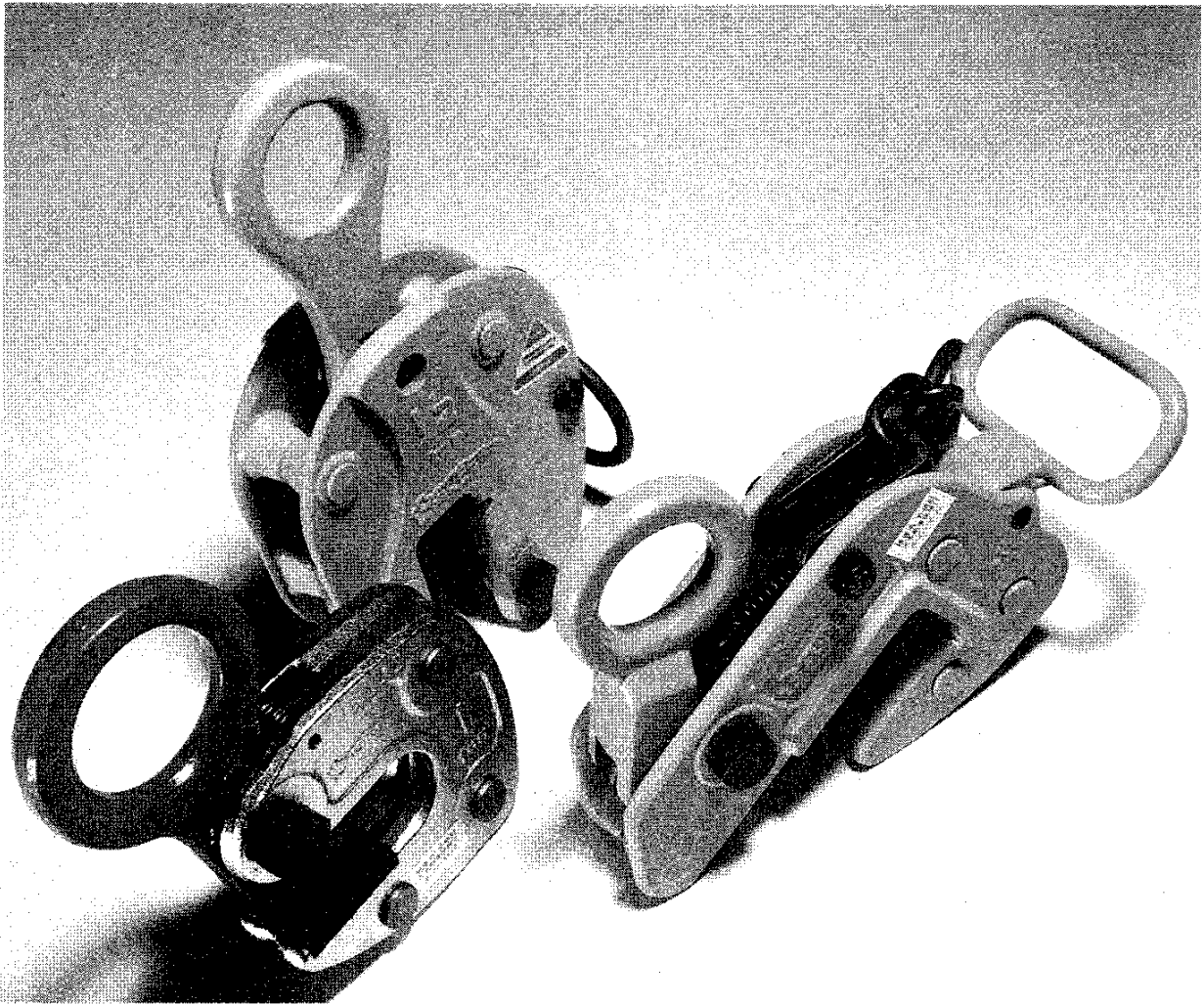


# SAFETY LIFTING CLAMPS



## INSTRUCTION FOR OPERATION OF "SUPER" BRAND LIFTING CLAMPS

**HHC HHC-S  
HHC-G HFC**



**SUPER TOOL**

OSAKA, JAPAN

# **WARNINGS (Supplements)**

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- Never use a steel lifting clamp (hereafter called clamp) on material other than steel!
- When operating clamps, always maintain a firm footing and only operate from a location that will be safe at all times!
- Before lifting the load, confirm that clamps are in good condition and functioning properly!
- Always protect the surface of cam and pad from weld spatters or other damaging contaminants! The surface of the load must always be clean and free of scale, grease, paint, dirt and coating or other foreign matters that can reduce friction!
- Note that the service life of clamps is reduced considerably when stainless steel sheets or high-tensile steel are clamped! Do not use clamps for lifting high-tensile steel (over 300HB) or soft steel (under 80HB)!
- Never vertically lift material that tapers down to the edge!
- Never vertically lift with horizontal or lateral clamps!
- Never lift more than one steel plate at a time!
- Always use slings correctly! Pay special attention to the correlation between the lifting angle and the rated load!
- Never operate clamps unless the load is properly centered!
- After the load has been lifted a few centimeters, confirm that the load is well balanced!
- Never allow the operator's attention to be diverted when operating clamps and never leave the suspended load unattended!
- Never modify clamps!
- Only use genuine parts when repairing clamps!
- Please refer, also, to the warnings in the catalog.

# INSTRUCTIONS FOR USE

Keep these instructions within easy access of operators.  
It is important that operators understand these warnings and instructions before using.

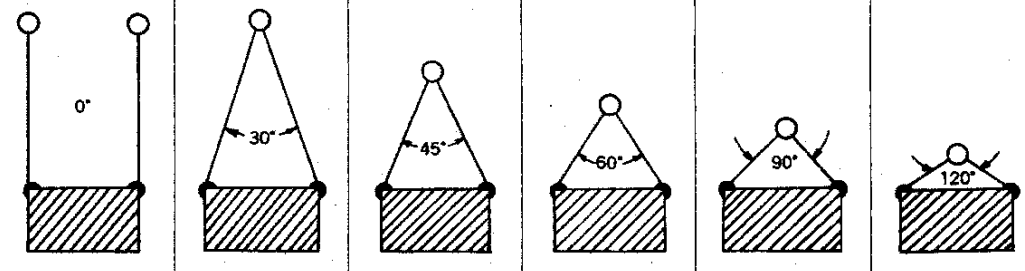
