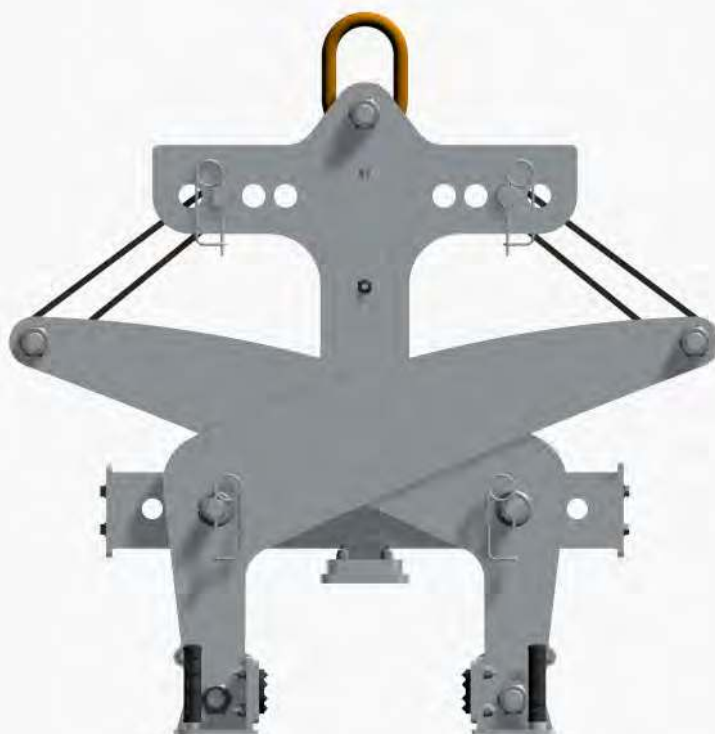


## LIFTING ACCESSORY

### CONCRETE BARRIER HANDLING DEVICE

### WORK AND MAINTENANCE INSTRUCTIONS



**CE**

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## ANNEXES

**A1 DECLARATION OF CONFORMITY FACSIMILE**

**A2 TECHNICAL DRAWING**

**A3 OPTIONAL ITEM: ALIGNMENT LEGS**

SYMBOL	CONNECTION
	<i>Indicates useful information you should read for a correct use and maintenance of the lifting equipment and for personal and operation safety.</i>
	<i>Information about dangers and how to stay away from them.</i>
	<i>Information on forbidden behaviours or procedures.</i>
	<i>Lifting point.</i>

## 1 GENERAL INFORMATION

### 1.1 PURPOSE OF THESE INSTRUCTIONS

This *Work and Maintenance Instructions* manual has been realized so that the user could have a general knowledge about lifting accessory and information in order to provide for the maintenance the accessory need.

This *Work and Maintenance Instructions* Manual is an integrative part of the Lifting Accessory.

It's important for you to take care of that until the scrapping of the accessory.

In the future the Manufacturer could send updates to you. Indeed the *Work and Maintenance Instructions* manual is referred to the lifting accessory at the time it was furnished.

### 1.2 USE INFORMATION

Before you make any operation involving the lifting accessory, you have to read carefully this *Work and Maintenance Instructions* manual, which contains all the information you need to avoid any dangerous situation and injury risk.

The regularity of the control and maintenance checks established in the manual is the bare minimum frequency that guarantee the efficiency, the safety and the good life-span of the accessory in normal working conditions.

However supervisory control must be continuous and, if there is any anomaly, the intervention has to be as quick as possible.



In case of unauthorized modify or alteration to the original lifting accessory, the manufacturer declines any responsibility about the accessory, in conformity to 2006/42/EC.

### 1.3 MANUFACTURER'S RESPONSIBILITY

The manufacturer could not be considered responsible for damages due to an usage of the lifting accessory which is not described in this document, or due to a not proper maintenance, or due to an usage not in accord to the national laws about industrial safety or due to incompatibility with working environment.

### 1.4 DAMAGING OR LOSING THESE ISTRUCTIONS

If the damage renders your *Work and Maintenance Instructions* manual unusable, or if you lose it, you can ask a new copy of the manual to the manufacturer by contacting him and telling the *Model* and the *Fabrication Number* stamped on the identification plaque applied on the lifting accessory.

### 1.5 OFFICIAL LANGUAGE

The official language chosen by the manufacturer is English.

The manufacturer does not take charge of translations into other languages which are not conformed to the original

### 1.6 MARKINGS

Prolift identifies this lifting accessory by applying, in a clearly visible point, a metallic plaque which shows the information needed for the identification of the lifting accessory (see figure 1).



It is absolutely forbidden to corrupt all the data on the identification plaque, or even a small part of them.  
It is absolutely forbidden to affix other markings on the cccessory without any manufacturer's authorization.



If the identification plaques affixed on the lifting accessory get damaged, you have to tell it to the manufacturer and ask him for the substitution.



Figure 1 - Lifting accessory's identification plaque.

## 2 TECHNICAL INFORMATION

### 2.1 GENERAL DESCRIPTION

The main parts of this device are (see figure 2):

- ❑ the upper cross (1);
- ❑ the lower cross (2);
- ❑ the pivoting pads (3);
- ❑ the legs (4);
- ❑ the sliding sleeves (5);
- ❑ the chains (6);
- ❑ the master link (7);
- ❑ the iron pads (8) or the rubber jaws (9);
- ❑ the automatic latch (10).

These components are linked together through pins or bolts.

Each pin which doesn't have threaded end is provided with a cotter (10) in order to avoid accidental slipping out.

