




HANDY LINE[™]
2-PERSON TEMPORARY HORIZONTAL LIFELINE

USER INSTRUCTION MANUAL
**HORIZONTAL ANCHORAGE LINE
USING GI WIRE ROPE**

THESE INSTRUCTIONS APPLY TO THE FOLLOWING MODEL:

AFA940014



EN 795:2012 Type C
TS 16415:2013 Type C



II 2G
Ex h IIc T6 Gb
EN ISO 80079-36:2016
EN ISO 80079-37:2016

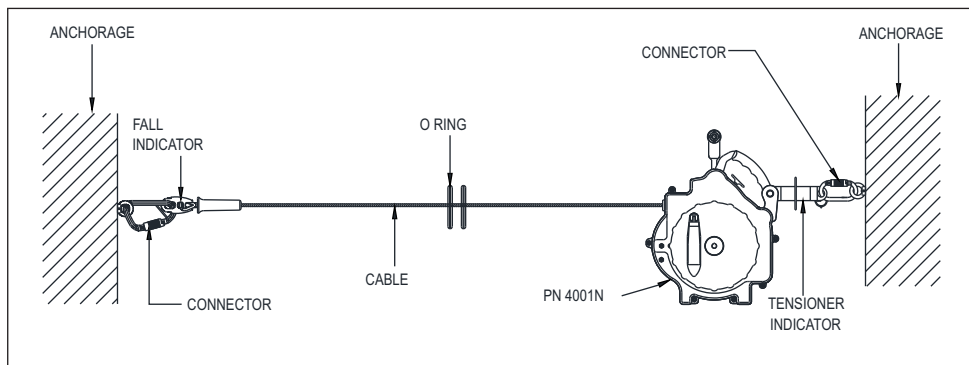
Please read and understand the manufacturer's instructions for each component or part of the complete system. Manufacturer's instructions must be followed for proper use, care, and maintenance of this product. These instructions must be retained and be kept available for the worker's reference at all times. Alterations or misuse of this product, or failure to follow instructions, may result in serious injury or death.

Note: The user is advised to keep this user instructions document for the life of the product.

- 1. INTRODUCTION:** The KStrong Horizontal Lifeline System is a temporary horizontal lifeline system that retracts into a housing for easy storage and portability. This product is part of a fall arrest system.

IMPORTANT:

- If you have questions on the use, care, or suitability of this equipment for your application, contact KStrong.
- Before using this equipment, record the product identification information in the equipment record table.



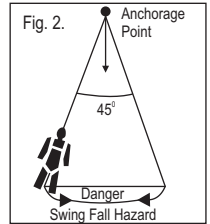
TECHNICAL SPECIFICATION:

Construction	Maximum Span Length of Wire Rope	System Breaking Strength	Karabiners	Conforms to
Rope- 7x19 Galvanized Steel Wire Rope of dia 6.0mm	18.0m	22.2kN	5000 lbs.(22.2 kN) Minimum Tensile Strength	EN 795:2012 Type C
Casing - Housing made up of durable & high strength polymer				

- 2. APPLICATIONS:** The KStrong Horizontal Lifeline System is designed for use as an anchoring means for one or two personal fall arrest systems. Use the Horizontal Lifeline (HLL) where horizontal mobility and fall protection are required.

- **Limitations:** Consider the following application limitations before using this equipment:
 - **Horizontal Lifeline Span:** The maximum horizontal lifeline span length is 60 feet (18.3 m), see Figure 1. The span length must be reduced when clearance is limited.
 - **Capacity:** For a single span use, the maximum capacity of the Horizontal Lifeline System is two persons. The maximum weight of each person, including tools and clothing is 140 kg.
 - **Body Support:** The KStrong Horizontal Lifeline must only be used with personal fall arrest systems incorporating a full body harness.
 - **Fall Clearance:** There must be sufficient clearance below the worker to arrest a fall before striking the lower level or obstruction.
 - **Free Fall:** Rig and use the personal fall arrest system such that the maximum potential free fall does not exceed government regulatory and subsystem manufacturer's requirements.

