

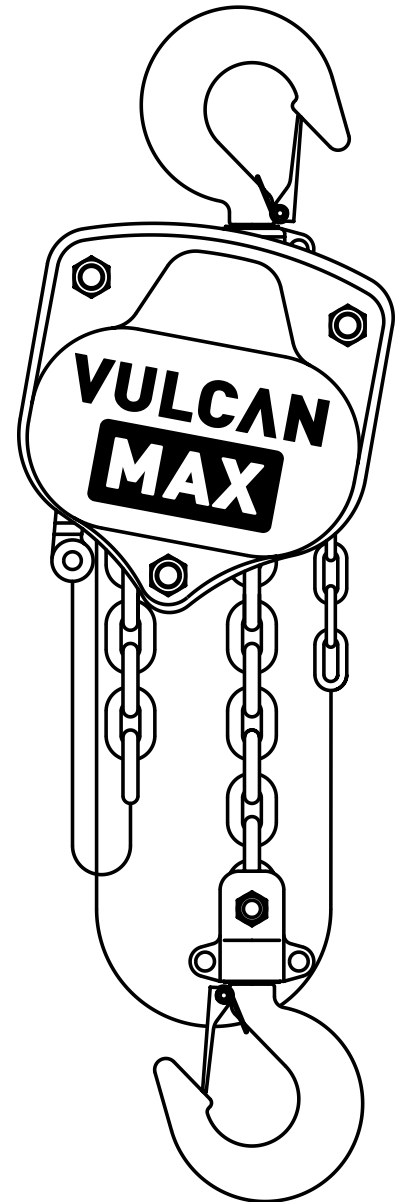


USER MANUAL

VULCAN MAX MANUAL CHAIN HOIST

1/2 to 20 Tonnes

AB0.5T to AB20T



Manuel en français de l'autre côté



KEEP THIS MANUAL



WARNING

DO NOT INSTALL, OPERATE, OR PERFORM MAINTENANCE ON THIS EQUIPMENT BEFORE READING AND UNDERSTANDING THIS MANUAL IN ITS ENTIRETY. FAILURE TO READ AND COMPLY WITH THE CONTENTS OF THIS MANUAL COULD RESULT IN SERIOUS BODILY INJURY OR DEATH AND / OR PROPERTY DAMAGE.

Important Information, Warnings and Safety

This manual contains important safety, installation, operation, and maintenance information. Make this manual available to every person designated for the operation, installation, and maintenance of these products. Unless otherwise noted, tons in this manual are metric tonnes (1000kg, 2204 lb, or 1.102 US short ton). Vulcan Max products are metric. Equivalent imperial (inches, pounds) measurements are provided for informational purposes only.

Danger, Warning, Caution and Notice

Throughout this manual, there are procedures which, if they are not followed or are ignored, may result in injury, death, or substantial property damage.



DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury or property damage.

NOTICE

Indicates information or company policy which relates directly or indirectly to the safety of personnel or property.

Safety Framework and General Rules



WARNING

This manual cannot cover every possible installation, operation, maintenance, circumstance and situation. You, the owner or operator of the equipment covered in this manual, are responsible for the safe and proper installation, operation, inspection, and maintenance of this equipment in accordance with ASME B30.16 and all applicable laws, regulations and codes.

Anybody interacting with the chain block must have read and understood the instructions laid out in this manual.

Vulcan Hoist will not be liable for any loss, damage, injury, death or compensation if caused, even if partially, by disregarding or misinterpreting an instruction from this manual.

Repairs must only be done with original equipment manufacturer parts by a qualified person. Any modification must be authorised by Vulcan Hoist.



CAUTION

Every safety and identification label and plate that came with the chain block, including the nameplate which displays the chain block's serial number, capacity, and manufacturer, must be securely fastened and legible. If any safety or identification label or plate is missing or no longer legible, contact Vulcan Hoist for a replacement.

NOTICE

This manual covers a wide range of chain blocks with different capacities and options and, as such, not all instructions in this manual apply to every chain block. Disregard instructions that do not apply.

Safety Rules Before Operation



DANGER



NEVER use a chain block for lifting, supporting, or transporting people.



NEVER apply pressure on a chain block.



NEVER use two or more chain blocks together to lift beyond a chain block's rated capacity.



NEVER lift a load heavier than a chain block's rated capacity.



NEVER lift or move a load over or near people.



WARNING

Do not use this chain block if you notice deep nicks, gouges, bends or significant stretching in the hooks, load chain, or other load-bearing parts.



CAUTION

Ensure that you have read and understood this manual in its entirety.

Ensure that the nameplate and safety warning labels and plates are present, securely fastened and legible.

Perform the daily inspection described in the Daily Inspection section of this manual if it is the chain block's first use of the shift.

Be certain that the weight of the load to be lifted is lower or equal to the chain block's rated capacity.

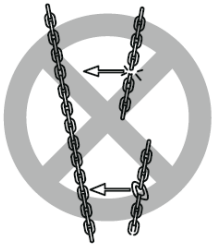
Estimate how low and how high you plan to move the hook. Make sure that you will have enough load chain to reach that lower limit and that the hook won't collide into the chain block on the upper limit.

Make sure that the planned lift won't interfere with other operations going on and won't go over people.

Make sure that the load's centre of gravity and attachment point are vertically aligned with the chain block. Chain blocks are only meant to lift unguided loads vertically.

Make sure that you have somewhere to safely lower the load before you lift it. Don't leave a raised load unattended.

Safety Rules During Operation



NEVER use a twisted, kinked, damaged or stretched load chain



NEVER use the chain as a sling



NEVER support or use the chain block as a support



NEVER support a load on the tip of the hook



NEVER run the load chain over a sharp edge



NEVER weld or cut a load suspended by a chain block

Make sure that the load's attachment point sits in the hook's bowl and that the latch is closed.

Start lifting the load. When the load chain is under tension, check that the hand chain is still turning smoothly.

Lift the load until it is fully off the ground and let go of the hand chain. Check that the load is well balanced and that it does not move down on its own. Go on with your planned lift.

NEVER use a damaged chain block or a chain block that is not working properly or requires excessive force to work.

NEVER use a chain block if it makes excessive or unusual noise.

NEVER use a chain block with a chain that makes harsh, jerking moves.

NEVER swing or move a suspended load from being vertically aligned with the chain block.

NEVER use the chain block as a welding electrode.

NEVER move the hook so far that it collides with the chain block or that the free end of the chain pulls on its anchorage.

NEVER allow your attention to be diverted from operating the chain block.

Safety Rules After Operation



Land the load slowly and safely.

NEVER suspend a load for an extended period of time.

Operation

While facing the handwheel side of the chain block, pull the hand chain to make the handwheel turn clockwise to raise the hook or counterclockwise to lower it. The openings in the chain block's body are wide and allow the hand chain to be pulled at a certain angle, but try to avoid rubbing the handwheel on the chain block's body. The clicking of the ratchet and pawls while raising the hook indicates normal operation.

