

CLIC-IT RIDER

CONTINUOUS BELAY SYSTEM



INSTRUCTIONS AND MAINTENANCE MANUAL

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GLOSSARY

MCD: Mobile Connection Device. Technical definition that describe a pulley-type product according to EN17109...

IMN&CLiC-iT CBS: Continuous Safety Line Systrem of IMN & CLiC-iT



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A. COMPONENTS

1

CLIC-IT RIDER COMPONENTS COMPATIBILITY

Nominal diameter: 12mm Type: 6x19 + IWRC (steel core compacted) SAFETYLINE CABLE FOR Core: steel Resistance: 127 kN Surface treatment: hot-deep galvanized Real diameter: Ø = 12mm **CLIC-IT RIDER PULLEY:** OR Réf : Type: 6x26 + IWRC (steel core compacted) Nominal diameter: 12mm **CR-CA-LDV** Core: steel Resistance: 127 kN Surface treatment: hot-deep galvanized Real diameter: Ø = 12mm

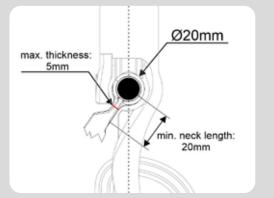


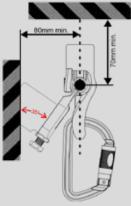
The CLiC-iT RiDER continuous belay system is compatible exclusively with the CLiC-iT RiDER pulley. Any other cable reference not supplied by DEHONDT SARL or IMN must be validated by DEHONDT SARL beforehand for mechanical testing. A 4-meter sample is required for this purpose. Non-compacted lifeline cables are strictly FORBIDDEN, as the pulley would be at risk of coming off the lifeline. Do not use any other type of pulley on this lifeline. To ensure safe installation, use only components and rope supplied or recommended by DEHONDT SARL or IMN. Using other components (screws, shackles, cable, etc.) may affect the safety or durability of the continuous belay system. Please refer to the CLiC-iT RiDER Pulley, PIN-LOCK, Lanyard, LE CLOU Lifeline, Spacer and Platform instruction manuals for full operating instructions. To avoid premature wear of the pulley, observe the installation recommendations (distances, radii, angles, slopes, etc.). Failure to do so may result in the pulley rubbing against components (anchors, positioners, etc.). To avoid premature wear of the pulley, it is essential to check before opening the course that the pulley passes the anchors and positioners without impact or friction over the entire course. For further information and to test your course design, please contact us.

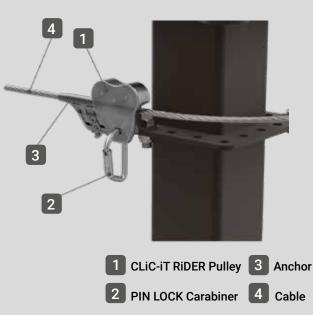


Structural anchorages compatible with the CLiC-iT RiDER Pulley must meet the requirements of the UNE EN 795:2012 standard to ensure user safety. Moreover the instructions of the lifeline must comply with the EN15767 standard. Below are the dimensional requirements that an anchorage must meet to be considered compatible with the CLiC-iT RiDER Pulley:

The anchorage must be inclined 35° with the vertical axis to ensure correct movement of the MCD, correct stability and avoid collisions in the system.





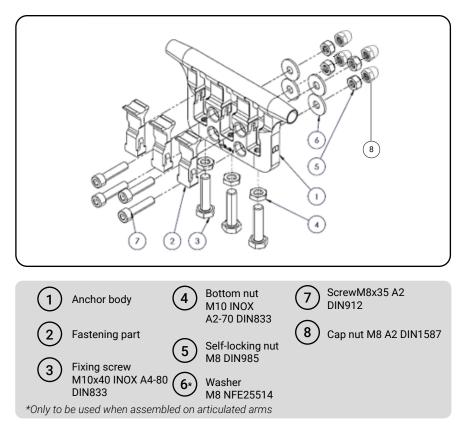




2.1 DESCRIPTION

Anchor allows a continuous movement for CLiC-iT RiDER Pulley along the entire game course. Its function is to guide the IMN&CliC-iT SafetyLine cable and keeping it fixed at a certain point. To do this, 3 gripping pieces press the cable and prevent any movement.

2.2 ANCHOR COMPONENTS



2.3 ESSENTIAL INSTRUCTIONS

The Anchor installation and maintenance requires the use of a calibrated torque wrench.



To fix the safety cable, you must exert a torque of 45 N/m on each M10 screw. Check tightening to 45Nm 5 seconds after first tightening. A torque wrench must be

used to not exceed this value.

Finally, manually tighten the nuts of each screw.

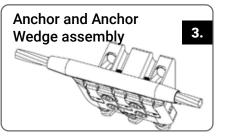
! The use of an impact wrench is not allowed. ! Never exceed the indicated torque. ! Ignoring these indications can lead to anchor fracture.

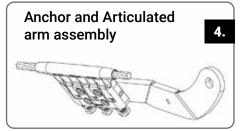
The installation of the anchor on the anchor wedge or on the artculated arm is carried out using the components 5, 6, 7 & 8 according to the assembly procedure of this manual.

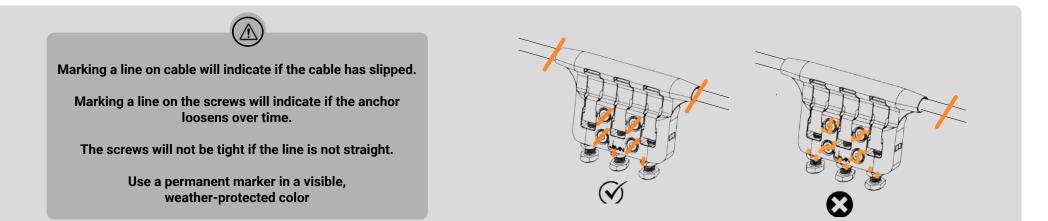
2.4 CLEANING RECOMMENDATIONS

- Don't clean Anchor with soap or water.
- To remove dirt from Anchor use compressed air or a damp cloth.
- Avoid long exposure of the product in saline environments.

