

OPERATOR'S MANUAL

KCH SERIES CHAIN HOISTS



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ONE YEAR LIMITED WARRANTY

JET® Manual Hoists are guaranteed to be free of defects in material and workmanship. If one of these products fails during the first year of operation due to defective material or workmanship it will be repaired or replaced at our discretion. Normal wear and tear on moving parts is excluded from this guarantee. This guarantee does not apply to any product showing signs of misuse, overloading, alteration, or improper maintenance.

WARRANTY PROCEDURE

After receiving authorization from one of the offices listed below, any product for which there is a warranty claim must be returned prepaid to an authorized JET® warranty depot along with proof of purchase.

Addresses for information on JET® Material Handling products, warranty depots or distributors:

Vancouver

49 Schooner Street
Coquitlam, British Columbia
V3K 0B3
Tel: (604) 523-TOOL (8665)
Toll Free: 1-800-472-7685
Fax: (604) 526-JET1 (5381)
Toll Free: 1-800-663-7742

Edmonton

9720 – 12th Avenue SW
Edmonton, Alberta
T6X 0J5
Tel: 1-800-472-7685
Fax: 1-800-663-7742

Winnipeg

951 Powell Ave
Winnipeg, Manitoba
R3H 0H4
Tel: (204) 632-6970
Fax: (204) 694-9534

Toronto

979 Gana Court
Mississauga, Ontario
L5S 1N9
Tel: (905) 565-8661
Fax: (905) 565-7266

Montreal

4620 Rue Garand
St-Laurent, Quebec
H4R 2A2
Tel: (514) 332-4618
Fax: (514) 332-4777

Halifax

#110-11 Morris Drive
Dartmouth, Nova Scotia
B3B 1M2
Tel: (902) 468-8324
Fax: (902) 468-3461

INFORMATION FOR YOUR SAFETY

It is the responsibility of the owner/user to install, inspect, test, maintain, and operate these hand chain hoists in accordance with ASME B30.16, Safety Standard for Overhead Hoists.

These general instructions deal with the normal installation, operation and maintenance situations encountered with the hand chain hoists described herein. The instructions should not be interpreted to anticipate every possible contingency or to anticipate the final system or configuration that uses these hand chain hoists.

These instructions include information for a variety of hand chain hoists. Therefore, all instructions and information may not apply to one specific hand chain hoist. Disregard those portions of the instructions that do not apply.

If the hand chain hoist owner/user requires additional information, or if any information in these instructions are not clear, contact your local JET chain hoist distributor.

This hand chain hoist should not be installed, operated, or maintained by any person who has not read all the contents of these instructions, and ASME B30.16, Safety Standard for Overhead Hoists. Failure to read and comply with these instructions or any of the warnings or limitations noted herein can result in serious bodily injury or death, and/or property damage.

Only trained and qualified personnel shall operate and maintain this equipment.

Equipment described herein is not designed for, and should not be used for lifting, supporting, or transporting people.

User should not use this hand chain hoist in conjunction with other equipment unless necessary and/or required safety devices applicable to the system are installed by the user.

Modifications to upgrade, rerate or otherwise alter these hand chain hoists shall be authorized only by the original equipment manufacturer or qualified professional engineer.

PRIOR TO INSTALLATION

Check for damage during shipment. Place claim with carrier if any damage is discovered. DO NOT install or use a damaged hand chain hoist.

Check and verify that the structure or other equipment that will support the hand chain hoist has a rated load capacity equal to or greater than the rated load capacity of the hand chain hoist to be used.

OPERATION

Before initial operation of hoist:

1. Read and comply with all instructions and warnings furnished with or attached to hoist.
2. Check lubricant.
3. Check operation of brake.
4. Check that chain is properly seated in sheaves and that chain is not twisted, kinked, or damaged.

Before each shift:

1. Inspect hooks for nicks, gouges, cracks, and signs of pulling apart or twisting.
2. Inspect hook latch for proper operation.
3. Check chain for kinks or twists.
4. Check operation of brake.
5. Replace warning label if missing or illegible.

Before operating:

1. Be certain all personnel are clear of the load to be lifted and moved.
2. Make sure load will clear stock piles, machinery, or other obstructions when hoisting and travelling the load.
3. Eliminate any twists or kinks in the load chain.

SAFETY PRECAUTIONS

A. READ these instructions and ASME B30.16, Safety Standard for Overhead Hoists before installing, operating, or maintaining this equipment.

