



# LIFTING CLAMP for Laying Concrete Material

**UGC 150M**

**UGC 300M**

## Operation Manual

This operation manual explain the basic usage and handling of clamps. Please do not fail to carefully read this instruction manual before use and never fail to follow each attention of usage for the proper handling of clamps.

***SUPER*TOOL**

## On the Proper Handling of Lifting Clamps with Super Tool's Mark

We are thankful to you for your selection and purchase of our Lifting Clamps with Super Tool's mark on them. Our Lifting Clamps with Super Tool's mark on them (hereinafter to be called "Lifting Clamp" or "Clamp") is energy-saving lifting tools designed and developed for transportation of laying concrete material.

### **Proper use of Lifting Clamps demanded**

You are kindly asked to operate the Lifting Clamps after careful reading and understanding of this instruction manual for the purpose of enhancing safety and efficiency at work.

### **Prime efficiency and economy**

The sophisticated functions, reasonableness and wide applications of the finely and carefully designed Lifting Clamps ensure prime efficiency and economy.

### **Special care of safety**

We have executed tensile tests with loads three times (or twice) the rated capacity and attached inspection numbers to individual products, thus directing special attention to the aspect of safety.

### **Cautions for safety operation**

Please do not fail to carefully read this instruction manual before use of the Lifting Clamps.

Mistaken use of the Lifting Clamps (hereinafter to be called "Clamps") may cause troubles such as the dropping of lifted work.

Please never fail to carefully read this manual for proper operation before use.

Education of "crane safety regulations," "operation manual for lifting clamps," "in-house operation standards," etc. is to be given before actual operation not only to business owners who have purchased the Clamps but also to their operators to ensure that actual operators will have acquired enough knowledge of clamps, safety information, and cautions.

As according to the "Lifting clamp safety council," we have divided cautions in general into "Dangers" and "Cautions," which are used in this instruction manual.

**◇DANGER:** Indicates mistaken handling may cause a potentially hazardous situation which, if not avoided, could result in death or serious injury.

**△CAUTION:** Indicates mistaken handling may cause a potentially hazardous situation which, if not avoided, could result in medium damage or slight injury, or could result in property damage.

Even though only mentioned in the Cautions, those incidents may lead to a serious disaster. So, do not fail to pay attention both to dangers and cautions which are of great importance in operating the Clamps properly.

### **Meanings of Signs**

The signs of ◇ and △ indicate that attention is to be given to the marks indicative of dangers and cautions respectively. The signs figuratively show the contents of danger or caution.



The sign of indicates prohibited actions.





The sign of indicates that an action is enforced or instructed to be executed. Inside the sign or beside it is shown a concrete instruction is described.







(The left-side sign requires a lifting at two points.)

\* After reading of this manual, please keep it at a convenient place to which any user can gain easy access for reference.


### 1. About handling in general




<b>◇Dangers</b>	
<ul style="list-style-type: none"> <li>●Any person who is not well-informed about instruction manual, tags, and signs of cautions is not eligible for use of the Lifting Clamps.</li> <li>●Any person who is not legally qualified is never to operate a crane and a lifting clamp.</li> <li>●While lifting or turning the work, do not enter the area where the lifted work threatens to drop off or fall over.</li> <li>●Do not use this lifting clamp for other purposes than lifting work.</li> </ul>	
<ul style="list-style-type: none"> <li>●Never fail to execute an inspection before use and periodical inspections.</li> </ul>	

### 2. About checking before operation





<b>◇Dangers</b>	
<ul style="list-style-type: none"> <li>●Do not use a clamp other than applicable to the operation method.</li> <li>●Do not use an abnormal clamp with deformation, cracks, operational trouble, abrasion, etc.</li> <li>●If the work to lift is under the following conditions, do not apply the clamp. (fragile material, high-hardness material, low-hardness or extremely low-hardness material, and members with the large inclined gripping part and of more than 8 degrees)</li> </ul>	
<ul style="list-style-type: none"> <li>●Please check on the clamp main unit the type, basically applicable load, opening diameter, and indication of periodical inspections executed.</li> <li>●The load of the work to lift shall be within the allowable range of the basically applicable load of the clamp.</li> <li>●The thickness of the work to lift shall be within the allowable clamping range.</li> </ul>	
<b>△Cautions</b>	
<ul style="list-style-type: none"> <li>●Do not use the clamp for the work under the following conditions. (The work to lift is more than 150 degrees, is less than minus 20 degrees in temperature, and is in acidic or alkaline chemicals.)</li> </ul>	
<ul style="list-style-type: none"> <li>●The sling to be used for the clamp shall be an appropriate one for the lifting operation.</li> </ul>	

### 3. About the method of use and lifting operation




<b>◇Dangers</b>	
<ul style="list-style-type: none"> <li>●Do not use the Clamp, lifting at one point.</li> <li>●Do not use the Clamp in the following way of lifting: (overlapped works, padded work, engrafted lifting, concurrent lifting, and side gripping)</li> <li>●Do not use the Clamp for pulling out from among steel sheet pilings and not lift pulled-out steel sheets vertically.</li> <li>●Do not use the Clamp when strong wind threatens to cause any danger.</li> <li>●Do not use the Clamp for a hydraulic excavator.</li> </ul>	

<ul style="list-style-type: none"> <li>●Install two or more Clamps in a balanced way to keep the work' balance.</li> </ul>	
<ul style="list-style-type: none"> <li>●The lifting angle of the Clamp and the dividing angle are to be kept within the allowable angles according to types.</li> <li>●The work is to be inserted to the innermost end of the Clamp opening.</li> <li>●When you use the Clamp with a locking system, never fail to use the Clamp with the locking system on.</li> </ul>	
<p><b>△Cautions</b></p>	
<ul style="list-style-type: none"> <li>●If oil, paint, scales, rust, etc. are on the gripping pad, do not use the Clamp.</li> <li>●Do not drop to the ground or drag along the ground the Clamp.</li> </ul>	