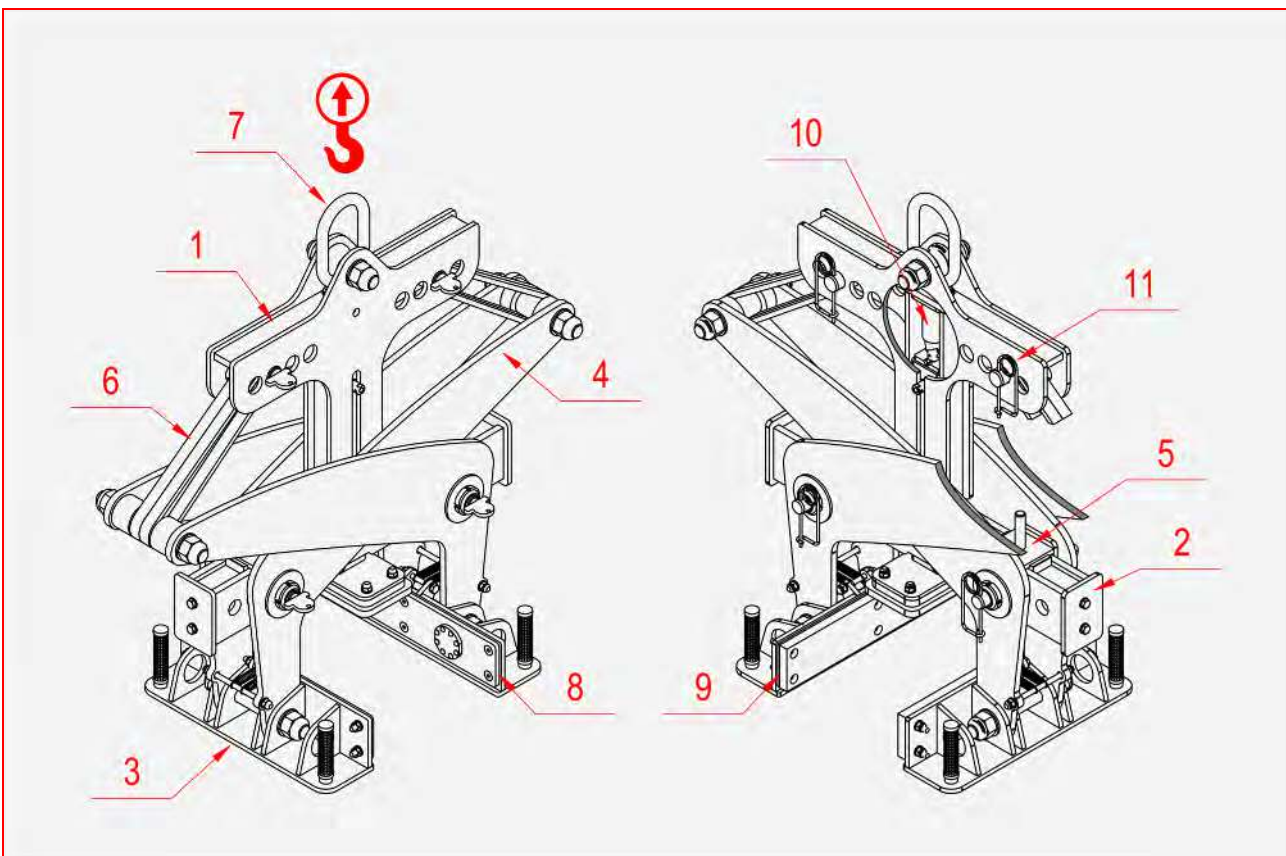


Figure 2 - The lifting accessory and its main parts.

### 2.2 WORKING BASICS AND EXPECTED USAGE

These lifting tongs permit to grab concrete barriers through friction (rubber jaws) or through friction and blockage (iron pads), thanks to the grip exercised by the pivoting pads.

The scissors mechanism, which works thanks to gravity, is made up of chains and legs. These components are hinged to the crosses; the crosses move reciprocally thanks to a prismatic joint.

An automatic latch placed inside of the crosses, which activates and deactivates due to gravity, keeps the scissor opened.

It is possible to modify the grab span of the tongs by placing the hinge points of the chains and of the legs closer or farther on their respective crosses.



## 2.3 WORKING LIMIT

Lifting accessory is addressed to industrial environment.

It can work indoor or outdoor, provided that there is no explosion or fire risk.

This lifting accessory can't operate in an aggressive environment: on the contrary the mechanical features of the structural elements may get worse.

The temperature of the working environment must stay between 0° C (minimum) and 60° C (maximum).

A normal use requires at least a 300 lux light, while inspections require at least a 500 lux light in the interested point.

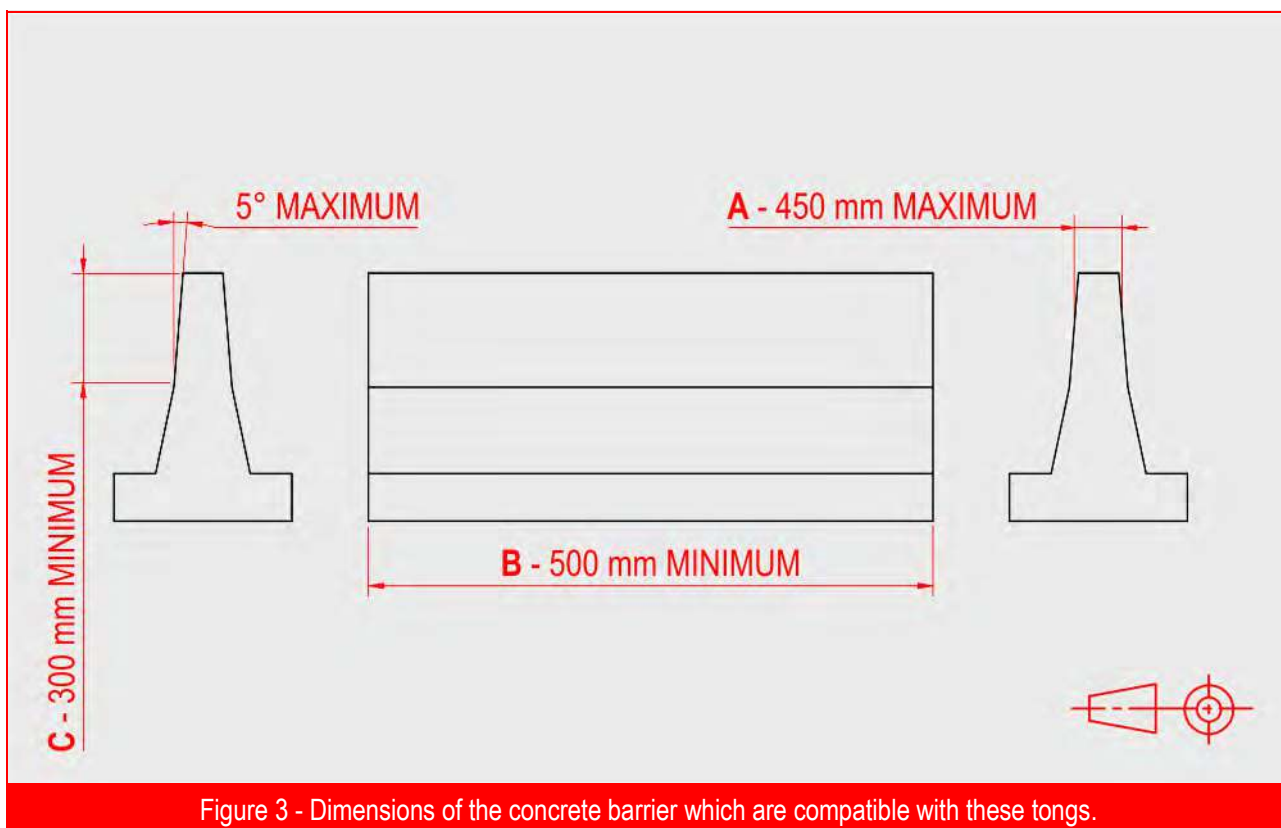
**The tongs can grab and lift concrete barriers only.**

**If the pivoting pads mount rubber jaws, the surfaces of the barriers must be clean and dry in order guarantee the friction force needed.**

**If iron pads are used it is necessary that the barrier is sound, so that the teeth can penetrate the concrete and support the load through blockage.**

**Main features (see figure 3):**

- ☐ **A - Field of use: from 0 to 450 mm (setup: A4 - see §5.2).**
- ☐ **B - Minimum length of the concrete block: 500 mm.**
- ☐ **Maximum inclination of the wall to the vertical: 5°.**
- ☐ **C - Minimum length of the immersion depth: 300 mm.**



## 3 SAFETY

### 3.1 GENERAL WARNINGS



Before any operation, it is necessary that workers read and understand this *Work and Maintenance Instructions* manual.



