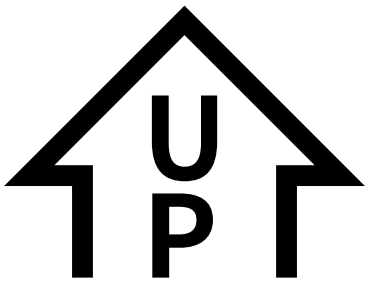
If you have any doubts or difficulties in understanding this manual, please contact XINDA.

Phone number: **+86 400-8856993**

1/F, No.19 Xinchao Road, Wangjiang Community, Baiyun Street, Dongyang City, Jinhua City, Zhejiang Province, China

ASCENDER Manual

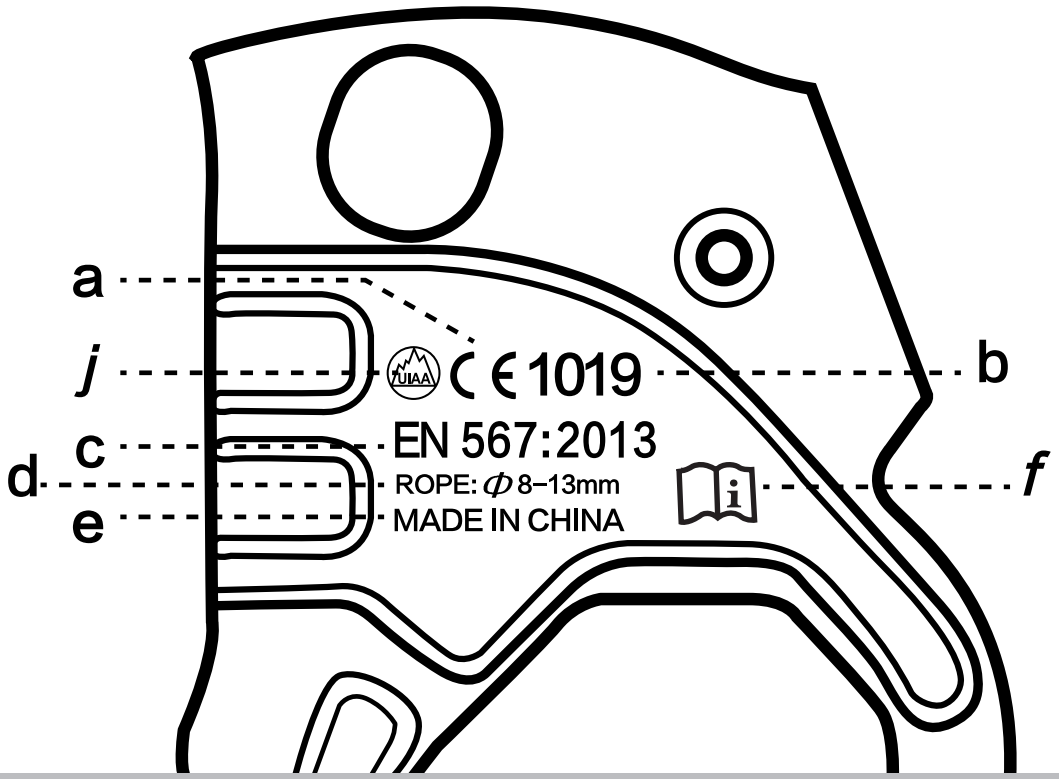


WARNING:

- Activities involving the use of this equipment are inherently dangerous and can lead to severe injury or even death. You must be responsible for your actions and decisions.
- Read and understand the instructions before use.

Before using this product, it is essential to have got adequate training, understood and mastered the basics and techniques.

- This product must not be used beyond its limits, nor be used for any purpose other than for which it is designed.



Marking

a: CE Mark

b: Notified body that carried out the EU type examination

c: Used standards

d: Diameter of the compatible rope

e: Origin

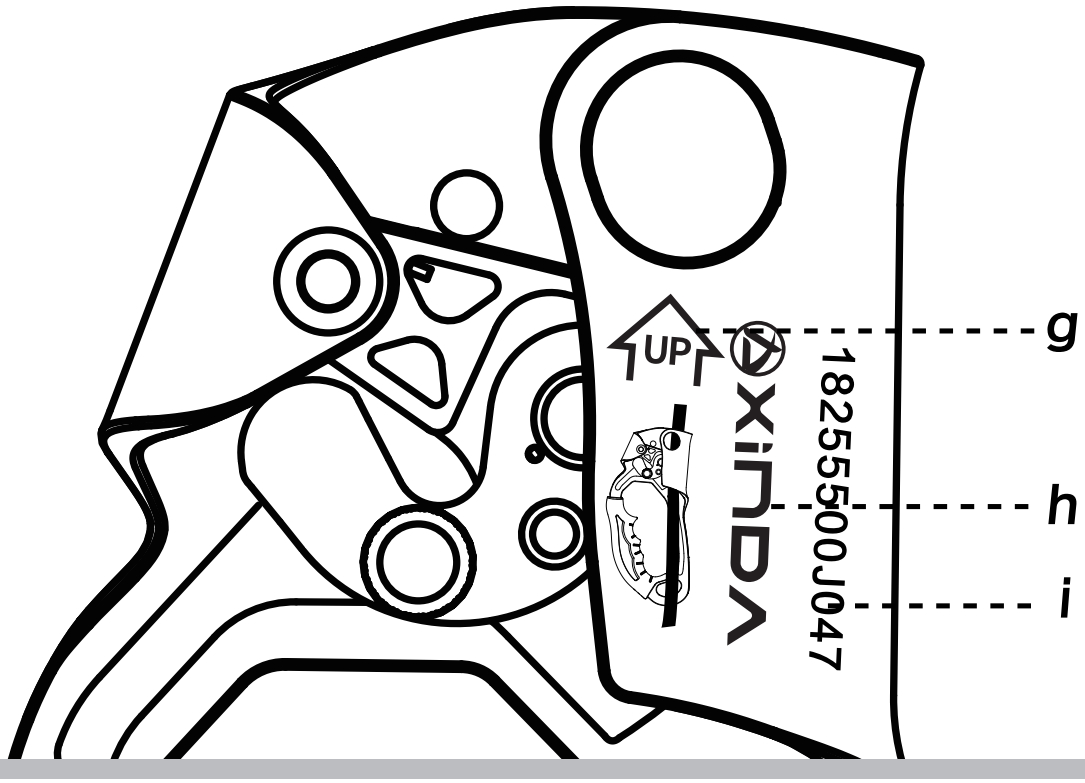
f: Logo to remind the user to read the instructions

