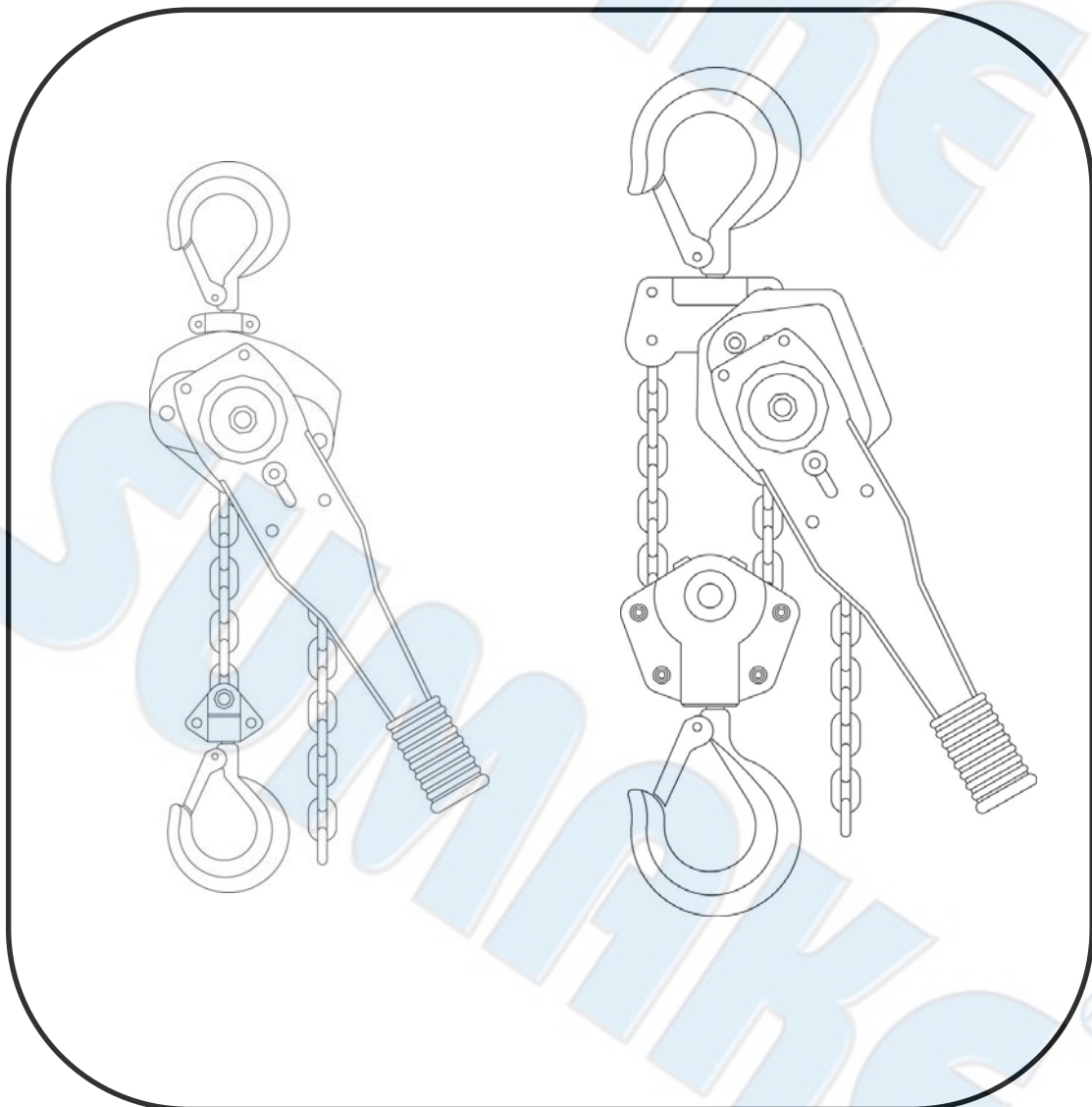


INSTRUCTION MANUAL

ITEM NO.: HLH-750, HLH-1000
HLH-1500, HLH-3000
HLH-6000

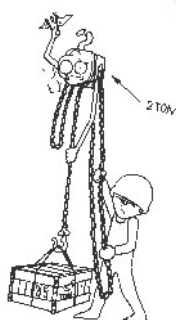
HEAVY DUTY LEVER HOIST
3/4(1)(1-1/2)(3)(6) TON



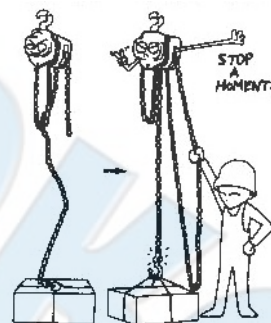
WARNING !

This hoist should not be installed, operated or maintained by any person who has not read all the contents of these general instructions. Failure to read and comply with these instructions or any one of the limitation noted herein can result in serious bodily injury and/or property damage.

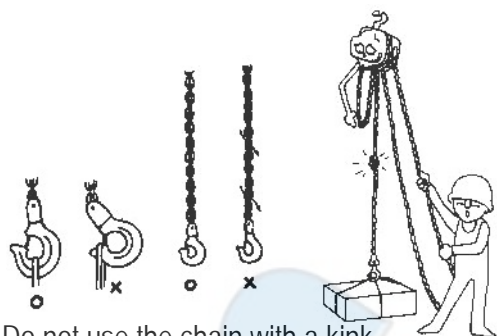
IMPORTANT REMARKS FOR OPERATORS INSPECTION



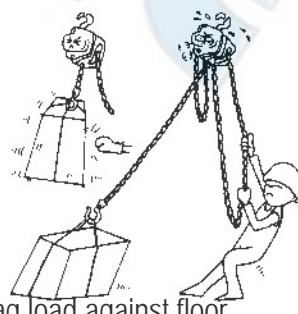
Do not overload your chain hoist



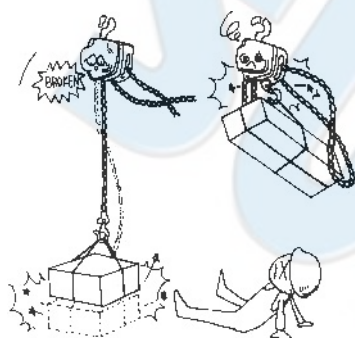
Do not give the load a sudden take-off. Take a breath when the load chain is just taut, and check for brake action by pulling up and down about 10cm above floor.



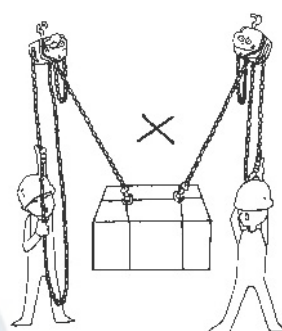
Do not use the chain with a kink.



