



USER INSTRUCTION MANUAL

T-LINE SAFETY SYSTEM

THESE INSTRUCTIONS APPLY TO THE FOLLOWING MODELS:

AFA945012R, AFA945012RSS, AFA945024R, AFA945024RSS, AFA945012 AFA945012SS, AFA945024, AFA945024SS €0598

EN 360:2002, EN1496:2007 & AS/NZS 1891.3 2020



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 user'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:

This Manual contains safety information and instructions for operating the T-Line system.

This Manual should be stored in an area where it is accessible to operators of the T-Line system.

Continued improvement and advancement of product design may have caused changes to your T-Line system, which are not included in this Manual.

Some photographs or illustrations in this Manual may show details or attachments that are different from your T-Line system. Whenever a question arises regarding your T-Line, or this Manual, please con-sult the KStrong website at www.kstrong.com for the latest available information.

Further information on operating the T-Line system is available in training material and courses. Further enquiry regarding these materials and courses should be directed to: customercare@kstrong.com

The Equipment Record and an Operators Manual must be supplied to the end user when the T-Line is sold, resold or otherwise made available for use. This is to ensure that the end user gets the necessary information for the safe use of the T-Line system.

2. CUSTOMER SERVICE:

Please contact the authorized T-Line distributor in your area for enquiries regarding the operation, Periodic Examination and Recertification and Repair of your T-Line system. The distributor nearest you can be found by consulting www.kstrong.com

3. IMPORTANT SAFETY INFORMATION:

- Do not use the T-Line unless you have read and understand the instructions and warnings in this Manual. Failure to follow the instructions or heed the warnings or improper operation could result in injury or death.
- Do not tamper with or make any alterations to the T-Line.
- The T-Line shall not be used outside its limitations as described in this Manual, or for any purpose other than that for which it is intended.
- The operation and maintenance of the T-Line system must comply with the work safety laws of the jurisdiction in which it is used. Compliance may include the requirement for a Risk Assessment or Fall Hazard Survey Report.

- Operators of the T-Line system must be properly trained and competent.
- A full body harness suitable for fall-arrest is the only acceptable body holding device that can be used with the T-Line system.
- Operators must carry out a Pre-Use Check of the equipment, as per the instructions in this Manual, to ensure that it is in a serviceable condition and operates correctly before it is used.
- It is essential for safety that equipment is withdrawn from use immediately if the red indicator tab on the connector is exposed or should any doubt arise about its condition for safe use.
- Do not remove the labels from the T-Line. Replace labels that are illegible.
- For protection of one person only.
- Operators should be fit and healthy otherwise consult a physician before using the T-Line. Do not use if pregnant.
- A rescue plan shall be in place to deal with any emergencies that could arise during the work.
- It is important to check before use, any dangers that may arise by the use of combinations of items of the equipment in which the safe function of any one item is affected by or interferes with the safe function of another.
- It is essential for the safety of the user that if the product is resold outside the original country of destination, the reseller shall provide instruction for use, maintenance, for periodic examination and for repair in the language of the country in which product is to be used.
- It is essential that 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.
- User must check for the legibility of product marking before each & every use.
- Components of the system shall not be substituted.
- Retractable lanyards are made up in GI, and can be supplied in SS316 wire rope.
- If there is any damaged/ broken found in the product it i not recommended to be used, remove it immediately from service

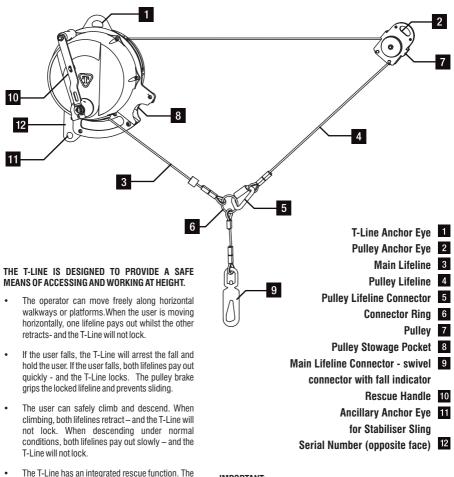


4. DESCRIPTION OF EQUIPMENT

THE T-LINE IS A TWIN LIFELINE SYSTEM.

hand operated winch can be used to bring the suspended person back to the T-Line Unit.

