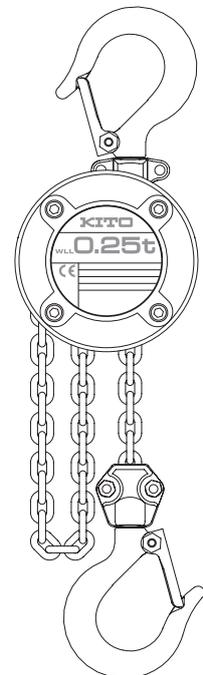




**OWNER'S (OPERATOR'S) MANUAL  
AND SAFETY INSTRUCTIONS  
FOR KITO MANUAL CHAIN HOIST**

# CX003



**⚠ WARNING**

This equipment should not be installed, operated or maintained by any person who has not read and understood all the contents of this manual. Failure to read and comply with the contents of this manual can result in serious bodily injury or death, and/or property damage.

# Introduction

This manual chain hoist is designed and manufactured to lift and lower a load manually within a normal work environment. Movement in the horizontal direction is also enabled by combining with a trolley.

This Instruction Manual is intended for those operating the KITO model CX chain hoist. Separate documents; Periodic Inspection Manual, Troubleshooting, and Disassembly/Reassembly Manual are also available for the relevant person (**Note**). Please contact KITO or your dealer for these materials.

**Note** : A person who is authorized by the business entity as having thorough knowledge and expertise on the structure and devices of a chain hoist, or a person with similar thorough knowledge and expertise and capable of understanding the Periodic Inspection Manual, and Disassembly/Reassembly Manual.

When these conditions are not satisfied, consult KITO or your dealer, or request maintenance.

- Reproduction of this document, in whole or in part, without prior consent is prohibited.
- This document is subject to change without prior notice.
- This document was prepared with the utmost care. However, the customer is kindly requested to inform us of any question, error or unclear point included in the document.

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# Safety precautions

Improper use of this manual chain hoist may result in danger, such as falling of the lifted load. Before installation, operation, maintenance and inspection, be sure to read this manual carefully, comply with its instructions and operate the product correctly. Prior to operation, all the safety and operating information, and safety precautions must be fully understood. In this manual, precautions are classified into three categories: "Danger", "Warning" and "Caution". In addition, read the instruction manuals of the equipment (such as trolley) related to the operation of the manual chain hoist, and follow the instructions.

## Description of signal words



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, may result in minor or moderate injury.

However, even CAUTION situations may result in serious injury or death depending on circumstances. Ensure all precautions are recognized as important and complied with. After reading this manual, ensure it remains readily available for users.

## Description of safety symbols



Prohibited

⊘ Means a "Prohibited" action or a thing "**You must not do**".

Specific prohibited actions are shown in the safety symbol or described near the same.



Mandatory

ⓘ Means a "**Mandatory Action**" or "**Do as indicated**".

The specific required action is shown in the safety symbol or described near the same

## Disclaimer

- KITO shall not be liable for any damage incurred due to fire, natural disasters such as earthquake and lightning, actions of a third party, other accidents, intentional or accidental improper operation or misuse by customer, and operation under conditions exceeding the operating environmental conditions.
- KITO shall not be liable for any incidental damage incurred, due to the use or inability to use this product (loss of business profit, interruption of business, and damage to the lifted load).
- KITO shall not be liable for any damage incurred due to negligence concerning the instructions in this manual, or operation under a condition exceeding the range defined in the specifications.
- KITO shall not be liable for any damage arising from malfunction due to the combination of the chain hoist used with other equipment, unrelated to KITO.

## Restricted usage

- This product is not designed nor manufactured to transport people. Do not use the product to transport people.
- This product is designed and manufactured for the purpose of lifting and lowering a load manually under normal operating environmental conditions. Do not lift or lower loads using electric power. Movement in a horizontal direction is enabled by combining with a trolley. Decide on and judge the appropriateness of use in accordance with the intended purpose of the product design and manufacture.
- Since this chain hoist is used under diverse conditions, the customer should judge whether the product would be used appropriately by carrying out analysis and tests if necessary. Ensuring the product performance and safety are the responsibility of the person who judges the appropriateness.

## Operators

- Before operating the product, read this manual and that of related equipment thoroughly to understand the contents.

## Handling & Maintenance

### **WARNING**



Prohibited

#### **Do not handle the chain hoist in any of the following manners.**

Handling the chain hoist in the manner described below may result in death or severe injury.

- Only suitably competent persons are allowed to disassemble or repair the chain hoist. Separate documents; Periodic Inspection Manual, Troubleshooting, and Disassembly/Reassembly Manual are provided for such competent persons. Disassembly and repair shall be carried out in accordance with these documents.
- Do not enter into any area below a lifted load or moving range thereof. Do not transport a load over people or allow people to enter into the moving range of a lifted load.
- Do not remodel the product and its accessories.
- Do not adjust or disassemble the Bottom Yoke and Overload Limiter (a device to prevent excessive overload).



