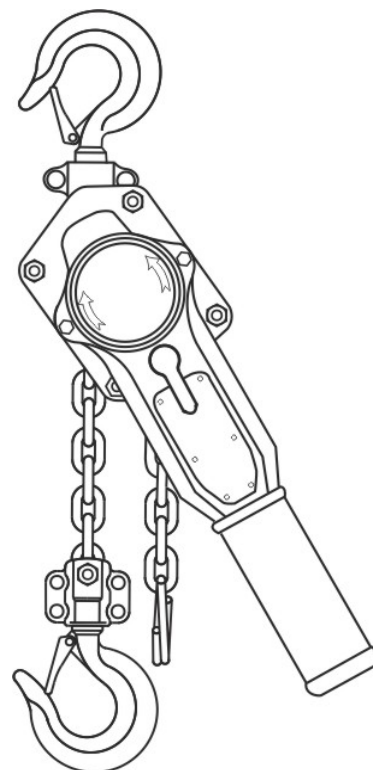


Operators Manual

Manual Lever Hoists LH-V TYPE

500 KG to 9 Ton

**Read this manual
BEFORE using this
product**



**This manual should be available to all persons
responsible for the operation, installation,
maintenance and/or repair of these products**

Record the following information for future reference

Serial Number

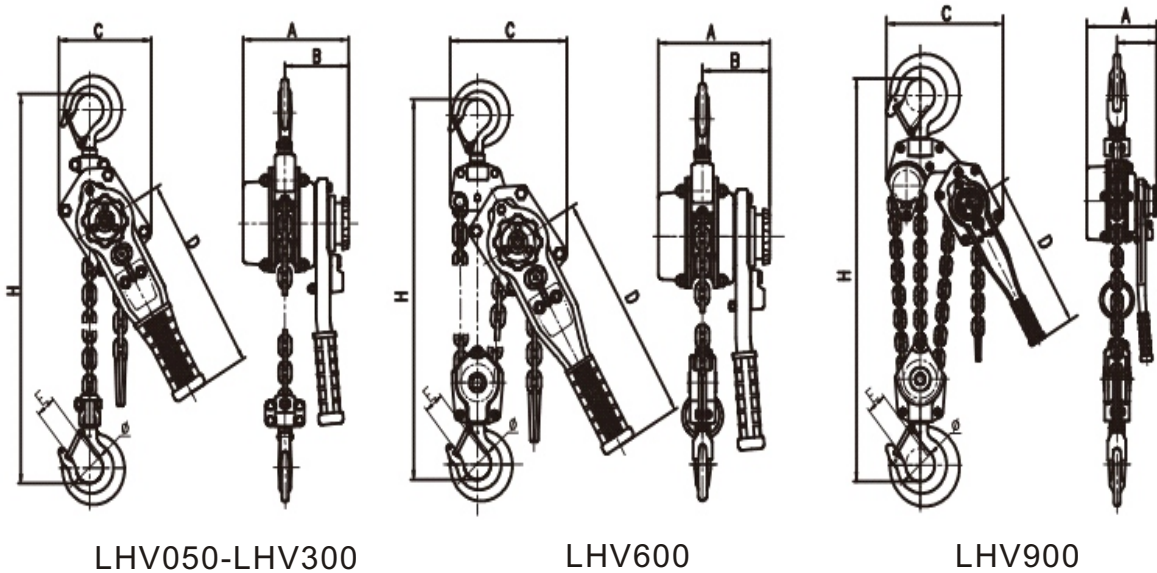
Model

Capacity and Lift

Date of Purchase

Technical Information

Specifications



Model		LHV050	LHV075	LHV100	LHV150	LHV300	LHV600	LHV900
Capacity	t	0.5	0.75	1	1.5	3	6	9
Standard Lift	m	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Proof Load	kN	7.35	11.0	14.7	22.1	44.1	88.2	132.3
Effort Required to Lift Rated Load	N	256	290	300	350	390	400	410
No. of Falls of Load Chain		1	1	1	1	1	2	3
Load Chain	mm	5X15	6X18	6X18	7X21	10X30	10X30	10X30
Dimensions(mm)	A	143	152	157	178	206	206	206
	B	90.5	91.5	94	104	118	118	118
	C	118	132	140	145	199	230	338
	D	245	245	245	325	405	405	405
	H	330	330	365	400	520	640	800
	E	22	24	26	29.5	37	40	48
Net Weight	kg	5.5	6.9	7.9	10.9	20.2	30	50
Extra Weight per Metre of Extra Lift	kg	0.6	0.8	0.8	1.1	2.2	4.3	6.5