Overload Protection Devices

The overload protection device is an option. Check your chain block's nameplate to see if it has this option. Overload protection devices have been adjusted in factory between 1.3 to 1.8 times the rated load. When lifting a load which triggers the overload protection device, the handwheel will turn with a considerable force exerted on the hand chain, but the hook will not move, and the ratchet and pawls won't click. The overload protection device only works in the up direction.

NOTICE

A load could be over the rated capacity even if the overload protection device does not trigger. Overload protection device adjustments must be made by a certified technician trained on Vulcan Max products.

Inspection



If a chain block fails any one of the following inspection items, do not use it and remove it from its installation immediately. Do not reinstall it until every issue has been resolved.

Failure to inspect the chain block as instructed may result in damage, injury, or death.




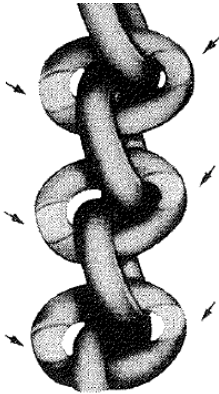
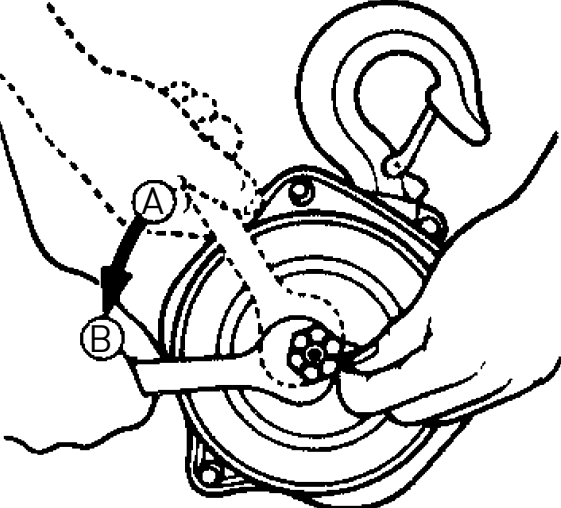
Contact Vulcan Hoist for spare parts. Do not use non-OEM parts.

These instructions are based on ASME B30.16. Also observe any other regulation that may apply.

There are two types of inspection: frequent and periodic. A frequent inspection must be done by the chain block's operator, or a person qualified to do. A periodic inspection must be done by a qualified person. Both inspections must be done at intervals determined by the chain block's service severity.

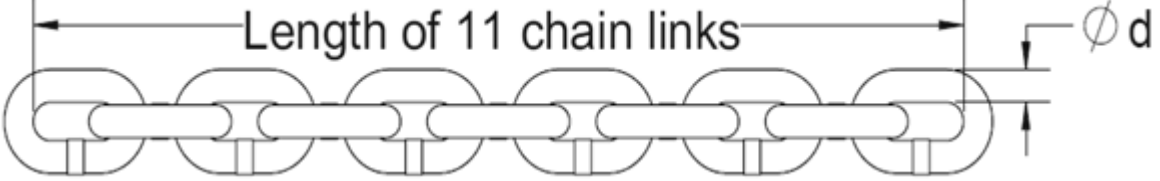
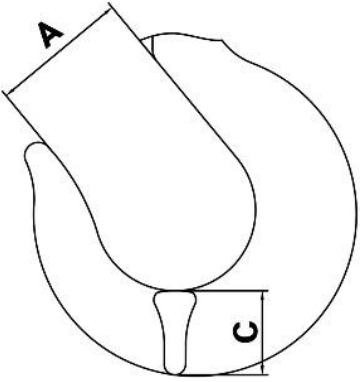
Service Severity and Periodic Inspection Frequency			
Service	Description	Frequent Inspection Frequency	Periodic Inspection Frequency
Normal	Randomly distributed loads within the rated load limit, or uniform loads less than 65% of rated load for not more than 15% of the time	monthly	1 year
Heavy	Within the rated load limit but exceeds normal service	weekly to monthly	6 months
Severe	Normal or heavy service with abnormal operating conditions (high humidity, extreme temperatures, salty air, etc.)	daily to weekly	3 months

Frequent Inspection

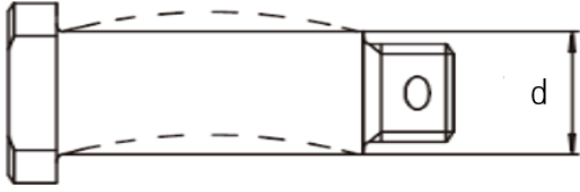
Part	Items to Inspect
Tags, labels, nameplate	<ul style="list-style-type: none"> • Warning labels and tags must be present, securely fastened and legible • The nameplate and the chain hoist's capacity tags must be present, securely fastened and legible
Hook latches	<ul style="list-style-type: none"> • Hook latches must be present on both hooks and close on their own
Load chain	<ul style="list-style-type: none"> • The load chain must be lubricated. Apply oil if it appears dry • The free end of the chain must be attached to the chain block's body • Especially for chain blocks with multiple chain falls (3t and more), make sure that the load chain is not twisted. Make sure that it will enter the chain block straight in both directions • Eliminate kinks and twists. Do not use the chain block if they keep reoccurring • Look for excessive wear. Do not use the chain block even if a single chain link appears worn <div style="display: flex; justify-content: space-around; text-align: center;"> <div data-bbox="451 554 553 583">Normal </div> <div data-bbox="740 554 846 583">Twisted </div> <div data-bbox="1032 554 1127 583">Kinked </div> <div data-bbox="1289 554 1414 583">Worn out </div> </div>
Hooks and load chain	<ul style="list-style-type: none"> • The hooks and load chain must be free of deep nicks, gouges, bends, kinks or significant stretching
Hooks	<ul style="list-style-type: none"> • Both hooks must swivel freely
Function	<ul style="list-style-type: none"> • The hand chain and the handwheel must turn smoothly • The ratcheting clicks must be heard when turning the handwheel in the up direction
Overall	<ul style="list-style-type: none"> • There must not be any missing nut, bolt, or pin • There must not be any signs of major damage such as cracks, deformation, or over-heating
Braking system	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <ul style="list-style-type: none"> • The brake must not slip under load • The brake must not be difficult to release • Adjust the brake if necessary: <ol style="list-style-type: none"> 1. Remove the cover nuts (#52) and the handwheel cover (#32) 2. Remove the R-shaped cotter pin (#31A, #310 for OLP versions) 3. Tighten the slotted nut (#31B) with a wrench 4. Turn the slotted nut (#31B) counterclockwise the least amount necessary to reinstall the R-shaped cotter pin (#31A, #310 for OLP versions) 5. Re-install the handwheel-cover (#32) and the cover nuts (#52) </div> </div>

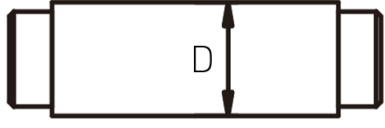
Periodic Inspection

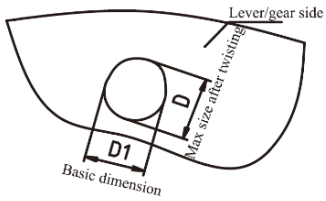
A periodic inspection also includes all frequent inspection items.