B. WARN personnel of approaching loads.

C. DO NOT:

1. Lift more than rated load.
2. Operate hoist when it is restricted from forming a straight line with the direction of loading.
3. Operate with twisted, kinked, or damaged chain.
4. Operate if chain is not seated in sheaves or sprockets.
5. Wrap chain around load or use chain as a sling.
6. Operate unless load is properly applied to the saddle or bowl of the hook.
7. Operate if load is applied to the tip of the hook.
8. Operate with damaged or missing hook latches.
9. Lift people or lift loads over people.
10. Operate with side-pulling or side-loading of load to hoist.
11. Operate a damaged or malfunctioning hoist.
12. Operate with other than hand power.
13. Remove, deface, or obscure warning label or labels on hoist.
14. Leave load suspended when hoist is unattended unless specific precautions have been instituted and are in place.
15. Lengthen load chain or repair damaged load chain by welding.
16. Use chain as a ground for welding.

INSPECTION AND MAINTENANCE

Prior to initial use, all new, modified, and repaired hoists shall be inspected in accordance with Table 2. Thereafter, inspections shall be conducted at intervals shown in Table 1; and items to be inspected are indicated in Table 2 by F (Frequent) or P (Periodic).

Frequent Inspections – Visual inspection by the operator or other authorized person. This inspection includes listening for unusual sounds while the hoist is operated that may indicate deficiencies.

Periodic Inspections – Audible-visual inspection as for Frequent Inspections, with some disassembly to allow a more detailed inspection if external conditions indicate the need.

Exception: Brakes require more than audible-visual inspection. Check daily by operating hoist with and without load, stopping at various positions to test holding power and amount of drift, if any occurs. TO ADJUST BRAKE (Refer to Figure 1):

1. Fully tighten nut to position A.
2. Slack off nut from position A to position B and insert cotter key.

TABLE 1 – FREQUENCY OF INSPECTION

SERVICE	FREQUENT (F) INSPECTION	PERIODIC (P) INSPECTION
Normal	Monthly	Annually
Heavy	Weekly to Monthly	Semi-Annually
Severe	Daily to Weekly	Quarterly

FIGURE 1

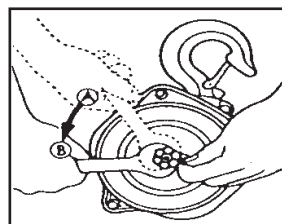


TABLE 2 – INSPECTION CHART

In chart, F indicates Frequent Inspection, P indicates Periodic Inspection

LOCATION	CHECK FOR	F	P	LOCATION	CHECK FOR	F	P
Braking mechanism	Slipping under load	✓		Hook Retaining Members (Pins, Bolts, Nuts)	Not tight or secure		✓
	Hard to release	✓			Hook Latch	Damaged; does not close	✓
Brake Parts	Brake Discs	Glazing	✓	Suspension Members (Sheaves, hand-wheels, chain attachments, suspension bolts or pins)	Excessive wear		✓
			Oil contamination			✓	Cracks
Pawl; Ratchet	Excessive wear		✓	Gears	Distortion		✓
Pawl Spring	Corrosion; stretch		✓		Broken or worn teeth		✓
Hooks	Chemical damage	✓			Cracks		✓
	Deformation	✓		Inadequate lubrication		✓	
	5% in excess of normal throat opening		✓	Load Block; Suspension Housing	Distortion	✓	✓
	10° twist from plane of unbent hook		✓		Cracks	✓	✓
	Cracks (dye penetrant, magnetic particle, or other suitable detection method)			✓	Trolley; Supporting Structure	Possible inability to continue supporting imposed loads	
				Bolts, Nuts, Rivets	Not tight or secure		✓
				WARNING Label	Removed or illegible	✓	

Refer to ASME B30.16 for additional information on inspection, test, and maintenance.

HOOKS WARNING

1. Any hook that requires replacement because of excessive bends, twists, or throat opening indicates abuse or overloading of the hoist. Therefore, other load-supporting components of the hoist should be inspected for possible damage when such conditions are found.
2. Never repair hooks by welding or reshaping. Heat applied to the hook will alter the original heat treatment of the hook material and reduce the strength of the hook.
3. Never weld handles or other attachments to the hook. Heat applied to the hook will alter the original heat treatment of the hook material and reduce the strength of the hook.

