



SUPER ANCHOR SAFETY

SAS Lifeline Instruction Manual 2014.1

MAX FORCE™ 3 strand w/rope grabs

FALL PROTECTION EQUIPMENT

!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.

Material Specification:	Rope Grab:	Rope Grab:	ADP Fall Arrester:
Device: 3 strand lifeline. Fig.1 Diameter: 5/8" (16mm) Material type: Poly-Dac. Min. Tensile: 9,300lb (42kN) % Elongation: 16.5% @ 44kN Compliance: ANSI Z359.1-07 CSA Z259.2.5 Specifications of Use: One person PFAS system w/tools. Max wt.: 310lb (140kg) w/E-4 absorber or 340lb (154kg) w/E-6 absorber.	Device: Value Grab 4015V Captive bi-directional lock, adjustable diameter. Fig.2 Max. Deceleration: *12" (300mm) Fabric: 7/16" (11mm) Nylon/Poly Avg. Tensile: 7,400lb (34kN) Strength Rating: 5,000lb (23kN) Use For: 5/8" (16mm) diam. rope. Compliance: OSHA 1926:502 *Requires use of energy absorber.	Device: Integral Adjuster 4015M Captive single direction lock. Fixed diameter. Fig.3 Max. Deceleration: *24" (600mm) Material: Zinc plated steel Min. Breaking: 3,600lb (16kN) Use For: 5/8"-7/8" (16-22mm) diam. rope. Compliance: OSHA 1926:502 ANSI Z359.1-07 CSA Z259.11-05 *Requires use of energy absorber.	N° 4015C: HARD MEC004 SST Automatic single direction locking function. Activated when a force is applied to the attachment ring at Fig.4. Max. Deceleration: *24" (600mm) Min. Breaking: 3,600lb (16kN) Use For: 5/8" (16mm) diam. rope. Compliance: OSHA 1926:502 ANSI Z359.1-07 CSA Z259.2.5 *Requires use of energy absorber.

Attaching Lifeline To Anchorage

Connect Snap-Hook "A" end of lifeline **ONLY** to an anchorage device that complies with OSHA 1926 or ANSI Z359.1-07 section 7.2.3 capable of supporting 2x the maximum arrest force of an engineered system or 5,000lb (23kN).

Reverse Attachment: Lifeline "A" end may be connected directly to a full body harness dorsal or side D-ring using Value Grab 4015V as specified in **SAS-Reverse Rigging** instructions.

HAZARD WARNING! Failure to avoid hazards and use lifeline as specified in this manual may lead to serious injury or death!

Connector Compatibility

4015M and 4015C require class 1 connectors. Use snaphooks or carabiners that are compatible with attachments and are ANSI or CSA certified for fall protection use. Do not link two connectors together or make more than 1 attachment to a connector.

Rigging: ADP/Rope Grab

A compatible we lanyard or energy absorber with a max. length of 30" (750mm) is required to attach the device to the dorsal D-ring of the harness.

!WARNING!

DO NOT CONTACT lifeline or PPE components with:

