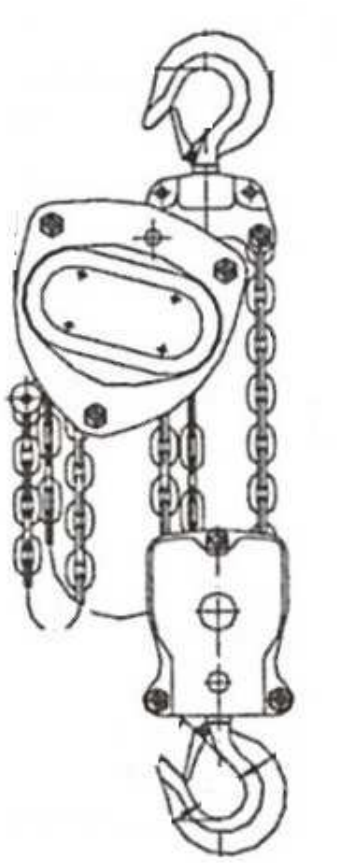
Operators Manual

VCHP – "Gold" Series
Manual Chain Hoists
With Overload Protection



1/2 to 5 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 _____
Name of Distributor _____

Meet ASME B30.16 Safety Standard

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 centres.

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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 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.

WARNINGS - 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 and the load should be centered), 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 sling or clamp being used to lift the load
- **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

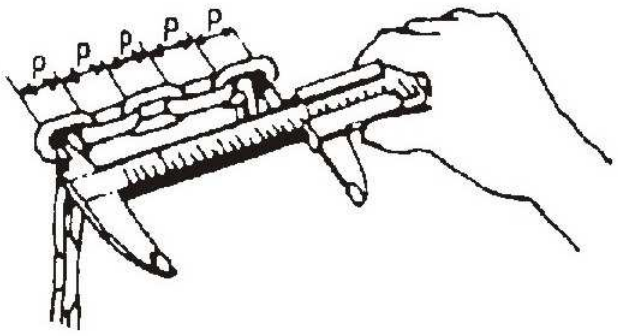
When lifting begin by **slowly pulling the hand chain in the "U"** up direction

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, corroded and/or damaged beyond safe working condition. A visual inspection of the load chain should be performed **BEFORE** each use of the hoist.

If any portion of the load chain is damaged the full length of load chain must be replaced immediately with new load chain **BEFORE** the hoist can be used/returned to service.



Chain Diameter	Capacity		Load Chain Dimensions 5 Links	
			Standard (mm)	Maximum (mm)
5 mm	1/2t	500 Kg	75.0	76.00
6 mm	1t	1,000Kg	90.0	91.25
7 mm	1-1/2t	1,500Kgs	105.0	106.40
8 mm	2t	1,500Kgs	120.0	121.60
10 mm	3t	3,000Kgs	150.0	152.00
	5t	6,000Kgs		

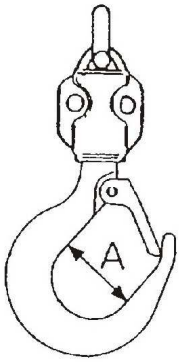
When measuring load chain dimensions the use of vernier calipers is required.

Bottom Hook Inspection

When Gold Series top and bottom hooks are overloaded they will stretch/open before failing. 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, hook stretch and the condition of the latch kit. Any hook that is not in safe working order must be disposed of immediately and replaced with a new hook **BEFORE** the hoist can be used/returned to service.

Hook Capacity		Standard A Size (mm)	Maximum A Size (mm)
1/4t	250 Kgs	19.0	20.90
1/2t	500 Kgs	23.0	25.30
3/4t	750 Kgs	24.5	26.95
1-1/2t	1500 Kgs	29.5	32.45
3t	3000 Kgs	37.5	41.25
6t	6000	43.5	47.85



When measuring hook openings the use of vernier calipers is required.

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

Proper Hook Attachment

The load must be applied squarely to the center of the hook and the hook must be attached in a manner that ensures it will not become loose during operation (see image 1).

Never attach the hook directly to the load, use of a sling or device such as a lifting clamp is required for safe use. .

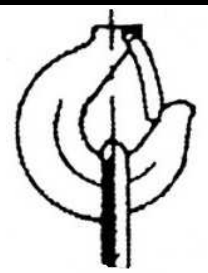


Image 1

Examples of Unsafe Hook Attachment

Improper hook attachment may cause the hook to elongate or bend increasing the risk of hook failure. Improper hook attachment may also interfere with the flow of the load chain to the load sheave preventing the hoist from operating in a safe and reliable manner (see images 2 to 6).