- **Swing Falls:** Swing falls occur when the anchorage point is not directly overhead. The force of striking an object in a swing fall may cause serious injury or death. Minimize swing falls by working as directly below the anchorage point as possible. Do not permit a swing fall if injury could occur. Swing falls will significantly increase the clearance required when a self retracting lifeline or other variable length connecting subsystem is used. If a swing fall situation exists in your application, contact KStrong before proceeding. See Fig. 2.
- **Connecting Subsystem:** Each person's connecting subsystem must limit fall arrest forces to 900 lbs. (4.0 kN) or less.
- **Anchorage:** The KStrong Horizontal Lifeline System must be installed on anchorages having minimum strength of 22.2 kN. The structure used to anchor KStrong products must be assessed by a competent person. If there is any doubt regarding its strength or suitability, it must be referred to a qualified structural engineer for evaluation.
- **Environmental Hazards:** Use of this equipment in areas where physical or environmental hazards are present may require additional precautions to reduce the possibility of injury to the user or damage to the equipment. Hazards may include, but are not limited to; high heat, caustic chemicals, corrosive environments, high voltage power lines, explosive or toxic gases, moving machinery, or sharp edges. Contact KStrong if you have questions about using this equipment where physical or environmental hazards exist.
- **Training:** This equipment must be installed and used by persons trained in its correct application and use.
- **Applicable Standards:** EN 795:2012 type C & TS16415:2013 type C Refer to national standards, including local, state, and federal (OSHA) requirements for more information on work positioning systems and associated components.



3. INSPECTION:

- **Before Each Installation:** Inspect the system components according to these or other manufacturer's instructions. System components must be formally inspected by a competent person (other than the user) at least annually. Formal inspections should concentrate on visible signs of deterioration or damage to the system components. Items found to be defective must be replaced. Do not use components if inspection reveals an unsafe or defective condition. Record the results of each formal inspection in the equipment record table.
- **Installed Systems:** An inspection of the HLL system by a competent person must be completed after the system is installed. The system must be periodically inspected by a competent person when left installed for an extended period, and prior to each day's use. Periodic inspections should be performed at least monthly, or more frequently when site conditions and use warrant. Inspections of installed systems should include the inspection steps listed by the manufacturer.

4. PRECAUTIONS BEFORE:

- **Putting into Service:**
 - Ensure strength of receiving structure is inline with the requirement to sustain the predicted impact loads.
 - Ensure legibility of markings/labels of the product before putting into service.
 - Fall Indicator on the attachment hook must show green to show safe usage.
 - Ensure anchor point to which retractable block is being connected complies to EN795: 2012.
 - All connectors used for making connections must comply with EN 362:2004.
- **Usage:**
 - Dorsal attachment of the harness must be used for making connection to the user's harness.
 - O rings are to be used as mobile anchor for users over the length of lifeline.
 - Harness in compliance with EN361 is the only recommended body holding device when used with retractable block.
 - Attach the life line of to the Dorsal D-ring of the harness.
- **Installations:**
 - Installation of lifeline must be done as per the information laid down in this manual.
- **Training:**
 - It is important to impart training to the installer and user about the safe working of the product by an authorised/competent person.
 - In case of doubt arising about the safe condition of the product, such as but not limited to damaged housing, red fall indicator etc, device must be taken out of service.
 - Product is safe to use upto a maximum temperature of 50°C.
 - Any alteration to the product or misuse of the product may directly lead to serious injury or death.
 - It is impertinent to get trained by authorized/ competent person for safe installation, adjustment & usage.

