



VULCAN
HOIST - PALAN

USER MANUAL



NOVA LOW HEADROOM TROLLEYS

1/2 to 5 Tonnes

NPTL0.5T to NPTL05T

NGTL0.5T to NGTL05T

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.




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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 lbs, or 1.102 US short ton). Nova products are metric. Equivalent US customary (imperial) units (inches, pounds) are provided for information purposes only.

Danger, Warning, Caution and Notice

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

 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 B30.17 and all applicable laws, regulations and codes.

Anybody interacting with the trolley 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 (OEM) parts by a qualified person. Any modification, including re-rating the trolley, must be authorised by the original equipment manufacturer.

CAUTION

Every safety and identification label and plate that came with the trolley, including the nameplate which displays the trolley'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 trolleys with different capacities and options, and as such not all instructions in this manual apply to every trolley. Disregard instructions that do not apply.

Safety Rules Before Installation



WARNING

The trolleys described in this manual are not designed to move people or to move loads near or over people. Ensure that the trolley is installed in a location where loads will not go over or near people or implement appropriate provisions so that people won't go under or near loads.

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

Verify beam compatibility with your trolley's model. Installing a trolley on a beam which does not fit within the following parameters may damage the trolley, make the trolley fall off the beam or cause the trolley to get stuck on the beam.

Beams must not be tilted by more than 1°.

Vulcan Hoist is not responsible for damages or injuries caused by an incompatibility between the trolley and the flange and damages or injuries caused by the beam itself.

Your beam's load capacity must be known, and it must be enough to hold the combined weight of the trolley and everything it carries such as the load, rigging accessories, hoists, chains, etc.

Stoppers or other provisions must be taken to ensure that the trolley will never roll off the end of the beam or collide with other trolleys, rigging equipment (such as beam clamps) or any other equipment present on the same beam.

Trolley Beam Compatibility Chart, mm [in]

Capacity, metric tons [lb]	Model	Minimum Beam Width	Maximum Beam Width	Maximum Beam Flange Thickness	Minimum Beam Height Inside Flanges	Minimum Beam Curving Radius
0.5 [1102]	NPTL0.5T	50 [1.97]	180 [7.08]	25 [0.98]	60 [2.37]	900 [35.44]
	NGTL0.5T					
1.0 [2204]	NPTL01T	68 [2.68]		27.5 [1.08]	77 [3.03]	1000 [39.37]
	NGTL01T					
2.0 [4409]	NPTL02T	74 [2.91]		25 [0.98]	92 [3.63]	1200 [47.25]
	NGTL02T					
3.0 [6613]	NPTL03T		29 [1.14]	112 [4.41]	1500 [59.06]	
	NGTL03T					
5.0 [11023]	NPTL05T	94 [3.70]	33 [1.29]	124 [4.89]	2000 [78.74]	
	NGTL05T					

Nova low headroom trolleys are made to be compatible with both tapered (I and S) beams and flat (H and W) beams.



WARNING

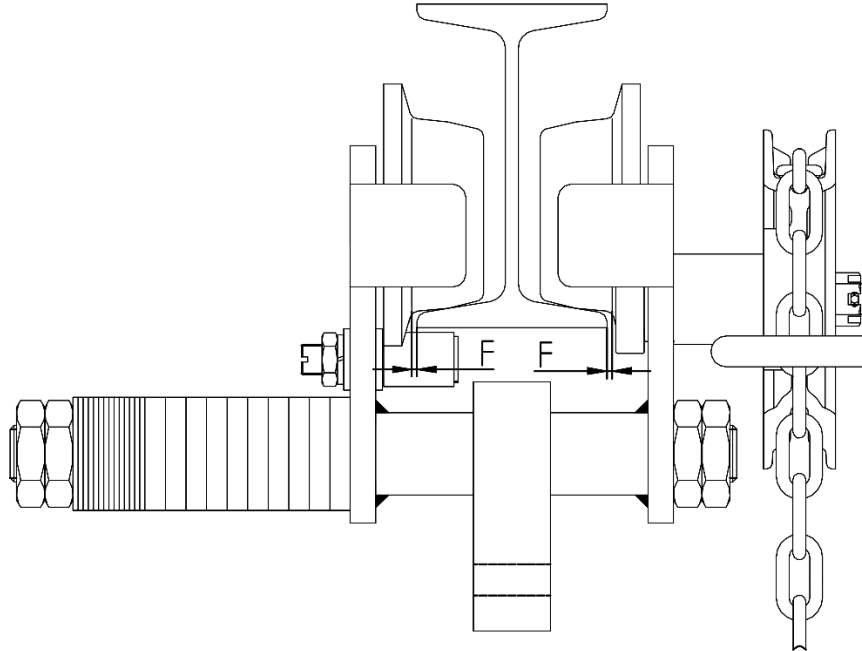
Failure to properly center the suspension plate, tighten the stay bolt's nuts thoroughly, correctly space the wheel flanges in relation to the beam, and/or have all wheels rest on the beam may result in damage to your trolley or beam or the trolley falling off the beam.

