型号 • **Model**:

MSA Gravity Suspension Harness

USER INSTRUCTIONS

智巧星救援安全带 使用说明

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产品技术不断改良 当前数据仅供参考
Due to continuous technical improvements, specifications are subject to change without prior notice.

P/N 10154926 Rev.2

使用者在使用本产品前须经过培训。如与使用者职业相适应，可将本手册作为安全培训教程的一部分。本手册必须在使用本产品前提供给使用者并请保存备查。使用者应阅读，理解（或经讲解）并遵照执行本产品及配套产品所提供的所有用户指南、标签、标注及警告说明。未能照此说明执行可能导致严重后果甚至危及生命。

选择和应用

1.1 安全带的用途

MSA安全带符合GA494-2004和GB6095-2009标准。该安全带是个人坠落制动系统的主要部分。在使用了合适的附件后，它也可用于工作定位、限位和抢险救援场合。该安全带被用来支撑躯干，并将坠落制动的冲击力分散到使用者的大腿、胸部和肩膀。

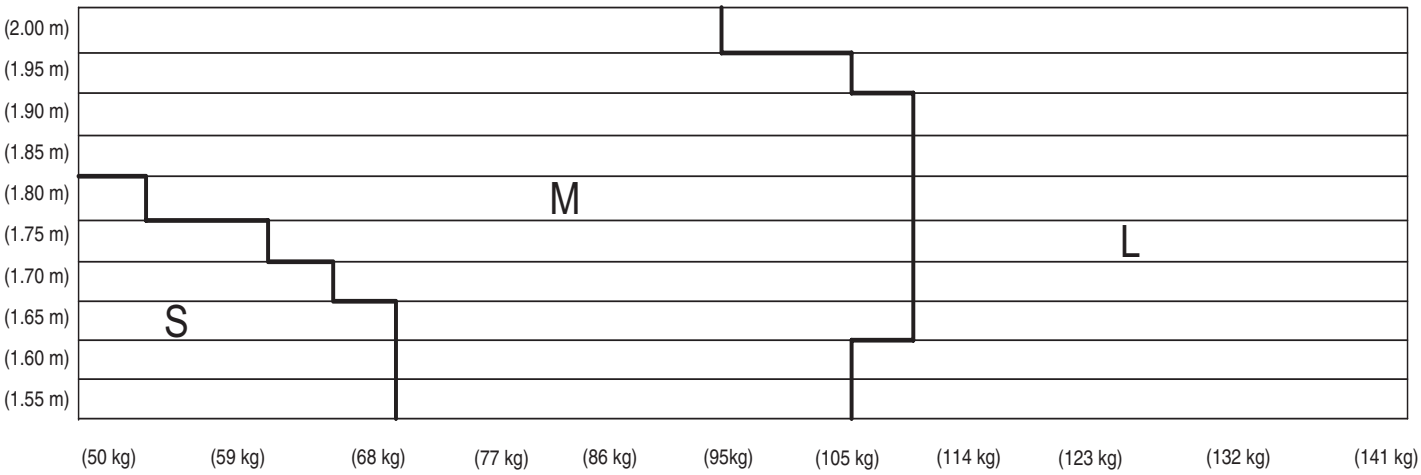
1.2 身体条件限制

MSA安全带设计用于一个使用者，包括衣服、工具以及使用者随身携带的其它物品的总重量必须少于产品标签上的规定负荷。。如果使用者有任何肌肉，骨骼或其它身体不适，应当在使用前咨询医生。怀孕的妇女和未成年人决不可使用本安全带。

1.3 环境

化学危险品，高热和腐蚀将损坏安全带。在有这些情况的环境下，需要更经常地检查安全带的完好状况。不要在高于摄氏85度（华氏185度）温度的环境里使用本产品。当在有电器危险，运转的机器和具有磨损性表面的周围工作时，需要格外小心。

1.4 尺码的选择



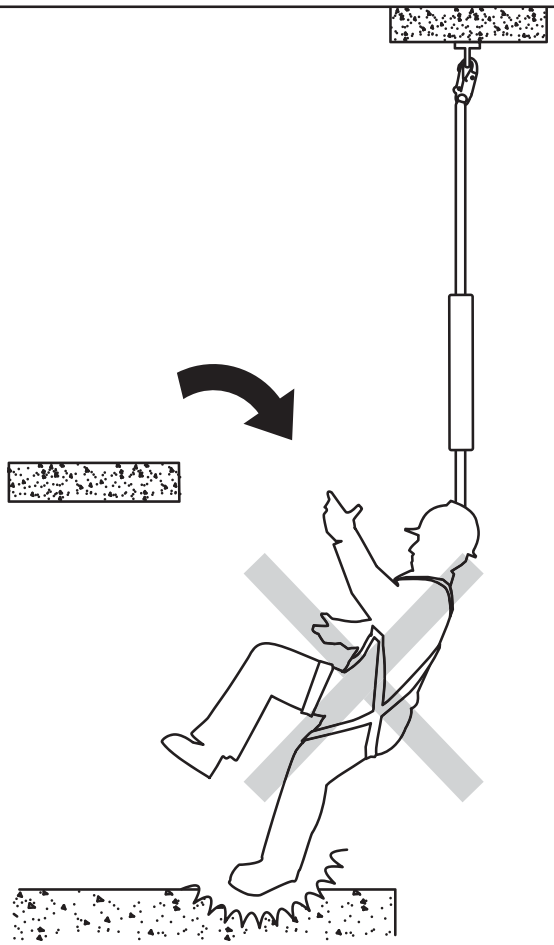
1.5 锚点的选择

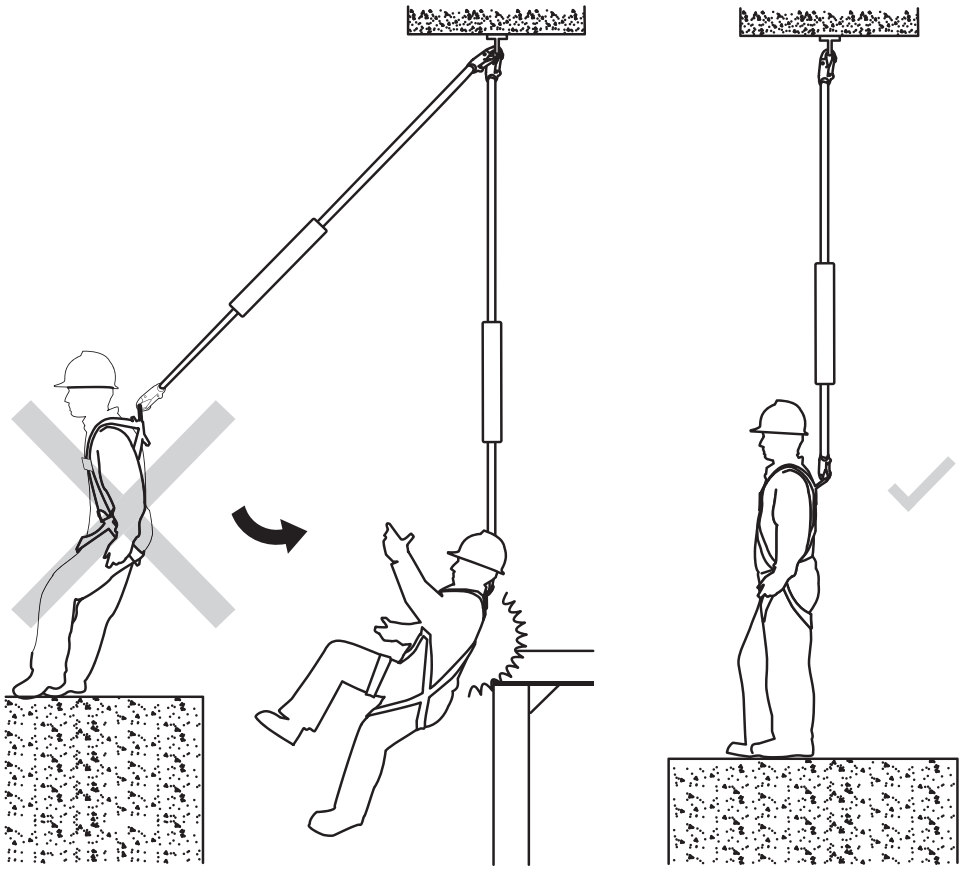
锚点和锚点连接件在系统允许的所有方向上必须能承受最小22kN(5000磅力)的静负荷，或者它们必须为有资质人员设计、安装和使用的完整坠落防护系统的一部分。

