



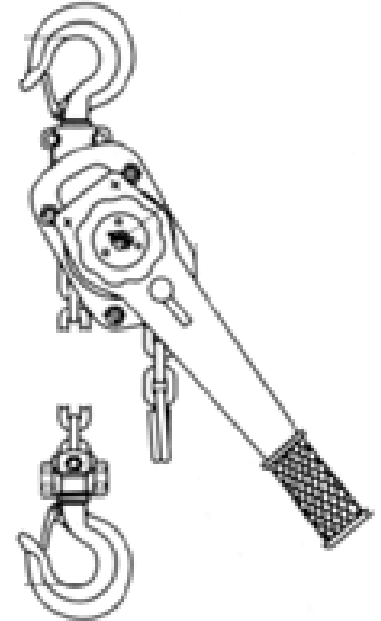
Operators Manual

Type-1 Manual Lever Hoists

1/2 to 9 Metric 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 Number _____

Capacity and Lift _____

Date of Purchase/Invoice Number _____

Name of Distributor _____

Canadian Distribution Centre Locations

Quebec	Ontario	Manitoba	Alberta	British Columbia
2205 de l'Aviation Dorval, Quebec H9P 2X6	2160 Meadowpine Blvd. Mississauga, Ontario L5N 6H6	190 Omands Creek Blvd. Winnipeg, Manitoba R2R 1V7	7606 McIntyre Rd. N.W. Edmonton, Alberta T6E 6Z1	7880 Fraser Park Dr. Burnaby, British Columbia V5J 5L8
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For orders/service in the United States please contact our Ontario distribution centre.



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Limited One Year Warranty

All Vanguard manual 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.

For our branch locations please refer to the front cover.

Inspection and Maintenance of Manual Lever Hoists

It is the responsibility of the hoist owner/user to establish proper programs to train and designate 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:

- ◆ ASME B30.21 Safety Standard

Please ensure to check for any additional federal/provincial/state/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 chain block from dirt and keep it in a dry place, free from rust or corrosion.

WARNINGS - Rules to Ensure Operator Safety

“Use Common Sense”

- ◆ **ALWAYS** read the warning tags and 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
- ◆ **NEVER** shock load
- ◆ **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

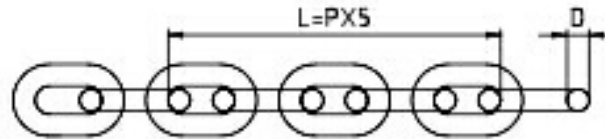
The control function/directional latch has three settings, (UP, NEUTRAL and DOWN). When the directional latch is in the “**N**” (**NEUTRAL**) setting the unit will **free wheel** allowing the operator to adjust the load hooks position (provided the unit is not under load).

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.

Load Chain Inspection

Load chain can become excessively worn, elongated and/or damaged beyond safe working condition. A visual inspection of the load chain should be performed **BEFORE** each use of the hoist. The full length of load chain must be replaced immediately if even one link is excessively worn, elongated or damaged.



Chain Diameter	Capacity		Load Chain 5 Links (L)		Load Chain Diameter (D)	
			Standard	Maximum	Standard	Minimum
5 mm	1/2t	500Kg	75mm	77.2mm	5mm	4.5mm
6 mm	3/4t	750Kgs	90mm	92.5mm	6mm	5.4mm
8 mm	1-1/2t	1,500Kgs	120mm	123.3mm	8mm	7.2mm
10 mm	3t	3,000Kgs	150mm	154mm	10mm	9mm
	6t	6,000Kgs				
	9t	9,000Kgs				

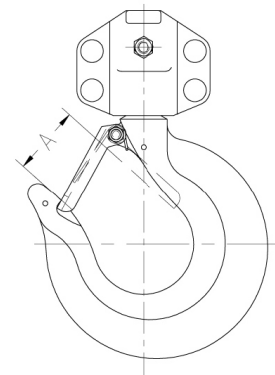
When measuring load chain dimensions, the use of vernier calipers is required. Any load chain that exceeds the maximum load chain 5 links dimensions, or less than the minimum load chain diameter shown above must be immediately replaced with new load chain **BEFORE** being used/returned to service.

Hook Inspection

When top and bottom hooks are overloaded they will stretch/open before failing. To prevent unit failure, a visual inspection of both the top and bottom hooks should be performed **BEFORE** each use of the hoist.

This inspection should involve checking for wear, reshaping, damage, corrosion, and hook stretch. Any hook that is not in safe working order must be disposed of immediately and replaced with a new hook.