HOOKS INSPECTION

Refer to ASME B30.10, Safety Standard for Hooks. Inspect hooks and measure hook throat opening at least once a month. Between regular inspections check visually daily for deformation, distortion, twisting, damage, and missing or damaged hook latches. Inspect as follows:

1. Measure hook opening at raised dots to check for stretch. Raised dots provide a constant reference point and eliminate measurement errors. Replace hook when measurement between dots reaches "Dimension Y Replace Hook" figures below.

CAPACITY TONS	DIMENSION Y NEW HOOK	DIMENSION Y REPLACE HOOK	DIMENSION H NEW HOOK	DIMENSION H REPLACE HOOK
1/2	35mm	37mm	16mm	15mm
1	46mm	48mm	21mm	20mm
2	52mm	55mm	28mm	27mm
3	62.5mm	66mm	35.5mm	34mm
5	78mm	82mm	43.2mm	41mm

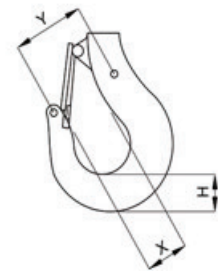


Figure 2

CAPACITY TONS	DIMENSION Y	DIMENSION Y REPLACE HOOK	DIMENSION H NEW HOOK	H REPLACE	DIMENSION X NEW HOOK	DIMENSION X REPLACE HOOK
10	N/A *	N/A *	60.4mm	57.5mm	64mm	67.8mm
20	N/A *	N/A *	84.8mm	80.7mm	82mm	87mm

* 10 and 20 ton hooks do not have raised dots. Use measurement X.

2. Measure hook depth at load bearing point in the bowl of the hook. Hook must be replaced when wear at load bearing point reaches "Dimension H Replace Hook" figures above.
3. A bend or twist of the hook exceeding 10° from the plane of the unbent hook requires replacement of the hook.
4. A hook latch that is missing shall be replaced.
5. A hook latch that is inoperative shall be repaired or replaced.
6. A hook with a hook latch that does not close the throat opening of the hook shall be removed from service until the latch is replaced or repaired.
7. Hooks having damage from chemicals, corrosion, or deformation shall be repaired or replaced.

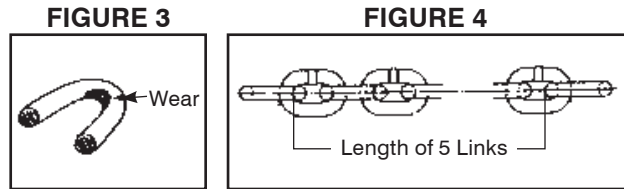
Due to variations in the manufacturing process, the dimensions of a new hook are variable. For accurate record keeping, we recommend users record measurements Y and H of the hook before use. Record this information in the spaces above and calculate the replacement value by multiplying by 1.05 for Dimension Y or by 0.95 for Dimension H.

CHAIN

Inspect chain at least once a month. Between regular inspections, check visually daily for nicks, gouges, weld splatter, corrosion, or distorted links. Inspect chain thoroughly if it does not feed smoothly over load sheaves. Inspect as follows:

1. Clean chain with solvent before inspection.
2. Test hoist with load and observe operation of chain over load sheaves.
3. Slacken chain and inspect contact points for excessive wear. Refer to Figure 3.
4. Using caliper-type gauge, measure inside length of 5 links under light tension. Refer to Figure 4. Replace chain if measurement exceeds maximum allowable gauge length as follows:

CAPACITY TONS	CHAIN WIRE DIAMETER	5 LINKS NORMAL	5 LINKS MAXIMUM
1/2	5.0mm	75mm	77mm
1	6.3mm	95mm	97.8mm
2	8.0mm	119.8mm	123.7mm
3	7.1mm	104.9mm	107.9mm
5	9.0mm	134.8mm	138.9mm
10	10.0mm	139.9mm	144mm
20	9.0mm	134.8mm	138.9mm



INSTALLING LOAD CHAIN

WARNING: DO NOT ADD TO LOAD CHAIN; REPLACE ENTIRE CHAIN

To install load chain into load chain sprocket:

1. Position load chain sprocket by rotating handchain wheel so that wide and narrow grooves show.
2. Using a forked poker, insert top chain link into sprocket grooves so that chain will wind up and back over sprocket. Welds must be away from sprocket.
3. Rotate hand chain wheel so that load chain winds around sprocket. Stop when chain falls 6 to 8 inches at back of sprocket.
4. Attach end link of the load chain to the chain stopper pin.

To install load chain into chain anchor:

1. Remove cotter pin and chain anchor pin.
2. Insert last chain link and replace chain anchor pin. If last link is not lined up correctly to accept anchor pin, cut it off. Do not twist it to fit.
3. Replace cotter pin.

