# Lifting Clamp for Concrete Material

# CGC250 CGC500 CGC1000 (Cam Type)

# CGC250N CGC500N (Pad Type)

## Operation Manual

This operation manual explains the basic operation and handling of the clamps. Please read this manual carefully before use and observe the precautions for safe operation.

SUPER TOOL CO., LTD.

SUPER brand panel lifting clamps are energy-saving lifting equipment which have been developed for the purpose of transportation of concrete materials.

## Proper use

Operate lifting clamps after carefully reading and understanding this instruction manual for enhancing efficiency and safety of operation.

## Prime efficiency and economy

Advanced functions, reasonableness and versatile applications of finely and carefully designed SUPER lifting clamps ensure prime efficiency and economy.

## Special considerations on safety

We conduct a pulling test with a load three times (or twice) of rated capacity and a manufacturing serial number is marked on each product, thus directing a special attention to safety.

# Precautions for safety operation

## Be sure to read this instruction manual carefully before use.

Mistaken use of lifting clamp may cause a danger such as dropping of load.

Education of "crane safety regulations," "operation manual for lifting clamp," "your company's operation standards," etc. should be given before actual operation not only to business owners who have purchased clamps but also to their operators to ensure that actual operators have acquired enough knowledge, safety information, and precautions of the clamps.

Safety precautions are divided into two classifications in this manual; "Warning" and "Caution,".

| | |
|---|---|
| **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 medium damage or slight injury, or could result in property damage. |

While only mentioned in ⚠CAUTION, failure to comply with them still may lead to a serious disaster. As such, do not fail to pay attention both to WARNING and CAUTION which are of great importance.

## Meanings of Signs

The signs of ◇! and ⚠ indicate that precautions should be taken.
The contents of warning or caution are described at each sign.

The sign of ⃠ indicates prohibited actions.

The sign of ● indicates that an action is enforced or instructed.

Two point lift for righthand figure.

※ After reading this manual, make sure to keep it at a place of easy access by any users.

# 1. Handling in general

| ⚠ WARNING | |
|---|---|
| ● Do not operate until the contents of the operation manual, and caution tag/plate are thoroughly read and understood.<br>● Do not operate without a legal qualification.<br>● Be sure to clear of the area of the operation for lifting or turning a load against possible drop off or fall over.<br>● Do not use for other than intended purpose. |  <br>Prohibited |
| ● Make sure to execute an inspection periodically and before each operation. |  <br>Instructed |

# 2. Check before operation

| ⚠ WARNING | |
|---|---|
| ● Do not use clamp unsuitable for the operation method.<br>● Do not use clamp of an abnormal condition; deformed, cracked, worn, malfunctioning, etc.<br>● If the load is under the following conditions, do not use clamp. (A material of fragile, high-hardness, low-hardness or extremely low-hardness, or a member with the gripping part tapered down more than 8°) |  <br>Prohibited |
| ● Check the type, rated capacity, clamp range, and "periodic inspection completed" label displayed on clamp body.<br>● The load to be lifted shall be within an allowable range of rated capacity of clamp.<br>● Thickness of load shall be within designated clamping range. |  <br>Instructed |
| ⚠ CAUTION | |
| ● Do not use clamp for the load under the following conditions. (Load to be lifted is more than 150℃, or in an atmosphere or solution of acid or alkaline chemicals less than minus 20℃) |  <br>Prohibited |
| ● Sling to be used for the clamp shall be an appropriate one for lifting operation. |  <br>Instructed |

# 3. Lifting operation

| ⚠ WARNING | |
|---|---|
| ● Do not use clamp, lifting at one point.<br>(excluding special or custom ordered products)<br>● Do not use the clamp in the following ways of lifting: lifting of two or more individual objects at one time. (overlapped loads, padded load etc. , or side gripping)<br>● Do not use the clamp for pulling out steel plate sheet from the steel sheet pile or for vertical lifting of the sheet.<br>● Do not use the clamp when strong wind may threaten to cause any danger.<br>● Do not use the clamp for a hydraulic shovel. |  <br>Prohibited |
| ● Install two or more clamps in a balanced way to keep the balance of load. |  <br>Two point lift |
| ● The lifting angle of the clamps and the dividing angle should be kept within the allowable angles according to types.<br>● Load should be inserted to the innermost end of the jaw opening.<br>● When you use the clamp with a lock mechanism, never fail to have the lock engaged. |  <br>Instructed |
| ⚠ CAUTION | |
| ● If oil, paint, scale, rust, etc. are on the gripping pad, do not use the clamp.<br>● Do not drop clamp or drag on the ground. |  <br>Prohibited |

# 4. Operation of a crane

| ⚠ WARNING | |
|---|---|
| ● Never lift a load exceeding the rated capacity.<br>● Do not operate a crane in such a way as to give an impact to the load or the clamp.<br>● Do not allow a person to stand on the load or to carry him.<br>● Do not lift a load which is not free from any other objects.<br>● Do not release the lock of clamp while lifting load.<br>● Avoid unintended contact by load to an adjacent member or to the clamp, which has been removed from the load. |  <br>Prohibited |

| | |
|---|---|
| ● Stop the lifting operation by crane for a moment when the load is applied to the lifting ring for safety checking. (depth of the load into the clamp opening; status of locking).<br>● Stop the operation of the crane just before the load reaches the ground, and check the following matters: (Inclination or falling over of the load and security around the landing area of the load) |  <br>Instructed |
| **⚠ CAUTION** | |
| ● Do not operate the crane in such a way as to drag the load along the ground.<br>● Do not leave the crane (or winder, etc.) unattended from an operating position while keeping the load lifted with the clamp. |  <br>Prohibited |
| ● Raising and lowering operation by crane should be done slowly and carefully. |  <br>Instructed |

# 5. Maintenance, storage and alteration

| | |
|---|---|
| **⚠ WARNING** | |
| ● Never alter the clamp and its accessories.<br>● Do not apply welding or heat to the clamp or its accessories.<br>● Do not use any other parts than our company's genuine parts.<br>● Clamps which require the repair should be stored at a different place so that they are not used mistakenly. |  <br>Prohibited |
| ● Persons with specialized knowledge designated by the business owner are to conduct maintenance and repairing work.<br>● When any abnormality with the clamp is found, do not use it and immediately repair or dispose.<br>● Remove, if any, paint or mud sticking to the moving parts of the clamp, cams, and pads. |  <br>Instructed |
| **⚠ CAUTION** | |
| ● Conduct maintenance and repairing without any load attached.<br>● Conduct maintenance and repairing after posting a sign indicating that you're on the maintenance work.<br>● Never fail to lubricate oil on the rotating parts of the clamp (around the pins), guide grooves, sliding parts, etc.<br>● Be sure to store clamps indoor. |  <br>Instructed |

# Lifting Clamp for Concrete Material

## CGC250 CGC500 CGC1000
## CGC250N CGC500N

## ■ Applications

This is a dedicated clamp optimal for lifting and carrying reinforced concrete U-shaped gutters, U-shaped flume channels, concrete shelf boards.