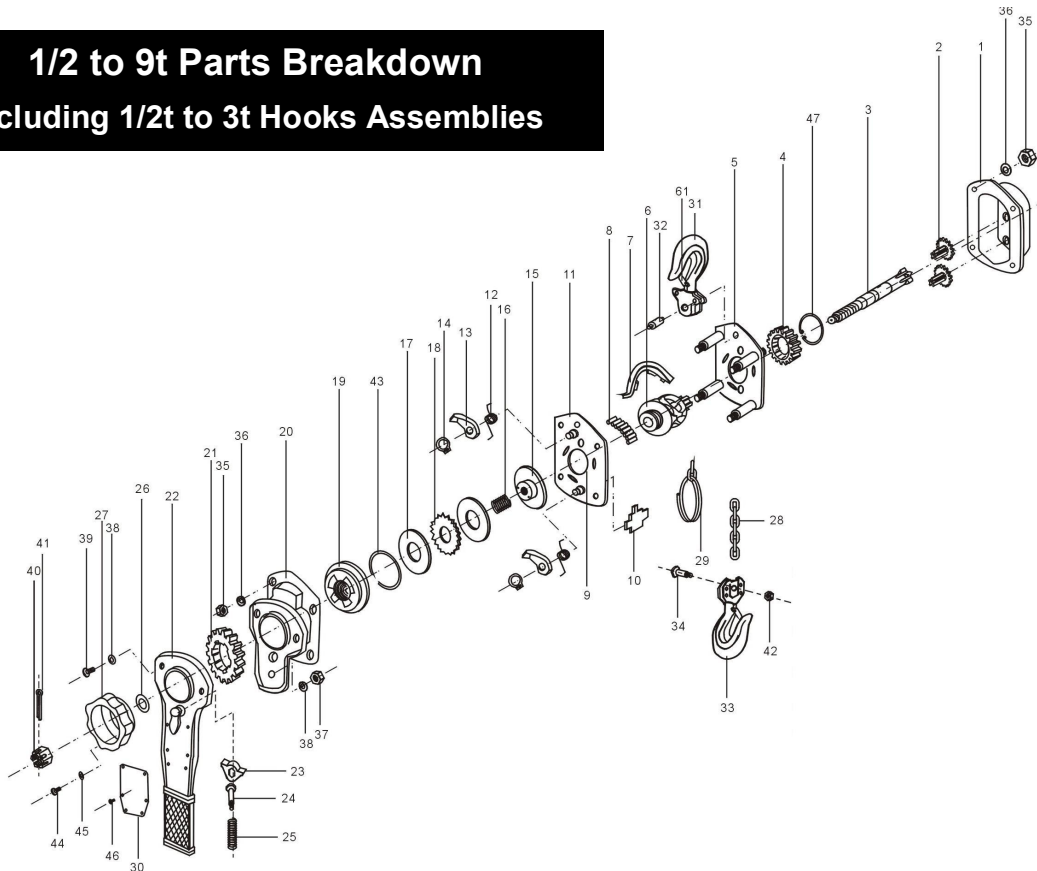
Hook Capacity	Standard A Size (mm)	Maximum A Size (mm)	
1/2t	500 Kgs	21	23.1
3/4t	750 Kgs	26	28.6
1-1/2t	1500 Kgs	30	33
3t	3000 Kgs	38	41.8
6t	6000 Kgs	44	48.4
9t	9,000Kgs	50	55



When measuring hook openings the use of vernier calipers is required. Any hook that exceeds the maximum A size shown above must be immediately replaced with a new hook **BEFORE** being used/returned to service.

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

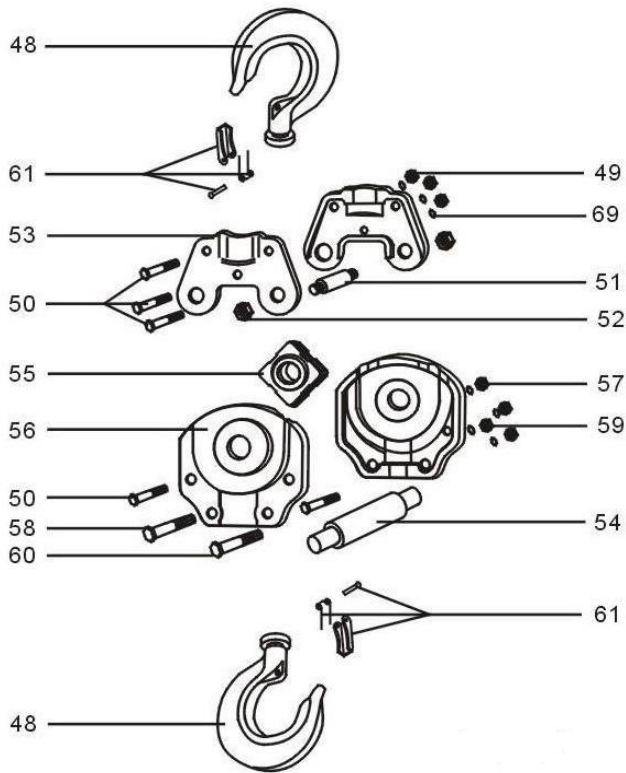
1/2 to 9t Parts Breakdown Including 1/2t to 3t Hooks Assemblies