g: Direction

h: The name of the manufacturer or the brand

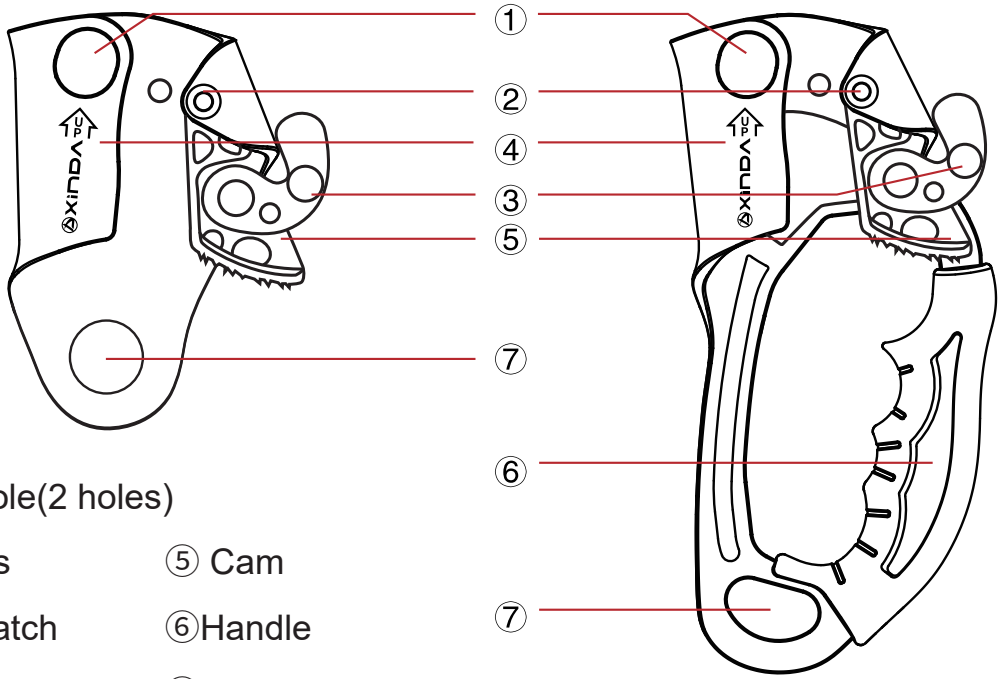
i: Tracking code

j: UIAA



Nomenclature-Hand ascender

(figure1)



①Upper hole(2 holes)

②Cam axis

③Safety catch

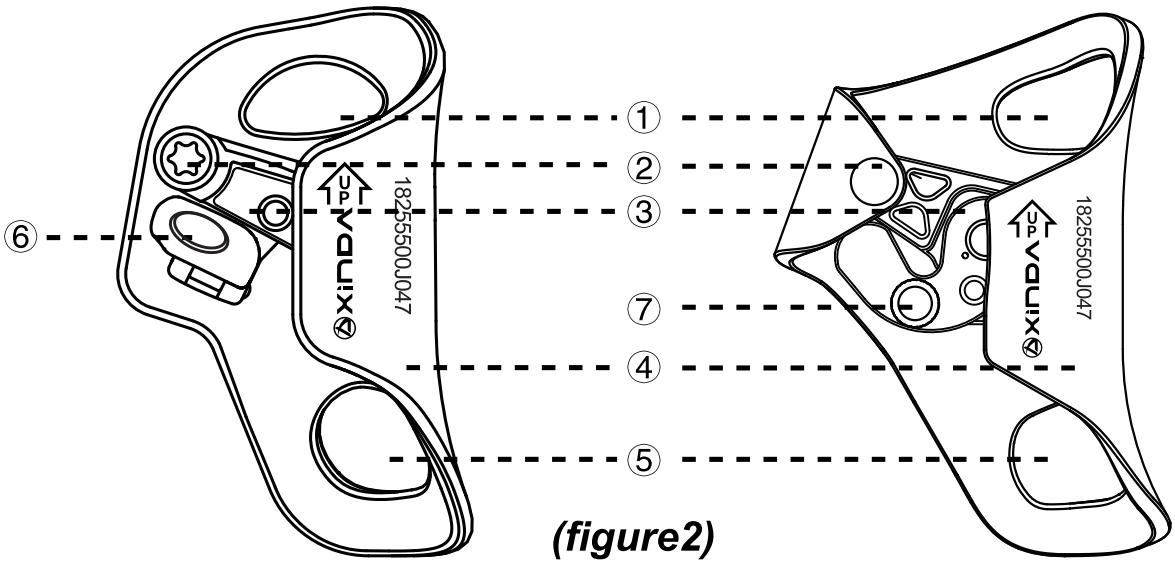
④Rope groove

⑤ Cam

⑥Handle

⑦Lower attachment hole

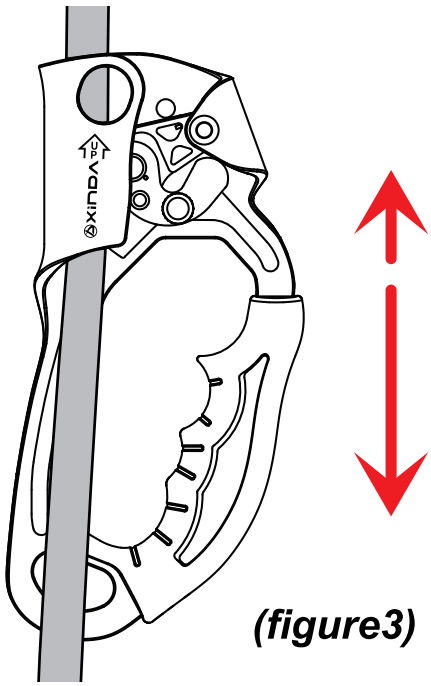
Chest ascender



(figure2)