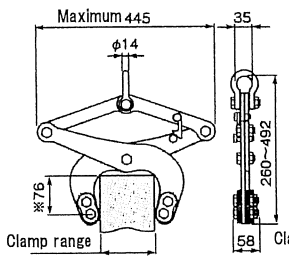
## ■ Features

1. When the clamp is landed, the hook plate has the mechanism to automatically maintain the release status of the clamp which save the trouble of removing the clamp.
2. Cam teeth are made in horizontal way. When the teeth of the cams are worn down, replace cams by turning them upside down or move teeth of cams up and down, enabling them to be used 4 times. (CGC250･500･1000)
3. Pad type adopt spike mechanism which make it possible to clamp the work tightly. (CGC250N･500N)
4. Special polyurethane rubber is used for the surface of the pad. By putting back spikes, it can also be used as non-scratch pad. (CGC250N･500N)
5. By using the separately sold cam set(or pad set), the change can be made from pad type to cam type (or from cam type to pad type). (Refer to the replacement method of cams and pads)

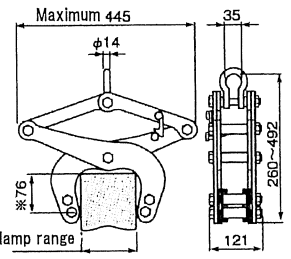
## ■Specification

| Item No. | Rated Capacity (kg) | Jaw Opening (mm) | N.W. (kg) |
|---|---|---|---|
| CGC250 | 250 | 30～160 | 6 |
| CGC500 | 500 | 30～160 | 12 |
| CGC1000 | 1000 | 30～180 | 26 |
| CGC250N | 250 | 30～140 | 6 |
| CGC500N | 500 | 30～140 | 12 |

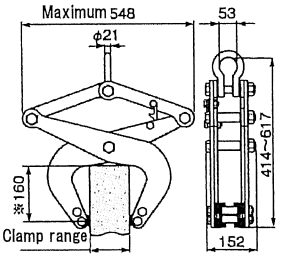
**CGC250** (Cam type)