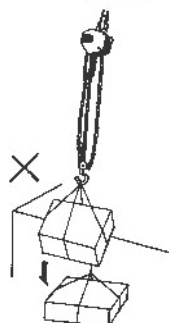
Do not drag load against floor.



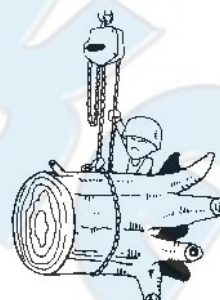
Do not raise to far or lower to fast.



Do not try to suspend a load with two hoists.



Never give a shock load to a hoist, even if the distance is very short.



Do not wrap the load chain around the load.

NOTICE

Upon receiving hoist, check immediately for evidence of damage during shipment. DO NOT USE a damaged hoist report damage to carrier.

It is the responsibility of the owner/user to install, inspect, test, maintain and operate the hoist in accordance with the safety standard for lever hoists (ANSI/ASME B30.21) and OSHA standards. Any ANSI standard referenced in this manual may be purchased from American National Standards Institute, 11West 42nd Street New York, NY10036.

Warnings

Equipment described herein is not designed for, and should not be used for, lifting, supporting, or transporting humans. User should not use this hoist in conjunction with other equipment unless necessary and/or required safety devices applicable to the system are installed by the user.

Modifications to upgrade, reate or otherwise alter this hoist shall be authorized only by the original equipment manufacturer or qualified professional engineer.

Failure to comply with any one of limitations noted herein may result in serious bodily injury.

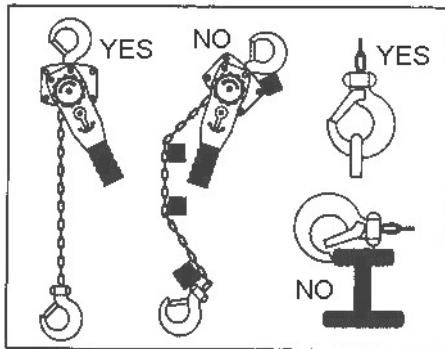


FIGURE 1

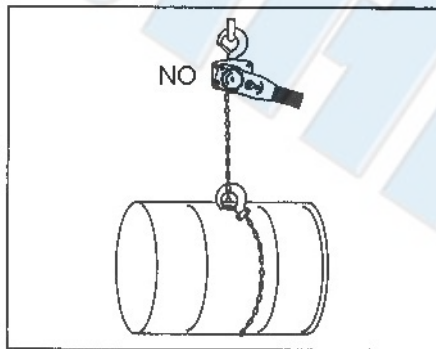


FIGURE 2

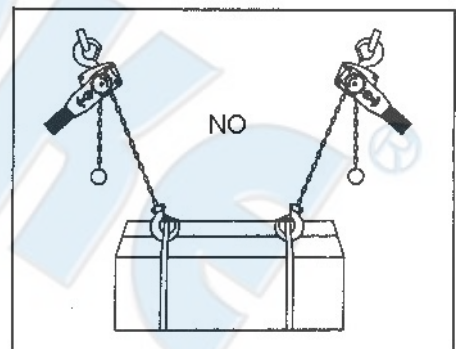


FIGURE 3

SAFETY PRECAUTIONS

1. Read and heed all instructions and warnings furnished with or attached to hoist.
2. Support for stationary hook must be strong enough to sustain load.
3. DO NOT install with hooks and chain out of alignment.(FIGURE 1)
4. Make sure load can move without obstruction.
5. Eliminate any twist or kinks in chain before operating.
6. Before operating, inspect hooks for nicks, gouges, cracks, and signs of deforming, pulling apart or twisting. (MAINTENANCE-HOOKS)
7. Be sure load is secured in saddle of hook. AVOID TIP LOADING (FIGURE 1). DO NOT OVERLOAD.
8. Never load when in free-wheeling position.
9. DO NOT transport loads over heads of people.
10. DO NOT wrap load chain around load, or use load chain as a sling (FIGURE 2).
11. DO NOT try to suspend load with two blocks. (FIGURE 3).

OPERATING INSTRUCTIONS

1. Apply a thin coat of oil to the chain to ensure smooth operation of links and prevent twisting.
2. Attach hooks and chain linearly to avoid undue strain. (PRECAUTION 3, FIGURE 1)
3. To adjust chain length
 - a. To shorten slightly: Set change lever in central position and turn grip ring clockwise for up/counterclockwise for down.
 - b. For major adjustment:
 - (a) Set change lever in central position then adjust chain freely by hand in either direction, UP or DOWN. (FIGURE 4)
 - (b) Set change lever in desired direction, UP or DOWN, and operate handle back and forth to move load in proper direction. (FIGURE 5, 6).

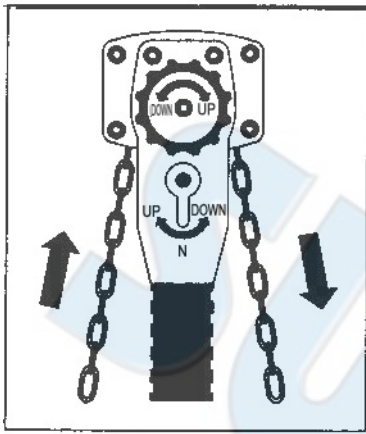


FIGURE 4

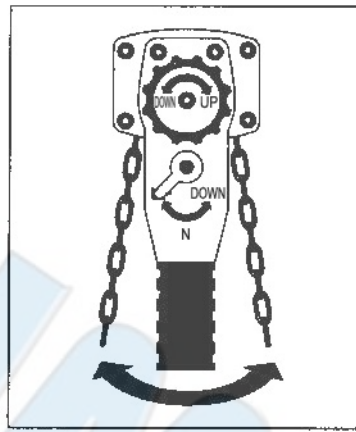


FIGURE 5

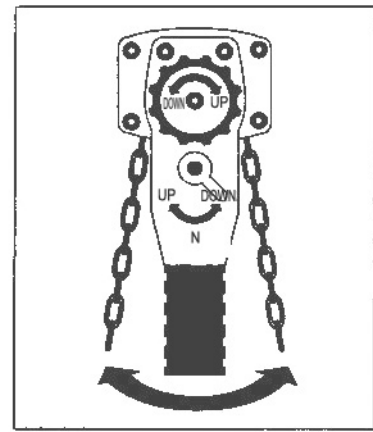


FIGURE 6

NOTE

For hoists used as pullers-horizontal movement of load: when change lever is at UP, chain moves clockwise. When lever is at DOWN, chain moves counterclockwise. Change lever at center position is for free wheeling.