5. PRE-USE CHECK:

- STEP 1:** Inspect all screws, bolts and nuts. Ensure they are securely attached and tight. Check to see if any bolts, nuts or other parts are missing, or have been substituted or altered in any way. Inspect covers, housings, guards, etc. Ensure they are free of cracks, dents, or other damage.
- STEP 2:** Inspect metal components for rust or corrosion that may affect their strength or operation.
- STEP 3:** Inspect the wire rope for rust, corrosion, broken wires, or other obvious faults. Inspect the synthetic rope for burnt, broken threads, or other obvious faults. Inspect all karabiners and connectors securing the HLL assembly to ensure they are present and properly installed. Inspect the sleeves at the end of the lifeline for damage such as cracks, dents or distortion.
- STEP 4:** Inspect the impact indicator at the end of the lifeline. If the pin is broken, the system has been exposed to an impact force. The system must not be used if the indicator is broken.
- STEP 5:** Pull sharply on the lifeline close to the device end to ensure that the lifeline is secured.
- STEP 6:** Repeat step 4 of this manual to ensure that the lifeline is under the correct tension. If not necessary, do not apply any extra-tension on the lifeline during this operation, just make sure that the crank handle "clicks".
- STEP 7:** Inspect system labels. The labels must be present and fully legible. Replace labels if missing or illegible.

IMPORTANT:

If this equipment is subjected to the forces of a fall arrest, it must be removed from service and destroyed.

If inspection reveals an unsafe or defective condition, remove unit from service.

USER EQUIPMENT: Inspect harnesses and energy absorbing lanyards or SRL's used with the HLL system according to manufacturer's instructions.

- This equipment must be inspected according to steps listed in this manual by a competent person, other than the user, at least annually. Record the results of each inspection in the equipment record table.

IMPORTANT: Extreme working conditions (harsh environments, prolonged use, etc.) may require increasing the frequency of inspections.

- If inspection reveals an unsafe or defective condition, remove the HLL from service and contact an authorized service center for repair.

6. SYSTEM REQUIREMENTS:

- **Compatibility of Connectors:** KStrong equipment is designed for use with KStrong approved components and subsystems only. Substitutions or replacements made with non-approved components or subsystems may jeopardize compatibility of equipment and may effect the safety and reliability of the complete system.
- **Compatibility:** Connectors are considered to be compatible with connecting elements when they have been designed to work together in such a way that their sizes and shapes do not cause their gate mechanisms to inadvertently open regardless of how they become oriented. Connectors (Hooks, Karabiners, and D-rings) must be capable of supporting at least 5,000 lbs. (22.2 kN). Connectors must be compatible with the anchorage or other system components. Do not use equipment that is not compatible. Non-compatible connectors may unintentionally disengage. Connectors must be compatible in size, shape, and strength.
- **Connections:** Only use self-locking snap hooks and karabiners with this equipment. Only use connectors that are suitable to each application. Ensure all connections are compatible in size, shape and strength. Do not use equipment that is not compatible. Ensure all connectors are fully closed and locked.

KStrong connectors (Snap Hooks and Karabiners) are designed to be used only as specified in each product's user instructions.

NOTE: Large throat-opening snap hooks should not be connected to standard size D-rings or similar objects which will result in a load on the gate if the hook or D-ring twists or rotates. Large throat snap hooks are designed for use on fixed structural elements such as rebar or cross members that are not shaped in a way that can capture the gate of the hook.

- In a false engagement, where features that protrude from the snap hook or Karabiner catch on the anchor, and without visual confirmation seems to be fully engaged to the anchor point.
- To each other.
- Directly to webbing or rope lanyard or tie-back (unless the manufacturer's instructions for both the lanyard and connector specifically allows such a connection).
- To any object which is shaped or dimensioned such that the snap hook or karabiners will not close and lock, or that roll-out could occur.

CONNECTING SUBSYSTEM: The connecting subsystem is the portion of the personal fall arrest system that is used to connect between the horizontal lifeline subsystem and harness fall arrest attachment element. The connecting subsystem must limit forces applied to the horizontal lifeline to 900 lbs. (4.0 kN) or less.

WARNING:

Do not alter or intentionally misuse this equipment. Use caution when using this equipment around moving machinery, electrical and chemical hazards, and sharp edges.

