Camlok®

HEAVY DUTY, HINGED VERTICAL PLATE CLAMPS





CX CLAMP

WLL 1500 - 10,000 KG (PER PIECE)

EN- OPERATING MANUAL
(ALSO APPLICABLE FOR SPECIAL VERSIONS)

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Introduction

Products of Columbus McKinnon Corporation Limited have been built in accordance with the state-of-the-art and generally accepted engineering standards. Nonetheless, incorrect handling when using the products may cause dangers to life and limb of the user or third parties and/or damage to the hoist or other property.

The operating company is responsible for the proper and professional instruction of the operating personnel. For this purpose, all operators must read these operating instructions carefully prior to the initial operation.

These operating instructions are intended to acquaint the user with the product and enable them to use it to the full extent of its intended capabilities. The operating instructions contain important information on how to operate the product in a safe, correct and economic way. Acting in accordance with these instructions helps to avoid dangers, reduce repair costs and downtimes and to increase the reliability and lifetime of the product. The operating instructions must always be available at the place where the product is operated. Apart from the operating instructions and the accident prevention act valid for the respective country and area where the product is used, the commonly accepted regulations for safe and professional work must also be adhered to.

The personnel responsible for operation, maintenance or repair of the product must read, understand and follow these operating instructions.

The indicated protective measures will only provide the necessary safety, if the product is operated correctly and installed and/or maintained according to the instructions. The operating company is committed to ensure safe and trouble-free operation of the product.

CX Clamp

Model	WLL	Jaw capacity Z mm	Weight kg
CX1500	150-1,500	0-20	7
CX3000	300-3,000	0-32	12
CX3000L	300-3,000	30-60	15
CX6000	600- 6,000	0-50	38
CX6000L	600- 6,000	50-100	48
CX8000	800- 8,000	0-50	39
CX8000L	800- 8,000	50-100	51
CX10000	1,000- 10,000	0-50	61
CX10000L	1,000- 10,000	50-100	76

Table 1

General Safety

- ALWAYS wear practical, protective clothing, gloves and footwear as a minimum.
- ALWAYS bear in mind your safety and the safety of others while using this equipment.
- DO NOT operate this equipment, if you feel Ill, tired or are under the influence of alcohol or drugs.
- This equipment MUST NOT be used to carry or lift personnel.

General Safety

ALWAYS check the operation of your Camlok lifting clamp before use.

ALWAYS place the palm of the hand on top of the load.

ALWAYS stand clear when lifting or lowering.

ALWAYS keep a record of inspections and repairs.

ALWAYS transport the load as close to the floor as possible.

NEVER use a worn or damaged Camlok lifting clamp.

NEVER lift more than one plate/ product at a time.

NEVER leave a suspended load unattended or place a plate down on edge for a long period of time. **NEVER** exceed the maximum working load limit

NEVER lower fast, **ALWAYS** lift and lower gently.

NEVER stand under a suspended load and if guiding a load by hand, **NEVER** grip the load with fingers on the underside.

NEVER pull or push the load where the crane cannot reach **NEVER** force the locking lever.

Product Overview

The CX plate clamps share all the benefits of the CZ clamps but are specifically designed for more heavy-duty applications; especially for lifting awkward fabrications where you're unable to attach the clamp at its centre of mass.

The CX clamp has a swiveling eye cam held within a fork, enabling the clamp to accommodate side loads and irregularly shaped plates. It can turn a plate from the horizontal to the vertical or lift over the edge. Sufficient clamping load is guaranteed by the special shape of the eye cam.

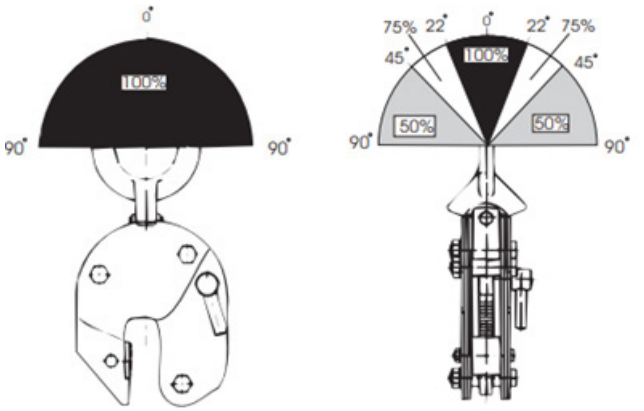
The Camlok CX series of plate clamps can be used on all structural steel plates up to a surface hardness of 300 Brinell (32RHC). For other materials or special operation conditions (high humidity, salty, caustic, alkaline, cold or elevated temperatures) contact your supplier or the manufacturer before use.