Use this accessory for an employment which was not planned by the manufacturer and not specified in this manual is absolutely forbidden.



Use this accessory in order to sling or carry explosive, radioactive equipment, molten masses is absolutely forbidden.

### 3.2 PERSONAL SAFETY



Wear appropriate protective clothing and related safety equipment (Personal Protective Equipment) dictated by job conditions.



Do not wear loose clothing, jewelry, or hairstyles that could become entangled in the lifting device or rigging hardware.



Keep hands, feet, and any other appendages clear of the lifting device while in operation.

### 3.3 OPERATION SAFETY



Do not use the lifting device that has been altered accidentally or intentionally.



Never allow the lifting device or the load pass over any part of a person.



In order to avoid wide oscillations you have to perform every operation slowly.



Maintain safe distance from the load.



Verify that the mass of the load is compatible with the WLL of the lifting device before the use.



Verify that the barrier is made of concrete.



Verify that the tongs are appropriately setted up (in proportion to the width of the concrete barrier - see p 5.2).



Verify that all the pins have their respective cotter. Any cotter must be intact and well applied, in order to accomplish its safety locking function.



**Iron pads set up:** verify that the grip does not disintegrate the surface of the barrier in any contact point, so that the block does not shatter and, eventually, detaches.



**Rubber pads set up:** pads and surfaces of the load that come into contact with the pad surfaces must be clean and free for any foreign material or coating that could compromise the grip.

## 4 STORAGE

When not used, the item can be leant on a couple of supports which can bear it and are high enough.

If the item would not be used for a while, it is recommended you safeguard the accessory indoor and in a not aggressive environment.

Temperature of the environment must stay between  $-10^{\circ}\text{C}$  (minimum) and  $50^{\circ}\text{C}$  (maximum). Relative humidity can not exceed 70%.

## 5 OPERATION

### 5.1 PRELIMINARY CHECKS

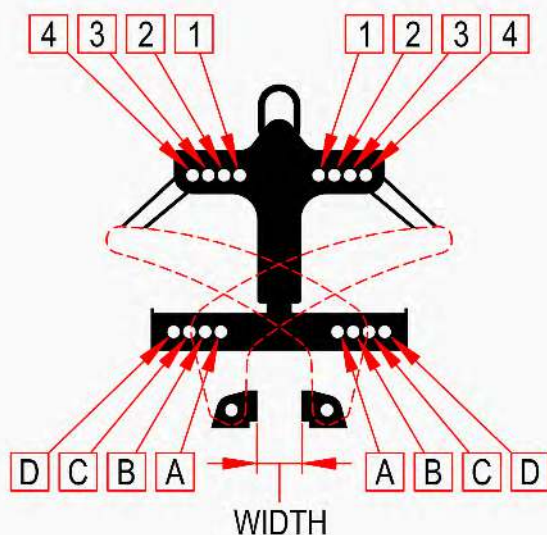
Before the device is used, it is essential to verify the status of all the parts that constitute the equipment and the readability of the identification plaque and all the pictograms possibly applied.

Verify that the bolts, the screws and the nuts are not slacken and the pins have their respective safety locker cotters.

### 5.2 ADJUSTEMENT OF THE OPENING WIDTH

It is necessary to regulate the spread of the pads in relation to the dimensions of the barrier which has to be lifted.

It is necessary that the disposition of the sleeves, which the legs are hinged to, and of the pins, that secure the chains to the cross structure, is congruent to one of the four configurations shown in figure 4, in order to ensure the grip realized by the tongs is efficient.



SETUP	WIDTH [mm]	
	FROM	TO
A4	200	80
B2	260	160
B3	300	180
C1	360	260
C2	400	280
D1	500	380

Figure 4 - Possible configurations for pins and sleeves according to the width of the barrier.



The spread of the pads shall be about 50 mm greater than the width of the barrier. During the setup operations it is helpful to check the positions of the holes occupied by the pins carefully, referring to the diagram displayed in figure 4.



Don't use the tongs if the configuration is not compatible with the width of the barrier.

In order to regulate the spread of the pads it is necessary to:

1. hang the tongs to the hook of the lifting unit;
2. verify that the automatic latch is activated;
3. pull the pin which blocks the sleeve to the lower cross out;
4. move the sleeve until its position corresponds with the the hole desired, then latch it by inserting the pin again;
5. pull the pin which blocks the sleeve to the upper cross out;
6. move the chain until its position corresponds with the the hole desired, then latch it by inserting the pin again;
7. repeat the same procedures for the other leg.



Regulate the spread of the tongs only when the tongs are suspended and the latch is activated.  
Before attempting to use the device, verify that all the safety cotters are applied to their respective pins.