锚点连接件必须在尺寸、形状和强度方面兼容。不兼容的连接件可能会意外脱开（“rollout’）。始终确认连接自锁挂钩或和安全带上D型环或锚点连接件的兼容性。

必须尽可能在锚点的正下方工作以便将钟摆坠落最小化。在钟摆运动中撞击一个物体的力可能导致严重伤害(见图1)。

1





使用说明

2.1 安全带的穿戴

步骤一：穿之前检查安全带的织带，缝纫线，金属件以及标签。抓住背部D型环，理顺扭曲的带子（见图2A）。

步骤二：打开前部连接环上的竖钩以及腿带上的调节扣（见图2B）。

步骤三：将肩带放置一边，双手抓住腰带，使用者将脚从腰带伸进去，再将腰带提至使用者腰部（见图2C）。

步骤四：通过拉腰两端的织带来调节腰带大小，腰带两边的自由端必须塞进弹性束带环内（见图2D和图2M）。

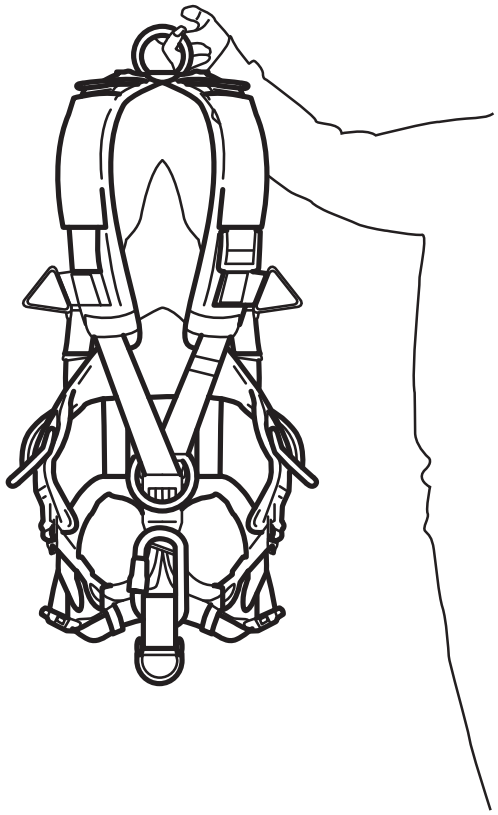
步骤五：调节腿带直至获得最适尺寸（见图2E和2M）。

步骤六：将肩带套过头部放在肩膀上（见图2F）。将前部竖钩连接到坐式安全带的前部挂点上。旋转锁紧套锁住竖钩（见图2G）。

步骤七：调节肩带长短，肩带的自由端必须塞进弹性束带环内（见图2H和图2M）。

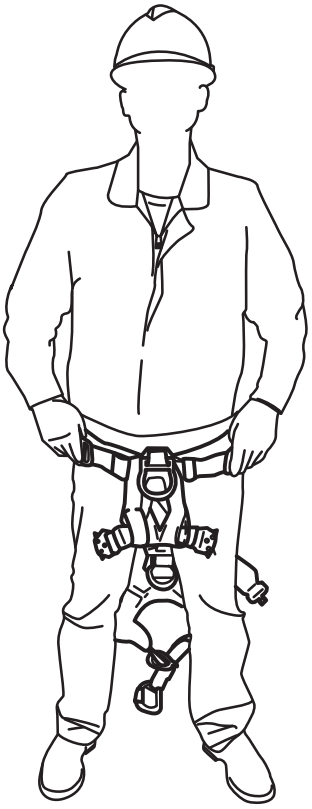
步骤八：第一次使用安全带前先调节背部调节扣，让你的同伴帮忙调节前胸D型环在胸骨上，调节背部D型环在肩胛骨之间(见图2K）。