The T-Line is a device containing twin lifelines on separate reels that rotate on a common shaft. The lifelines automatically pay out and retract during normal movement of the operator — and automatically lock at the onset of a fall.

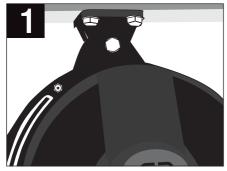


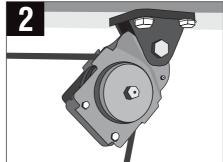
IMPORTANT:

The Pulley Lifeline Connector (5) must be properly secured to the Connector Ring (6) when using the T-Line in twin line mode. When using the T-Line in single line mode, the Pulley Lifeline Connector (5) must either be connected to the Ancillary Anchor Eye (11) or a certified fall arrest anchor point rated to at least 15kN (3400 lbs). Failure to do so could result in serious injury or death. Always ensure that an alternate means of fall protection is utilized whilst chanding between modes.



5. INSTALLATION:





The T-Line must be attached with a suitable anchor system to a structure with a minimum strength of 19kN / 4,275lb

The pulley must be attached with a suitable anchor system to a structure with a minimum strength of 19kN / 4,275lb

The Pulley is taken from the Pulley Stowage Pocket and moved to the far end of the elevated work area – extracting the Pulley Lifeline along the way.

The Pulley Lifeline loops around the Pulley before being attached to the Connector Ring using the Pulley Lifeline Connector.

The T-Line and Pulley must be installed overhead The Pulley must not be mounted below the T-Line Do not allow slack in anchor slings as this will increase arrest distance.

Installation of a 24m T-Line unit must be carried out by an Authorised T-Line Installer

Anchorage Minimum Strength - 22kn/5,000lb

Safe Working At Heights During Installation

Ensure that the risk of fall from height is controlled during installation. For example, a mobile elevated work platform may be used during installation.

· Anchor Point Specification And Connection

The anchorage and structure to which the T-Line is attached shall be capable of sustaining a static load of 19kN/4,275lb.

Always ensure that the building or structure, to which the T-Line is to be connected, has been approved for this purpose by a qualified Engineer.

A suitable connector and anchor system must be used to connect the T-Line to the supporting structure. For example: the T-Line Clevis Anchor Point, the T-Line Beam Clamp or the T-Line Anchor Sling (each sold separately).

Do not allow slack in anchor slings as this will increase arrest distance.

All components and subsystems should also comply with applicable Standards.

Follow manufacturer's instructions. Unless specifically allowed by the manufacturer, slings should not be choked and lanyards should not be back-hooked. Connectors should be compatible in size and shape to prevent rollout.



6. T-LINE INSTALLATION LOAD CASES

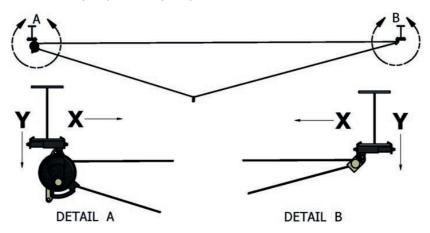
This section is intended to inform installers of the T-Line System the required minimum capacity of the structure to which it is attached.

Load Case

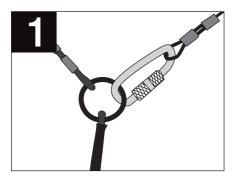
The structure to which the T-Line system is attached is required to have the listed capacity in their respective directions. The load case applies to both of the systems anchor points. These loads are to be considered minimums. Failure to confirm that the structure supporting the T-Line System can resist these loads may cause system failure and serious injury or death.