To install load chain into lower hook (1/2, 1, and 2 ton):

1. Remove self locking nut.
2. Insert last chain link into lower hook slot. Check that chain is not twisted.
3. Insert chain bolt through lower hook slot and chain link.
4. Secure with new self locking nut.

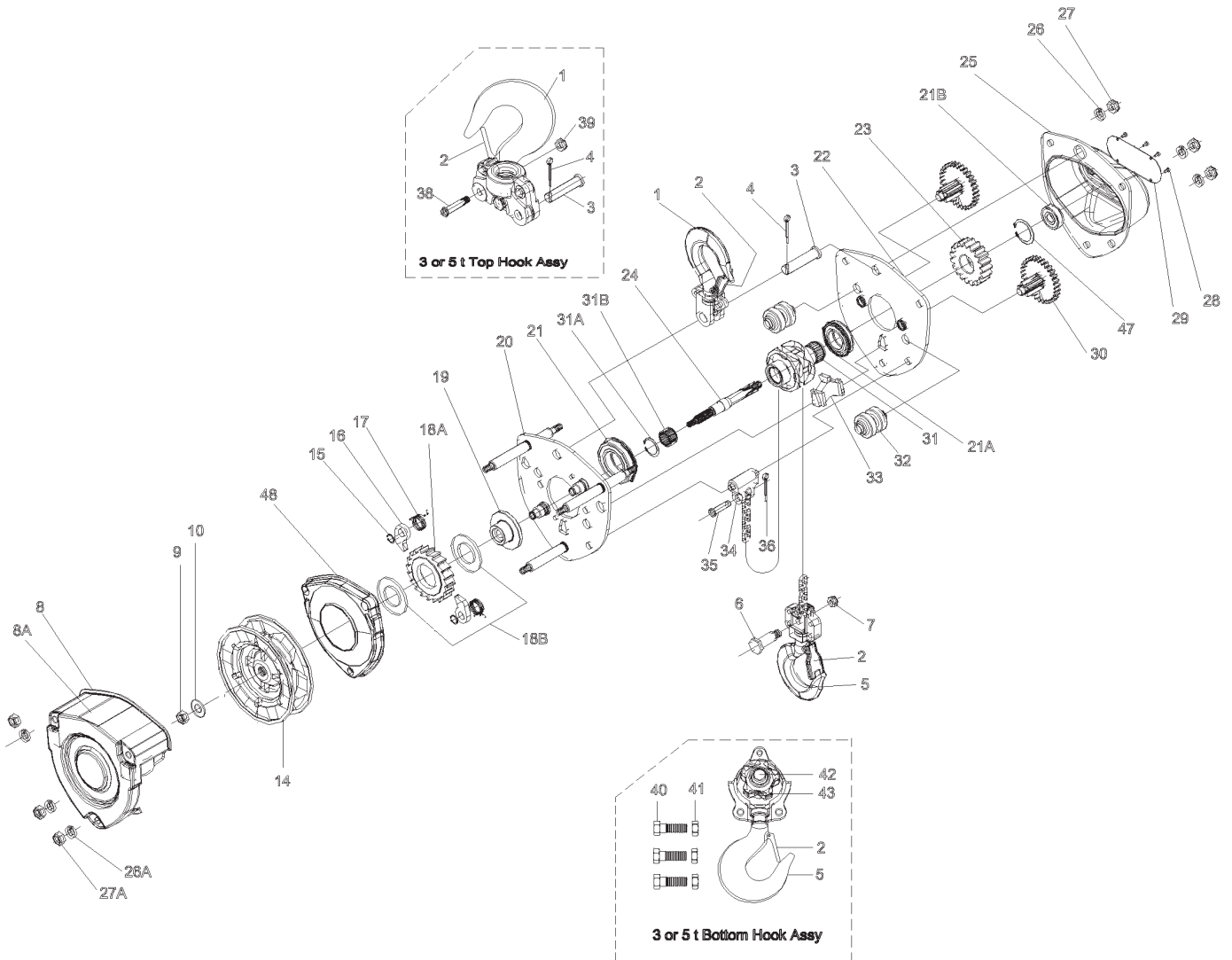
To install load chain into lower hook (3 to 20 ton)

1. After installing chain through chain sprocket, secure end link of chain with chain anchor pin on hoist body.
2. Run chain through sprockets in lower hook and up to chain anchor bolt in upper hook, ensuring chain is not twisted.
3. Insert last link into chain anchor bolt on upper hook and secure. If last link is not lined up correctly to accept anchor pin, cut it off. Do not twist it to fit.

