

# Camlok®

HORIZONTAL GIRDER CLAMPS

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## TTT CLAMP

WLL 750 - 4,500 KG (PER PAIR)

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.

## TTT Clamp

Model	WLL kg	Jaw capacity Z mm	Weight kg
TTT0.75	750	0-20	3
TTT1.5	1500	0-35	6
TTT3.0	3000	0-40	10
TTT4.5	4500	0-45	16

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 TTT horizontal girder clamps have been designed to be used in pairs with a two-leg chain sling to lift and transport beams in the 'I' formation. The clamps are designed to be mounted at either end of the beam ensuring the beam remains level. The chain sling angle must be kept within the working window of the clamp, shown in the 'Lifting & Transporting' section.

The unique design of the split toe allows long sections of girders to be fitted without the use of a spreader beam. They can be used on girders up to a surface hardness of HRC 30/Brinell 300.

## Fitting:

- Check that the girder is free from grease, standing water, oil, scale and is not coated with paint or film.
- For long girder 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 clamps on the short edge of the girder on the web plate and to the full depth of the mouth.
- Take care not to damage the lifting surfaces.
- Place the fixed jaw onto the girder 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 girder at a time.
- For short girders, a single clamp can be used. For long girders two clamps and a lifting beam must be used.
- If the Hook is too big, use a master link and a drop chain fitted to a clamp with a chain link.

**Lifting & Transport:**

- 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 girder may kick or swing as it lifts from the floor.
- Minimise the danger area by moving girder as close to the ground as possible.
- Take precautions to stop the load from swinging.
- Loads weighing the maximum working load limit may be lifted and turned through 180° in the plane of the clamp.

The girder shall only be lifted vertically, and the angles shall not exceed the following:

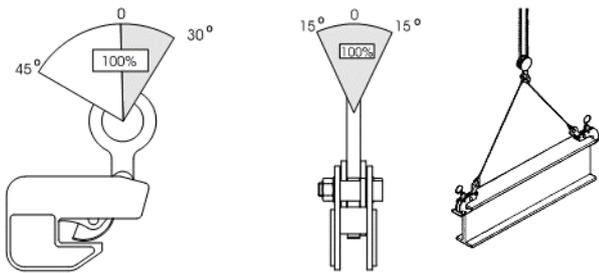


Figure 1

**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 hooking to withdraw into the clamp.
- Push the hooking 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 unless bolt is secured with a nylon nut. 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 inspected are detailed in the table below with correct frequency.