2A

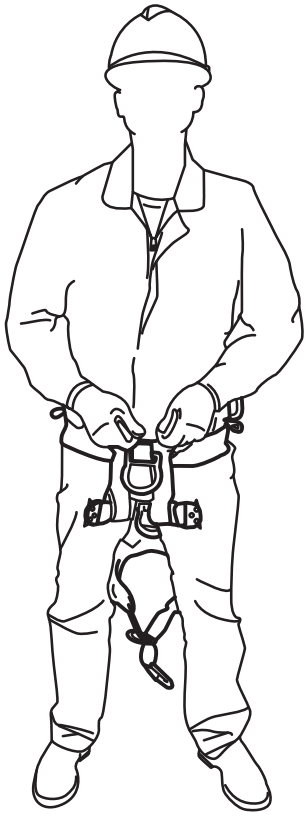


2B

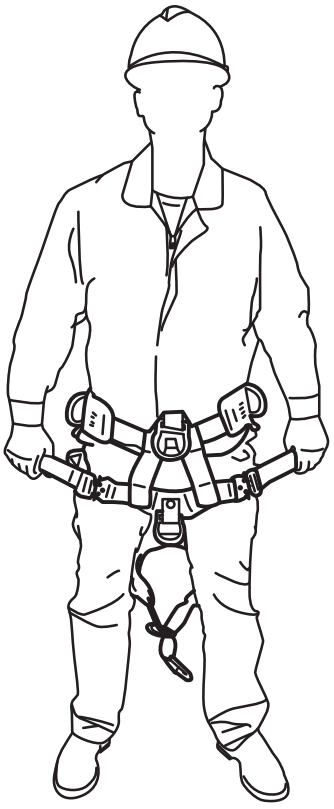
2C



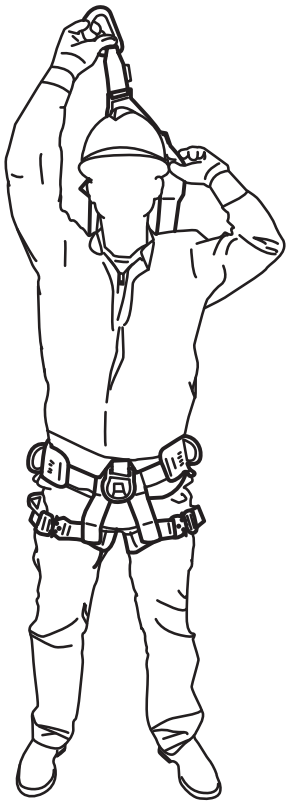
2D

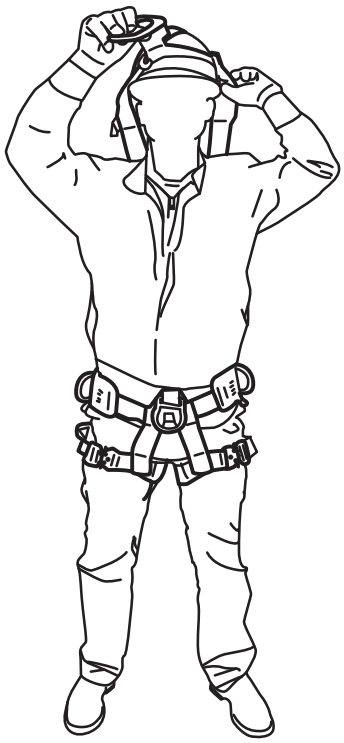


2E



2F

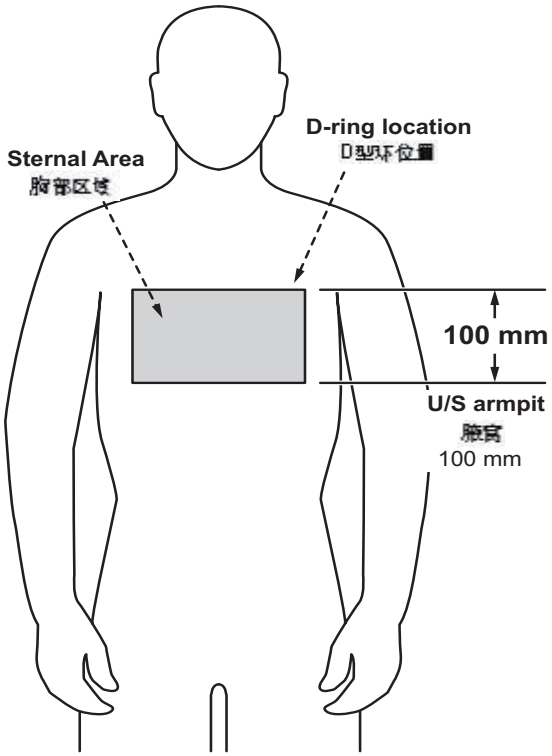


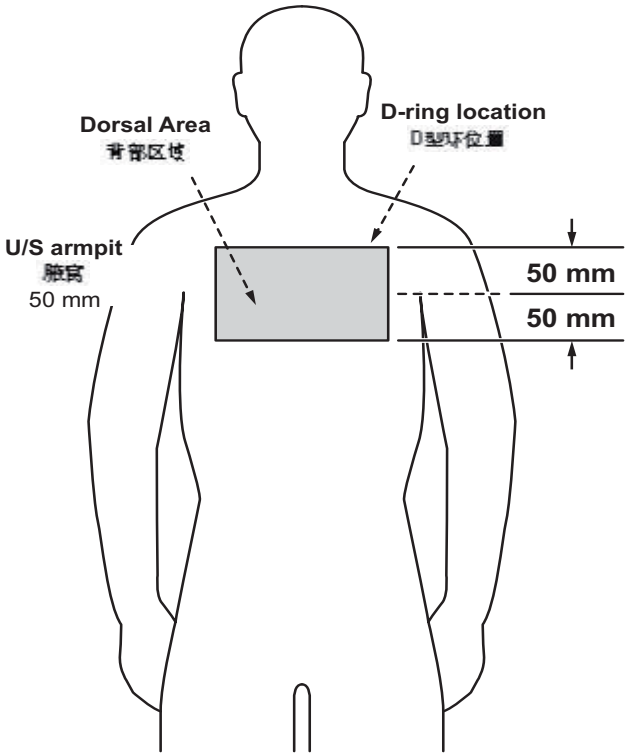


2G

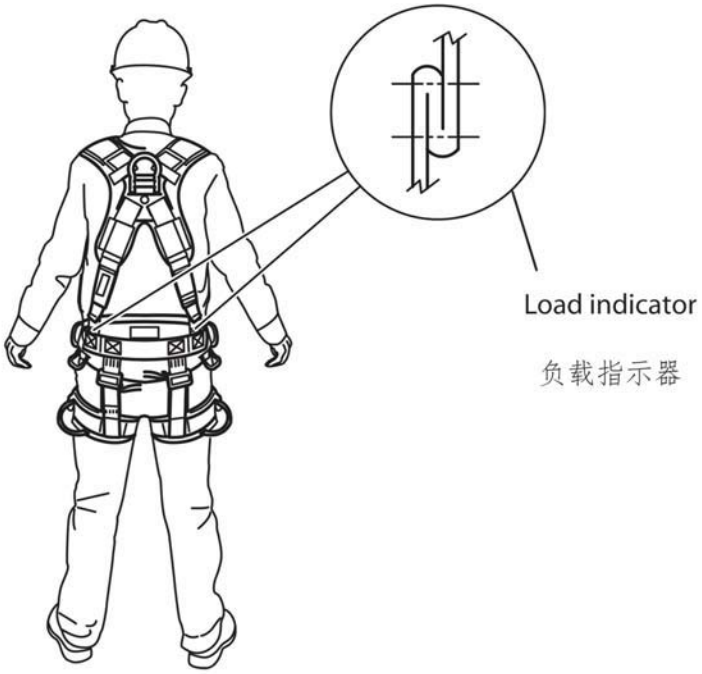
2H

2K

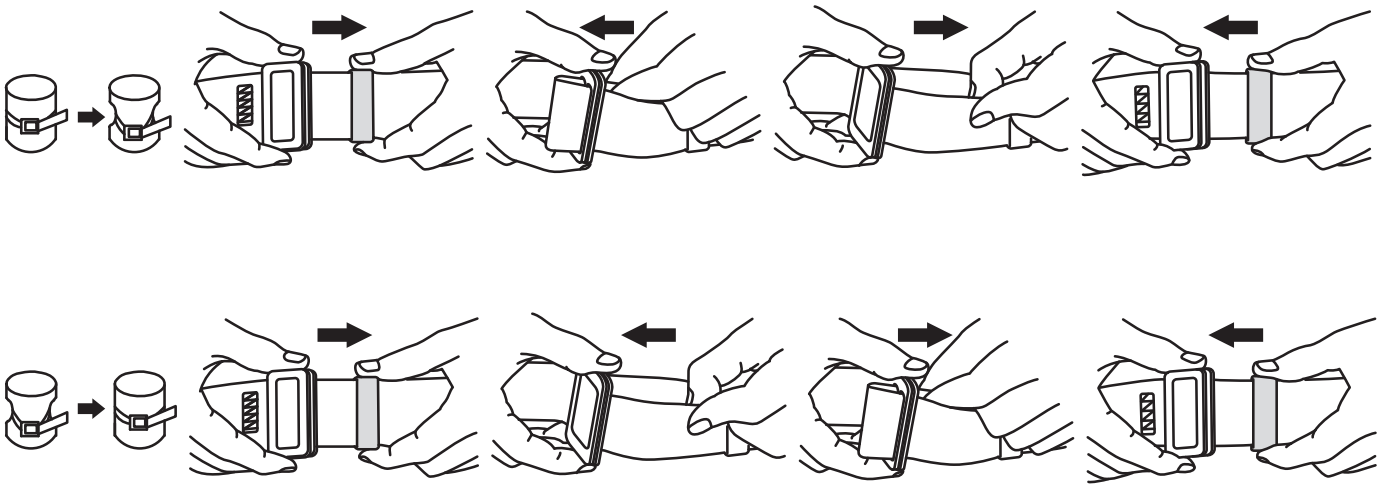


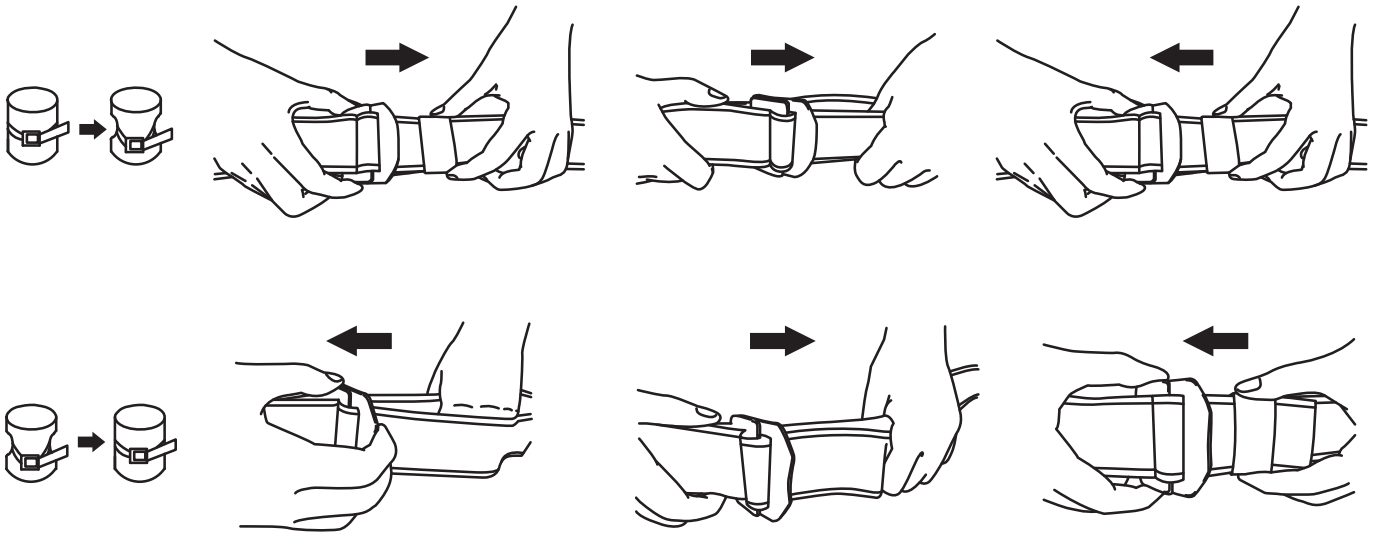


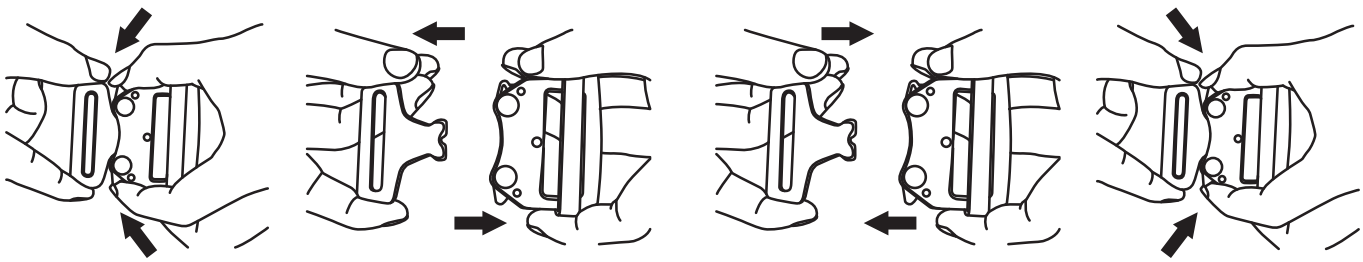
2L



2M







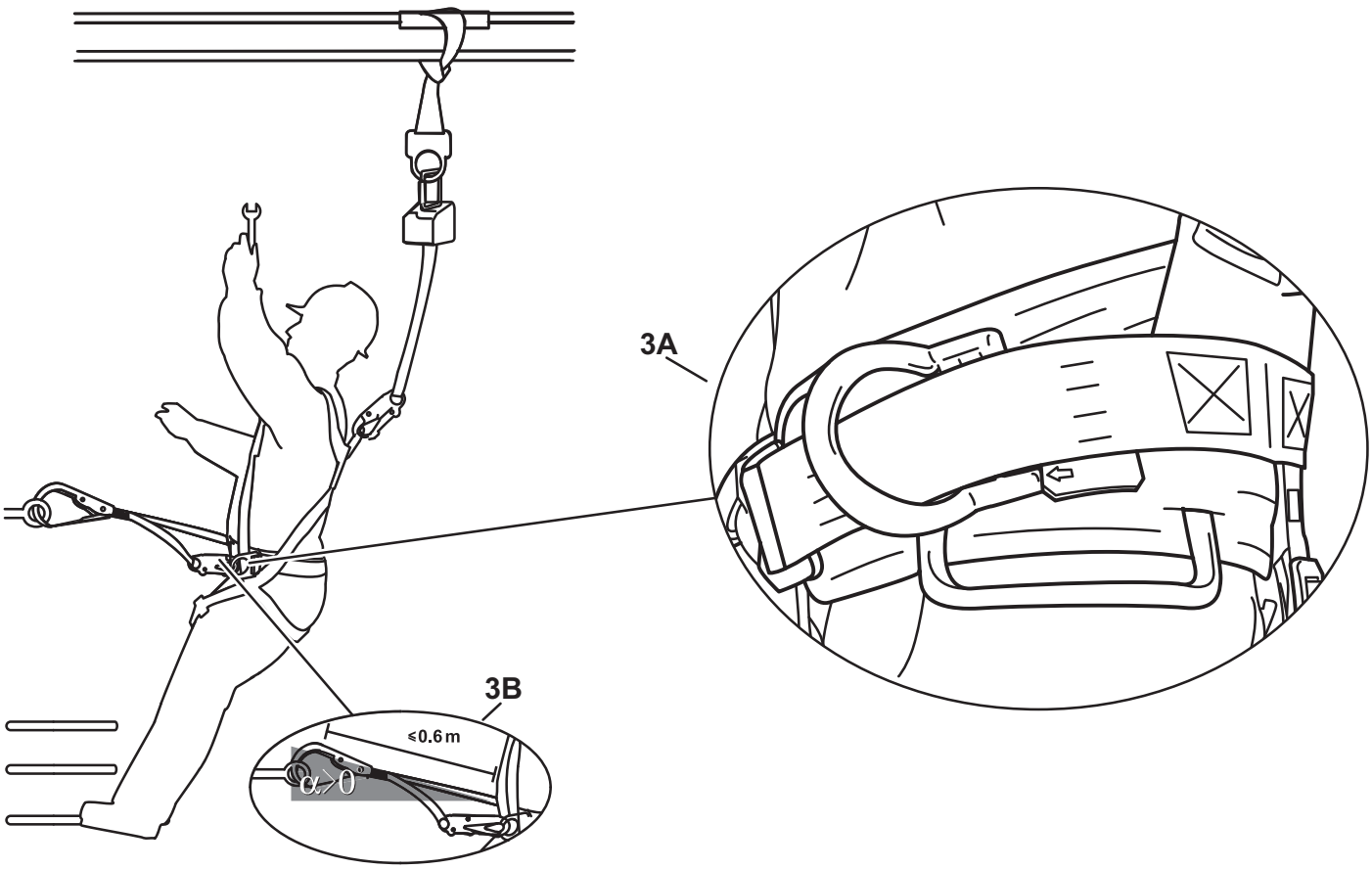
2.2 腰部D型环的使用

腰部D型环（见图3和3A）必须只能用来连接围杆作业系统，不能用于坠落保护系统或攀爬系统保护。腰部D型环必须成对使用。当安全带用于围杆作业时，必须使用单独的坠落制动系统。放置或调整定位绳应确保锚点的位置应不低于腰部；同时定位绳保持绷紧，自由移动量不得超过0.6米（见图3和3B）。

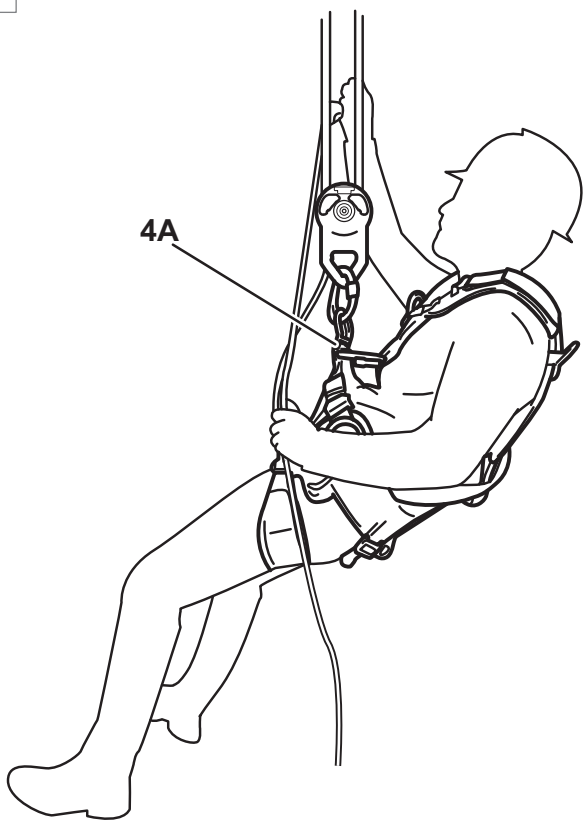
2.3 前部D型环的使用

前部D型环（见图4和标记4A）必须只能用于坐式安全带系统，不能用于坠落保护系统。前部D型环可用于连接缓降定位系统或前进绳索。对于坐式安全带，在第一次使用前，使用者应该先在一个安全场所做舒适和可调性测试。该测试用于保证在预期的使用条下，有合适的尺寸、足够的调节量和满意的舒适度

3



4



保养和贮存

3.1 清洁说明

以水和中性洗涤剂溶液清洗该安全带。将金属部件用干净的布揩干，并将安全带悬挂在空气中晾干。不要使用热风快速干燥。如果积累过多的污物、油漆或其它异物，可能会妨碍安全带的正常功能。在更加严重的情况下，会使安全带的功能降低。有任何关于安全带状况和清洁的问题，请与MSA公司联系。

3.2 维护与服务

已经损坏的，或需要保养的设备，必须挂上“不可使用”的标签，撤出使用。如需纠正性保养（不仅是清洗）和修理，例如部件更换，必须由MSA的工厂进行。不要试图在现场修理。

3.3 存储

该安全带必须储存在凉爽，干燥，清洁的场所，避免直射的阳光。同时要避免有高热、潮湿、光线、油污、化学品或其蒸汽，或其它会降低安全带性能的成分可能存在的区域。不准将已经损坏或需要保养的设备与可以使用的设备储存在同一区域。

严重脏污的，潮湿的，或污染的设备应当在储存前进行适当的保养（如清洗并干燥）。在使用已经过长时间储存的设备之前，应当由有资质人员进行一次正式的检查。

检验和警告

4.1 检查频率

该安全带在每次使用前必须由使用者进行检查。另外，至少每六个月，应由有资质人员而不是使用者进行一次检查。由有资质人员进行的检查称作“正式检查”。

⚠ 注 意!
经受过一次坠落制动力的安全带必须立即停止使用，并标注为“不可使用”直至销毁。

4.2 检查内容
检查所有的织带和缝纫部位，是否有切割、脱落、扯断、磨损、过度使用、变形/丢失的织带、烧伤、热或化学品暴露伤害。