2.5 ASSEMBLIES

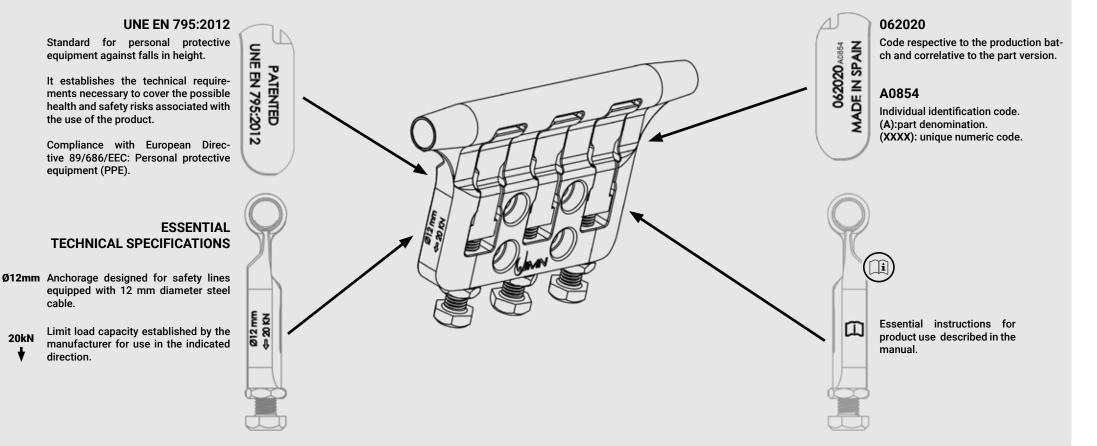






2.6 TRACEABILITY AND MARKING

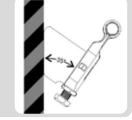
20kN

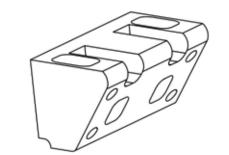




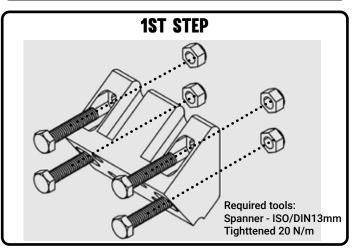
3.1 DESCRIPTION

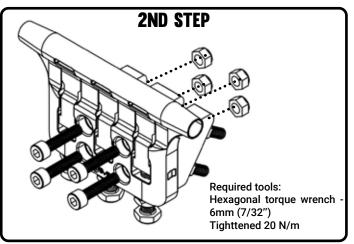
Anchor Wedge is a piece of cast steel whose function is to provide the ideal inclination of 35° for Anchor. This is the standard connecting element for attaching the Anchors to the structural poles of an adventure park.



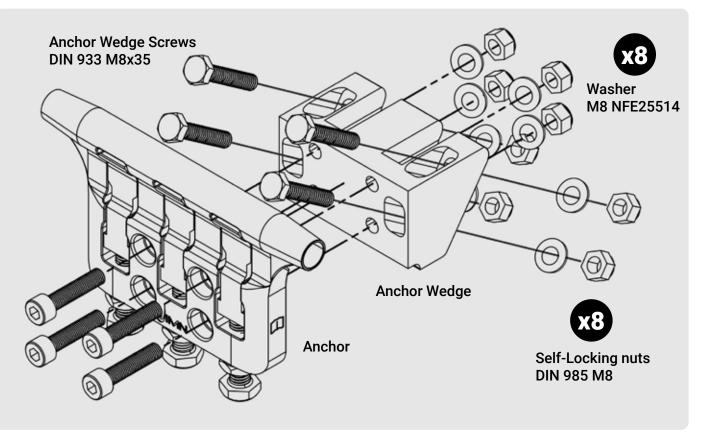


ASSEMBLY ORDER





3.2 ANCHOR & ANCHOR WEDGE ASSEMBLY

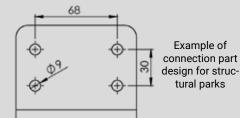


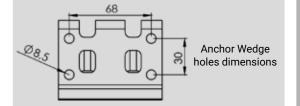
3.3 ANCHOR WEDGE INSTALLATION

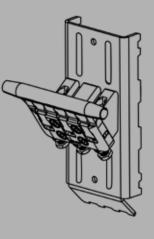
The location where the IMN&CLiC-iT CBS elements will be installed shall meet the following requierements:

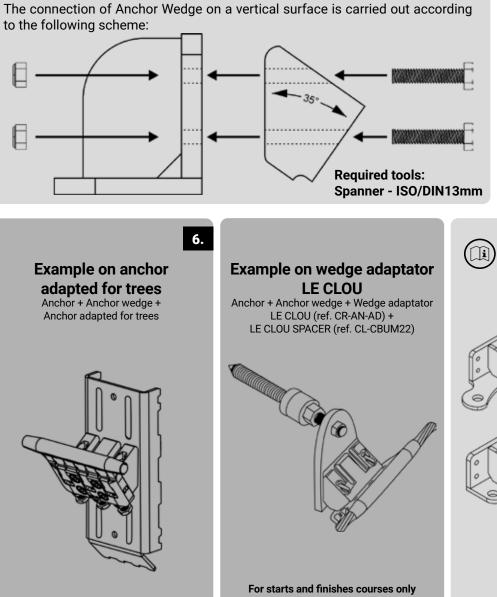
- Must have sufficient mechanical • strength to install the system
- A vertical surface is required to install • Anchor Wedge
- This vertical surface must have the • necessary holes to screw Anchor Wedge

Holes dimensions to install Anchor Wedge

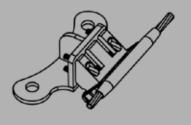




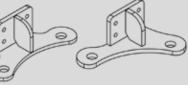




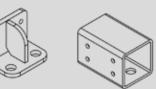
Example for structural parks Anchor + Anchor Wedge + Connection part



Before the purchase of IMN&CLiC-iT CBS items it is necessary to know the park characteristics and design the structural components necessary for the installation of the system





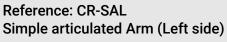






4 ARTICULATED ARMS

4.1 ARTICULATED ARMS. TYPES AND CONNECTIONS





Reference: CR-SAR Simple articulated Arm (Right side)



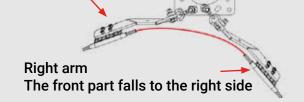
Reference: CR-DAL Double articulated Arm (Left side)



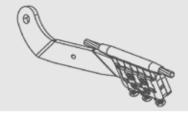
Reference: CR-DAR Simple articulated Arm (Right side)



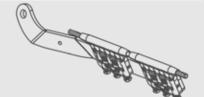
Left arm The front part falls to the left side



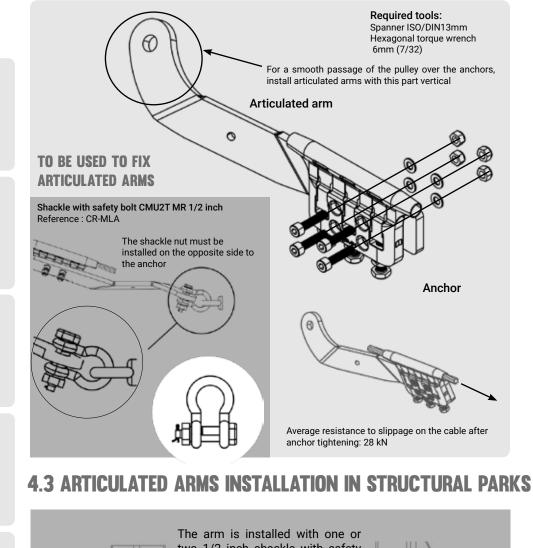








4.2 ANCHOR AND ARTICULATED ARMS ASSEMBLY



The arm is installed with one or two 1/2 inch shackle with safety bolt depending on the case.