Operating Conditions and Environment

Temperature Range: -10°C to + 60°C.

Humidity: 100% or less, this is not an underwater device.

Material: No special materials such as sparkless or asbestos.

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Limited One Year Warranty

All of the manual lever hoists are guaranteed to be free of defect in both material and workmanship. If one of our hoists fails during the first year of operation due to defect in either material or workmanship we will repair or replace the unit (at our discretion) after physical inspection of the unit by our repair department.

This warranty does not cover normal wear and tear of the units, and it does not apply to units that show signs of misuse, overloading, alteration or improper/lack of maintenance.

No unit can be returned for inspection without first receiving authorization from our customer service department. The unit(s) for which there is a warranty claim must be returned to the location that has authorized the units return prepaid complete with proof of purchase.

Inspection and Maintenance of Manual Lever Hoists

It is the responsibility of the hoist owner/user to establish proper programs to train and designated hoist operators and train and designate hoist inspection and maintenance personnel.

The hoist operator, inspector and maintenance personnel's training program should be based on the requirements in accordance with the latest edition of:

♦ EN 13157 : 2004

Please ensure to check for any additional local code requirements, existing plant/site safety rules and regulations, and all instructions provided in this manual.

Operation Instructions

BEFORE using a manual lever hoist **ALWAYS** inspect the top and bottom hooks for signs of wear, reshaping and/or damage also make sure to inspect all load pins and nylon lock nuts for wear and any signs of loosening. Inspect the load chain for any signs of distortion, bending, stretching or corrosion. Inspect the working condition of the lever handle and directional change over latch.

Test the brake device by raising the load slightly and stopping to ensure that the brake will hold the load **BEFORE** proceeding with operation. Always ensure that the block and chain are properly lubricated.

After use, clean the manual hoist from dirt and keep it in a dry place, free from rust or corrosion.

Rules to Ensure Operator Safety

“Use Common Sense”

- ◆ **ALWAYS** read the manual **BEFORE** using a hoist
- ◆ **NEVER** exceed the rated capacity
- ◆ **NEVER** use hoists as a sling
- ◆ **NEVER** use a hoist if the load chain is twisted, kinked, damaged, stretched or capsized
- ◆ **NEVER** operate unless load is centered under hoist
- ◆ **NEVER** operate hoists with other than manual power
- ◆ **NEVER** lift or transport loads over or near people
- ◆ **NEVER** use a hoist for lifting, supporting or transporting people
- ◆ **NEVER** operate a hoist if damaged or malfunctioning
- ◆ **ALWAYS** ensure that the work area is clear/free of people and any obstructions.
- ◆ **ALWAYS** ensure that the hoist meets/exceeds the capacity requirements for the material being lifted
- ◆ **ALWAYS** ensure that the top hook is attached in a proper manner (the latch kit should always be fully engaged), to an anchorage point that is rated for the weight of the material being lifted.
- ◆ **ALWAYS** ensure that the bottom hook is properly attached (the latch kit should always be fully engaged) to the material/clamp being lifted
- ◆ **ALWAYS** make sure that the hoist is properly lubricated. Failure to ensure that the hoist is properly lubricated may result in the units failure during use which may cause injury, death or substantial property damage

