

Operation and Service Manual

Read this manual carefully and understand completely before operating lifters. Keep filing this manual for future reference. If this copy is lost, please contact your local supplier for a replacement.

Explanation of Terms and Symbols

In this manual, 「Warning」, 「Caution」 are defined and specified as below. Notice of Warnings are very important for safe operations. As these are very Important to protect operators from accidents resulting in personal injury and death, and damage to property, so make sure to read thoroughly and understand fully before operation.


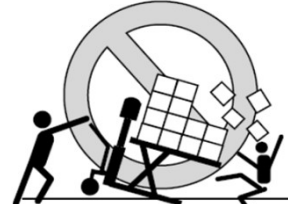


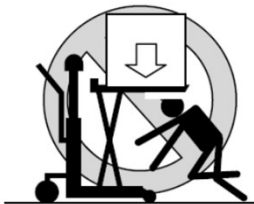





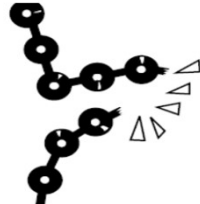

Warning Incorrect operation may result in serious injury or death of the operator.

Caution Incorrect operation may result in injury and damage to the property.

The

Warning !

◎ Hazard or unsafe practice which, if not avoided, may result in DEATH or SEVERE PERSONAL INJURY and PROPERTY DAMAGE.

