欣达 提拉单滑轮 使用说明书
型号 XD-8620

ver.202607/A

警告

○使用本设备的相关活动本身存在固有风险，可能导致重伤甚至死亡。您必须为自身的行为和决策负责。

○使用前请阅读并理解本使用说明。

○使用本产品前，您必须接受足够的培训，掌握相关基础操作与技术知识。

○本产品不可超极限使用，也不可用于设计用途以外的其他场景。

○若您对本手册存在疑问或理解困难，请联系欣达。

地址：中国浙江省金华市东阳市白云街道望江社区新潮路19号

浙江冰峰户外用品有限公司

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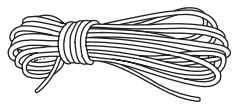
安全注意事项

这份说明书将向您解释如何正确使用您的装备。这里只描述确定无误的技术和使用方法。警告标记将告知您使用该装备时的潜在危险，但并不详尽无遗。您有责任阅读每一条警示且正确使用您的装备。任何错误的使用都将造成额外危险。如果您有任何疑问或对于理解这些文件有困难的话，请联系欣达。

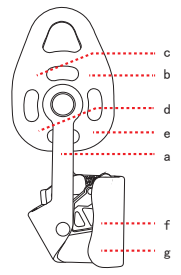
☠	表示有产生严重伤害或死亡的风险
⚠	表示有潜在意外或伤害风险
OK!	表示正确的使用方法
✕	表示错误的使用方法

适用绳径

8 ⩽ ∅ ⩽ 12mm

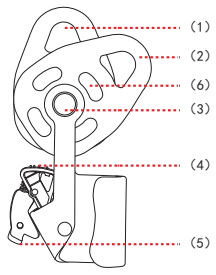


标记说明



a. 负责生产厂商名称或上市的品牌名称
b. 棘刺工作负荷
c. 滚轮工作负荷
d. 滚轮适用绳径
e. 棘刺适用绳径
f. 滑轮适用绳径
g. 受力方向

部件名称

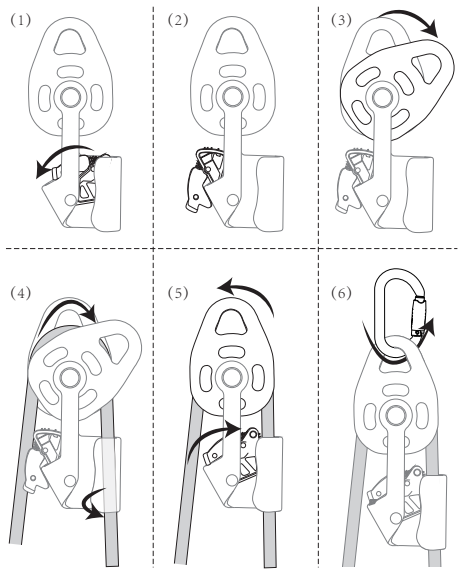


（1）. 主连接孔
（2）. 侧板
（3）. 铆钉
（4）. 棘刺
（5）. 扳机
（6）. 滚轮

通过ISO9001质量管理体系认证

贴条码处

安装操作



使用说明

适用范围

○本手册适用于 H-8620 单向提拉滑轮，介绍设备的使用、保养、存放、检验规范

○手册包含此设备专项说明与金属防护装备通用规范，通用条款同样适用于欣达其他金属装备。

提拉滑轮用于工程作业环境下提高拖拉效率的环境。

滑轮只适用于绳索，且滑轮不能超出它可负载的重量，不能用于其他不是原本设计的用途。

适用工作温度：-20℃ ~ +50℃

设备适配要求

单向滑轮的使用安全取决于整套防护系统配件匹配度，使用前必须测试绳索、主锁等配件适配性，核查安装方式、制动功能、异常受力风险。

检查此产品，与其他在您系统中的装备，是否能够正确合适地配合使用。

- 用一个带上锁系统的主锁连接滑轮，锁扣必须同时挂入滑轮的侧板的所有主连接孔中。
- 单轴双滑轮须同时使用两个滚轮作业，只使用单个滚轮会造成不平衡的受力导致侧板磨损。
- 不要让滑轮承受其他杠杆力。
- 选择合适的绳索直径，错误使用钢缆会造成滑轮的快速磨损。注意:低直径的辅绳 (<4mm) 可能会卡在滚轮与侧板之间的位置。
- 使用抓结，上升器和止坠器可以将单滑轮组成为单向制动滑轮系统，其制动效果和抓绳设备的性能有关，使用过程中需要注意抓绳设备的状态，和滑轮间的位置关系及制动效果，过大的拉力可能导致抓绳失效，甚至损伤绳索。
- 要保证绳索始终处于拉直受力的状态，不能发生动态冲击。