① Upper hole ② Cam axis ③ Cam ④ Rope groove
⑤ Lower attachment hole ⑥ Foldable safety catch
⑦ Columnar safety catch

Function test

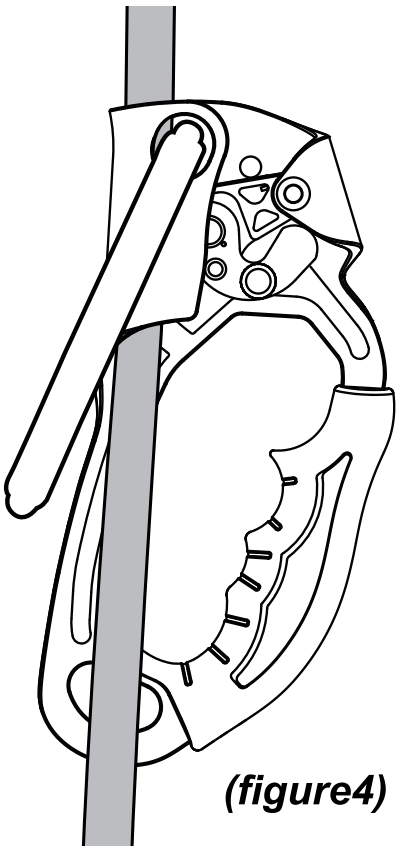


(figure3)

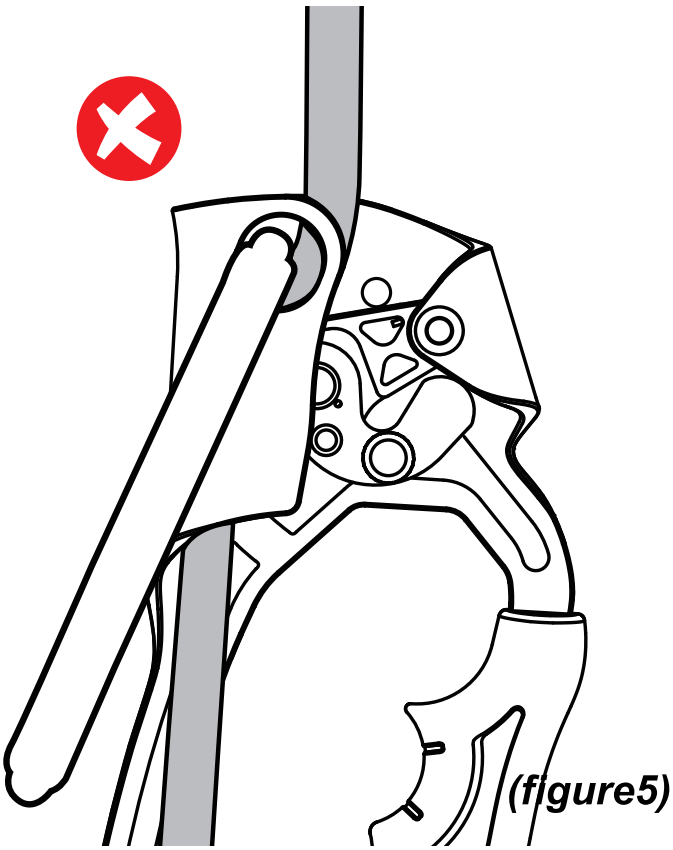
FUNCTION TEST

1.Several centimeters upward

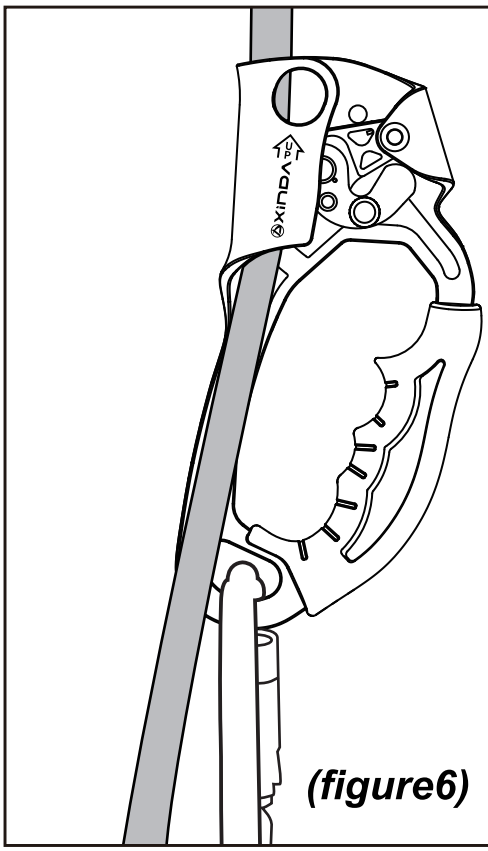
2.Pull downward as to check if the ascender is locked