	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

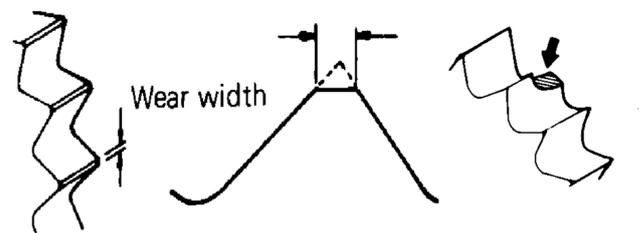


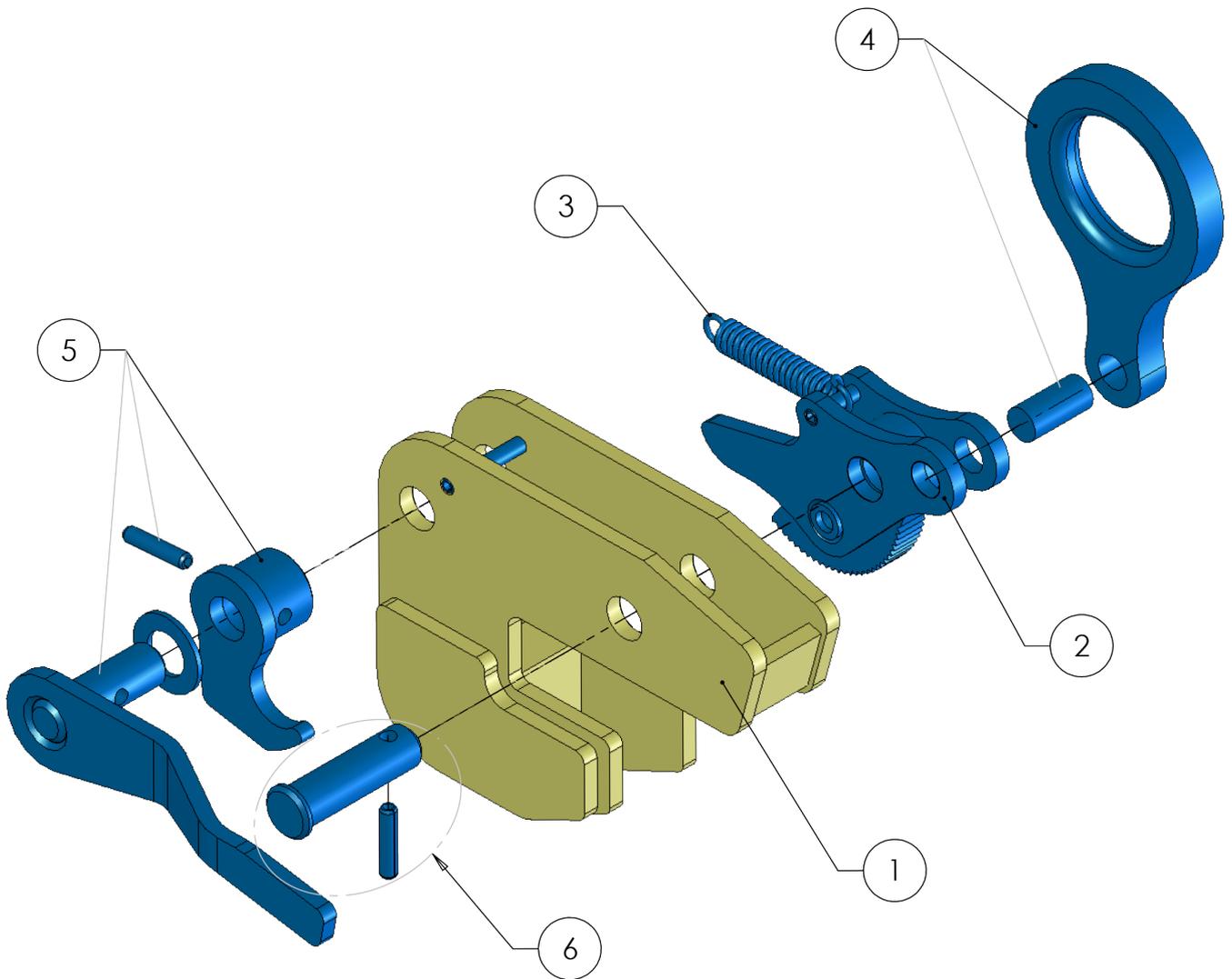
Figure 2 - The maximum wear width as shown above should not exceed the dimensions shown in the table below.

TTT0.75	TTT1.5	TTT3.0	TTT4.5
0.6-0.8 mm	0.6-0.8 mm	0.8-1.0 mm	0.9-1.1 mm

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.

TTT Spares Breakdown:



REF	TTT0.75	TTT1.5	TTT3	TTT4.5	DESCRIPTION
1	TBA	TBA	TBA	TBA	Shell Assy
2	N59000321	N59000322	N59000323	N59000324	Internal Assy
3	N4300006431	N59911966	N59911979	N59911992	Spring Only
4	N59811865	N5911965	N59911978	N59911991	Hookring Assy
5	N59000381	N59000424	N59000425	N59000327	Handle & Cam
6	TBA	N59911969	N59911982	N59911995	Jaw Pin

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## COLUMBUS MCKINNON

Columbus McKinnon has a history of over 150 years and is a world leader in lifting and intelligent motion control technology. The innovative portfolio of high-quality brands, including Stahl CraneSystems, Magnetek, Pfaff-silberblau, Duff-Norton, Yale, Dörner, CM and montratec addresses the needs of our customers by enhancing safety and promoting growth and efficiency. Experience, expertise and innovation

combined with a deep understanding of user needs are the formula for success that has long underpinned our portfolio of hoists, material handling equipment and lifting accessories. Columbus McKinnon is a global organization headquartered in Charlotte, USA (North Carolina). Its global presence includes offices and manufacturing facilities in North America, Latin America, Europe, Africa and Asia.



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