REPLACEMENT CHAIN:

Use only genuine JET grade 100 replacement load chain.

KCH CHAIN HOIST PRODUCT # 101102, 112, 132, 142, 152



KCH CHAIN HOIST PRODUCT # 101102, 112, 132, 142, 152

REF	PART NUMBER	PART NUMBER	PART NUMBER	DESCRIPTION	REQ
1	PVI-KCH05-1	PVI-KCH10-1	PVI-KCH20-1	Top Hook Assembly	1
2	PVI-KCH05-2	PVI-KCH10-2	PVI-KCH20-2	Safety Latch Assembly	2
3	PVI-KCH05-3	PVI-KCH10-3	PVI-KCH20-3	Top Hook Shaft	1
4	PVI-KCH05-4	PVI-KCH10-4	PVI-KCH20-4	Split Pin	1
5	PVI-KCH05-5	PVI-KCH10-5	PVI-KCH20-5	Bottom Hook Assembly	1
6	PVI-KCH05-6	PVI-KCH10-6	PVI-KCH20-6	Bottom Hook Shaft	1
7	PVI-KCH05-7	PVI-KCH10-7	PVI-KCH20-7	Lock Nut	1
8	PVI-KCH05-8	PVI-KCH10-8	PVI-KCH20-8	Hand Wheel Cover Assembly	1
8A	PVI-KCH05-8A	PVI-KCH10-8A	PVI-KCH20-8A	Warning Label	1
9	PVI-KCH05-9	PVI-KCH10-9	PVI-KCH20-9	Wheel Stopper	1
10	PVI-KCH05-10	PVI-KCH10-10	PVI-KCH20-10	Pin	1
11	PVI-KCH05-11	PVI-KCH10-11	PVI-KCH20-11	Split Pin	1
14	PVI-KCH05-14	PVI-KCH10-14	PVI-KCH20-14	Hand Chain Wheel	1
15	PVI-KCH05-15	PVI-KCH10-15	PVI-KCH20-15	Snap Ring	2
16	PVI-KCH05-16	PVI-KCH10-16	PVI-KCH20-16	Pawl	2
17	PVI-KCH05-17	PVI-KCH10-17	PVI-KCH20-17	Pawl Spring	2
18A	PVI-KCH05-18A	PVI-KCH10-18A	PVI-KCH20-18A	Ratchet Disc	1
18B	PVI-KCH05-18B	PVI-KCH10-18B	PVI-KCH20-18B	Brake Discs	2
19	PVI-KCH05-19	PVI-KCH10-19	PVI-KCH20-19	Disc Hub	1
20	PVI-KCH05-20	PVI-KCH10-20	PVI-KCH20-20	Wheel Side Plate Assembly	1
21	PVI-KCH05-21	PVI-KCH10-21	PVI-KCH20-21	Seal Type Caged Roller Bearings	1
21A	PVI-KCH05-21A	PVI-KCH10-21A	PVI-KCH20-21A	Seal Type Caged Roller Bearings	1
21B	PVI-KCH05-21B	PVI-KCH10-21B	PVI-KCH20-21B	Seal Type Caged Roller Bearings	1
22	PVI-KCH05-22	PVI-KCH10-22	PVI-KCH20-22	Gear Side Plate Assembly	1
23	PVI-KCH05-23	PVI-KCH10-23	PVI-KCH20-23	Load Gear	1
24	PVI-KCH05-24	PVI-KCH10-24	PVI-KCH20-24	Drive Shaft	1
25	PVI-KCH05-25	PVI-KCH10-25	PVI-KCH20-25	Gear Case Assembly	1
26	PVI-KCH05-26	PVI-KCH10-26	PVI-KCH20-26	Spring Washer	3
27	PVI-KCH05-27	PVI-KCH10-27	PVI-KCH20-27	Lock Nut	3
28	PVI-KCH05-28	PVI-KCH10-28	PVI-KCH20-28	Rivet	4
29	PVI-KCH05-29	PVI-KCH10-29	PVI-KCH20-29	Name Plate	1
30	PVI-KCH05-30	PVI-KCH10-30	PVI-KCH20-30	Spur Gear Assembly	2
31	PVI-KCH05-31	PVI-KCH10-31	PVI-KCH20-31	Load Sheave Assembly	1
32	PVI-KCH05-32	PVI-KCH10-32	PVI-KCH20-32	Guide Roller	2
33	PVI-KCH05-33	PVI-KCH10-33	PVI-KCH20-33	Stripper	1
34	PVI-KCH05-34	PVI-KCH10-34	PVI-KCH20-34	Anchor Plate	1
35	PVI-KCH05-35	PVI-KCH10-35	PVI-KCH20-35	Load Pin	1
36	PVI-KCH05-36	PVI-KCH10-36	PVI-KCH20-36	Split Pin	1
47	PVI-KCH05-47	PVI-KCH10-47	PVI-KCH20-47	Snap Pin	1