注意：横渡系统的张力，角度及负重，过大的拉力会造成系统失效。

注意滑动的速度，过快的速度可能会导致严重的碰撞。

注意：细的软质物品可能会缠绕至滑轮中，如头发或树枝。

警告: 动态冲击和高比例的滑轮系统会对锚点或系统产生很高的拉力， 检查锚点及系统强度，避免超过其工作负荷。

- 任何连接滑轮的设备(固定点，绳索，主锁等)必须符合使用标准和规则，如果不确定设备内各工具的要求，请联络 Xinda。

主要材料：铝合金。

安装步骤

如图所示，先打开扳机和侧板，穿入绳索，关闭扳机和侧板，挂入锁扣，即可。

工作原理

单向停滞，提拉过程中棘刺卡住绳索，松手重物也不会下坠。

图a：下拉绳索，重物上升；

图b：在工作中，松手重物不会下坠。

解锁方法

滑轮将重物往高处运输时处于受力锁止状态，必须有一个放置重物的平台，使绳索不受力，才能将滑轮扳机轻松打开。

图c：如果重物没有放在平台上，滑轮吊着重物处于受力锁止状态，绳索不能卸力，滑 轮扳机无法打开。

图d：将货物放置平台上，绳索弯曲不受力，滑轮扳机可轻松打开。

省力系统搭建

如图e、图f所示。

安全检查规范

<u>每次使用前检查</u>

- 检查凸轮、侧板、制动齿完好；
- 检查绳索、主锁、扁带无磨损、裂纹、变形、锈蚀；
- 检查整套系统其余配件状态正常。

<u>使用过程中检查</u>

- 确认绳索滑动顺畅；留意泥沙、积雪、结冰污染；
- 检查弹簧、制动咬合效果；
- 核查主锁、扁带连接牢固；
- 确认绳索保持张紧；
- 锚点、滑轮、使用者位置摆放正确，使用者位于锚点下方。

负荷说明

滑轮会受到两端绳索产生的合力，当合力达到滑轮的最小断裂负荷 (MBS)时，滑轮会发生断裂。滑轮的效率是指在工作负荷(WLL)内，绳索改变180度时的效率。作业中滑轮的实际效率和绳索的角度、承受的拉力，其他设备或因素产生的摩擦力有关。过大的拉力可能会导致滑轮的滚珠轴承发生损坏，导致摩擦力增加，或滚轮无法转动。

附加安全须知

○ 使用者身体条件必须符合高空作业要求；高空悬空失去意识会造成重伤、死亡，作业前必须制定完整救援方案。

○ 攀登作业需考虑滑轮效应：坠落冲击会使上方锚点载荷放大 1.7 倍。

○ 工业场景单锚点最小破断载荷⩾12kN，符合 EN 795 标准；锚点位置需高于人体连接点位。计算坠落安全距离时需计入主锁长度，防止坠落撞击地面或障碍物。

○ 整套防护系统的承载极限由强度最弱的配件决定。

○ 避免绳索、编织扁带与锐边、粗糙表面摩擦。

○ 使用前完成风险评估并落实防护措施。

○ 禁止单人独立高空作业，提前制定可落地的救援方案与配套工具。

使用寿命、定期检验与报废规范

○ 合规干燥储存环境下金属部件无存放年限；塑料件最长存放 10 年，橡胶件最长存放 3 年。

○ 发生误用、撞击、超载、配件不匹配时，设备单次使用后即需报废。

○ 实际使用寿命取决于使用频次、作业的强度、恶劣环境（海水盐雾、泥沙、极端温湿度等）。除每次使用前后常规检查外，每年至少 1 次全面年检，使用越频繁检测次数越多，完整留存全部检测记录。

