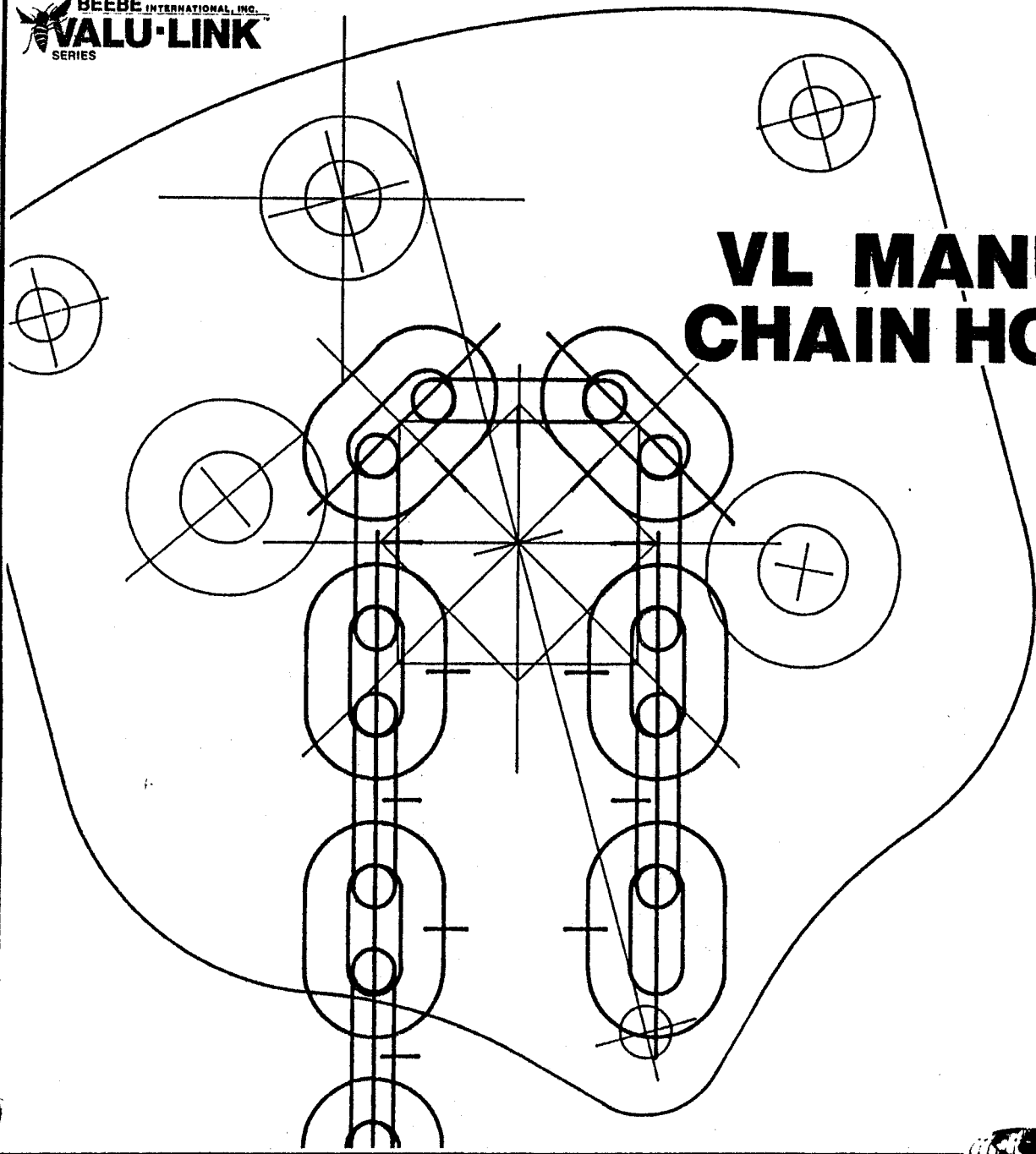


# BEEBE OWNER'S Operation & Maintenance Manual



## VL MANUAL CHAIN HOIST



BEEBE INTERNATIONAL, INC., 2724 SIXTH AVENUE SOUTH • SEATTLE, WASHINGTON 98134  
PHONE (206) 624-0466, TELEX: 3723554, P.O. BOX 24046, SEATTLE, WA 98124 TELEFAX NO. (206) 447-0715



## TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
A. Safety Precautions	1
B. Pre-Inspection	1
C. Operating Instructions	1-2
D. Proper Position of Load	2
E. Common Misapplications to Avoid	2
F. Summary of Safe Handling Procedures	3
G. Storage	3
◦ Warnings	3
◦ Trouble-Shooting Chart and Maintenance Schedule	4
◦ Recommend Lubricants	5
◦ Chain Hoist Parts List and Assembly	6-7
◦ General Warranty	8

### WARNING

#### TROLLEY INSTALLATION

The trolley has been designed and built for installation by sliding the trolley on the end of the support beam and does not require disassembly of the trolley hoist.

If vertical installation is required, please contact Beebe International, Inc. in Seattle before this type of installation is performed.

Failure to do so could cause the trolley drive gear assembly to disengage, enabling the parts to fall free from the trolley and may present a hazard to persons and or equipment.

# BEEBE MANUAL CHAIN HOIST OPERATING & MAINTENANCE INSTRUCTIONS

## IMPORTANT

BEFORE operating your Beebe Manual Chain Hoist, it is important to completely read the following instructions.

### A. SAFETY PRECAUTIONS

**CAUTION:** Be sure that supporting structures and load-attaching devices used in conjunction with this hoist provide an adequate safety factor to handle the rated load plus the weight of the equipment. If in doubt, consult a qualified structural engineer.

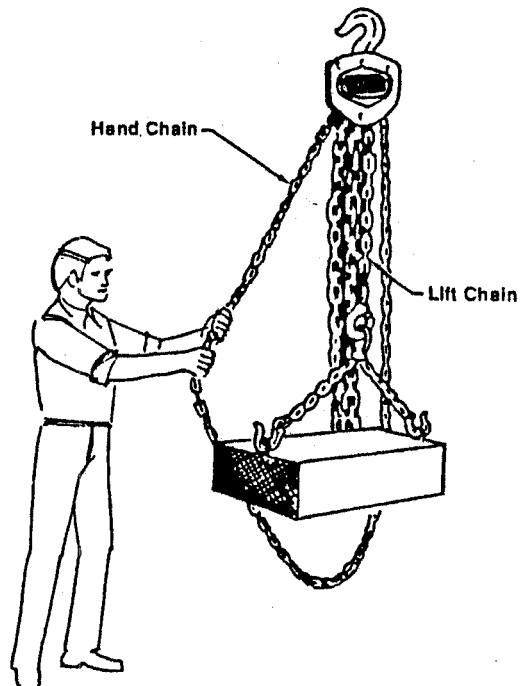
### B. PRE-INSPECTION

Regular inspection is important. Before each use, always check the hoist for the following:

1. Chain is properly lubricated.
2. Braking mechanism for evidence of slippage under load.
3. Load chain for wear and twist, broken, cracked or otherwise damaged link. Daily check for deposits of foreign material which may be carried into the hoist mechanism.
4. Hooks for deformation, chemical damage or crack. Hooks damaged from chemicals, deformations or cracks or having more than 15% in excess of normal throat opening or more than 10% twist from the point of the unbent hook, indicates abuse or overloading of the unit. Other load bearing components of the hoist should be inspected as well.

**IMPORTANT** - If any visual sign of hook openings or deformation (elongation, mar, wear, crack, bend, etc.) is discovered, an overload condition has occurred and the hoist should not be used further without having it checked at an authorized Beebe service station or at the Beebe factory. Check each time before using.

Units returned with opened, bent or twisted hooks, or without chain and hooks, will not be repaired or replaced under warranty.



