

# **Operation** and Service Manual

### Manually Operated Hydraulic Stackers

STS15	STS38	ST20(H)WW	STL25(H)
ST25(H)	ST30(H)WW	STL38(H)	ST38(H)
ST38(H)WN	STL50(H)	ST50(H)	ST50(H)WN
STL65(H)	ST65(H)	ST80(H)	ST80(H)WW
ST100(H)	ST100(H)WN		

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

### Warning !

PROPERTY DAMAGE.	e which, if not avoided, may r	esult in DEATH or SEVERE F	PERSONAL INJURY and
	F		B
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.	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.
			The second se
NEVER go under forks. SEVERE PERSONAL INJURY or DEATH could result.	DO NOT overload lifter. ALWAYS stay within designated capacity and load center rating.	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 use in areas of multi level floor surface that could create loss of control and result in SEVERE PERSONAL INJURY.
	G		
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.		

## 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 stacker lifter is designed to use on smooth floor with balanced, stable, firmly stacked load that is within capacity and loading diagram. DO NOT use for any other purpose than its intended use.
- 3. Stacker 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 oeprating the lifter.
- 4. Do Not lower the fork with load with fast speed. Ot 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 unattened 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 lift as a hoist or to pull up the load.

SEVERE PERSONAL INJURY and PROPERTY DAMAGE could result.

12. Keep the forks be widened equally in operation. Or it may result in damage to the unit and falling of the load.

13. ALWAYS keep feet, hands and fingers away from casters, load wheels and all moving components. SEVERE INJURY could result.

14. ALWAYS perform maintenance and inspection with lifter unloaded.

15. Do Not use Quick Lifting device when load is on the fork,

16. Do Not use Quick Lifting device with valve open. If valve is kept open, fork will fall down with faster speed when handle is released.

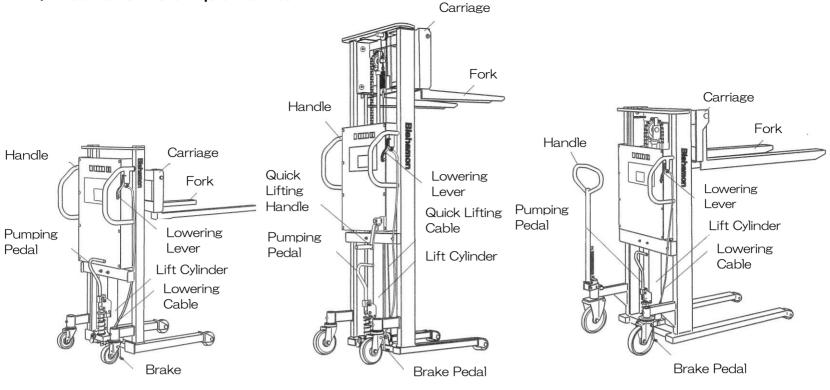
And it may result in rotating of the handle and it is dangerous.

17. When Quick Lifting handle is not used, make certain handle is off the roll pin.

18. Do Not move too fast. Or it may result in the inability of the control of the unit.

19. 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. Pre-Operation Checks

## A 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 in post
- 2. Any damage, distortion or crack in carriage and forks
- 3. Smooth movement of front and rear wheels
- 4. Any oil leak from hydraulic line or cylinder
- 5. Any damage, kink or crack in chain
- 6. Check if brake works properly
- 7. Any natural lowering
- 8. Fastening of bolts and nuts

## 3. Operation

### 1. Lifting

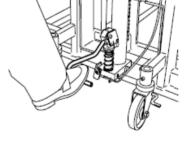
- ① Put the fork of the unit into the center of the load
- ② Fork will rise by pumping the pedal. Lift up the fork up to required height.

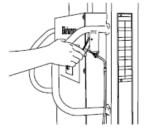
## <sup>▲</sup>Caution !

- \* 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

### 2. Lowering

- 1 Fork will lower by pulling the lowering lever.
- 2 Release the lever when the fork is lowered down to required height.





## A Caution !

\* DO NOT lower the fork too fast. Or it may result in the falling of the load.

\* DO NOT pull the lever when moving.

### 3. Moving (Maneuvering)

1 Hold handle and move unit carefully.

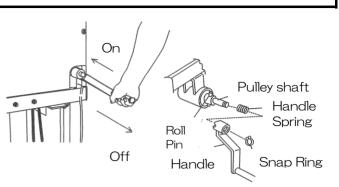
## 🕂 Caution !

- \* DO NOT move or turn around with load kept at a high position.
- \* DO NOT pull the Lowering Lever when moving

### 4. Quick Lifting Device

(applicable only with Quick Lifting Device installed model

- ① Check if the Lowering lever is in closed position.
- ② Press the cut off part of the Qucik Lifting Handle in and make sure it is engaged securely to the roll pin. And then rotate the handle clockwise
- ③ When Quick Lifting Device is not used, make certain handle is off the roll pin (disengaged)



## 🕂 Caution !

- \* DO NOT use Quick Lifting Device when load is on the fork.
- \* When Quick Lifting Device is not used, make certain the handle is off the roll pin (disengaged). If kept engaged, the handle will rotate and can be dangerous when lowering lift.