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

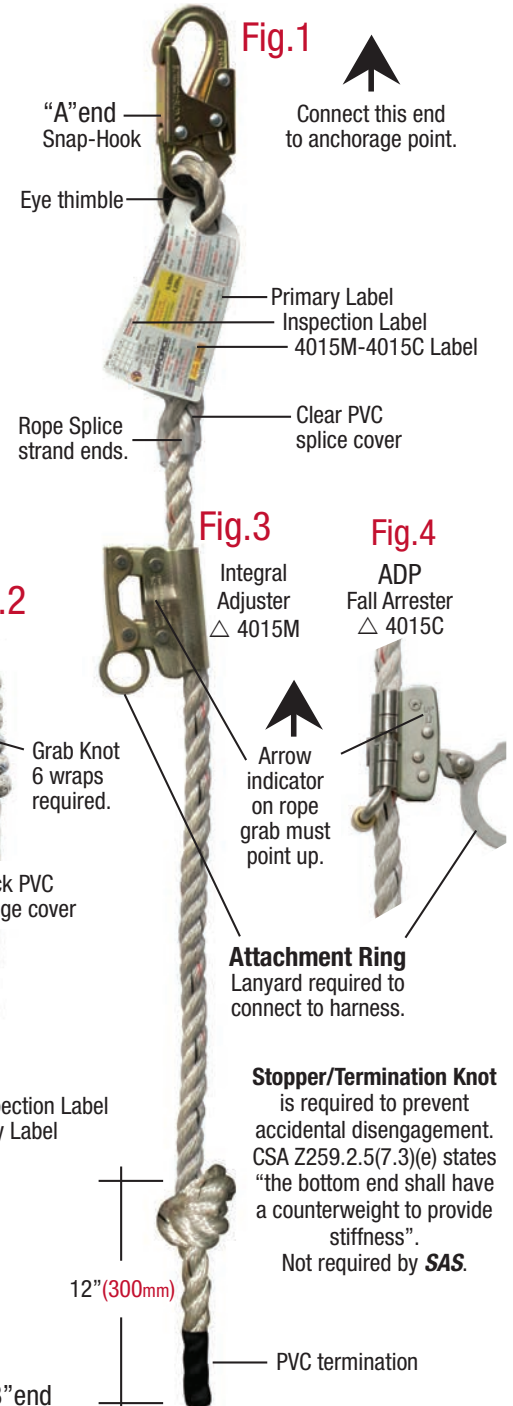
DO NOT WRAP or tie a lifeline around wood or steel structures, framing, to another lifeline, lanyard, scaffolding or vehicle.

DO NOT USE lifeline for hoisting, towing or animal tether. Do not link two lifelines together without an engineered system.

Maintenance

To prevent rust, mildew and deterioration, always store lifelines and rope grabs by hanging in a dry area. Never store wet in a confined space. Clean lifelines with an air hose or low pressure water and mild detergent. Keep away from salt water.

WARNING! Synthetic fibers are damaged by mildew, extreme temperatures and extended exposure to UV. SERVICE LIFE is based on frequency of use, environmental conditions, and normal wear and tear. A plan for removing equipment from service should be determined by a competent person or safety consultant.



Part Numbers/Table 1		Rope Grab Type							
Model N°	Length Ft	Length (M)	CSA			4015V	4015M	4015C	See
			Yes	No	None				
4020	25	7.6							Fig. 1
4021	50	15							
4022	75	24	X		X				
4023	100	30							Fig. 2
4016	25	7.6		X		X			
4017	50	15							Fig. 3
4016M	25	7.6	X				X		
4017M	50	15							Fig. 4
4016C	25	7.6	X					X	
4017C	50	15							

4024 - Custom Length. Specify rope grab type and connector.

CSA Certification N°s RMRP:POL001/ RMRP:SSR001

ADP/Rope Grab Slope Specification:
 Degree/Angle: Min.Horizontal/Max.Vertical.

12" (300mm)

Inspect Before Each Use!

Prior to each use, inspect and perform function tests for all components. Annual inspections should be done at least once a year by a competent person and recorded on the matrix label. See Fig.11. A record of inspections, repair, and removal of equipment from service should be maintained for each component. The following inspection points are a guideline of common conditions that occur as a result of abuse, poor maintenance or long service life.

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

- 1) Subjected to a free fall or other force.
- 2) Obvious damage to any component.
- 3) Warning labels missing or not legible.
- 4) Has not been inspected annually.
- 5) Fails to pass inspection/function tests.
- 6) Paint, caulk, asphalt, rust or any type of material that impedes function or causes fiber or material deterioration.

The following conditions require removal from service or repair at SAS factory or by a competent person.

ACTION REQUIRED: ☒=Remove ☑=Repair ①=Inspection points

Lifeline and Rope Grab 4015V: Figs.5-6.

- 7 Strands are cut or hocked. ☒
- 8 Thimble missing, broken, deformed. ☒
- 9 PVC splice cover tubing is missing. ☑
- 10 Grab Knot black PVC cover is missing. ☒
- 11 Splice is unravelling. ☑
- 12 Grab Knot is less than 6 wraps. ☑
- 13 Knots are tied on lifeline above termination knot. ☑
- 14 If Knots can not be removed. ☒
- 15 Termination knot is missing. ☑

Rope Grab 4015M-4015C: Figs.7-8.