NOTICE

Nova products are metric. Using imperial tools to work on the trolley, especially to tighten the stay bolt, may damage your trolley, your tools, or both.

Installation

1. Measure the width of the beam's lower flange in multiple spots to determine its maximum width.



2. Arrange the washers, spacers and low headroom suspension plate on the stay bolts so that:

2a. The wheel flanges will clear the beam's widest spot.

2b. The distance between wheel flanges and the beam (F) is 2 to 4 mm [0.079"-0.157"].

2c. The low headroom suspension plate is centered.

2d. There is a maximum difference of one thin spacing washer between the stay pipe and the suspension plate on either side. Put all remaining washers outside the side plates.

2e. There is at least one spacing washer on the outside of both side plates. The number of washers outside the side plates doesn't have to match.

3. Put the trolley on the beam. Screw on and lightly tighten the first nut on both sides. Check the gap between the wheel flanges and the beam.

4. Torque the first nuts on either side to spec. Check that each wheel is still equally bearing the trolley's weight. After, screw on and torque the second nuts to spec.

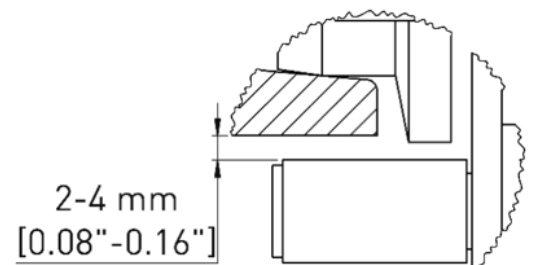
5. If your trolley has an under-beam roller, fasten it so that there is a gap from 2 mm [0.08"] to 4 mm [0.16"] between it and the beam.

6. Rock the trolley side-to-side to make sure it can't fall off the beam if a wheel flange rolls on the beam's flange.

7. Load the trolley at capacity and push it along the entire length of beam to make sure it rolls smoothly.

8. Perform a daily inspection as described further in this manual. It is recommended to draw a line across the nuts and stay bolt to see if they loosen.

Model Capacity (t)	Thread (mm)	Wrench Size (mm)	Tightening Torque Nm [ft-lb]
0.5	M18x2.5	27	81 [60]
1	M22x2.5	34	155 [115]
2	M27x3.0	41	295 [218]
3	M30x3.5	46	395 [292]
5	M42x4.5	65	1100 [812]



Safety Rules Before Operation



DO NOT USE the trolley and remove it immediately from service if you notice that:

- the low headroom suspension plate is bent or stretched.
- the side plates are opening, deformed, or bent.
- the stay bolts are bending.
- the suspension plate, stay pipes, spacing washers, or stay bolt nuts are loose on the stay bolt.
- other parts are missing.



ALWAYS ensure that you have read and understood this manual in its entirety. Be certain to have also read and understood the user manual of each equipment in the same system as the trolley (hoist, crane, rigging hardware...)

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

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

ALWAYS be certain that the weight of the load to be moved is lower or equal to the trolley's rated capacity.

ALWAYS plan your move. Warn people that may come near or under the load. Make sure that you have somewhere to safely land the load before you lift it.

ALWAYS make sure that the planned moves won't interfere with other operations and that the load won't go near or over people.