Mandatory

#### **Comply with the following instructions when handling the chain hoist.**

Failure to comply with these instructions may result in death or severe injury.

- Before operating the product, fully understand the contents of this manual and the caution labels.
- Carry out daily inspection before operation.
- Request the competent person to carry out periodic inspection (monthly, annually), or ask KITO.
- Keep the record of the periodic inspections.

### **CAUTION**



Prohibited

#### **Do not drag or throw the chain hoist when carrying.**

The chain hoist may be broken or damaged and any fall of the lifted load during use may result in injury or physical damage to property.



Mandatory

#### **Follow the operating environmental conditions (refer to page 11) when using the chain hoist.**

Use of chain hoist beyond the conditions may result in injury or physical damage to property.



Mandatory

#### **When discarding the product, disassemble it to ensure it is not reused, and discard in accordance with locale government regulations and ordinances or the rules defined by the business entity.**

Contact your local government and related division for details.

Refer to Disassembly/Reassembly Manual for how to disassemble the chain hoist, or consult with KITO.

## Mounting

### ⚠ WARNING



Prohibited

#### Avoid the following when mounting the chain hoist.

Failure to comply with these instructions may result in death or severe injury.

- Ensure that only trained or competent persons install the chain hoist.
- Do not install the chain hoist within the range of movement of other devices (equipment), such as a trolley.

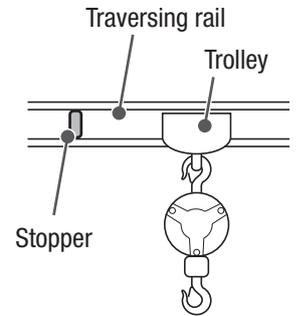


Mandatory

#### Comply with the following instructions when installing the chain hoist.

Failure to comply with these instructions may result in death or severe injury.

- Check that the structure for mounting the chain hoist has sufficient strength.
- Fix the Top Hook to the structure securely.
- Before using the chain hoist with a trolley, read the Instruction Manual of the trolley carefully and install it by adjusting the rail width.
- Install a stopper at both ends of the traversing rail for the trolley.



### ⚠ CAUTION

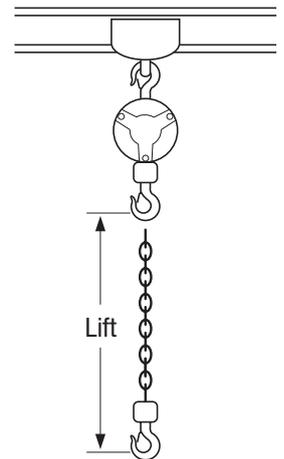


Mandatory

#### Comply with the following instructions when installing the chain hoist.

Failure to comply with these instructions may result in injury or damage to property.

- Install the chain hoist to avoid impeding the hoist.
- Install the Load Chain with sufficient length for lifting work.



## Before use

### ⚠ WARNING



Mandatory

#### Before moving the load, warn all the surrounding people.

Failure to comply with these instructions may result in death or severe injury.

### ⚠ CAUTION



Mandatory

#### Check the following before using the chain hoist.

If a defect is found while checking the chain hoist, stop using it, place a notice indicating "failure/inspection in progress" and request a competent person to carry out inspection and repair.

Failure to comply with these instructions may result in death or severe injury.

- Carry out daily inspection before operation (refer to page 14).
- Check to see whether there is any defect in the sling.
- Check to use a proper chain hoist for your purpose, capacity and lift.
- Check the work environment to see if the work area is secure to pull the hand chain vertically and to maintain a good view without any obstacles to monitor the operation.
- Check to see if the footing is secure.

# ⚠ WARNING



Prohibited

## Do not use the chain hoist in the following manners.

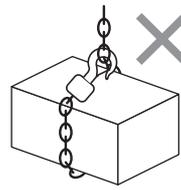
Failure to comply with these instructions may result in death or severe injury.

### <General>

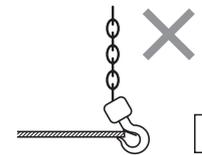
- The Load Chain is exclusively designed for this model of chain hoist. Do not use chains of other models of chain hoist. Ensure that a competent person replaces the chain with an authorized part for this model, referring to Disassembly/ Reassembly Manual.
- Operate the chain hoist using only manual force.
- Do not leave a lifted load unattended for an extended period.