WARNING:

Consult your doctor if there is reason to doubt your fitness to absorb the impact from a fall arrest. Age and fitness can affect your ability to withstand fall arrest forces. Pregnant women and minors must not use this system.

7. OPERATION:

- **Personal Fall Arrest System Components:** Inspect and don a full body harness according to the manufacturer's instructions. Attach the connecting subsystem (energy absorbing lanyard or SRL) to the dorsal connection on the harness.
- **Connecting to the HLL System:** Approach the work area using the appropriate access equipment. Connect the personal fall arrest system to the HLL. Connectors must meet all compatibility and strength requirements.
- **Hazardous Situations:** Do not take unnecessary risks, such as jumping or reaching too far from the edge of the working surface. Do not allow the connecting subsystem to pass under arms or between feet. To avoid inadequate clearance, do not climb above the HLL. To avoid swing fall hazards, do not work too far from either side of the HLL.
- **Two Persons Connected to the HLL:** When a person falls while connected to the HLL, the system will deflect. If two persons are connected to the same HLL, and one person falls, the second person may be pulled off the working surface due to deflection. The potential for the second person falling increases as the HLL span length increases. The use of independent HLL systems for each person, or shorter span length, is recommended to minimize the potential of the second person falling.

WARNING:

Both ends of the lifeline must be securely attached to appropriate anchors when in use. Never attach the end of the lifeline to a harness to use it in the manner of a winch or SRL.

- **Free Fall:** The personal fall arrest system must be rigged to limit free falls to 6 ft. (1.8 m) or less when using an energy absorbing lanyard, or such that the SRL is overhead and without slack, according to OSHA requirements.
- **Sharp Edges:** Avoid working where the connecting subsystem or other system components will be in contact with, or abrade against, unprotected sharp edges. If working around sharp edges is unavoidable, a protective cover must be used to prevent cutting of the personal fall arrest system components.
- **In the Event of a Fall:** The responsible party must have a rescue plan and the ability to implement a rescue. Tolerable suspension time in a full body harness is limited, so a prompt rescue is critical.
- **Rescue:** With the number of potential scenarios for a worker requiring rescue, an on-site rescue team is beneficial. The rescue team is given the tools, both in equipment and techniques, so it can perform a successful rescue. Training should be provided on a periodic basis to ensure rescuers proficiency.

Fall Clearance & Deflection Chart AFA940014
Single User

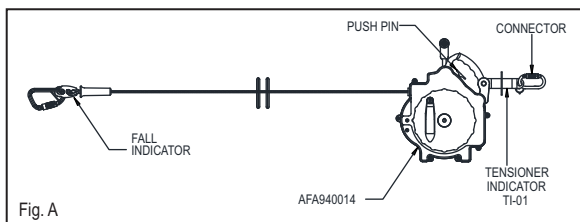
Pay out Length (Mtr.)	Deflection	Fall Clearance (mtr) (When used with Mikron)	Fall Clearance (mtr) (When used with 2 meter Shock absorbing lanyard)
5	1.23	5.23	7.23
6	1.28	5.28	7.28
7	1.33	5.33	7.33
8	1.38	5.38	7.38
9	1.42	5.42	7.42
10	1.47	5.47	7.47
11	1.52	5.52	7.52
12	1.57	5.57	7.57
13	1.62	5.62	7.62
14	1.67	5.67	7.67
15	1.71	5.71	7.71
16	1.76	5.76	7.76
17	1.81	5.81	7.81
18	1.86	5.86	7.86

Fall Clearance & Deflection Chart AFA940014
Two User

Pay out Length (Mtr.)	Deflection	Fall Clearance (mtr) (When used with Mikron)	Fall Clearance (mtr) (When used with 2 meter Shock absorbing lanyard)
5	1.30	5.30	7.30
6	1.38	5.38	7.38
7	1.47	5.47	7.47
8	1.55	5.55	7.55
9	1.64	5.64	7.64
10	1.72	5.72	7.72
11	1.80	5.80	7.80
12	1.89	5.89	7.89
13	1.97	5.97	7.97
14	2.05	6.05	8.05
15	2.14	6.14	8.14
16	2.22	6.22	8.22
17	2.31	6.31	8.31
18	2.39	6.39	8.39