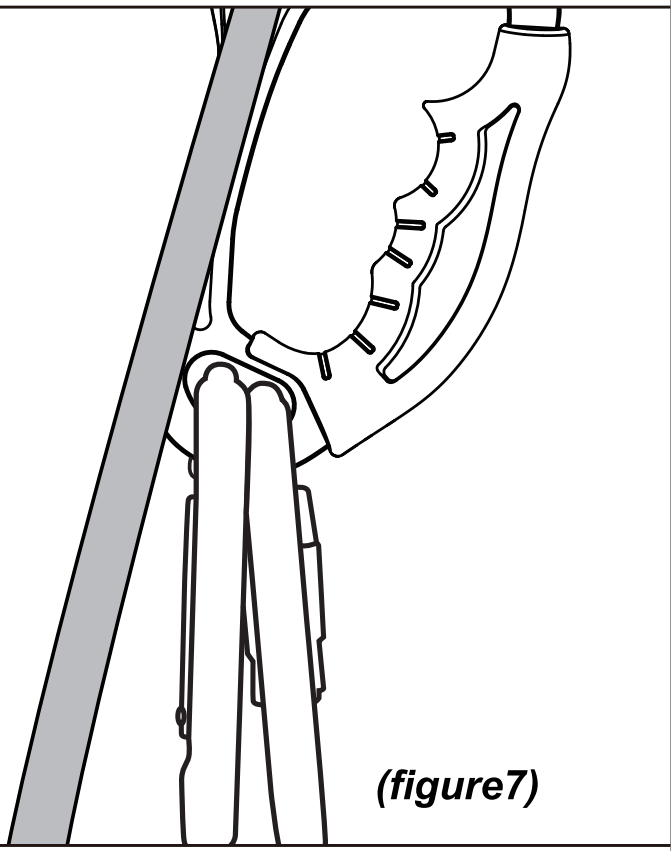
(figure4)



(figure5)



(figure6)



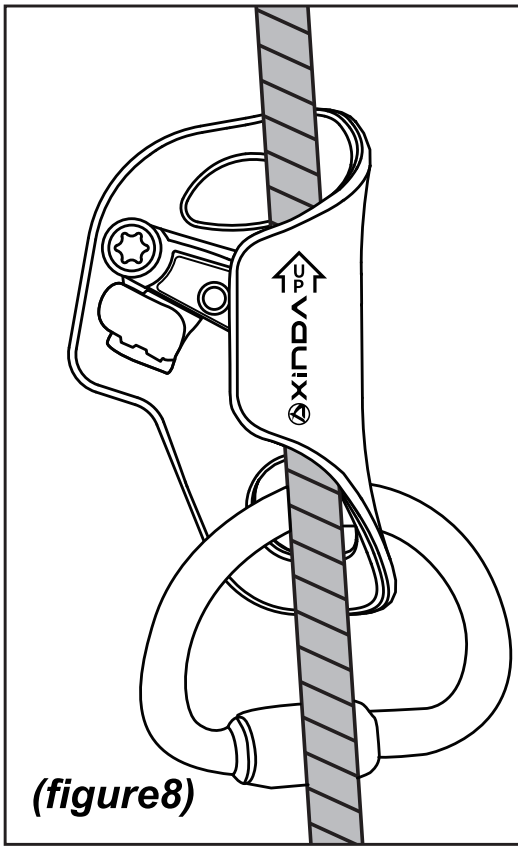
(figure7)