### C. OPERATING INSTRUCTIONS

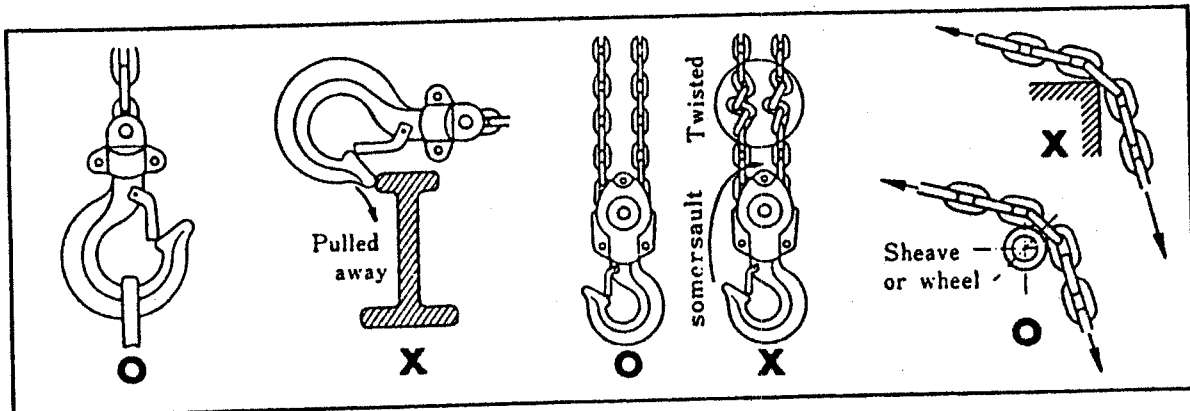
1. As illustrated below, the hand chain on the right of the hand wheel is for hoisting and the one on the left for lowering. It is normal for the brake to click when hoisting; it will not click when lowering.

2. Beebe hoists are designed for normal hoisting and pulling service. To insure long and safe use, please observe the following:
  - a. Use only within rated capacity.
  - b. Position load correctly. Place load on hooks only in a straight line.
  - c. Regularly inspect hooks for opening and chain for damage or wear.
  - d. Check regularly for proper lubricant.
  - e. Stop operation whenever feeling a sudden tautness during either hoisting or lowering and check for obstructions, overload, binding, etc.
  - f. Chain should not be pulled in or out to its maximum length.

D. PROPER POSITION OF LOAD The center of the top hook, the axes of the body, the vertical links and the center of the bottom hook should be lined up while in a loaded condition. If the load is set in the inclining direction with the chain twisted or against a sharp corner, the bottom block could somersault between the two falls of chain and become twisted. These conditions will reduce the strength of the hoist and its rated capacity, reducing its life.

E. COMMON MISAPPLICATIONS TO AVOID

1. Never run chain over a sharp edge.
2. Do not reach around corners or load hooks in a manner as illustrated below. Such loading can cause damage to the hook assembly, chain and hoist body.



3. Do not overload. Overloading can cause failure of the unit and shorten the usable life of the hoist.
4. Do not suspend a single load with two hoists.
5. Avoid using two hoists to handle one load unless necessary. If necessary, select two hoists, each having a rated capacity equal to or more than the load to be lifted. This provides adequate safety in case of a sudden shift in the load or failure of one of the hoists.
6. Do not use hoist chain or hoist hooks as slings or chokers.
7. Do not leave the hoist exposed to rain, mud, salt water, chemicals, etc., which may cause corrosion and reduce its life.
8. Do not use for lifting, lowering or moving persons. Never lift loads over people.

F. SUMMARY OF SAFE HANDLING PROCEDURES

1. Do not allow twisting or capsizing of double-fall chain.
2. Sling loads from the center of the hook.
3. Do not directly bind a load chain.
4. Do not overload.
5. Do not sling from an extreme slant.
6. Do not overlift or overlower.
7. Do not handle roughly.
8. Oil load chain and all joints after each use.
9. Do not disassemble under a load.
10. Do not lift or lower persons.

G. STORAGE

1. Be sure to leave the hoist lever in a "No Load" condition.
2. Wipe all dirt and water off the hoist and apply oil to the chain, the revolving parts of the hook and the retaining pawl shaft, etc., (especially if it has been used in rain or harsh environment).
3. Store your Beebe lever chain hoist by hanging it up in a dry place.
4. Handle the hoist with care. Although the Beebe Manual Chain Hoists are heavy duty, they are still a piece of machinery and should not be abused.

IMPORTANT -The National Safety Council, Accident Prevention Manual for Industrial Operations, Eighth Edition and other recognized safety sources make a common point: "All employees working with cranes or hoists or assisting in hooking or arranging a load should be instructed to keep out from under load. From a safety standpoint, one factor is paramount: conduct all lifting operations in such a manner that if there were an equipment failure, no personnel would be injured. This means keep out from under raised load and keep out of the line of force of any load."