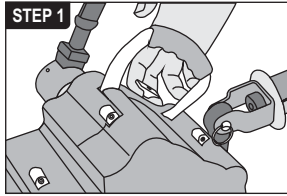
8. OPERATION AND USE:

System Installation: Fig. A shows typical horizontal lifeline system installations. When using an energy absorbing lanyard to connect to the system, the end anchorages must be located at a height which will limit the free fall to 6 ft. (1.8 m). When using a self retracting lifeline (SRL) to connect to the system, the end anchorages must be located above the user. The SRL, when fully retracted, must be above the harness attachment level. The horizontal lifeline system should be positioned at a level that will minimize free fall while allowing ease of use. The horizontal lifeline should be positioned near the work location to minimize swing fall hazards. The connecting subsystem length should be kept as short as possible to reduce the potential free fall and required clearance distance. Both anchorages must be installed at approximately the same elevation, so that the horizontal lifeline system is not sloped more than 15°.

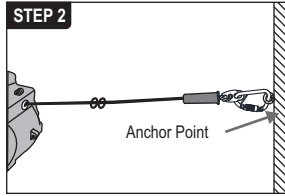


9. HOW TO INSTALL:

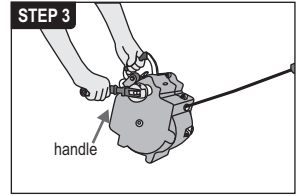
Determine the locations of the end anchorages and evaluate their strengths in accordance to manufacturer's instructions. Determine the span length and evaluate the required clearance.



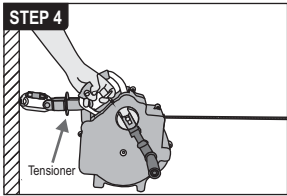
Press on the Push pin on top of the housing and hold it down to pay out the required amount of lifeline by pulling out the line.



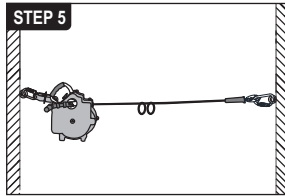
Now Connect the lifeline housing to a suitable anchorage point.



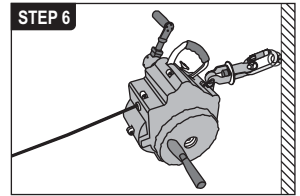
Reel out the wire rope by rotating the handle in clockwise direction.



Connect the crank handle to the tensioner shaft and remove excess slack by rotating clockwise. The lifeline must be tensioned until a red washer is freely moving.



PN 4001N is ready to use.



After use, rotate the handle in anti-clockwise direction to retrieve the wire.

10. ANCHORAGE STRENGTH: Structural anchorage points must be rigid, and capable of supporting at least 22.2 kN along the axis of the horizontal lifeline.

Note- Anchorages must be rigid. Large deformations of the anchorage will affect system performance, and may increase the required fall clearance below the system, which could result in serious injury or death.

11. LIMITATIONS:

- The product shall only be used by a person trained and a competent in its safe use.
- The product shall not be used outside its limitation for only purpose other than for which it is intended.

12. ADVICE AND INFORMATION:

- The anchor device shall be use for the use of one or two user only.
- When the anchor device is used as part of a fall arrest system, the user shall be equipped with a means of limiting the maximum dynamic forces exerted on the user during the arrest of a fall to a maximum of 6 kN.
- The maximum value of deflection of the anchor device and displacement of the anchor point that can occur in service.
- The maximum angle is 15° at which the anchor line should enter or exit intermediate supports, e.g. intermediate anchors or corner anchors.