NEVER apply non-vertical loads on the trolley. Make sure that the load's centre of gravity and attachment point are vertically aligned with the trolley.

ALWAYS observe proper rigging procedures.

Safety Rules During Operation



ALWAYS check that the load is well balanced before moving it with the trolley.

NEVER use a damaged trolley, a trolley that is not working properly or that requires excessive force to move.

NEVER use a trolley if it makes excessive or unusual noise.

NEVER swing a load. The load must remain centered under the trolley. Accelerate and stop slowly.

NEVER ram the trolley into the beam's stoppers. If you must rest the trolley on a stopper, make the impact as soft as possible.

NEVER push the trolley into another trolley, beam clamp or other obstacle on the beam.

NEVER use the trolley as a welding electrode, weld a load attached to the trolley or cut a suspended load.

NEVER allow your attention to be diverted from operating the trolley.

Safety Rules After Operation



NEVER leave a load suspended for an extended period of time.

ALWAYS secure unattended suspended loads. If a load is left suspended, provisions must be taken so that the trolley and its load won't move on their own and that people won't go under or near the suspended load.

ALWAYS land the load under the trolley. Do not push the load to land it away from the trolley.

Inspection



The beams on which the trolley travels are your responsibility. You must inspect your beams to ensure that the trolley doesn't wear down or damage them.

If a trolley 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 trolley as instructed may result in damage, injury, or death.

Contact Vulcan Hoist for spare parts. Do not use non-original equipment manufacturer (non-OEM) parts.

These instructions are based on ASME B30.17. Also observe any other regulation that may apply.

There are two types of inspection: daily and periodic. A daily inspection must be done by the trolley's operator or a person qualified to do so at the beginning of each working shift or the first time the trolley is used in a shift. A periodic inspection must be done by a qualified person at intervals determined by the trolley's service severity.

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

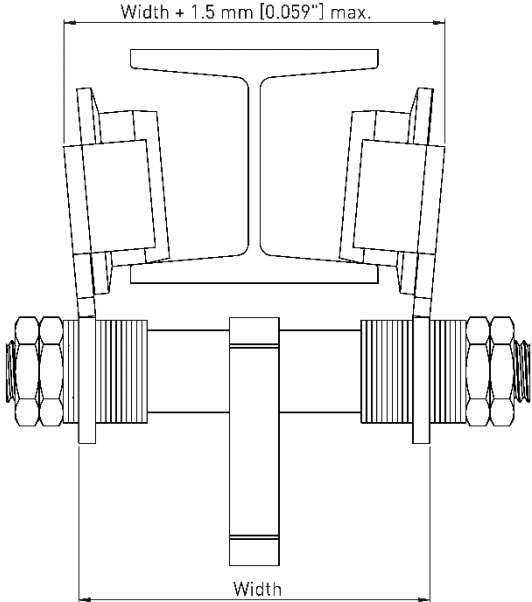
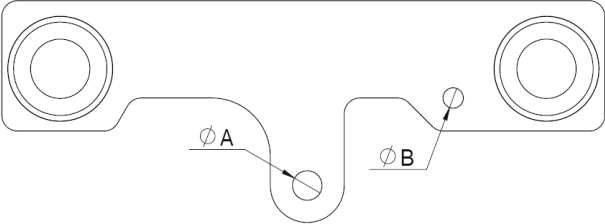
Daily Inspection

The daily inspection can be done from the ground if the inspector sees the trolley clearly enough to check the following items.

Part	Items to Inspect
Tags, labels, nameplate	Warning plates, labels and tags must be present, securely fastened and legible. The nameplate and the trolley's capacity tags must be present, securely fastened and legible
Function	The trolley must roll smoothly on the beam
Suspension plate	The low headroom suspension plate must not be visibly bent, stretched, or damaged. Equipment hanging from the suspension plate: consult that equipment's manual
Side plates	The side plates must be straight. There must be no visible bends, stretches, or damage
Stay bolt	The stay bolts must not bend at all
Under-beam roller	If your trolley came equipped with an under-beam roller, it must be well fastened and parallel to the beam
Loose or missing parts	There must not be any play between the side plates, stay bolt, suspension plate, stay pipes, spacing washers, and stay bolt nuts. There must be no missing parts

Periodic Inspection

The periodic inspection can be done in situ or with the trolley removed from the beam. The inspector must be able to measure and see the trolley up close.

