

Instruction Manual

HAND HYDRAULIC STACKER

CAPACITY:1000kg



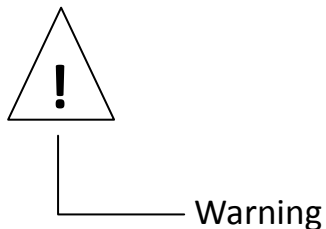
Note: Owner/Operator must read and understand this instruction manual before using the hand hydraulic stacker.

IMPORTANT

Please read, understand and follow these safety rules and operating instructions before operating this machine.

Only trained and authorized personnel should be permitted to operate this machine.

1. Safety Rules



Failure to obey the instructions and safety rules in this manual may result in death or serious injury.

1.1 Do Not Operate Unless:

1) You learn and practice the principles of safe machine operation contained in this operating manual.

- Avoid hazardous situations.
- Always perform a pre-operation inspection.
- Always perform the Function tests prior to use.
- Inspect the workplace.

-Only use the machine as a material lift.

2) You read, understand and obey.

- Manufacturer's instructions and safety rules

-Employee's safety rules and worksite regulations

-Applicable governmental regulations

1.2 To Avoid Hazardous Situations:

1) Fall Hazards

Do not use as a personnel lifting platform or step.

Do not load unstable or loosely stacked loads.

2) Tip-over Hazards

Do not overload the machine. Check load diagram on the machine for different centered capacity machine.

Do not raise the load unless the machine is on a firm, level surface.

Do not move the machine with a raised load, except for minor positioning.

Do not operate the machine in strong or gusty winds.

Prior to use, check the work area for drop-offs, holes, bumps, debris, unstable surfaces or other possible hazardous conditions.

Do not subject the machine to horizontal force by raising or lowering a fixed or overhanging load.

3) Collision hazards

Do not lift if the load is not properly centered on the forks. Check load diagram on the machine for correct load center position.

Check the work area for overhead obstruction or other possible hazards.

Do not stand under or allow personnel under the machine when the load is raised.

Do not lower the load unless the area below is clear of personnel and obstructions.

4) Bodily Injury Hazard

Always keep hands and fingers away from pulleys, the carriage and other potential pinch points.

5) Improper Use Hazard

Never leave a machine unattended with a load. Unauthorized personnel may attempt to operate the machine without proper instruction, creating an unsafe situation.

6) Damaged Machine Hazards

Do not use a damaged or malfunctioning machine.

Do not use a machine with a worn, damaged or more than 3% elongation chain

Conduct a thorough pre-operation inspection prior to each use.

Be sure that all decals are in place and legible.

Maintain proper lubrication of chain and other movable parts.

7) Lifting Hazard

Use proper lifting techniques to load the machine.

2. Pre-operation Inspection

The operator should perform a visual inspection prior to each work shift to discover if anything is wrong with a machine.

2.1 Be sure that the instruction manual is complete, legible and available for reference.

2.2 Be sure that all decals are legible and in place.

2.3 Checking the following components or areas for damage and improperly installed, loose or missing parts:

- Pump Unit and Related Components
- Base Components
- Legs
- Rollers
- Frame
- Chain and Pulleys
- Casters
- Forks

- Brake System
- Handle
- Nuts, Bolts and Other Fasteners

2.4 Check entire machine for:

- Dents or damage
- Corrosion or oxidation
- Cracks in welds or structural components

3. Function Tests

The operator must follow the step-by-step instructions to test all machine functions.

3.1 Test the Brake Operation

- 1) Press down on the foot pedal to lock the brake.
- 2) Push the machine. The machine should not move.
- 3) Pull up on the foot pedal to release the brake.
- 4) Push the machine, it should now move freely.

3.2 Test the Control Lever Functions

- 1) Set the control lever in the ASCENT position.

The carriage should rise to the top of the mast while pumping the handle.

The carriage should move smoothly, free of hesitation and binding.

- 2) Set the control lever in the NEUTRAL position.

The carriage should not rise or lower while pumping the handle.

3) Set the control lever in the LOWER position.

The carriage should lower into the mast. The carriage should move smoothly, free of hesitation and binding.

Note: *A damaged or malfunctioning machine must never be used. If damage or malfunctions are discovered during pre-operation inspection or function tests, the machine must be tagged and removed from service.*

Repairs to the machine may only be made by a qualified service technician and according to the manufacturer's instructions.

After repairs are completed, the operator must perform a pre-operation inspection and function test again before putting the machine into service.

4. Workplace inspection

To operate the machine safely, the operator should inspect the workplace prior to moving the machine to the workplace.