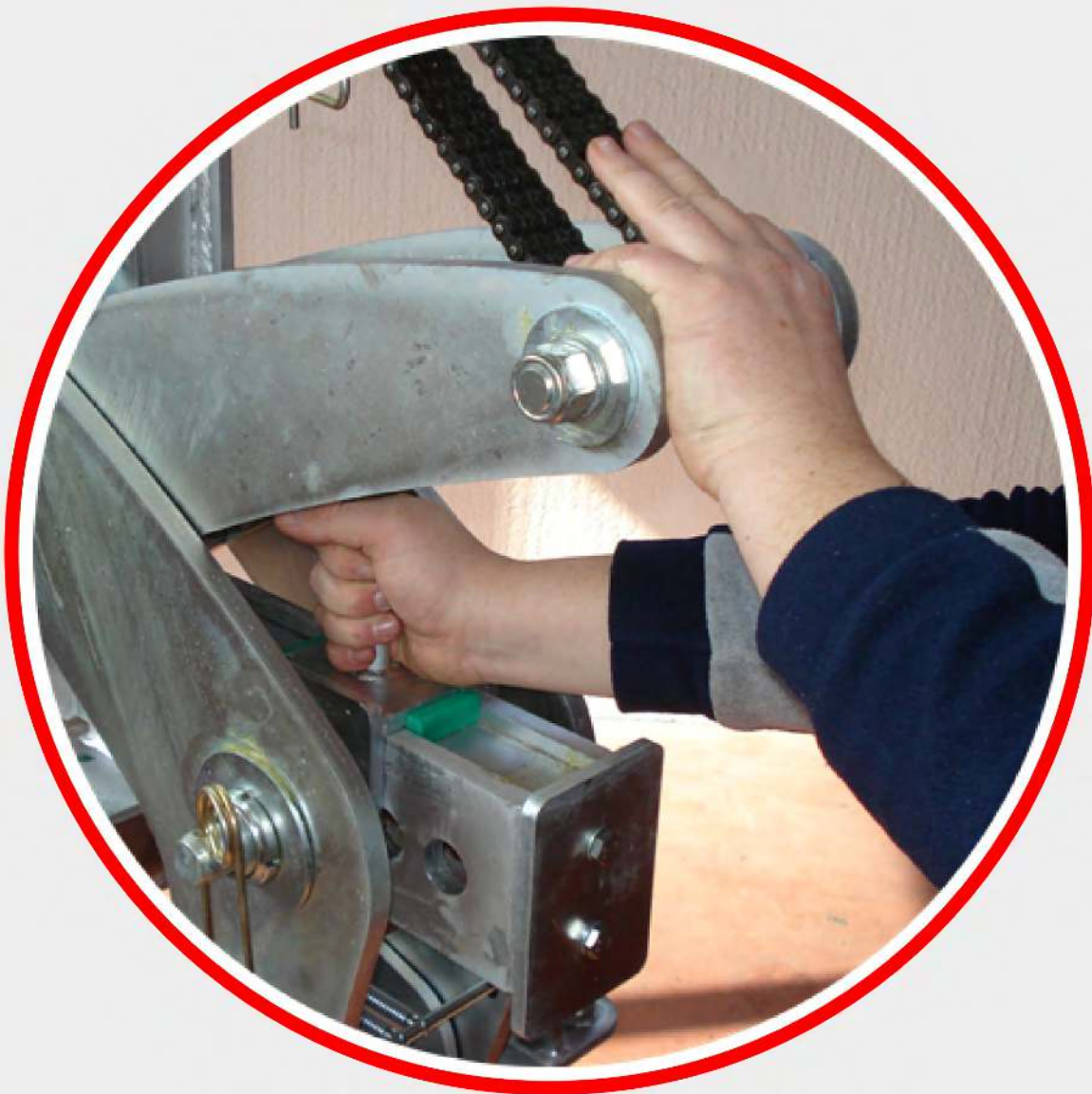


Figure 5 - How to move the sleeve.

### 5.3 GRIPPING THE LOAD

Proceed following these instructions (see figure 6):

- ☐ hang the tongs to the hook of the lifting unit;
- ☐ verify that the automatic latch is activated;
- ☐ lower the tongs (1) until the flat surface of the lower cross and the surface of the concrete barrier are in contact (2);
- ☐ keep on lowering the tongs until the automatic latch deactivates (3);
- ☐ ensure that the area where the operations with the lifting device will occur is unobstructed;
- ☐ slowly lift the device, allowing the jaws to clamp the barrier (4);
- ☐ keep on lifting until the barrier is hanged to the tongs (5);
- ☐ stop the lifting;
- ☐ if the grip is efficient and the load is balanced, then proceed with the movement;
- ☐ if the grip is not efficient or if the load is not balanced, then lay down the barrier. Before repeating the procedure, check the setup of the tongs and verify the geometry of the block is compatible with the device (see §2.3).

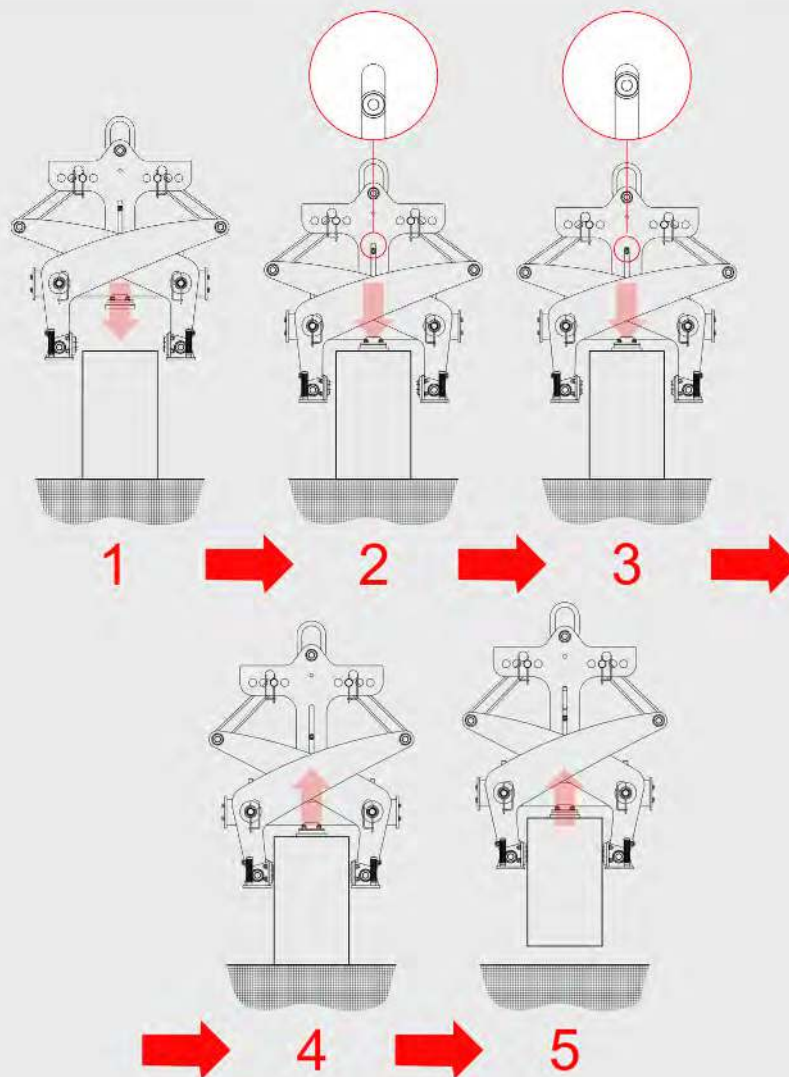


Figure 6 - Gripping the load.



Do not lift above head height (the use of the device is only permitted in proximity to the ground).  
Do not lift load off-centre.