Part	Item to Inspect and Discard Criteria																												
Nameplate and other signage	The nameplate must be present, securely fastened and legible. Warning plates, labels and tags must be present, securely fastened and legible																												
Side plates	 <p>The side plates must remain straight. There can be a maximum of 1.5mm [0.059"] difference between the top and bottom distance of the side plates.</p> <p>The side plates must be free of deformations and significant nicks.</p>																												
Low headroom suspension plate	 <p>The suspension plate must be free of bends, stretching, deformations, and significant nicks.</p> <table border="1"> <thead> <tr> <th rowspan="2">Capacity (t)</th> <th colspan="2">ØA</th> <th colspan="2">ØB</th> </tr> <tr> <th>Standard, mm [in]</th> <th>Discard, mm [in]</th> <th>Standard, mm [in]</th> <th>Discard, mm [in]</th> </tr> </thead> <tbody> <tr> <td>0.5</td> <td>10.2 [0.402]</td> <td>≥10.7 [0.421]</td> <td rowspan="2">n/a</td> <td rowspan="2">n/a</td> </tr> <tr> <td>1.0</td> <td>12.5 [0.492]</td> <td>≥13.1 [0.515]</td> </tr> <tr> <td>2.0</td> <td rowspan="2">15.2 [0.598]</td> <td rowspan="2">≥16.0 [0.629]</td> <td>10.5 [0.413]</td> <td>≥11.2 [0.440]</td> </tr> <tr> <td>3.0</td> </tr> <tr> <td>5.0</td> <td>18.5 [0.728]</td> <td>≥19.4 [0.763]</td> <td>15.0 [0.591]</td> <td>≥16.1 [0.633]</td> </tr> </tbody> </table> <p>For the pins going in holes A and B's discard criteria, consult your Nova chain block manual.</p>	Capacity (t)	ØA		ØB		Standard, mm [in]	Discard, mm [in]	Standard, mm [in]	Discard, mm [in]	0.5	10.2 [0.402]	≥10.7 [0.421]	n/a	n/a	1.0	12.5 [0.492]	≥13.1 [0.515]	2.0	15.2 [0.598]	≥16.0 [0.629]	10.5 [0.413]	≥11.2 [0.440]	3.0	5.0	18.5 [0.728]	≥19.4 [0.763]	15.0 [0.591]	≥16.1 [0.633]
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Stay bolts	The stay bolts must be perfectly straight and without any signs of damage or wear.																												
Stay pipes	The stay pipes must not show any deformation. In particular, check that the stay pipes' ends are still completely perpendicular.																												
Stay bolt nut torque	Re-torque the stay bolts' nuts to spec.																												
Wheel wear	Recheck the gap between the wheel flanges and the beam's lower flange. The wheels must not have significant surface wear, cracks, or gouges.																												
Wheel bearings	The wheels must turn smoothly and not have significant play. Their axis of rotation must remain perpendicular to the side plates																												
Drop stops	The drop stops must not be deformed, damaged, cracked, or bent further than 90°. Look for cracks especially inside the bend or weld.																												
Gears	Gears must turn smoothly. The hand chain wheel and gears must be free of damage and significant surface wear.																												

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 trolley and hand chain (geared trolleys only) without getting water inside the wheel bearings.
2. For geared trolleys: clean excess worn grease and apply new grease on the gear teeth. If the pinion does not turn smoothly, disassemble it, lubricate the shaft and reassemble it.



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.

Failure to perform maintenance as instructed may result in damage, injury or death.

Storing

Always store above freezing temperature in a dry environment.