1	Gear Case Assembly	23	Change Over Pawl
2	Disc Gear Assembly	24	Spring Seat
3	Pinion/Drive Shaft	25	Change Over Spring
4	Splined Gear	27	Hand Wheel
5	Gear Side Plate Assembly	28	Load Chain
6	Load Sheave	29	Cast Chain Ring
7	Guide Plate	30	Name Plate
8	Closed Sealed Bearing/Roller	31	Top Hook Assembly **
9	Bearing Race	32	Top Hook Pin/Shaft
10	Stripper	33	Bottom Hook Assembly **
11	Lever Side Plate Assembly	34	Bottom Hook Chain Pin
12	Pawl Spring	35	Hex Nut
13	Pawl	37	Hex Nut
14	Snap Ring	38	Lock Washer
15	Disc Hub	39	Screw
16	Free Spring	40	Nylon Lock Nut
17	Friction Discs (Asbestos Free)	42	Nylon Lock Nut
18	Ratchet Disc	43	Retainer Wire/Spring
19	Female Thread Grip	44	Screw
20	Brake Cover Assembly	46	Rivet
21	Change Over Gear	47	Retainer Wire/Spring
22	Lever Handle Assembly **	61	Latch Kit*

* Latch Kits are sold as complete units

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

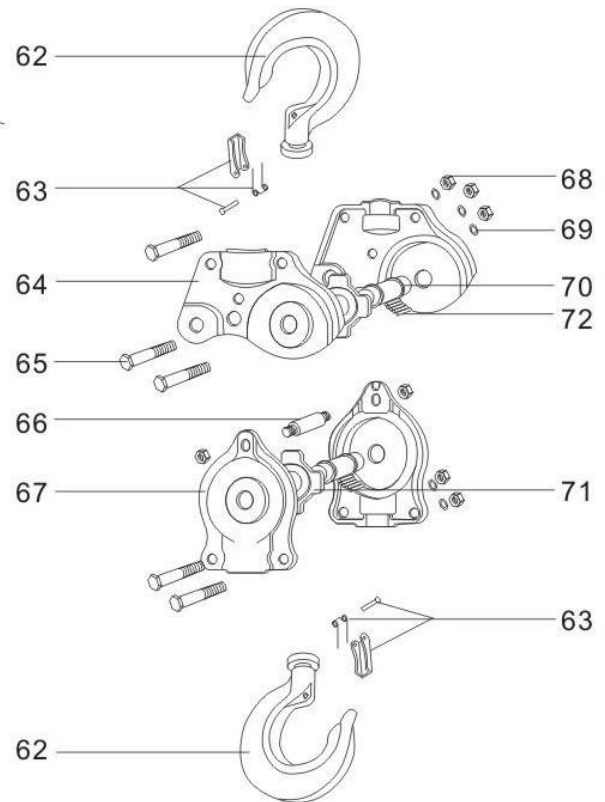


6t Bottom & Top Hook Assembly

- 48 Hook
- 49 Nut
- 50 Screw
- 51 Pin
- 52 Nut
- 53 Top Hook Frame
- 54 Move Wheel Pin
- 55 Move Wheel
- 56 Bottom Hook Frame
- 57 Nut
- 58 Screw
- 59 Nut
- 60 Screw
- 61 Latch Kit *
- 67 Bottom Hook Frame

* Latch Kits are sold as complete units

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



9t Bottom & Top Hook Assembly

- 62 Hook
- 63 Latch Kit*
- 64 Bottom Hook Frame
- 65 Screw
- 66 Bolt
- 67 Bottom Hook Frame
- 68 Nut
- 69 Lock Washer
- 70 Move Wheel Pin
- 71 Move Wheel
- 72 Roller



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 if any components 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.

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

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

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



Hoist Inspection Journal

Date of Inspection	Inspected/ Repaired By	Full Details of Inspection Including Required/Completed Repairs