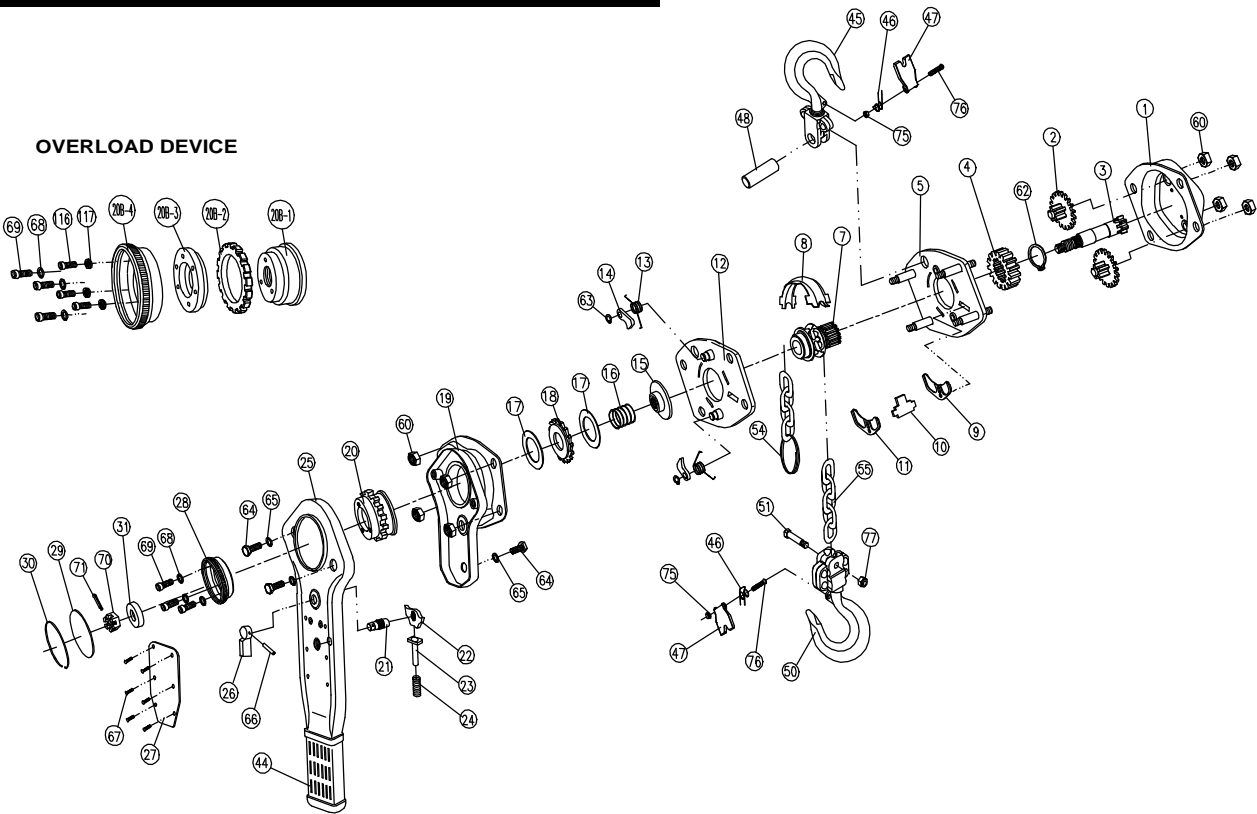
The control function/directional latch has three settings, (UP, NEUTRAL and DOWN). When the directional latch is in the “**N**” (**NEUTRAL**) setting the unit will **free wheel** allowing the operator to adjust the load hooks position (provided the unit is not under load).

When lifting make sure that the **directional latch is in the UP position**, then slowly ratchet the load making sure to watch for any obstructions

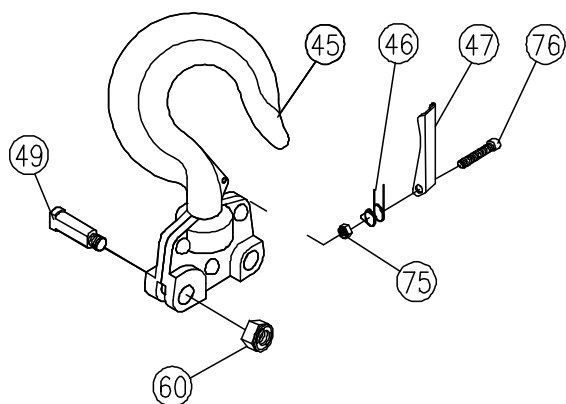
When lowering make sure that the **directional latch is in the DOWN position**, and then slowly ratchet the load, this operation may require additional effort/force to release the friction between the brake components.