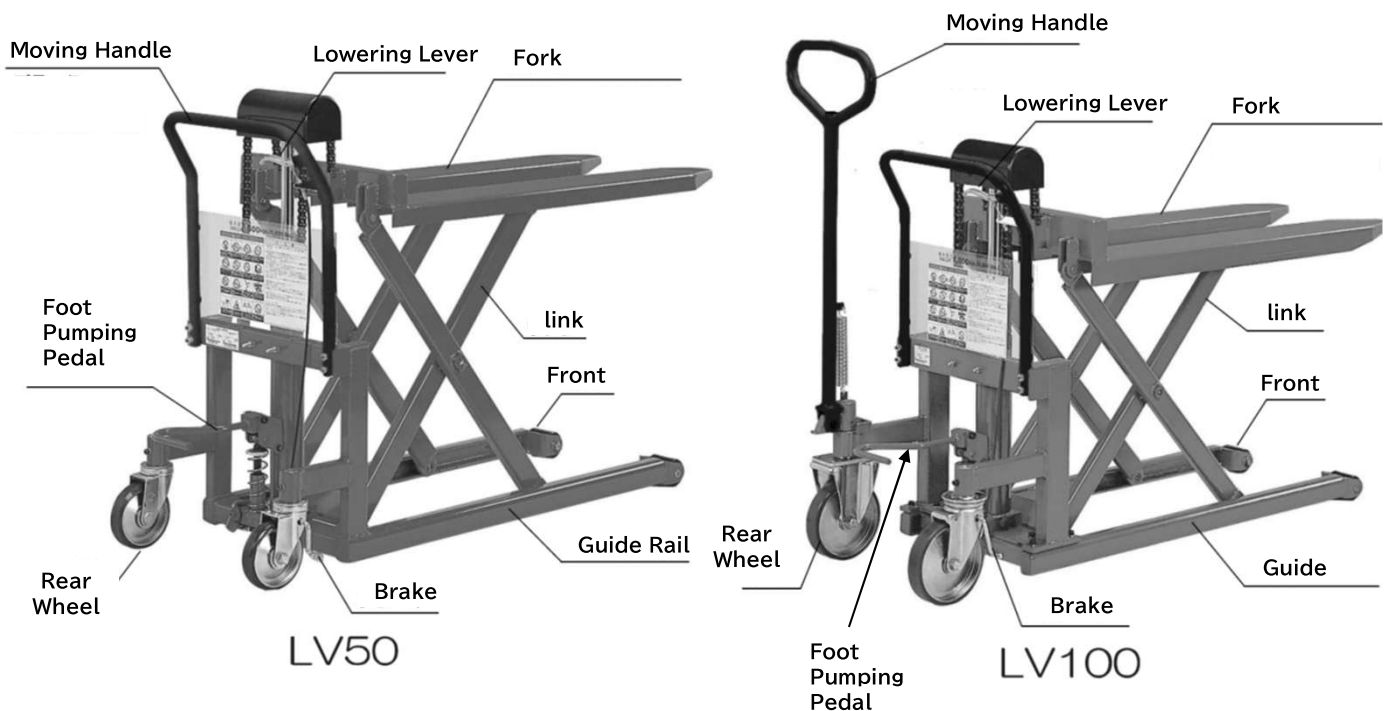
			
DO NOT use lifter on slope, unlevel or soft surface. Lifter may become unstable and /or uncontrollable. SEVERE PERSONAL INJURY and PROPERTY DAMAGE could result.	Always travel with forks in lowered position. SEVERE PERSONAL INJURY and PROPERTY DAMAGE could result.	DO NOT load one fork more than other and DO NOT load tips on forks. SEVERE PERSONAL INJURY or DEATH could result.	NEVER sit, stand or ride on forks. SEVERE PERSONAL INJURY or DEATH could result.
			
NEVER go under forks. SEVERE PERSONAL INJURY or DEATH could result.	DO NOT overload lifter. ALWAYS stay within designated capacity and load center rating.	USE ONLY in areas clear of all personnel and objects to prevent severe personal injury and property damage.	DO NOT use in areas of multi level floor surface that could create loss of control and result in SEVERE PERSONAL INJURY.
			
DO NOT put hand near chain sprocket or other moving parts. SEVERE PERSONAL INJURY could result.	KEEP FEET CLEAR of rolling wheels that could result in SEVERE PERSONAL INJURY.	Replace chain every four years or if inspection reveals excessive wear on links, pins, side plates and deformed, bent, rusted or broken links.	DO NOT put hand near Scissor mechanism or other moving parts. SEVERE PERSONAL INJURY could result.

⚠ Caution !

© Hazard or unsafe practice which, if not avoided, may result in MINOR or MODERATE PERSONAL INJURY and PROPERTY DAMAGE.

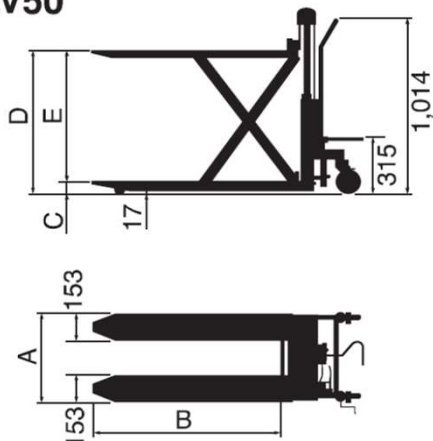
1. READ THIS OPERATION MANUAL COMPLETELY BEFORE USING AND THOROUGHLY UNDERSTAND AND FOLLOW ALL SAFETY INSTRUCTIONS. Wrongful use may result in accident.
2. This skid lifter is designed to use on smooth floor with balanced, stable, firmly stacked load that is within capacity and load diagram. DO NOT use for any other purpose than its intended use.
3. Skid 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.
4. Do Not lower the fork with load with fast speed. Or it may result in impact load and damage the stacker.
5. ALWAYS observe lifter and ALWAYS stay at the controls while the lifter is in motion. RELEASE controls and STOP lifter immediately if load on the lifter appears to become unstable. NEVER leave the loaded lifter unattended unless the forks are fully lowered position.
6. Set the parking brake and park the stacker when moving the load onto the fork. Or the unit may start to move all of a sudden during moving of the load and may result in falling of the load.
7. 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.
8. Do Not handle unsecured or unstable load that could fall backwards.
9. Perform the inspection following to the instructions of Operation Manual.
10. Do Not alter or modify the stackers in any way.
11. Do Not use forks or lifter as a hoist or to pull up the load.
SEVERE PERSONAL INJURY and PROPERTY DAMAGE could result.
12. ALWAYS keep feet, hands and fingers away from casters, load wheels and all moving components. SEVERE INJURY could result.
13. ALWAYS perform maintenance and inspection with lifter unloaded.
14. The lifter is NOT waterproof and is intended to be used in a dry environment and at a moderate temperature range.