Fitting:

- Check that the plate is free from grease, standing water, oil, scale and is not coated with paint or film.
- For long plates use 2 clamps and a lifting beam.
- Check the weight of the clamp and ensure the lifting sling is slack.
- Turn the locking lever clockwise to lock the jaws open.
- Position the clamp on the edge of the plate over the centre of gravity and to the full depth of the mouth.
- Take care not to damage the lifting surfaces.
- Place the fixed jaw onto the plate and turn the lever anticlockwise to the 'LOCK' position.
- Check correct fitting and position before lifting.
- Check chain sling for twisting.

Lifting & Transport:

- Never lift more than one plate at a time.
- For short plates, a single clamp can be used. For long plates two clamps and a lifting beam must be used.
- Never exceed the maximum working load limit or pick up loads weighing less than the minimum working load limit as marked on each clamp.
- Check position and fitting of clamp as weight is applied
- Check for obstacles prior to lift. Lift slowly and smoothly at all times.
- Lifting slings must be vertical at all times.
- Always keep clear of the area below and surrounding the load while lifting and transporting as the plate may kick or swing as it lifts from the floor.
- Minimize the danger area by moving plates as close to the ground as possible.
- Take precautions to stop the load from swinging.
- The clamp can be used on edge and side loads can be lifted with a reduction in the W.L.L. as shown in the graphic.



A load weighing the maximum W.L.L may be lifted and turned through 180° in the plane of the clamp.

Loads weighing the maximum W.L.L can be lifted between 0° and 22° of the plane shown above, anything above 22° will require a reduction in W.L.L

Figure 1 - Load diagram with lifting slings vertical

Release:

- Place loads down gently. Fast lowering may release the clamp.
- DO NOT lower if the locking lever is not in the 'LOCK' position.
- The clamp can only be released when the entire load is removed.
- The lifting sling must have sufficient slack to allow the hookring to withdraw into the clamp.
- Push the Eye cam down and into the clamp shell while turning the locking lever.
- Do not force or hit the lever.

Testing/Service:

All Camlok lifting clamps are tested before sale to a proof load of twice the working load limit. Any clamp that has been repaired must be tested to this load before re-entering service.

Care and Maintenance:

The maintenance schedule is based on normal usage of clamps operating in a workshop environment. Maintenance frequency must be increased if clamps are subject to heavy usage or operated in adverse conditions.

Fasteners fitted to 'Camlok' clamps are retained with Loctite 270 Thread Locking Compound DO NOT use any other grade. For maintenance, use heat to loosen locking compound (up to 80°C). Always keep a record of inspections and repairs.

The components which need to be checked are labeled with the corresponding letter (See diagram at the end of the manual for part identification).

	Check	Daily	Weekly	3 Months
A	Smooth operation	✓	✓	✓
B	Welds for cracks	✓	✓	✓
C	Distortion in the shell plates	✓	✓	✓
D	Obvious signs of damage	✓	✓	✓
E	Clean teeth, remove all grit, dirt & mud	-	✓	✓
F	Lubricate all moving parts with a soft grease	-	✓	✓
G	Fasteners for integrity & tightness	-	✓	✓
H	Distortion in jaw bolt, internal links & spring	-	-	✓
I	Jaw & pad wear	-	-	✓
J	Locking cam handle for wear	-	-	✓
K	Spring tension	-	-	✓

Table 2

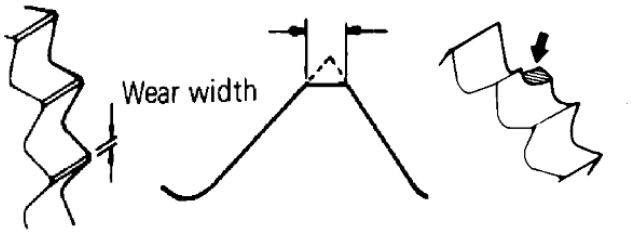


Figure 2 - The maximum wear width as shown above should not exceed the dimensions shown in the table below.

CX1500	CX3000	CX6000	CX8000	CX10000
0.6-0.8 mm	0.8-1.0 mm	0.8-1.0mm	1.0-1.2mm	1.0-1.4mm

Table 3

Note: Chipped teeth are only acceptable if the chip is less than half the width of the tooth and the adjoining teeth are undamaged.

Curved Surfaces:

When using clamps to lift curved objects, the following should be observed:

- W.L.L. reduced to 75% of that marked on the clamp. Minimum W.L.L is unaffected.
- The moving jaw must be placed on the inside of the curve (fig 3).
- The minimum internal diameter is 2.5 times the distance from the fixed jaw to the opposite edge of the clamp

SINGLE CLAMP - The clamp must not exceed 30° tilt from the vertical (fig. 4).

