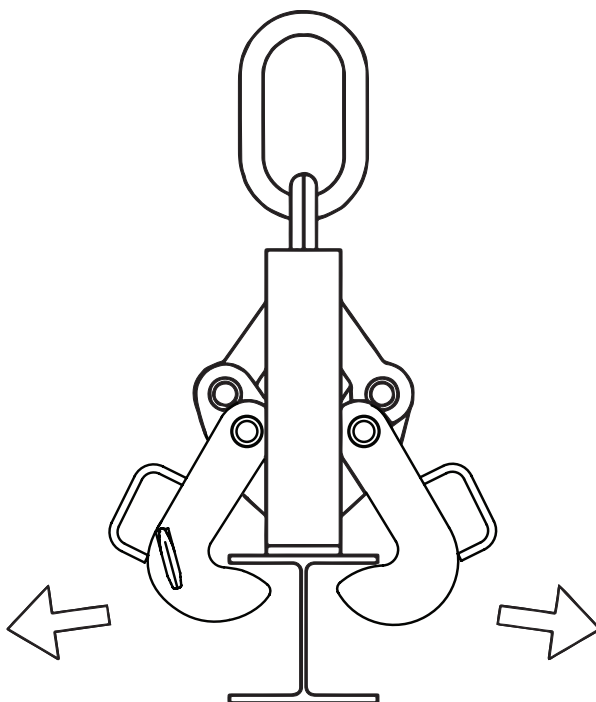


# Crosby CLAMP-CO<sup>®</sup>

## BEAM CLAMP USERS MANUAL

Model Numbers:

F-5, F-15, F-25, F-35, NS-15, NS-25, NS-35



### IMPORTANT

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Make certain all persons that may use, inspect, or maintain this equipment carefully read and understand this manual. **Retain this manual in permanent file.**

# INTRODUCTION

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Crosby CLAMP-CO beam clamps are below the hook lifting devices designed to provide an efficient method for handling wide flange beam sections and plate girders. Always follow the stated limitations discussed in this manual and shown on the product's Warning and Operating Procedure Labels.

Crosby Clamp-Co beam clamps have been safely and successfully used in the field for over 30 years. Your safe use of our products depends on you. Please be responsible and make sure all people using our products follow these simple rules:

1. Beam Clamps are used to the purpose for which they were designed.
2. They are not loaded beyond their Working Load Limit.
3. They are properly lubricated and maintained.
4. They are inspected regularly and tested in accordance with the relevant statutory regulations.
5. They are used by competent persons trained in their use.
6. Beam Clamps are returned to the factory every two years for inspection, retesting and recertification.

As with all mechanical handling equipment, there is a degree of hazard involved with the use of these beam clamps if not properly used. Failure to follow the appropriate safety precautions and operating instructions may cause the load to slip or fall, and may result in serious injury, death, or property damage.

# GENERAL INFORMATION

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Each Crosby Clamp-Co beam clamp is proof tested and certified prior to shipping. Beam Clamps are proof tested to 200% of Working Load Limit.

Follow all requirements of laws, rules, and regulations applicable in your country pertaining to lifting operations, ensuring all maintenance, testing, inspection and operator training requirements are strictly adhered to.

# PRODUCT WARNINGS

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## WARNING

- Loads may disengage from clamp if proper procedures are not followed.
- A falling load may cause serious injury or death.
- The clamp shall not be loaded in excess of its rated load or handle any load for which it is not designed.
- Never operate a damaged or malfunctioning clamp, or a clamp with missing parts.
- Clamp not to be used for personnel hoisting.
- Do not carry a load over people.
- Do not leave suspended loads unattended.
- Operator and other personnel shall stay clear of the load.
- Do not lift loads higher than necessary.
- Do not make alterations or modifications to clamp.
- Do not remove or obscure warning or operating procedure labels.
- See ANSI/ASME B-30.20 BELOW-THE-HOOK LIFTING DEVICES for additional information.
- Read, understand, and follow these instructions and the product safety information.

## OPERATING PROCEDURES

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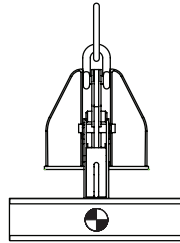
- Perform regular DAILY inspections as recommended.
- Make sure clamp is centered on beam and tongs are totally engaged.
- Always use the tong restraining chains. Make sure the tong restraining chains are engaged as tight as possible, and the free end is hooked back into the chain.
- Make sure the load and/or beam clamp does not strike anything during the lift.
- Use clamp for vertical lifting only, do not use in side loading applications.
- If two clamps are used to lift a beam, a spreader bar is recommended. Reference page 6 for additional information.
- Temperature and environment: The temperature at which the standard lifting clamps may be used lies between 212 F° (100 C°) and -40 F° (-40 C°). For other temperatures and for use in hazardous environmental conditions, consult The Crosby Group technicians.