Be aware of and avoid the following hazardous situations:

- 1) Drop-offs or holes
- 2) Bumps and floor obstructions
- 3) Debris
- 4) Overhead obstructions and high voltage conductors
- 5) Hazardous locations
- 6) Inadequate surface support to withstand all load forces imposed by the machine
- 7) Wind and weather conditions
- 8) All other possible unsafe conditions

5. Operating instructions

Using the machine for any purpose other than lifting material is unsafe.

5.1 Raising and Lowering Load

- 1) Please load centrally across the forks. Check the load diagram on the machine for correct load center position.
- 2) Raise the load by pumping the handle in the ASCENT position.
- 3) Lower the load by setting the control lever in the LOWER position.

5.2 Moving Machine with a Load

It is best to move the machine without load. Moving a raised load should be restricted to positioning for loading and unloading. If it is necessary to move the machine with a raised load, understand and obey the following safety rules:

- 1) Area is level and clear of obstructions.
- 2) Load is correctly centered on the forks.
- 3) Avoid sudden starts and stops.
- 4) Travel with load in the lowest possible position.
- 5) Do not tilt the machine back with a raised load by pulling the C-shape handle on the mast.
- 6) Keep personnel away from machine and load.

5.3 Moving Machine on Small Slopes

The machine shall not be used on gradients. If it is necessary to negotiate small slopes for the purposes of moving the truck between buildings etc., understand and obey the following safety rules:

- 1) The gradient shall be no more than 2%.
- 2) The machine shall be unloaded.
- 3) The forks shall be facing downgrade.

5.4 Actual Operating Capacity

The actual operating capacity of the machine is the responsibility of the user. It may depend on the operator, floor and machine conditions and frequency of the load handling cycle.

If the load exceeds the actual operating capacity, the operator must be assisted by one or more persons.

6. Maintenance

6.1 Periodic Maintenance

Periodic maintenance will prolong the lifetime of the machine.

See the table below for period of maintenance.

Item	Check	Period		
		1 month	6 months	12 months
Frame	Check the loading parts		●	

Wheels	Check wearing bearing and bearing housing	●		
Turning	Check whether it turns properly	●		
Hydraulic unit	Oil level Change oil (about lt.) Check safety valve		●	● ●
Lifting chain	Check the extension rate and wear	●		
Brake	Check whether it functions properly	●		
Moveable parts	Check lubrication and tear	●		

6.2 Oil

1) Add oil

If the forks do not lift to maximum height, you should add oil. Restore the fluid level in the reservoir to 2mm below the oiling hole, this must be with the forks in the lowered position.

2) Change oil

Drain the oil in pump unit off. Then add oil as item 1).

3) Use the hydraulic type oil according to the temperature scale below.

Temperature	Oil
-20°C - +40°C	L-HV46 Hydraulic oil

6.3 How TO Expel Air From The Pump Unit

Air may enter the unit when the seals are replaced. Lift the control lever to the LOWER position, and then move the handle up and down for dozens of times.