检查所有的部件（包括负载指示器，见图2L）,是否有变形、开裂,、腐蚀、深的疤痕、烧伤、切口、缺口、热或化学品暴露伤害。检查是否有缺少、松动的、失去功能的部件。

⚠ 注 意!
发现负载指示器上的缝纫线断裂，安全带必须立即停止使用。只有连接背部D型环时，负载指示器才会起作用。由于一些坠落事故的特殊性，负载指示器并没有撕开，但安全带必须撤出服务。

4.3 纠正内容
损坏的、过期的、老化的产品是不能修复的。标牌被损或过度磨损的安全带应标上“不准使用（UNUSABLE）”后立即撤出服务。销毁不准使用的安全带。

⚠ 注 意!
仅MSA或经MSA书面授权的单位可以对安全带进行修理。不要试图修理或改装安全带。
建议使用两年后进行首次破坏负荷测试，以后每年进行一次破坏负荷测试。
旧产品，当主带或安全绳的破坏负荷低于15kN时，该批安全带应报废或更换相应部件。
本产品为符合GA494-2004和GB6095-2009标准的合格品。

质量保证条款

يي ؟ :
用户应正确保存产品（常温、常态、通风、干燥、避光、无化学腐蚀，无强电辐射）。按照MSA 公司的使用说明书或维护建议使用产品后，遇到因产品材料的问题或制造缺陷的，MSA公司提供一年的质保期。该质保期的起始日为出具发票之日。
质保期内修复后的产品，质保期的到期日不变。
质保期外更换或修理的零配件的质保期是90 天，该质保期是从出具发票之日起开始。
根据质保条款，对于MSA 制造的组件或附件；非MSA 公司或非MSA 公司授权人员进行的维修或改装；以及产品不正确使用或由不可抗力而引起的质量问题，MSA公司不负责任何责任。
MSA公司的任何代理商，雇员或代表无权承诺超出此MSA 质量保证书所承诺的任何主张、要求或保证。
用户需妥善保管发票。请在要求质保服务时，提供该发票。

ضكⓅ ٦ سر :
无论何种情况下，MSA 公司对由于产品原因引起的任何类型的间接损害或是损失，包括买方对预期利润的损失以及任何其它的损失将不承担任何责任。以上条款适用于任何针对MSA 的质保条款或其它诉讼条款而提起的索赔。

⚠ 注 意!
MSA 公司会按需要更新质量保证声明，最终解释权属于MSA

The user must be trained before using this product. Use this manual as part of a user safety training program that is appropriate for the user's occupation. These instructions must be provided to users before use of the product and retained for ready reference by the user. The user must read, understand (or have been explained), and heed all instructions, labels, markings and warnings supplied with this product and with those products intended for use in association with it. FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY OR DEATH.

