SUPER ANCHOR SAFETY®

Maxima™ Lifeline w/Fall Arrester
Instruction/Specification Manual 2017

!WARNING TO USER!
You are required to read and use the Instruction/ Specification manual supplied at the time this device was shipped. Improper use and installation can result in serious injury or death. Follow inspection requirements before each use.

ENGLISH VERSION

Maxima™ Lifeline Specification
5/8"(16mm) 3 strand copolymer
Min. Tensile: 10,582lb(48kN)
% Elongation: 16.5% @ 45kN
Compliance: ANSI Z359.1-07
CSA Z259.2.5 No.RMRP-POL002
Swage: Aluminum oval
Min. strength: 5,000lb(22.5kN)
Max User Wt: 340lb(154kg)
Specifications of Use:
One person use for Personal Fall Arrest System (PFAS) including tools.

Fall Arrester Function/Adjustment
The **Fall Arrester (FA)** locks onto the lifeline when a force is applied to the connector ring. Adjust position by pushing or pulling up or down on the lifeline. To remove from lifeline unlock gate.

Lifeline Part Numbers:

No.	Component
4083	Lifeline only
4084	Lifeline w/FA
4085	Lifeline+FA+E-4
4089	Lifeline+FA+Web Lanyard

Fall Arrester(FA)
N0.4015Z. Zinc Plated Steel
CSA Cert. No. HARD MEC006
Automatic single direction locking function w/panic grab
Max. Deceleration: *24"(600mm)
Min. Breaking: 3,600lb(16kN)
Use For: 5/8"(16mm) d. rope
Degree of Slope/Angle:
Min. Horizontal/Max. Vertical
Serial Numbered +DOM
Compliance: OSHA 1926:502
ANSI Z359.1-07 CSA Z259.2.5
**Requires use of energy absorber.*

Web Lanyard
SAS Model E-4 6002/6004
Webbing: 1" wide Polyester
9,800lb(44kN) strength
Compliance: CSA Z259.11-05
Class B Lanyard. ANSI Z359.1-07

Energy Absorber
SAS Model E-4 I6064/6066
Tear Webbing/Cover: Polyester
Max. Arrest Force: 900lb(4kN)
Max. Deployment: 42"(1.06m)
Compliance/User Weights
Canada: E-4,100-254lb(45-115kg)
Compliance: CSA Z259.11-05
U.S.A.: E-4,100-310lb(45-140kg)
Compliance ANSI Z359.1-07

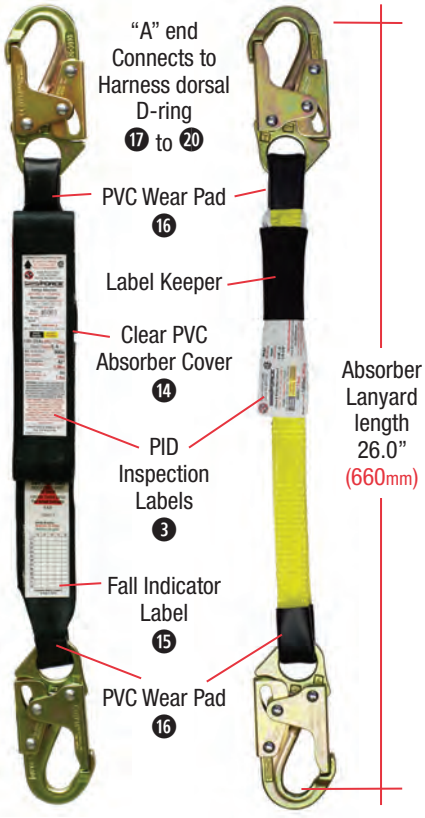
Connector Compliance
Class 1 ANSI-Z359.12-09 and CSA-Z259.12-11
3,600lb(16kN) gate strength connectors

Attaching Lifeline to Anchorage
Connect "A "end of lifeline to a compatible anchorage device that meets one or more of the following standards: OSHA 1926;502, ANSI Z359.1-07,CSA Z259.15-12 or 3rd party certified engineering. Must be capable of supporting 2x the maximum arrest force of an engineered system or 5,000lb(23kN).

Auxiliary Attached
A web lanyard or energy absorber of not more than 30"(750mm) is required to attach the **FA** to the harness dorsal D-ring. DO NOT attach **FA** directly to the Dorsal or Side D-Ring of a harness.