Load Case

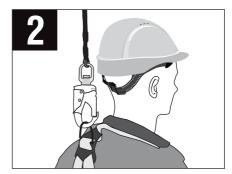
Y DIRECTION (VERTICAL) 3050 LBS (13.5KN)
X DIRECTION (HORIZONTAL) 3050 LBS (13.5KN)
RESULTANT FORCE (TOTAL) 4300 LBS (19.0KN)



7. MAKING PROPER CONNECTIONS

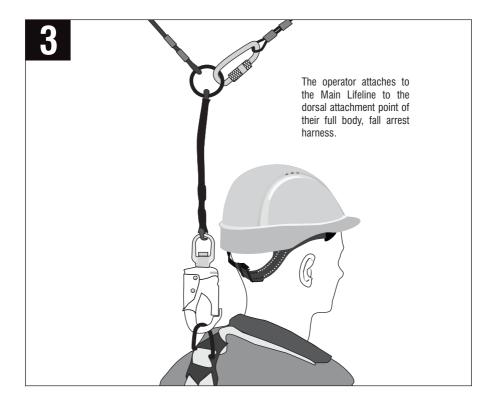


The Pulley Lifeline must be attached to the Connector Ring using the Pulley Lifeline Connector.



The Main Lifeline is terminated with a swivel connector - carabineer or snaphook -with fall indicator.





8. GENERAL:

Do not pass the lifeline(s) over sharp or abrasive edges.Do not allow lifelines to come into contact with live electrical sourcesDo not allow the lifeline(s) to deflect around plant and equipment or other obstacles.Do not allow chemical reagents to contact the lifelines, casing or internal mechanismDo not cross over with other lifelines.Do not allow the lifeline(s) to pass under head, arms or legs or wrap around the body.Do not hold or lock off the lifeline(s).Do not let the lifeline(s) retract uncontrolled.Do not allow foreign material to enter casing.Avoid using the T-Line in hazardous environments such as extremes of temperature or highly corrosive atmospheres.

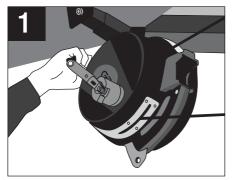
Safe Access And Continuous Protection:

Ensure that users can approach and connect to the T-Line without being exposed to a risk of fall. For example: the Main Lifeline Connector or a tag to the Main Lifeline Connector should be left in a suitable location so that users may connect to the system before moving to where there is a risk of fall. The same applies to egress and disconnecting.

Ensure continuous connection to the T-Line whenever there is a risk of fall from height; or if not connected and there is a risk of fall from height, then an alternate means of fall protection must be employed.



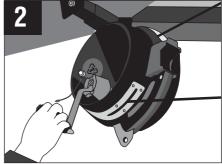
9 RESCUE:



Release the Rescue Handle by removing the retaining pin.

Fold the handle down and align the slot in the handle with the shaft in the centre of the winch boss

Ensure that the handle is pushed fully into the winch boss. Once engaged, the handle will be retained by the sprung loaded steel ball.



Rotate the Rescue Handle in the clockwise direction to transport the suspended user towards the T-Line unit.

Maintain constant visual contact with the user. Do not harm the rescue subject. Stop winching if the rescue subject is caught or snagged.

10. PRE-USE CHECK:

Pre-Use Checks are essential and should be carried out by the operator each time, before the T-Line system is used.

If the Pre Use Check finds any defect or should any doubt arise about its condition for safe use it is essential for safety that equipment is not used and withdrawn from use immediately.

Check the Equipment Record to ensure that that the Periodic Examination and Recertification is up to date.

The Pre-Use Check of the T-Line consists of visual checks and checks of operation.

- Visually inspect the T-Line casing and lifelines for signs of damage or cracking that may reduce the structural integrity of
 the device in any way.
- Withdraw approximately 1m of each lifeline and check that it remains under tension and then rewinds smoothly.
- Withdraw the Main Lifeline rapidly to check that it locks. This test can be repeated on the Pulley Lifeline but is not strictly necessary as the two lifelines share the same locking mechanism.
- Inspect the swivel connector with fall indicator. If any portion of the indicator reveals the red marker, the T-Line should be removed from service.
- Check the fall-arrest harness, other connectors and anchor slings (if used) as per the manufacturer's instructions.