- Anchor device may be used in conjunction with KARAM retractable type fall arresters.
 - The potential dangers that arise can include serious injury or death when type C anchor devices are combined with retractable type fall arresters (EN 360) or guided type fall arresters including a flexible anchor line (EN 353-2) which have not been tested together.
 - The maximum angle allowed from the horizontal for the anchor device is 15°.
 - Direct connection with the connector or lanyard is not recommended.
 - Where the mobile anchor point cannot pass through a discontinuity in the anchor line without removing it from the anchor line (e.g at corners or at intermediate anchors), a description of suitable measures for safe transfer of the mobile anchor, point by connecting yourself to a backup line or on to the structure before disconnecting from the main line.
 - The anchor device should only be used for personal fall protection equipment and not for lifting equipment.
 - Ensure about medical conditions that could affect the safety of the equipment user in normal and emergency use.
 - Serious injury or even death may occur by the use of combinations of items of equipment in which the safe function of any one item is affected by or interferes with the safe function of another.
 - Carry out a pre-use check of the equipment, to ensure that it is in a serviceable condition and operates correctly before it is used.
 - Use standard packaging of the manufacturer to prevent any damages during transportation.
 - It is essential for the safety of the user that if the product is re-sold outside the original country of destination the reseller shall provide instructions for use, for maintenance, for periodic examination and for repair in the language of the country in which the product is to be used.
 - When the equipment becomes wet, either from being in use or when due to cleaning, it shall be allowed to dry naturally, and shall be kept away from direct heat.
- 13. REPAIR:** If the product becomes damaged, it will NOT provide the optimum level of protection, and therefore should be immediately either replaced or repaired. Never use the damaged product. Repair is permitted, provided that it is either done by the manufacturer or a competent repair centre or individual approved by the manufacturer.
- No on-site repair of equipment unless explicitly permitted by the manufacturer.
- 14. WITHDRAW FORM USE:** : When no longer required, the HLL system should be removed from the job site. To slacken the HLL, connect the crank to the tensioner shaft and rotate clockwise for about 20°, press the Push pin simultaneously and allow the crank to rotate counterclockwise. Disconnect the HLL system from the anchorages. Retract the lifeline back into the housing by connecting the crank handle more likely to the winch shaft and rotate counterclockwise. Ensure there are no knots or kinks in the lifeline as you retract it.
- **TRAINING:** It is the responsibility of all users of this equipment to understand these instructions, and are trained in the correct installation, use, and maintenance of this equipment. These individuals must be aware of the consequences of improper installation or use of this equipment. This user manual is not a substitute for a comprehensive training program. Training must be provided on a periodic basis to ensure proficiency of the users.

WARNING:

Both ends of the lifeline must be securely attached to appropriate anchors when in use. Never attach the end of the lifeline to a harness to use it in the manner of a winch or SRL.

15. CLEANING AND MAINTENANCE:

- Cleaning of soil & dirt with cloth Must be done at a safe area to avoid accumulation of static charge.
- In case of any doubt arising about the safe condition of the product such as crack in the housing or any other metal part, hindered retractions, delayed / early locking fall indicator showing red mark, in such cases immediately remove from service & send it to authorized repair center. Product is safe to use up to maximum temperature of 50°C.
- Maximum surface temperature of the device is 40°C.
- Cleaning and maintenance shall be conducted in non- hazardous area.
- Maximum surface temperature of the device is 40°C.

16. MAINTENANCE, SERVICING, STORAGE:

- Periodically clean the exterior of the unit with water and mild soap solution. Position the unit so excess water can drain out. Clean labels as required. Wipe off hardware with a clean, dry cloth.
- Clean the lifeline with water and mild soap solution. Rinse and thoroughly air dry. Do not force dry with heat. An excessive buildup of dirt, paint, etc., may prevent the lifeline from fully retracting.
- Lifeline replacement and additional maintenance and servicing procedures must be completed by an authorized service center. Do not lubricate any parts. Do not disassemble the unit.

Note- If the lifeline contacts acids, remove unit from service and wash with water and mild soap solution. Inspect unit before returning to service.