For horizontal structural connections, two shackles

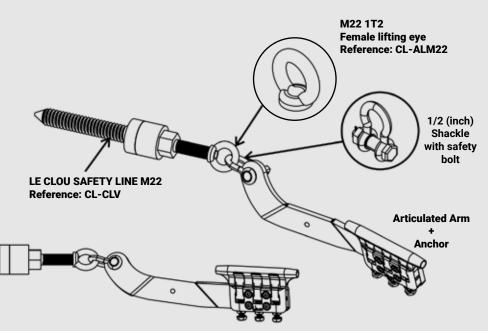
connections, one

4.4 ARTICULATED ARM INSTALLATION ON TREES USING LIFTING SLING

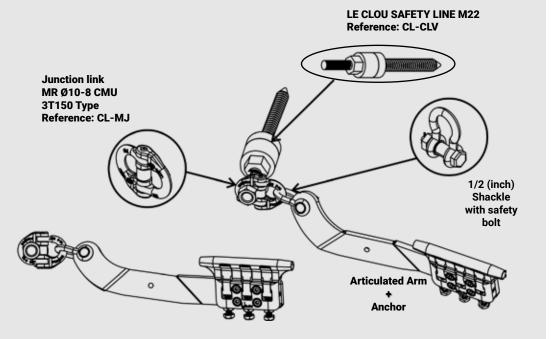


4.5 ARTICULATED ARM INSTALLATION ON TREES USING LE CLOU SYSTEM

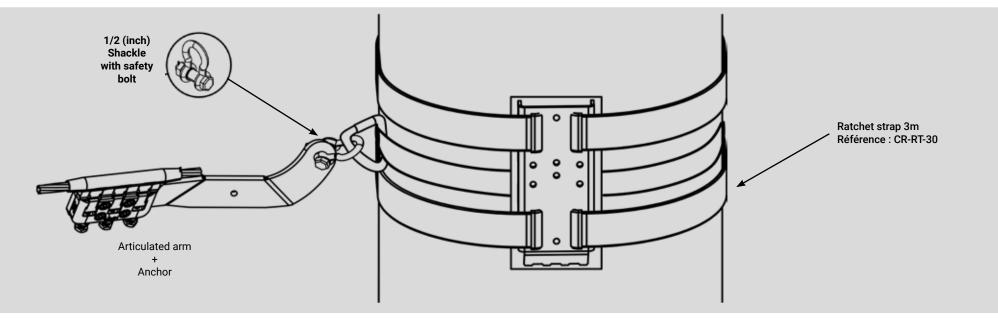
FOR AXIAL LOAD ONLY



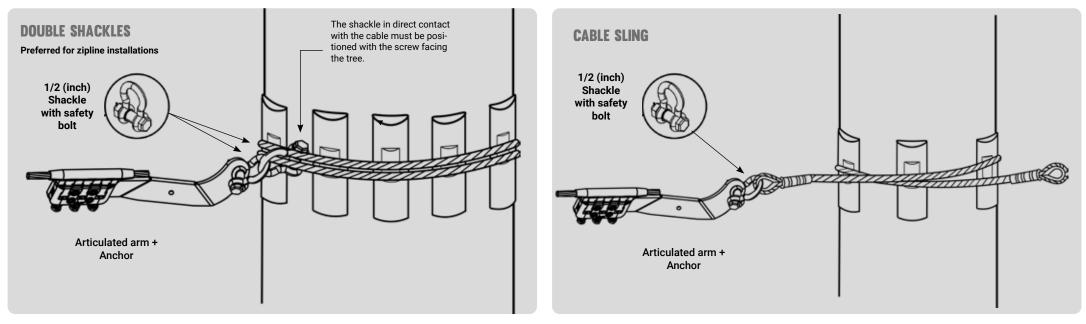
FOR AXIAL & RADIAL LOAD



4.6 INSTALLATION OF ARTICULATED ARM ON TREE WITH RACTHET STRAP



4.7 INSTALLATION OF ARTICULATED ARM ON TREE WITH CABLE SLING

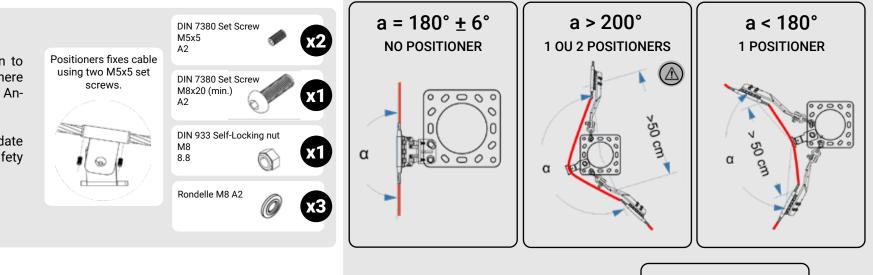


5 POSITIONERS

5.1 DESCRIPTION

Positioners are an economical option to guide the safety line cable at points where the structural strength provided by an Anchor is not required.

This devices can rotate to accommodate the path inclination required by the safety line.

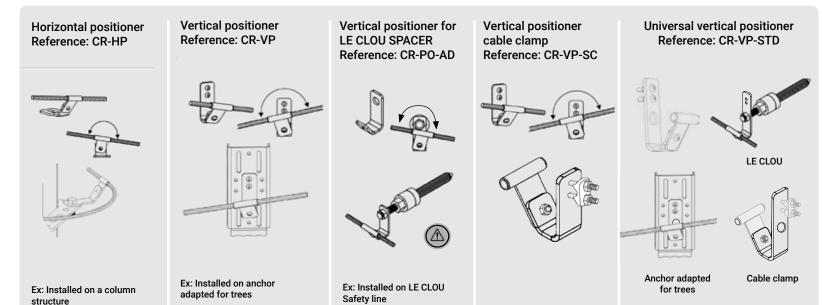


5.3 HOW TO USE POSITIONERS

a > 45° NO POSITIONER

5.2 REFERENCES

There are two types of Positioners, depending on whether a vertical or horizontal installation is required.