## 5.4 RELEASING THE LOAD

Operate according to these directions:

- ☐ ensure that the area where the operations with the lifting device will occur is unobstructed;
- ☐ lay down the barrier (1 - 2);
- ☐ keep on lowering the tongs in order to let the scissors mechanism open and to activate the automatic latch (3);
- ☐ slowly lift the device (4) and verify that the latch of the scissors mechanism is activated;
- ☐ if the latch is activated and the scissor mechanism is latched, then it is possible to move the tongs away from the barrier (5);
- ☐ if the latch is not activated, repeat the procedure explained.

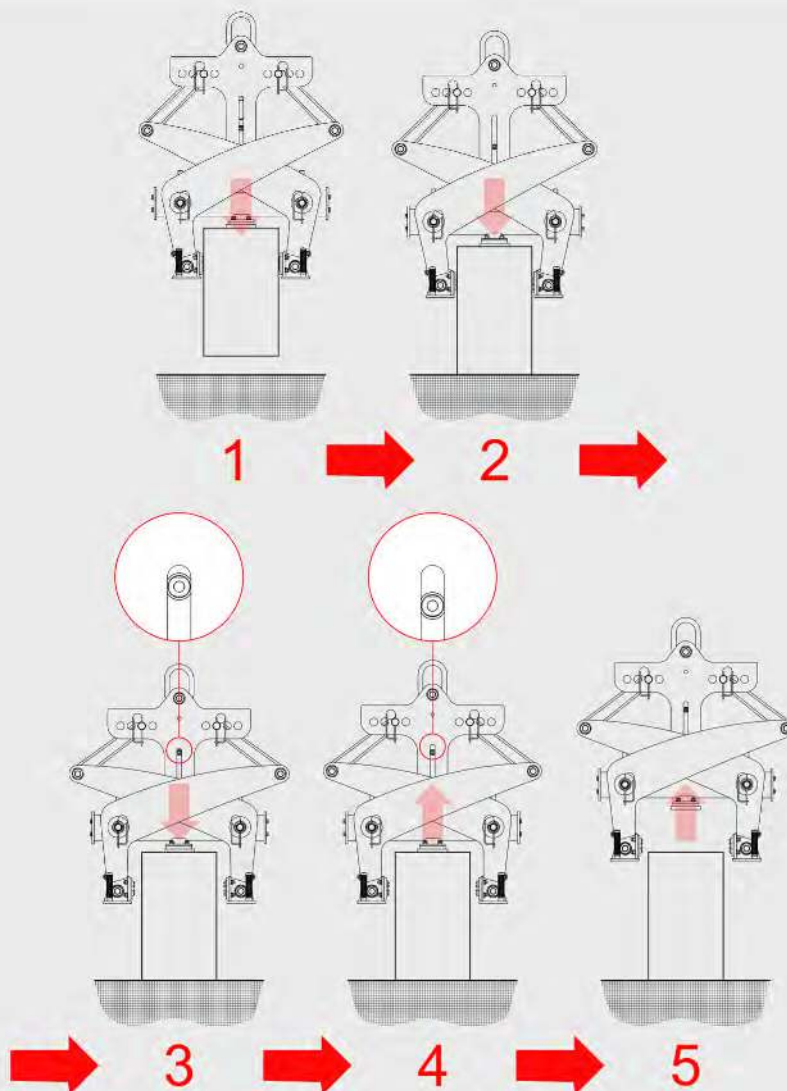


Figure 7 - Releasing the load.



## 6 MAINTENANCE

### 6.1 ORDINARY MAINTENANCE

It restricts to clean the parts of the lifting accessory and to check the condition and workability of the Item before every use. Before any use, it is necessary to:

- ☐ promptly remove all sediments of filth, such as dust, oil or grease;
- ☐ verify there are no cuts, bends, scratches, scrapings, rifts, cracks and visible signs of corrosion and oxidation on parts of the equipment;
- ☐ clean, if necessary, the identification plaque and pictograms applied in order to ensure they are readable.



If emerges that there are visible cuts, bends, scratches, scrapings, rifts, cracks or signs of corrosion and oxidation on parts of the equipment, you have to put off duty (affix a plate which bears the inscription FAILURE) and inform the manufacturer about the result of the check so that you can plan an extraordinary maintenance intervention.

### 6.2 PERIODICAL MAINTENANCE



The periodical maintenance on this lifting device must be performed every six months.

Clean the lifting equipment.

Operations required:

- ☐ check that all bolts and nuts are tight;
- ☐ lubricate all moving mechanism and chains with grease;
- ☐ verify freedom of rotation for pad angle;
- ☐ verify that all the cotter pins are intact.

### 6.3 EXTRAORDINARY MAINTENANCE

It concerns all the occasional interventions - or the hardly predictable ones - that requires restoration or the substitution of parts of the lifting accessory.

These interventions (which must not modify the structural integrity, the functions and the original performances of the item) must be assigned to qualified technicians who are authorized and instructed by the manufacturer.

Extraordinary maintenance is always performed after a failure.

## 7 INSPECTIONS

### 7.1 PERIODICAL INSPECTIONS



Periodical inspections on this lifting accessory must be performed once every six months.

User must prearrange inspections, observing and meeting deadlines the manufacturer imposed. Each check must be proved with written documents such as a report, which shows the activities performed during the inspection. This report must be conserved and must be available for surveillance member's consulting.

### 7.2 CHECK LIST

Here in table 1 are shown some details you have to check during inspections.  
The inspector could consult the manufacturer if he needs full information about the item under examination.

ITEM		CHECK
1.	Parts	
1.1	Structure Chains	Condition: <ul style="list-style-type: none"><li>• presence of cracks;</li><li>• wear;</li><li>• corrosion;</li><li>• permanent deformations (admissible variation of measurements: 10%).</li></ul>
1.2	Identification and informative plaques	Installation and condition.

Table 1 - Check list for the inspection.



If emerges that there are visible cuts, bends, scratches, scrapings, rifts, cracks or signs of corrosion and oxidation on parts of the equipment, you have to put off duty (affix a plate which bears the inscription FAILURE) and inform the manufacturer about the result of the check so that you can plan an extraordinary maintenance intervention.