MULTIPLE CLAMPS - When using a multi-leg sling the maximum sling angle from the vertical is 15° (fig. 5)

Fig. 3

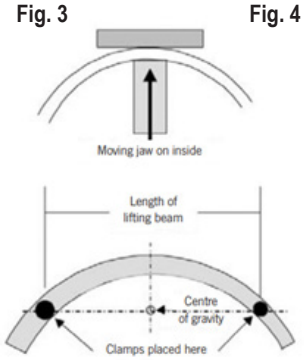
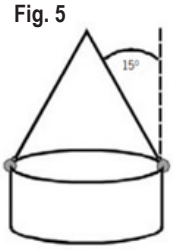


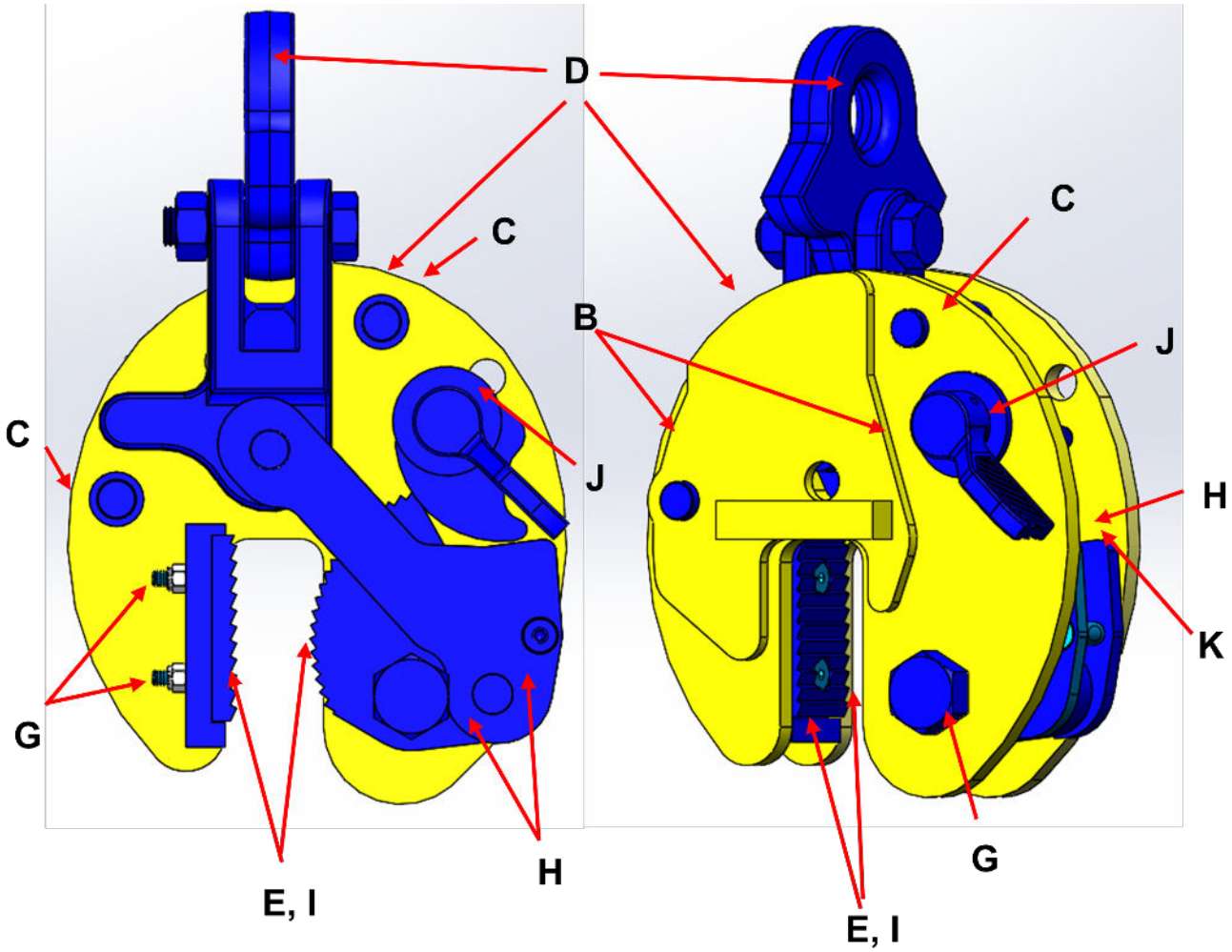
Fig. 4



Fig. 5



Maintenance parts:



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