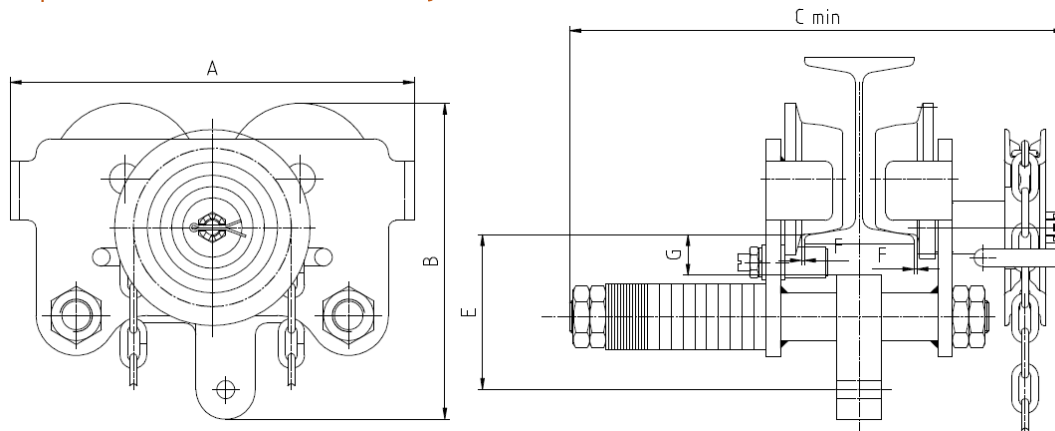
Do not use a trolley in storage to hold or support a load.

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

Outdoor Installations

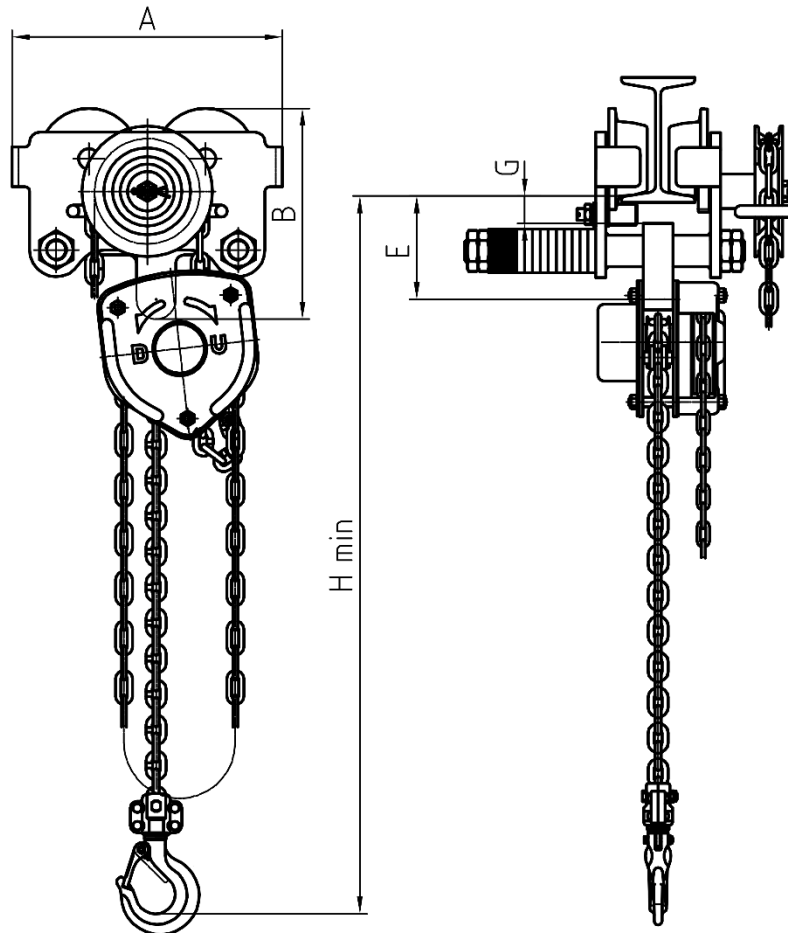
1. Outdoor trolleys should be sheltered from rain and snow or brought inside when not in use.
2. If the trolley is exposed to salty air, extreme temperature, high humidity environments or exposure to rain or snow, increase the inspection and maintenance frequency.