Selection and Application

1.1 Usage

The MSA harness conforms to the GA494-2004 and GB6095-2009 standard. This harness is a major part of a personal fall arrest system. If connected with appropriate attachments, it can also be used as a restraint, positioning and rescue facility. This harness supports the body weight of the user in a fall, and distributes the fall arrest force over the pelvis, thighs, waist and shoulders.

1.2 Physical Limitations

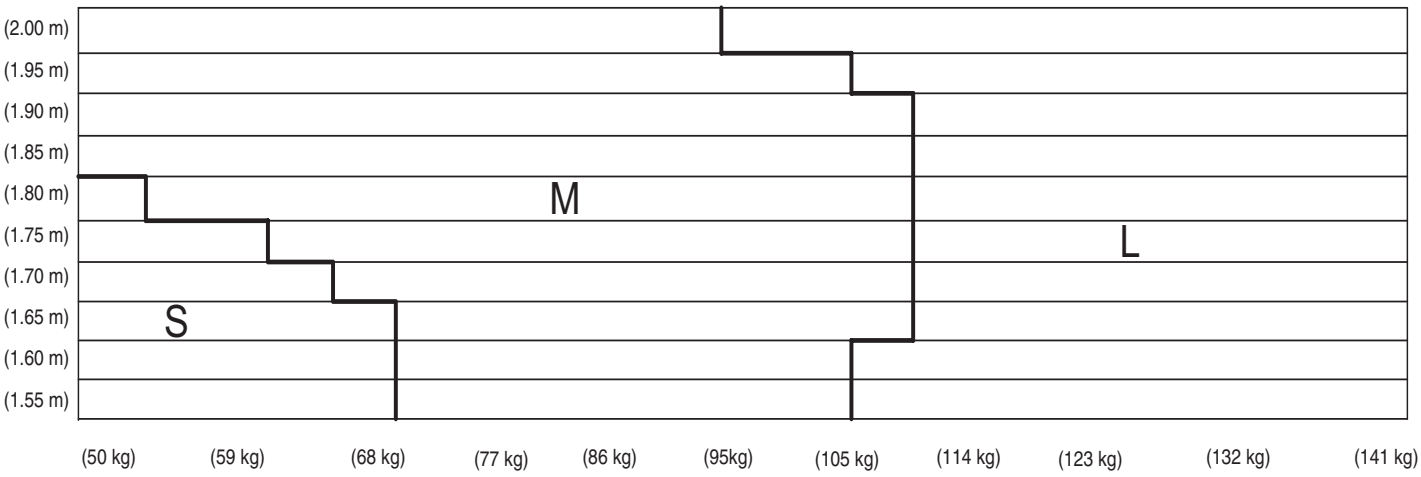
The MSA harness is designed for one user whose weight, including clothing, tools, and other user-borne objects, are less than the load capacity shown on product label. A user, who has uncomfortable feelings in muscles, bones or other body parts, shall consult the physician before using the product. Pregnant women and minors MUST NEVER use the

harness.

1.3 Environment

Chemical hazards, heat and corrosion may damage the harness. More frequent inspections are required in these environments. Do not use the product in environments with temperatures higher than 85 °C (185 °F). Always use caution when working around electrical hazards, moving machinery and abrasive surfaces.

1.4 Selection of the Size

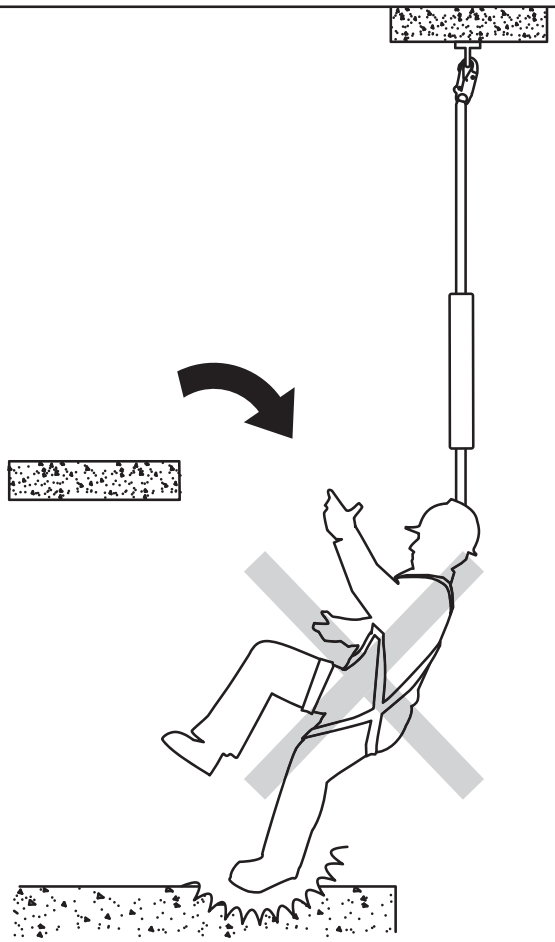


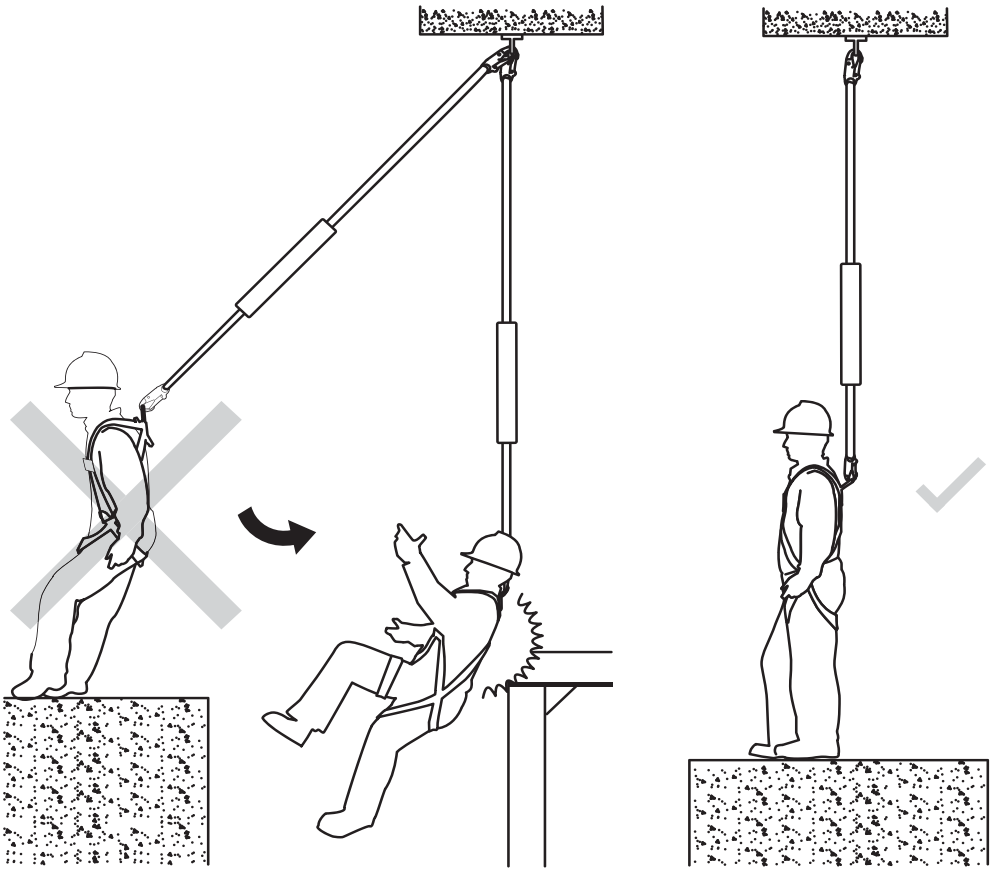
1.5 Selection of the Anchorage Point

The anchorage point and anchors must be capable of carrying a minimum dead load of 22 kN (5,000pounds) in each permitted direction, or they must be part of a complete fall arrest system which is designed, fitted and used by competent people. The anchors to be used must be compatible in size, shape and strength. Incompatible anchors may cause

accidental disengagement or "rollout". Always ensure that the snaphook is compatible with the D-ring or anchors of the harness. Always work directly under the anchorage point to minimize swing fall hazards. The impact force against a stationary object during swing movement may cause serious injury. (See Figure 1.)