- 16 Arrow position is upside down. ☑
- 17 Body or Locking Cam bent, twisted or missing rivets. ☒
- 18 Won't hold static position on lifeline. ☒
- 19 Grab is locked onto lifeline or won't move position easily. Clean lifeline and retest. If no change: ☒

Webbing Components: Fig.9.

- 20 Loop wear pads are missing or worn through to primary webbing. ☒
- 21 Stitching/webbing are cut or damaged. ☒
- 22 Webbing overlaps are separating. ☒
- 23 PVC cover is missing or damaged. ☒
- 24 Fall indicator warning "Remove From Service" is visible or missing. ☒
- 25 Fails webbing inspection. ☒

Snaphook-Carabiner: Page 3.

- 26 Obvious damage/missing rivets. ☒
- 27 Gate is bent or won't close. ☒
- 28 Gate locking device is damaged. ☒
- 29 Carabiner won't lock closed. ☒

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

"A" end attaches to anchorage point.

Fig.5

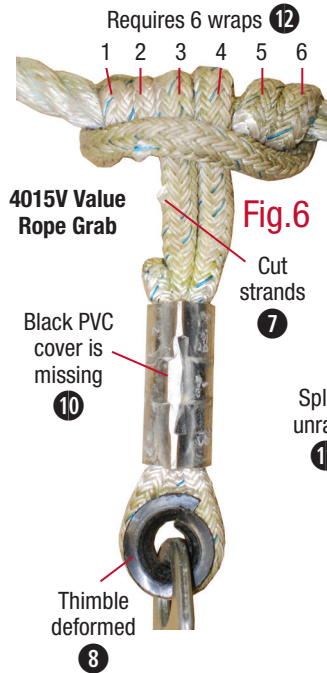


Fig.6

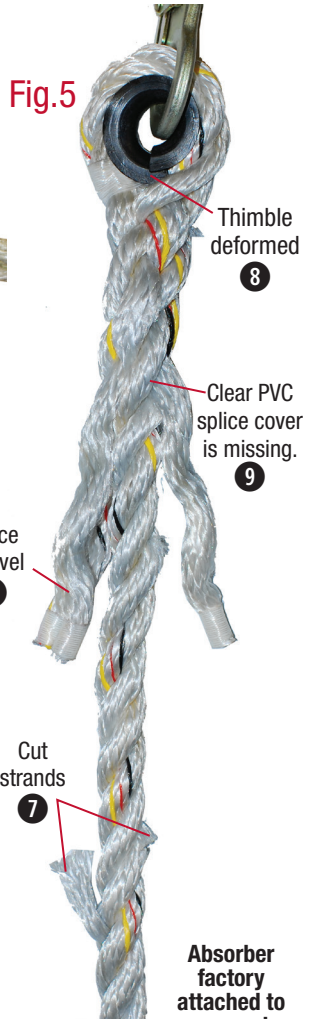


Fig.7
4015M
Integral
Adjuster

Fig.9

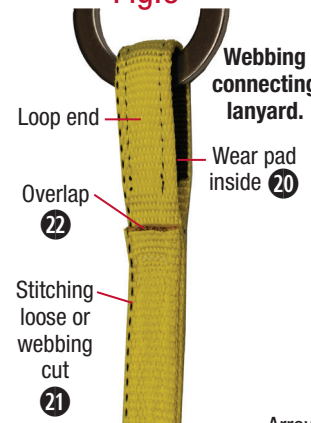


Fig.16

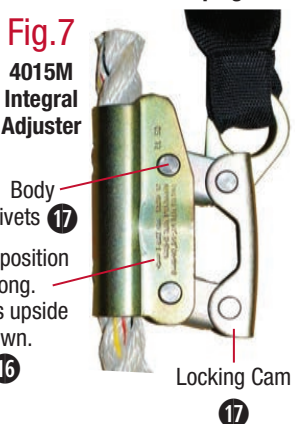
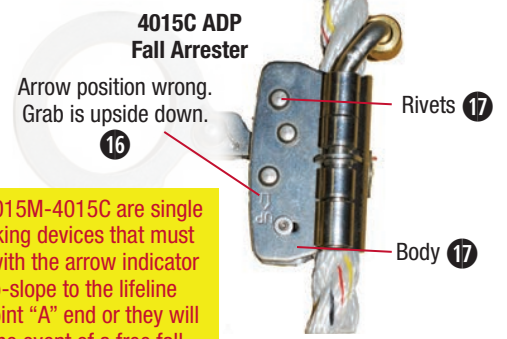


Fig.8



WARNING! 4015M-4015C are single direction locking devices that must be installed with the arrow indicator pointing up-slope to the lifeline anchorage point "A" end or they will not lock in the event of a free fall.

Fig.12

Absorber serviceable condition.



Fig.11

Energy absorber has been deployed.

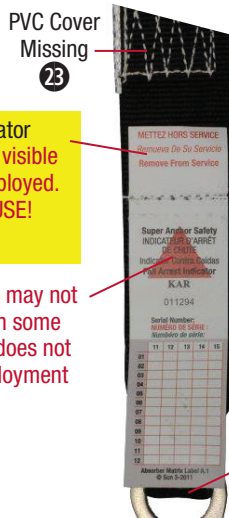


Fig.10

Inspect connector attachment points for webbing deterioration



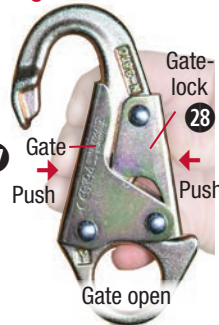
Connectors: Gates are designed to remain closed during use and are fitted with gate locks to prevent accidental disengagement.

Fig.13a Snaphook



Gate Locked

Fig.13b



Un-lock gate

Fig.13c



Gate open

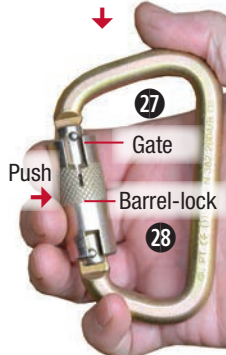


Fig.14a



Fig.14b



Fig.14c

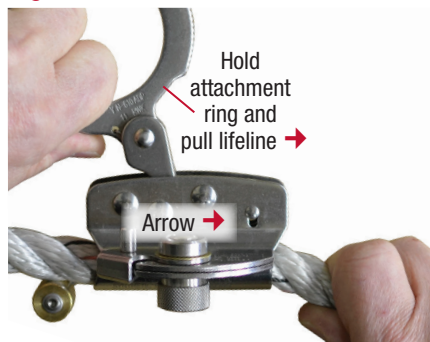
Auto-Lock Carabiner

Perform same tests for thread-lock carabiners.

Fall Arrester 4015C

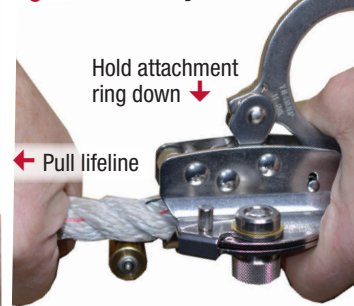
Locking cam is activated by force applied to the connector ring. Remove by opening gate. **Mobility:** move position by pulling or pushing device up or down on the lifeline or hold cam-lock open.

Fig.16a Cam-lock Test



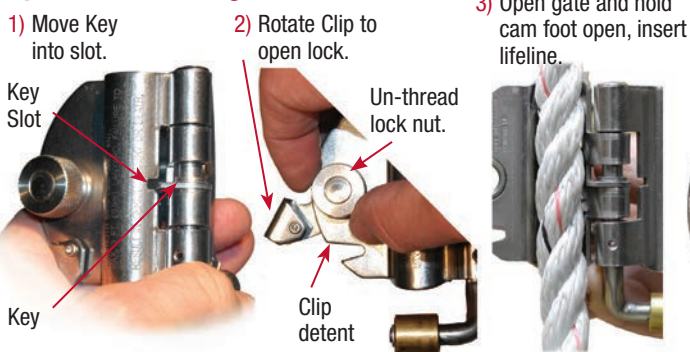
Lifeline does not move = Pass
Lifeline moves = Fail

Fig.16b Mobility test



Easily moves = Pass
Does not move = Fail

Open/Close Gate Fig.16



Function Tests

Test rope grabs and connectors before each use. Remove equipment from service if any function tests fails.

