



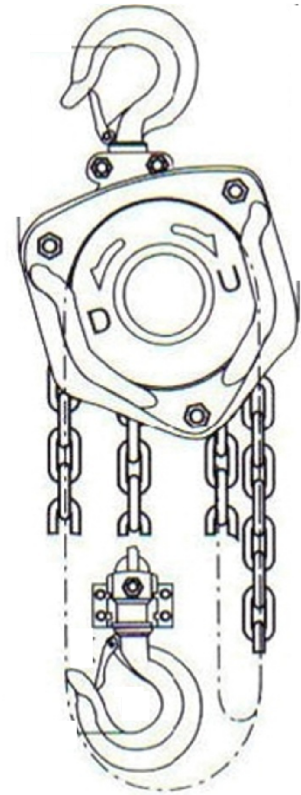
Operators Manual

VCH Manual Chain Hoists

1/2 Ton to 10 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

Name of Distributor

Canadian Distribution Centre Locations

Quebec	Ontario	Manitoba	Alberta	British Columbia
2205 de l'Aviation Dorval, Québec 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
Ph: (514) 685-1515 Fax: (514) 685-1516	Ph: (905) 821-1100 Fax: (905) 821-2024	Ph: (204) 694-2259 Fax: (204) 633-7230	Ph: (780) 466-1115 Fax: (780) 469-4545	Ph: (604) 294-3191 Fax: (604) 294-8845

For orders/service in the United States please contact our Ontario distribution centre to find the distributor nearest to you.



Table of Content

Warranty	2
Inspection and Maintenance of Manual Chain Hoists	2
Operation Instructions	3
Rules to Ensure Operator Safety	3
Parts Break Down (1/2T to 10T Bodies, 1/2T to 2T Hook Assemblies)	4
Parts Break Down (3T to 10T Hook Assemblies)	5
Trouble Shooting	6
In Service Inspection and Maintenance	7
Lubrication	7
Component Replacement Procedures	7 - 8
Hoist Disposal	9
Hoist Inspection Journal	9

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 units 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 Chain 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:

- ◆ ASME B30.16, Safety Standard for Overhead Hoists (Underhung).

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 hoist ALWAYS inspect the top and bottom hooks for signs of wear, reshaping and/or damage. Inspect the load chain for any signs of wear, distortion, bending, stretching or corrosion.

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.

Rules to Ensure Operator Safety

“Use Common Sense”

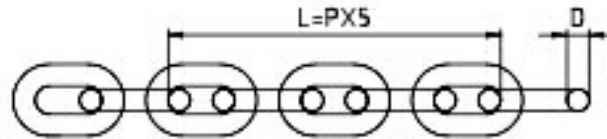
- ◆ **ALWAYS** read the warning tags and manual **BEFORE** using a hoist
- ◆ **NEVER** remove or obscure the warning tags
- ◆ **NEVER** exceed the rated capacity
- ◆ **NEVER** use hoists as a sling
- ◆ **NEVER** use a hoist if the load chain is twisted, kinked, damaged, stretched or capsized
- ◆ **NEVER** 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

When lifting begin by **slowly pulling the hand chain in the “U” up direction**

When lowering begin by **slowly pulling the hand chain in the “D” down direction**, 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	Maximum
6 mm	1/2t	500Kg	90mm	92.5mm	6mm	5.4mm
	1t	1,000Kgs				
8 mm	1-1/2t	1,500Kgs	120mm	123.3mm	8mm	7.2mm
	2	2,000 Kgs				
	3t	3,000Kgs				
10 mm	5t	5,000Kgs	150mm	154mm	10mm	9mm
	10t	10,000Kgs				

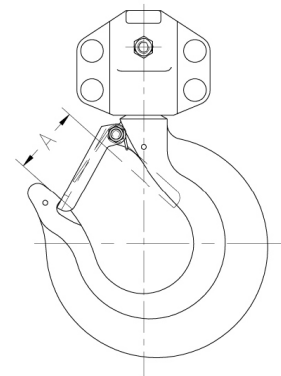
When measuring load chain dimensions, the use of Vernier calipers is required. Any load chain that exceeds the maximum load chain 5 links dimensions, or less than the minimum load chain diameter shown above must be immediately replaced with new load chain **BEFORE** being used/returned to service.