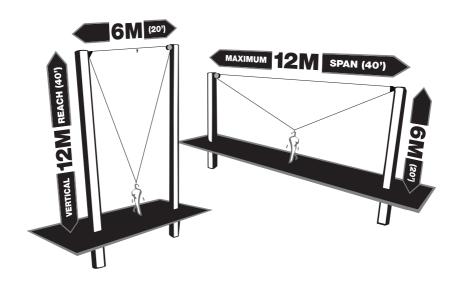
10. HOW TO USE

T-LINE SAFETY SYSTEM

12M/40'

T-LINE SAFETY SYSTEM- (MODEL AFA945012R / AFA945012RSS)

Note: AFA945012 / AFA945012SS are without winch systems with same configuration as detailed above.

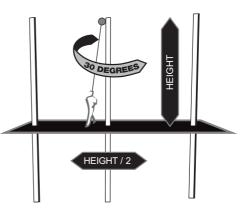


The 12m/40' T-Line can be installed at a maximum span of 12m/40'. At this span, the maximum vertical reach is 6m/20'.

The T-Line can be installed for a maximum vertical reach of 12m / 40'. At this vertical reach, the maximum span is 6m/20'.

The T-Line can be installed at spans and vertical reach between the limits as set out above.

If you have any questions about how to configure and use your T-Line safely, then contact KStrong at customercare@kstrong.com



SINGLE LINE MODE



SAFE LIMIT OF OPERATION

Free Fall:

The operator must remain below the T-Line and the Pulley.

When the operator is within the vertical Safe Limit of Operation, the Lifelines will exhibit retraction tension and the connector ring will be above the operator's head. Never work at a level where the operators head is above the connector ring. (Note: It is normal for the Lifelines to exhibit some catenary or sag, particularly at wider spans.)

Pendular Swings:

The operator must remain between the T-Line and the Pulley.

Minimize pendular swings by working directly below the Pulley Lifeline which runs between the T-Line and the pulley.

Fall Clearance:

It is essential that there is adequate clearance under the system so that in the event of a fall the operator will not strike the ground or any obstacle.

SPECIFICATION - (MODEL AFA945012R)

| MAXIMUM SPAN | | 12m / 40' |
|------------------------------|------------------|----------------|
| MAXIMUM VERTICAL RANGE | @ 12m / 40' span | 6m / 20' |
| MAXIMUM FALL ARREST DISTANCE | @ 6m / 20' span | 12m / 40' |
| MAXIMUM FALL ARREST FORCE | | 1.8m / 6' |
| ANCHORAGE RATING REQUIREMENT | | 6kN / 1,350lb |
| WIRE ROPE MIN BREAKING FORCE | | 19kN / 4,275lb |
| (5mm diameter, 7x19 Strand) | | 17kN / 3,820lb |
| WEIGHT | | 22.5kg / 50lb |
| WEIGHT | | 136kg / 300lb |
| MAXIMUM USER WEIGHT* | | • |

^{*}As tested in accordance with ANSA Z359.1





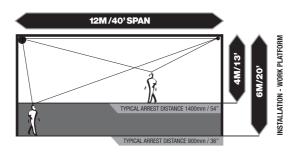
12M/40'

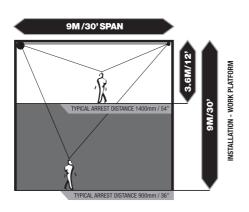
FALL CLEARANCE AND SAFE WORK LIMITS

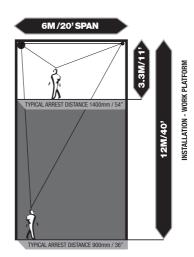
The below images depict the safe limits for the work area provided by the 12m / 40' T-Line Safety System, as well as the typical fall arrest distances at the upper and lower limit. It is important that the user not work outside of these limits as they may be exposed to the risk of serious injury or even death. The upper limit of the safe area is dictated by the catenary in the T-Line cables. It is important that the user not try to work above this level as this will introduce slack into the system.

The Fall Arrest Distances indicated are typical values that have been experienced during testing. In certain circumstances, smaller fall arrest distances can be achieved. If your application requires smaller fall arrest distances, contact KStrong for assistance.