### <Slinging>

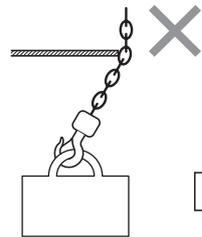
- Do not use a Hook without a Latch.
- Do not apply a load to the tip of the hook or latch. <Fig. A>
- Do not use the load chain as a sling. <Fig. B>
- Do not operate the load chain while it is in contact with any sharp edges, e.g. of a steel plate. <Fig. C>



B



A



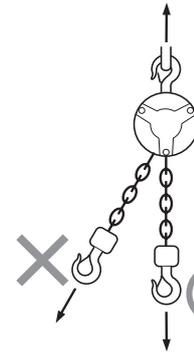
C

### <Lifting>

- Do not lift more than the rated load. <Fig. D>
- Do not cause the load to come into contact with the load or hand chains.
- Do not lift the load while holding the load chain.
- Do not swing the lifted load.
- Do not use the chain hoist without a straight line present between the top and bottom hooks relative to the load direction. <Fig. E>

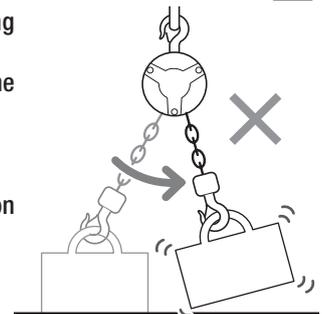


D



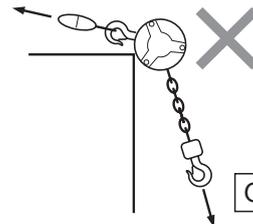
E

- Do not swing the load when lifting it off the ground. <Fig. F>  
For chain hoists with a trolley, lift the load underneath the trolley to avoid exerting excessive force on the trolley.
- When the chain hoist is used as a sling by connecting the top hook of the hoist to the crane, it overrides the overload limiter:  
Do not lift more than the rated load.  
Before lifting, ensure that load chain slack is eliminated.
- Do not impede the hand chain with a lifted load or a member of the structure caught on the chain.

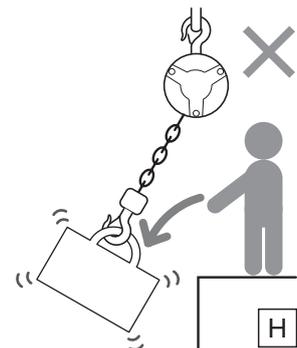


F

- Do not use the chain hoist as a fulcrum. <Fig. G>
- When lifting off a load from a pallet, lift the load to avoid exposing to shock, such as the load falling. <Fig. H>
- Do not lift or lower excessively.
- Before use, confirm the minimum distance between the hook and load (minimum headroom) and lift in technical data.
- Do not repeatedly operate the overload limiter (slipping action).
- If the overload limiter is activated, stop the lifting operation immediately and ensure that the chain hoist is in a no load state.



G



H

## ! WARNING



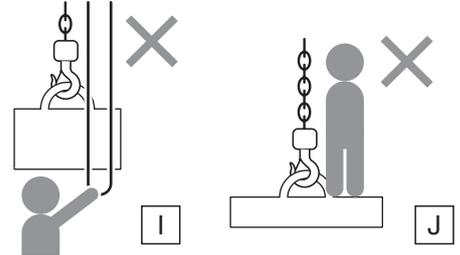
Prohibited

### Do not use the chain hoist in the following manners.

Failure to comply with these instructions may result in death or severe injury.

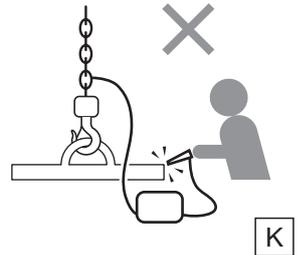
#### <Transportation/Move>

- Do not operate the chain hoist underneath the load or transport a load over people. <Fig. I>
- Do not ride on a lifted load and do not use the chain hoist to support, lift, or transport people. <Fig. J>
- Do not strike the stopper of the traversing rail or the structure with the chain hoist or the trolley.



#### <Post-lifting Work>

- Do not execute welding or cutting work on a suspended steel plate.
- Do not use the load chain as the earth for welding work. <Fig. K>
- When repairing or disassembling, ensure that the chain hoist is placed down on the floor and that only competent persons maintain the chain hoist.
- Ensure that the hand chain is pulled by a single person.



#### <Abnormality/failure>

- Do not use a damaged chain hoist or one generating abnormal sounds.
- Do not use the chain hoist if one of the following defects is found in the load chain. Deformation, twists, kinks, flaws, cracks, adhesion of foreign matter, corrosion, and abnormal meshing.
- Heavy elongation or abrasion.
- Do not use the load chain hoist out of order or under repair.



Mandatory

### Follow the instructions below when using the chain hoist.

Failure to comply with these instructions may result in death or severe injury.

- If any abnormality is detected during use, immediately stop using of the chain hoist, indicate "failure/repair in progress" and request a competent person to perform maintenance and repair.
- When the manual force becomes excessive, stop operation immediately.
- Use sling appropriate for the weight and shape of a load. Improper slinging may result in an unsafe situation, such as the falling of the lifted load.

## ! CAUTION



Prohibited

### Do not use the chain hoist in the following manners.

Failure to comply with these instructions may result in death or severe injury.