7. Troubles Shooting

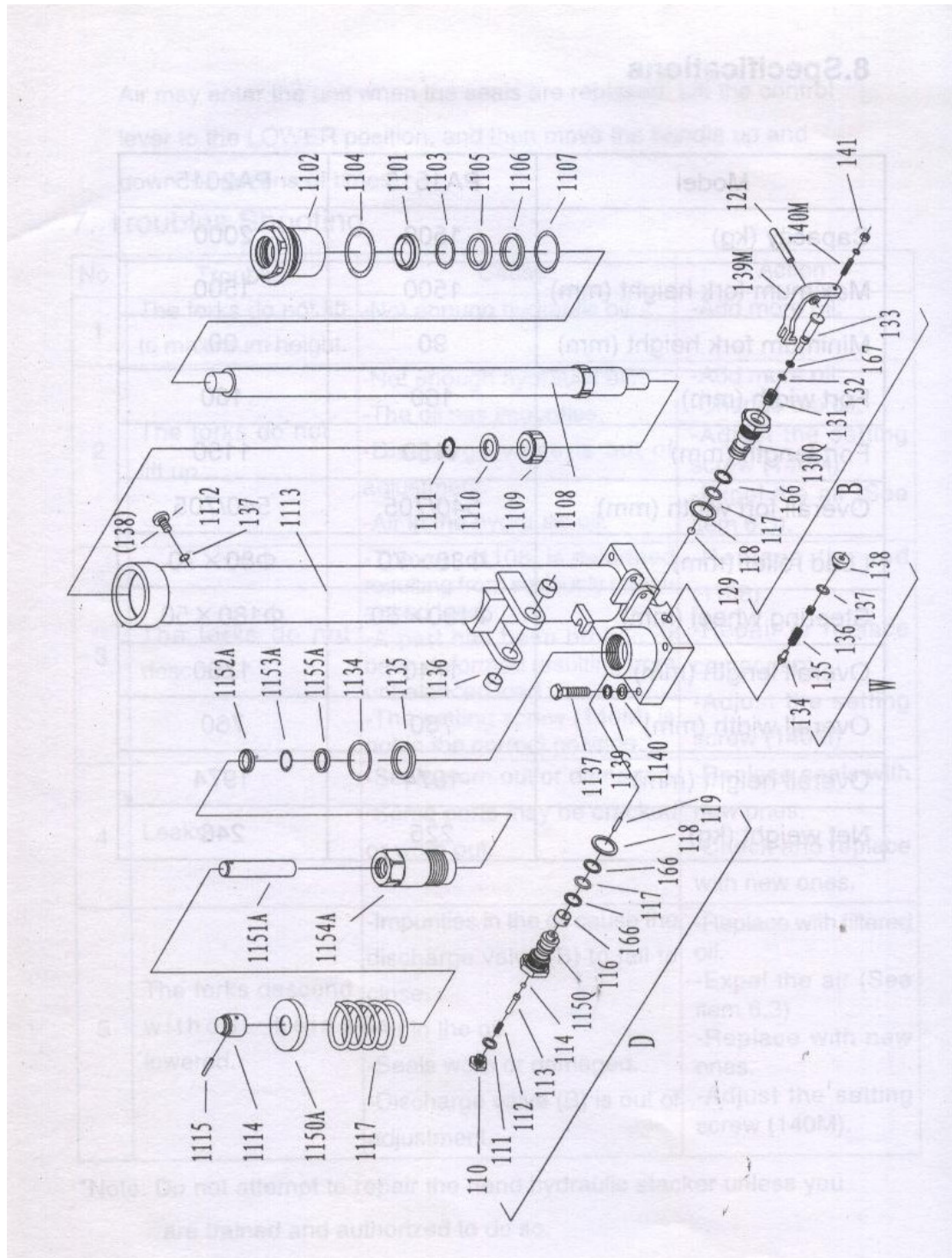
No.	Trouble	Cause	Action
1	The forks do not lift to maximum height.	-Not enough hydraulic oil.	-Add more oil.
2	The forks do not lift up.	-Not enough hydraulic oil -The oil has impurities. -Discharge valve is out of adjustment. -Air in the hydraulic oil.	-Add more oil. -Change the oil. -Adjust the setting screw (140M). -Expel the air (See item 6.3).
3	The forks do not descend	-The rod (1108) is deformed resulting from seriously unbalanced load.	-Replace the rod (1108). -Repair or replace

		-A part has been broken or been deformed resulting from unbalanced load. -The setting screw (140M) is not in the correct position.	- component. - Adjust the setting screw(140M)
4	Leaks	-Seals worn out or damaged. -Some parts may be cracked or worn out.	-Replace with filtered oil. -Expel the air (See item 6.3) -Replace with new ones. -Adjust the setting screw (140M).
5	The forks descend without being lowered.	-Impurities in the oil cause the discharge valve (B) to fail to close. -Air in the oil. -Seals worn or damaged. -Discharge valve (B) is out of adjustment.	-Replace with filtered oil. -Expel the air (See item 6.3). -Replace with new ones. -Adjust the setting screw (140M).