Factory Attached

Fig.2
E-4 Energy Absorber No. I6064 USA mfg



"B" end Connects To Fall Arrester.

Fig.3
Web Lanyard No. 6004

Fig.4
Energy Absorber E-4 No. I6066

Fig.5
Web Lanyard No. 6005

"B" end Fall Arrester attaches to Lifeline. Lanyards shown are mfg. at SAS Monroe, WA factory.

Fig.1

WARNING!
FA No. 4015Z will lock in one direction only. Failure to attach correctly can result in serious injury or death.
Fall Arrester arrow indicator must point to lifeline connector end "A".↑
See page 3.
㉖

Ⓧ= Inspection points
See Pg.2

Inspect Before Each Use!

Prior to each use, inspect lanyard and perform function tests for connectors. Annual inspections should be done at least once a year by a competent person and recorded on the matrix labels for all equipment. A record of inspections, repair, and removal of equipment from service should be maintained for all equipment. The following inspection points are a guideline of common conditions that occur as a result of abuse, poor maintenance or long service life.

Storage/Maintenance/Service Life

PPE equipment should be hung up and stored in a warm dry area. Clean lifeline and webbing with low pressure air or mild detergent. Synthetic fibers are damaged by mildew, extended UV exposure, water submergence and vermin. Service life is based on frequency of use, environmental conditions and normal wear and tear.

Service life begins at time of first use.

ADVISORY!
Equipment removed from service should be disposed of in a way that prevents further use.

Remove equipment from service if any of the following conditions are present:

⊗= Inspection points **ACTION REQUIRED:** ☒=Remove ☑=Repair

❶ Subjected to a free fall or other force. ☒
❷ Obvious damage to any component. ☒
❸ Warning labels missing or not legible. ☒
❹ Has not been inspected annually. ☒
❺ Fails to pass inspection/function tests. ☒
❻ Paint, caulk, asphalt, rust or any type of material that impedes function or causes fiber or material deterioration. ☒
❼ Webbing, cross and box stitches are cut, abraded, heat damaged or evidence of chemical contamination. ☒

Lifeline

❽ Strands are cut or hocked. ☒
❾ Thimble missing, broken or deformed. ☒ Swage damaged, cracked or loose.
❿ PVC splice cover is missing. ☑
⓫ Knots tied above termination Knot. Untie. ☑
⓬ If knots cannot be removed. ☒
⓭ Termination Knot is missing. ☑ Re-tie knot. See Fig.1.

Energy Absorber Figs. 2,4,6.

⓮ PVC cover is missing or damaged ☒ and tear webbing is visible.
⓯ Fall indicator warning, "Remove From Service" is visible or missing. ☒
⓰ Wear pads are missing or worn through to backer webbing. ☒

Connectors

⓱ Connector/s are missing. ☒
⓲ Obvious damaged/missing rivets. ☒
⓳ Gate locking device is damaged. ☒
⓴ Gate won't open or close. ☒

Web Lanyard

㉑ Wear pads are missing or worn through to backer webbing. ☒

Fall Arrester

㉒ Does not pass lock function test. ☒
㉓ Signs of damage. Connector ring is bent or cut. ☒
㉔ Body rivets are missing. ☒
㉕ Does not slide freely up or down on the lifeline. ☒
㉖ Arrow indicator ↑ must point up. ☑ If wrong direction, remove and install correctly. See page 3.