#### 4. About the operation of a crane

<p><b>◇Dangers</b></p>	
<ul style="list-style-type: none"> <li>●Never lift the work weighing more than the basic working load.</li> <li>●Do not operate the crane in such a way as to give an impacting load to the work or the Clamp.</li> <li>●Do not allow a man to stand on the lifted work. Never use the Clamp for the purpose of carrying a man.</li> <li>●Do not lift the earth itself.</li> <li>●In the course of lifting the work, do not release the lock of the Clamp.</li> <li>●Do not let the Clamp removed from the work collide with the work or an adjacent member.</li> <li>●When you wind up the wire by the crane and notice the load at the lifting ring, stop the operation temporarily for safety checking (depth of the work into the Clamp opening; status of locking).</li> <li>●Stop the operation of the crane just before the work reaches the ground, check the following items of things: (Slant and falling over of the work; security at the landing site and its surrounding)</li> </ul>	
<ul style="list-style-type: none"> <li>●When you wind up the wire by the crane and notice the load at the lifting ring, stop the operation temporarily for safety checking (depth of the work into the Clamp opening; status of locking).</li> <li>●Stop the operation of the crane just before the work reaches the ground, check the following items of things: (Slant and falling over of the work; security at the landing site and its surrounding)</li> </ul>	
<p><b>△Cautions</b></p>	
<ul style="list-style-type: none"> <li>●Do not operate the crane in such a way as to drag the work along the ground.</li> <li>●Do not step away from the crane (winder, etc.) operating position while keeping the work being lifted with the Clamp.</li> </ul>	
<ul style="list-style-type: none"> <li>●Hoisting and lowering operation by the crane are to be made slowly and carefully.</li> </ul>	

## 5. About maintenance, storage and remodeling

<b>◇Dangers</b>	
<ul style="list-style-type: none"> <li>●Never execute any remodeling of the Clamp and its accessories.</li> <li>●Do not apply welding work or heating to the Clamp and its accessories.</li> <li>●Do not use any other parts than our company's brand-name parts.</li> <li>●Store at a different place Clamps requiring repairing not to be used mistakenly.</li> </ul>	
<ul style="list-style-type: none"> <li>●A person with specialized knowledge specified by the business owner is to conduct maintenance and repairing work.</li> <li>●When you detect abnormality with the Clamp, do not use it and immediately repair or dispose of it.</li> <li>●Remove, if any, paint or mud sticking to the moving parts of the Clamp, cams, and pads.</li> </ul>	
<b>△Cautions</b>	
<ul style="list-style-type: none"> <li>●Conduct maintenance and repairing with no work lifted.</li> <li>●Conduct maintenance and repairing after posting a sign indicating that you're working on the maintenance work.</li> <li>●Never fail to put lubricating oil on the rotating part of the Clamp (around the pin), guide groove, sliding parts, etc.</li> <li>●Store Clamps inside a room.</li> </ul>	

Note: Please contact our company's sales agents or sales offices to make advantage of our services in respect with items of inspections and maintenance standards accompanying disassembly and assembly.

# Lifting Clamp for Laying Concrete Material

UGC150M UGC300M

## ■ Applications

This clamp is used for laying and handling reinforced concrete U-shaped gutters and lids, other curb stone materials and blocks.

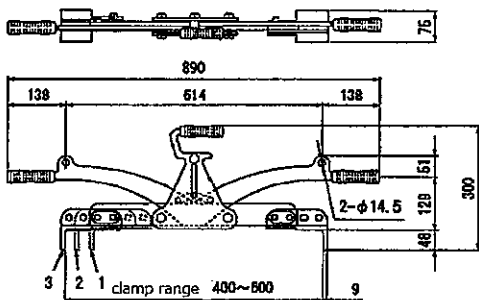
## ■ Features

1. Easy to clamp the longer side ends and to carry for installation.
2. Pad thickness is 9mm and so the clearance between the reinforced concrete can be easily aligned.
3. Clamping range can be easily set with positioning an adjusting pin at a different hole.
4. This camp holds a work piece from both ends and a leveling string does not interfere.
5. The teeth at the pads provide a positive grip on a work piece.