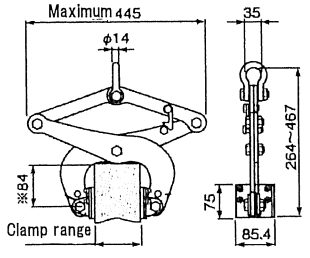

**CGC500** (Cam type)



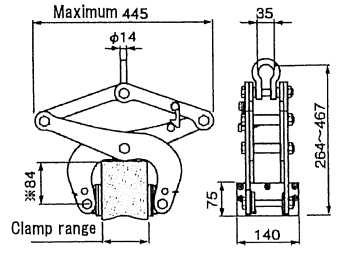

**CGC1000** (Cam type)




**CGC250N** (Pad type)



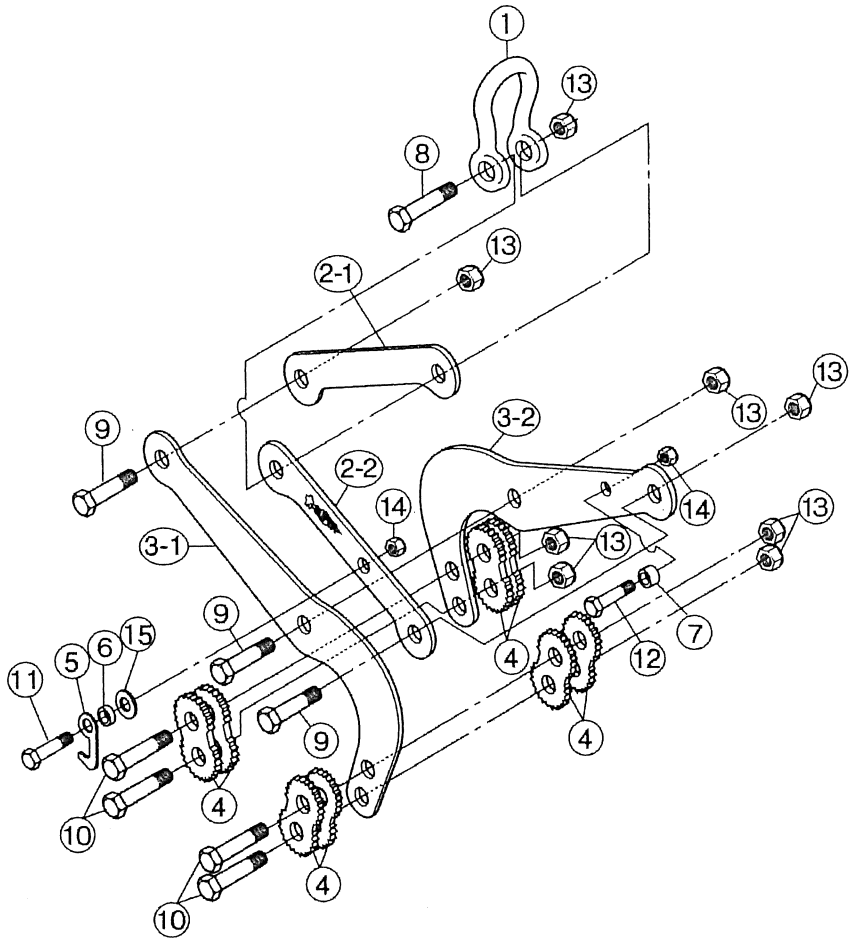

**CGC500N** (Pad type)




Dimension of the marked ※ is the inside depth of maximum clamp range

## ■ Parts Name

CGC250



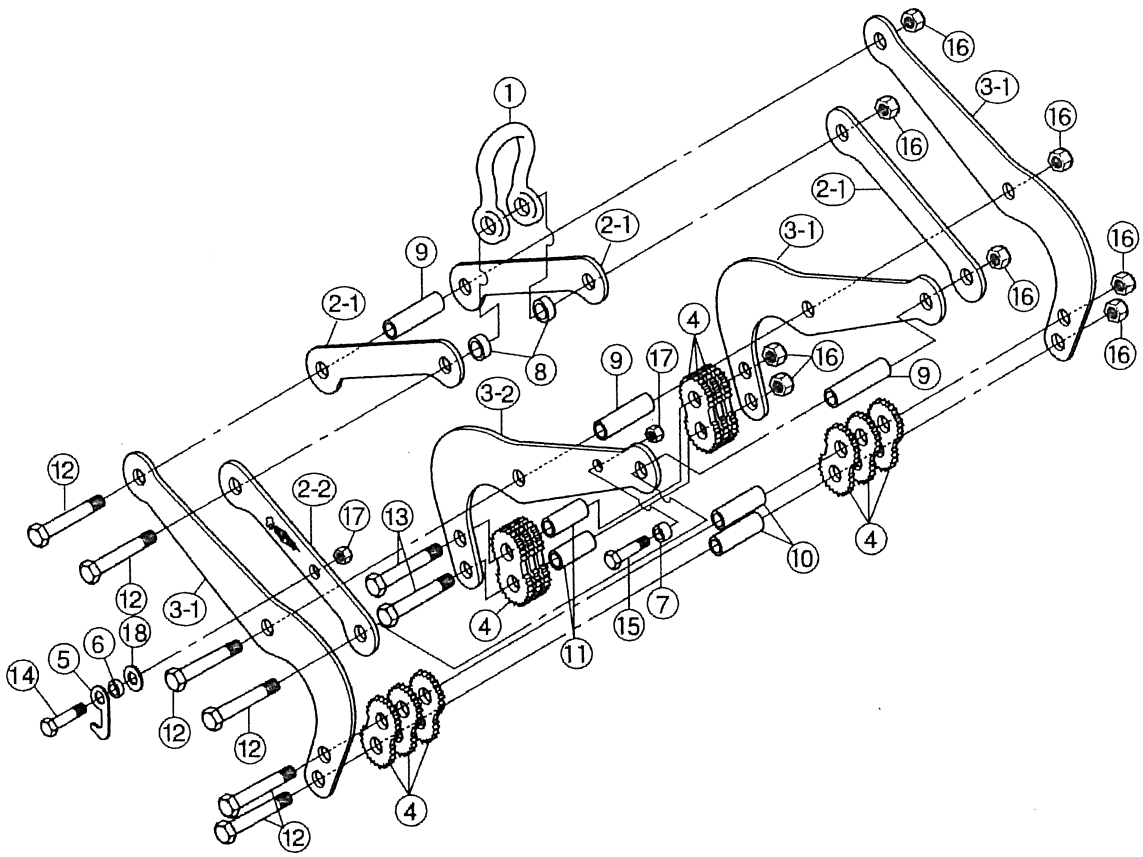

| No. | Description | Item No. | Set Qty. |
|---|---|---|---|
| **Shackle** | | **CGH250** | |
| 1 | Shackle | CGCH250 | 1 |
| 8 | Hex bolt for 250 (1) | CGCA250 | 1 |
| 13 | U Nut(1) | | 1 |
| **Link** | | **CGL250** | |
| 2-1 | Link (1) | CGCL250 | 1 |
| ※2-2 | Link (2) | – | – |
| 9 | Hex bolt for 250 (2) | CGCB250 | 2 |
| 13 | U Nut (1) | | 2 |
| **Claw** | | **CGQ250** | |
| 3-1 | Claw (1) | CGCQ250 | 1 |
| 3-2 | Claw (2) | CGCR250 | 1 |
| 9 | Hex bolt for 250 (2) | CGCC250 | 1 |
| 13 | U Nut (1) | | 1 |

※2-2 Link(2) Engraved parts are not sold

| No. | Description | Item No. | Set Qty. |
|---|---|---|---|
| **Cam** | | **CGT250** | |
| 4 | Cam | CGCT250 | 8 |
| 10 | Hex bolt for 250 (3) | CGCD250 | 4 |
| 13 | U Nut (1) | | 4 |
| **Hook Plate** | | **CGJ250** | |
| 5 | Hook Plate | CGCJ250 | 1 |
| 6 | Collar for hook (1) | CGCE250 | 1 |
| 11 | Hex bolt for hook (1) | | 1 |
| 14 | U Nut (2) | | 1 |
| 15 | Flat washer | | 1 |
| 7 | Collar for hook (2) | CGCF250 | 1 |
| 12 | Hex bolt for hook (2) | | 1 |
| 14 | U Nut (2) | | 1 |