Fig.6

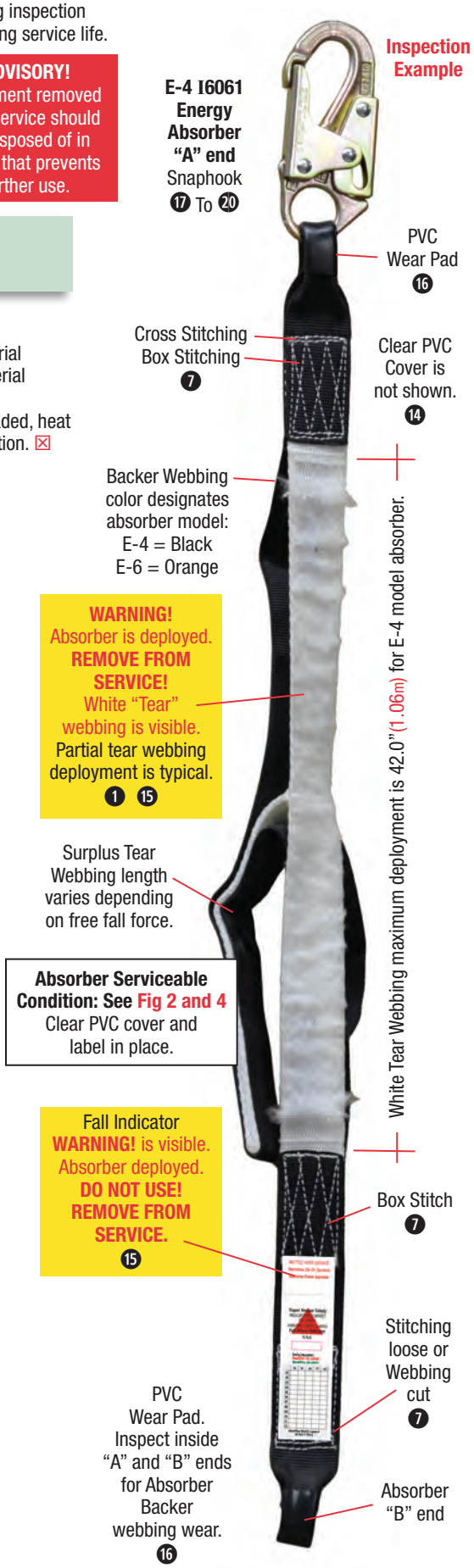
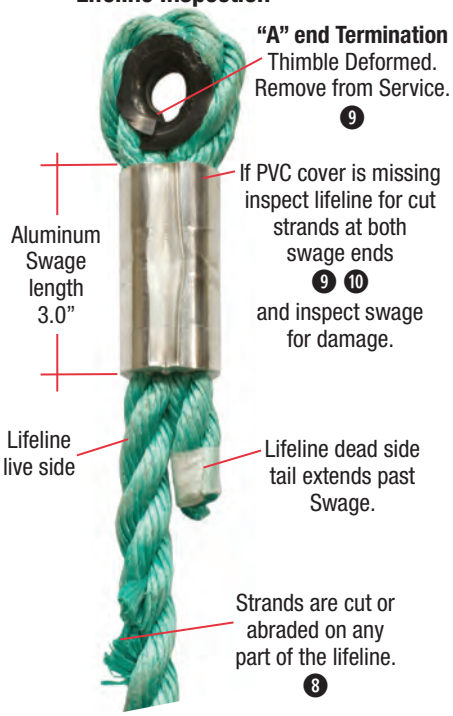


Fig.7

Web Lanyard Inspection

Fig.8

Lifeline Inspection

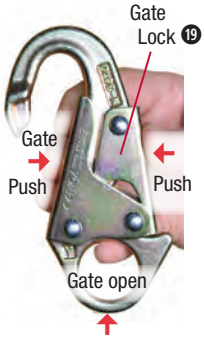


Connector/Snaphook

Snaphook gates are designed to remain closed during use and are fitted with gate locks to prevent accidental disengagement.

Fig.9a **Snaphook**

9b



9c

Connector/Fall Arrester Function Tests

Perform connector and Fall Arrester tests and inspections before each use. Remove equipment from service if any function test fails.

Fig.	Test Type	Function	Pass ☑	Fail. ☒
9a	Gate-lock	Push against gate only	Won't open	Opens
9b	Gate-open	Push gate-lock and gate at same time	Opens	Won't open
9c	Gate-close	Release gate and gate-lock at same time	Snaps Shut	Won't close

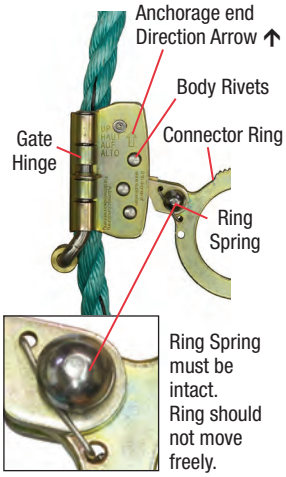
Fall Arrester (FA) Function Tests

Fig.	Function Test /Inspection	Pass ☑	Fail. ☒
10a	Proper orientation	Arrow points up	Arrow points down
10b	Gate Locks	Gate opens/closes	Gate won't open/close
10c	Cam lock/Debris	No interior debris	Debris present
10d	Cam Lock	FA locks onto rope	Will not lock
10e	Mobility	Rope moves easily	Rope won't move