## WARNINGS

- Do not lift sagging steel plate.
- Select proper size Hook for the job. Determine the weight of the plate to be lifted.  
Do not exceed limited working load shown on Hook.  
Plate thickness must be within grip range shown in these instructions.
- Inspect Hook. If body is elongated, or if body is damaged, do not use.
- All personnel must stand clear of load while it is being lifted or moved.
- Take up slack slowly. Do not bounce or jerk load.

# LIFTING ANGLE AND SAFE LOAD OF WIRE ROPE

The maximum allowable load ((safe load)) of wire rope also varies with the lifting angle.  
Therefore, select a wire rope of proper diameter in consideration of the lifting angle.  
((The breakage load specified in the table below refers to No.4, 6 x 24A class of JIS G 3525.))

## Correlation between Lifting Angle and Safe Load of Wire Rope (in two-point lifting)

D Wire rope dia  (mm)	σ Breakage load  (tons)	W Safe load (on one rope) W=σ/S (safety factor S=6)  (tons)						
			(Changes in lifting efficiency due to lifting angle, %)					
			100%	96%	92%	86%	70%	50%
Max. allowable load (safe load) on two wire ropes (tons)								
8	3.21	0.54	1.08	1.04	0.99	0.93	0.76	0.54
9	4.06	0.68	1.36	1.31	1.25	1.17	0.95	0.68
10	5.02	0.84	1.68	1.61	1.55	1.44	1.18	0.84
11.2	6.29	1.05	2.1	2.02	1.93	1.81	1.47	1.05
12.5	7.84	1.31	2.62	2.52	2.41	2.25	1.83	1.31
14	9.83	1.64	3.28	3.15	3.02	2.82	2.3	1.64
16	12.8	2.13	4.26	4.09	3.92	3.66	2.98	2.13
18	16.2	2.7	5.4	5.18	4.97	4.64	3.78	2.7
20	20.1	3.35	6.7	6.43	6.16	5.76	4.69	3.35
22.4	25.2	4.2	8.4	8.06	7.73	7.22	5.88	4.2
25	31.3	5.22	10.44	10.02	9.6	8.98	7.31	5.22
28	39.3	6.55	13.1	12.58	12.05	11.27	9.17	6.55
30	45.1	7.52	15.04	14.44	13.84	12.93	10.53	7.52
31.5	49.8	8.3	16.6	15.94	15.27	14.28	11.62	8.3
33.5	56.3	9.38	18.76	18.01	17.26	16.13	13.13	9.38
35.5	63.2	10.53	21.06	20.22	19.38	18.11	14.74	10.53

Note: For four-point lifting, multiply the corresponding figure in the table by 2 to find the maximum allowable load (safe load).