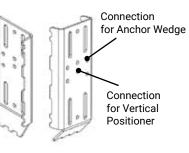




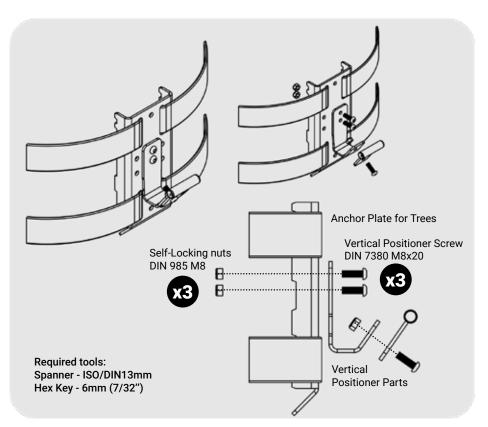
6.3 ANCHOR PLATE FOR TREES INSTALLATION USING RATCHET TAPE

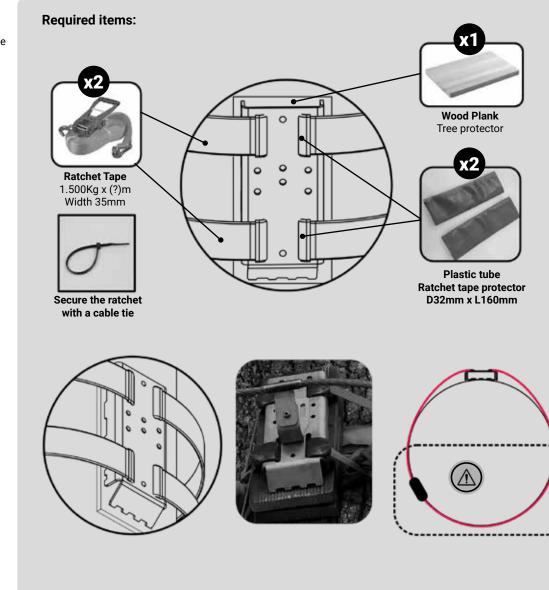
6.1 DESCRIPTION

Anchor Plate for Trees is used in adventure parks installed on trees. On this are mounted the necessary elements to drive the IMN & CLiC-iT CBS in the desired direction. The installation system prevents damage to the natural environment.



6.2 VERTICAL POSITIONER AND ANCHOR PLATE FOR TREES ASSEMBLY





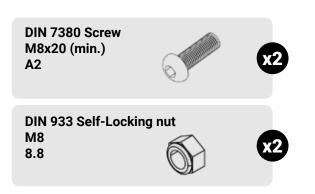
The ratchet strap must be located in an inaccessible position to the user

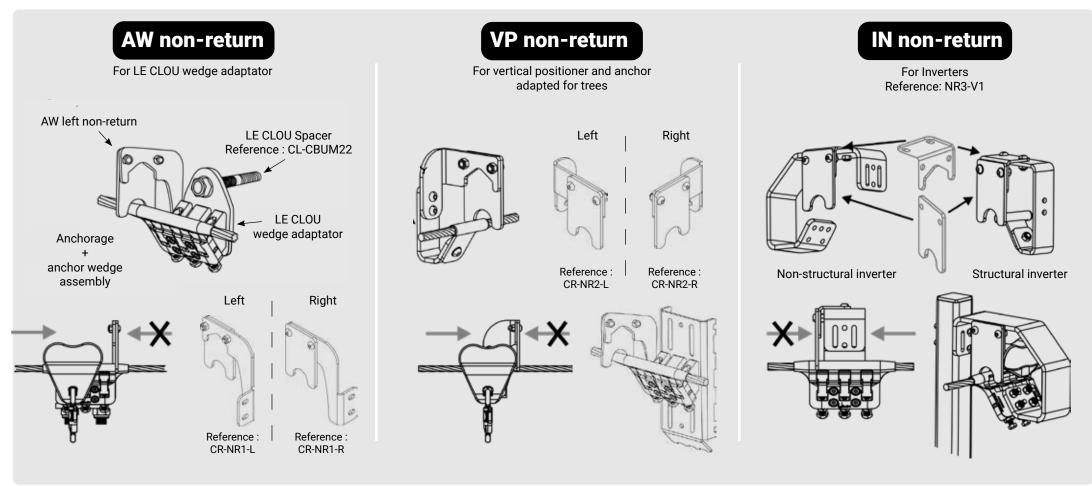
7 NON-RETURNS. TYPES AND CONNECTIONS

Non-Return devices are used to stop and prevent the MCD move back at certain points in the path. It is useful in inclined sections, in entrances or exits of the park or to control the flow of users in ziplines.

Depending on the type of anchorage, there are different types of Non-Returns.

Non-Returns Type AW, VP and IN consist of a folded sheet metal for each of the cases and a piece of silicone, which is valid for any system:





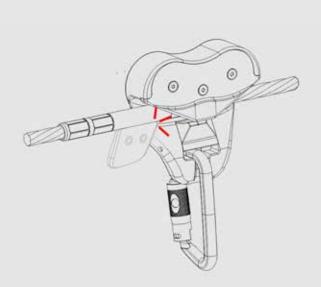
7 NON-RETURNS. TYPES AND CONNECTIONS

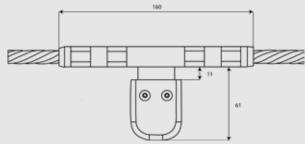
Structural non-return

Reference: CR-NR4

The structural non-return is an obstacle to the pulley wich must be passed through by turning the MCD 35°.

Its function is to stop the MCD and prevent it from sliding backwards in an inclined section of element for adventure parks. It's used as a structural component to prevent falls. We recommend its installation in games with a slope higher than 6°.





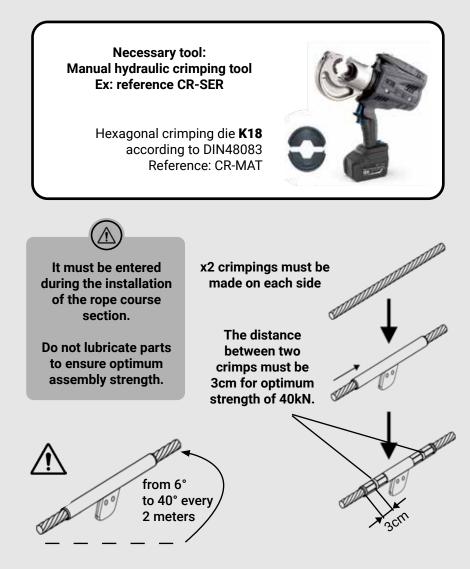




Forbidden to install this component as a <u>Cable Connector</u>

How to install it ?