ISO9001 Standards Complied

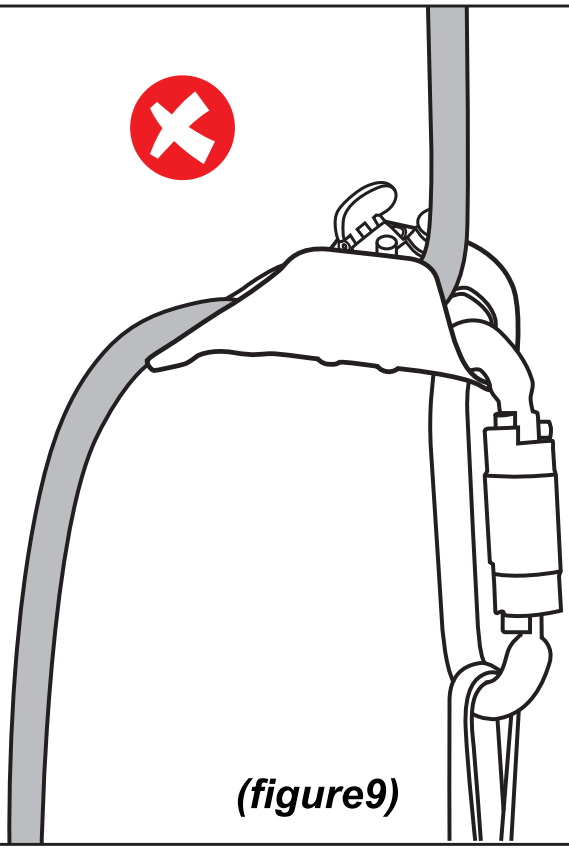
Bar Code

XINDA®

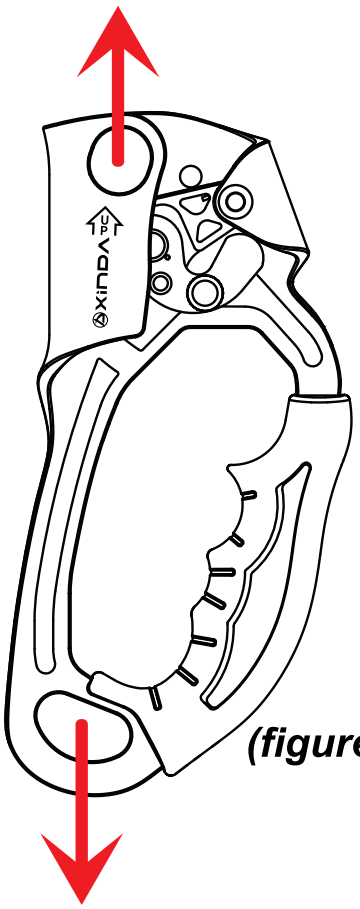
PICC CE UIAA



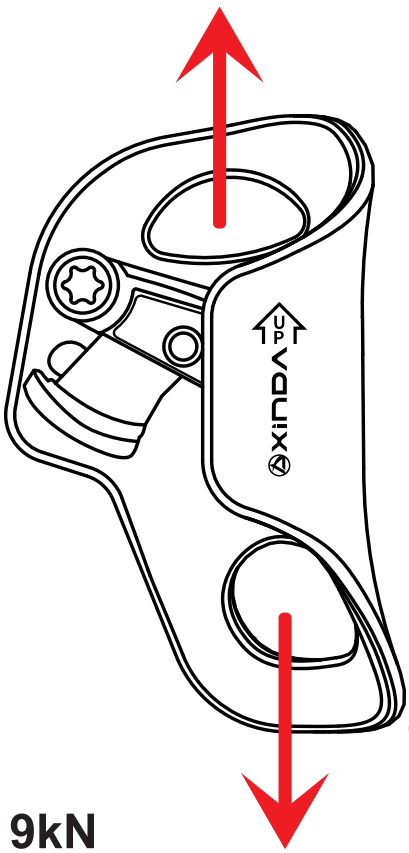
(figure8)



(figure9)

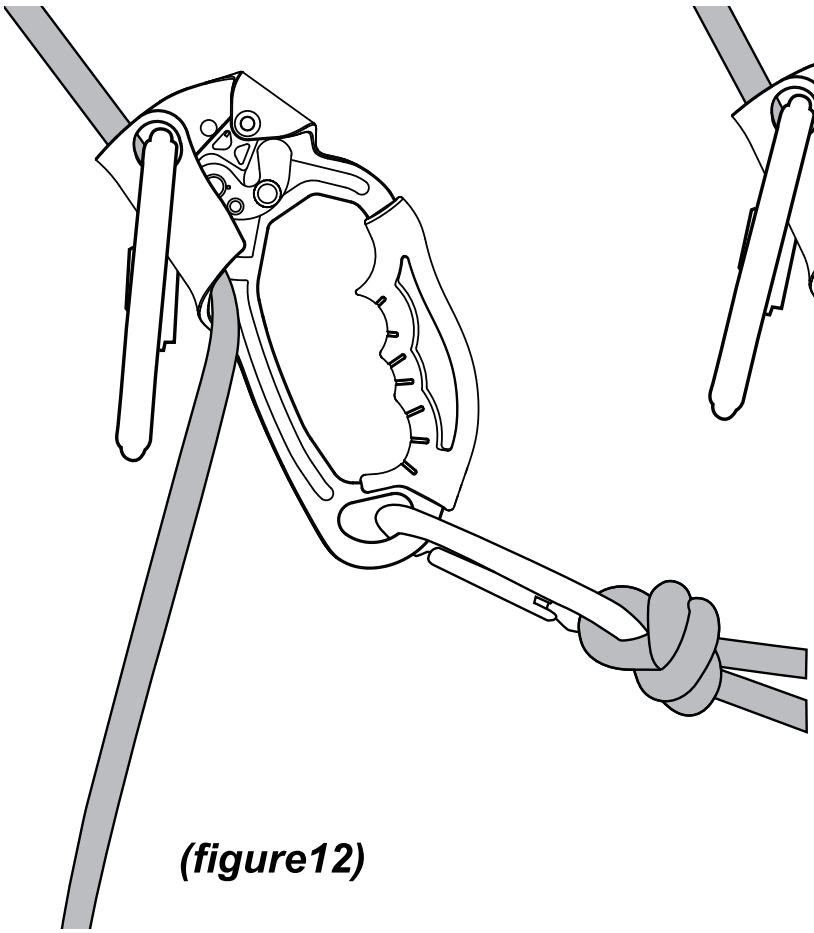


(figure10)

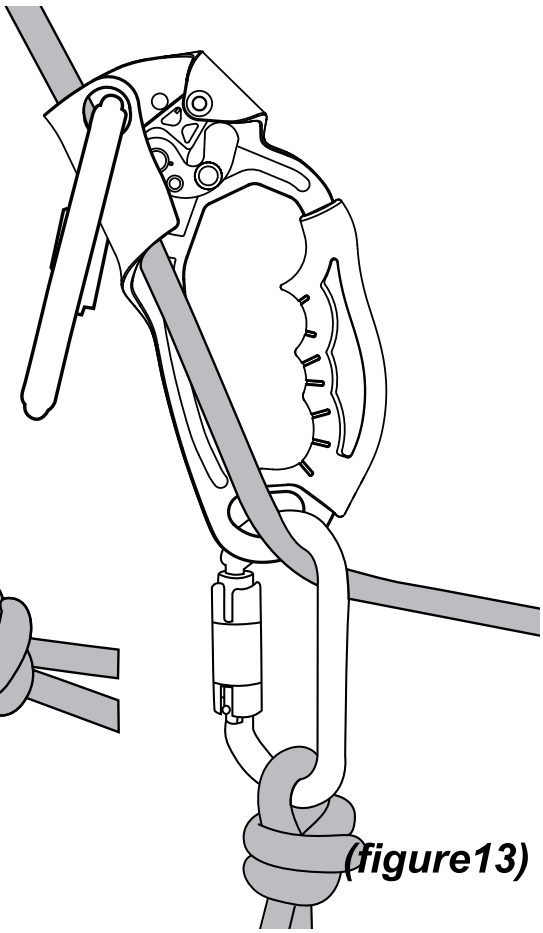


(figure11)