1. Name of Components

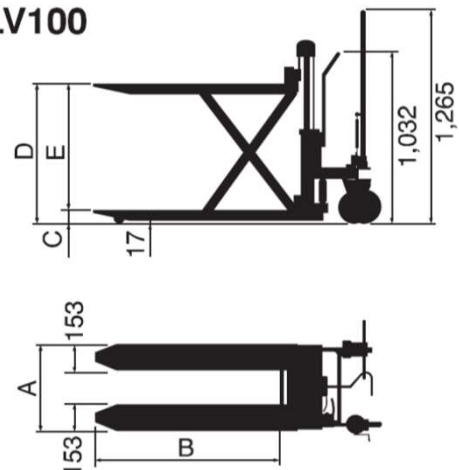


2. Specifications

LV50



LV100

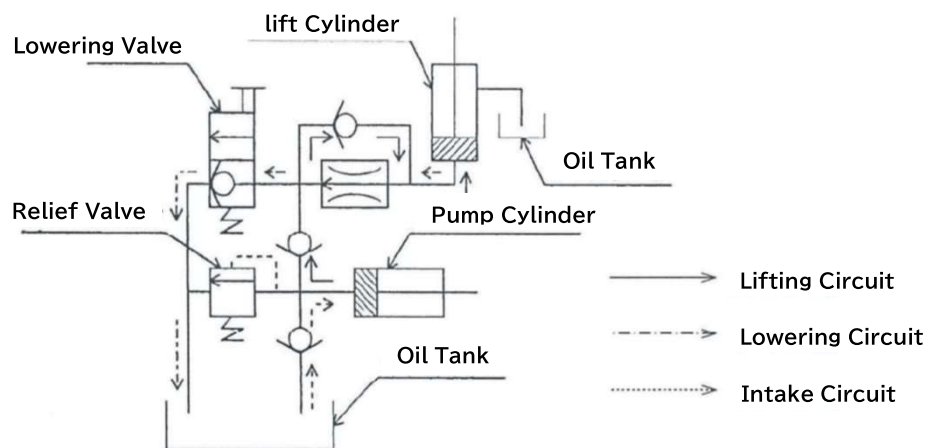


	Model	LV50	LV50W	LV50N	LV50SS	LV50NSS	LV100	LV100W
	Capacity (Kgs)	500					1000	
A	Fork Width (mm)	520	685	460	520	460	520	685
B	Fork Length (mm)	1080			810		1080	
	Fork Min. Height (mm)	83					83	
C	Fork Max. Height (mm)	833			613		833	
D	Vertical Travel (mm)	750			530		750	
	Handle Height (mm)	1014					1265	
E	Overall Width (mm)	603	768	543	603	543	728	893
F	Overall Length (mm)	1573			1302		1685	
	Load Center (Distance from root of Fork - mm)	560			425		560	
	Pumping Times (with rated load)	32			22		71	
	Front Wheel (Polyurethane) OD (mm)	70					70	
	Rear Wheel (Polyurethane) OD (mm)	150					200	
	Machine Weight (Kgs.)	101	106	100	88	87	136	160
	Oil Volume (Litter)	0.49 litter			0.34 litter		0.64 litter	

Specifications are subject to change without notice

3. Circuit Diagram

【 Hydraulic Circuit 】



4. Pre-Operation Checks

⚠ Caution

DO NOT use this stacker at all if repairs are required or if you suspect a malfunction.

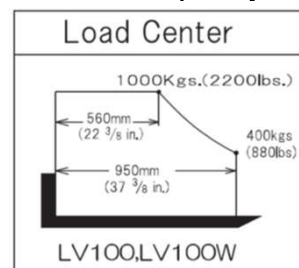
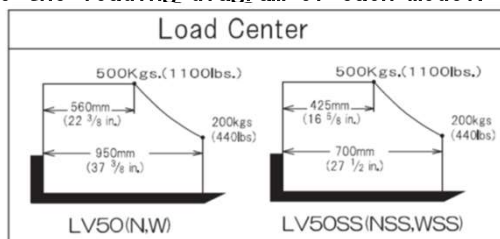
Perform the Pre-Operation checks before operating everyday.

1. Any damage, distortion or crack on the lifter unit
2. Smooth movement of front and rear wheels
3. Any oil leak from hydraulic line or cylinder
4. Any damage, kink or crack in chain
5. Check if brake works properly
6. Any natural lowering
7. Fastening of bolts and nuts
8. Smooth movement of Lifting & Lowering Lever. Does lever return to neutral when released ?

5. Operation

Load Center Diagram

Load Center is the distance from root of the fork for the max capacity allowed and available. Refer to the loading diagram of each model.



(1) Lifting Up Forks

⚠ Caution !

DO NOT lift up the load or anything above the rated capacity.

DO NOT lift the load only at the tip of the forks. Lift up the load within loading diagram(※) capacity.

Push down Pumping Pedal by foot, then fork will lift up. Keep pumping upto the desired height.