- Do not operate the chain hoist as the hand chain is tangled or twisted.
- Do not expose the chain hoist to sparks from welding.
- Do not use an overload limiter for measuring the weight of the load.
- Do not fix the hook directly to the latch of a load-carrying platform to avoid applying excessive force to the hook.
- Do not impede the lifted load or hand chain with other structures.



Mandatory

### Observe the following instructions when using the chain hoist.

Failure to comply with these instructions may result in death or severe injury.

- Unwind any twists in the load chain before lifting a load.
- If the load and hand chains are entangled or twisted, stop the operation immediately and reset the entangled or twisted chains.
- When lifting a load with two hoists, choose each hoist whose lifting capacity exceeds the load and operate the respective chain hoist to keep the load lifted horizontal.

## Maintenance inspection / storage

### **WARNING**



Mandatory

**Only competent persons are allowed to carry out maintenance inspection of the chain hoist.**

Failure to comply with these instructions may result in death or serious injury.

- The competent person should carry out maintenance inspection in accordance with the Periodic Inspection Manual, Troubleshooting, and Disassembly/Reassembly Manual.
- Do not cut, extend, or weld the load and hand chains.
- Do not apply oil to the braking part.

### **CAUTION**



Mandatory

**Comply with the following instructions when carrying out maintenance inspection and storing the chain hoist.**

Failure to comply with these instructions may result in injury or physical damage to property.

- To avoid misuse of the chain hoist under repair, apply a label indicating "failure/inspection in progress" on the chain hoist.
- When storing the chain hoist, wipe off dust and waterdrop, apply oil to the neck of the hook and load chain and store the hoist indoors when not used for lifting loads.
- When replacing a part, use only an authorized part for the KITO model CX chain hoist. Even though the part is an authorized one for KITO chain hoist, it may not be used for different model.

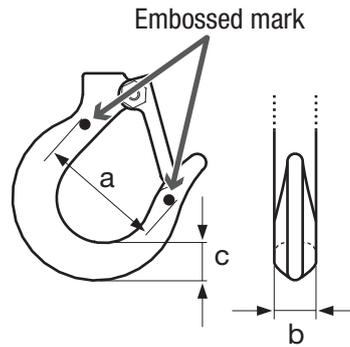
# Unpacking

- Check that the information on the box and the product match the details of your order.
- Check to see whether the product has been deformed or damaged by an accident in transit.
- Fill in the blank provided in the right table with the Lot NO. (written on the nameplate on the product), the date of purchase, and the name of the store where you purchased the product.

\* When repair or a spare part is needed, also inform KITO of the information.

Lot NO.	CX1A-
Date of purchase	
Store	

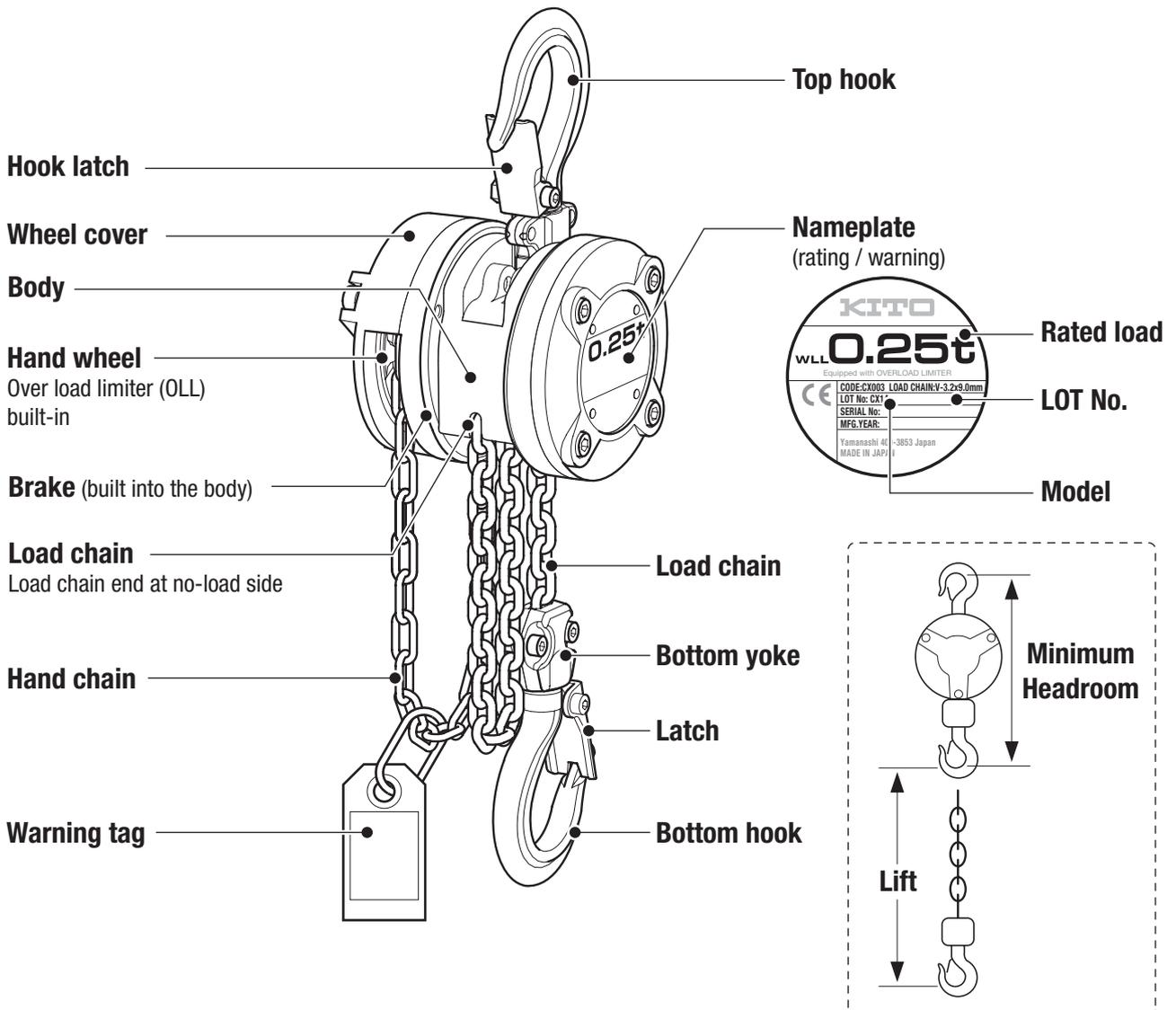
- Fill in the spaces provided in the right table with the distance a between embossed marks, the hook width b and the thickness c for both the top and bottom hook. (These figures are referred in maintenance.)