1





Wearing Instructions

2.1 Putting on the Harness (See figure 2)

Step 1: Inspect harness straps, stitching, hardware and labels prior to donning. Hold harness from back D-Ring and shake harness to remove any twist in straps (See figure 2A).

Step 2: Open the carabiner on the front connection loop and the buckles on the leg straps (See figure 2B).

Step 3: Putting the shoulder strap off to one side, hold the seat harness by the waist belt. Put your legs through the waist belt and pull the waist belt up to your waist (See figure 2C).

Step 4: Adjust the waist belt by pulling on the belt strap. The free end of the belt strap must be tucked into the keeper (See figure 2D and figure 2M).

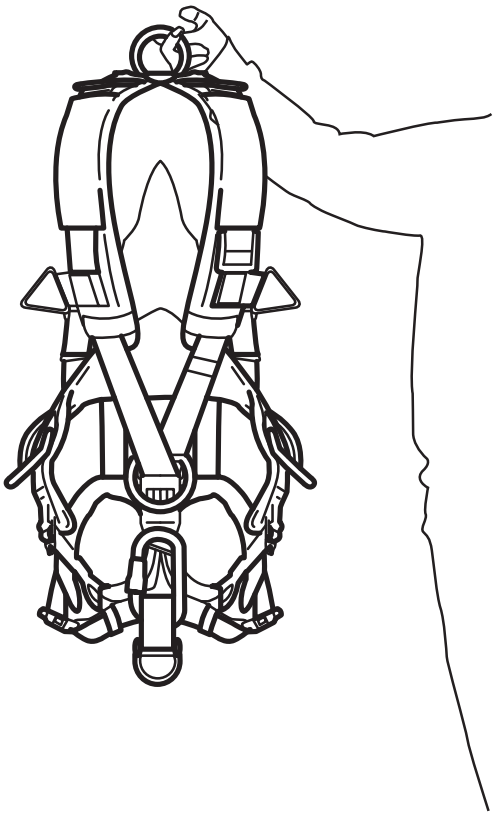
Step 5: Fasten and adjust the leg loop to obtain the optimum fit (See figure 2E and figure 2M).

Step 6: Pull harness over your head and position the shoulder strap on the shoulders (See figure 2F). Put the front carabiner into the front point of the seat harness. Lock this carabiner by turning the lock sleeve (See figure 2G).

Step 7: Adjust the shoulder straps. The free end of the shoulder straps must be tucked into the keeper (See figure 2H and figure 2M).

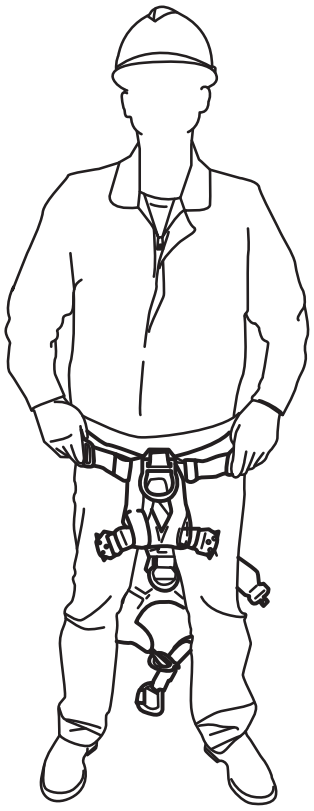
Step 8: You should always initially adjust the dorsal adjuster when putting on your harness for the first time. Get your colleague to help you do this.