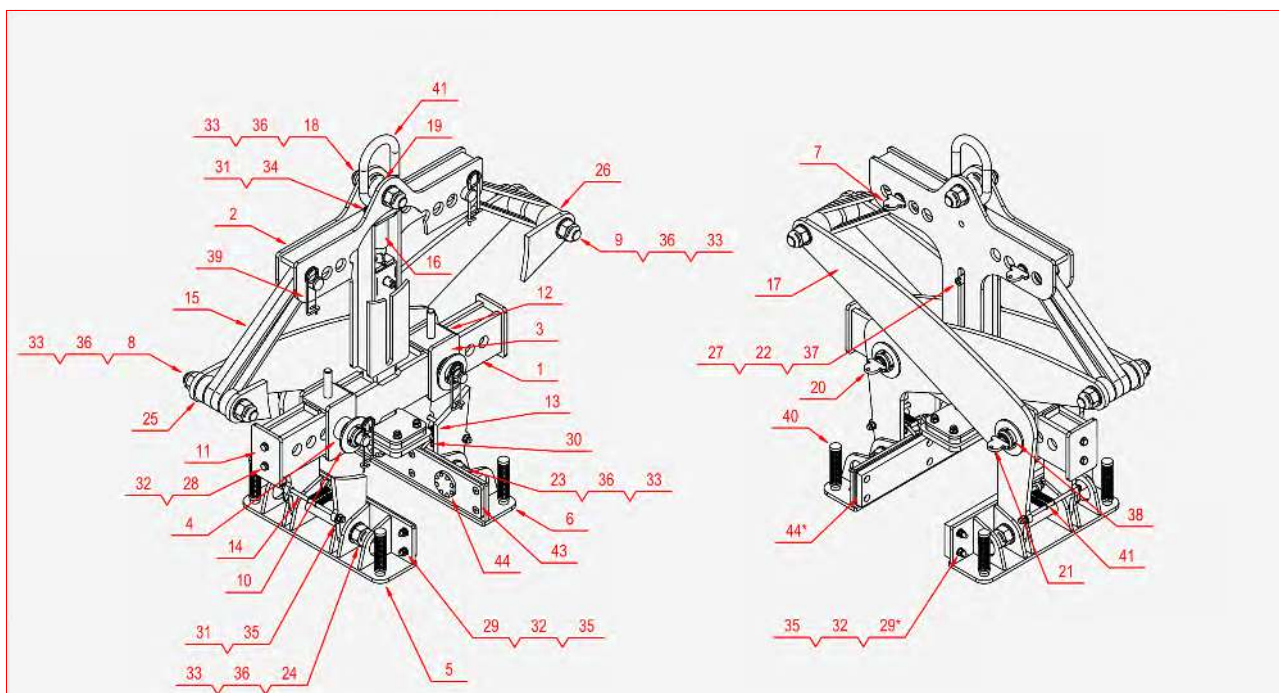
### 7.3 CHECK REGISTER

The employer has to create a register where he will record maintenance interventions (both periodical and extraordinary ones) and periodical inspections, along with their respective results. This register must be conserved together with the lifting accessory - of which is an integral part – and must be available for surveillance member's consulting.

## 8 SPARE PARTS

The lifting accessory, if it is correctly used and if maintenance is performed properly, does not require replacements due to crash or failure.

If replacement of non-commercial parts of the item is needed, it is necessary to use replacements or components provided by the manufacturer.



ID	CODE	DENOMINATION AND DESCRIPTION	Q.TY
1	1113001	COMPOSTO CROCE INFERIORE	1
2	1113002	COMPOSTO CROCE SUPERIORE	1
3	1113003	COMPOSTO MANICOTTO PER LEVA INTERNA	1
4	1113004	COMPOSTO MANICOTTO PER LEVA ESTERNA	1
5	1113006	COMPOSTO GANASCIA PER LEVA INTERNA	1
6	1113007	COMPOSTO GANASCIA PER LEVA ESTERNA	1
7	1113013	COMPOSTO PERNO SUPERIORE PER CATENA	2
8	1113014	COMPOSTO PERNO PER CATENA PER LEVA INTERNA	1
9	1113015	COMPOSTO PERNO PER CATENA PER LEVA ESTERNA	1
10	1113016	RONDELLA PER FORO Ø40	4
11	1113020	PIASTRA DI CHIUSURA	2
12	1113021	PATTINO	2
13	1113024	BARRA FILETTATA M10 - L = 190 MM	1
14	1113025	BARRA FILETTATA M10 - L = 220 MM	1
15	1113026	ANELLO IN CATENA - TRIPLE ROLLER CHAIN - SVILUPPO: 750 MM	4
16	1113030	BLOCCAGGIO AUTOMATICO	1

Table 2 - Spare part list - Part 1 of 2

ID	CODE	DENOMINATION AND DESCRIPTION	Q.TY
17	1113055	LEVA	4
18	1113058	PERNO PER CAMPANELLA	1
19	1113059	ROCCHETTO PER CAMPANELLA WLL 5300 KG	1
20	1113061	COMPOSTO PERNO PER LEVA INTERNA	1
21	1113062	COMPOSTO PERNO PER LEVA ESTERNA	1
22	1113067	TONDO DI RISCONTRO	2
23	1113068	PERNO PER GANASCIA PER LEVA INTERNA	1
24	1113069	PERNO PER GANASCIA PER LEVA ESTERNA	1
25	1113072	DISTANZIALE PER LEVA INTERNA	1
26	1113073	DISTANZIALE PER LEVA ESTERNA	1
27	1113077	BARRA FILETTATA M10 - L = 100 MM	1
28	COMMERCIALE	VITE TE M10X25 - UNI 5739 - COMPLETO FILETTO	4
29	COMMERCIALE	VITE TSPEI M10X40 - UNI 5933	12
29*	COMMERCIALE	VITE TCEI M10X40 - UNI 5931	12
30	COMMERCIALE	VITE TE M10X80 - UNI 5739 - COMPLETO FILETTO	2
31	COMMERCIALE	RONDELLA PIANA M8 - UNI 6592	4
32	COMMERCIALE	RONDELLA PIANA M10 - UNI 6592	24
33	COMMERCIALE	RONDELLA PIANA M30 - UNI 6592	10
34	COMMERCIALE	DADO AUTOFRENANTE M8 - UNI 7473	4
35	COMMERCIALE	DADO AUTOFRENANTE M10 - UNI 7473	18
36	COMMERCIALE	DADO AUTOFRENANTE M30 - UNI 7473	10
37	COMMERCIALE	VITE STEI ESTREMITÀ CONICA M5X10 - UNI 5927	2
38	COMMERCIALE	GHIERA AUTOFRENANTE M40X1.5	4
39	COMMERCIALE	MOLLA FERMAGANCIO CON PERNO Ø5	4
40	COMMERCIALE	MANOPOLA IN GOMMA NERA PER TONDO Ø26	4
41	COMMERCIALE	MOLLA DI TRAZIONE - MM B/0435	4
42	COMMERCIALE	CAMPANELLA WLL 5300 kg	1
43	1113090	PIASTRA PER FISSAGGIO PASTICCHE IN ACCIAIO	2
44	1113091	PASTICCA IN ACCIAIO	4
44*	PR100X500	CEPPO IN GOMMA	2