# USING THE BEAM CLAMP

The beam clamp is designed to engage the beam flanges when the clamp is lowered on the beam. Make sure the clamp is centered on the beam and tongs are fully engaged. When the clamp is in place on the beam flange, the restraining chains are put into place as illustrated in Figure 4. It is important that these chains are in place when the beam is lifted. If the beam or clamp accidentally impacts an adjacent structure, the chains will help to hold the clamp tongs in place on the beam flange.

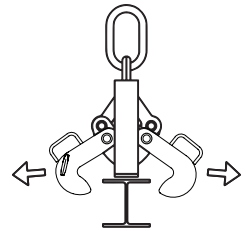
Do not attempt to repair a damaged clamp by welding or with unauthorized replacement parts. We recommend returning the clamp to the manufacturer when repairs are required.

Slowly lower the clamp onto the beam and center the clamp in-line with the beam's center of gravity (lengthwise) (See Figure 1).



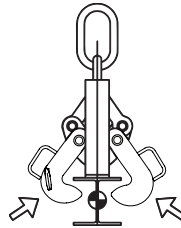
**Figure 1**

Use the handle to pull the tongs out, if necessary, and guide tongs under the beam flange (See Figure 2).



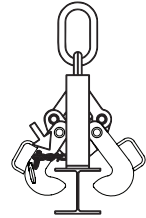
**Figure 2**

Make adjustments until the tongs are firmly gripping the beam flange and the clamp is in center with the beam (See Figure 3).



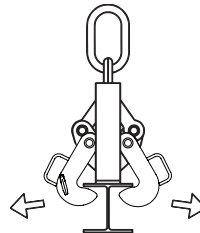
**Figure 3**

Make certain the base plate is flush with the top of the beam flange. Position the restraining chains into place and ensure they are secured with "S" hook. The clamp is now secure for lifting (See Figure 4).



**Figure 4**

To remove clamp, descend until the clamp is free of load. Disengage chain and place "S" hooks end of chain on the keeper hooks. Pull the tongs away from the flanges and lift the clamp free from the beam (See Figure 5).



**Figure 5**

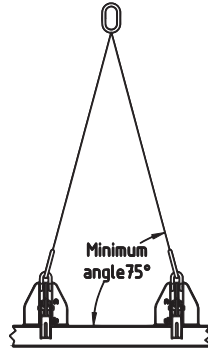
## USING THE BEAM CLAMP

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Do not attempt to make a lift with an unbalanced load. If the beam or girder does not assume a level position, the lift should be stopped and the beam clamp moved to the balance point of the beam.

With some heavy girders, the top plate or flange may not be strong enough to support the girder weight. These girders must be reinforced at the point where the beam clamp engages the flange. The project engineer should be consulted to determine if this type of reinforcement is required.

When two beam clamps are needed to lift a very long or heavy girder, a spreader bar is recommended. If a double leg sling is used in place of a spreader bar, it must be long enough to insure a minimum horizontal angle of 75 degrees between each sling and the top of the girder.



## INSPECTION AND MAINTENANCE

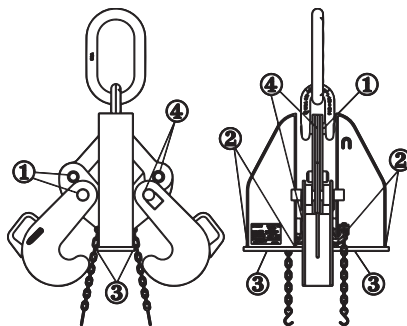
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A visual inspection for cracks, wear, gouges and deformation as part of a comprehensive documented inspection program should be conducted by trained personnel in compliance with the schedule in ANSI B30.20. Proper maintenance of the beam clamp includes a daily inspection and weekly lubrication. There are labels attached to the clamp frame which provide required maintenance, inspection and lubrication recommendations. Product labels should be replaced when they are no longer legible. Contact The Crosby Group for replacement labels.

- Inspect pin welds for cracks or signs of failure. (1)
- Inspect all load carrying welds for cracks or signs of failure. (2)
- Inspect non-skid points. Points should not be deformed or worn off. Points should be firmly in place. (3)
- Lubricate all pins and moving parts with oil can or spray at least once a week. (4)

### INSPECTION AND LUBRICATION POINTS

Do not attempt to repair a damaged clamp by welding or with unauthorized replacement parts. We recommend returning the clamp to the manufacturer when repairs are required.