STANDARD CONFIGURATION



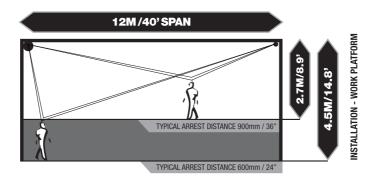


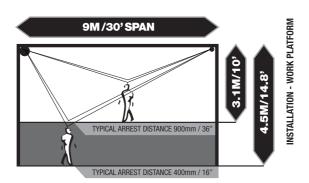


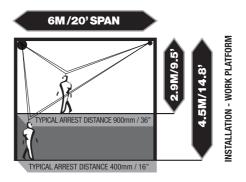
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V-LINE CONFIGURATION







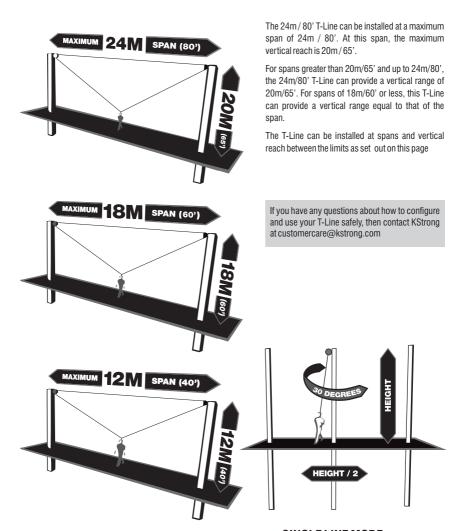




24M/80'

XL T-LINE SAFETY - (MODEL AFA945024R / AFA945024RSS)

Note: AFA945024 / AFA945024SS are without winch systems with same configuration as detailed above.



^{*}Spans of less than 14m may require shortening of lifelines.

SINGLE LINE MODE



SAFE LIMIT OF OPERATION

The installation of the 24m T-Line must be carried out by an authorised T-Line Installer.

Free Fall:

The operator must remain below the T-Line and the Pulley.

When the operator is within the vertical Safe Limit of Operation, the Lifelines will exhibit retraction tension and the connector ring will be above the operator's head. Never work at a level where the operators head is above the connector ring. (Note: It is normal for the Lifelines to exhibit some catenary or sag, particularly at wider spans.)

Pendular Swings:

The operator must remain between the T-Line and the Pulley.

Minimize pendular swings by working directly below the Pulley Lifeline which runs between the T-Line and the pulley.

Fall Clearance:

It is essential that there is adequate clearance under the system so that in the event of a fall the operator will not strike the ground or any obstacle.

SPECIFICATION MODEL AFA945024R

| MAXIMUM SPAN | | 24m / 80 ¹ |
|---|------------------|-----------------------|
| MAXIMUM VERTICAL RANGE | @ 24m / 80' span | 20m / 65' |
| | @ 18m / 60' span | 18m / 60' |
| MAXIMUM FALL ARREST DISTANCE | @ 12m / 40' span | 12m / 40¹ |
| MAXIMUM FALL ARRE | | 1.8m / 6 ¹ |
| ANCHORAGE RATING REQUIREMENT | | 6kN / 1,350lb |
| WIRE ROPE MIN BREAKING FORCE | | 19kN / 4,275lb |
| (5mm diameter, 7x19 Strand) | | 17kN / 3,820lb |
| WEIGHT | | 27.5kg / 60lb |
| MAXIMUM USER WEIGHT* | | 136kg / 300lb |
| *As tested in accordance with ANSA Z359.1 | | |

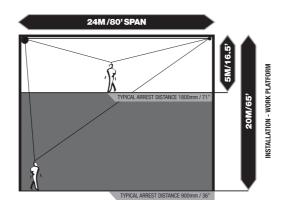


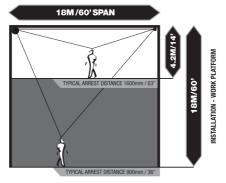


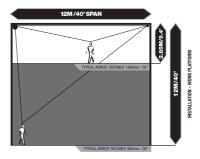
24M/80' FALL CLEARANCE AND SAFE WORK LIMITS

The below images depict the safe limits for the work area provided by the 24m/80' XLT-Line Safety System, as well as the typical fall arrest distances at the upper and lower limit. It is important that the user not work outside of these limits as they may be exposed to the risk of serious injury or even death. The upper limit of the safe area is dictated by the catenary in the T-Line cables. It is important that the user not try to work above this level as this will introduce slack into the system.

STANDARD CONFIGURATION

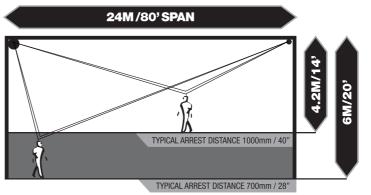


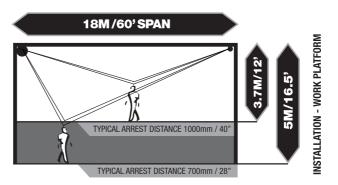


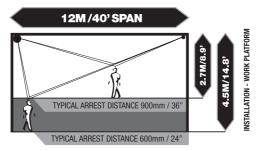




V-LINE CONFIGURATION





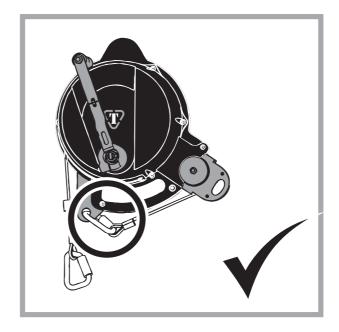


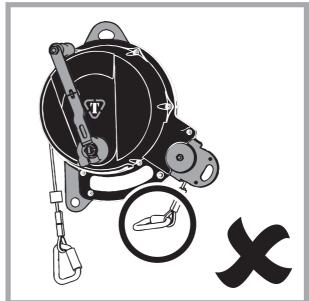
INSTALLATION - WORK PLATFORM



CORRECT/INCORRECT USE

SINGLE LINE MODE



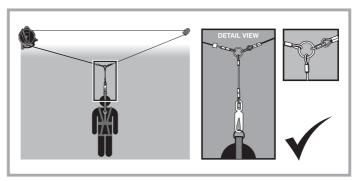


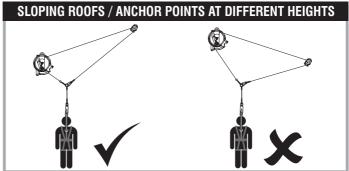
WARNING

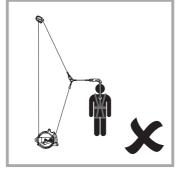
INCORRECT USE OF THE T-LINE CAN EXPOSE THE USER TO RISK OF SERIOUS INJURY OR DEATH



TWIN LINE MODE











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11. TRANSPORT:

Ensure that the T-Line is fully retracted with the Pulley stowed in the Pulley Stowage Pocket in preparation for transport. Ensure that the T-Line is protected from excessive vibration or impact during transport.

12. PERIODIC EXAMINATION AND RECERTIFICATION:

The continued efficiency and durability of the T-Line system and the safety of the user depends on regular Periodic Examination and Recertification.

Periodic Examination and Recertification is additional to the Pre Use Check and is a more formal, in-depth inspection and must be carried out at intervals of 12 months or less.

Under extremely severe corrosive liquid or abrasive dust exposures or for operation under extremes of temperature, more frequent Periodic Examination and Recertification may be necessary.

Periodic Examination and Recertification is only to be conducted by an Authorized Service Agent.

13. WITHDRAWAL FROM USE AND REPAIR:

If the product becomes damaged, it will NOT provide the optimum level of protection, and therefore should be immediately removed from service. Never use the damaged product. Repair is permitted, provided that it is either done by the manufacturer or a competent repair center or individual approved by the manufacturer.

14 FOLLIPMENT RECORD:

Documentation is a key element of a well-managed personal protective equipment program. Equipment Records should be maintained as proof of Periodic Examination and Recertification and Repair. It is the responsibility of the user organization to enter onto the Equipment Record the details required.

15. CLEANING AND STORAGE:

Use a damp (not wet) cloth to remove dirt or other contaminants from the casing. Do not use abrasives or solvents. Mild detergent may be used but residue must be wiped away.