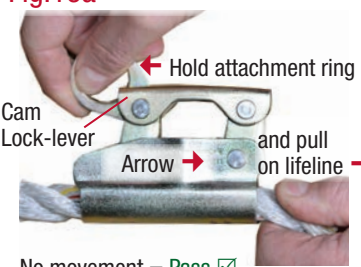
Fig.	Test Type	Function	Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>
13a-14a	Gate-lock	Push against gate only	Won't open	Opens
13b	Gate-open	Push gate-lock and gate at the same time	Opens	Gate won't open
13c	Gate-close	Release gate and gate-lock at same time	Snaps shut	Won't close and lock
14b-14-c	Un-lock gate	Rotate barrel lock	Gate opens	Won't open
14a	Gate closes	Release gate/barrel	Snaps shut	Won't close

Integral Adjuster 4015M Locking Test

Dual spring loaded cam-locks produce constant pressure on the lifeline that restricts movement. Mobility is achieved by pushing or pulling the adjuster up or down the lifeline. Push the cam-lock lever down to release pressure. See Fig.15b.

Cam-Lock Test

Fig.15a



No movement = Pass
Any movement = Fail

Cam Mobility Test

Fig.15b

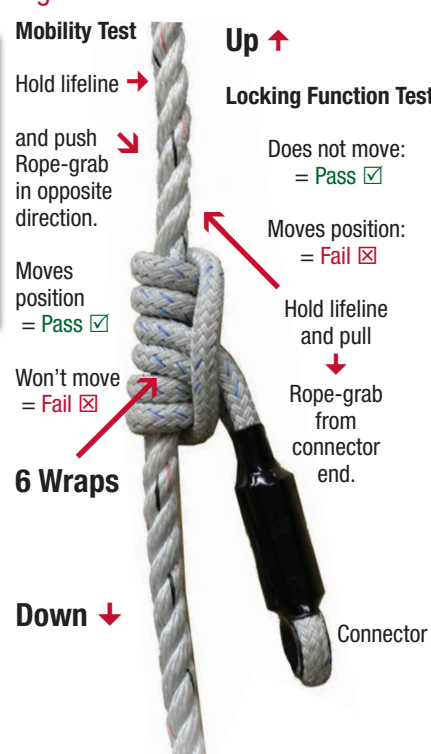


Lifeline moves easily =
Release Cam-Lock lever:
Pass Lever Snaps back closed.
Fail Lever does not close.

Rope-Grab 4015V: DO NOT REMOVE FROM LIFELINE!

A Prussic type device locks in two directions (bi-directional) by applying force to the connector end. Move position by pushing or pulling the wraps up or down on lifeline.

Fig.17



WARNING!
Lifeline diameter grows with use and may restrict the mobility of 4015M-4015C. Function may be restored by cleaning or replacing the lifeline.

Does not move: = Pass
Moves position: = Fail
Hold lifeline and pull
Rope-grab from connector end.

4015V rated for use on vertical and horizontal lines. Mobility can be reduced by tightening the wraps.

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:

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



Position on the lifeline is gauged using the rope grab. A limiter knot tied below the rope grab will prevent it from creeping downslope and will allow 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. 18a, 18b. (A-B) = C. The sample plan line slack value is 20" (.5m).

Adjusting Rope Grab Position

Shown at Fig. 18a, the PPE in this sample plan is rigged in tension to reduce excess slack. The vertical distance you will travel in a free fall is:

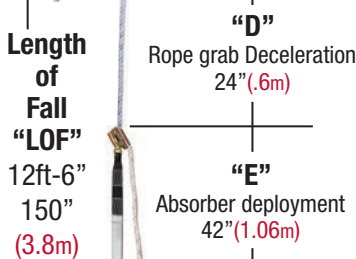
"B" Length from the lifeline D-ring connection to the leading edge. "C" The amount of slack in the lifeline.

