

KITO**Original Instruction**

KITO High Speed CB Owner's Manual (Supplement)

Contents

1. Introduction.....	1
2. Safety Precautions	1
3. Operation.....	2
4. Inspections	4
5. Overhaul, assembly and adjustment	5
6. Troubleshooting	9
7. Parts List.....	10

1. Introduction

The KITO High Speed CB is designed to allow for quicker lifting and lowering speeds when under no load than when under a rated load. And it switches between high speed and low speed automatically.

For information, such as an explanation of the symbols used in this manual, how to use a chain hoist and safety precautions, carefully read OWNER'S(OPERATOR'S) MANUAL AND SAFETY INSTRUCTIONS FOR KITO MANUAL CHAIN HOIST M3 SERIES.

2. Safety Precautions

CAUTION



Prohibited

• **Never operate the hand chain with more force than necessary or while in an unsteady posture.**

When the load touches the ground or when the hand chain has been operated in a stop-go manner, the force it takes to move the hand chain will be much lower when you start operating it again, so if you pull hard on the chain, the lack of resistance may make you lose your balance.

• **Never operate this product in a horizontal position (horizontal pulling).**

The hand wheel may spin and fail to operate or fail to enter the high-speed mode.

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

■ Operating Conditions (Temperature) -20°C to +60°C (-4° to 140°F)

■ Disposal

CAUTION



Mandatory

• **When disposing of this product, do so in accordance with local regulations and/or the rules set out by your organization.**

Failure to comply with this instruction may result in injury and/or physical damage.

3. Operation

■Explanation of Terms

Terms	Explanation
High-speed Mode	State in which the load chain moves more quickly than a standard chain hoist of the same capacity
Low-speed mode	State in which the load chain moves at the same speed as a standard chain hoist of the same capacity
Lifting switch load	Minimum load at which the hoist switches automatically from high-speed mode to low-speed mode while being lifted

■Lifting switch load

Rated Load (t)	Lifting Switch Load (t)
2.5	0.25 or less
5	0.5 or less
7.5	0.7 or less
10	0.9 or less
16	1.3 or less
20	1.8 or less
32	2.2 or less
40	2.9 or less
50	3.2 or less

Note:

The construction of KITO High Speed CB models is such that the switch load during lowering is higher than the lifting switch load.

As a result, some loads may be in the high-speed mode during lowering, even though they are in the low-speed mode during lifting.

■Operation Method

- When there is no load or when the load is less than the lifting switch load, operating the hand chain moves the load chain in the high-speed mode. When a load at the lifting switch load or greater is put on the hook, the hoist automatically switches from the high-speed mode to the low-speed mode. Once the load reaches the floor and the operator stops moving the hand chain, the hoist automatically returns to the high-speed mode.

Note:

- During the switch from high-speed mode to low-speed mode, if the hand chain is pulled, a jerking may be felt. This is just the feeling of the transmission set's clutch engaging and is normal.
- The average amount of force to lift a load at the rated capacity is greater than a standard chain hoist.
- When the hoist is in the no-load, high-speed mode at low temperatures, the load on the hand chain is heavier.
- With a load that exceeds the lifting switch load, if the hoist has been operated in a stop-go manner, it may take more force initially to operate the hand chain.
- While lowering, if the operator does not stop operating the hand chain, it will not return automatically to the high-speed mode, even though the load has reached the floor. To return the hoist to high-speed mode, stop operating the hand chain for a moment when the load reaches the floor.

DANGER



Mandatory

•While using this product, if it ever fails to switch smoothly from the high-speed mode to the low-speed mode, stop using it immediately and contact your nearest service shop or KITO.

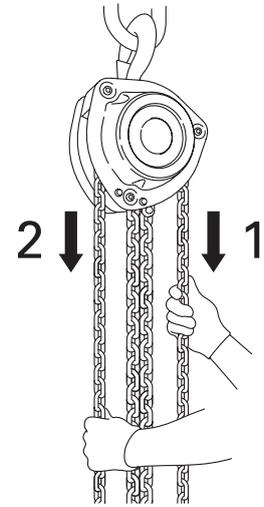
Failure to follow this instruction may cause a serious accident, resulting in a serious injury or death.

<How to switch back to high speed mode under no load>

Suddenly operating the hand chain when under no load may put the hoist into the low-speed mode.

After this happens, and if after ceasing to use the chain and then trying it again the hoist still will not enter the high-speed mode, try the methods below.