Item	Discard Criteria											
Load Chain												
Wear and stretch	Capacity (t)	d, mm [in]	Length, mm [in]		Measure the pitch of 11 chain links at different places on the load chain. Discard the entire chain even if a single section has reached the discard criteria.							
		Normal	Normal	Discard								
	½, 1	6.3 [0.248]	210.5 [8.287]	≥221.0 [8.702]								
	1½, 3	7.1 [0.280]	231.0 [9.094]	≥242.6 [9.549]								
	2	7.9 [0.311]	254.0 [10.000]	≥266.7 [10.500]								
	5 to 20	9.0 [0.354]	299.0 [11.772]	≥314.0 [12.360]								
												
Flaws	• Must be free from welds, weld splatter, nicks or gouges											
Rust	• Only surface rust is acceptable. No pitting from rust, rust flakes or rust bubbles											
Lubrication	• Must be oiled. First, remove all abrasive materials that may be stuck to the chain											
Upper and Lower Hooks, Hook Yokes and Hook Pins												
Hook stretch and wear	Capacity (t)		½	1	1.5	2	3	5	7.5	10	15	20
	C, mm [in]	Standard	18.0 [0.709]	22.5 [0.886]	28.0 [1.102]	29.0 [1.142]	40.5 [1.594]	46.0 [1.811]	66.0 [2.598]	88.0 [3.465]	90.0 [3.543]	118.0 [4.646]
		Discard	≤17.1 [0.673]	≤21.4 [0.842]	≤26.6 [1.047]	≤27.6 [1.085]	≤38.5 [1.515]	≤43.7 [1.720]	≤62.7 [2.469]	≤83.6 [3.291]	≤85.5 [3.366]	≤112.1 [4.413]
	A, mm [in]	Standard	31.0 [1.220]	33.0 [1.299]	38.0 [1.496]	41.0 [1.614]	45.0 [1.772]	50.0 [1.969]	49.0 [1.929]	66.0 [2.598]	90.0 [3.543]	94.0 [3.701]
		Discard	≥32.6 [1.281]	≥34.7 [1.364]	≥39.9 [1.571]	≥43.1 [1.695]	≥47.3 [1.860]	≥52.5 [2.067]	≥51.5 [2.028]	≥69.3 [2.728]	≥94.5 [3.720]	≥98.7 [3.886]
												
These values are nominal. The A and C dimensions must be measured when the hook is new. The hook must be discarded when the A or the C dimension is 1.05 times greater than when new. Top and Lower hooks have the same dimensions.												
Flaws and wear	• Must be free from significant rust, welds, weld splatter, deep nicks, or gouges											
Rotation	• Must rotate freely without rough spots											
Hook yokes	• Must not miss rivets or bolts. Must have no slack between yoke halves											
Latches	• Latches must be present and stay closed when not forced open											

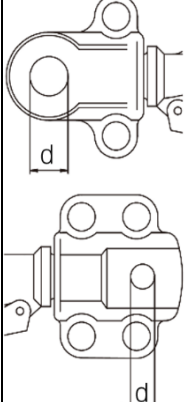
Hook Pins

Lower hook pin wear and deformation		<ul style="list-style-type: none"> • Discard the hook pin if there is obvious bend or deformation • Screw thread must be in good condition • Must be free of abrasive materials and lubricated 		Capacity (t)		d, mm [in]	
				Standard	Discard		
			½, 1	8.0 [0.315]	≤7.6 [0.299]		
			1.5, 3	9.3 [0.366]	≤ 8.8 [0.348]		
			2, 5 to 20	10.8 [0.425]	≤10.3[0.404]		

Top hook pin wear and deformation		<ul style="list-style-type: none"> • Discard the hook pin if there is obvious bend or deformation • Must be free of abrasive materials and lubricated 		Capacity (t)		Pin Diameter D, mm [in]	
				Standard	Discard		
			½ to 1.5, 3	12.0 [0.472]	≤11.4 [0.449]		
			2	13.0 [0.512]	≤12.4 [0.486]		
			5 to 20	16.0 [0.630]	≤15.2 [0.598]		

Top hook pin holes in the side plates		<ul style="list-style-type: none"> • Must be free of abrasive materials and lubricated 		Capacity (t)		Pin Hole Diameter, mm [in]	
				Standard	Discard*		
			½ to 1.5, 3	12.7 [0.500]	≥13.3 [0.525]		
			2	14.0 [0.551]	≥14.7 [0.579]		
			5 to 20	16.2 [0.638]	≥17.0 [0.670]		

*Measure the holes' maximum diameters

Top and Lower hook pin holes		<ul style="list-style-type: none"> • Must be free of abrasive materials and lubricated 		Capacity (t)		Top Hook Pin Hole Diameter, mm [in]		Lower Hook Pin Hole Diameter, mm [in]	
				Standard	Discard*	Standard	Discard*		
			½, 1	13.0 [0.512]	≥13.7 [0.537]	8.5 [0.335]	≥8.9 [0.351]		
			1.5, 3	13.0 [0.512]	≥13.7 [0.537]	9.7 [0.382]	≥10.2 [0.401]		
			2	14.2 [0.559]	≥14.9 [0.587]	11.5 [0.453]	≥12.1 [0.475]		
			5 to 20	17.0 [0.669]	≥17.9 [0.703]	11.5 [0.453]	≥12.1 [0.475]		

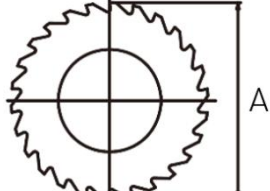
* Measure the holes' maximum diameters

Braking System

Rust	<ul style="list-style-type: none"> • All parts should be rust-free
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Pawls	<ul style="list-style-type: none"> • Pawls must have no surface wear • Pawl springs must push the pawl into the ratchet
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Friction discs	Friction Disc Thickness, mm [in]	<ul style="list-style-type: none"> • Both friction discs must be similarly worn. They must have the same thickness throughout. Their surfaces must be flat and free from cracks and gouges.
	Discard	
	≤2.0 [0.079]	

Ratchet			Capacity (t)		External Diameter A, mm [in]	
			Standard	Discard		
		½ to 1.5, 3	87.5 [3.445]	≤83.1 [3.273]		
		2, 5 to 20	110.0 [4.331]	≤104.5 [4.114]		

Hoisting System and Body	
Load Chain Sprocket	<ul style="list-style-type: none"> • Must not show significant wear or deformation
Gears	<ul style="list-style-type: none"> • Must not show significant wear or deformation especially on teeth and bearing surface
Gearcase	<ul style="list-style-type: none"> • Must not show deformation. Must not show significant wear on bearing surface.
Handwheel	<ul style="list-style-type: none"> • Must not rub against covers. Must not show significant wear or deformation.
Side plates	<ul style="list-style-type: none"> • Must be straight. See Hook Pins for the side plates' top hook pin hole dimensions.
Function	
Lifting and lowering	<ul style="list-style-type: none"> • No difficulty, abnormality, roughness in lifting and lowering with and without loads
Brake	<ul style="list-style-type: none"> • No braking resistance when lifting. Loads must not slip down slowly when suspended. • Loads must not slip after the hand chain is jerked and released suddenly in the lowering direction



After performing maintenance, test the chain block and perform a daily inspection.
 NEVER perform maintenance while the chain block is being used or supporting a load.
 NEVER grease or oil the braking mechanism.
 Failure to perform maintenance as instructed may result in damage, injury, or death.