***Note:** Do not attempt to repair the hand hydraulic stacker unless you are trained and authorized to do so.

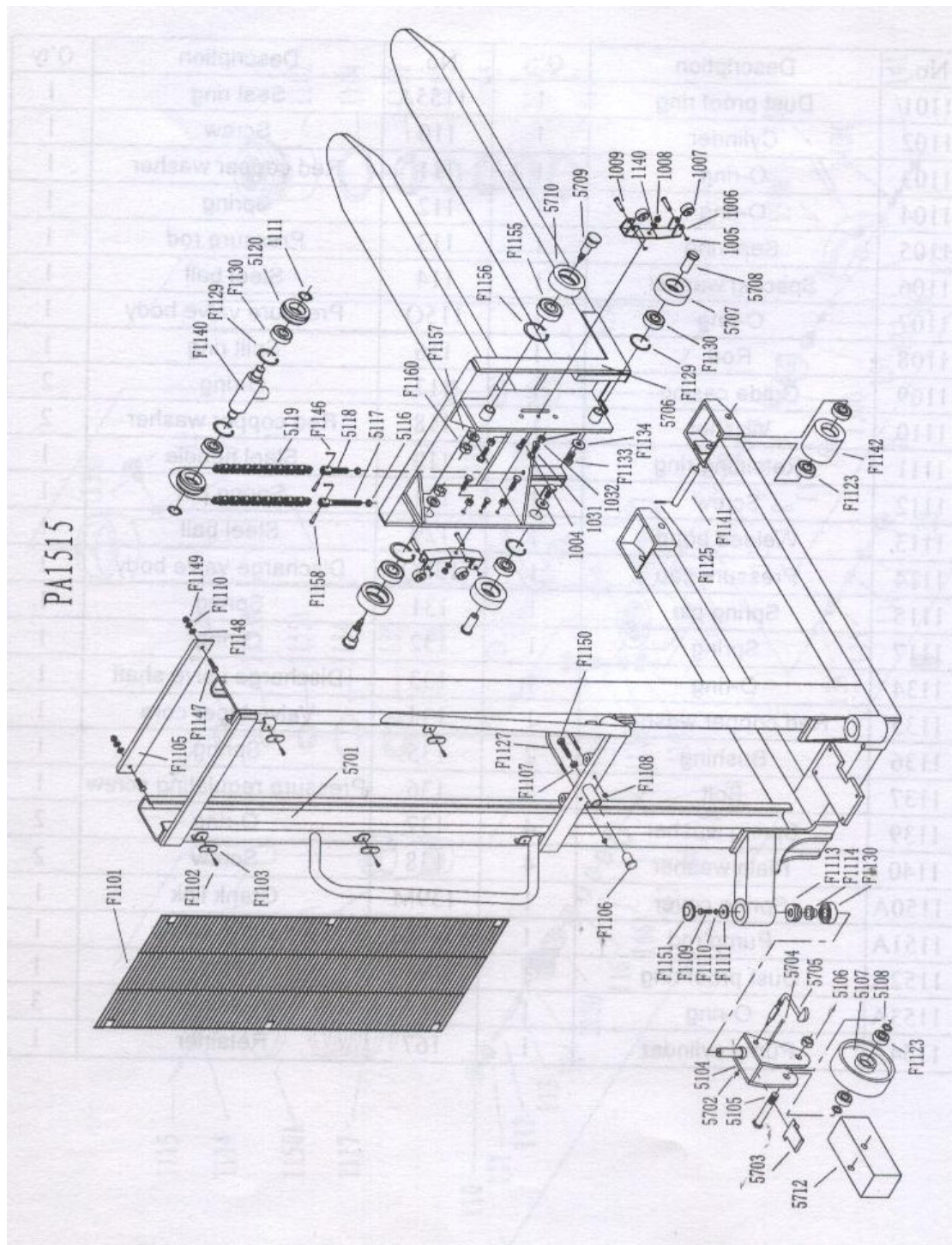
8. Specifications

Model	PA1515	PA2015
Capacity(kg)	1500	2000
Maximum fork height (mm)	1500	1500
Minimum fork height (mm)	90	90
Fork width (mm)	160	160
Fork length (mm)	1150	1150
Overall fork width (mm)	540/705	540/705
Load roller (mm)	Φ 80*70	Φ 80*70
Steering wheel (mm)	Φ 180*50	Φ 180*50
Overall length (mm)	1740	1760
Overall width (mm)	760	760
Overall height (mm)	1974	1974
Net weight (kg)	225	246



Parts List of Pump Unit

No.	Description	Q'ty	No.	Description	Q'ty
1101	Dust proof ring	1	1155A	Seal ring	1
1102	Cylinder	1	110	Screw	1
1103	O-ring	1	111	Red copper washer	1
1104	O-ring	1	112	Spring	1
1105	Seal ring	1	113	Pressure rod	1
1106	Spacing washer	1	114	Steel ball	1
1107	O-ring	1	115Q	Pressure valve body	1
1108	Rod	1	116	Split ring	1
1109	Guide casing	1	117	O-ring	2
1110	Washer	1	118	Red copper washer	2
1111	Retaining ring	1	119	Steel needle	1
1112	Screw	1	121	Spring pin	1
1113	Welded bond	1	129	Steel ball	1
1114	Pressure cap	1	130Q	Discharge valve body	1
1115	Spring pin	1	131	Spring	1
1117	Spring	1	132	O-ring	1
1134	O-ring	1	133	Discharge valve shaft	1
1135	Red copper washer	1	134	Valve taper core	1
1136	Bushing	2	135	Spring	1
1137	Bolt	4	136	Pressure regulating screw	1
1139	Spring washer	4	137	O-ring	2
1140	Plain washer	4	138	Screw	2
1150A	Spring cover	1	139m	Crank link	1
1151A	Pump rod	1	140m	Setting screw	1
1152A	Dust proof ring	1	141	Nut	1
1153A	O-ring	1	166	Retainer	3
1154A	Pump cylinder	1	167	Retainer	1