Option: If the absorber and rope grab hang vertically from the D-ring at Fig. 18a, the length of the two components must be added to the "B" value D-ring height.

Calculate Length of Fall (A+D+E+F+G)=LOFP

Factors:	Sample Plan
1) Desired Free fall length "A"	72" (1.8m)
2) Rope grab 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 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! PROMT RESCUE!

A plan for immediate rescue is necessary to avoid serious injury or death resulting from suspension trauma. SAS recommends that each harness is fitted with a suspension ladder and workers trained in its use. Request S.T.E.P Trauma Strap N°6060.

Labels

Lifeline eye thimbles are fitted with a primary label, an inspection matrix label and may have an optional rope grab label. Do not use equipment if the labels are missing or not readable.

Primary Label

Label B: CSA Logo. Label BB: no CSA Logo

Label Name Series
Model | MODELE | Modelo
Length | LONGUEUR | Largo
Lifeline w/Strap-Hook (SH)
Meets | CONFORME A | Cumple
340lb (154kg)
3 Strand Strength Rating
RESISTANCE EN LIGNE
LIGNE DE VIE A 3 FILS
Clasificación De 3
Hbras De Fortalecida
9,300lb
4,200kg
Max. Elongation Wet or Dry
ETIREMENT MAX. MOULLE/SECHE
Elongación Máxima Mojada o Seca
1,800lb (8kn) 4%
DOM / DF / FDF
Y/M-A/M
Meets | CONFORME A | Cumple
ANSI Z59.1-07 / CSA Z299.2.5 / OSHA 1926

Year-Month of mfg.
SH gate strength

SAS Part number
Lifeline Length

Inspection Label

Label E: SAS Mfg - USA. Label E:1 GAWR: Imported.

Label Name Series
Serial Number: SAS
WARNING: Avoid sharp edges and abrasive surfaces. Consult instruction manual and inspect before each use and inspect at least once a year.
AVERTISSEMENT: ÉVITEZ TOUT CONTACT AVEC DES BORDS COUPEVANTS OU DES SURFACES ABRASIVES. CONSULTEZ LE MANUEL D'INSTRUCTION ET INSPECTEZ LA LIGNE DE VIE ANCIENNEMENT AVANT CHAQUE UTILISATION.
Advertencia: Evite los bordes afilados y superficies abrasivas. Consulte el manual de instrucciones y compruebe antes de cada uso y por lo menos una vez al año.
Super Anchor Safety (SAS) USA 425-488-8868
12 Strand: RMPR DUR001
3 Strand: RMPR SSR001
WARNING: Do not attach Rope Grab devices to the D-ring of a body harness. An energy absorber or lanyard less than 30" (762mm) is required.
AVERTISSEMENT: N'ATTACHEZ PAS LA LIGNE DE VIE A L'ANNÉE EN LIÈGE AU DOS DU HARNAIS. UN ABSORBEUR D'ÉNERGIE OU UNE LIGNE DE VIE DE MOINS DE 30" (762MM) SONT REQUIS.
ADVERTENCIA: No conecte los dispositivos de agarre de cuerda al D-Ring (Anillo-D) Dorso de un arnés de cuerpo. Se requiere un amortiguador o cordón de menos de 30" (762mm).
CSA Lifeline Matrix
04-2014
Label E:1