The cable crimping must be done with a crimping tool capable of exerting a force of 130 KN.



NON-RETURNS. TYPES AND CONNECTIONS

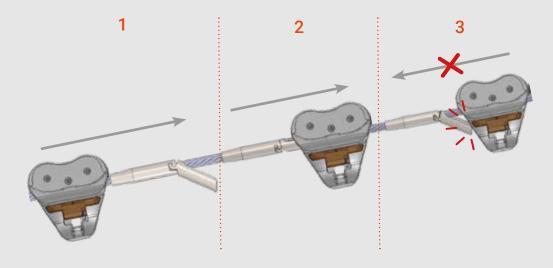
Non-return with mechanical stop

Reference: DAS466

Material: stainless steel Dimensions: diameter 20 mm x 150 mm

The mechanical non-return device allows the CLiC-iT RiDER pulley to pass in the direction of travel on the slope, while at the same time acting as a safety stop in the event of a fall by a person weighing up to 120 kg.



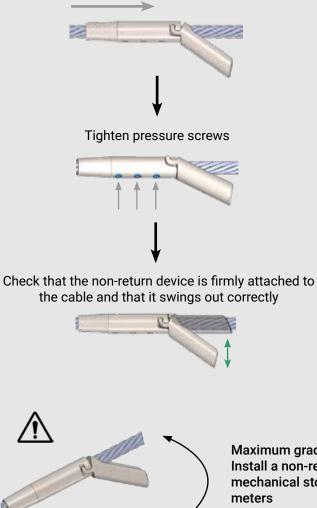


It is imperative to check the condition of the mechanical stop (condition of the pressure screws and bushes), the lifeline cable and the CLiC-iT RiDER pulley after a fall and consequent stopping of the CLiC-iT RiDER pulley by the mechanical non-return stop. As the mechanical non-return stop is a one-off component, it is not designed to withstand repeated shocks. Every month, check that the stops are correctly tightened on the cables. Failure to comply with these recommendations may result in loss of its stopping function in the event of a fall.

How to install it?

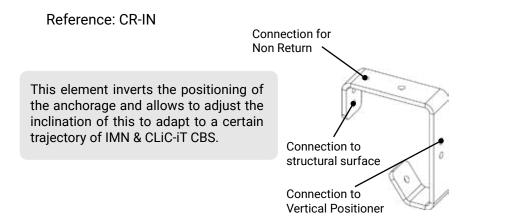
Can be installed on Ø12mm metal cables

Pass the non-return device over the cable

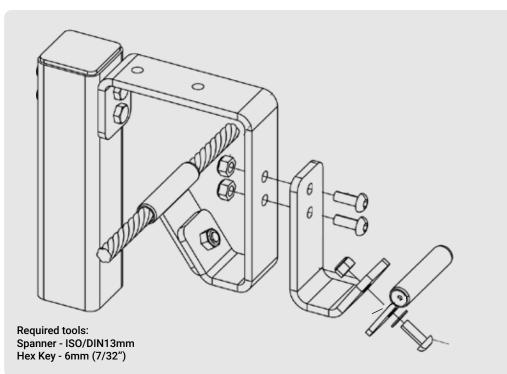


Maximum gradient: 45° Install a non-return with mechanical stop every 2





8.2 INVERTER AND VERTICAL POSITIONER ASSEMBLY

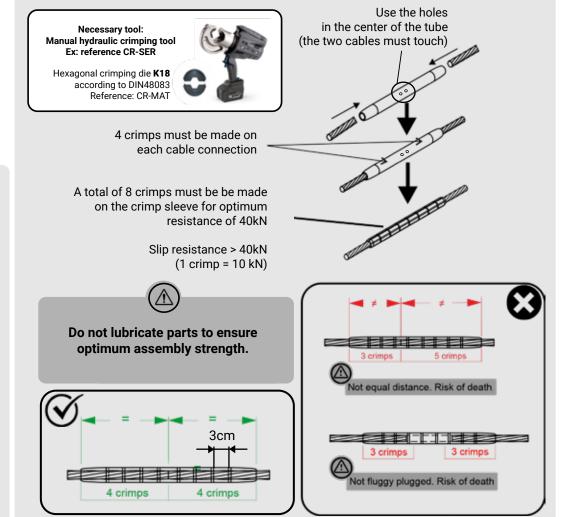


CABLE CONNECTOR 9.1 DESCRIPTION & INSTRUCTIONS

At times during installation there may be a need to connect two ends of the safety line cable.

The cable crimping can only be done between two anchors and on a platform. It must never be done on a course element.

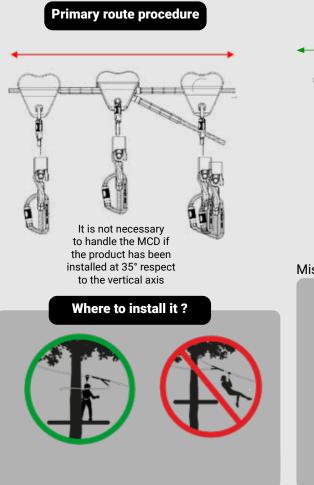
The cable crimping must be done with a crimping tool capable of exerting a force of 130 KN.

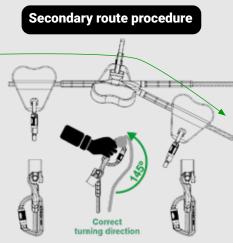




Route Swapper is a device designed to alternate between safety line routes in an high rope course. It should be installed at a comfortable height where the user will have to manipulate CLiC-iT RiDER Pulley.

It works by turning the MCD to orient it towards the alternative route or by maintaining original orientation to continue on the route.





Misure of the product:

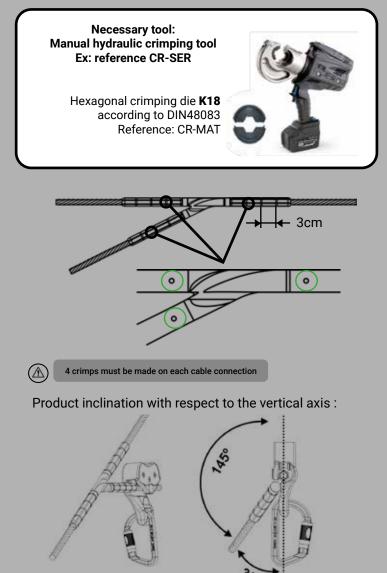


Wrong turning direction

The cable crimping can only be done between two anchors and on a platform. It must never be done on a course element.

How to install it ?