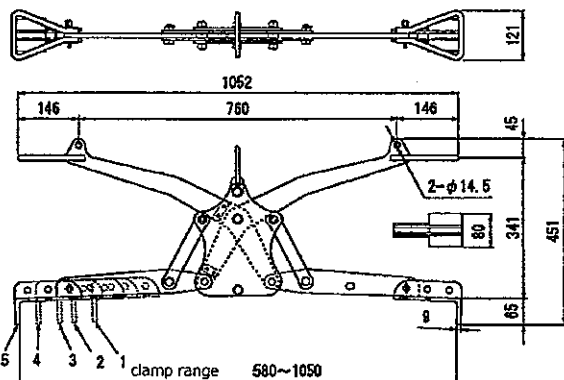
## ■ Specification

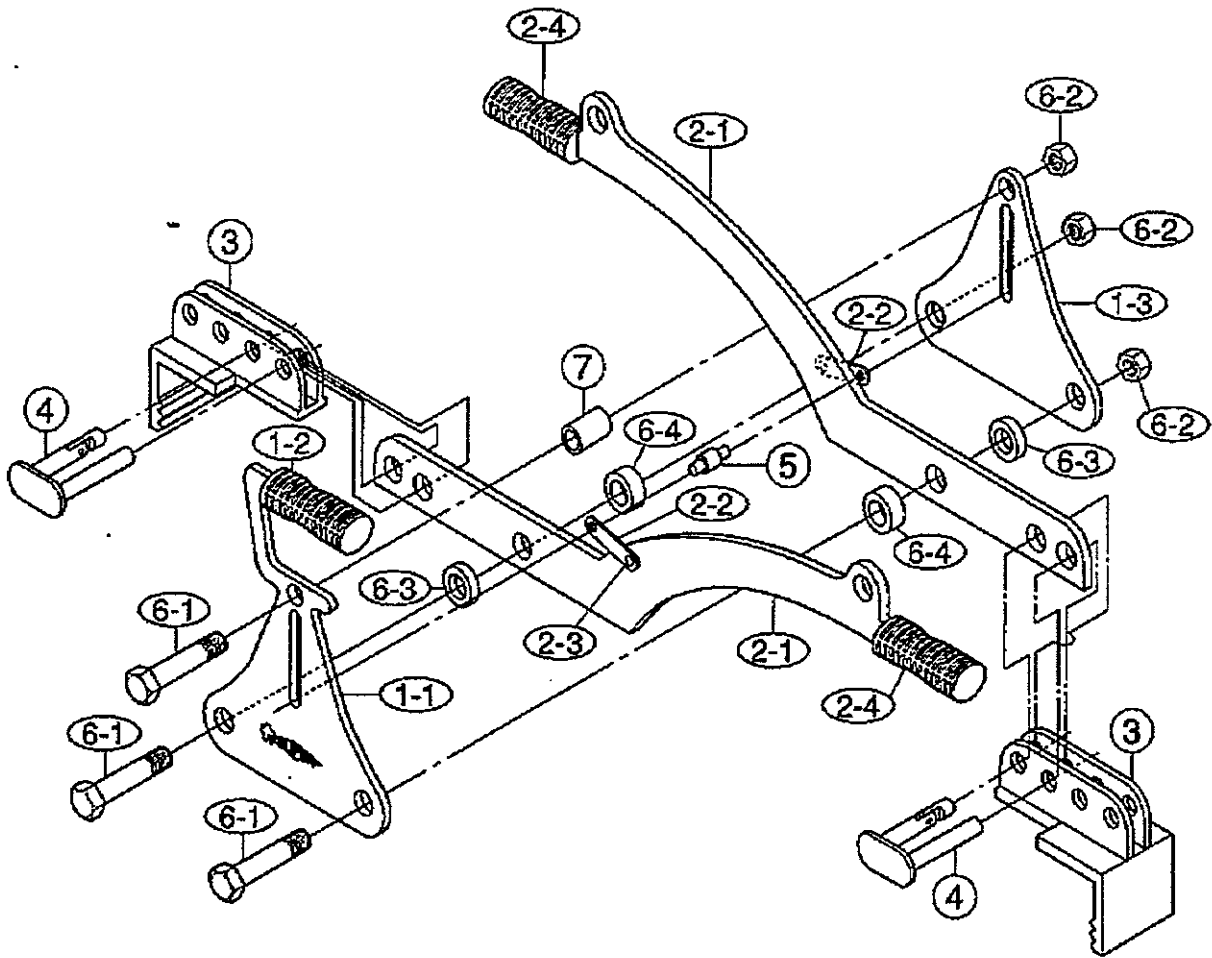
Item No.	Capacity (kg)	Clamp range (mm)	Net Weight (kg)
UGC150M	150	1 <sup>st</sup> range 400~470	9
		2 <sup>nd</sup> range 470~540	
		3 <sup>rd</sup> range 540~600	
UGC300M	300	1 <sup>st</sup> range 580~680	17
		2 <sup>nd</sup> range 680~780	
		3 <sup>rd</sup> range 750~850	
		4 <sup>th</sup> range 850~950	
		5 <sup>th</sup> range 950~1050	

UGC150M



UGC300M





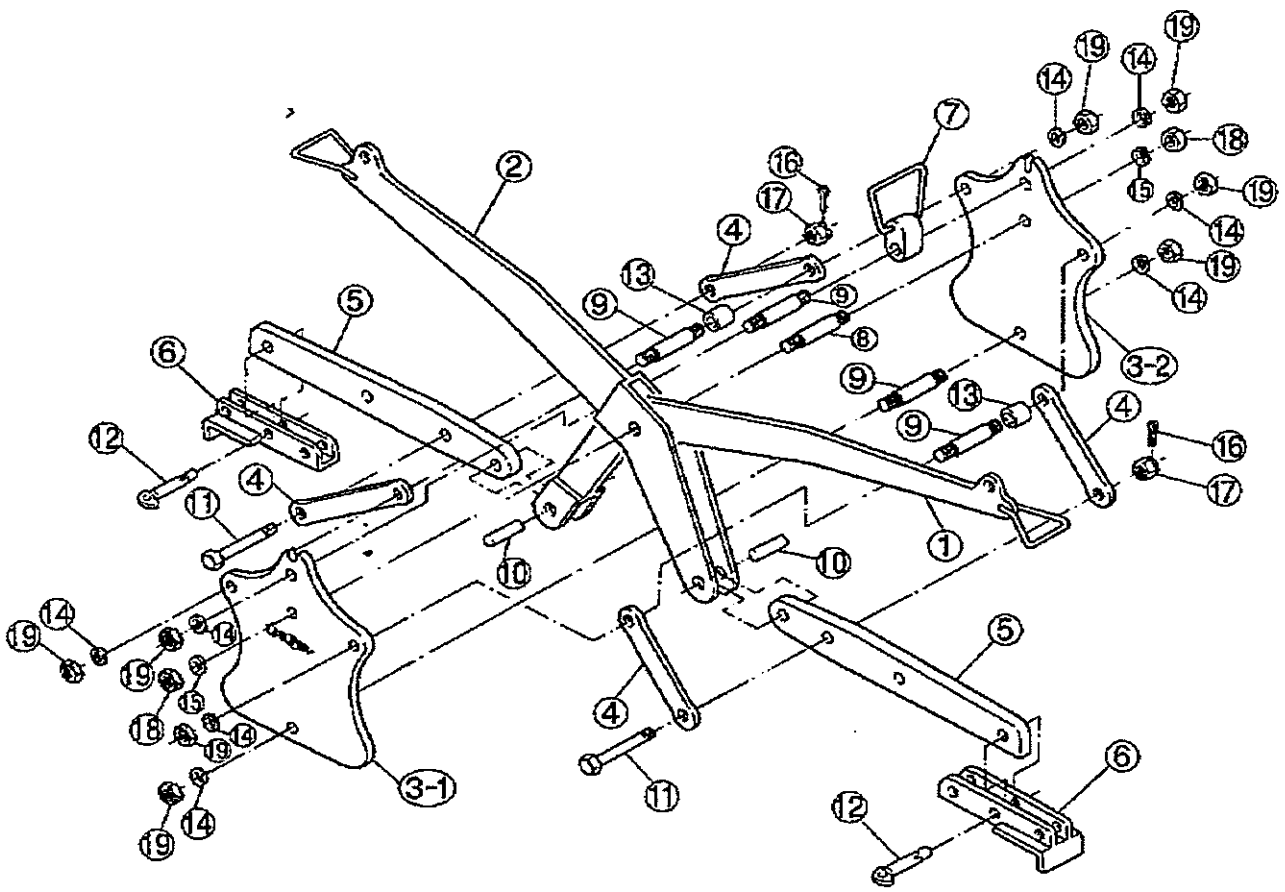
Parts No.	Parts Name	Item No.	Q'ty
*1-1	Body A (engraved)	-	-
1-2	Grip for Body A	UGCR150M	1
1-3	Body B	UGCB150M	1
Arm		UGA150M	
2-1	Arm	UGCA150M	2
2-2	Link		2
2-3	Swage pin		2
2-4	Grip of Arm		2