500KG to 9Ton Parts Breakdown

OVERLOAD DEVICE

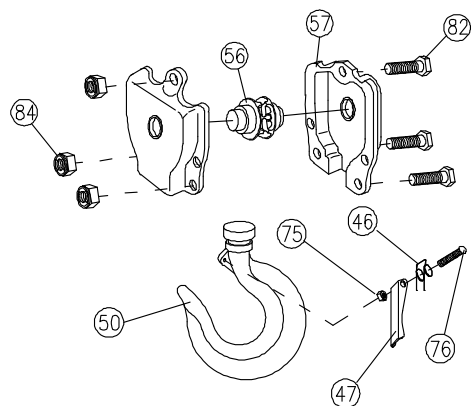


1	Gear case assembly	22	Change over pawl	62	Snap ring
2	Disc gear assembly	23	Spring seat	63	Snap ring
3	Drive shaft	24	Change over spring	64	Bolt
4	Splined gear	25	Lever handle assembly	65	Washer
5	Gear side plate assembly	26	Directional selector	66	Split pin
7	Load sheave assembly	27	Name plate	67	Rivet
8	Guide plate	28	Hand wheel	68	Lock washer
9	Chain leader	29	Cover plate	69	Bolt
10	Stripper	30	Retaining wire	70	Castle nut
11	Chain leader	31	Bushing	71	Cotter/Split pin
12	Lever side plate assembly	44	Rubber hand grip	75	Nylon lock nut
13	Pawl spring	45	Top hook assembly	76	Bolt
14	Pawl	46	Double spring	77	Nylon lock nut
15	Disc hub	47	Safety latch	116	Bolt
16	Free spring	48	Top hook shaft	117	Disk spring
17	Friction disc	50	Bottom hook assembly	20B-1	Brake disc
18	Ratchet disc	51	Bottom hook chain pin	20B-2	Change over gear
19	Brake cover assembly	54	Chain ring	20B-3	Press block
20	Change over gear	55	Load chain	20B-4	Hand wheel
21	Change over pawl pin	60	Nylon lock nut		



6T Top Hook Assembly

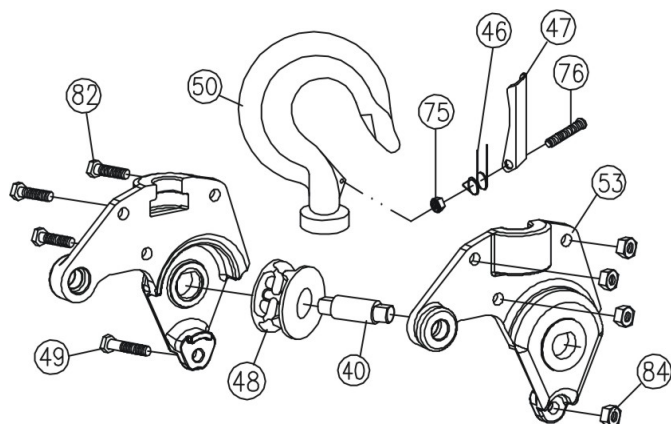
- 45 6T Hook (Top)
- 46 Double Spring
- 47 Safety Latch
- 49 Load Chain Pin
- 60 Nylon lock nut
- 75 Nylon lock nut
- 76 Bolt (Latch Kit)



6T Bottom Hook Assembly

- 46 Double Spring
- 47 Safety Latch
- 50 6T Hook (Bottom)
- 56 Idler sheave assembly
- 57 Bottom Hook Frame
- 75 Nylon lock nut
- 76 Bolt (Latch Kit)
- 82 Bolt
- 84 Prevailing Type Nut

- * Safety latch Kits are sold as complete units
- ** Top and Bottom Hook Assemblies are sold as complete units