○ 检测人员必须持证或经厂家官方授权。

检测项目

- 无腐蚀、熔融、裂纹、磨损、变形、污渍；
- 连接孔磨损深度不超过 0.5mm；
- 弹簧、转轴回弹运转正常；
- 凸轮制动齿无严重磨损；
- 夹持制动功能完好；
- 产品标识清晰可辨。 出现变形、转轴卡顿等缺陷，需维修、送厂复检或直接报废。

强制报废条件

- 产品使用历史无法追溯；
- 对设备强度、安全性能存在任何疑虑；
- 未通过个人防护装备专项检测；
- 锁闭、承重功能出现故障；
- 不符合现行法规、标准；
- 承受重大坠落冲击或超负荷载荷。

报废处理方式

粘贴永久性不可擦除报废标签，或钻孔、切割破坏设备杜绝二次使用；也可寄回厂家统一处置。

责任说明

○ 使用者对自身操作、判断承担全部责任，无力承担安全责任禁止使用。

○ 仅限持证专业人员，或资深专业人员全程监护下使用本品。

○ 使用前完成理论 + 实操培训，掌握高空作业基础、装备配套安全规范。

○ 外销至其他国家 / 地区时，说明书需配套当地语言版本。

○ 非产品质量问题造成的直接、间接损失，欣达不予承担。

储存与运输

金属设备冲洗干净污渍并且完全晾干，存放于干燥的环境；储存、运输期间禁止接触磨料、重物、化学品、锐边、热源。金属主锁单独收纳于专用容器，全程遵循储存环境要求，建议专人统一管理存放。

维护保养

规范保养存放可延长设备寿命、保障使用安全

- 磨损修复：金属尖锐物划伤、表面粗糙、细微划痕可用砂纸打磨；磨损 / 划痕深度严禁超过 1mm。
- 清洁：20℃清水搭配软毛刷内外冲洗，禁止高压水枪、工业强清洁剂；清水冲洗后自然阴干，严禁高温烘烤。
- 长期使用后转轴润滑会损耗，需定期涂抹润滑油 / 润滑脂。 警示：严禁私自切割、打磨改装设备，所有维修仅可返回欣达原厂处理。

产品追溯

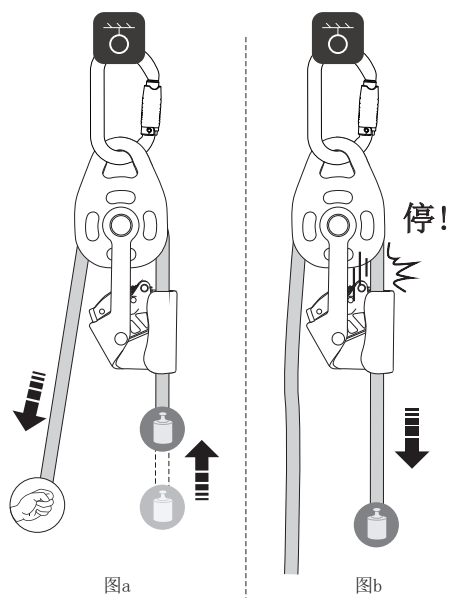
追溯码用于产品溯源，

示例编码 18096500J47 释义： 18096：2018年第96天生产；500J：批次质检代码；47：产品流水序号

有限质保

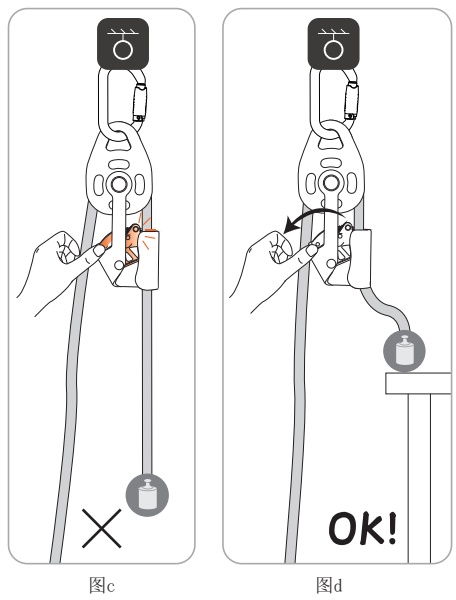
欣达提供 3 年的质保，质保仅覆盖原材料、生产制造缺陷。 质保免责范围：正常使用磨损、外力变形、氧化锈蚀、私自改装、误用、存放不当、保养缺失、超出设计用途使用等。