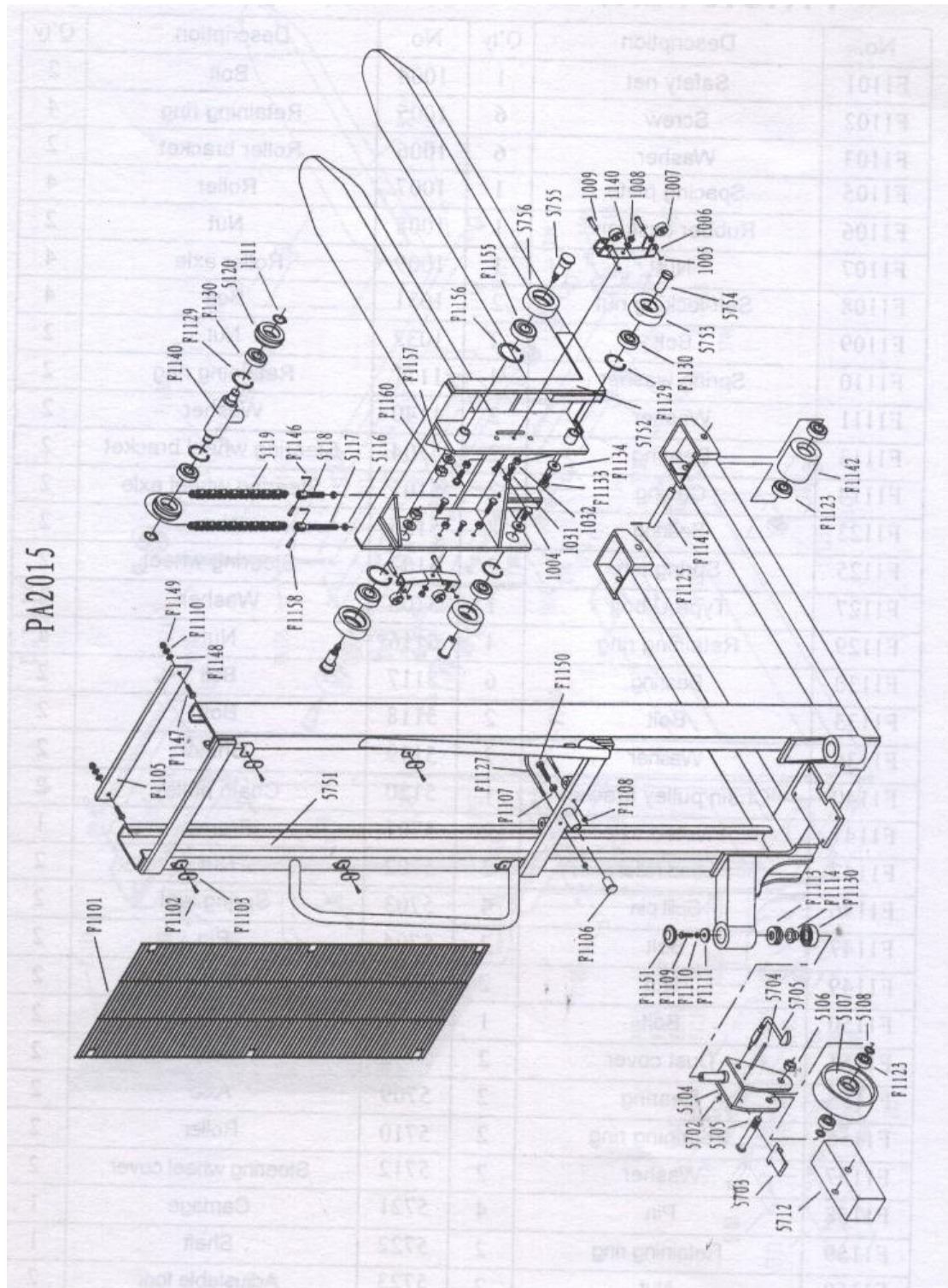


PA1515 Parts List of Frame (Fixed)