2A



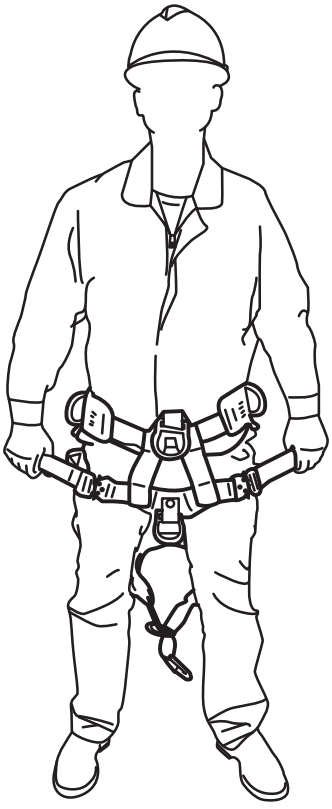
2B

2C

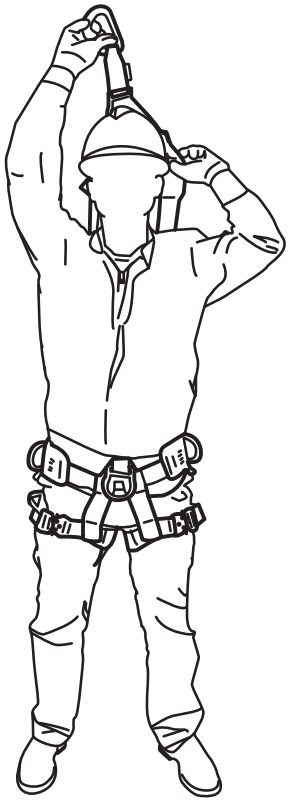


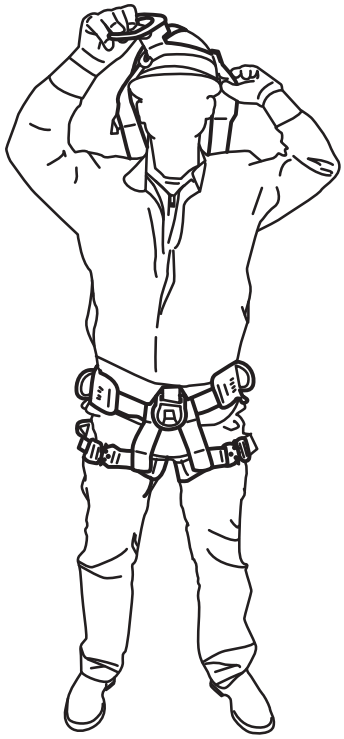
2D

2E



2F

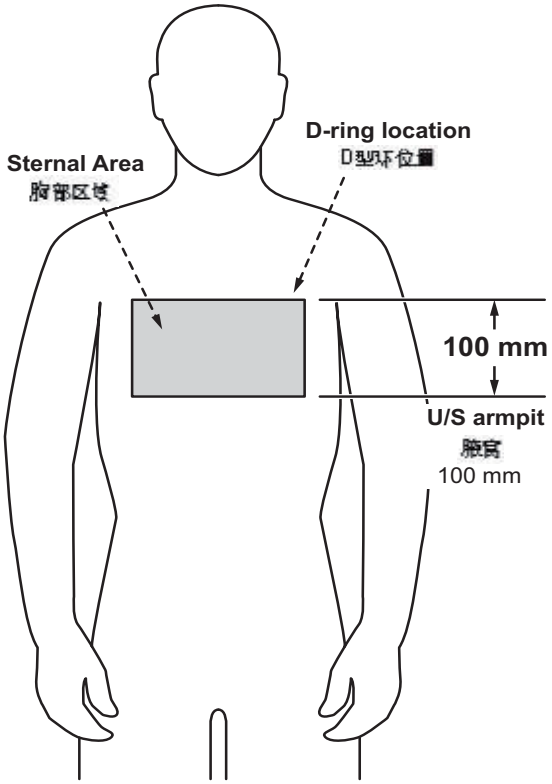


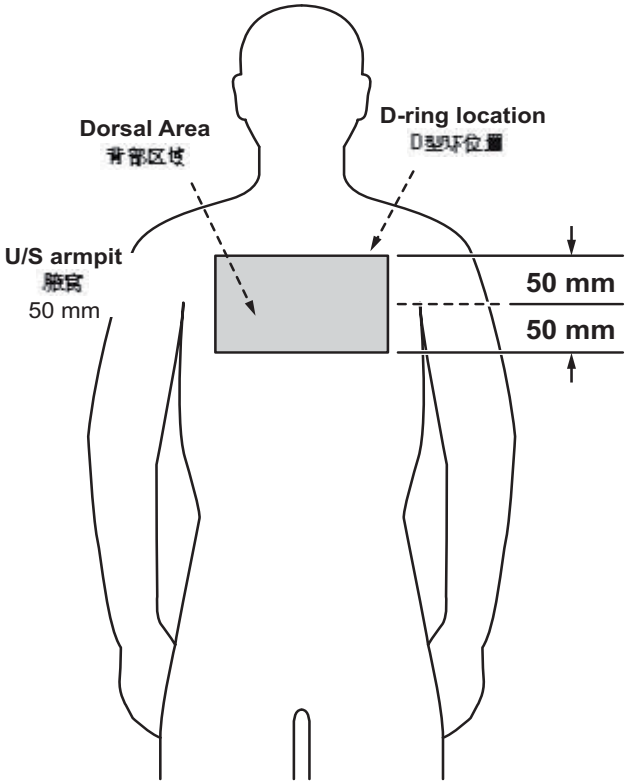


2G

2H

2K





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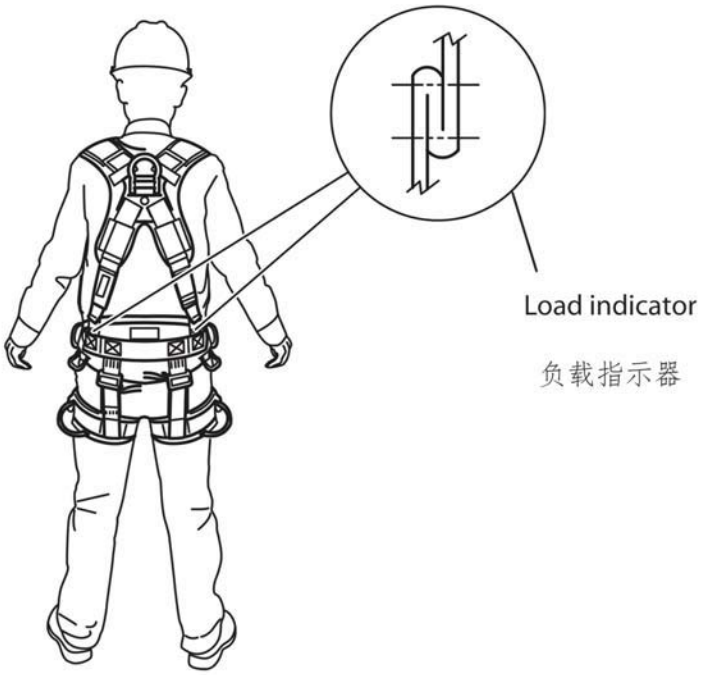

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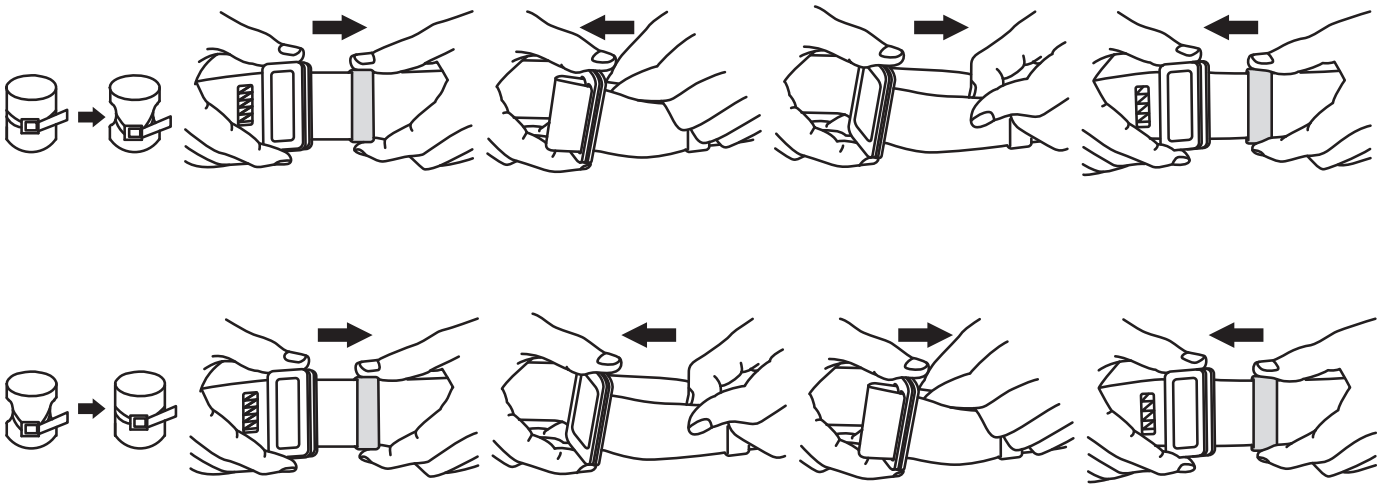
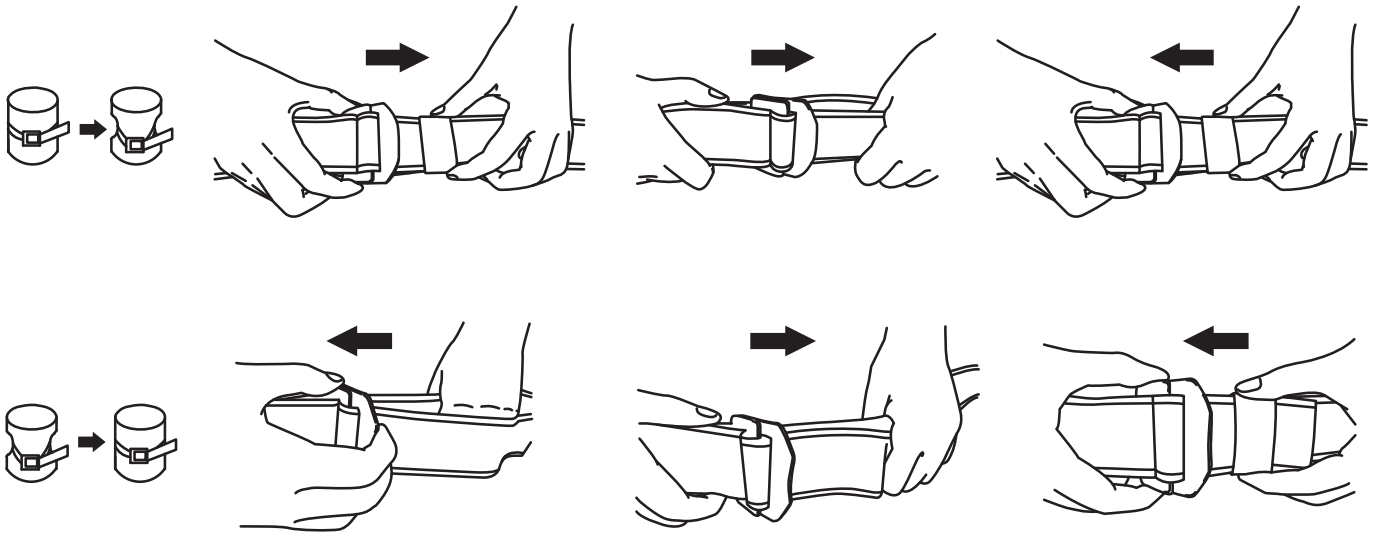
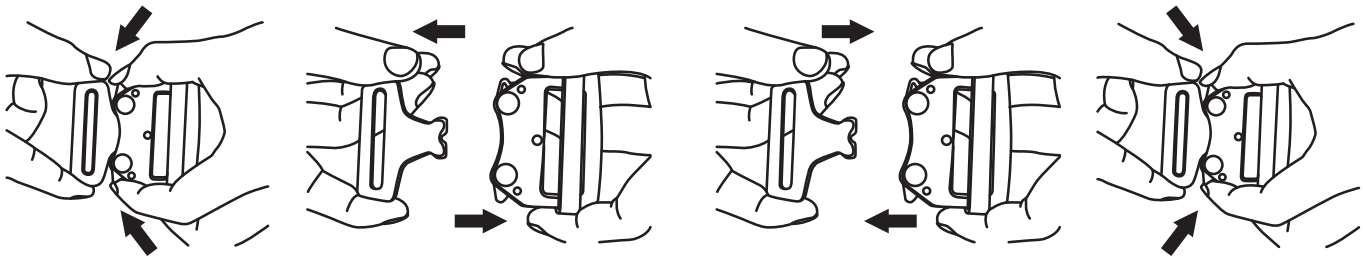