NEVER MOVE CHAIN TO THE EXTREME IN EITHER DIRECTION

Brake is always active, regardless of direction of movement UP or DOWN. However, DO NOT attach a load when hoist is in the free-wheeling mode.

AFTER OPERATING

1. Wipe dirt and water off, and apply oil to the chain, revolving parts of hook, retaining pawl, shaft and brake pawl. Apply grease to gears
2. To store lever hoist, hang it in a dry place.

DISASSEMBLY, INSPECTION, MAINTENANCE, REASSEMBLY

During disassembly, any parts found to be unfit for further use must be discarded and replaced with new parts when reassembling. Refer to parts list for item number references.

1. disconnect the chain
 - A. Remove the end (Parts no. 23)
 - B. Slip chain out in free wheeling condition
 - C. Check chain, end, and bottom hook for deformation.

CHAIN (PARTS NO. 24)

Inspect chain at least once a month. Between regular inspections check visually for nicks, gouges, weld splatter, corrosion, or distorted links. Check chain thoroughly if it does not feed smoothly over load sheaves. Inspection procedure is as follows:

1. Clean chain with solvent before inspection.
2. Test hoist under load and observe operation of chain over load sheaves.
3. Slacken chain and check contact points for excessive wear.
4. Check for stretch. Using caliper-type gauge, measure outside length of 11 links while under tension. Replace chain if measurement exceeds maximum allowable gauge length (FIGURE 7, TABLE 1).

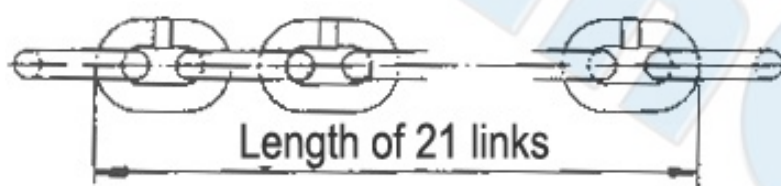


FIGURE 7

Capacity (TONS)	Diameter Of Chain Wire	Maximum Allowable Gauge Length
3/4 , 1	6.3 mm	21 links = 16.6 inches
1-1/2	7.1 mm	21 links = 18.4 inches
3	10 mm	21 links = 26.3 inches
6	10 mm	21 links = 26.3 inches

TABLE 1

An authorized person must determine whether conditions detected during inspection (such as corrosion, wear, ect.) are sufficient to warrant replacement of chain. When chain must be replaced, inspect other load bearing parts and replace (if necessary) at the same time.

HOOKS (PARTS NO. 9 & 40)

Refer to safety standard for hooks, ANSI B30.10 hooks will yield under excessive load. Check throat opening frequently (FIGURE 8, TABLE 2) shows throat opening of new hook and the dimension which indicates a need for replacement.

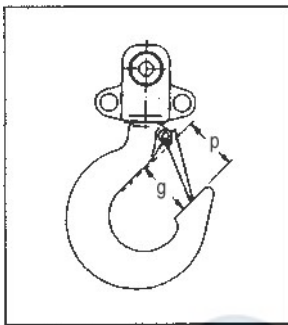


FIGURE 8

Capacity (TONS)	HOOK THROAT OPENING g (inch)	
	New Hook g Equals	New When g Equals
3/4	1-3/16	1-9/32
1	1-5/16	1-13/32
1-1/2	1-1/2	1-5/8
3	1-11/16	1-27/32
6	2-1/4	1-15/32

TABLE 2

CAUTION

Any hook that is twisted or has throat opening in excess of acceptable maximum indicates abuse or overloading of hoist.

Other load-bearing components of hoist should be inspected for damage.

Inspection procedure is as follows:

1. Measure throat opening from metal to metal of hook. (g - FIGURE 8). DO NOT measure from latch (p - FIGURE 8).
2. Maximum allowable wear on bearing point of the hook is 10%
3. More than 10 twist from plane of hook is sufficient to warrant replacement of hook
4. Check latch for damage. Make sure it closed securely.
5. Excessive damage from chemicals or deformation are reasons for replacing hook. Repairs by welding and/or reshaping are not recommended.
6. Use dye penetrant, magnetic particle, or other suitable method for detecting cracks.

An authorized person must determine whether conditions detected during inspection are sufficient to warrant replacement of hook.

1. Disassembly of handle and brake.
Refer to parts list following the order of parts in, disassemble from right to left.
Check handle, grip ring, ratchet gear, brake disc, retaining spring, and hub for deforming.
2. Disassembly of gear and center(body)
Refer to parts list following the order of parts in, disassemble from right to left.
Check gear cover, gears, side plate, top hook, hook pin, guide, load sheave, pinion shaft, and sideplate for deforming.

NOTE

For top hook inspection and maintenance, see hooks

Reassembly

Refer to parts lists, reassemble in reverse order of above disassembly.

- A. Before assembling, wash all parts well with cleaning oil (or equal).
- B. Assembly gears, refer to FIGURE 9 and 10, Align gears as follows:
 - a. 3/4 ton and 1-1/2 ton
Notice the marks (R&L) in the gears, place "R" gear in right side, "L" gear in left side. These two marks (R&L) must be on horizontal centerline, facing toward center as shown. (FIGURE 9)

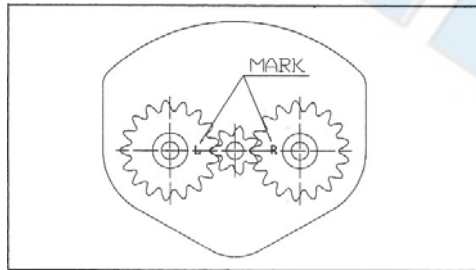


FIGURE 9

- b. 3 ton and 6ton
Notice the marks "O" on the gears, place "O" mark face to sheave on horizontal centerline on right side, place the other "O" mark face to up direction on vertical centerline on left side as shown. (FIGURE 10)

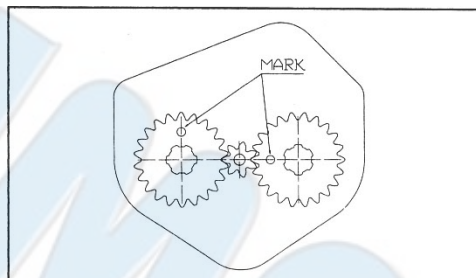


FIGURE 10

- c. DO NOT lubricate the two brake discs (Parts no. 13, 28) or the friction surfaces contacting them.
 - d. Replace brake disc if thickness is less than 1.5mm

LUBRICATION

Keep hoist well lubricated at all times. Lubricate as noted under after operating.