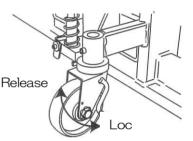
### 5. Brake

Lowering

Valve

#### 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.



## A Caution !

\* Make certain to set the brake whenever the lift is not moving.

Lift

Cylinder

Pump

Cylinder

### 6. Adjusting the Fork Width

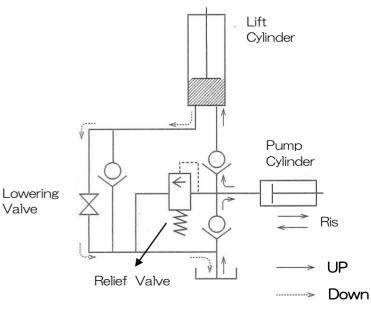
Relief

1 Lift up the top end of fork and slide the fork.

### 4. Circuit Diagram

[ Hydraulic Circuit ]

### Standard Model



### With Quick Lifting Device

Rise

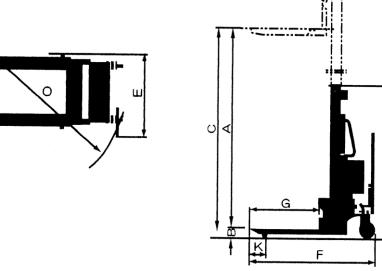
UP

Down

## 5. Specifications (Manually Operated Model)

	Model	STS15	STS38	ST20WW	STL25	ST25	ST30WW	STL38	ST38	ST38WN
	Capacity (Kgs)	150	380	200	25	i0	300		380	
А	Vertical Travel (mm)	75	50	1500	1200	15	00	1200	15	00
В	Fork Min. Height (mm)		90		8	8		90		
С	Fork Max. Height (mm)	84	0	1590	1288	1588	1590	1290	15	90
D	Overall Height (mm)	1225	1251	1966	1593	1893	1969	1666	19	66
Ε	Overall Width (mm)	645	683	1375	64	-5	1375	64	-1	875
F	Oerall Length (mm)	1192	1306	1499	99	)2	1506		1099	
Н	Max. Width of forks (mm)	628	600	558	62	28	600		558	
Ι	Min. Width of forks (mm)	125	23	32	12	25		232		
G	Fork Length (mm)	750	600	1000	55	i0	1000		600	
J	Fork Width (mm)	60	11	10	60			110		
К	From Front Wheel shaft to Fork End (mm)	317	269	354	117		269	154		
*	Location of Fork at lowered position	В	А		E	3		Ļ	4	В
	Approx. Strokes to Max Height	27 times	37 times	53 times	43 times	53 times	71 times	43 times	53 1	times
	Lifting per stroke (mm)	28	20		28		21		28	
L	Load Center (mm)	40	)0	500	30	0	500		300	
	Outside distance between Arms (mm)	502	586	1375	50	)2	1375	54	4	871
	Inside distance between Arms (mm)	360	394	1175	36	60	1175	35	52	679
	Front Wheel (Polyurethane) OD x W (m	80 x 32	70 :	x 73	80>	< 32		70 :	x 73	
	Rear Wheel (Polyurethane) OD x W (mn	100 x 32	150	x 42	100 x 32		150 x 42			
0	Minimum Turning Radius (mm)	822	1026	1327	82	2	1413	92	23	1014
	Machine Weight (Kgs.)	57	135	159	62	67	193	117	122	132
	Oil Volume (Litter)	0.35	0.47	0.69	0.55	0.0	69	0.55	0.0	69
	Model No. with Quick Lifting Device	-	_	ST20HWW	STL25H	ST25H	ST30HWW	STL38H	ST38H	ST38HWN

	Model	STL50	ST50	ST50WN	STL65	ST65	ST80	ST80WW	ST100	ST100WN
	Capacity (Kgs)		500		65	50	80	00	1C	00
А	Vertical Travel (mm)	1200	1200 1500		120	0C		15	00	
В	Fork Min. Height (mm)					90				
С	Fork Max. Height (mm)	1290	15	90	1290	1590				
D	Overall Height (mm)	1669	19	69	1667			1967		
Е	Overall Width (mm)	68	33	875		883		1400	883	934
F	Oerall Length (mm)		1106		18	51	16	51	14	51
Н	Max. Width of forks (mm)		600				726			688
Ι	Min. Width of forks (mm)		232				2	75	-	
G	Fork Length (mm)		600		120	0C	10	00	80	00
J	Fork Width (mm)		110			125				
Κ	From Front Wheel shaft to Fork End (mm)		69	_		395			195	
*	Location of Fork at lowered position	ŀ	7	В		А		В	А	В
	Approx. Strokes to Max Height	57	7	<sup>′</sup> 1	102			127		
	Lifting per stroke (mm)		21			12				
L	Load Center (mm)		300		60	0	50	00	4(	00
	Outside distance between Arms (mm)	58	36	871		700		1400	700	900
	Inside distance between Arms (mm)	39	)4	679		500		1200	500	700
	Front Wheel (Polyurethane) OD x W (m					70 x 73				
	Rear Wheel (Polyurethane) OD x W (mn	150 x 42		200 x 42						
0	Minimum Turning Radius (mm)	10	26	1103	148	84	1304	1657	1304	1353
	Machine Weight (Kgs.)	151	156	166	247	252	251	276	250	260
	Oil Volume (Litter)	0.75	0.9	94	0.98			1.23		
	Model No. with Quick Lifting Device	STL50H	ST50H	ST50HWN	STL65H	ST65H	ST80H	ST80HWW	ST100H	ST100HWN