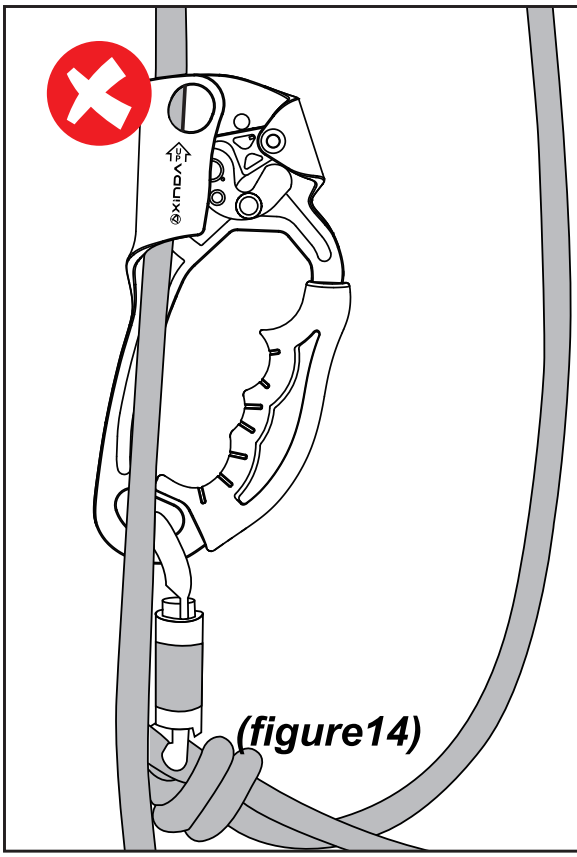
MBS 9kN



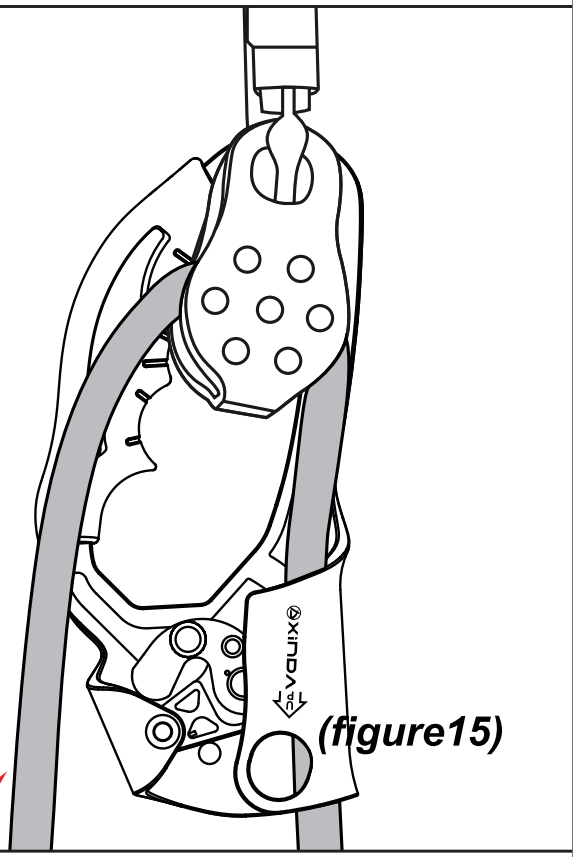
(figure12)



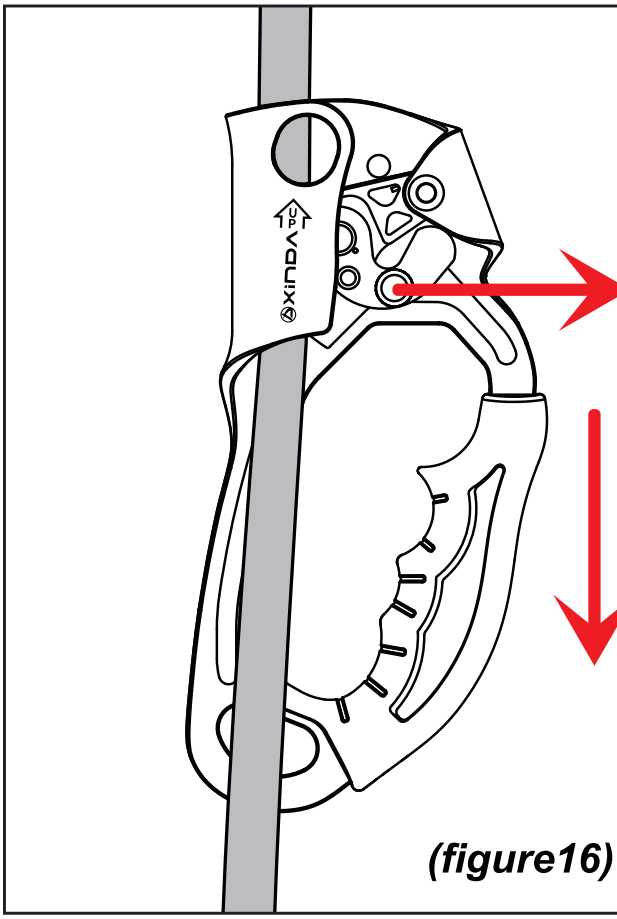
(figure13)



(figure14)



(figure15)



DESCENT AD JUSTMENT

1.Pull the cam outward

2.Pull the ascender downward

(figure16)

Several centimeters up and down to check if the ascender is locked.

- It is for Xinda HSS01L left hand and HSSO1R right hand ascender, HXS01 and HXS02 chest ascender. This manual illustrates how to use, maintain, store and inspect the equipment.
- This manual includes specific and general instruction of ascender, and the general instruction also applies to other metal equipment.
- “Cross sign” in the manual means inappropriate operation. There are many kinds of misuses which can not be all covered in this manual. Only the illustrated ways are allowed.
- Any misuse may lead to severe injury or even death.