Fig.10a

FA orientation on lifeline

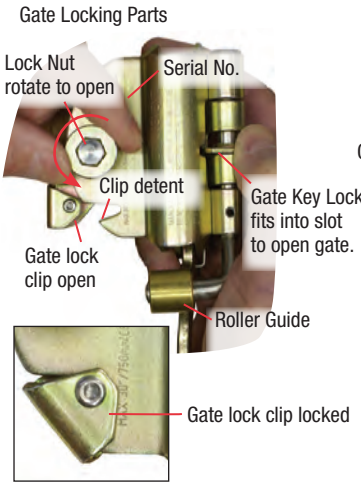
Direction arrow points toward anchorage end.



10b

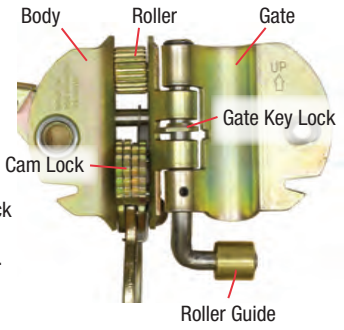
Removing FA from Lifeline

Gate must remain in locked position during use.



10c

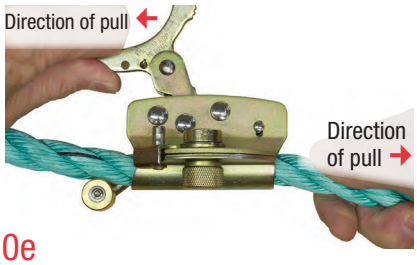
FA Interior must be free and clean of any debris or contamination.



10d

Cam Lock Function Test

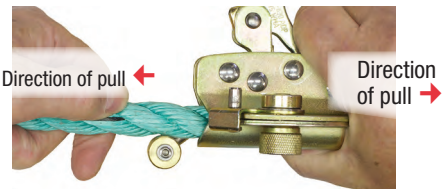
Hold connector ring and pull lifeline from opposite end. Lifeline should not move.



10e

Mobility Test

Hold connector ring down. Pull lifeline in opposite direction. Lifeline should move freely.



Rigging Lifeline Length of Fall Plan (LOFP)/Line Slack

A sample LOFP shown on pg.4 can be used to calculate "Line Slack" shown at Fig.11a to guard against free falls of more than 6ft(1.8m). WARNING! Too much line slack will increase the free fall length resulting in serious injury or death.

Live Length/Fall Arrester/Limiter Knot

The lifeline live length is the distance between the anchor point and the leading edge + the allowable line slack that allows horizontal movement along the leading edge. 1 The **FA** is used to gauge the free fall length by fixing the worker's position on the lifeline. 2

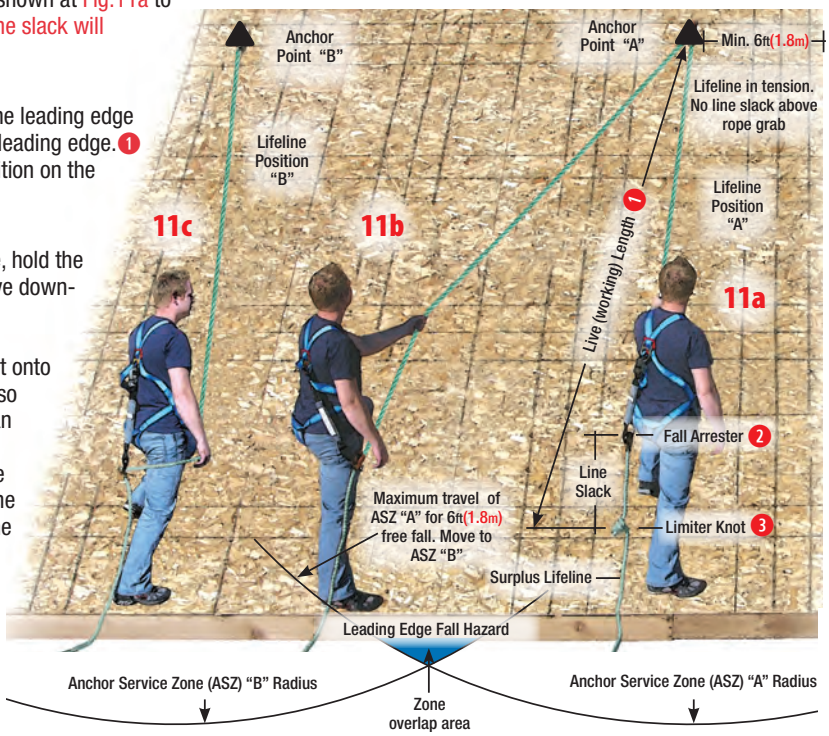
Sample Rigging Method/Anchor Service Zones (ASZ)