9T Top Hook Assembly

40 Idler sheave pin

46 Double spring

47 Safety latch

48 Idler sheave assembly

49 Screw

50 Hook

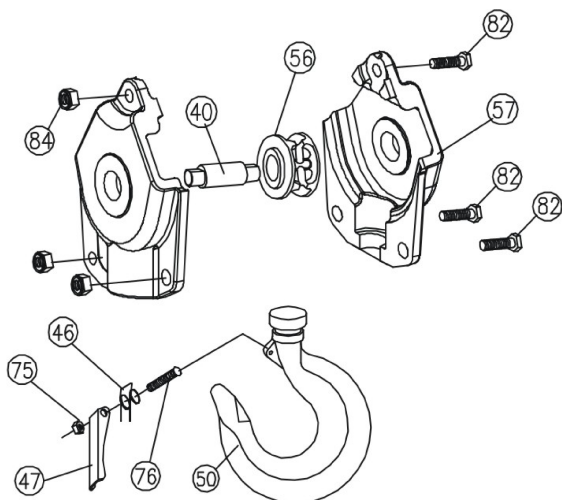
53 Top hook frame

75 Nylon lock nut

76 Bolt

82 Screw

84 Nylon lock nut



9T Bottom Hook Assembly

40 Idler sheave pin

46 Double spring

47 Safety latch

50 Hook

56 Idler sheave assembly

57 Bottom hook frame

75 Nylon lock nut

76 Bolt

82 Screw

84 Nylon lock nut

* Safety latch Kits are sold as complete units

** Top and Bottom Hook Assemblies are sold as complete units

Trouble Shooting

This section covers common problems that maybe encountered when operating a hoist. The best means of identifying any problem is by thorough inspection by properly trained personnel. The information shown below provide a brief guide to help pinpoint the required repairs.

Problem Encountered	Possible Cause	Recommendation
Hoist will not operate	Hoist is overloaded	Reduce load to/below the rated capacity of hoist
Load continues to move when hoist is stopped	Hoist is overloaded	Reduce load to/below the rated capacity of hoist
	Brake is slipping/failing	Inspect brake adjustments and friction disc wear. Also make sure that the brakes are clean
Load chain binds	Possible damage to load chain, pinion shaft, gears or sheaves	Disassemble hoist, inspect and repair/replace required component(s)
	Load chain may not be properly installed (twisted, kinked or capsized)	Remove and re-install load chain
Latches don't work properly	Broken Latch	Remove and replace latch kit
	Hook bent or twisted	Inspect load hook and replace if necessary

Lubrication

ALWAYS make sure that the hoist is properly lubricated. Failure to ensure proper lubrication may result in the unit's failure during use which may cause injury, death or substantial property damage.

Remove old lubricants using acid free solvents and apply new coating of lubricants to parts before reinstallation. Ensure to perform this process on the internal gears and load chains. In the case of the load chain a new layer of lubricant should be added to each link on a weekly basis. During this process the load chain should be thoroughly inspected for any signs of wear, distortion, bending, stretching or corrosion.

We also recommend that the hoists threaded shafts, cap screws and nuts be cleaned and an anti-seizing compound be applied to these parts as part of your normal lubrication process.

Component Replacements

Please note that if upon inspection any hooks require replacement due to signs of wear, reshaping and/or damage, the other load supporting components of the hoist should also be carefully inspected for possible damage.