Image 2

Sling or support set at improper point on hook

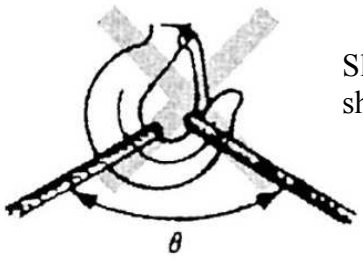


Image 3

Sling angle too wide should NEVER exceed 60°

Image 4

Safety latch not able to properly engage.

Image 5

Tip loading

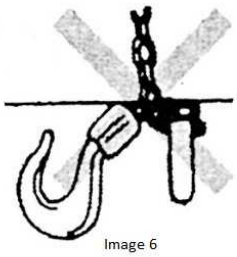
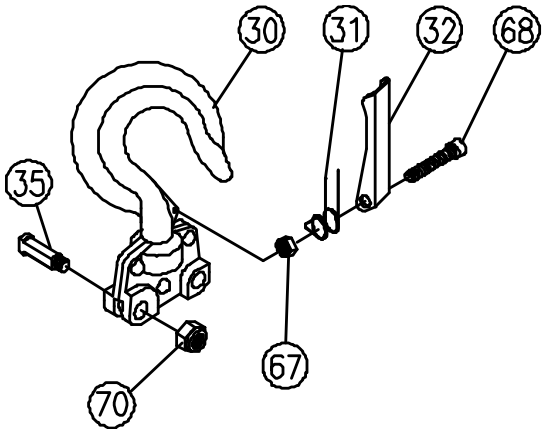