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	500Kg	21	23.1
1t	1,000Kgs	26	28.6
1-1/2t	1,500Kgs	30	33
2	2,000 Kgs	30	33
3t	3,000Kgs	38	41.8
5t	5,000Kgs	44	48.4
10t	10,000Kgs	50	55

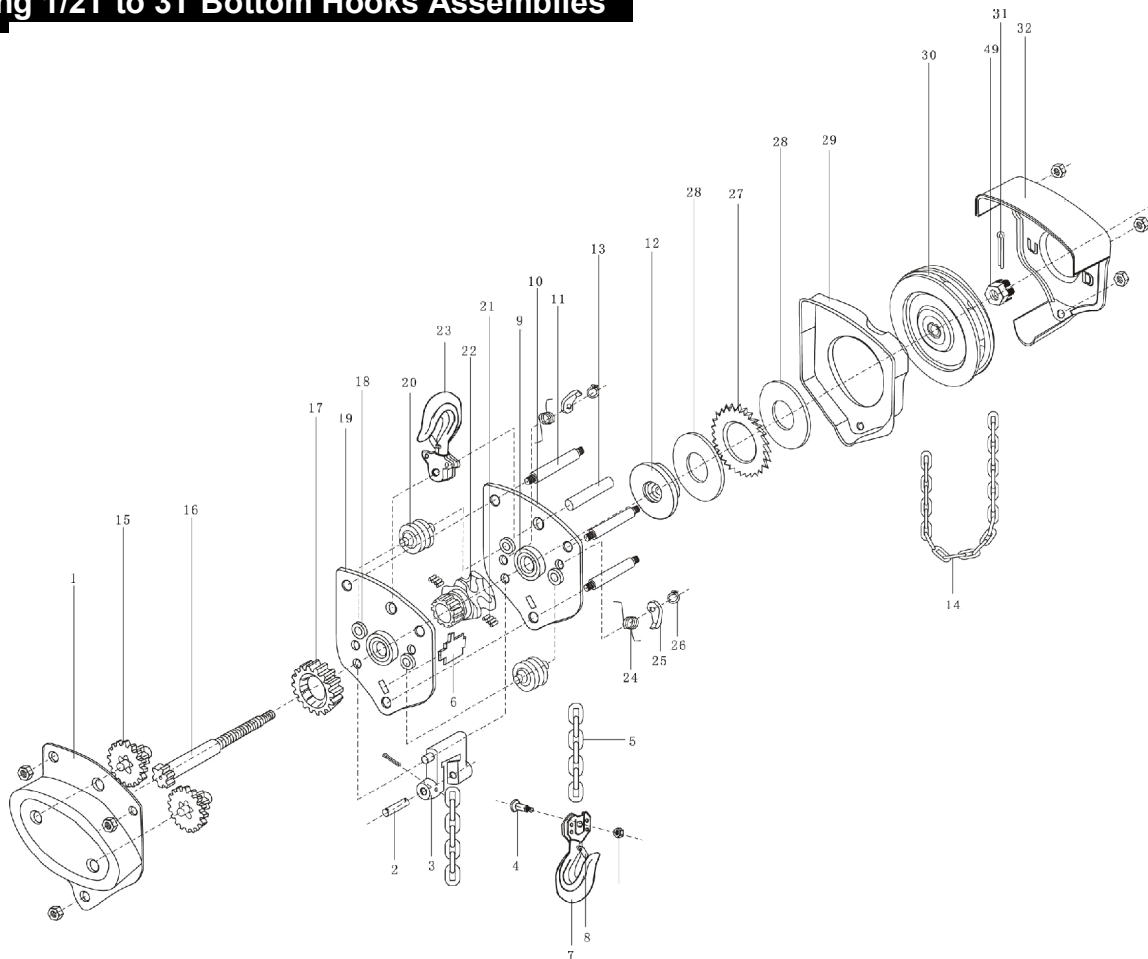


When measuring hook openings the use of Vernier calipers is required. Any hook that exceeds the maximum A size shown above must be immediately replaced with a new hook **BEFORE** being used/returned to service.