※ Specification and application

	HSS01 hand ascender	HXS01 chest ascender	HXS01 chest ascender
Compatible rope	Kermantle rope, such as : EN1891 semi-static rope , EN892 dynamic rope		
Diameter	8-13mm		10-13mm
Working load limit	8-10mm: 100kg 10-13mm: 150kg		10-13mm: 100kg
Weight	205g	112g	146g
Standards	EN 567:2013	EN567:2013	EN12841:2006-B
Material	7075 aluminum alloy , stainless steel , rubber	7075 aluminum alloy , stainless steel	

Ascender belongs to PPE (personal protective equipment) which is designed for climbing, caving, canyoning, rope access and rescue. XINDA ascenders are designed and tested based on European rope access techniques.

This product is compliant with CE 2016/425 PPE regulations. Please check the CE declaration on: www.xindaoutdoor.com.

Acceptable temperature: -20℃~50℃.

Warning: Ascender is not a fall arrester and can not take dynamic shock!

Structure: see figure 1 & 2.

Compatibility:

The safety of ascender depends on the compatibility with the other elements of the system. Verify that every part of the system works well with each other such as the connection with rope and carabiner.

- Rope: The kermantle rope(sheath+core), such as EN564 8mm, EN1891 8.5-13mm, EN892 8-11mm or NFPA 1983 T/G, UIAA 101, CI-1801 etc.

Warning: The rope grabbing can be still functional when working with other ropes, but the working load might be lowered greatly.

- Carabiner: The carabiner used on the ascender must meet EN362 or EN12275 standards.
- Lanyard: EN566, EN354, EN358 standard lanyards can be connected to the ascender with carabiners. The lanyard constructed from dynamic rope is suggested for connecting the ascender and safety harness. The total connecting length can not be longer than 1 m(carabiner+lanyard).

Working load limit: The maximum working load on the main rope with the ascender.

HSS01、HXS01: WLL, 100kg, EN564, EN1891, 8-10mm rope ; WLL, 150kg, EN564, EN1891, 10-13mm rope

HXS02: WLL, 100kg, EN1891, 10-13mm rope.

Minimum Breaking load:

The ascender will break the sheath and part of the core at 4-7kN when it is tested on a new rope(EN564 or EN1891, 8-12.5mm). In reality, the breaking load is up to the structure, material, sheath percentage and wear of the rope.

Use of the ascender:

1.Rope installation:

Hand ascender(HSS01)/chest ascender(HXS02): Press the cam safety catch with your thumb and then slide it fully open; install the rope into the groove; press the safety catch again until it locks automatically.

Chest ascender(HXS01): Press the cam safety catch with your index finger and then slide it fully open; install the rope into the groove; press the foldable safety catch again until it locks automatically.

To disengage the rope, remove the weight or tension first and lift the ascender within 1 cm; at the same time, press the cam switch then slide outward to keep the cam completely open; take the rope out of the groove in the end.

Notice: When the ascender is loaded, the cam will damage the sheath if opened by force.

2.Function test

Function test of the equipment is the last safety inspection before use and it is intended to verify if the rope installation and functionality are in good condition or not. (see figure3)

Warning: Test must be carried out in a safe place where there is no risk of falling.

3.Connection:

Hand ascender: 2 upper attachment and 1 lower attachment holes are to bear the main strength. The two upper attachment holes must be clipped into one carabiner at the same time during use; Meanwhile the rope gets clipped into the carabiner too(see figure5&6).

The lower attachment holes are designed big enough to have two carabiners clipped in(see figure7). The dynamic rope is suggested to be used as lanyard connected with safety harness.

Chest ascender: A chest ascender has an upper attachment hole and a lower attachment hole, the lower attachment hole bearing the main strength. The upper attachment can be only connected with the shoulder strap as to keep the ascender straight up and pull it up and down. Only one carabiner can be clipped into the lower attachment hole. (figure8&9)

Warning: The upper holes and lower holes can not be used as anchoring or connection for the fall arrest system and the breaking load is 9kN. (see figure10&11)

4.ASCENDING

Hand and chest ascenders need to work with proper equipment based on different ascension techniques and the user is required to learn and master those techniques.

Frequent checks are demanded including the angle between rope and ascender and the direction of loading between ascender and carabiner etc. When the angle is overly big, a carabiner will have to be clipped in as to keep the rope slide parallely in the groove(see figure 9&10).

Warning: Any foreign objects may unlock the cam on the rope during ascending.

Warning: The anchor point for the system should preferably be located above the user's position and any dynamic load on the ascender might cause rope damaged by the cam.

5.Other uses

Ascender can be used as a rope clamp for lifting and hauling but overloads might damage the rope so it must apply to working load.(see figure12)

Descent adjustment: Ascender can move down on the rope when the cam is not fully open. Remove the weight or tension and lift the ascender within 1 cm; at the same time, press the cam switch then slide outward to keep the teeth off the rope and slide the ascender downward; release the cam and let the teeth and sheath occlude.

Warning: The cam can not be fully open during this use.

Safety check

- ***Before each use***:

Check the condition of the cam axis, the spring, the attachment holes, the aluminum side plates, the teeth. Verify that the rope, carabiners and lanyards etc are free of wear, cracks, deformation, corrosion…verify that other parts of the system are in good condition.

- ***During each use:***

Verify that the rope moves well in the ascender groove. Pay attention to the dirt, snow and ice etc. Check the effectiveness of the springs and occlusion. Check the connections of the carabiner, lanyard and so on. Verify that the rope is tensioned. Verify that the anchor point, ascender and user are properly positioned and the user should be below the ascender and anchor point.

Additional safety information;

- The user's health and body condition must be fit for working at heights. Unconscious suspension at height can lead to severe injury or even death. Ensure that a rescue procedure is in place.