No.	Description	Q'ty	No.	Description	Q'ty
F1101	Safety net	1	1004	Bolt	2
F1102	Screw	6	1005	Retaining ring	4
F1103	Washer	6	1006	Roller bracket	2
F1105	Spacing plate	1	1007	Roller	4
F1106	Rubber cushion	1	1008	Nut	2
F1107	Nut	1	1009	Roller axle	4
F1108	Self-locking nut	2	1031	Bolt	4
F1109	Bolt	2	1032	Nut	2
F1110	Spring washer	4	1111	Retaining ring	2
F1111	Washer	2	1140	Washer	2
F1113	Bearing	2	5104	Steering wheel bracket	2
F1114	Casing	2	5105	Steering wheel axle	2
F1123	Bearing	8	5106	Nut	2
F1125	Spring pin	2	5107	Steering wheel	2
F1127	Type U bolt	1	5108	Washer	4
F1129	Retaining ring	4	5116	Nut	4
F1130	Bearing	6	5117	Bolt	2
F1133	Bolt	2	5118	Bolt	2
F1134	Washer	2	5119	Chain	2
F1140	Chain pulley bracket	1	5120	Chain pulley	2
F1141	Pivoted axle	2	5701	Frame	1
F1142	Load roller	2	5702	Nut	2
F1146	Split pin	4	5703	Spring leaf	2
F1147	Bolt	2	5704	Pin	2
F1149	Nut	2	5705	Foot pedal	2
F1150	Bolt	1	5706	Carriage	1
F1151	Dust cover	2	5707	Roller	2
F1155	Bearing	2	5708	Axle	2
F1156	Retaining ring	2	5709	Axle	2
F1157	Washer	2	5710	Roller	2
F1158	Pin	4	5712	Steering wheel cover	2
F1160	Nut	2			

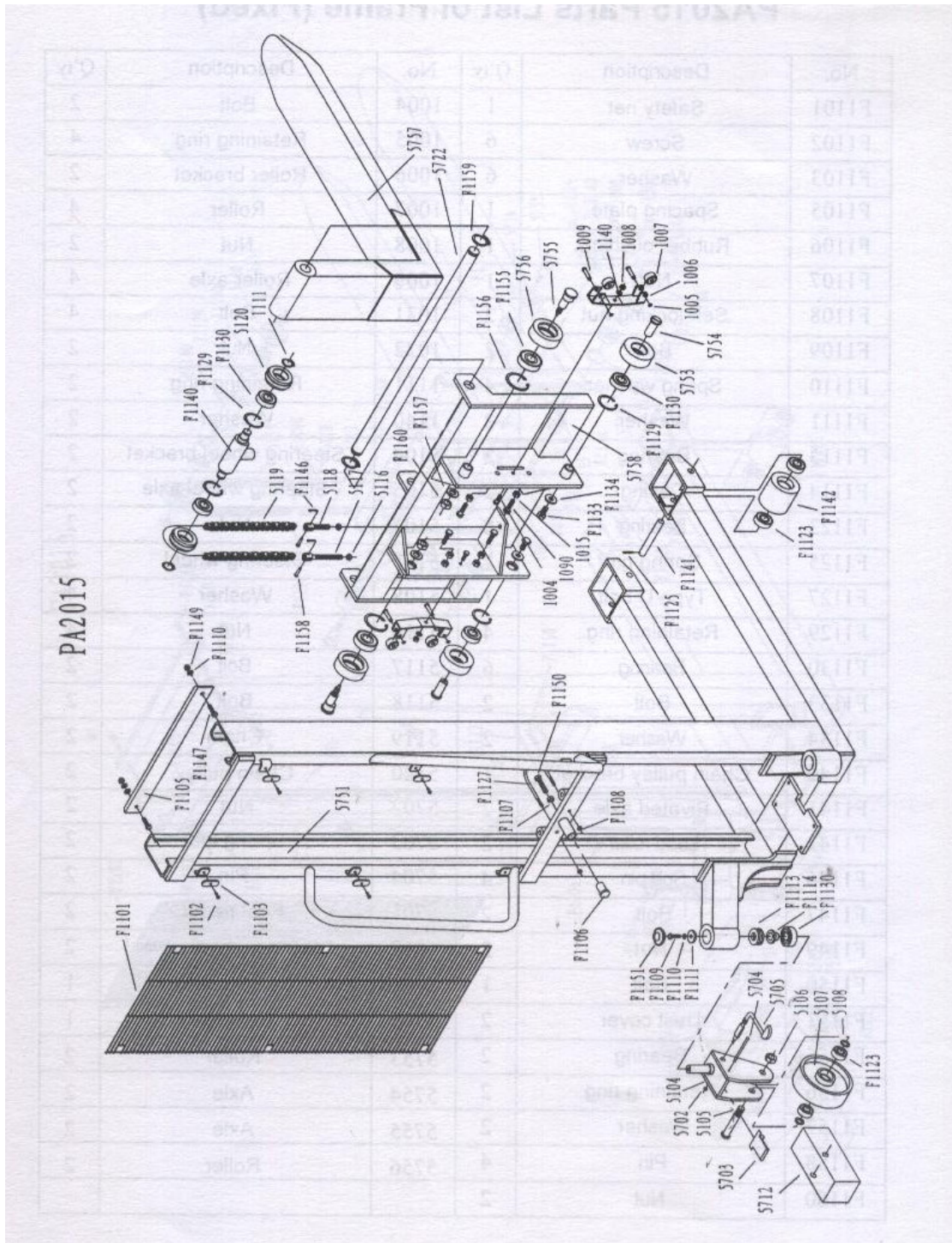
PA1515 Parts List of Frame (Adjustable)

