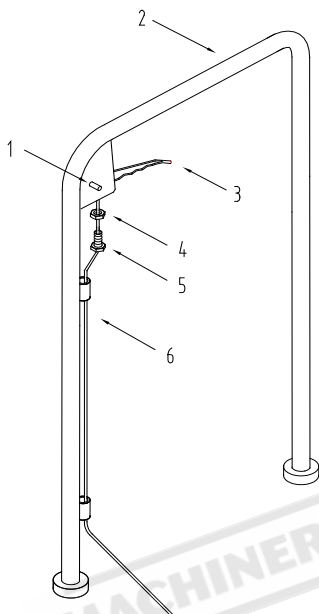
1. Explosive drawing and parts list of handle
2. Explosive drawing and parts list of SP300/SPA300/SP500/SPA500 pump
3. Explosive drawing and parts list of SP300/SP500 assembly
4. Explosive drawing and parts list of SPA300/SPA500 assembly



## Explosive Drawing and Parts List of Handle (SP300/SP500)



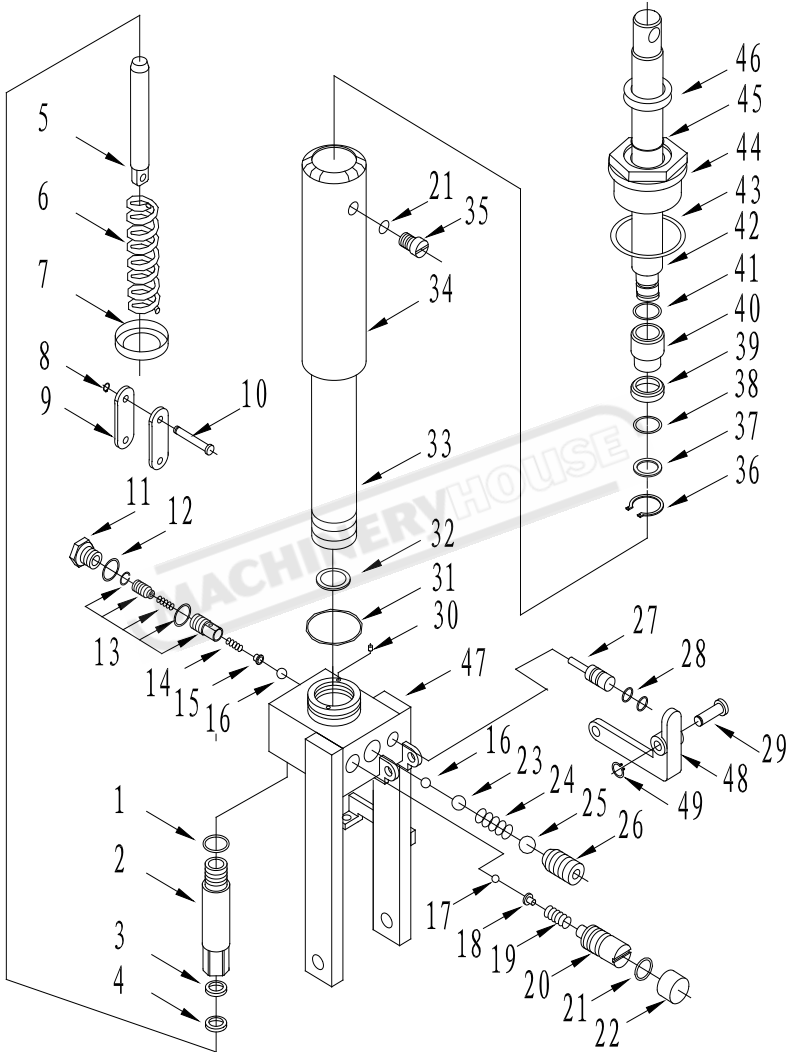
No.	Drawing no.	Description	Qty.
1	Spring pin 6×30	GB879-86	1
2	Handle bar	SPⅢ1.01	1
3	Small handle	SPⅢ1.02	1
4	Nut M8	GB6172-86	1
5	Screw	SPⅢ0-01	1
6	Pull rod	1300(1060)	1
7	Folding trestle	SP.1-04	2
8	Pin 8×45	GB882-86	4
9	Snap ring	SP.1-02	6
10	Spring	SP.1-06	2
11	Cushion	SP.1-05	2
12	Pressing rod	SP.1-03	1