(2) Lowering Down Forks

⚠ Caution !

DO NOT lower the fork with load too fast and stop suddenly. It may result in load collapse and could be dangerous. Also rapid lowering and sudden stop may result in impact load and damage to the unit.

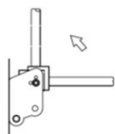
- Make sure to have nothing under forks before lowering the forks.
- Pull up the Lowering Lever slowly, and forks will lower. Lowering speed can be adjusted by the pulling up degrees of Lowering Lever. Lowering stops when releasing lever.

(3) Moving the Lifter

⚠ Caution !

Keep paying attention on the condition of the load, and **STOP** moving the lifter if load become

- Move the lifter slowly.
- Keep the forks at approximately 200mm height from floor when moving the lifter.
- Keep paying attention on the condition of the load when moving the lifter.



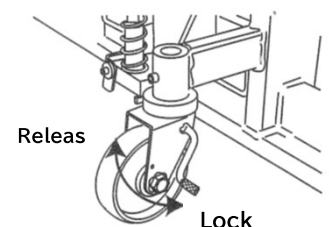
- Pumping Pedal can be folded upright 90° to avoid the obstruction when moving the lifter.

(4) Braking

⚠ Caution !

Make sure to brake when lifter is not in moving.

- ① To Lock –
Step down the lever of the caster to lock the brake on the wheel
- ② To Release –
Pull up the brake lever by toe.



6. Periodic Inspections

Perform the periodic inspections for safe operation.

Monthly Inspection :

Inspection Point	Inspection Items
Loading & Hydraulic Device	<ul style="list-style-type: none"> • Distortion or Crack of Frame and Fork • Any rust, damage, crank and tension of chain and adjustment • Smooth movement of lifting and lowering • Any oil leak from cylinder • Any damage, oil leak on high pressure hydraulic hose • Oil level in oil tank and oil leak from oil tank
Braking and Driving	<ul style="list-style-type: none"> • Oversteering of the handle • Braking function • Damage and wear of the wheels • Fixing bolts and pin
Others	<ul style="list-style-type: none"> • Lubrication and greasing • Any damage and looseness on bolts and nuts • Any damage or distortion of the overall unit and frame • Sliding portion of rollers • Greasing to chain

Replacing Oil

■ Types of Hydraulic Oil

Viscosity classification ISO VG32 abrasion resistant hydraulic fluid oil;
Replace oil every 12 months.

Oil Brand	Product Name
Esso	Nuto H32, HP32, Unipower SQ32
Idemitsu	Super Hydraulic Fluid 32
Showa Shell	Terasu Oil 32, K32
Mobile	Mobile DTE24
Cosmo	Cosmo Hydro AW32
Kygnus	Unit Oil WR32

Model	Oil Volume
LV50/LV50W/LV50N	0.49 Litter
LV50SS/LV50NSS	0.34 Litter
LV100/LV100W	0.64 Litter

7. Troubleshooting

Trouble		Cause	Shooting
Forks do not rise without load		1. Lack of oil	Fill the hydraulic oil
		2. Air in the pump cylinder	Remove air
Natural Lowering		1. Seating failure of the Lowering Valve	Replace Lowering Valve
		2. Lowering Valve is not closed	Adjust the cable on the Lowering Lever
		3. Seating failure of steel ball	Clean or replace steel ball
		4. Wear in the O Ring on the Piston or Piston Rod	Replace the O Ring
Forks do not lower by pulling Lowering Lever		1. Lowering Valve is not open	Adjust the cable on the Lowering Lever
Oil Leak	At Pump Piston	1. Defective Dust Seal 2. Wear in the O Ring	Replace Dust Seal Replace the O Ring
	At Top Nut	1. Defective Dust Seal 2. Wear in the O Ring	Replace Dust Seal Replace the O Ring
	At Valve Seat	1. Wear in the O Ring	Replace the O Ring

8. Disposal

When disposing of this lifter, dispose of the metal, non-metal, plastic, and hydraulic oil components separately. There are regulations for disposing of the hydraulic oil, so make sure to sort and follow the local rules. If you have any questions regarding disposal, please check with your supplier of the lifter.

7. Troubleshooting

The below show how to deal with relatively minor malfunctions. For other further issues, please contact your supplier of this stacker.