- In a rope access system, it is essential to use a back up device and check the required clearance below the user in order to avoid any impact with the ground or with an obstacle in case of a fall.
- In the industrial use, the breaking load of a single anchor point must be 12kN at least or meet the standards of EN 795.
- In a safety system, the weakest component determines the strength of the whole system.
- Avoid that the rope and other braided fabric rub against sharp edges or rough surfaces.
- A risk assessment is needed and protection measures should be taken before use.
- Working alone is not allowed and you should have a rescue plan and the means to implement it in case of encountered difficulties.

Life span, regular inspection and retirement:

- No storage limit for the metal in the proper environment; the plastic parts of the equipment can be stored up to 10 years.
- The equipment may need to be retired only after one use because of misuse, accidents or compatibility problems.
- The practical lifespan depends on the type and intensity of usage, harsh environment(marine environment, extreme temperatures, sand and mud etc). Equipment check has great effect on the lifespan.The comprehensive inspection is required once every 12 months minimum, apart from normal check before use, during use and after use. The greater the intensity of use, the more checks are needed. Record the results of the inspection.
- The inspector must be competent or authorized by the manufacturer.
- Inspections included:

-Check if the products are free of corrosion, melting, cracks, wear, deformation or stain;

-Check if the attachment points are overworn(0.5mm at most);

-Check the effectiveness of the springs and pivots;

-Check if the cam teeth are worn greatly;

-Check the functionality of the ascender;

-Check if the markings are illegible;

You should maintain or retire the equipment, or hand to the manufacturer for further inspection when the results are negative such as deformation, malfunction of the pivots.

- Information included on the inspection manual

Model number/data matrix/purchase date/manufacture date/first time to use/standards/inspection date/records(malfunction, condition, user's usage record) /results and suggestions(to retire the equipment or not)/next inspection date/inspector's data(name and contact)

- ***When to retire your equipment:***

-You don’t know its usage history;
-You doubt about its performance, strength or safety;
-It fails to pass PPE inspection;
-Malfunctions are found;
-It fails to meet updated regulations or standards;
-It has been subjected to a major fall or load;

How to retire your equipment:

Mark it with irremovable labels or destroy it as to prevent further use. For instance, drill or cut it. Or return it to the manufacturer for disposal.

Responsibilities:

- You are responsible for your actions and decisions. If you can not take the responsibilities, don’t use it.
- Only qualified person or the person under supervision of a competent and experienced party can use this product.
- You must take training course including theory and practice, basics for working at height, proper ways to use and relevant safety system knowledge before use.
- When it is resold to other countries or regions, the instruction manual must be made in local languages.
- XINDA is not responsible for any direct or indirect non-quality induced consequences.

Storage and transport:

Remaining fluid and other stain on metal equipment must be rinsed and dried and then stored in a dry environment, 10℃-30℃. The equipment must not come into contact with abrasion, loading, chemicals, sharp edges or heat source etc as those are inherently harmful. Metal equipment must be specially stored in the container and transported in compliance with storage requirements.

The use and storage of the product is suggested to be taken care of by accountable people.

Maintenance:

Proper maintenance and storage can extend the lifespan of the equipment and also guarantee the user’s safety.

-Cleaning: Use clean water(20℃) and soft brush to rinse the external and internal of the product. No high-pressure water. No industrial-grade cleansers. Rinse afterwards and dry it naturally. No heat drying.

-Long time use of the equipment will reduce the lubrication of the parts such pivots. Lubricating oil or grease is suggested to be in use.

Warning: No modification, alternation or improper maintenance is allowed. It can only be repaired in the XINDA factory.

Traceability:

The code is used for product tracing.

Meaning: For instance, 18096500J47： 18 096： Manufactured on the 96th day of 2018; 500J: Batch and quality inspection; 47: Product increment.

Limited warranty:

XINDA provides a 3-year warranty against any material or manufacturing defects. Exclusions: normal wear and tear, deformation, oxidation, modifications or alterations, misuses, incorrect storage, poor maintenance , uses for which this product is not designed.

-You don’t know its usage history;
-You doubt about its performance, strength or safety;
-It fails to pass PPE inspection;
-Malfunctions are found;
-It fails to meet updated regulations or standards;
-It has been subjected to a major fall or load;

How to retire your equipment:

Mark it with irremovable labels or destroy it as to prevent further use. For instance, drill or cut it. Or return it to the manufacturer for disposal.

Responsibilities:

- You are responsible for your actions and decisions. If you can not take the responsibilities, don’t use it.
- Only qualified person or the person under supervision of a competent and experienced party can use this product.
- You must take training course including theory and practice, basics for working at height, proper ways to use and relevant safety system knowledge before use.
- When it is resold to other countries or regions, the instruction manual must be made in local languages.
- XINDA is not responsible for any direct or indirect non-quality induced consequences.

Storage and transport:

Remaining fluid and other stain on metal equipment must be rinsed and dried and then stored in a dry environment, 10℃-30℃. The equipment must not come into contact with abrasion, loading, chemicals, sharp edges or heat source etc as those are inherently harmful. Metal equipment must be specially stored in the container and transported in compliance with storage requirements.

The use and storage of the product is suggested to be taken care of by accountable people.

Maintenance:

Proper maintenance and storage can extend the lifespan of the equipment and also guarantee the user’s safety.

-Cleaning: Use clean water(20℃) and soft brush to rinse the external and internal of the product. No high-pressure water. No industrial-grade cleansers. Rinse afterwards and dry it naturally. No heat drying.

-Long time use of the equipment will reduce the lubrication of the parts such pivots. Lubricating oil or grease is suggested to be in use.

Warning: No modification, alternation or improper maintenance is allowed. It can only be repaired in the XINDA factory.