Use the following:

OIL : AGMA No. 2 (Duro AW100)

GREASE : NLGI No. 2

WARNING !

Please be aware that to make the lever hoist properly, there is a minimum weight load (or+/-5%) requirement as follows:

3/4 & 1 TON – 66LBS. 1-1/2 TON – 88LBS.

3 TON – 110LBS. 6 TON – 150 LBS.

TEST CERTIFICATE

It is hereby certified that this product was manufactured under our single-unit control of quality and was passed in strict inspection in accordance with our inspection standard.

Capacity (tons)	S.W.L. (kgs)	Test Load (kgs)
3/4	750	1125
1	1000	1500
1-1/2	1500	2250
3	3000	4500
6	6000	9000



EC DECLARATION OF CONFORMITY

We: **SUMAKE INDUSTRIAL CO., LTD.**

4F, No. 351, Yangguang St., Neihu District, Taipei City, Taiwan

declare in sole responsibility that the equipment

Equipment : **HEAVY DUTY LEVER HOIST 3/4(1)(1-1/2)(3)(6) TON**

Model/ Serial No. : **HLH-750(1500)(1000)(3000)(6000)**

to which this declaration applies, complies with these normative documents:

- Machinery Directive: 2006/42/EC

and conforms to the following EN standard,

- EN ISO 12100: 2010
- EN 13157:2004+A1:2009

Name and Signature/Position

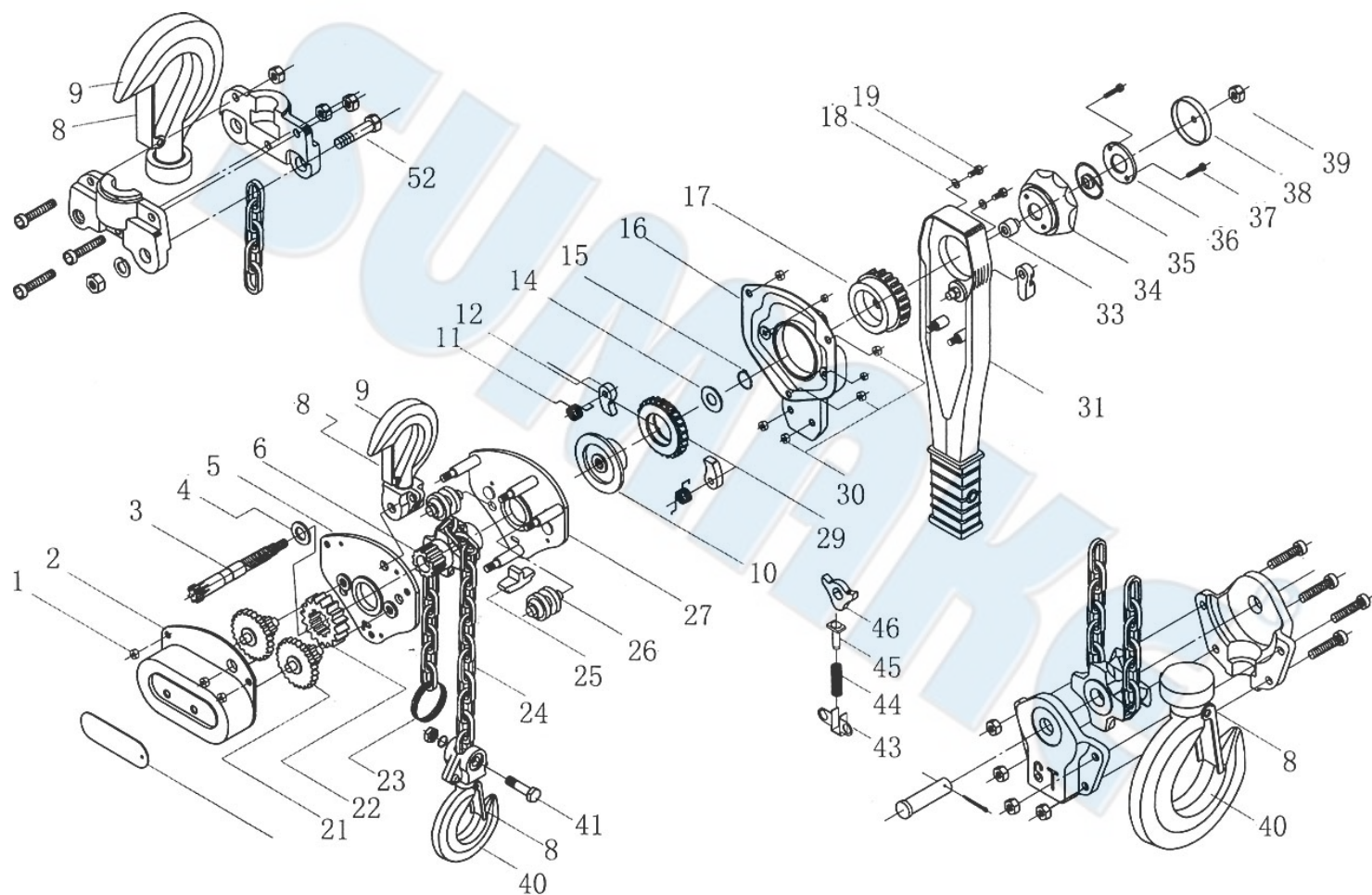
Mike Su – Managing Director

Date and Place

2014/6/30

Taipei, Taiwan

HLH-750 HEAVY DUTY LEVER HOIST (3/4 TON)