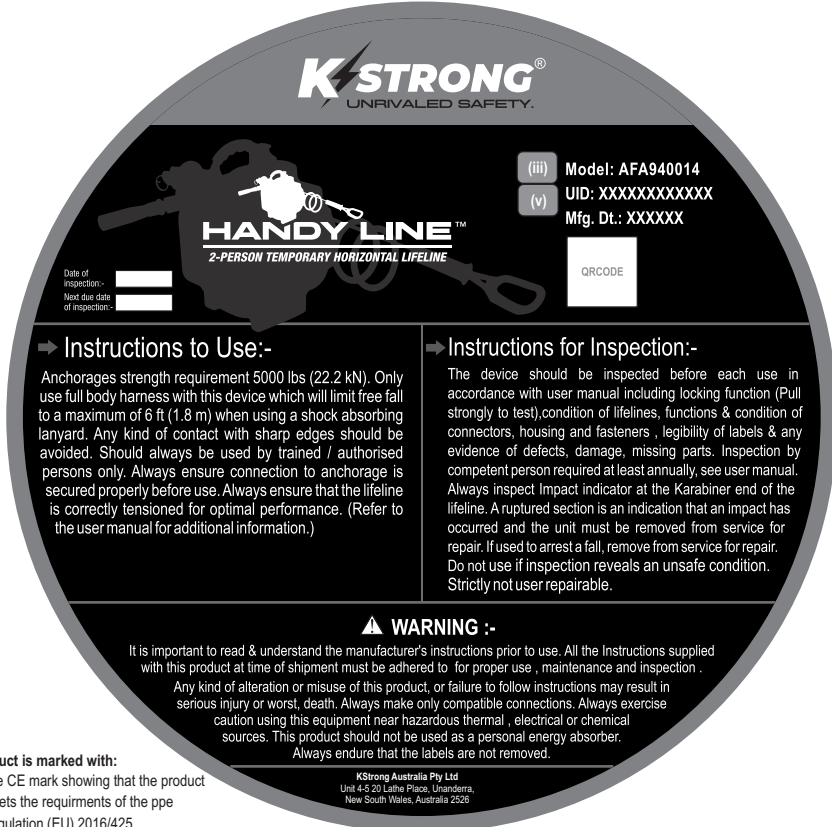
- Clean and store body support and associated system components according to manufacturer's instructions.
- Store the unit in a cool, dry, clean environment, out of direct sunlight. Avoid areas where chemical vapors may exist. Inspect the unit after extended storage.
- **USER EQUIPMENT:** Maintain, service, and store each piece of user equipment according to its manufacturer's instructions.

17. WARNING:

- **DO NOT ALTER OR MISUSE THE EQUIPMENT.**
- Any alteration & misuse of the product can lead to serious injury or death.
- Failure to understand and comply with safety regulations may result in serious injury or death. Regulations included herein are not all inclusive, are for reference only, and are not intended to replace a Competent Person's judgment or knowledge of federal or state standards.
- Use of equipment in unintended applications may result in serious injury or death.

19. PERIODIC EXAMINATION:

- It is important to conduct regular periodic examination of the product because the safety of the user depends upon the continued efficiency & durability of the product.
- The frequency of examination should be at least once in a year however it can be more than once if legislation requires, or frequency of use is high or environmental conditions have an adverse effect on it eg. excessive rain, sea side environment, excessive heat etc.
- It is emphasized that the examination be conducted Only by the manufacturer or by a person / organization authorized by the manufacturer strictly in accordance with their periodic examination procedures.
- It is also advised the competent person be duly trained and authorized by the manufacturer.
- Ensure that all markings on the product are legible and can be clearly read.



The product is marked with:

- i) The CE mark showing that the product meets the requirements of the ppe Regulation (EU) 2016/425
- ii) Identification of the manufacturer
- iii) Type or product code
- iv) Read the instruction Before Use.
- v) UID for traceability
- vi) Norm Reference