Parts No.	Parts Name	Item No.	Q'ty
3	Claw	UGCK150M	2
4	Adjustment pin	UGCP150M	2
5	Correction pin	UGCZ150M	1
6-1	Hex bolt	UGCH150M	3
6-2	U nut		3
6-3	Collar A for Arm	UGCD150M	2
6-4	Collar B for Arm		2
7	Collar C for Body	UGCE150M	1

\*1-1 Unable to supply as a spare part.

Parts Name

UGC300M



Parts No.	Parts Name	Item No.	Q'ty
Handle		UGH300M	
1	Handle A	UGCH300M	1
2	Handle B	UGCI300M	1
8	Support pin A	UGCN300M	1
15	Spring washer A		2
18	Hex nut A		2
10	Support pin C	UGCM300M	2
Arm		UGA300M	
5	Arm	UGCA300M	2
6	Claw	UGCK300M	2
12	Adjust pin	UGCP300M	2
*3-1	Body A (engraved)	-	-
3-2	Body B	UGCB300M	1
7	Grip for body	UGCT300M	1

Parts No.	Parts Name	Item No.	Q'ty
Link		UGR300M	
4	Link	UGCR300M	4
9	Support Pin B	UGCD300M	4
14	Spring washer B		8
19	Hex nut B		8
13	Collar	UGCC300M	2
11	Hex bolt	UGCL300M	2
16	Split pin		2
17	Grooved nut		2
*3-1	Unable to supply as a spare part.		

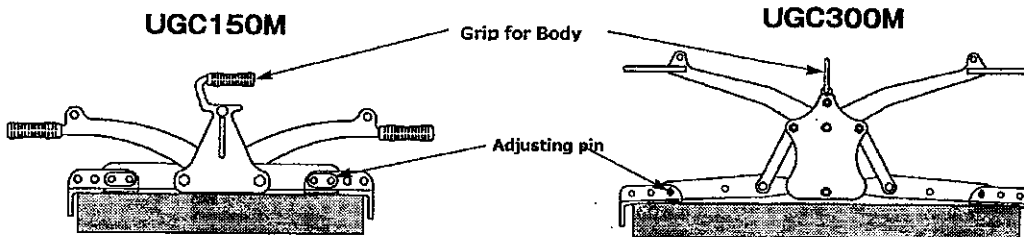


## ■ How to operate

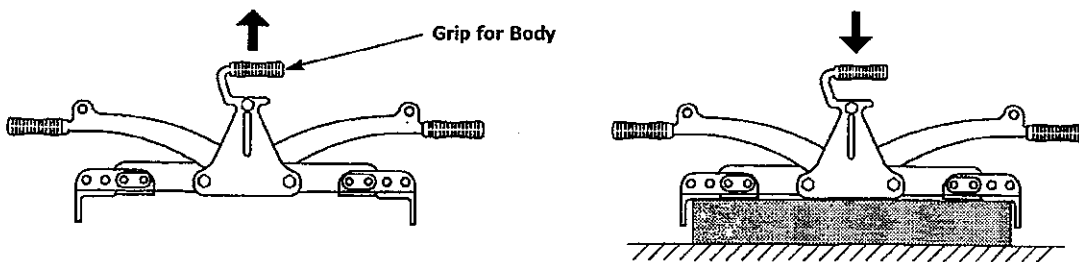
### ■ How to operate

#### 1. Operation method

- (1) Take out adjusting pins and reinsert to the right hole-position to match the length of a work piece to clamp. (Ref. to page 6 for repositioning adjusting pins.)

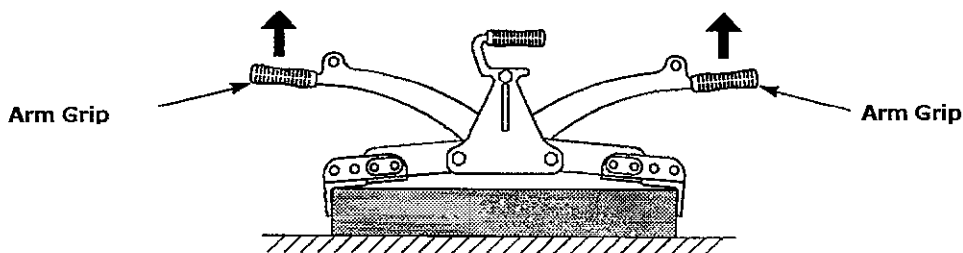


- (2) Pull up Grip for Body to set a work piece for clamping.



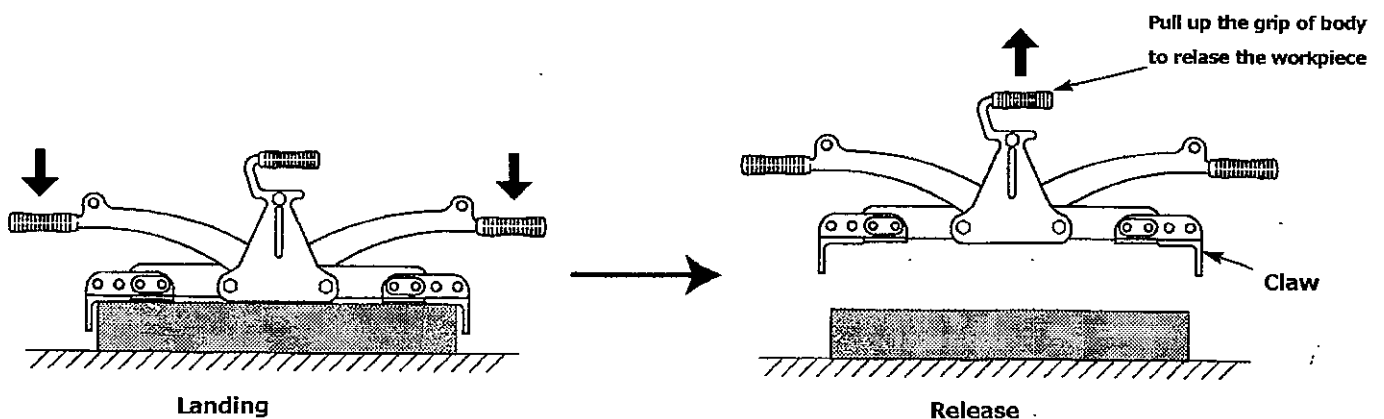
#### ● To lift up manually

- (3) Pull up Arm grips to lift up a work piece. After making sure the work piece is stable, carry away to an intended place.