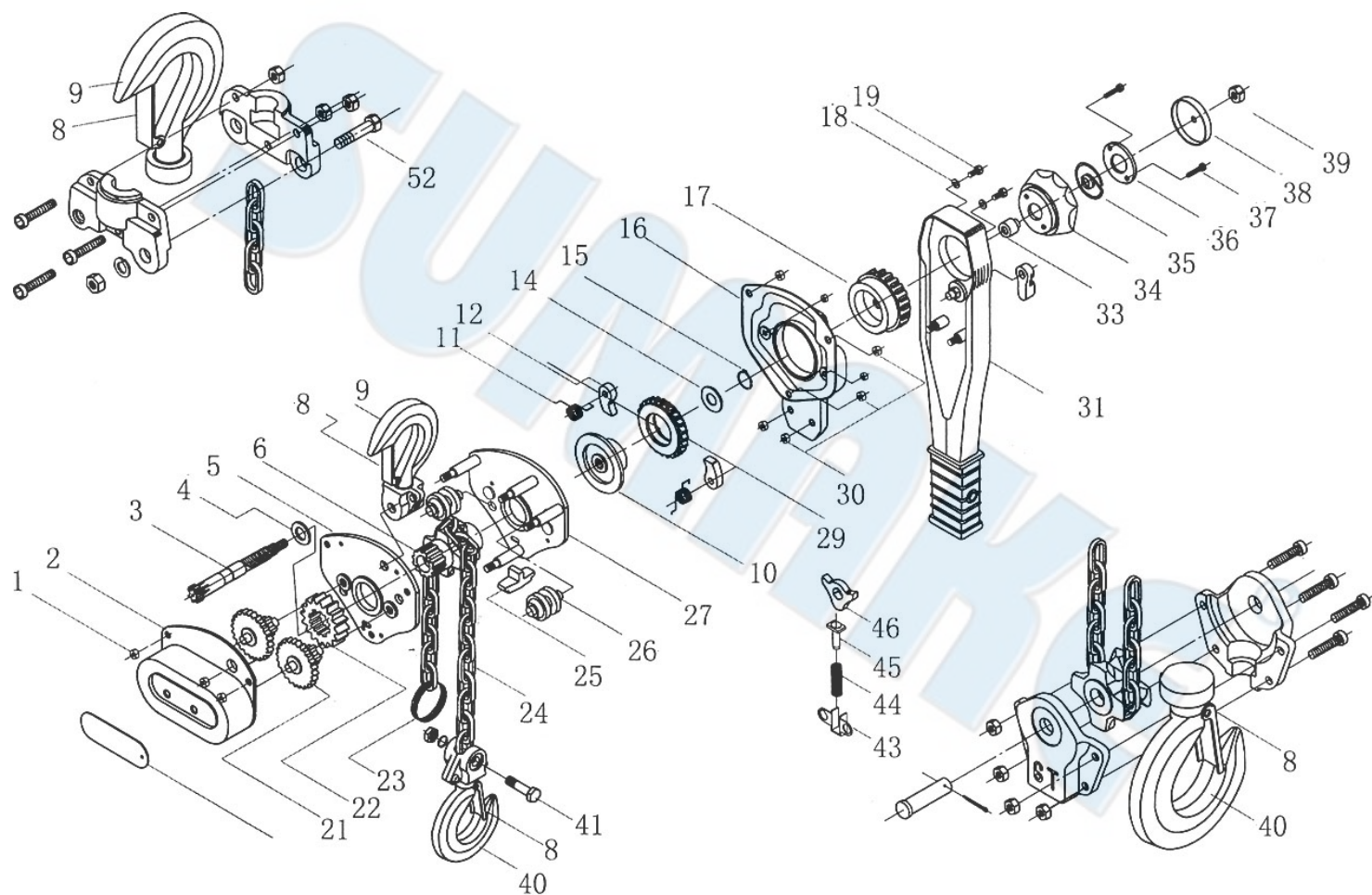


PARTS LIST

No.	Parts No.	Description	Q'ty
1	HLH750-01	Nut For Gear Cover	4
2	HLH750-02	Gear Cover	1
3	HLH750-03	Pinion Shaft	1
4	HLH750-04	Pinion Shaft Washer	1
5	HLH750-05	Gear-Side Plate	1
6	HLH750-06	Load Sheave	1
8	HLH750-08	Safety Latch Set	2
9	HLH750-09	Top Hook Assembly	1
10	HLH750-10	Disc Hub	1
11	HLH750-11	Pawl Spring	2
12	HLH750-12	Brake Pawl	2
14	HLH750-14	Spring Disc	1
15	HLH750-15	Snap Ring	2
16	HLH750-16	Brake Cover With Handle Cover	1
17	HLH750-17	Change Gear	1
18	HLH750-18	Spring Washer	2
19	HLH750-19	Screw For Handle	2
20	HLH750-20	Label	1
21	HLH750-21	Pinion Gear	2
22	HLH750-22	Load Gear	1
23	HLH750-23	End	1

No.	Parts No.	Description	Q'ty
24	HLH750-24	Load Chain	1
25	HLH750-25	Chain Stripper	1
26	HLH750-26	Load Chain Guide	2
27	HLH750-27	Wheel-Side Plate Assembly	1
29	HLH750-29	Ratchet Gear With Brake Disc	1
30	HLH750-30	Nut For Handle Cover	2
31	HLH750-31	Handle Assembly	1
33	HLH750-33	Retaining Spring Base	1
34	HLH750-34	Grip Ring	1
35	HLH750-35	Retaining Spring	1
36	HLH750-36	Fixing Plate	1
37	HLH750-37	Screw For Fixing Plate	2
38	HLH750-38	Grip Ring Cover	1
39	HLH750-39	Pinion Nut	1
40	HLH750-40	Bottom Hook Assembly	1
41	HLH750-41	Bottom Hook Pin	1
43	HLH750-43	Spring Stand	1
44	HLH750-44	Pushing Up Spring	1
45	HLH750-45	Pushing Up Pin	1
46	HLH750-46	Change Pawl	1
52	HLH750-52	Chain-End-Fixing Screw	1

HLH-1000 HEAVY DUTY LEVER HOIST (1 TON)