IMPORTANT -This equipment is not to be used for lifting, supporting or transporting people, or lifting or supporting loads over people.

IMPORTANT -Before installation see maintenance and operations manual for additional warnings and precautions.

OSHA - Beebe hoists are built in accordance with the specifications contained herein and in compliance with specifications and standards at the time of manufacture, which are in accordance with applicable sections of ANSI B30.16, and OSHA. Beebe recommends the use of equipment that meets local, state and national safety codes and it is up to users to comply with these codes and requirements. It is the owner and users' responsibility to determine the suitability of a product for any particular use. Read all operating instructions and warnings carefully.

**TRUBLE-SHOOTING CHART AND MAINTENANCE SCHEDULE**

Component	Parts to be inspected	Inspection standard	Inspection Interval	
			Periodic	Before Storage
Hooks	1. Distance between upper and lower jaws.	Should not be so long as to result in detachment of the safety latch.	0	0
	2. Wear and damage	Inner side and neck should be free from wear and damage.	0	0
	3. Top and bottom yokes	The hook connecting hole and hook pin receiving hole should be free from enlargement which causes rattling.	0	0
Load Chain	1. Deformation and wear of links	There should not be an abrasion mark on the inner side of link.	0	0
	2. Pitch of links	Should not be greater than standard dimension.	0	
	3. Rust and damage	There should not be an extensive rust or injury mark on the links.	0	0
	4. End anchor	Should not have been bent or damaged.	0	0
Function	1. Lifting and lowering 2. Braking	No abnormal drag on hand chain. No rapid fall when the hand chain is released. No rapid fall in the course of pulling down. The load should not slip down.	0	0

Brake Assembly	1. Wear on brake disk	The disk must be uniform in thickness: shall not be less than 2 mm.	0	
	2. Wear on brake disk plate	The friction surface should be free from damage and foreign deposits.	0	
	3. Wear on ratchet gear	Should be free from wear and deformation.		
	4. Smooth action of pawl	The pawl should be free from wear, seizure and excessive play.	0	
Hoisting Mechanism	1. Deformation of load sheaves	The catch and boss should be free from wear and foreign deposits.	0	
	2. Wear and injury of gears	The teeth should not have been stepped or deformed.	0	
	3. Wear and deformation of handwheel	Should be free from foreign deposits. The catch, brake face and threads shall not be deformed. No deflection on turning.	0	
Frame	1. Nuts	Each nut should be tight.	0	0
	2. Deformation of covers	Each cover should be free from deformation.	0	
	3. Loosened stay bolt	The stay bolt should be free from looseness, bends and damaged threads.	0	
	4. Deformation of roller guide	Should turn smoothly and be free from deformation.	0	
	5. Cracked stripper	Should be free from cracks and wear.	0	