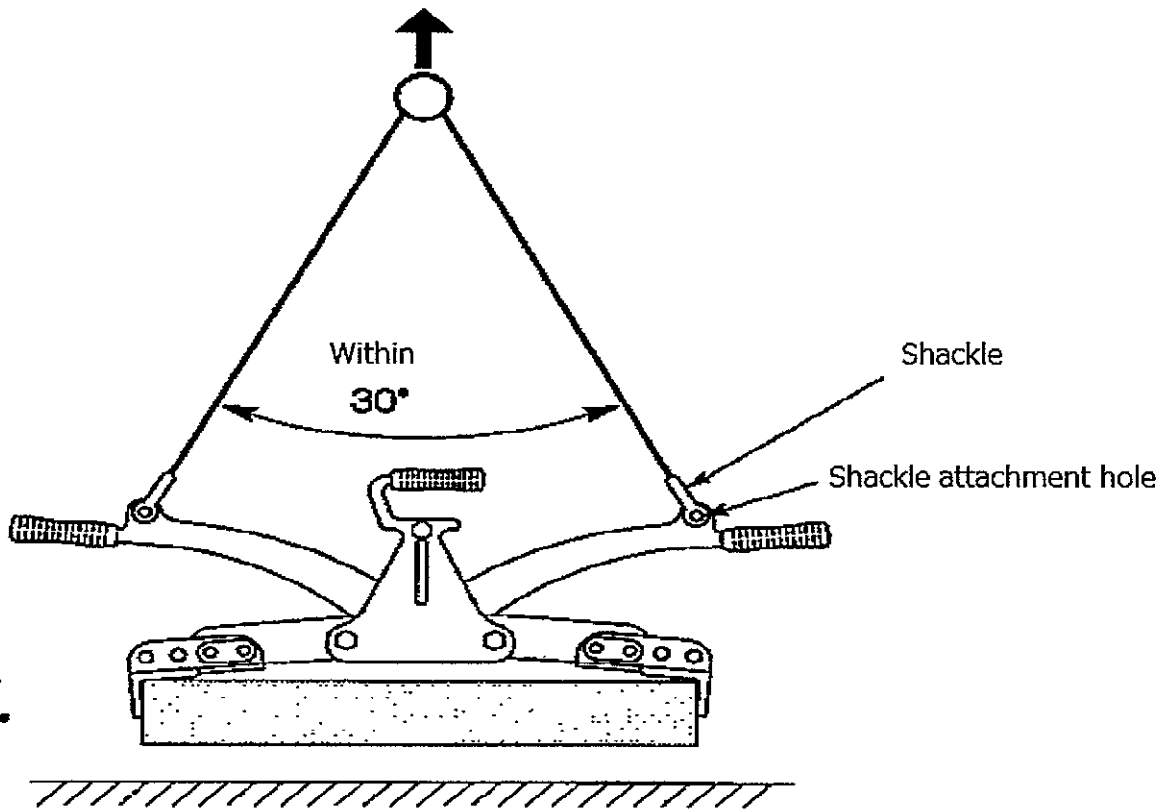
Note : Be sure to lift up with 2 persons simultaneously.

- (4) When you land the work piece to an intended place, make sure it is placed onto a stable position. Lifting up Grip for Body makes release Claws and the work piece becomes released from Claws.



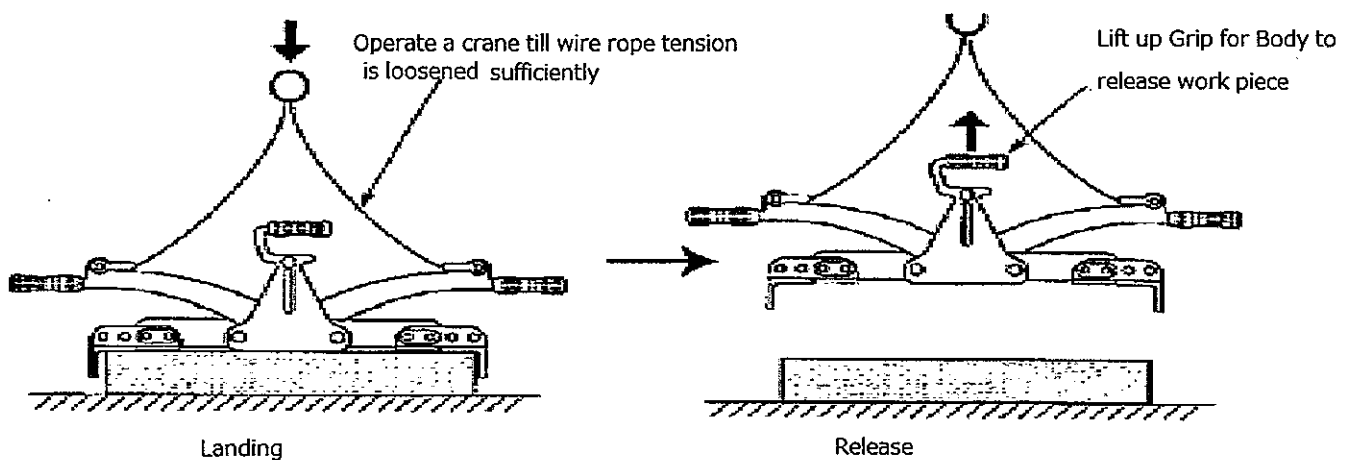
● Lifting by such device as a crane

(3) Attach each shackle to an each shackle attachment hole and lift up by using wire ropes etc. After making sure the work piece is stable, land the work piece onto an intended place.