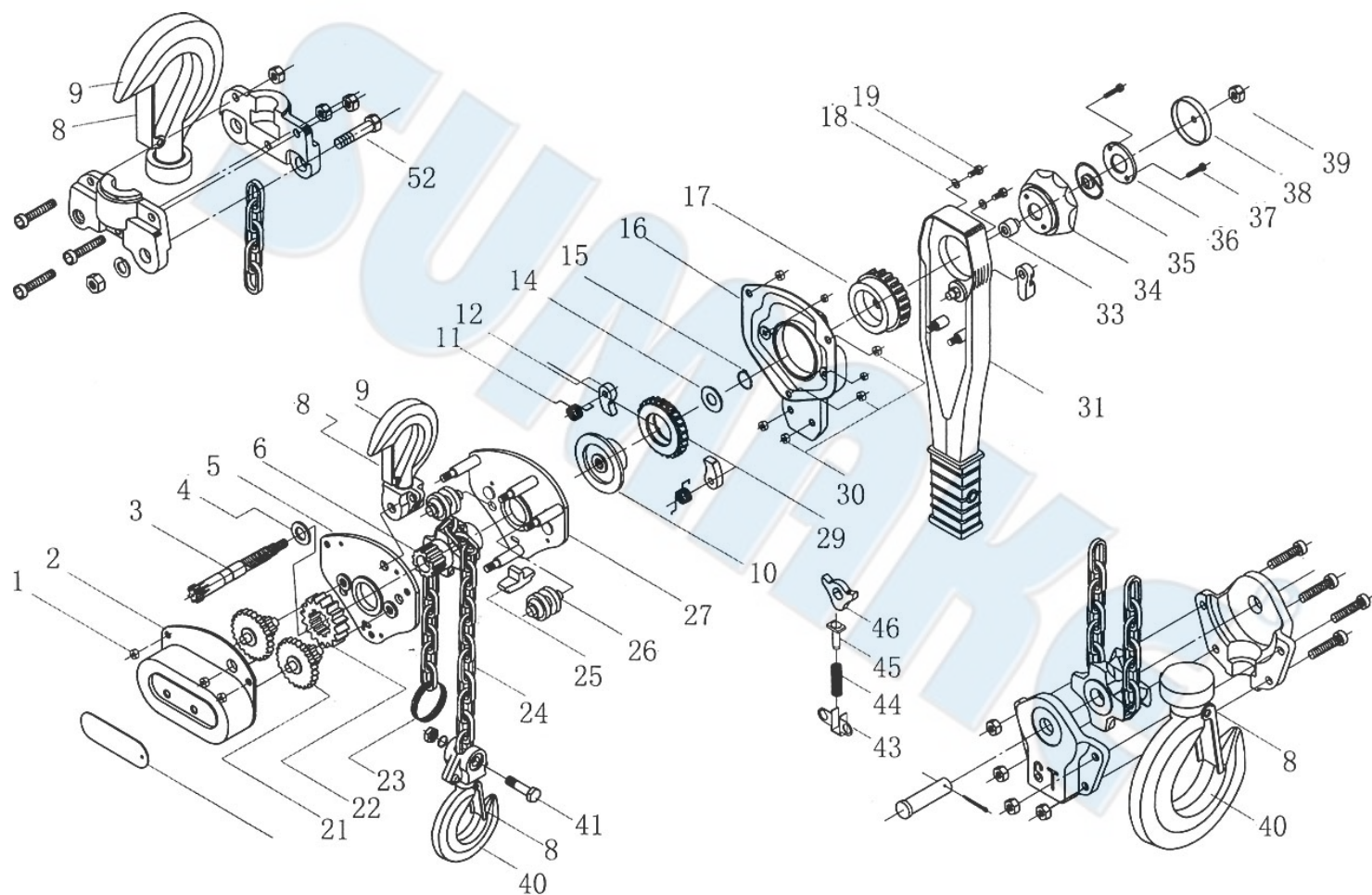


PARTS LIST

No.	Parts No.	Description	Q'ty
1	HLH1000-01	Nut For Gear Cover	4
2	HLH1000-02	Gear Cover	1
3	HLH1000-03	Pinion Shaft	1
4	HLH1000-04	Pinion Shaft Washer	1
5	HLH1000-05	Gear-Side Plate	1
6	HLH1000-06	Load Sheave	1
8	HLH1000-08	Safety Latch Set	2
9	HLH1000-09	Top Hook Assembly	1
10	HLH1000-10	Disc Hub	1
11	HLH1000-11	Pawl Spring	2
12	HLH1000-12	Brake Pawl	2
14	HLH1000-14	Spring Disc	1
15	HLH1000-15	Snap Ring	2
16	HLH1000-16	Brake Cover With Handle Cover	1
17	HLH1000-17	Change Gear	1
18	HLH1000-18	Spring Washer	2
19	HLH1000-19	Screw For Handle	2
20	HLH1000-20	Label	1
21	HLH1000-21	Pinion Gear	2
22	HLH1000-22	Load Gear	1
23	HLH1000-23	End	1

No.	Parts No.	Description	Q'ty
24	HLH1000-24	Load Chain	1
25	HLH1000-25	Chain Stripper	1
26	HLH1000-26	Load Chain Guide	2
27	HLH1000-27	Wheel-Side Plate Assembly	1
29	HLH1000-29	Ratchet Gear With Brake Disc	1
30	HLH1000-30	Nut For Handle Cover	2
31	HLH1000-31	Handle Assembly	1
33	HLH1000-33	Retaining Spring Base	1
34	HLH1000-34	Grip Ring	1
35	HLH1000-35	Retaining Spring	1
36	HLH1000-36	Fixing Plate	1
37	HLH1000-37	Screw For Fixing Plate	2
38	HLH1000-38	Grip Ring Cover	1
39	HLH1000-39	Pinion Nut	1
40	HLH1000-40	Bottom Hook Assembly	1
41	HLH1000-41	Bottom Hook Pin	1
43	HLH1000-43	Spring Stand	1
44	HLH1000-44	Pushing Up Spring	1
45	HLH1000-45	Pushing Up Pin	1
46	HLH1000-46	Change Pawl	1
52	HLH1000-52	Chain-End-Fixing Screw	1

HLH-1500 HEAVY DUTY LEVER HOIST (1-1/2 TON)