1. Quickly pull the hand chain about 15cm in the lifting direction.
2. And then quickly pull it back about 15cm in the lowering direction.
*Pulling the hand wheel alternatively up and down returns the hoist to the high-speed mode.



! CAUTION

- Take care not to catch your fingers or hand in the hand wheel.
- If the hand chain is operated abruptly, it may cause the clutch to disengage, leaving zero load on the hand chain, so be careful not to exert more pressure than is necessary on the hand chain, the lack of resistance may make you lose your balance.

- If the hoist still fails to go into high speed after trying the above methods, lift a load greater than the lifting switch load (See P.2, ■Lifting Switch Load) and then lower it and remove the load.

If after these operations the hoist still fails to go into high-speed mode, contact KITO.

4. Inspections

■ Pre-Work Inspection

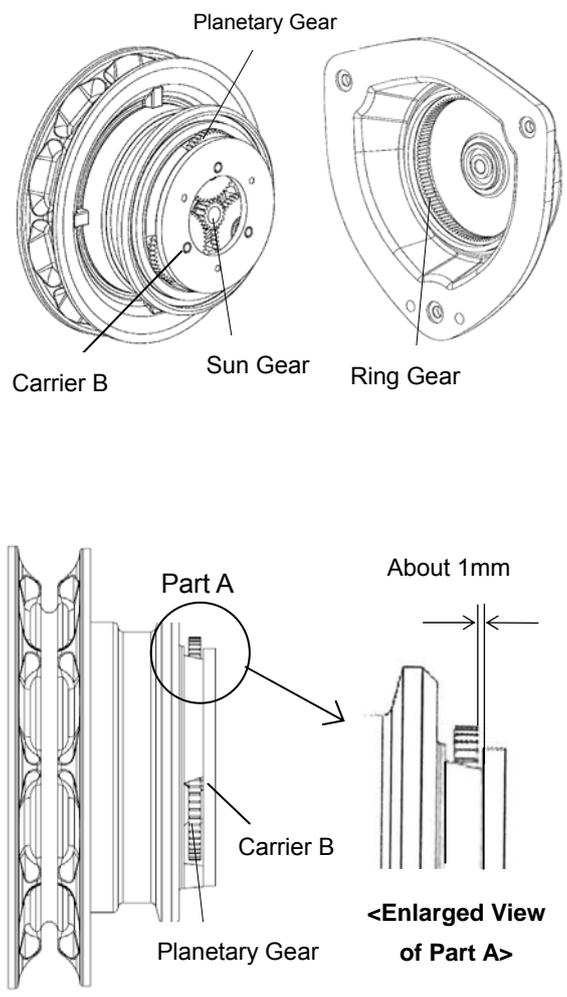
Confirm the following in conjunction with the separate OWNER'S(OPERATOR'S) MANUAL AND SAFETY INSTRUCTIONS FOR KITO MANUAL CHAIN HOIST M3 SERIES, section "7. INSPECTION".

- At no load, does the hoist lift smoothly in the high-speed mode?

■ Periodic Inspection

• Annual Inspection

If your hoist exceeds the discard limits or criteria listed below for any of the items, stop using it and contact your nearest service shop or Kito.

Item	Inspection Method	Discard Limit/Criteria
<p>Winding Mechanism</p> <p>①Wear and scratches on teeth of each gear</p> <p>②Planetary gear clearance</p>	<p><Transmission Set> <Wheel Cover Assembly></p>  <p>Carrier B Sun Gear Ring Gear</p> <p>Part A About 1mm</p> <p>Carrier B Planetary Gear</p> <p><Enlarged View of Part A></p> <p><Side View of Transmission Set></p>	<p>• No missing teeth or marked wear or scratches in the teeth</p> <p>※ If used outdoors or in a dusty environment, inspect not only on an annual basis, but as required, because dust may be allowed in to wear or flaw the gear teeth.</p> <p>• A clearance of approx. 1mm at part A (between carrier B and the planetary gear).</p>

5. Overhaul, assembly and adjustment

The brake is disassembled and reassembled as follows.