Dimensions when new

Top hook	Dimension a	mm
	Dimension b	mm
	Dimension c	mm
Bottom hook	Dimension a	mm
	Dimension b	mm
	Dimension c	mm

# Main parts



## Specifications

Product code	Rated load (t)	Standard lift (m)	Minimum Headroom (mm)	Standard length of the hand chain double fold (m)	Pull to lift Load <sup>*1</sup> (N) [kgf]	Hand chain length for 1m lifting <sup>*2</sup> (m)
CX003	0.25	2.5	217	2	147[15]	33.8

Product code	Load chain diameter x pitch (mm)	Chain fall lines	Test Load (t)	Weight for additional 1m of lift (kg/m)	Mass (kg)
CX003	3.2 × 9.0	1	0.38	0.4	2.4

\*1: Average hand pull to lift the rated load.

\*2: Length of the hand chain necessary to lift a load 1m.

## Operating environmental conditions

Operating temperature range	-40°C to +60°C
Operating humidity range	Use the hoist at under 100%RH. This product cannot be used in water.
Materials	Standard materials are used. Special materials such as sparkless materials and asbestos are not used. With regard to the environmental load substances, 6 substances defined in the RoHS directives are not contained in this product.

### Do not use the chain hoist in the following environments:

- In an alkaline/acidic atmosphere
- In an organic solvent/explosive atmosphere

Incidentally, when you wish to use the chain hoist in environments other than the aforementioned normal use environments, such as one with a high salt content, or in an environment where outdoor use in particular is extensive, it may be possible to use the chain hoist by carrying out maintenance inspection frequently. In such cases, consult with KITO beforehand.

## Installation

Read the "Safety precautions : Mounting" on page 6 carefully before use and follow the instructions.

- Check that the structure for mounting the chain hoist has sufficient strength.
- Only allow trained or competent persons to install the chain hoist.
- Do not install the chain hoist within the moving range of other devices (equipment), such as a trolley.
- Before using the chain hoist with a trolley, read the Instruction Manual of the trolley carefully and install it by adjusting the rail width.  
Install a stopper at both ends of the traversing rail for the trolley.

**Note:** Our KITO TS trolley (Models TSP005) can be connected to this hoist. When using the chain hoist by connecting to a trolley, change the capacity on the trolley nameplate to 250kg, corresponding to CX003. For details, contact KITO.

## Preoperational check

Read the "Safety precautions : Mounting" on page 6 and "Safety precautions : Maintenance" on page 9 carefully before use and follow the instructions.

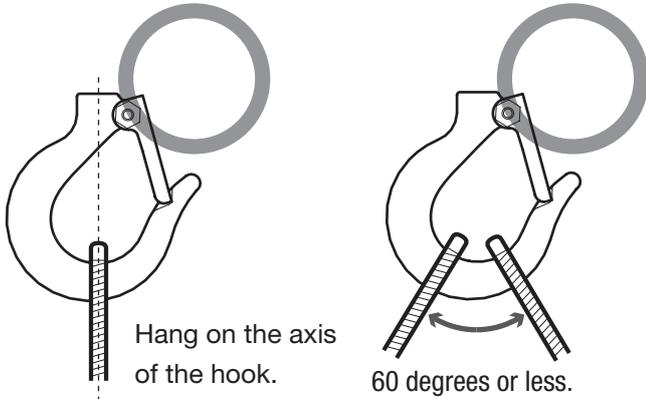
The user must carry out a daily inspection before operation.