# **INSPECTION AND MAINTENANCE CHECK LIST**

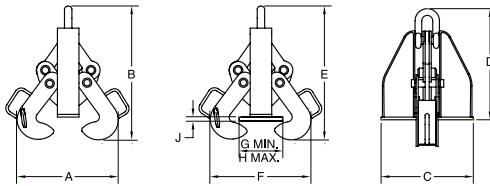
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- Is any part of the equipment distorted?
- Are any cracks visible, or is extensive corrosion evident?
- Is there wear evident at suspension points, shackles, master link, pivots, pins, bolts, threads, or other moving and/or load bearing parts?
- Is restraining chain and grab hook locking arrangement functional?
- Are the Working Load Limit, Serial Numbers and Warning labels legible?
- Have all inspections and maintenance been regularly recorded?
- Does the Crosby Clamp-Co product carry its original Identification Plate and Warning information?
- If the identification plate has been damaged or removed, the clamp shall be taken out of service and arrangements made to replace the identification plate.

# BEAM CLAMP MODELS

There are several Crosby Clamp-CO beam clamp models. They are designed for use with beams of different weights and flange dimensions. See list of models on this page. It is important that the correct clamp model is used for each beam size and weight that is lifted. Each clamp should have an identification plate which shows the clamp model, the maximum Working Load Limit (WLL), and the minimum and maximum flange dimension the clamp is authorized to lift.

The clamp model must be selected to fit the flange dimensions of the beam to be lifted. Smaller or larger beam flanges will not fit properly, and will interfere with the clamping action of the beam clamp. Never exceed the Working Load Limit (WLL) that is shown on this page and also shown on the clamp's identification plate. If the person using the clamp is uncertain as to the beam's weight and flange dimensions, the project engineer should be consulted to obtain the correct information.



## Beam Clamp - Imperial

Model No.	BCFG Stock No.	Working Load Limit (T)	Flange Grip Range (in.)		Weight Each (lbs.)	Dimensions (in.)								
			Width	Thickness		A	B	C	D	E	F	G	H	I
F-5	2732000	5	4 - 10	.5 - 1	70.0	9.50	26.00	12.00	20.00	25.50	16.00	.75	4.00	1.00
F-15	2732009	15	7 - 17	.5 - 2	153	15.50	34.00	17.00	27.00	34.50	25.00	7.00	17.00	2.00
NS-15	2732018	15	7 - 17	.5 - 2	153	15.50	34.00	17.00	27.00	34.50	25.00	7.00	17.00	2.00
F-25	2732027	25	16 - 24	1 - 3	290	23.00	48.00	22.25	36.00	53.00	37.25	16.00	24.00	3.00
NS-25	2732036	25	16 - 24	1 - 3	290	23.00	48.00	22.25	36.00	53.00	37.25	16.00	24.00	3.00
F-35	2732045	35	16 - 36	1.63 - 4	519	30.00	64.00	27.50	48.00	58.00	53.00	16.00	36.00	4.00
NS-35	2732045	35	16 - 36	1.63 - 4	519	30.00	64.00	27.50	48.00	58.00	53.00	16.00	36.00	4.00

\* Maximum Proof load is 2 times the Working Load Limit.

## Beam Clamp - Metric

Model No.	BCFG Stock No.	Working Load Limit (t)*	Flange Grip Range (mm)		Weight Each (kg)	Dimensions (mm)								
			Width	Thickness		A	B	C	D	E	F	G	H	I
F-5	2732000	4.54	102 - 254	13 - 25	31.8	241	660	305	508	648	406	102	254	25.4
F-15	2732009	13.6	178 - 432	13 - 51	69.4	394	864	432	686	876	635	178	432	50.8
NS-15	2732018	13.6	178 - 432	13 - 51	69.4	394	864	432	686	876	635	178	432	50.8
F-25	2732027	22.7	406 - 610	25 - 76	132	584	1219	565	914	1346	946	406	610	76.2
NS-25	2732036	22.7	406 - 610	25 - 76	132	584	1219	565	914	1346	946	406	610	76.2
F-35	2732045	31.8	406 - 914	41 - 102	235	762	1626	699	1219	1473	1346	406	914	102
NS-35	2732045	31.8	406 - 914	41 - 102	235	762	1626	699	1219	1473	1346	406	914	102

\* Maximum Proof load is 2 times the Working Load Limit.

The above information is for standard size clamp models. For special clamp models not located in table, please refer to I.D. tag affixed to product for proper Working Load Limit and size limitations.

# **Crosby** CLAMP-CO<sup>®</sup>

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