No.	Description	Q'ty	No.	Description	Q'ty
F1101	Safety net	1	1004	Bolt	2
F1102	Screw	6	1005	Retaining ring	4
F1103	Washer	6	1006	Roller bracket	2
F1105	Spacing plate	1	1007	Roller	4
F1106	Rubber cushion	1	1008	Nut	2
F1107	Nut	1	1009	Roller axle	4
F1108	Self-locking nut	2	1031	Bolt	4
F1109	Bolt	2	1032	Nut	2
F1110	Spring washer	4	1111	Retaining ring	2
F1111	Washer	2	1140	Washer	2
F1113	Bearing	2	5104	Steering wheel bracket	2
F1114	Casing	2	5105	Steering wheel axle	2
F1123	Bearing	8	5106	Nut	2
F1125	Spring pin	2	5107	Steering wheel	2
F1127	Type U bolt	1	5108	Washer	4
F1129	Retaining ring	4	5116	Nut	4
F1130	Bearing	6	5117	Bolt	2
F1133	Bolt	2	5118	Bolt	2
F1134	Washer	2	5119	Chain	2
F1140	Chain pulley bracket	1	5120	Chain pulley	2
F1141	Pivoted axle	2	5701	Frame	1
F1142	Load roller	2	5702	Nut	2
F1146	Split pin	4	5703	Spring leaf	2
F1147	Bolt	2	5704	Pin	2
F1149	Nut	2	5705	Foot pedal	2
F1150	Bolt	1	5707	Roller	2
F1151	Dust cover	2	5708	Axle	2
F1155	Bearing	2	5709	Axle	2
F1156	Retaining ring	2	5710	Roller	2
F1157	Washer	2	5712	Steering wheel cover	2
F1158	Pin	4	5721	Carriage	1
F1159	Retaining ring	2	5722	Shaft	1
F1160	Nut	2	5723	Adjustable fork	2



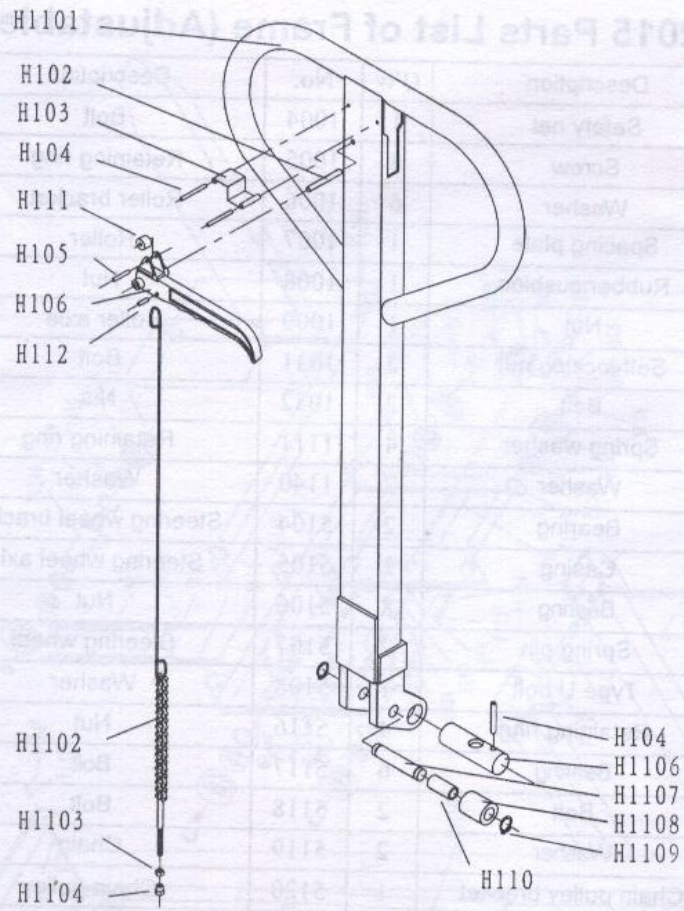
PA2015 Parts List of Frame (Fixed)