Record Inspections

Serial N°

Rope Grab Label: Fall Arrester 4015C

Label Name Series
Model | MODELE | Modelo
ANSI Type I / CSA - ADP Fall Arrester
DISPOSITIF ANTICHUTES
Detenedor de Caídas
Materials | MATÉRIEAUX | Materiales
Stainless Steel | ACIER INOX.
Strength | CAPACITÉ | Fuerza
3,600lb (16kn)
Person Capacity | CAP. PERS. | Persona Capacidad
340lb (154kg)
Meets | CONFORME A | Cumple
ANSI Z59.1-07 / CSA Z299.2.5 / OSHA 1926
WARNING: ADP will automatically lock in one direction only when a force is applied to the attachment ring. Lanyard is required.
AVERTISSEMENT: LE DISPOSITIF ANTICHUTE ADP SE VERROUILLERA AUTOMATIQUÉMENT EN UN SEUL SENS. LE DISPOSITIF EST APPLIQUÉ À L'ANNÉE DE FIXATION. LIGNE DE VIE REQUISE.
ADVERTENCIA: ADP se bloqueará automáticamente en un solo dirección cuando se aplica fuerza al anillo de fijación. Se requiere Acortador de Seguridad.
Serial Number: SAS
Fall Arrester Label A.1
CSA 04-2014
Slings Included: Min. Horizontal. Max. Vertical. Degree horizontal min. Degree vertical max.
Use with Lifeline models: UTILISEZ LES MODÈLES SUIVANTS. Utilizar con Cuerdas Salvavidas Modelos: 12 strand: RMPR DUR001 3 strand: RMPR SSR001/POL001 X-Line: Life XLJ 001/002
Lifeline compatibility

Rope Grab Label: Integral Adjuster 4015M

Label Name Series
Model | MODELE | Modelo
ANSI Type I / CSA-Integral Adjuster
DISPOSITIF ANTICHUTES
Detenedor de Caídas
Materials | MATÉRIEAUX | Materiales
Steel | ACIER
Strength | CAPACITÉ | Fuerza
3,600lb (16kn)
Person Capacity | CAP. PERS. | Persona Capacidad
340lb (154kg)
Meets | CONFORME A | Cumple
ANSI Z59.1-07 / CSA Z299.11-05 / OSHA 1926
WARNING: Single direction locking function. Must be attached in correct direction or will not arrest a fall.
AVERTISSEMENT: FONCTION DE VERROUILLAGE UNIDIRECTIONNELLE. IL DOIT ÊTRE FIXÉ DANS LA BONNE DIRECTION AFIN QUE LE DISPOSITIF ANTICHUTE FONCTIONNE.
ADVERTENCIA: La función de bloqueo de una sola dirección se debe aplicar en la dirección correcta o no detendrá una caída.
Use with 5/8" d. Lifelines mfg. by: UTILISEZ UNE LIGNE DE VIE DE 16mm d. FABRIQUÉE PAR: Utilizar solamente con cuerdas Salvavidas de 16mm d. por.
Super Anchor Safety N° 401-02-4005-4009-1000, 4031-32-33-34-35-36-(C) 4016-170M, 4020-21-22-23-24
Rope Grab Label F7

Rope Grab Label: Value Grab 4015V

Label Name Series
Rope Grab Label F.1
07-2013
CSA
Type II-III Rope Grab Bi-Directional Locking 4015-V Value™ Grab
Agarrador de Cuerda
Min Strength 5,000lb (22.5kn)
1 Person/Persona Capacity
340lb (154kg)
DOM: Y/M:
Complies with: OSHA 1926
Material | Materiales
Polyester/Nylon, w/Straphook
Use only on Lifelines rated for this device: min.d. 5/8" (16mm) max.d. 7/8" (22mm).
WARNING! Avoid sharp/abrasive edges, high heat. Consult instruction manual and inspect before each use. Remove from service if fibers are damaged cut or subjected to a free fall.
Mfg. Super Anchor Safety Woodville WA 98072
Rope Grab Label F.2
01-2014
CSA
Agarrador de Cuerda
Use solo en cuerdas salvavidas clasificadas para este dispositivo: diámetro mínimo de 5/8" (16mm) diámetro máximo 7/8" (22mm).
¡ADVERTENCIA! Evite los bordes afilados/abrasivos, alta temperatura. Consulte el manual de instrucciones e inspeccione antes de cada uso. No utilice si las fibras están cortadas dañadas o han sido expuestas a una caída libre.
INSPECTION | INSPECCIÓN
14 15 16 17 18

Year/Month of mfg.

Note: Rope grabs factory attached to the energy absorber have the label affixed to the absorber.