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

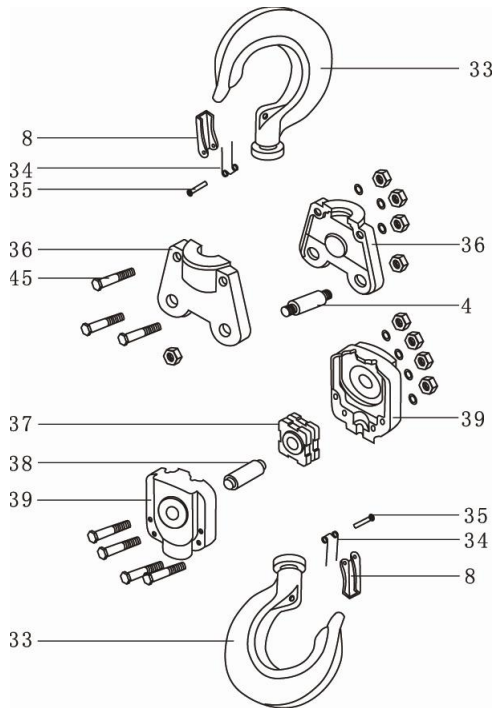


1/2T to 10T Parts Breakdown Including 1/2T to 3T Bottom Hooks Assemblies



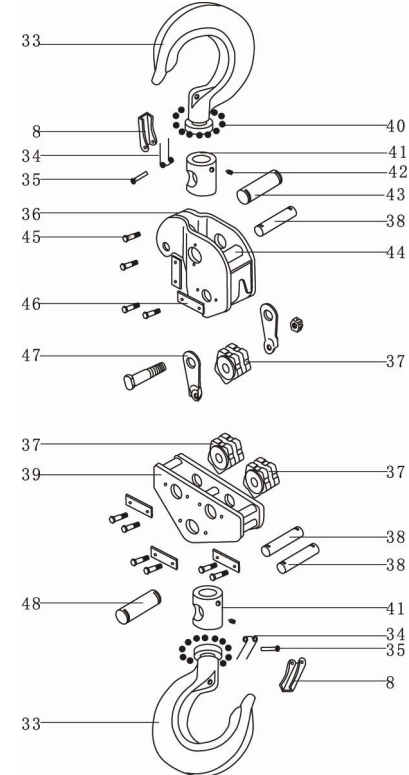
1	Hand Wheel Cover Assembly	19	Side Plate (right)
2	Load Chain Pin	20	Load Chain Guide Roller
3	Load Chain End Anchor	21	Bearing Assembly
4	Bottom Hook Assembly Chain Pin	22	Load Sheave
5	Grade 80 Load Chain	23	Top Hook Assembly
6	Stripper	24	Double Spring
7	Bottom Hook Assembly	25	Pawl
8	Latch Kit	26	Spring Ring
9	Bearing Race	27	Ratchet Disc
10	Side Plate (Left)	28	Friction Disc (Asbestos Free)
11	Stay	29	Brake Cover
12	Brake Seat	30	Hand Wheel
13	Top Hook Pin	31	Cotter Pin
14	Hand Chain	32	Hand Wheel Cover Assembly
15	Disk Gear	49	Castle Nut
16	Drive Shaft		
17	Splined/Load Gear		
18	Steel Bushing		

* For maximum performance/service life **RBL** replacement bearings are recommended



3T & 5T Top & Bottom Hook Assembly

- 4 Chain Pin**
- 8 Latch ***
- 33 Hook**
- 34 Latch Spring ***
- 35 Latch Bolt ***
- 36 Top Hook Frame**
- 37 Move Wheel**
- 38 Move Wheel Pin**
- 39 Bottom Hook Frame**
- 45 Screw**



10T Top & Bottom Hook Assembly

- 8 Latch ***
- 33 Hook**
- 34 Latch Spring ***
- 35 Latch Bolt ***
- 36 Top Hook Frame**
- 37 Move Wheel**
- 38 Move Wheel Pin**
- 40 Row**
- 41 Hook Frame Bar**
- 42 Lock Screw**
- 43 Top Hook Pin**
- 44 Bunton**
- 45 Screw**
- 46 Stripper**
- 47 Sling Plate**
- 48 Bottom Hook Pin**

* 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 provides a brief guide to determine possible solutions to common problems operators may encounter.

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
Hand Chain Binds	Possible damage to hand chain, hand chain wheel, pinion shaft, gears, load chain or sheaves	Disassemble hoist, inspect and repair/replace required component(s)
	Hand chain may not be properly installed twisted or kinked	Remove and re-install hand chain
Latches don't work properly	Broken Latch	Remove and replace latch kit
	Hook bent or twisted	Inspect load hook and replace if necessary



In Service Inspection and Maintenance

This should be performed by a competent/properly trained person

- ◆ **NEVER** perform maintenance on any hoist while it is supporting a load.
- ◆ When repairing or inspecting a hoist you should never disassemble the unit past the point of the required repair.
- ◆ Clean the chain block annually, by purging the parts in an acid free solvent and reapplying a new coating of lubricant to the parts before reinstallation.
- ◆ Align the “O” marks on disc gears when reinstalling.
- ◆ Stick the rollers of both the left and right bearings to the inner face of the bearings on the chain sprocket shaft journal. Then insert them into the outer face of the bearings on the side plates.
- ◆ After cleaning and making any necessary repairs, the hoist should be recertified by a competent person/company.
- ◆ After use, clean the chain block from dirt and keep it in a dry place, free from rust or corrosion.

Hoist should be recertified annually even if no repairs or alterations are performed

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 components require replacement due to signs of wear, reshaping and/or damage, all load supporting components of the hoist should also be carefully inspected for possible damage.

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



Replacing Load Chain

Never Add Sections of Load Chain ALWAYS replace the entire chain

- 1) Rotate hand chain wheel (2) until the narrow grooves of the load chain sprocket are visible
- 2) Feed a piece of flexible wire over the load chain sheave (10) and attach it to the open end of the replacement load chain
- 3) Pull the chain into the load chain sheave (10), making sure that the welds face outwards
- 4) Rotate the hand chain wheel (2) in the up "U" direction (drawing the load chain through the sheave); do not release the wire until the chain is exposed from the opposite side of the hoist body
- 5) Insert the free end of the load chain (having removed the flexible wire) into the end anchor (17) ensuring that the pin for end anchor (73) is inserted completely through the load chain
- 6) Then re-insert the split pin (72) into the load pin making sure to fold ends open the split pin ends, preventing the load pin from being able to be worked loose
- 7) Attach the bottom hook to the open end (see below)

Attaching/Replacing Bottom Hooks (1/2T to 3T single fall 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 (making sure that the chain is not twisted)
- 2) Insert bottom hook assembly chain pin (33), ensuring that the pin is inserted completely through the bottom hook assembly and the load chain
- 3) Tighten the nylon lock nut (74) until properly secured

Attaching/Replacing Bottom Hooks (5T double fall hooks)

- 1) Remove the split pin (72) from the end anchor (17) this will allow you to slide out the pin for end anchor (73)
- 2) Then feed a piece of flexible wire into the load chain opening located at the top of the hook assembly, under the idle sheave assembly (36) and out through the remaining opening at the top of the hook assembly
- 3) Attach the wire to the load chain and pull it through the top hook assembly, making sure that the welds face out
- 4) Insert the free end of the load chain (having removed the flexible wire) into the end anchor (17) ensuring that the pin for end anchor (73) is inserted completely through the load chain
- 5) Then re-insert the split pin (72) into the load pin making sure to fold open the split pin ends, preventing the load pin from being able to be worked loose

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.

Hoist Inspection Journal

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