## Simplified calculation method of wire rope diameter and safe load (one-point lifting)

1)  $D = \sqrt{W \times C}$

2)  $W = \frac{D^2}{C}$

Where D : wire rope diameter(mm)

W: safe load (tons)

C : constant=120

(safety factor S=6)

★To find the diameter of wire rope for 3 tons:

①  $D = \sqrt{W \times C}$

$D = \sqrt{3 \times 120} = \sqrt{360} = 19 \rightarrow 20 \text{ mm}$

★To find the service load (safe load) on 25mm diameter wire rope:

②  $W = \frac{D^2}{C}$

$W = \frac{25^2}{120} = \frac{625}{120} = 5.2 \rightarrow 5.2 \text{ ton}$

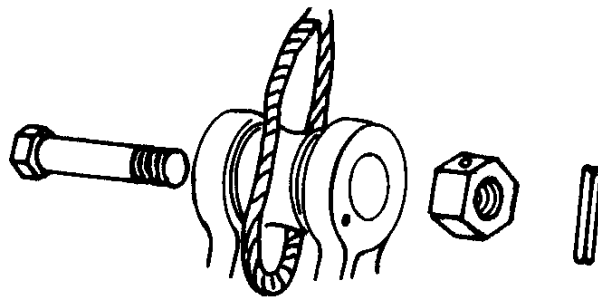
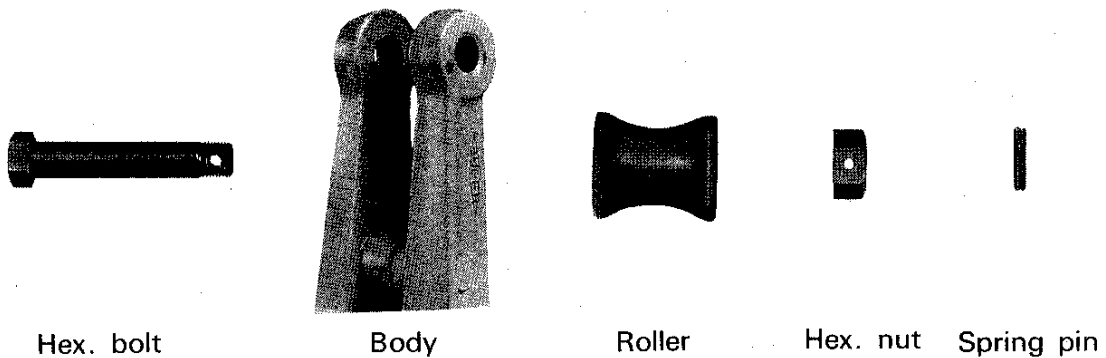
# Lifting Hook

Model : HHC · HHC-S · HHC-G · HFC

## Operation method

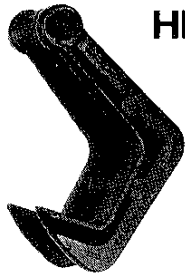
1. As shown in below, set wire rope on the head before the operation.

Head can be disassembled as shown below.



Pass rope around roller as shown above, and insert bolt, then tighten with nut.  
Then fit the spring pin. Then the rope is kept in place firmly.

2. Insert steel plate (object to be lifted) to the full depth of the opening part of the body.
3. Detach steel plate (object to be lifted) after the clamps were touched down on the ground completely.



**HHC**

**Standard**



**HHC-G**

**Standard with Grip-**



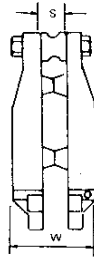
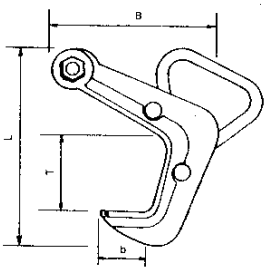
**HHC-S**

**S type**

ITEM NO.	Capacity (tons)	Max. plate thick (mm)	Weight (kg)
HHC 0.5	0.5	58	1.1
HHC 1	1	65	2.1
HHC 2	2	80	4.5
HHC 3	3	95	7.8
HHC 5	5	125	16.5

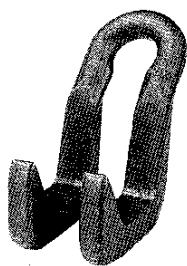
ITEM NO.	Capacity (tons)	Max. plate (mm)	Weight (kg)
HHC 1G	1	65	2.4
HHC 2G	2	80	4.9
HHC 3G	3	95	8.4
HHC 5G	5	125	17.2

ITEM NO.	Capacity (tons)	Max. plate (mm)	Weight (kg)
HHC 0.5S	0.5	58	1.0
HHC 1S	1	65	1.9
HHC 2S	2	80	3.8
HHC 3S	3	95	6.4
HHC 5S	5	125	14.2