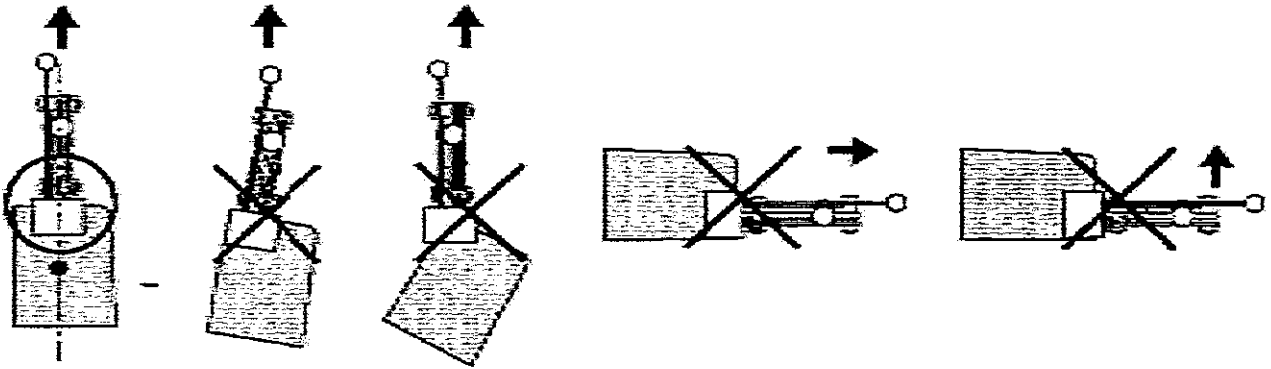
Note : Pay attention not to cause any twisting of wire rope.

(4) When the work piece is carried to an intended place, operate crane and land it. Make sure the work piece is stably positioned. Lifting up Grip for Body makes release Claws and the work piece becomes released from Claws.

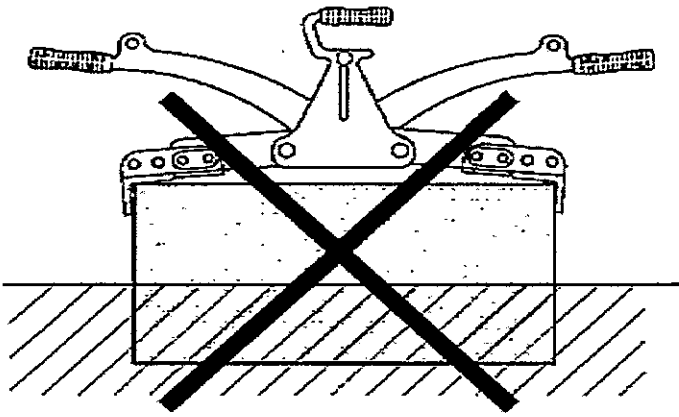


## Warnings for operation

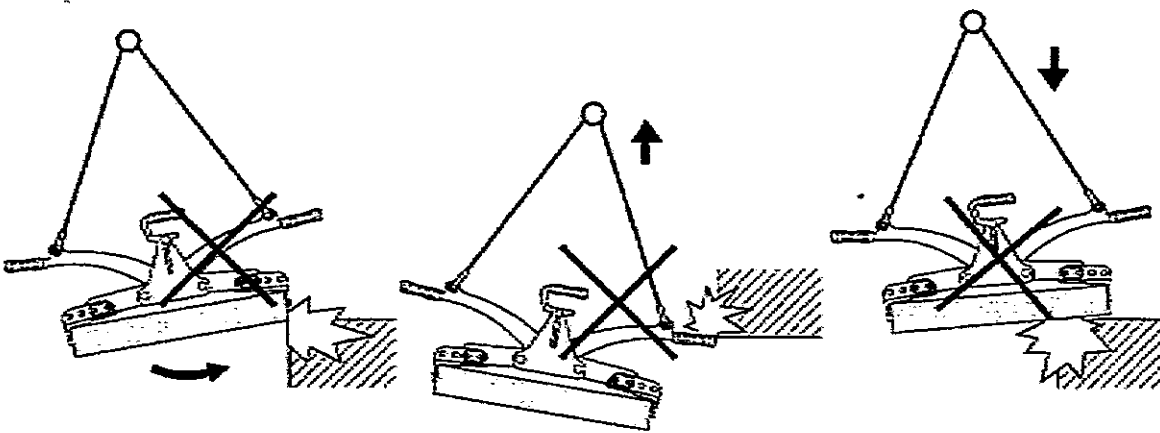
- Avoid such lifting as off-center lifting, insufficient/inadequate clamping or lateral pulling.



- Do not extract buried concrete products. (That may become the cause of distortion and break of Clamp)



- Pay attention not to contact any object by the clamp and a work piece during the operation. (Wire Rope will loosen, which may cause the fall accident.)



- Lift up a work piece only after confirming the adequate clamping of it.

## Attention

- ◆ Inspect before use if there's any defect such as shocking at the teeth of Claw or abrasion, crack, flaw etc with any parts.
- ◆ Do not use clamp of other than concrete products.
- ◆ Use this unit within the allowable load weight.
- ◆ 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 claws or 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.

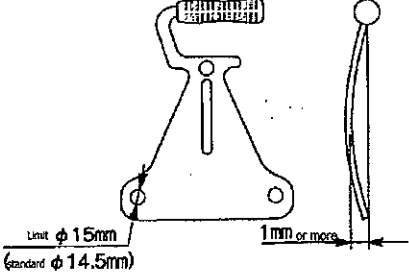
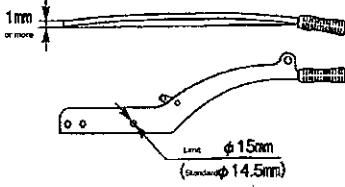
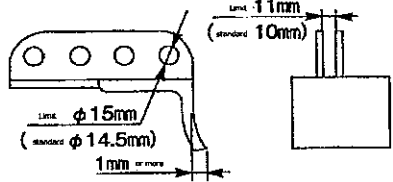
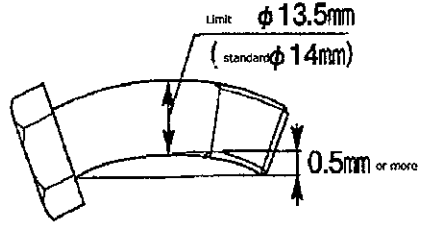
- (1) In case of lifting up more than the rated capacity limit.
- (2) In case of mishandling or user's self-determined method of repair or conversion.