1) Attach lifeline connector to anchor "A". With tension on the lifeline, hold the **FA** body or the connector ring down as shown at Fig.10e and move down-slope to the leading edge as shown at Fig.11a.
2) Release **FA** or connector ring to lock **FA** onto the lifeline.
3) Calculated from you own LOFP, fix line slack by tying a limiter knot onto the lifeline below the **FA** static position 3. The limiter knot will also prevent unintentional movement of the **FA** on the lifeline which can result in a greater free fall length.
4) Shown at 11a is the maximum working length of the lifeline + line slack creating an ASZ radius "A". Travel to the right or left along the leading edge will force the worker's position up-slope once the line slack has been taken up.

Service Zone "B"

5) After maximum travel of ASZ "A" has been reached as shown at Fig.11b, ascend to anchor "A", disconnect and attach to anchor "B". The use of a second lifeline at anchor point "B" will allow 100% tie-off. Fig.11c.
6) For gable edge fall hazards, several **FA** adjustments may be required to prevent excess line slack.

Fig.11



Note: Consult ARS manuals for Anchor Service Zone instructions.

Rigging/Length of Fall Plan

The Sample Length of Fall Plan **(LOFP)** shown here is based on the maximum stretch and deceleration values for each component, a user weight of 310lb(140kg) and a maximum free fall of 6ft(1.8m). To prevent contact with the ground or a lower level, the following factors must be calculated in your own Job Specific Length of Fall Plan:
Note: Max. User Wt. for CSA is based on absorber type.

1) Free fall length: **"A"**
2) Line slack: **"C"**
3) D-ring height: **"B"**
4) Fall Arrester deceleration: **"D"**
5) Absorber deployment: **"E"**
6) Harness stretch: **"F"**
7) Ground clearance: **"G"**

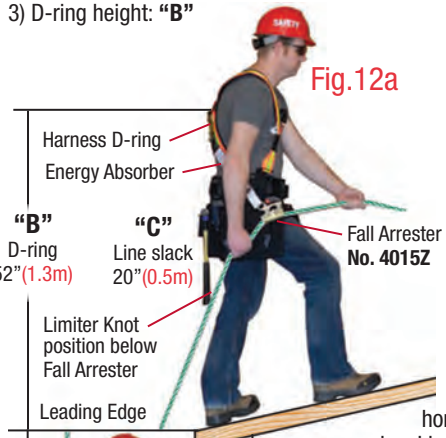


Fig.12a

Worker's Lifeline Position is gauged using the **FA.** A **Limiter Knot** tied below the **FA** will prevent unintentional movement. Use of Limiter Knot allows factor **"D"** to be eliminated from the **LOF**.

Calculate Line Slack "C"

Travel along the leading edge is limited to the amount of slack, **"C"** in the lifeline. The greater the slack, the wider the range of horizontal movement along the leading edge. Line slack is calculated by subtracting the D-ring height **"B"** from the free fall length **"A"**. Figs. 12a, 12b. **(A-B) = C.** The sample plan line slack value is 20"(0.5m).

