Installation of the COLIFT Mounting System

The COLIFT Mounting System is intended for use on construction sites.

The following points must be taken into account before using the COLIFT Mounting System:

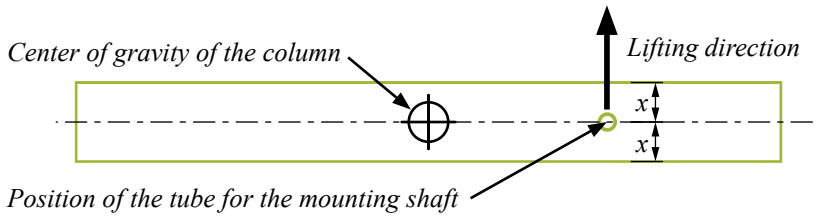
- All workers fulfill the requirements of the documentation and are familiar with it.
- The limitations of applications and restrictions are known.

Preparation at the precast factory

The proper diameter of the mounting shaft must be considered during the casting of the precast element. The center of gravity of the precast element must be considered before installing the tube in the formwork.

Note:
A minimum concrete strength of 40 MPa is to be used for precast elements when the COLIFT Mounting System is used.

Figure 39. Installation of the tube for the mounting shaft above the center of gravity.



Warning:
Do not use the COLIFT Mounting System when the precast element has an incompatible diameter of the tube for the mounting shaft or when the location of the tube does not guarantee that the element is properly balanced.

Installation on the building site

Visually inspect all of the parts of the mounting system before every use.

Installation of the COLIFT Mounting System is divided into three steps:

- Connecting the COLIFT to the crane.
- Attaching the mounting shaft to the precast element.
- Removing the mounting shaft from the precast element.

Note:
The COLIFT Mounting System must always be installed by trained personnel who are familiar with the requirements defined in this technical manual as well as the local lifting and safety regulations.

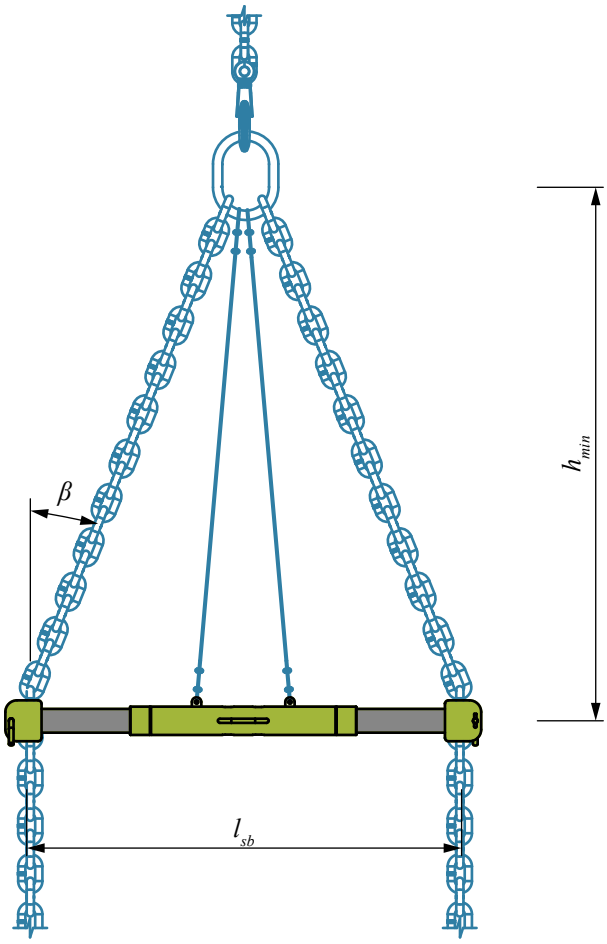
Warning:
Always select the correct diameter of mounting shaft and correct slings according to the weight and dimensions of the lifted item.

Connecting the COLIFT Mounting System to the crane

The correct lifting slings are selected based on the weight of the precast element and the intended lifting speed. The rope strut is hung on the lifting hook with additional securing wires or slings. The weight of the rope strut is not carried by the lifting slings used for the precast element but by additional wires or slings.

The slings are placed on the rope holders at the end of the rope strut and secured by safety bolts. Angle β must not be greater than 15°. The threaded rope holders are screwed out/in to adjust the distance between the slings and the precast element surface.

Figure 40. Maximum allowable angle β for slings 15°.



Type of spreader beam	Length of spreader beam [mm]	Minimum height to lifting ring h_{min} [mm]
PS 01	$l_{sb,min}$ = 1124	2100
	$l_{sb,max}$ = 1804	3370
PS 02	$l_{sb,min}$ = 824	1540
	$l_{sb,max}$ = 1204	2250
PS 03	$l_{sb,min}$ = 624	1165
	$l_{sb,max}$ = 904	1690

For safety purposes, the mounting shaft must be attached to the sling with steel wire (see Annex A). This ensures that the mounting shaft does not fall during removal from the precast element.

The slip guard is connected by a wire to the second leg of the sling and to the cord that enables remote unlocking. The cord must have sufficient length to ensure that the operator will be a safe distance from falling parts.