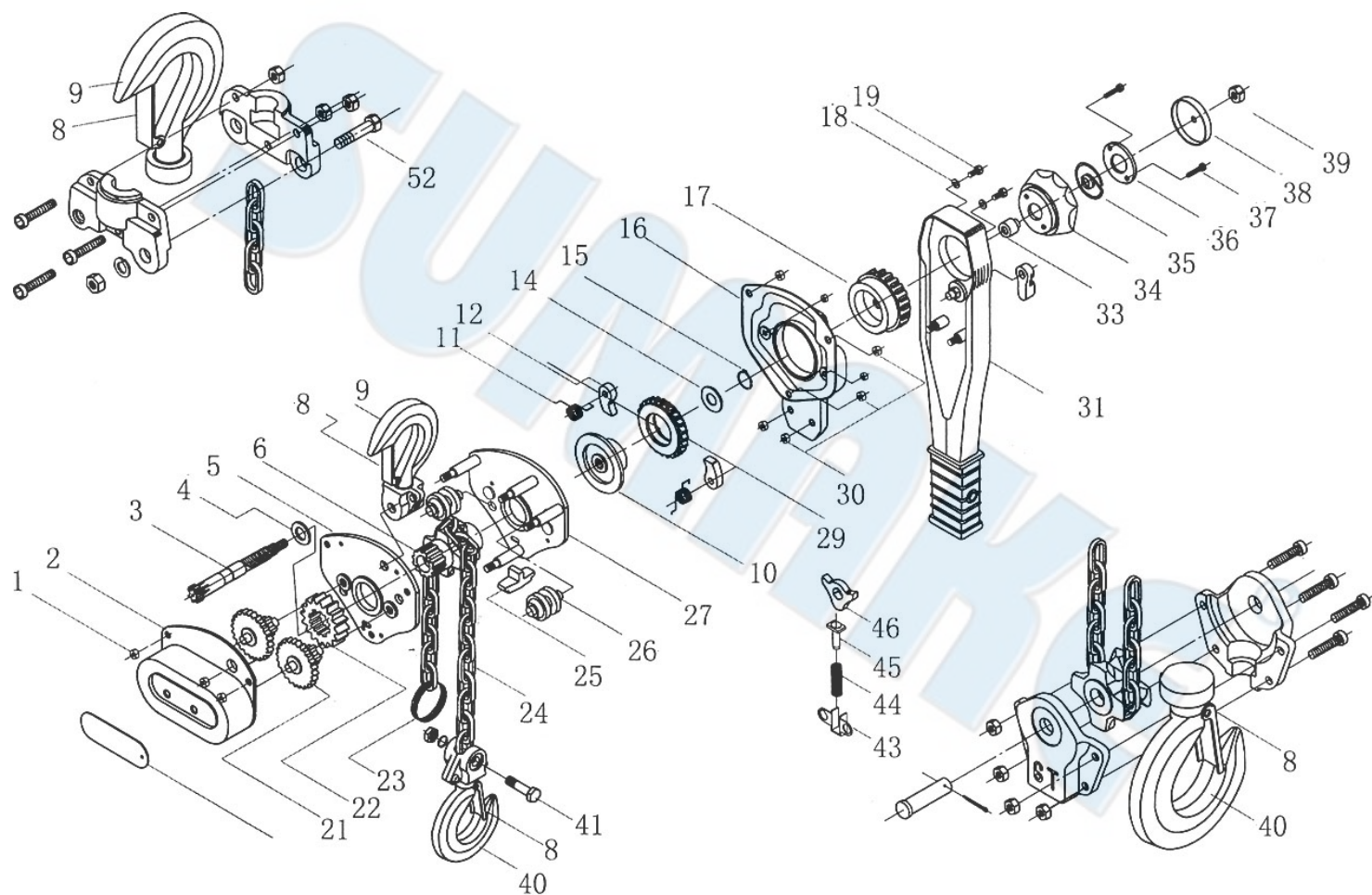


PARTS LIST

No.	Parts No.	Description	Q'ty
1	HLH1500-01	Nut For Gear Cover	4
2	HLH1500-02	Gear Cover	1
3	HLH1500-03	Pinion Shaft	1
4	HLH1500-04	Pinion Shaft Washer	1
5	HLH1500-05	Gear-Side Plate	1
6	HLH1500-06	Load Sheave	1
8	HLH1500-08	Safety Latch Set	2
9	HLH1500-09	Top Hook Assembly	1
10	HLH1500-10	Disc Hub	1
11	HLH1500-11	Pawl Spring	2
12	HLH1500-12	Brake Pawl	2
14	HLH1500-14	Spring Disc	1
15	HLH1500-15	Snap Ring	2
16	HLH1500-16	Brake Cover With Handle Cover	1
17	HLH1500-17	Change Gear	1
18	HLH1500-18	Spring Washer	2
19	HLH1500-19	Screw For Handle	2
20	HLH1500-20	Label	1
21	HLH1500-21	Pinion Gear	2
22	HLH1500-22	Load Gear	1
23	HLH1500-23	End	1

No.	Parts No.	Description	Q'ty
24	HLH1500-24	Load Chain	1
25	HLH1500-25	Chain Stripper	1
26	HLH1500-26	Load Chain Guide	2
27	HLH1500-27	Wheel-Side Plate Assembly	1
29	HLH1500-29	Ratchet Gear With Brake Disc	1
30	HLH1500-30	Nut For Handle Cover	2
31	HLH1500-31	Handle Assembly	1
33	HLH1500-33	Retaining Spring Base	1
34	HLH1500-34	Grip Ring	1
35	HLH1500-35	Retaining Spring	1
36	HLH1500-36	Fixing Plate	1
37	HLH1500-37	Screw For Fixing Plate	2
38	HLH1500-38	Grip Ring Cover	1
39	HLH1500-39	Pinion Nut	1
40	HLH1500-40	Bottom Hook Assembly	1
41	HLH1500-41	Bottom Hook Pin	1
43	HLH1500-43	Spring Stand	1
44	HLH1500-44	Pushing Up Spring	1
45	HLH1500-45	Pushing Up Pin	1
46	HLH1500-46	Change Pawl	1
52	HLH1500-52	Chain-End-Fixing Screw	1

HLH-3000 HEAVY DUTY LEVER HOIST (3 TON)