Symptoms of malfunction		Possible Cause	Action
Does not run, and does not lift up and lower		▪ Key switch and main switch is not turned on	▪ Turn on Main and Key switch
		▪ Battery sockeet is not connected	▪ Connect the battery socket
		▪ Short of battery capacity	▪ Check and charge battery
		▪ Fuse is blown	▪ Check 100A, 10A fuse, and replace
Does not run	Does not run either forward and reverse	▪ Broken wire of Remote Control Cable for run	▪ Check the wire and replace cable
		▪ Broken wire of Motor Cable for run	▪ Check the wire and replace cable
		▪ Broken wire of Brake Cable for run	▪ Check the wire and replace cable
	Does run only forward, or reverse	▪ Broken wire of Remote Control Cable for run	▪ Check the wire and replace cable
		▪ Broken wire of Motor Cable for run	▪ Check the wire and replace cable
		▪ Defects of Accelarator Switch	▪ Adjust switch or replace
Does not lift up	Motor does not run	▪ Wiring defects	Check through 【Actual Wiring Schematic】
		▪ Battery Socket is loose	Fix the socket firmly
		▪ Defective Power Unit	Replace Power Unit
	Motor is running	▪ Relief Valve is not adjusted Properly	Readjust Relief Valve
		▪ Power Unit(Pump) defects	Replace Power Unit (Pump)
		▪ Hydraulic Oil is not full	Fill the oil
Lowers natually		▪ Defective seating of Lowering Valve	Replace Lowering Valve
		▪ Piping defects	Repair location of leak
Does lift up, but does not run		▪ Battery charge is insufficient	Check battery and charge
Does not lower		▪ Wiring defects	Check through 【Actual Wiring Schematic】
		▪ Defective Lowering Valve	Replace Lowering Valve
Oil Leak	At Cylinder	▪ Defective Seals	Replace Cylinder seals
	At Pipe or Joint	▪ Improper fastening	Check and Fasten
	At Air Breather	▪ Excessive Oil	Adjust fluid to appropriate level

8. Disposal

When disposing of this stacker, dispose of the metal, non-metal, plastic, and hydraulic oil components separately. There are regulations for disposing of the hydraulic oil, so make sure to sort and follow the local rules. If you have any questions regarding disposal, please check with your supplier of the stacker.

9. Product Warranty Conditions

Warranty

Should the unit malfunction within the warranty period (Within one (1) year of purchase) when it has been operated in accordance with the user manual and the warning labels on the unit, we will adjust the defective component, repair it, or send a replacement part free of charge. However, this does not apply in the case of secondary damage or any damage to which any of the following apply:

- (1) Damage or injury resulting from incorrect operation, improper inspection, improper storage, or any other type of negligence
- (2) Damage of injuries resulting from changes (modifications) that negatively impact the product's operation mechanism
- (3) Consumable parts that are damaged and need to be replaced
- (4) Damage or injury resulting from fires, earthquakes, wind, floods, or other natural disasters or external factors
- (5) Problem resulting from specified parts not being used
- (6) Error in the warranty claim process (Ex: failure to indicate Model or Serial No. etc.)
- (7) Damage or injury resulting from installation
- (8) Repairs performed not by our company or not by our authorized dealer
- (9) Damage confirmed to be the result of overuse, user error, or accident

Furthermore, all rubber components and other naturally degradable products used in this products and its accessories, as well as all consumable products, fall outside the scope of this warranty.

This lift is not waterproof, so rust, corrosion, short circuits, and other damage caused by water is not covered under warranty.

How to Claim Warranty

If you decide to file claim for this product based on the above, please contact your dealer. The dealer will carry out the necessary procedures. In addition, we can not decide whether or not any particular situation falls within the scope of this warranty.

10. After Sales Service

• Product does not work properly	→	Review the manual and try to find solution
• Product still does not work properly	→	Contact your supplier and request repairs
• Repairs within the warranty period	→	The warranty is valid one year from the date of purchase. We will service your product in accordance with warranty conditions.
• Repairs out of warranty period	→	Consult with your supplier
• Availability of Spare Parts	→	The spare parts are available for 8 years after discontinuing manufacturing

Contact your lifter supplier for any information regarding after service.
When contacting your lifter supplier, provide following information.

- Model No.
- Serial No.
- Purchase Date
- Conditions of trouble

Record the above information in the table below for future inquiries.

Type	
Serial No.	
Purchase Date	
Lifter Supplier	
Installer	
Trouble Date and conditions	Date :
	Date :
	Date :
	Date :