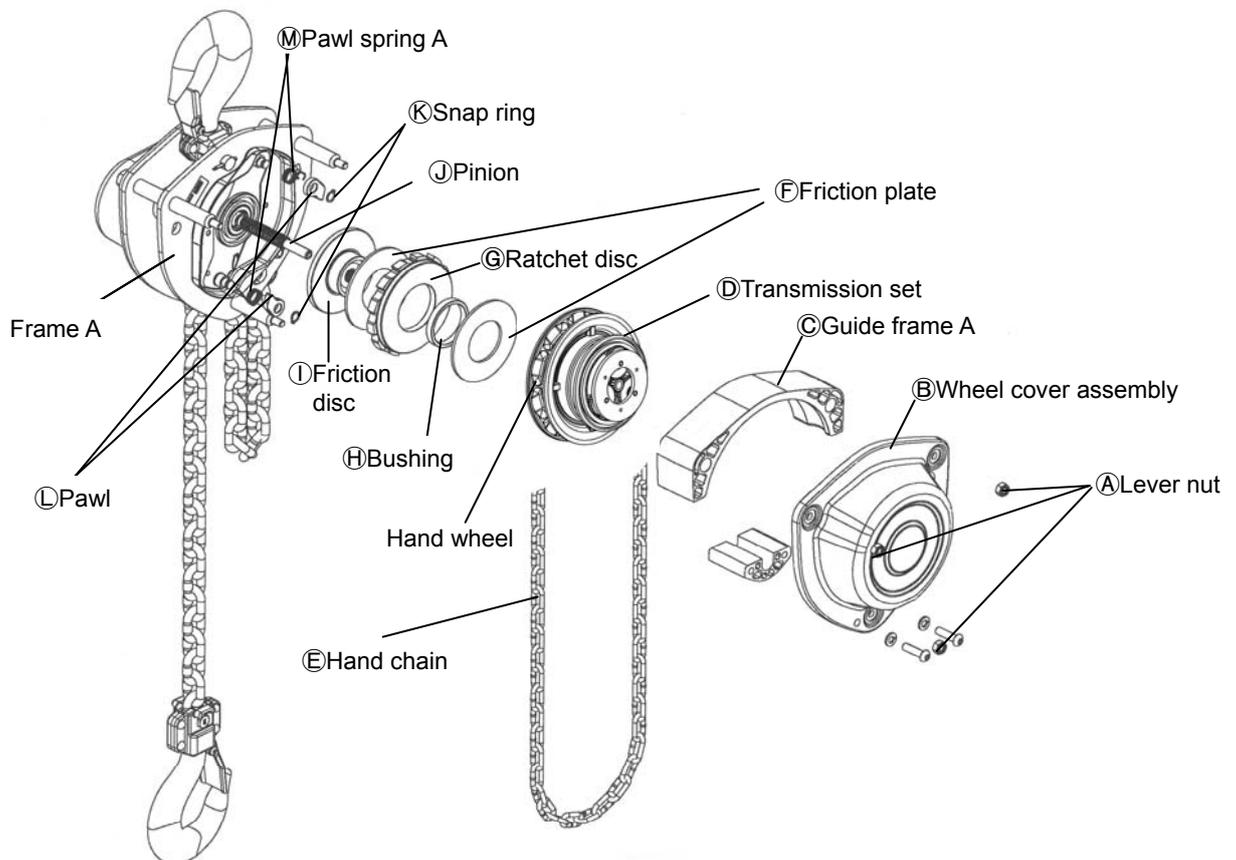
For instructions on other parts, refer to the separate OWNER'S(OPERATOR'S) MANUAL AND SAFETY INSTRUCTIONS FOR KITO MANUAL CHAIN HOIST M3 SERIES, section "8.2 Overhaul, Assembly and Adjustment".

CAUTION

- **Do not disassemble or alter the transmission set ① (hand wheel).**
Once disassembled, it cannot be used again. Also, a strong magnet is used, which may cause injury if your fingers get caught between parts.
- **The transmission set ① uses strong magnets, so note the precautions below during dis/reassembly.**
 - **Keep magnetic media, such as magnetized cards, tape and prepaid cards away from the unit.**
The magnetic data may be corrupted.
 - **Keep away from precision electronics, such as computers, electronic watches and CRTs.**
 - **People with electronic medical devices, such as pacemakers, may not perform dis/reassembly.**
Doing so may damage electronic medical equipment and other precision electronics.
 - **Do not expose to iron filings, iron sand, etc.**

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

< KITO High Speed CB Disassembly Diagram >



■ Brake Disassembly

1. Make sure it is in the high-speed mode before disassembly and lower it about 10cm without a load.
※If you do not do this procedure, you will not be able to pull off the transmission set ④.
2. Remove the three lever nuts ①, then remove the wheel cover assembly ②, and guide frame A ③ and then remove the hand chain ⑤ from the hand wheel of the transmission set ④.
3. While holding the hand wheel of the transmission set ④, pull off the transmission set ④.