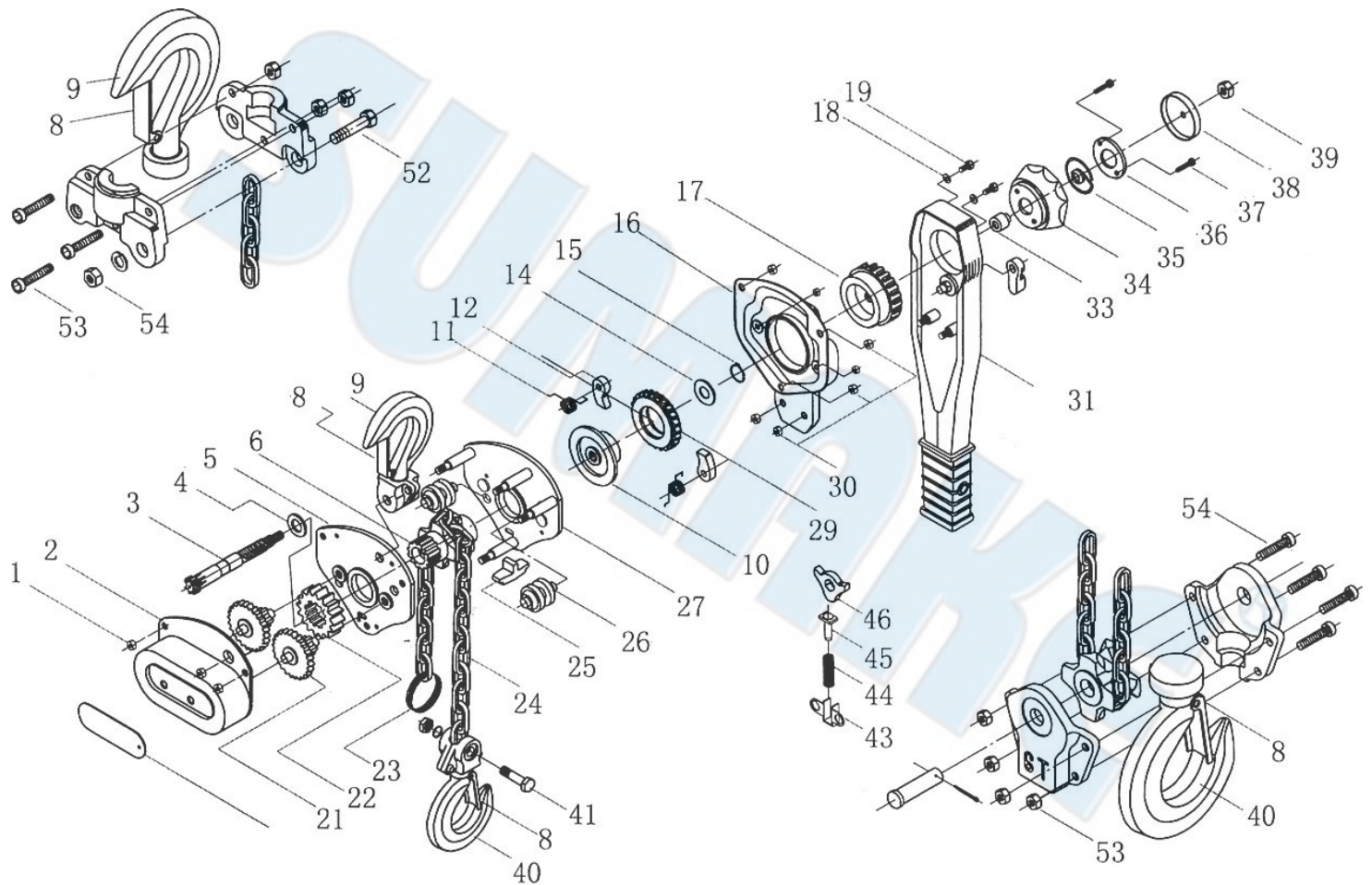


PARTS LIST

No.	Parts No.	Description	Q'ty
1	HLH3000-01	Nut For Gear Cover	4
2	HLH3000-02	Gear Cover	1
3	HLH3000-03	Pinion Shaft	1
4	HLH3000-04	Pinion Shaft Washer	1
5	HLH3000-05	Gear-Side Plate	1
6	HLH3000-06	Load Sheave	1
8	HLH3000-08	Safety Latch Set	2
9	HLH3000-09	Top Hook Assembly	1
10	HLH3000-10	Disc Hub	1
11	HLH3000-11	Pawl Spring	2
12	HLH3000-12	Brake Pawl	2
14	HLH3000-14	Spring Disc	1
15	HLH3000-15	Snap Ring	2
16	HLH3000-16	Brake Cover With Handle Cover	1
17	HLH3000-17	Change Gear	1
18	HLH3000-18	Spring Washer	2
19	HLH3000-19	Screw For Handle	2
20	HLH3000-20	Label	1
21	HLH3000-21	Pinion Gear	2
22	HLH3000-22	Load Gear	1
23	HLH3000-23	End	1

No.	Parts No.	Description	Q'ty
24	HLH3000-24	Load Chain	1
25	HLH3000-25	Chain Stripper	1
26	HLH3000-26	Load Chain Guide	2
27	HLH3000-27	Wheel-Side Plate Assembly	1
29	HLH3000-29	Ratchet Gear With Brake Disc	1
30	HLH3000-30	Nut For Handle Cover	2
31	HLH3000-31	Handle Assembly	1
33	HLH3000-33	Retaining Spring Base	1
34	HLH3000-34	Grip Ring	1
35	HLH3000-35	Retaining Spring	1
36	HLH3000-36	Fixing Plate	1
37	HLH3000-37	Screw For Fixing Plate	2
38	HLH3000-38	Grip Ring Cover	1
39	HLH3000-39	Pinion Nut	1
40	HLH3000-40	Bottom Hook Assembly	1
41	HLH3000-41	Bottom Hook Pin	1
43	HLH3000-43	Spring Stand	1
44	HLH3000-44	Pushing Up Spring	1
45	HLH3000-45	Pushing Up Pin	1
46	HLH3000-46	Change Pawl	1
52	HLH3000-52	Chain-End-Fixing Screw	1

HLH-6000 HEAVY DUTY LEVER HOIST (6 TON)



PARTS LIST

No.	Parts No.	Description	Q'ty
1	HLH6000-01	Nut For Gear Cover	4
2	HLH6000-02	Gear Cover	1
3	HLH6000-03	Pinion Shaft	1
4	HLH6000-04	Pinion Shaft Washer	1
5	HLH6000-05	Gear-Side Plate	1
6	HLH6000-06	Load Sheave	1
8	HLH6000-08	Safety Latch Set	2
9	HLH6000-09	Top Hook Assembly	1
10	HLH6000-10	Disc Hub	1
11	HLH6000-11	Pawl Spring	2
12	HLH6000-12	Brake Pawl	2
14	HLH6000-14	Spring Disc	1
15	HLH6000-15	Snap Ring	2
16	HLH6000-16	Brake Cover With Handle Cover	1
17	HLH6000-17	Change Gear	1
18	HLH6000-18	Spring Washer	2
19	HLH6000-19	Screw For Handle	2
20	HLH6000-20	Label	1
21	HLH6000-21	Pinion Gear	2
22	HLH6000-22	Load Gear	1
23	HLH6000-23	End	1
24	HLH6000-24	Load Chain	1

No.	Parts No.	Description	Q'ty
25	HLH6000-25	Chain Stripper	1
26	HLH6000-26	Load Chain Guide	2
27	HLH6000-27	Wheel-Side Plate Assembly	1
29	HLH6000-29	Ratchet Gear With Brake Disc	1
30	HLH6000-30	Nut For Handle Cover	2
31	HLH6000-31	Handle Assembly	1
33	HLH6000-33	Retaining Spring Base	1
34	HLH6000-34	Grip Ring	1
35	HLH6000-35	Retaining Spring	1
36	HLH6000-36	Fixing Plate	1
37	HLH6000-37	Screw For Fixing Plate	2
38	HLH6000-38	Grip Ring Cover	1
39	HLH6000-39	Pinion Nut	1
40	HLH6000-40	Bottom Hook Assembly	1
41	HLH6000-41	Bottom Hook Pin	1
43	HLH6000-43	Spring Stand	1
44	HLH6000-44	Pushing Up Spring	1
45	HLH6000-45	Pushing Up Pin	1
46	HLH6000-46	Change Pawl	1
52	HLH6000-52	Chain-End-Fixing Screw	1
53	HLH6000-53	Nut	7
54	HLH6000-54	Screw	7

NOTE

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