Even if the chain hoist is permanently installed and used for the same purpose repeatedly, check all the works for the day and check to ensure that it does not exceed the rated load on each occasion.

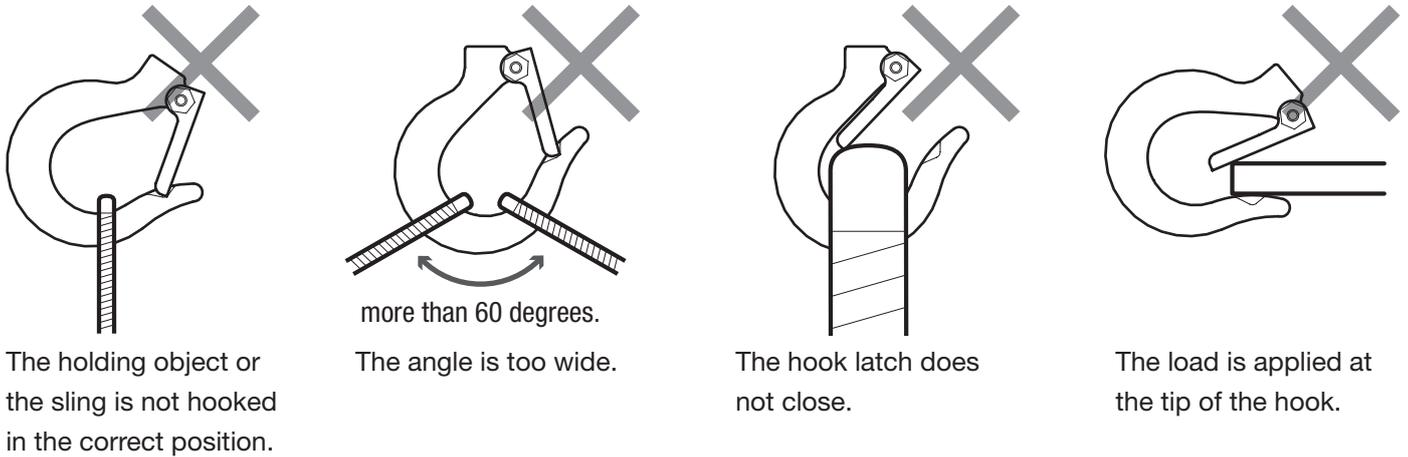
# Operation

Read the "Safety precautions" Operation on pages 7 to 9 carefully before use and follow the instructions.

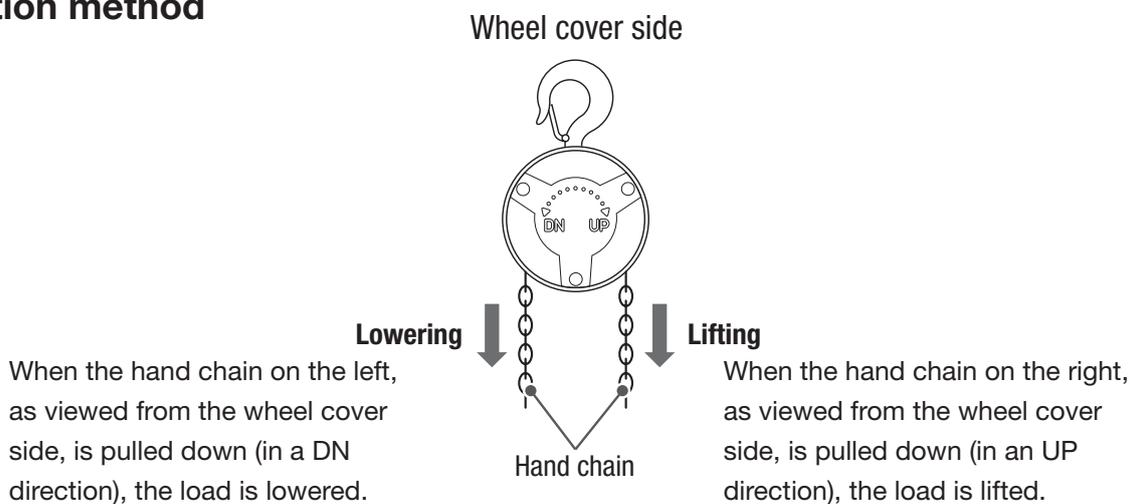
## Correct way to lift a load



Avoid the dangerous hooking method shown in the following diagrams.