Technical Specifications – Trolley



Models	Capacity, metric tons [lb]	A mm [in]	B mm [in]	C mm [in]	G mm [in]	E mm [in]	F mm [in]
NPTL0.5T	0.5	238	169	336	25	86	≈ 2-4 [0.079-0.157]
NGTL0.5T	[1102]	[9.37]	[6.65]	[13.23]	[0.98]	[3.39]	
NPTL01T	1.0	273	170	334.5	27.5	105	
NGTL01T	[2204]	[10.75]	[6.69]	[13.17]	[1.08]	[4.11]	
NPTL02T	2.0	303	181	372	25	115	
NGTL02T	[4409]	[11.93]	[7.13]	[14.65]	[0.98]	[4.53]	
NPTL03T	3.0	363	230	381	29	125	
NGTL03T	[6613]	[14.29]	[9.06]	[15.00]	[1.14]	[4.92]	
NPTL05T	3.0	436	260	394	33	146	
NGTL05T	[11023]	[17.17]	[10.24]	[15.51]	[1.30]	[5.75]	

Technical Specifications – Trolley with Nova Chain Block



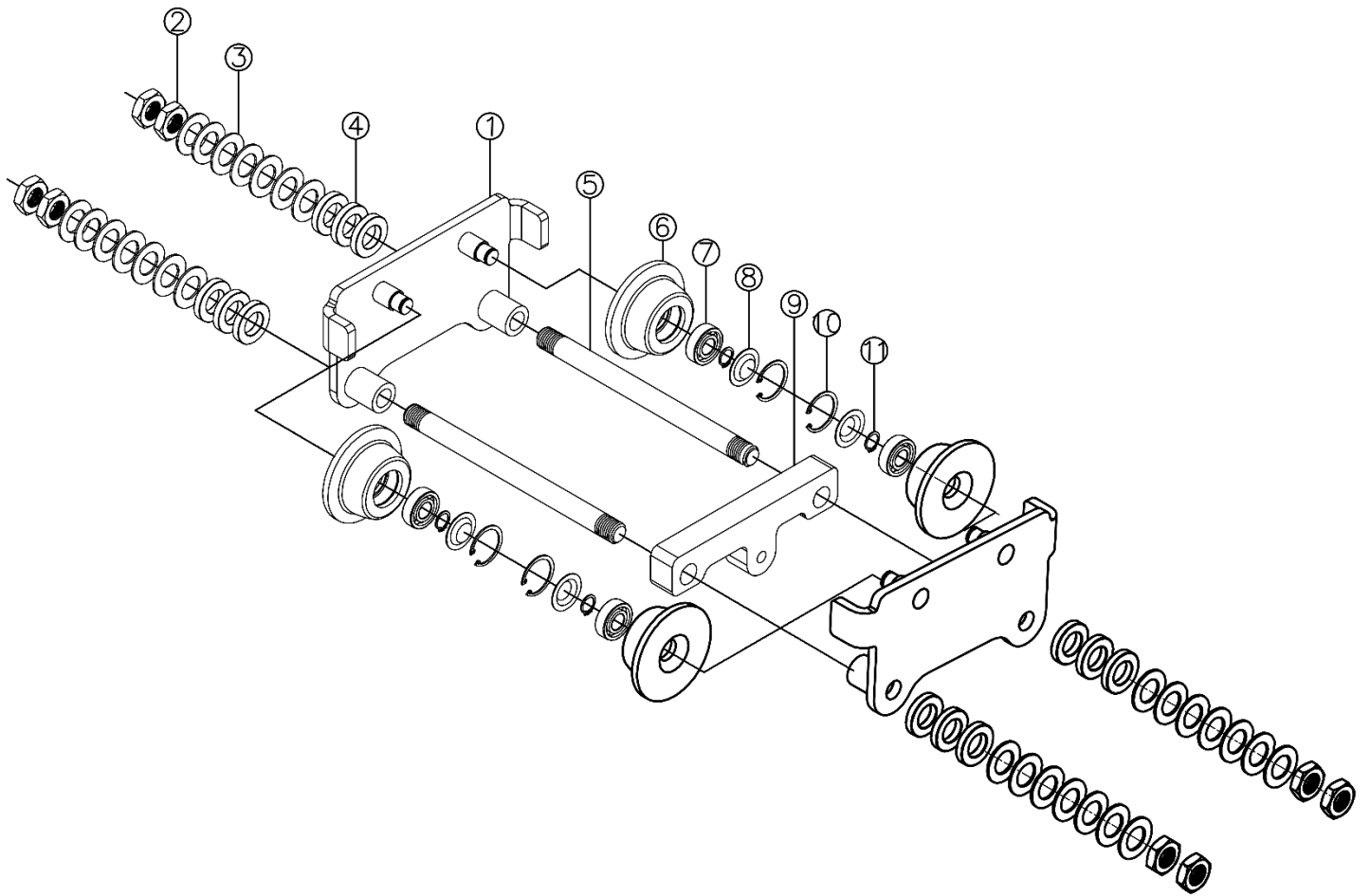
Capacity, metric tons [lb]	Nova Trolley Model	Nova Chain Block Model	H mm [in]	A mm [in]	B mm [in]	E mm [in]	G mm [in]
0.5 [1102]	NPTL0.5T	NB1/2T	263 [10.36]	238 [9.37]	169 [6.65]	86 [3.39]	25 [0.98]
	NGTL0.5T						
1.0 [2204]	NPTL01T	NB1T	342 [13.47]	273 [10.75]	170 [6.69]	105 [4.11]	27.5 [1.08]
	NGTL01T						
2.0 [4409]	NPTL02T	NB2T	399 [15.71]	303 [11.93]	181 [7.13]	115 [4.53]	25 [0.98]
	NGTL02T						
3.0 [6613]	NPTL03T	NB3T	470 [18.51]	363 [14.29]	230 [9.06]	125 [4.92]	29 [1.14]
	NGTL03T						
5.0 [11023]	NPTL05T	NB5T	584 [23.00]	436 [17.17]	260 [10.24]	146 [5.75]	33 [1.30]
	NGTL05T						