**Explosive Drawing and Parts List of Handle (SPA300/SPA500)**

No.	Drawing no.	Description	Qty.
1	Spring pin 6x30	GB879-86	1
2	Handle bar	SPAI.1.01	1
3	Small handle	SPIII.1.02	1
4	Nut M8	GB6172-86	1
5	Screw	SPIII.0-01	1
6	Pull rod	1300(1060)	1

Remark: The handle of SPA300/SPA500 is with guard plate. (See page 14)

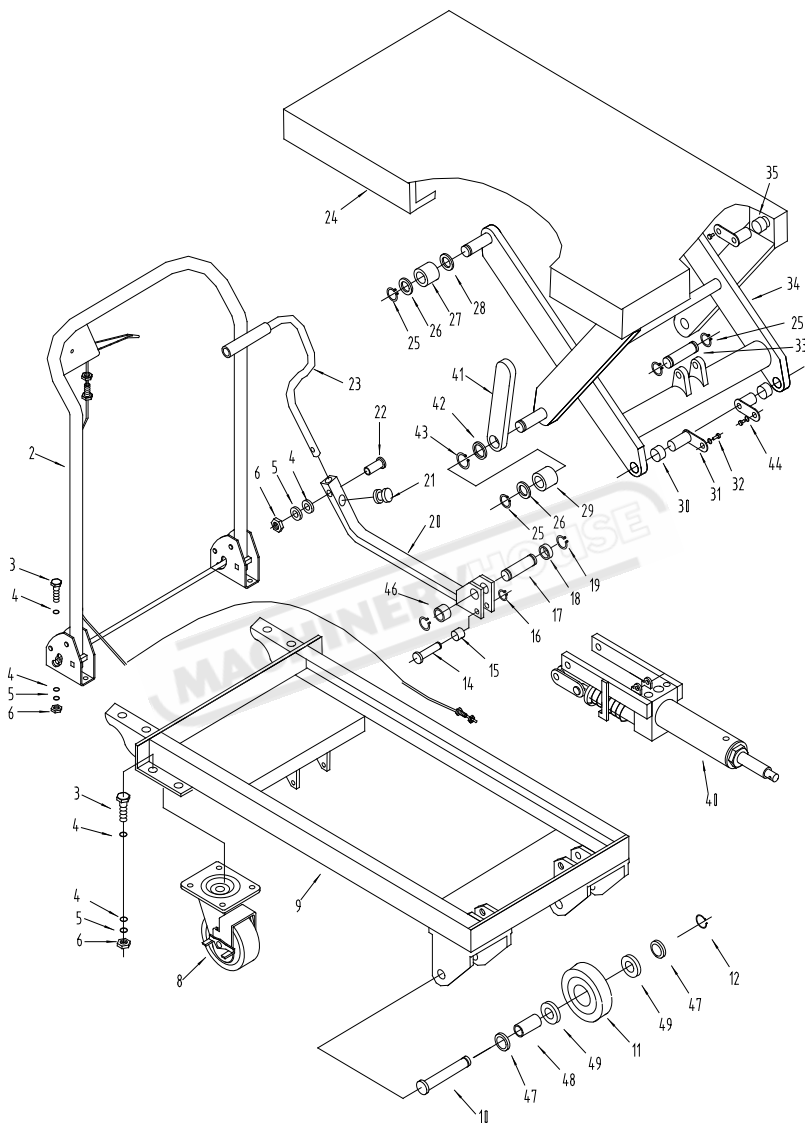
### Explosive Drawing of SP300/SPA300/SP500/SPA500 pump



**Parts List of SP300/SPA300/SP500/SPA500 pump**

No.	Drawing no.	Description	Qty.	Remark
1	GB3452.1-86	O-ring 22.4×2.65	1	
2	SP.8-11	Pump cylinder	1	SP300/SPA300
	SP.8-11A	Pump cylinder	1	SP500/SPA500
3	UHS18	Yx- seal ring	1	300KGS
	UHS14	Yx- seal ring	1	500KGS
4	DH18	Dust ring	1	300KGS
	DH14	Dust ring	1	500KGS
5	SP.8-10	Pump plunger	1	300KGS
	SP.8-10A	Pump plunger	1	500KGS
6	SP.8-09	Spring	1	
7	SP.8-08	Spring seat	1	
8	GB894.1-86	Retaining ring for axle 10	1	
9	SP.0-13B	Joint plate	2	
10	SP.0-14	Pin	1	
11	JF.1-17	Plug	1	
12	JB982-77	Copper washer 20	1	
13	6V804.1-12	Damp valve	1	
14	YQ-03	Spring	1	
15	YQ-02	Spring seat	1	
16	GB308-77	Steel ball 6.35	2	
17	GB308-77	Steel ball 4.5	1	
18	SP.8-18	Spring seat	1	
19	SP.8-17	Spring	1	
20	SP.8-16	Adjusting screw	1	
21	GB3452.1-86	O-ring 7.5×2.65	2	
22	SP.8-15	Cover ring	1	
23	GB308-77	Steel ball 9.5	1	
24	SP.8-07	Spring	1	
25	GB308-77	Steel ball 1/2 (12.7)	1	
26	GB77-85	Screw M16×18	1	
27	YQ-01	Strike pin	1	
28	GB3452.1-82	O-ring 6.9×1.8	2	
29	DF1.2-08	Shaft	1	
30		Filter	1	
31	GB3452.1-82	O-ring 65×3.55	1	
32	SP.8-12	Rectangular ring section	1	
33	SP.8-04	Cylinder	1	
34	SP.8-03	Housing	1	
35	SP.8-02	Screw	1	
36	GB894.1-86	Retaining ring for axle 25	1	
37	SP.8-13	Washer	1	
38	GB3452.1-82	O-ring 33.5×3.55	1	
39	SP.8-14	Cup packing	1	
40	SP.8-06	Bush	1	
41	GB3452.1-82	O-ring 20×2.65	1	
42	SP.8-05	Piston rod	1	
43	CO1.2-16	Rectangular section sealing	1	
44	SP.8-01	Cylinder cap	1	
45	GB3452.1-82	O-ring 31.5×3.55	1	
46	HG4-692-67	J Shaped steel frame rubber sealing 32×45×6.5	1	
47	YQ.6-300	Base	1	
48	YQ-04	Lever plate	1	
49	GB894.1-86	Retaining ring for axle 8	1	

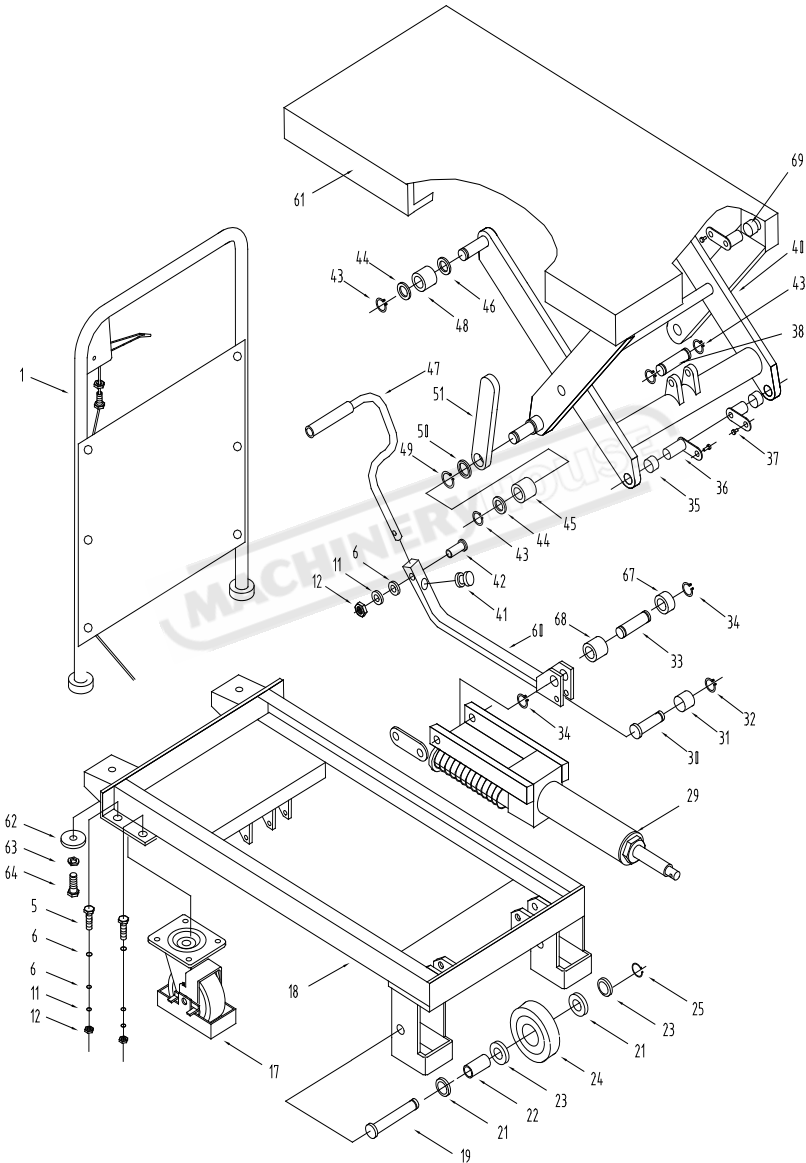
### Explosive drawing of SP300/SP500 assembly



### Parts List of SP300/SP500 assembly

No.	Drawing No.	Description	Qty.	Remark
2	SPⅢ.1-00	Handle bar	1	
3	GB5781-2000	Bolt M8×25	12	
4	GB95-1985	Washer 8	25	
5	GB93-1987	Washer 8	13	
6	GB41-86	Nut M8	13	
8		Universal Wheel 5"	2	SP.4-00
9	SPC.5-00	Frame	1	
10	SP.0-08	Shaft	2	
11	SP.0-04	Wheel 5"	2	
12	GB894.1-86	Retaining ring for axle 12	2	
14	SP.0-11	Shaft	1	
15	SP.0-12	Bush	1	
16	GB894.1-86	Retaining ring for axle 10	1	
17	SPS.0-03	Shaft	1	
18	YQ-7	Retaining ring	1	
19	GB894.1-86	Retaining ring for axle 20	2	
20	SP.3.04B	Connecting rod	1	
21	SP.3-03	Cushion	1	
22	GB5781-2000	Bolt M8×30	1	
23	SP.3-02	Pedal bar	1	Rubber cover
24	SPC.7-00	Table	1	
25	GB894.1-86	Retaining ring for axle 16	6	
26	GB848-1985	Washer 16	4	
27	SP.6-12	Washer	2	
28	SP.6-11	Washer	2	
29	SP.6-10	Roller	2	
30	SP.6-01	Bush	2	
31	SP.0.02	L-pin	4	
32	GB70-85	Bolt M6×10	4	
33	SP.0-03	Shaft	1	
34	SPC.6-00	Arm	1	
35	SF-1.1612	Bush	2	
40	YQ-00-500	Pump	1	
41	SPC.6-07	Support	2	
42	SPA.4-07	Washer	2	
43	GB894.1-86	Retaining ring for axle 24	2	
44	GB93-1987	Washer 6	4	
46	YQ-8	Retaining ring	1	
47	SP.0-06	Bush	4	
48	SP.0-07	Hollow shaft	2	
49	GB276-86	Bearing 6203	4	

### Explosive drawing of SPA300/SPA500 assembly





## Parts List of SPA300/SPA500 assembly

No.	Drawing No.	Description	Qty.	Remark
1	SPAIII.1.01	Handle bar(with guard plate)	1	
5	GB5781-2000	Bolt M8x25	8	
6	GB95-1985	Washer 8	17	
11	GB93-1986	Washer 8	9	
12	GB41-86	Bolt M8	9	
17	SPA.2-00	Universal wheel 5"	2	
18	SPA.3-00	Frame	1	
19	SP.0-08	Shaft	2	
21	SP.0-06	Bush	4	
22	SP.0-07	Hollow shaft	2	
23	GB276-86	Bearing 6203	4	
24	SP.0-04	Wheel 5"	2	
25	GB894.1-86	Retaining ring for axle 12	2	
29	YQ-00-300	Pump unit	1	
30	SP.0-11	Shaft	1	
31	SP.0-12	Bush	1	
32	GB894.1-86	Retaining ring for axle 10	1	
33	SPS.0-03	Shaft	1	
34	GB894.1-86	Retaining ring for axle 20	2	
35	SP.6-01	Bush	2	
36	SP.0.02	L-Pin	4	
37	GB70-85	Screw M6x10	4	
38	SP.0-03	Shaft	1	
40	SPA.4-00	Arm	1	
41	SP.3-03	Cushion	1	
42	GB5781-2000	Bolt M8x30	1	
43	GB894.1-86	Retaining ring for axle 16	6	
44	GB848-1985	Washer 16	4	
45	SP.6-10	Roller	2	
46	SP.6-11	Bush	2	
47	SP.3-02	Connecting rod	1	Rubber Cover
48	SP.6-12	Roller	2	
49	GB894.1-86	Retaining ring for axle 24	2	
50	SPA.4-07	Washer	2	
51	SPC.6-07	Support	2	
60	SP.3.04B	Pedal bar	1	
61	SPA.5-00	Table	1	
62	SPA.0-02	Washer	2	
63	GB93-1986	Washer 12	2	
64	GB5781-2000	Bolt M12x30	2	
67	YQ-7	Retaining ring	1	
68	YQ-8	Retaining ring	1	
69	SF-1.1612	Bush	2	