Replacing Load Chain

Never Add Sections of Load Chain ALWAYS replace the entire chain

- 1) Rotate hand wheel (28) until the narrow grooves of the load sheave assembly/sprockets (7) are visible
- 2) Feed a piece of flexible wire in between the load sheave assembly/sprocket (7) and the guide plate (8), attach the wire to the open end of the replacement load chain
- 3) Pull the chain into the load sheave assembly/sprocket (7) making sure the welds face outwards
- 4) While holding the flexible piece of wire slowly rotate the hand wheel (28) in the direction to draw the load chain through the sheave; do not release the wire until the chain is exposed from the opposite side of the hoist body. With the hand wheel facing the technician attach the bottom hook to the load chain on the left hand side of the hoist/load chain (see page 8)
- 5) Attach the square cast ring to the load chain, by using Allen-key to turn the bolt out of the nut from the square cast ring, and then insert the loose/dead end of the load chain into the chain groove. Then insert the bolt through the square cast ring and the load chain, turn the bolt into the nut firmly by using Allen-key.
- 6) With the hand wheel facing the technician attach the bottom hook to the load chain on the left hand side of the hoist/load chain (see page 8)
- 7) Put directional latch into neutral (N) and slowly pull the load chain through the hoist watching for any indication of improper installation (jerky motion, or excessive force required) if no problems are encountered have hoist recertified

Attaching/Replacing Bottom Hooks

When replacing hooks or latches only use NEW parts. NEVER attempt to repair damaged components as their reliability/safety will be compromised

- 1) Insert the open end of the load chain into the hook slot located at the top of the bottom hook assembly (50)
- 2) Insert bottom hook assembly chain pin (51) through the bottom hook assembly (50) and the load chain
- 3) Tighten the nylon lock nut (77) until properly secured

Hoist Disposal

We recommend that any/all hoists that service life has expired be fully disassembled and degreased. The components should also be separated by material so they can be recycled.

In Service Inspection and Maintenance

All inspections, repairs and/or hoist recertification should be performed by a competent/properly trained person

All parts that show signs of wear or damage must be replaced with NEW parts. Never attempt to repair damaged components as their reliability/safety will be compromised

Daily – Visual Inspection

- ◆ Inspect condition of the hoist body
- ◆ Inspect the load chain for signs of distortion, bending, stretching or corrosion
- ◆ Inspect the top and bottom hooks for signs of wear, reshaping and/or damage
- ◆ Inspect the condition of the latch kits
- ◆ Inspect the condition of the lever arm assembly and directional changeover latch
- ◆ Clean the dust from all external components

Monthly – Visual Inspection

Inspect the following items in addition to the daily inspection

- ◆ Check the lubrication/greasing of the load chain and hooks (reapply as required)
- ◆ Inspect the operation of the brakes, including the condition of the friction discs, pawls and ratchet disc.

Every 6 Months – In-depth Inspection

Inspect the following item in addition to your monthly inspection

- ◆ Check the condition of the load sheave assembly

Hoists should always be recertified before being used after repair or alteration

In Service Inspection and Maintenance

All inspections, repairs and/or hoist recertification should be performed by a competent/properly trained person

All parts that show signs of wear or damage must be replaced with NEW parts. Never attempt to repair damaged components as their reliability/safety will be compromised

Annual (every 12 Months) – In-depth Maintenance

Inspect the following items in addition to your monthly inspection

- ◆ Inspect condition of the hoist body
- ◆ Inspect the load chain for signs of distortion, bending, stretching or corrosion
- ◆ Inspect the top and bottom hooks for signs of wear, reshaping and/or damage
- ◆ Inspect the condition of the latch kits
- ◆ Inspect the condition of the lever arm assembly and directional changeover latch
- ◆ Inspect the operation of the brakes, including the condition of the friction discs, pawls and ratchet disc
- ◆ Check the condition of the load sheave assembly
- ◆ Clean the hoist annually, by purging the parts in an acid free solvent (except for the brake friction discs). A stiff bristle brush should be used to remove the accumulated dirt and/or sediment from the gears, shafts and housings.
- ◆ Reapplying a new coating of lubricant to all parts before reinstallation
- ◆ The gears should be checked for any signs of wear, cracked or broken teeth
- ◆ The shafts should be inspected for signs of wear or damage
- ◆ After cleaning and making any necessary repairs, the hoist should be reassembled and recertified

The recommended frequency of the outlined hoist maintenance program is based upon normal use of a lever hoist under normal working conditions (free from excessive dust, moisture and corrosive fumes). If your usage exceeds these guidelines the inspection/maintenance intervals should be increased accordingly.

Hoists should always be recertified before being used after repair or alteration