Maintenance

It is recommended to perform maintenance at the same frequency as periodic inspections. Only qualified personnel must perform maintenance. Vulcan Hoist offers inspection, maintenance, and repair services.

1. Clean the chain block and load chain without getting water inside the gearcase and the braking mechanism.
2. Open the gearcase. Wipe off excess worn grease. Apply new grease directly on gear teeth and bearing surfaces. Re-fasten the gearcase. NLGI No. 2 grease is recommended.
3. Oil the hook pins, hook shanks (for rotation), load chain and load chain sprockets. An ISO 68 oil is recommended.

Storing

Always store above freezing temperatures in a dry environment.

Do not use a chain block in storage to hold or support a load.

Perform a periodic inspection before using a chain block which is coming out of storage.

Specifications

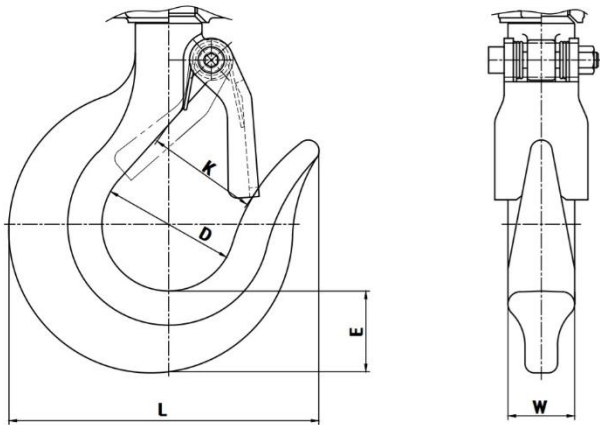
Allowable Operating Conditions

1. -10°C to 60°C
2. Can work in up to 100% relative humidity, but must not be used under water.

Outdoor Installations

1. Outdoor chain blocks should be sheltered from rain and snow or brought inside when not in use.
2. If the chain block is exposed to salty air, extreme temperature, high humidity environments or exposure to rain or snow, increase the inspection and maintenance frequency.

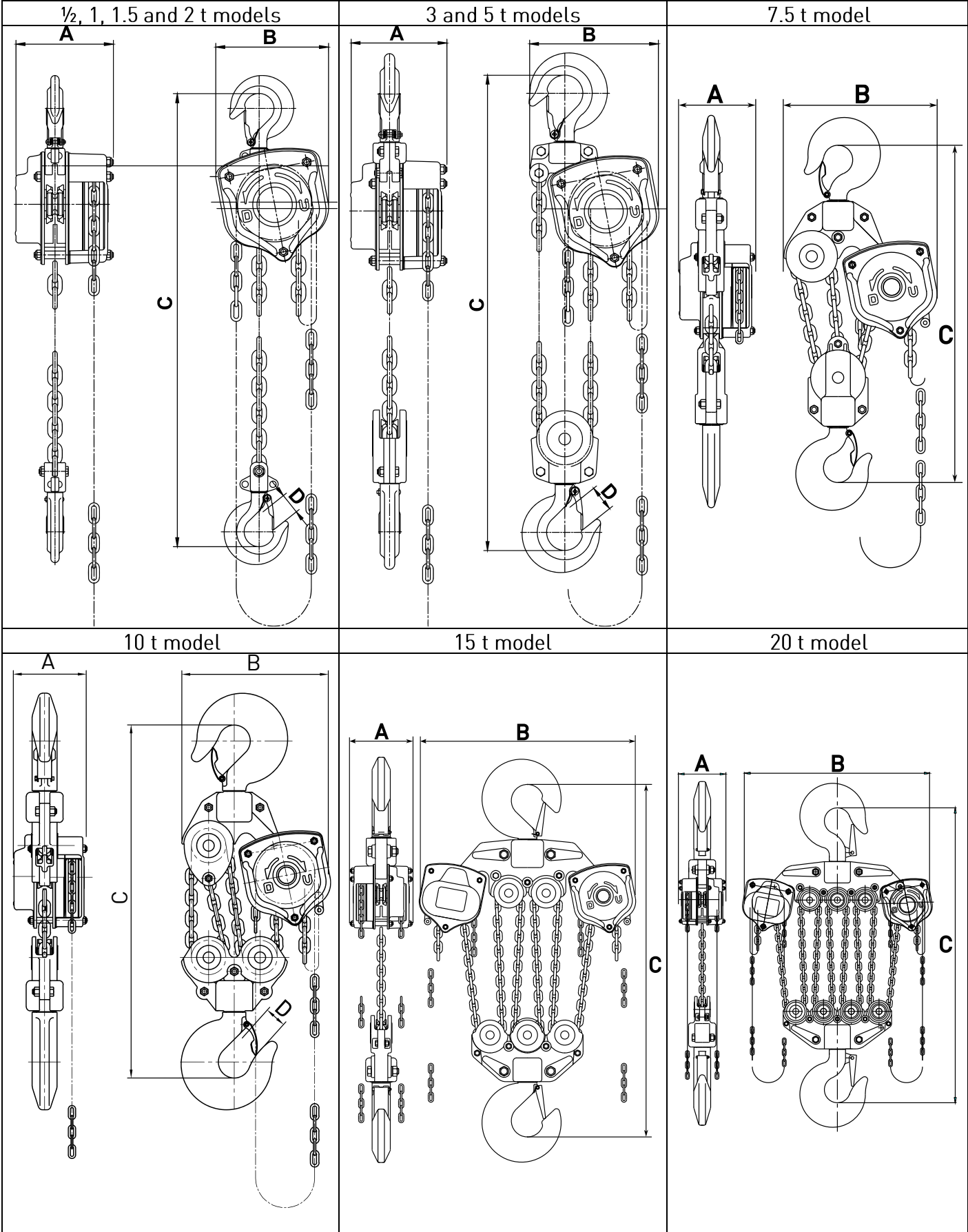
Technical Specifications



Capacity (t)	Hook Dimensions, mm [in]				
	L	W	E	D	K
½	74.0 [2.913]	16.0 [0.630]	18.0 [0.709]	36.0 [1.417]	31.0 [1.220]
1	85.0 [3.346]	20.0 [0.787]	22.5 [0.886]	40.0 [1.575]	33.0 [1.299]
1.5	99.5 [3.917]	24.0 [0.945]	28.0 [1.102]	46.0 [1.811]	38.0 [1.496]
2	111.0 [4.370]	24.0 [0.945]	29.0 [1.142]	50.0 [1.969]	41.0 [1.614]
3	131.0 [5.157]	28.0 [1.102]	40.5 [1.594]	54.0 [2.126]	45.0 [1.772]
5	152.0 [5.984]	37.0 [1.457]	46.0 [1.811]	61.0 [2.402]	50.0 [1.969]
7.5	185.0 [7.283]	44.0 [1.732]	66.0 [2.598]	71.0 [2.795]	49.0 [1.929]
10	235.0 [9.252]	62.0 [2.441]	88.0 [3.465]	80.0 [3.150]	66.0 [2.598]
15	270.0 [10.630]	65.0 [2.559]	90.0 [3.543]	110.0 [4.331]	90.0 [3.543]
20	323.0 [12.717]	79.0 [3.110]	118.0 [4.646]	120.0 [4.724]	94.0 [3.701]

Capacity, t [lb]	Force to lift max load, kg [lbf]	Load chain ø, mm x nb. falls	Mechanical advantage ratio	Hand chain ø x pitch, mm	Net weight*, kg [lb]	Extra weight/lift, kg/m [lb/ft]	Dimensions, mm [in]			
							A	B	C min	D
½ [1102]	24 [53]	6.3 x 1	40:1	5.0 x 22.8	12.0 [26.4]	1.01 [0.68]	147 [5.79]	145 [5.71]	310 [12.2]	26 [1.02]
1.0 [2204]	33 [73]				13.0 [28.6]				330 [13.0]	30 [1.18]
1½ [3306]		7.1 x 1	60:1		15.1 [33.3]	1.25 [0.84]		164 [6.46]	360 [14.2]	33 [1.30]
2.0 [4409]		7.9 x 1	78:1		22.1 [48.7]	1.55 [1.04]	184 [7.24]	187 [7.36]	380 [15.0]	38 [1.50]
3.0 [6613]		7.1 x 2	120:1		23.1 [51.0]	2.35 [1.58]	147 [5.79]	206 [8.11]	480 [18.9]	42 [1.65]
5.0 [11023]		9.0 x 2	186:1		41.2 [90.9]	3.75 [2.52]	185 [7.28]	258 [10.2]	620 [24.4]	45 [1.77]
7.5 [15432]	9.0 x 3	279:1	52.2 [115]		5.62 [3.78]	367 [14.4]		720 [28.3]		
10 [22046]	9.0 x 4	372:1	91.4 [201]		7.50 [5.04]	820 [32.3]		53 [2.09]		
15 [33069]	41 x 2 [90 x 2]	9.0 x 6	558:1		145 [317]	11.2 [7.56]	212 [8.35]	745 [29.3]	850 [33.5]	79 [3.11]
20 [44092]		9.0 x 8	744:1		193 [423]	15.0 [10.1]		873 [34.4]	970 [38.2]	85 [3.35]

*For a chain block with 10' of lift.



Troubleshooting

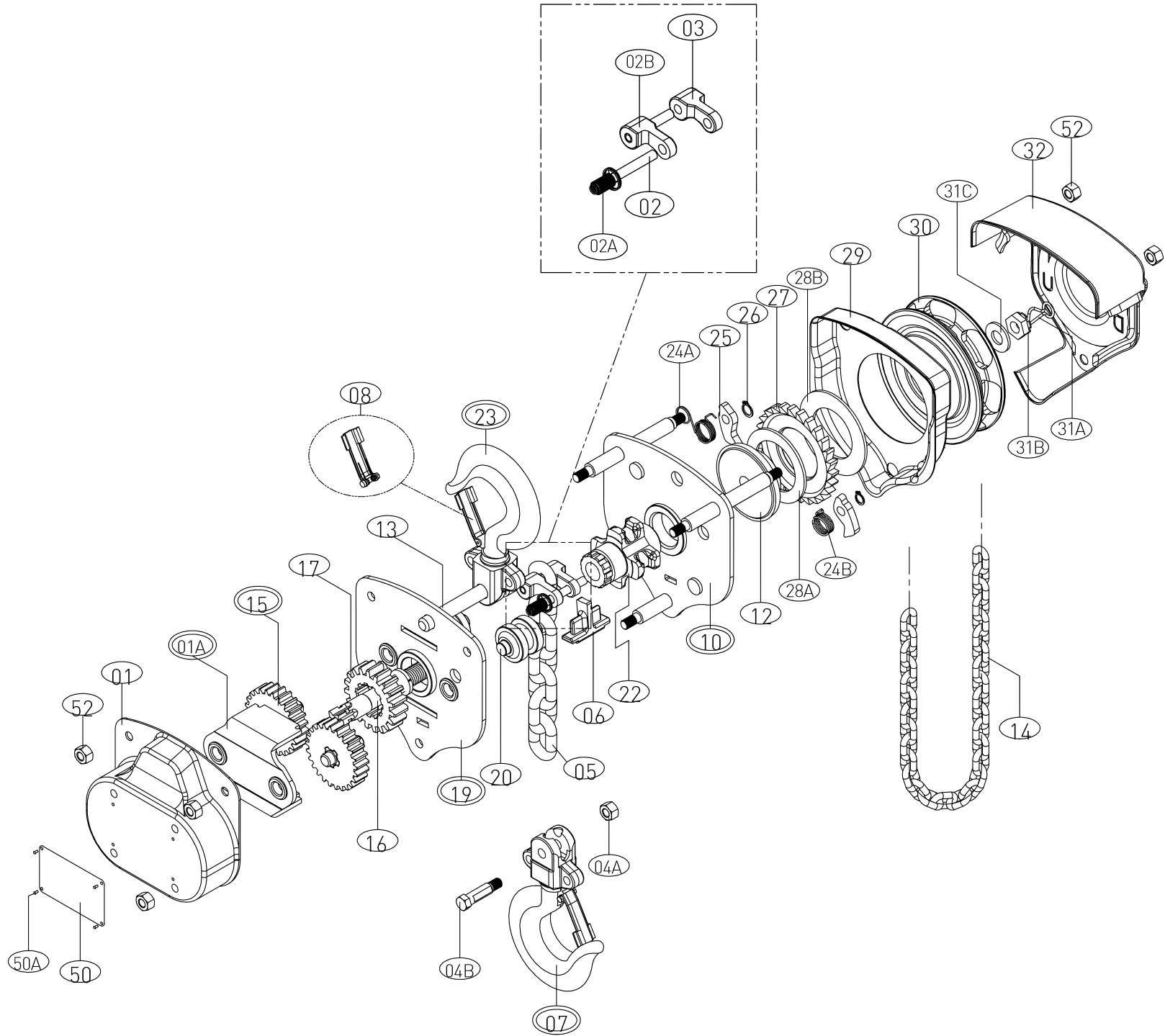
Symptom	Cause	Solution
The pawls click but the load doesn't lift	Worn out friction plates, which creates a gap between the friction disc and the handwheel, causing the brake to slip	Replace the friction discs
The pawls don't click, and the load doesn't lift	The ratchet, the pawls or its springs have been improperly assembled	Reassemble correctly
	Pawls are not moving smoothly	Clean. Grease the pawls' pivot point
The hand chain is tight when lifting even without a load, may be squeaking	Worn gear teeth or worn bearing surfaces	Replace worn parts
Improper lowering or the chain is extremely tight when lowering.	The brake is stuck close, perhaps due to shock loading or loads left suspended for an extended period of time	Free the brake forcibly by jerking the hand chain while pulling on the hook
	The brake is too tight. Loosen it.	See "Braking system" in the "Frequent Inspection" section
	The brake is rusted	Clean the rust or replace rusted parts
The load drops instantly after lowering has started or the load is slipping	The braking surface is dirty, oily or greasy. The braking surfaces must be clean and dry	Clean. Replace oily or greasy parts
Hook will not go up all the way (multiple chain falls models, 3t and more)	The lower hook has been capsized causing load chain twists or knots	Flip the hook between chain falls to untwist the load chain
Lifting and lowering not smooth	Improper gear assembly. Gears must be timed correctly	Reassemble the gears by placing the markings in the same orientation
	Broken gear, bearing or load-bearing surface	Replace broken parts

Warranty

Your Vulcan Max chain block is guaranteed against defects in materials and workmanship **for 2 years** from the date of purchase if all the following conditions are met:

1. Any part replacement or modification of the Vulcan Max chain block **must** be approved in writing by Vulcan Hoist.
2. No credit will be issued for defective parts. Vulcan Hoist will ship only replacement parts, subject to warranty inspection.
3. For major problems, the Vulcan Max chain block must be returned prepaid to Vulcan Hoist for inspection and repair. If the repairs are under warranty, the chain block will be returned prepaid.

Parts

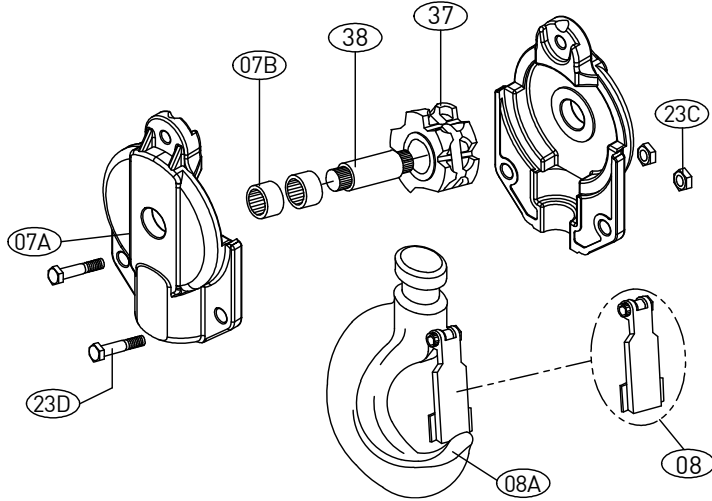


Part Numbers

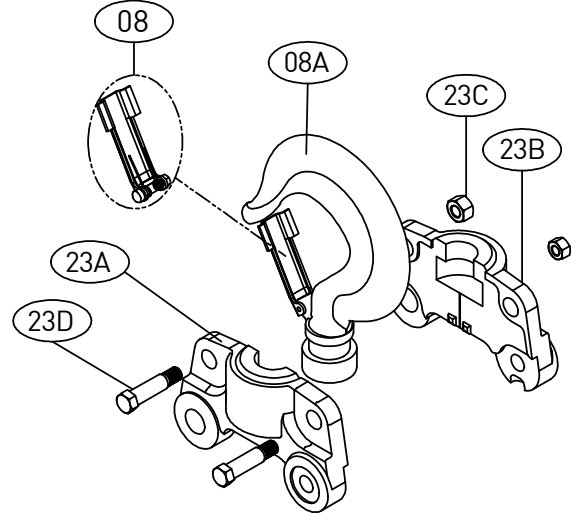
No	English Description	No	English Description
01	GEAR SIDE COVER	23	UPPER HOOK ASSEMBLY W/ YOKE AND LATCH
01A	GEAR BUSHINGS AND PLATE	23A	UPPER HOOK YOKE FRAME SIDE A
02	ANCHOR PIN	23B	UPPER HOOK YOKE FRAME SIDE B
02A	ANCHOR PIN SPRING, ALL CAPACITIES	23C	HOOKS YOKE NUT A
02B	DEAD END ANCHOR PIN (2/ANCHOR)	23D	HOOKS YOKE BOLT A
03	DEAD END ANCHOR BRACKET	23E	HOOKS YOKE BOLT B (M20)
04A	NUT FOR LOWER HOOK PIN	23F	HOOKS YOKE NUT B (M20)
04B	LOWER HOOK PIN	23G	HOOKS YOKE SPRING WASHER
05	LOAD CHAIN	24A	PAWL SPRING A
06	CHAIN STRIPPER	24B	PAWL SPRING B
07	LOWER HOOK ASSEMBLY W/ YOKE AND LATCH	25	PAWL
07A	LOWER HOOK YOKE FRAME SIDE (2/HOOK)	26	PAWL RETAINING RING
07B	LOWER HOOK SPROCKET BEARING	27	RATCHET
07C	LOWER HOOK SPROCKET AXLE SHAFT NUT	28A	FRICTION DISC A
07D	LOWER HOOK SPROCKET AXLE SHAFT SPRING PIN	28B	FRICTION DISC B
08	SAFETY LATCH KIT W/ SPRING, NUT AND BOLT	29	RATCHET GEAR COVER
08A	HOOK AND LATCH KIT	30	HANDWHEEL, NO OLP
10	SIDE PLATE ASSEMBLY, HANDWHEEL SIDE, NO OLP	300	HANDWHEEL AND CLUTCH, WITH OLP
100	SIDE PLATE ASSEMBLY, HANDWHEEL SIDE, OLP	31A	HANDWHEEL COTTER R PIN, ALL CAP, NO OLP
12	BRAKE SEAT	31B	HANDWHEEL SLOTTED NUT, ALL CAPACITIES
13	UPPER HOOK PIN	31C	HANDWHEEL WASHER, ALL CAPACITIES
14	VULCAN MAX HAND CHAIN, ALL CAPACITIES	310	HANDWHEEL COTTER R PIN, ALL CAP, WITH OLP
15	PINION AND GEAR	32	HANDWHEEL COVER
16	PINION SHAFT	37	IDLE CHAIN SPROCKET
17	LOAD GEAR	38	IDLE SPROCKET SHAFT
19	SIDE PLATE ASSEMBLY, GEAR SIDE, NO OLP	50	NAMPLATE
190	SIDE PLATE ASSEMBLY, GEAR SIDE, OLP	50A	NAMEPLATE RIVET, ALL CAPACITIES
20	LOAD CHAIN ROLLER CHAIN GUIDE	52	NUTS FOR COVERS
22	LOAD CHAIN SPROCKET		

Multiple Fall Hooks

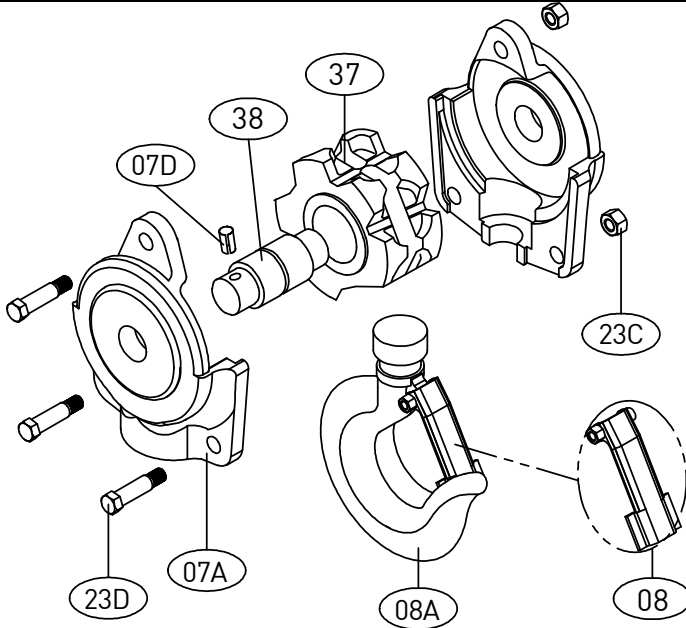
3 t Lower Hook



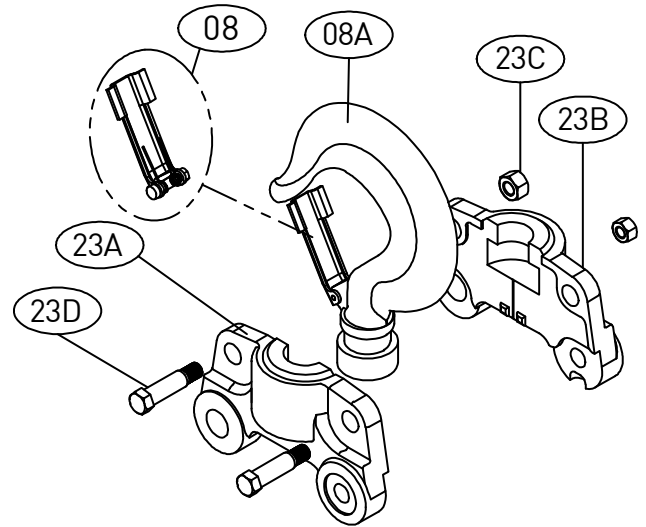
3 t Upper Hook



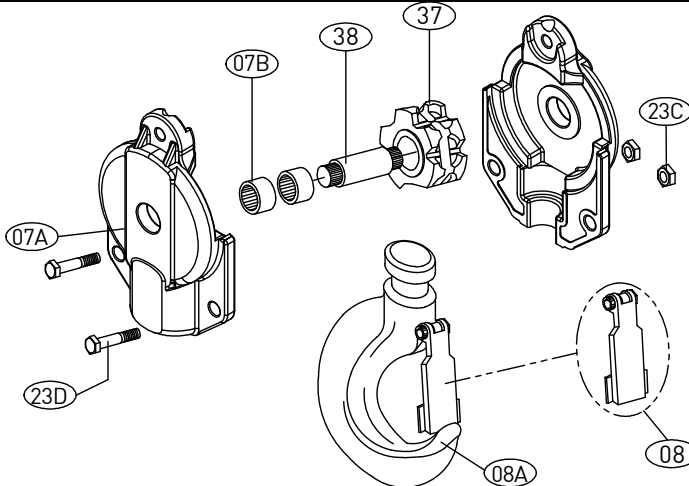
5 t Lower Hook



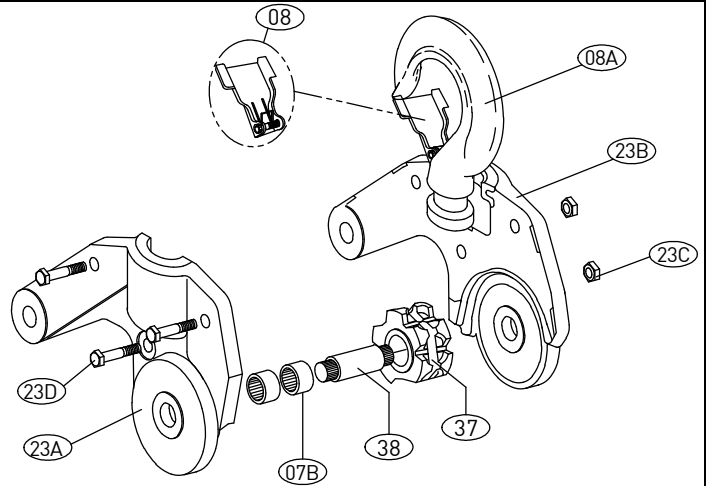
5 t Upper Hook



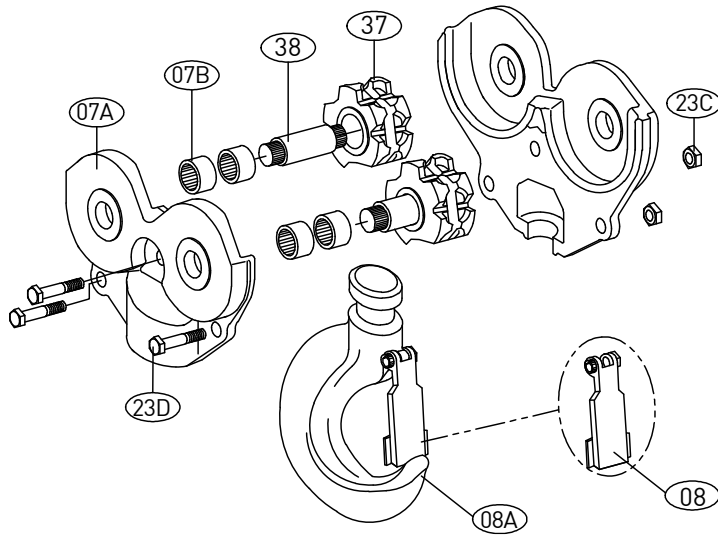
7.5 t Lower Hook



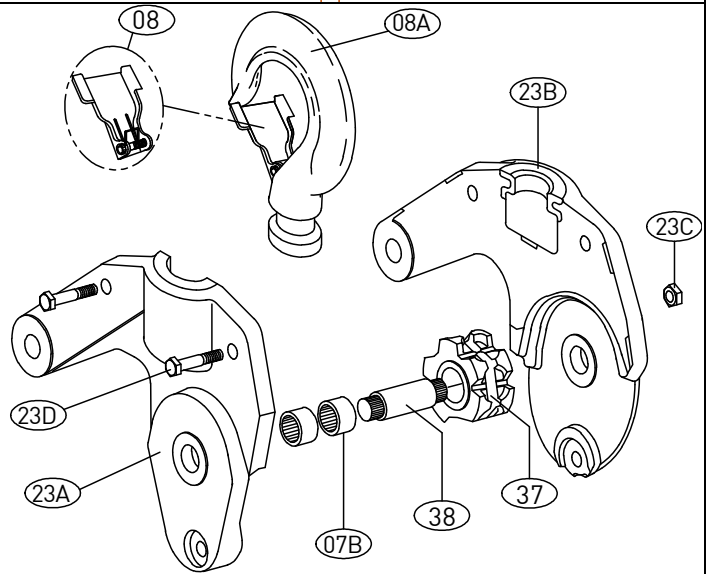
7.5 t Upper Hook



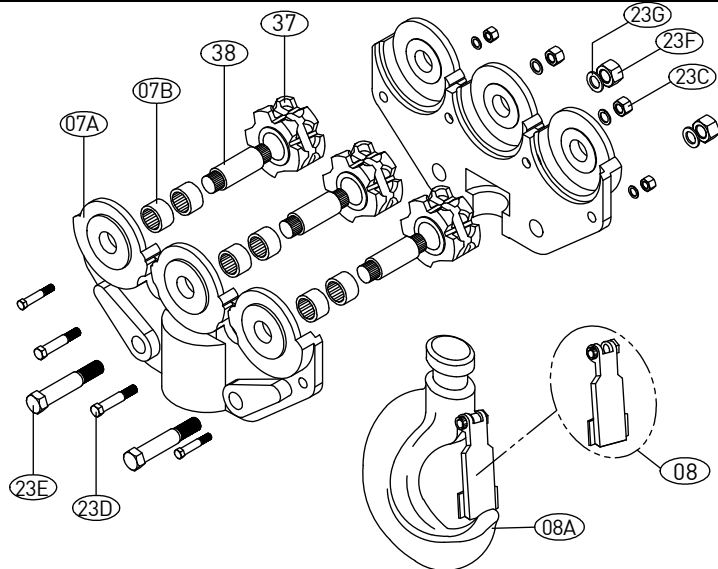
10 t Lower Hook



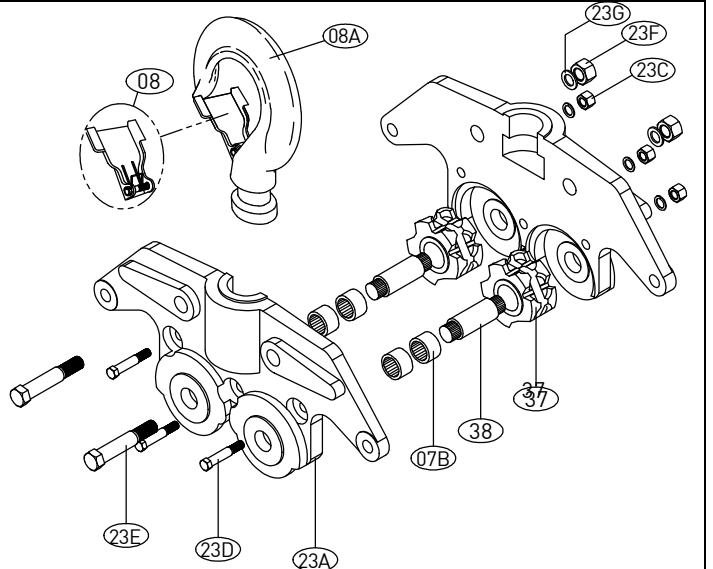
10 t Upper Hook



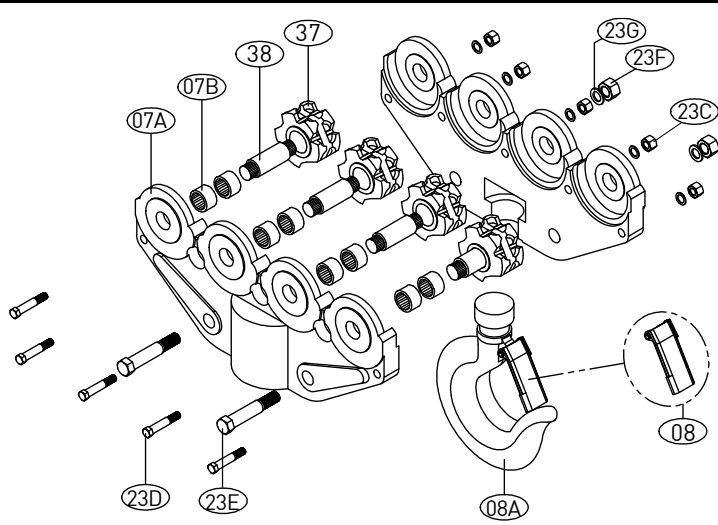
15 t Lower Hook



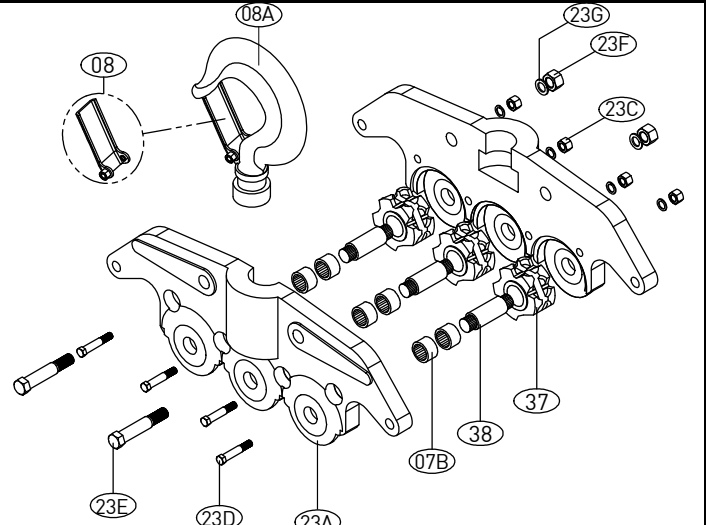
15 t Upper Hook



20 t Lower Hook



20 t Upper Hook



Nomenclature

Capacity (t)	Prefix
½	BLPAB1/2-#
1	BLPAB01-#
1.5	BLPAB01.5-#
2	BLPAB02-#
3	BLPAB03-#
5	BLPAB05-#
7.5	BLPAB07.5-#
10	BLPAB10-#
15	BLPAB15-#
20	BLPAB20-#
All Capacities	BLPAB-#

Part numbers start with a prefix which depends on the model (see table above) and end with the number in the exploded view drawings above. For example, the handwheel cover for a 1.5 t model is BLPAB01.5-#32

Overload Protection (OLP) Replacement Part Numbers

Where "xx" is the capacity (see table above).

Part Numbers without OLP	Equivalent OLP Part Numbers
BLPABxx-#10	BLPABxx-#100
BLPABxx-#19	BLPABxx-#190
BLPABxx-#30	BLPABxx-#300
BLPAB-#31A	BLPAB-#310

All Capacities Part Numbers

No	English Description
BLPAB-#02A	ANCHOR PIN SPRING, ALL CAPACITIES
BLPAB-#14	VULCAN MAX HAND CHAIN, ALL CAPACITIES
BLPAB-#31A	HANDWHEEL COTTER R, ALL CAP, NO OLP
BLPAB-#31B	HANDWHEEL SLOTTED NUT, ALL CAP.
BLPAB-#31C	HANDWHEEL WASHER, ALL CAPACITIES
BLPAB-#310	HANDWHEEL COTTER R, ALL CAP, W/OLP
BLPAB-#50A	NAMEPLATE RIVET, ALL CAPACITIES