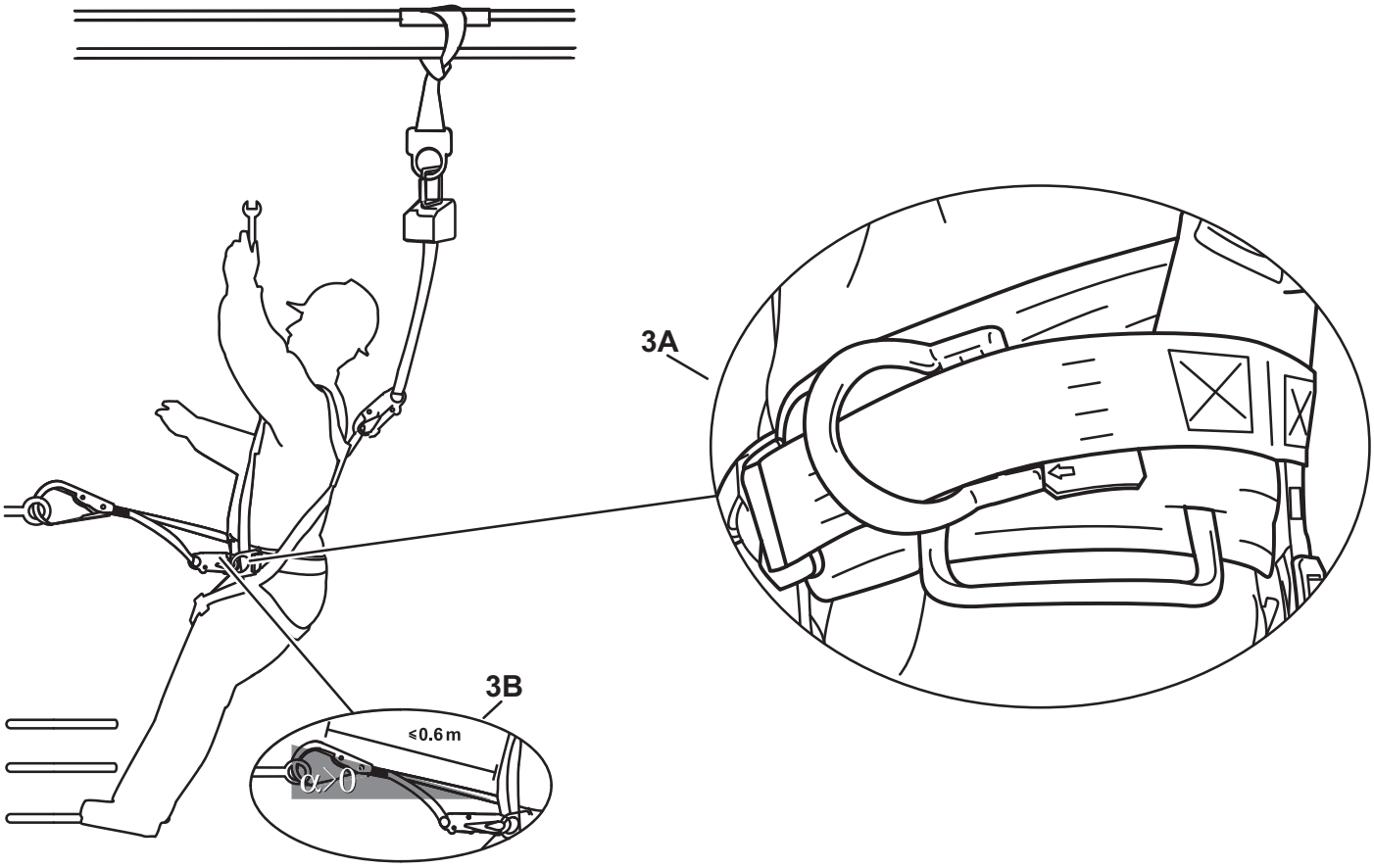
2.2 Guide to Side D-rings

The side D-rings (See figure 3, mark 3A) of a harness MUST ONLY be used for being connected to a work positioning system and NEVER A fall arrest system or climbing protection. Always use both side D-rings together. For work positioning applications, a separate fall arrest system must be used. Adjust work position lanyard so that the anchorage point is maintained at or above waist level, the lanyard is kept tight, and free movement is restricted to a maximum of 0.6m (See figure 3, mark 3B).

2.3 Guide to Front D-ring

This ventral d-ring (See figure 4, mark 4A) MUST ONLY be used for seat harness systems and NEVER A fall arrest system. Use ventral D-ring to attach a descender, positioning lanyards or progression lanyards. Prior to using the seat harness for the first time, the user should test it for comfort and check that it can be adjusted safely. The user should do this in a safe place, checking the harness is the correct size and that it can be sufficiently adjusted so that it is comfortable and suitable for its intended use.

3



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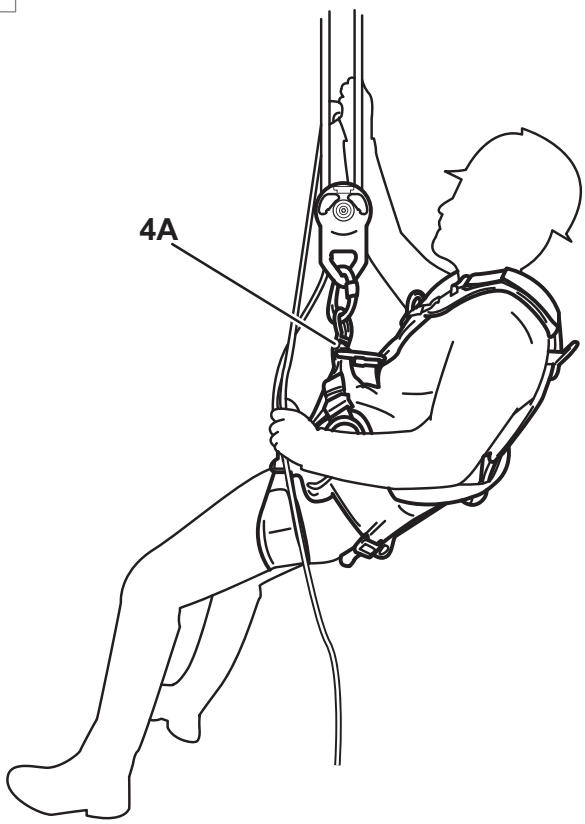

Maintenance and Storage

3.1 Cleaning Instructions

Clean the harness with a solution of water and mild laundry detergent. Dry hardware with a clean cloth and hang the harness to air dry. Do not speed dry with heat. Excessive accumulation of dirt, paint, or other foreign matters may prevent proper function of the harness, and, in severe cases, weaken its function. Should you have any questions concerning product conditions and cleaning, contact MSA.

3.2 Maintenance and Service

The equipment damaged or in need of maintenance must be tagged as “UNUSABLE” and removed from service. Corrective maintenance (other than cleaning) and repair, such as replacement of elements, must be performed by the MSA factory. Do not attempt field repairs.

3.3 Storage

Store the harness in a cool, dry and clean place out of direct sunlight. Avoid areas where heat, moisture, light, oil, and chemicals or their vapors or other degrading elements may be present. The equipment damaged or in need of maintenance should not be stored in the same area as the usable equipment. Heavily soiled, wet, or otherwise contaminated equipment should be properly maintained (e.g. dried and cleaned) prior to storage. Prior to using the equipment which has been stored for long periods of time, a periodic inspection should be performed by a competent person.

Inspection and Warnings

4.1 Inspection Frequency

The harness must be inspected by the user before each use. In addition, the harness must be inspected once every six months by a competent person instead of the user. The inspection carried out by a competent person is known as “formal inspection”.

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If the harness has been subjected to fall arrest, it MUST be immediately removed from use and tagged as “UNUSABLE” until destroyed.

4.2 Inspection Range

Inspect the label on the harness to verify that it is present and legible. Inspect all webbing and stitching for cuts, fraying, pulled or broken threads, abrasion, excessive wear, altered or missing straps, burns, and heat and chemical exposures.

Inspect all parts (including load indicator, see figure 2L) for deformation, cracks, corrosion, deep pitting, burns, cuts, nicks, and evidence of excessive heat or chemical exposures. Inspect for any missing, loose or invalid parts.

Any broken or pulled stitches in the load indicators show that the harness has experienced load force or degradation due to environmental factors. Do not use the harness with broken stitches in the load indictors. The load indicators will only active when attached to the back d-ring. Due to the nature of some fall events, it is possible for the load indicators to not deploy. However, in the event of any fall, the harness must be removed from service.

4.3 Correction Range

Damaged, overdue and aging products are not repairable. The harness with a damaged label or excessive wear must be tagged as “UNUSABLE” and removed from service immediately. The unusable harness must be destroyed.

Only MSA or parties with written authorization from MSA may repair the harness. DO NOT attempt to repair or modify the harness.

It is recommended that the initial rupturing load test should be carried out after two years of use and once a year since then.

When the rupturing load capacity of the swaps and lanyard of an old harness is less than 15 kN, this harness should be destroyed or some parts of it should be replaced.

This product is a quality product complying with the GA494-2004 and GB6095-2009 standard..

Warranty Terms

Express warranty:

The user is responsible for storing the product properly (in an environment of normal temperature, ordinary state, good ventilation and out of chemical corrosion and strong electric radiation). If you find any material problems or manufacturing defects after using the product in accordance with the MSA user instructions and maintenance suggestions, MSA will offer one-year limited warranty. The warranty period commences on the date of invoice.

A product repaired under warranty shall be covered for the remainder of the original warranty period.

The new warranty period for a part replaced or repaired after warranty is 90 days as of the date of invoice.

According to the warranty terms, MSA is not responsible for any MSA assemblies or attachments that are repaired or modified by a company or person without authorization from MSA, and any quality problems caused by improper use or force majeure.

No agent, employee or representative of MSA is entitled to make commitment of any proposition, demand or guarantee out of this MSA warranty.

The user shall retain the invoice. Please show your invoice when asking for warranty service.

Disclaimer of indirect losses:

Under no circumstances will MSA be responsible for any type of indirect damages or losses caused by the product, including the loss of buyer’s expected profit and any other losses. The above term is applicable to any claims against MSA with respect to the warranty terms or other litigation terms of MSA.

MSA will update the warranty statement as needed. All final explanation rights are reserved by MSA.