Table 2 - Spare part list - Part 2 of 2

VITE TE ≡ VITE CON TESTA ESAGONALE ★ VITE TCEI ≡ VITE CON TESTA CILINDRICA ED ESAGONO INCASSATO ★ VITE TSPEI ≡ VITE CON TESTA SVASATA PIANA CON ESAGONO INCASSATO ★ VITE STEI ≡ VITE SENZA TESTA CON ESAGONO INCASSATO - **Property class of screws: 8.8 (at least).**

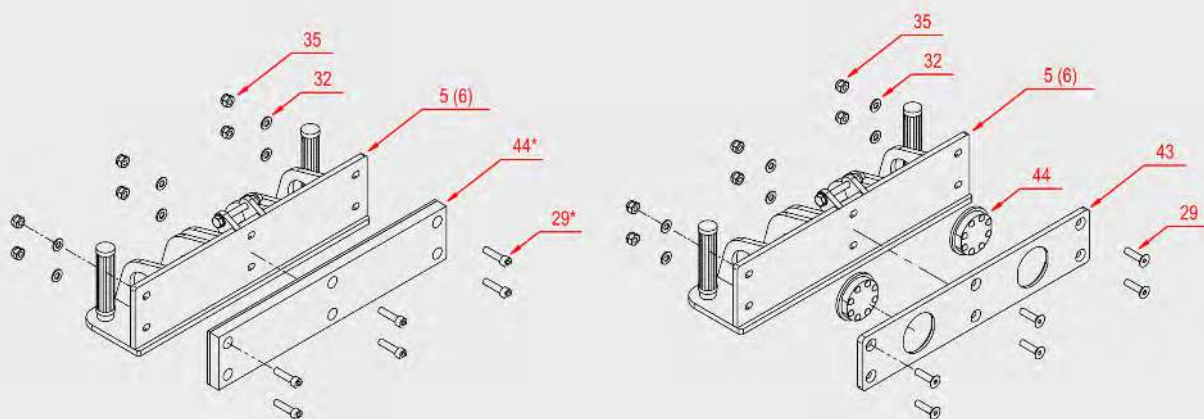


Figure 8 - Assembly of the rubber jaws and of the iron pads - Parte numbering: see table 2.

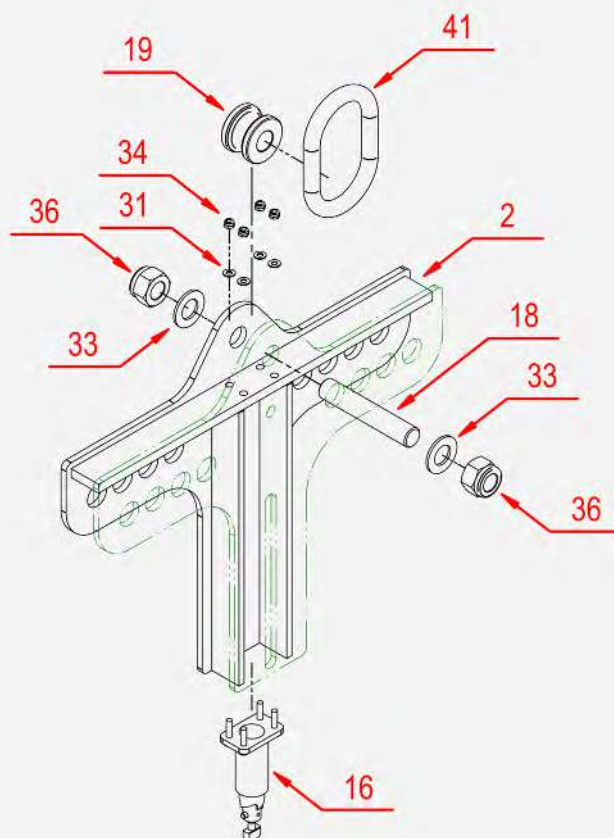


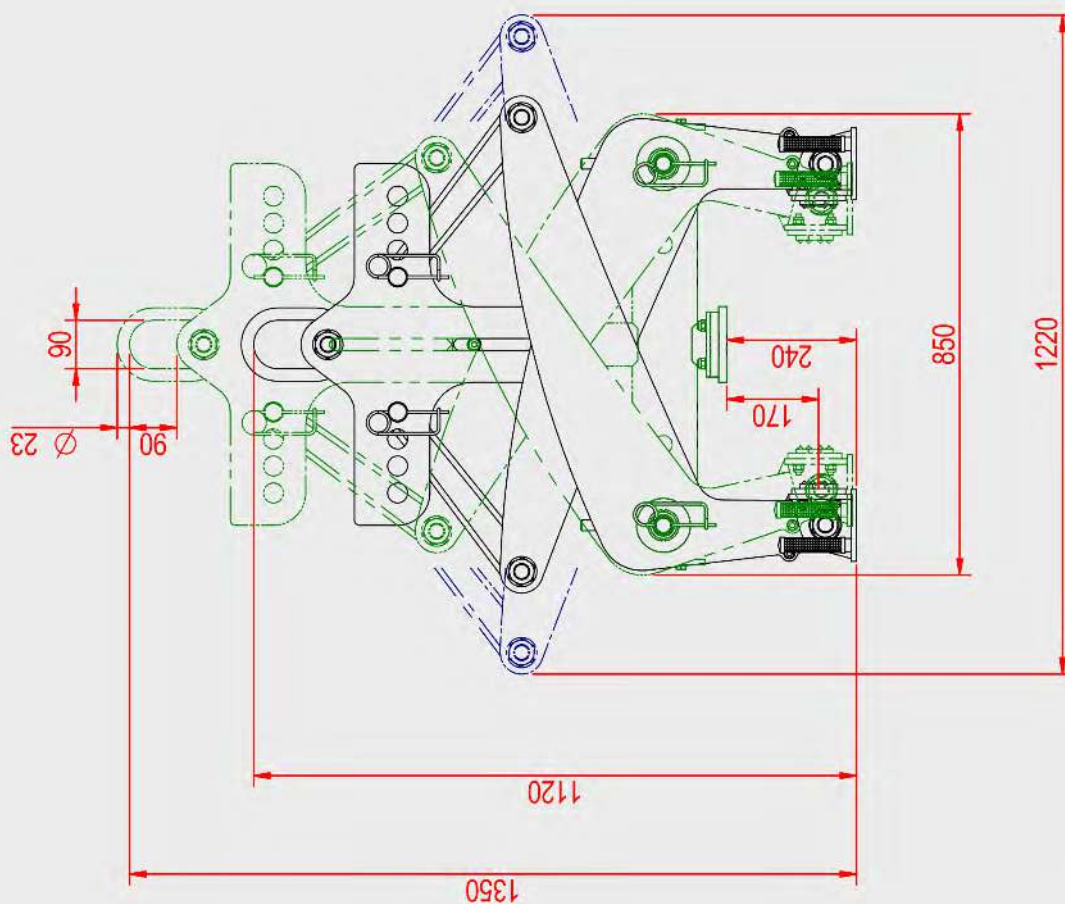
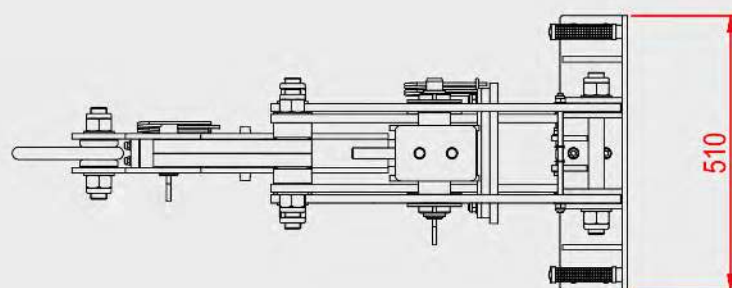
Figure 9 - Assembly of the automatic latch - Parte numbering: see table 2.