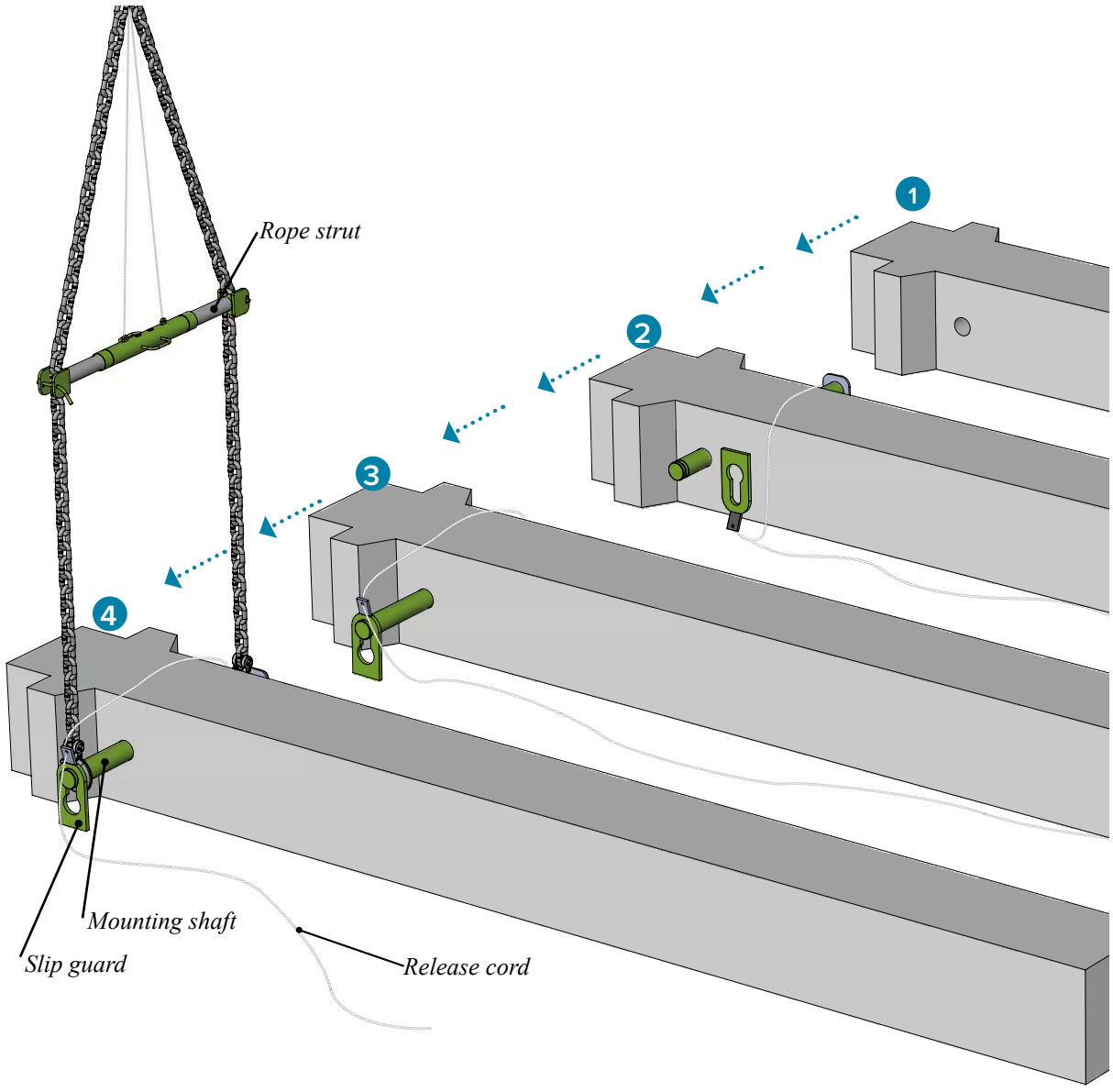
Attaching the COLIFT Mounting System to the precast element

The mounting shaft is installed in the precast element through the hole that is cast in the element at the precast factory. The precast element must be placed in the middle of the mounting shaft. After centering the element, the slings can be attached to the mounting shaft.

The same spacing between the precast element's face and slings from both sides will ensure an even distribution of weight from the lifted element to the slings. The slip guard is installed in the final position. Before starting lifting, all of the components must be visually inspected to ensure they are attached correctly to the slings and all of the components are also secured by additional wires.

Note:
The load must be always in the middle between the slings. The slings must have equal spacing to the precast element surface during lifting.

Figure 41. Installing the COLIFT mounting system into the precast element.



Removing the COLIFT Mounting System

Before removing the COLIFT Mounting System from the precast element, make sure that the element is properly connected in the final position.

To remove the mounting shaft, the operator must pull the connected cord to turn the slip guard upside-down and then remove it from shaft by pulling the cord from the column. The operator must have a sufficient length of cord to be out of range of accidental falling parts. After removing the slip guard, the mounting shaft can be pulled out by crane from the column. Make sure that mounting shaft is pulled out parallel to the direction of the tube in the column. Lateral pulling could exert additional forces on the column and damage the connection of the precast element.

Figure 42. Removing the COLIFT Mounting System from the precast element.