Use a bristle brush to remove dirt or other contaminants from the lifelines. Do not use a wire brush. Do not use gasoline or solvent. Lubrication may be applied to a clean dry lifeline with a cloth.

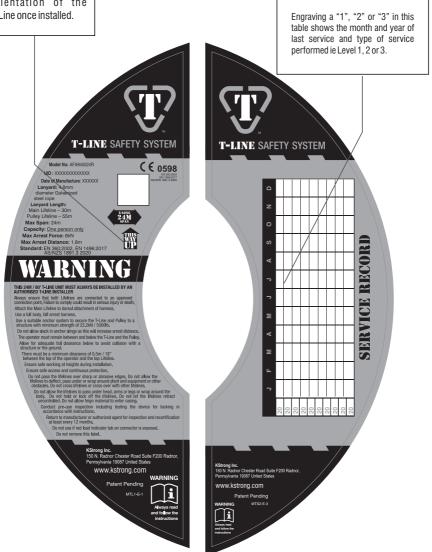
Never immerse in water. If water does get into the casing, hang the unit and slowly withdraw each lifeline allowing the water to run out. Use a clean dry cloth to wipe the lifeline dry as it returns. Repeat if required.

Store the T-Line in a clean, dry place.



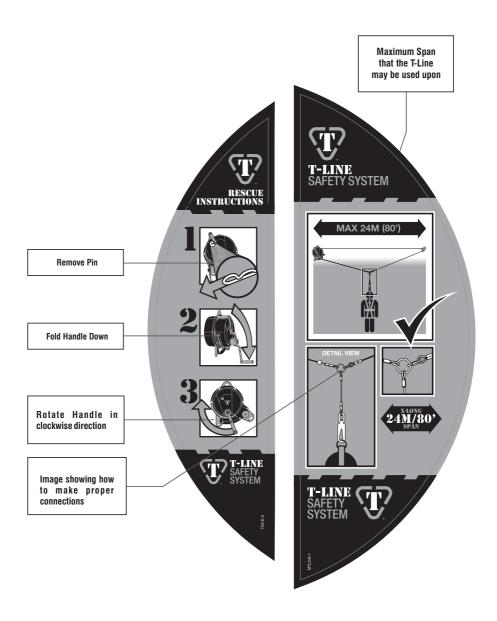
LABELS

Shows the correct orientation of the T-Line once installed.





LABELS





LIFESPAN: The estimated product Lifespan is 10 years from the date of manufacture. The following factors can reduce the Lifespan of the product: intense use, contact with chemical substances, specially aggressive environments, extreme temperature exposure, UV exposure, abrasions, cuts, violent impacts, bad use or maintenance.

DISCLAIMER: Prior to use, the end user must read and understand the manufacturer's instructions supplied with this product at the time of shipment and seek training from their employer's trained personnel on the proper usage of the product. Manufacturer is not liable or responsible for any loss, damage or injury caused or incurred by any person on grounds of improper usage or installation of this product.

| | | EQUIPMENT RECORD | | | |
|-----------------------------|---|---|---------------------------------|-------------------------|------------------------------------|
| Product | | | | | |
| Model & type/Identification | | Trade Name | | Identification number | |
| Manufacturer | | Address | | Tel, email into use | |
| Year of manufacture | | Purchase Date | | Date first put into use | |
| Other relevant in | nformation (eg. document nu | mber) | | | |
| | PERIODIC | EXAMINATION AND RE | PAIR HISTORY | | |
| Date | Reason for entry (periodic examination or repair) | Defects noted, repairs carried out and other relevant information | Name and sign of competent p | | Periodic examination next due date |
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Certification Body:

SATRA Technology Europe Ltd, Bracetown Business Park, Clonee, Dublin D15 YN2P Ireland (Notified Body 2777)

Ongoing Assessment Body:

SGS Fimko Oy, Takomotie 8, FI-00380 Helsinki, Finland (Notified Body 0598) For EU Declaration, please visit https://kstrong.com/asia/eu-declaration-form/



KStrong Inc.

150 N. Radnor Chester Road Suite F200 Radnor, Pennsylvania 19087 United States Contact Email: customercare@kstrong.com

www.kstrong.com

USA South America ASIA