# RECOMMENDED LUBRICANTS

LINE NO.	PART	AMBIENT TEMPERATURE RANGE °F	LUBRICANT BRAND							OTHER
			SHELL	CHEVRON	EXXON	MOBIL	GULF	TEXACO		
1	GEARS, OPEN	-20 to 50 30 to 120	ALVANIA EP 1 ALVANIA EP 2	POLYUREA EP 1 POLYUREA EP 2	RONEX MP RONEX MP	MOBILUX EP 1 MOBILUX EP 2	GULFCROWN EP 1 GULFCROWN EP 2	MOLYTEX EP 1 MOLYTEX EP 2		
2	GEARS, CLOSED	-20 to 50 30 to 100 80 to 120	OMALA 100 OMALA 150 OMALA 220	N.L. GEAR 100 COMPOUND 150 COMPOUND 220	SPARTAN EP150 SPARTAN EP220	MOBIL GEAR 627 MOBIL GEAR 629 MOBIL GEAR 630	EP HD 100 EP HD 150 EP HD 220	MEROPA 150 MEROPA 220		
3	GEARS, ENCLOSED (NORM)	-20 to 50 30 to 100 80 to 120	OMALA 220 OMALA 320 OMALA 460	N.L. GEAR 220 COMPOUND 320 COMPOUND 460	SPARTAN EP220 SPARTAN EP320 SPARTAN EP460	MOBIL GEAR 630 MOBIL GEAR 632 MOBIL GEAR 654	EP HD 220 EP HD 320 EP HD 460	MEROPA 220 MEROPA 320 MEROPA 460		
4	GEARS WITH ENCLOSED FRICTION CLUTCH AND/OR BRAKE				NUTO H56 NUTO H68 NUTO H100				RANDO HD 46 RANDO HD 68 RANDO HD 150	
5	SEALINGS, ANTI-FRICTION	-20 to 50 30 to 120	ALVANIA EP 1 ALVANIA EP 2	POLYUREA EP 1 POLYUREA EP 2	RONEX MP RONEX MP	MOBILUX EP 1 MOBILUX EP 2	GULFCROWN EP 1 GULFCROWN EP 2	MOLYTEX EP 1 MOLYTEX EP 2		
6	SEALINGS, SLEEVE	-20 to 50 30 to 120	ALVANIA EP 1 ALVANIA EP 2	POLYUREA EP 1 POLYUREA EP 2	RONEX MP RONEX MP	MOBILUX EP 1 MOBILUX EP 2	GULFCROWN EP 1 GULFCROWN EP 2	MOLYTEX EP 1 MOLYTEX EP 2		
7	SEALINGS, SLIDING	-20 to 50 30 to 120	ALVANIA EP 1 ALVANIA EP 2	POLYUREA EP 1 POLYUREA EP 2	RONEX MP RONEX MP	MOBILUX EP 1 MOBILUX EP 2	GULFCROWN EP 1 GULFCROWN EP 2	MOLYTEX EP 1 MOLYTEX EP 2		
8	MOTORS, AIR LINE	-20 to 50 32 to 120			AROX EP 46 AROX EP 150	DTE 13 ALMO 525				
9	PISTON POINTS, WITH GREASE FITTING	-20 to 50 30 to 120	ALVANIA EP 1 ALVANIA EP 2	POLYUREA EP 1 POLYUREA EP 2	RONEX MP RONEX MP	MOBILUX EP 1 MOBILUX EP 2	GULFCROWN EP 1 GULFCROWN EP 2	MOLYTEX EP 1 MOLYTEX EP 2		
10	PISTON POINTS, NO GREASE FITTING	-20 to 50 30 to 100 80 to 120	OMALA 100 OMALA 150 OMALA 220	N.L. GEAR 100 COMPOUND 150 COMPOUND 220	SPARTAN EP150 SPARTAN EP220	MOBIL GEAR 627 MOBIL GEAR 629 MOBIL GEAR 630	EP HD 100 EP HD 150 EP HD 220	AW MACHINE OIL GRADE 100		
11	CHAIN, HOISTING								BEEBE INT'L LUBRI-LINK OR DRY MOLY	
12	CHAIN, OPEN DRIVE	-20 to 50 30 to 100 80 to 120	OMALA 100 OMALA 150 OMALA 220	N.L. GEAR 100 COMPOUND 150 COMPOUND 220	SPARTAN EP150 SPARTAN EP220	MOBIL GEAR 627 MOBIL GEAR 629 MOBIL GEAR 630	EP HD 100 EP HD 150 EP HD 220	MEROPA 150 MEROPA 220		
13	CHAIN, ENCLOSED DRIVE	-20 to 50 30 to 100 80 to 120	OMALA 100 OMALA 150 OMALA 220	N.L. GEAR 100 COMPOUND 150 COMPOUND 220	SPARTAN EP150 SPARTAN EP220	MOBIL GEAR 627 MOBIL GEAR 629 MOBIL GEAR 630	EP HD 100 EP HD 150 EP HD 220	MEROPA 150 MEROPA 220		
14	HYDRAULIC	-20 to 50 30 to 100 80 to 120	TELLUS 23 TELLUS 32 TELLUS 46	AW HYD GRADE MV AW HYD GRADE 32 AW HYD GRADE 46	NUTO H 32 NUTO H 46	DTE 13 DTE 24 DTE 25	ANTWEAR 32AW ANTWEAR 46AW	RANDO HD A2 32 RANDO HD 32 RANDO HD 46		