CAUTION

•When pulling off the transmission set ④, the gears of the transmission set may turn, so take care to avoid pinching your fingers.

4. Remove the two friction plates ⑥, the ratchet disc ⑦ and the ratchet bushing ⑧.
5. While turning the friction disc ① to the left, remove it from the pinion ⑨, then remove the snap rings ⑩ and pawls ⑪ and two pawl springs A ⑫.

■ Brake Assembly

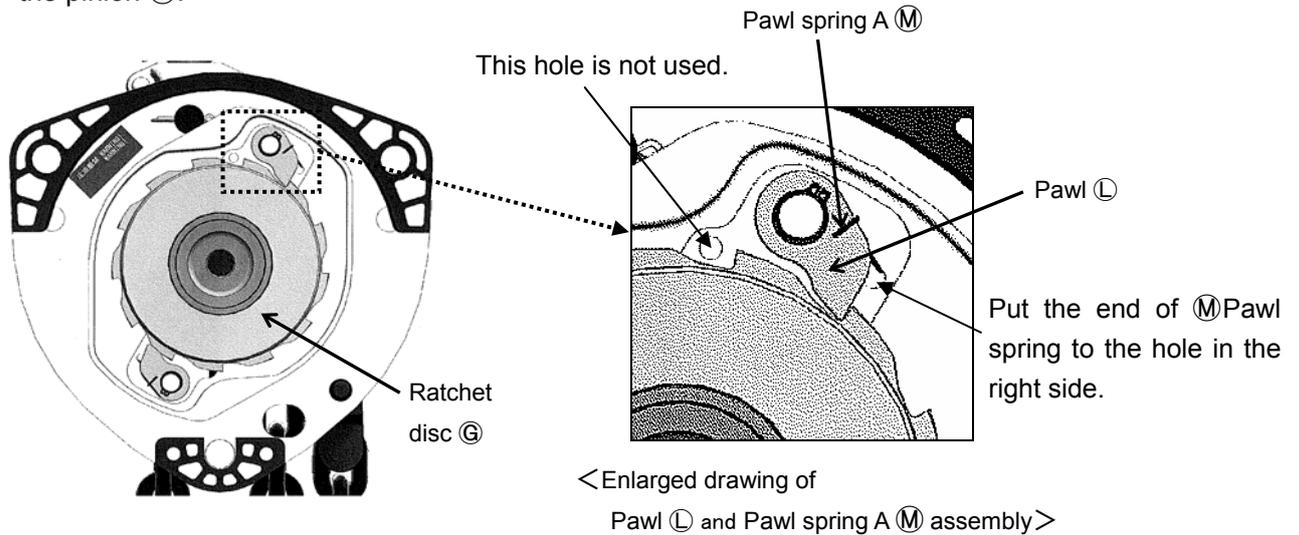
1. Apply machine oil to the pawl shaft (in frame A), install pawl springs A ⑫ and the pawls ⑪ in order, securing them with the two snap rings ⑩.
2. Carefully wipe off any debris from the braking and sliding surfaces of the friction disc ①, two friction plates ⑥ and ratchet disc ⑦ and make sure the ratchet bushing ⑧ (oil-impregnated bushing) is oily enough. Then assemble the friction plate ⑥ (one), bushing ⑧, ratchet disc ⑦ and friction plate ⑥ (one) in order into the brake bushing.

CAUTION

•The friction plate ⑥ are the dry type, so do not apply oil to them.
•If the bushing ⑧ is not greasy, let it soak in turbine oil for a day, then wipe off the oil and install it.

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

3. While holding the two pawls ① free with your fingers, screw the parts assembled in step 2 onto the pinion ②.

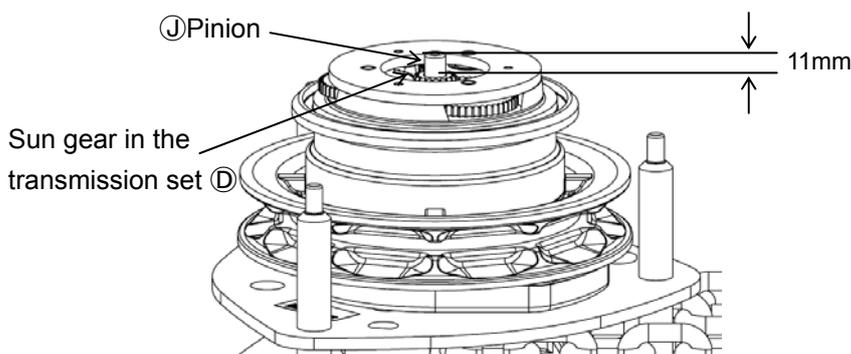


 CAUTION	
<p>•Make sure the pawl springs A ④ are seated correctly on the pawls ①. And make sure the pawls ① and the ratchet disc ③ are meshing correctly. Refer to the above drawings.</p>	
<p>Failure to comply with this instruction may result in injury and/or physical damage.</p>	

4. Wipe the surface of the transmission set ⑤ well to remove any debris and apply the grease (Sumitec 305: Sumico Lubricant Co., LTD) to the Sun Gear. And apply machine oil to the nuts of the transmission set ⑤ and screw them onto the pinion studs.

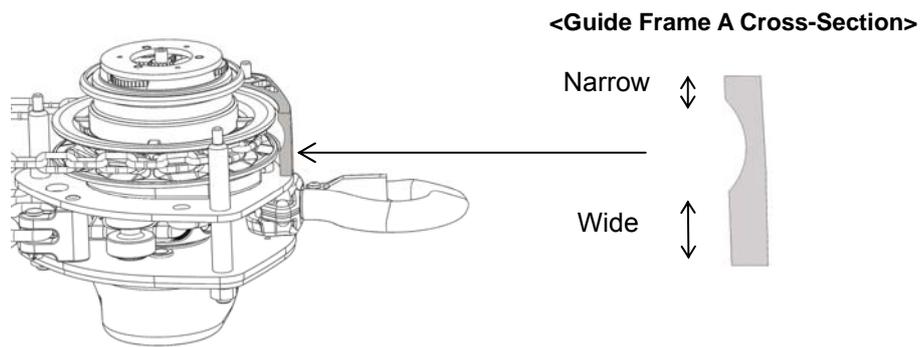
 CAUTION	
<p>•Use Sumitec 305 (Sumico Lubricant Co., LTD) for applying to the Sun Gear. The use of wrong grease may affect operability, be sure to use the designated grease.</p>	
<p>Failure to comply with this instruction may result in injury and/or physical damage.</p>	

5. Check that the pinion ② tip length is at the rated value of 11mm from the surface of the sun gear in the transmission set ⑤. If it does not meet the rated value, check that the friction plates, pawls, and ratchet disc have not dropped. If they have dropped, pull the transmission set ⑤ out from the pinion ② and re-assemble again from the ■ Brake Assembly (P6) procedure.



 DANGER	
<p>•Make sure the pinion ② tip length is at the rated value of 11mm from the surface of the sun gear in the transmission set ⑤.</p>	
<p>Failure to follow this instruction may cause a serious accident, resulting in a serious injury or death.</p>	

6. Mount the hand chain ⑤ on the hand wheel of the transmission set ④ so the side that is wider from the groove inside guide frame A ③ is on the top hook side.



7. Mount the wheel cover assembly ⑥ and fix the three lever nuts ⑦.

 CAUTION	
<ul style="list-style-type: none">• During installation, do not push the wheel cover assembly in excessively, but as you operate the hand wheel in the lifting direction, allow the gears to mesh.• Make sure to use three new lever nuts ⑦. Never re-use the three lever nuts which were removed from the body, during disassembly.	
Failure to comply with these instructions may result in injury and/or physical damage.	

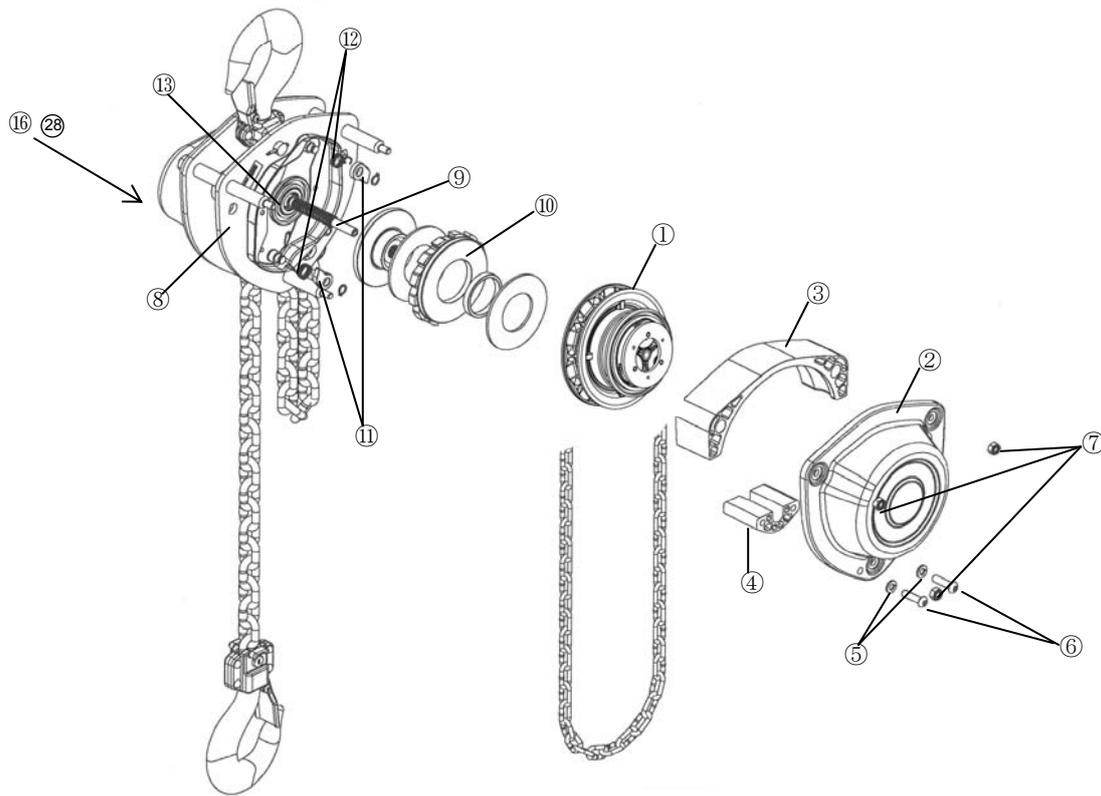
6. Troubleshooting

Refer to the following in conjunction with the separate OWNER'S(OPERATOR'S) MANUAL AND SAFETY INSTRUCTIONS FOR KITO MANUAL CHAIN HOIST M3 SERIES, section "9 Troubleshooting".

Troubleshooting

Situation	Cause	Remedy
Hoist fails to lift or Hoist fails to lower	<ul style="list-style-type: none"> • Debris in the gears of the transmission and wheel cover. • Transmission set's clutch mechanism is not working properly. 	<ul style="list-style-type: none"> • Wipe out the debris in the gears. Conduct a periodic inspection. If the hoist still fails to operate after wiping out the debris, contact your nearest service shop or KITO.
Sometimes lifts, sometimes fails to lift a load. or Sometimes lowers, sometimes fails to lower a load.	<ul style="list-style-type: none"> • Transmission set's clutch mechanism is not working properly. 	<ul style="list-style-type: none"> • Stop using the hoist and contact your nearest service shop or KITO.

7. Parts List



The following list is of parts specific to the KITO High Speed CB . For parts not in the list, refer to section "11. PARTS LIST" in OWNER'S(OPERATOR'S) MANUAL AND SAFETY INSTRUCTIONS FOR KITO MANUAL CHAIN HOIST M3 SERIES.

Fig. No.	Part No.	Part Name	No. per Hoist		Parts code
			WLL 2.5t to 15t	WLL 20t to 50t	
1	1301	Transmission Set	1	2	C3MA025-1301
2	5171	Wheel Cover Assembly	1	2	C3MA025-5171
3	351	Guide Frame A	1	2	C3MA025-9351
4	352	Guide Frame B	1	2	C3MA025-9352
5	368	Spring Washer	2	4	J1WS011-20080
6	373	Hex Button Head Bolt	2	4	J1BL1-0803030
7	74	Lever Nut	3	6	C2BA100-9074
8	5101	Frame A Assembly	1	2	C3BT025-5101
9	111	Pinion	1	2	C3MA025-9111
10	152	Ratchet disc	1	2	C3MA025-9152
11	155	Pawl	2	4	C3MA025-9155
12	179	Pawl Spring A	2	4	C3MA025-9179
13	140	Ball Bearing	1	2	J1GR022-06007
16 *	145	Ball Bearing	1	2	J1GR022-06007
28 *	135	Ball Bearing	1	2	J1GR022-06201

*The ball bearings fig. nos. 16 and 28 above are parts with the same figure numbers in 11. PARTS LIST in OWNER'S(OPERATOR'S) MANUAL AND SAFETY INSTRUCTIONS FOR KITO MANUAL CHAIN HOIST M3 SERIES, so refer to "11. PARTS LIST" when selecting the parts.

KITO

URL. <http://www.kito.co.jp>