工作原理



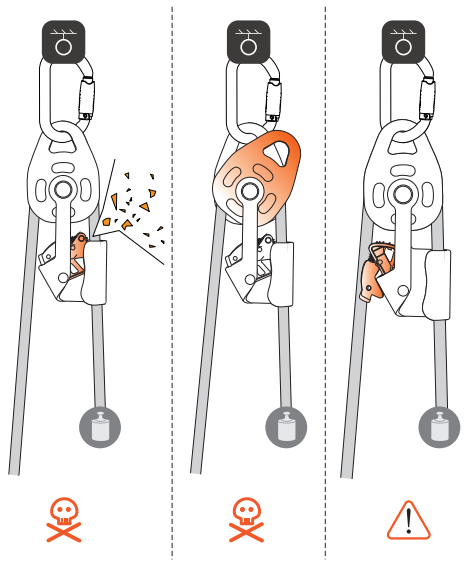
图a　　图b

解锁



图c　　图d

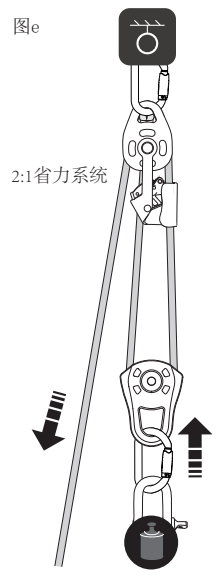
注意事项



省力系统搭建

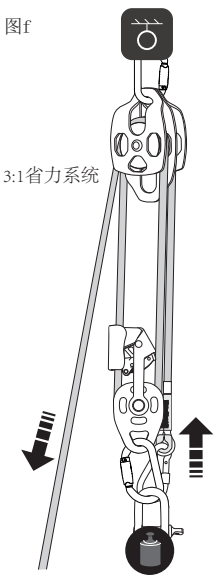
图e

2:1省力系统



图f

3:1省力系统



INSTRUCTION FOR USE SINGLE PULLEY LIFT

TYPE XD-8620

ver.202607/A

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.

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

Zhejiang Bingfeng Outdoor Product Co., LTD
Phone number: +86 400-8856993
No.19 Xinchao Road, Wangjiang Community, Baiyun Street, Dongyang City, Jinhua City, Zhejiang Province, China.

ISO9001 Standards Complied

贴条码处

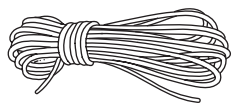
Safety precautions

This manual explains how to use the equipment and only appropriate techniques anduses are described. Warning signs tell the potential risksbut they don' t covereverything. Please read every each warning carefully and use your equipment properly.Any misuse might lead to danger.If you are in doubt, please contact XINDA.

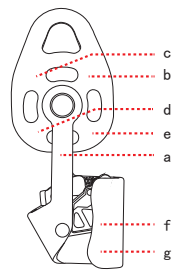
	Risk of severe injury or death
	Risk of accident or harm
OK!	Appropriate way of
	Incorrect way of use

Applicable Rope Diameter

8 ⩽ ∅ ⩽ 12mm

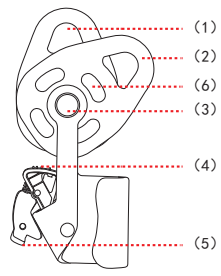


Marking



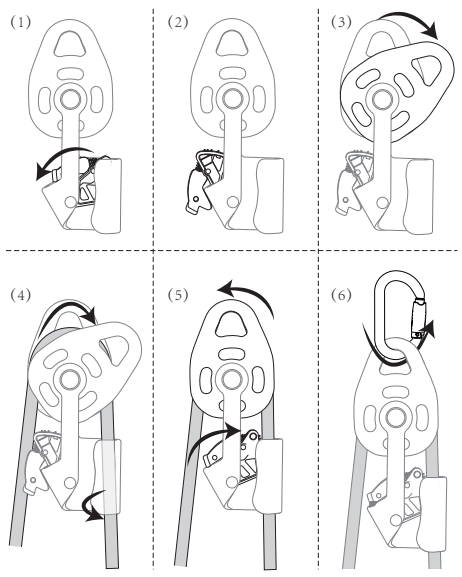
a. Name of the manufacturer or the brand name under which it is marketed
b. Working load of the spur / spike
c. Working load of the roller
d. Compatible rope diameter for the roller
e. Compatible rope diameter for the spur / spike
f. Compatible rope diameter for the pulley
g. Direction of load / Force direction