## ■ Parts Name

CGC500



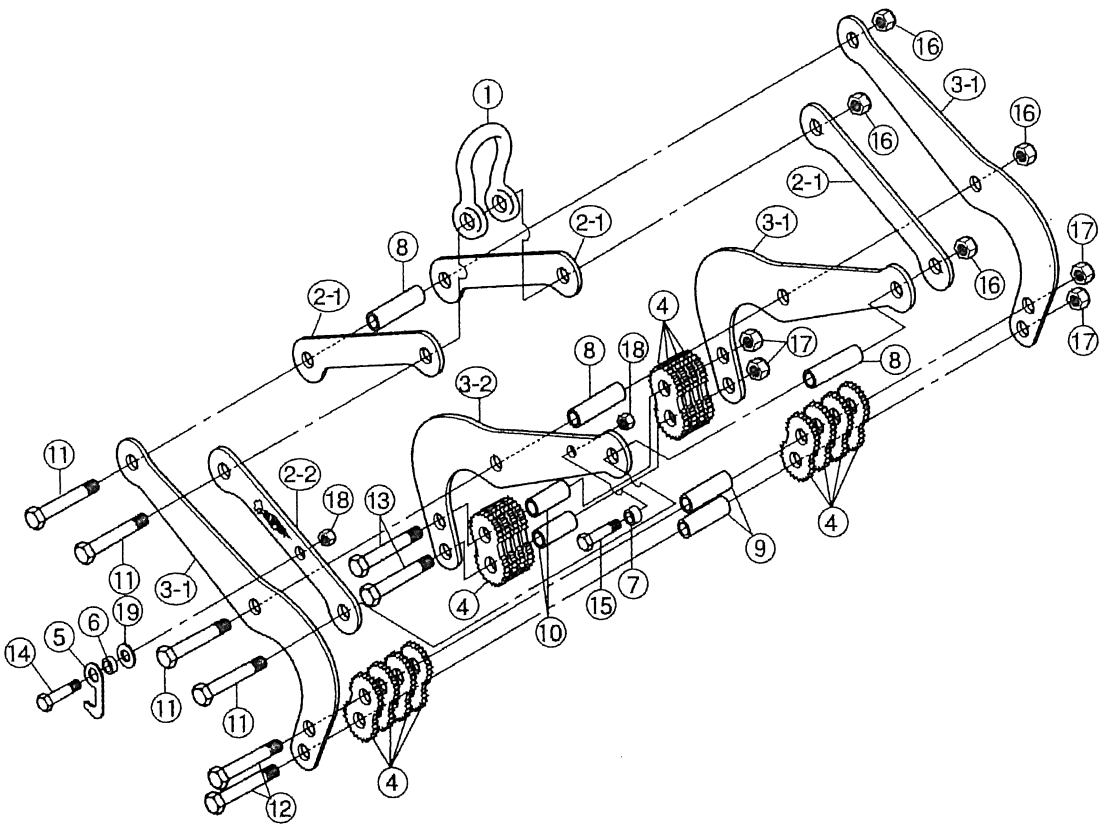

| No. | Description | Item No. | Set Qty. |
|---|---|---|---|
| **Shackle** | | **CGH500** | |
| 1 | Shackle | CGCH500 | 1 |
| 8 | Collar for body (1) | CGCV500 | 2 |
| 12 | Hex bolt for 500 (1) | CGCA500 | 1 |
| 16 | U Nut (1) | | 1 |
| **Link** | | **CGL500** | |
| 2-1 | Link (1) | CGCL500 | 3 |
| ※2-2 | Link (2) | – | – |
| 9 | Collar for body (2) | CGCW500 | 2 |
| 12 | Hex bolt for 500 (1) | CGCB500 | 2 |
| 16 | U Nut (1) | | 2 |
| **Claw** | | **CGQ500** | |
| 3-1 | Claw (1) | CGCQ500 | 3 |
| 3-2 | Claw (2) | CGCR500 | 1 |
| 9 | Collar for body (2) | CGCX500 | 1 |
| 12 | Hex bolt for 500 (1) | CGCA500 | 1 |
| 16 | U Nut (1) | | 1 |

| No. | Description | Item No. | Set Qty. |
|---|---|---|---|
| **Cam** | | **CGT500** | |
| 4 | Cam | CGCT500 | 12 |
| 10 | Collar for body (3) | CGCY500 | 2 |
| 12 | Hex bolt for 500 (1) | CGCB500 | 2 |
| 16 | U Nut (1) | | 2 |
| 11 | Collar for body (4) | CGCZ500 | 2 |
| 13 | Hex bolt for 500 (2) | CGCC500 | 2 |
| 16 | U Nut (1) | | 2 |
| **Hook Plate** | | **CGJ500** | |
| 5 | Hook Plate | CGCJ500 | 1 |
| 6 | Collar for hook (1) | CGCE500 | 1 |
| 14 | Hex bolt for hook (1) | | 1 |
| 17 | U Nut (2) | | 1 |
| 18 | Flat washer | | 1 |
| 7 | Collar for hook (2) | CGCF500 | 1 |
| 15 | Hex bolt for hook (2) | | 1 |
| 17 | U Nut (2) | | 1 |

※2-2 Link(2) Engraved parts are not sold

## ■ Parts Name

CGC1000



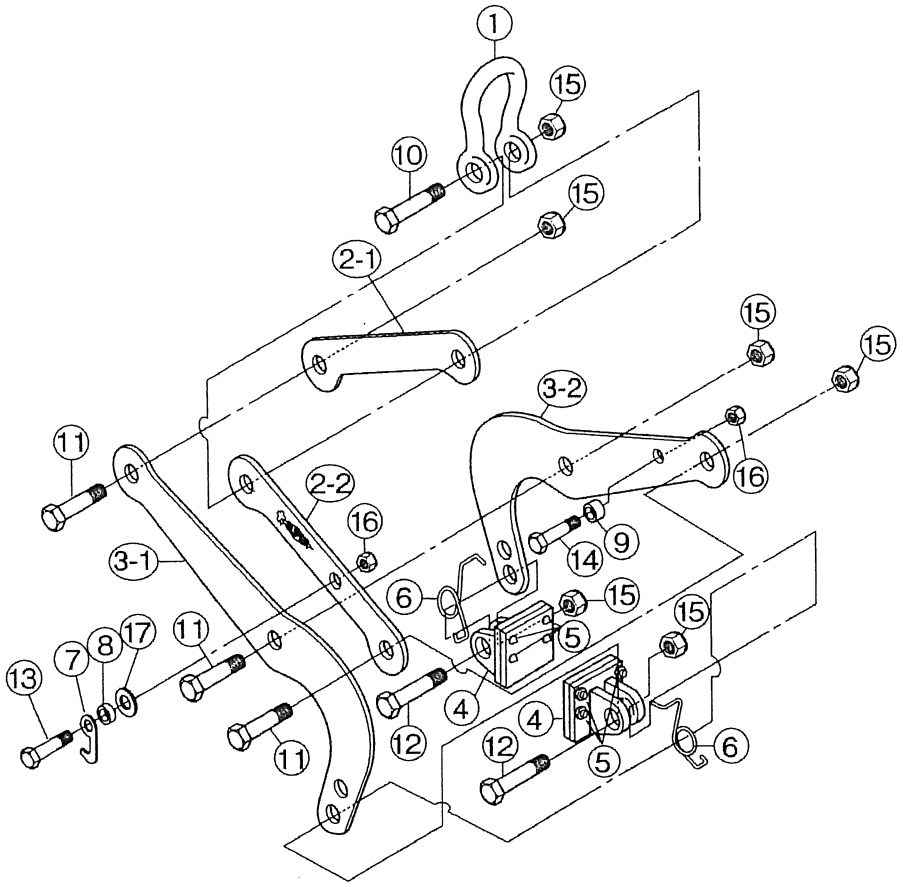

| No. | Description | Item No. | Set Qty. |
|---|---|---|---|
| **Shackle** | | **CGH1000** | |
| 1 | Shackle | CGCH1000 | 1 |
| 11 | Hex bolt for body (1) | CGCA1000 | 1 |
| 16 | U Nut (1) | | 1 |
| **Link** | | **CGL1000** | |
| 2-1 | Link (1) | CGCL1000 | 3 |
| ※2-2 | Link (2) | – | – |
| 8 | Collar for body (1) | CGCW1000 | 2 |
| 11 | Hex bolt for body (1) | CGCB1000 | 2 |
| 16 | U Nut (1) | | 2 |
| **Claw** | | **CGQ1000** | |
| 3-1 | Claw (1) | CGCQ1000 | 3 |
| 3-2 | Claw (2) | CGCR1000 | 1 |
| 8 | Collar for body (1) | CGCX1000 | 1 |
| 11 | Hex bolt for body (1) | CGCA1000 | 1 |
| 16 | U Nut (1) | | 1 |

| No. | Description | Item No. | Set Qty. |
|---|---|---|---|
| **Cam** | | **CGT1000** | |
| 4 | Cam | CGCT1000 | 16 |
| 9 | Collar for body (2) | CGCY1000 | 2 |
| 12 | Hex bolt for body (2) | CGCC1000 | 2 |
| 17 | U Nut (2) | | 2 |
| 10 | Collar for body (3) | CGCZ1000 | 2 |
| 13 | Hex bolt for body (3) | CGCD1000 | 2 |
| 17 | U Nut (2) | | 2 |
| **Hook Plate** | | **CGJ1000** | |
| 5 | Hook Plate | CGCJ1000 | 1 |
| 6 | Collar for hook (1) | CGCE1000 | 1 |
| 14 | Hex bolt for hook (1) | | 1 |
| 18 | U Nut (3) | | 1 |
| 19 | Flat washer | | 1 |
| 7 | Collar for hook (2) | CGCF1000 | 1 |
| 15 | Hex bolt for hook (2) | | 1 |
| 18 | U Nut (3) | | 1 |