No.	Description	Q'ty	No.	Description	Q'ty
F1101	Safety net	1	1004	Bolt	2
F1102	Screw	6	1005	Retaining ring	4
F1103	Washer	6	1006	Roller bracket	2
F1105	Spacing plate	1	1007	Roller	4
F1106	Rubber cushion	1	1008	Nut	2
F1107	Nut	1	1009	Roller axle	4
F1108	Self-locking nut	2	1031	Bolt	4
F1109	Bolt	2	1032	Nut	2
F1110	Spring washer	4	1111	Retaining ring	2
F1111	Washer	2	1140	Washer	2
F1113	Bearing	2	5104	Steering wheel bracket	2
F1114	Casing	2	5105	Steering wheel axle	2
F1123	Bearing	8	5106	Nut	2
F1125	Spring pin	2	5107	Steering wheel	2
F1127	Type U bolt	1	5108	Washer	4
F1129	Retaining ring	4	5116	Nut	4
F1130	Bearing	6	5117	Bolt	2
F1133	Bolt	2	5118	Bolt	2
F1134	Washer	2	5119	Chain	2
F1140	Chain pulley bracket	1	5120	Chain pulley	2
F1141	Pivoted axle	2	5702	Nut	2
F1142	Load roller	2	5703	Spring leaf	2
F1146	Split pin	4	5704	Pin	2
F1147	Bolt	2	5705	Foot pedal	2
F1149	Nut	2	5712	Steering wheel cover	2
F1150	Bolt	1	5751	Frame	1
F1151	Dust cover	2	5752	Carriage	1
F1155	Bearing	2	5753	Roller	2
F1156	Retaining ring	2	5754	Axle	2
F1157	Washer	2	5755	Axle	2
F1158	Pin	4	5756	Roller	2
F1160	Nut	2			



PA2015 Parts List of Frame (Adjustable)

No.	Description	Q'ty	No.	Description	Q'ty
F1101	Safety net	1	1004	Bolt	2
F1102	Screw	6	1005	Retaining ring	4
F1103	Washer	6	1006	Roller bracket	2
F1105	Spacing plate	1	1007	Roller	4
F1106	Rubber cushion	1	1008	Nut	2
F1107	Nut	1	1009	Roller axle	4
F1108	Self-locking nut	2	1031	Bolt	4
F1109	Bolt	2	1032	Nut	2
F1110	Spring washer	4	1111	Retaining ring	2
F1111	Washer	2	1140	Washer	2
F1113	Bearing	2	5104	Steering wheel bracket	2
F1114	Casing	2	5105	Steering wheel axle	2
F1123	Bearing	8	5106	Nut	2
F1125	Spring pin	2	5107	Steering wheel	2
F1127	Type U bolt	1	5108	Washer	4
F1129	Retaining ring	4	5116	Nut	4
F1130	Bearing	6	5117	Bolt	2
F1133	Bolt	2	5118	Bolt	2
F1134	Washer	2	5119	Chain	2
F1140	Chain pulley bracket	1	5120	Chain pulley	2
F1141	Pivoted axle	2	5702	Nut	2
F1142	Load roller	2	5703	Spring leaf	2
F1146	Split pin	4	5704	Pin	2
F1147	Bolt	2	5705	Foot pedal	2
F1149	Nut	2	5712	Steering wheel cover	2
F1150	Bolt	1	5722	Shaft	1
F1151	Dust cover	2	5751	Frame	1
F1155	Bearing	2	5753	Roller	2
F1156	Retaining ring	2	5754	Axle	2
F1157	Washer	2	5755	Axle	2
F1158	Pin	4	5756	Roller	2
F1159	Retaining ring	2	5757	Adjustable fork	2
F1160	Nut	2	5758	Carriage	1



Parts List of Handle

No.	Description	Q'ty	No.	Description	Q'ty
H1101	Handle	1	H110	Bushing	1
H1102	Rod and chain	1	H102	Spring pin	1
H1103	Nut	1	H103	Spring leaf	1
H1104	Nut	1	H104	Spring pin	3
H1106	Axle	1	H105	Spring pin	1
H1107	Axle	1	H106	Control lever	1
H1108	Steel roller	1	H111	Nylon roller	1
H1109	Retaining ring	2	H112	Spring pin	1