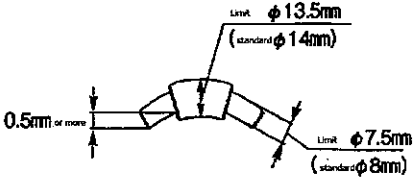
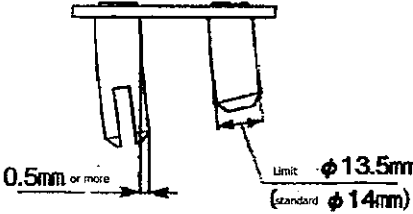
## Daily Inspection

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

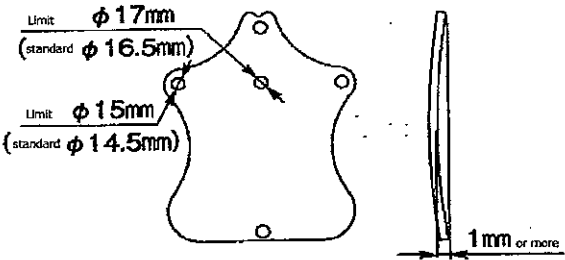
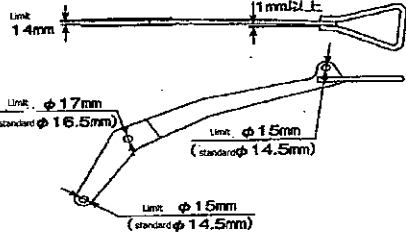
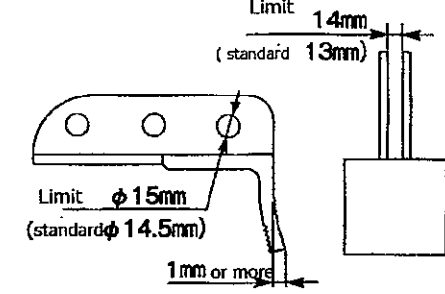
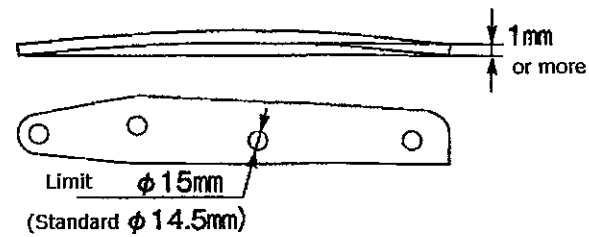
1. Check if the body and each parts of arms or claws do not have scratch or crack.
2. Check if the bolts and nuts are assembled in a good condition.
3. Check if each parts operate in a good condition.
4. Check if the tip of teeth of claws do not have wear or defectives and also check they are not clogged.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

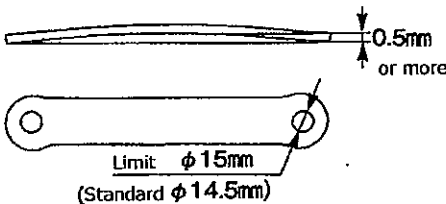
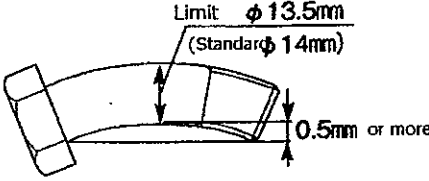
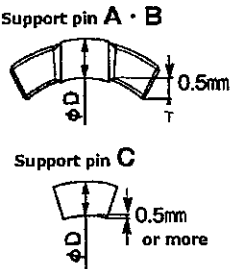
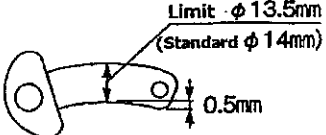
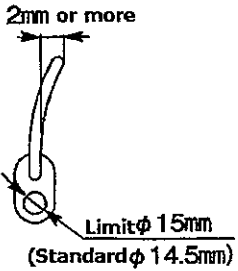
Inspection Standard UGC150M

Section	Checking Method	Permissible Limit	Measure
Body	<ul style="list-style-type: none"> <li>● Bending or deformation (visual check or measure)</li> <li>● Abrasion or deformation of pin holes (measure)</li> </ul>	<ul style="list-style-type: none"> <li>● Bending or deformation of 1mm or more.</li> <li>● 0.5mm or more of abrasion or deformation from standard.</li> </ul> 	<p>Applicable to Body A - Discard</p> <p>Applicable to Body B - Replace</p>
Arm	<ul style="list-style-type: none"> <li>● Bending or deformation (visual check or measure)</li> <li>● Abrasion or deformation of pin holes (measure)</li> </ul>	<ul style="list-style-type: none"> <li>● Bending or deformation of 1mm or more.</li> <li>● 0.5mm or more of abrasion or deformation from standard.</li> </ul> 	Replace
Claw	<ul style="list-style-type: none"> <li>● Cracks or flaws (visual or color check)</li> <li>● Bending or deformation (visual check or measure)</li> <li>● Abrasion or deformation of pin holes (measure)</li> </ul>	<ul style="list-style-type: none"> <li>● When visually found.</li> <li>● Bending or deformation of 1mm or more.</li> <li>● 0.5mm or more of abrasion or deformation from standard.</li> </ul> 	Replace
Hex Bolt & Nut	<ul style="list-style-type: none"> <li>● Bending or deformation (visual check or measure)</li> <li>● Abrasion or deformation at bolt shank (measure)</li> <li>● Nut is adequately fastened. (visual check)</li> </ul>	<ul style="list-style-type: none"> <li>● 0.5mm or more of bending or deformation</li> <li>● When any one portion of the shaft diameter of bolt becomes as noted below</li> <li>● When damage or loose or removed</li> </ul> 	Replace