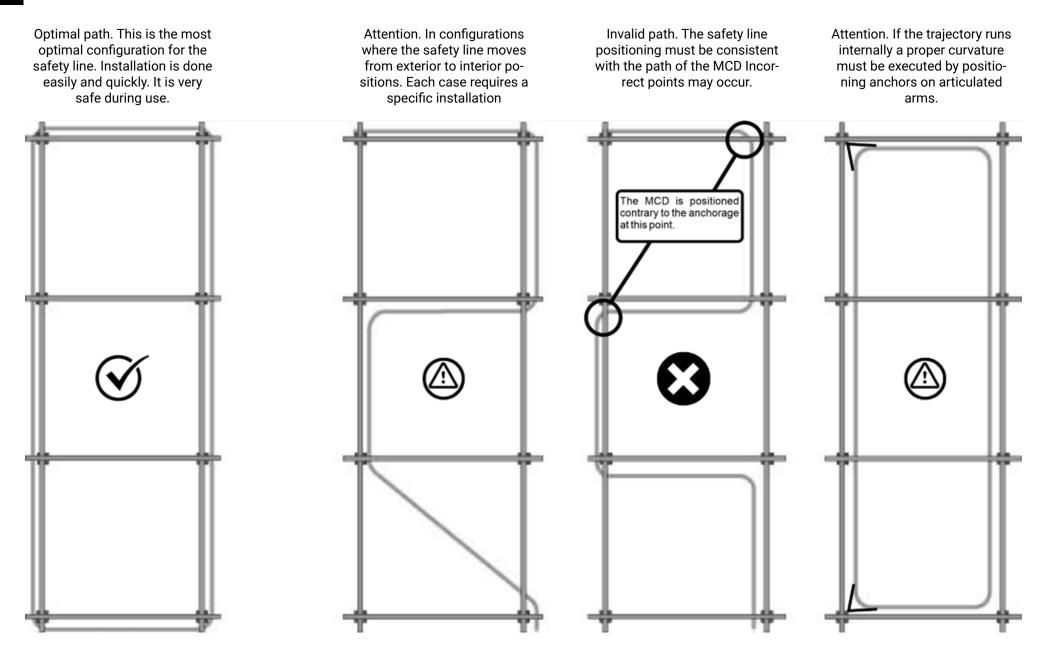
The cable crimping must be done with a crimping tool capable of exerting a force of 130 KN. The crimp die used must be of type K18 according to DIN 48083.



B. PARCOUR DESIGN

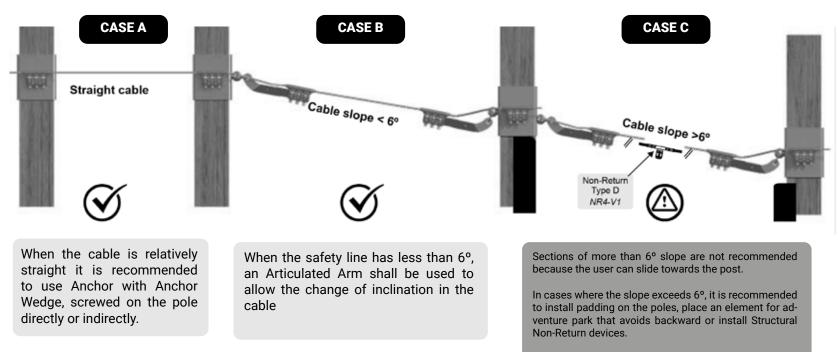
1

OPTIMAL PATH

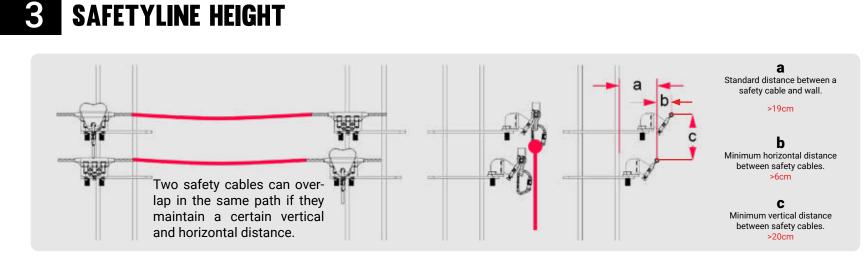


2 INSTALLATION ACCORDING TO DIFFERENT SLOPES & INCLINATIONS

Cable slip resistance: 28 kN Anchor resistance: 35 kN



This section must be installed with Articulated Arms.





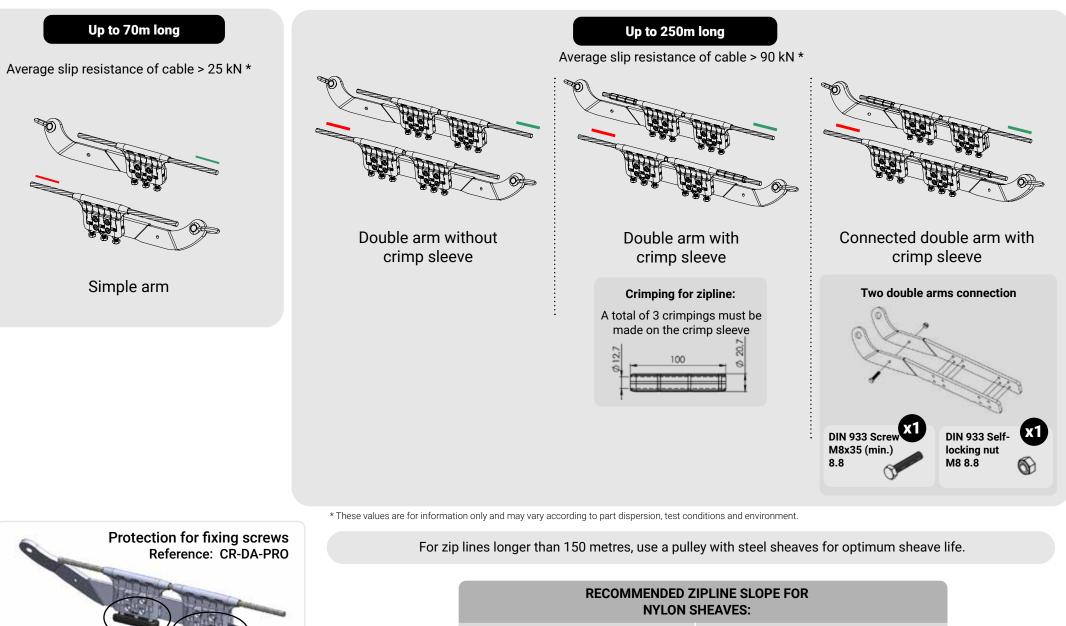
The recommended safety line height for public from 4 to 14 years is 1.50m. For strictly adult circuits it is possible to increase the height up to 2.10 m or even more.

Adjustable lanyard is recommended.