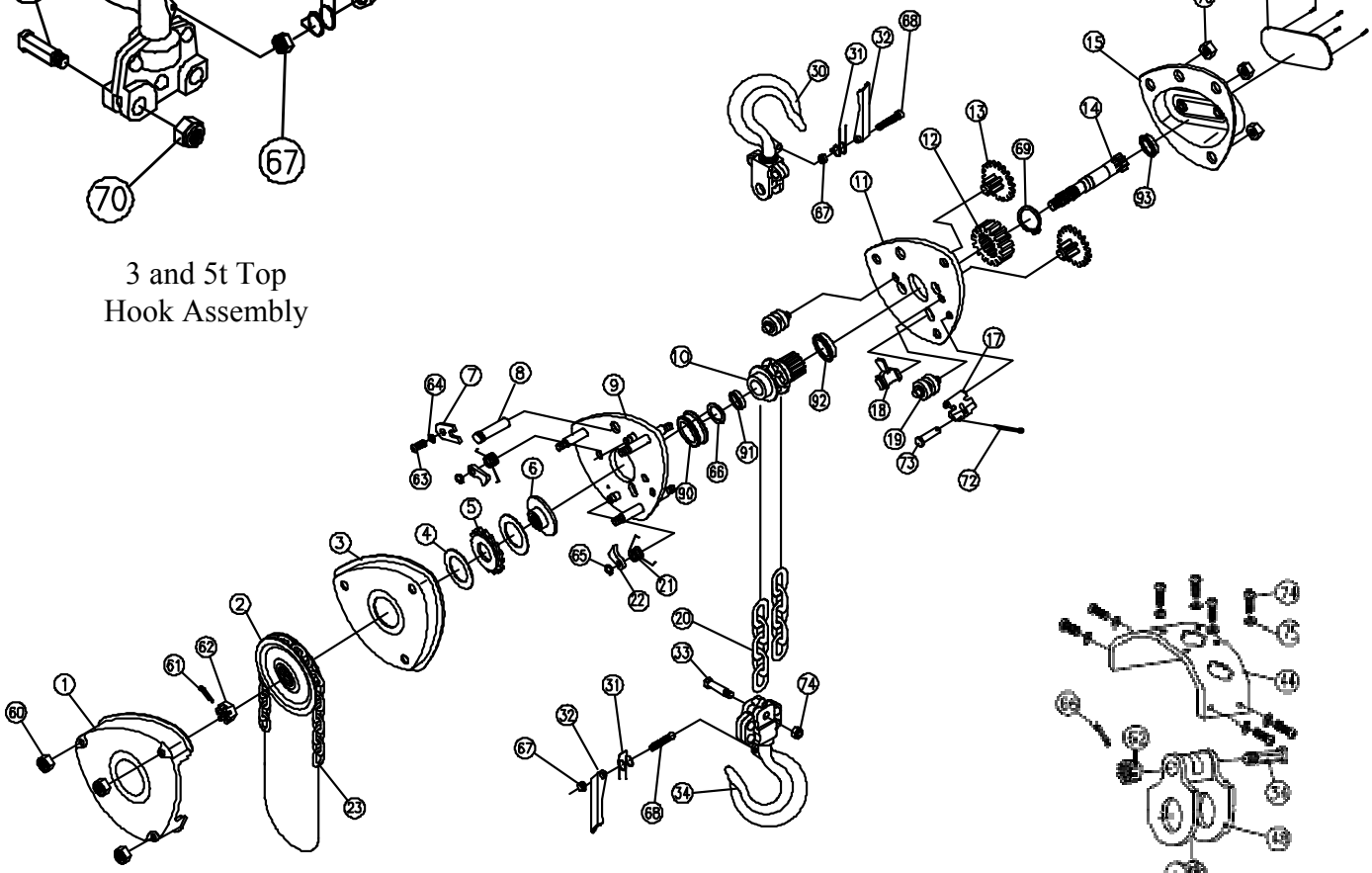
Image 6

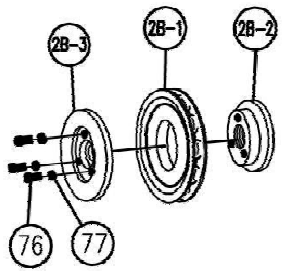
Chain wound around load. Not properly secured and it drastically reduces the load chain's capacity

1/2t to 5t Parts Breakdown

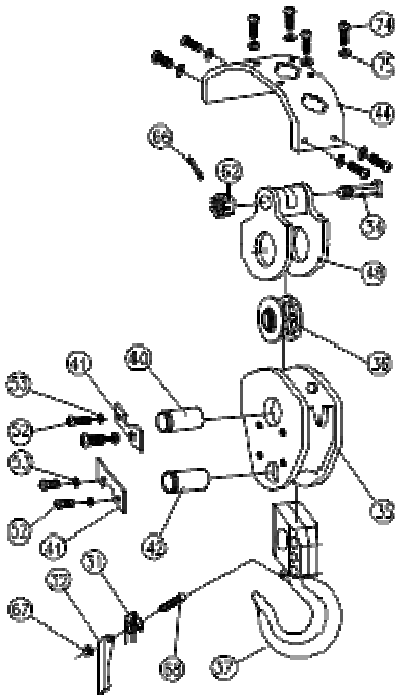


3 and 5t Top
Hook Assembly





Overload Device
Replaces #2 hand wheel



3 and 5t Bottom
Hook Assembly

1/2t to 5t Parts List			
1	Hand Wheel Cover Assembly	34	Bottom Hook Assembly**
2	See 2B-1, SB-2 and 2B-3	35	Load Chain Pin
2B-1	Hand Chain Wheel	36	Idle Sheave Assembly
2B-2	Knob	37	Hook
2B-3	Block Ring	40	Idle Sheave Pin
3	Brake Cover	41	Idle Sheave Pin Plate
4	Friction Plate	42	Hook Pin
5	Ratchet Gear	45	Top Hook **
6	Brake Seat	60	Prevailing Torque Type Nut
7	Lock Plate	61	Split Pin
8	Top Hook Pin	62	Hexagonal Castle Nut
9	Wheel Side Plate Assembly “B”	63	Screw
10	Load Chain Sheave	64	Spring Washer
11	Wheel Side Plate Assembly “A”	65	Snap Ring
12	Splined/Load Gear	66	Spring Washer
13	Disc Gear	67	Prevailing Torque Type Nut
14	Driving Shaft	68	Screw
15	Gear Case Assembly	69	Snap Ring
16	Name Plate	70	Prevailing Torque Type Nut
17	End Anchor	71	Rivet
18	Stripper	72	Split Pin
19	Load Chain Guide Roller	73	Pin for End Anchor
20	Load Chain	74	Nylon Lock Nut
21	Pawl Spring	76	Screw
22	Pawl	77	Spring Washer
23	Hand Chain	90	Bearing “A” *
30	Top Hook Assembly *	91	Pin Bearing
31	Double Spring	92	Bearing “B” *
32	Cast Latch*	93	Bearing “C” *
33	Bottom Hook Assembly Chain Pin		

* Top hook assemblies are sold as complete units (hook, load pin, cast latch kit, load pin,

** Cast Latch kits are sold as complete units (cast latch, double spring, bolt and nylon lock nut)

*** Bottom hook assemblies are sold as complete units (hook, load pin, cast latch kit, load pin and nylon lock nut)

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

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

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 page 10)

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 (34) 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

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 for damage, including loose bolts or nuts
- 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
- 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

- Inspect 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 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 operation of the brakes, including the condition of the friction discs, pawls and ratchet disc
- ♦ Check the condition of the load sheave assembly and load chain sheave
- ♦ Check the condition of the overload device/load limiter components for signs of corrosion
- ♦ Inspect the gears for any signs of wear, cracked or broken teeth
- ♦ Inspect the shafts for signs of wear or damage
- ♦ Warning tags and name plate for absence or illegibility
- ♦ 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
- ♦ 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 chain 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 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