# CHAIN HOIST PARTS LIST FOR MODEL VL

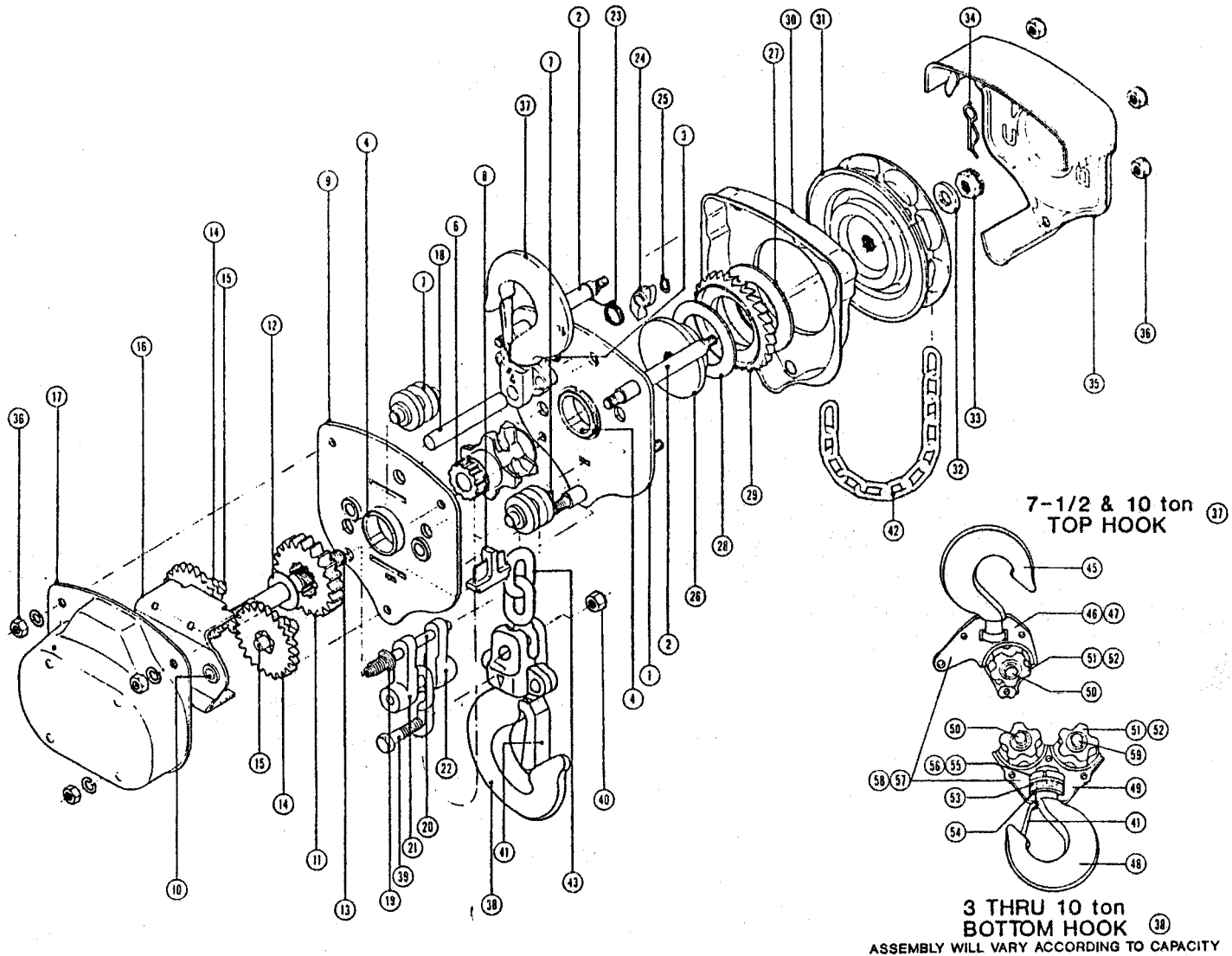
ITEM	DESCRIPTION	QTY	CAPACITY / PART NO.				
			1/2	1	1-1/2	2	2-1/2, 5,
			TON	TON	& 3 TON	TON	7-1/2, & 10 TON
1.	SIDE PLATE 1	1	2372779	2372821	2372851	2372866	2372902
2.	STAY BOLT	3	2372780	2372822		2372867	
3.	PAWL STUD	1	2372781	2372823		2372868	
4.	BEARING	2	2372782	2372824		2372869	2372903
5.							
6.	LOAD SHEAVE	1	2372784	2372826	2372852	2372871	2372905
7.	LOAD CHAIN GUIDE	2	2372785	2372827		2372872	
8.	CHAIN STRIPPER	1	2372786	2372828		2372873	
9.	SIDE PLATE 2	1	2372787	2372829	2372853	2372874	2372906
10.	GEAR BUSHING	4	2372788		2372875		
11.	1ST GEAR	1	2372789	2372830	2372854	2372876	2372907
12.	PINION WASHER	1	2372790	----	----	----	----
13.	PINION SHAFT	1	2372791	2372831		2372877	
14.	2ND GEAR	2	2372792	2372832	2372855	2372878	2372908
15.	3RD GEAR	2	2372793	2372833		2372879	2372909
16.	SUPPORT PLATE	1	2372794	2372834	2372856	2372880	2372910
17.	GEAR COVER	1	2372795	2372835	2372857	2372881	2372911
18.	HOOK PIN	2	2372796	2372836		2372882	2372912
19.	END SPRING	1	2372797				
20.	END PIN	1	2372798	2372837		2372883	
21.	END ANCHOR A	1	2372799	2372838		2372884	
22.	END ANCHOR B	1	2372800	2372839		2372885	
23.	SPRING	1	2372801	2372840	2372858	2372886	2372913
24.	PAWL	1	2372802		2372887		
25.	SNAP LINK	1	2372803		2372888		
26.	HUB	1	2372804	2372841		2372889	
27.	BRAKE DISC A	1	2372805		2372890		
28.	BRAKE DISC B	1	2372806		2372982		
29.	RATCHET GEAR	1	2372807		2372891		
30.	BRAKE COVER	1	2372808	2372842	2372859	2372892	2372914
31.	HANDWHEEL	1	2372809	2372843	2372860	2372893	2372915
32.	WASHER	1	2372810				
33.	PINION NUT	1	2372811				
34.	COTTER PIN	1	2372812				
35.	WHEEL COVER	1	2372813	2372844	2372861	2372894	2372916
36.	U-NUT	6	2372814		2372895		
37.	TOP HOOK SET	1	2372815	2372845	(A) 2372862	2372896	(B) 2372917
38.	BOTTOM HOOK H	1	2372817	2372847	2372864	2372898	2372919
39.	CHAIN BOLT	1	2372818	2372848		2372899	2372920
40.	U-NUT	1	2372819	2372849		2372900	
41.	SAFETY LATCH	1	2372820	2372850	(A) 2372865	2372901	(B) 2372921
42.	HAND CHAIN	1	HCCB005			HCCV020	
43.	LOAD CHAIN H	1	LCCF005	LCCF010	LCES010	LCCV020	LCCV050