Component



(1)Main connection hole
(2)Side plate
(3)Rivet
(4)Spur / Spike
(5)Trigger
(6)Roller

Installation Instructions



Instructions for Use

Text of the instruction

○It is for One-Way Pulley, Type H-8620.This manual illustrates how to use, maintain, store and inspect the equipment.

○This manual includes specific and general instruction of rope clamp, and the general instruction also applies to other metal equipment.

For use in industrial work environments to improve hauling efficiency.

The pulley is intended for use with ropes only. The pulley must not be loaded beyond its rated capacity, and must not be used for purposes other than those for which it was originally designed.

Acceptable temperature: -20℃~50℃.

Compatibility:

The safety of One-Way Pulley 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. Make sure to perform a compatibility test beforehand (to check the proper installation, functionality and possibility of incorrect loading).

Check that this product is properly and correctly compatible with other equipment in your system.

Connect the pulley to a connector (carabiner) with a locking system. The connector must be inserted through all main connection holes in the side plates of the pulley simultaneously.

A double pulley with a single axle must be used with both rollers simultaneously. Using only one roller will cause unbalanced loading and side plate wear.

Do not subject the pulley to other lever forces.

Select a rope of suitable diameter. Incorrect use with steel cables may cause rapid wear of the pulley. Note: Steel cables of small diameter (<4mm) may become jammed between the roller and the side plate.

When using steel cables, ascenders, and fall arresters, a single pulley can be assembled into a one-way directional braking pulley system. The braking effect depends on the performance of the steel cable equipment. During use, pay attention to the condition of the cable equipment, the positional relationship with the pulley, and the braking performance. Excessive tension may cause cable failure or even damage the rope.

Always ensure that the rope remains straight and under tension, and avoid dynamic shock loading.

Pay attention to the tension, angle, and load of horizontal hauling systems. Excessive tension may cause system failure.

Pay attention to the speed of movement. Excessive speed may result in serious collision.

Be aware that soft objects such as hair or branches may become entangled in the pulley.

Warning: Dynamic shock loading and high-ratio pulley systems can generate very high forces on anchors or the system. Check the strength of anchors and the system to avoid exceeding their working load limits.

Any equipment connected to the pulley (anchor points, ropes, connectors, etc.) must comply with applicable standards and regulations. If you are unsure about the requirements for any tool in the system, please contact us.

Main materials: Aluminum Alloy

Installation and Operation

As shown in the illustrations, first open the trigger and side plate, thread the rope through, close the trigger and side plate, and attach the connector (carabiner). The device is then ready for use.

Operating Principle

One-way directional stop. During the lifting process, the spur (spike) grips the rope, preventing the load from descending even when released.
Figure a: Pull the rope downward to raise the load.
Figure b: During operation, the load does not descend when released.

Unlocking Method

When the pulley is lifting a load to height, it is in a locked state under load. To easily open the pulley trigger, there must be a platform to support the load so that the rope becomes unloaded.

Figure c: If the load is not placed on a platform, the pulley remains in a locked state under load with the rope under tension, and the pulley trigger cannot be opened.

Figure d: Once the load is placed on a platform, the rope becomes slack and unloaded, and the pulley trigger can be easily opened.

Haul System Setup

As shown in Figure e and Figure f.

Safety check

Before each use:

Check the product for cracks, deformation, corrosion, etc. Check that the pulley rotates smoothly. Check the clearance between the side plate and the roller. Check the roller, side plates, and connection holes for wear.

During each use:

Check that the pulley is loaded correctly and that the connector (carabiner) is loaded along its major axis. Ensure that the rope remains straight and that no foreign matter enters the pulley.

Note: Mud, water, or other contaminants can reduce the efficiency of the pulley and may even prevent the roller from rotating.