Section	Checking Method	Permissible Limit	Measure
<b>Correction pin</b>	<ul style="list-style-type: none"> <li>● Bending or deformation (visual check or measure)</li> <li>● Abrasion or deformation of pin (measure)</li> </ul>	<ul style="list-style-type: none"> <li>● 0.5mm or more of bending or deformation</li> <li>● 0.5mm or more of abrasion or deformation from standard.</li> </ul> 	<b>Replace</b>
<b>Adjusting pin</b>	<ul style="list-style-type: none"> <li>● Bending or deformation (visual check or measure)</li> <li>● Abrasion or deformation of pin (measure)</li> </ul>	 <ul style="list-style-type: none"> <li>● 0.5mm or more of bending or deformation</li> <li>● 0.5mm or more of abrasion or deformation from standard.</li> </ul>	<b>Replace</b>

Inspection Standard UGC300M

Section	Checking Method	Permissible Limit	Measure
Body	<ul style="list-style-type: none"> <li>● Bending or deformation (visual check or measure)</li> <li>● Abrasion or deformation of pin holes (measure)</li> </ul>	<ul style="list-style-type: none"> <li>● Bending or deformation of 1mm or more.</li> <li>● 0.5mm or more of abrasion or deformation from standard.</li> </ul>  <p>Limit <math>\phi 17\text{mm}</math> (standard <math>\phi 16.5\text{mm}</math>)</p> <p>Limit <math>\phi 15\text{mm}</math> (standard <math>\phi 14.5\text{mm}</math>)</p> <p>1mm or more</p>	<p>Applicable to Body A - Discard</p> <p>Applicable to Body B - Replace</p>
Handle	<ul style="list-style-type: none"> <li>● Bending or deformation (visual check or measure)</li> <li>● Abrasion or deformation of pin holes (measure)</li> </ul>	<ul style="list-style-type: none"> <li>● Bending or deformation shown below.</li> <li>● 0.5mm or more of abrasion or deformation from standard.</li> </ul>  <p>Limit 1.4mm</p> <p>1mm or more</p> <p>Limit <math>\phi 17\text{mm}</math> (standard <math>\phi 16.5\text{mm}</math>)</p> <p>Limit <math>\phi 15\text{mm}</math> (standard <math>\phi 14.5\text{mm}</math>)</p> <p>Limit <math>\phi 15\text{mm}</math> (standard <math>\phi 14.5\text{mm}</math>)</p>	<p>Replace</p>
Claw	<ul style="list-style-type: none"> <li>● Cracks or flaws (visual or color check)</li> <li>● Bending or deformation (visual check or measure)</li> <li>● Abrasion or deformation of pin holes (measure)</li> </ul>	<ul style="list-style-type: none"> <li>● When visually found.</li> <li>● Bending or deformation of 1mm or more.</li> <li>● 0.5mm or more of abrasion or deformation from standard.</li> </ul>  <p>Limit 14mm (standard 13mm)</p> <p>Limit <math>\phi 15\text{mm}</math> (standard <math>\phi 14.5\text{mm}</math>)</p> <p>1mm or more</p>	<p>Replace</p>
Arm	<ul style="list-style-type: none"> <li>● Bending or deformation (visual check or measure)</li> <li>● Abrasion or deformation of pin holes (measure)</li> </ul>	<ul style="list-style-type: none"> <li>● Bending or deformation of 1mm or more.</li> <li>● 0.5mm or more of abrasion or deformation from standard.</li> </ul>  <p>1mm or more</p> <p>Limit <math>\phi 15\text{mm}</math> (Standard <math>\phi 14.5\text{mm}</math>)</p>	<p>Replace</p>

Section	Checking Method	Permissible Limit	Measure									
Link	<ul style="list-style-type: none"> <li>● Bending or deformation (visual check or measure)</li> <li>● Abrasion or deformation of pin (measure)</li> </ul>	<ul style="list-style-type: none"> <li>● 0.5mm or more of bending or deformation</li> <li>● 0.5mm or more of abrasion or deformation from standard.</li> </ul> 	Replace									
Hex Bolt/Nut	<ul style="list-style-type: none"> <li>● Bending or deformation (visual check or measure)</li> <li>● Abrasion or deformation of shaft of bolt (measure)</li> <li>● If nut is adequately fastened (Visual check)</li> </ul>	<ul style="list-style-type: none"> <li>● 0.5mm or more of bending or deformation</li> <li>● When any one portion of the shaft diameter of bolt becomes as noted below</li> </ul>  <ul style="list-style-type: none"> <li>● When damage or loose or removed</li> </ul>	Replace									
Support pin A/B/C/Nut	<ul style="list-style-type: none"> <li>● Bending or deformation (visual check or measure)</li> <li>● Abrasion or deformation of pin (measure)</li> <li>● Nut is adequately fastened. (visual check)</li> </ul>	<ul style="list-style-type: none"> <li>● 0.5mm or more of bending or deformation</li> <li>● 0.5mm or more of abrasion or deformation from standard.</li> <li>● When damage or loose or removed</li> </ul> <table border="1" data-bbox="646 1131 877 1243"> <thead> <tr> <th>Support pin</th> <th>A</th> <th>B · C</th> </tr> </thead> <tbody> <tr> <td>D (Limit)</td> <td>16</td> <td>14</td> </tr> <tr> <td>D (Limit)</td> <td>15.5</td> <td>13.5</td> </tr> </tbody> </table> 	Support pin	A	B · C	D (Limit)	16	14	D (Limit)	15.5	13.5	Replace
Support pin	A	B · C										
D (Limit)	16	14										
D (Limit)	15.5	13.5										
Adjusting pin	<ul style="list-style-type: none"> <li>● Bending or deformation (visual check or measure)</li> <li>● Abrasion or deformation of pin (measure)</li> </ul>	<ul style="list-style-type: none"> <li>● 0.5mm or more of bending or deformation</li> <li>● 0.5mm or more of abrasion or deformation from standard.</li> </ul> 	Replace									
Grip for Body	<ul style="list-style-type: none"> <li>● Bending or deformation (visual check or measure)</li> <li>● Abrasion or deformation of pin (measure)</li> </ul>	<ul style="list-style-type: none"> <li>● 2 mm or more of bending or deformation</li> <li>● 0.5mm or more of abrasion or deformation from standard.</li> </ul> 	Replace									