12b

"A"
Free fall
72"(1.8m)

"D"
Fall Arrester **(FA)** deceleration
24"(0.6m)

Length of Fall "LOF"
12ft-6"
150"
(3.8m)

"E"
Absorber deployment
42"(1.06m)

12c

"F"
Harness stretch
12"(0.3m)

"G"
Ground clearance
D-ring height
52"(1.3m)

LOF + Ground Clearance 16ft-10" 202" (5.1m) = LOFP

Calculate Length of Fall

(A+D+E+F+G)=LOFP

Factors: Sample Plan

1) Desired Free fall length **"A"**	72"(1.8m)
2) FA deceleration **"D"**	24"(0.6m)
3) Absorber deployment **"E"**	42"(1.06m)
4) Harness stretch **"F"**	12"(0.3m)
Total Length of Fall (LOF)	**150"(3.8m)**
5) Ground clearance **"G"**	52"(1.3m)
Length of Fall Plan (LOFP)	**202"(5.1m)**

*Note: Rope grab deceleration **"D"** may be eliminated from the **LOF** by the use of a Limiter Knot.*

Insufficient Ground Clearance

WARNING! A failure to calculate the **LOF** and correctly rig PPE can result in striking the ground or a lower level in the event of a fall and may lead to serious injury or death.

WARNING: PROMPT RESCUE!

A plan for immediate rescue is necessary to avoid serious injury or death resulting from suspension trauma. SAS recommends that each harness be fitted with a suspension ladder and workers trained in its use. Request S.T.E.P Trauma Strap No. 6060.

PPE HAZARD WARNING!

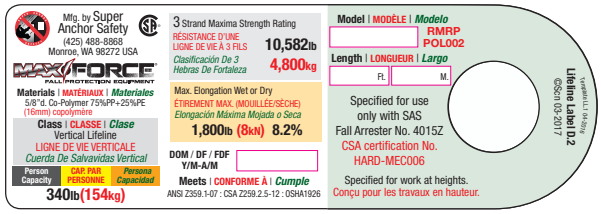
DO NOT Contact Lifeline with:

- Sharp or abrasive edges, cutting tools.
- Electrical sources or power lines.
- Open flame, high heat or hot asphalt.
- Adhesives or any type of petroleum solvents, caulking, paint, or stains.

DO NOT Wrap or tie a lifeline around wood framing or steel structures, to another lifeline, lanyard, scaffolding or vehicle. **DO NOT USE** lifeline for hoisting, towing or animal tether. **Failure to avoid hazards may lead to serious injury or death.**

Lifeline Primary Label D.2

Specifies Model, Length and Date of mfg. **(DOM)**
NOTE: Service Life is specified by first use.

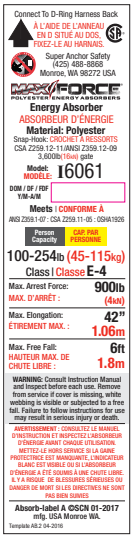


Inspection/Serial No. Label E.4 specifies Serial No.

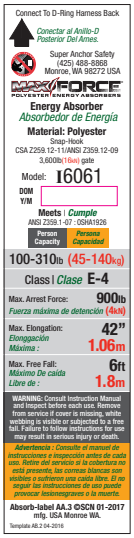
Fall Arrester Label F-13 is included with units supplied with FA only.

Absorber Labels

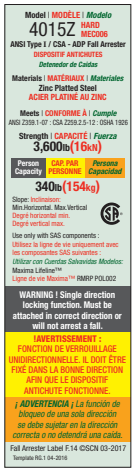
Label A. CSA



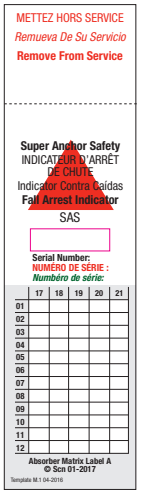
Label AA.3 USA



E-4+FA F.14

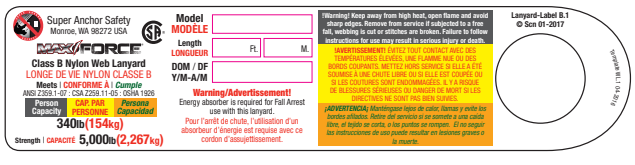


Fall Indicator



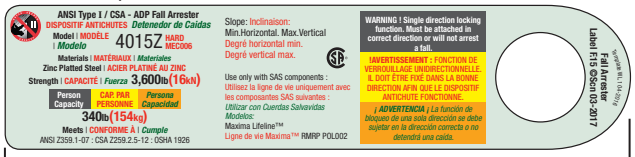
Web Lanyard Labels

Primary Label Lanyard B.1 specifies Model, Length, Date of Mfg. **(DOM)**.



Inspection/Warning Label Matrix D.2 specifies serial number.

Fall Arrester Specification Label F.15



Actual size approx. 7.0" Length