\* Location of Fork at lowered position A: On top of Arm, B: At side of Arm Specifications are subject to change wothout notice

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## 6. Routine Maintenance

- 1. Check for rust, crack and kink in chain (Monthly)
- 2. Grease to rail of post for roller, lubricate grease fitting of chain bracket and chain. (every 6 months)
- 3. Lubricate handle bracket pin and bearings (Every 6 months)
- 4. Replace hydraulic oil. (Every 12 months)

### Required Volume of Hydraulic Oil

STS15	••••	0.35L	STS38, ST38WN	•••••	0.69L
ST20WW	••••	0.69L	STL50	•••••	0.75L
STL25, STL38	••••	0.55L	ST50, ST50WN	•••••	0.94L
ST25, ST30WW	•••••	0.69L	STL65	•••••	0.98L
STS38	••••	0.47L	ST65, ST80, ST10	)	1.23L
			ST80WN, ST100V	VN	

#### Recommended Hydraulic Oil

Manufacturer	Hydraulic Oil	Manufacturer	Hydraulic Oil
Esso	Unipower SQ32, XL32,	Mobil	Mobil DTE24
Shell	Tellus Oil 32, K32, W-R Oil 32	Caltex	Rando Oil A

### 7. Trouble Shooting

Trouble		Cause	Shooting	
Forks do not rise without load		1. Lack of oil	Add the hydraulic oil	
T OFKS GO	NOT HSE WITHOUT IDAU	2. Air in the pump cylinder	Remove air	
		1. Seating failure of the Lowering Valve	Replace Lowering Valve	
		2. Lowering Valve is not closed	Adjust the cable on the	
Natural L	owering		Lowering Lever	
i Naturai L	LOWEIIIIg	3. Seating failure of steel ball	Clean or replace steel ball	
	4. Wear in the O Ring on the Piston or		Replace the O Ring	
		Piston Rod		
Forks do not lower by pulling		1. Lowering Valve is not open	Adjust the cable on the	
Lowering	g Lever		Lowering Lever	
	At Pump Piston	1. Defective Dust Seal	Replace Dust Seal	
	AL PUMP PISTON	2. Wear in the ORing	Replace the O Ring	
Oil Leak	At Top Nut	1. Defective Dust Seal	Replace Dust Seal	
	Αι τορ τιαι	2. Wear in the ORing	Replace the O Ring	
	At Valve Seat	1. Wear in the ORing	Replace the O Ring	

## 8. Warranty

We warrant the products manufactured by Sugiyasu Corporation to be free from defects in workmanship and material for 1 year after delivery of the products. Our obligation under this warranty is limited to repair or replacement, at our option, of any parts or material which, within this warranty period, are found to our satisfaction to be defective.

Note : The below are not covered by the warranty.

- 1 The damage or trouble caused by false operation, negligence in the maintenance and storage required.
- 2 The damage or trouble caused by any modification that affects the originally designed functions.
- 3 Any consumable parts that need to be replaced.
- 4 The damage or trouble caused by natural disaster such as fire, earthquake, flood etc.
- 5 The damage or trouble caused by not using genuine manufacturer parts.
- 6 The required information such as serial No. etc.would not be provided.
- 7 The damage or trouble caused by improper installation.

X Any consumable parts are not covered under this warranty. (Consumable Parts not to be covered under warranty)

X As this stacker is not weatherproof, trouble caused by corrosion, rust, short circuit from water are not covered under this warranty.

How To Claim

Contact your supplier.

### 9. After Service

- Something is wrong
- Something is still wrong
- Repair under warrranty perido
- Repair after warrranty perido
- Availability of Spare Parts
- •

- $\Rightarrow$  Check in accordance with this manual
- $\Rightarrow$  Contact your supplier for repair
- ⇒ Will be repaired in accordance with warranty rules
- $\Rightarrow$  Contact your supplier
- ⇒ The spare parts is available for 8 years after discontinuing manufacturing

Contact your supplier for any information regarding to the after service. When contacting your supplier, provide Model No., Serial No., purchase date etc. and conditions of trouble.

For your recoeds and future contact, fiill out below.

Model No.	
Serial No.	
Purchase Date	
Supplier Name	
Address	
Tel. No.	
	Date :
Trouble Date	Date :
and conditions	Date :
	Date :



#### Manufactured by

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#### Sugiyasu Corporation

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