## 9 DISMANTLE

If the lifting accessory is no more usable neither repaired, it must be dismantled. This operation must be executed by experts, according to current laws about safety at work.

You must process and dispose of each waste, according to procedures provided by laws in force on environmental protection.





DEAD WEIGHT: 240 kg



## A3.1 OPTIONAL ITEM: ALIGNMENT LEGS

The alignment legs are an optional purchase item that can be used with this lifting accessory. It allows the operator to line up the lifter along the barrier wall without the need for ground assistance.

The guides extend down from one set of the pivoting pads, permitting the tongs to be lowered into position.

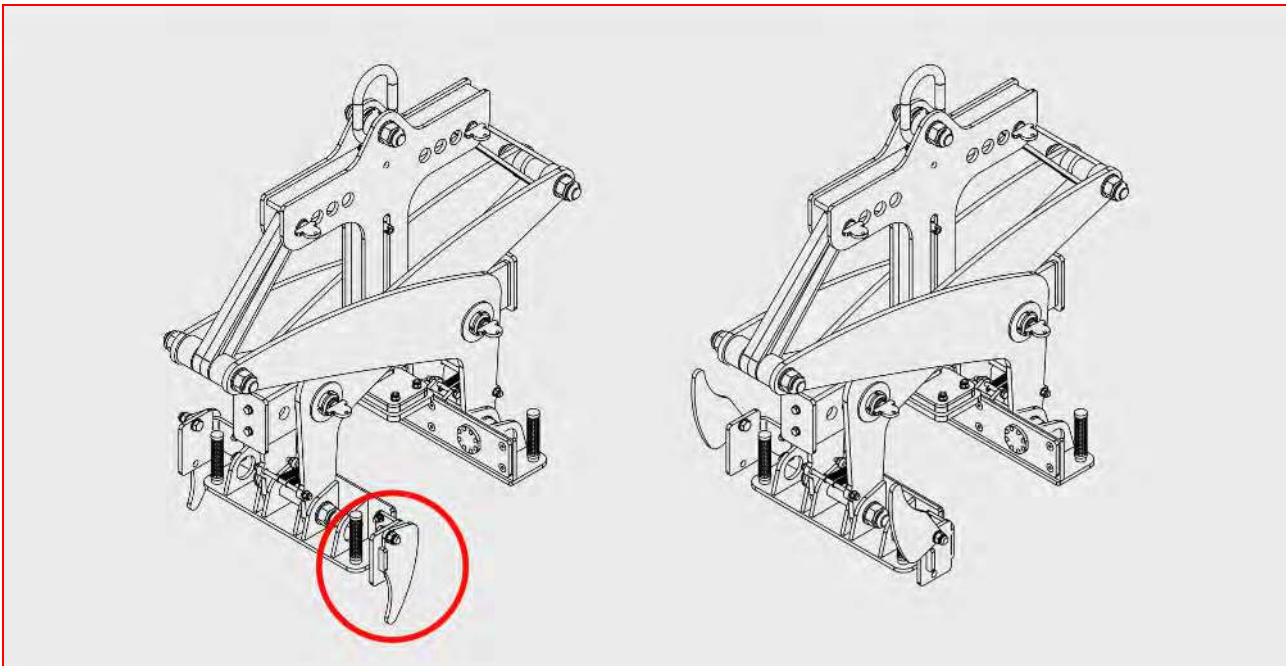


Figure A3-1 - Alignment legs.

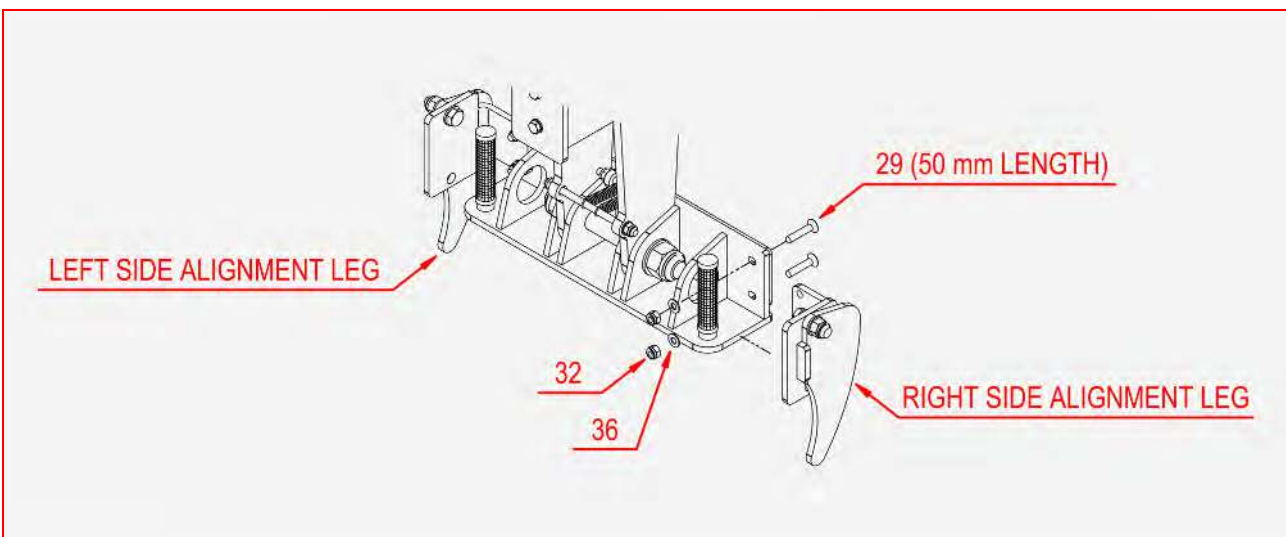


Figure A3-2 - Assembly of the alignment legs - Parte numbering: see table 2.