## Operation method



This product is designed for a rated load to be hoisted by pulling the hand chain with a force of 147N (15kgf) or less. If the load cannot be lifted unless the hand chain is pulled with a force of 147N (15 kgf) or greater during a load lifting operation under the rated load, there is a possibility of failure in the chain hoist. In such abnormal cases, stop use and consult a competent person.

## Overload limiter (OLL)

### DANGER

**Do not adjust or disassemble Overload Limiter (OLL).**

Failure to comply with these instructions may result in death or serious injury.

This product is equipped with an overload limiter (OLL: a device to prevent an excessive overload) as standard. An excessive overload via the hand chain activates OLL which slips the hand wheel to prevent damage to the product.

When OLL operates, the maximum load to the product is approximately 2.4 times of the rated load.

If OLL operates, reduce a load to less than the rated load.

## Maintenance and storage

Read the "Safety precautions : Maintenance, inspection/storage" on page 9 carefully after use and follow the instructions.

### Care

- Do not drag or throw the chain hoist when carrying.
- Never apply oil to the braking part.
- Wipe off dust and moisture, and apply oil to the neck of hook and the load chain.

### Storage

- When not in use, ensure that it does not encumber other works.
- Store the hoist in a dry area indoors.
- When installing outdoors, cover the hoist to avoid exposure to rain or store in a place with covering against rain.
- Before storing the hoist, pull the hand chain by about 10cm to lower the hook and ensure that the brake is released.

# Daily inspection

Inspections include the "Daily inspection" carried out by the operator, using the product before use, and a more thorough "Periodic inspection (monthly, annually)" carried out by a competent person with sufficient knowledge, who can disassemble the chain hoist.

- Be sure to carry out these inspections in order to use the chain hoist safely.
- Separate documents; Periodic Inspection Manual, Troubleshooting, and Disassembly/Reassembly Manual are also available for the competent person. Please contact KITO or your dealer for these materials.

## Hook

- To ensure both the top/bottom hooks have no deformation or flaws.
- For the neck part of both the top /bottom hooks to rotate smoothly.
- To ensure no looseness in the bolts and nuts fixing the bottom yoke.

## Latch

- For the latch to be closed.
- For the latch to have no deformation or flaws.
- For the latch to open/close smoothly.

Body

End at no-load side

## Hand chain

- For the hand chain to have no deformation, flaws, twists or kinks.

## Load chain

- For the end at the no-load side to be fixed to the body.
- To have no deformation, flaws, twists or kinks.
- To have no conspicuous rust
  - \* Remove rust, when it is observed.
- For the load chain to be oiled.

\* If it is not oiled, remove the dust and moisture on the load chain and apply the lubricant JIS K 2246 class 1, No.1 (code: NP-9) rust preventive oil equivalent (DAPHNE OIL COAT RL-44, IDEMITSU KOSAN Co., LTD. recommended) Consult KITO if the usage environment does not allow the application of lubricating oil to the load chain.

## Appearance

- For the nameplate to be fixed firmly and for the displayed contents to be clear and legible.
- No loosened or fallen-out bolts and nuts
- To have no flaws and damages to the appearance.

## Lifting

To carry out a lifting operation with one hand while lightly pulling the load chain on the bottom hook side with the other.

- To be able to hear the pawl of the brake device sounds clicks and to move smoothly
- Bottom hook should stop when the operation is stopped.
  - \* If the bottom hook is entangled with the load or hand chain, untangle the chain.

## Lowering

To carry out a lowering operation with one hand while lightly pulling the load chain on the bottom hook side with the other.

- To make no noise during the lowering and move smoothly.
- Bottom hook should stop when the operation is stopped.
- If the hoist cannot be lowered, check that bottom hook is not lowered excessively, and then carry out the lowering operation by strongly pulling the hand chain for a moment. If it is still unable to lower, consult with the competent person, or contact KITO.