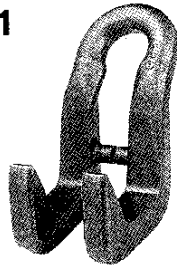


Principal dimensions of types H, HG (Unit : mm)						
Capacity	T(Max.)	L	B	b	S	W
0.5 ton	58	152	121	42	30	63
1 ton	65	178	144	47	40	80
2 ton	80	223	182	58	54	105
3 ton	95	264	215	68	65	125
5 ton	125	342	279	90	85	160

Principal dimensions of type S (Unit : mm)						
Capacity	T(Max.)	L	B	b	S	W
0.5 ton	58	152	121	42	16	49
1 ton	65	178	144	47	22	63
2 ton	80	223	182	58	31	82
3 ton	95	264	215	68	39	99
5 ton	125	342	279	90	50	125

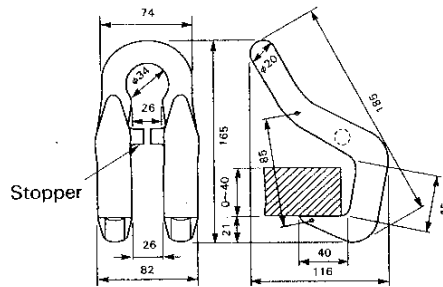
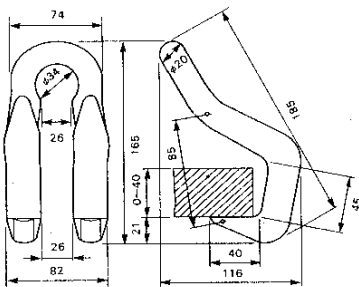


**HFC-1**



**HFC-1B**

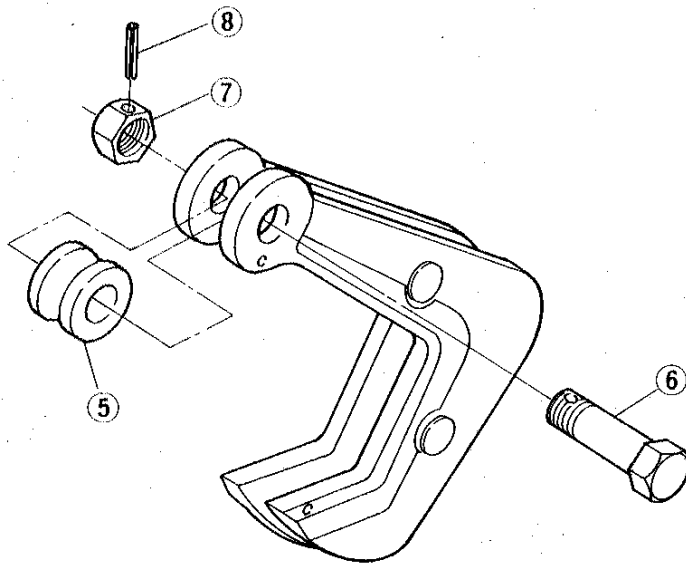
ITEM NO.	Capacity (ton)	Max. Thickness of Plate (mm)	Weight (kg)
HFC 1	1	40	1.7
HFC 1B	1	40	1.8



Dimension in mm

# Replacement parts and fittings

(Model : HHC · HHC-G · HHC-S)



Part No.	Part Name	Item No.
ROLLER		HHR
5	Roller	HHCR
6	Hex. bolt	HHCK
7	Hex. nut	
8	Spring pin	HHCP

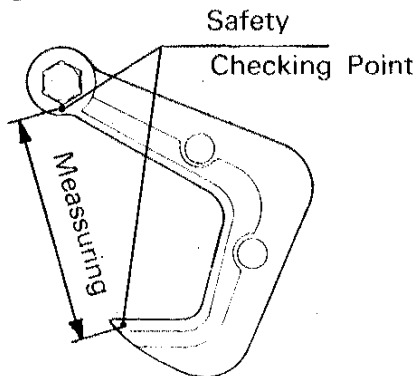
# Standards for checking hook

(Model : HHC · HHC-G · HHC-S · HFC)

Check operation of each part daily. Especially, measure the distance of safety checking points on body periodically as to the limitation for the use of hook.

ITEM NO.	Capacity (ton)	Distance of Safety Checking Point		
		Standard (mm)	Limit. of Use (mm)	
HHC(S)	-0.5	0.5	111	112.1
HHC(S)/HHC-G-1	1		126	127.2
HHC(S)/HHC-G-2	2		154	155.5
HHC(S)/HHC-G-3	3		187	188.8
HHC(S)/HHC-G-5	5		243	245.4
HFC(B)	1	1	85	87.5

## HHC Type



## HFC Type