NOTE: (A) Part listed applies to 1-1/2 ton unit only.  
For 3 ton see 3 ton listing.

MF:br/8690A-1 10/86

(B) Part listed applies to 2-1/2 ton unit only.  
For larger size see listing for appropriate size.

# CHAIN HOIST PARTS LIST FOR MODEL VL



ITEM	DESCRIPTION	QTY	CAPACITY / PART NO.			
			3	5	7-1/2	10
			TON	TON	& 3 TON	TON
37.	TOP HOOK SET	1	2372922	2372938	2372954	2372966
38.	BOTTOM HOOK H	1	2372924	2372940	2372956	2372968
41.	SAFETY LATCH	1	2372925	2372941	2372957	2372969
45.	TOP HOOK ONLY	1	---	---	2372958	2372970
46.	TOP FRAME A	1			2372959	2372971
47.	TOP FRAME B	1			2372980	2372981
48.	BOTTOM HOOK ONLY	1	2372928	2372944	2372960	2372972
49.	BOTTOM FRAME H	2	2372930	2372946	2372962	2372974
50.	AXLE	2/3	2372931		2372947	
51.	SHEAVE	2/3	2372932		2372948	
52.	AXLE BEARING	2/3	2372933		2372949	
53.	THRUST BEARING	1	2372934	2372950	2372963	2372975
54.	WASHER	1	2372935	2372951	2372964	2372976
55.	C-LINK	2	2372936	2372952	2372965	2372977
56.	O-LINK	1	2372937	2372953	---	---
57.	YOKE BOLT	2/3	2372783	2372825	2372870	2372904
58.	YOKE NUT	2/3	2372816	2372846	2372863	2372897
59.	AXLE NUT	2/3	2372918	---	---	---