KCH CHAIN HOIST PRODUCT # 101102, 112, 132, 142, 152

REF	PART NUMBER	PART NUMBER	DESCRIPTION	REQ
1	PVI-KCH30-1	PVI-KCH50-1	Top Hook Assembly	1
2	PVI-KCH30-2	PVI-KCH50-2	Safety Latch Assembly	2
3	PVI-KCH30-3	PVI-KCH50-3	Top Hook Shaft	1
4	PVI-KCH30-4	PVI-KCH50-4	Split Pin	1
5	PVI-KCH30-5	PVI-KCH50-5	Bottom Hook Assembly	1
8	PVI-KCH30-8	PVI-KCH50-8	Hand Wheel Cover Assembly	1
8A	PVI-KCH30-8A	PVI-KCH50-8A	Warning Label	1
9	PVI-KCH30-9	PVI-KCH50-9	Wheel Stopper	1
10	PVI-KCH30-10	PVI-KCH50-10	Pin	1
11	PVI-KCH30-11	PVI-KCH50-11	Split Pin	1
14	PVI-KCH30-14	PVI-KCH50-14	Hand Chain Wheel	1
15	PVI-KCH30-15	PVI-KCH50-15	Snap Ring	2
16	PVI-KCH30-16	PVI-KCH50-16	Pawl	2
17	PVI-KCH30-17	PVI-KCH50-17	Pawl Spring	2
18A	PVI-KCH30-18A	PVI-KCH50-18A	Ratchet Disc	1
18B	PVI-KCH30-18B	PVI-KCH50-18B	Brake Disc	2
19	PVI-KCH30-19	PVI-KCH50-19	Disc Hub	1
20	PVI-KCH30-20	PVI-KCH50-20	Wheel Side Plate Assembly	1
21	PVI-KCH30-21	PVI-KCH50-21	Seal Type Caged Roller Bearings	1
21A	PVI-KCH30-21A	PVI-KCH50-21A	Seal Type Caged Roller Bearings	1
21B	PVI-KCH30-21B	PVI-KCH50-21B	Seal Type Caged Roller Bearings	1
22	PVI-KCH30-22	PVI-KCH50-22	Gear Side Plate Assembly	1
23	PVI-KCH30-23	PVI-KCH50-23	Load Gear	1
24	PVI-KCH30-24	PVI-KCH50-24	Drive Shaft	1
25	PVI-KCH30-25	PVI-KCH50-25	Gear Case Assembly	1
26	PVI-KCH30-26	PVI-KCH50-26	Spring Washer	3
27	PVI-KCH30-27	PVI-KCH50-27	Lock Nut	3
28	PVI-KCH30-28	PVI-KCH50-28	Rivet	4
29	PVI-KCH30-29	PVI-KCH50-29	Name Plate	1
30	PVI-KCH30-30	PVI-KCH50-30	Spur Gear Assembly	2
31	PVI-KCH30-31	PVI-KCH50-31	Load Sheave Assembly	1
32	PVI-KCH30-32	PVI-KCH50-32	Guide Roller	2
33	PVI-KCH30-33	PVI-KCH50-33	Stripper	1
34	PVI-KCH30-34	PVI-KCH50-34	Anchor Plate	1
35	PVI-KCH30-35	PVI-KCH50-35	Load Pin	1
36	PVI-KCH30-36	PVI-KCH50-36	Split Pin	1
38	PVI-KCH30-38	PVI-KCH50-38	Top Hook Pin	1
39	PVI-KCH30-39	PVI-KCH50-39	Lock Nut	1
40	PVI-KCH30-40	PVI-KCH50-40	Socket Cap Screw	2
41	PVI-KCH30-41	PVI-KCH50-41	Lock Nut	3
42	PVI-KCH30-42	PVI-KCH50-42	Idle Shaft	1
43	PVI-KCH30-43	PVI-KCH50-43	Idle Sheave	1
47	PVI-KCH30-47	PVI-KCH50-47	Snap Pin	1