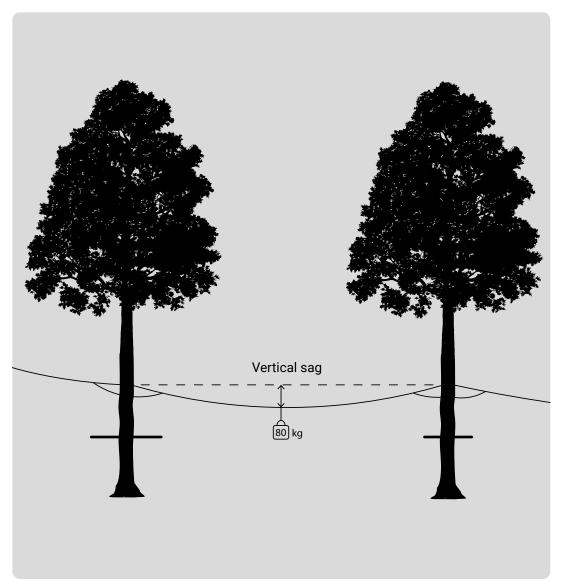


ZIPLINES

The maximum zipline extension compatible with IMN & CLiC-iT system is **250m**. Arms should be placed at the entry and at the exit of the zip line.



From 5m to 30m Between 2.8% and 3% slope From 30m to 150m Between 2.4% and 2.8% slope



The maximum applied forces on the anchors have to be a third of the average resistance to slippage on the cable

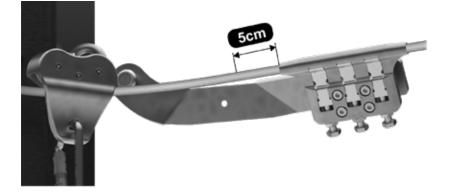
To limit the peak tension in the case of dynamic force (i.e. Falls) on the lifeline and anchors, it is recommended to tension the cables with a load of 175 lbs halfway through the span with a minimum of 5% vertical sag on the lifeline.

Example: it is recommended in a 30 ft lifeline to have a vertical sag of at least $1\frac{1}{2}$ ft when loaded

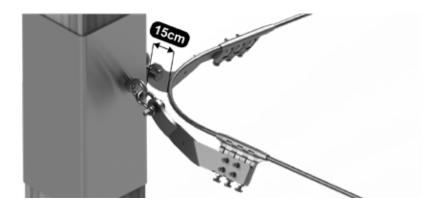
It's important to verify the pitch of a zipline before commissioning.

5 SAFETYLINE CABLE INSTALLATION

These points must be dimensionally checked according to the annual maintenance protocol present in this manual. Remember to perform a visual inspection prior to the start of the activity.



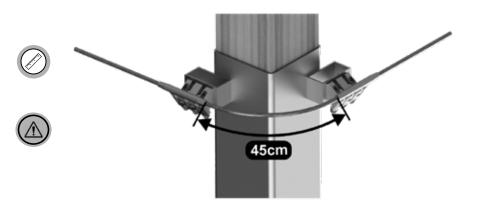
The curve described by the cable must be 40-45 cm long, measured from the outlet of the Anchor to the entry into the next Anchor.



© (1)

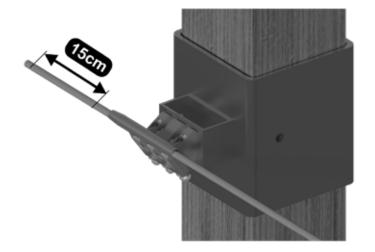
X

The point where the cable enters the Anchor must be at least 5 cm long in straight extension with respect to the direction of the Anchor, to prevent the MCD from hitting the Anchor. These two points must be marked in order to carry out inspections and check that the cable does not slide.



It must be ensured that the cable curve is separated from the structural element (pole or other game elements), at least 15 cm, to avoid possible MCD collisions.

At the anchorage points where the curve is resolved using Articulated Arms, it must be ensured that all connecting elements, including structural elements, support a minimum load of 20kN.

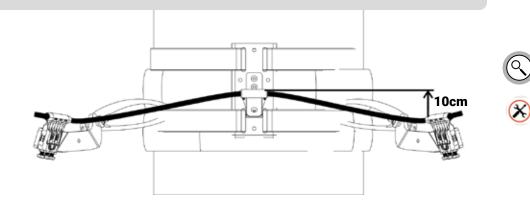


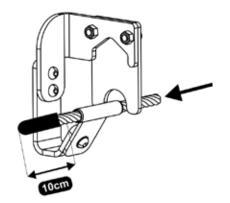
At the safety line terminals, both at the beginning and at the end, we must leave at least 15 cm of free cable that leaves in excess of the Anchor cylinder. At these two endpoints, one additional Anchor must be installed directly on the tree or on the pole of the last workshop.

At the beginning and end of the rope course should also be inspected to check that has not suffered some kind of displacement due to an improper screw tightening or some other defect. For such checks it is useful to make marks on the cable to notice possible sliding.

The ends of the safety cable must be protected by a heat shrinkable plastic plug that fits the cable. A space of 10cm must be left from the Anchor element to the plastic termination.

At the beginning and at the end of the rope course, a device Non Return must be placed in the opposite direction to stop the MCD.





In situations where the safety cable has a large curve, the Positioners is used to provide stability to the trajectory.

In tree installations an Vertical Positioner should be used 10cm approximately above the arms to properly guide the safety cable.

C. RESPONSABILITY & GENERAL RECOMENDATIONS

IMN & CLiC-iT Continuous Belay System components are intended for activities involving a risk to safety and health. Both the installation and the use of this product must respect the specifications provided by the manufacturer in this manual. In addition, the user must respect the preliminary usage indications of monitors and instructors. In short, both the user and the installer are responsible for their decisions, actions and finally for their security.

DEHONDT SARL & IMN are not liable for direct, indirect, accidental or any other consequences occurring or due to the use of its products. DEHONDT SARL & IMN waive any responsibility if the storage, transport, use, maintenance and cleaning instructions are not met.

Before performing an installation make sure:

- · Accept the intrinsic risks of the installation and its use.
- Read and understand all the instructions in this manual.
- Receive all the specific training for the installation and use of all the elements of the lifeline.
- To know and be accustomed to the use of these equipments and to acquire all the knowledge on the performances and limitations of these.
- Check the correct condition of the constituent products for installation.
- Have the necessary tools and material for installation.
- Ensure the viability of the medium for the installation of the system.

Check the correct orientation of the mobile devices and the appropriate conditions of the CLiC-iT RiDER Pulley.

During the maintenance and control of safety line elements, special attention should be paid to the points where direction changes.