※2-2 Link(2) Engraved parts are not sold

## ■ Parts Name

CGC250N



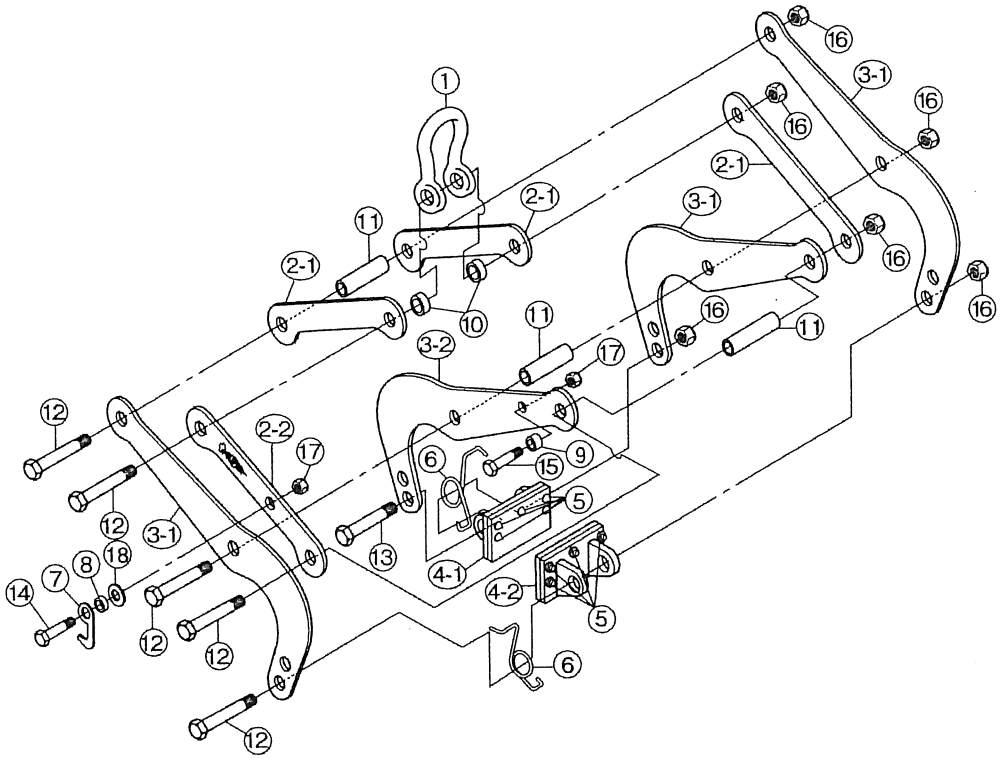

| No. | Description | Item No. | Set Qty. |
|---|---|---|---|
| **Shackle** | | **CGH250N** | |
| 1 | Shackle | CGCH250N | 1 |
| 10 | Hex bolt for 250 (1) | CGCA250N | 1 |
| 15 | U Nut (1) | | 1 |
| **Link** | | **CGL250N** | |
| 2-1 | Link (1) | CGCL250N | 1 |
| ※2-2 | Link (2) | – | – |
| 11 | Hex bolt for 250 (2) | CGCB250N | 2 |
| 15 | U Nut (1) | | 2 |
| **Claw** | | **CGQ250N** | |
| 3-1 | Claw (1) | CGCQ250N | 1 |
| 3-2 | Claw (2) | CGCR250N | 1 |
| 11 | Hex bolt for 250 (2) | CGCC250 | 1 |
| 15 | U Nut (1) | | 1 |

| No. | Description | Item No. | Set Qty. |
|---|---|---|---|
| **Pad** | | **CGP250N** | |
| 4 | Pad | CGCP250N | 2 |
| 5 | Spike・Hex Nut | CGCN250N | 8 |
| 6 | Spring | CGCM250N | 2 |
| 12 | Hex bolt for 250 (3) | CGCD250N | 2 |
| 15 | U Nut (1) | | 2 |
| **Hook Plate** | | **CGJ250N** | |
| 7 | Hook plate | CGCJ250N | 1 |
| 8 | Collar for hook (1) | CGCE250N | 1 |
| 13 | Hex bolt for hook (1) | | 1 |
| 16 | U Nut (2) | | 1 |
| 17 | Flat washer | | 1 |
| 9 | Collar for hook (2) | CGCF250N | 1 |
| 14 | Hex bolt for hook (2) | | 1 |
| 16 | U Nut (2) | | 1 |

※2-2 Link(2) Engraved parts are not sold

## ■ Parts Name

CGC500N




| No. | Description | Item No. | Set Qty. |
|---|---|---|---|
| **Shackle** | | **CGH500N** | |
| 1 | Shackle | CGCH500N | 1 |
| 10 | Collar for body (1) | CGCV500N | 2 |
| 12 | Hex bolt for 500 (1) | CGCA500N | 1 |
| 16 | U Nut (1) | | 1 |
| **Link** | | **CGL500N** | |
| 2-1 | Link (1) | CGCL500N | 3 |
| ※2-2 | Link (2) | - | - |
| 11 | Collar for body (2) | CGCW500N | 2 |
| 12 | Hex bolt for 500 (1) | CGCB500N | 2 |
| 16 | U Nut (1) | | 2 |
| **Claw** | | **CGQ500N** | |
| 3-1 | Claw (1) | CGCQ500N | 3 |
| 3-2 | Claw (2) | CGCR500N | 1 |
| 11 | Collar for body (2) | CGCX500N | 1 |
| 12 | Hex bolt for 500 (1) | CGCA500N | 1 |
| 16 | U Nut (1) | | 1 |

| No. | Description | Item No. | Set Qty. |
|---|---|---|---|
| **Pad** | | **CGP500N** | |
| 4-1 | Pad (1) | CGCP500N | 1 |
| 4-2 | Pad (2) | | 1 |
| 5 | Spike ・Hex Nut | CGCN500N | 10 |
| 6 | Spring | CGCM500N | 2 |
| 12 | Hex bolt for 500 (1) | CGCA500N | 1 |
| 16 | U Nut (1) | | 1 |
| 13 | U Nut (1) | CGCC500N | 1 |
| 16 | U Nut (1) | | 1 |
| **Hook Plate** | | **CGJ500N** | |
| 7 | Hook Plate | CGCJ500N | 1 |
| 8 | Collar for hook (1) | CGCE500N | 1 |
| 14 | Hex bolt for hook (1) | | 1 |
| 17 | U Nut (2) | | 1 |
| 18 | Flat Washer | | 1 |
| 9 | Collar for hook (2) | CGCF500N | 1 |
| 15 | Hex bolt for hook (2) | | 1 |
| 17 | U Nut (2) | | 1 |

※2-2 Link(2) Engraved parts are not sold

## ■Operational Procedures

### 1. Operating Method

Strictly observe to hoist by 2 point and carry out the same operation.

(1) Apply the clamp dedicated for lifting concrete products (hereafter called "clamp") on the crane hook by using wire rope. In the mean time, keep the clamp under the release status by hanging hook plate. (Table. 1)

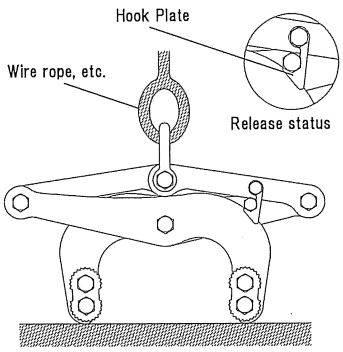



Table.1

(2) Lift up the clamp of the release status and move the clamp to the work. When use two clamps at the same time, be careful not to get the clamps collide with each other or not to have the wire rope twisted.

(3) Lower the clamps to touch the works. Turn the hook plate backward to put the clamp into the lifting status. As you wind up the crane hook, the work can be lifted up. (Table 2)

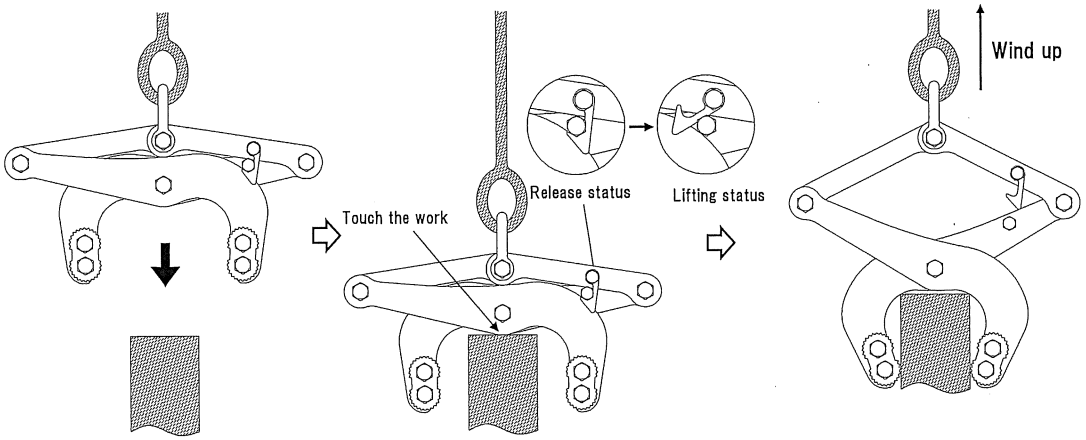



Table.2

(4) After confirming that the work is being lifted up smoothly and stably, move the work to a destination.

(5) Upon arrival at the destination, lower and land the work. Confirm that the work is landed in a well-balanced manner. In addition, the hook plate is then designed to be automatically locked. If not, lock it with your own hand.

(6) When winding up the crane hook, only the clamp under the release status will be lifted up. (Table.3)

(7) Return to Item 2 of Operational Procedures for repetitive use when doing the same operation.

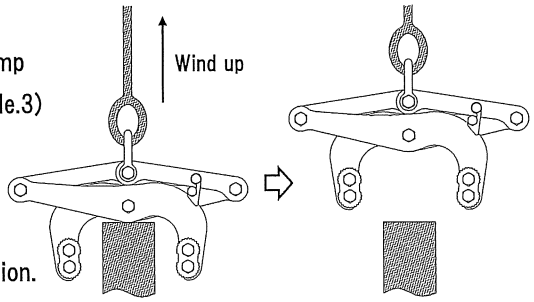



Table. 3

## 2. Replacement Procedure for Cam

(1) Disassembling and reassembling of Cam (Replacement procedure of used parts)

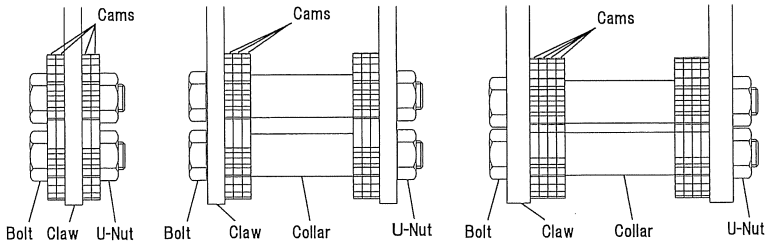



Table. 4

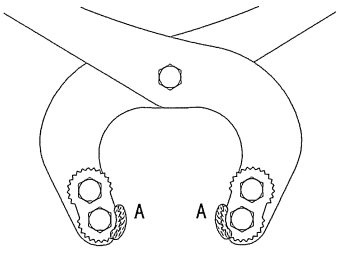



Table5

① Disassemble cams by loosening bolt and U-Nut. (Table. 4)

② Replace cams by turning them upside down or move up and down so that non-used part can be placed on A of table 5. Refer to page 7 to 9 for replacing position of the cams.
※Pad can also be attached(CGC250·500) (Refer to pad replacement method)

③ Tighten bolt and U nut.

(2) Disassembling and reassembling of Pads

① Loosen the fixing bolts and nuts, then remove the springs and the old pad (Table.6)

② Attach new pad and springs onto the claws
Refer to page 10 to 11 for replacing the position of the pads.
※Cam also can be attached
(Refer to cam replacement method)

③ Fasten bolt and U nut

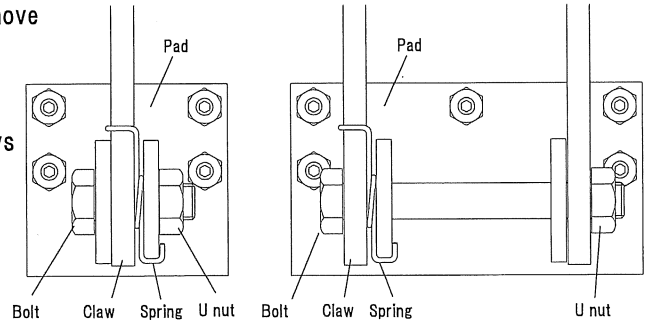



Table. 6

(3) Spike Adjustment / Replacement Method

When the pad is used as non-scratching pad, or spike is worn out, the pads need to be adjusted or replaced.

① Loosen hex nut and turn spike by hex wrench or by screw driver for adjustment and replacement. (Table.7)

② Fasten the hex nuts

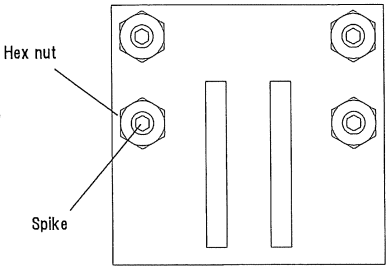



Table. 7

# Cautions

■ When clamping the work at two points, try to use the balancer and lift it vertically. In addition, if the balancer cannot be used, set the clamping and lifting angle at the specified angles shown in the figures.

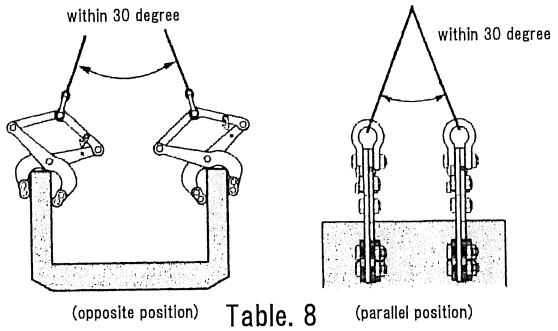



Table. 8

■ The work is in principle to be lifted up vertically, and not to be pulled sideways. Otherwise, clamping power cannot be applied to the work.

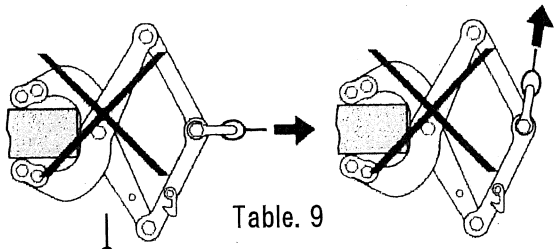


Table. 9

■ Piled U-shaped gutters, concrete boards, etc. must not be lifted

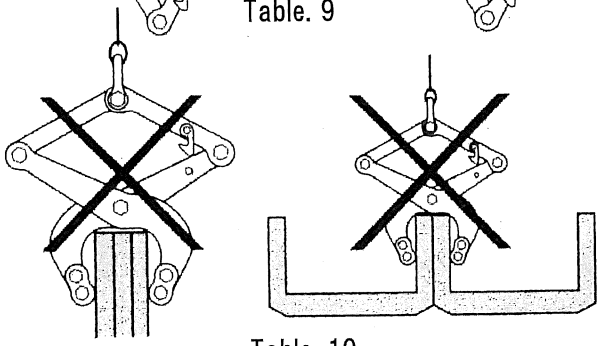


Table. 10

■ Clamping a point apart from the gravity point of the work may cause a displacement of the gripping position, causing a danger. (Remember to clamp the work by two points to keep the balance.)

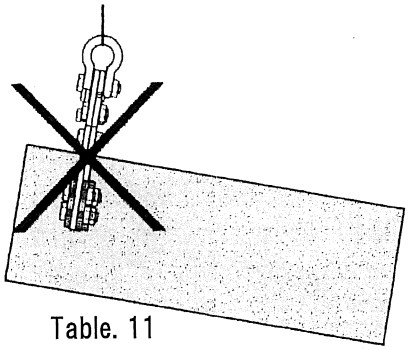


Table. 11

■ The following lifting must be avoided. (Table.12)

- Pulling out of a U-shaped gutter buried underground.
- Piled-up U-shaped gutters

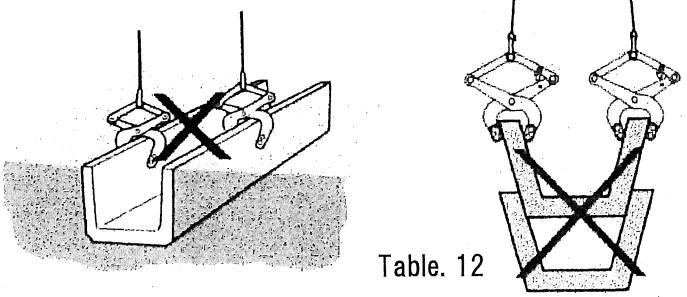


Table. 12

■ Before lifting the work, check for the status of the clamp.

## Attention

◈Never fail to check before use for detachment and the level of abrasion of the polyurethane rubber pads and abnormalities with any other parts.

◈Do not use clamp of other than concrete products.

◈Use this unit within the allowable load weight.

◈Apply this unit only for boards of the allowable thicknesses (within the clamping ranges).

◈Do not enter the area where the lifted work may drop.

◈Do not give any impact to the work or the lifting clamp.

◈Avoid any abrupt movement or sudden stop.

◈Do not apply this unit to concrete products under curing.

◈Do not remodel the unit. Application of heat and any modification may cause a substantial degrading of The quality (strength) of the Unit.

◈When water, oil, sands, ice, or snow is on the surface of the concrete products to lift, there threatens to be a slipping accident. Never fail to remove any of them from the concrete products.

## Others

### 1. Inquiries for spare parts and repair.

In case of spare parts and repair to be needed, stop using clamps and contact our main or each sales office shown on the backside.

### 2. Liability Insurance Policy

Under the normal use of condition of this clamp, we have insurance policy to pay damage caused by the defective quality. (Only within the range of insured amount)

Pay attention that the following cases are not to be covered for insurance.

(1) In case of lifting up more than the rated capacity limit.

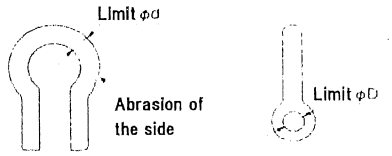
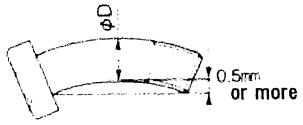
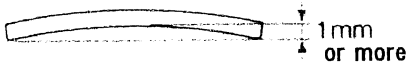
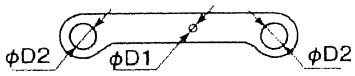
(2) In case of mishandling or user's self-determined method of repair or conversion.

## Daily Inspection

To prevent the deterioration of operation safety and efficiency, carry out daily inspection and maintenance.

1. Check if the body and each parts of cams or shackle do not have scratch or crack.
2. Check if the bolts and nuts are assembled in a good condition.
3. Check if each parts operate in a good condition.
4. Check if cams and pads do not have wear or defectives and also check if the tip of teeth are not clogged.
5. Refer to the inspection criteria for other inspection points.

■ INSPECTION STANDARDS

<table>
<tr><th>Item</th><th>Inspection method</th><th>Limit of use</th><th>Action</th></tr>
<tr><td>Shackle</td><td>●Check for flaws or cracks (by visual check or color check)<br><br>●Check wear or deformation on lifted part and on screw holes.<br>(by measuring device)</td><td>●When confirmed by visual checking<br><br>●When hole diameter, even one part of circumference exceeds the size as per the below table.<br><br>
<table>
<tr><th>Item No.</th><th>CGC250・500・250N・500N</th><th>CGC1000</th></tr>
<tr><td>d(mm)</td><td>Less than 13 (standard φ14)</td><td>Less than 20 (standard φ21)</td></tr>
<tr><td>D(mm)</td><td>More than 17 (standard φ16)</td><td>More than 23 (standard φ22)</td></tr>
</table>

</td><td>Replace</td></tr>
<tr><td>Bolt and Nut</td><td>●Check for abrasion or deformation on the axial part (by measuring device)<br><br>●Check for deflection or deformation. (by visual check or measuring device)<br><br>●Check whether the assembled condition of nuts is good or not.<br>(by visual check)</td><td>●When the diameter of axis, even one part of circumference become less than the size of below table.<br>
<table>
<tr><th>Threads Size</th><th>M10</th><th>M14</th><th>M20</th></tr>
<tr><td>D(mm)</td><td>9.5</td><td>13.5</td><td>19.5</td></tr>
</table>
●When confirmed deflection or deformation of more than 0.5mm<br><br>●When found breakage, loose, or detachment<br> 
</td><td>Replace</td></tr>
<tr><td>Link</td><td>●Check for deflection or deformation. (by visual ckeck or measuring device)<br><br>●Check for abrasion or deformation of pin hole (by measuring device)</td><td>●When confirmed deflection or deformation of more than 1mm<br> 
<br><br>●When hole diameter, even one part of circumference exceeds the size as per the below table.<br>
<table>
<tr><th>Item No.</th><th>CGC250・500・250N・500N</th><th>CGC1000</th></tr>
<tr><td>D1(mm)</td><td>Less than 11 (standard φ10.5)</td><td>Less than 11 (standard φ10.5)</td></tr>
<tr><td>D2(mm)</td><td>More than 15 (standard φ14.5)</td><td>More than 21 (standard φ20.5)</td></tr>
</table>

</td><td>Replace the link of no mark.<br><br>Dispose the hoist tool with mark.</td></tr>
<tr><td>Arm</td><td>●Check for deflection or deformation. (by visual ckeck or measuring device)<br><br>●Check for abrasion or deformation of pin hole (by measuring device)</td><td>●When confirmed deflection or deformation of more than 1mm<br> 
<br><br>●When hole diameter, even one part of circumference exceeds the size as per the below table.<br>
<table>
<tr><th>Item No.</th><th>CGC250・500・250N・500N</th><th>CGC1000</th></tr>
<tr><td>D1(mm)</td><td>11 (standard φ10.5)</td><td>11 (standard φ10.5)</td></tr>
<tr><td>D2(mm)</td><td>15 (standard φ14.5)</td><td>15 (standard φ14.5)</td></tr>
<tr><td>D3(mm)</td><td>15 (standard φ14.5)</td><td>21 (standard φ20.5)</td></tr>
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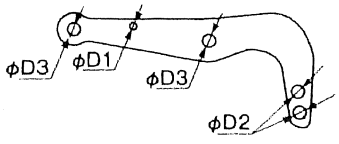
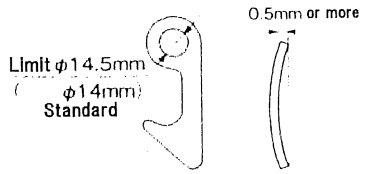
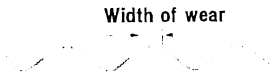
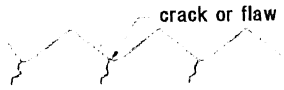
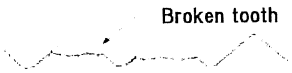
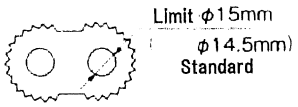
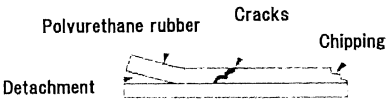
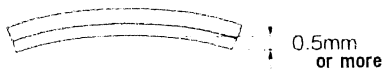
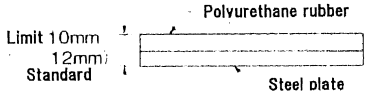
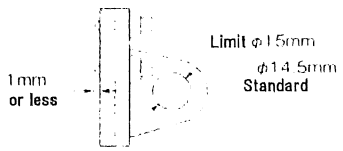

</td><td>Replace</td></tr>
</table>

| | | | |
|---|---|---|---|
| Hook Plate | ●Check for deflection or deformation. (by visual ckeck or measuring device)<br><br>●Check for abrasion or deformation of pin hole (by measuring device) | ●When confirmed deflection or deformation of more than 0.5mm<br><br>●When abrasion or deformation become more than 0.5mm of standard dimension<br>  | Replace |
| Cam | ●Check for amount of wear on the edge part (by visual check or measuring device) | ●When the amount of wear exceeds 0.5mm.<br>  <br>●When the crack or flaw is found by visual<br>  <br>●When the broken tooth is found more than one part<br>  <br>●When abrasion and deformation of 0.5mm or more than standard dimension.<br>  | Replace |
| Pad | ●Check for cracks on and detachment of the polyurethane rubber (by visual check) | ●When cracks or detachment or chippings are found by visual check<br>  <br>●When deflection or deformation of 0.5mm or more is found<br>  <br>●When the thickness of the pad become less than 10mm<br>  <br>●When the abrasion or deformation of more than 0.5mm of standard dimension. When the spike's appearing height become less than 1mm. (When used as non-scratching pad, pull thespike 1mm from the pad surface.<br>  <br>●When the width of abrasion become more than 1.5mm or when confirmed flaw.<br>  | Replace |
| Spring | ●Check for deformation or extension (by visual check) | ●When cracks or detachment or chippings are<br><br>●When confirmed not enough resilience | Replace |