Warranty

Your Nova low headroom trolley is guaranteed against defects in materials and workmanship **for 1 year** from the date of purchase if all the following conditions are met:

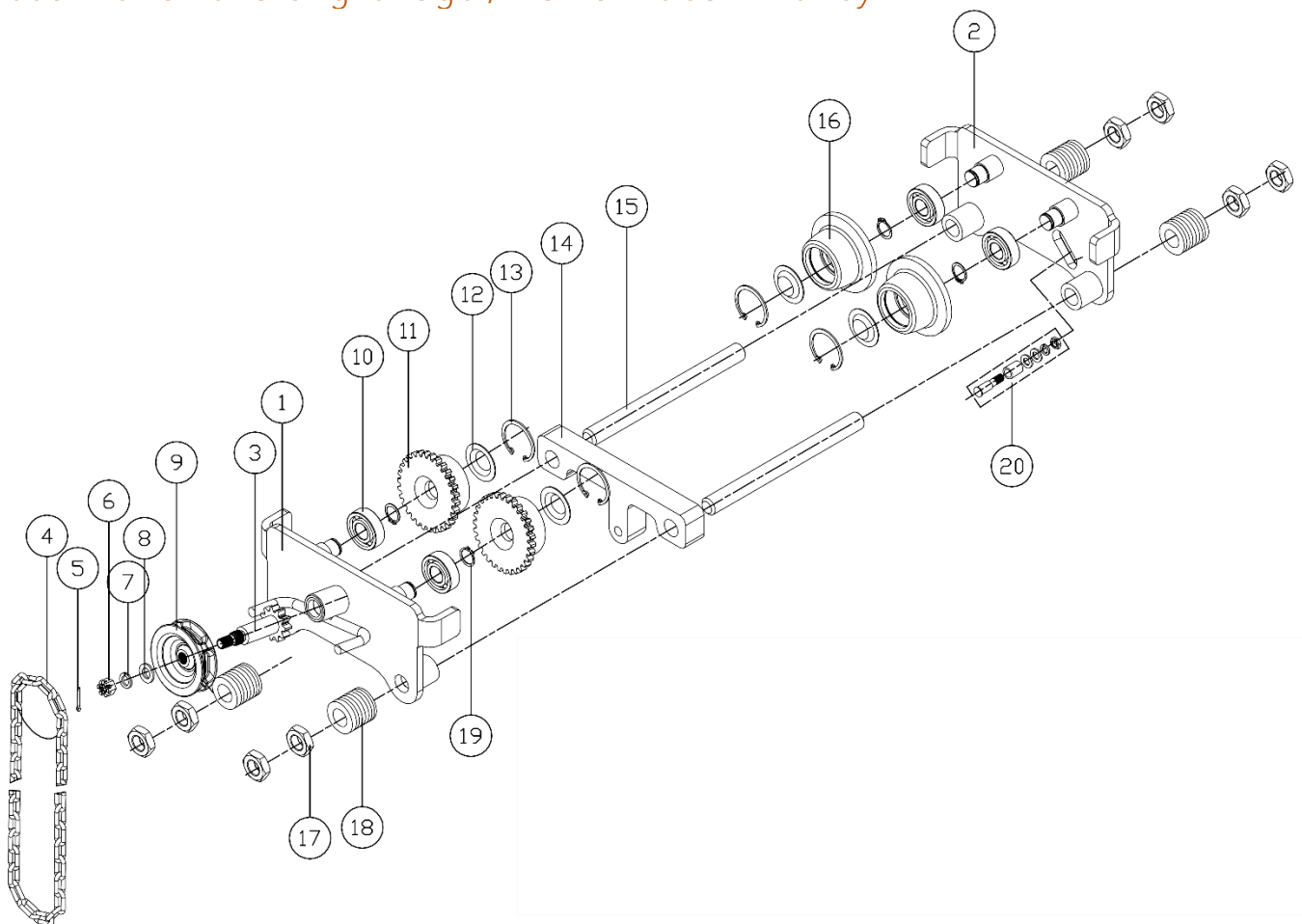
1. Any part replacement or modification of the Nova low headroom trolley **must** be approved in writing by Vulcan Hoist.
2. No credit will be issued for defective parts. Vulcan Hoist will ship only replacement parts, subject to warranty inspection.
3. For major problems, the Nova low headroom trolley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