**If there are any abnormalities, consult the competent person or contact KITO.**

# Parts List

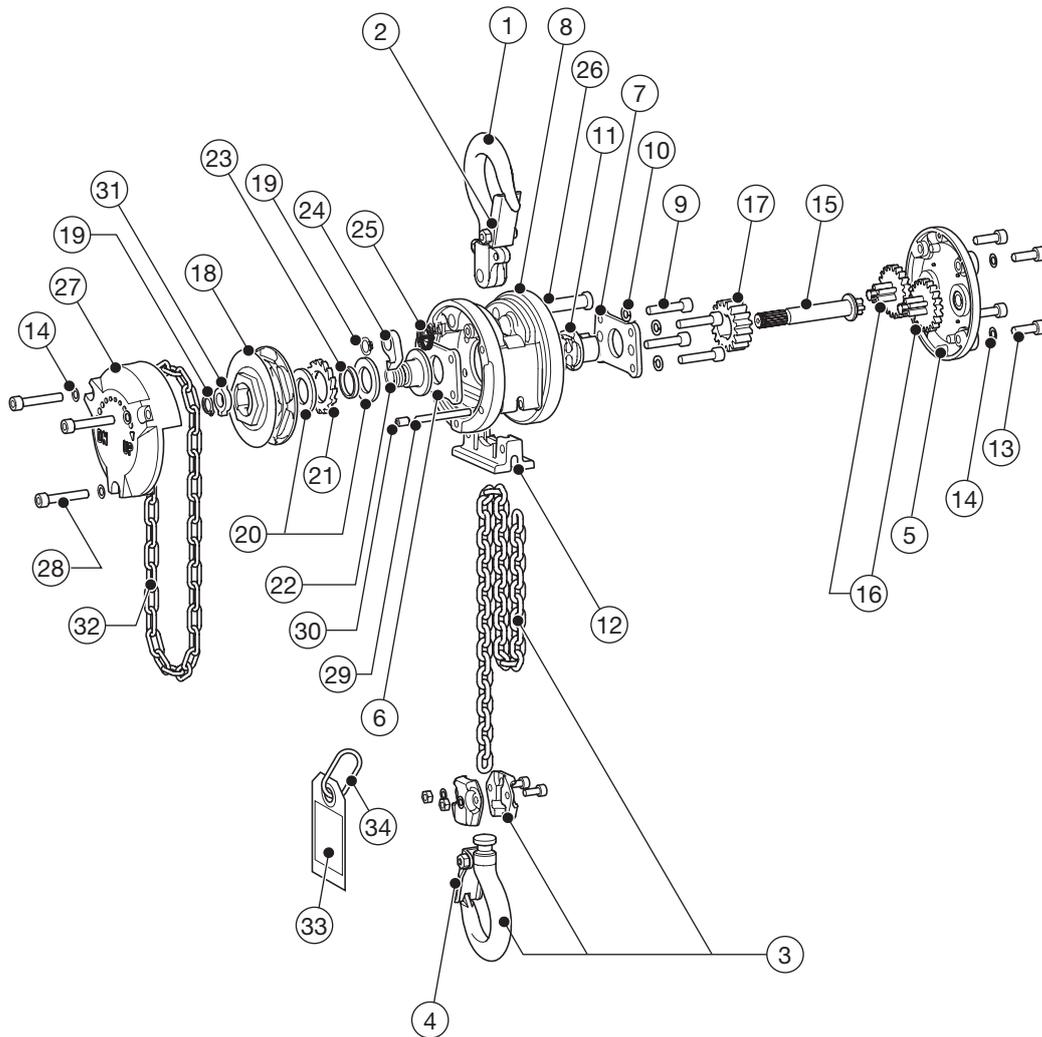


Fig. No.	Part No.	Part Name	Parts per Hoist	Part code	Application
1	1001	Top Hook Set	1	L1XA003-1001	
2	071	Latch	1	L1XA003-1071	
3	1011	Bottom Hook Complete Set	1	C1XA003-1011	
4	071	Latch	1	L1XA003-1071	
5	5103	Gear Case Assembly	1	C1XD003-5103	
6	101	Frame A	1	C1XA003-9101	
7	102	Frame B	1	C1XA003-9102	
8	6104	Body Assembly	1	C1XA003-6104	
9	106	Socket Head Cap Screw	4	J1BE9-050252	
10	107	Spring Lock Washer	4	J1WS011-2005	
11	116	Load Sheave	1	C1XA003-9116	
12	162	Chain Guide	1	C1XA003-9162	
13	108	Socket Head Cap Screw	4	J1BE3-050151	
14	109	Conical Lock Washer	7	C1XA003-9109	
15	111	Pinion	1	C1XA003-9111	
16	112	Gear #2	2	C1XA003-9112	
17	114	Load Gear	1	C1XA003-9114	

Fig. No.	Part No.	Part Name	Parts per Hoist	Part code	Application
18	5115	Hand Wheel Assembly	1	C1XA003-5115	
19	117	Snap Ring	2	J1SS000-0000	
20	151	Friction Plate	2	C1XA003-9151	
21	152	Ratchet Disc	1	C1XA003-9152	
22	153	Friction Disc	1	C1XA003-9153	
23	154	Bushing	1	C1XA003-9154	
24	155	Pawl	1	C1XA003-9155	
25	158	Pawl Spring Assembly	1	C1XA003-1158	
26	163	Top Pin	1	C1XA003-9163	
27	171	Wheel Cover	1	C1XA003-9171	
28	176	Socket Head Cap Screw	3	J1BE3-050302	
29	177	End Pin	1	C1XA003-9177	
30	178	Hexagon Socket Set Screw	1	J1TB011-0500	
31	203	Cam Guide	1	C1XA003-9203	
32	842	Hand Chain	1	K7SX025-0000	
33	868	Warning Tag CE	1	E7AR003S9868	
34	045	Chain Stopper Link	1	L5BA008-9045	



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