Load

The pulley is subjected to the combined force generated by the two ends of the rope. When this combined force reaches the pulley's minimum breaking strength (MBS), the pulley will fail. The efficiency of the pulley refers to its efficiency when the rope changes direction by 180° within the working load limit (WLL). The actual efficiency during operation depends on the rope angle, the tension applied, and friction from other equipment or factors. Excessive tension may damage the pulley and the rope, increase friction, or cause the pulley to stop rotating.

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.

○When the adjustable anchor line is loaded by the full weight of the user, this becomes a working line and a safety line should be used in addition for optimum safety of the user.

○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 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 rope clamp;
-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.

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.

How It Works

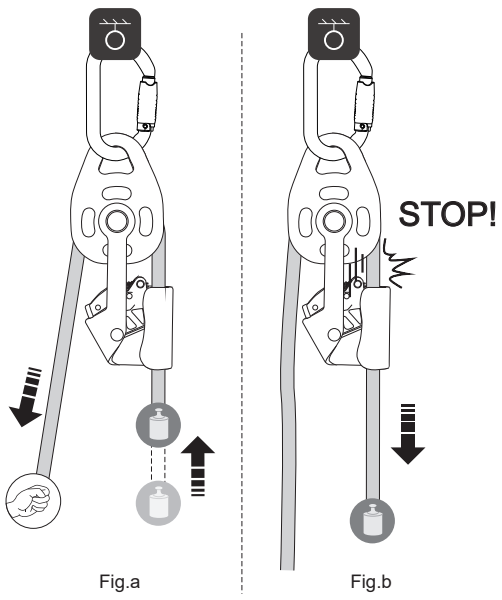


Fig.a Fig.b

Unlock

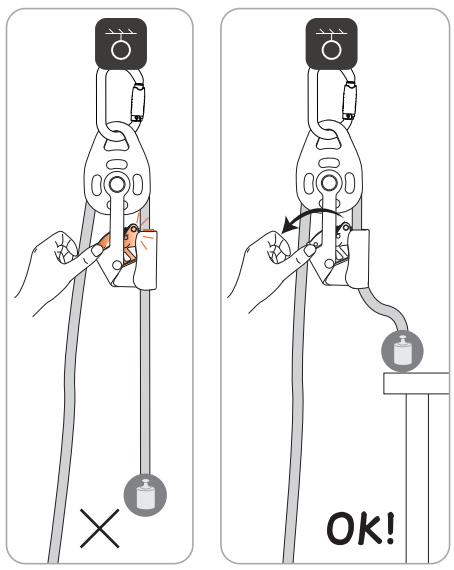
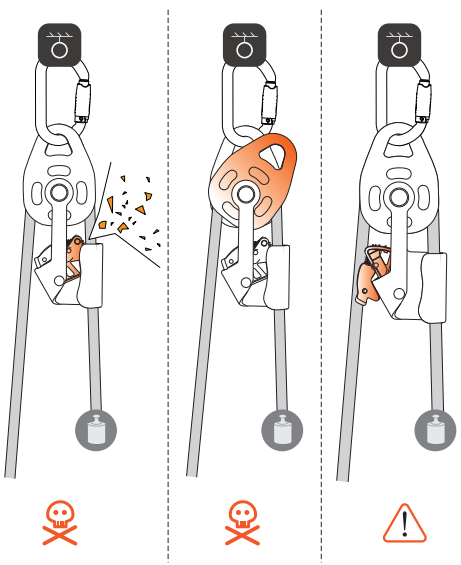
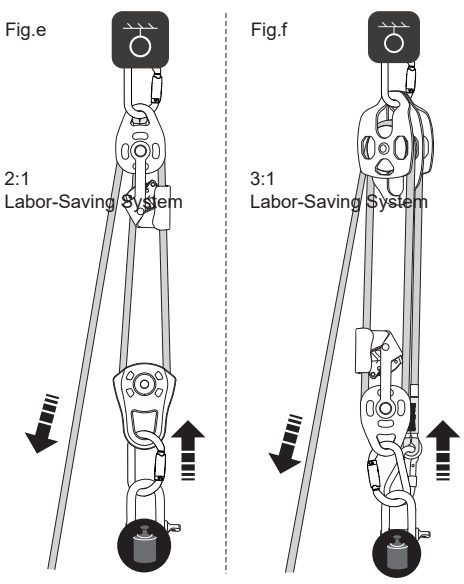


Fig.c Fig.d

Important Notes



Effortless System Setup