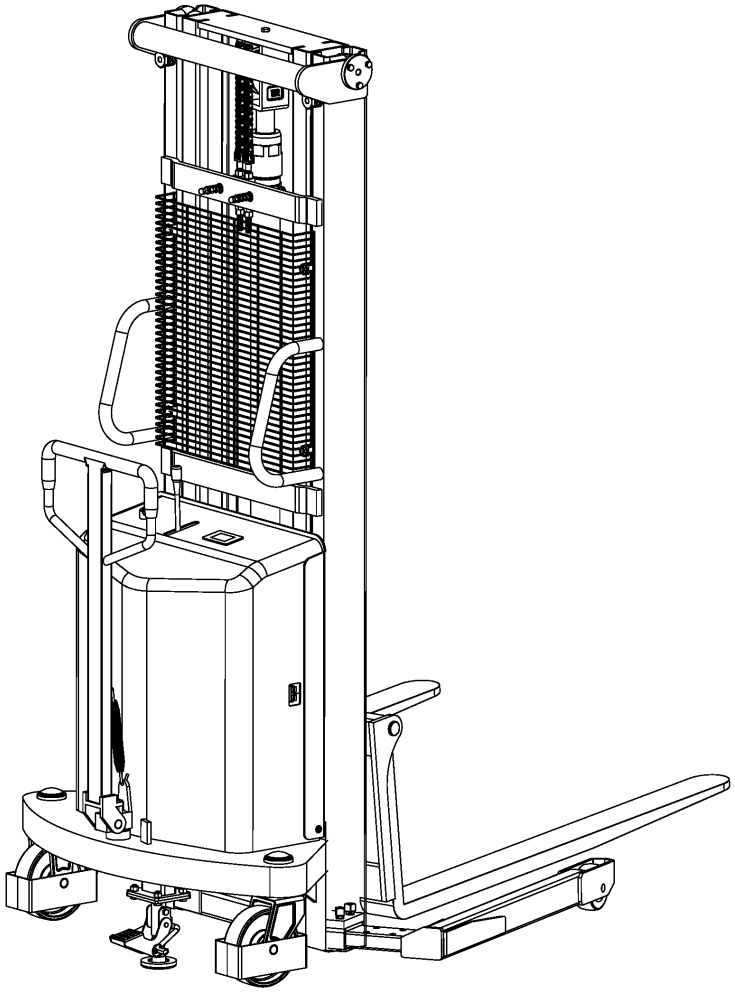
RICHMOND®
ROLLING SOLUTIONS

FSR105 STRADDLE SEMI-ELECTRIC STACKER

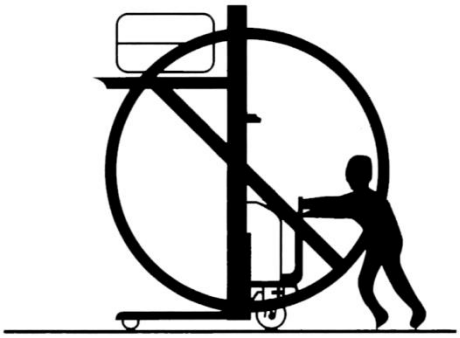
OPERATING MANUAL

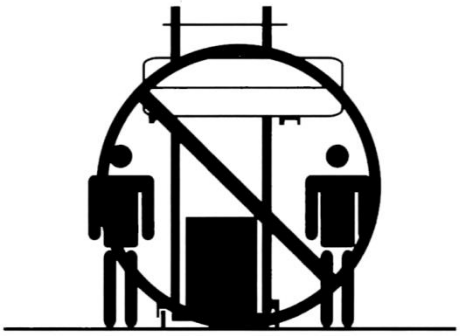


WARNING

THE MANUFACTURERS SHALL NOT BE HELD LIABLE IN CASE OF FAULTS OR ACCIDENTS DUE TO NEGLIGENCE, INCAPACITY, INSTALLATION BY UNQUALIFIED TECHNICIANS AND IMPROPER USE OF THE TRUCK.

DO NOT OPERATE THIS MACHINE UNTIL YOU READ AND UNDERSTAND ALL THE DANGERS, WARNINGS AND CAUTIONS IN THE MANUAL.



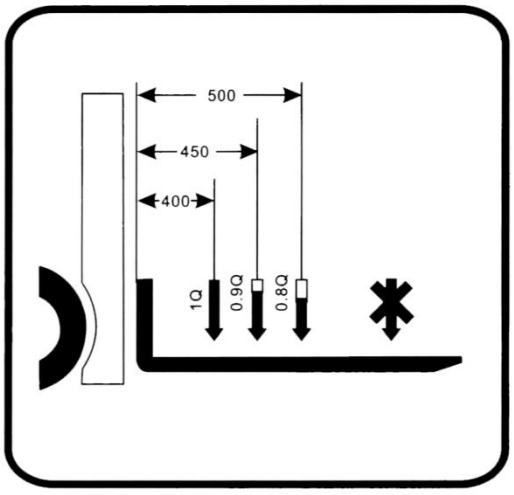


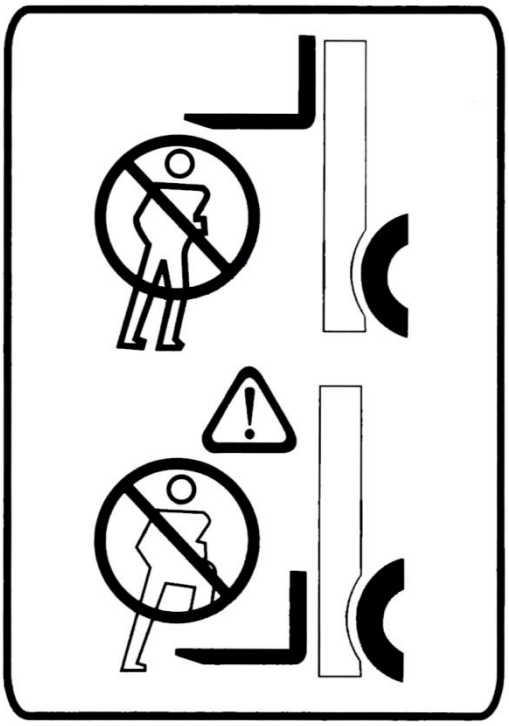
WARNING

1. The forks must not be lifted more than maximum 300mm during driving
2. Goods should be put on the forks evenly and never overload. Uneven loading not only damages stacker but also causes upsetting.
3. Forbid to stand both sides of the carriage welded when it is working.

WARNING

1. The stackers is intended for use on plane and level floors.
2. Pay attention to the obstacle when moving at the slop.





Ⅰ－ PREFACE

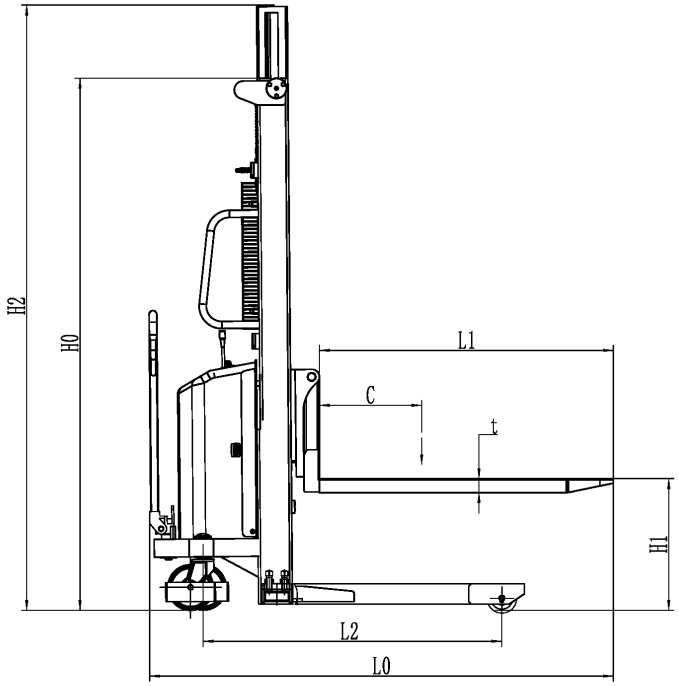
Read this manual carefully before the machine is taken into use to avoid errors. Correct operations and regular inspections are factors of vital importance for the operating economy and lifetime of the machine.
These important aspects are described in the following related sections.
All the information contained in this manual is based on the data available at the time of printing, the manufacturer reserves the right to modify its products at any times, without notice and without liability. It is therefore advisable to regularly check for any changes.
The manufacturers shall not be held liable in case of faults or accidents due to negligence, incapacity, installation by unqualified technicians and improper use of the electric forklift truck.

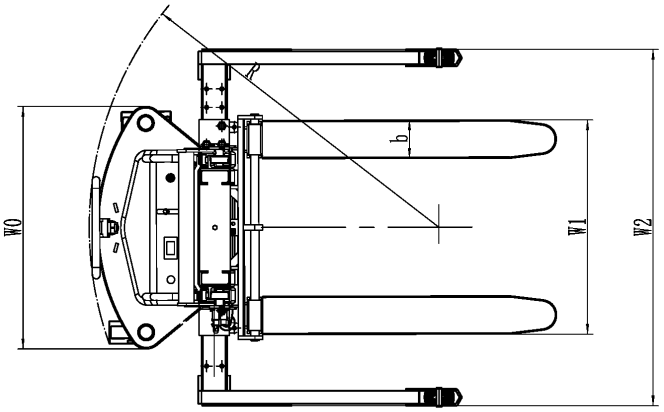
Ⅱ － APPLICATION

The semi-electric stackers are designed for stacking and short distance transport applications and are intended for use on plane and level floors.

Ⅲ－TECHNICAL SPECIFICATIONS

Technical specifications and major dimensions are shown in FIGURE 1 and Table 1 respectably.





Model	Unit	FSR105
Rated Capacity(Q)	Q（kg）	1000
Load Center (C)	C（mm）	400
Max. Fork Height(H)	H1(mm)	3000
Max. Machine (H2)	H2(mm)	3540
Fork Length	L1（mm）	1150
Fork Overall Width	W1(mm)	850
Fork Size	b*t(mm)	150*55
Wheel Base (Y)	L2(mm)	1170
Min. Turning (R)	R（mm）	1380
Aisle	mm	2280
Fork Min Height	mm	90
Increasing Speed	mm/s	75/116 (Loaded/Unloaded)
Lowering Speed	mm/s	70/56 (Loaded/Unloaded)
Battery	V/Ah	12/120

Lifting Motor	kw	1.6
Overall Length (L0)	mm	1815
Overall Width (W0)	mm	1400
Overall Height (H0)	mm	2085
Self Weight with battery	kg	

Ⅳ –OPERATING GUIDE

PRE-SERVICE CHECK

1. If the stacker has been damaged during transport, it must not be put into service, and you should immediately contact your dealer.
2. The stacker has been lubricated before delivery, and the hydraulic unit has been filled with hydraulic oil.
3. If a battery has been applied with the stacker, the battery is charged.
4. If a charger has been supplied with the stacker, it should be installed as soon as possible in order that the battery can be charged when necessary.

OPERATION OF STACKER

1. Turn the key and switch on, the display indicator shows. Pull the valve handle backwards towards the driver to lift the forks.
2. Push the valve handle forwards to lower the forks.
3. The valve handle is spring loaded and returns automatically to neutral position.
4. The stacker is intended for use on plane and level floors. Driving the forks must not be lifted more than maximum 300mm.
5. When stacking with lifted forks, driving should be slow and over the shortest possible distance due to the stability.
6. Goods should be placed on the forks uniformly and never overload. Uneven loading not only damages the stacker but causes upsetting.
7. Heavy should not be allowed to remain on the for a long time after operation is over.
8. Forbid to haul at lay the stacker on the slope.
9. The truck must always be used or parked sheltered from rain and snow and in no case must it be used in very damp areas.

BATTERY CHARGING

1. Turn the key and switch on, when the display indicated voltage is below 11 volt or the red light is showing with the buzz sound, please charge up the battery.
2. The rated specification of the battery charger supplied:
Input: 220V AC 50/60Hz Output: 12V DC 15A
3. When starting charging, insert the output plug of the charging to the charging socket of the stacker first, then the input plug of the charger to the socket of AC power supply. Turn on the charger switch, battery charging is started with indicator (red lamp) lights up. Normal recharging lasts about 10 hours. When charge is finished, the AC supply should be cut off. it is advisable to recharge the battery after each day’s work.
4. Battery charging should be done in a well-ventilated place where there are no naked flames, no sparks, and no heat radiation sources nearby.
5. Make sure the level of the electrolyte is above the lower line. If the elements are not covered, top up with distilled water. Under normal conditions topping up can be generally done once a month.

Ⅴ – MAINTENANCE GUIDE
CONTROL CHECK

Preventive overhaul based on regular checks of the machine will limit wear, and possible defects may be corrected before serious breakdowns take place. Careful maintenance reduces repair cost and standstills.

The battery is the source of energy of the stacker. It is necessary to follow the instructions given to obtain full output, satisfactory battery lifetime, and to keep the machine in best condition.

DAILY CHECK

1. Check that the battery is fully charged (also see the “battery maintenance” section below).
2. Lift the carriage to its top position to check that there is enough hydraulic oil in the system. Refill if necessary with YA-N32 or similar oil.

WEEKLY CHECK

The use of the stacker should spend a few minutes every week on clearing Special attention should be paid to the wheels and axles, see if there is thread, rags and the like blocked on.

HALF-YEARLY CHECK

1. Lubricate the lifting chain. If the stacker is working in dust-laden circumstances, it should occasionally be cleaned with an oil-impregnated towel. Check the chain for wear.
2. Check and tighten possible loose screws and nuts and the cable joints of the battery.
3. Check brush wear in the pump motor and take away possible irregularities so that a good contact is maintained.

OILCHANGE IN IN THE HYDRAULIC SYSTEM

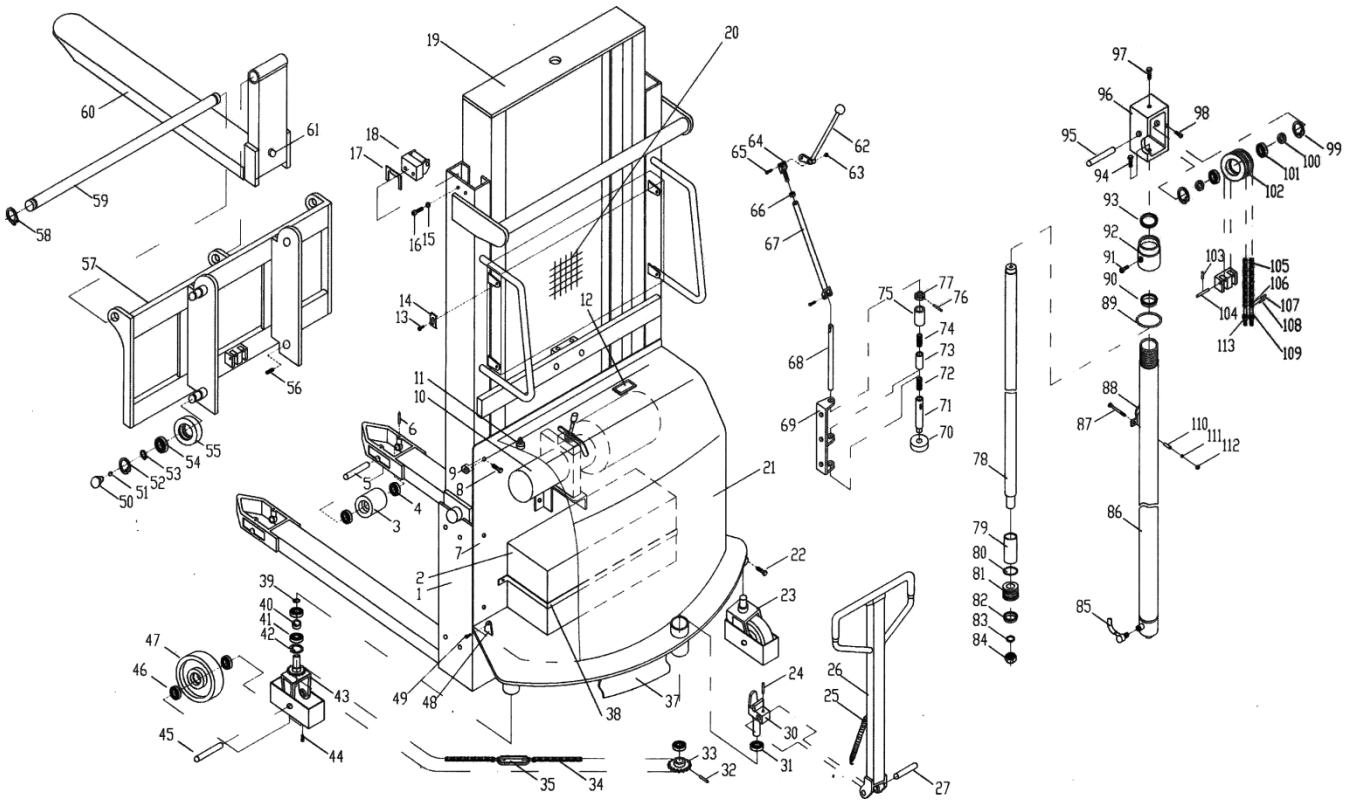
We recommend changing the hydraulic oil after one month's operation (or 200 hours), even if the operation time has not reached it is recommended to change the oil once a year.
Oil change is most easily done in the following way:

1. Make sure that the carriage is at bottom position.
2. Dismount the hose at the bottom of the cylinder and place the hose in a container.
3. Activate the lifting handle, the pump starts, and the oil tank will be emptied of oil YA-N32 YH-10.
4. When you have lifted and levered the carriage 2 or 3 times, and there is no more air in the system, and the machine will work normally again, if the stacking height has not been obtained it is necessary to refill.

BATTERY MAINTENANCE

- The acid level must be checked at least once a week.
- Refilling must not take place until charging has been finished, as the acid expands during charging.
- Only distilled water can be used for refilling.
- The battery surface must be kept clean and dry, as dirt and wet will cause leakage of current and consequently reduced battery capacity, acid spill can be neutralized with soda solution or diluted ammonia, which is to be washed off with water.
- The terminal connections must be firmly tightened and greased with acid free grease which prevents sulphate formations.
- Sulphate coating reduces the contact surface, resulting in a considerable voltage loss.

FSR105 SEMI-ELECTRIC STACKER (Two Stage Mast)



Item	Description	Qty	Item	Description	Qty	Item	Description	Qty
1	Outer mast assembly	1	39	Circlip	1	77	Washer	1
2	Battery	1	40	Spacer	1	78	Piston rod	1
3	Front roller	2	41	Bearing	2	79	Locating sleeve	1
4	Bearing	4	42	Circlip	1	80	O-seal ring	1
5	Axle	2	43	Wheel housing	1	81	Piston	1
6	Tightening pin	2	44	Screw	1	82	seal ring	1
7	Guard board	1	45	Axle	1	83	Nut	1
8	Bolt	6	46	Bearing	2	84	Retainer pin	1
9	Spacer	6	47	Driving wheel	1	85	Oil hose unit	1
10	Hydraulic power pack	1	48	Locating piece	2	86	Cylinder	1
11	Power switch	1	49	Screw	14	87	Bolt	2
12	Voltage display	1	50	Locating piece	8	88	Holding-down clip	2
13	Bolt	4	51	Piece	8	89	O-seal ring	1
14	Spacer	4	52	Circlip	8	90	seal ring	1
15	Spacer	4	53	Circlip	8	91	Screw	1
16	Screw	4	54	Bearing	8	92	Jack cover	1
17	Filling piece	6	55	Roller	8	93	Dust seal	1
18	Lateral roller unit	2	56	Screw	8	94	Bolt	1
19	Inner mast assembly	1	57	Carriage	1	95	Axle	1
20	Shield	1	58	Circlip	2	96	Crosshead	1
21	Cover	1	59	Shaft	1	97	Screw	1
22	Screw	2	60	Fork	2	98	Screw	1
23	Driven wheel	1	61	Screw	2	99	Circlip	2
24	Pin	1	62	Handle	1	100	Circlip	2
25	Spring	1	63	Nut	1	101	Bearing	2
26	Handebar	1	64	Joint	1	102	Chain wheel	2
27	Axle	1	65	Bolt	2	103	Pin	1
28	Bushing	2	66	Nut	1	104	Chain pin	1
29	Spacer	2	67	Connection rod	1	105	Chain	2
30	Cast joint seat	1	68	Center rod	1	106	Chain piece	8
31	Bushing	2	69	Connection seat	1	107	Pin	2
32	Tightening pin	1	70	Brake shoe	1	108	Chain pin	2
33	Chain wheel	1	71	Spring socket	1	109	Chain adjuster	2
34	Chain adjuster	2	72	Spring	1	110	Spacer sleeve	2
35	Chain	2	73	Spring socket	1	111	Washer	2
36	Clip	2	74	Spring	1	112	Nut	4
37	Rear cover	1	75	Socket sleeve	1	113	Nut	6
38	Locating piece	1	76	Pin	2			