Store the MCDs in a cool, dry place and free of chemical agents to avoid deterioration. Avoid unnecessary exposure to UV light.



This product should be used by users trained for the use and recognition of risks related to the activity. And under visual control of competent and responsible personnel.

Before the first use make sure:

- The manufacturer has previously checked the technical and safety parameters to guarantee the installation quality to the customer.
- To have the personal protective equipment (PPE) necessary for the development of the activity. And make sure these are in good condition.
- Have read the operating and safety instructions in this manual.
- Have previously received the manufacturer's training and initial briefing.
- Failure to comply with these instructions could cause serious or fatal
 physical harm
- If this product is resold as new in another country, the present notice should be translated in the language of the country of destination

FURTHER INFORMATIONS

The use and storage temperature range should be between - 10 and +50 °C. Outside this temperature range, the product resistance could be affected.

Avoid any rubbing on abrasive or sharp areas which may damage the product.

Damp equipment, or which has frozen up, may not operate properly. These products must be thoroughly checked annually by a qualified professional with a prior written certification from SARL DEHONDT & IMN. It is forbidden to modify or repair these products yourself without prior training and written authorisation from SARL DEHONDT or IMN.

3 TRAINING OF THE STAFF

All staff members must be aware of their responsibilities in order to establish a safe environment. They must be properly trained in assist and rescue techniques as well as in briefing and coaching methods.

All staff must receive professional briefing regularly in which all information for the proper operation of the park is conveyed.

Assessments of the staffs ability to perform competent rescue procedures and conduct proper and complete guest briefings must be done on a regular basis.

The awareness of all involved risks throughout the park must be raised within your instructor and rescue team. The staff must know all possible dangers associated with using life safety systems and how differents components interact with each other.

A helpful and supportive attitude towards the guests is important.

2 CAUTION

Climbing and using personal protective equipment carry inherent risks, regardless of the safety equipment being used. Falls of any kind can lead to serious injury or death.

Among other risks, neck entrapment is one of the risks inherent to this activity.

There are many factors that have to be taken into consideration and contribute to raising or lowering the risk of neck entrapment, including but not limited to the following:

- Hardware : Design of the park, PPE

- Operation : Fitting PPE to participant, training of the staff, briefing, supervision, quality of rescue / evacuation.

4 SUPERVISION

The staff team must be vigilant, have taken part in the training process and is required to have experience in supervising the course. Good supervision covering all parts of the course must be ensured. The rescue team must be prepared and capable of reacting quickly in case of emergency and have good and fast access to all parts of the course. All instructors should carry a system or device for lifting, not just rescuers or rescue teams. Participants who faced dificulties during the briefing must be given additional attention and helped, verbally or physically, if needed. Participants should not be left alone on a course. Enhanced supervision must be in place where the participants are faced with special circumstances (zipline, Tarzan swing, etc).

D. CONTROL AND MAINTENANCE SHEET

The equipment must be functionally checked after each use and periodically. An inspection log must be completed every 12 months, and after any relevant event occurring at the installation (shocks, rescues, sudden changes in environmental conditions, structural modifications to the plant, etc.).

To perform the installation inspection, read and use the following maintenance table:

INOPERATIVE

FIXING

CONDITION

ATTENTION

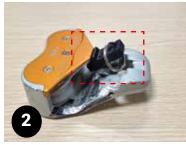
SARL DEHONDT CLIC-IT INSTALACIONES EN MEDIO NATURAL S.L. MANUFACTURERS: Purchase date: 5 rue des Terres (Cellule 7) Avda Mairena del Aljarafe, Nº 34-B Date of first use: 51420 CERNAY-LES-REIMS (France) CP 41110 Bollullos de la Mitación, Sevilla (Spain) 61 MCD and CBS Anchor serial number readability check. Checking of MCD wear with inspection tool ref: DAS449 2 (Free space between Locking Part and Plate 7,5 < x < 8,7 mm) Checking the correct operation of MCD wheels 3 Check that components of specified qualities are being used. And tools used are suitable for 4 installation. Check the correct condition of all components before installation 5 Check that IMN & CLiC-IT CBS anchorages have not suffered deformations due to shocks, 6 deformations due to overstress in the screw housings or in the hole where the safety cable passes. 7 Corrosion check on MCD components. Corrosion check on every installed IMN&CLiC-iT CBS devices (Anchorages, Arms, Non Returns, 8 etc...) Checking cable displacements at the beginning and end of Double Arms intended for ziplines. 9 Checking the tightness of the M10 screws in CBS Anchors (= 40 N*m). 10 11 Checking for cable displacement at junctions with Cable Connectors. Once IMN & CLiC-IT CBS is installed, must be checked: The lock of CLiC-iT Rider Pulley works properly when carabiner is inserted and removed 12 The passage of the pulley in the anchor points of IMN & CLiC-IT CBS are smooth and without 13 relevant collisions. There are no collisions with the structure. And the dimensional specifications described in the MCD refers to manual are met. CLiC-iT RiDER Pulley Checking the efficiency of non-returns: no deformation or displacement 15 GOOD TO PAY NEED

INSTALLATION NAME:

User identification: Name: Adress: Tax Number: Model: Serial Number: Purchase date: Date of first use:



MCD and CBS Anchor serial number readability check.



Checking of MCD wear (*Free space between Locking Part and Plate 7,5 < x < 8,7mm*)



Checking the correct operation of MCD wheels



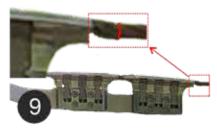
Check that IMN & CLiC-IT CBS anchorages have not suffered deformations due to shocks, deformations due to overstress in the screw housings or in the hole where the safety cable passes.



Corrosion check on MCD components.



Corrosion check on every installed IMN & CLiC-IT CBS devices (Anchorages, Arms, Non Returns, etc...)



Checking cable displacements at the beginning and end of Double Arms intended for ziplines.



Checking the tightness of the M10 screws in CBS Anchors $(= 40 \text{ N} \cdot \text{m}).$



Checking for cable displacement at junctions with Cable Connectors.



The lock of CLiC-iT Rider Pulley works properly when carabiner is inserted and removed



The passage of the pulley in the anchor points of IMN & CLiC-IT CBS are smooth and without relevant collisions.

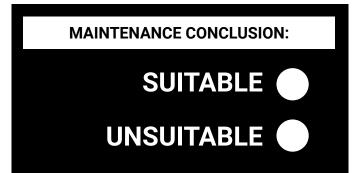


There are no collisions with the structure. And the dimensional specifications described in the manual are met.

Installation history. (disassemblies, replacements, environmental accidents, repairs ...)

Description	Date

Comments regarding product conditions and usability:



Inspected by: Company name: Signature:

Next inspection date:

____/___/____

Date: