

User Instructions

V-TEC® Personal Fall Limiter (PFL)

Fall Protection



Order No.: VTOHW01-95CN (GB) VTOHW01-95OL/07 (Online)(Online)

Print Spec.: 10000005389 (EO)

CR: 800000076053

 WARNING!

These instructions must be provided to users before use of the product and retained for ready reference by the user. Read this manual carefully before using or maintaining the device. The device will perform as designed only if it is used and maintained in accordance with the manufacturer's instructions. Otherwise, it could fail to perform as designed, and persons who rely on this device could sustain serious injury or death.

The warranties made by MSA with respect to the product are voided if the product is not installed and used in accordance with the instructions in this manual. Please protect yourself and your employees by following the instructions.

Please read and observe the WARNINGS and CAUTIONS inside. For additional information relative to use or repair, call 1-800-MSA-2222 during regular working hours.

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The Safety Company

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For your local MSA contacts, please go to our website www.MSAsafety.com

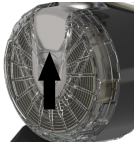
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1 Labels and Icons



Non-Leading Edge Icon



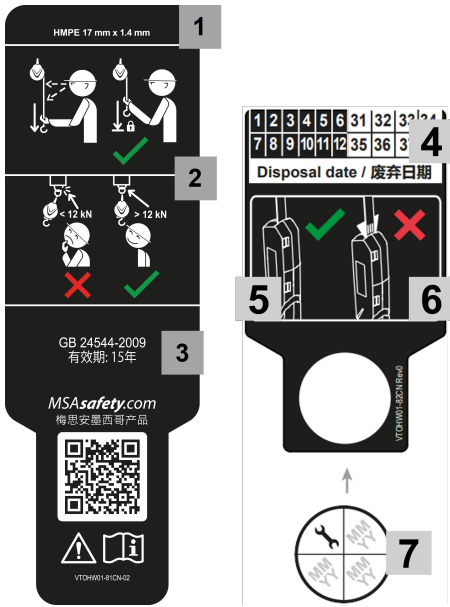
Serial Number, Part Number, Date of Manufacture



1	Capacity, including user, clothing, and tools.	4	Tie off above D-ring permitted.
2	WARNING! Read and understand instruction manual before use.	5	Tie off below D-ring NOT permitted.
3	Do NOT user over an edge.	6	Refer to instruction manual for fall clearance chart. ¹

1 - See Section 6 Fall Clearance Charts for details.

1.1 Product Details and Warnings



1	Lifeline construction	5	Load indicator NOT deployed
2	Product warning	6	Load indicator deployed, DO NOT USE
3	Standard	7	Date of next examination
4	Disposal date		

NOTE: The QR Code on label can be used to access the User Manual

2 Safety Regulations

WARNING!

User Requirements

- Users of Personal Fall Limiters (PFLs) shall be medically fit and suitably trained.
- PFLs shall not be used by pregnant women, minors or those under the influence of alcohol or drugs.
- For single user only, within the weight range 130–220 lbs (60–100 kg) including user, clothing, and tools.

Anchor Requirements/Swing Fall/Fall Clearance

- The anchorage must be capable of supporting the required load. See Section [3 Product Specification](#) for details on anchorage strength.
- Ensure that the available fall clearance is equal to or greater than the fall clearance shown in Section [6 Fall Clearance Charts](#).
- Remove any surface contamination such as, but not limited to, concrete, stucco, roofing material, etc. that could accelerate cutting or abrading of attached components.
- For use in accordance with acceptable locations as shown in Section [6 Fall Clearance Charts](#). The user shall consider any risks posed by swing falls.
- Swing falls can increase fall distance. For this overhead product, the user must work directly under the anchorage. Increasing the horizontal offset will increase the amount of swing fall. Always remove obstructions in or adjacent to the fall path. Keep work area free from debris, obstructions, trip hazards, spills, or other hazards which could impair the safe operation of the fall protection system. **DO NOT** use the device unless a qualified person has inspected the workplace and determined that swing fall hazards have been eliminated or exposures to them prevented.

Product Use

- PFLs are only to be used for their intended purpose and within their limitations. **DO NOT** intentionally misuse this product. **DO NOT** use fall protection equipment for purposes other than those for which it was designed. **DO NOT** use fall protection equipment for towing, hoisting, or material handling.
- PFLs shall not be altered or added to. No unauthorized repairs, modifications, alterations and/or additions are permitted.
- **RESCUE AND EVACUATION:** the user must have a rescue plan and the means at hand to implement it. The plan must take into account the equipment and specific training necessary to affect prompt rescue under all foreseeable conditions. It is recommended to provide means for user evacuation without assistance of others. This will usually reduce the time to get to a safe place and reduce or prevent the risk to rescuers.
- **DO NOT** rely on feel or sound to verify proper connector engagement. Ensure the connector is closed before use.
- Additional lanyard connectors shall not be added, as this would serve to lengthen the lifeline and increase free fall.
- Unsuitable for use on unstable surfaces, fine grain materials or particulate surfaces such as sand or coal, as insufficient speed may prevent lock-on in the event of a fall (possible engulfment hazard).
- **DO NOT** use for horizontal (leading edge) applications. If the PFL web risks coming into contact with an edge during use or a fall, a leading edge product must be used. Failure to follow this warning could result in the webbing breaking in the event of a fall.
- PFLs shall not come into contact with hot surfaces (such as hot pipes), become entangled with moving machinery, or come into contact with electrical hazards (such as high voltage power lines).
- PFLs shall be protected from fire, acids, caustic solutions, or temperatures outside the range -40°F to 130°F (-40°C to 54°C).
- **DO NOT** leave the PFL installed in environments which could cause damage or deterioration to the product. Refer to the care details in Section [8 Cleaning and Storage](#) and inspection details in Section [7 Pre-Use Checks and Periodic Examinations](#).

2 Safety Regulations

- Instructions shall be retained and provided to all users of PFLs in the language of the destination country, even when resold.
- DO NOT exceed the maximum fall arrest forces as specified by governing standards or subsystem components.
- Dual-connections shall only be made for the purposes of 100% tie-off transitions, if a dual connection is made for any other purpose, anchorages of different elevations must be utilized.
- Use of combinations of components or subsystems, or both, may affect or interfere with the safe function of the components or subsystems.

Inspection/Removing Product From Service

- PFLs that have arrested a fall or are unable to pass an inspection shall be tagged “UNUSABLE” and disposed of in accordance with local regulations.
- Due to the nature of some fall arrest events, it is possible for the energy absorber to not deploy. In the event that a PFL is subjected to fall arrest forces and the energy absorber does not deploy, the PFL still must be removed from service and marked as “UNUSABLE” until it has been destroyed.
- If the load indicator is deployed, immediately remove the PFL from service and mark it as “UNUSABLE” until it has been destroyed.

Failure to follow these warnings can result in serious personal injury or death.

3 Product Specification

PFL Materials, Web

Component	Standard Material
Case	Polycarbonate
Drum	Stainless Steel / Nylon
Chassis, Pawl, Swivel Assembly, Main Spring	Stainless Steel
Lifeline	1.8m: 2/3" (17 mm) wide / 0.06" (1.4 mm) thick, HMPE 3m: 3/4" (19mm) wide / 0.07 (1.75mm) thick, HMPE warp and polyester weft
Connectors	Steel OR Aluminum
Energy Absorber Cover	Thermoplastic Elastomer (TPE)

PFL Materials, Cable

Component	Standard Material
Case	Polycarbonate
Drum	Aluminum / Nylon
Chassis, Pawl, Swivel Assembly, Main Spring	Stainless Steel
Lifeline	5mm DIA Galvanized Steel Cable or 5.5mm DIA Stainless Steel Cable
Connectors	Steel OR Aluminum
Energy Absorber Cover	Thermoplastic Elastomer (TPE)

PFL Materials, Arc-Flash

Component	Standard Material
Case	Polycarbonate
Drum	Stainless Steel / Nylon
Chassis, Pawl, Swivel Assembly, Main Spring	Stainless Steel
Lifeline	3/4" (19mm) wide / .08" (2 mm) thick, Para-aramid and Meta-aramid Blend
Connectors	Steel OR Aluminum
Energy Absorber Cover	PAN and Para-aramid Blend

4 Harness Attachment

WARNING!

DO NOT rely on feel or sound to verify proper connector engagement. Ensure the connector is closed before use.

Failure to follow this warning can result in serious personal injury or death.

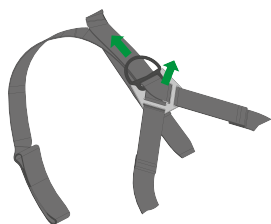
4.1 Attach V-TEC Single Leg PFL to Harness

A V-TEC PFL may be connected to an approved full body harness by feeding the carabiner through the back D-ring of the harness. In these applications, the snaphook is connected to a suitable anchorage with the appropriate connecting hardware.

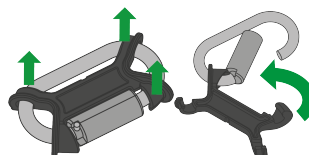
4.2 Attach V-TEC Twin Leg PFLs to Harness with V-TEC TwinLink Connector (Web PFLs Only)

A V-TEC TwinLink connector can be used to connect two V-TEC PFLs side-by-side on a full body harness just below the rear D-Ring or through the PFL tunnel. The V-TEC TwinLink connector shall only be used to connect a maximum of two V-TEC PFLs to the harness.*

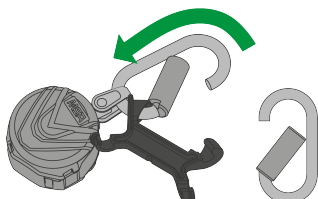
* The V-TEC TwinLink (minus the clip) may be used to attach directly to a full body harness D-ring.



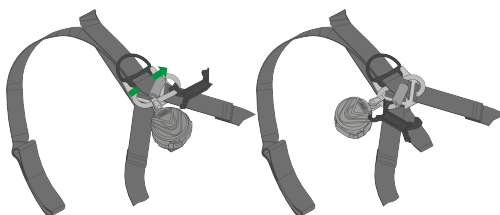
1. If harness has PFL tunnel—use PFL tunnel as connection point.



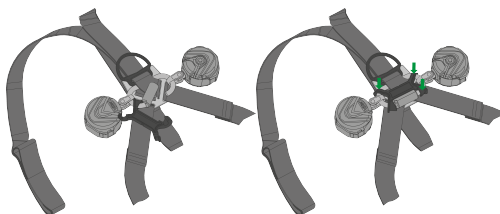
2. Unclip plastic divider on V-TEC TwinLink connector. Rotate, lift, and twist gate on carabiner. Push gate inward to open carabiner.



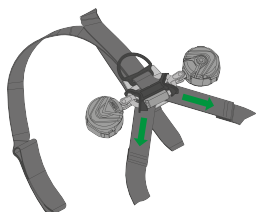
3. Feed carabiner through swivel eyelet on first V-TEC PFL.



4. Feed carabiner through PFL tunnel or behind both straps on harness.



5. Feed swivel eyelet of second V-TEC PFL onto carabiner and allow carabiner gate to snap shut. Rotate plastic divider and clip it into position to maintain separation of PFLs.



6. If harness has PFL tunnel—Installation complete.

If harness does not have PFL tunnel—Pull harness straps back through dorsal pad to eliminate slack in webbing.

5 Installation and Use

5.1 Intended Use

PFLs are intended to be used as a connecting element between a full body harness and anchor point. See Section 3 [Product Specification](#). A full body harness is the only acceptable body holding device to be used with a PFL. If supplied as part of a complete system, components shall not be substituted.

WARNING!

- PFLs are only to be used for their intended purpose and within their limitations. DO NOT intentionally misuse this product. DO NOT use fall protection equipment for purposes other than those for which it was designed. DO NOT use fall protection equipment for towing, hoisting, or material handling.
- PFLs shall not be altered or added to. No unauthorized repairs, modifications, alterations and/or additions are permitted.
- RESCUE AND EVACUATION: the user must have a rescue plan and the means at hand to implement it. The plan must take into account the equipment and specific training necessary to affect prompt rescue under all foreseeable conditions. It is recommended to provide means for user evacuation without assistance of others. This will usually reduce the time to get to a safe place and reduce or prevent the risk to rescuers.
- DO NOT rely on feel or sound to verify proper snaphook or carabiner engagement. Ensure that gate and keeper are closed before use.
- Additional lanyard connectors shall not be added, as this would serve to lengthen the lifeline and increase free fall.
- DO NOT use the PFL in leading edge applications.
- Unsuitable for use on unstable surfaces, fine grain materials or particulate surfaces such as sand or coal, as insufficient speed may prevent lock-on in the event of a fall (possible engulfment hazard).
- PFLs shall not come into contact with hot surfaces (such as hot pipes), become entangled with moving machinery, or come into contact with electrical hazards (such as high voltage power lines).
- PFLs shall be protected from fire, acids, caustic solutions, or temperatures outside the range -40°F to 130°F (-40°C to 54°C).

Failure to follow these warnings can result in serious personal injury or death.

5.2 General Installation and Use

Connectors: Ensure PFL connectors are compatible with the attachments to which they are connected (to prevent roll-out), and are fully closed and locked before use. See Section 3 [Product Specification](#).

Anchors: Ensure the PFL is attached to a compatible anchor –flexible anchors, such as anchor lines, horizontal lifelines, rails, or cantilever structures can affect the ability of the V-TEC PFL to lock-on in the case of a fall. For further clarification on compatibility specifications, refer to the user instructions of the flexible anchor product. Should compatibility information not be included in the flexible anchor user instructions, contact the flexible anchor manufacturer for clarification.

Retraction: In use, the PFL lifelines will extract and retract without hesitation. Do not allow the lifeline to pass through legs or under arms, or wrap around structure. If the lifeline does not retract in use, fully extract the lifeline and slowly allow it to retract. If the lifeline continues to hesitate in retraction, contact MSA.

Twin Leg Connection: The PFL twin-leg configuration is intended to give users 100% tie-off when moving around the work site. One of the legs must be attached to an appropriate anchorage connector while the user moves to the new location. At the new location, attach the second leg to an appropriate anchorage connector before disconnecting the original leg. Repeat this process until the final destination has been reached. Do NOT work with both legs connected to an anchorage connector.

WARNING!

Dual-connections shall only be made for the purposes of 100% tie-off transitions, if a dual connection is made for any other purpose, anchorages of different elevations must be utilized.

Failure to follow this warning can result in serious personal injury or death.

Storage: When not in use, store with the lifeline fully retracted as prolonged periods of full extraction may weaken the retraction spring. Guide the lifeline back to the unit for full retraction. Do NOT release lifeline from a distance as it will retract at high speed, potentially damaging internal parts. The connector may also strike objects in its path, causing damage to those objects and to the connector. See Section [8 Cleaning and Storage](#) for full cleaning and storage instructions.

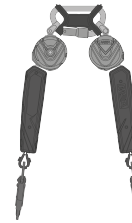
6 Fall Clearance Charts

1.8 m V-TEC Web PFL: 6 ft / 1.8 m

V-TEC Single Web PFL



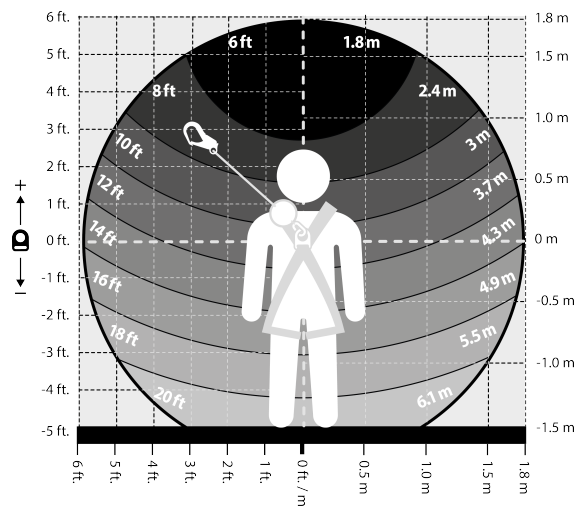
V-TEC Twin Web PFL



Product: 6 ft / 1.8 m V-TEC Web PFL

Use: Non-leading edge applications

Capacity: ≤ 310 lbs (140 kg)



3 m V-TEC Web PFL: 10 ft / 3 m

V-TEC Single Web PFL



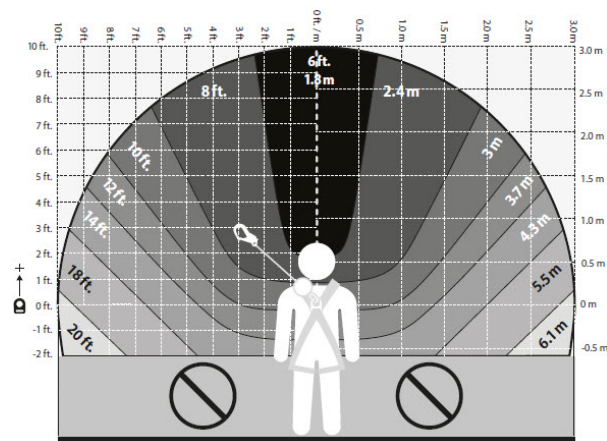
V-TEC Twin Web PFL



Product: 10 ft / 3 m V-TEC Web PFL

Use: Non-leading edge applications

Capacity: ≤ 310 lbs (140 kg)



7 Pre-Use Checks and Periodic Examinations

The safety of the user relies upon the continued efficiency and durability of the equipment, therefore pre-use checks shall be completed before each use. See Table 1 Pre-Use Checks, for pre-use check information. Periodic examinations shall

7 Pre-Use Checks and Periodic Examinations

be completed by a person, other than the user, competent in the examination of PFLs, in accordance with the manufacturer's instructions. The interval will be dictated by the usage, local regulations, and environmental conditions, must be prior to first use and at least annually (see Table 2 Periodic Examination Interval). A record shall be kept of the results of the examination.

Table 1 Pre-Use Checks

Pre-Use Checks	Method
Labels	Ensure labels are present and legible.
Examination Date	Ensure date of next examination has not elapsed. Ensure a periodic examination is not due as determined by a competent person. See Table 3, Periodic Examination Interval, and product's inspection grid.
General Condition and Lifeline (Web PFLs Only)	Examine for signs of excessive damage, wear, corrosion or contamination. Inspect the full length of lifeline and verify that it has no broken, frayed, cut, abraded, or missing threads. Verify there are no reductions in width or thickness of the lifeline. Verify there are no smooth, discolored, shiny, hardened, or glazed areas of the lifeline that indicate exposure to heat or chemicals.
	For arc-flash versions, Check the webbing for any discoloration before use of the product. Discoloration could be an indication of degradation and a reduction in strength.
General Condition and Lifeline (Cable PFLs Only)	Examine for signs of excessive damage, wear, corrosion or contamination. Inspect entire length of lifeline for kinks, bends, broken wires, bird caging, corrosion, damaged splices or damaged thimbles. Damage to the cable can significantly impact the performance. Verify there are no reductions in diameter of the lifeline.
Energy Absorber Housing (Standard Web or Cable PFLs)	Ensure that the energy absorber is not protruding from the top, bottom, or sides of the housing. Check the housing connection points for signs of parting or cracking. Inspect for the ingress of harmful chemicals or materials.
Energy Absorber Pouch (Arc-Flash PFLs)	Check energy absorber pouch and zip tie for signs of cuts, abrasion, fraying/broken strands, tears, burns, mold, discoloration or chemical damage
Extraction and Retraction	Inspect lifeline extraction and retraction by pulling the full length of the line out and letting it retract back into the housing in a controlled manner. Maintain a light tension on the lifeline while it retracts. The line operation must be smooth and unhesitant.
Lock-on	Pull enough lifeline out of the unit to grip the lifeline. Pull sharply on the lifeline - ensure device locks. Repeat three times. Do not grip the energy absorber cover or connector when completing this lock-on test
Connectors	Check for correct operation of connector and connector gate.

Table 2 Periodic Examination Interval

Usage	Interval
Infrequent to light	Annually (12 months)
Moderate to heavy	Semi-annually to annually (6-12 months)
Severe to continuous	Quarterly to semi-annually (3-6 months)

Usage shall be determined by a competent person. A competent person is defined as a person, other than the user, competent in the examination of PPE in accordance with MSA instructions.

The V-TEC PFL is not repairable. Maximum product life: Continued use is dependent upon passing pre-use checks and periodic examinations. Service life may be reduced by frequency and conditions of use or local regulations.

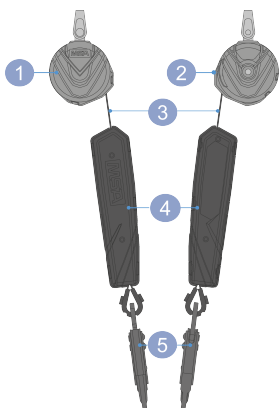
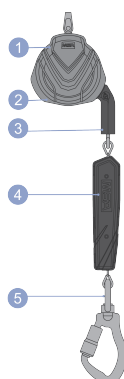
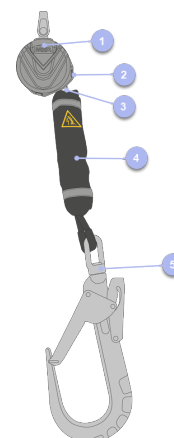
⚠ WARNING!

- PFLs shall not be altered or added to. No unauthorized repairs, modifications, alterations and/or additions are permitted.
- PFLs that have arrested a fall or are unable to pass an inspection shall be tagged “UNUSABLE” and disposed of in accordance with local regulations.
- Due to the nature of some fall arrest events, it is possible for the load indicator to not deploy. In the event that a PFL is subjected to fall arrest forces and the energy absorber does not deploy, the PFL still must be removed from service and marked as “UNUSABLE” until it has been destroyed.
- If the energy absorber is deployed, immediately remove the PFL from service and mark it as “UNUSABLE” until it has been destroyed.
- Arc-Flash PFLs exposed to an arc-flash must be removed from service and marked as “UNUSABLE” until it has been destroyed.

Failure to follow these warnings can result in serious personal injury or death.

Model Number:	_____	Serial Number:	_____
Date:	_____	Inspector (Name / Signature):	_____
Date of Manufacture:	_____	Date of Purchase:	_____
Date of First Use:	_____	Date Due for Next Periodic Inspection:	_____

#	Description	Good—Safe for Use	Good—Safe for Use	Good—Safe for Use	Damaged, Worn, Altered, Missing—Remove from Service	Comments
1	Housing					
2	Labels					
3	Lifeline					
4	Energy absorber					
5	Connectors					
	Lock on (ensure device locks)					

V-TEC Web PFL**V-TEC Cable PFL****V-TEC Arc Flash PFL**

Hazards

Chemical hazards, heat and corrosion may damage the PFL. More frequent formal inspections are required in environments with chemical hazards, heat and corrosion. Use caution when working around moving machinery.

WARNING!

- Use caution when working around moving machinery. Chemical hazards, heat, and corrosion may damage the PFL. Any chemical exposure should be avoided, if possible. All chemical hazards should be accounted for prior to beginning work.
- More frequent formal inspections are required in environments with chemical hazards, heat, and corrosion. As with all chemical exposures, consult the safety officer for review and recommendations for decontamination. Cleaning is strongly suggested - reference specific product cleaning guidance.
- Prior to use, the end user is responsible for testing the product in the environment and conditions in which it will be used.

Failure to follow these warnings can result in serious personal injury or death.

The below chart should only be used as general guidance for product selection and does not indicate all possible chemical exposures in the environment. Resistance ratings in the chart are determined for the materials relative to each other.

Chemical	Resistance			
	Nylon	Polyester	Stainless Steel (304)	Galvanized Steel
Strong acid (dilute)	Poor	Good	Fair	Poor
Strong acid (conc.)	Poor	Fair*	Poor	Poor
Weak acid (dilute)	Poor	Good	Good	Poor
Weak acid (conc.)	Poor	Good	Poor	Poor
Strong alkali (dilute)	Good	Poor	Good	Poor
Strong alkali (conc.)	Fair	Poor	Fair	Poor
Weak alkali (dilute)	Good	Fair	Good	Fair
Weak alkali (conc.)	Good	Poor	Fair	Poor
Alcohol	Good	Fair	Good	Good
Aldehyde	Good	Poor	Good	Good
Ether	Good	Poor	Good	Good
Halogenated Hydrocarbons	Good	Good	Good	Good
Phenols	Poor	Poor	Good	Good
Bleaching agents	Poor	Good	Fair	Poor
Ketones	Good	Poor	Good	Fair
Lubricating Oils & Greases	Good	Good	Good	Good
Soaps & Detergents	Good	Good	Good	Good
Seawater	Good	Good	Fair	Poor
Aromatic Solvents	Good	Poor	Good	Good

* Concentrated sulfuric acid attacks polyester.

8 Cleaning and Storage

If required, the PFL exterior and lifelines may be cleaned using a damp cloth and warm water (max 40°C), and allowed to dry naturally before use. Excessive build-up of dirt, paint etc. can compromise both retraction and strength of the lifeline.

Store or transport the PFL in a cool, dry, clean environment, away from heat, steam, harmful fumes, corrosive agents, rodents, dust, oil, and direct sunlight. During transportation, the device shall be protected to prevent damage or contamination. Examine the PFL after long periods of storage prior to returning it to service.

Moving parts of snaphooks and carabiners may require periodic lubrication. Some mineral oils can have adverse effects on Polycarbonate, so it is recommended that silicon or PTFE-based lubricants are used, or care is taken to avoid contact between the lubricating oil and the PFL case.

Follow lubricant manufacturer's instruction. Do not over-lubricate. Wipe excess with a clean, dry cloth.

9 Warranty

Express Warranty – MSA warrants that the product furnished is free from mechanical defects or faulty workmanship for a period of one (1) year from first use or eighteen (18) months from date of shipment, whichever occurs first, provided it is maintained and used in accordance with MSA's instructions and/or recommendations. Replacement parts and repairs are warranted for ninety (90) days from the date of repair of the product or sale of the replacement part, whichever occurs first. MSA shall be released from all obligations under this warranty in the event repairs or modifications are made by persons other than its own authorized service personnel or if the warranty claim results from misuse of the product. No agent, employee or representative of MSA may bind MSA to any affirmation, representation or modification of the warranty concerning the goods sold under this contract. MSA makes no warranty concerning components or accessories not manufactured by MSA, but will pass on to the Purchaser all warranties of manufacturers of such components.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, AND STRICTLY LIMITED TO THE TERMS HEREOF. MSA SPECIFICALLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Exclusive Remedy – It is expressly agreed that the Purchaser's sole and exclusive remedy for breach of the above warranty, for any tortious conduct of MSA, or for any other cause of action, shall be the repair and/or replacement, at MSA's option, of any equipment or parts thereof, that after examination by MSA are proven to be defective. Replacement equipment and/or parts will be provided at no cost to the Purchaser, F.O.B. Purchaser's named place of destination. Failure of MSA to successfully repair any nonconforming product shall not cause the remedy established hereby to fail of its essential purpose.

EXCLUSION OF CONSEQUENTIAL DAMAGES – PURCHASER SPECIFICALLY UNDERSTANDS AND AGREES THAT UNDER NO CIRCUMSTANCES WILL MSA BE LIABLE TO PURCHASER FOR ECONOMIC, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OR LOSSES OF ANY KIND WHATSOEVER, INCLUDING BUT NOT LIMITED TO, LOSS OF ANTICIPATED PROFITS AND ANY OTHER LOSS CAUSED BY REASON OF THE NON-OPERATION OF THE GOODS. THIS EXCLUSION IS APPLICABLE TO CLAIMS FOR BREACH OF WARRANTY, TORTIOUS CONDUCT OR ANY OTHER CAUSE OF ACTION AGAINST MSA.

For additional information, please use your local contacts on our website www.MSAafety.com.