Pièces – Chariot poussoir / Parts – Push Trolley



N° de pièce Part nb.	Description (français)	Description (English)
1	Plaque latérale	Side Plate
2	Écrou du boulon d'ancrage	Stay Bolt Nut
3	Rondelle entretoise mince	Thin Spacer Washer
4	Rondelle entretoise moyenne	Thick Spacer Washer
5	Boulon d'ancrage	Stay Bolt
6	Roue	Wheel
7	Roulement de roue	Wheel Bearing
8	Couvert du roulement	Wheel Bearing Cover
9	Plaque de suspension à encombrement réduit	Low Headroom Suspension Plate
10	Bague extérieure du roulement	Bearing External Snap Ring
11	Bague intérieure de la roue	Wheel Internal Snap Ring

Pièces – Chariot à engrenage / Parts – Gear Trolley



N° de pièce Part nb.	Description (français)	Description (English)
1	Assemblage plaque latérale - côté engrenage	Side Plate Assembly – Gear Side
2	Assemblage plaque latérale - côté roulant	Side Plate Assembly – Plain Side
3	Pignon et arbre de pignon	Pinion and Pinion Shaft
4	Chaîne à main	Hand Chain
5	Goupille fendue	Cotter Pin
6	Écrou à créneaux	Castle Nut
7	Rondelle auto-bloquante	Lock Washer
8	Rondelle plate	Flat Washer
9	Roue de chaîne à main	Hand Chain Wheel
10	Roulement de roue	Wheel Bearing
11	Roue dentée	Gear Wheel
12	Couvert du roulement	Bearing Cover
13	Bague intérieure de la roue	Wheel Internal Snap Ring
14	Plaque de suspension à encombrement réduit	Low Headroom Suspension Plate
15	Boulon d'ancrage	Stay Bolt
16	Roue	Wheel
17	Écrou du boulon d'ancrage	Stay Bolt Nut
18	Rondelle entretoise	Spacing Washer
19	Bague extérieure du roulement	Bearing External Snap Ring
20	Assemblage du rouleau sous-poutre	Under-beam Roller Assembly